



TEMORA SHIRE COUNCIL

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

AUGUST 2023

VOLUME 2 – FIGURES

DRAFT REPORT FOR PUBLIC EXHIBITION

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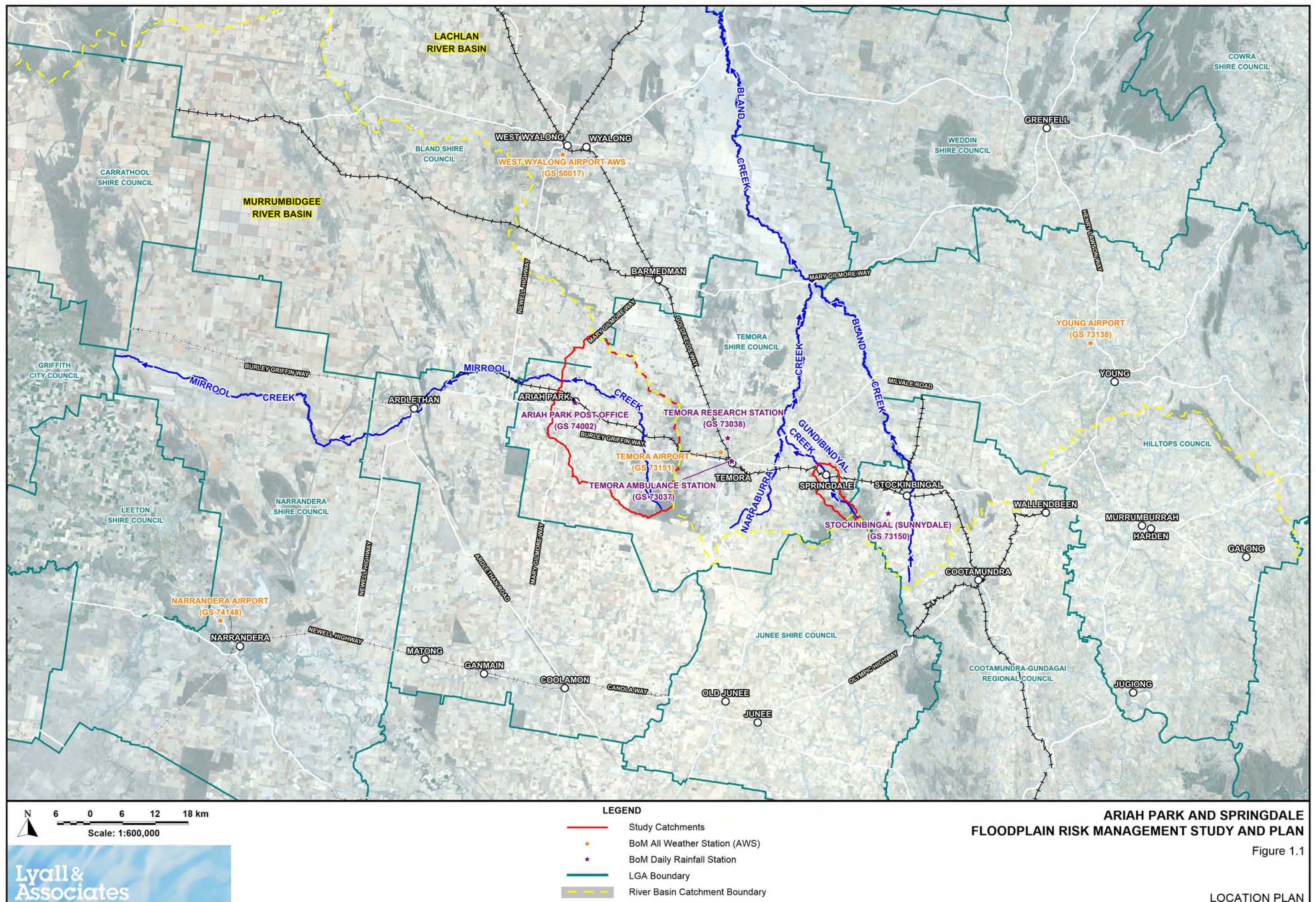
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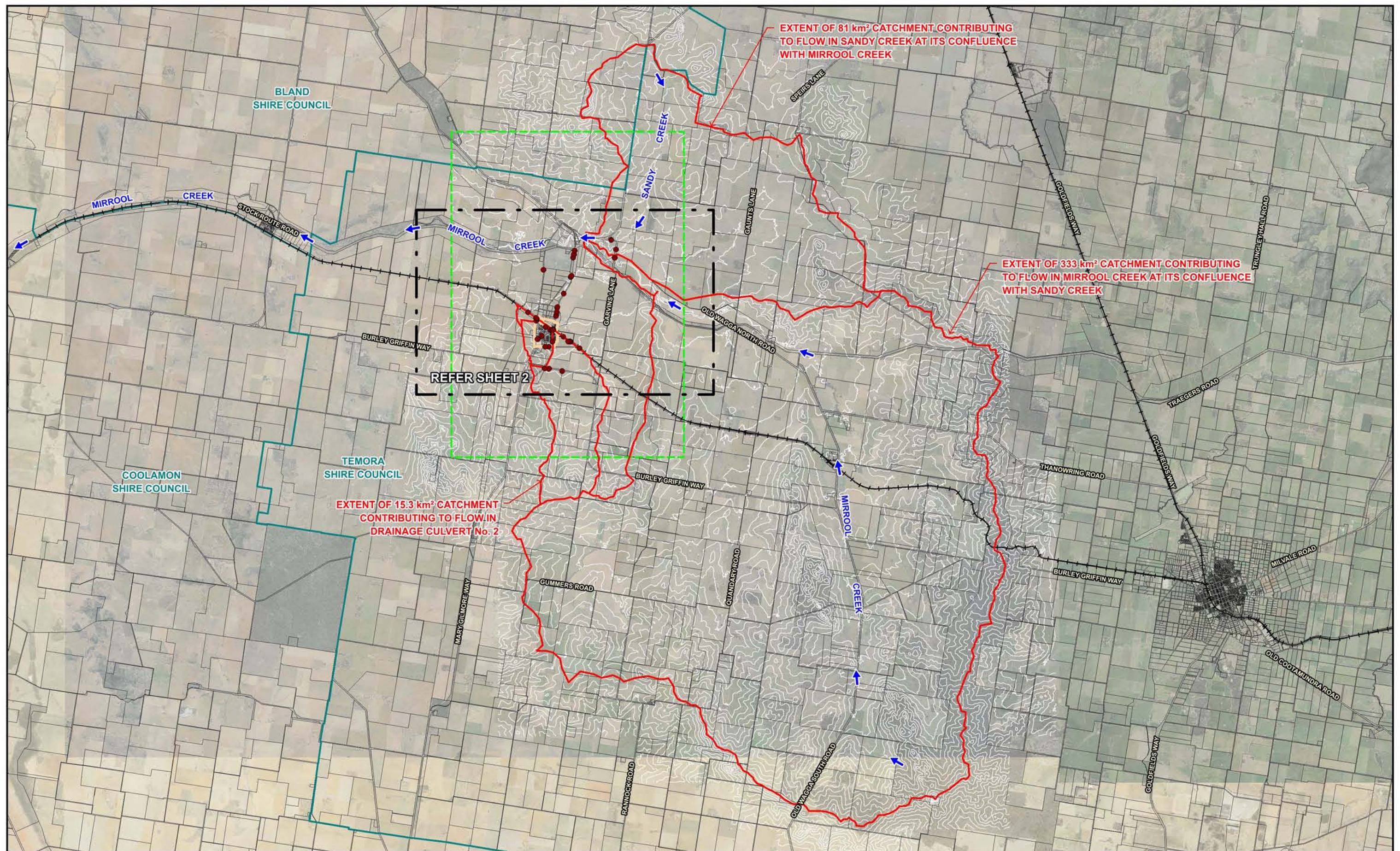
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N 1500 0 1500 3000 4500 m
Scale: 1:150,000

Lyal & Associates

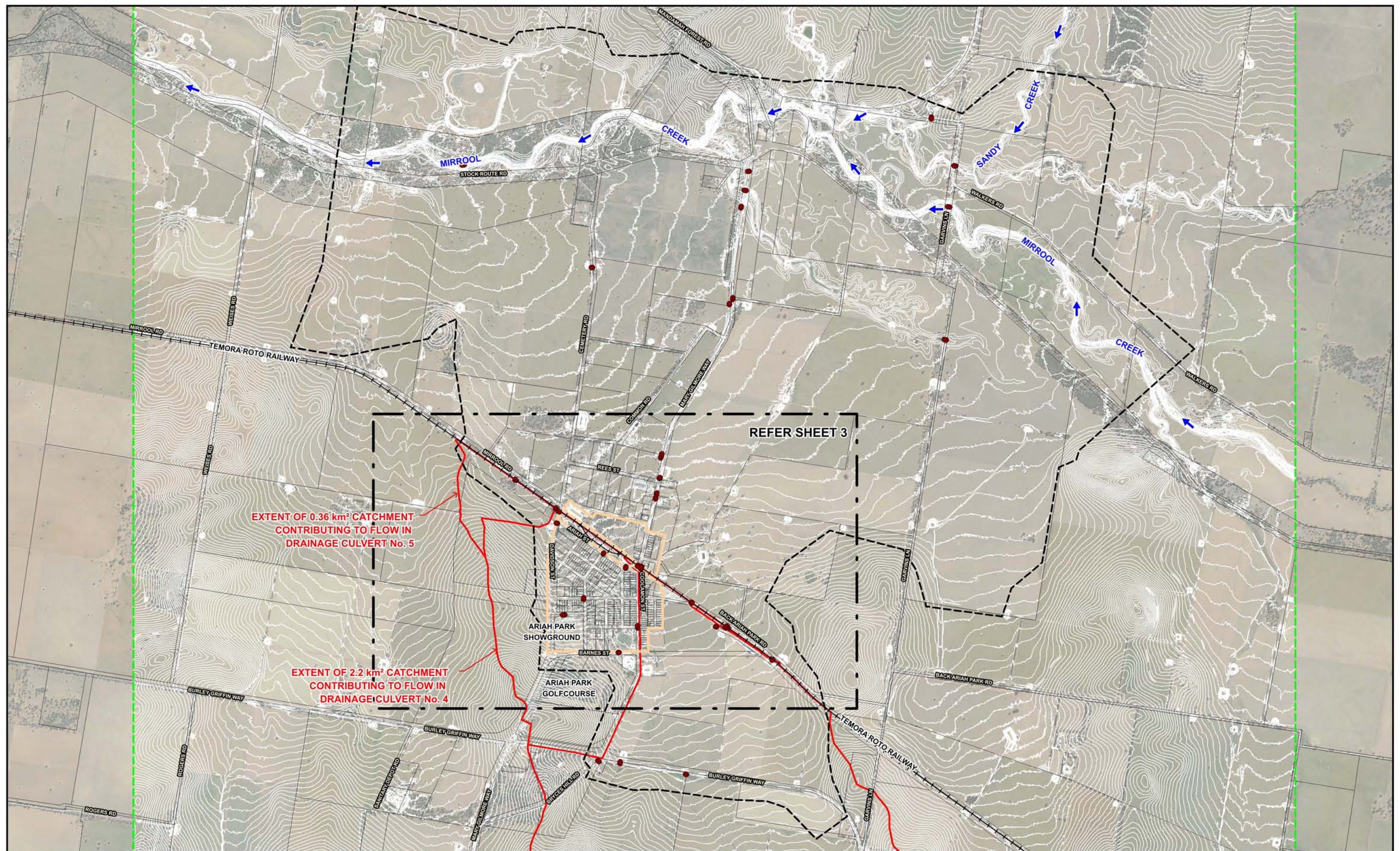
LEGEND

- Catchment Boundary
- LGA Boundary
- Existing Piped Drainage System
- - - Extent of Barmedman2019 LiDAR Survey Data
- Arah Park Village Centre

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.1
(Sheet 1 of 3)

EXISTING DRAINAGE SYSTEM AT ARIA PARK



N 300 0 300 600 900 m
Scale: 1:30,000

Lvall & Associates

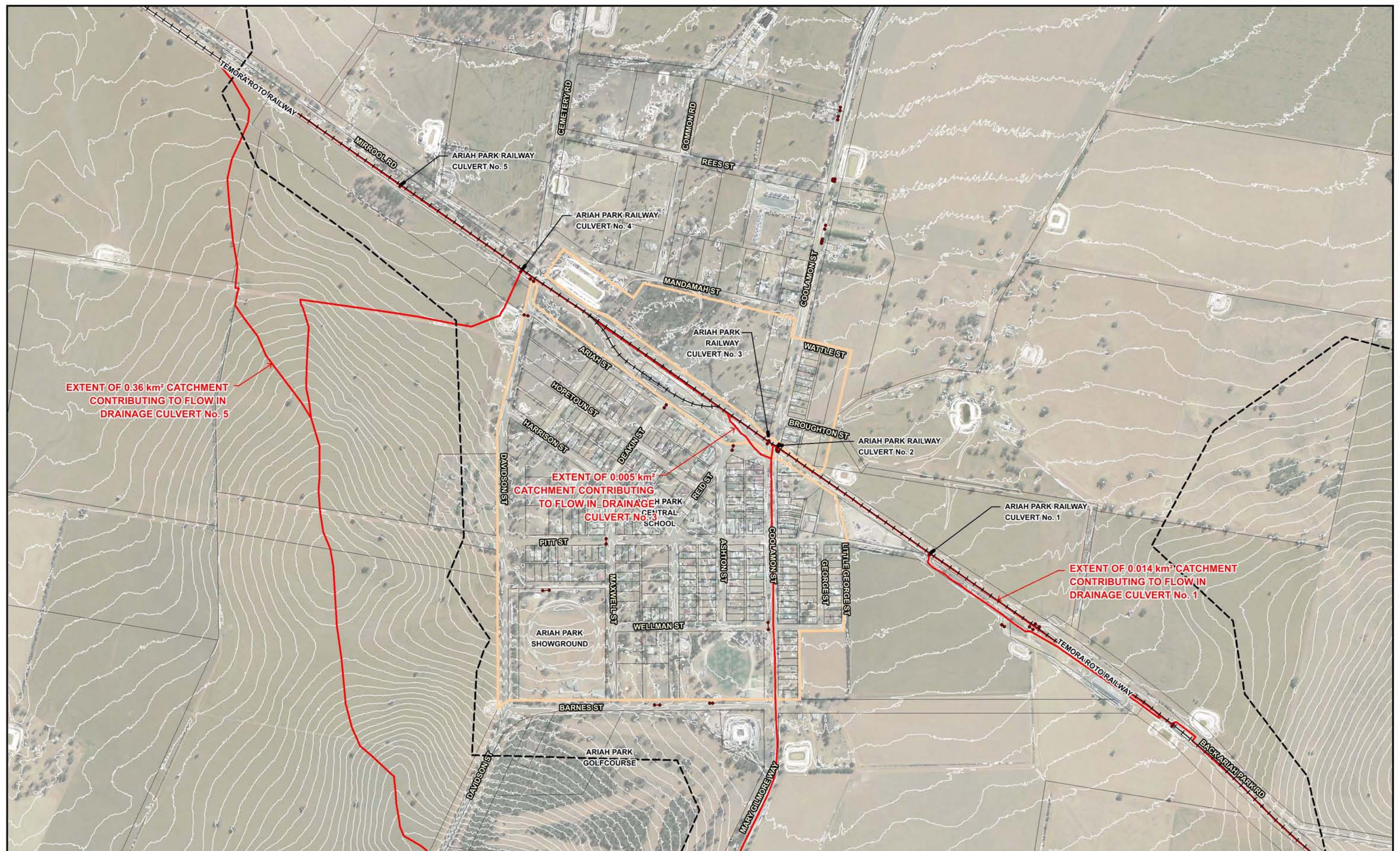
LEGEND

- Catchment Boundary
- Existing Piped Drainage System
- Extent of Barmedman2019 LiDAR Survey Data
- ARIA H Park Village Centre

**ARIA H PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.1
(Sheet 2 of 3)

EXISTING DRAINAGE SYSTEM AT ARIA H PARK



N 100 0 100 200 300 m
Scale: 1:10,000

Lyal &
Associates

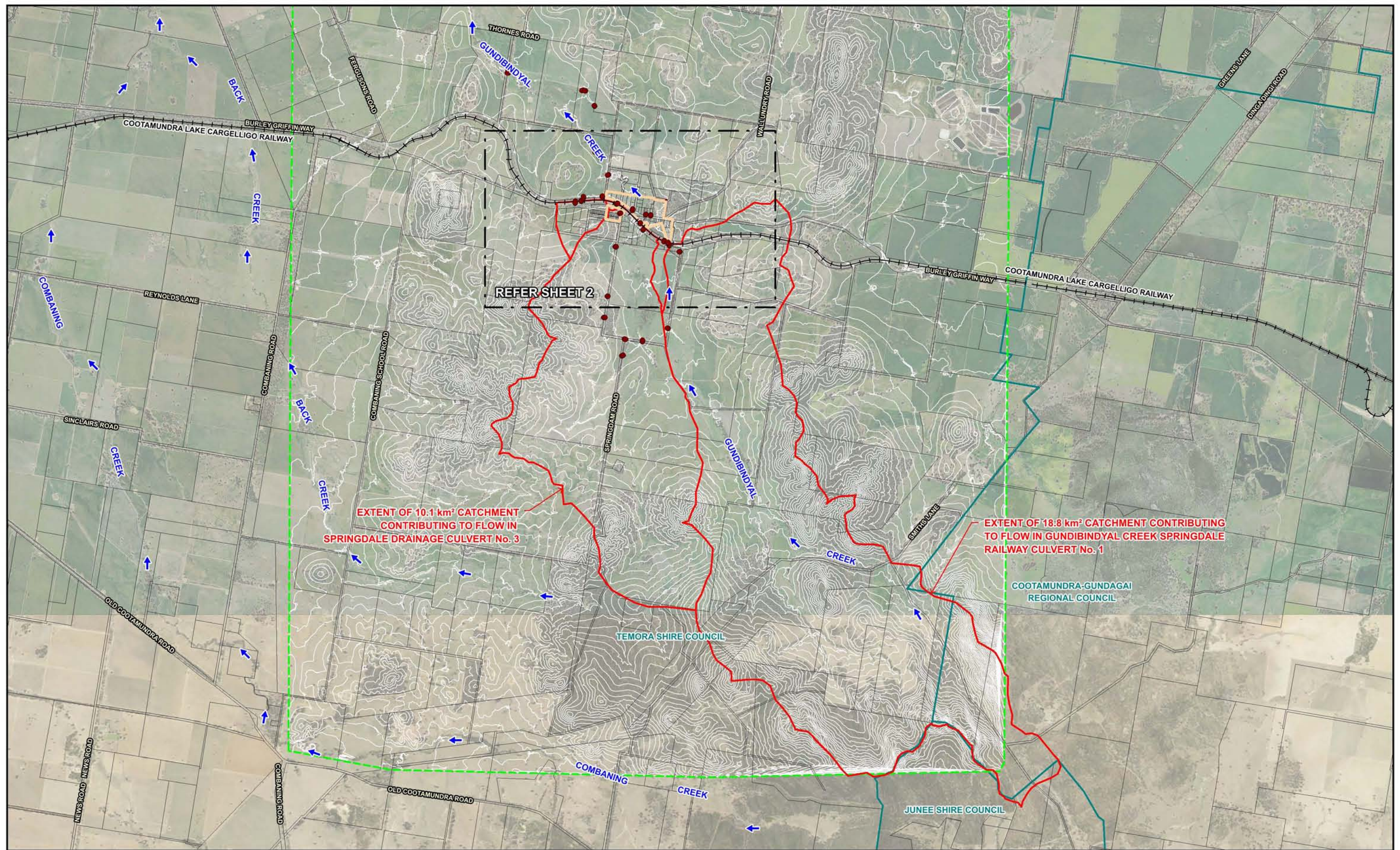
LEGEND

- Catchment Boundary
- Existing Piped Drainage System
- ARIA PARK Village Centre

ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Figure 2.1
(Sheet 3 of 3)

EXISTING DRAINAGE SYSTEM AT ARIA PARK



N
500 0 500 1000 1500 m
Scale: 1:50,000

Lyall & Associates

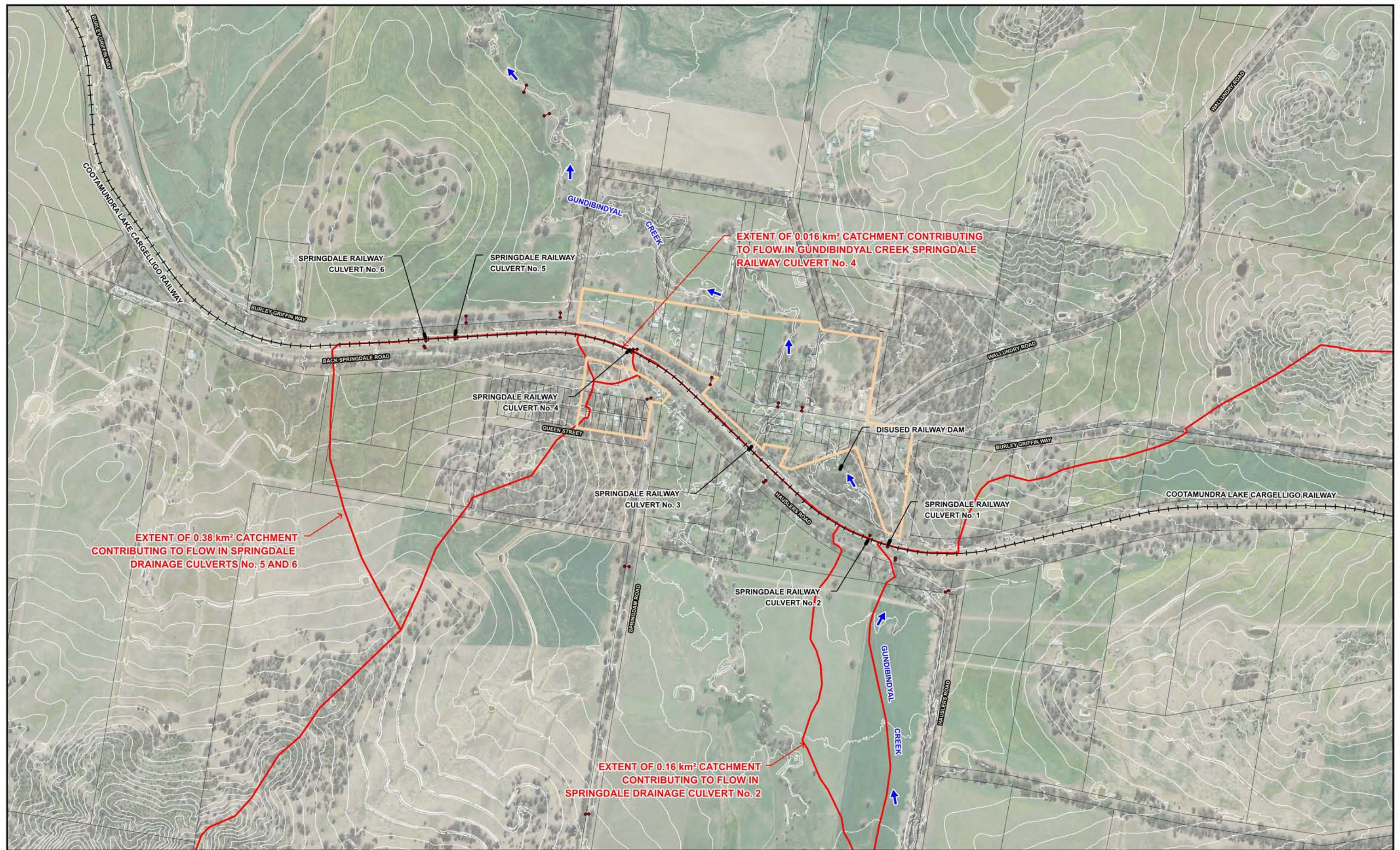
LEGEND

- Catchment Boundary
- LGA Boundary
- Existing Piped Drainage System
- Extent of Springdale2016 LiDAR Survey Data
- Springdale Village Centre

ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Figure 2.2
(Sheet 1 of 2)

EXISTING DRAINAGE SYSTEM AT SPRINGDALE



N 100 0 100 200 300 m
Scale: 1:10,000

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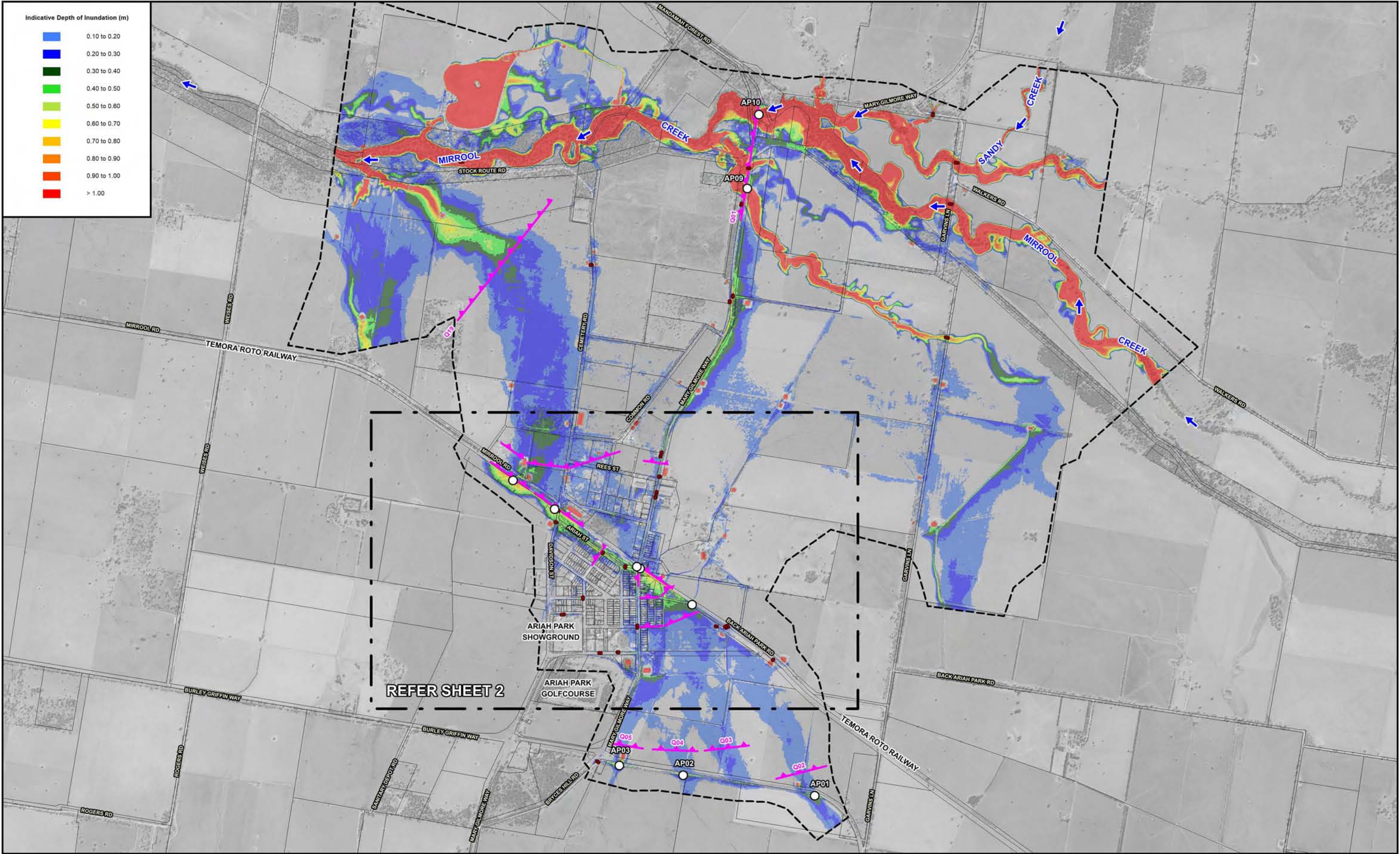
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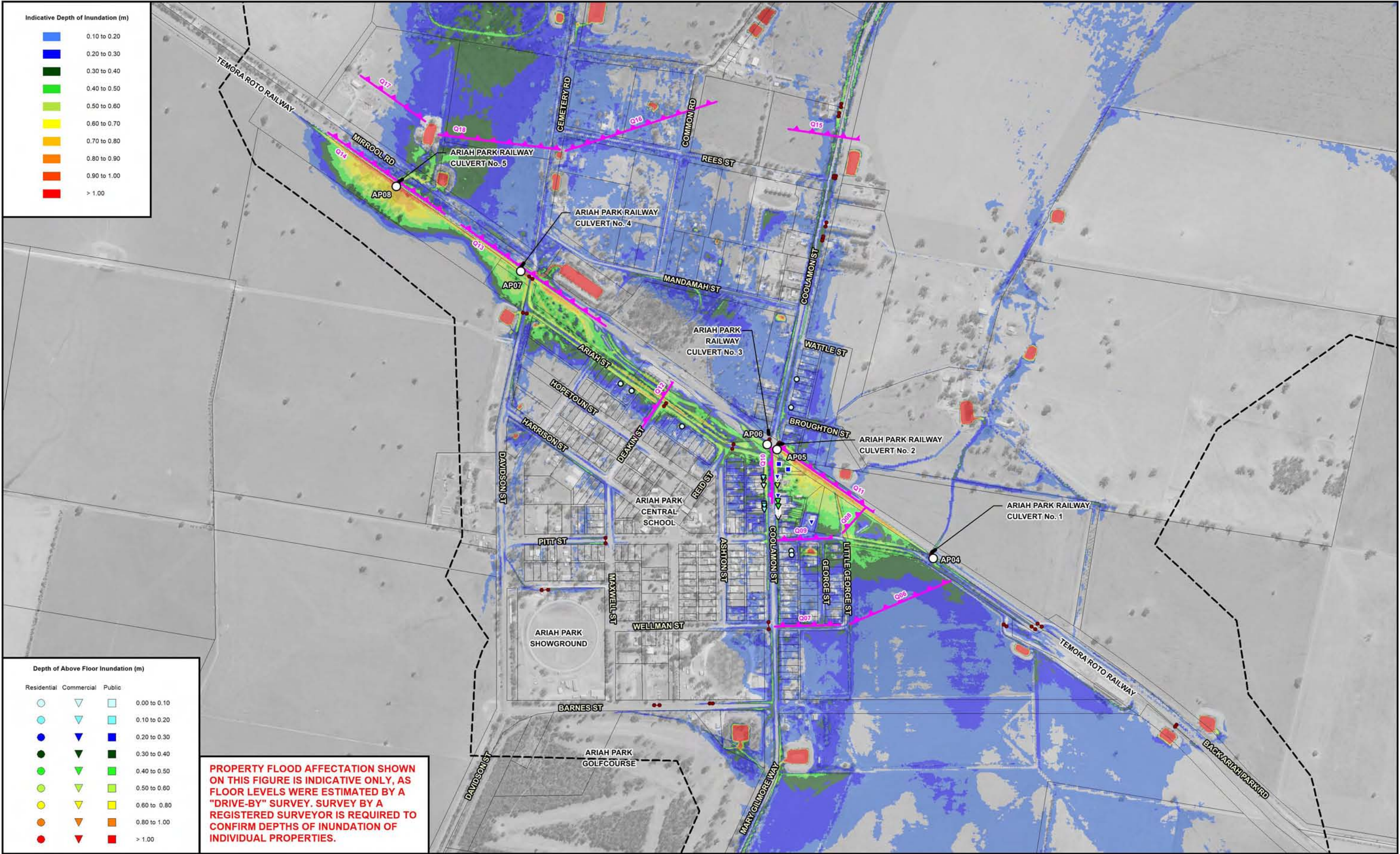
- Catchment Boundary
- Existing Piped Drainage System
- Springdale Village Centre

