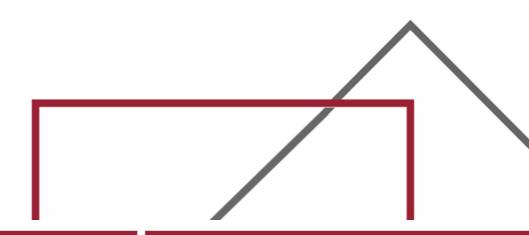




Nowra Flood Impact and Risk Assessment

Map Compendium





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Document Control

Ver	Effective Date	Description of Revision	Prepared by:	Reviewed by:
0	December 2022	Issue to Council for Review	LRE	RST
1	December 2022	Draft issue for stakeholder review	LRE	RST
2	June 2023	Incorporation of Stakeholder Comments	LRE	RST
3	July 2023	Final Report	LRE	RST

Prepared For: Shoalhaven City Council

Project Name: Nowra FIRA

Rhelm Reference: J1536

Document Location: C:\Rhelm Dropbox\J1500-J1599\J1536 - Nowra FIRA\4. Reports\Stage 3\RR-03-1536-03 Vol2 Map Compendium.docx

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Volume 2 - Maps

RG-03-01	TUFLOW Model Layout	RG-05-08	Catchment PMF Flood Function	RG-08-02	Riverine Developed– PMF Velocity
RG-00-02	TUFLOW Model SA Polygons		Catchment 0.2% AEP Flood Function		Riverine Developed– 0.05% AEP Velocity
	,•		Catchment 0.5% AEP Flood Function		Riverine Developed– 0.2% AEP Velocity
RG-05-01	1% AEP Critical Durations		Catchment 1% AEP Flood Function		Riverine Developed– 0.5% AEP Velocity
	10% AEP Critical Durations		Catchment 5% AEP Flood Function		Riverine Developed– 1% AEP Velocity
			Catchment 10% AEP Flood Function		Riverine Developed– 5% AEP Velocity
RG-05-02	Catchment PMF Flood Depth and Water Level Contours		Catchment 20% AEP Flood Function		
	Catchment 0.2% AEP Flood Depth and Water Level Contours			RG-08-03	Riverine Developed– PMF AIDR Hazard
	Catchment 0.5% AEP Flood Depth and Water Level Contours	RG-05-09	Climate Change Sensitivity – 0.2% AEP Less 1% AEP		Riverine Developed- 0.05% AEP AIDR Hazard
	Catchment 1% AEP Flood Depth and Water Level Contours		Climate Change Sensitivity – 0.5% AEP Less 1% AEP		Riverine Developed– 0.2% AEP AIDR Hazard
	Catchment 5% AEP Flood Depth and Water Level Contours				Riverine Developed- 0.5% AEP AIDR Hazard
	Catchment 10% AEP Flood Depth and Water Level Contours	RG-06-01	Preliminary Mitigation Options		Riverine Developed– 1% AEP AIDR Hazard
	Catchment 20% AEP Flood Depth and Water Level Contours				Riverine Developed– 5% AEP AIDR Hazard
		RG-06-02	Local Catchment Impacts – Large Pad – 5% AEP		
RG-05-03	Riverine PMF Flood Depth and Water Level Contours		Local Catchment Impacts – Large Pad – 1% AEP	RG-08-04	Riverine Developed – PMF Water Level Differences
	Riverine 0.5% AEP Flood Depth and Water Level Contours				Riverine Developed – 0.05% AEP Water Level Differences
	Riverine 1% AEP Flood Depth and Water Level Contours	RG-06-03	Local Catchment Impacts – Small Pad – 5% AEP		Riverine Developed – 0.2% AEP Water Level Differences
	Riverine 5% AEP Flood Depth and Water Level Contours		Local Catchment Impacts – Small Pad – 1% AEP		Riverine Developed – 0.5% AEP Water Level Differences
RG-05-04	Catchment PMF FDM Hazard Categories	RG-06-04	Riverine Impacts – Large FPL Pad – 1% AEP	RG-08-05	Local Developed – PMF Depth and Water Level
	Catchment 0.2% AEP FDM Hazard Categories		Riverine Impacts – Large FPL Pad – 0.5% AEP		Local Developed – 0.2% AEP Depth and Water Level
	Catchment 0.5% AEP FDM Hazard Categories		Riverine Impacts – Large FPL Pad – 0.05% AEP		Local Developed – 0.5% AEP Depth and Water Level
	Catchment 1% AEP FDM Hazard Categories		Riverine Impacts – Large FPL Pad – PMF		Local Developed – 1% AEP Depth and Water Level
	Catchment 5% AEP FDM Hazard Categories				Local Developed – 5% AEP Depth and Water Level
	Catchment 10% AEP FDM Hazard Categories	RG-06-05	Riverine Impacts – Small FPL Pad – 1% AEP		Local Developed – 10% AEP Depth and Water Level
	Catchment 20% AEP FDM Hazard Categories		Riverine Impacts – Small FPL Pad – 0.5% AEP		
			Riverine Impacts – Small FPL Pad – 0.05% AEP	RG-08-06	Local Developed – PMF Velocity
RG-05-05	Riverine PMF FDM Hazard Categories		Riverine Impacts – Small FPL Pad – PMF		Local Developed – 0.2% AEP Velocity
	Riverine 0.5% AEP FDM Hazard Categories				Local Developed – 0.5% AEP Velocity
	Riverine 1% AEP FDM Hazard Categories	RG-06-06	Riverine Impacts – Large 0.2% AEP Pad – 1% AEP		Local Developed – 1% AEP Velocity
	Riverine 5% AEP FDM Hazard Categories		Riverine Impacts – Large 0.2% AEP Pad – 0.5% AEP		Local Developed – 5% AEP Velocity
			Riverine Impacts – Large 0.2% AEP Pad – 0.05% AEP		Local Developed – 10% AEP Velocity
RG-05-06	Catchment PMF AIDR Hazard Categories		Riverine Impacts – Large 0.2% AEP Pad – PMF		
	Catchment 0.2% AEP AIDR Hazard Categories			RG-08-07	Local Developed – PMF AIDR Hazard
	Catchment 0.5% AEP AIDR Hazard Categories	RG-06-07	Riverine Impacts – Small 0.2% AEP Pad – 1% AEP		Local Developed – 0.2% AEP AIDR Hazard
	Catchment 1% AEP AIDR Hazard Categories		Riverine Impacts – Small 0.2% AEP Pad – 0.5% AEP		Local Developed – 0.5% AEP AIDR Hazard
	Catchment 5% AEP AIDR Hazard Categories		Riverine Impacts – Small 0.2% AEP Pad – 0.05% AEP		Local Developed – 1% AEP AIDR Hazard
	Catchment 10% AEP AIDR Hazard Categories		Riverine Impacts – Small 0.2% AEP Pad – PMF		Local Developed – 5% AEP AIDR Hazard
	Catchment 20% AEP AIDR Hazard Categories	DC 00 04	B' a day Baraka and BME Broth and Water bank		Local Developed – 10% AEP AIDR Hazard
DC 05 07	Di ada BAS AIDD Ha and Calandia	RG-08-01	Riverine Developed—PMF Depth and Water Level	DC 00 00	Level Developed - DMENVeloped - DMG - Developed
RG-05-07	Riverine PMF AIDR Hazard Categories		Riverine Developed— 0.05% AEP Depth and Water Level	RG-08-08	Local Developed – PMF Water Level Differences
	Riverine 0.5% AEP AIDR Hazard Categories		Riverine Developed - 0.2% AEP Depth and Water Level		Local Developed – 1% AEP Water Level Differences
	Riverine 1% AEP AIDR Hazard Categories		Riverine Developed— 0.5% AEP Depth and Water Level		Local Developed – 5% AEP Water Level Differences
			Riverine Developed—1% AEP Depth and Water Level		Local Developed – 10% AEP Water Level Differences
			Riverine Developed– 5% AEP Depth and Water Level	DC 00 00	Divoring Davidanad Climata Constituity 0 50/ 1 40/ 455
				RG-08-09	Riverine Developed – Climate Sensitivity 0.5% less 1% AEP
					Riverine Developed – Climate Sensitivity 0.2% less 0.5% AEP





RG-03-001

Model Layout

Legend

Model Area

Raised Buildings

Pipes

---- Rectangular

— Circular

Pits

- Inlet Pits
- Junction Pits

Boundaries

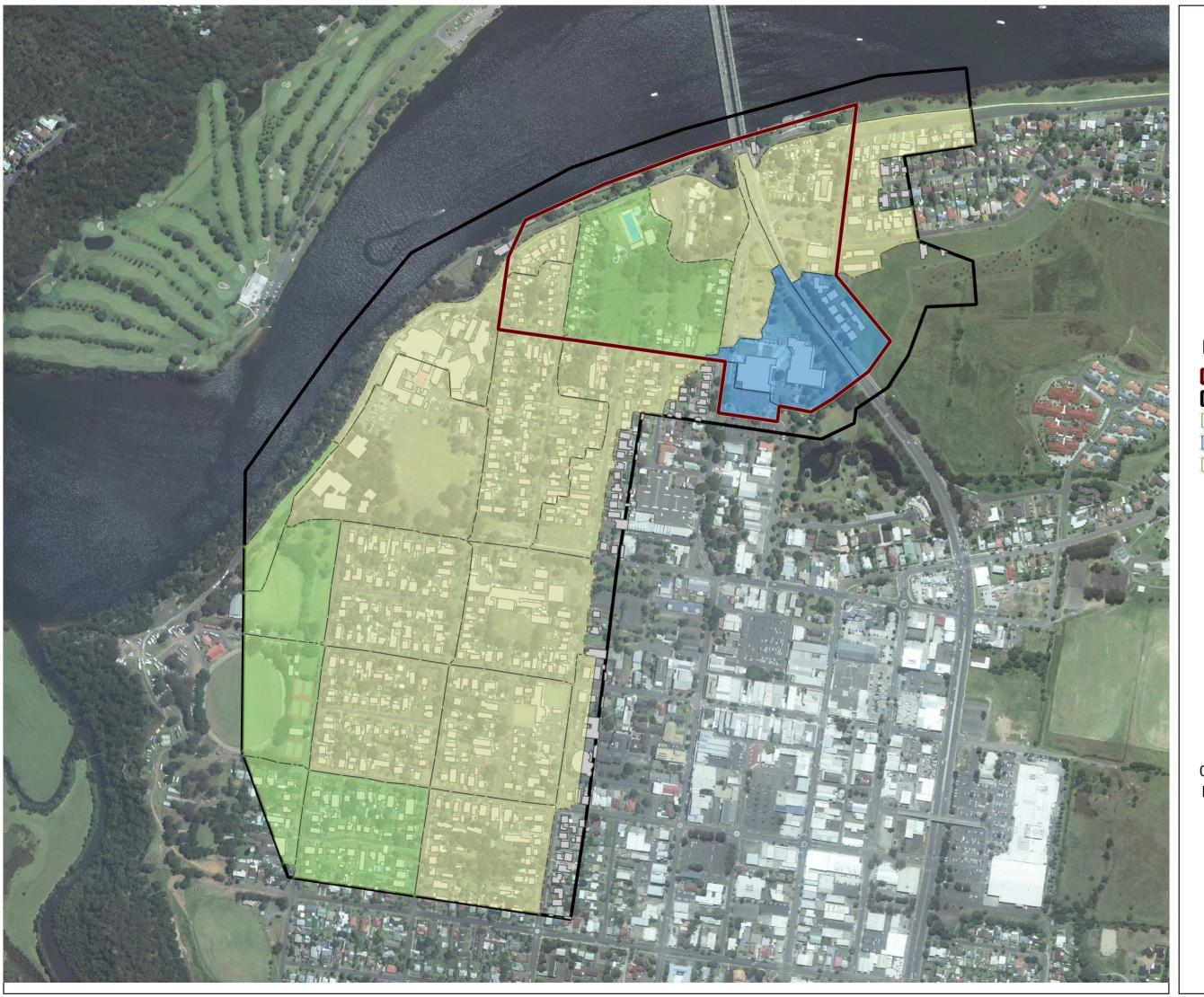
Time varying water level

Free outflow

100

200 300







RG-03-002

SA Polygon Layout

Legend

Study Area

Model Area

Standard SA Polygons

Direct Rainfall SA Polygons

Pit SA Polygons

100

300

Scale: 1:6000@A3
Date: 18 November 2021
Revision: A
Created by: LRE
Coordinate System: MGA2020/56

200







1% AEP Existing **Critical Duration**

Model Area

Study Area

Cadastre

Critical Duration

10m

180m

25m

30m

45m

60m 90m

25 50 75 100 m







10% AEP Existing **Critical Duration**

Model Area

Study Area

Cadastre

Critical Duration

10m

120m

15m

180m

20m 25m

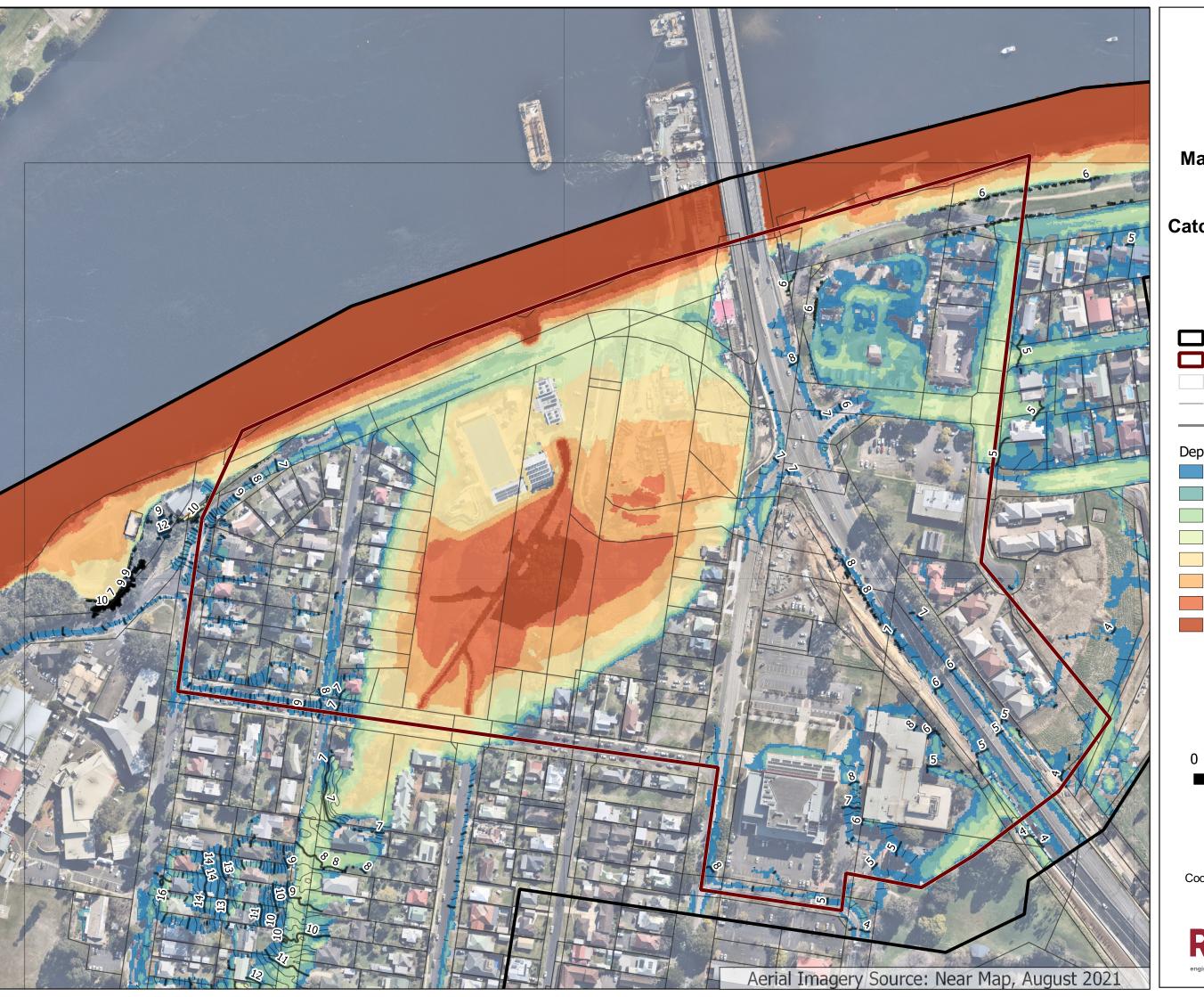
30m 45m

60m

90m

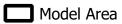
0 25 50 75 100 m







PMF Existing Catchment Flood Depth and Level



Study Area

Cadastre

0.25m WSE Contours

— 1m WSE Contours

Depth (m)

0 - 0.15

0.15 - 0.3

0.3 - 0.5

0.5 - 1

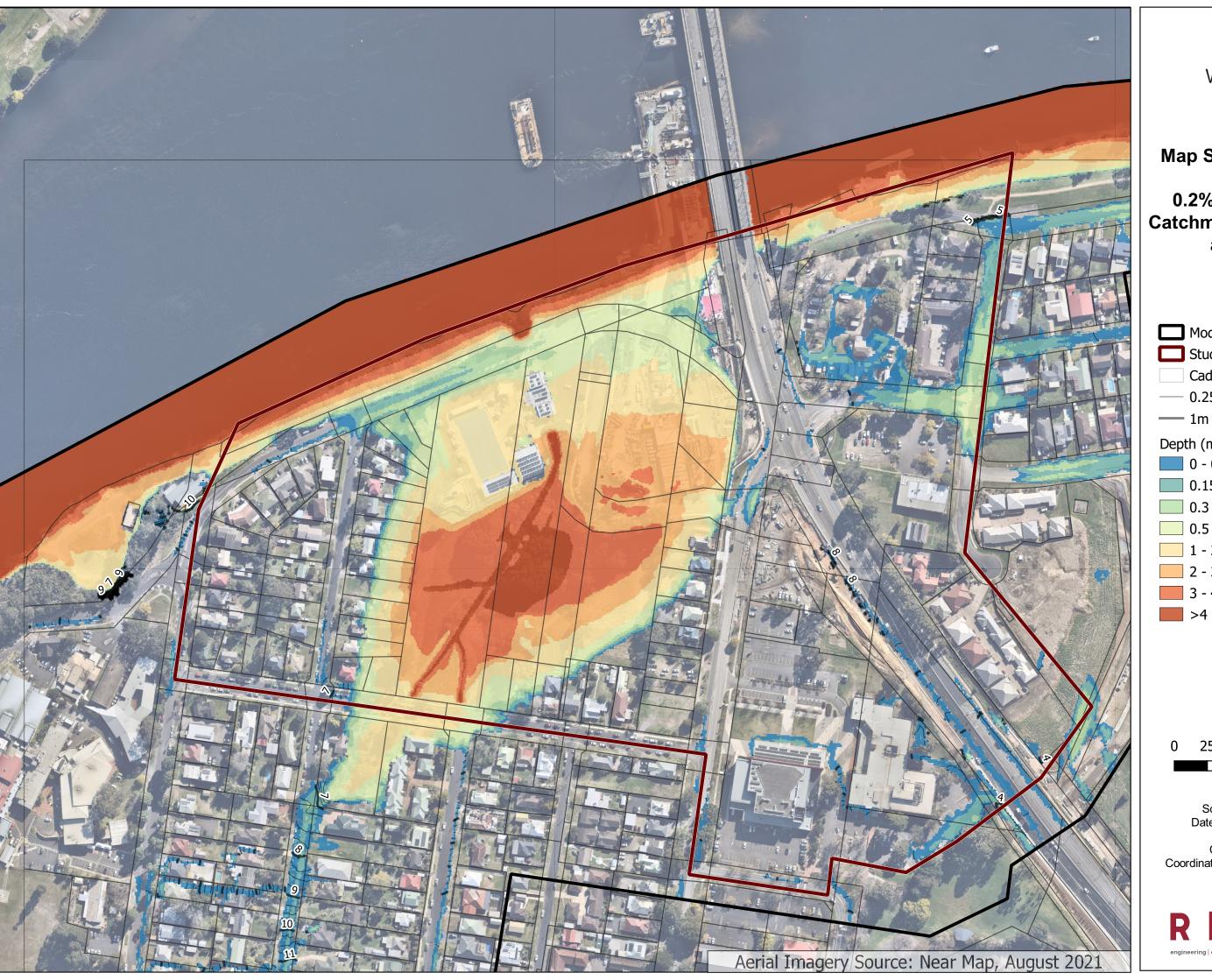
2 - 3

3 - 4

>4

0 25 50 75 100 m







0.2% AEP Existing **Catchment Flood Depth** and Level

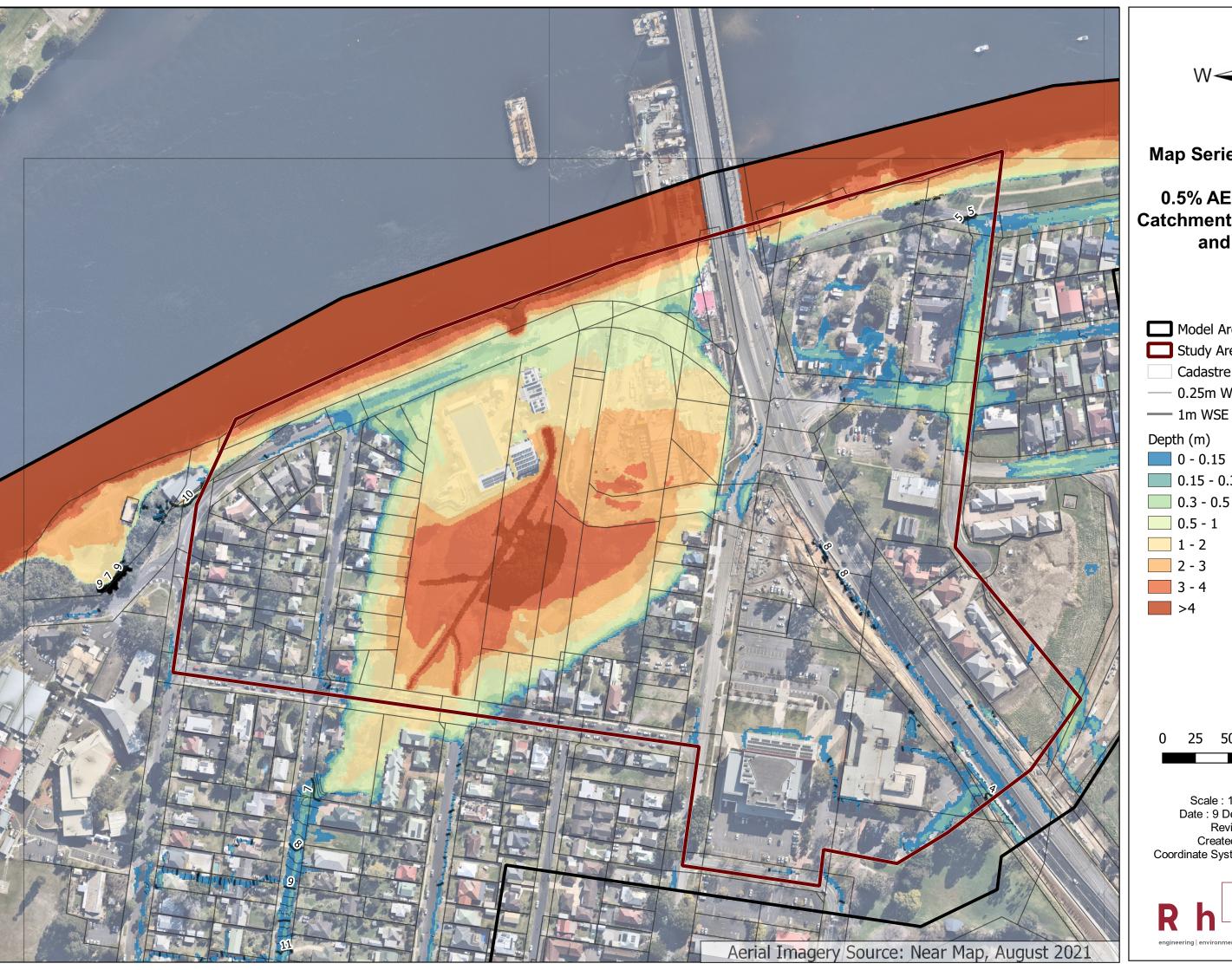
- Model Area
- Study Area
 - Cadastre
- 0.25m WSE Contours
- 1m WSE Contours

Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4

25 50 75 100 m







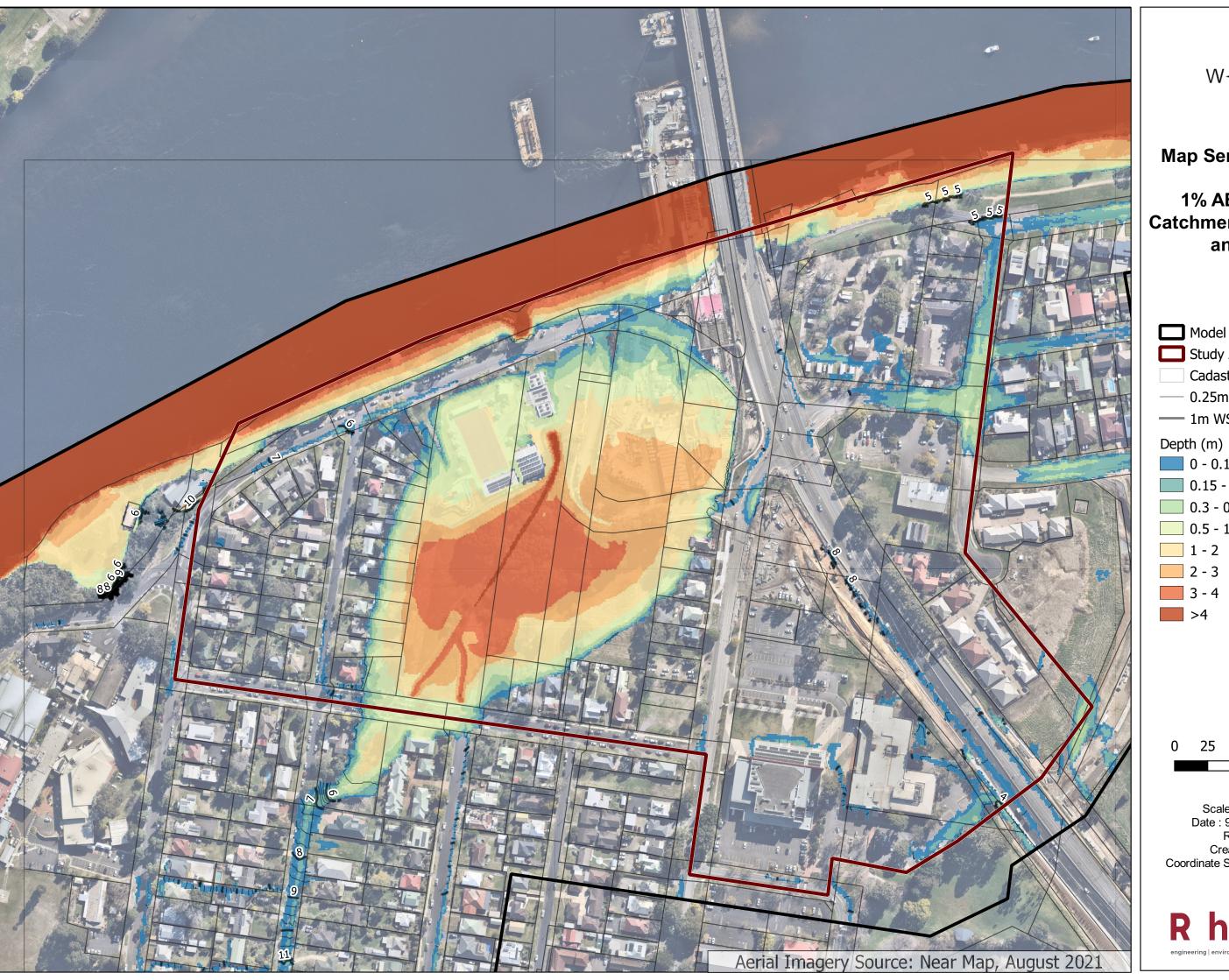
0.5% AEP Existing **Catchment Flood Depth** and Level

- Model Area
- Study Area
 - Cadastre
 - 0.25m WSE Contours
- 1m WSE Contours

- 0 0.15
- 0.15 0.3

25 50 75 100 m







1% AEP Existing **Catchment Flood Depth** and Level



Study Area

Cadastre

0.25m WSE Contours

— 1m WSE Contours

0 - 0.15

0.15 - 0.3

0.3 - 0.5

0.5 - 1

25 50 75 100 m







5% AEP Existing Catchment Flood Depth and Level

- Model Area
- Study Area
 - Cadastre
- 0.25m WSE Contours
- 1m WSE Contours

Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4
- >4

25 50 75 100 m







10% AEP Existing **Catchment Flood Depth** and Level

- Model Area
- Study Area
 - Cadastre
 - 0.25m WSE Contours
- 1m WSE Contours

Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4

>4

25 50 75 100 m







20% AEP Existing **Catchment Flood Depth** and Level

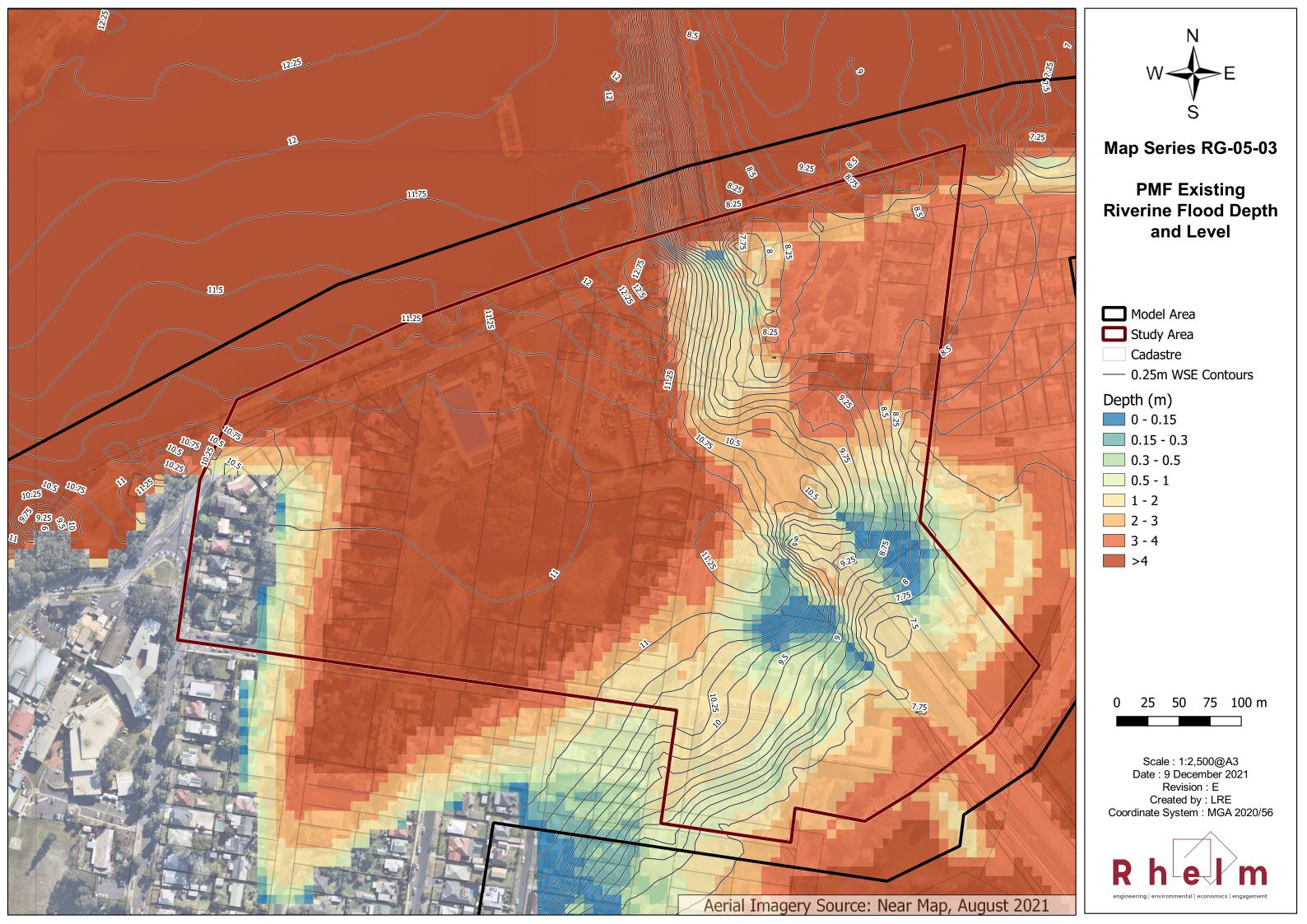
- Model Area
- Study Area
 - Cadastre
 - 0.25m WSE Contours
- 1m WSE Contours

