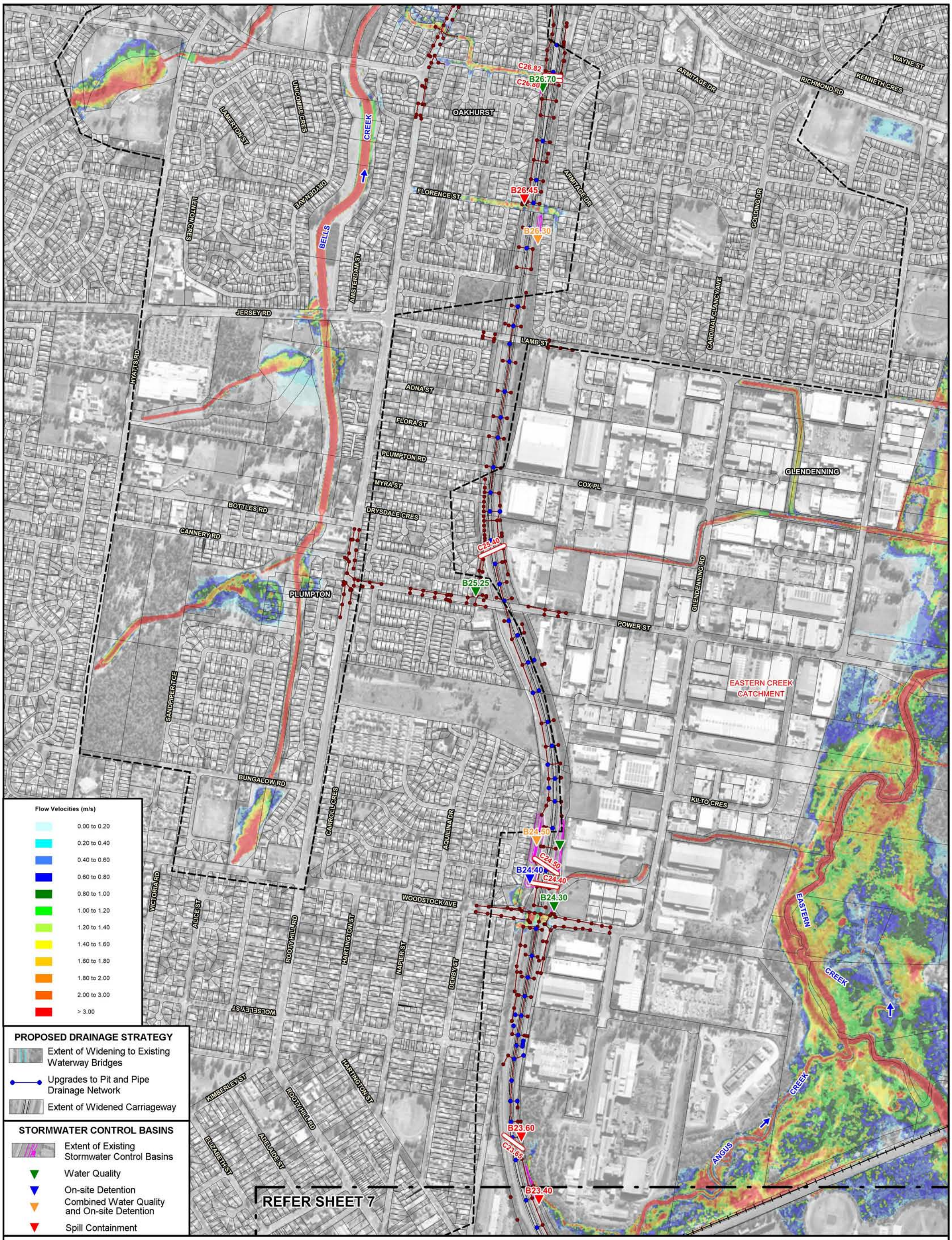
Appendix G - Part 3

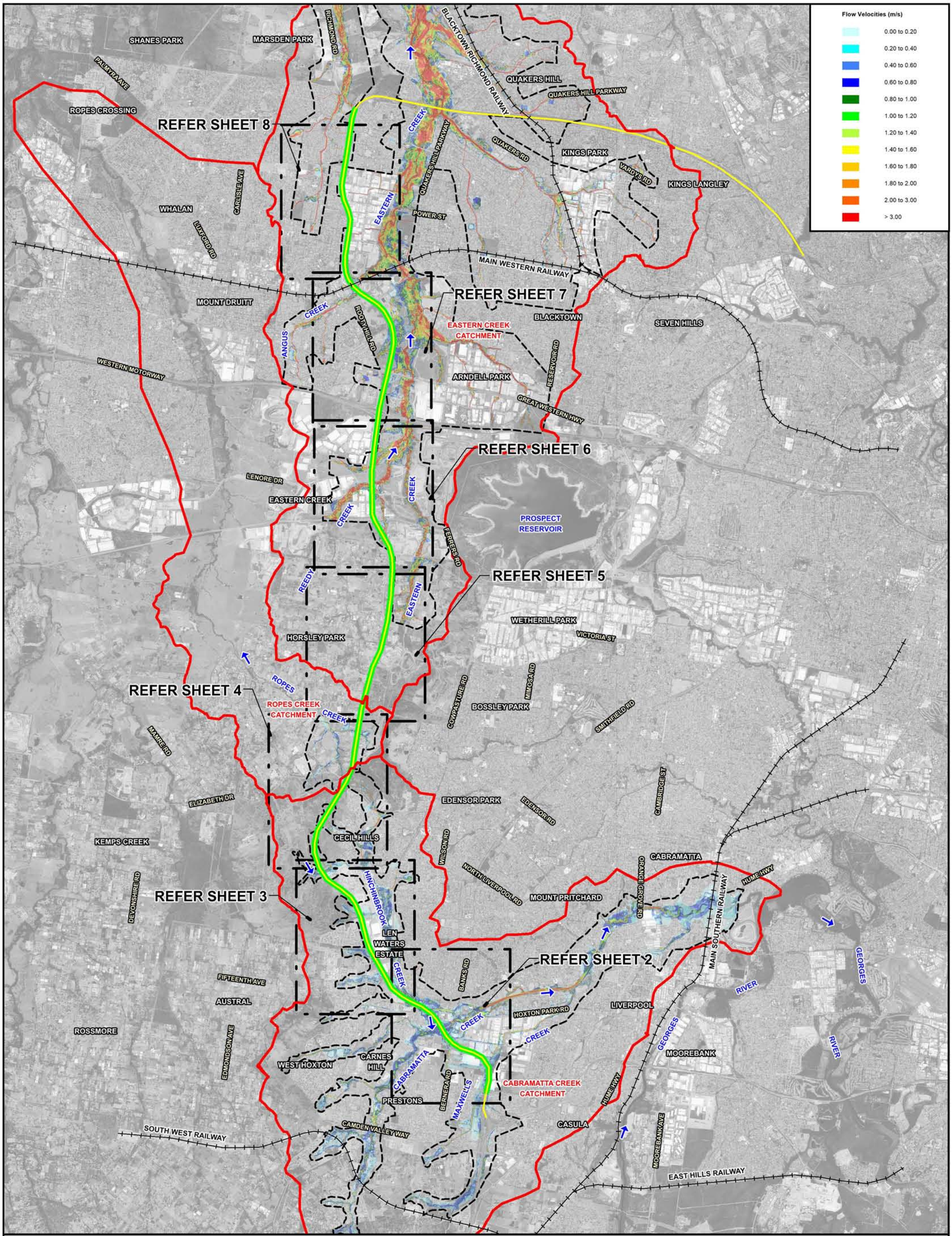
Surface Water and Flooding Impact Assessment



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.11
(Sheet 8 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



N

800 0 800 1600 2400 m

Scale: 1:80,000

LEGEND

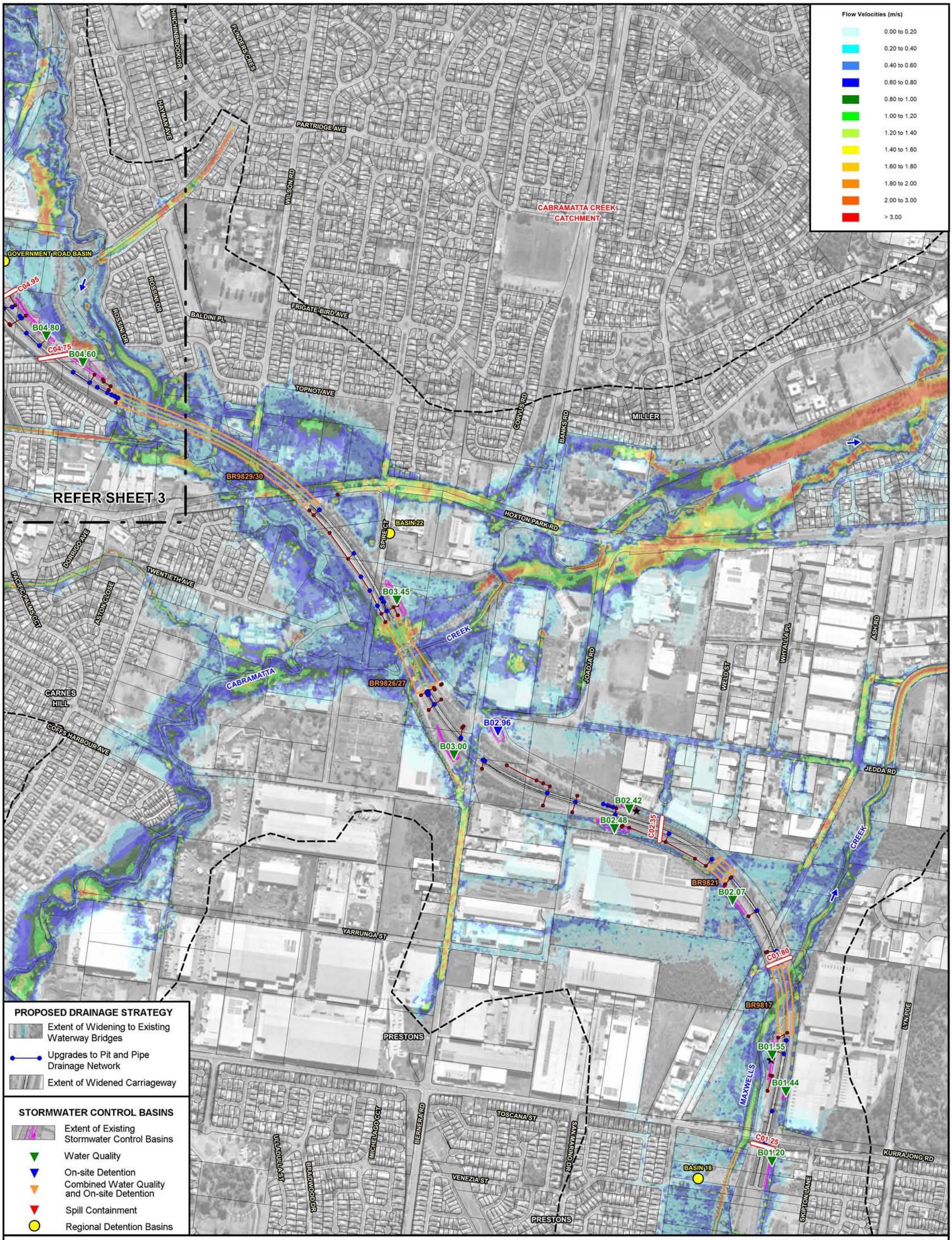
- Extent of Major Catchments
- Extent of Two-Dimensional Hydraulic Model Boundary
- Extent of M7 Motorway Widening
- M7 Motorway

Lyall & Associates

WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 1 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

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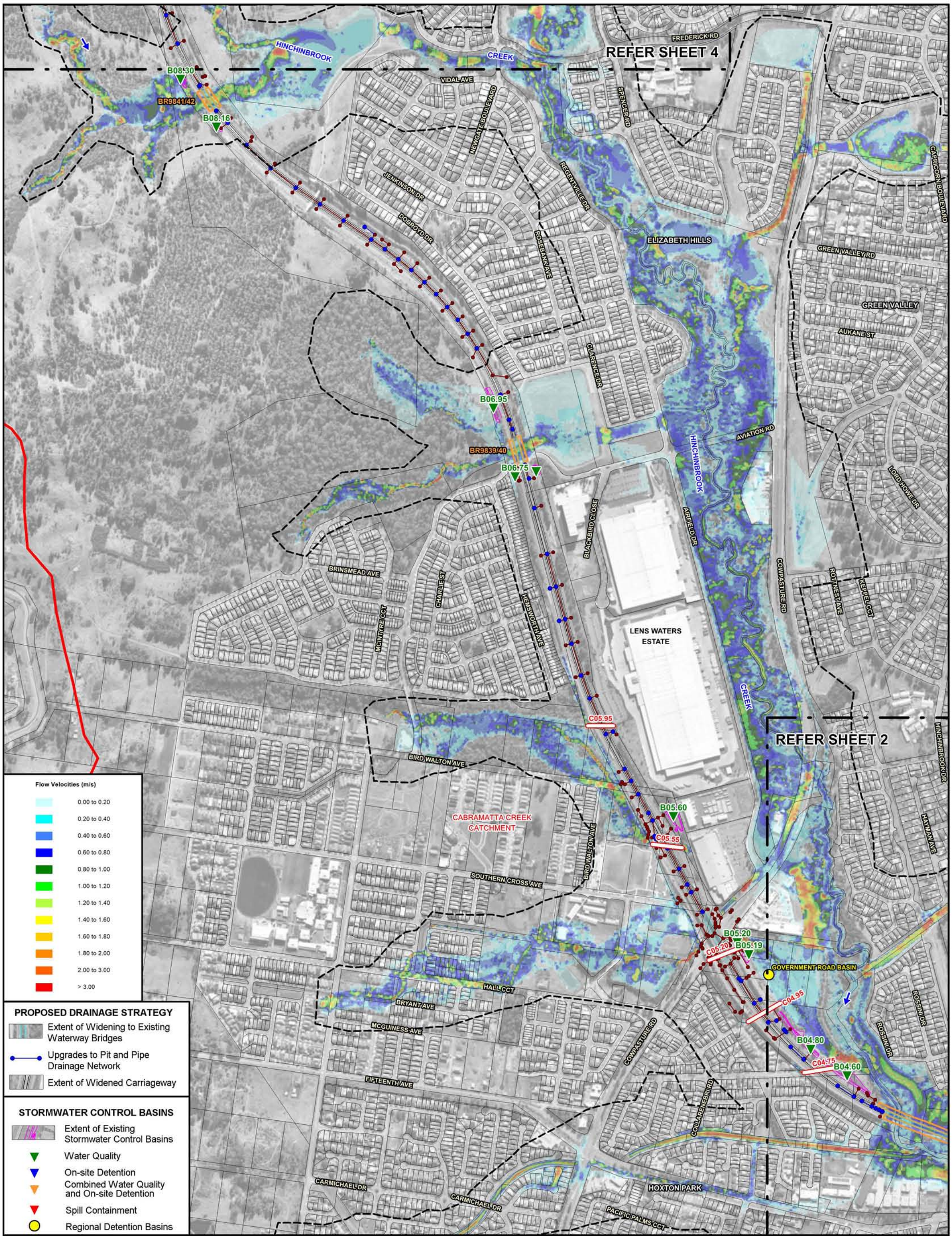
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 2 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

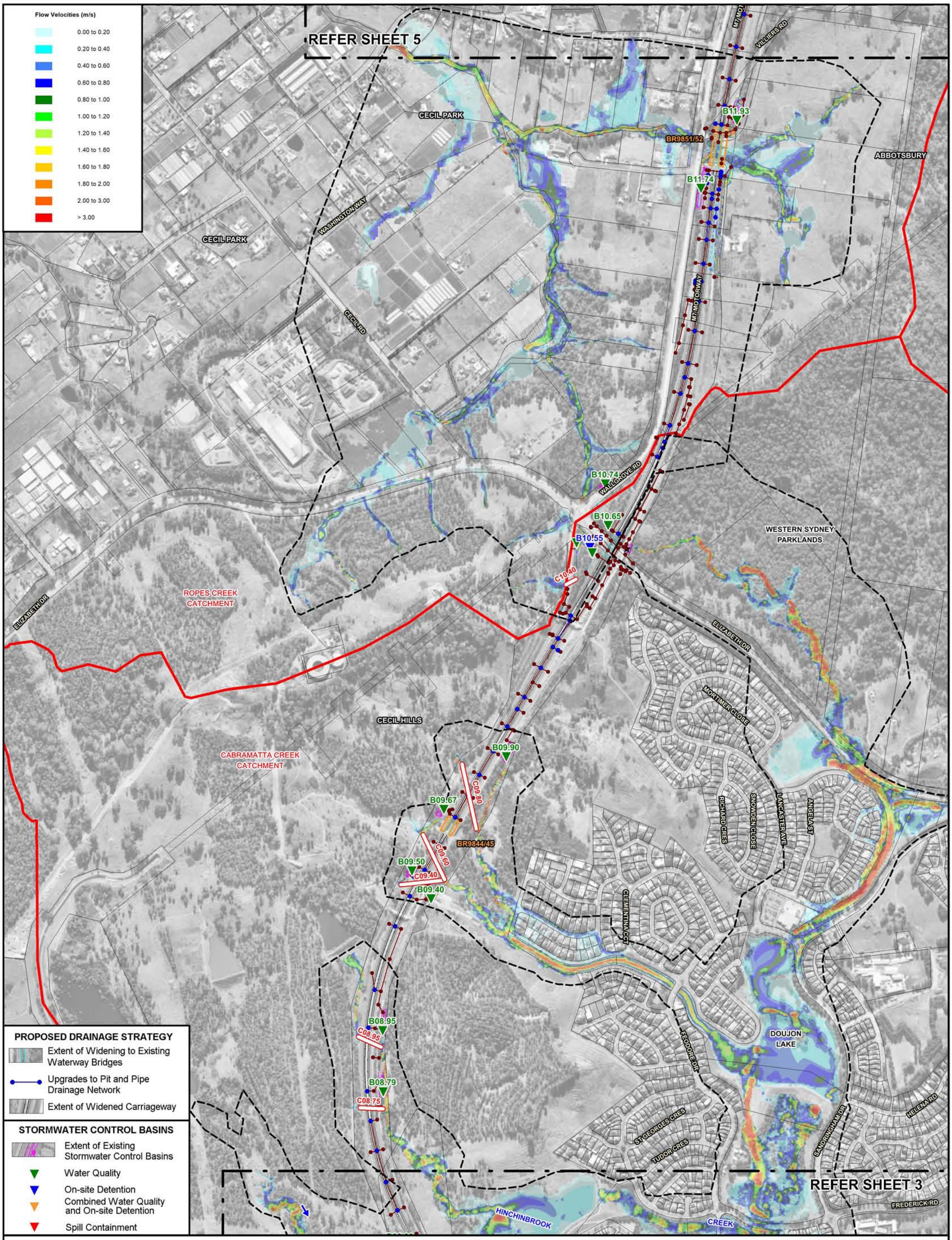
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 3 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP