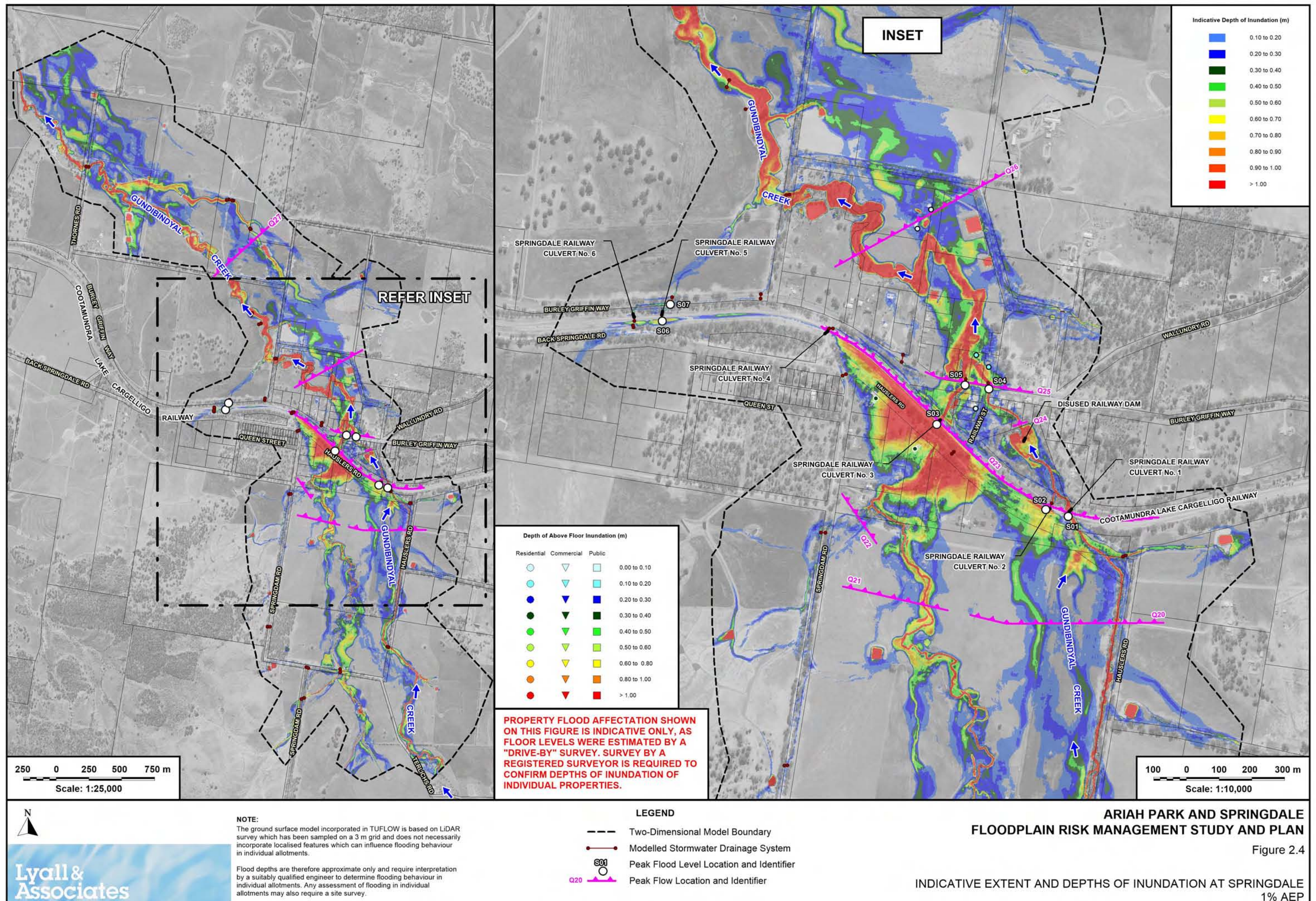
ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

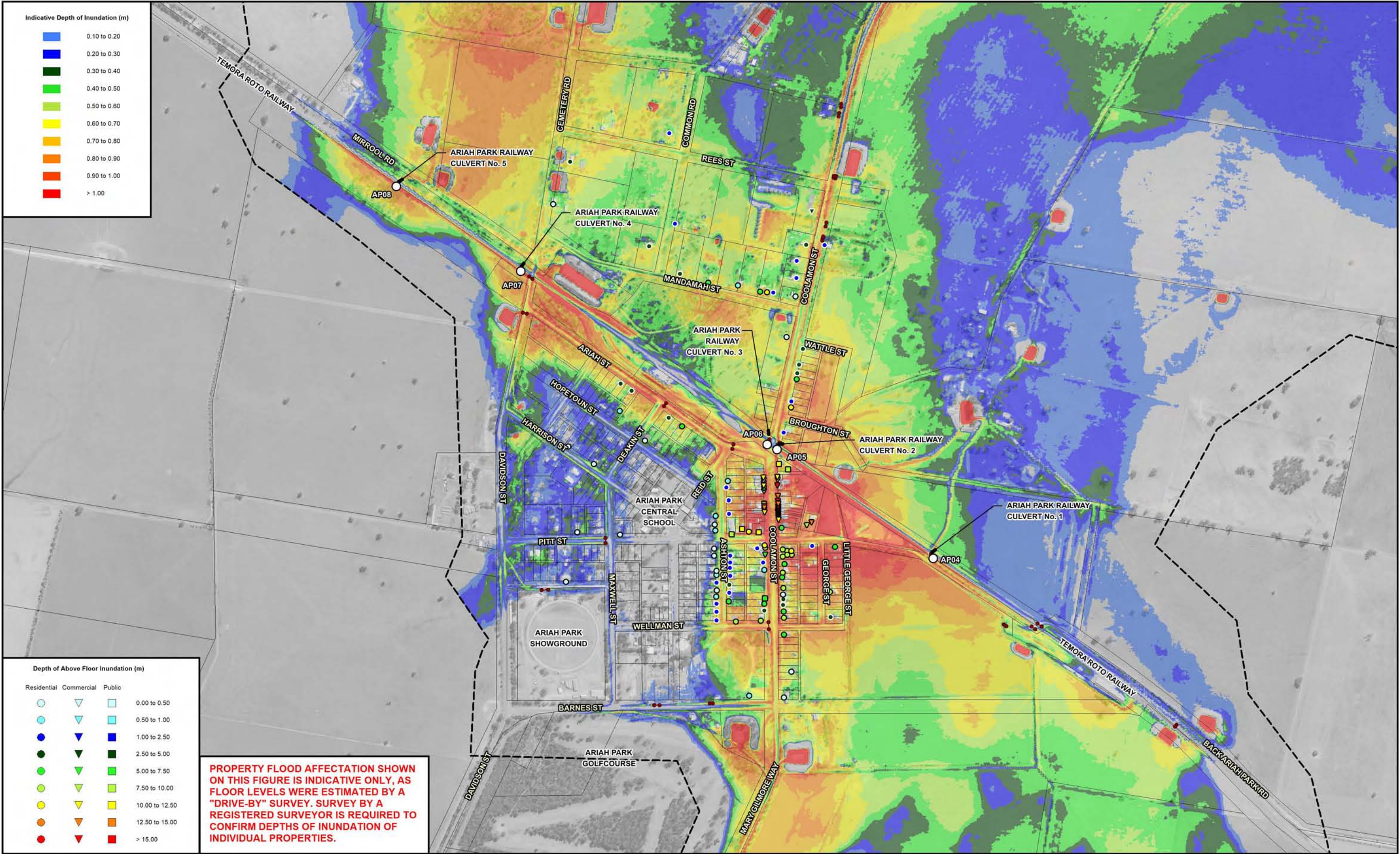
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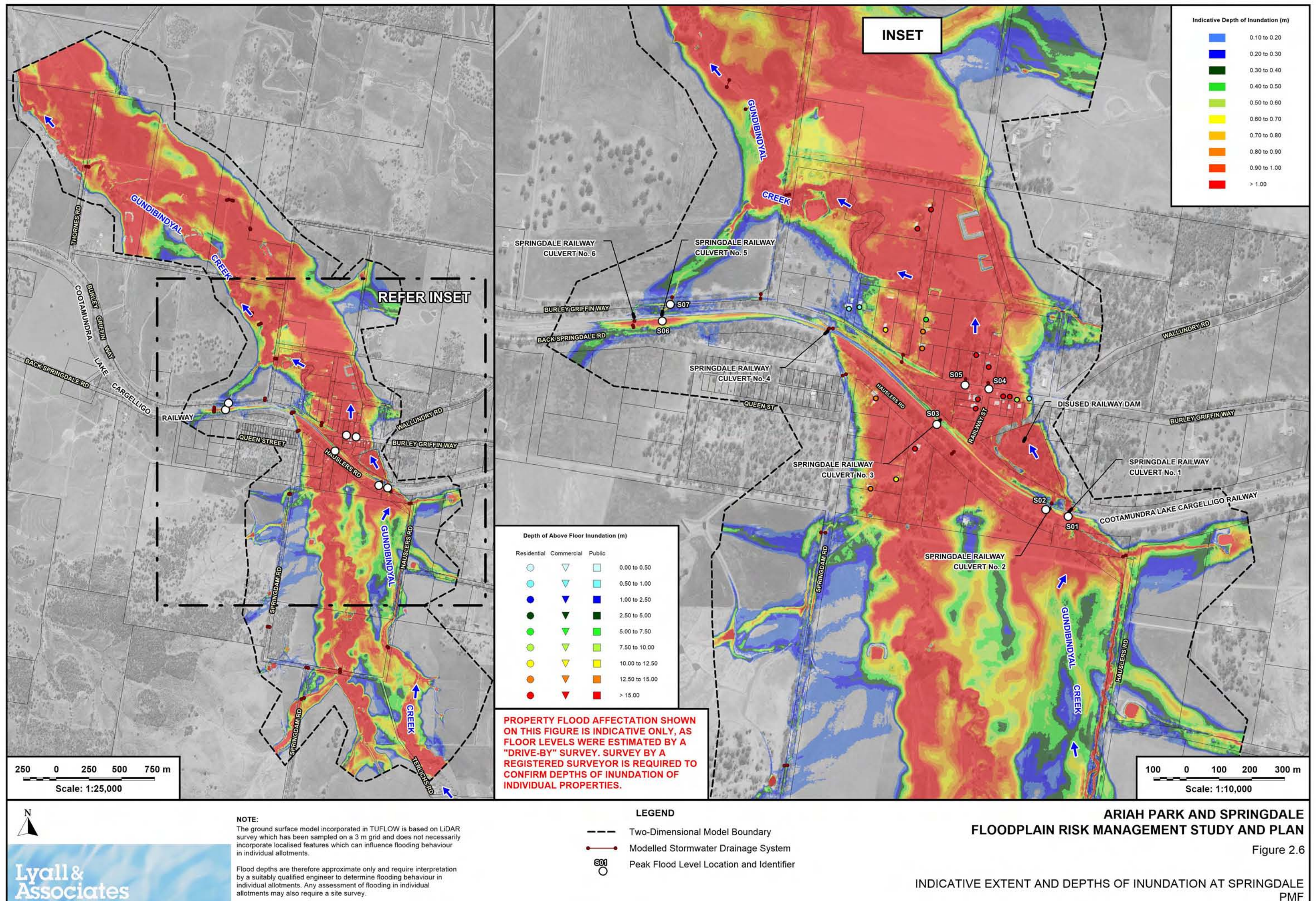
EXISTING DRAINAGE SYSTEM AT SPRINGDALE

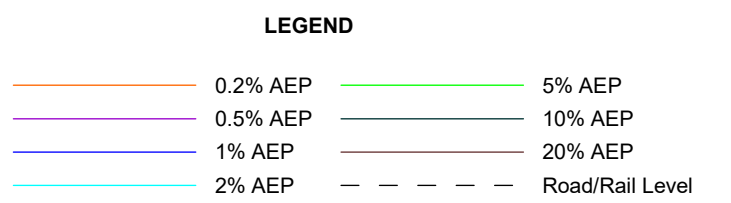
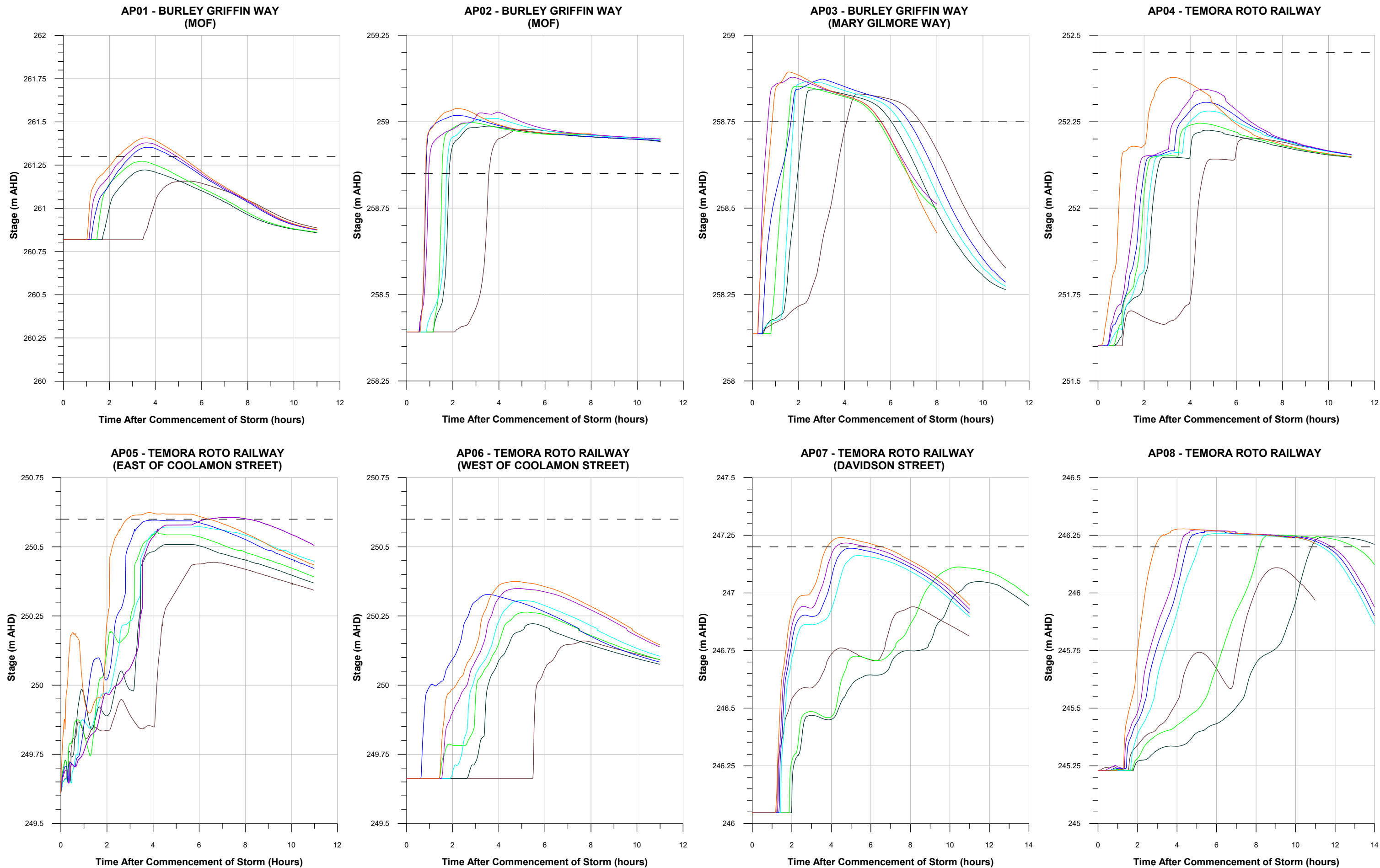








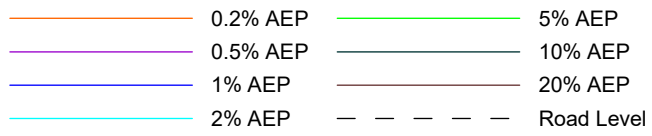
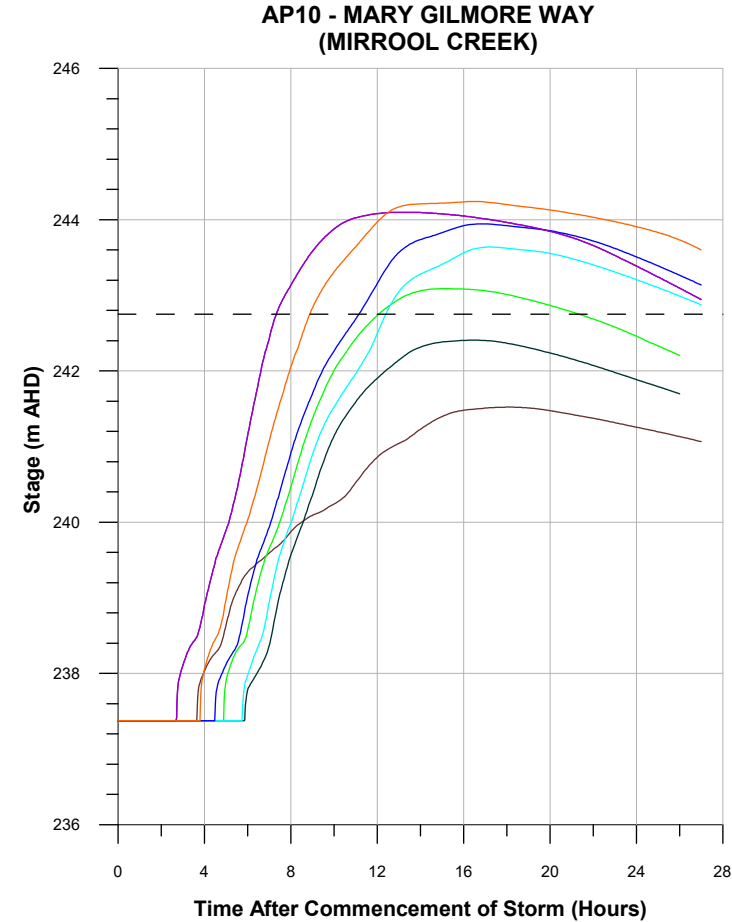
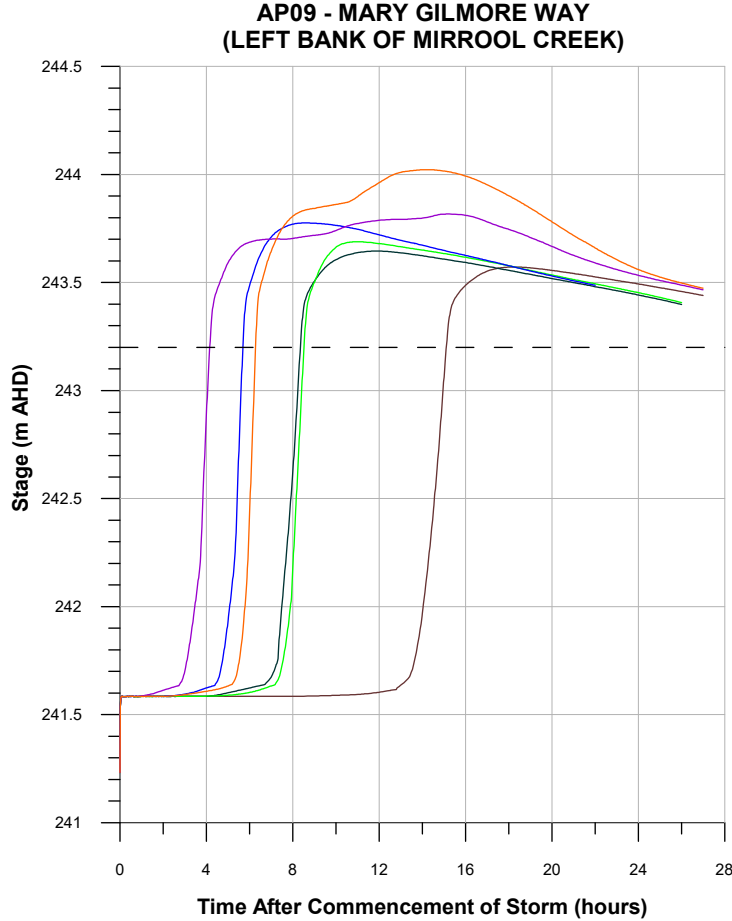




**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.7
(Sheet 1 of 2)

TIME OF RISE OF FLOODWATERS AT ARIAH PARK

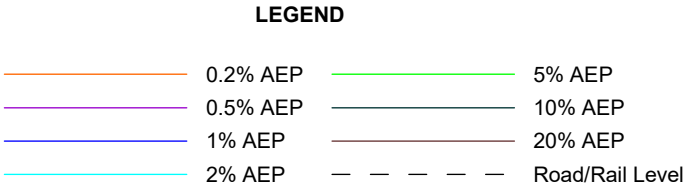
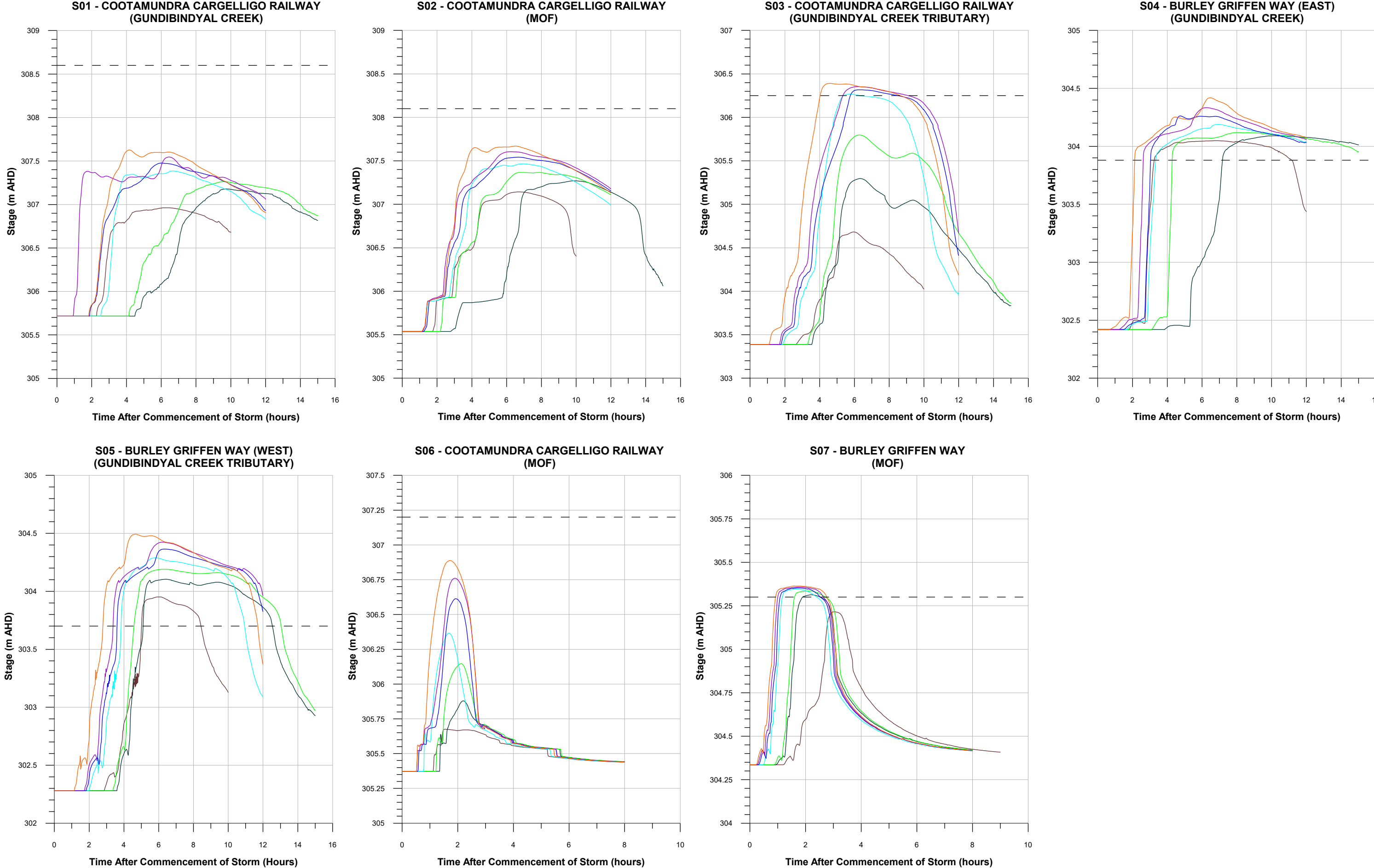