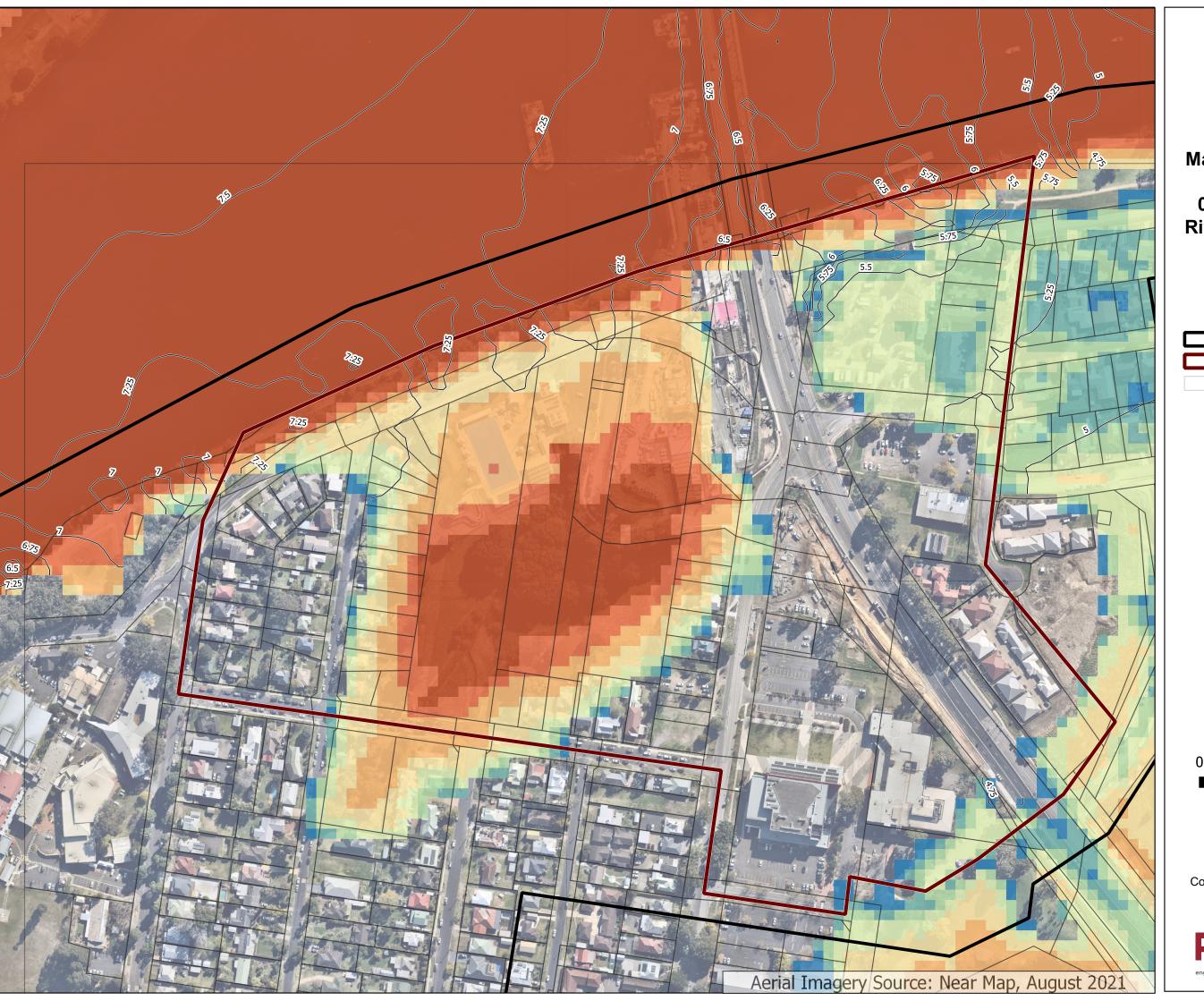
Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3

25 50 75 100 m









0.2% AEP Existing
Riverine Flood Depth
and Level

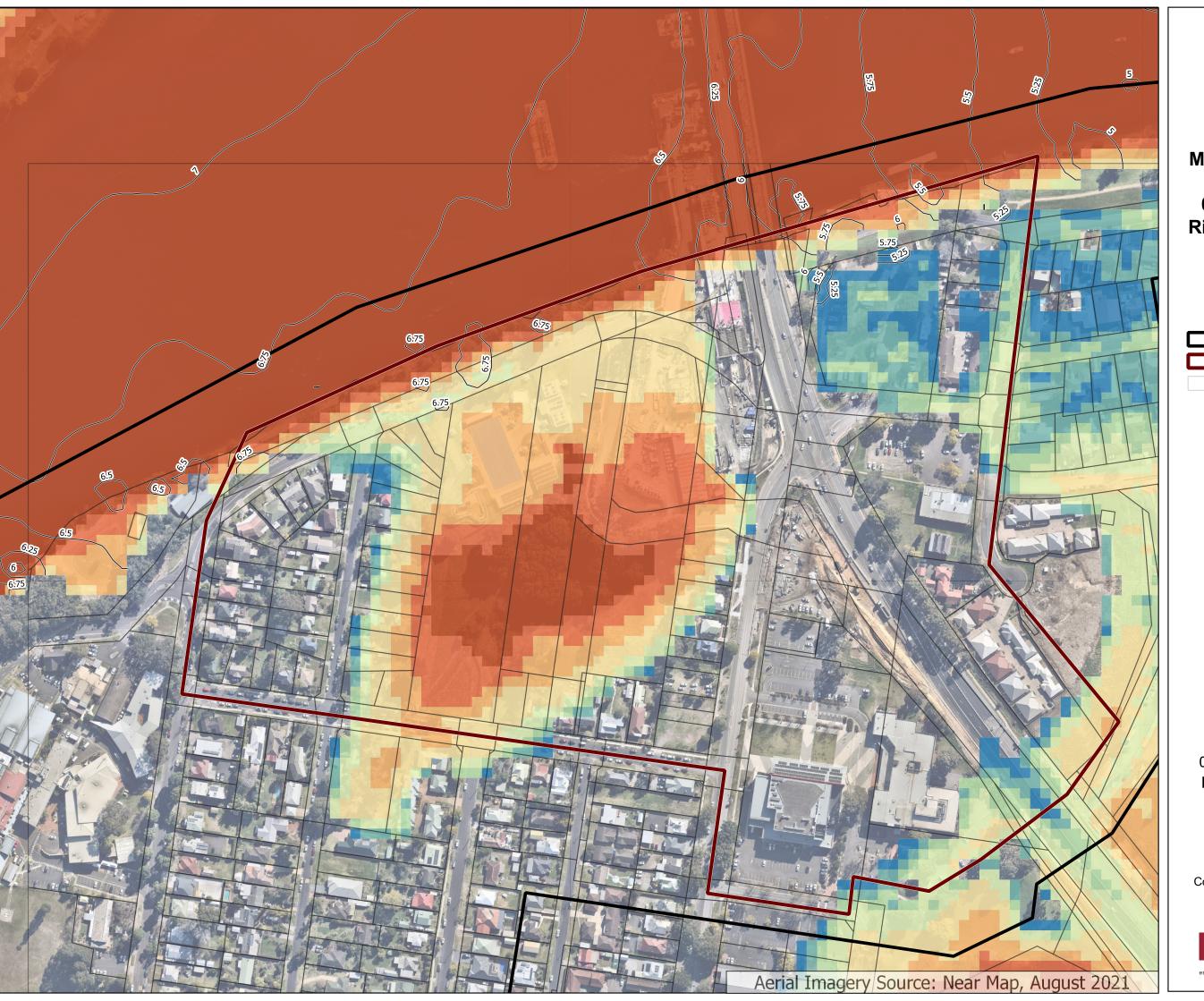
Model Area

Study Area

Cadastre

0 25 50 75 100 m







0.5% AEP Existing
Riverine Flood Depth
and Level

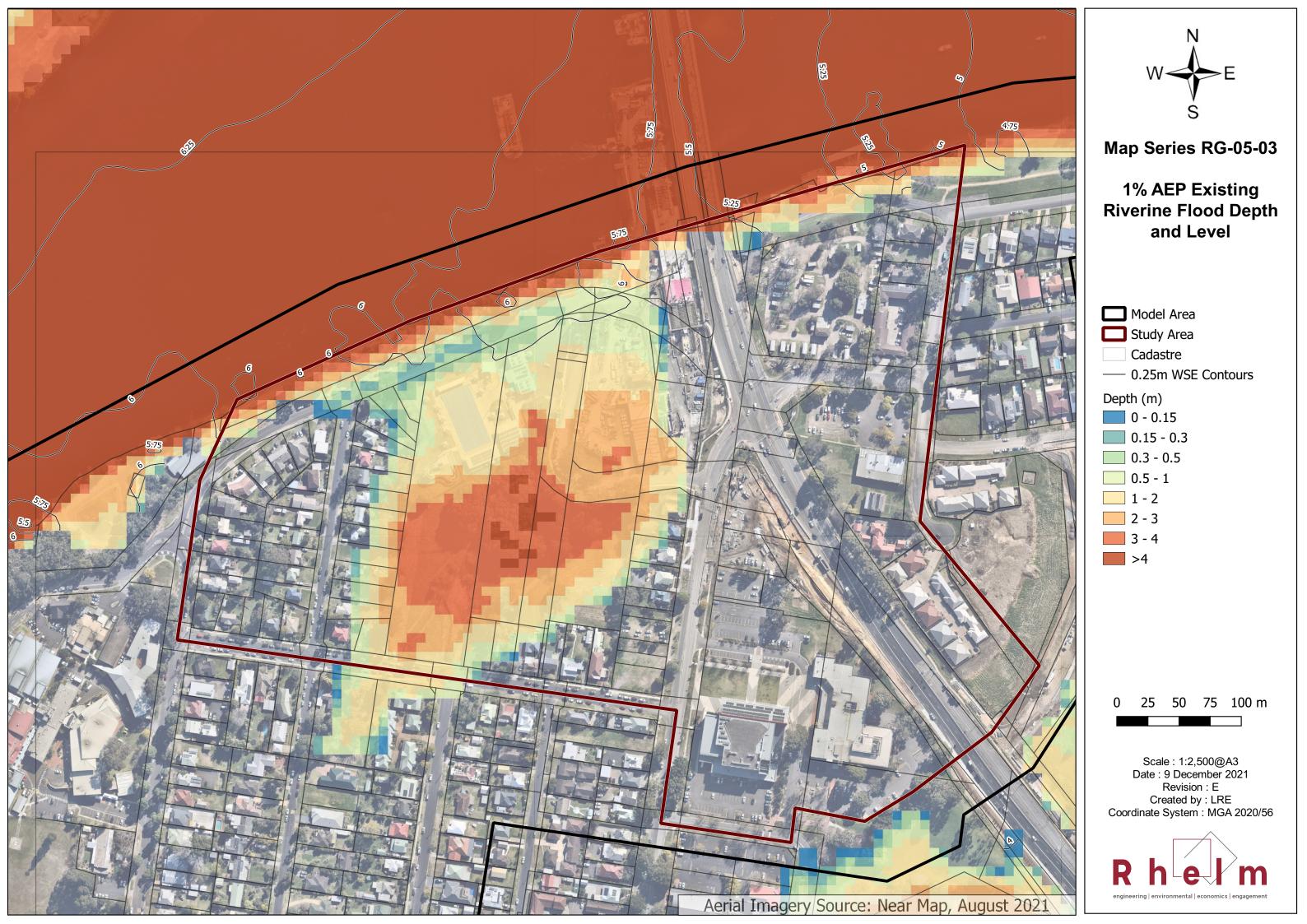
Model Area

Study Area

Cadastre

0 25 50 75 100 m











PMF Existing Catchment FDM Hazard Category

Model Area

Study Area

Cadastre

FDM Hazard Category

1 - Low Hazard

2 - Transition Zone

3 - High Hazard

25 50 75 100 m







0.2% AEP Existing **Catchment FDM Hazard** Category

Model Area

Study Area

Cadastre

FDM Hazard Category

1 - Low Hazard

2 - Transition Zone

3 - High Hazard

25 50 75 100 m







0.5% AEP Existing **Catchment FDM Hazard** Category

Model Area

Study Area

Cadastre

FDM Hazard Category

1 - Low Hazard

2 - Transition Zone

3 - High Hazard

25 50 75 100 m







1% AEP Existing Catchment FDM Hazard Category

Model Area

Study Area

Cadastre

FDM Hazard Category

1 - Low Hazard

2 - Transition Zone

3 - High Hazard

25 50 75 100 m







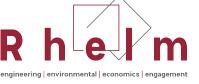
5% AEP Existing Catchment FDM Hazard Category

