# NORTHERN BEACHES HOSPITAL
# CONNECTIVITY AND NETWORK ENHANCEMENT PROJECT

## PROPOSED CONSTRUCTION AND OPERATIONAL PHASE
## SURFACE WATER MANAGEMENT STRATEGY
## CONCEPT PROPOSAL AND STAGE 1 PROJECT

**VOLUME 2 – FIGURES**

**OCTOBER 2014**

**FINAL REPORT**

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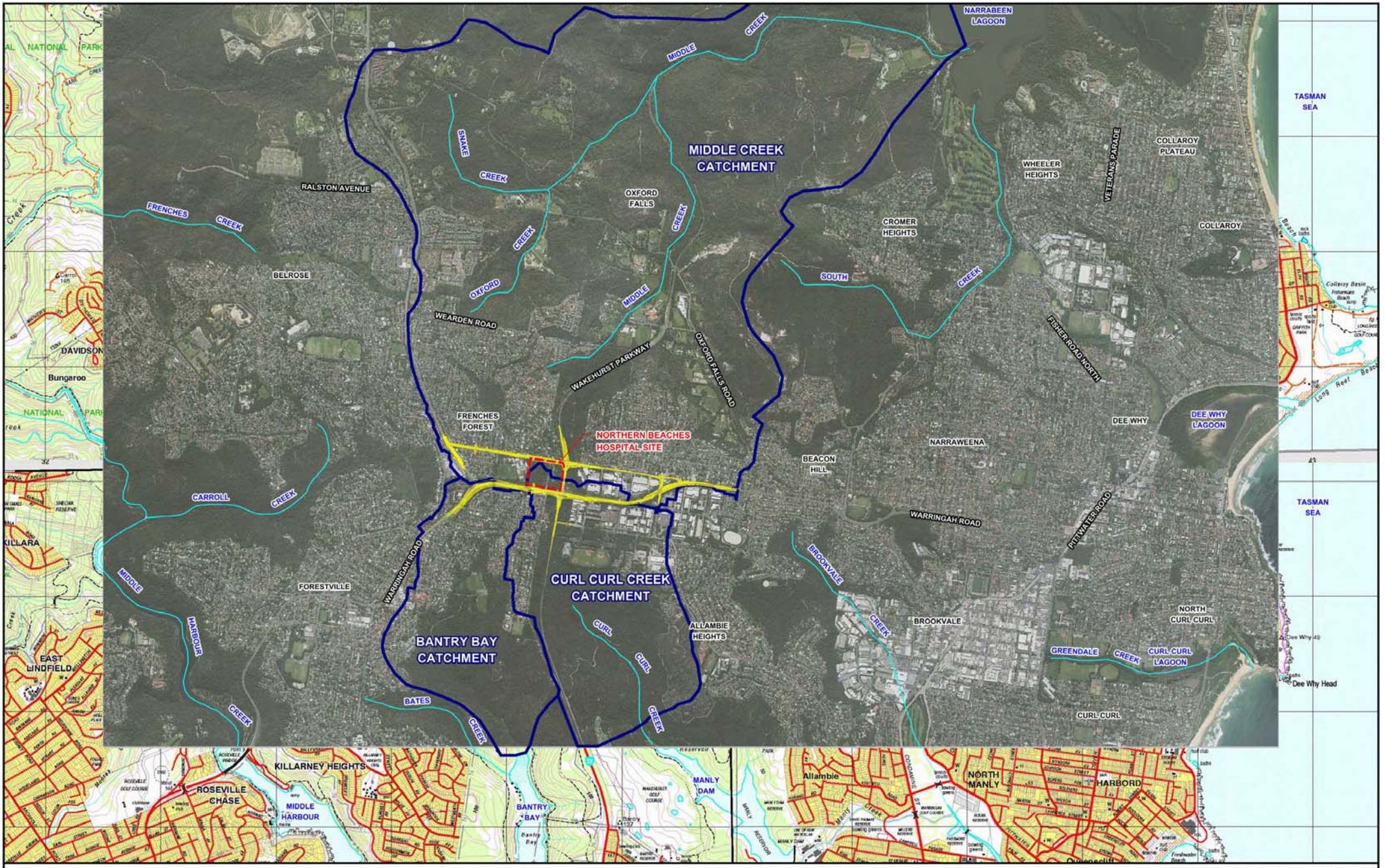
8.1 Operational Phase Surface Water Management Strategy – Stage 1 Project Area (4 Sheets)




N

300 0 300 600 900 m

Scale: 1:30,000

LEGEND

Extent of Affected Catchment Draining to Major Water Body

Concept Proposal

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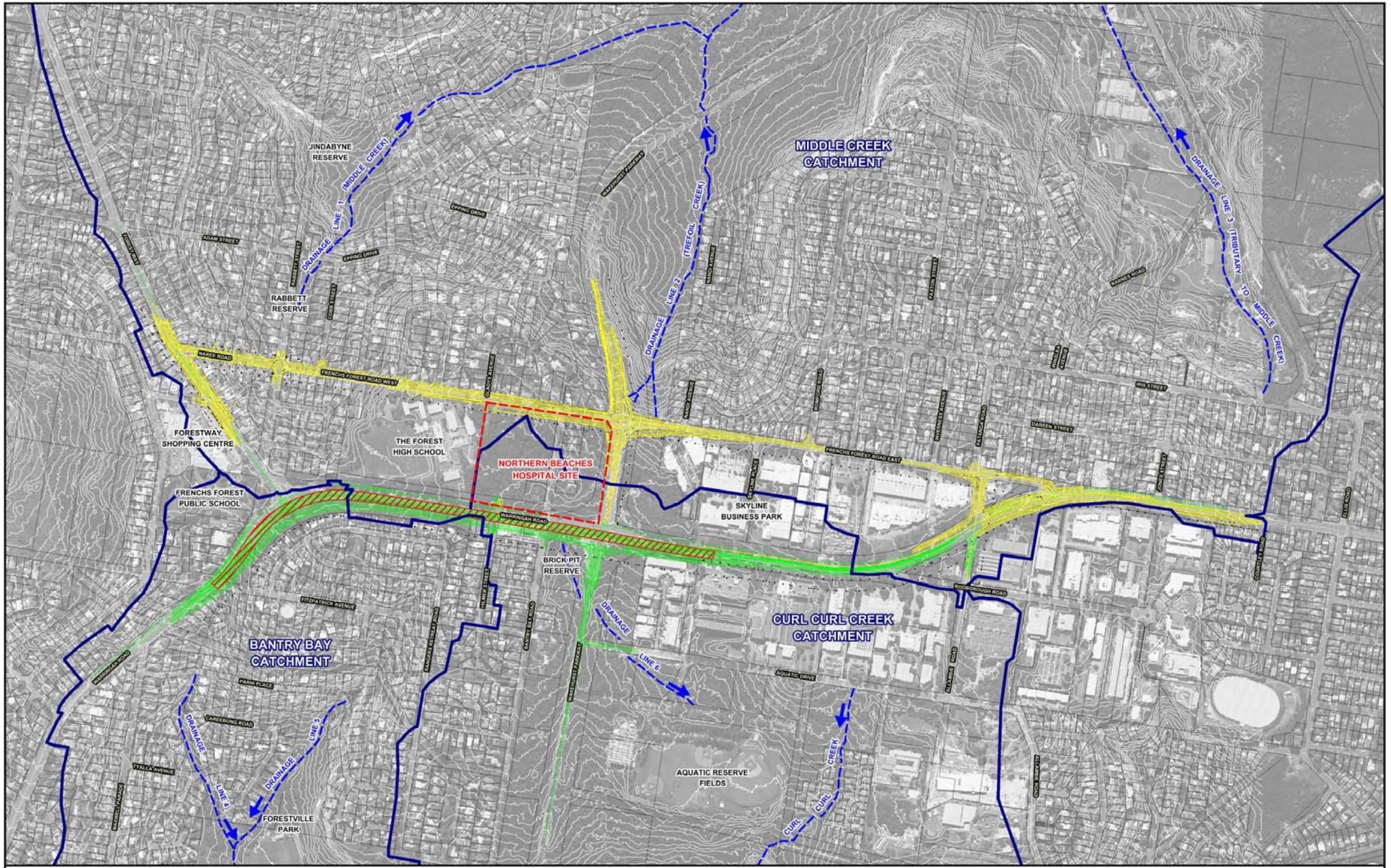
Figure 1.1