**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.7
(Sheet 2 of 2)

TIME OF RISE OF FLOODWATERS AT ARIAH PARK

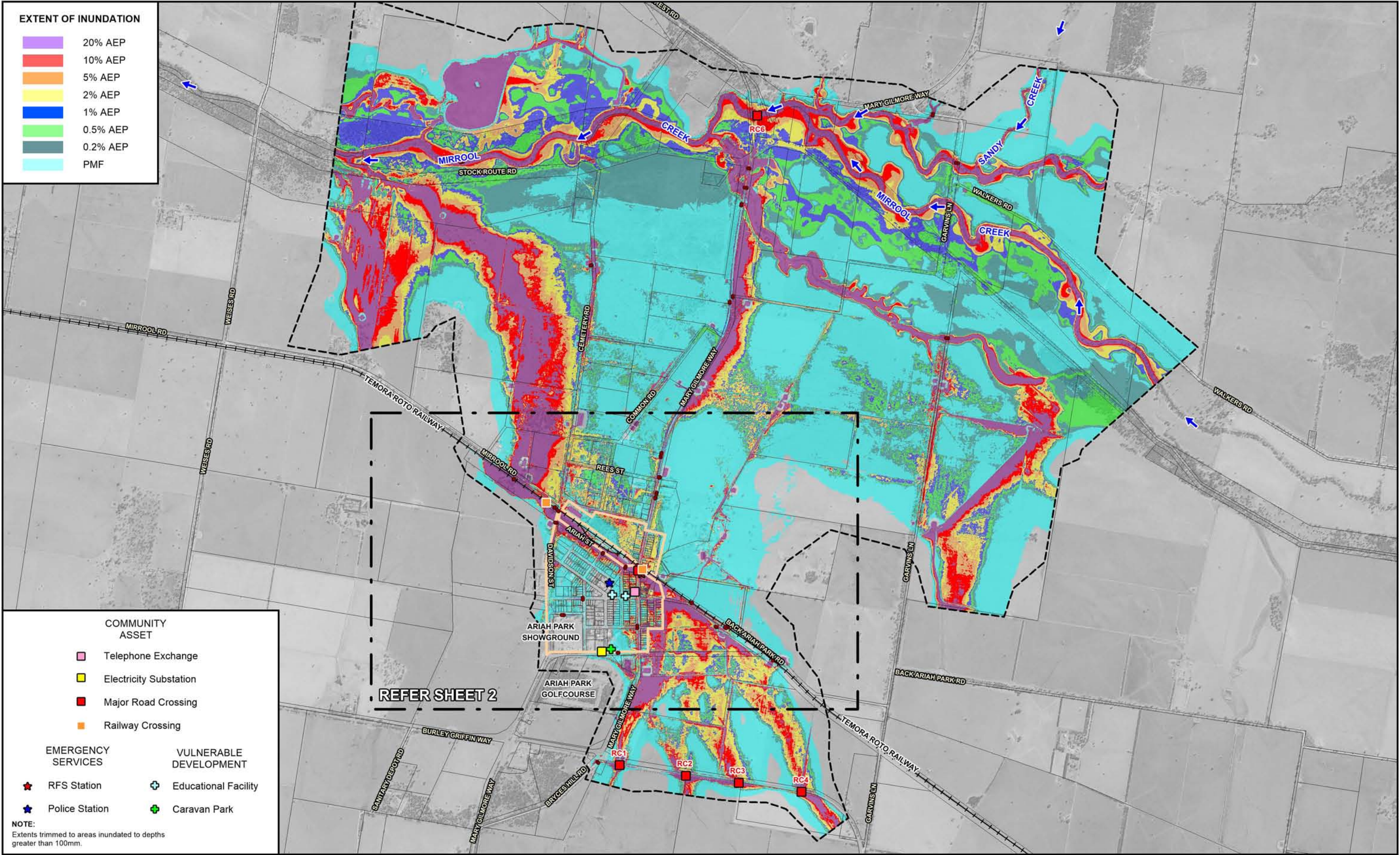


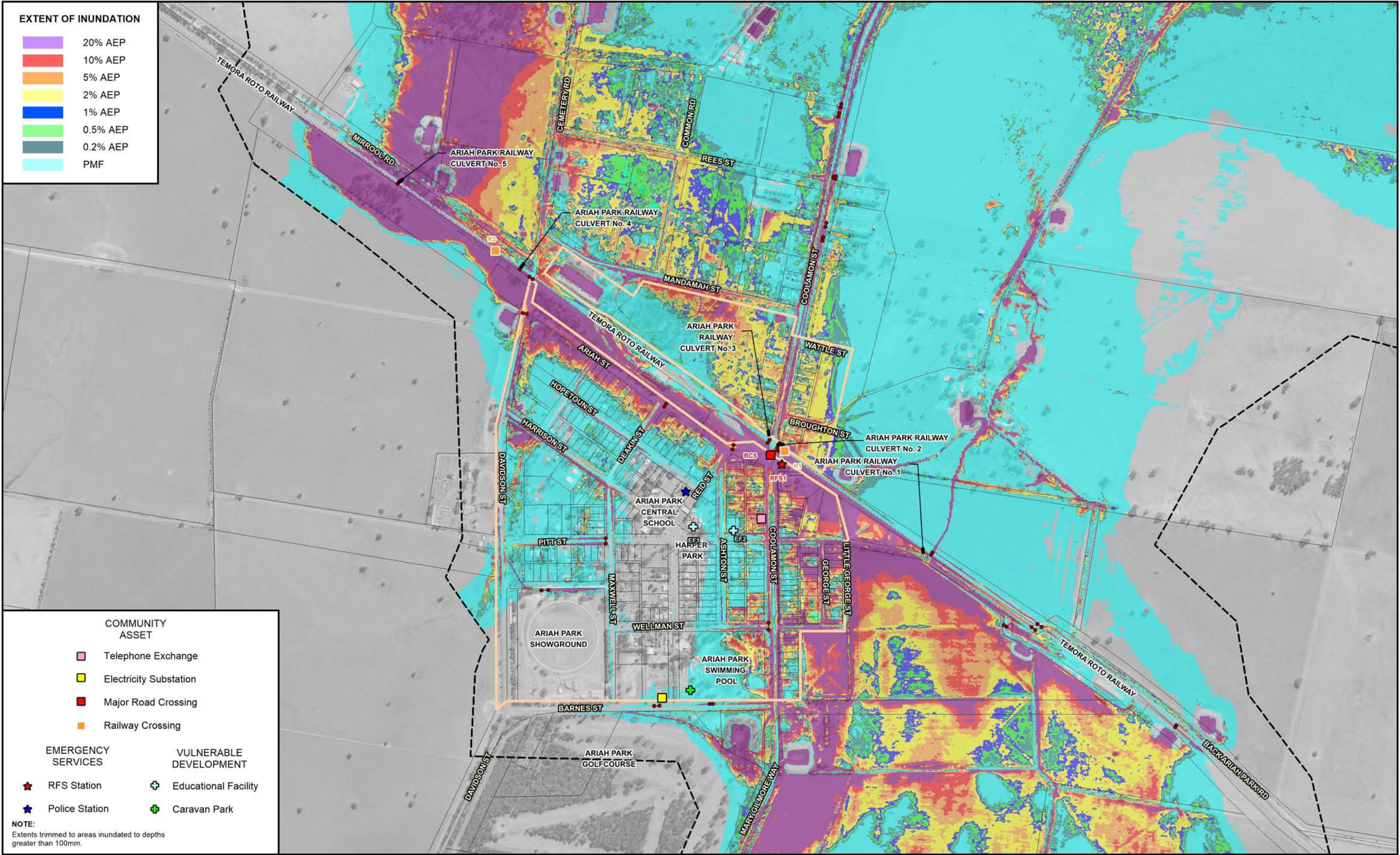


**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.8

TIME OF RISE OF FLOODWATERS AT SPRINGDALE

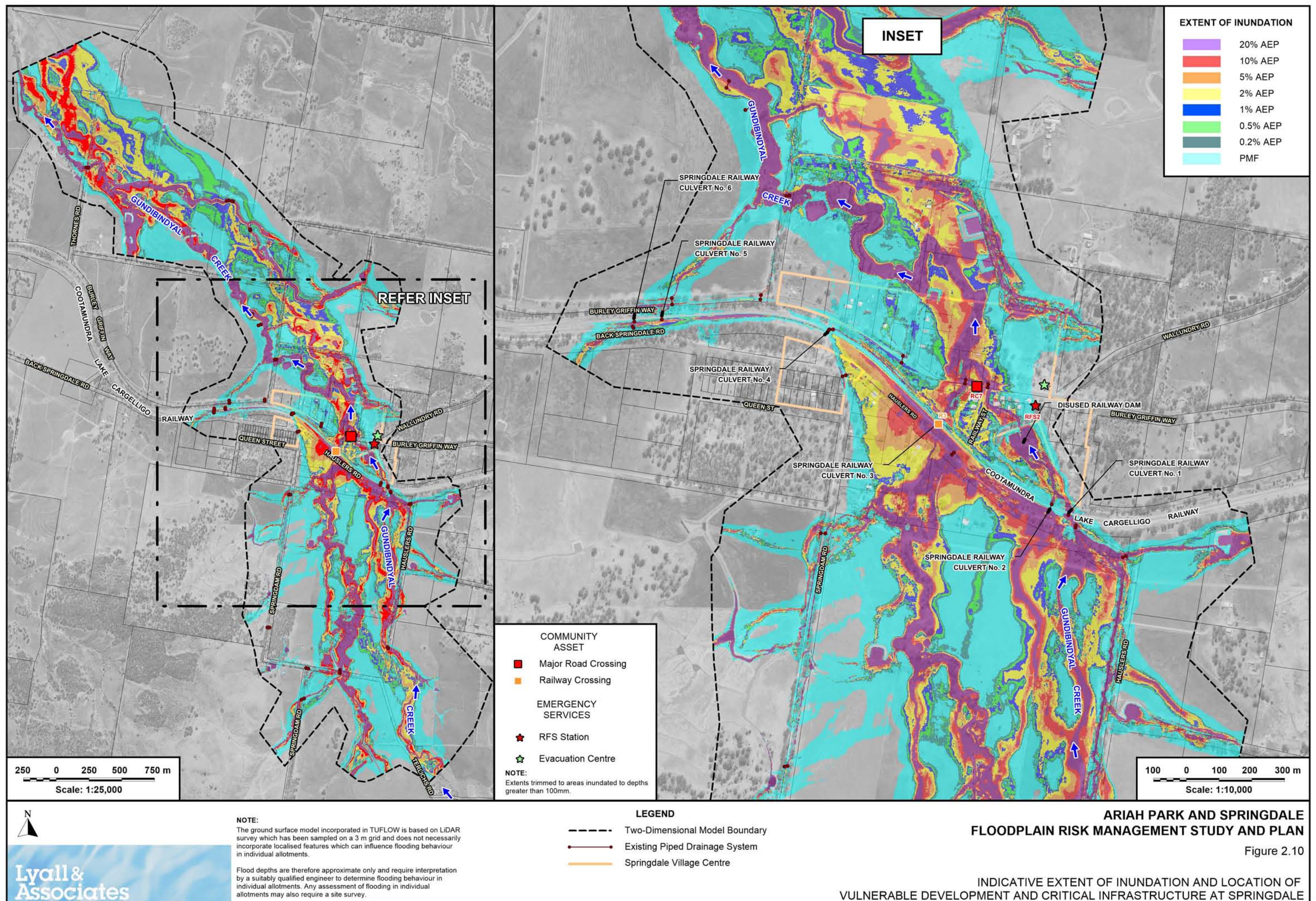


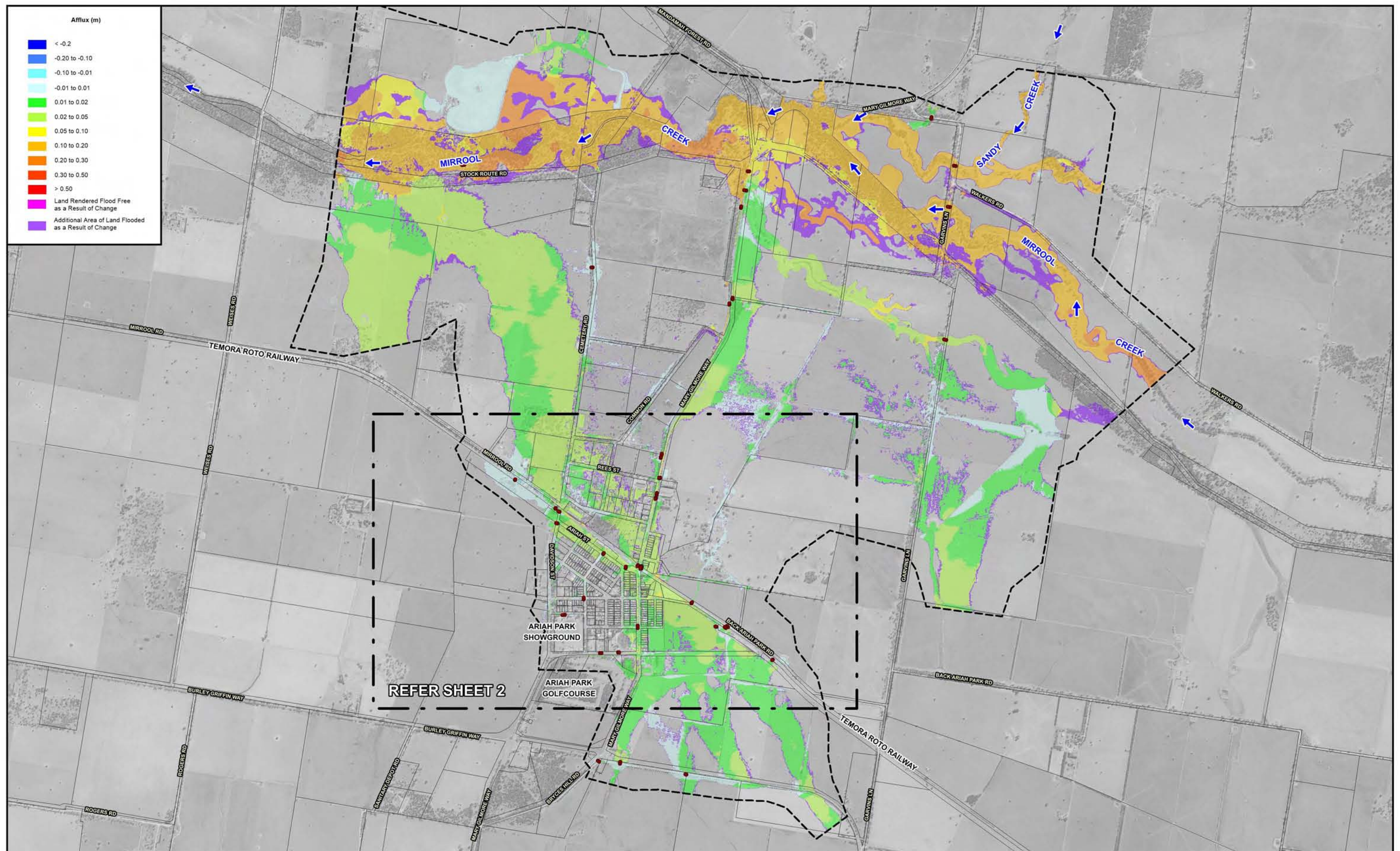


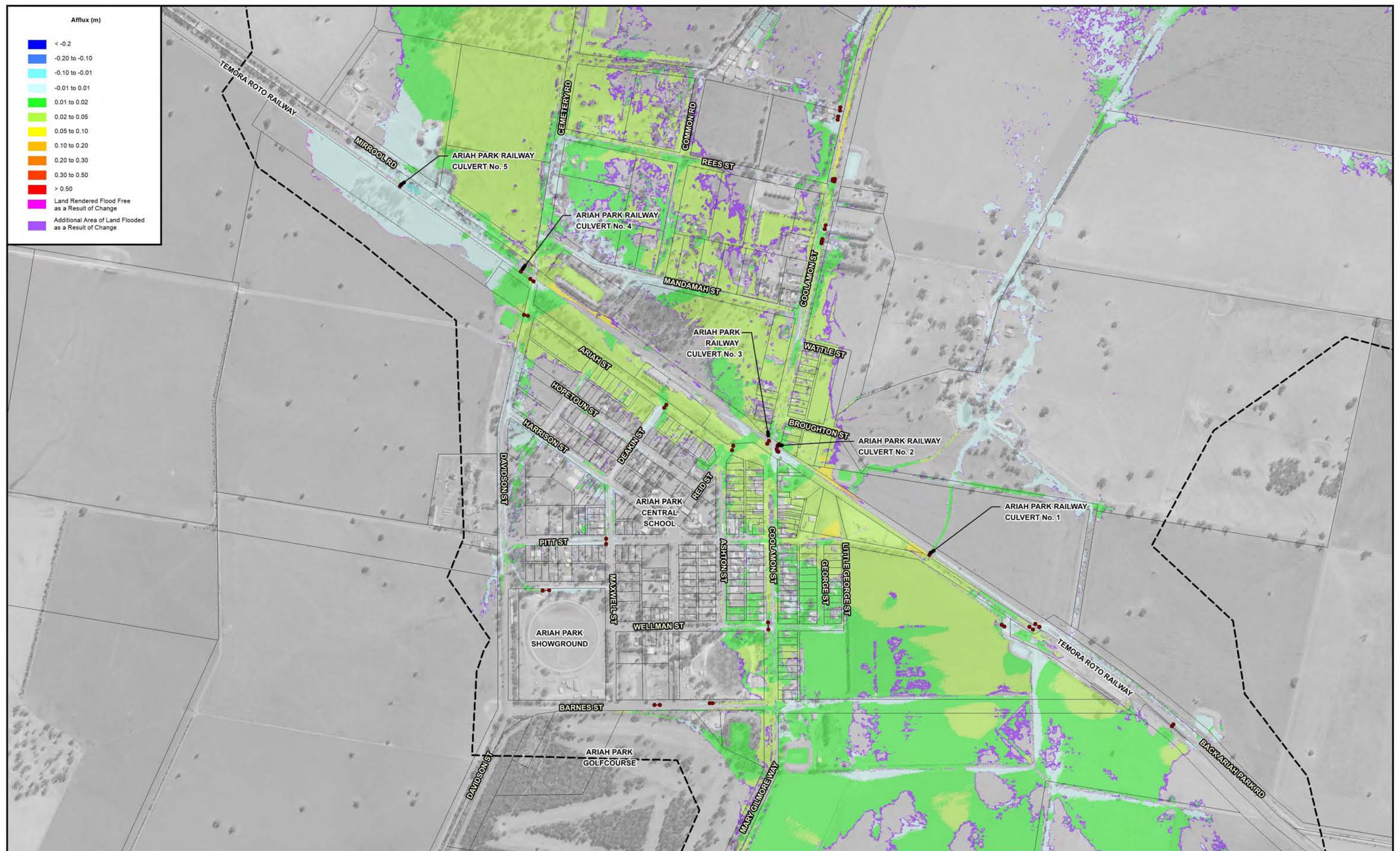
ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

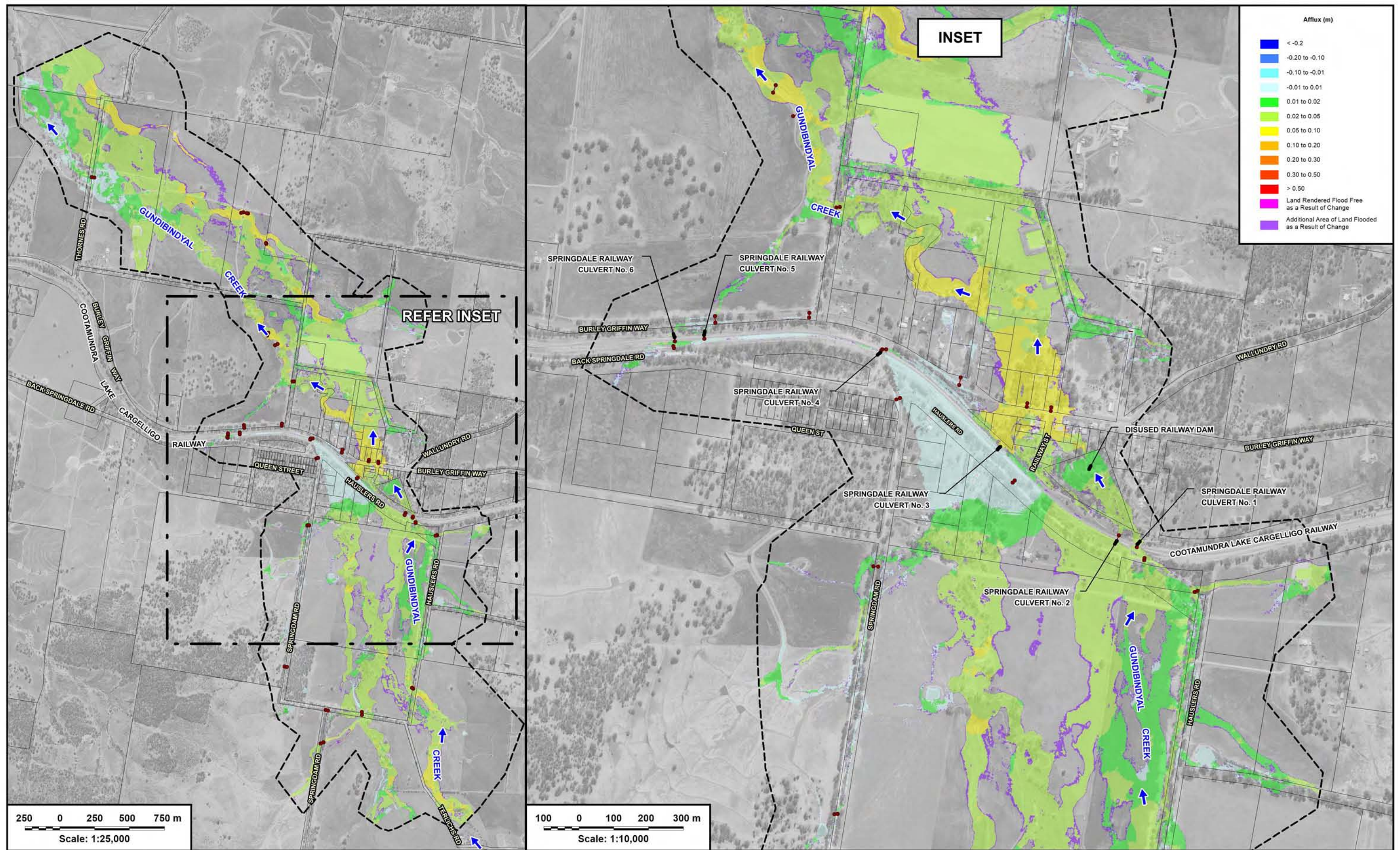
Figure 2.9
(Sheet 2 of 2)

INDICATIVE EXTENT OF INUNDATION AND LOCATION OF
VULNERABLE DEVELOPMENT AND CRITICAL INFRASTRUCTURE AT ARIA PARK



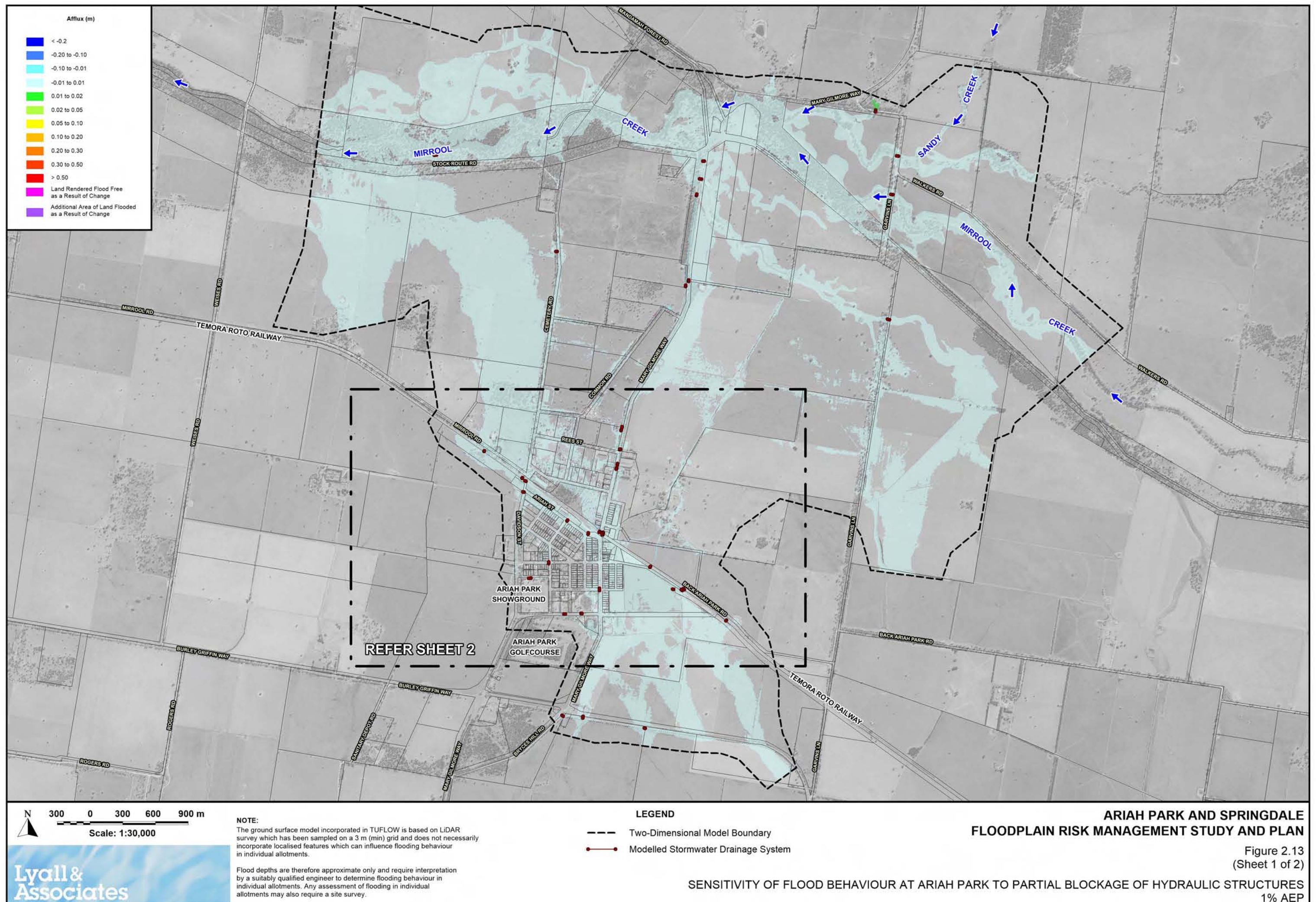


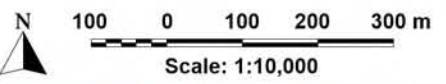




NOTE:
The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 3 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

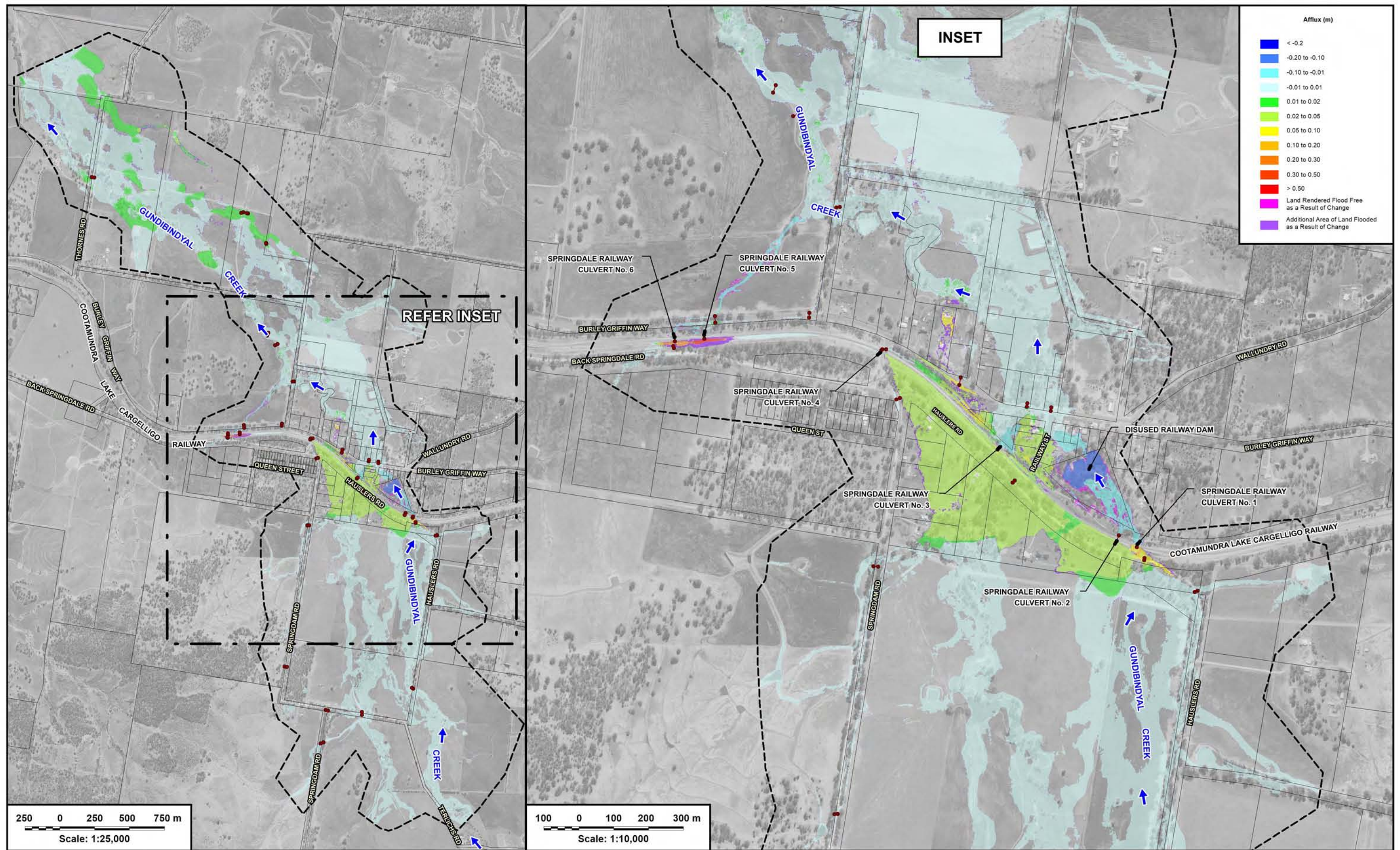




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- LEGEND**
- Two-Dimensional Model Boundary
 - Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**



NOTE:
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ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

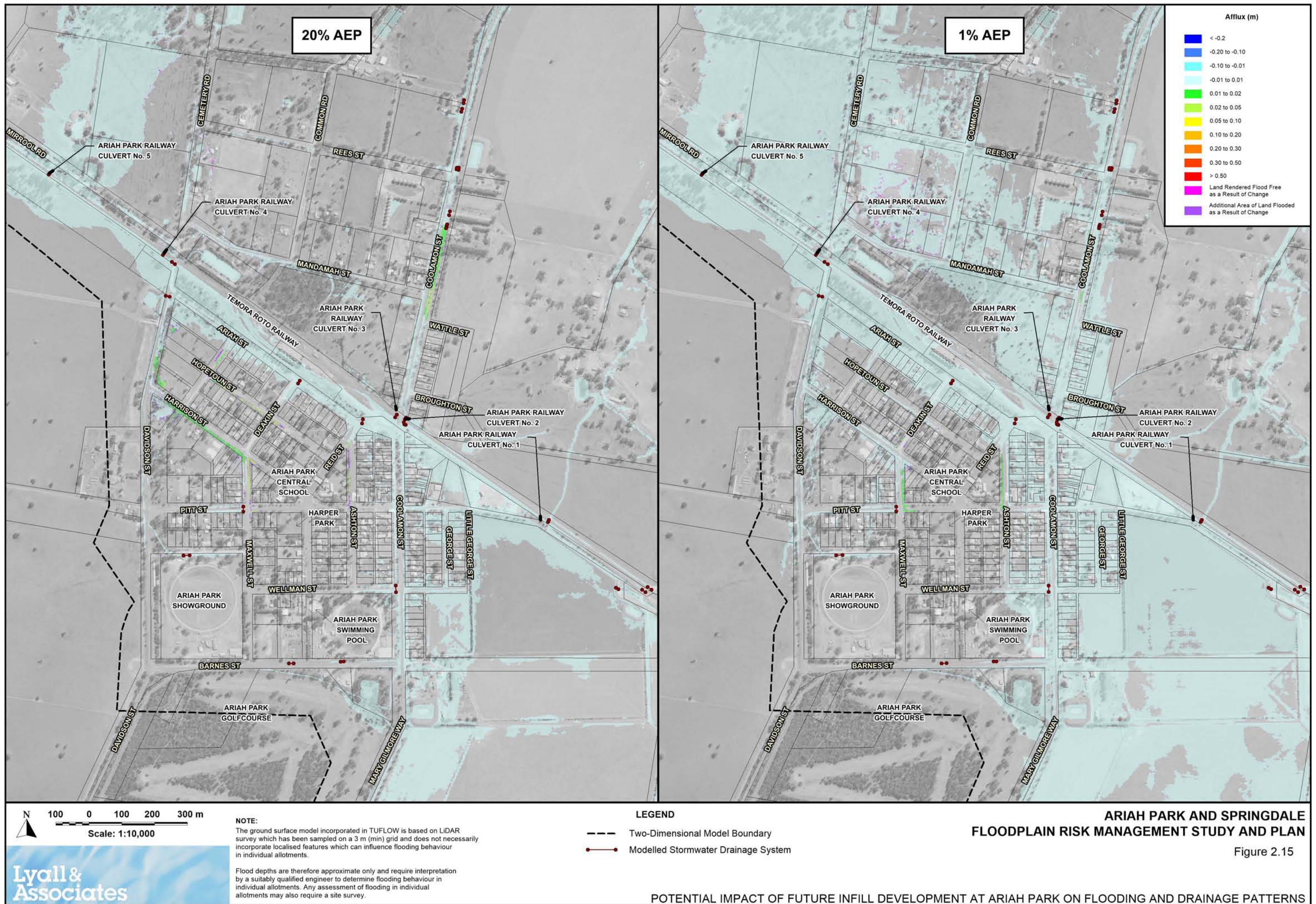
Figure 2.14

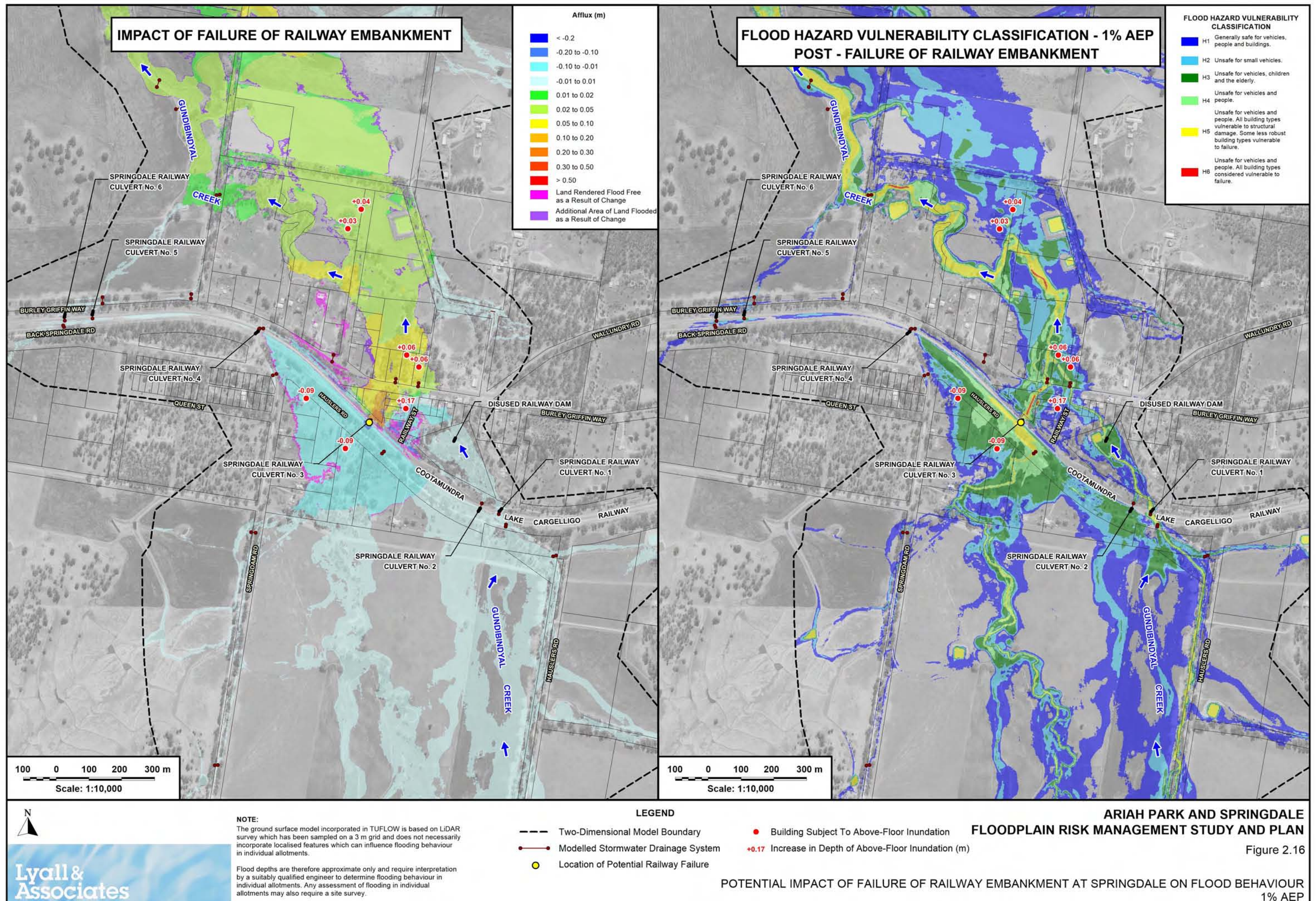
SENSITIVITY OF FLOOD BEHAVIOUR AT SPRINGDALE TO PARTIAL BLOCKAGE OF HYDRAULIC STRUCTURES