Lyall & Associates



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

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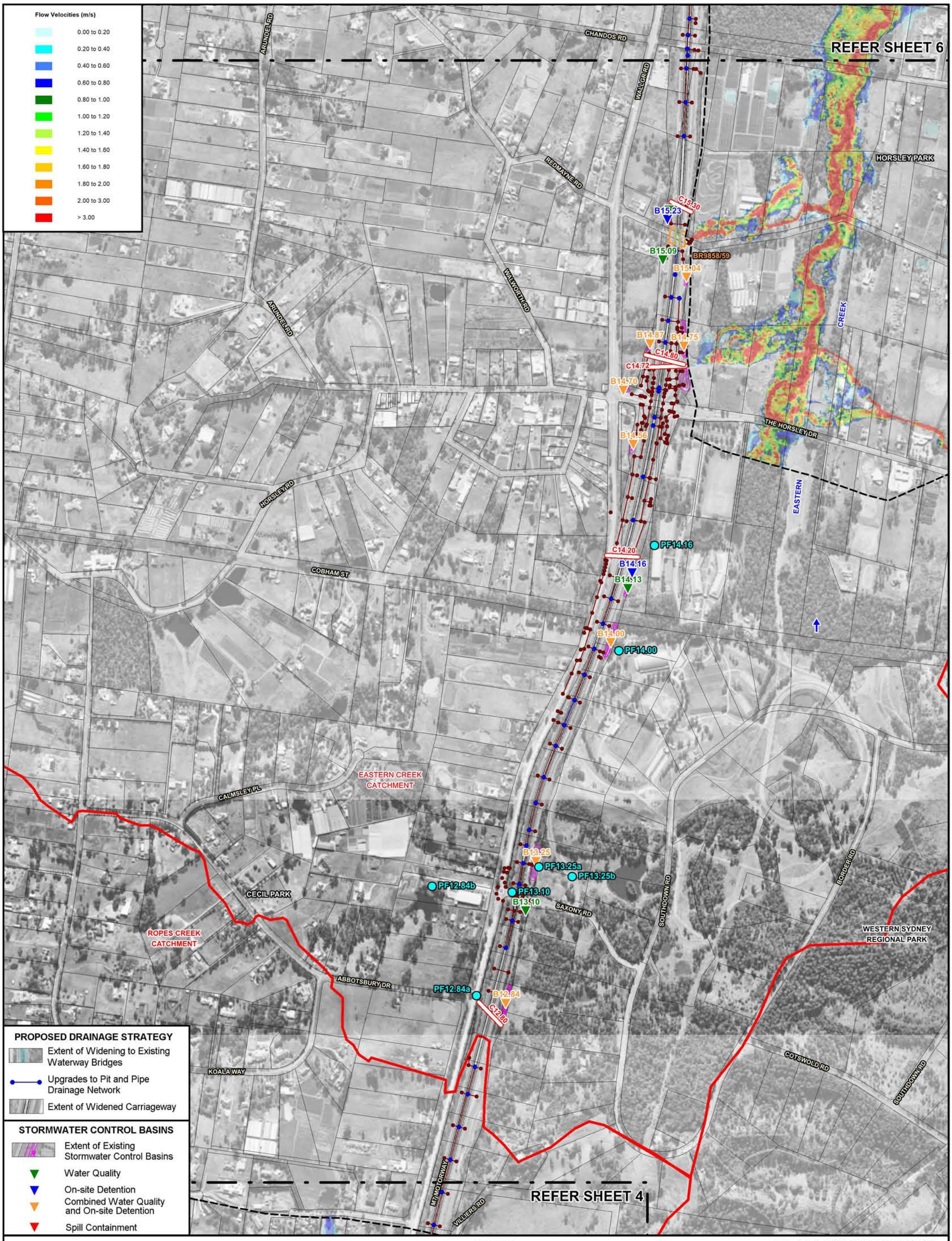
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 4 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP

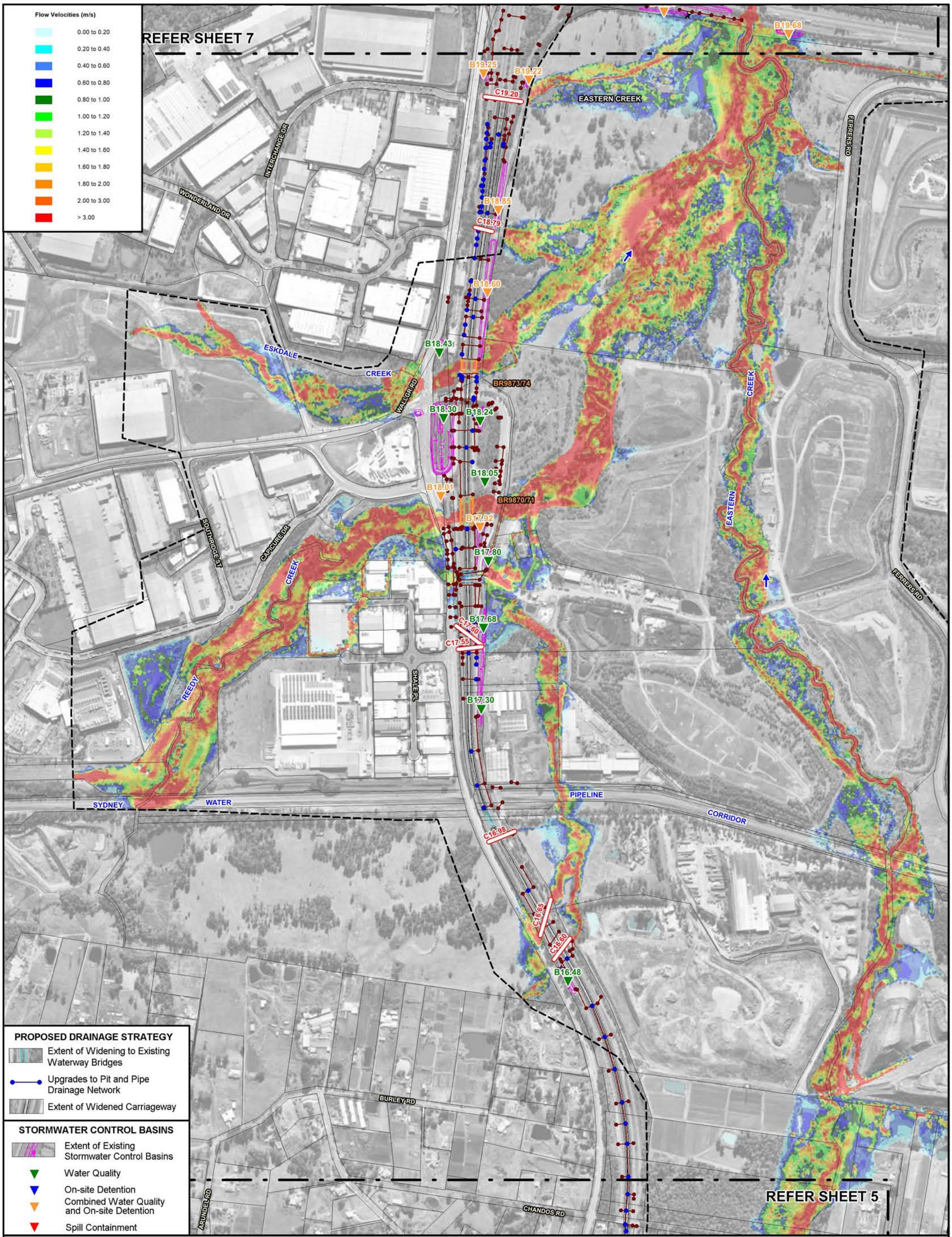


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 5 of 8)

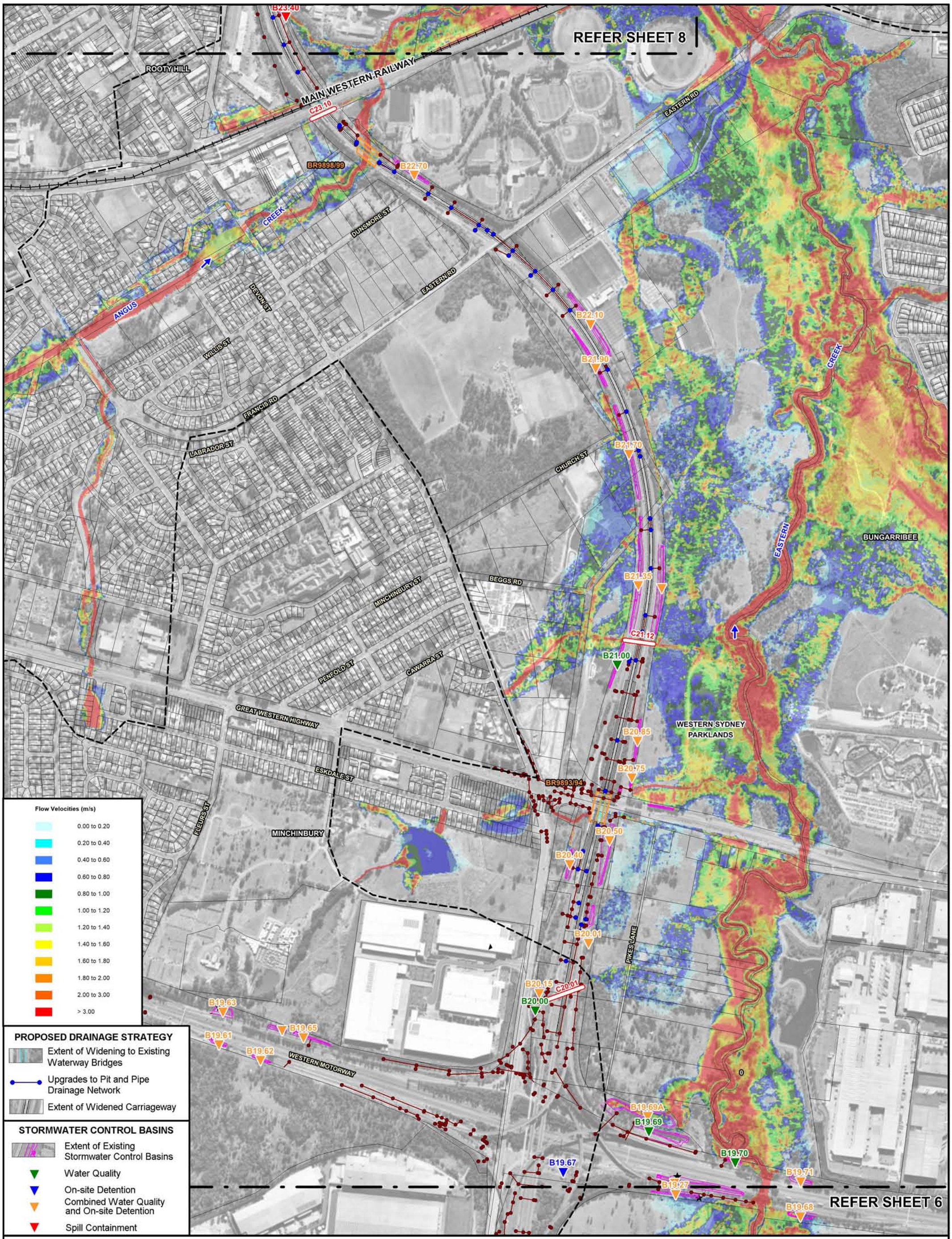
MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 6 of 8)

MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

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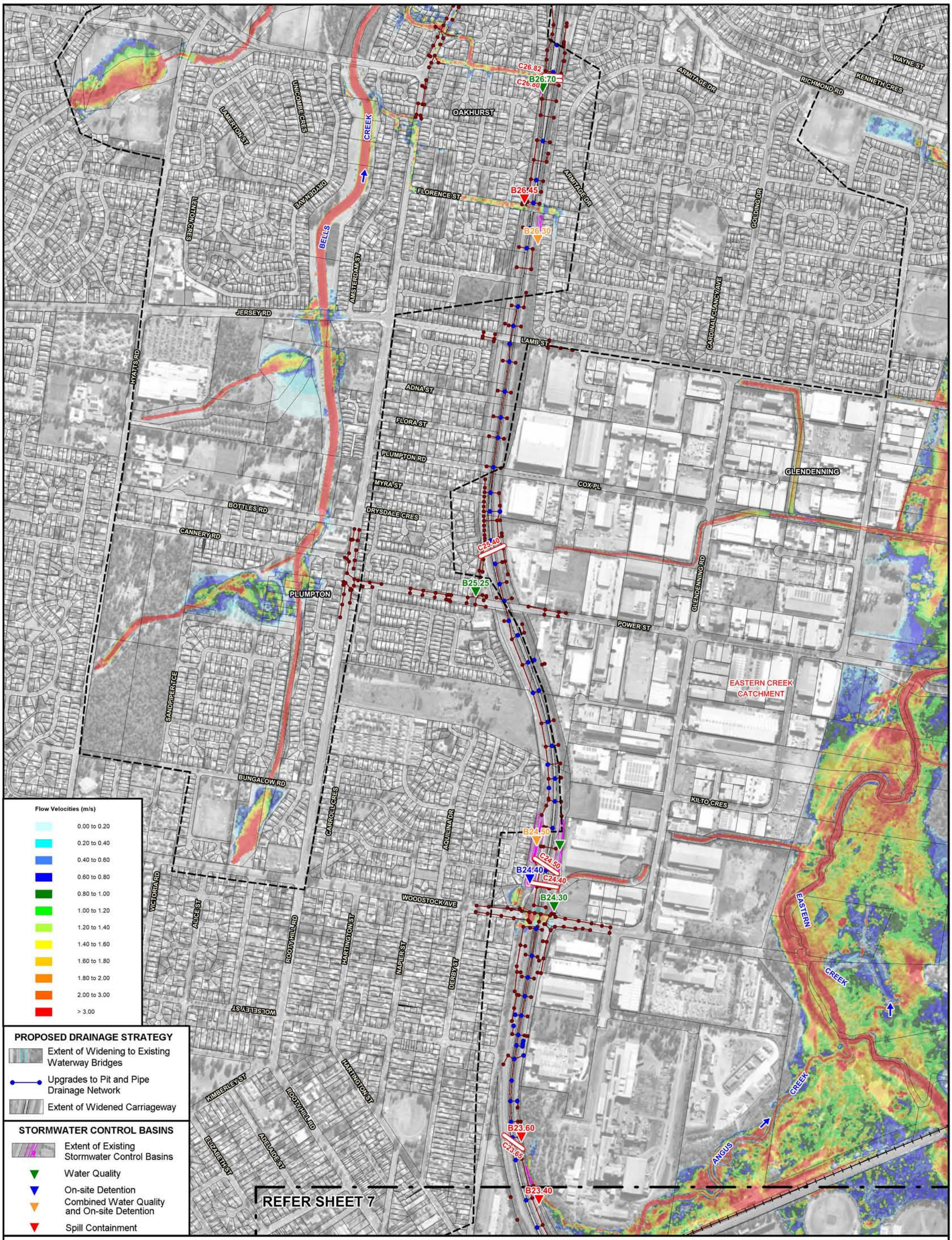
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 7 of 8)