- Model Area
- Study Area
 - Cadastre

FDM Hazard Category

- 1 Low Hazard
- 2 Transition Zone
- 3 High Hazard

25 50 75 100 m







10% AEP Existing **Catchment FDM Hazard** Category

- Model Area
- Study Area
 - Cadastre

FDM Hazard Category

- 1 Low Hazard
- 2 Transition Zone
- 3 High Hazard

25 50 75 100 m







20% AEP Existing **Catchment FDM Hazard** Category

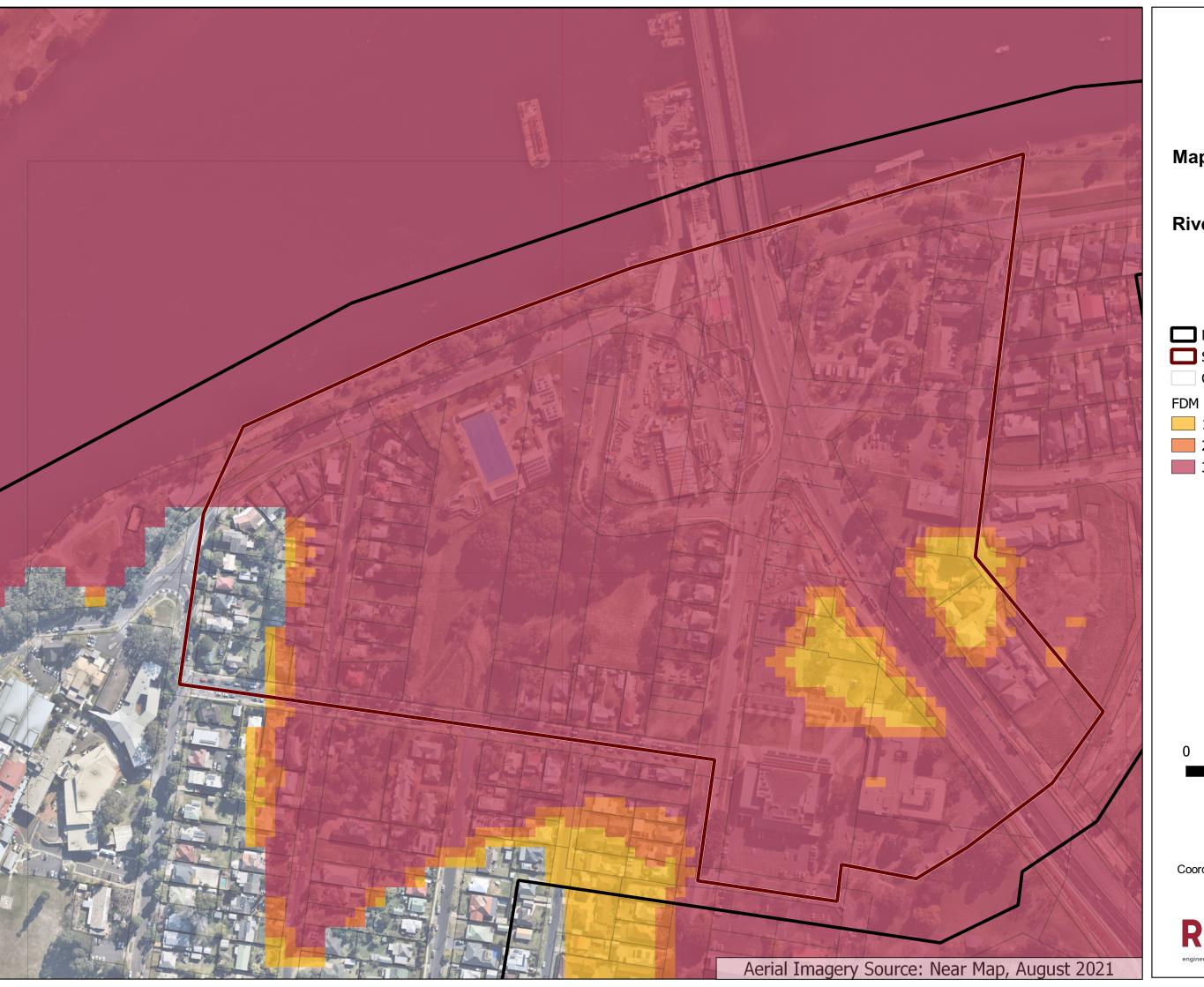
- Model Area
- Study Area
 - Cadastre

FDM Hazard Category

- 1 Low Hazard
- 2 Transition Zone
- 3 High Hazard

25 50 75 100 m







PMF Existing
Riverine FDM Hazard
Category

Model Area

Study Area

Cadastre

FDM Hazard Category

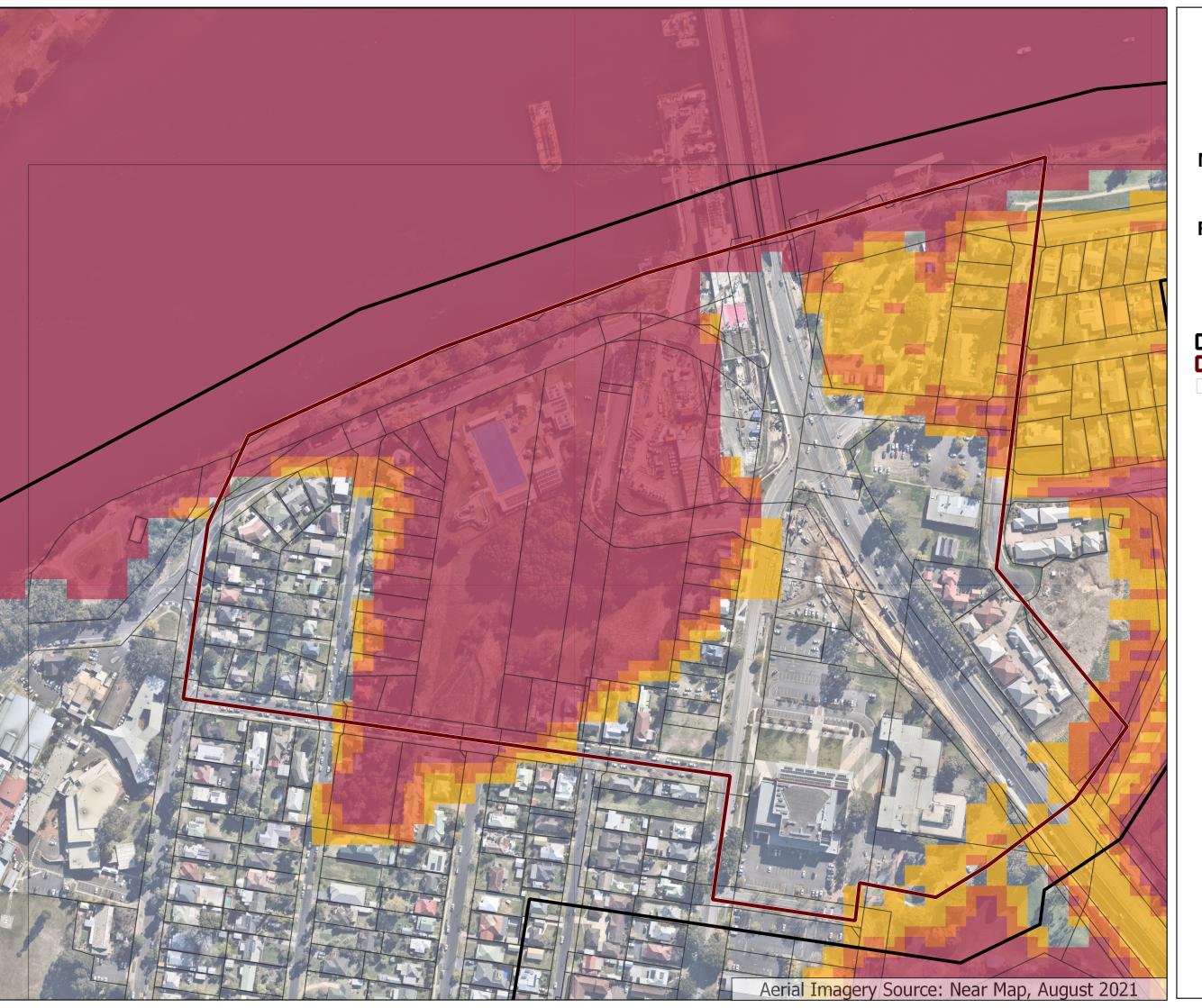
1 - Low Hazard

2 - Transition Zone

3 - High Hazard

0 25 50 75 100 m







0.2% AEP Existing
Riverine FDM Hazard
Category

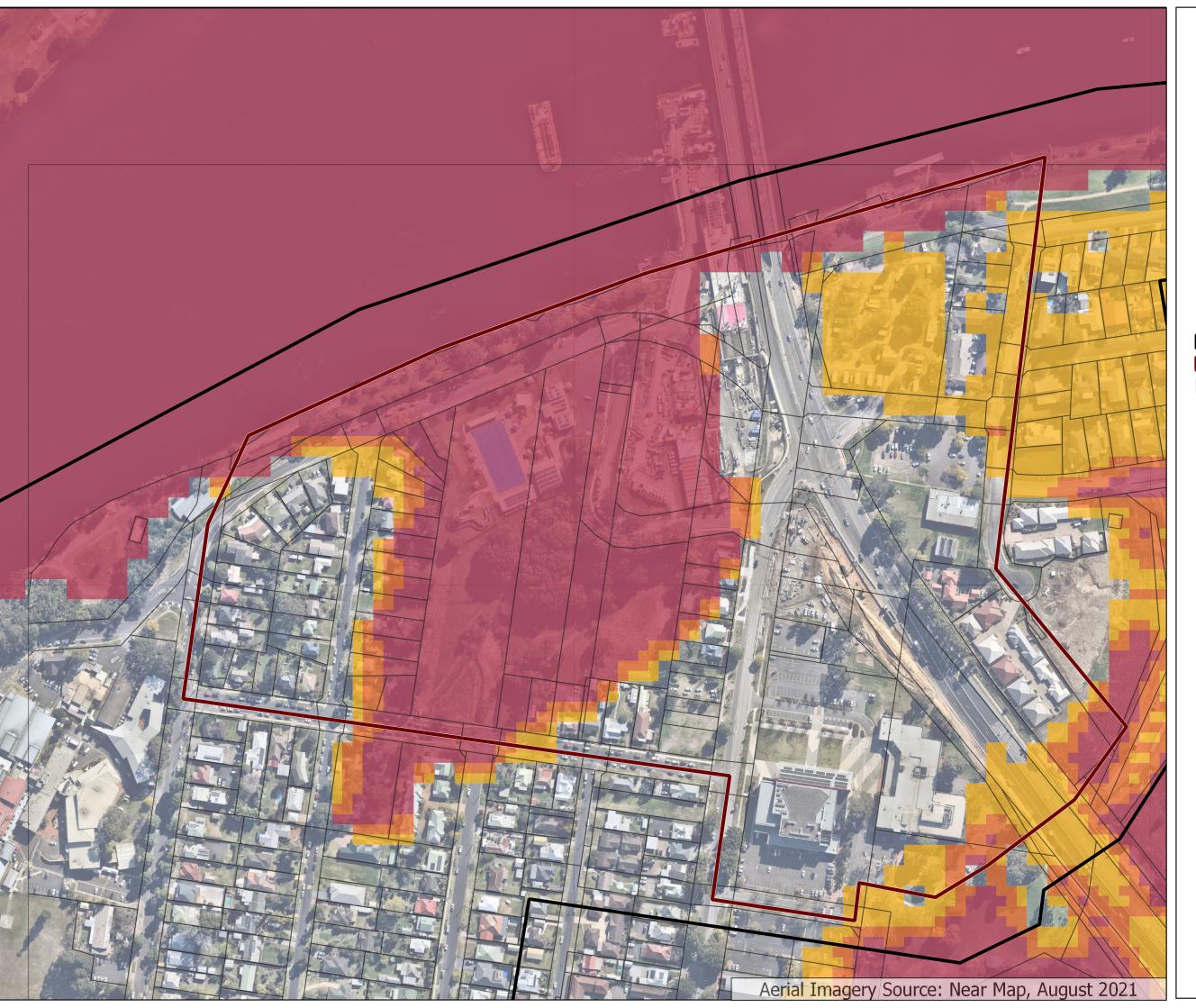
Model Area

Study Area

Cadastre

0 25 50 75 100 m

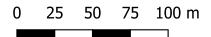




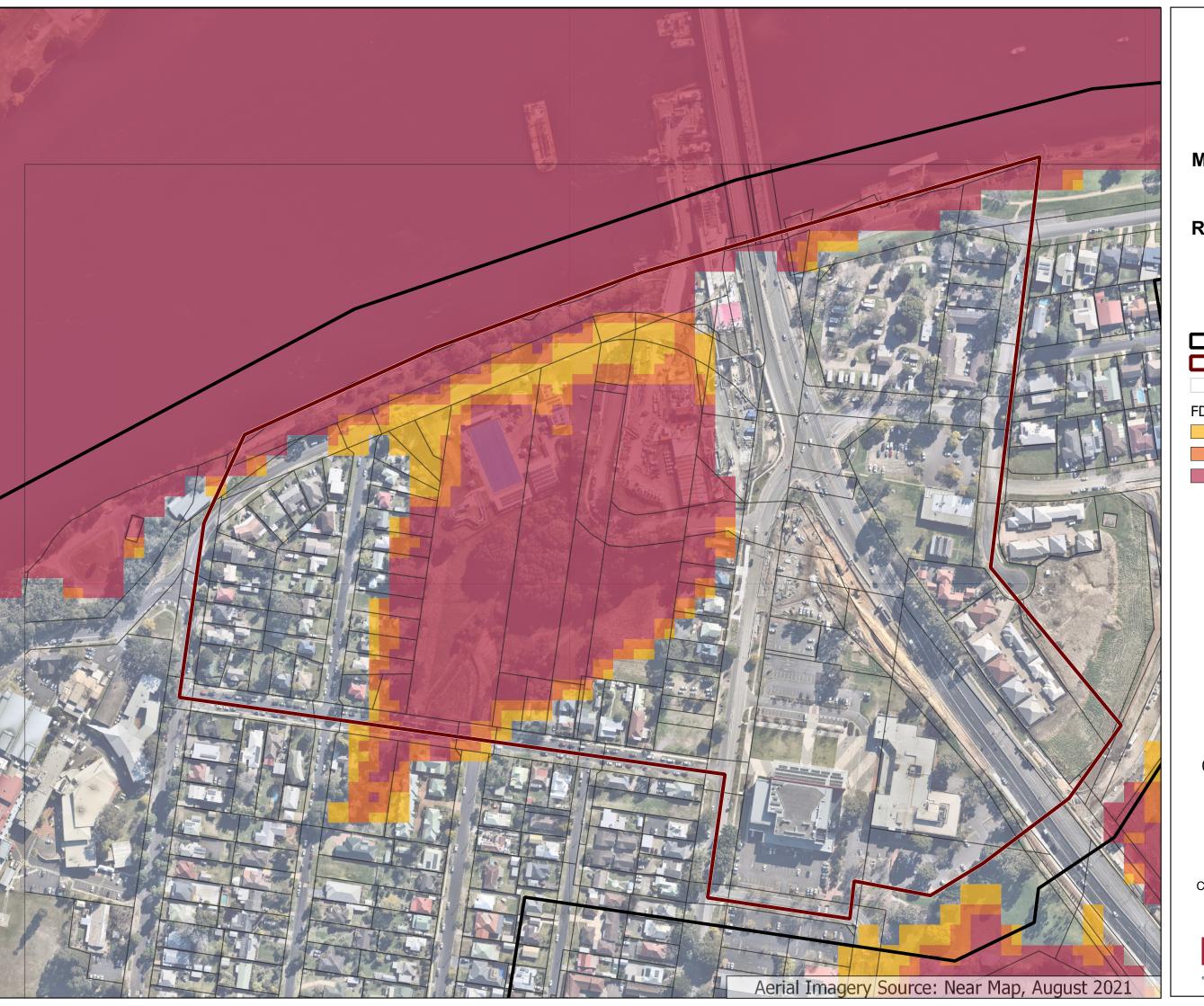


0.5% AEP Existing
Riverine FDM Hazard
Category

Model AreaStudy AreaCadastre









1% AEP Existing Riverine FDM Hazard Category

Model Area

Study Area

Cadastre

FDM Hazard Category

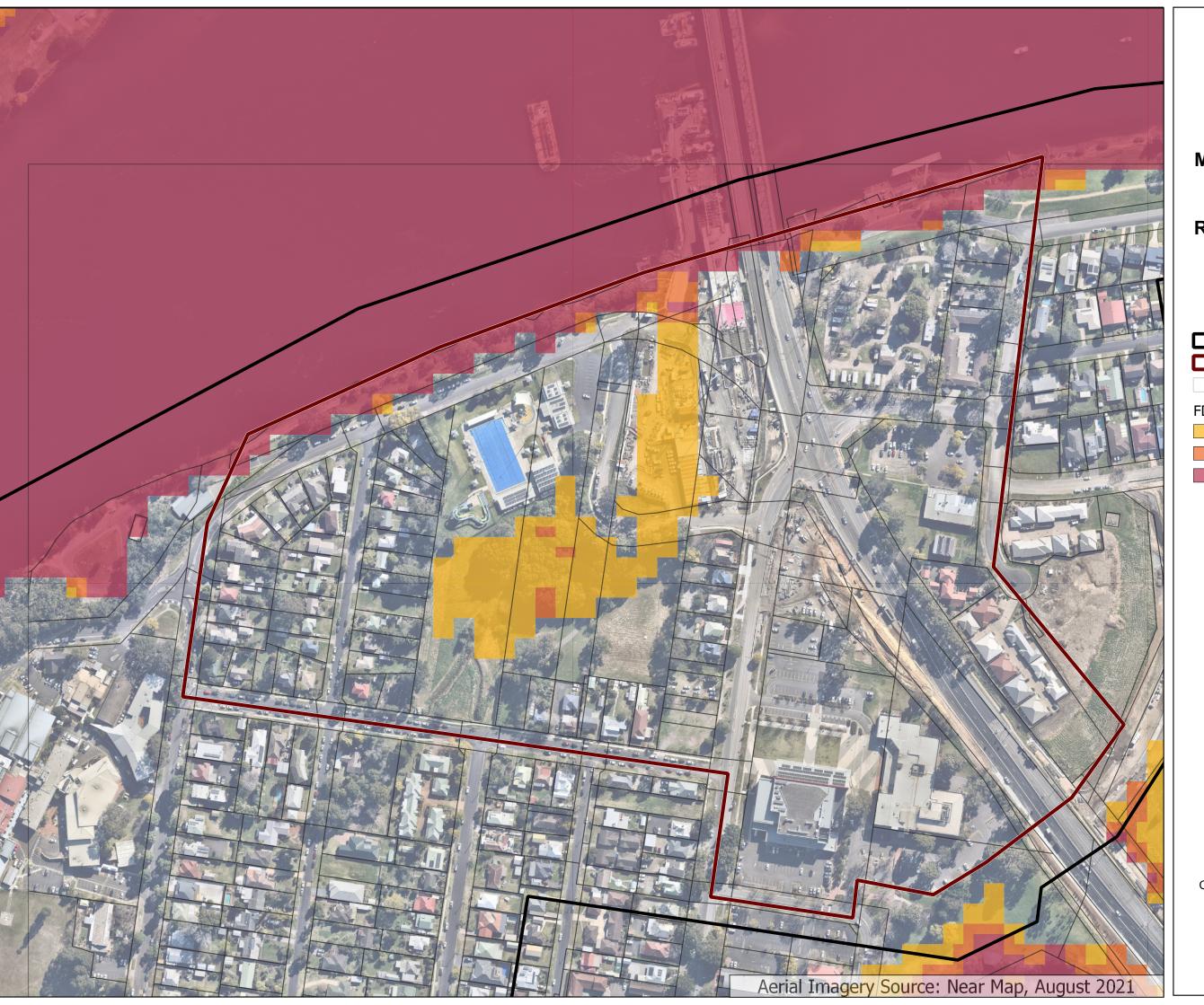
1 - Low Hazard

2 - Transition Zone

3 - High Hazard

25 50 75 100 m







5% AEP Existing
Riverine FDM Hazard
Category

- Model Area
- Study Area
 - Cadastre

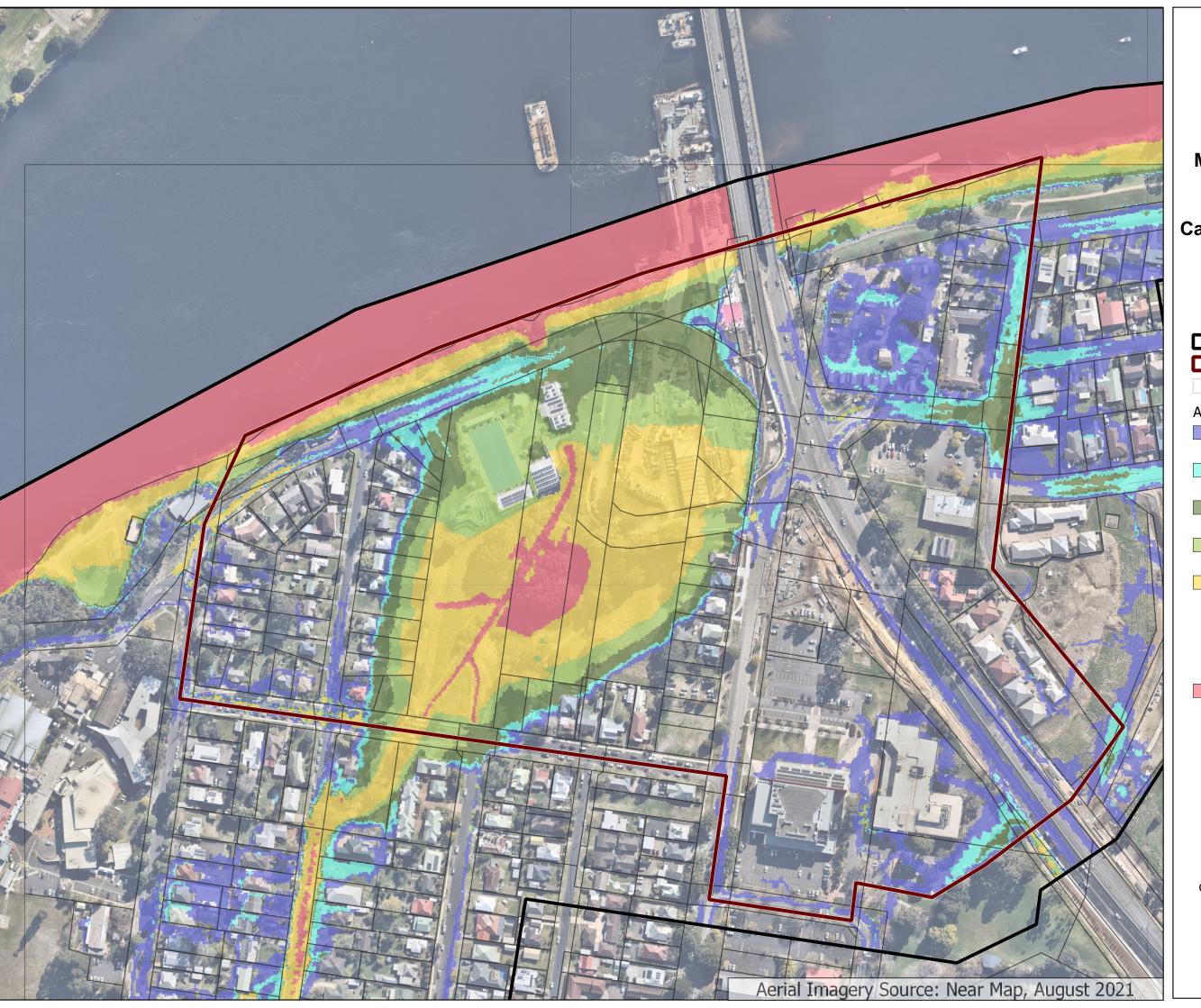
FDM Hazard Category

- 1 Low Hazard
- 2 Transition Zone
- 3 High Hazard

0 25 50 75 100 m

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Date: 9 December 2021
Revision: E
Created by: LRE
Coordinate System: MGA 2020/56

R h e m





PMF Existing Catchment AIDR Hazard Category

- Model Area
- Study Area
- Cadastre

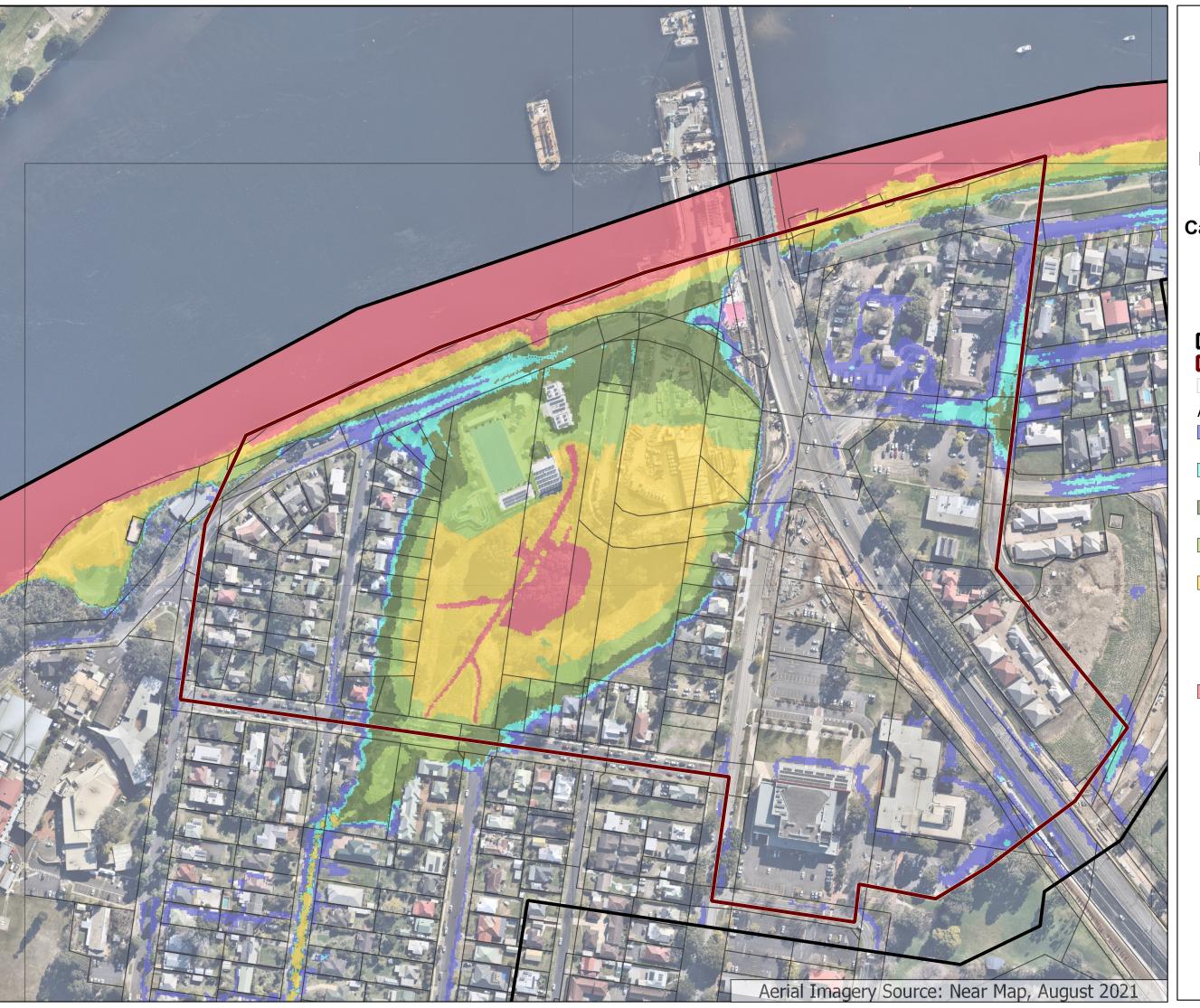
AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E
Created by: LRF







0.2% AEP Existing Catchment AIDR Hazard Category

- Model Area
- Study Area
- Cadastre

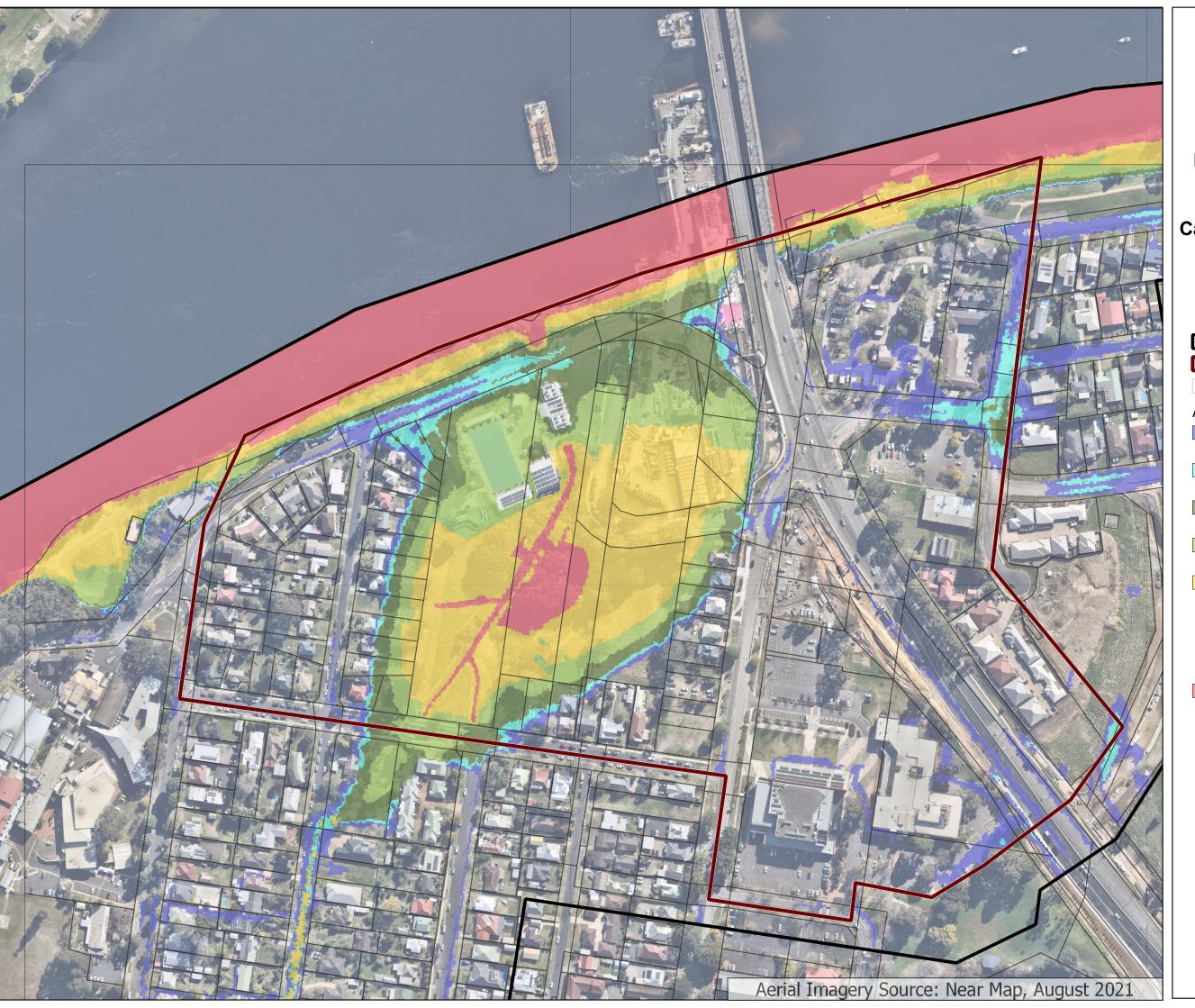
AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







0.5% AEP Existing Catchment AIDR Hazard Category

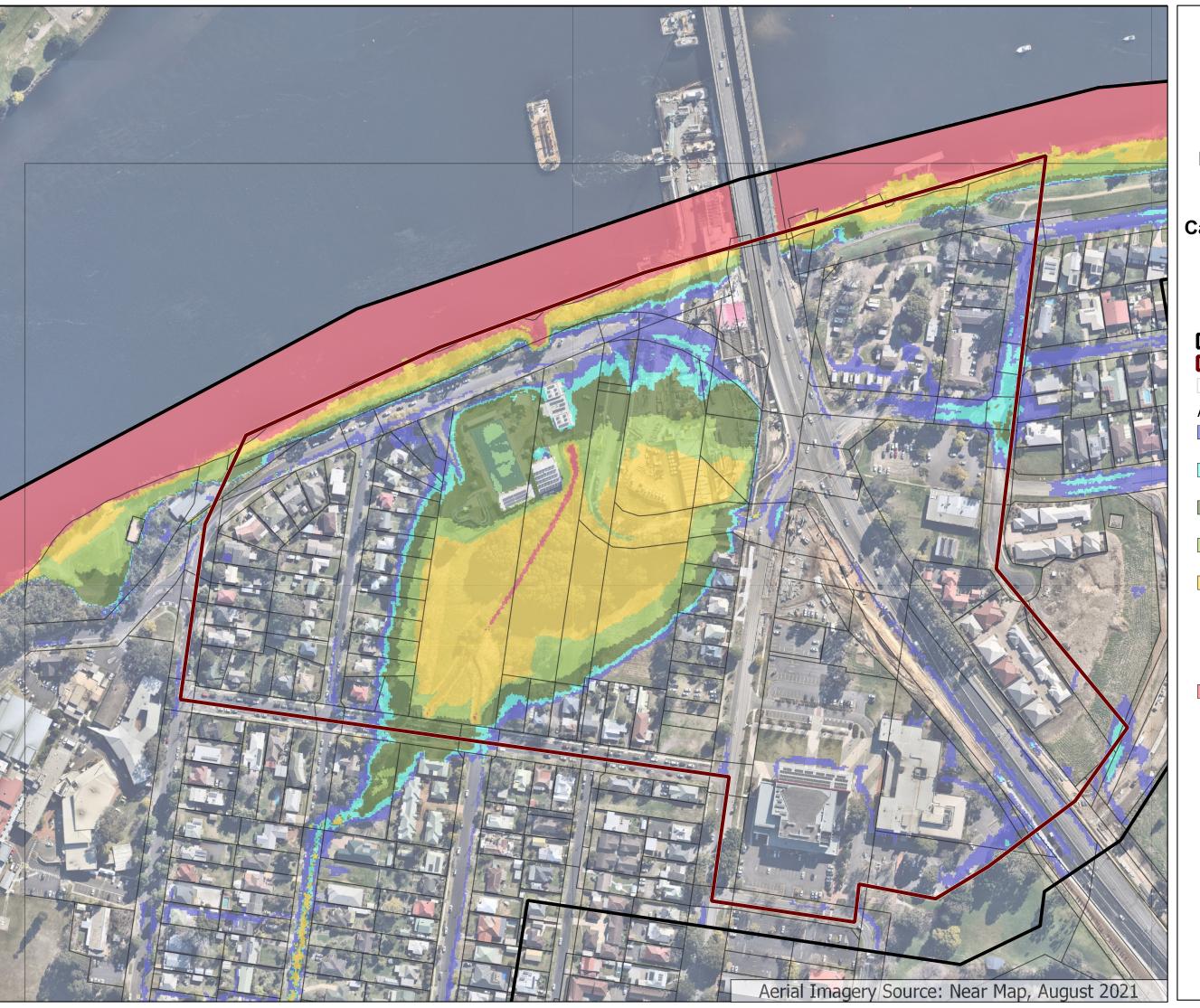
- Model Area
- Study Area
- Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
 - 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E
Created by: LRE







1% AEP Existing Catchment AIDR Hazard Category

- Model Area
- Study Area
 - Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
 - 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







5% AEP Existing Catchment AIDR Hazard Category

- Model Area
- Study Area
 - Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
 - 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







10% AEP Existing
Catchment AIDR Hazard
Category

- Model Area
- Study Area
- Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E
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20% AEP Existing Catchment AIDR Hazard Category

- Model Area
- Study Area
 - Cadastre

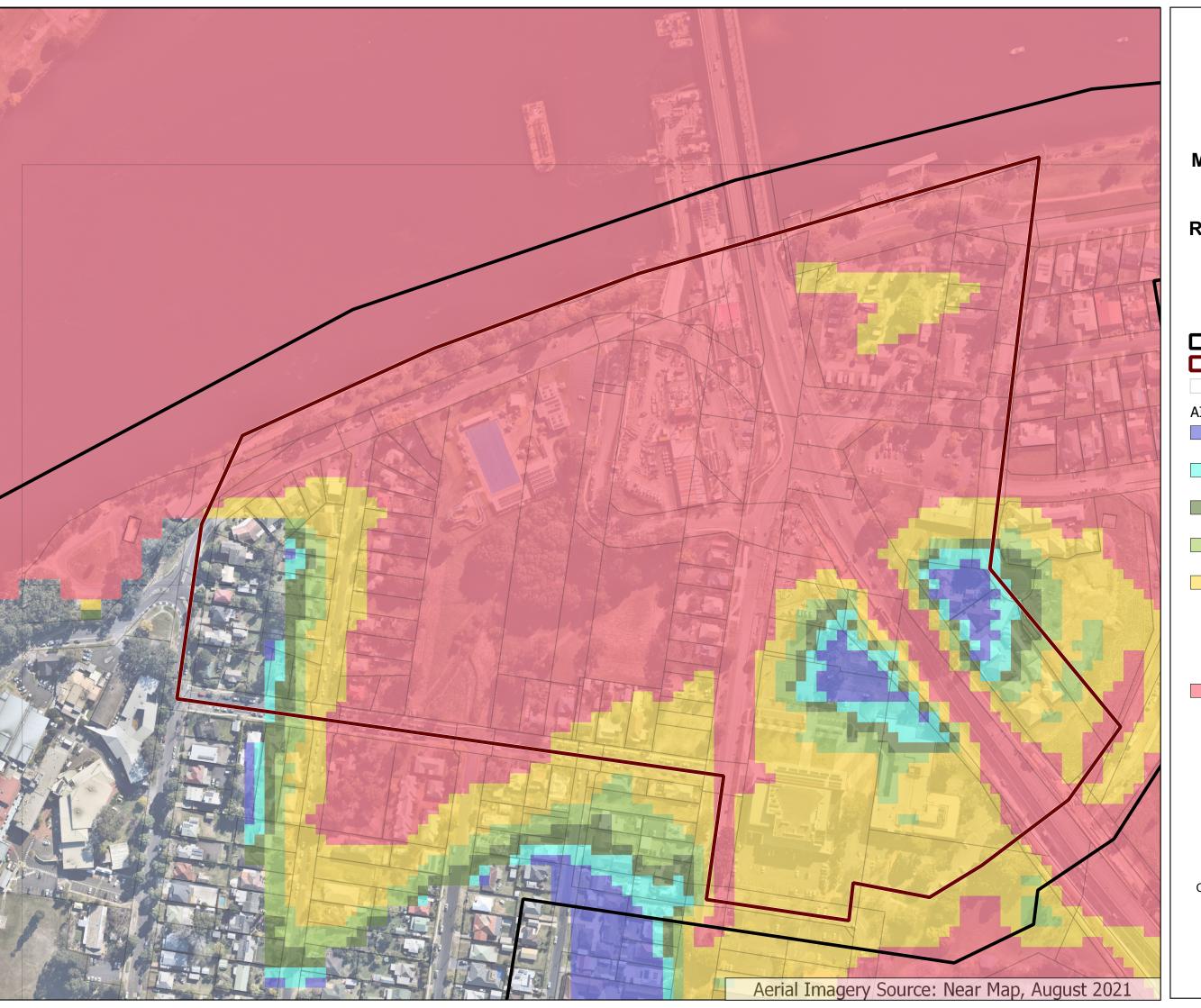
AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E
Created by: LRE







PMF Existing Riverine AIDR Hazard Category

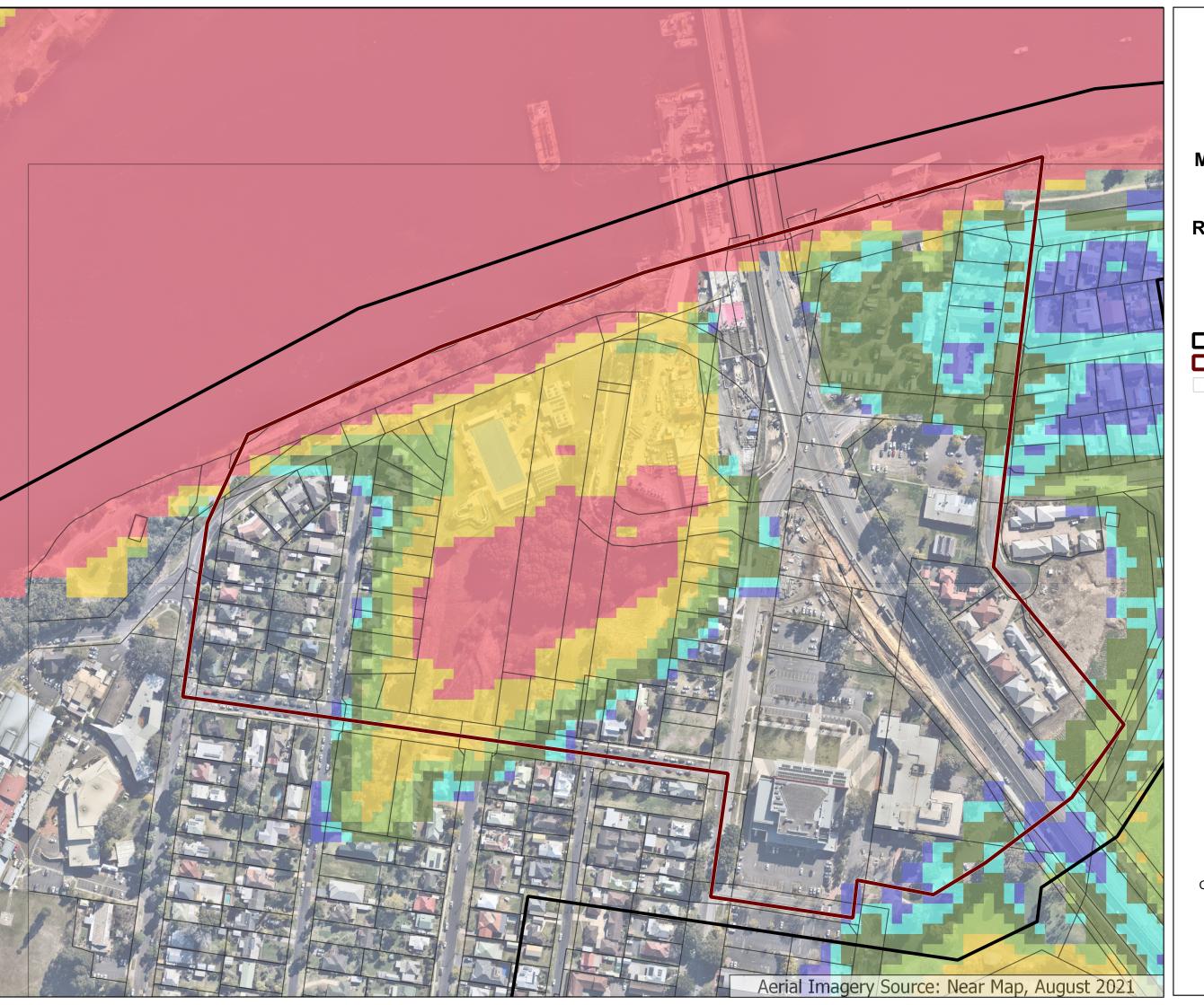
- Model Area
- Study Area
- Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
 - H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
 - 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







0.2% AEP Existing **Riverine AIDR Hazard** Category

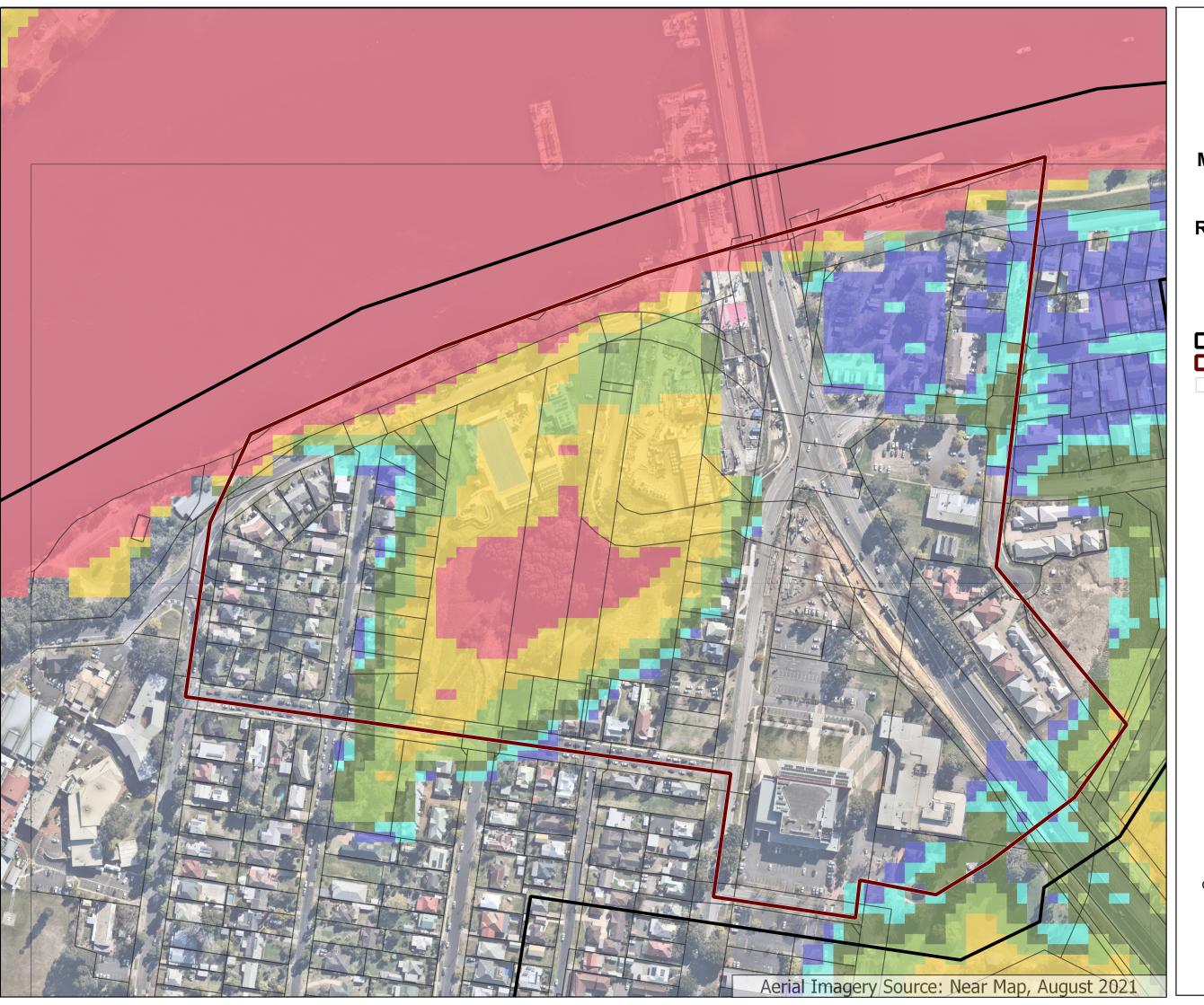
Model Area

Study Area

Cadastre

25 50 75 100 m







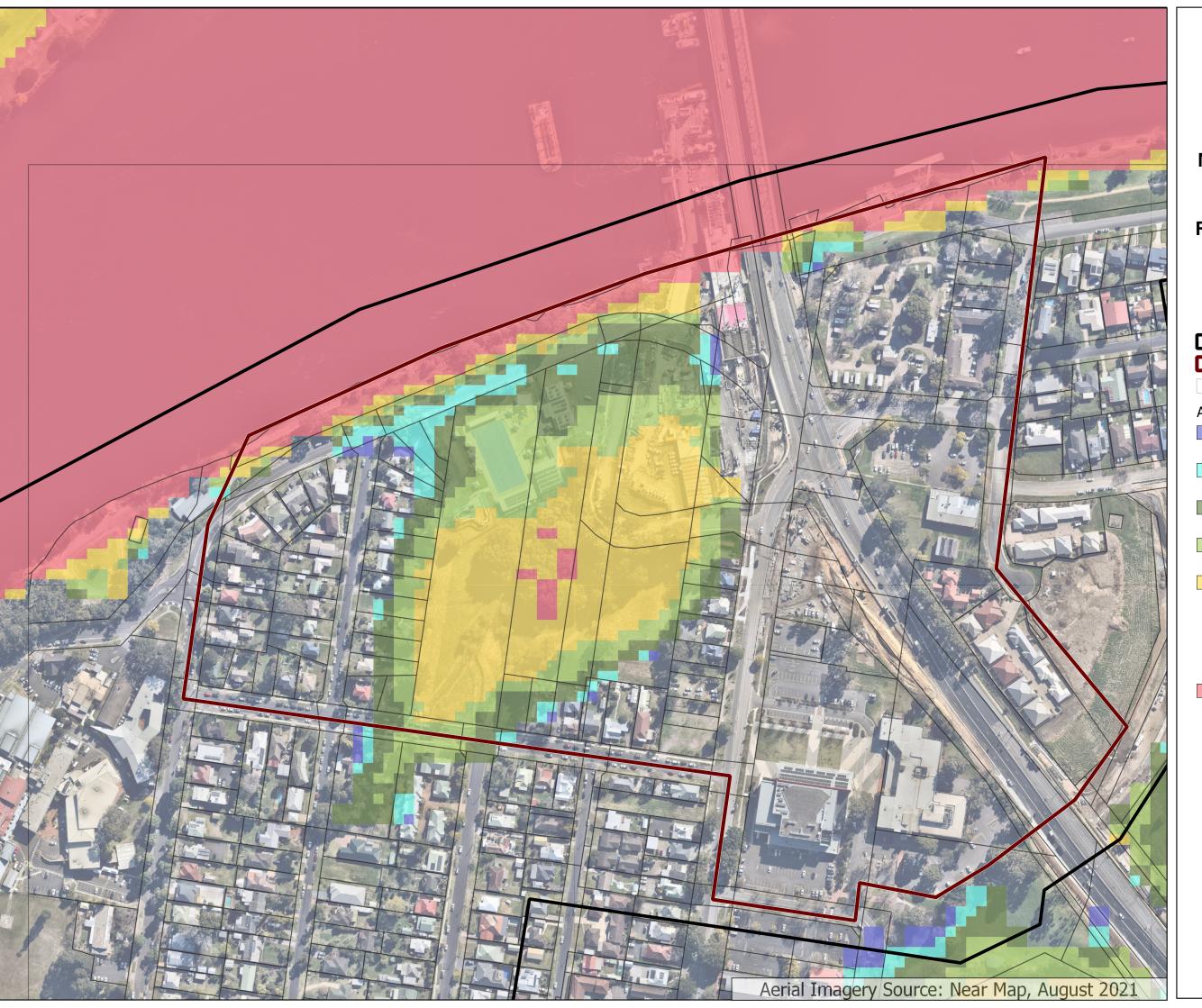
0.5% AEP Existing
Riverine AIDR Hazard
Category