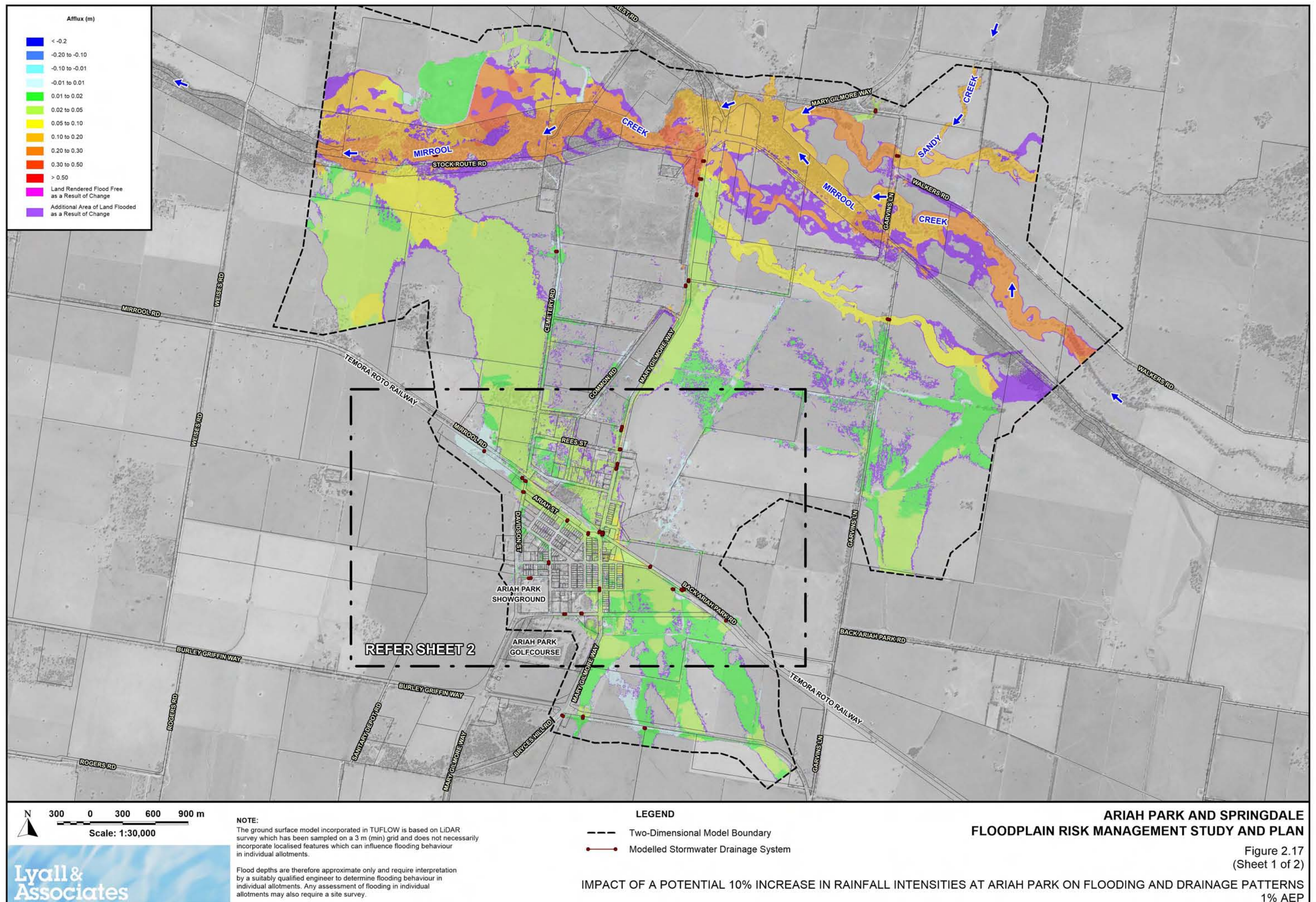
1% AEP



Lyal & Associates









N 100 0 100 200 300 m
Scale: 1:10,000

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LEGEND

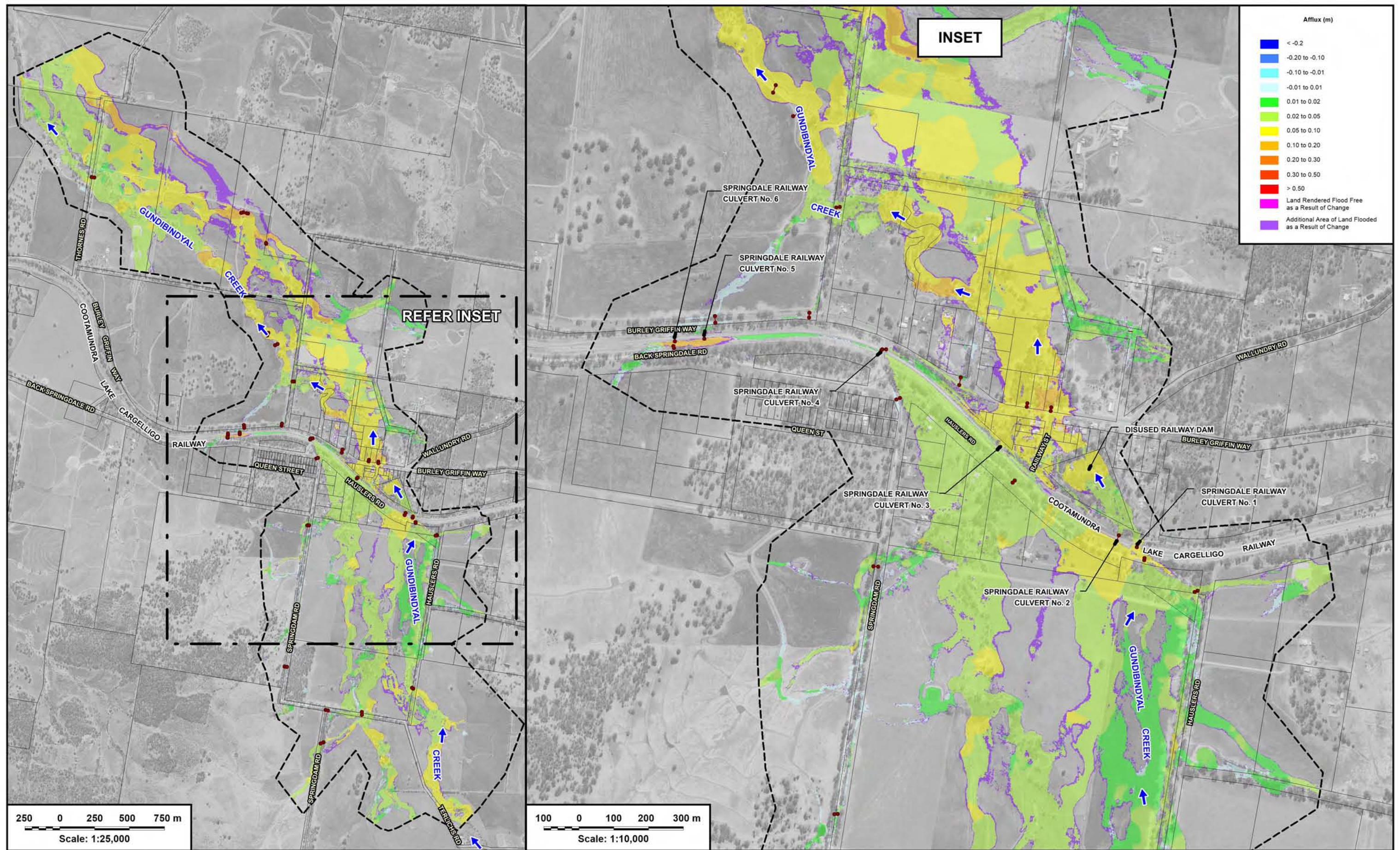
- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

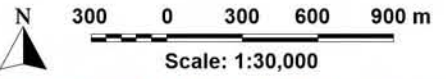
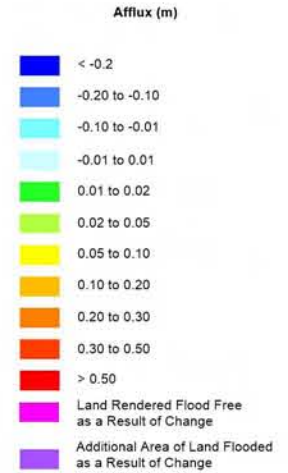
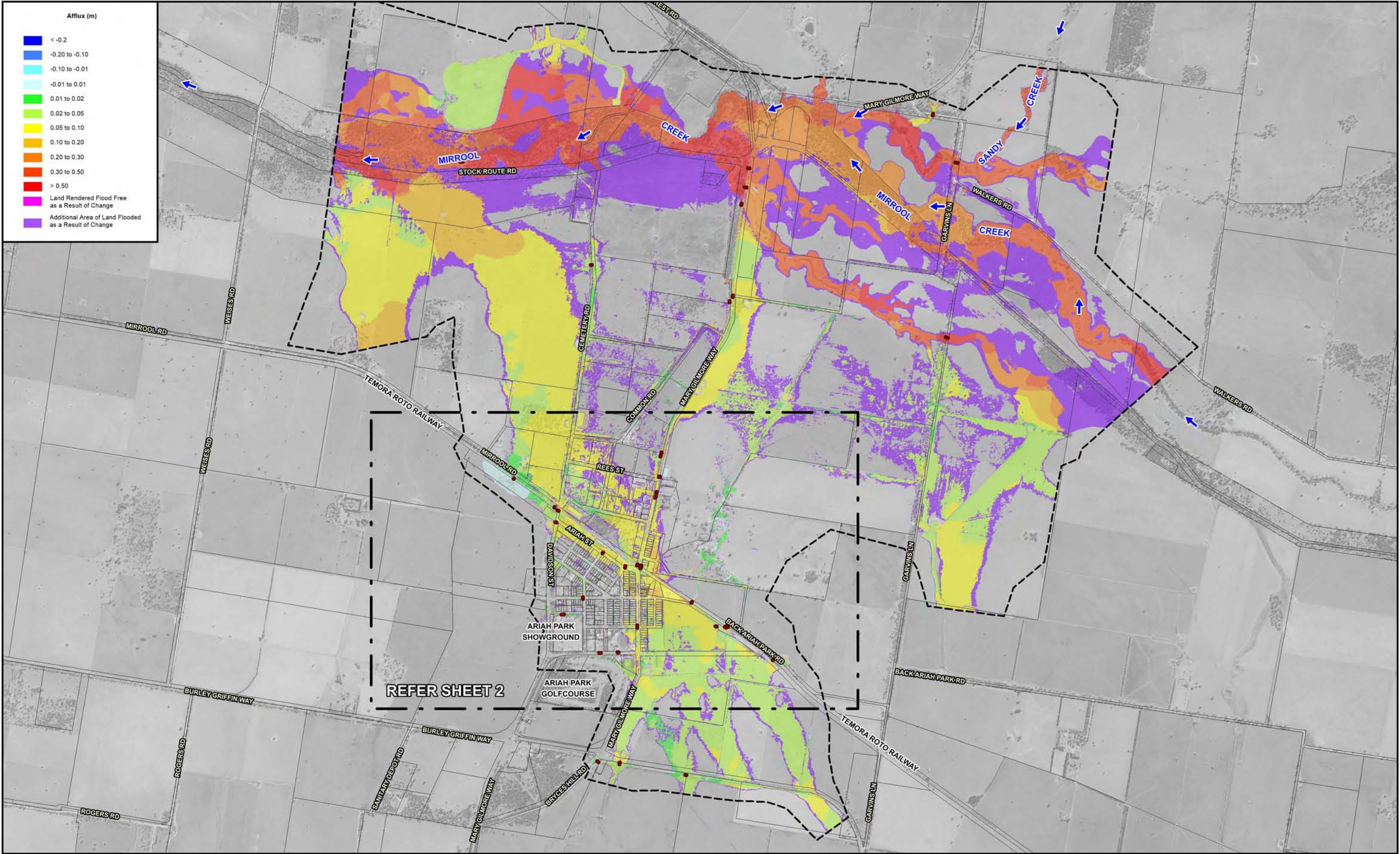
**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.17
(Sheet 2 of 2)

IMPACT OF A POTENTIAL 10% INCREASE IN RAINFALL INTENSITIES AT ARIAH PARK ON FLOODING AND DRAINAGE PATTERNS

1% AEP





NOTE:
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- LEGEND**
- Two-Dimensional Model Boundary
 - Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**



N 100 0 100 200 300 m
Scale: 1:10,000

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LEGEND

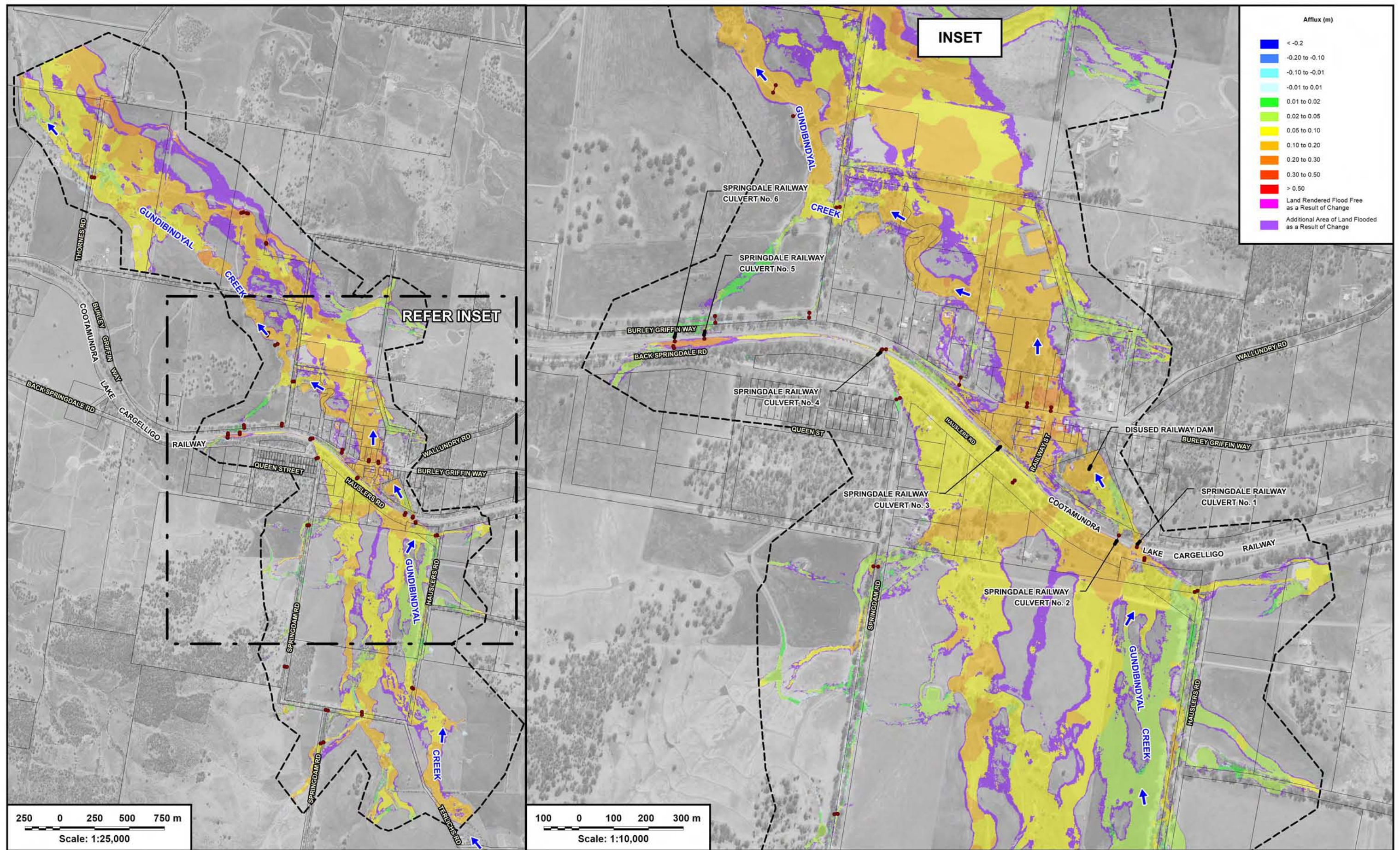
- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.19
(Sheet 2 of 2)

IMPACT OF A POTENTIAL 30% INCREASE IN RAINFALL INTENSITIES AT ARIA PARK ON FLOODING AND DRAINAGE PATTERNS

1% AEP



NOTE:
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LEGEND

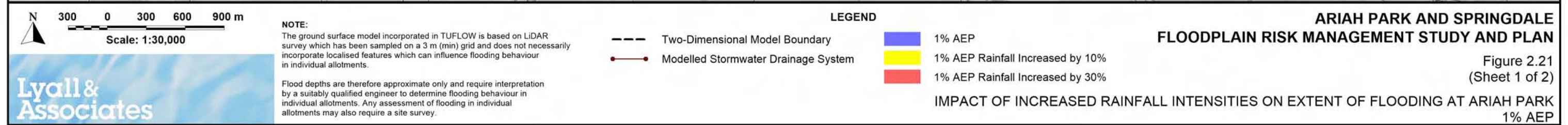
--- Two-Dimensional Model Boundary

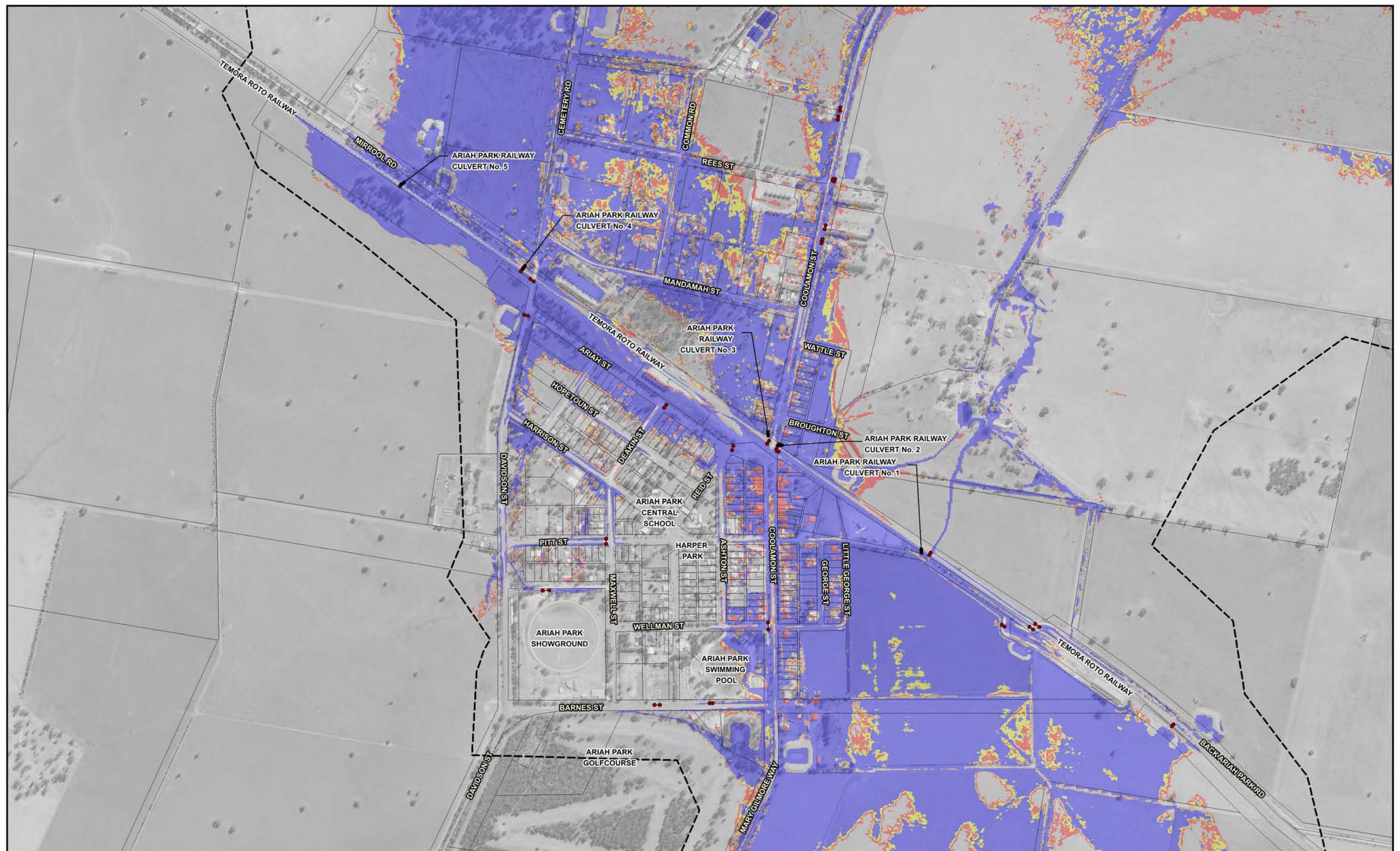
● Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.20

IMPACT OF A POTENTIAL 30% INCREASE IN RAINFALL INTENSITIES AT SPRINGDALE ON FLOODING AND DRAINAGE PATTERNS
1% AEP





N 100 0 100 200 300 m
Scale: 1:10,000

NOTE:

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LEGEND

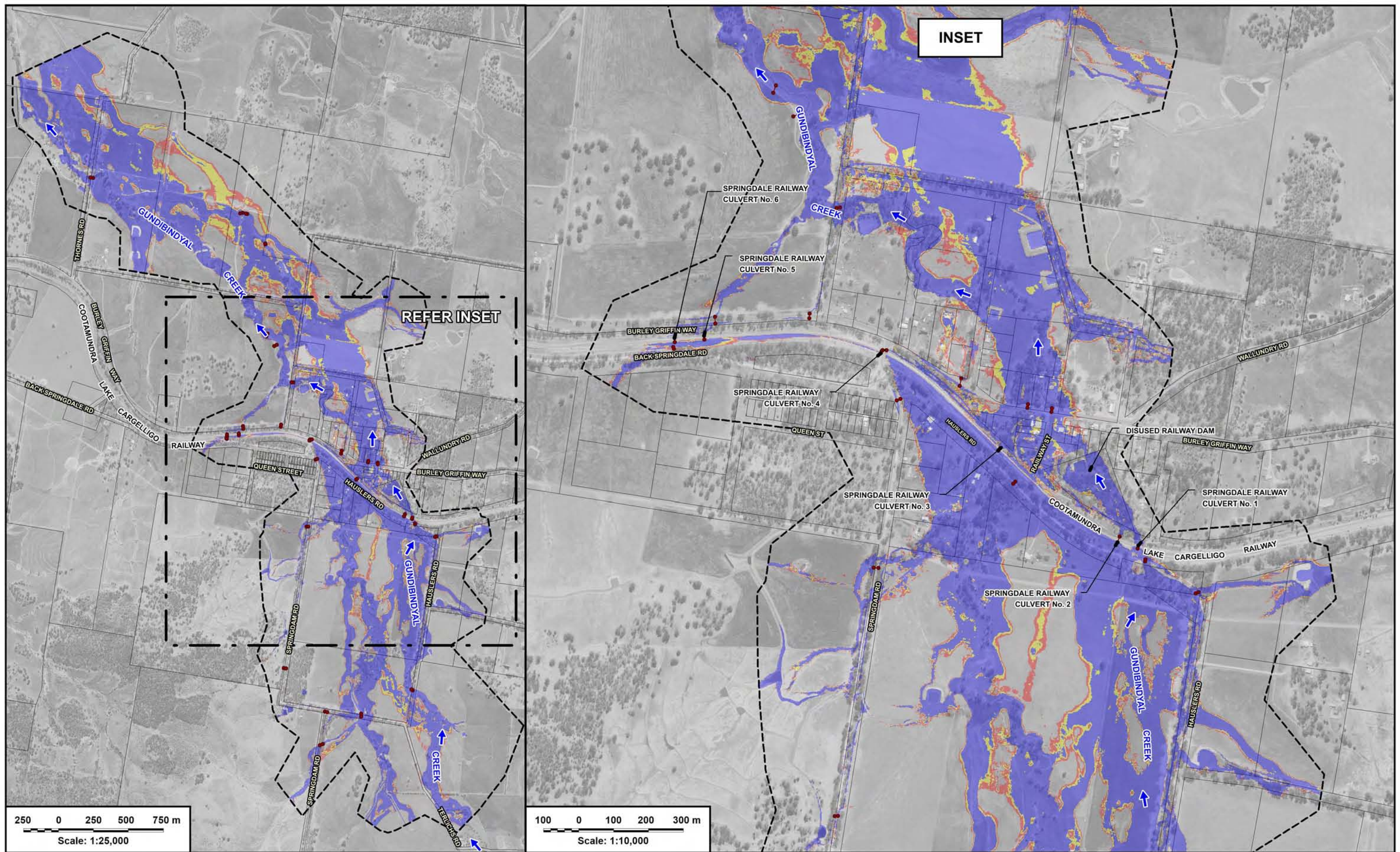
- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

- 1% AEP
- 1% AEP Rainfall Increased by 10%
- 1% AEP Rainfall Increased by 30%

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

IMPACT OF INCREASED RAINFALL INTENSITIES ON EXTENT OF FLOODING AT ARIA PARK
1% AEP

Figure 2.21
(Sheet 2 of 2)



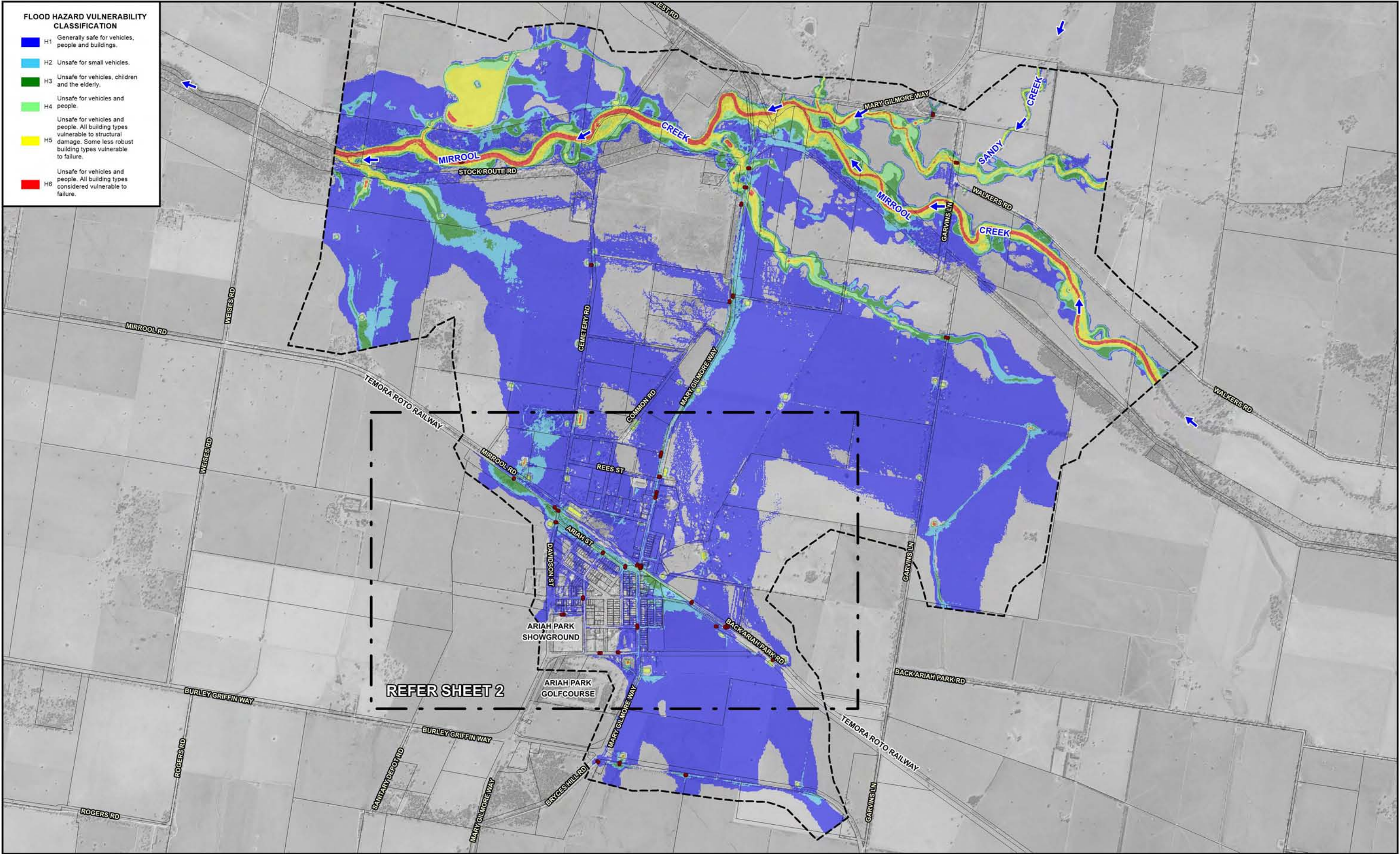
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FLOOD HAZARD VULNERABILITY CLASSIFICATION

- H1 Generally safe for vehicles, people and 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 building types 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.