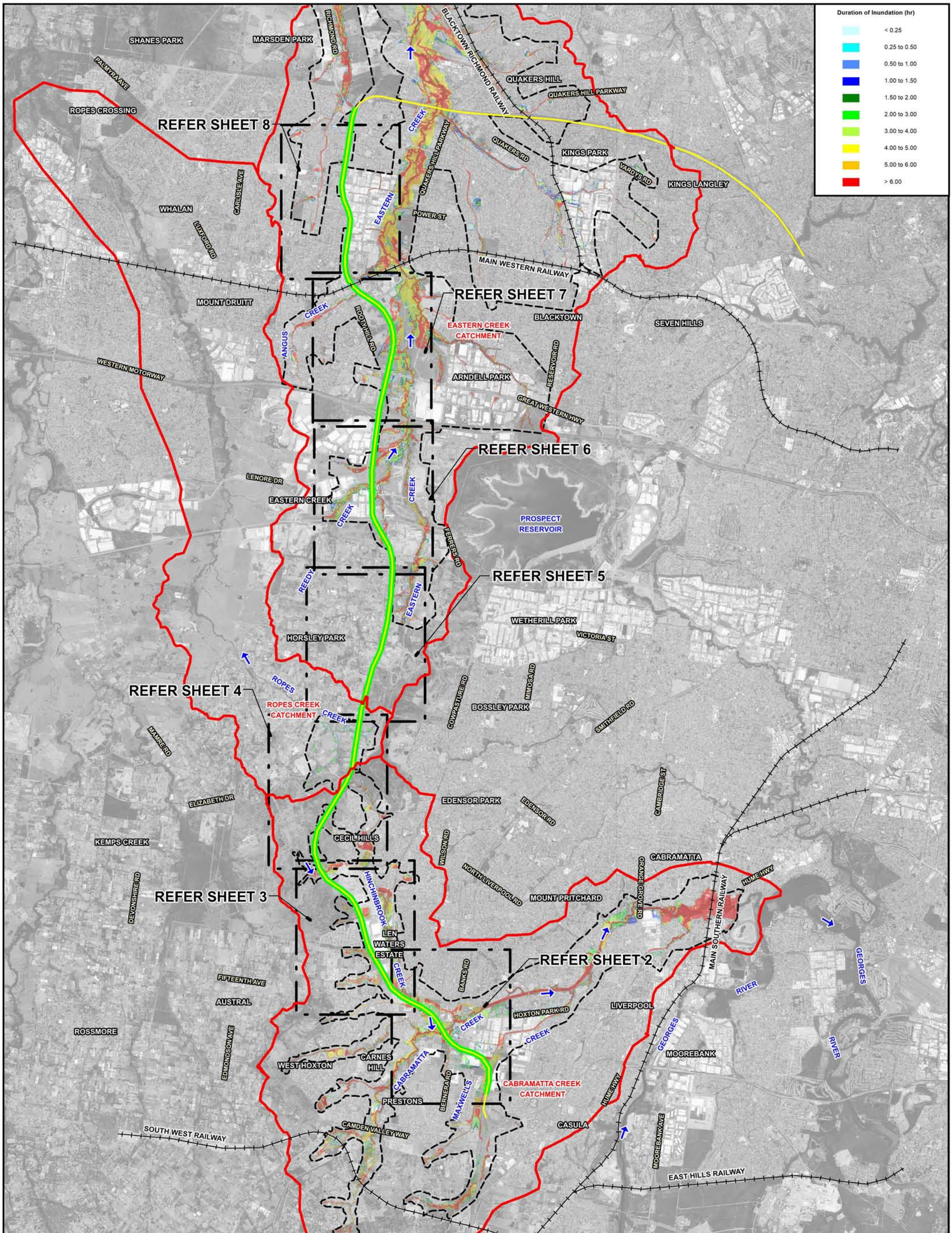
MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.12
(Sheet 8 of 8)

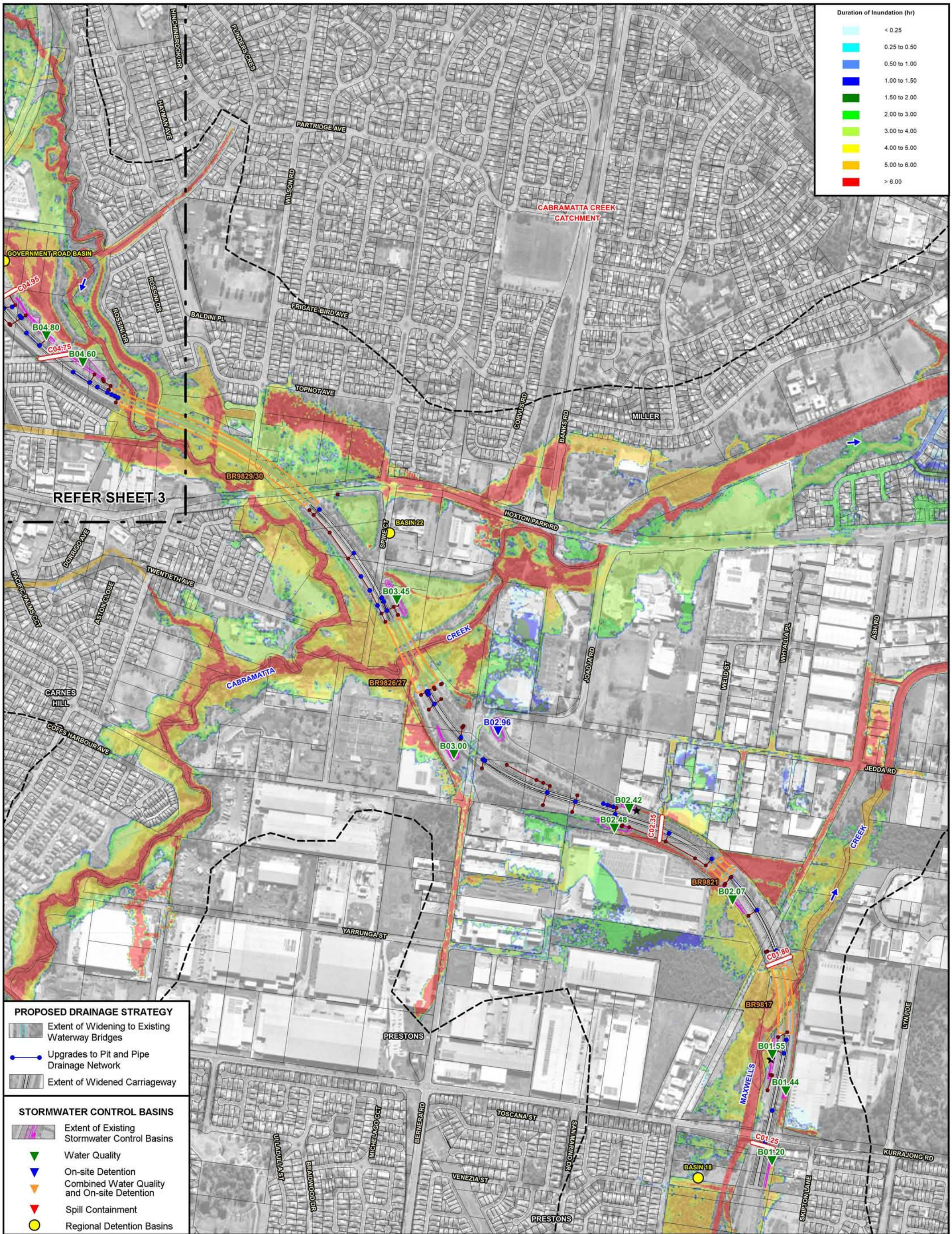
MAXIMUM FLOW VELOCITIES
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 1 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP

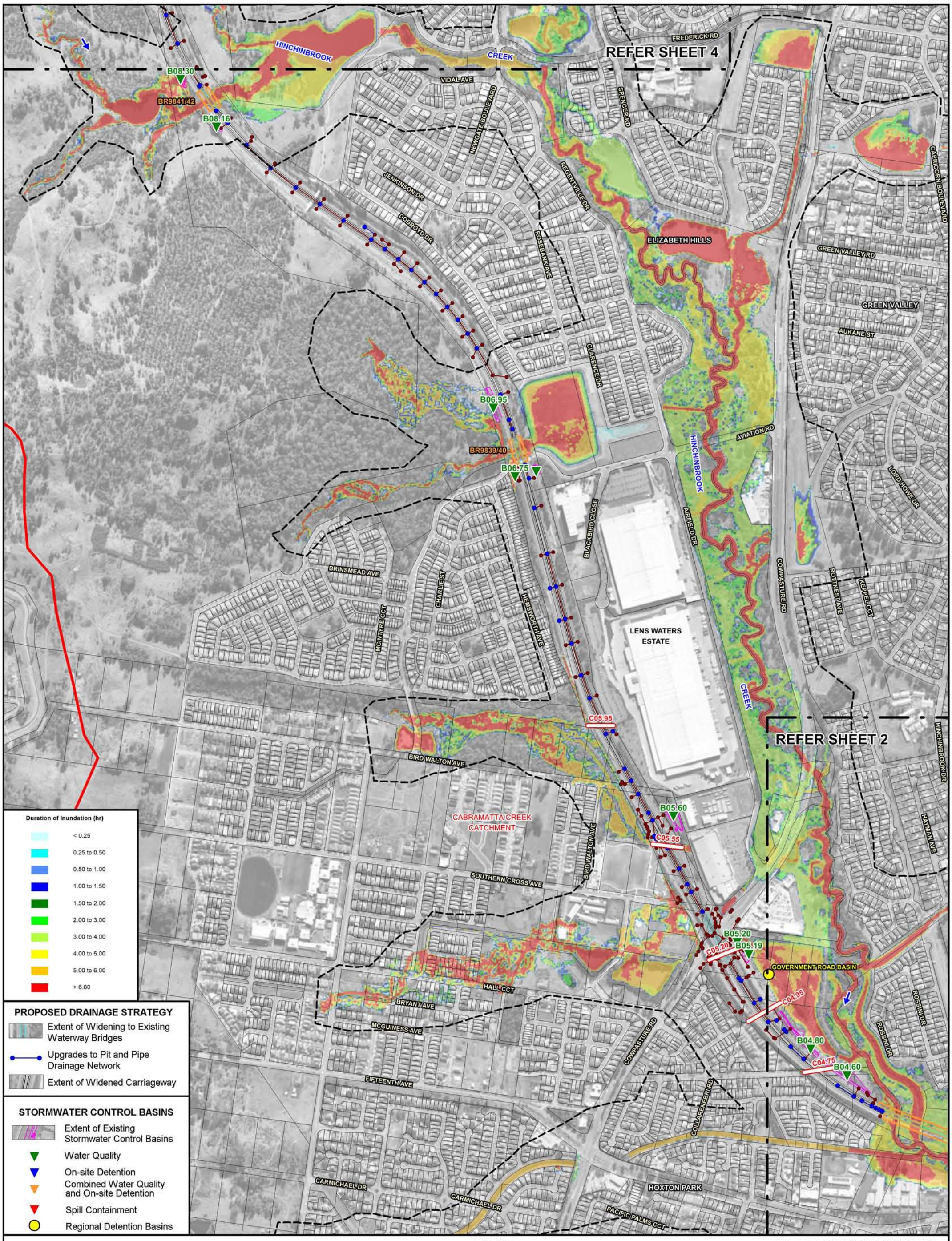


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 2 of 8)

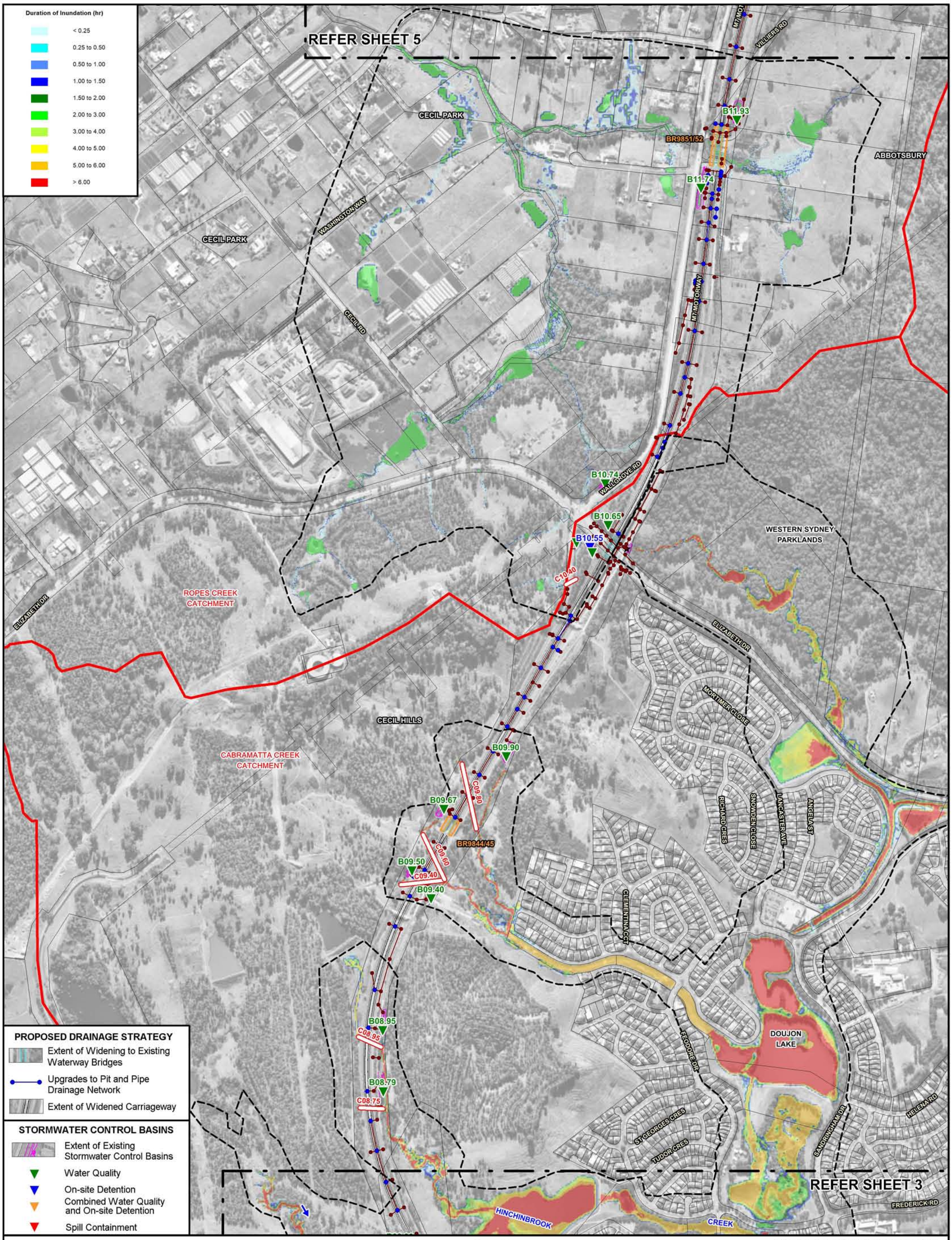
DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 3 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



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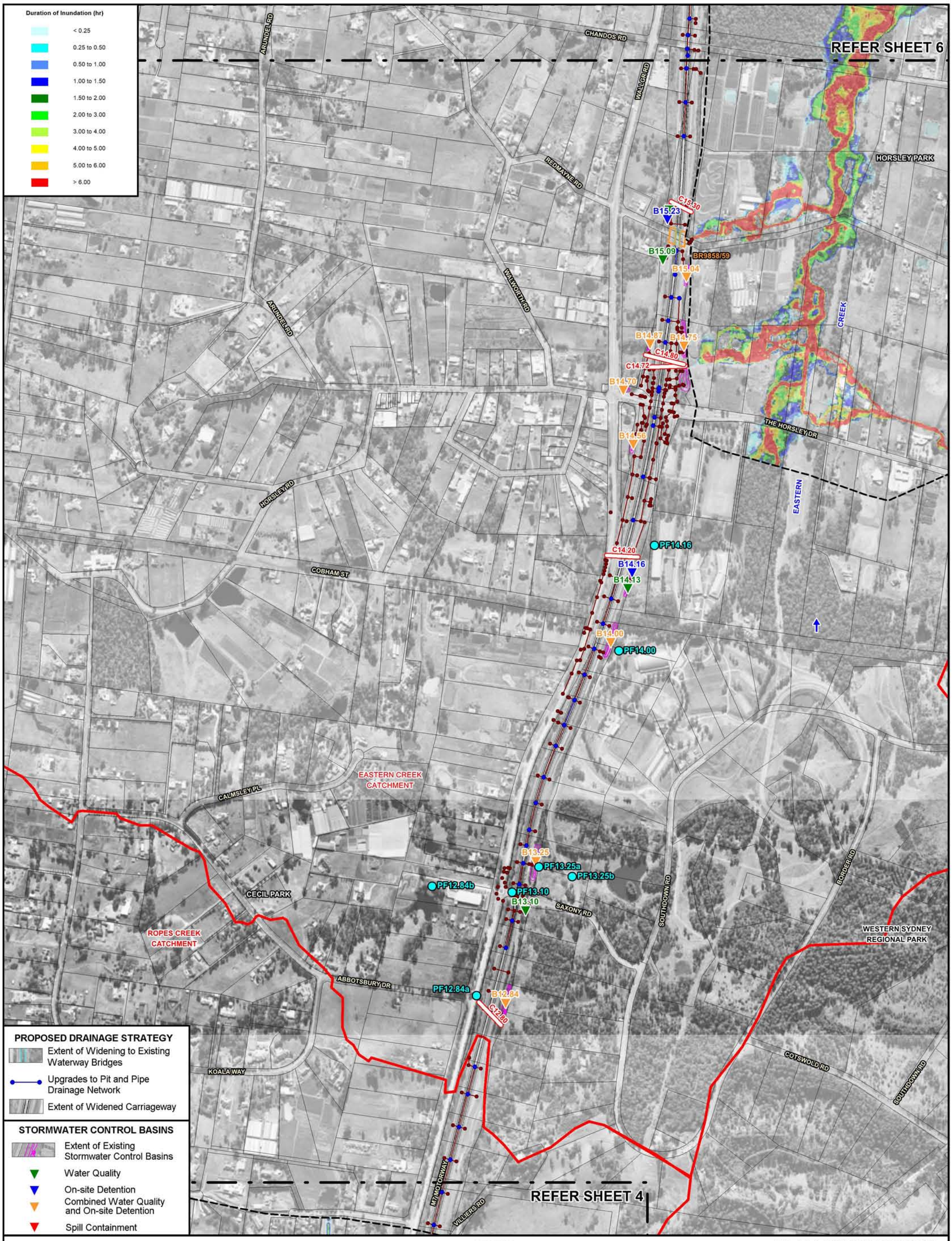
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 4 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP

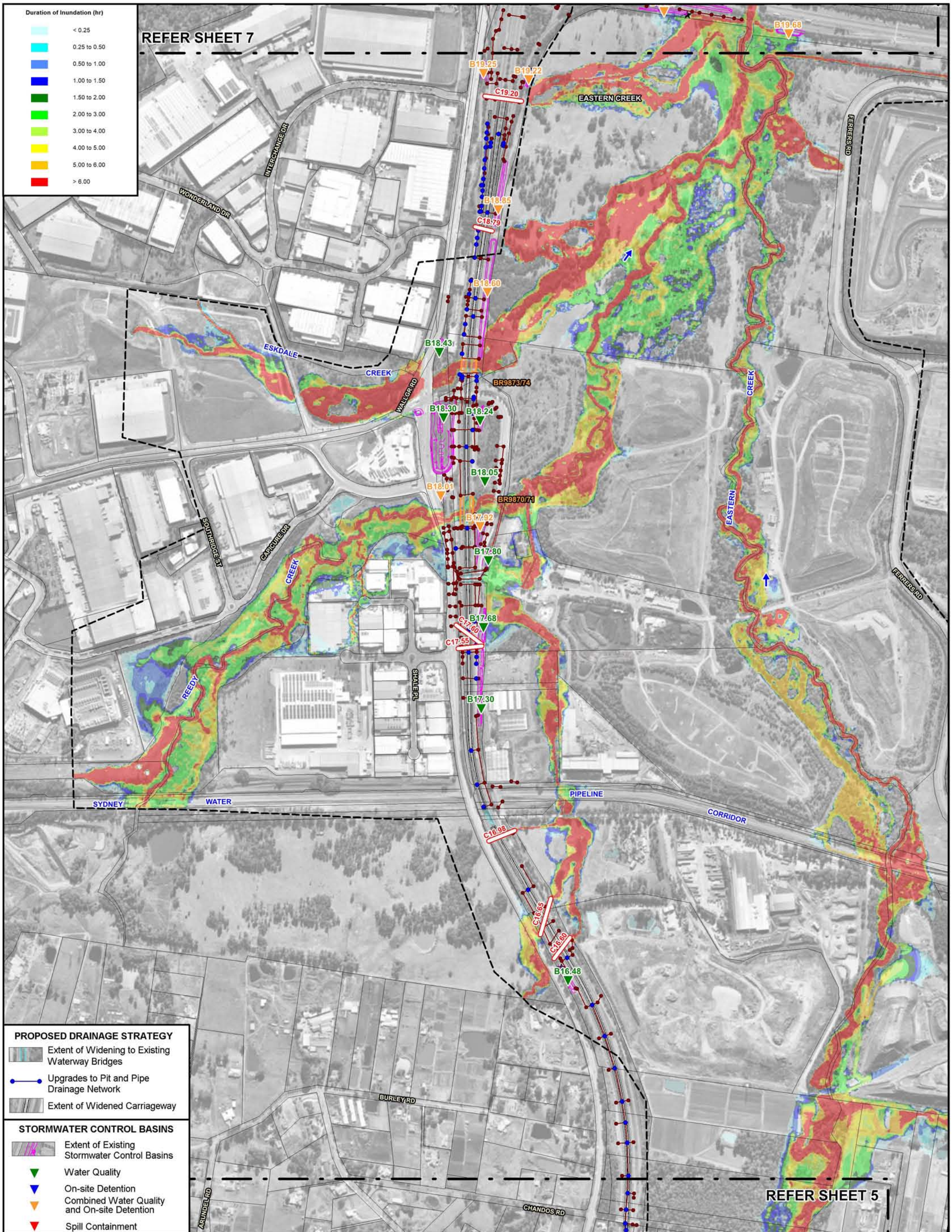


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 5 of 8)

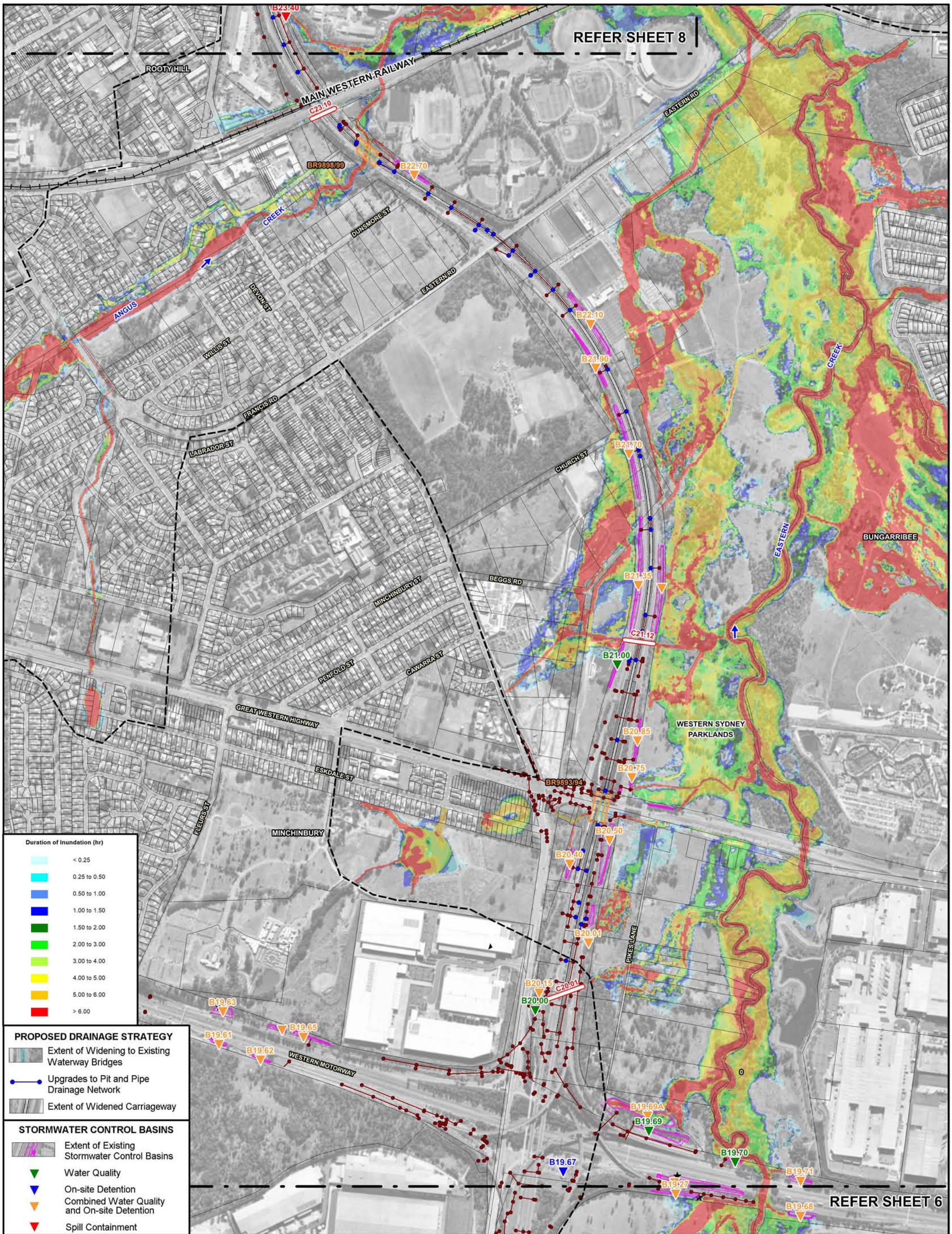
DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 6 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP

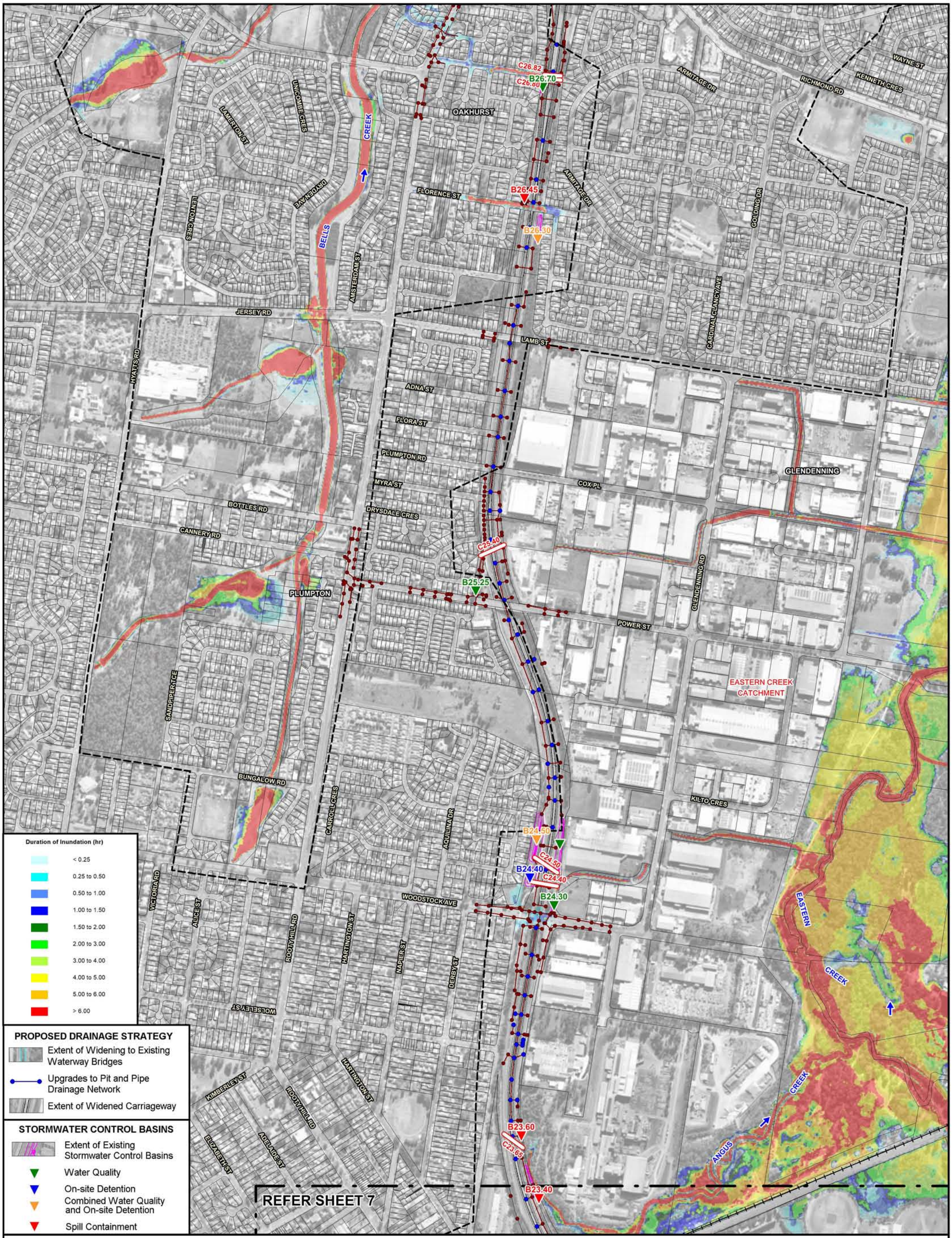


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 7 of 8)

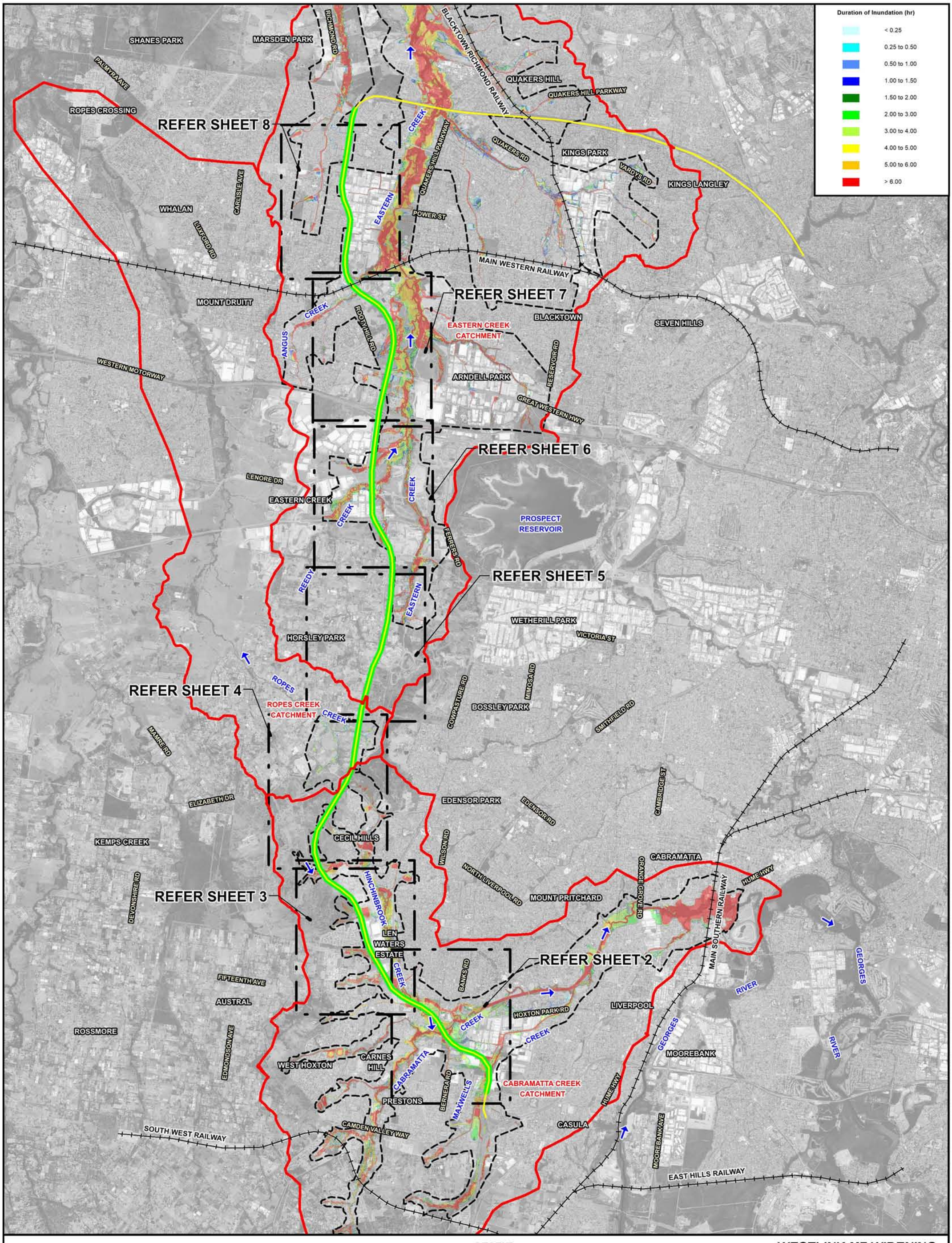
DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.13
(Sheet 8 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 5% AEP



N

800 0 800 1600 2400 m

Scale: 1:80,000

LEGEND

- Extent of Major Catchments
- Extent of Two-Dimensional Hydraulic Model Boundary
- Extent of M7 Motorway Widening
- M7 Motorway