Model Area
Study Area

Cadastre









1% AEP Existing Riverine AIDR Hazard Category

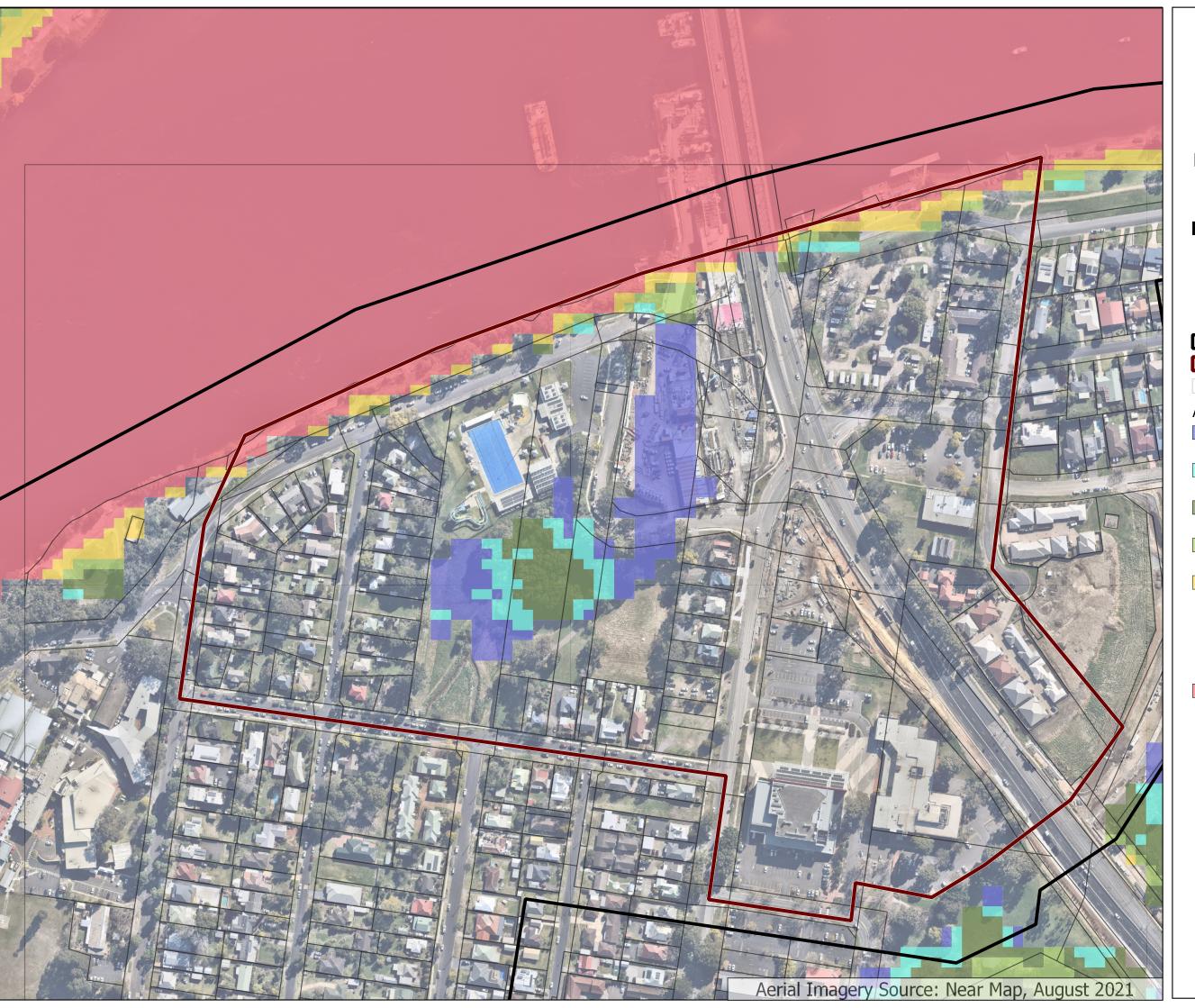
- Model Area
- Study Area
 - Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
- 25 50 75 100 m

Scale : 1:2,500@A3
Date : 9 December 2021
Revision : E
Created by : LRE







5% AEP Existing Riverine AIDR Hazard Category

- Model Area
- Study Area
- Cadastre

AIDR Hazard Category

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







PMF Existing Flood Function

Model Area

Study Area

Cadastre

Flood Function

Floodway

Storage

25 50 75 100 m







0.2% AEP Existing **Flood Function**

Model Area

Study Area

Cadastre

Flood Function

Floodway

Storage

25 50 75 100 m







0.5% AEP Existing **Flood Function**

Model Area

Study Area

Cadastre

Flood Function

Floodway

Storage

Fringe

25 50 75 100 m







1% AEP Existing Flood Function

Model Area

Study Area

Cadastre

Flood Function

Floodway

Storage

Fringe

0 25 50 75 100 m







5% AEP Existing Flood Function

- Model Area
- Study Area
 - Cadastre

Flood Function

- Floodway
- Storage
- Fringe

0 25 50 75 100 m







10% AEP Existing Flood Function

Model Area

Study Area

Cadastre

Flood Function

Floodway

Storage

Fringe

0 25 50 75 100 m







20% AEP Existing Flood Function

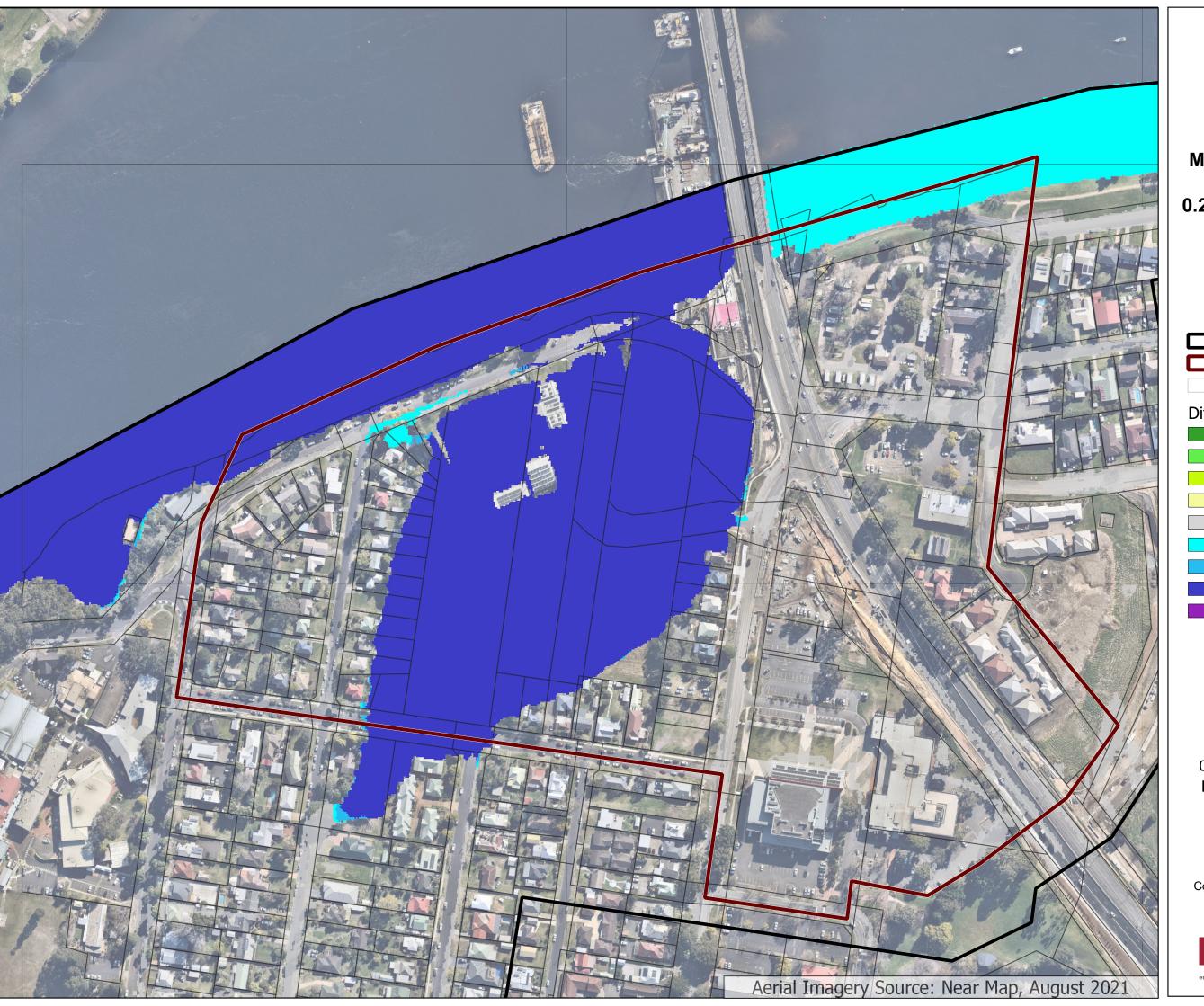
- Model Area
- Study Area
 - Cadastre

Flood Function

- Floodway
- Storage

25 50 75 100 m







0.2% AEP less 1% AEP Climate Change Sensitivity

Model Area

Study Area

Cadastre

Difference (m)

<= -1.0 -1.0 - -0.5

-0.5 - -0.3

-0.3 - -0.1

-0.1 - 0.1 0.1 - 0.3

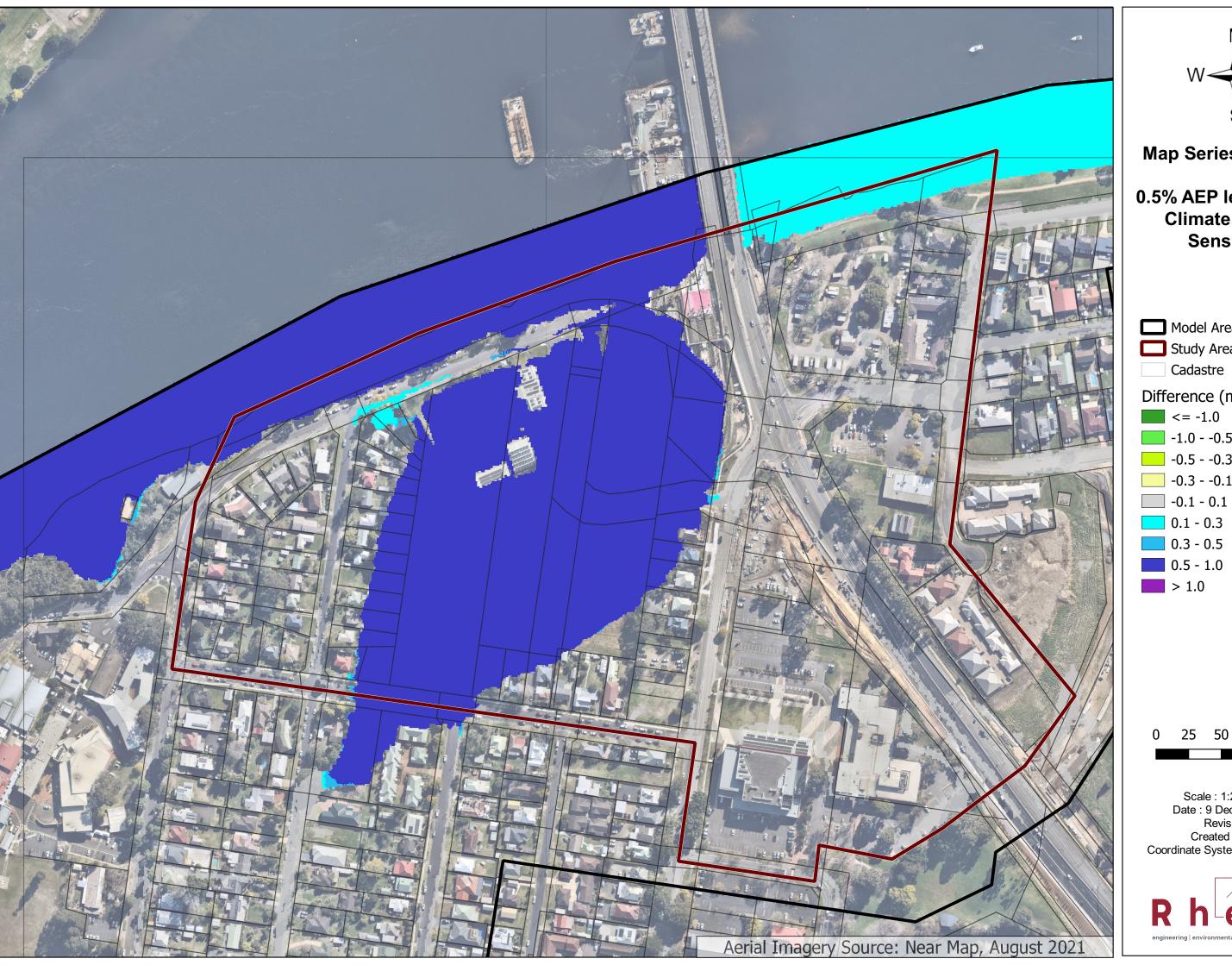
0.3 - 0.5

0.5 - 1.0

> 1.0

25 50 75 100 m







0.5% AEP less 1% AEP Climate Change Sensitivity

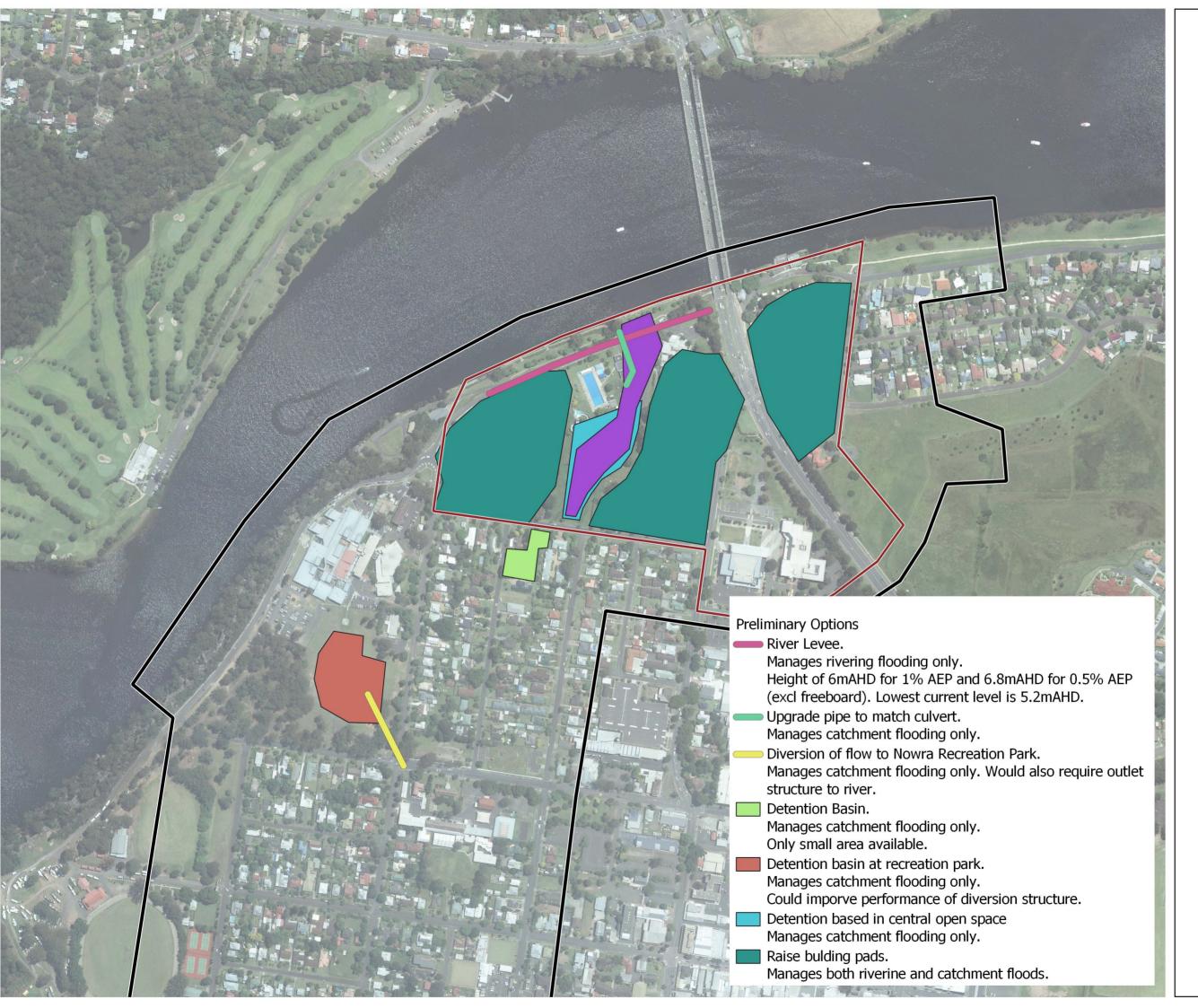
- Model Area
- Study Area
 - Cadastre

Difference (m)

- <= -1.0
- -1.0 -0.5
- -0.5 -0.3
- -0.3 -0.1
- 0.1 0.3
- 0.3 0.5
- 0.5 1.0
- > 1.0

25 50 75 100 m







RG-06-01

Preliminary Options

Legend



0 100 200

Scale: 1:4000@A3
Date: 17 February 2022
Revision: A
Created by: LRE
Coordinate System: MGA 2020/56





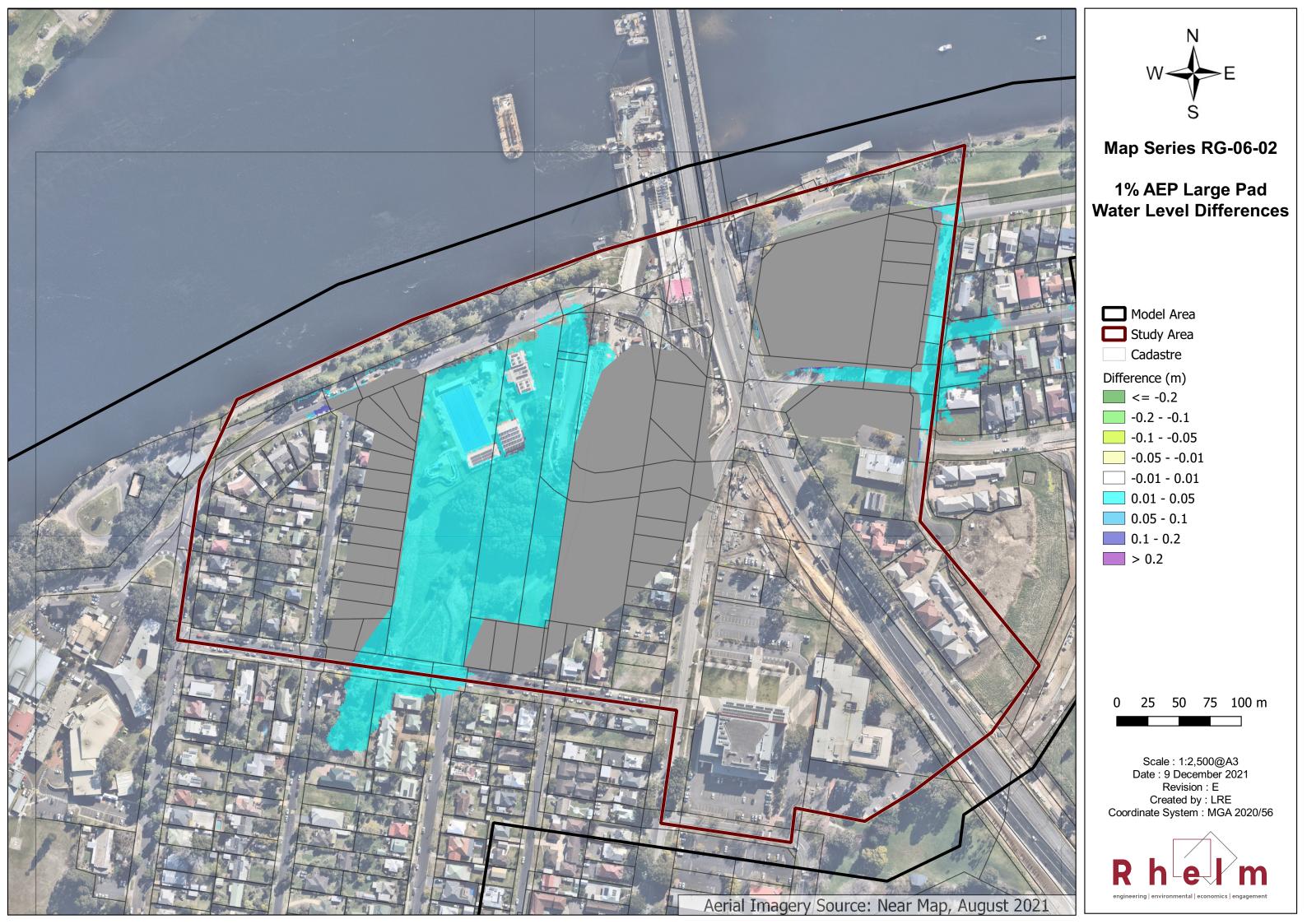


5% AEP Large Pad **Water Level Differences**

0.05 - 0.1

25 50 75 100 m









5% AEP Small Pad Water Level Differences

- Model Area
- Study Area
 - Cadastre

Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2

0 25 50 75 100 m







1% AEP Small Pad **Water Level Differences**

Model Area

Study Area

Cadastre

Difference (m)

<= -0.2

-0.2 - -0.1

-0.1 - -0.05

-0.05 - -0.01 _ -0.01 - 0.01

0.01 - 0.05

0.05 - 0.1

0.1 - 0.2

> 0.2

0 25 50 75 100 m







1% AEP Large 1% AEP + SLR + RI + 0.5m Pad **Water Level Differences**

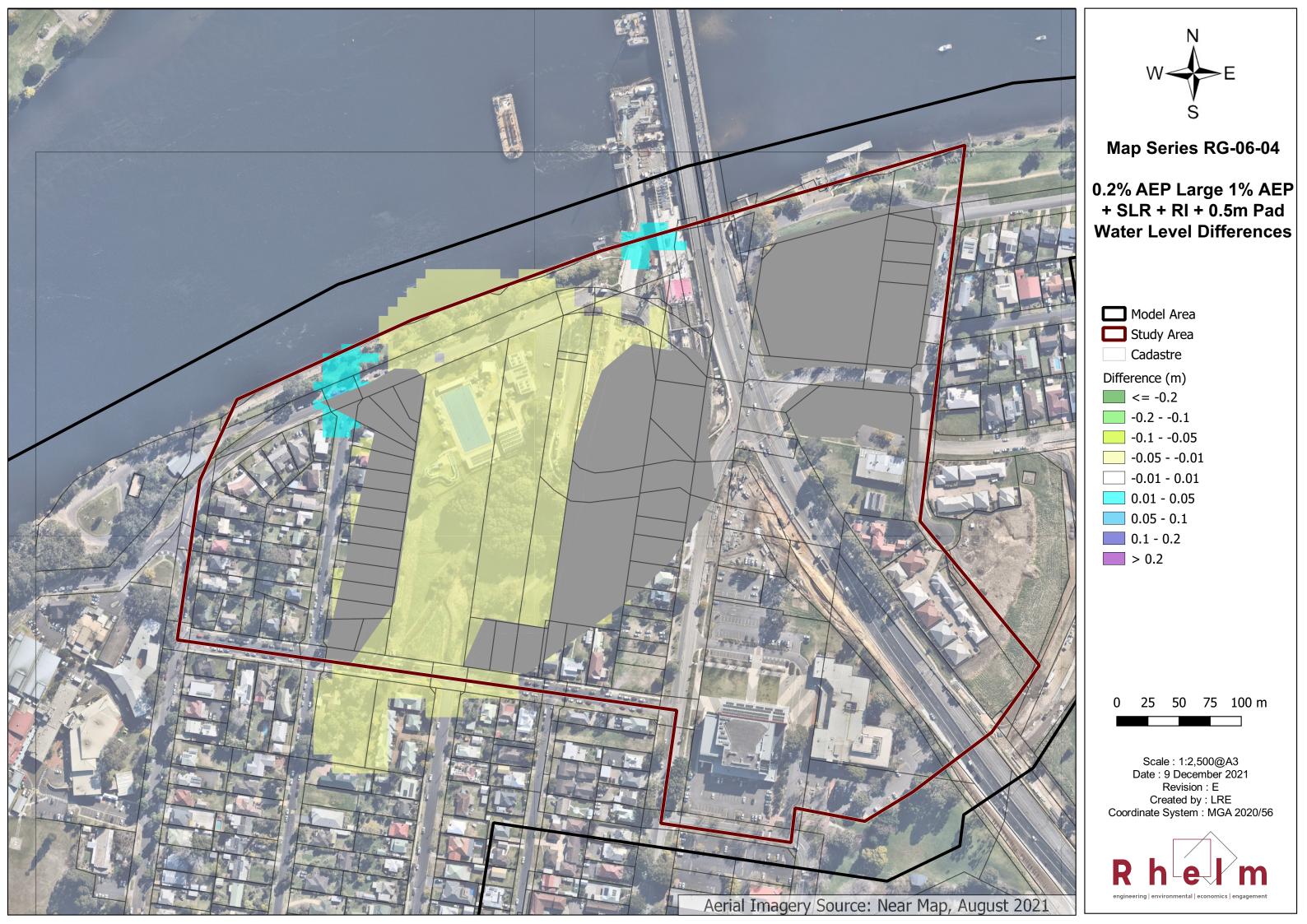
- Model Area
- Study Area
 - Cadastre

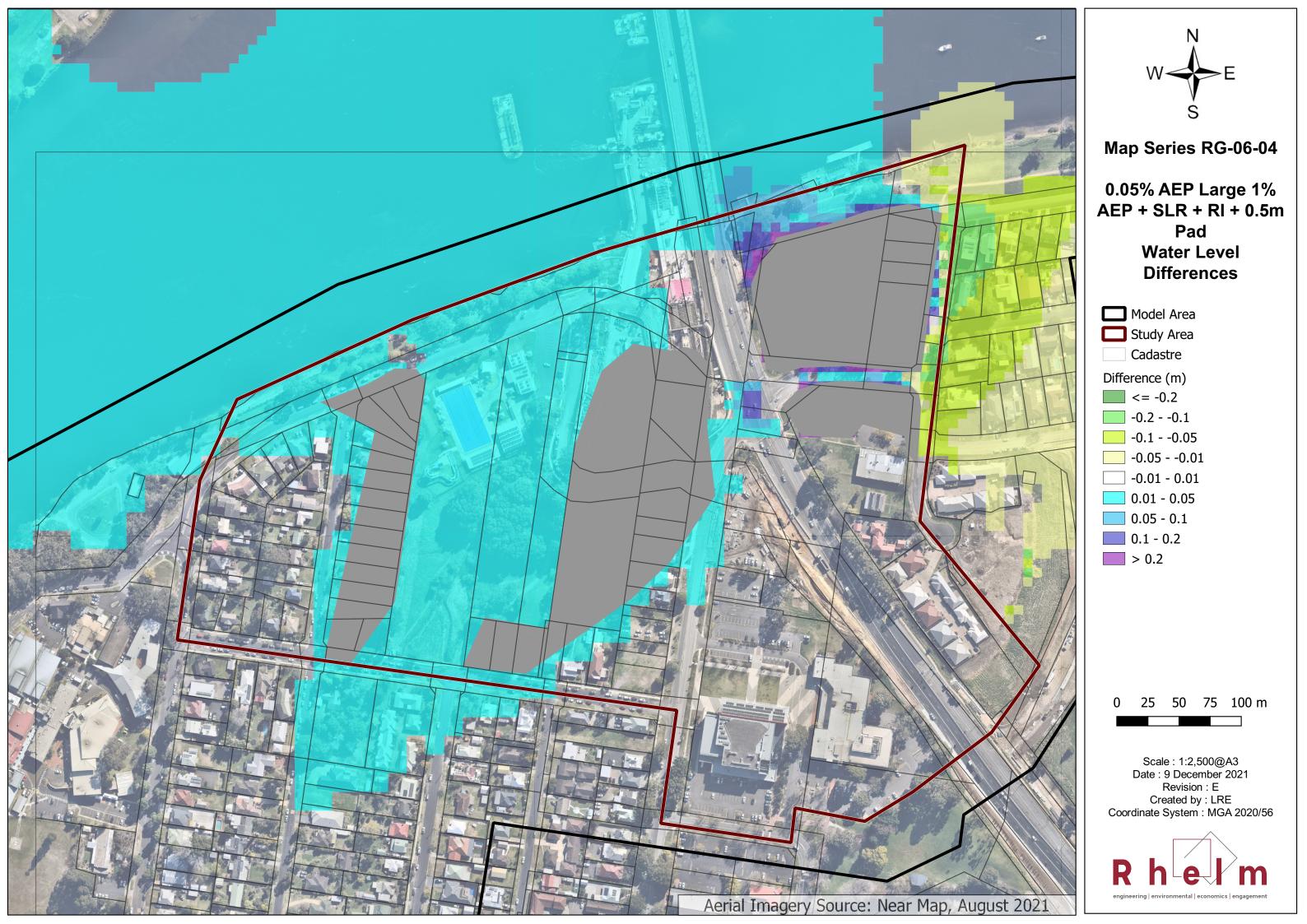
Difference (m)