Scale: 1:30,000

NOTE:
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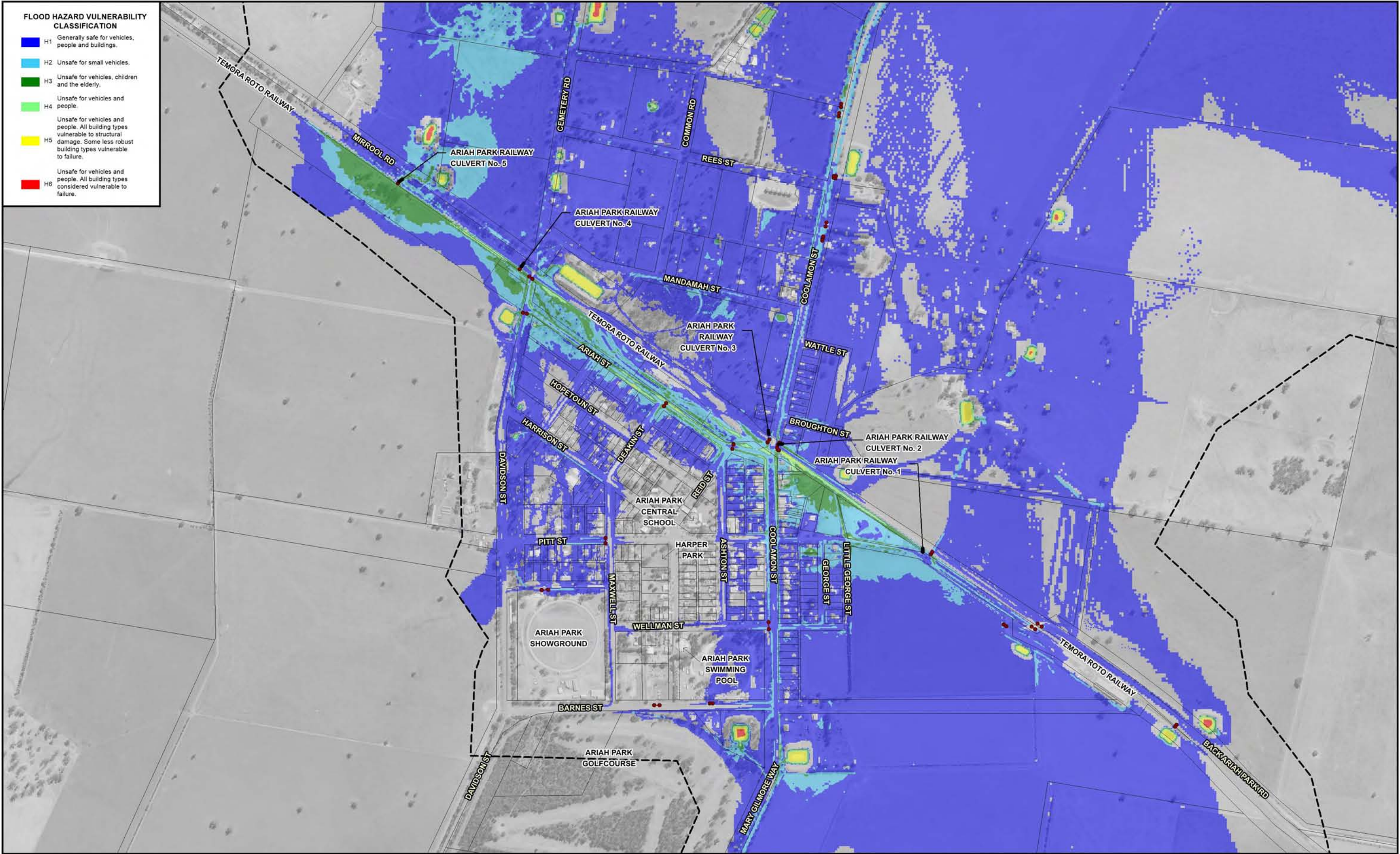
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.23
(Sheet 1 of 2)

FLOOD HAZARD VULNERABILITY CLASSIFICATION AT ARIA PARK
1% AEP



- FLOOD HAZARD VULNERABILITY CLASSIFICATION**
- H1 Generally safe for vehicles, people and 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 building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
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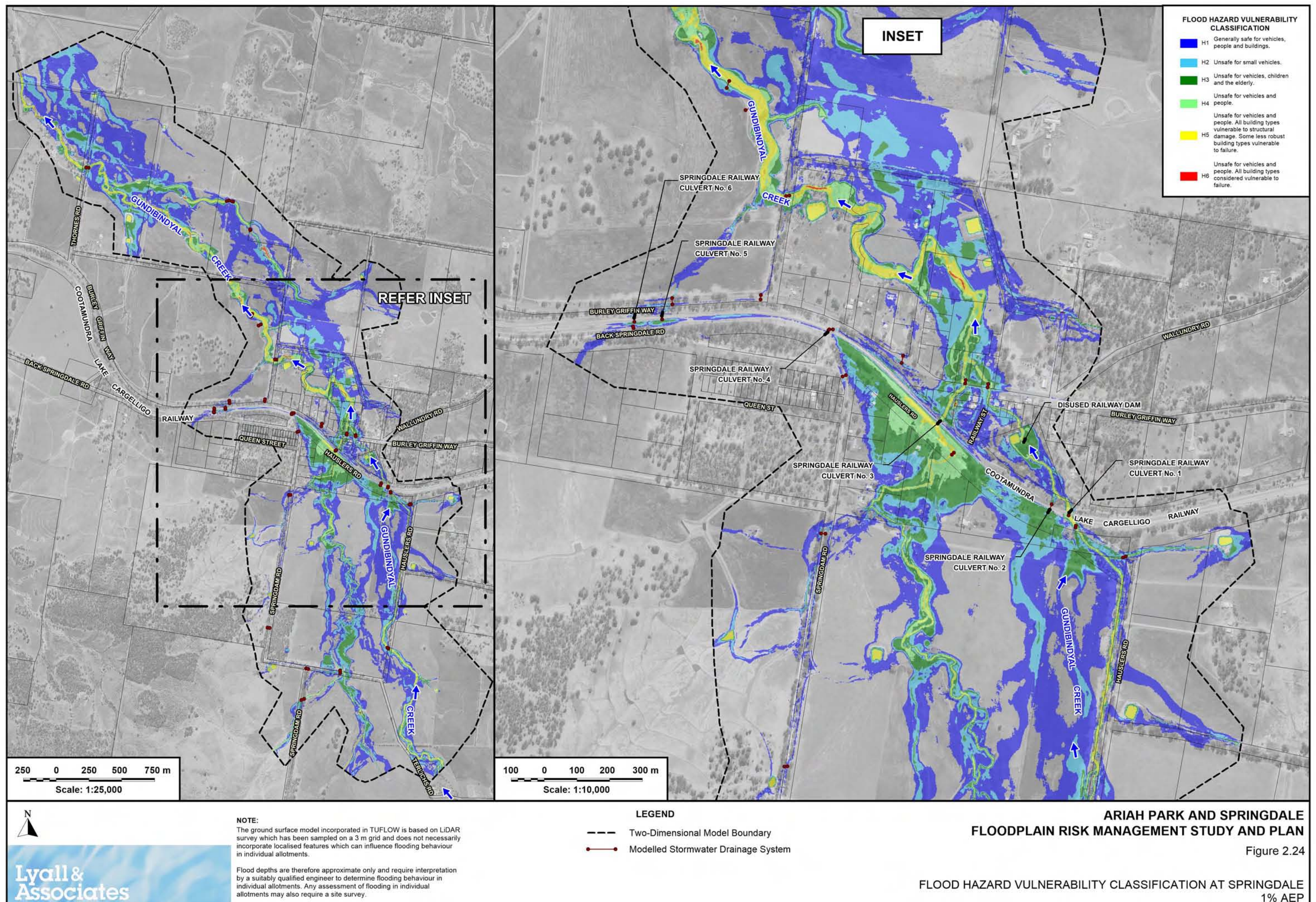
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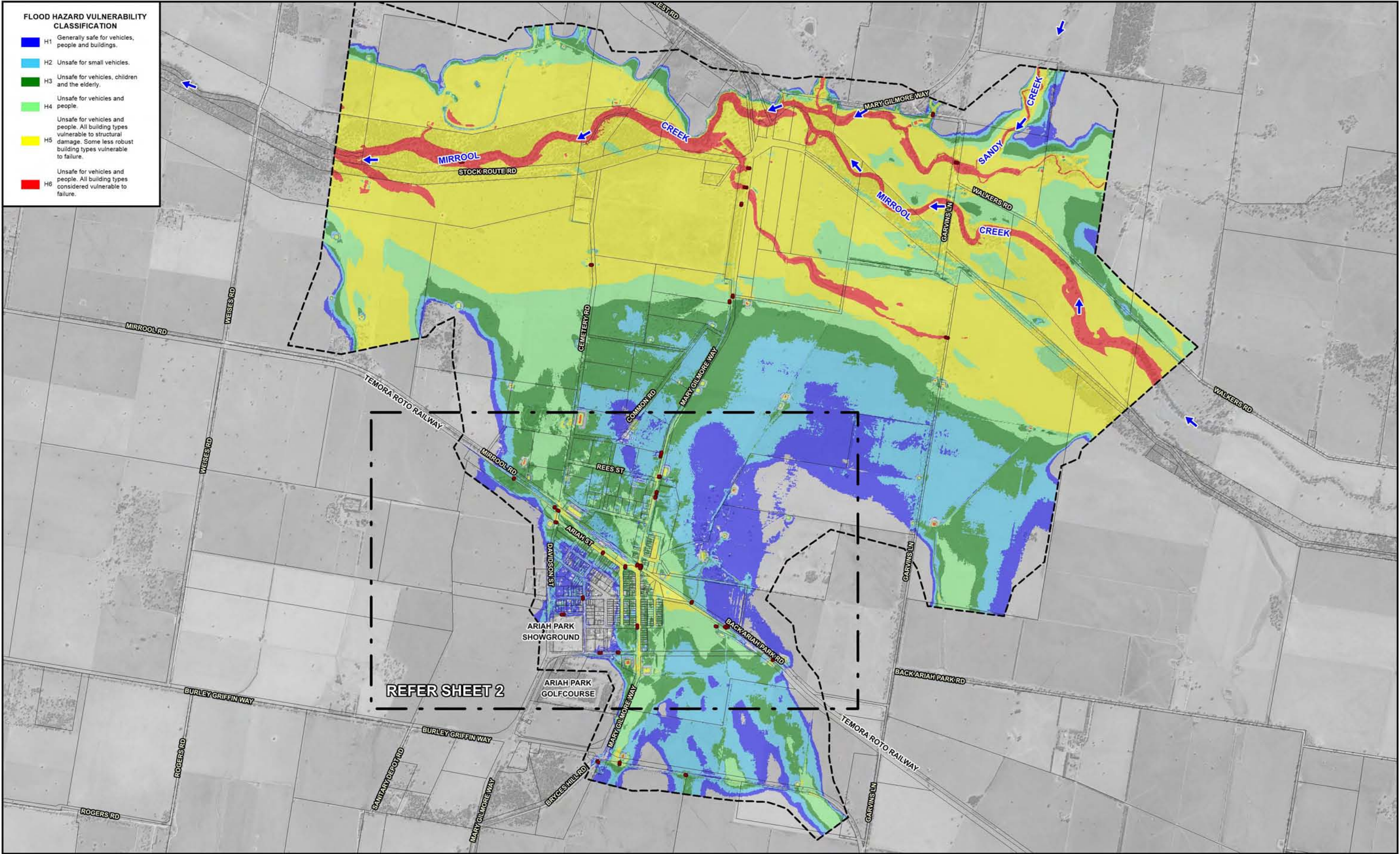
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- LEGEND**
- Two-Dimensional Model Boundary
 - Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.23
(Sheet 2 of 2)
FLOOD HAZARD VULNERABILITY CLASSIFICATION AT ARIA PARK
1% AEP





FLOOD HAZARD VULNERABILITY CLASSIFICATION

- H1 Generally safe for vehicles, people and 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 building types 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.

Scale: 1:30,000

NOTE:
The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 3 m (min) grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation by a suitably qualified engineer to determine flooding behaviour in individual allotments. Any assessment of flooding in individual allotments may also require a site survey.

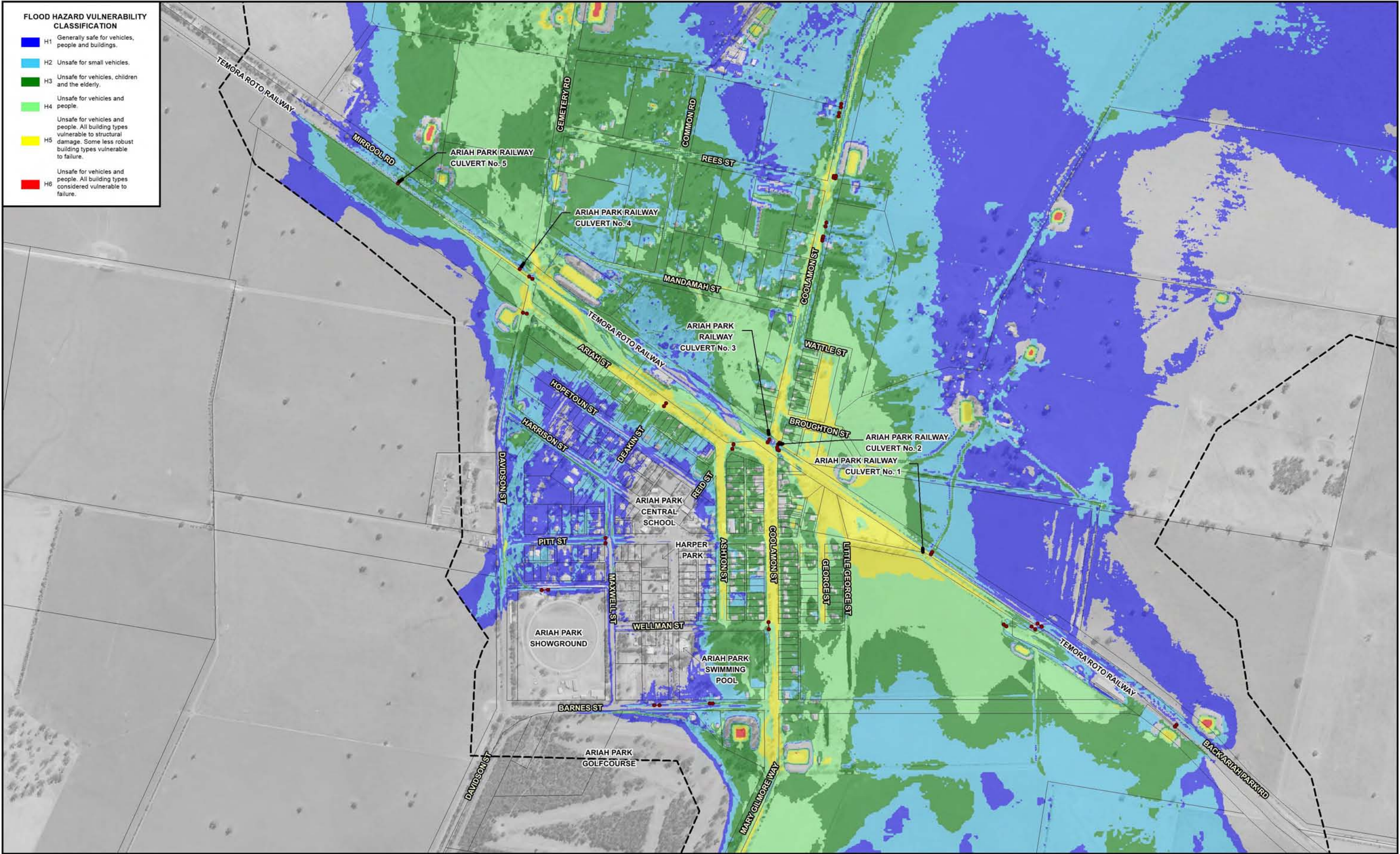
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.25
(Sheet 1 of 2)

FLOOD HAZARD VULNERABILITY CLASSIFICATION AT ARIA PARK
PMF



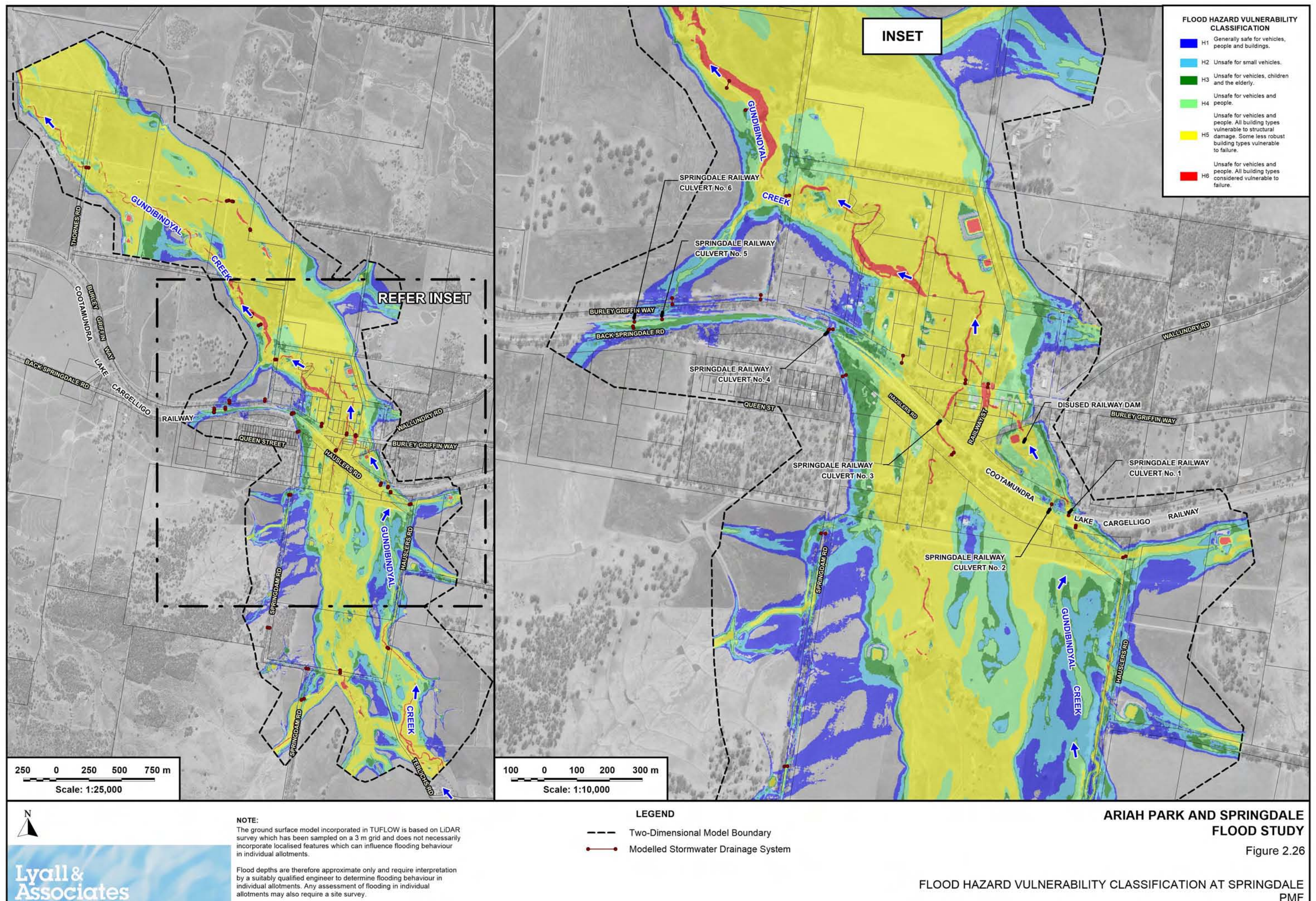
- FLOOD HAZARD VULNERABILITY CLASSIFICATION**
- H1 Generally safe for vehicles, people and buildings.
 - H2 Unsafe for small vehicles.
 - H3 Unsafe for vehicles, children and the elderly.
 - H4 Unsafe for vehicles and people.
 - H5 Unsafe for vehicles and people. All building types vulnerable to structural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

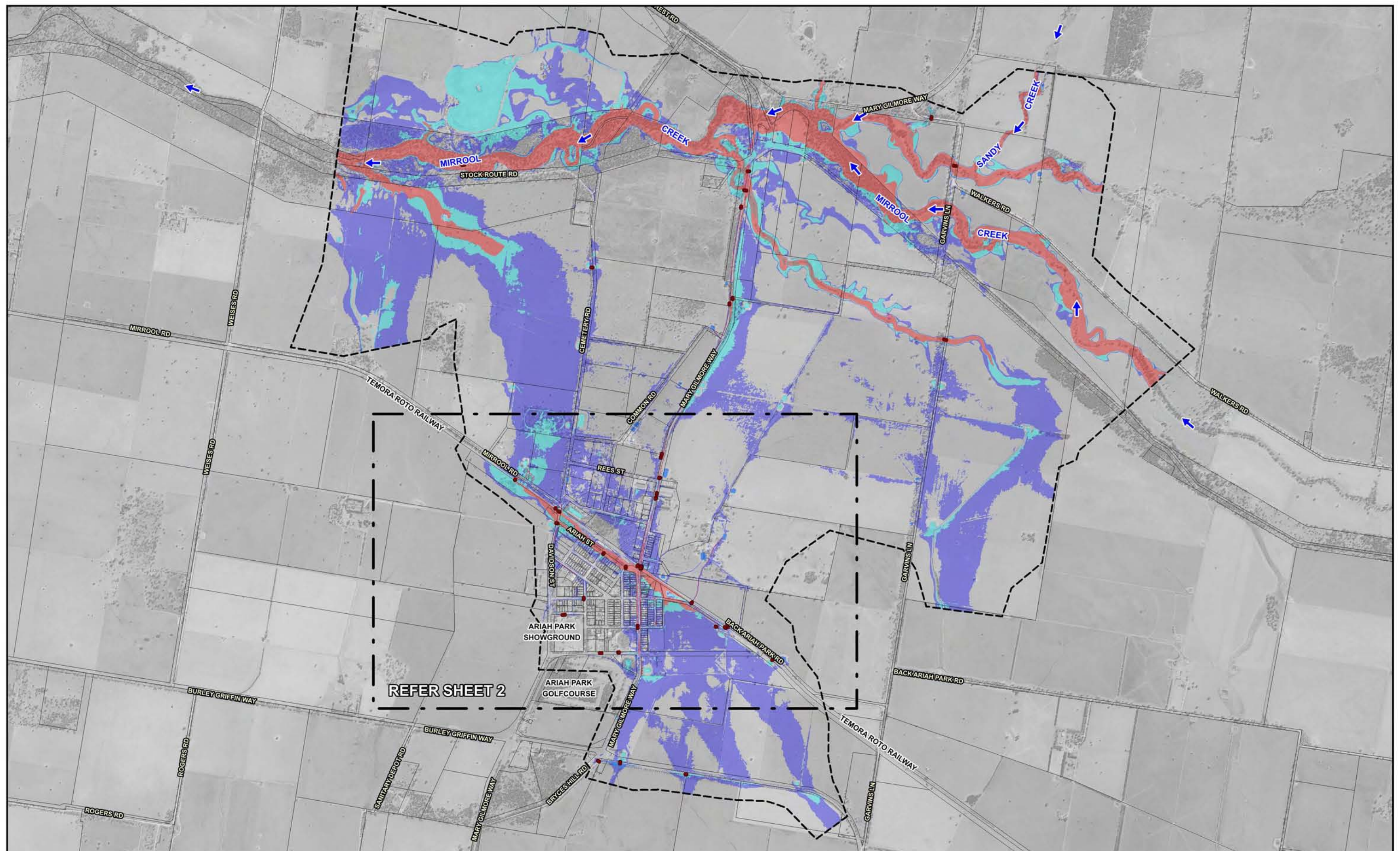
N 100 0 100 200 300 m
Scale: 1:10,000

NOTE:
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- LEGEND**
- Two-Dimensional Model Boundary
 - Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**





N
300 0 300 600 900 m
Scale: 1:30,000

NOTE:
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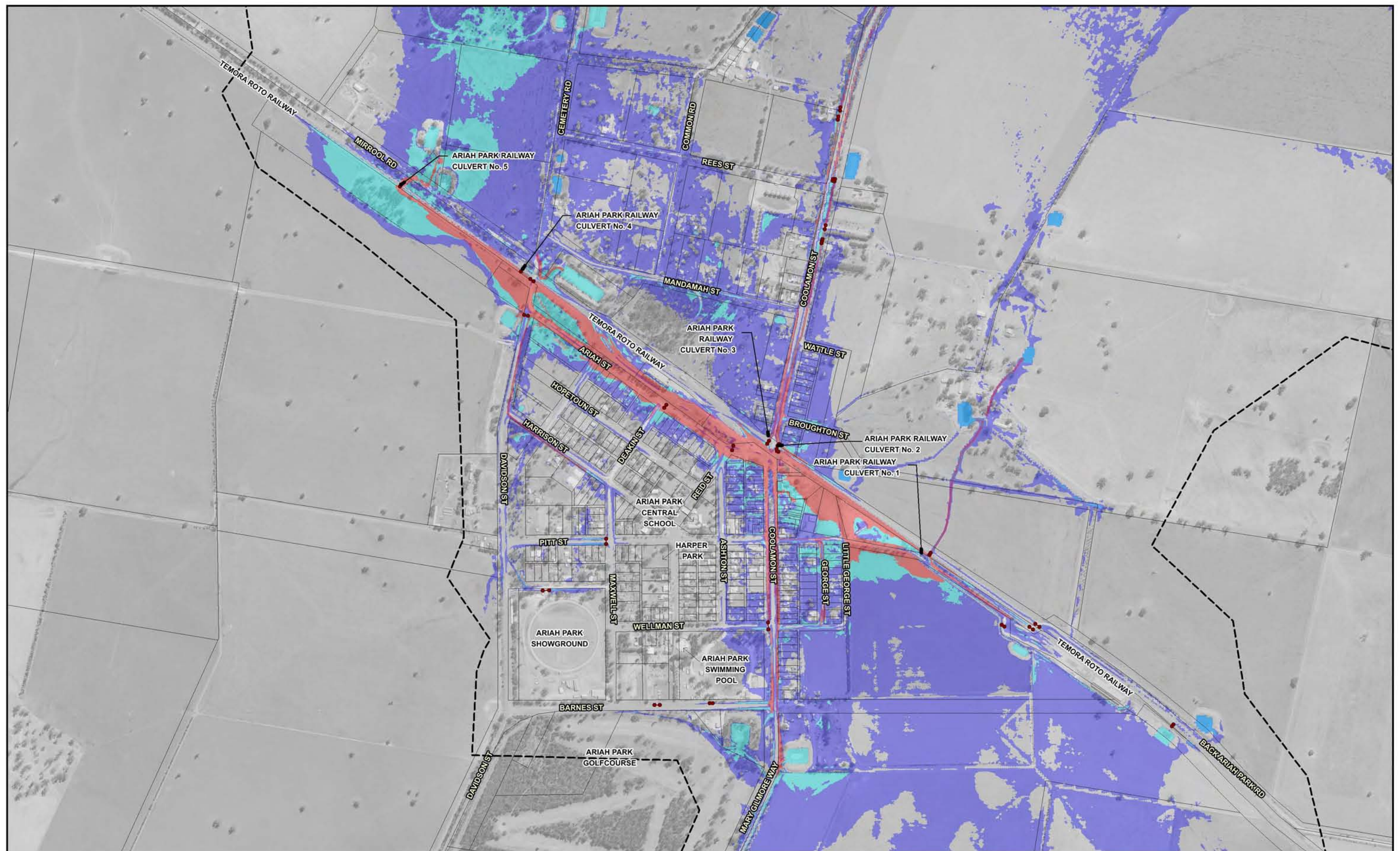
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

- Floodway
- Flood Storage
- Flood Fringe

ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Figure 2.27
(Sheet 1 of 2)
HYDRAULIC CATEGORISATION OF FLOODPLAIN AT ARIA PARK
1% AEP



N
100 0 100 200 300 m
Scale: 1:10,000

NOTE:
The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 3 m (min) grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

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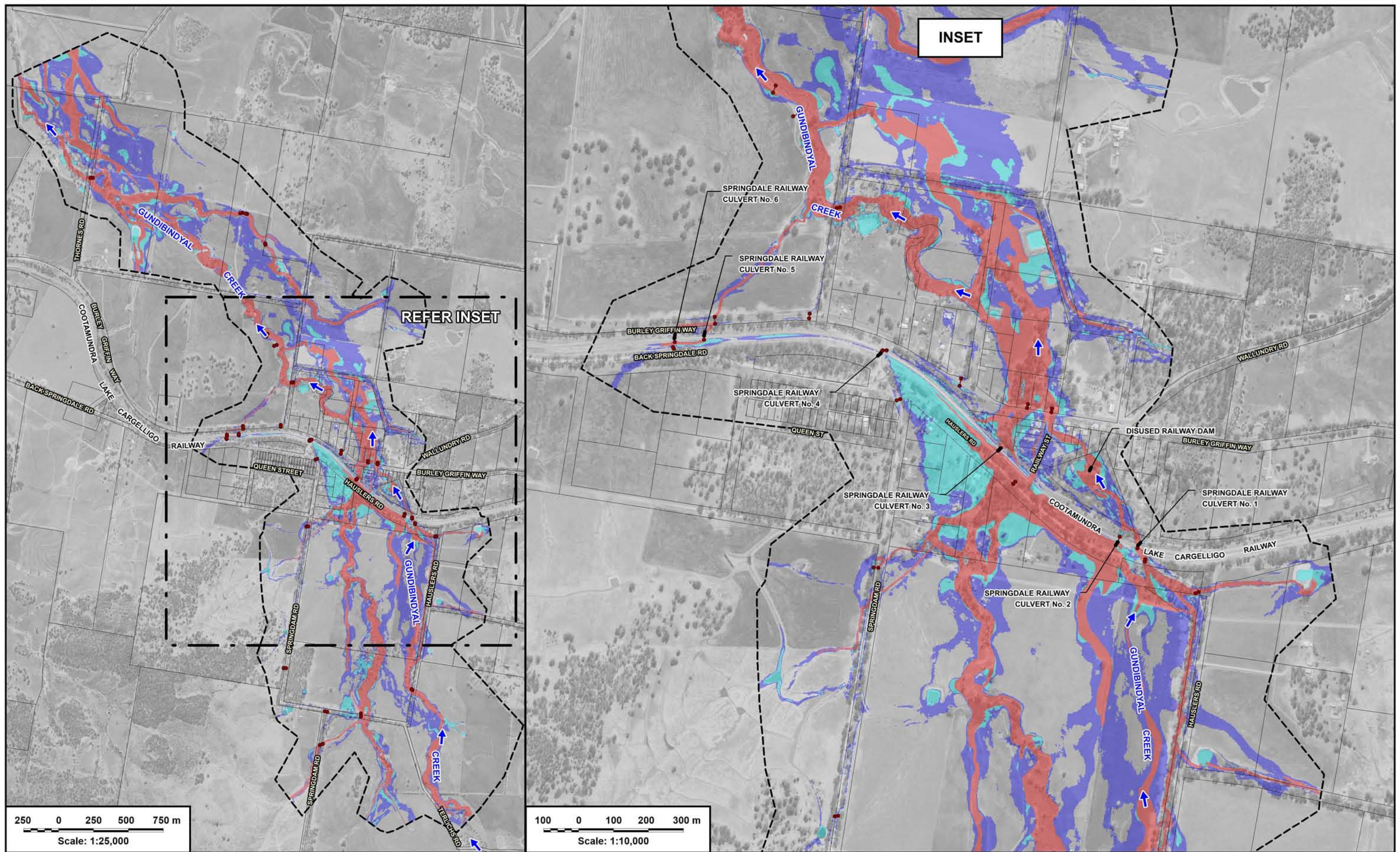
--- Two-Dimensional Model Boundary
●●● Modelled Stormwater Drainage System