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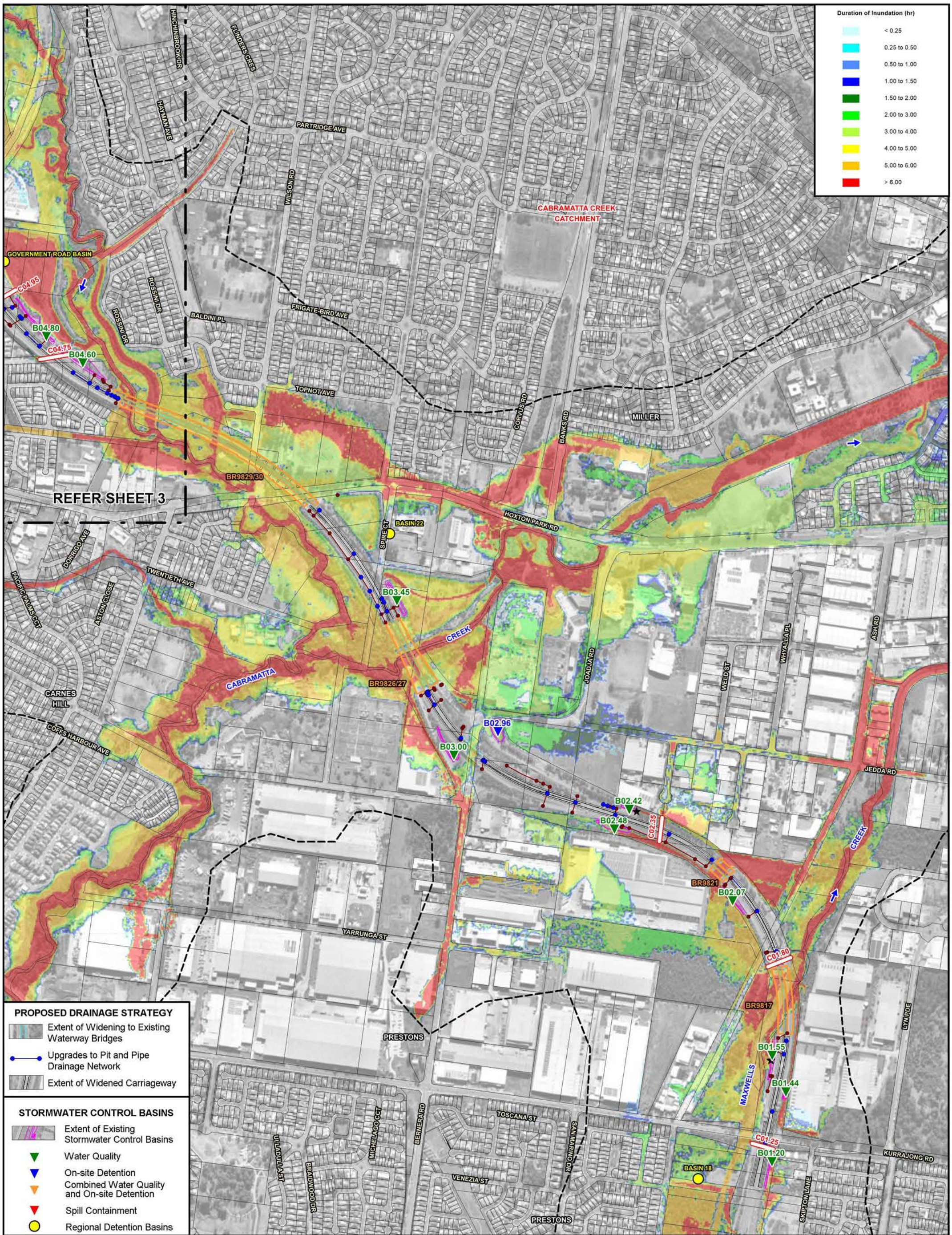
WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 1 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



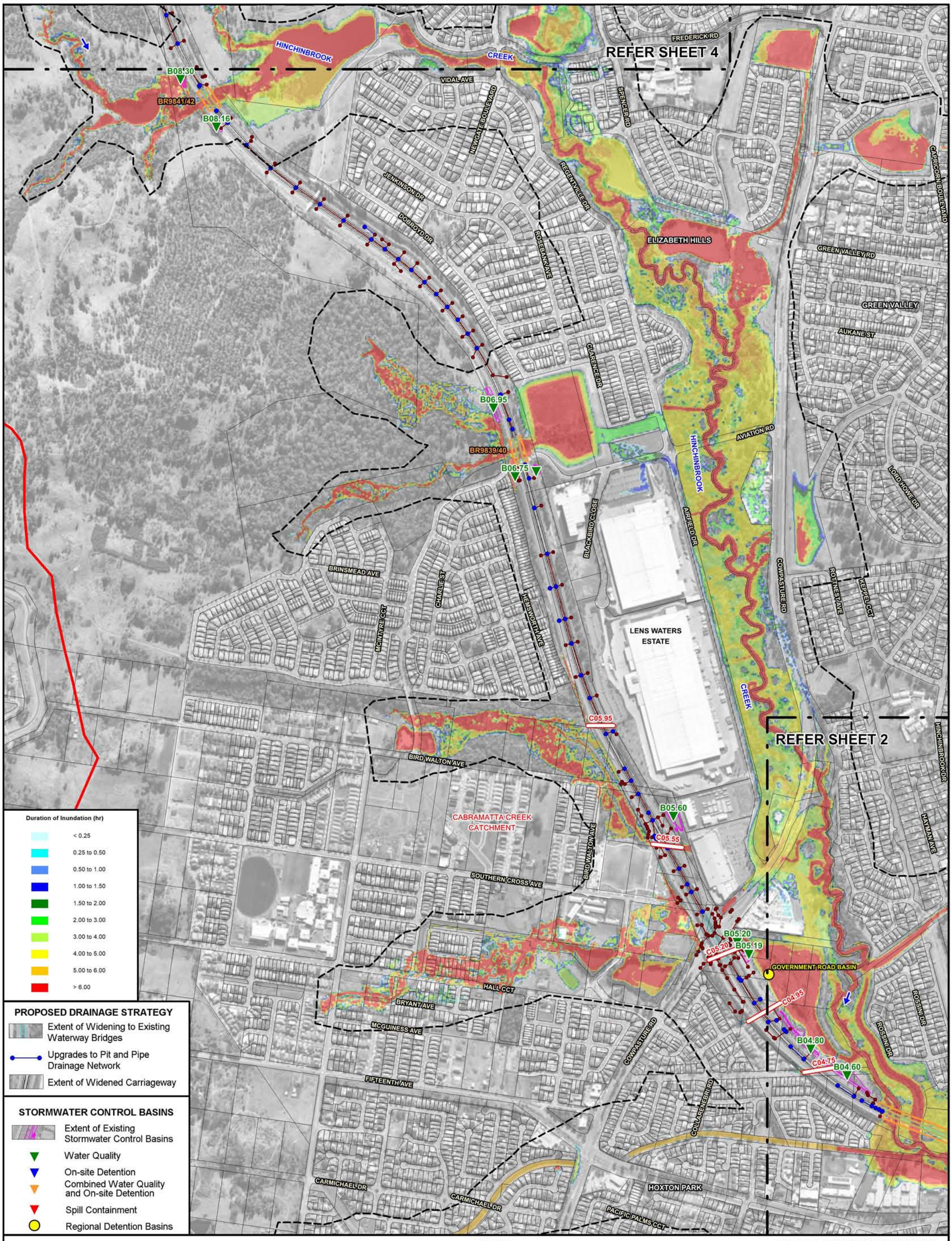
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 2 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

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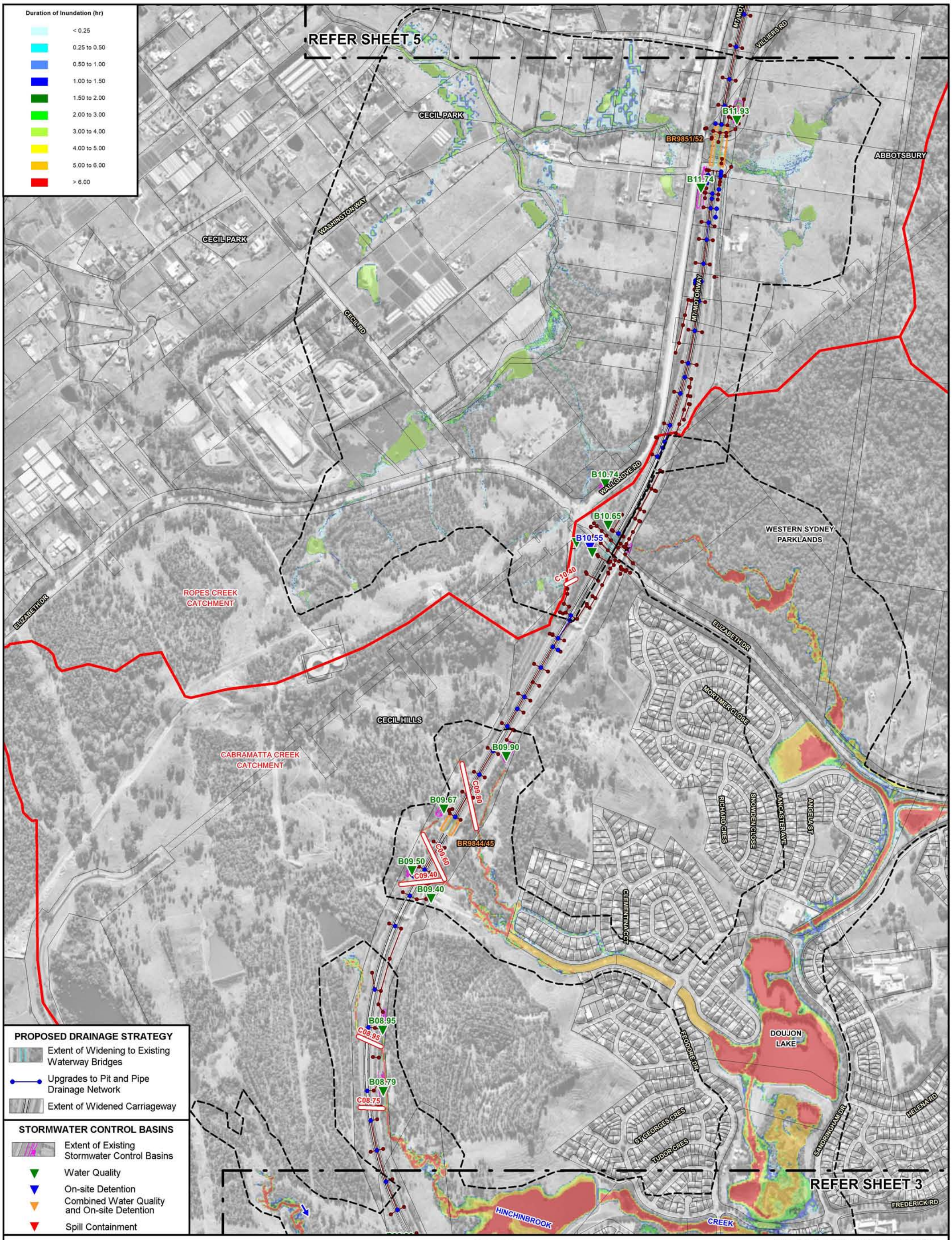
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 3 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



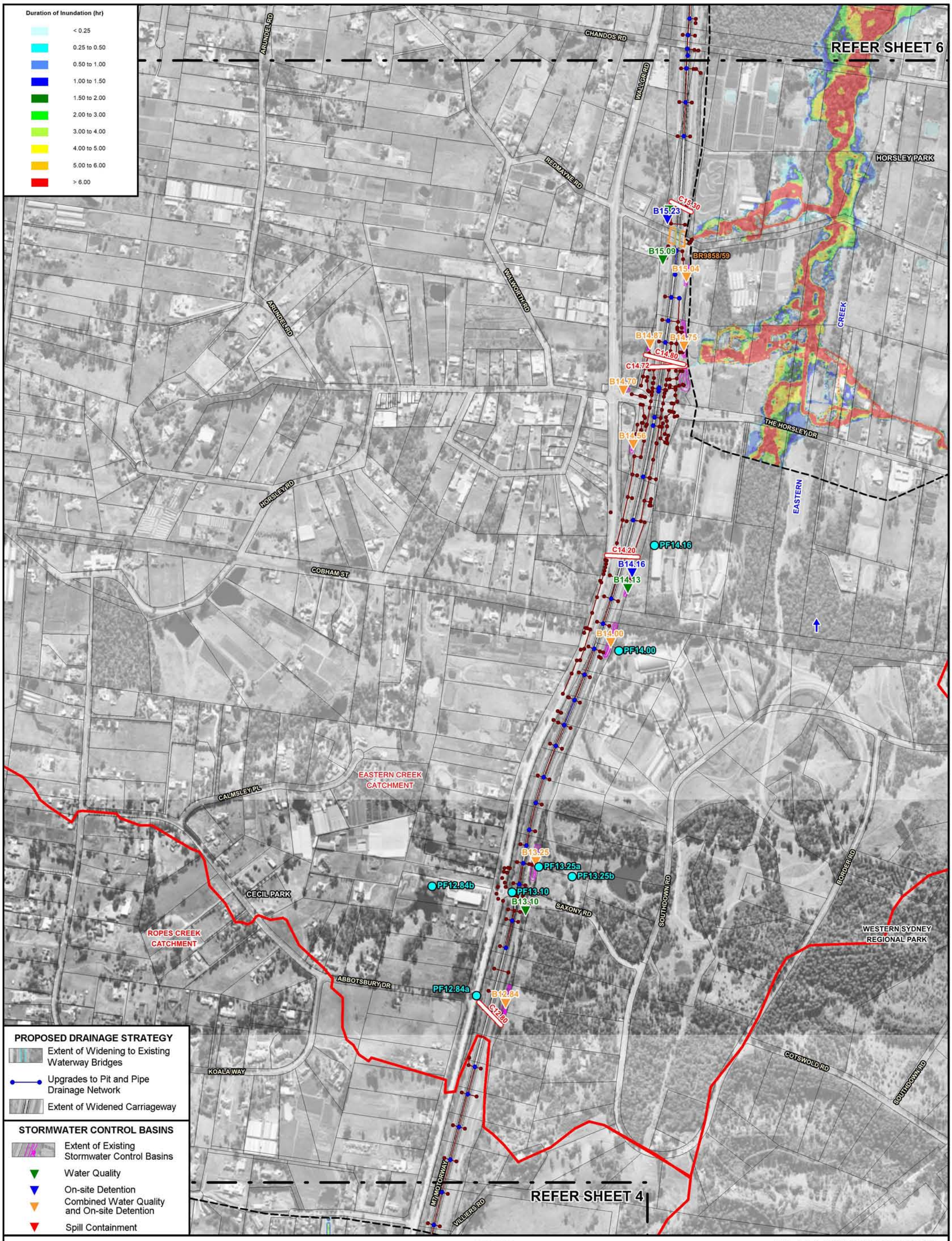
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 4 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP

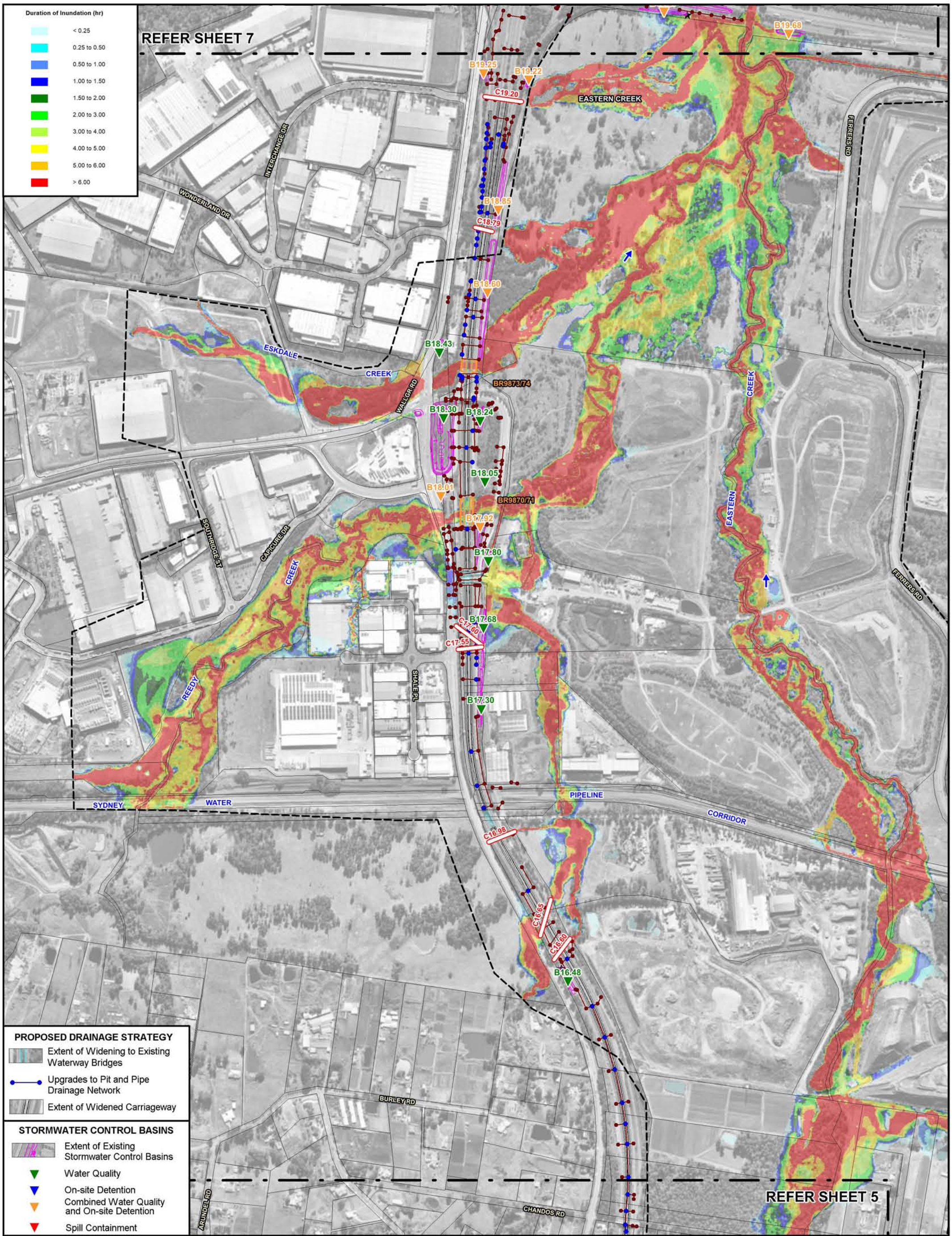


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 5 of 8)