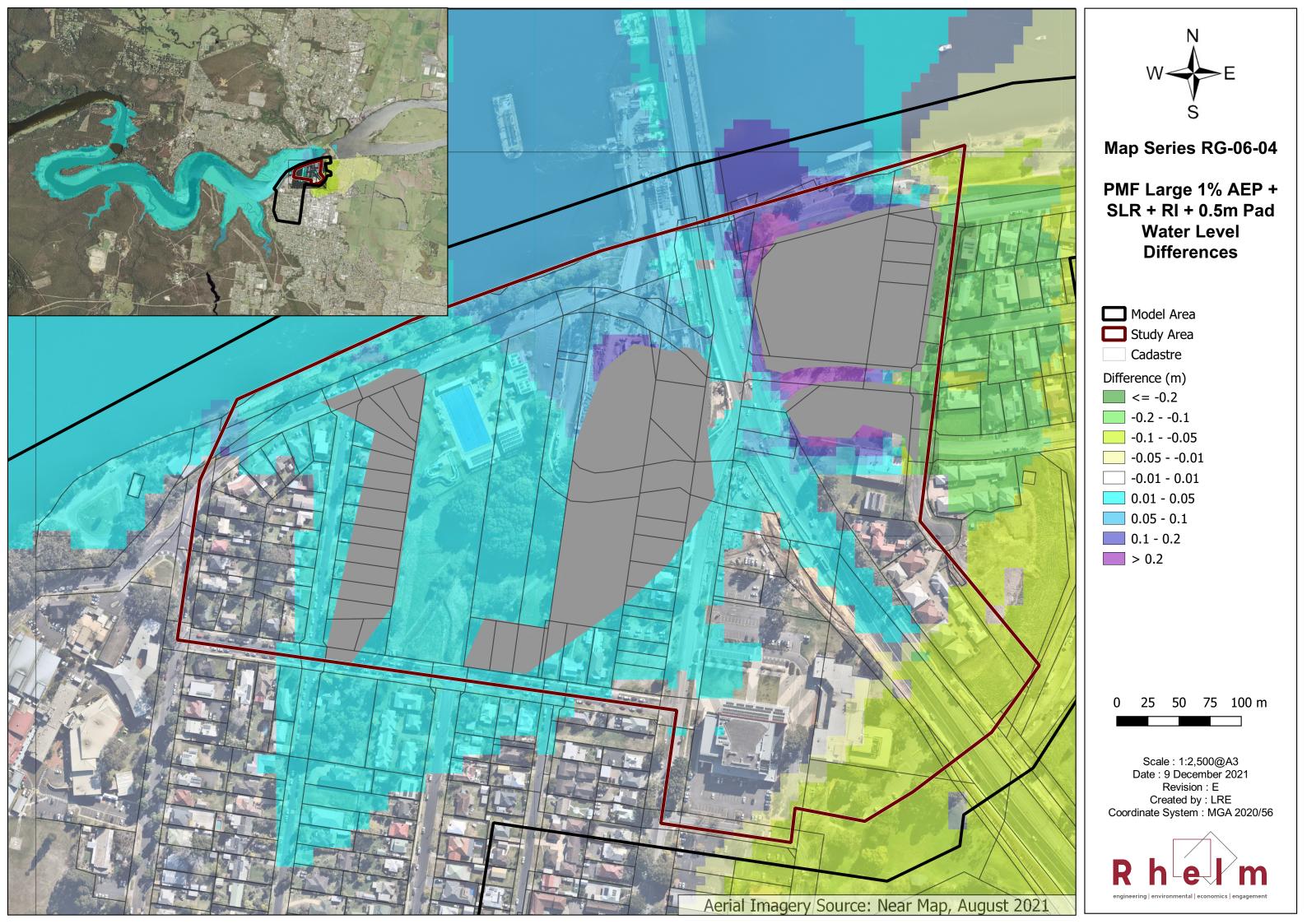
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m













1% AEP Small 1% AEP + SLR + RI + 0.5m Pad **Water Level Differences**

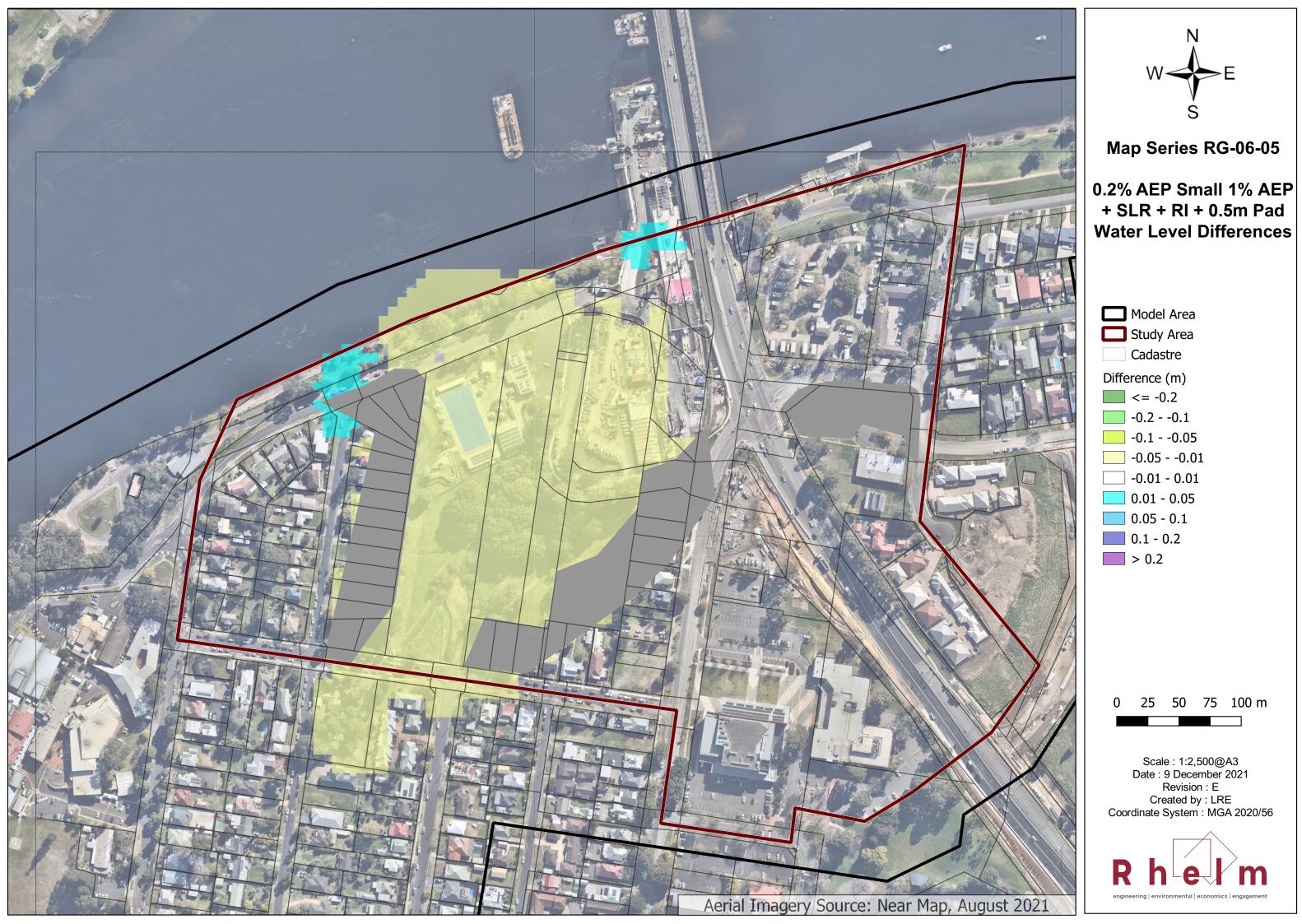
- Model Area
- Study Area
 - Cadastre

Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01 0.01 - 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

0 25 50 75 100 m









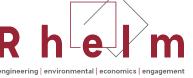
0.05% AEP Small 1% AEP + SLR + RI + 0.5mPad **Water Level Differences**

- Model Area
- Study Area
- Cadastre

Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01 0.01 - 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

0 25 50 75 100 m







PMF Small 1% AEP + SLR + RI + 0.5m Pad **Water Level Differences**

- Model Area
- Study Area
 - Cadastre

Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

0 25 50 75 100 m









0.2% AEP Large 0.5% AEP + 0.5m Pad **Water Level Differences**

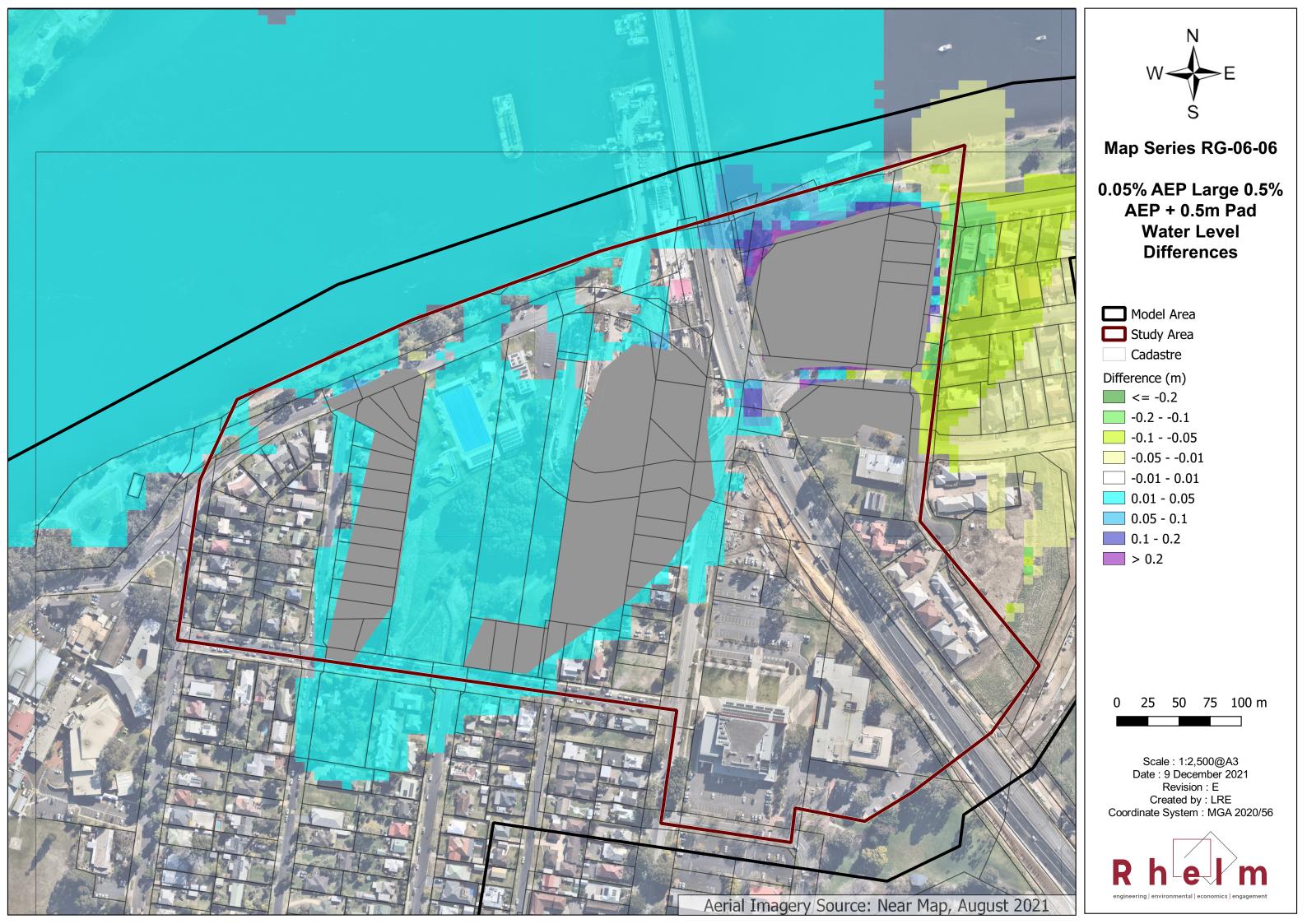
- Model Area
- Study Area
 - Cadastre

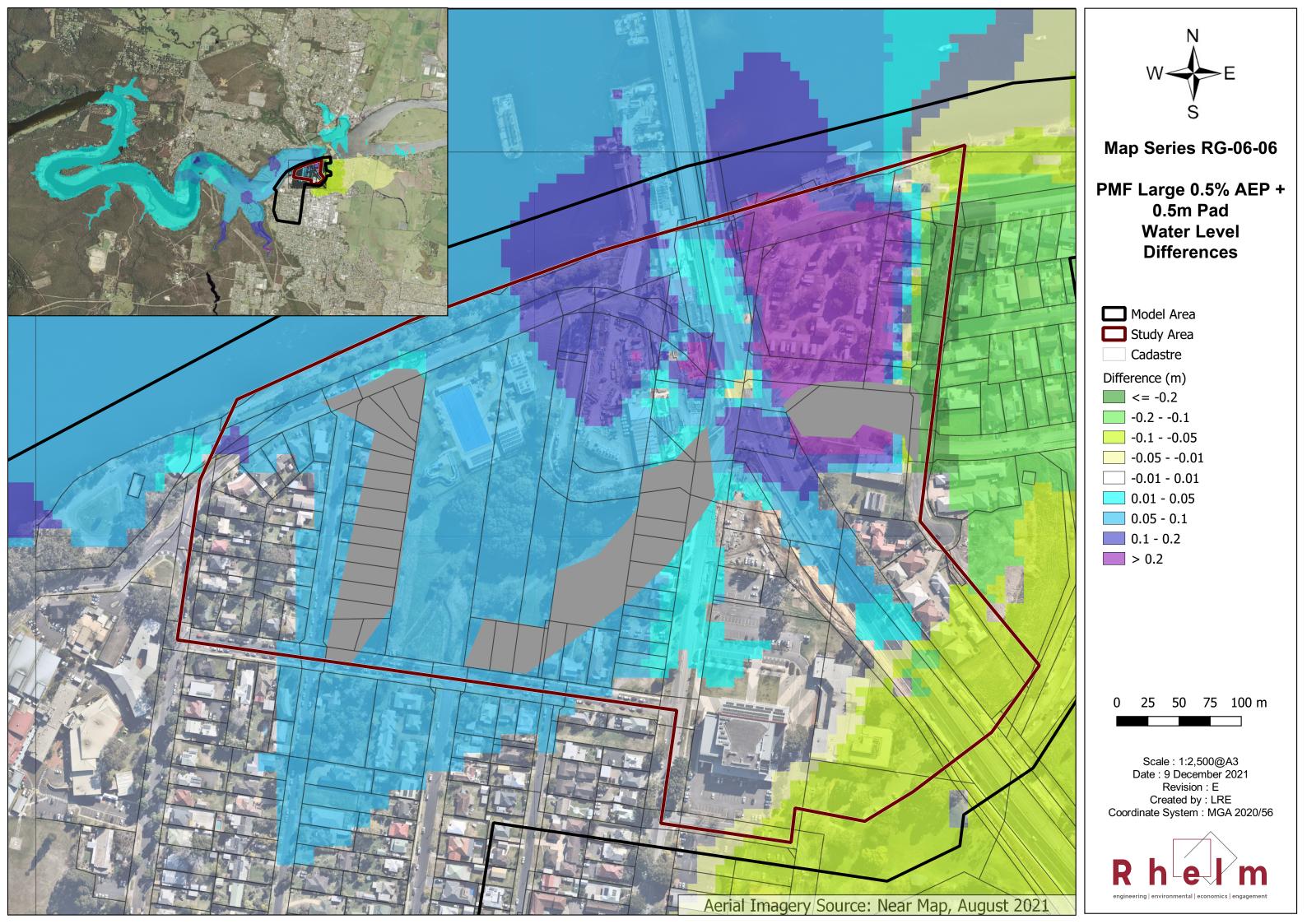
Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m











1% AEP Small 0.5% AEP + 0.5m Pad **Water Level Differences**

- Model Area
- Study Area
 - Cadastre

Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m







0.2% AEP Small 0.5% AEP + 0.5m Pad **Water Level Differences**

Model Area

Study Area

Cadastre

Difference (m)

<= -0.2

-0.2 - -0.1

-0.1 - -0.05

-0.05 - -0.01 _ -0.01 - 0.01

0.01 - 0.05

0.05 - 0.1

0.1 - 0.2

0 25 50 75 100 m







0.05% AEP Small 0.5% AEP + 0.5m Pad **Water Level Differences**

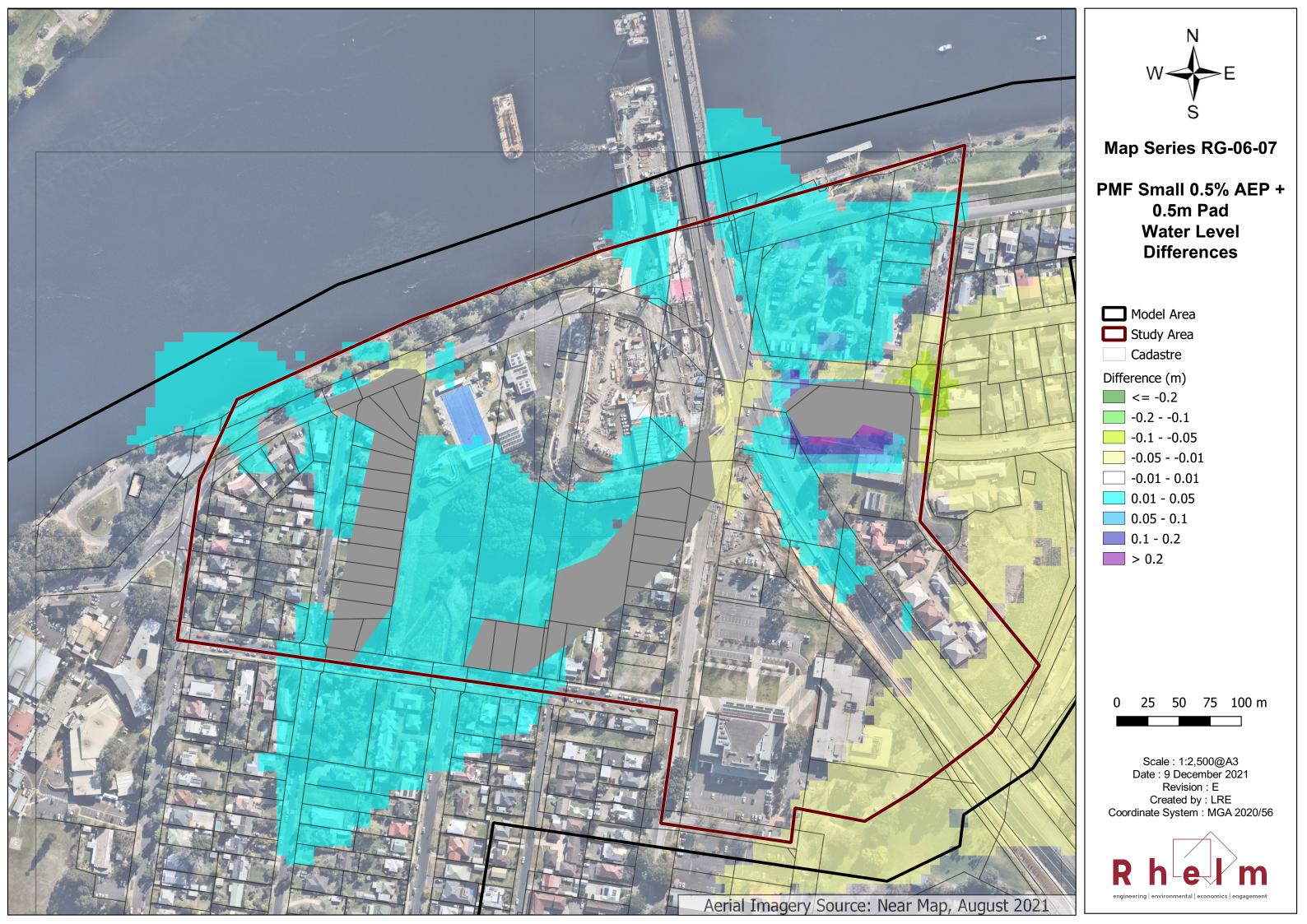
- Model Area
- Study Area
 - Cadastre

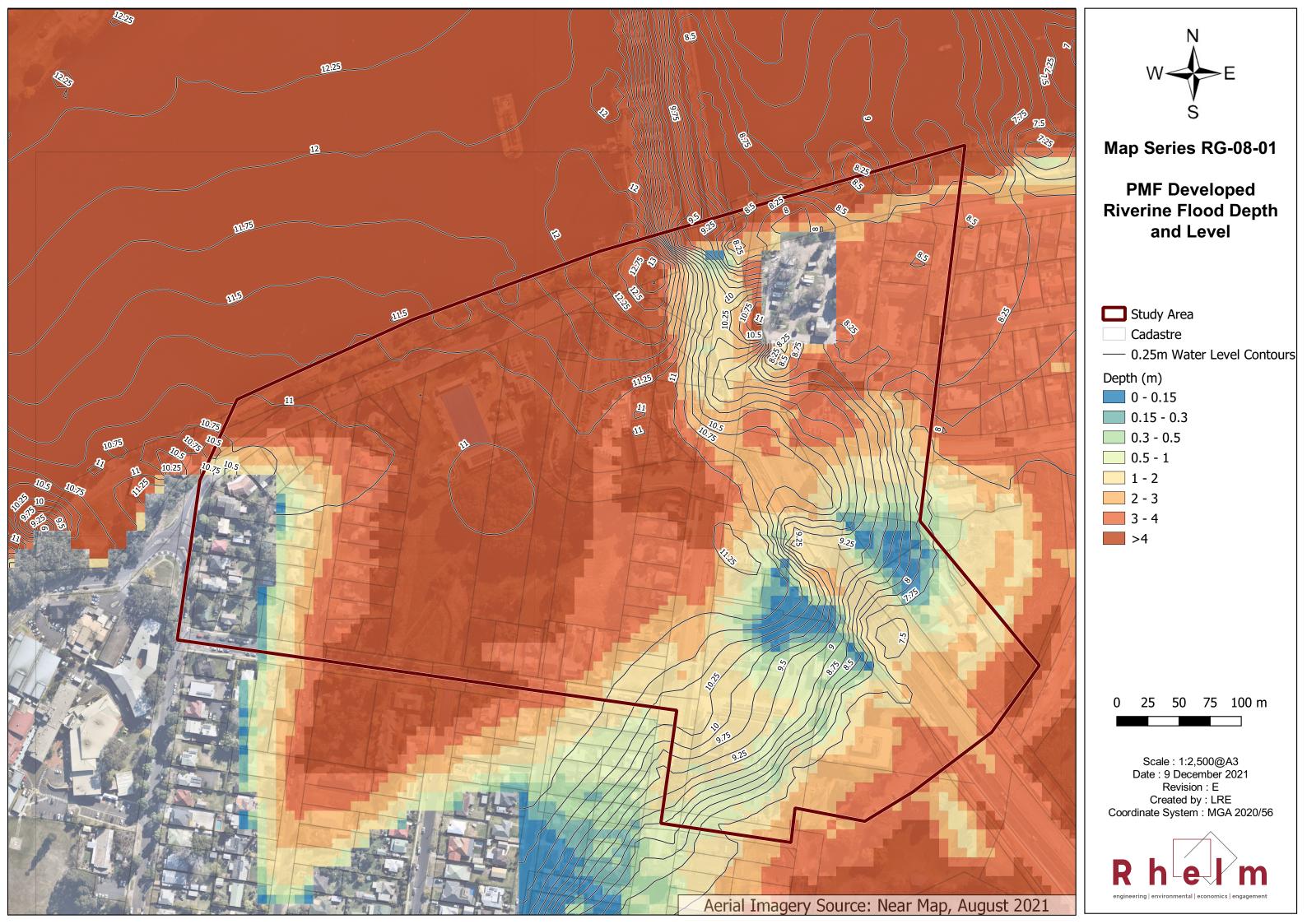
Difference (m)

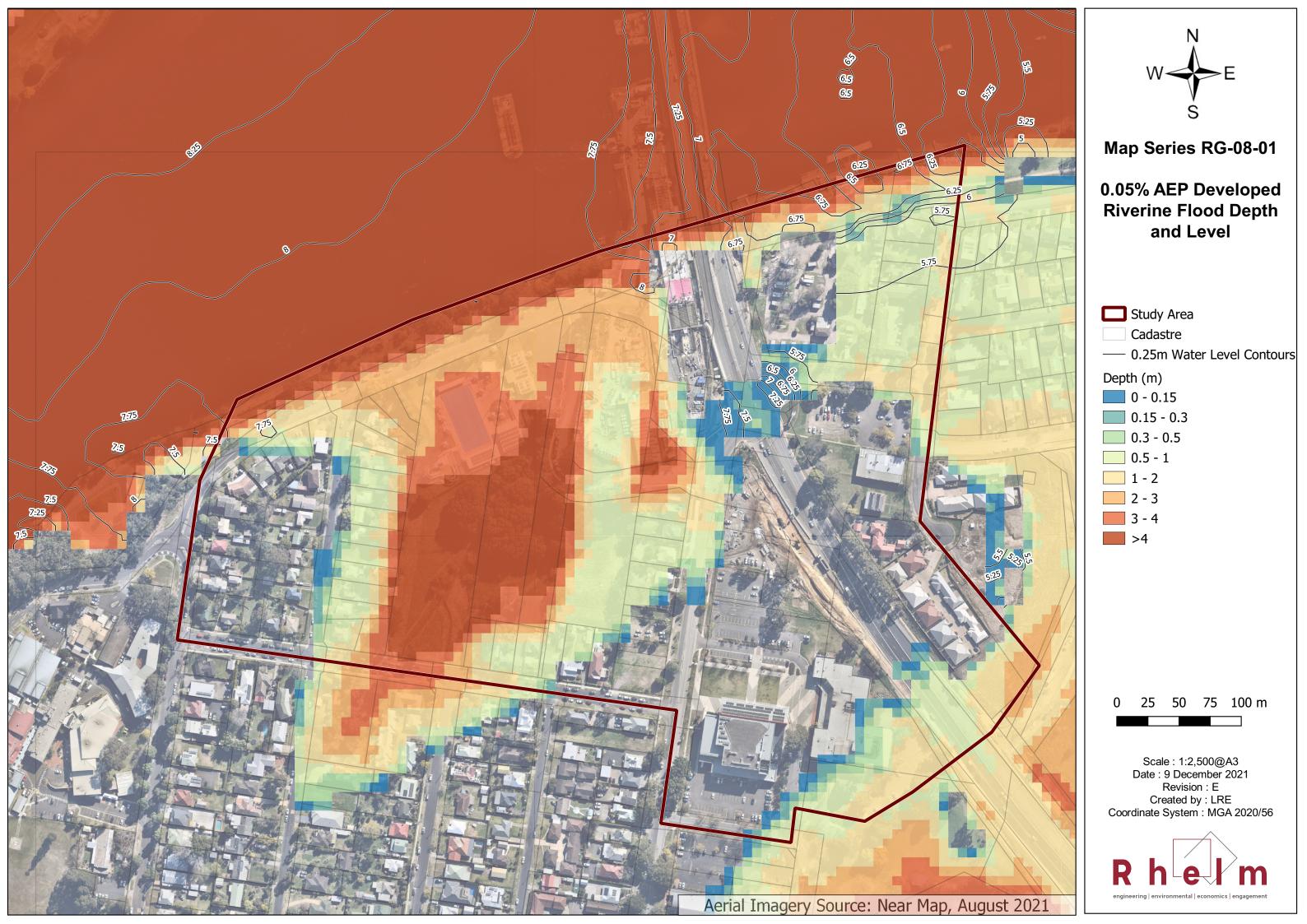
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- _ -0.01 0.01 0.01 - 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