LEGEND

Red Floodway
Cyan Flood Storage
Blue Flood Fringe

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.27
(Sheet 2 of 2)
**HYDRAULIC CATEGORISATION OF FLOODPLAIN AT ARIA PARK
1% AEP**



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NOTE:

The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 3 m grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

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LEGEND

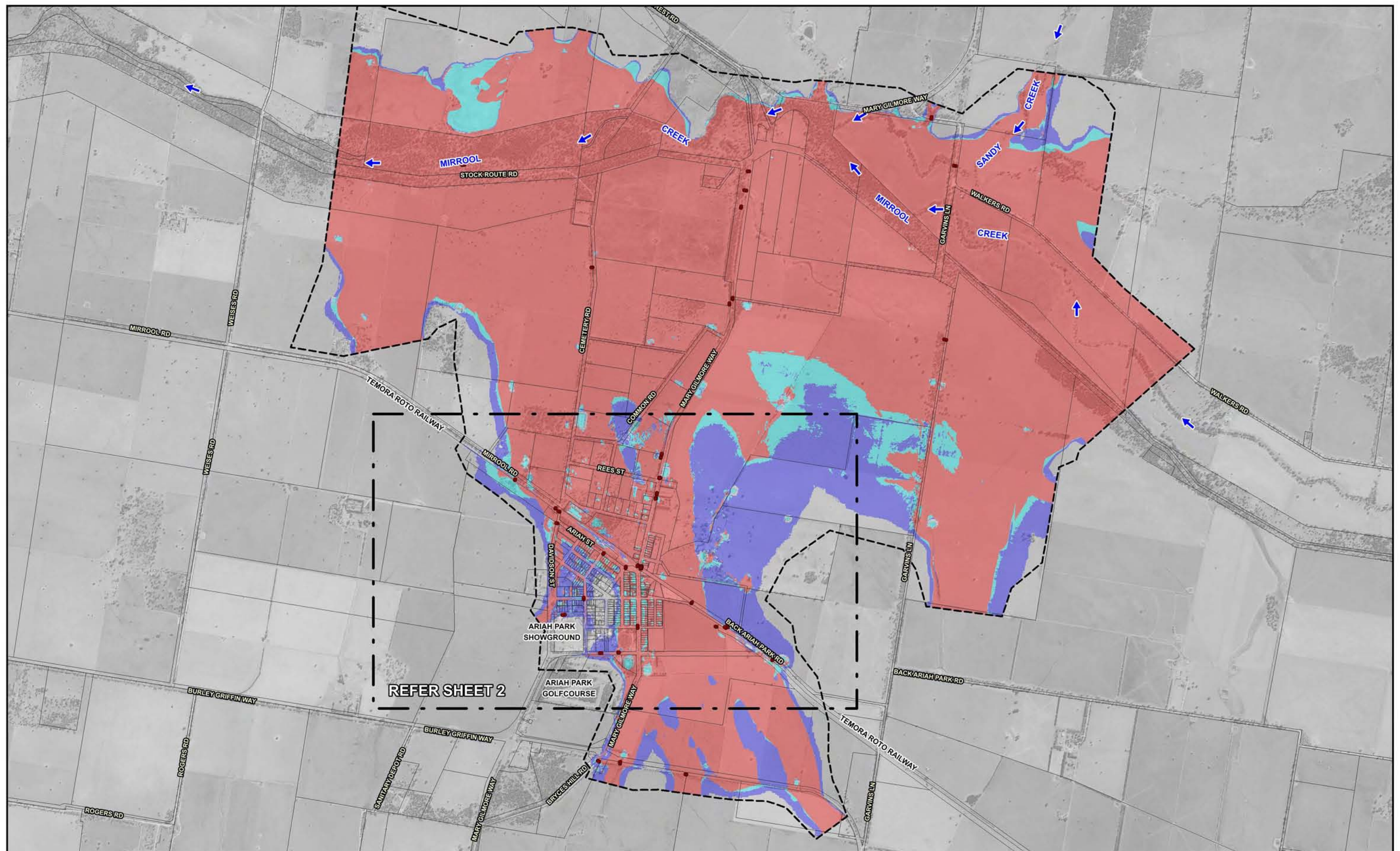
- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

- Floodway
- Flood Storage
- Flood Fringe

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.28

HYDRAULIC CATEGORISATION OF FLOODPLAIN AT SPRINGDALE
1% AEP



N
300 0 300 600 900 m
Scale: 1:30,000

NOTE:
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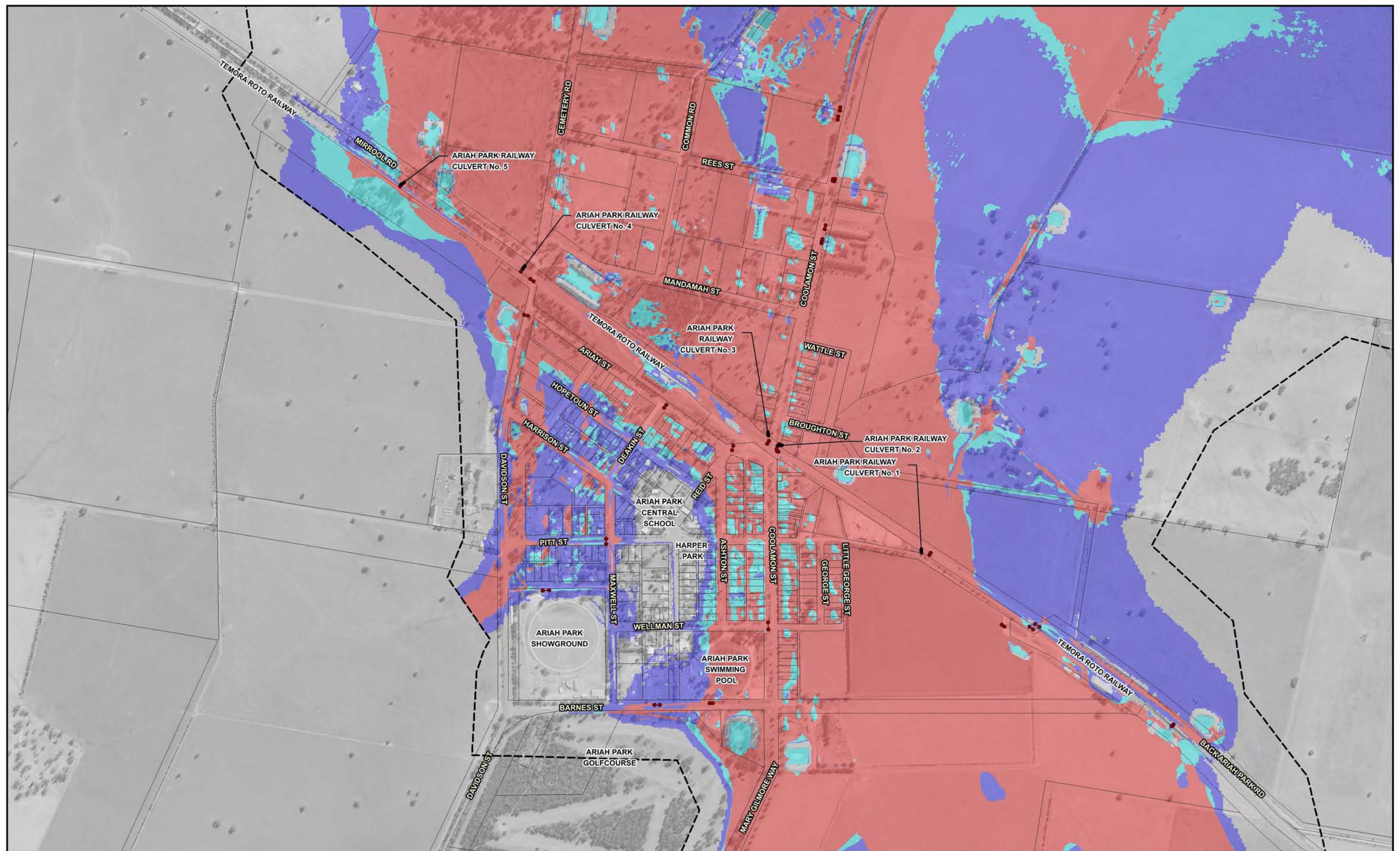
--- Two-Dimensional Model Boundary
●●● Modelled Stormwater Drainage System

LEGEND

Red Floodway
Cyan Flood Storage
Blue Flood Fringe

ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Figure 2.29
(Sheet 1 of 2)
HYDRAULIC CATEGORISATION OF FLOODPLAIN AT ARIA PARK
PMF



N
100 0 100 200 300 m
Scale: 1:10,000

NOTE:
The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 3 m (min) grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.

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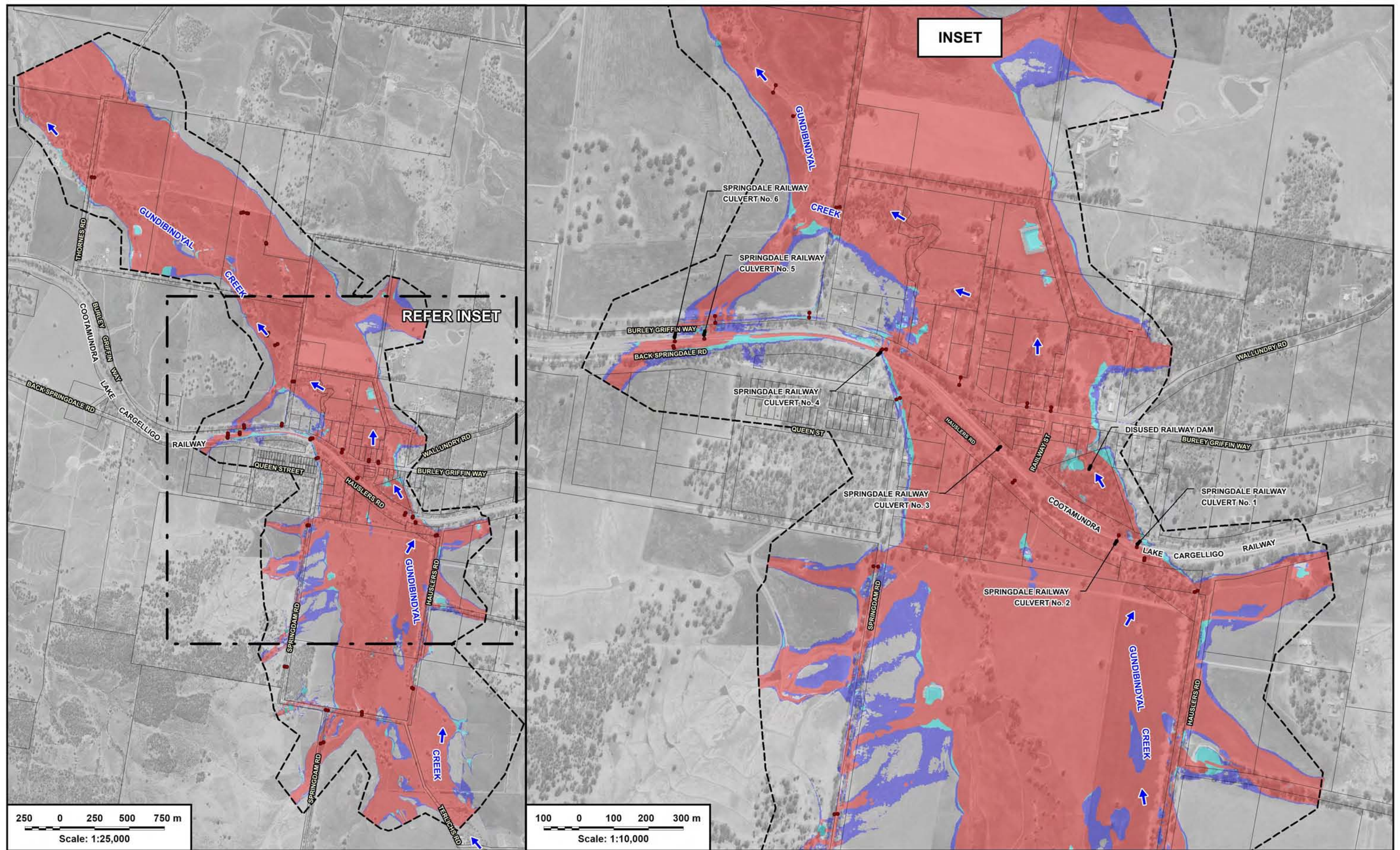
--- Two-Dimensional Model Boundary
●●● Modelled Stormwater Drainage System

LEGEND

Red Floodway
Cyan Flood Storage
Blue Flood Fringe

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.29
(Sheet 2 of 2)
HYDRAULIC CATEGORISATION OF FLOODPLAIN AT ARIA PARK
PMF



Lyall & Associates

NOTE:
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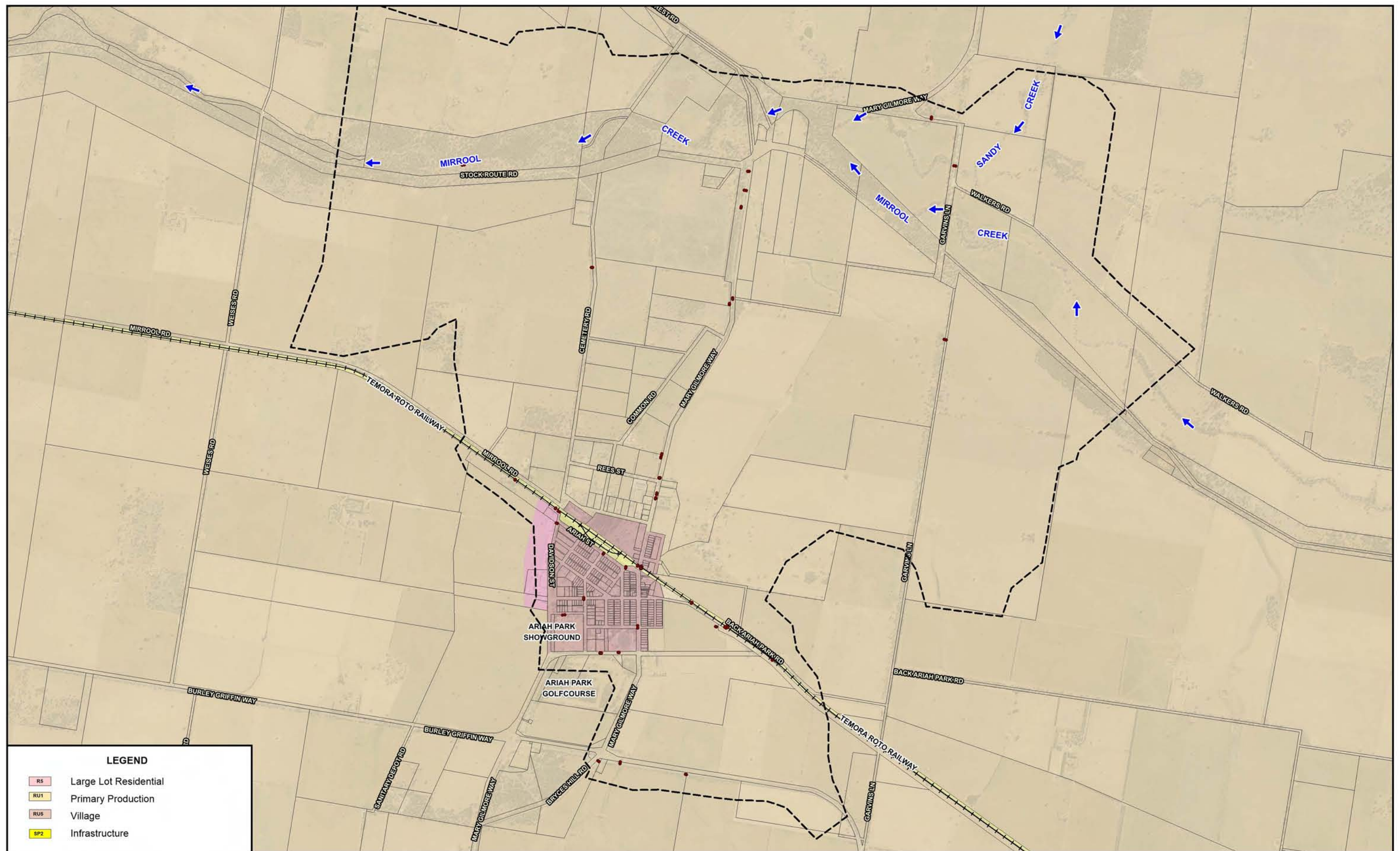
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System
- Floodway
- Flood Storage
- Flood Fringe

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure 2.30

HYDRAULIC CATEGORISATION OF FLOODPLAIN AT SPRINGDALE PMF



LEGEND

- R5 Large Lot Residential
- RU1 Primary Production
- RU5 Village
- SP2 Infrastructure

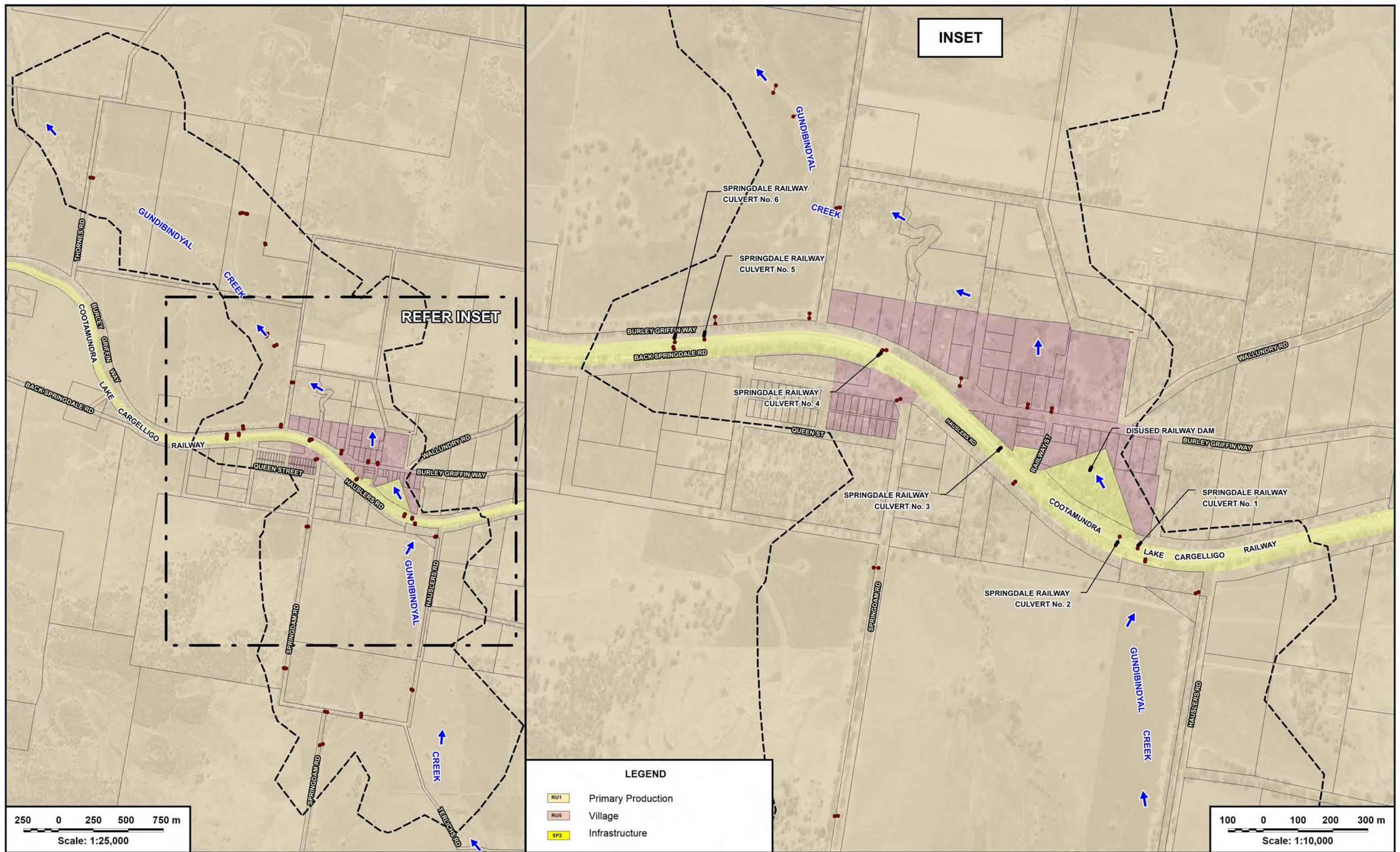
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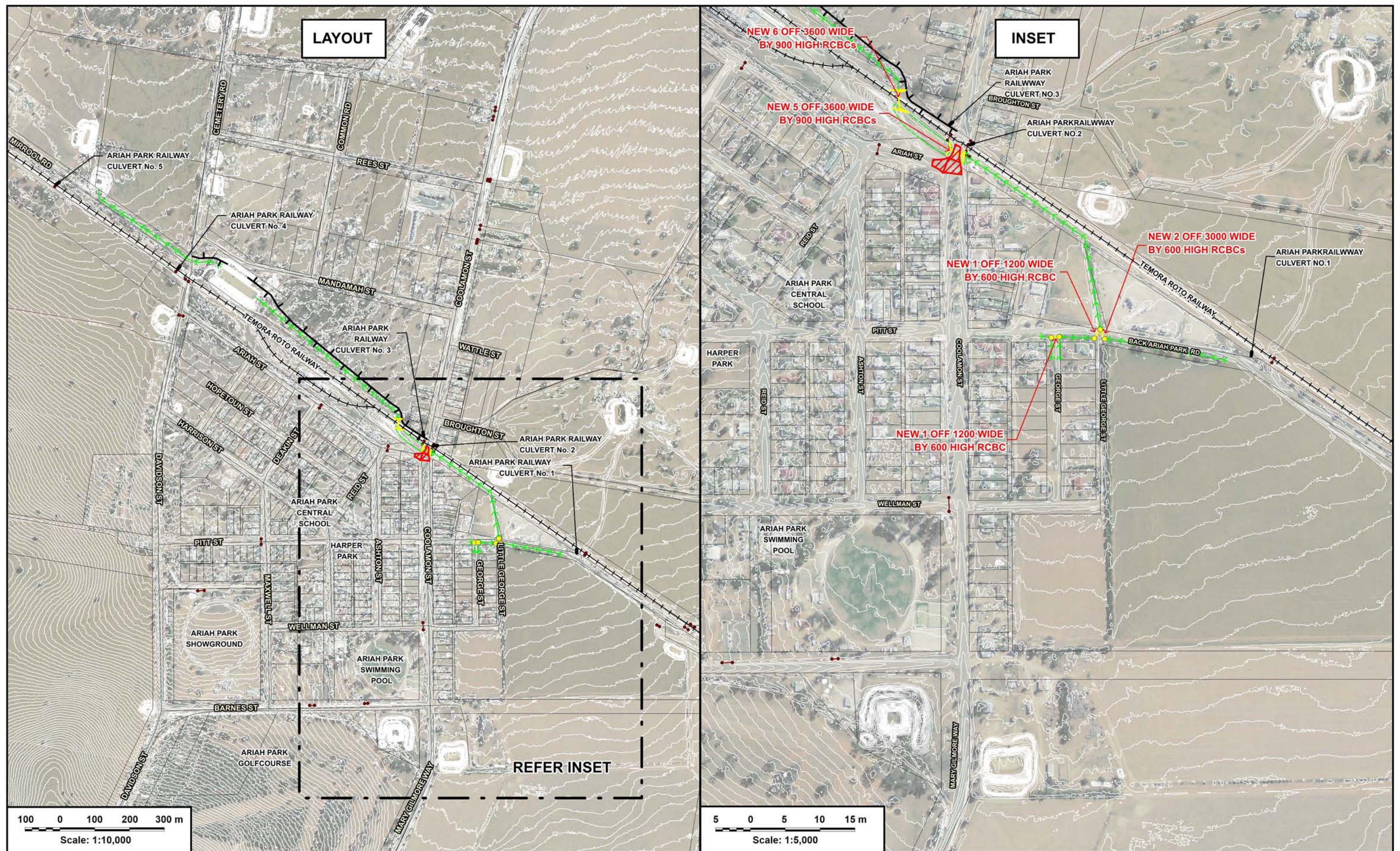
Lycall & Associates

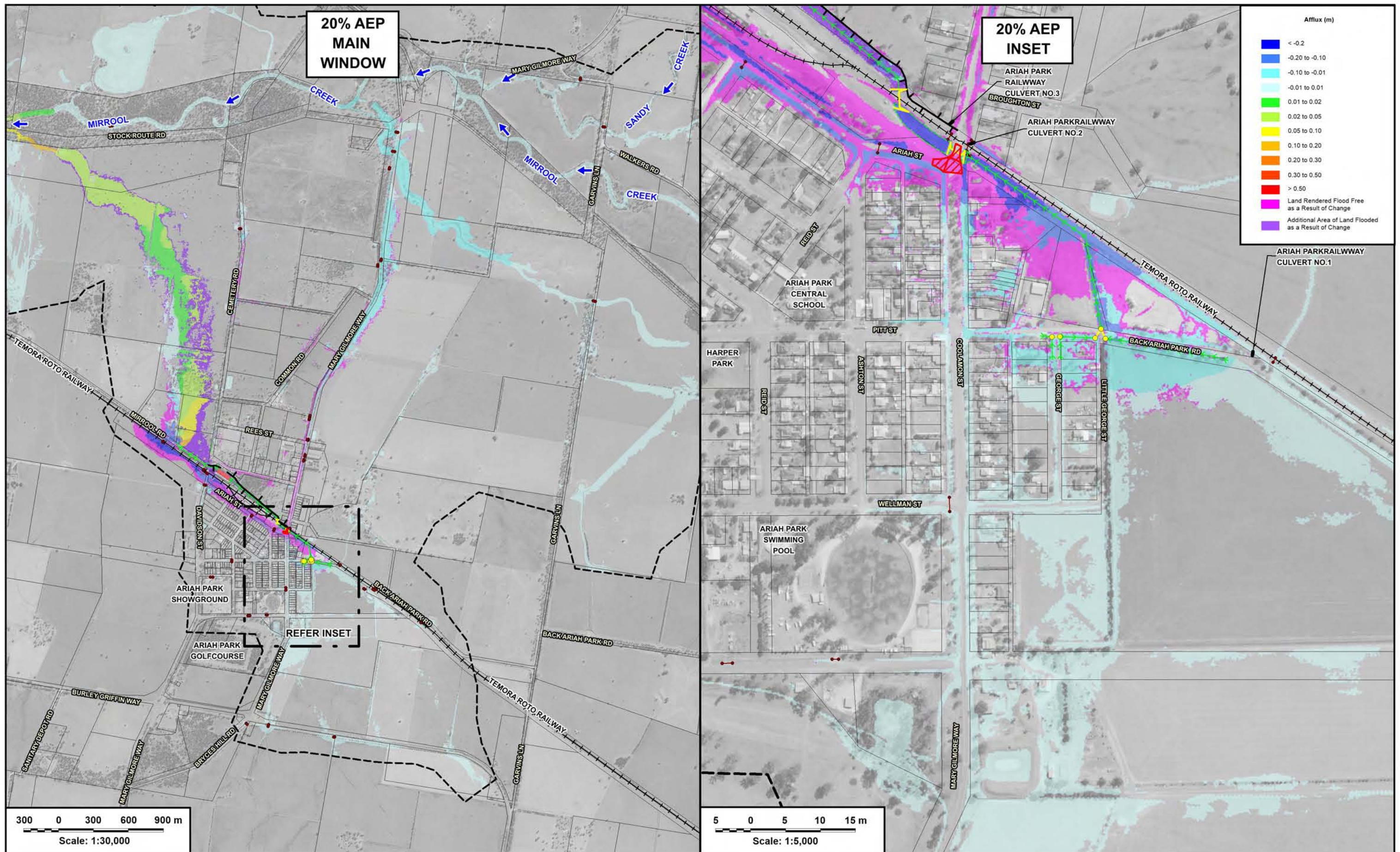
LEGEND

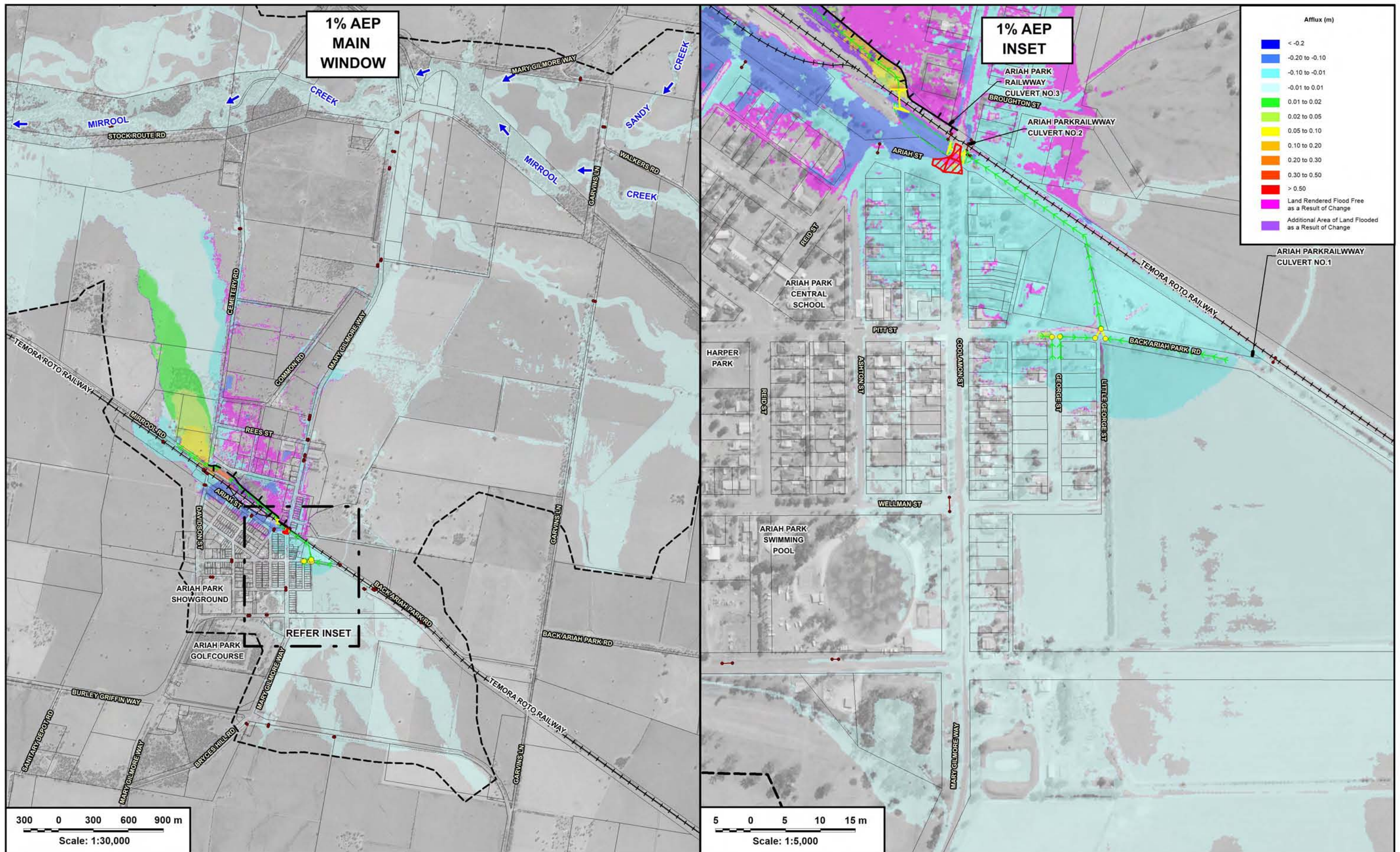
- Two-Dimensional Model Boundary
- Existing Piped Drainage System