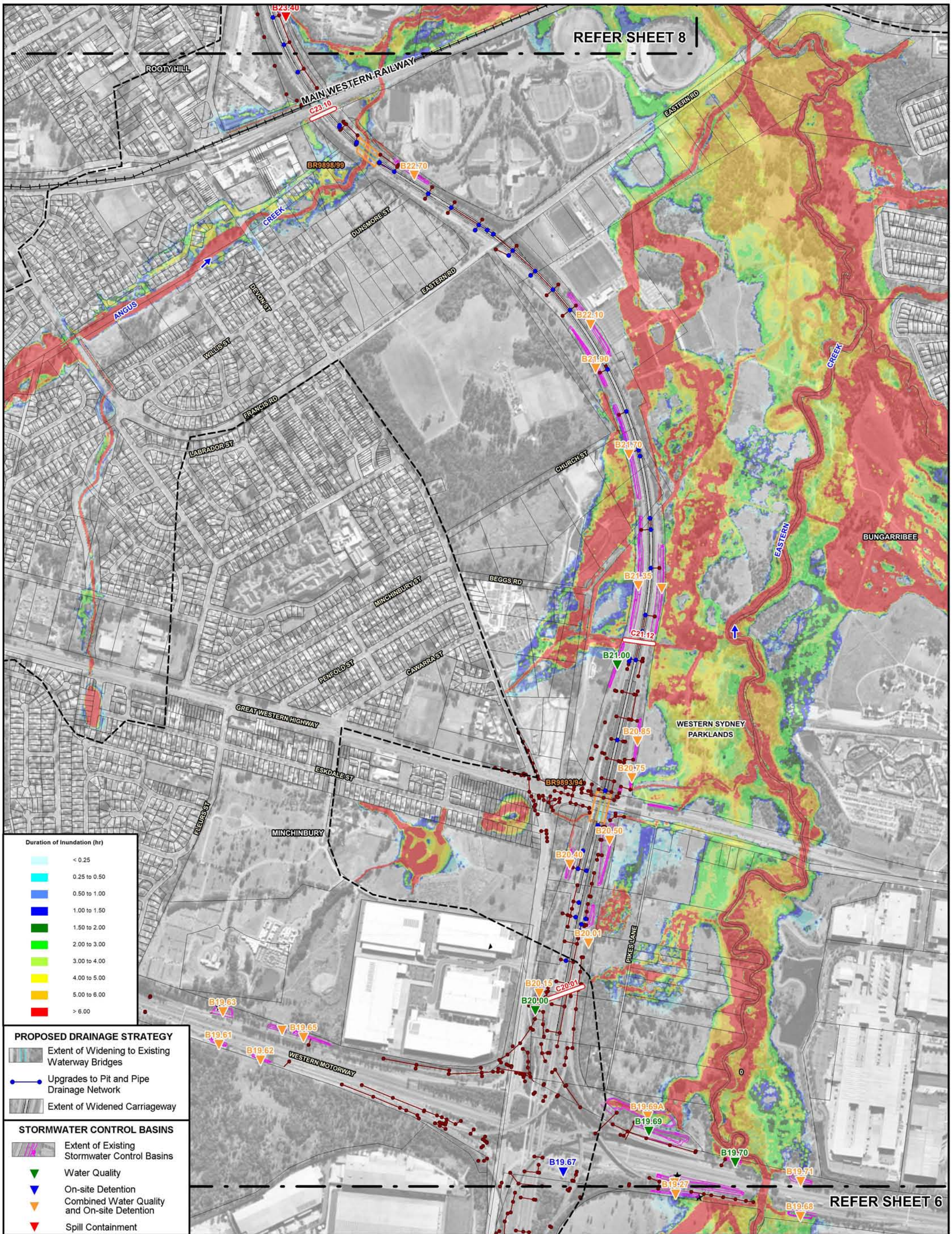
DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 6 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP

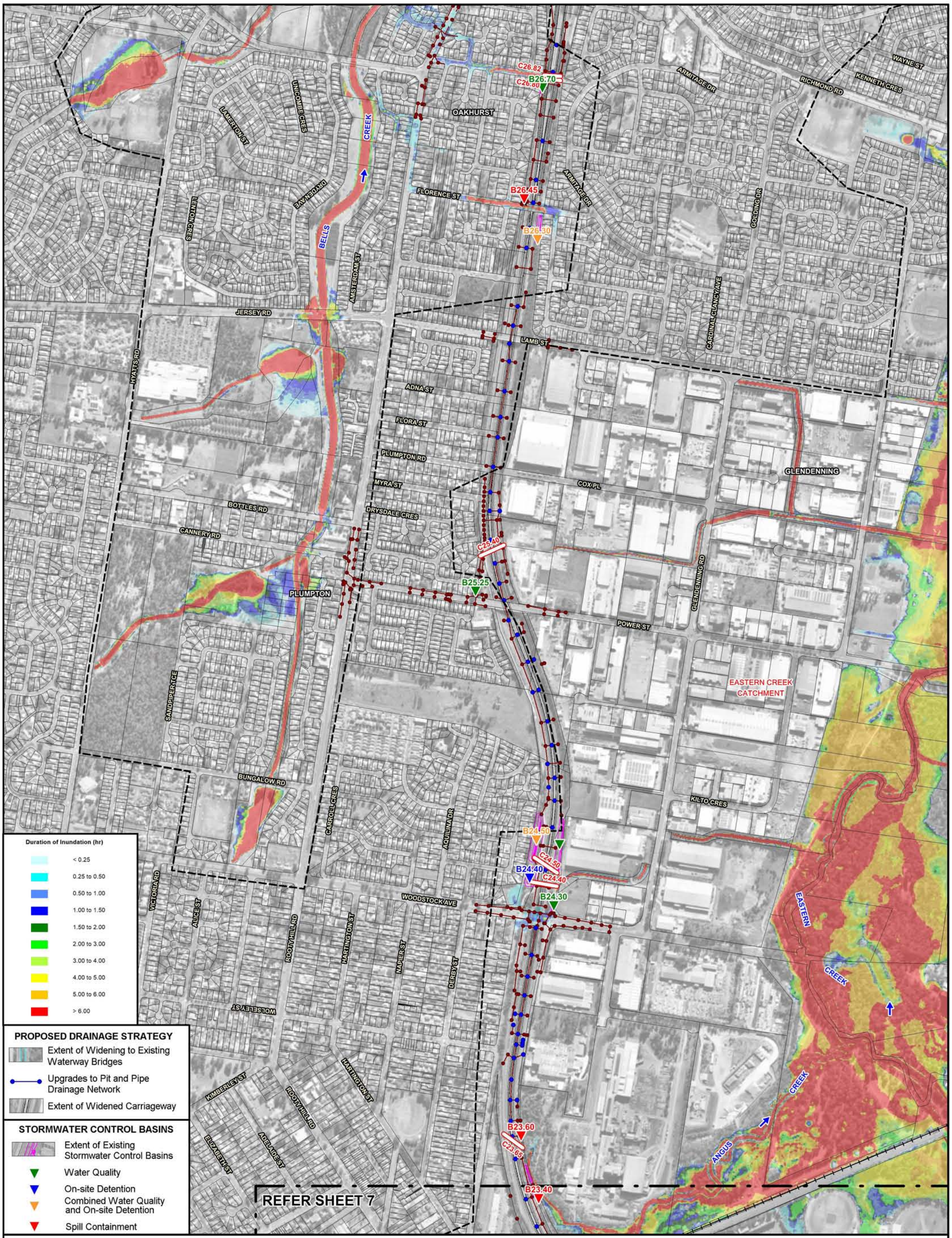


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 7 of 8)

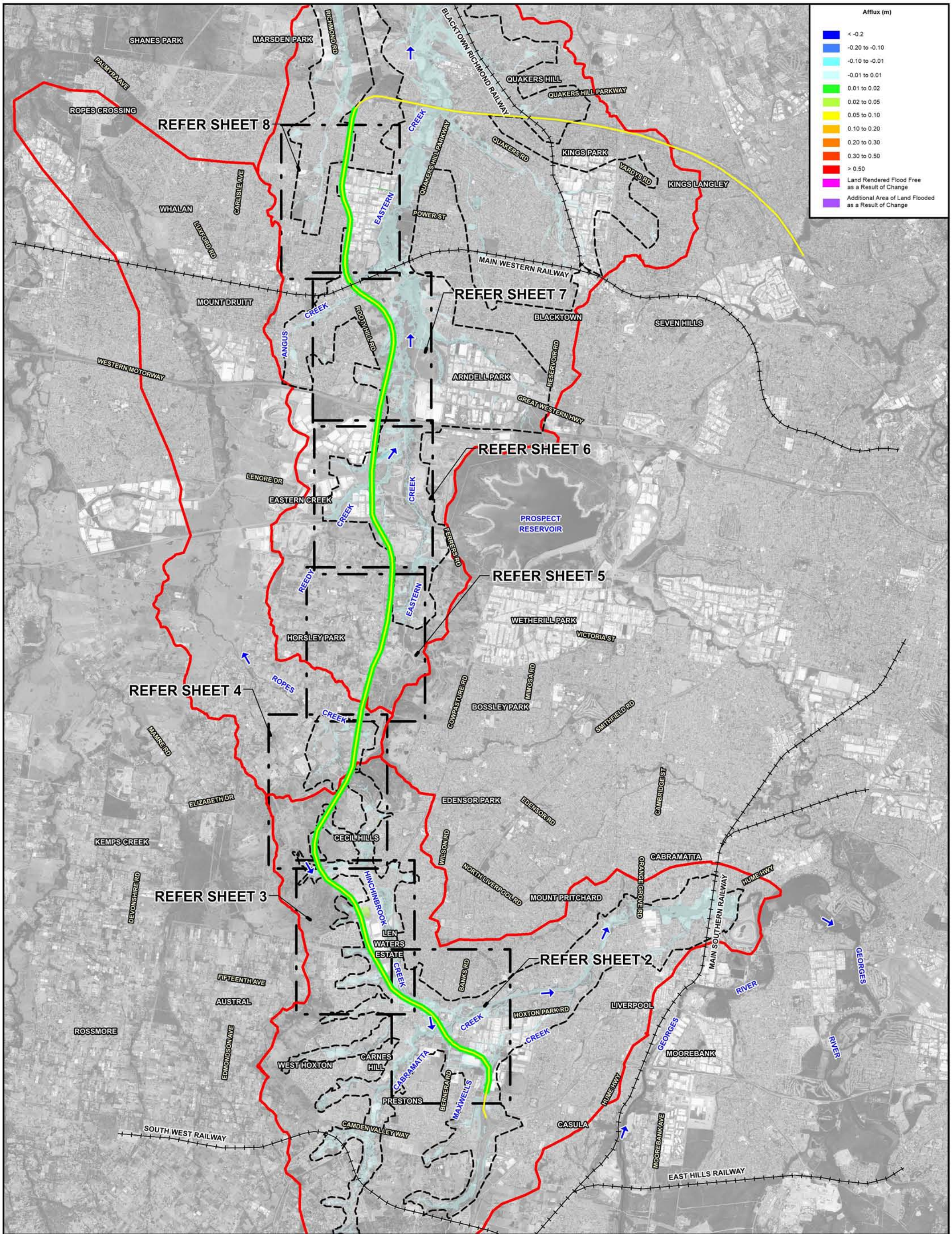
DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.14
(Sheet 8 of 8)

DURATION OF INUNDATION
POST-PROPOSED MODIFICATION CONDITIONS - 1% AEP



N

800 0 800 1600 2400 m

Scale: 1:80,000

LEGEND

- Extent of Major Catchments
- Extent of Two-Dimensional Hydraulic Model Boundary
- Extent of M7 Motorway Widening
- M7 Motorway

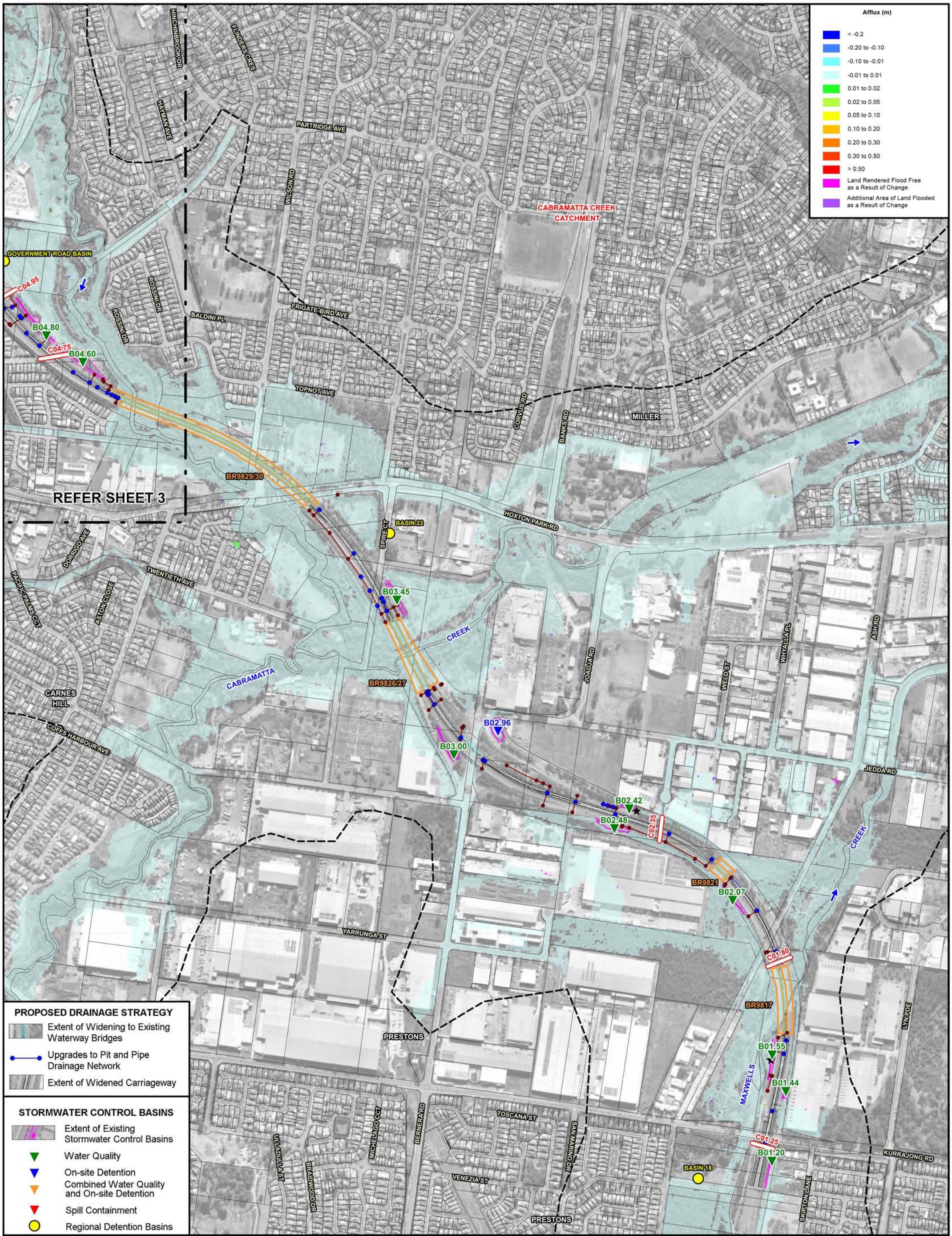
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 1 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP