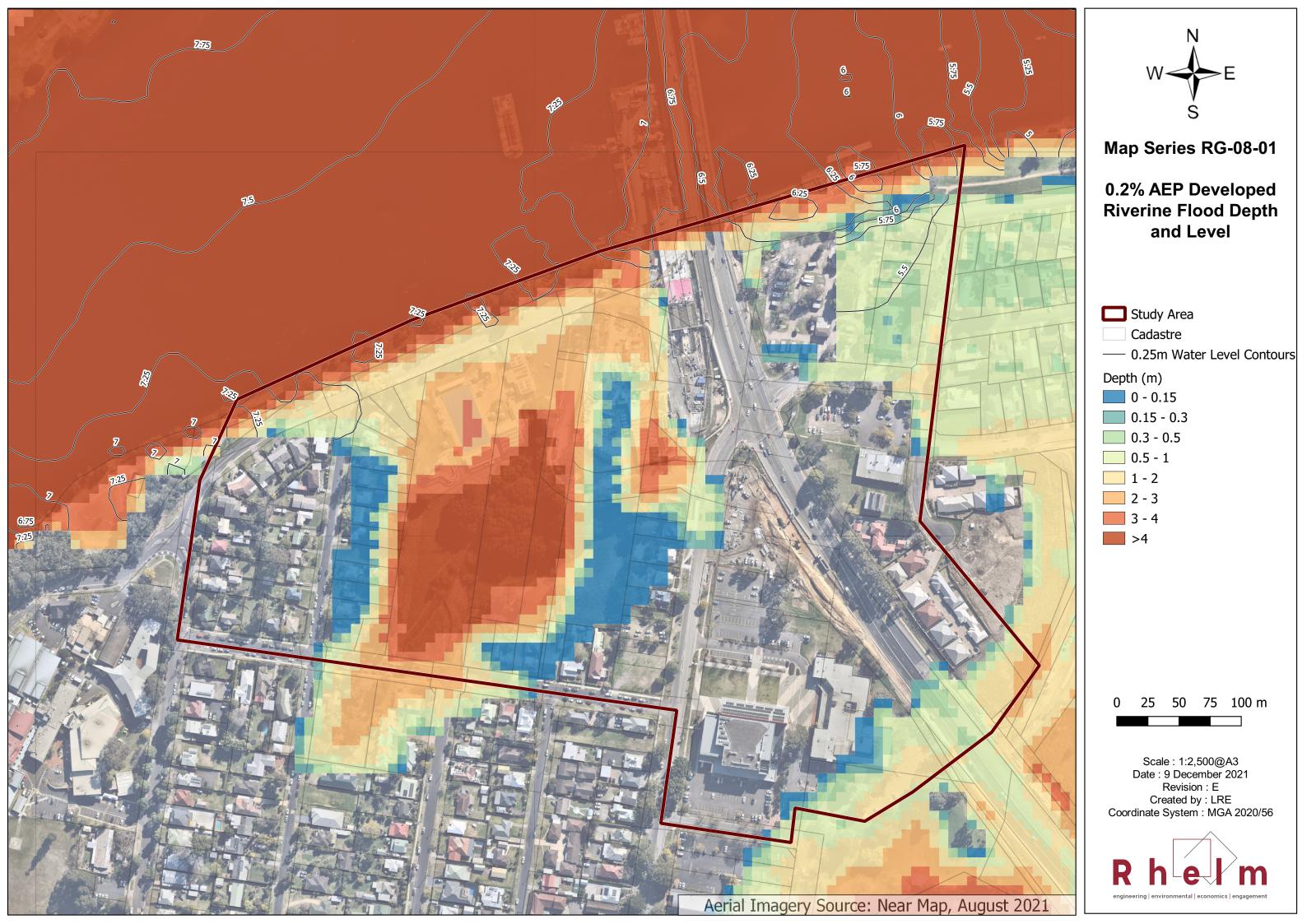
0 25 50 75 100 m

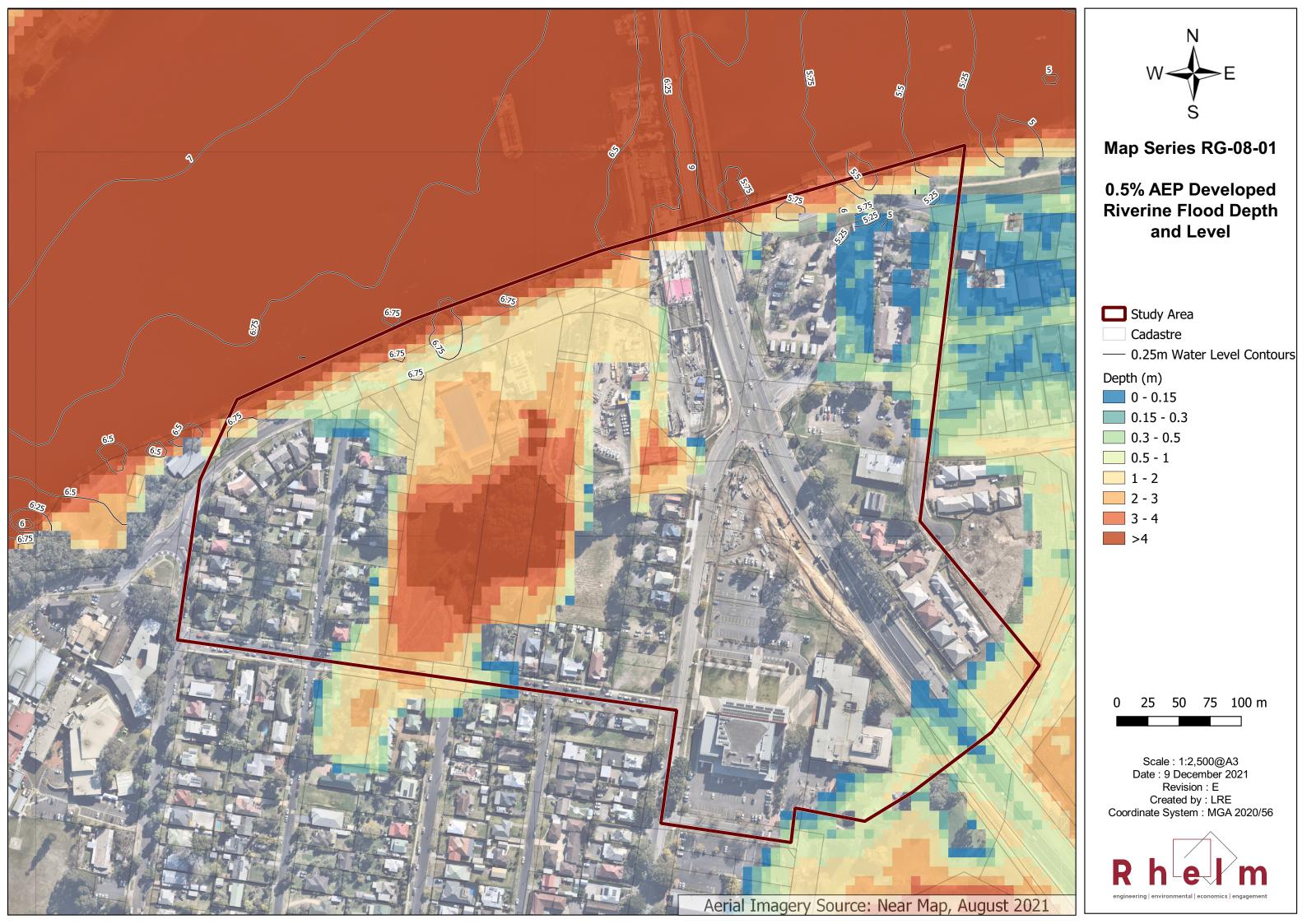


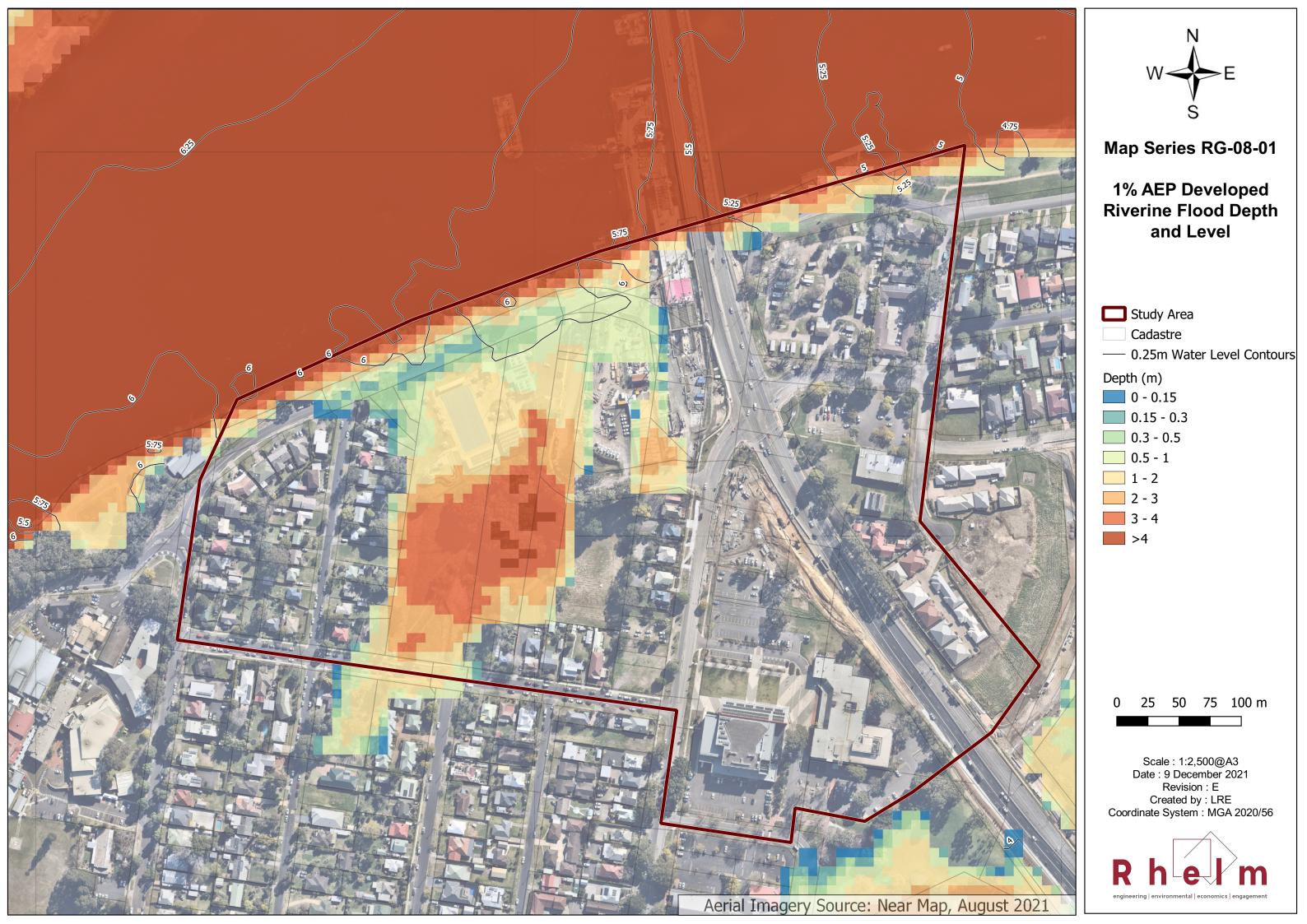








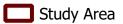








5% AEP Developed Riverine Flood Depth and Level



Cadastre

— 0.25m Water Level Contours

Depth (m)

0 - 0.15

0.15 - 0.3

0.3 - 0.5

0.5 - 1

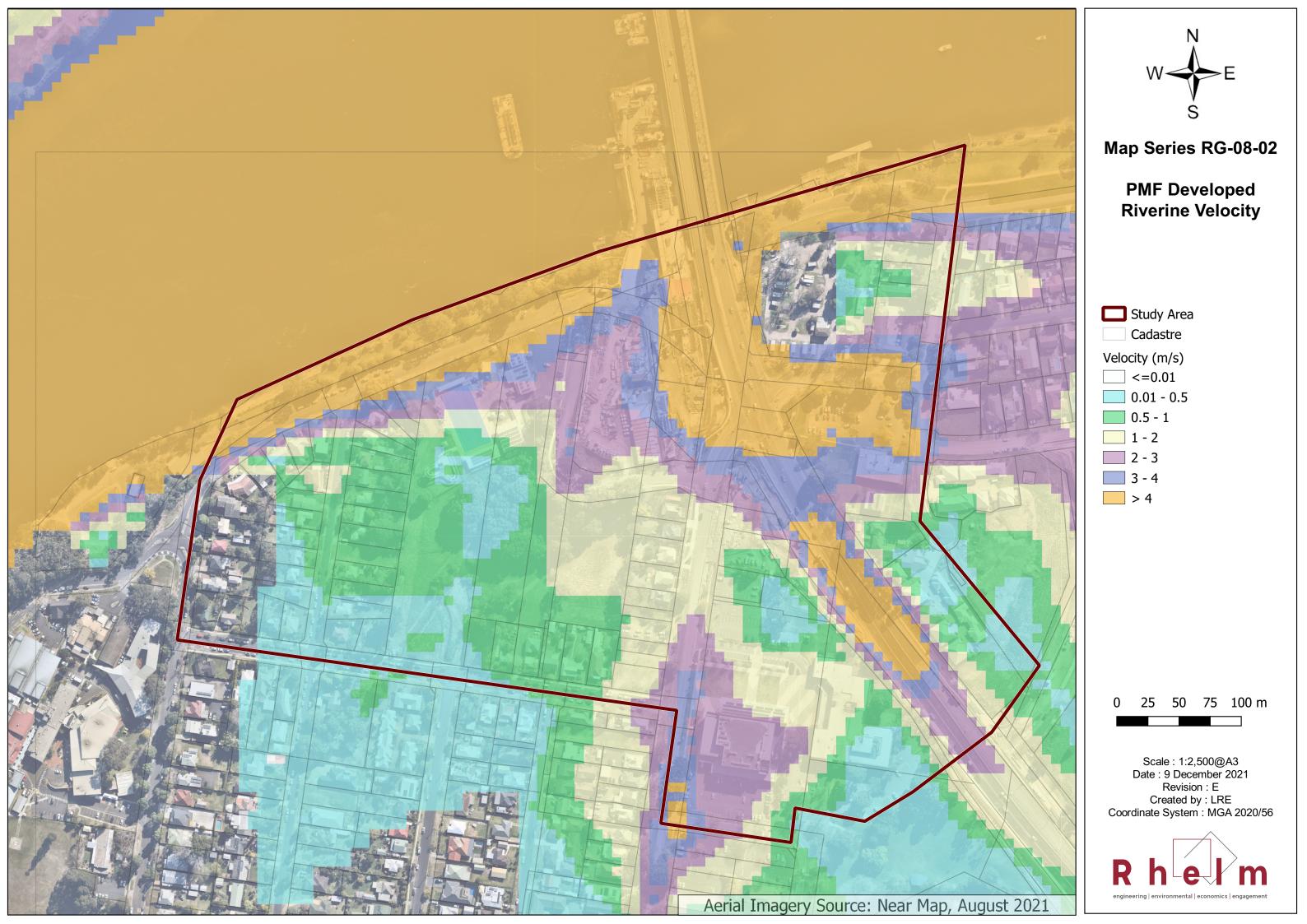
1 - 2

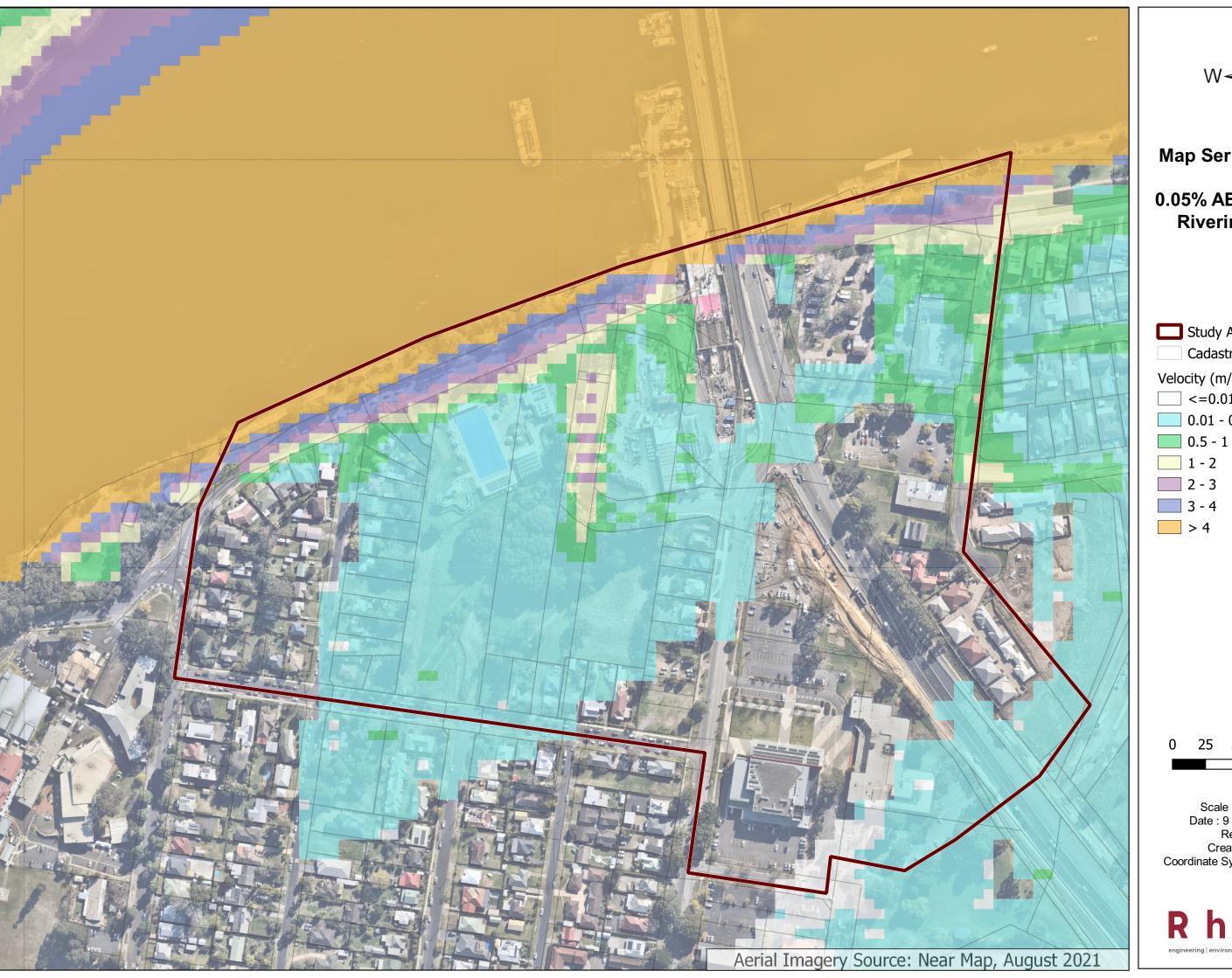
2 - 3

3 - 4

50 75 100 m









0.05% AEP Developed **Riverine Velocity**

Study Area

Cadastre

Velocity (m/s)

<=0.01

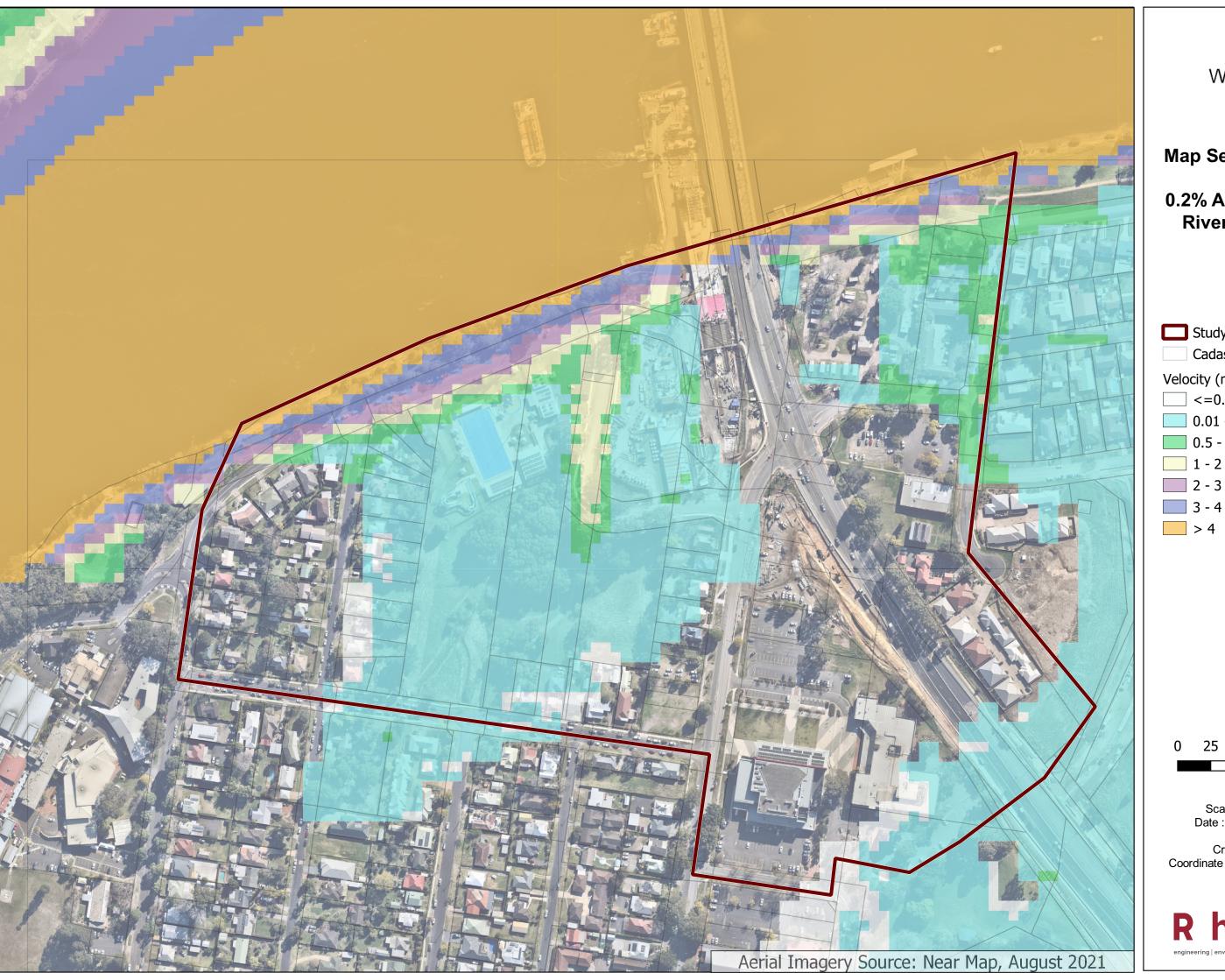
0.01 - 0.5

3 - 4

> 4

25 50 75 100 m







0.2% AEP Developed **Riverine Velocity**

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

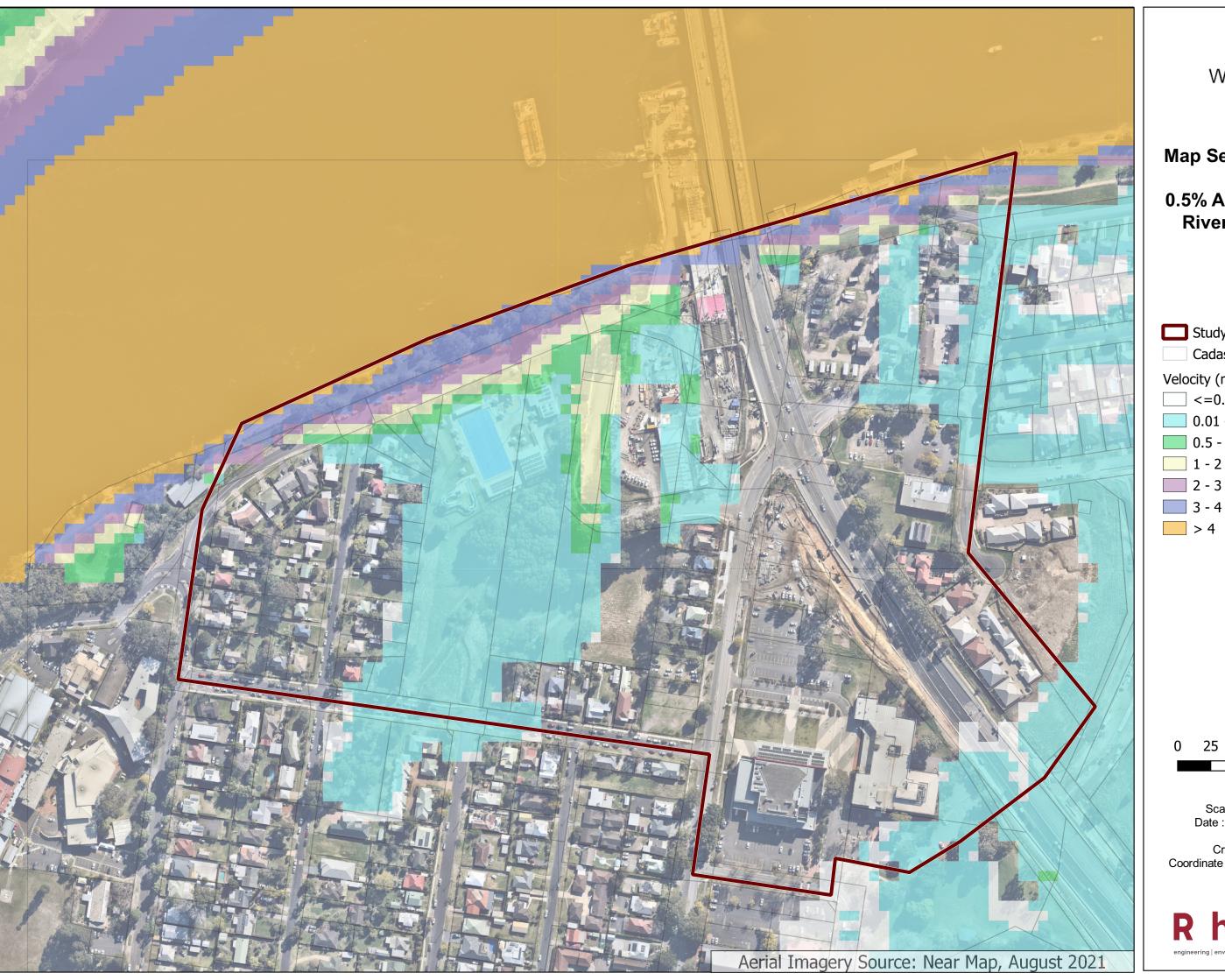
2 - 3

3 - 4

> 4

25 50 75 100 m







0.5% AEP Developed **Riverine Velocity**

Study Area Cadastre

Velocity (m/s)

<=0.01

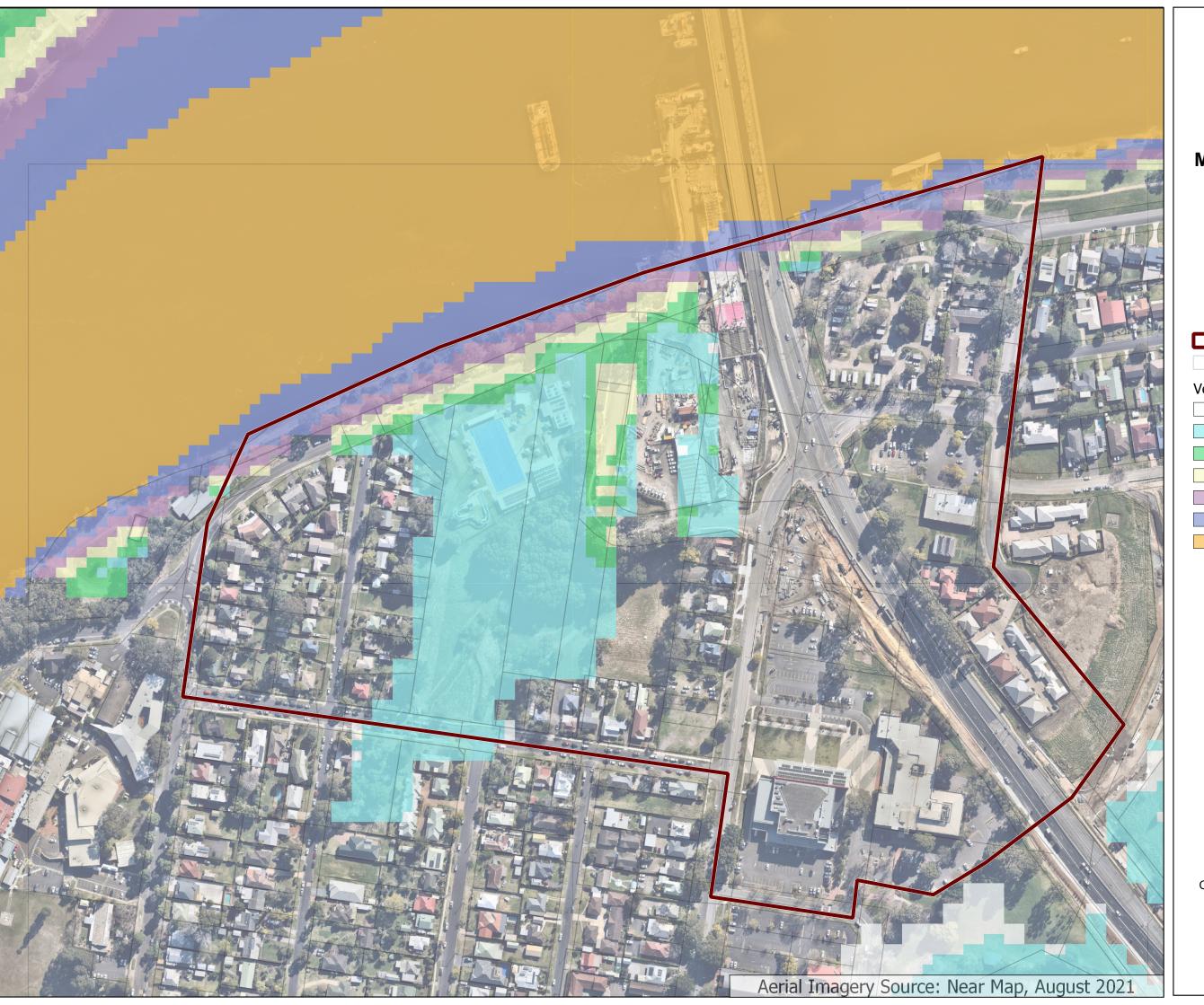
0.01 - 0.5

0.5 - 1

2 - 3

25 50 75 100 m







1% AEP Developed **Riverine Velocity**

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

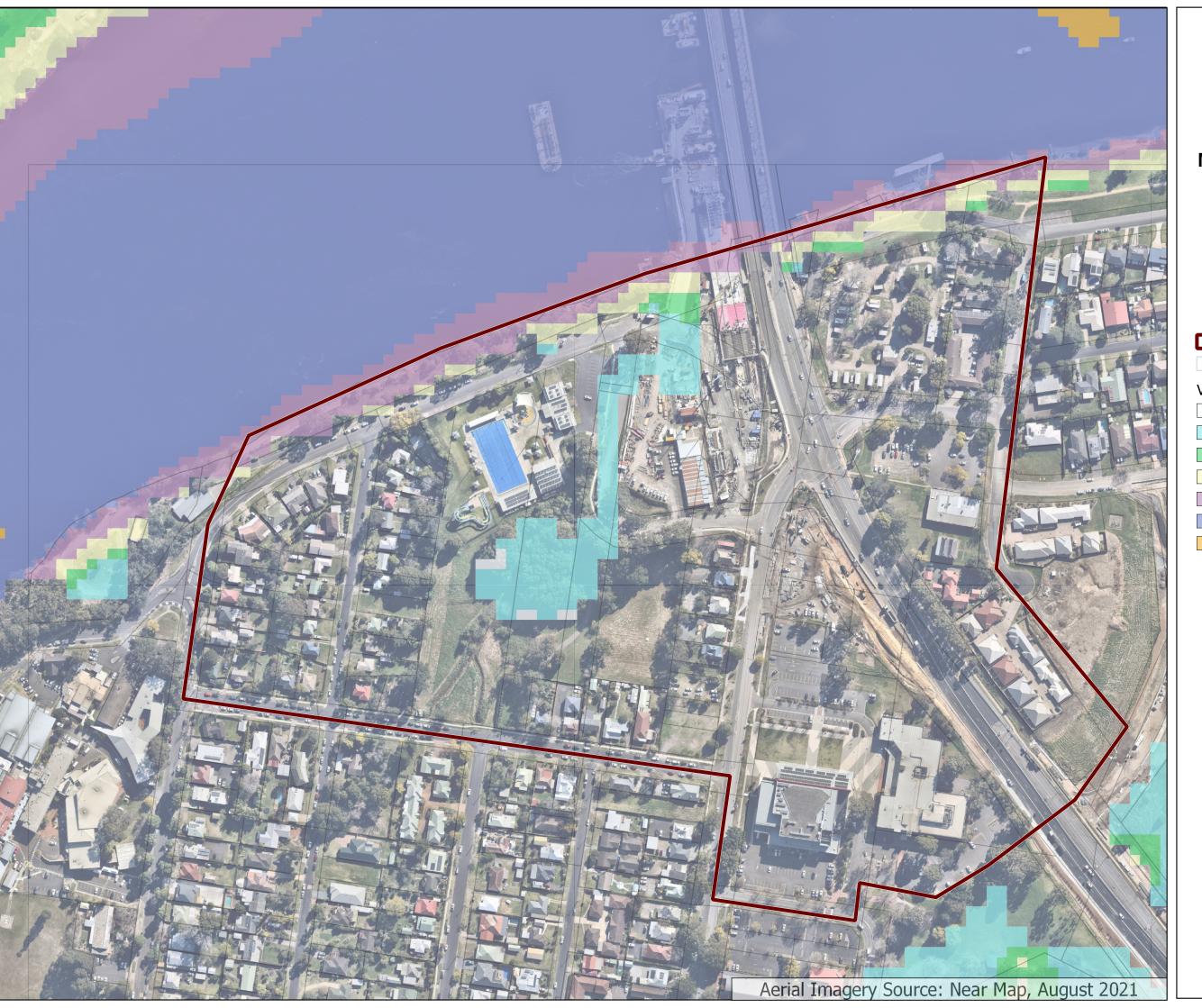
2 - 3

3 - 4

> 4

25 50 75 100 m







5% AEP Developed Riverine Velocity

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

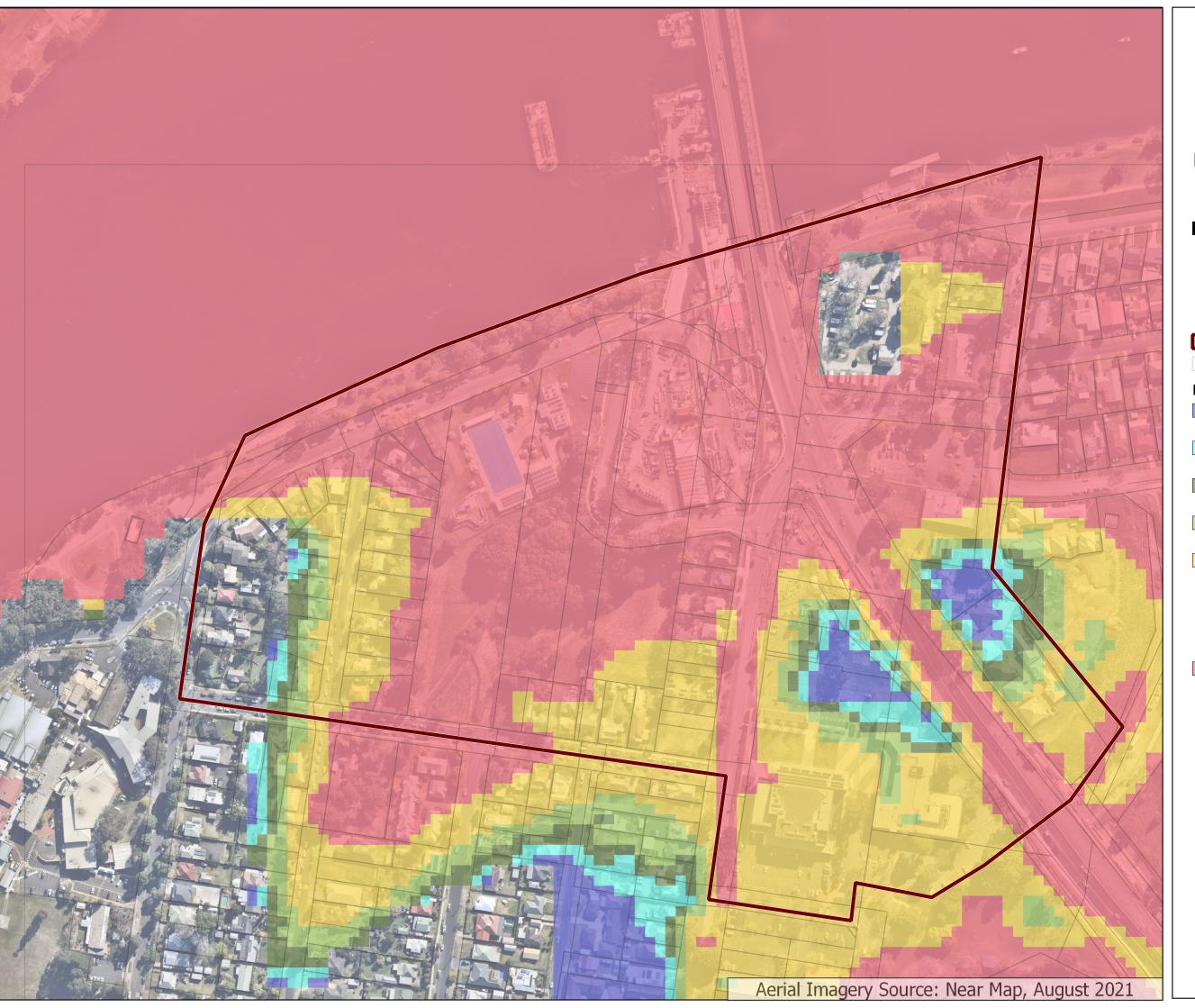
2 - 3

3 - 4

> 4

25 50 75 100 m







PMF Developed Riverine AIDR Hazard Category

Study Area

Cadastre

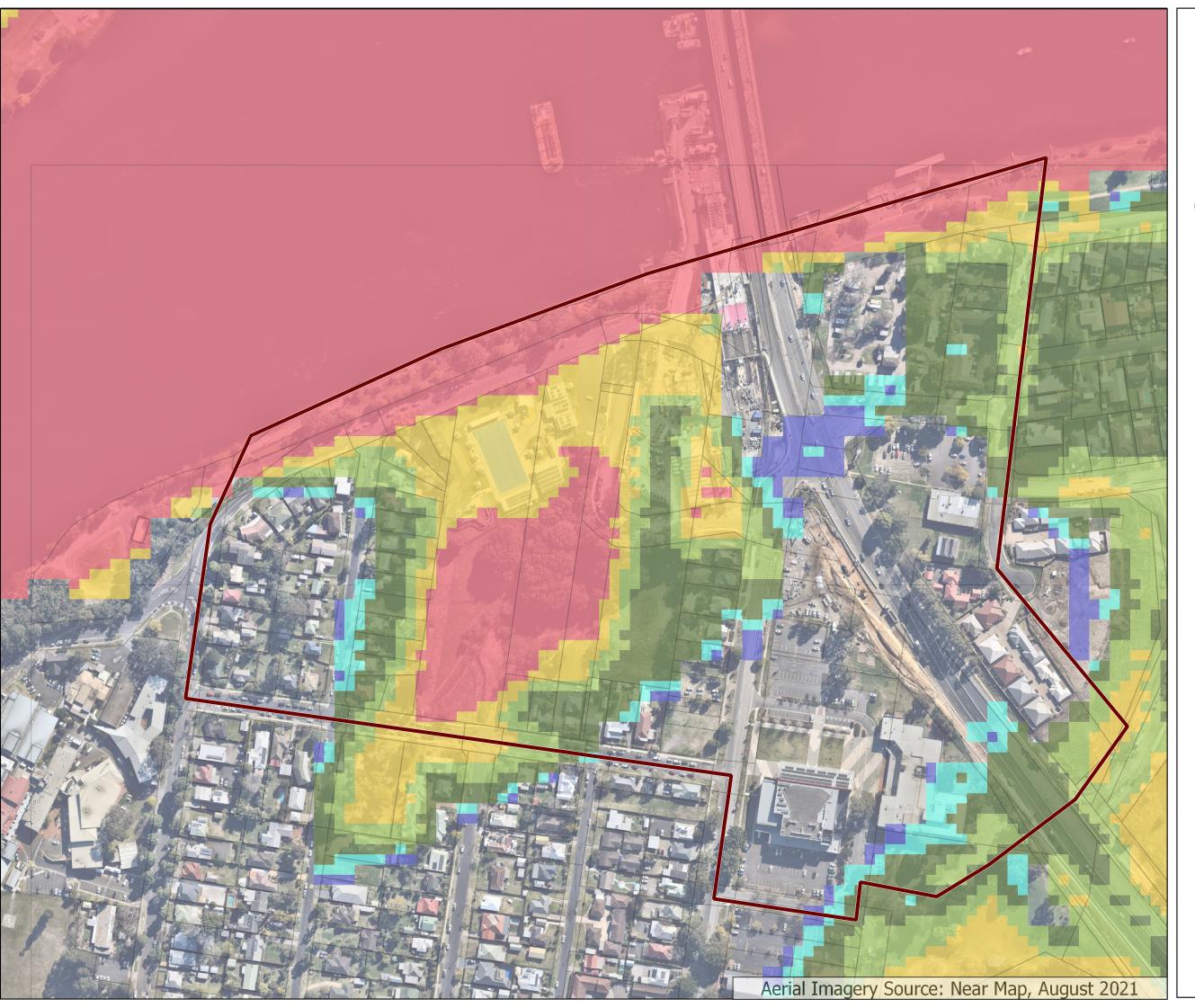
Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