LOCATION PLAN




N

80 0 80 160 240 m

Scale: 1:8,000

LEGEND

- Extent of Affected Catchment Draining to Major Water Body
- Stage 1 Project
- Stage 2 Project
- Warringah Road Slot

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Figure 2.1

LAYOUT PLAN

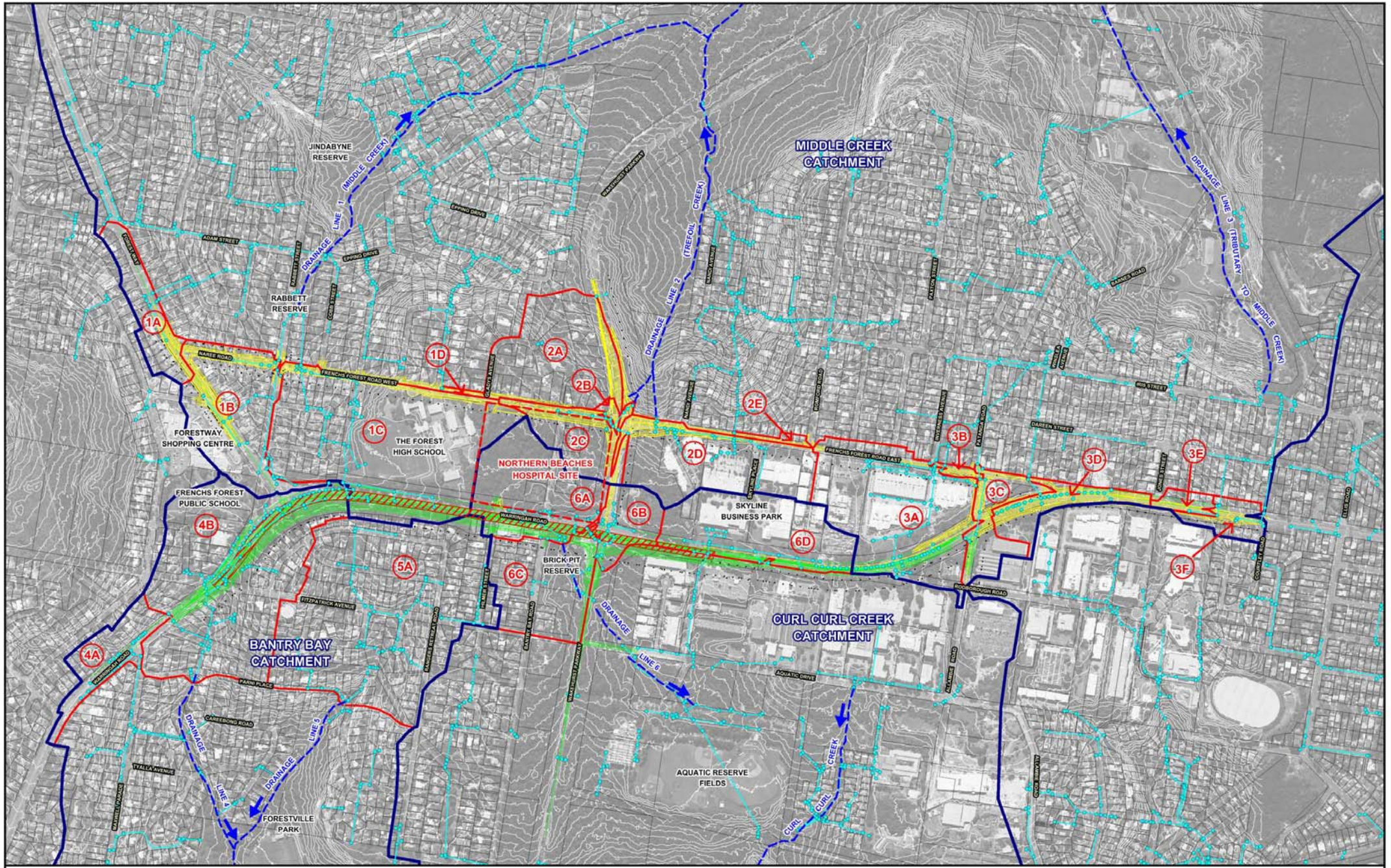


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Figure 3.1

CATCHMENT PLAN

DRAINAGE ELEMENTS COMPRISING EXISTING PIPED DRAINAGE SYSTEM

- 1350 mm RCP
- 1200 mm RCP
- 1050 mm RCP
- 900 mm RCP
- 825 mm RCP
- 750 mm RCP
- 675 mm RCP
- 600 mm RCP
- 525 mm RCP
- 450 mm RCP
- <= 375 mm RCP
- Box Culvert
- Inlet Pit
- Junction Pit
- Headwall

N

30 0 30 60 90 m

Scale: 1:3,000

LEGEND

- 2A — Catchment Boundary and Identifier
- Sub-Catchment Boundary
- F1 → Peak Flow Location and Identifier

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Figure 3.2
(Sheet 1 of 4)