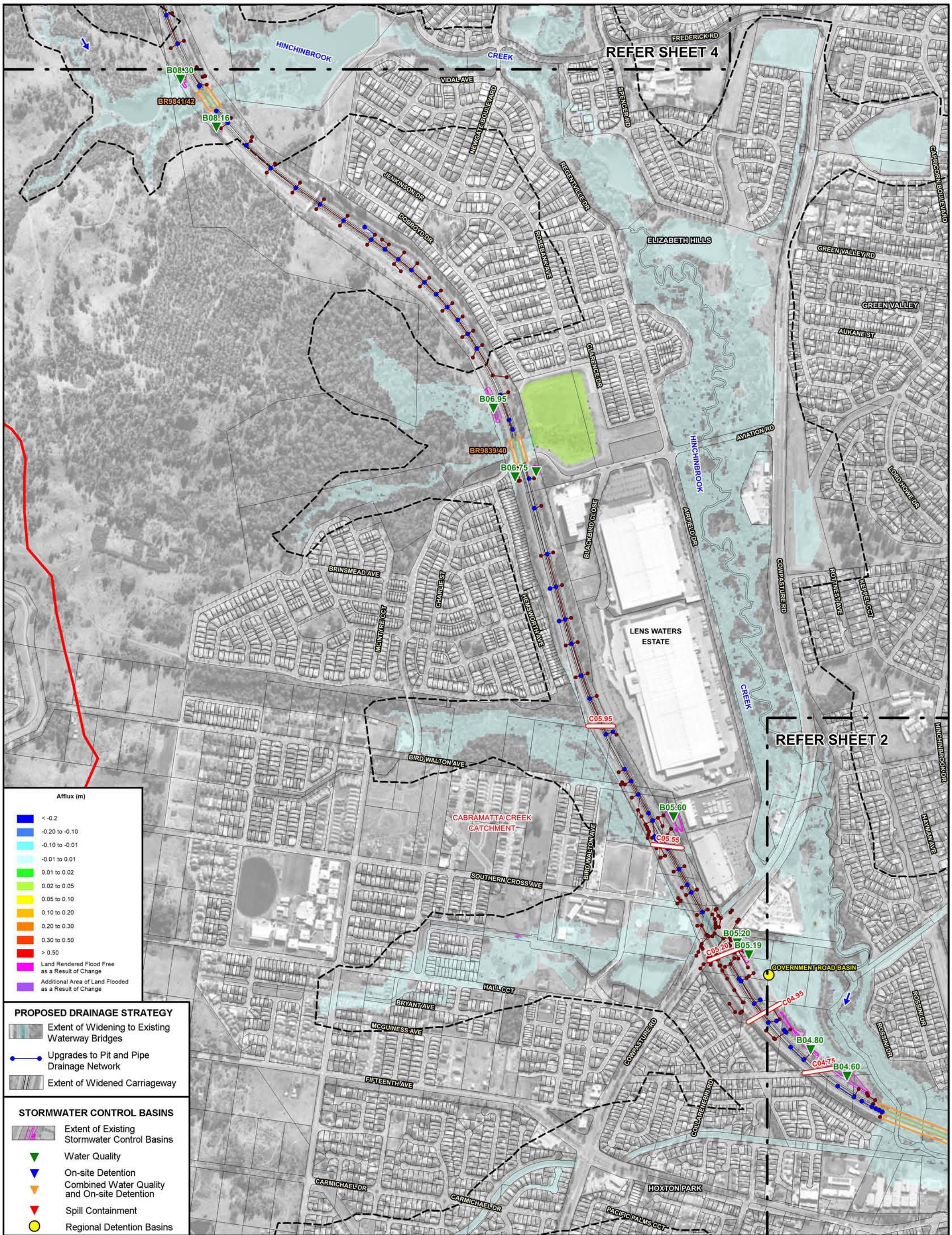


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 2 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP

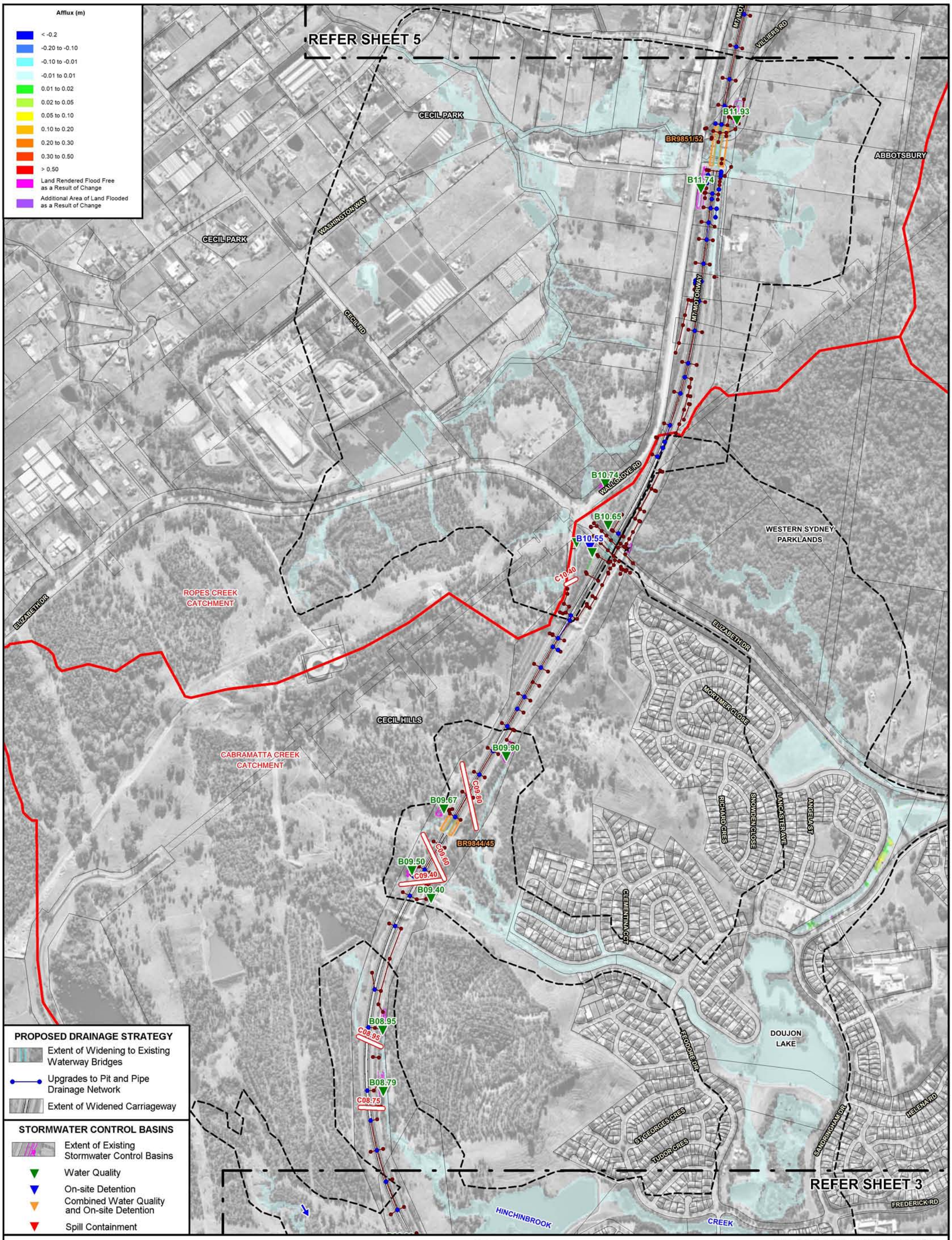


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 3 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP



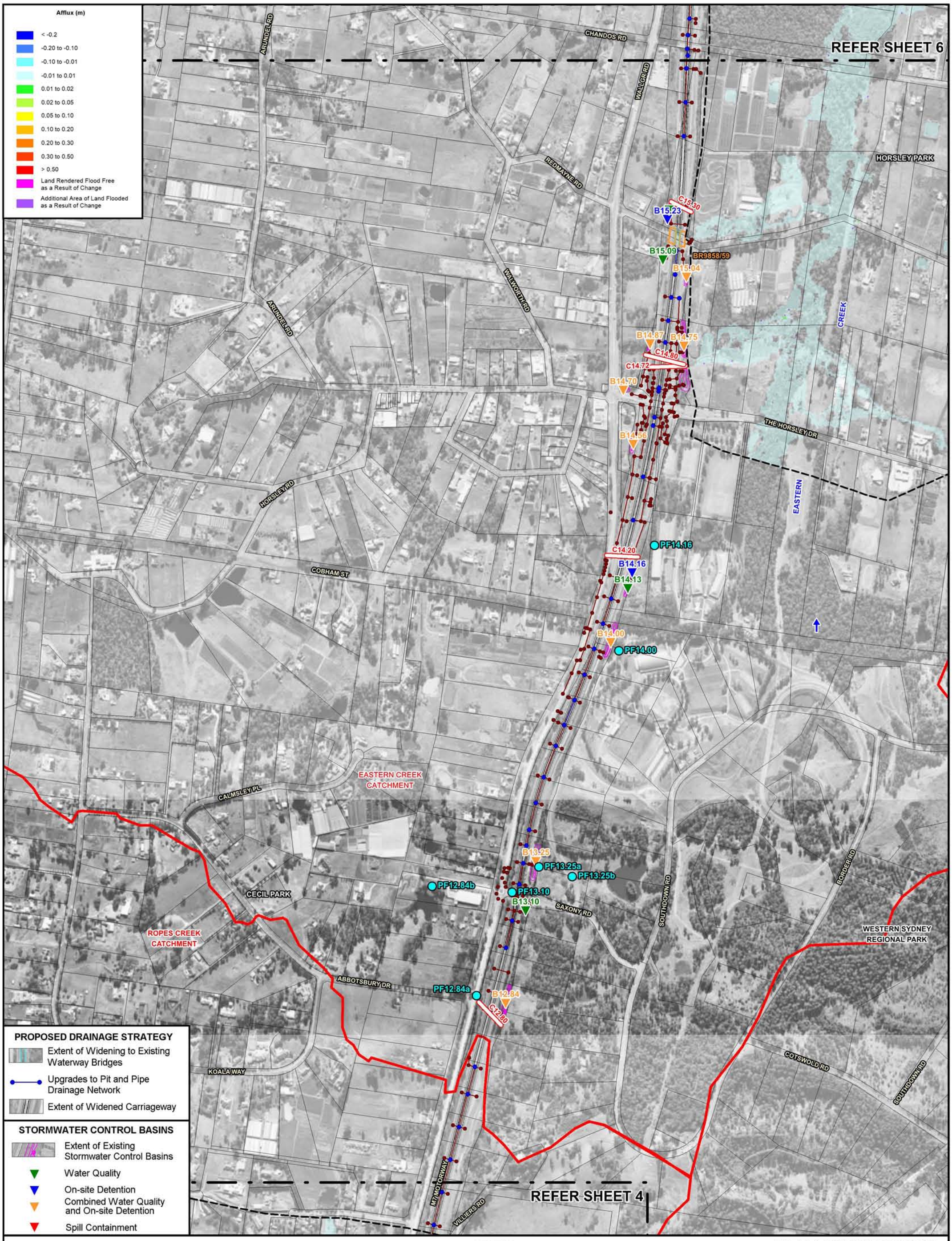
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 4 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP

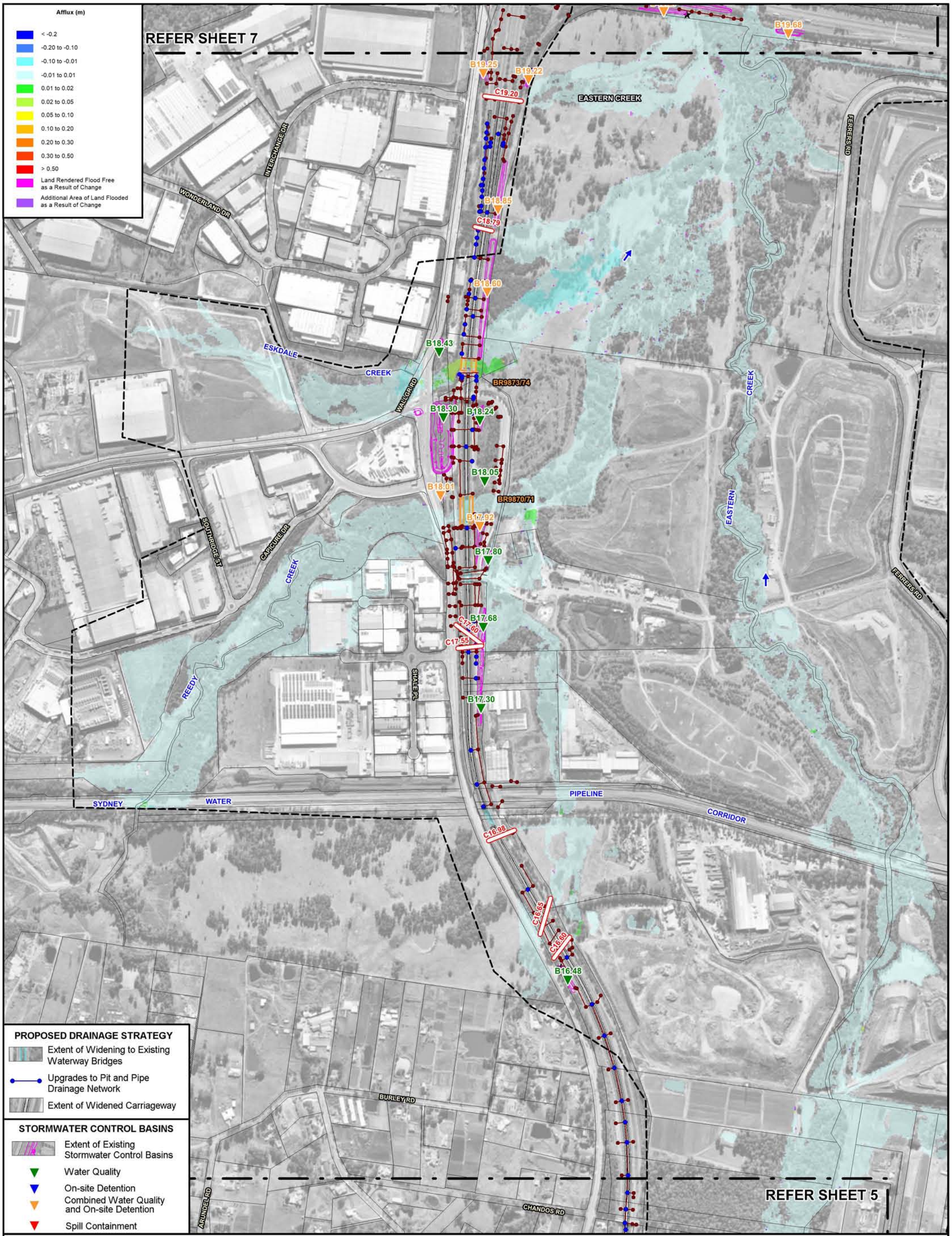


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 5 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP



WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 6 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP

REFER SHEET 8

ROOTY HILL

MAIN WESTERN RAILWAY

EASTERN RD

DUNSMORE ST

ANGUS CREEK

DEVON ST

WILLIS ST

FRANCIS RD

LABRADOR ST

CHURCH ST

BEGGS RD

MINCHINBURY ST

PENFOLD ST

CAWARRA ST

GREAT WESTERN HIGHWAY

ESKDALE ST

FLEURS ST

MINCHINBURY

WESTERN SYDNEY PARKLANDS

BUNGARRIBEE

EASTERN CREEK

PIKES LANE

WESTERN MOTORWAY

REFER SHEET 6

B23.40 C23.10 BR9898/99 B22.70 B22.10 B21.90 B21.70 B21.35 C21.12 B21.00 B20.85 B20.75 BR9893/94 B20.50 B20.40 B20.01 B20.15 C20.01 B20.00 B19.63 B19.65 B19.61 B19.62 B19.69A B19.69 B19.70 B19.67 B19.27 B19.71 B19.68

Afflux (m)

- < -0.2
- -0.20 to -0.10
- -0.10 to -0.01
- -0.01 to 0.01
- 0.01 to 0.02
- 0.02 to 0.05
- 0.05 to 0.10
- 0.10 to 0.20
- 0.20 to 0.30
- 0.30 to 0.50
- > 0.50
- Land Rendered Flood Free as a Result of Change
- Additional Area of Land Flooded as a Result of Change

PROPOSED DRAINAGE STRATEGY

- Extent of Widening to Existing Waterway Bridges
- Upgrades to Pit and Pipe Drainage Network
- Extent of Widened Carriageway

STORMWATER CONTROL BASINS

- Extent of Existing Stormwater Control Basins
- Water Quality
- On-site Detention
- Combined Water Quality and On-site Detention
- Spill Containment