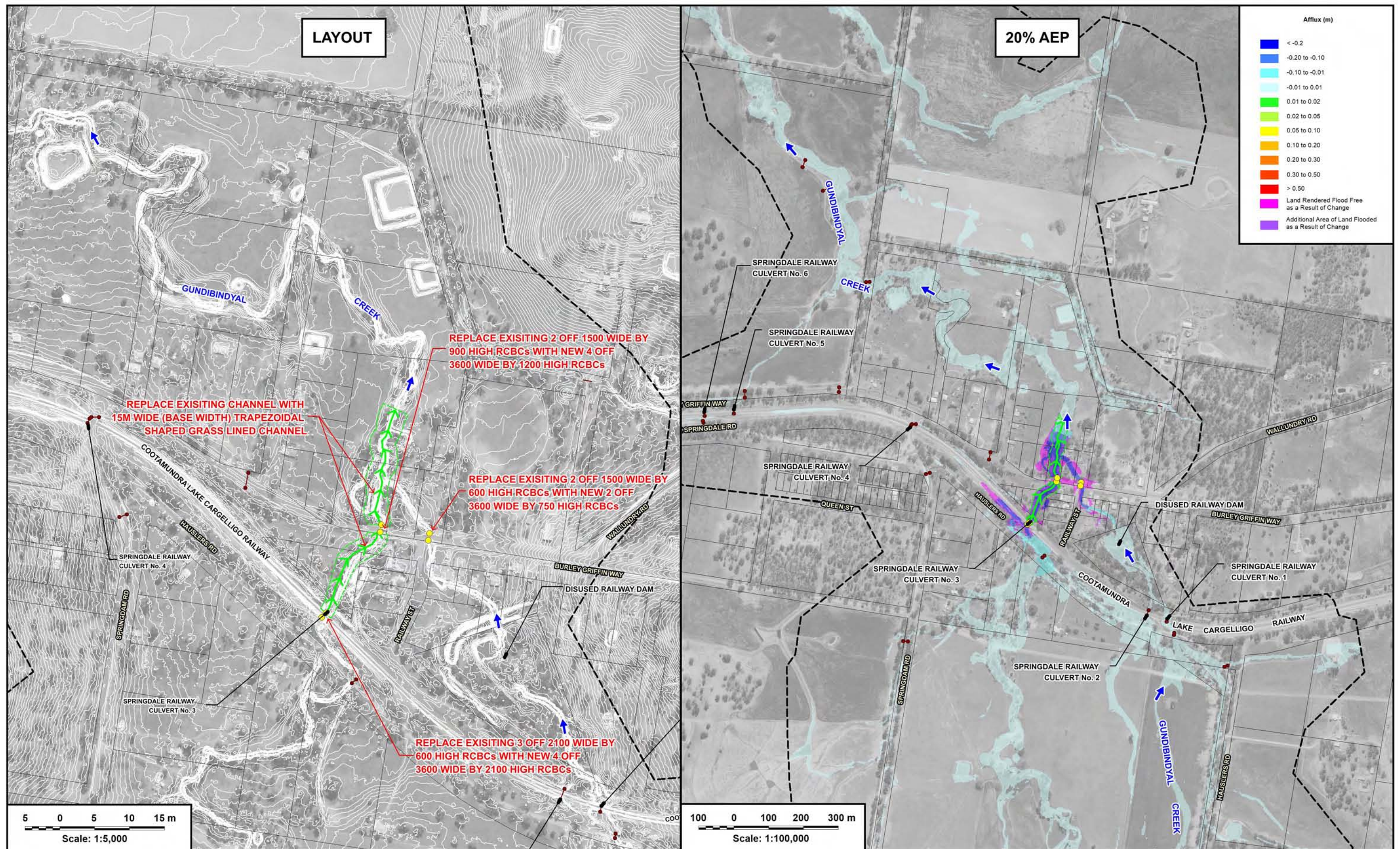
**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**
Figure 2.31