EXISTING STORMWATER DRAINAGE SYSTEM
STAGE 1 PROJECT AREA

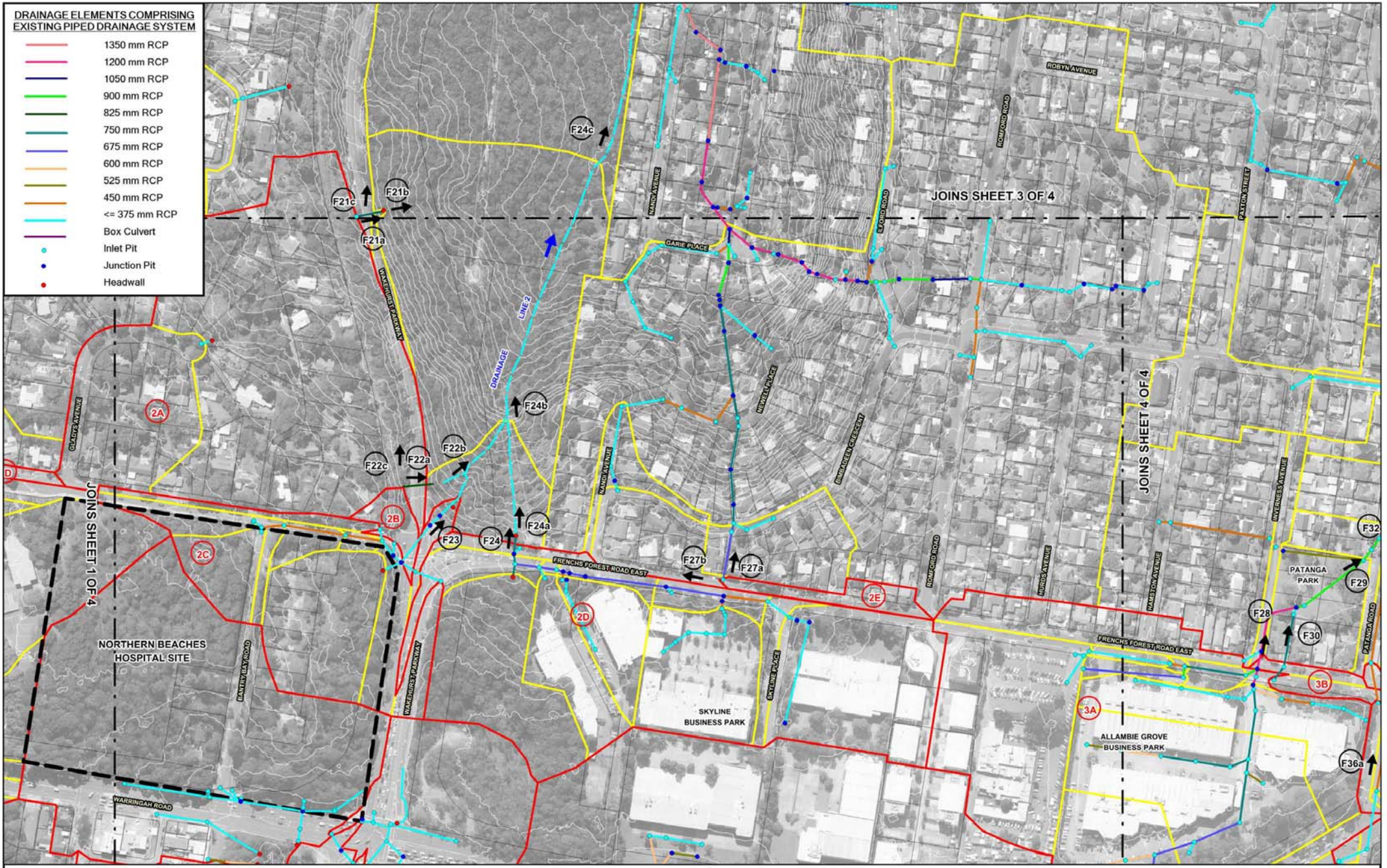


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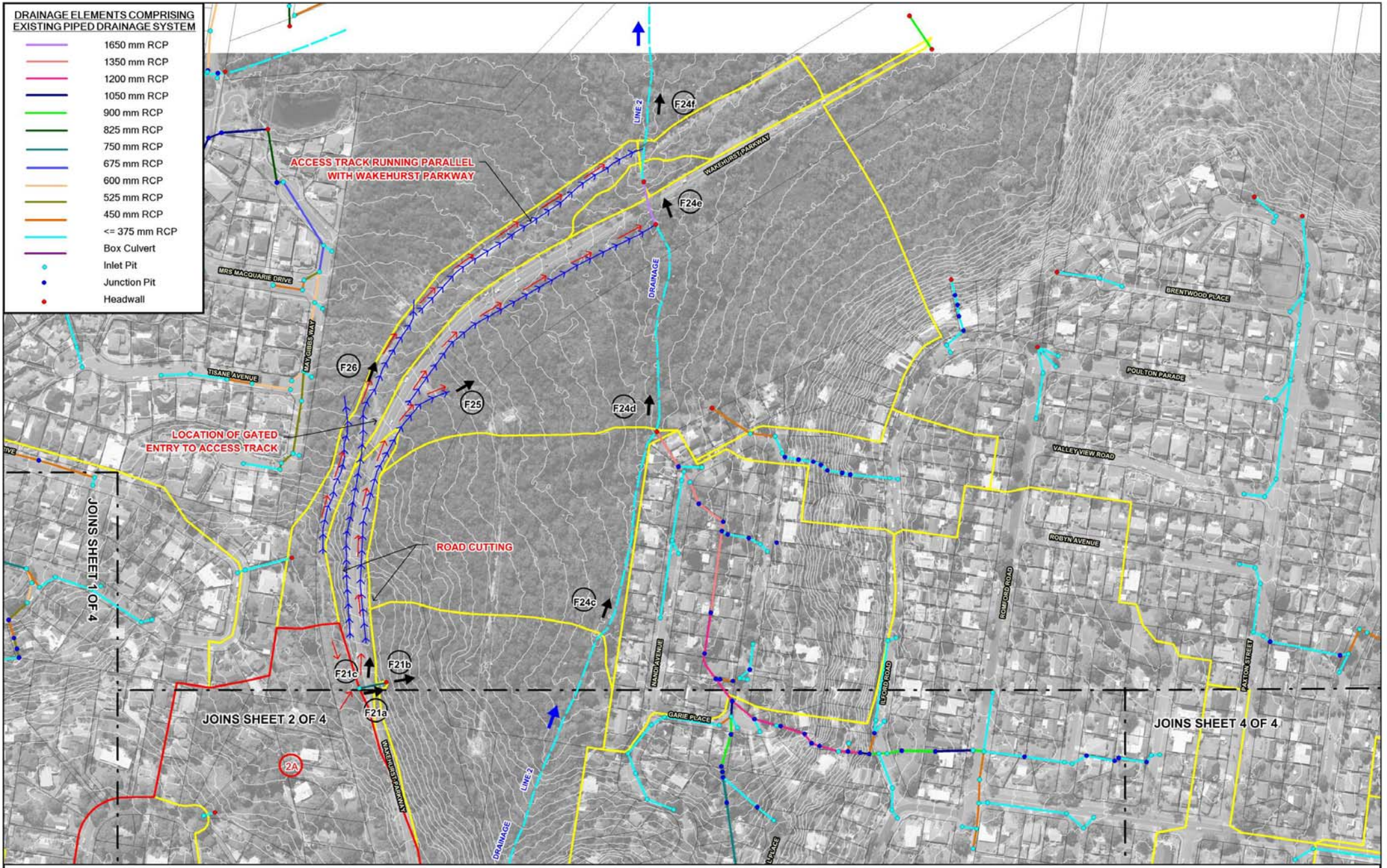
Figure 3.2
(Sheet 2 of 4)

EXISTING STORMWATER DRAINAGE SYSTEM
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

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LEGEND

2A — Catchment Boundary and Identifier

Sub-Catchment Boundary

F1 → Peak Flow Location and Identifier

Direction of Low Flows Along Wakehurst Parkway Road Reserve North of Peak Flow Location F21

Direction of High Flows Along Wakehurst Parkway Road Reserve North of Peak Flow Location F21

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Figure 3.2
(Sheet 3 of 4)

EXISTING STORMWATER DRAINAGE SYSTEM
STAGE 1 PROJECT AREA

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Figure 3.2
(Sheet 4 of 4)