0 25 50 75 100 m

Scale : 1:2,500@A3 Date : 9 December 2021 Revision : E







0.05% AEP Developed Riverine AIDR Hazard Category

Study Area

Cadastre

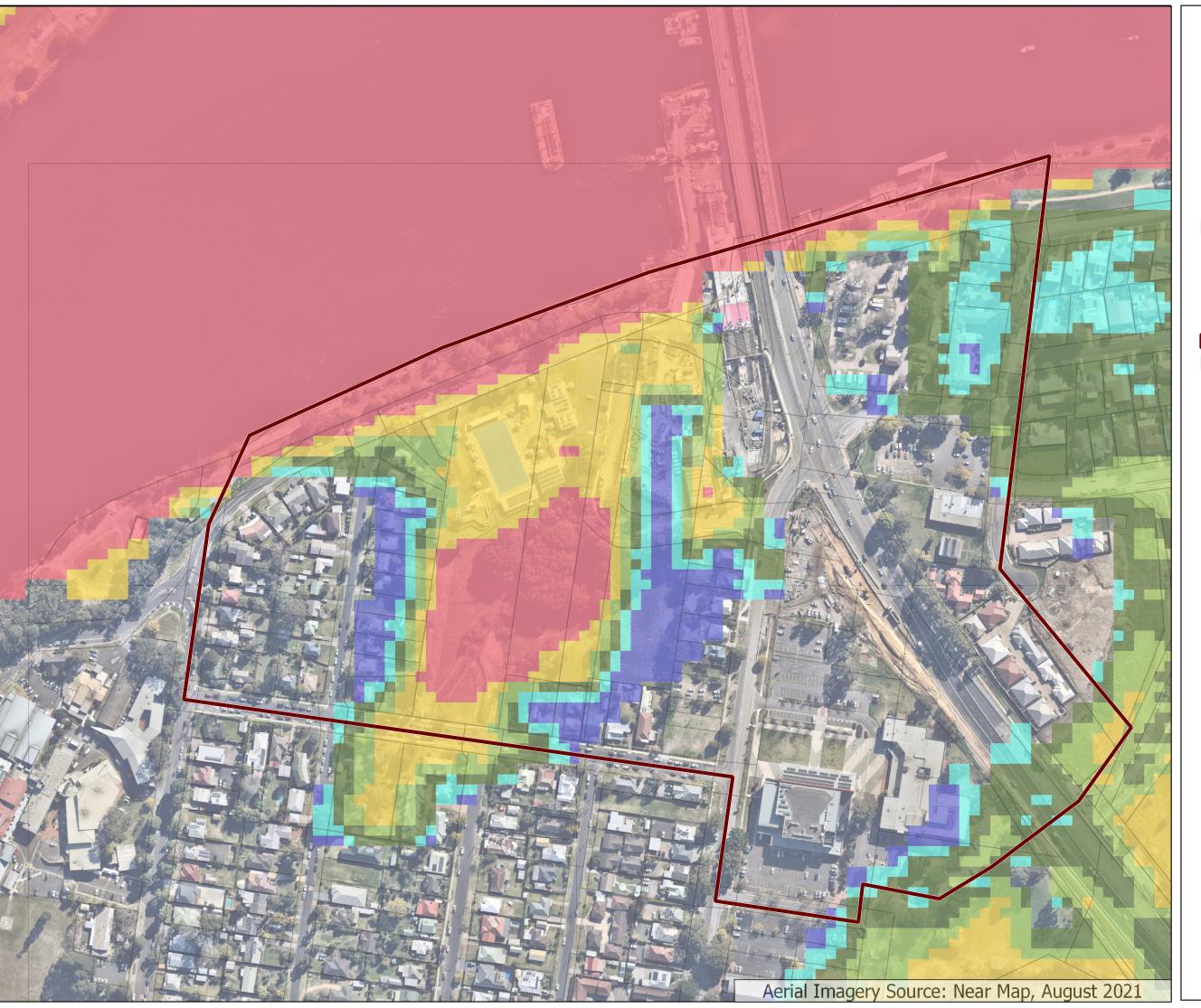
Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

) 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E
Created by: LRE







0.2% AEP Developed Riverine AIDR Hazard Category

Study Area

Cadastre

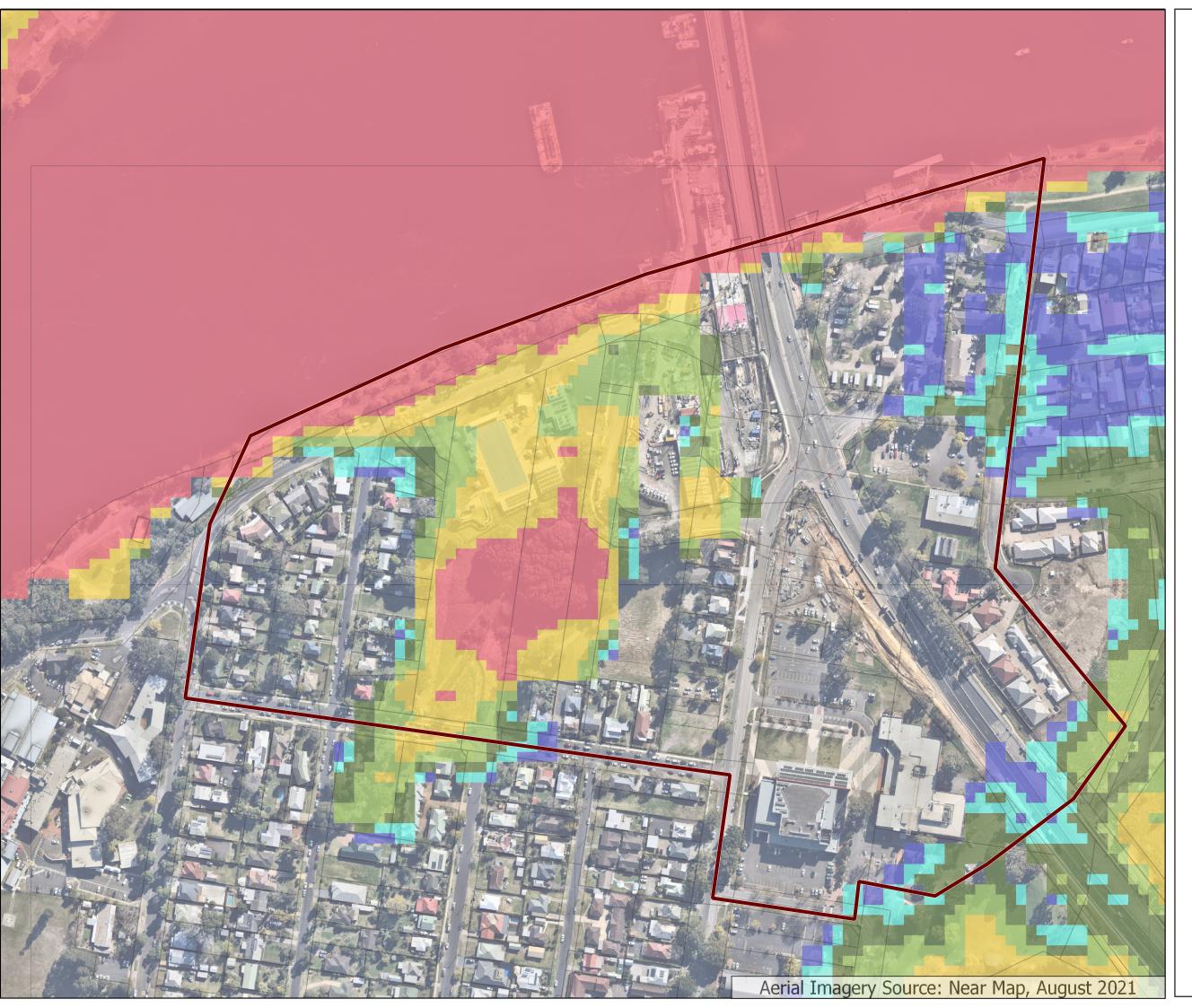
Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

) 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







0.5% AEP Developed Riverine AIDR Hazard Category

Study Area

Cadastre

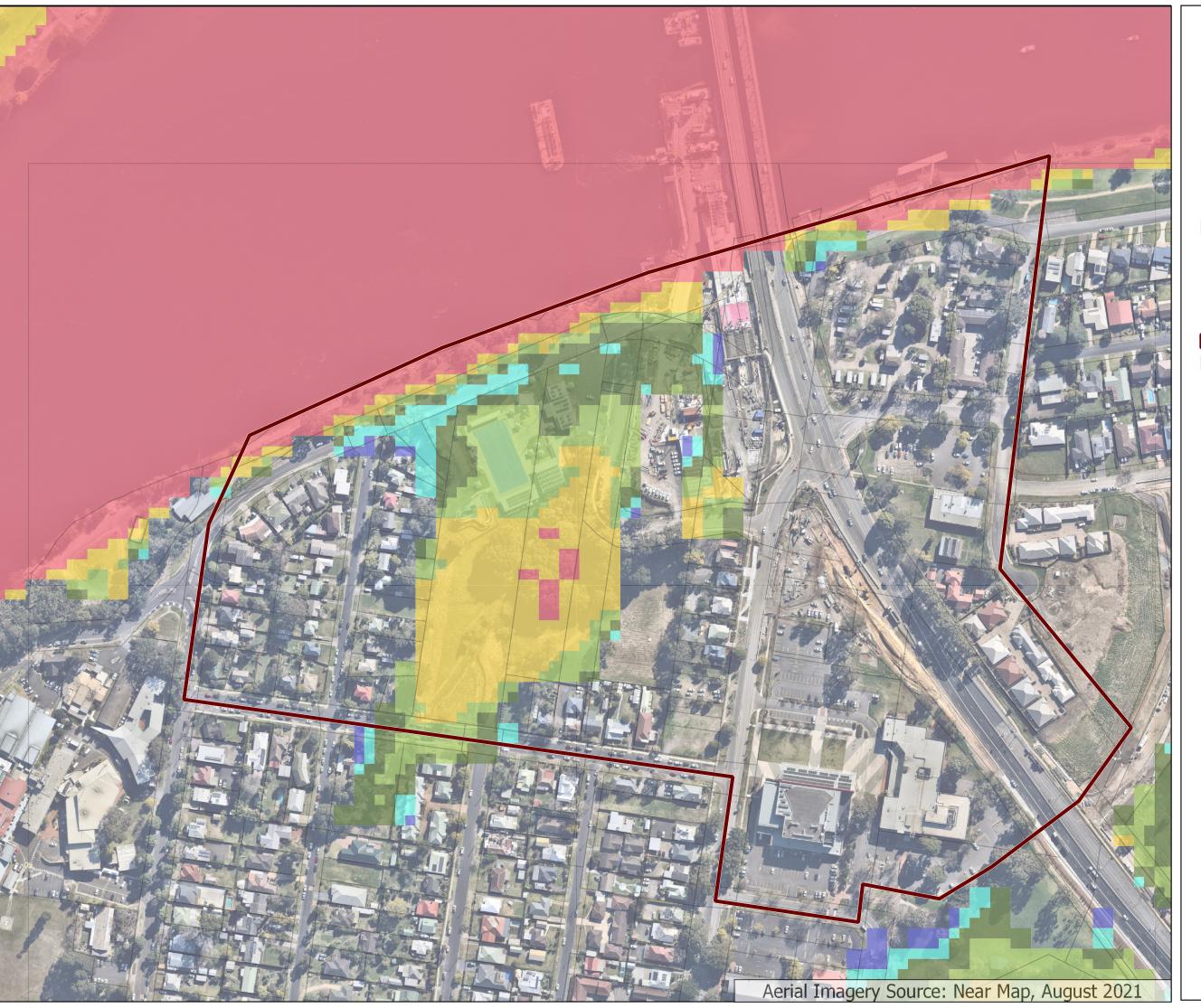
Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

) 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







1% AEP Developed Riverine AIDR Hazard Category

Study Area

Cadastre

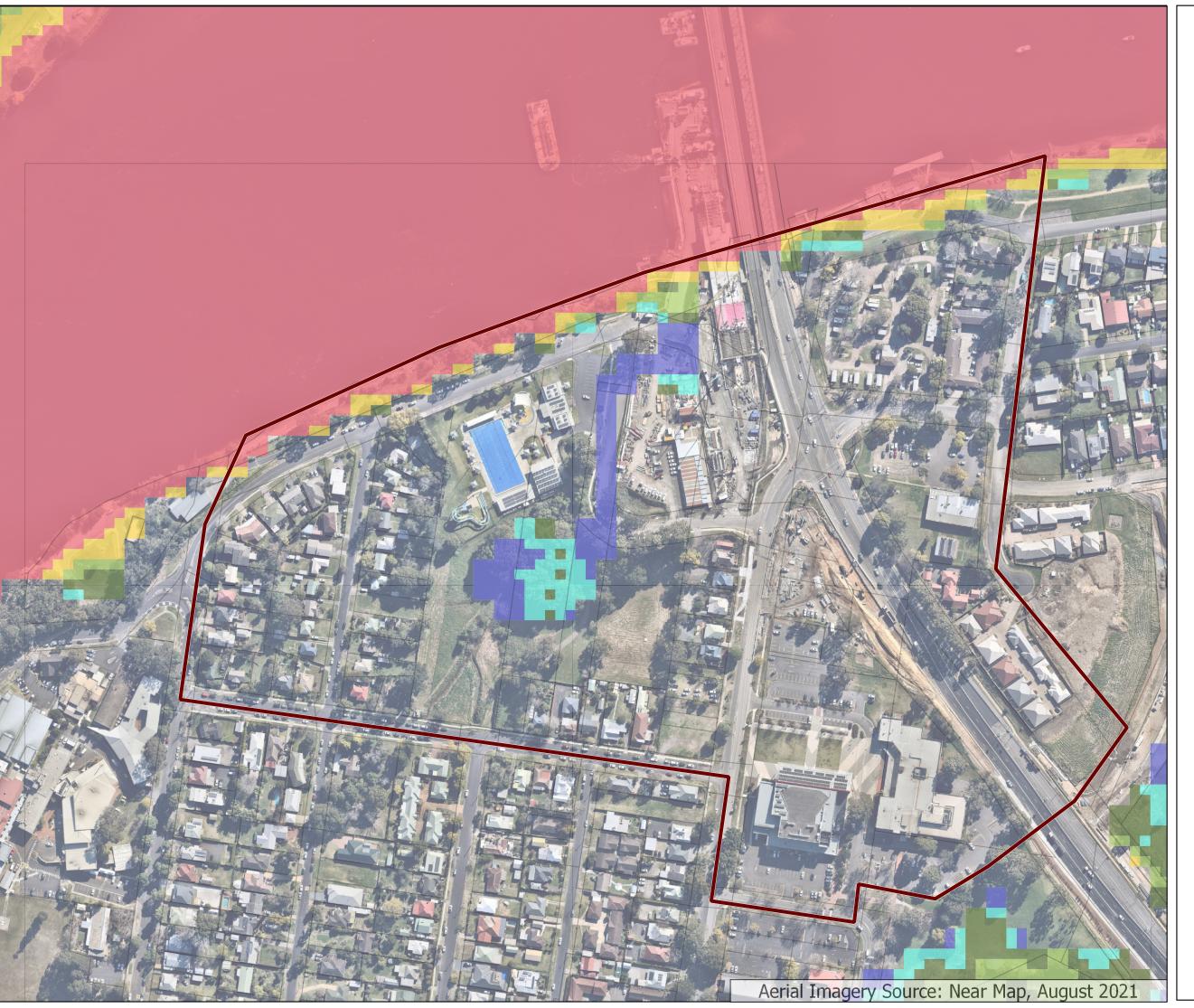
Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

) 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







5% AEP Developed Riverine AIDR Hazard Category

Study Area

Cadastre

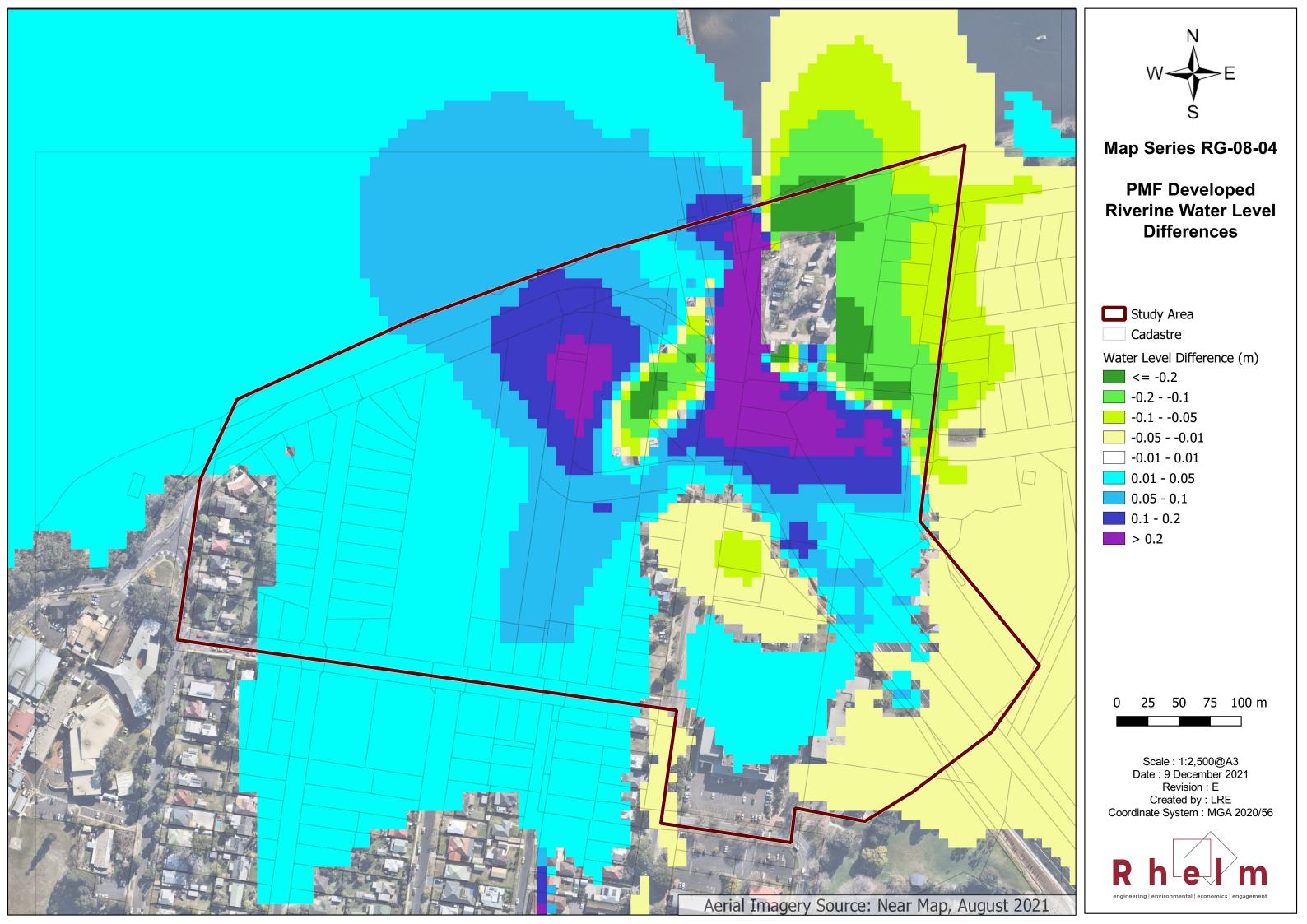
Hazard

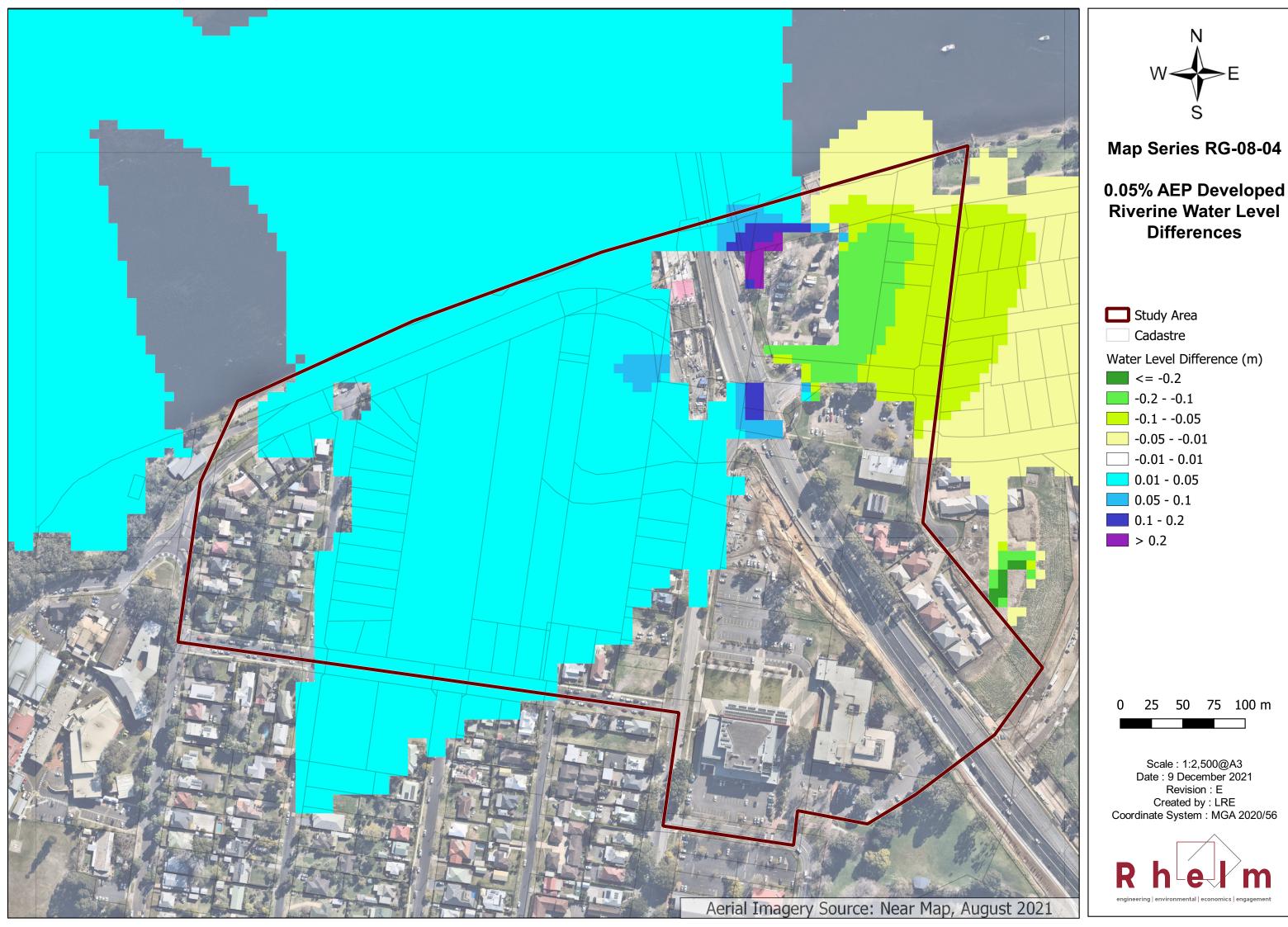
- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

) 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E











0.2% AEP Developed **Riverine Water Level Differences**

Study Area

Cadastre

Water Level Difference (m)

<= -0.2

-0.2 - -0.1

-0.1 - -0.05

-0.05 - -0.01

___ -0.01 - 0.01

0.01 - 0.05

0.05 - 0.1

0.1 - 0.2

> 0.2

25 50 75 100 m







0.5% AEP Developed **Riverine Water Level Differences**

Study Area

Cadastre

Water Level Difference (m)

<= -0.2

-0.2 - -0.1

-0.1 - -0.05

-0.05 - -0.01

-0.01 - 0.01

0.01 - 0.05

0.05 - 0.1

0.1 - 0.2

> 0.2

25 50 75 100 m







PMF Developed **Local Catchment Flood Depth and Level**

- Model Area
- Study Area
 - Cadastre

Water Level Contours (mAHD)

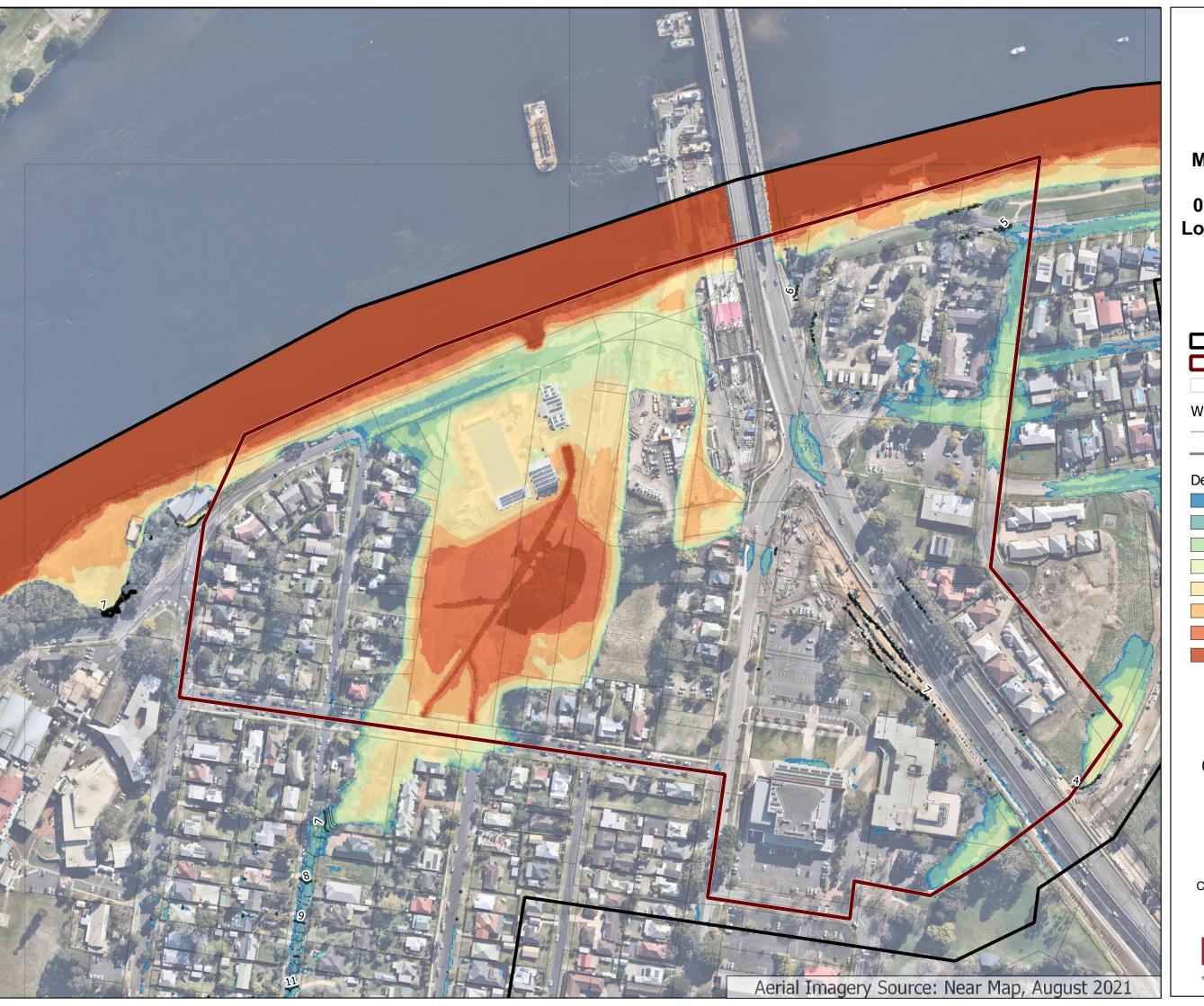
- 0.25m increments
- 1m increments

Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4
- >4

25 50 75 100 m







0.2% AEP Developed **Local Catchment Flood Depth and Level**

- Model Area
- Study Area
 - Cadastre

Water Level Contours (mAHD)