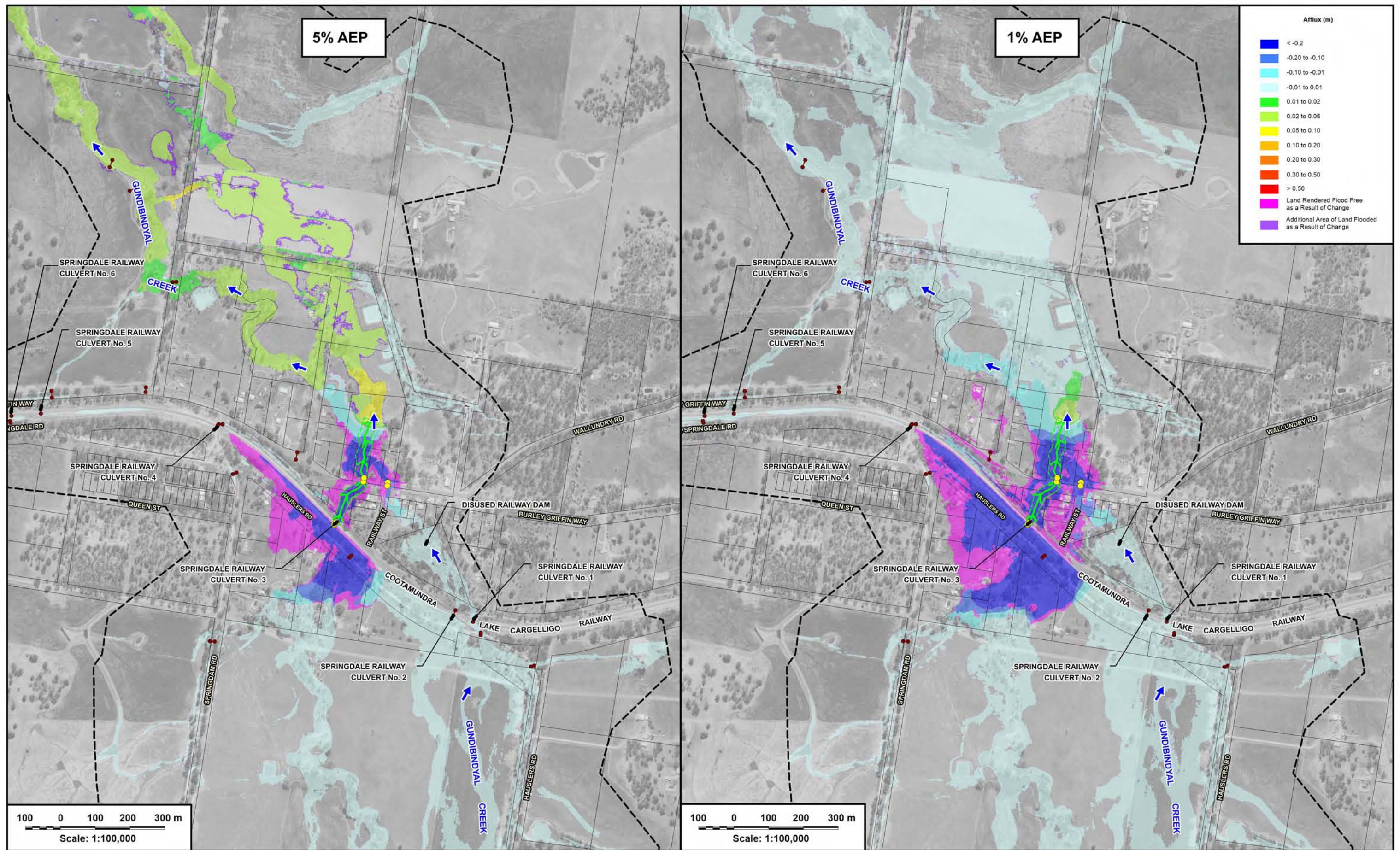


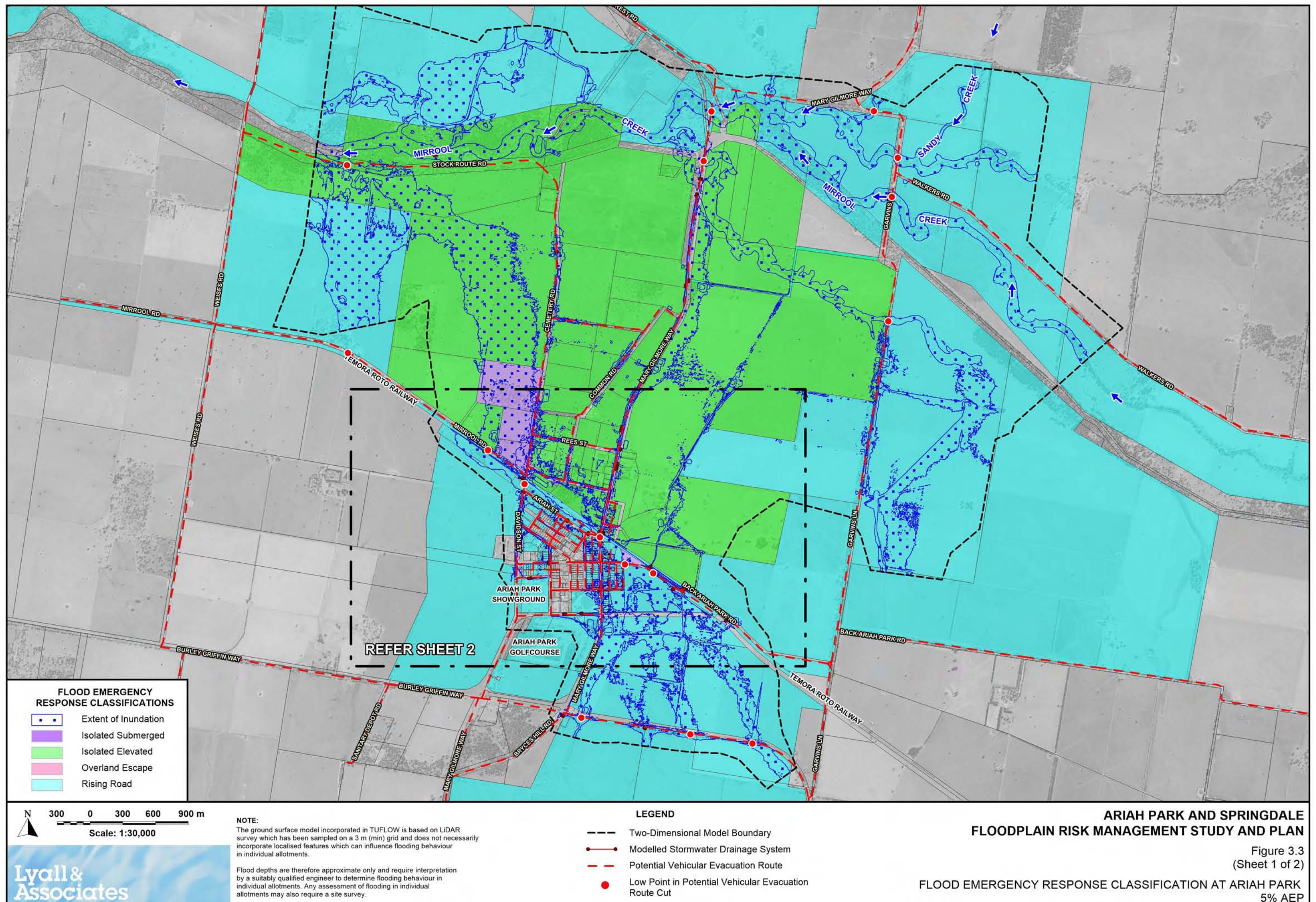


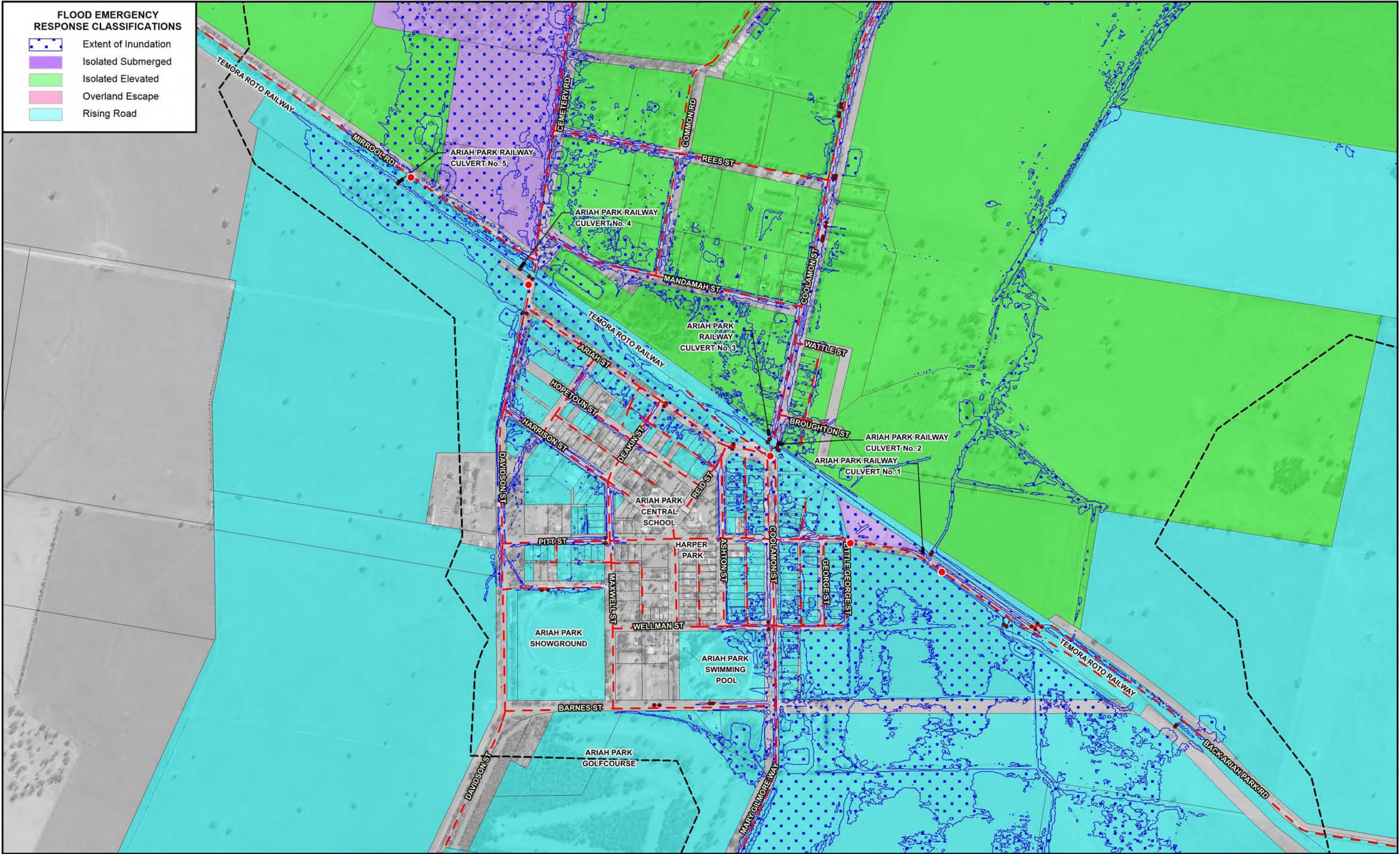


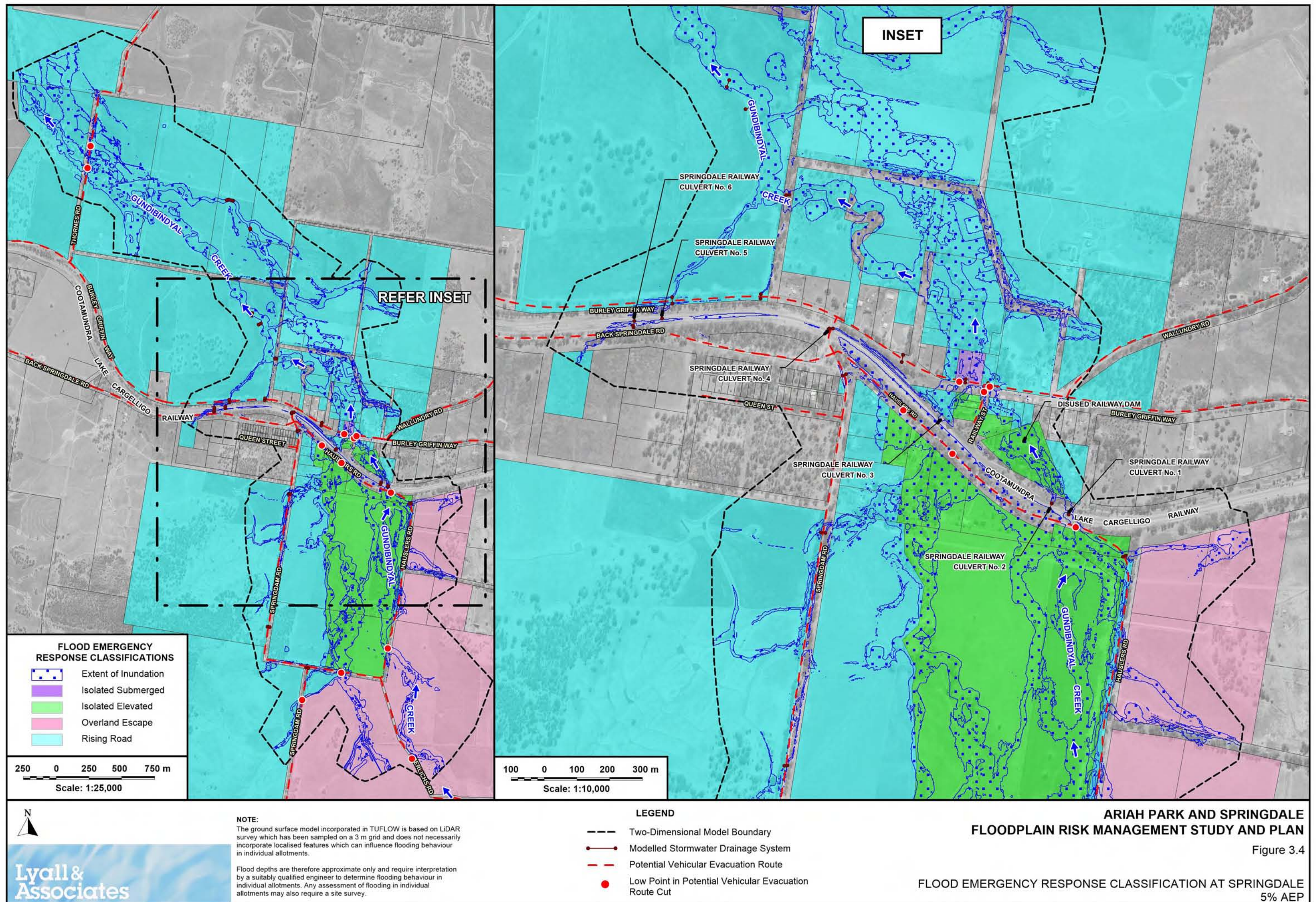


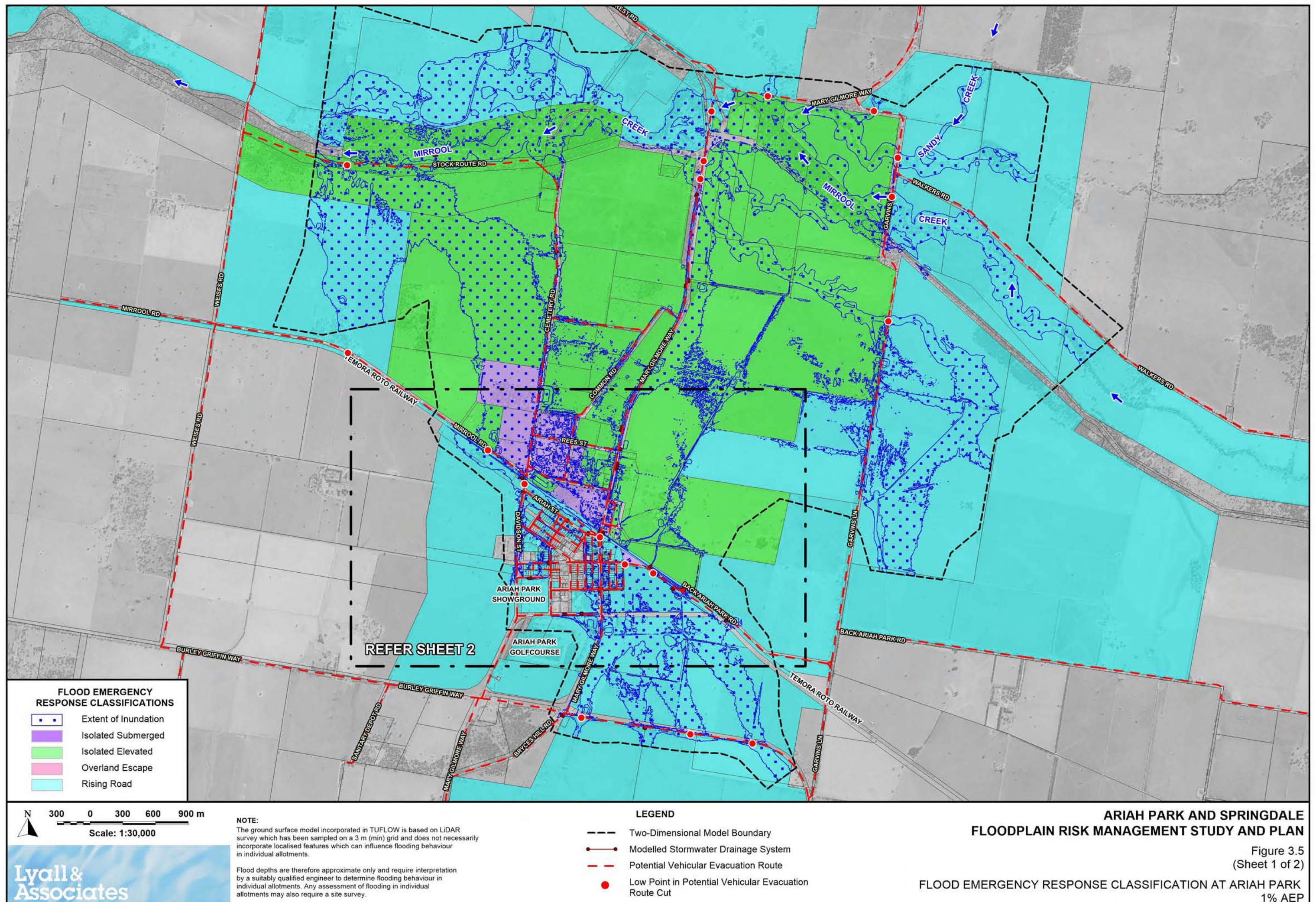


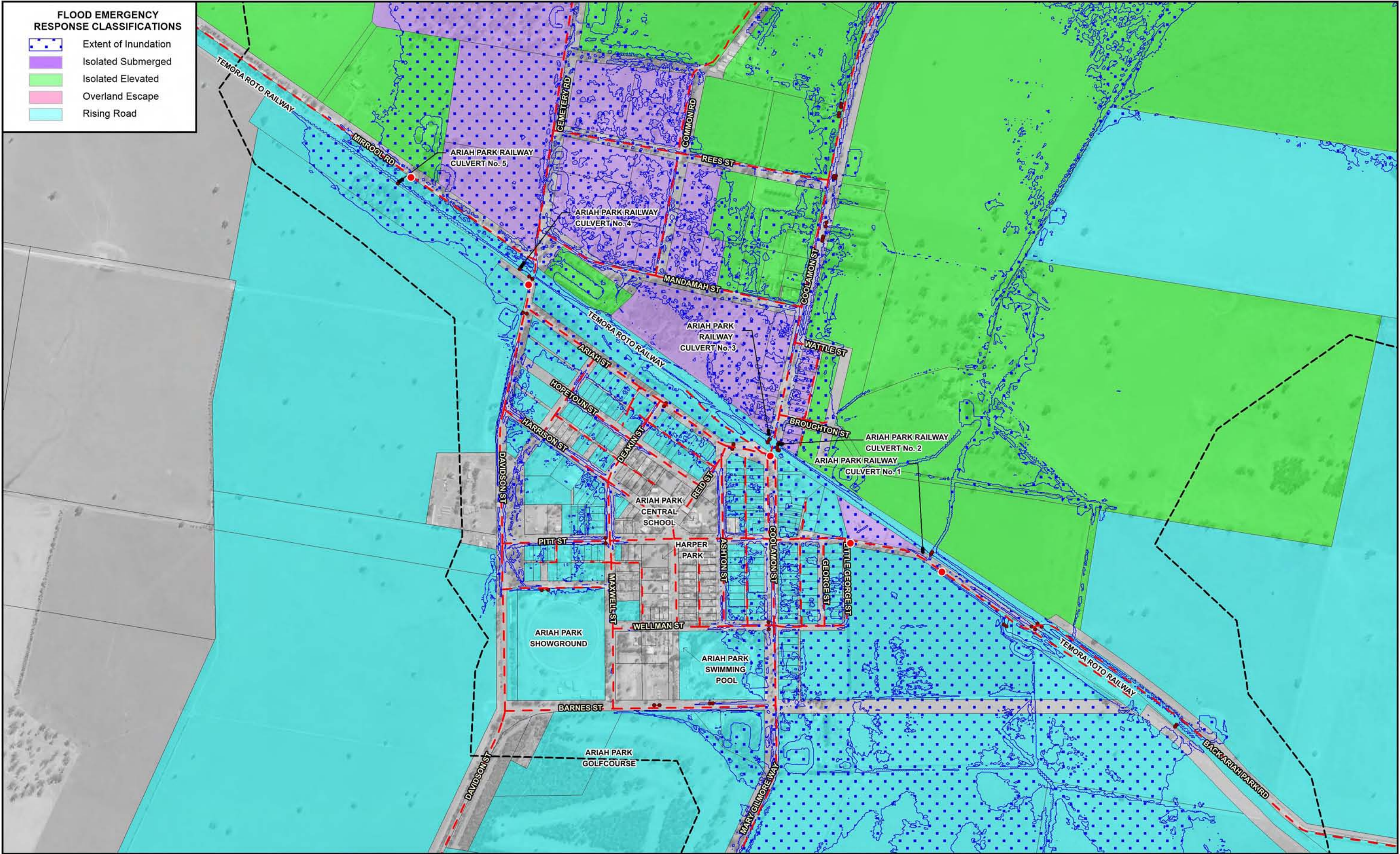






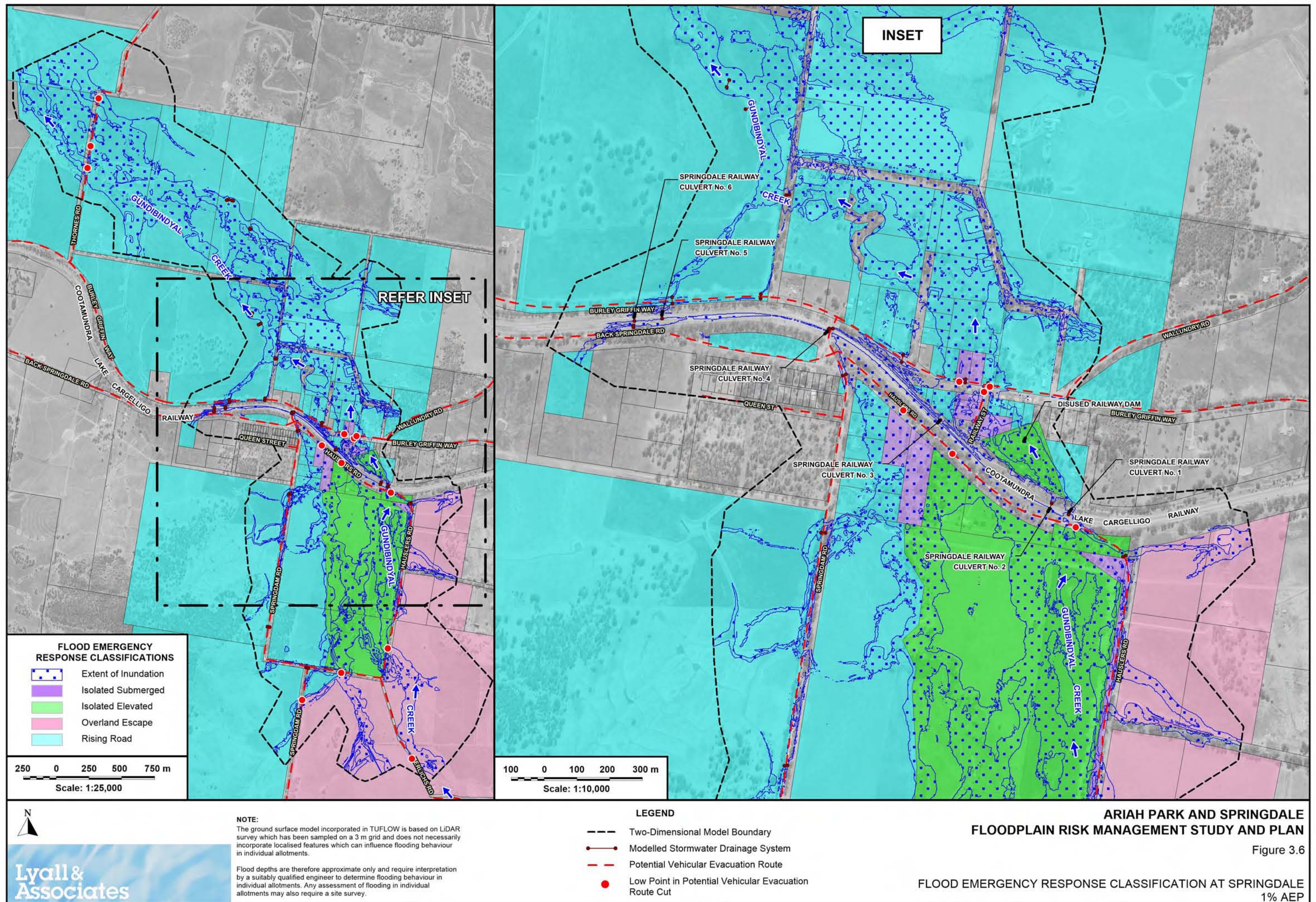


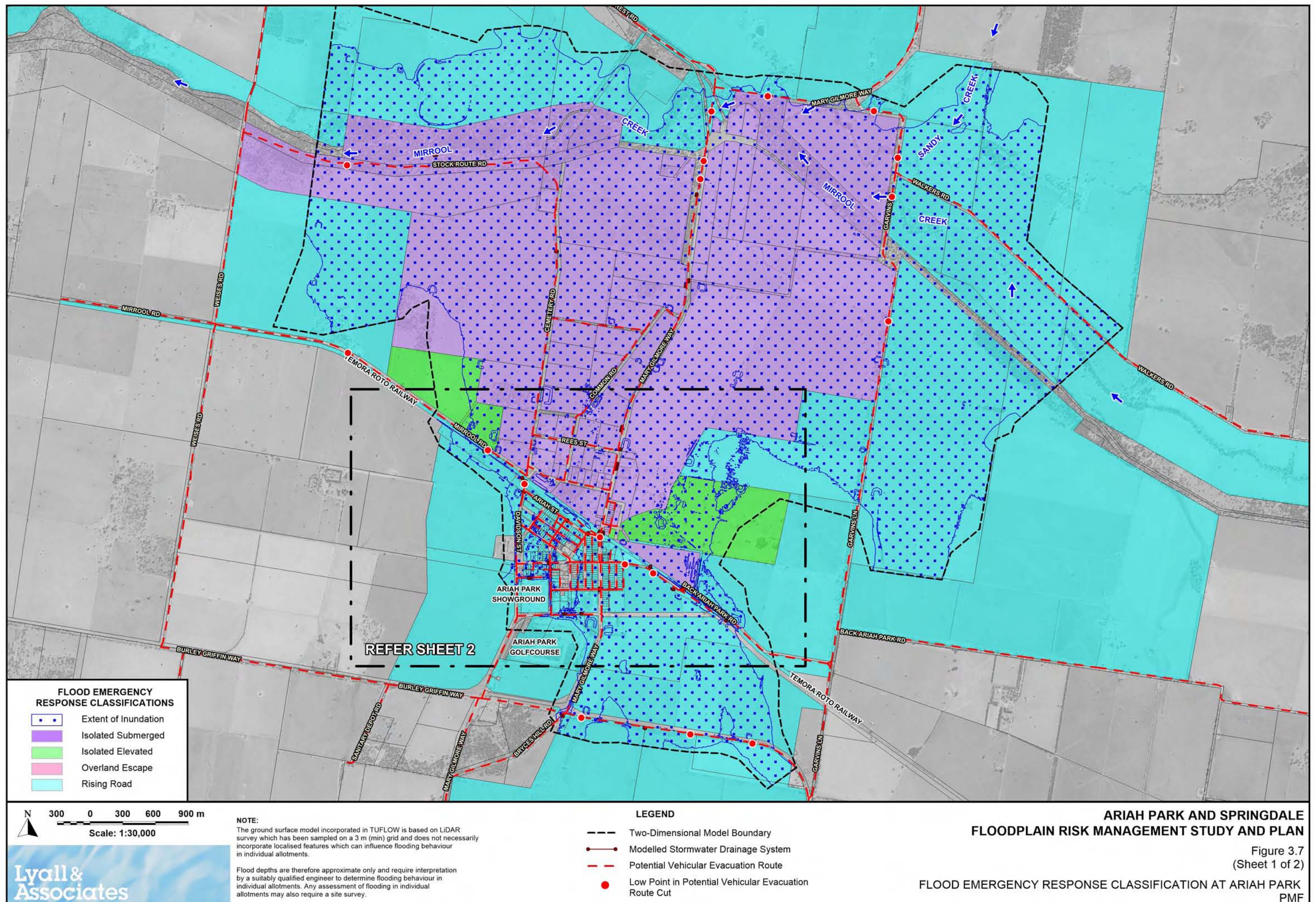


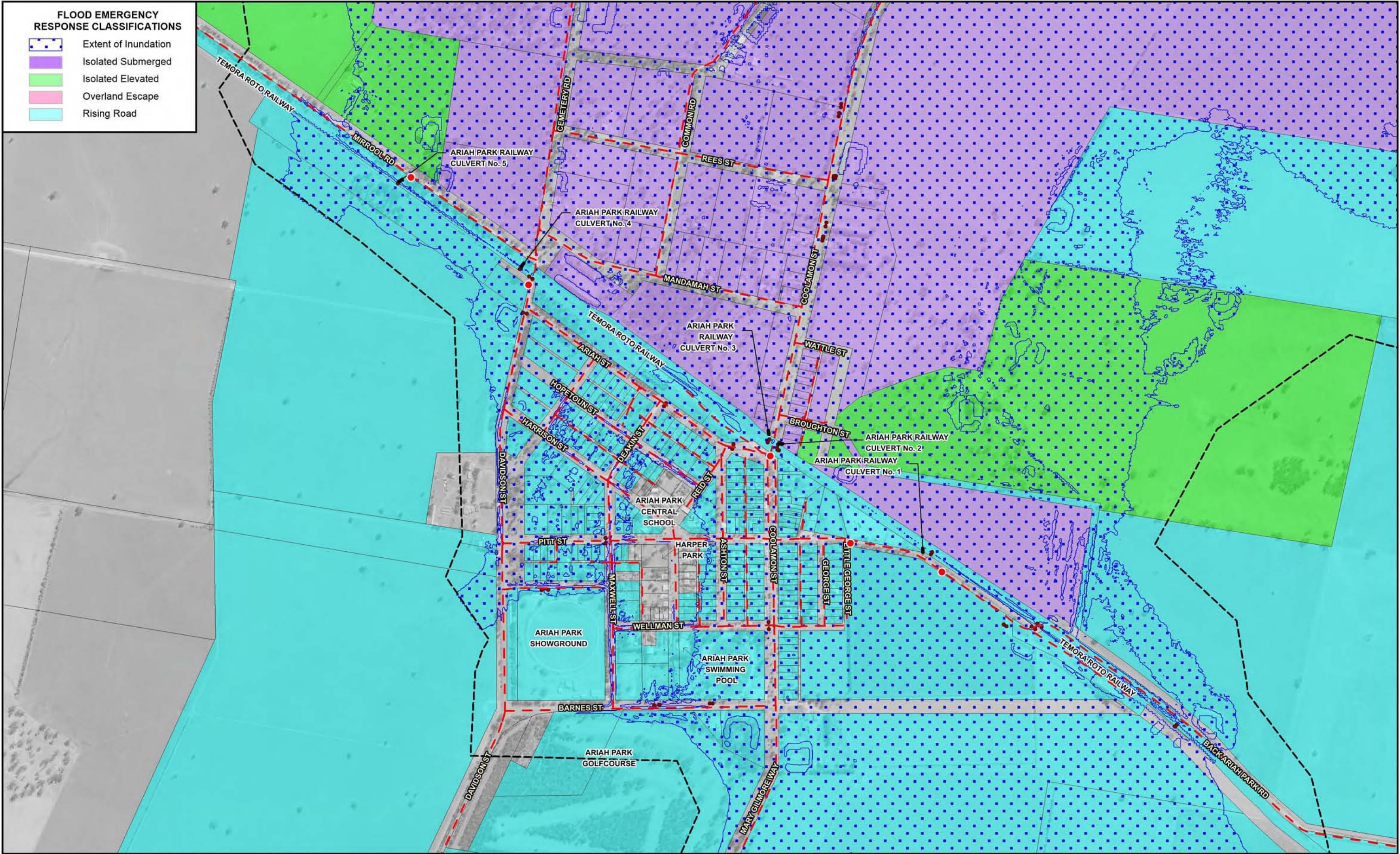


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- LEGEND**
- Two-Dimensional Model Boundary
 - Modelled Stormwater Drainage System
 - - - Potential Vehicular Evacuation Route
 - Low Point in Potential Vehicular Evacuation Route Cut







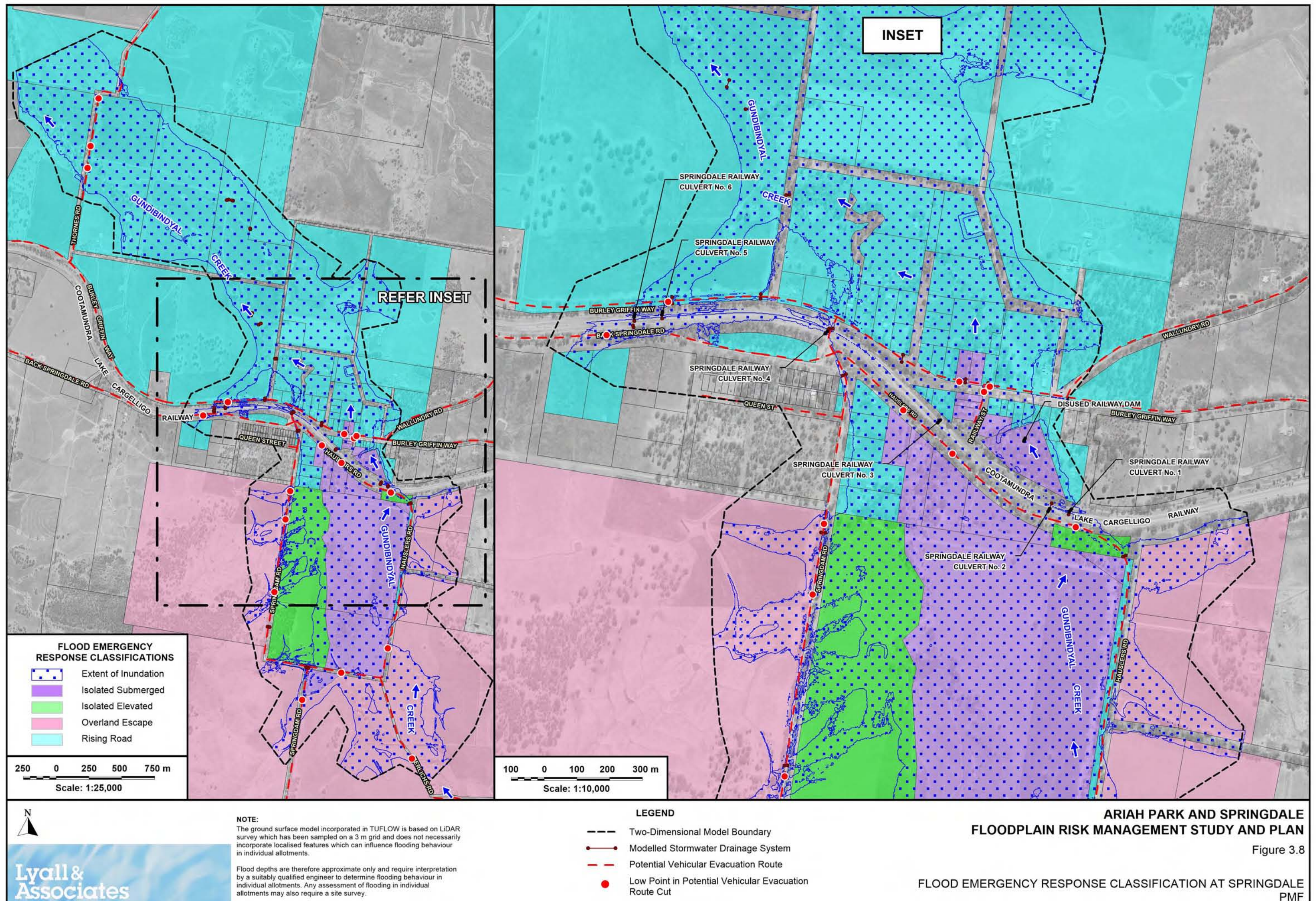
N 100 0 100 200 300 m
Scale: 1:10,000

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LEGEND
--- Two-Dimensional Model Boundary
--- Modelled Stormwater Drainage System
--- Potential Vehicular Evacuation Route
● Low Point in Potential Vehicular Evacuation Route Cut

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**
Figure 3.7
(Sheet 2 of 2)
**FLOOD EMERGENCY RESPONSE CLASSIFICATION AT ARIA PARK
PMF**



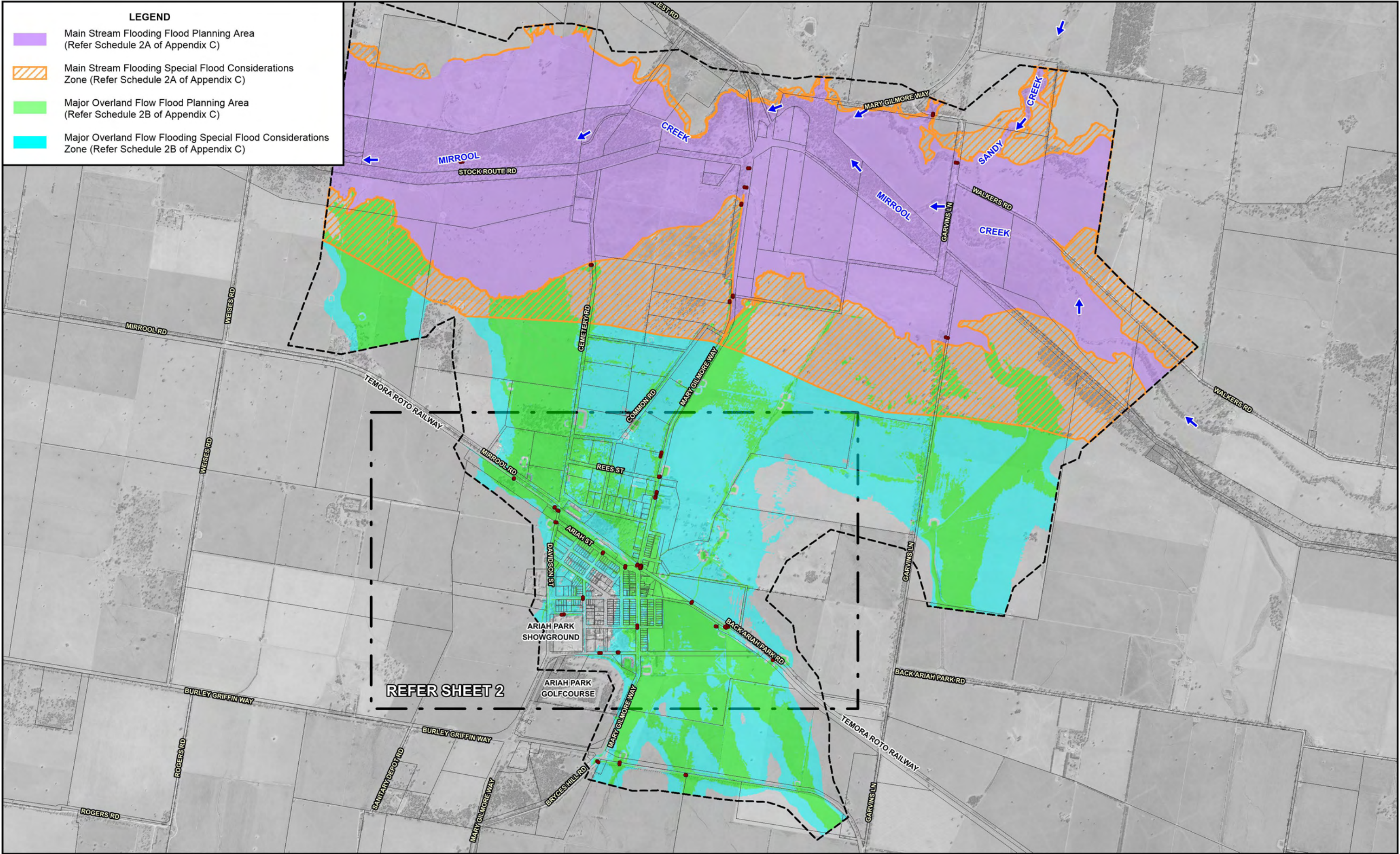
APPENDIX C

SUGGESTED WORDING FOR INCLUSION IN TEMORA SHIRE DEVELOPMENT CONTROL PLAN

LIST OF FIGURES (APPENDIX C)

- C1.1 Extract of Temora Shire Flood Planning Map at Ariah Park (2 Sheets)
- C1.2 Extract of Temora Shire Flood Planning Map at Springdale
- C1.3 Extract of Temora Shire Flood Planning Constraint Category Map at Ariah Park (2 Sheets)
- C1.4 Extract of Temora Shire Flood Planning Constraint Category Map at Springdale

DRAFT REPORT FOR PUBLIC EXHIBITION



LEGEND

- Main Stream Flooding Flood Planning Area
(Refer Schedule 2A of Appendix C)
- Main Stream Flooding Special Flood Considerations
Zone (Refer Schedule 2A of Appendix C)
- Major Overland Flow Flood Planning Area
(Refer Schedule 2B of Appendix C)
- Major Overland Flow Flooding Special Flood Considerations
Zone (Refer Schedule 2B of Appendix C)

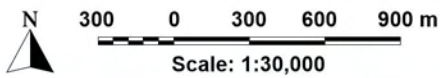
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

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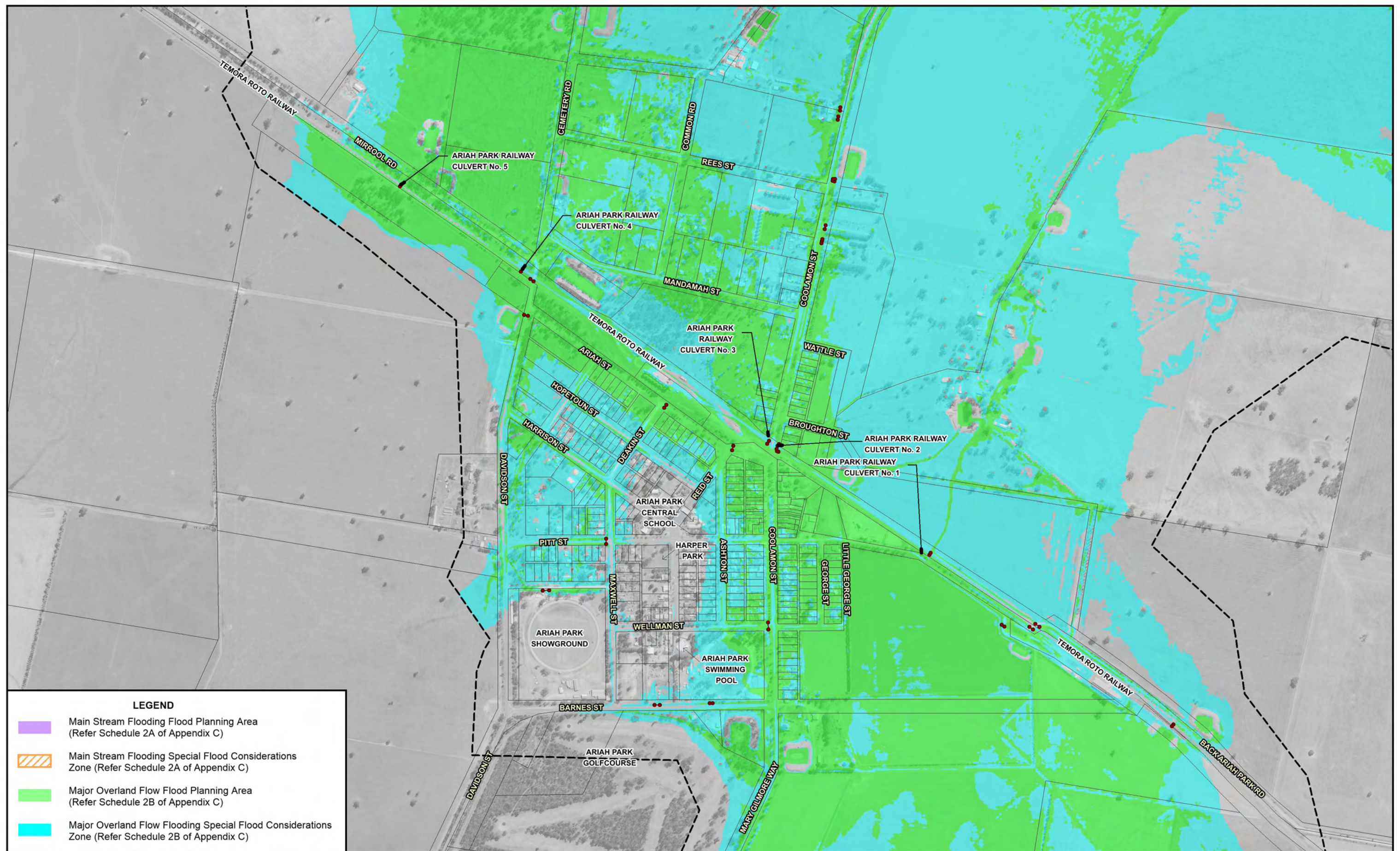


**Lyal &
Associates**

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

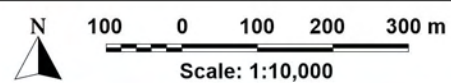
Figure C1.1
(Sheet 1 of 2)

EXTRACT OF TEMORA SHIRE FLOOD PLANNING MAP AT ARIA PARK



LEGEND

- Main Stream Flooding Flood Planning Area (Refer Schedule 2A of Appendix C)
- Main Stream Flooding Special Flood Considerations Zone (Refer Schedule 2A of Appendix C)
- Major Overland Flow Flood Planning Area (Refer Schedule 2B of Appendix C)
- Major Overland Flow Flooding Special Flood Considerations Zone (Refer Schedule 2B of Appendix C)



NOTE:

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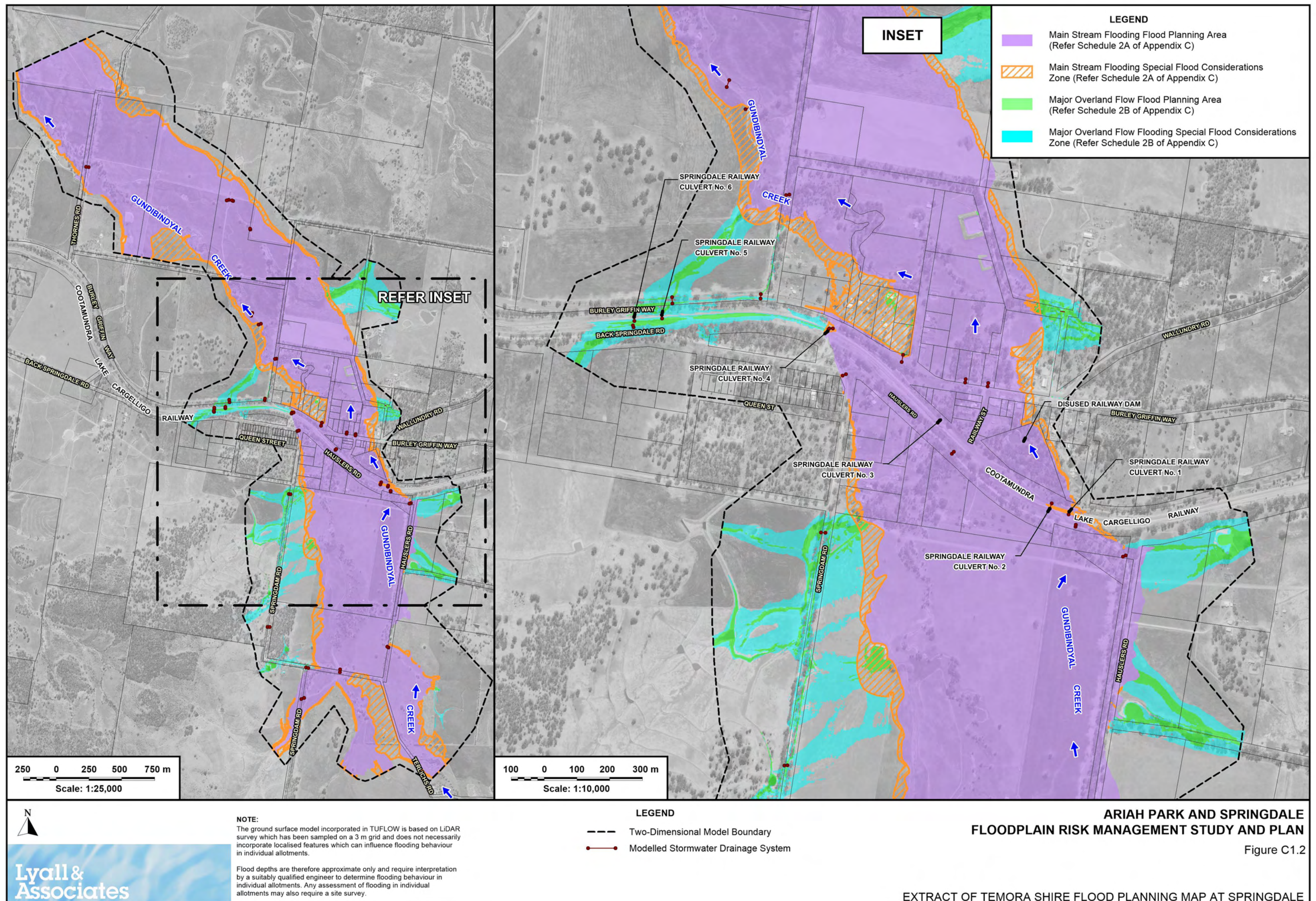
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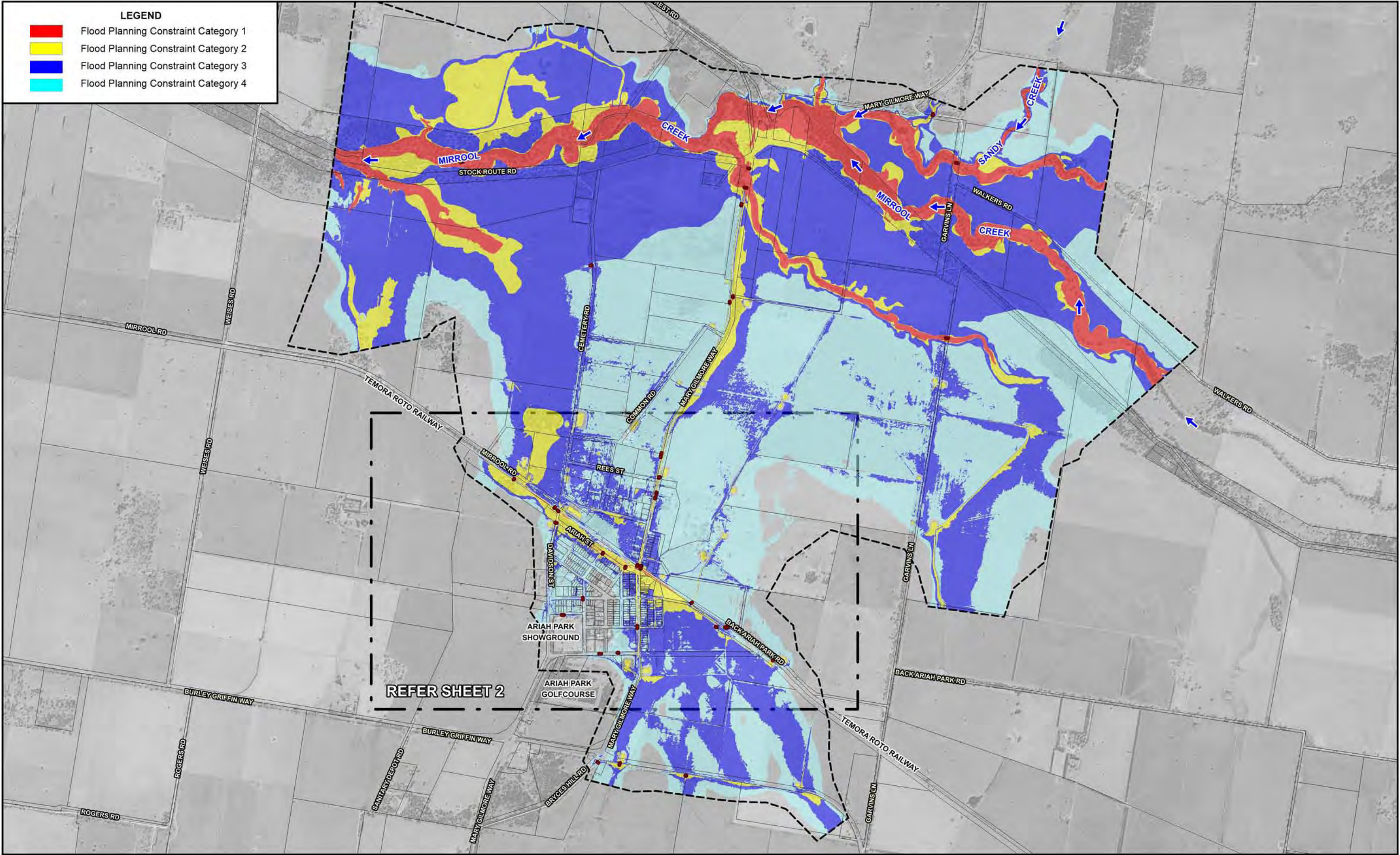
LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

ARIAH PARK AND SPRINGDALE FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Figure C1.1
(Sheet 2 of 2)





LEGEND

- Flood Planning Constraint Category 1
- Flood Planning Constraint Category 2
- Flood Planning Constraint Category 3
- Flood Planning Constraint Category 4

N 300 0 300 600 900 m
Scale: 1:30,000

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LEGEND

- Two-Dimensional Model Boundary
- Modelled Stormwater Drainage System

**ARIAH PARK AND SPRINGDALE
FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN**

Figure C1.3
(Sheet 1 of 2)