EXISTING STORMWATER DRAINAGE SYSTEM
STAGE 1 PROJECT AREA

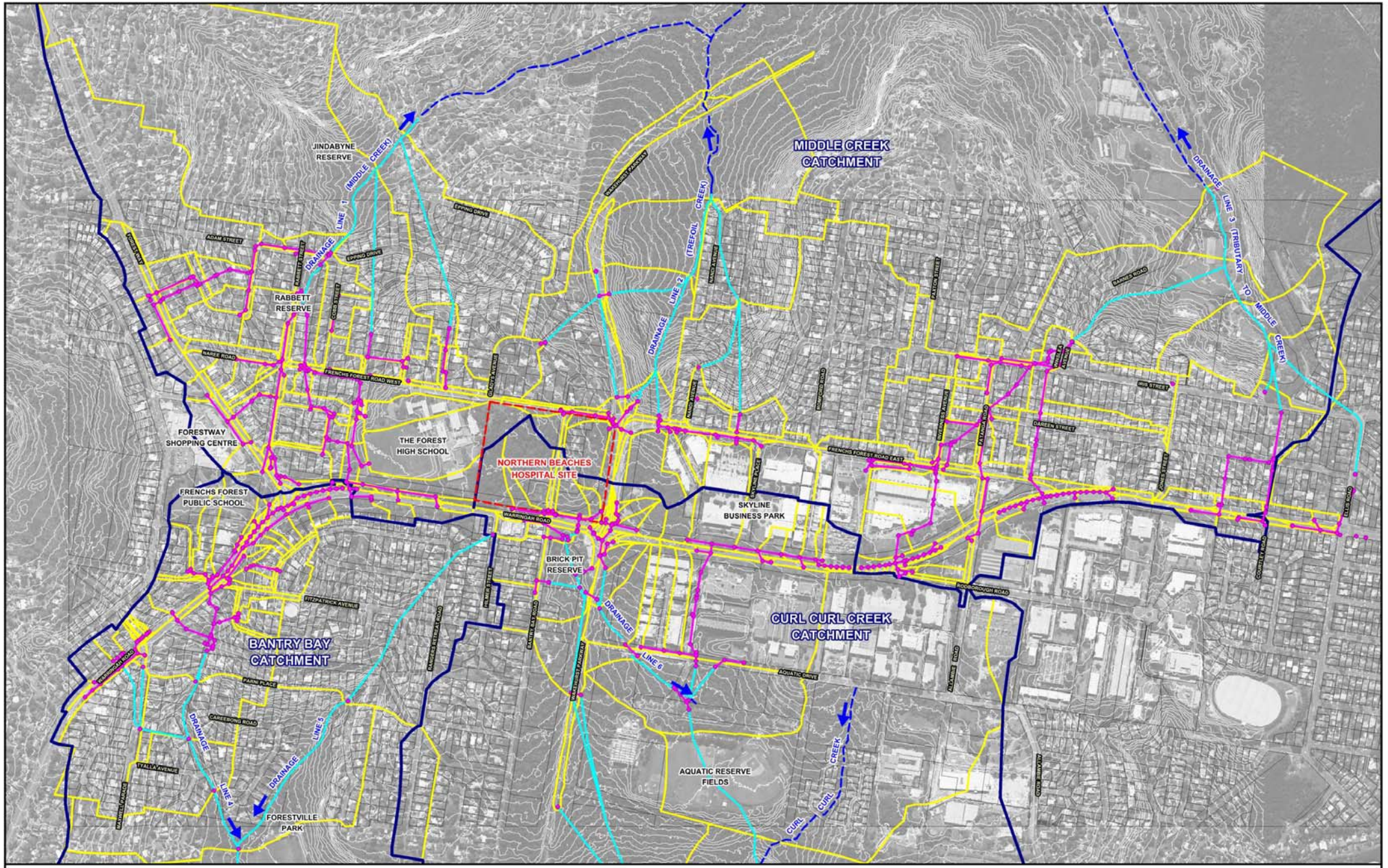


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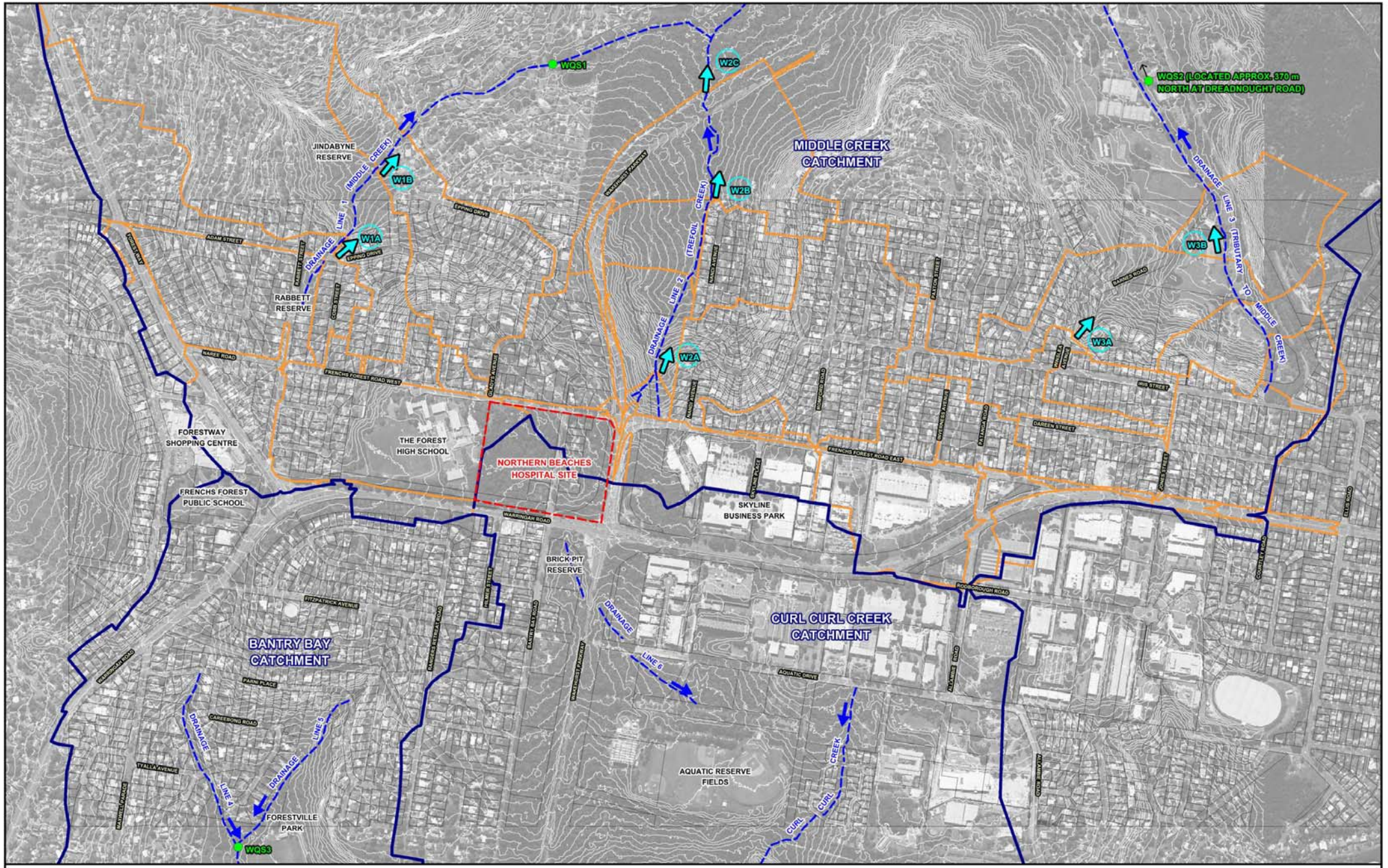
Figure 4.1