- 0.25m increments
- 1m increments

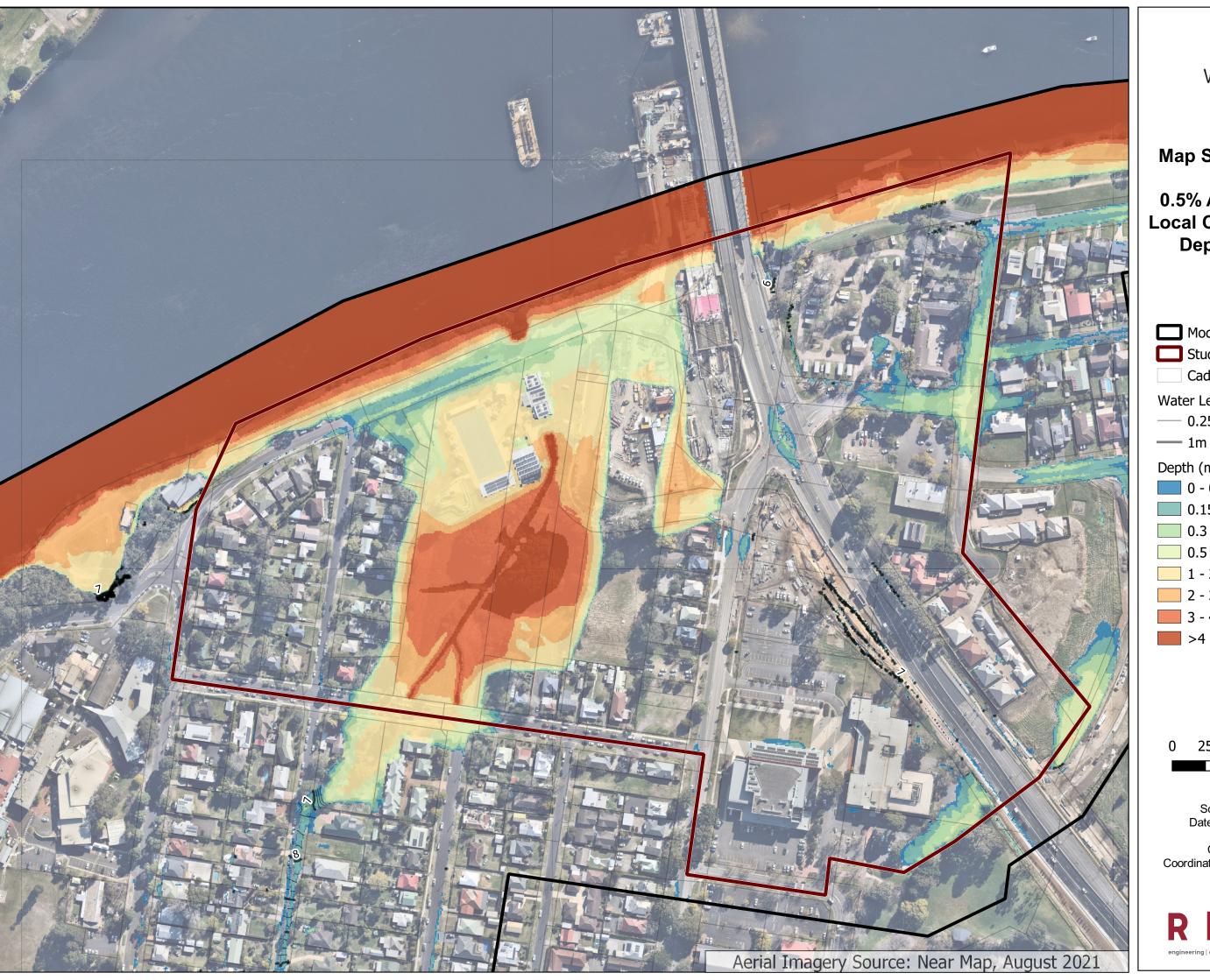
Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4

>4

25 50 75 100 m







0.5% AEP Developed **Local Catchment Flood Depth and Level**

- Model Area
- Study Area
 - Cadastre

Water Level Contours (mAHD)

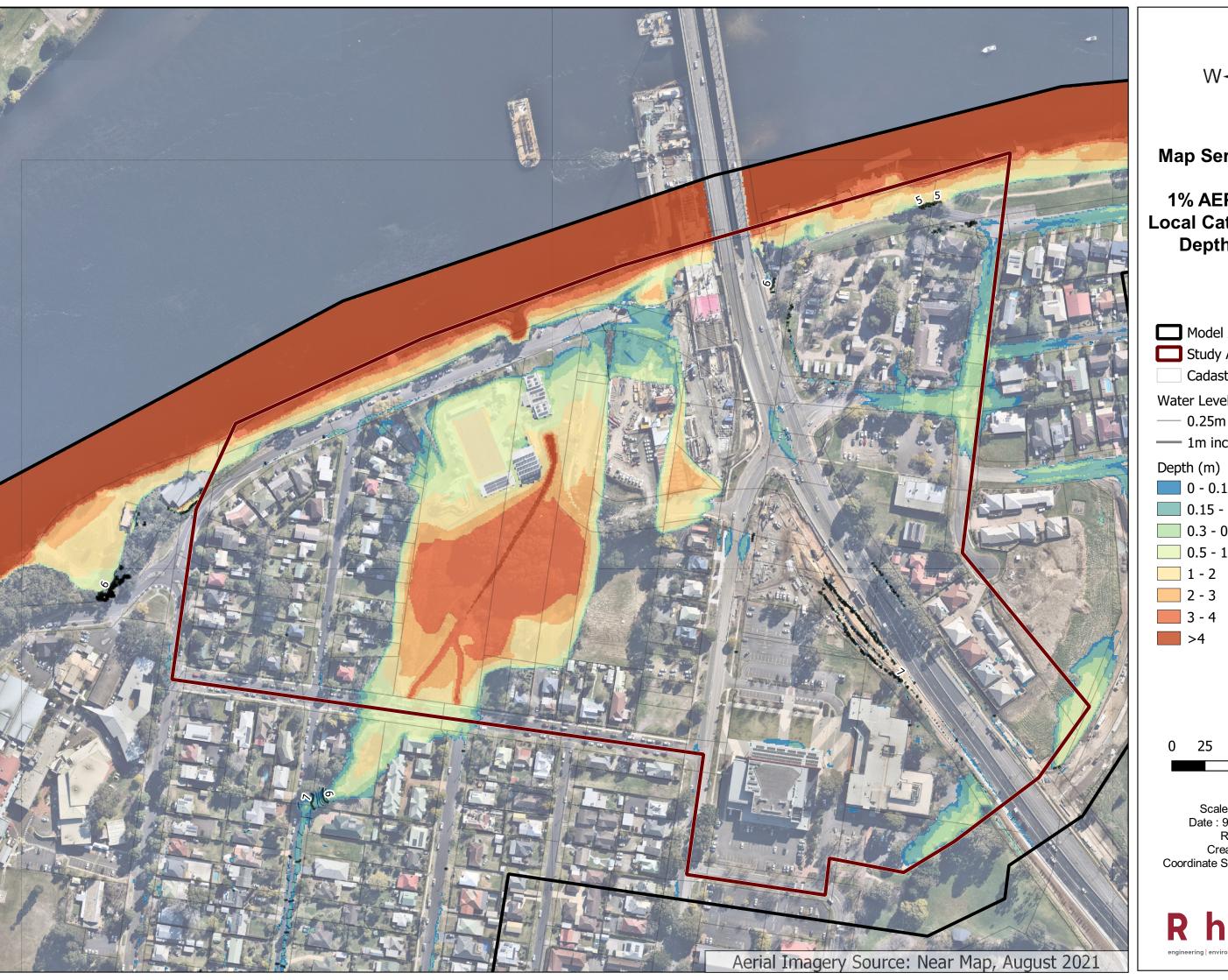
- 0.25m increments
- 1m increments

Depth (m)

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4

25 50 75 100 m







1% AEP Developed Local Catchment Flood Depth and Level

- Model Area
- Study Area
 - Cadastre

Water Level Contours (mAHD)

- 0.25m increments
- 1m increments

- 0 0.15
- 0.15 0.3
- 0.3 0.5
- 0.5 1
- 2 3
- 3 4

25 50 75 100 m







5% AEP Developed Local Catchment Flood Depth and Level

- Model Area
- Study Area
 - Cadastre

Water Level Contours (mAHD)

- 0.25m increments
- 1m increments

Depth (m)

- 0 0.15
- 0.15 0.3 0.3 - 0.5
- 0.5 1
- 1 2
- 2 3
- 3 4

>4

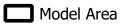
25 50 75 100 m







10% AEP Developed **Local Catchment Flood Depth and Level**



Study Area

Cadastre

Water Level Contours (mAHD)

- 0.25m increments
- 1m increments

Depth (m)

0 - 0.15

0.15 - 0.3

0.3 - 0.5

0.5 - 1

2 - 3

3 - 4

>4

25 50 75 100 m







PMF Developed **Local Catchment Velocity**

Model Area

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

1 - 2

2 - 3

3 - 4

> 4

25 50 75 100 m







0.2% AEP Developed **Local Catchment Velocity**

Model Area

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

1 - 2

2 - 3

3 - 4

> 4

25 50 75 100 m







0.5% AEP Developed **Local Catchment Velocity**

Model Area

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

1 - 2

2 - 3

3 - 4

> 4

25 50 75 100 m







1% AEP Developed **Local Catchment** Velocity

Model Area

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

1 - 2

2 - 3

3 - 4

> 4

25 50 75 100 m







5% AEP Developed Local Catchment Velocity

- Model Area
- Study Area
 - Cadastre

Velocity (m/s)

- <=0.01
- 0.01 0.5
- 0.5 1
 - 1 2
- 2 3
- 3 4
- > 4

25 50 75 100 m







10% AEP Developed **Local Catchment** Velocity

Model Area

Study Area

Cadastre

Velocity (m/s)

<=0.01

0.01 - 0.5

0.5 - 1

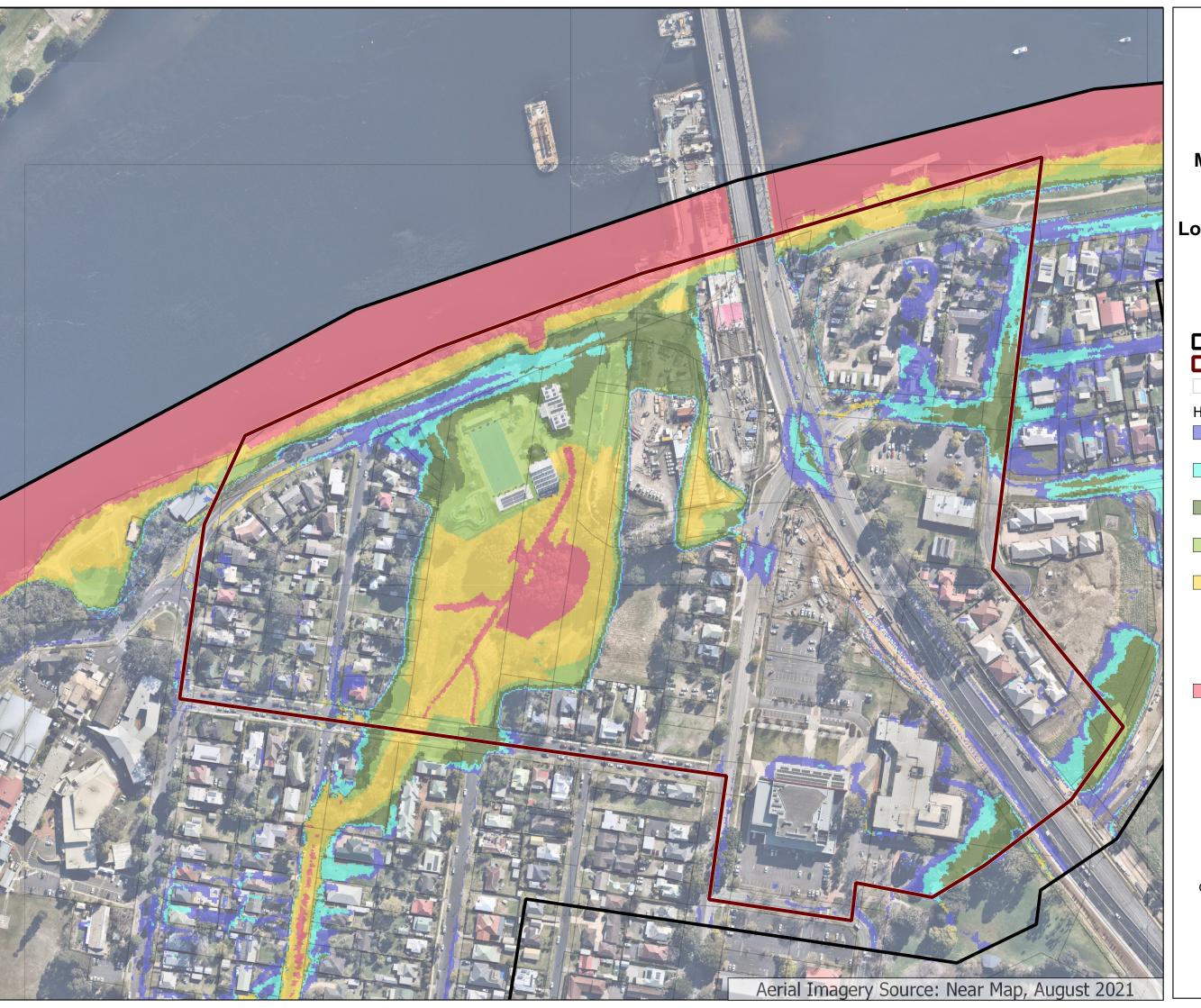
1 - 2

2 - 3 3 - 4

> 4

25 50 75 100 m







PMF Developed Local Catchment Hazard

- Model Area
- Study Area
- Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
- 25 50 75 100 m

Scale : 1:2,500@A3
Date : 9 December 2021
Revision : E
Created by : LRE







0.2% AEP Developed Local Catchment Hazard

- Model Area
- Study Area
 - Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
- 25 50 75 100 m

Scale : 1:2,500@A3
Date : 9 December 2021
Revision : E
Created by : LRE







0.5% AEP Developed Local Catchment Hazard

- Model Area
- Study Area
- Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







1% AEP Developed Local Catchment Hazard

- Model Area
- Study Area
- Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
- 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







5% AEP Developed Local Catchment Hazard

- Model Area
- Study Area
- Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
 - H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
 - H6 Unsafe for vehicles and people. All building types considered vulnerable to failure

25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







10% AEP Developed Local Catchment Hazard

- Model Area
- Study Area
- Cadastre

Hazard

- H1 Generally safe for vehicles, people & buildings
- H2 Unsafe for small vehicles
- H3 Unsafe for vehicles, children and the elderly
- H4 Unsafe for vehicles and people
- H5 Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure
- H6 Unsafe for vehicles and people. All building types considered vulnerable to failure
- 25 50 75 100 m

Scale: 1:2,500@A3
Date: 9 December 2021
Revision: E







PMF Developed **Local Catchment Water Level Differences**

- Model Area
- Study Area
 - Cadastre

Water Level Differences (m)

- Filled Region
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2

25 50 75 100 m







1% AEP Developed Local Catchment Water Level Differences

- Model Area
- Study Area
- Cadastre

Water Level Differences (m)

- Filled Region
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m







5% AEP Developed Local Catchment Water Level Differences

- Model Area
- Study Area
- Cadastre

Water Level Differences (m)

- Filled Region
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m







10% AEP Developed **Local Catchment Water Level Differences**

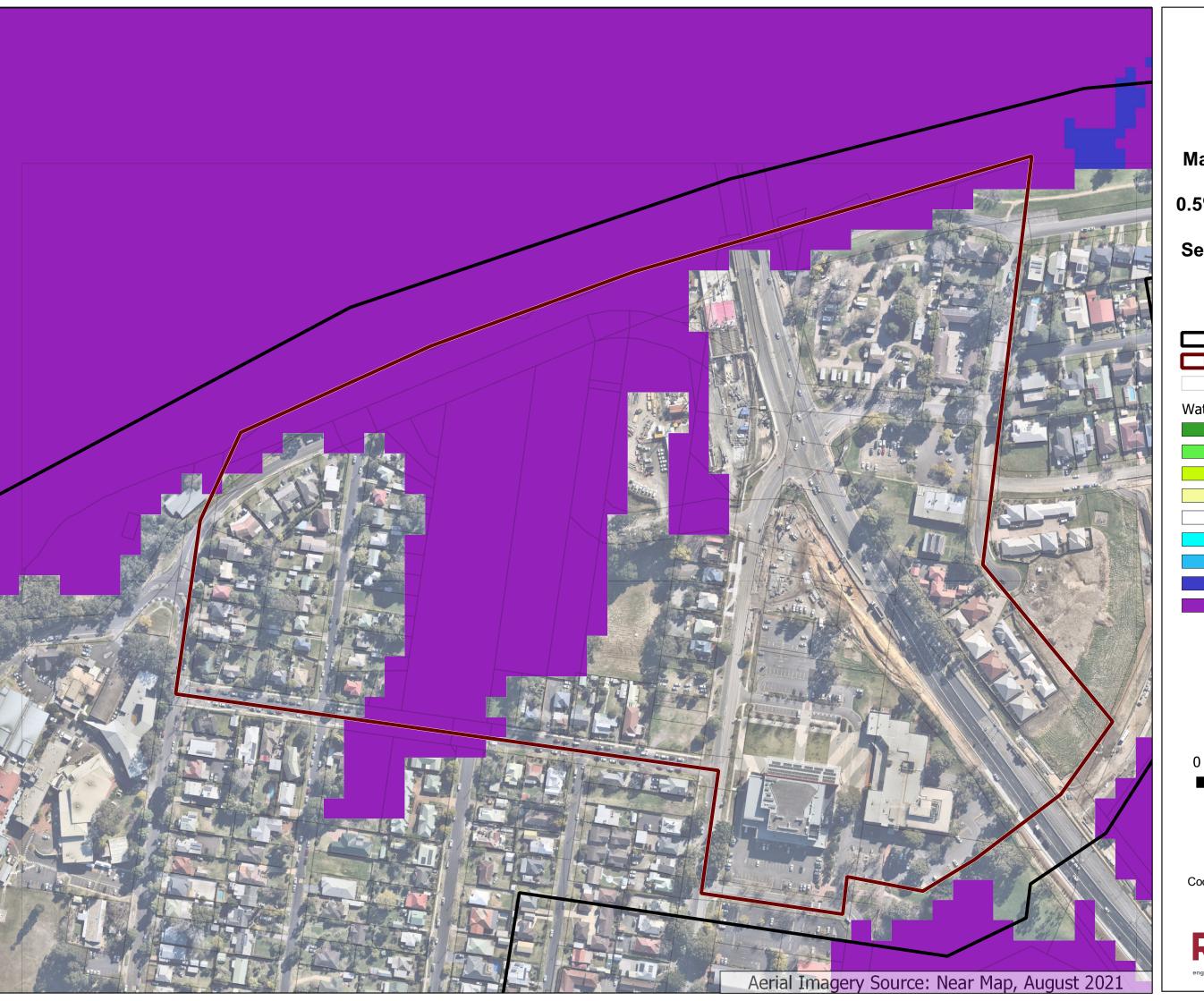
- Model Area
- Study Area
 - Cadastre

Water Level Differences (m)

- Filled Region
- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05 0.05 - 0.1
- 0.1 0.2
- > 0.2

25 50 75 100 m







0.5% AEP less 1% AEP Developed Sensitivity to Climate Change

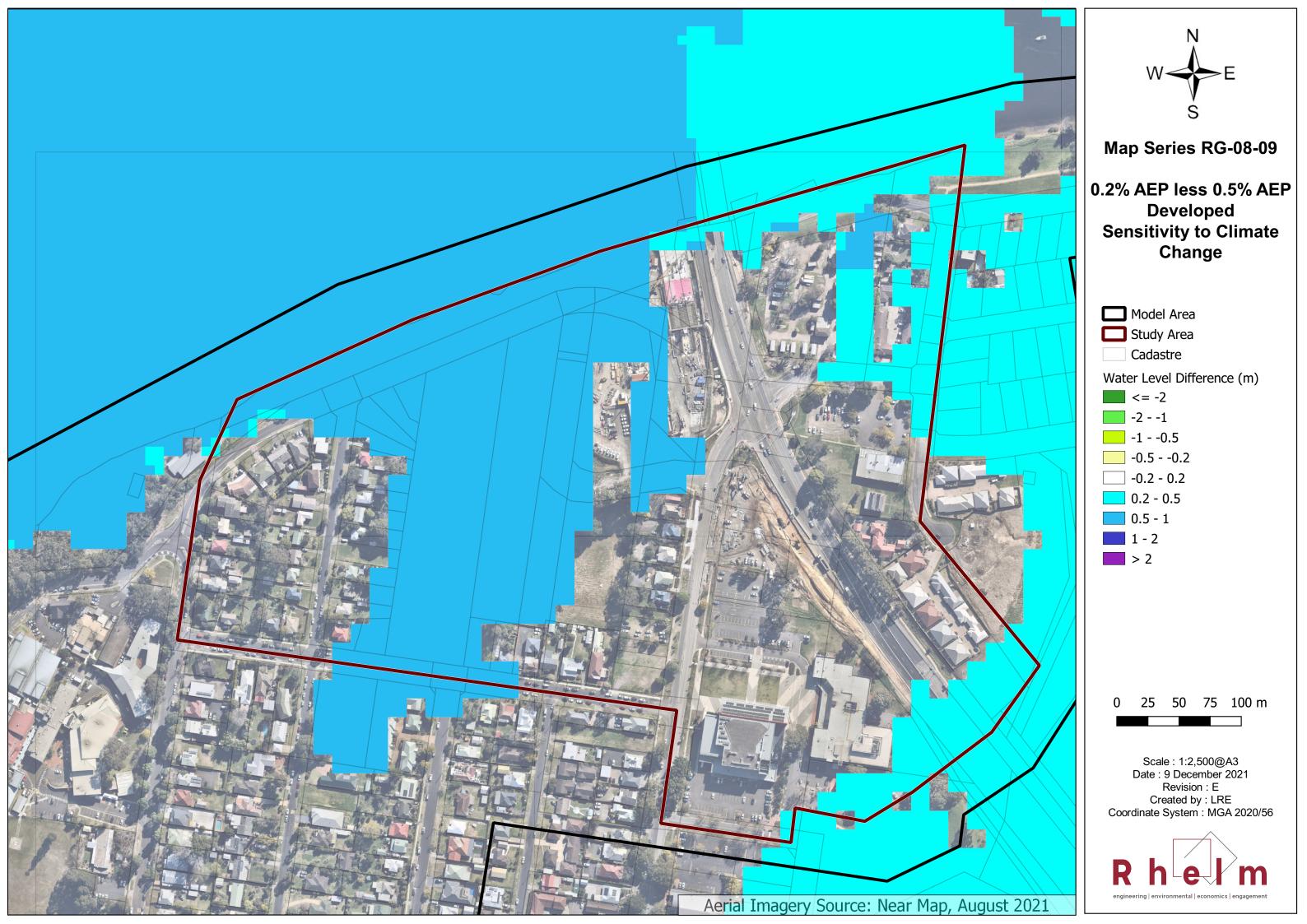
- Model Area
- Study Area
 - Cadastre

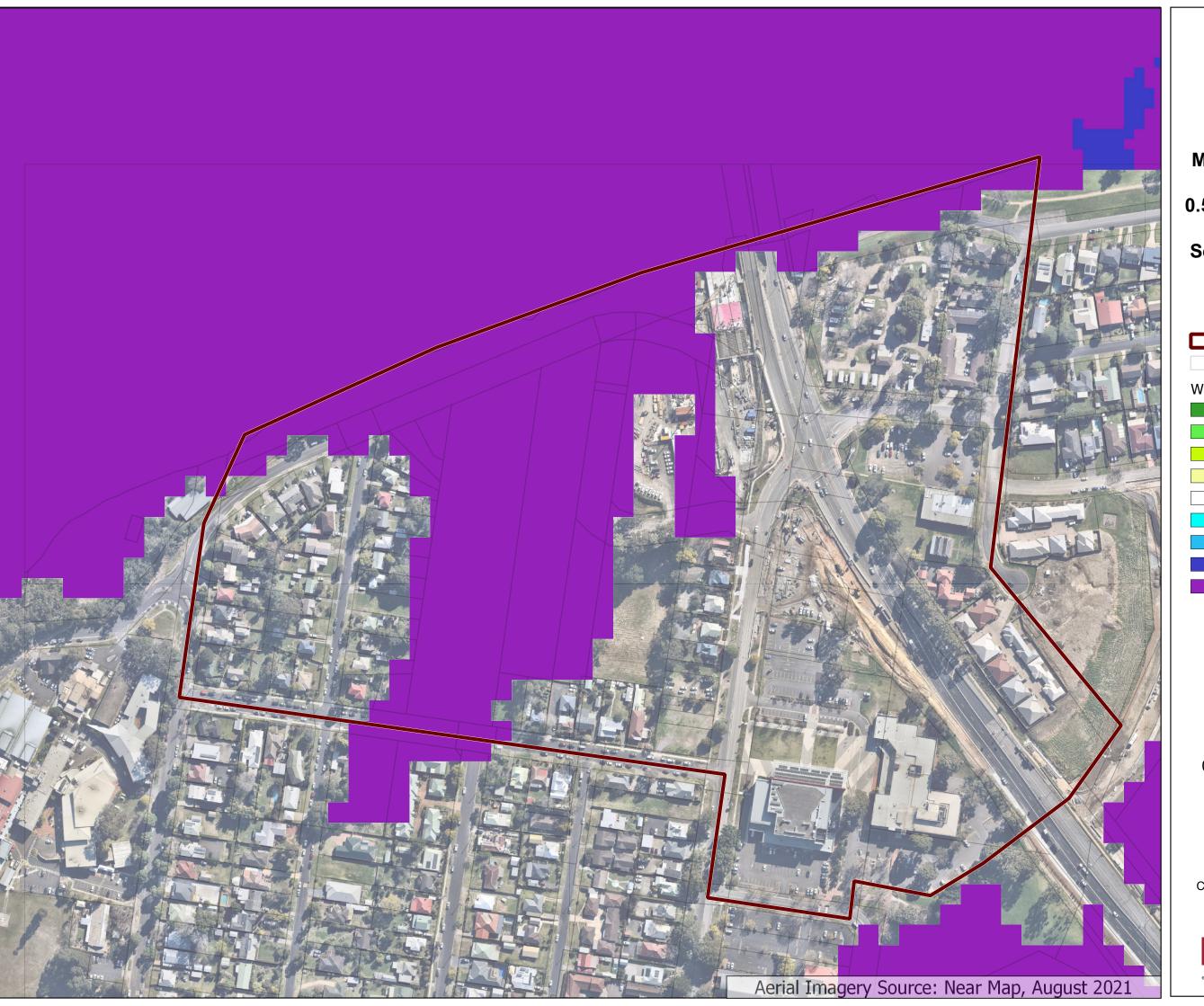
Water Level Difference (m)

- <= -0.2
- -0.2 -0.1
- -0.1 -0.05
- -0.05 -0.01
- -0.01 0.01
- 0.01 0.05
- 0.05 0.1
- 0.1 0.2
- > 0.2

50 75 100 m









0.5% AEP less 1% AEP Developed **Sensitivity to Climate** Change

Study Area

Cadastre

Water Level Difference (m)

<= -0.2

-0.2 - -0.1

-0.1 - -0.05

-0.05 - -0.01

-0.01 - 0.01

0.01 - 0.05

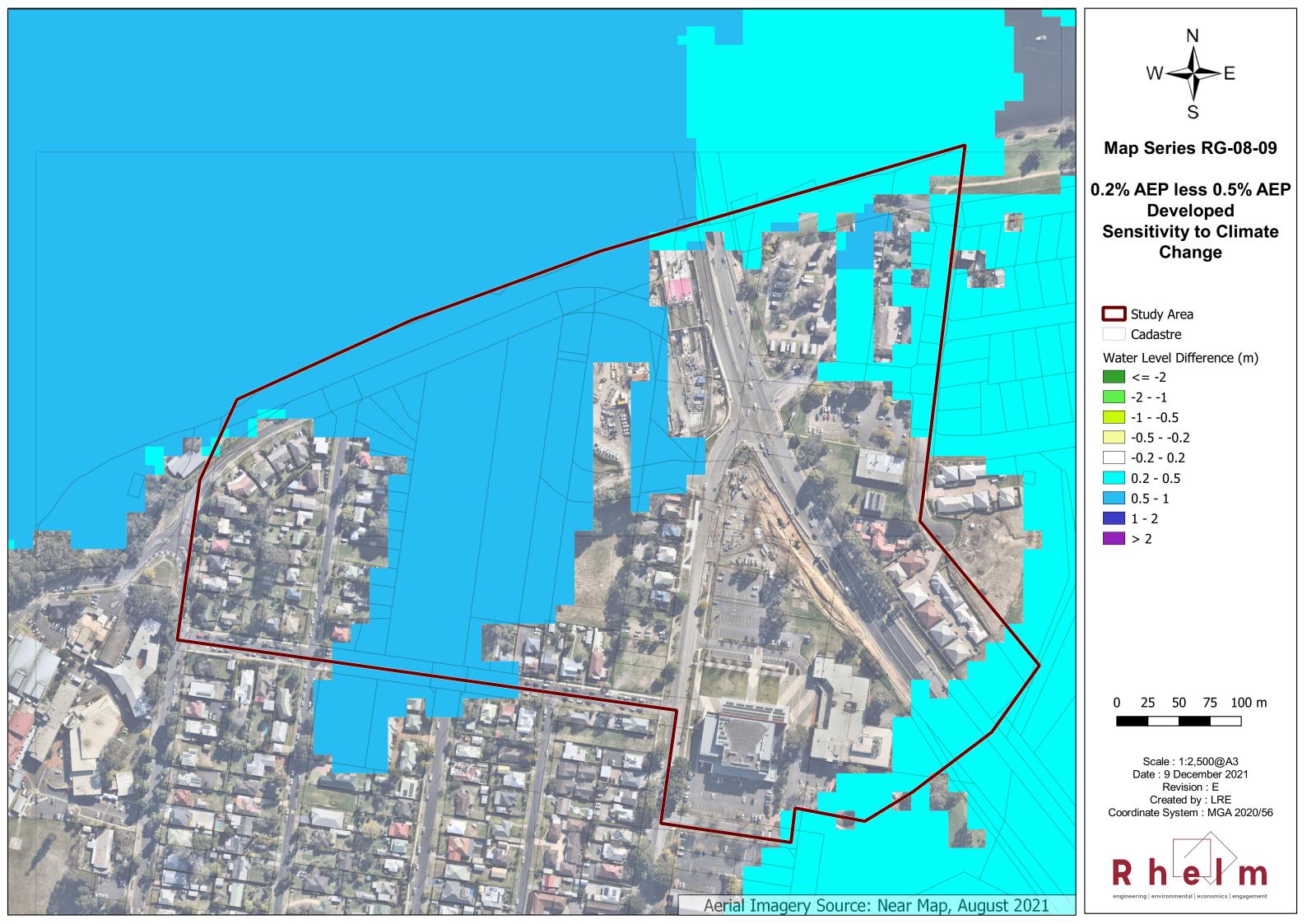
0.05 - 0.1

0.1 - 0.2

> 0.2

50 75 100 m







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