CONCEPT PROPOSAL DRAINS MODEL LAYOUT




N

80 0 80 160 240 m

Scale: 1:8,000

LEGEND

Extent of Affected Catchment Draining to Major Water Body

MUSIC Model Sub-Catchment Boundary

W1A Water Quality Location and Identifier

WQS1 Water Quality Sampling Location (Source: MWH, 2004)

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Figure 4.2

EXTENT OF SUB-CATCHMENTS COMPRISING STAGE 1 PROJECT MUSIC MODEL

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Figure 7.1
(Sheet 1 of 4)
EXTENT OF DISTURBED AREAS
STAGE 1 PROJECT AREA

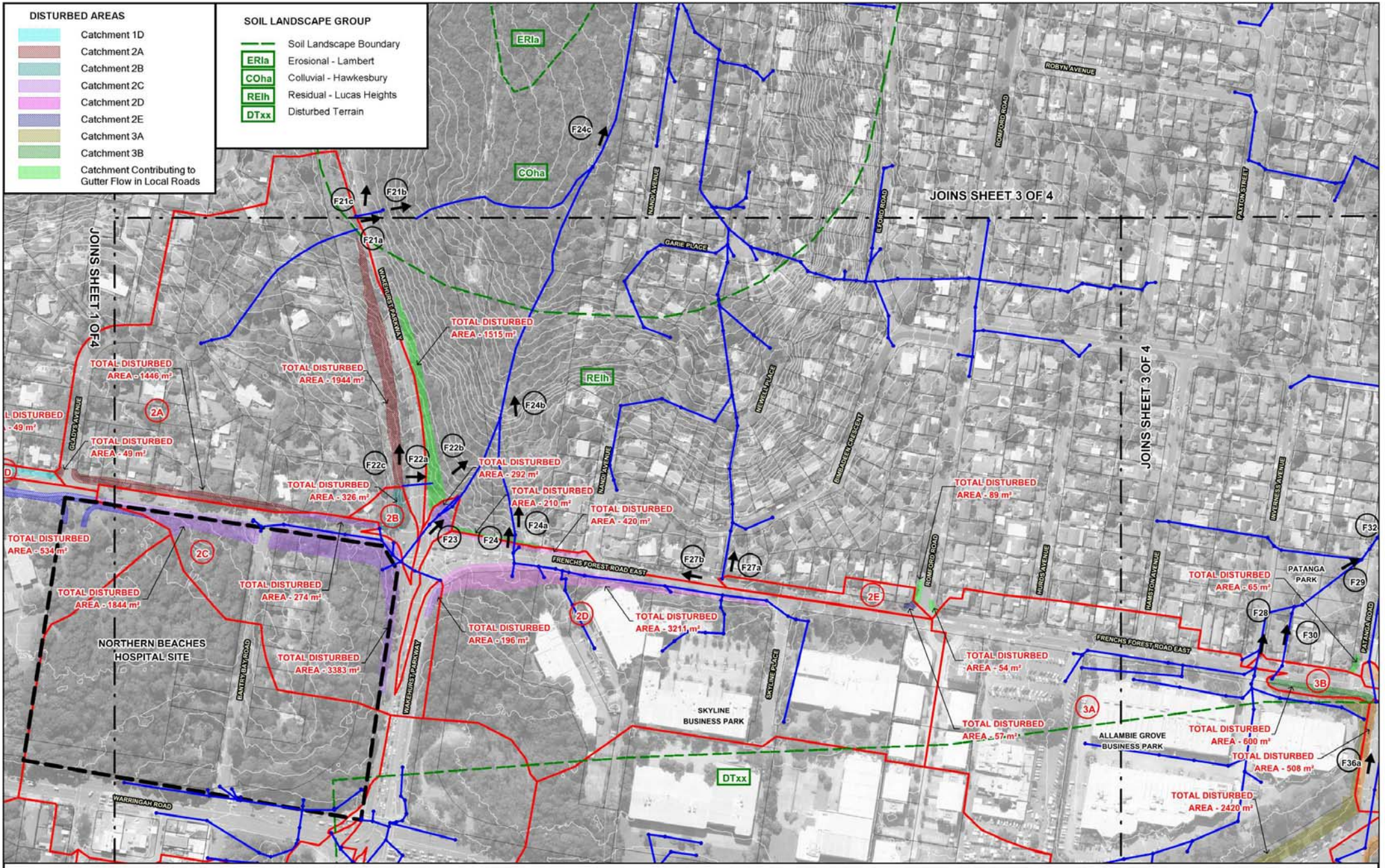


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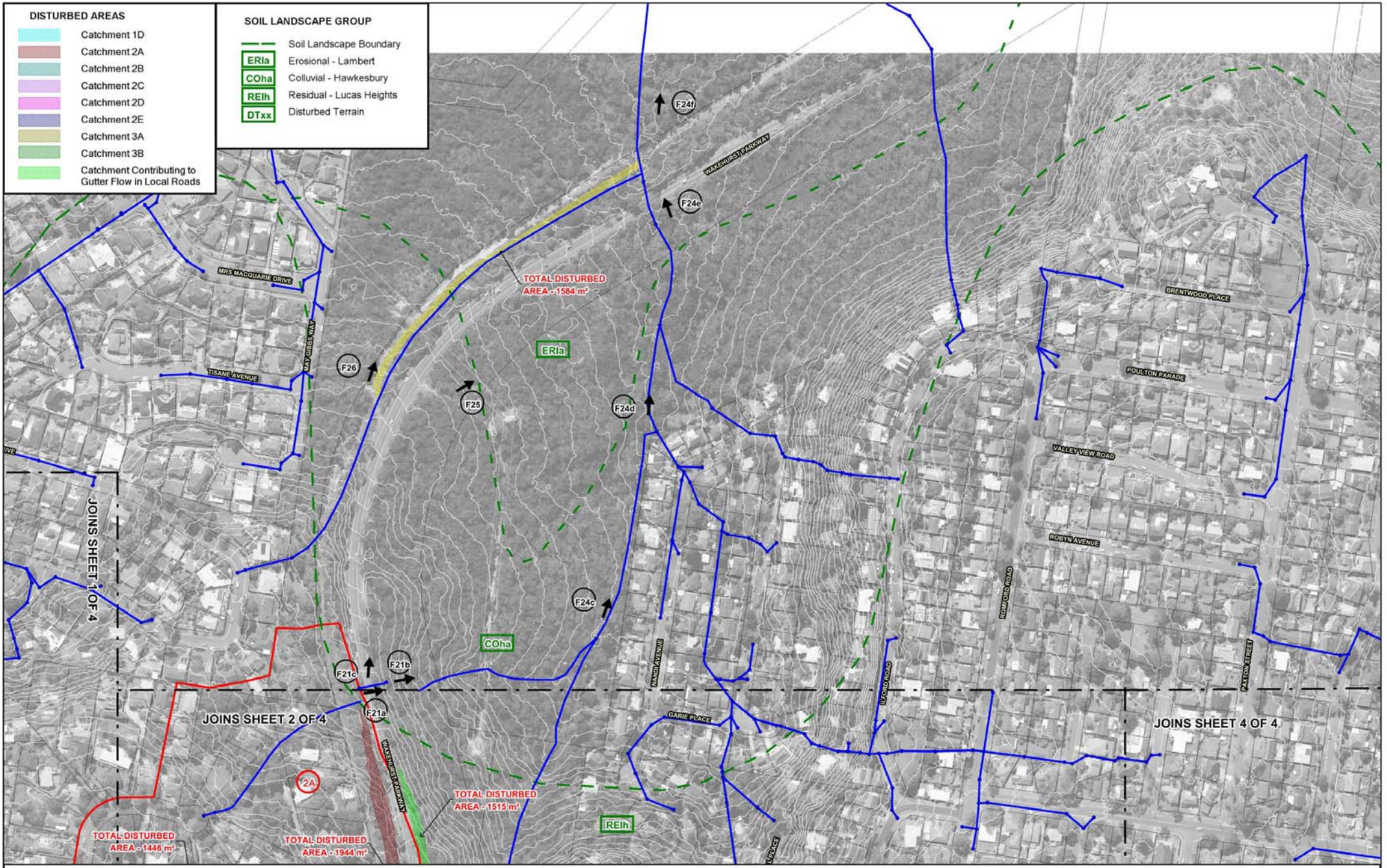
Figure 7.1
(Sheet 2 of 4)
EXTENT OF DISTURBED AREAS
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

LEGEND

2A Catchment Boundary and Identifier

Existing Piped Drainage System

F1 Peak Flow Location and Identifier

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Figure 7.1
(Sheet 3 of 4)
EXTENT OF DISTURBED AREAS
STAGE 1 PROJECT AREA

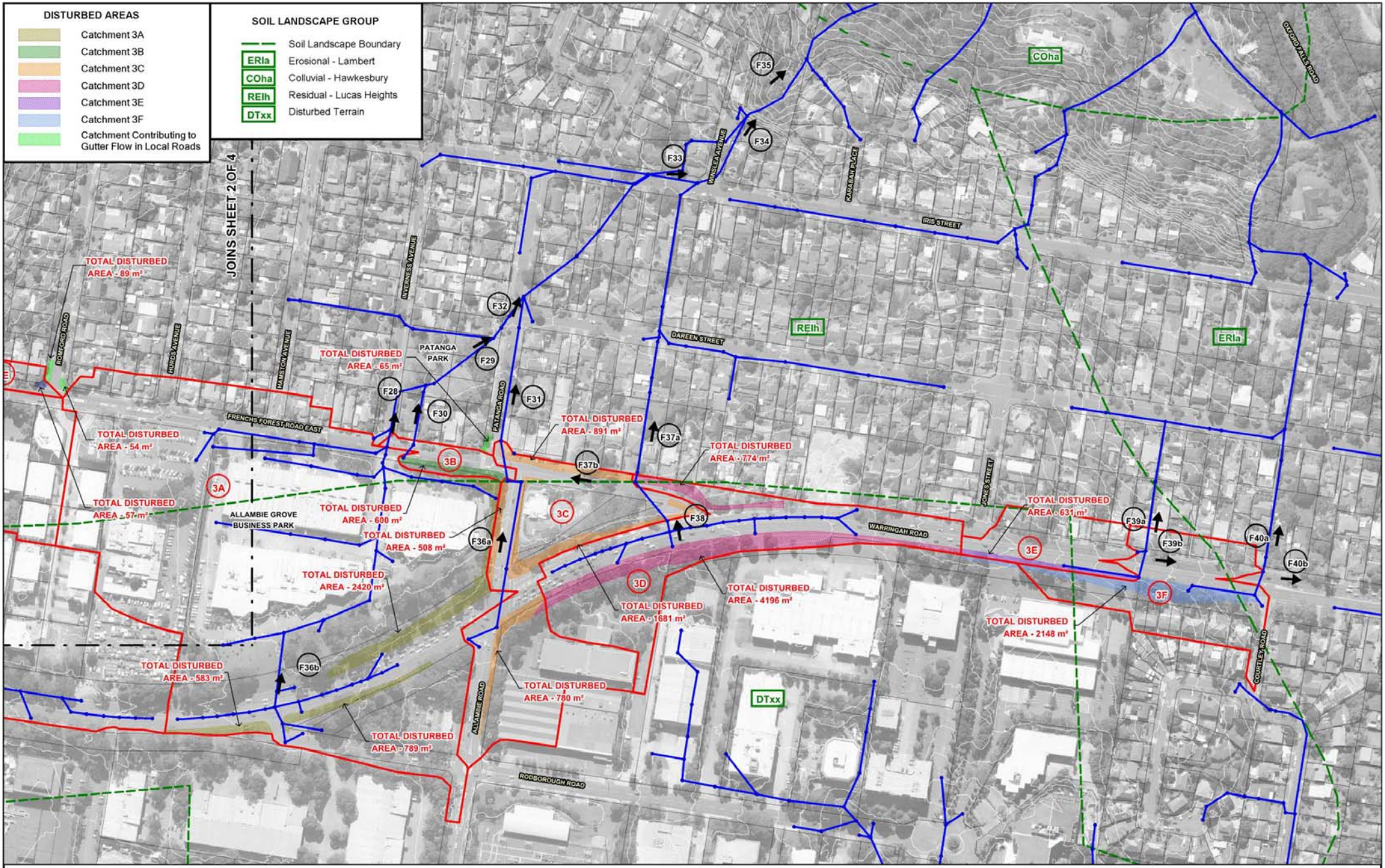


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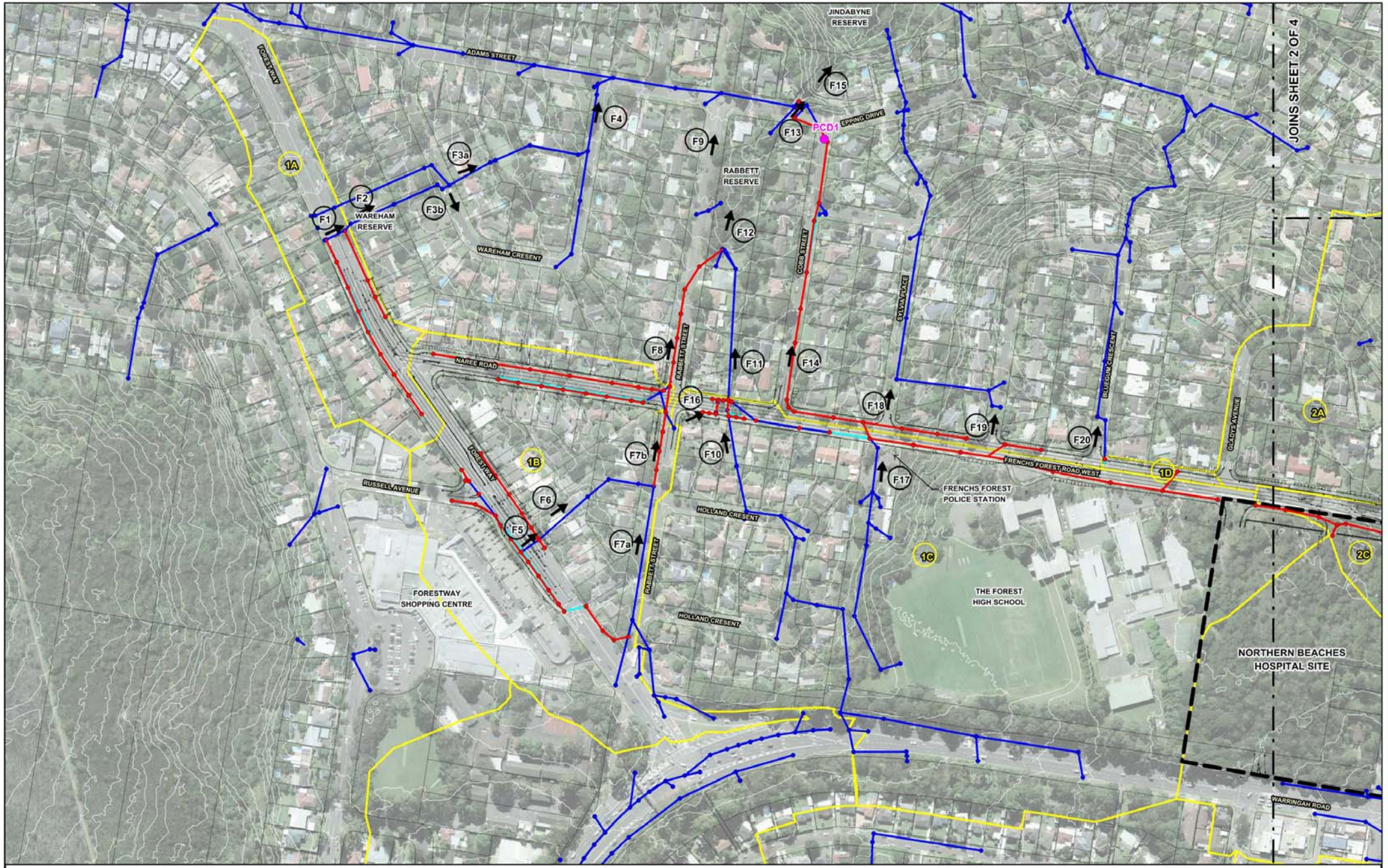
Figure 7.1
(Sheet 4 of 4)
EXTENT OF DISTURBED AREAS
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

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LEGEND

2A Catchment Boundary and Identifier

F1 Peak Flow Location and Identifier

PCD1 Potential Location for In-Line Pollutant Control Device

Existing Piped Drainage System to be Retained

Existing Piped Drainage System to be Demolished and Removed or Alternatively Abandoned

New Piped Drainage System

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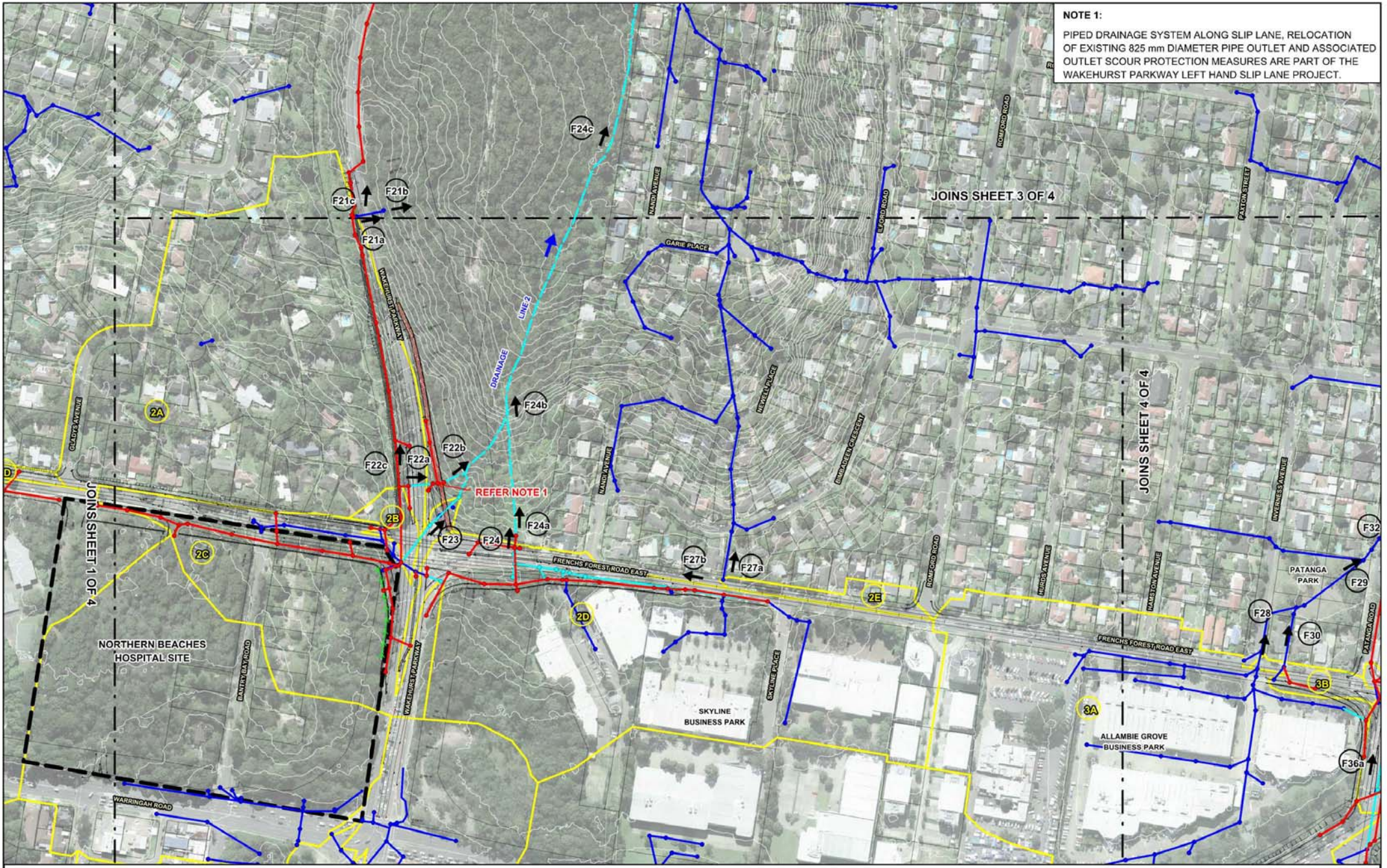
**PROPOSED CONSTRUCTION AND OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY**

Figure 8.1
(Sheet 1 of 4)

OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

LEGEND

2A Catchment Boundary and Identifier

F1 Peak Flow Location and Identifier

Existing Piped Drainage System to be Retained

Existing Piped Drainage System to be Demolished and Removed or Alternatively Abandoned

New Piped Drainage System

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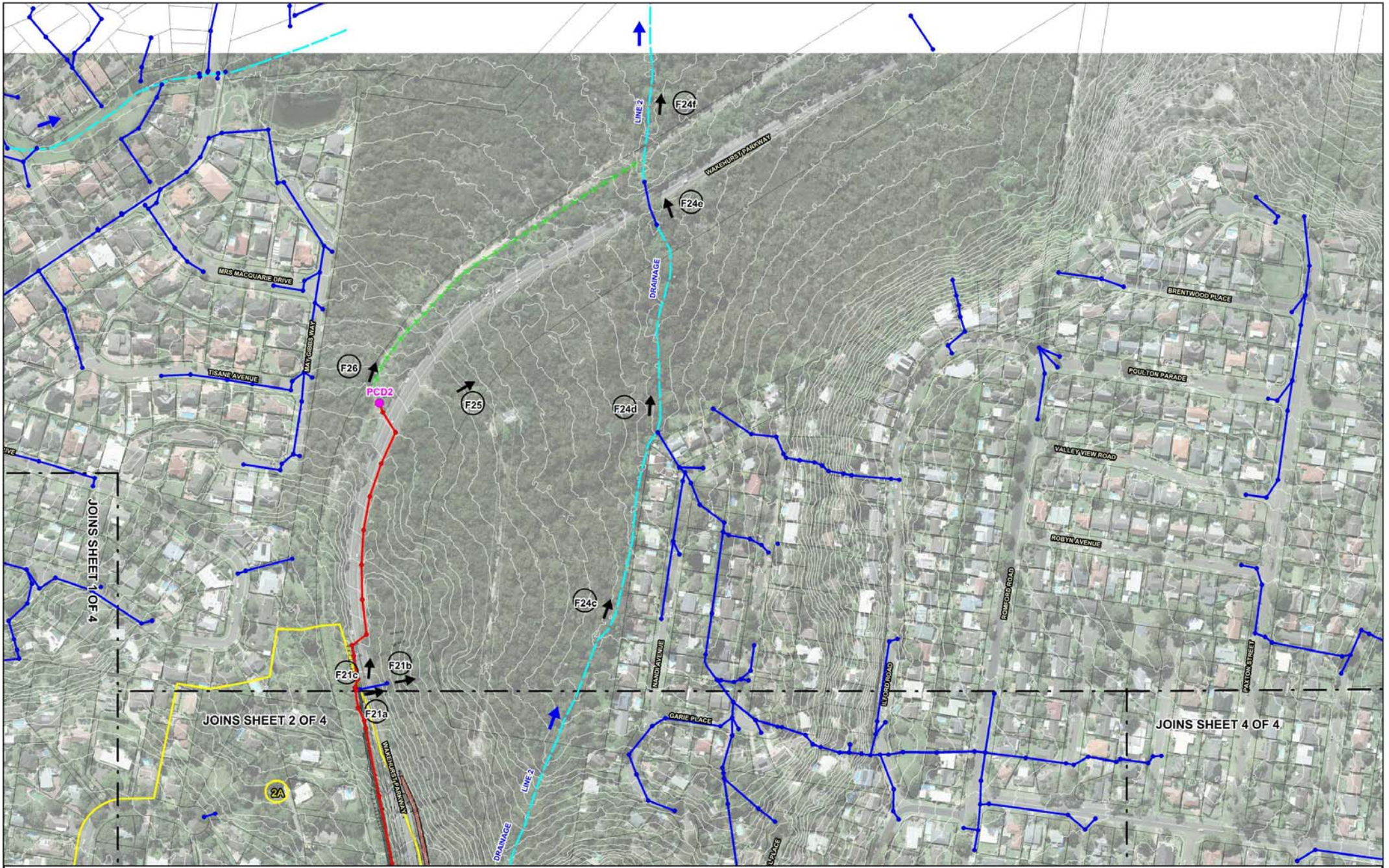
**PROPOSED CONSTRUCTION AND OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY**

Figure 8.1
(Sheet 2 of 4)

OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

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LEGEND

2A Catchment Boundary and Identifier

F1 Peak Flow Location and Identifier

PCD2 Potential Location for In-Line Pollutant Control Device

Rock Riprap Lined Channel

Existing Piped Drainage System to be Demolished and Removed or Alternatively Abandoned

Existing Piped Drainage System to be Retained

New Piped Drainage System

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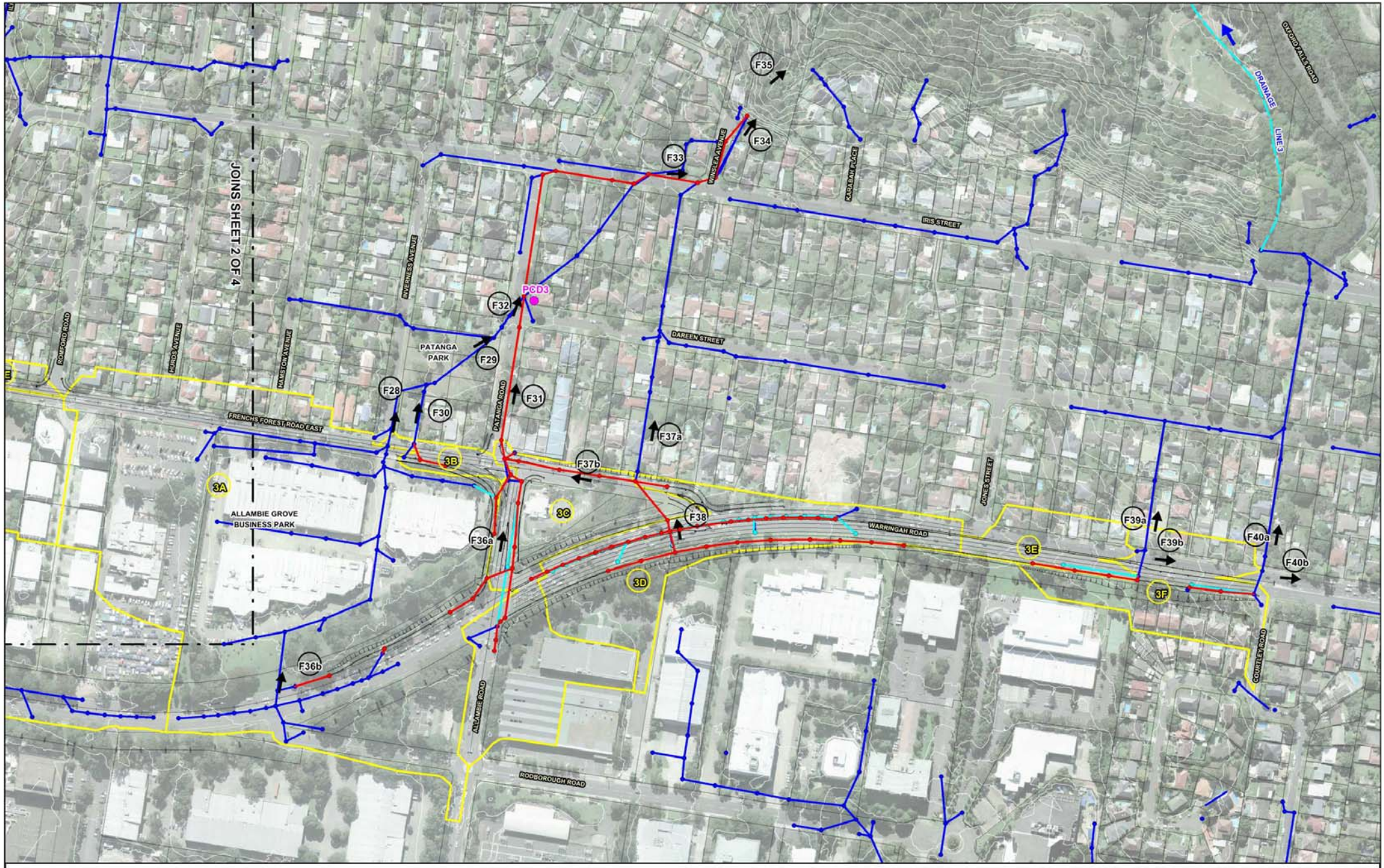
**PROPOSED CONSTRUCTION AND OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY**

Figure 8.1
(Sheet 3 of 4)

OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY
STAGE 1 PROJECT AREA




N

30 0 30 60 90 m

Scale: 1:3,000

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LEGEND

2A Catchment Boundary and Identifier

F1 Peak Flow Location and Identifier

PCD3 Potential Location for In-Line Pollutant Control Device

Existing Piped Drainage System to be Retained

Existing Piped Drainage System to be Demolished and Removed or Alternatively Abandoned

New Piped Drainage System

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Figure 8.1
(Sheet 4 of 4)

OPERATIONAL PHASE SURFACE WATER MANAGEMENT STRATEGY
STAGE 1 PROJECT AREA