N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

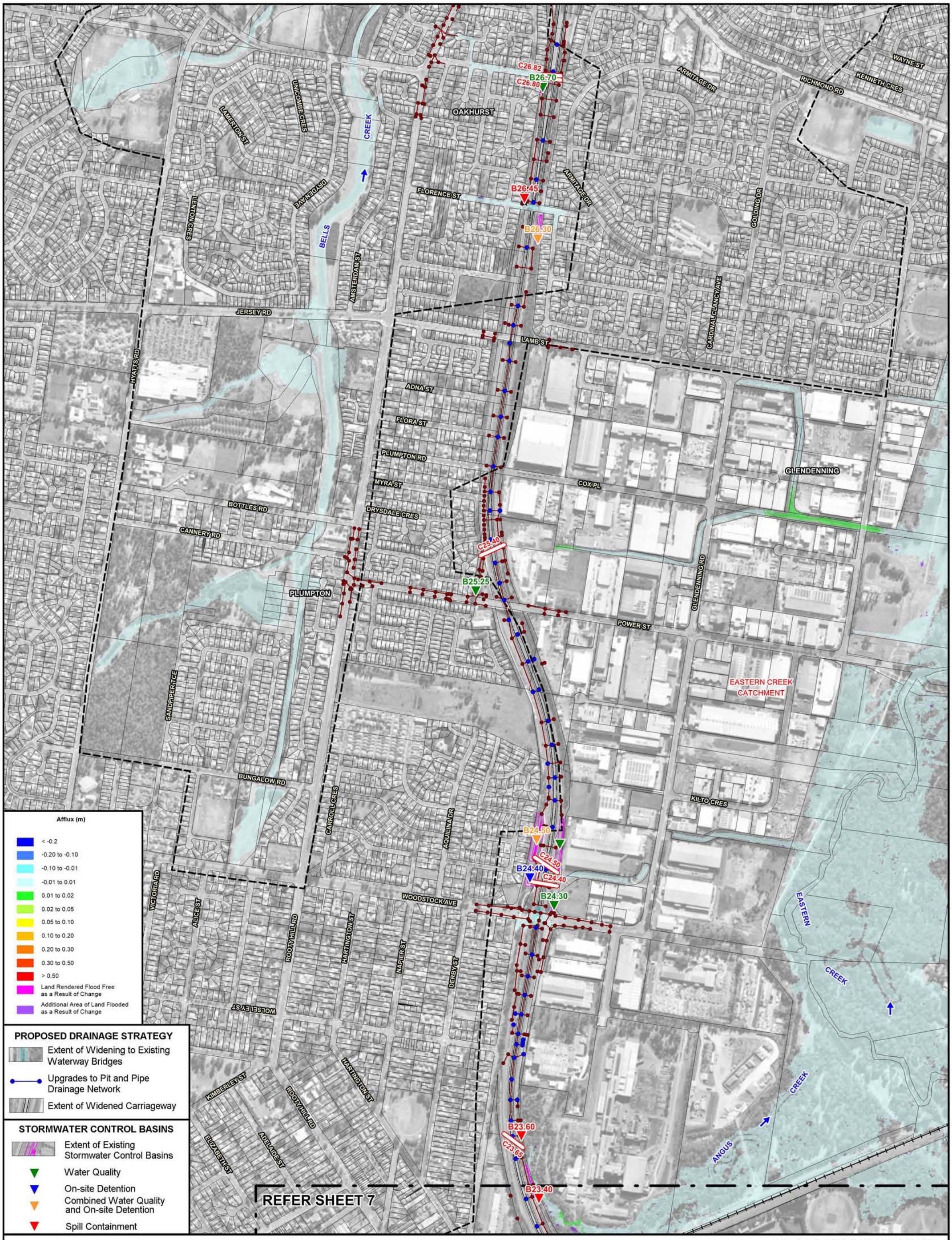
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 7 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP

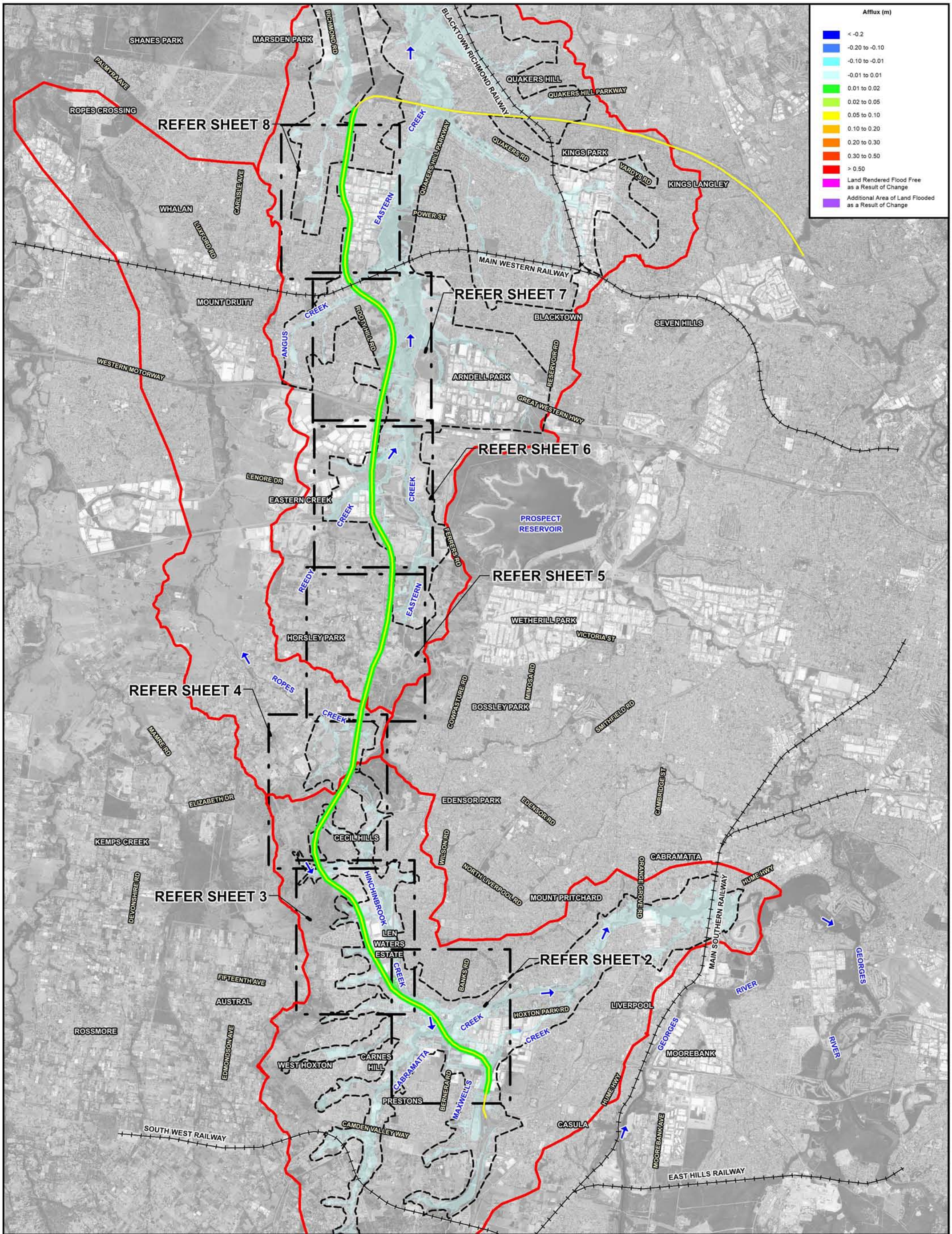


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.15
(Sheet 8 of 8)

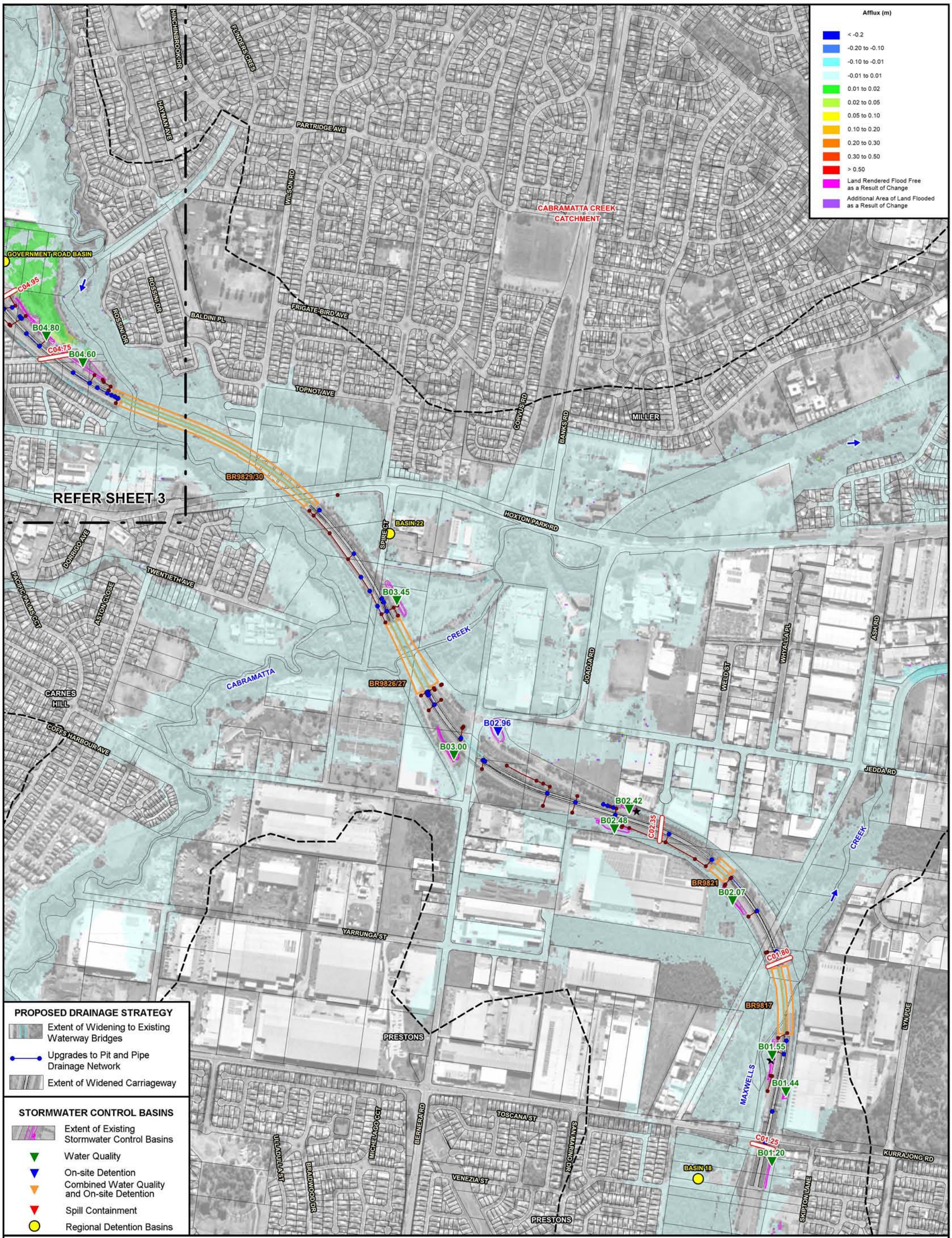
IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
20% AEP



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 1 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP

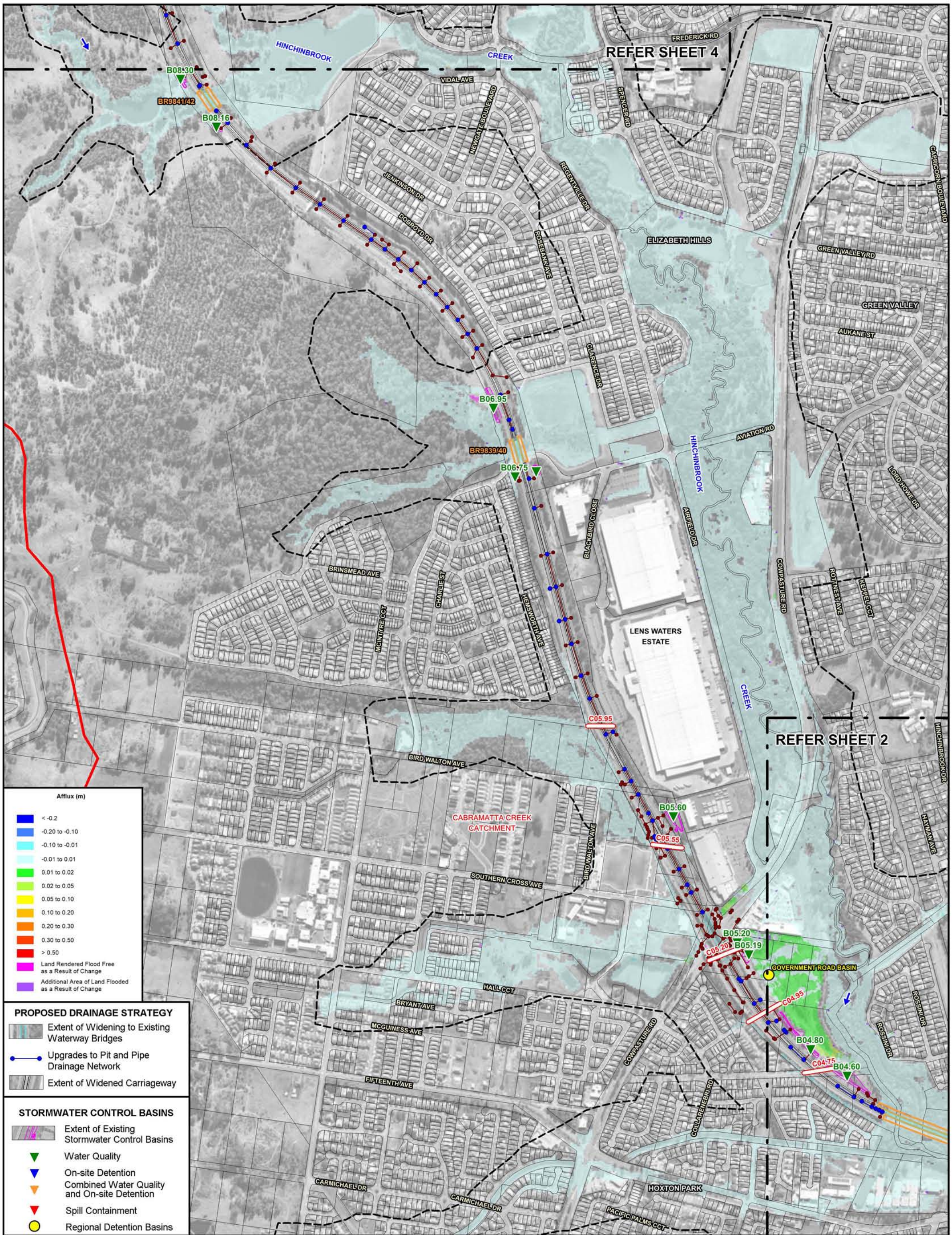


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 2 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP



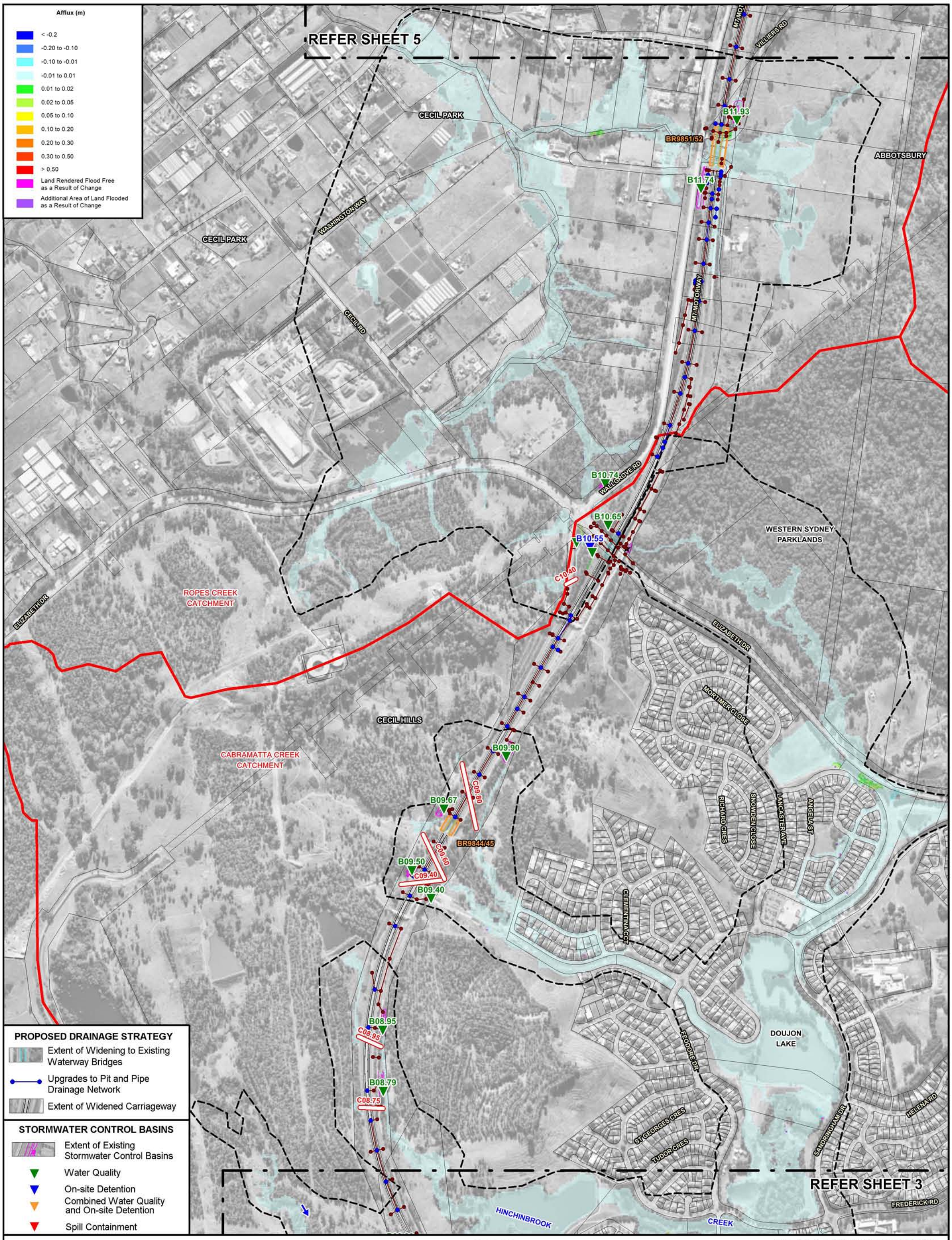
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 3 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP

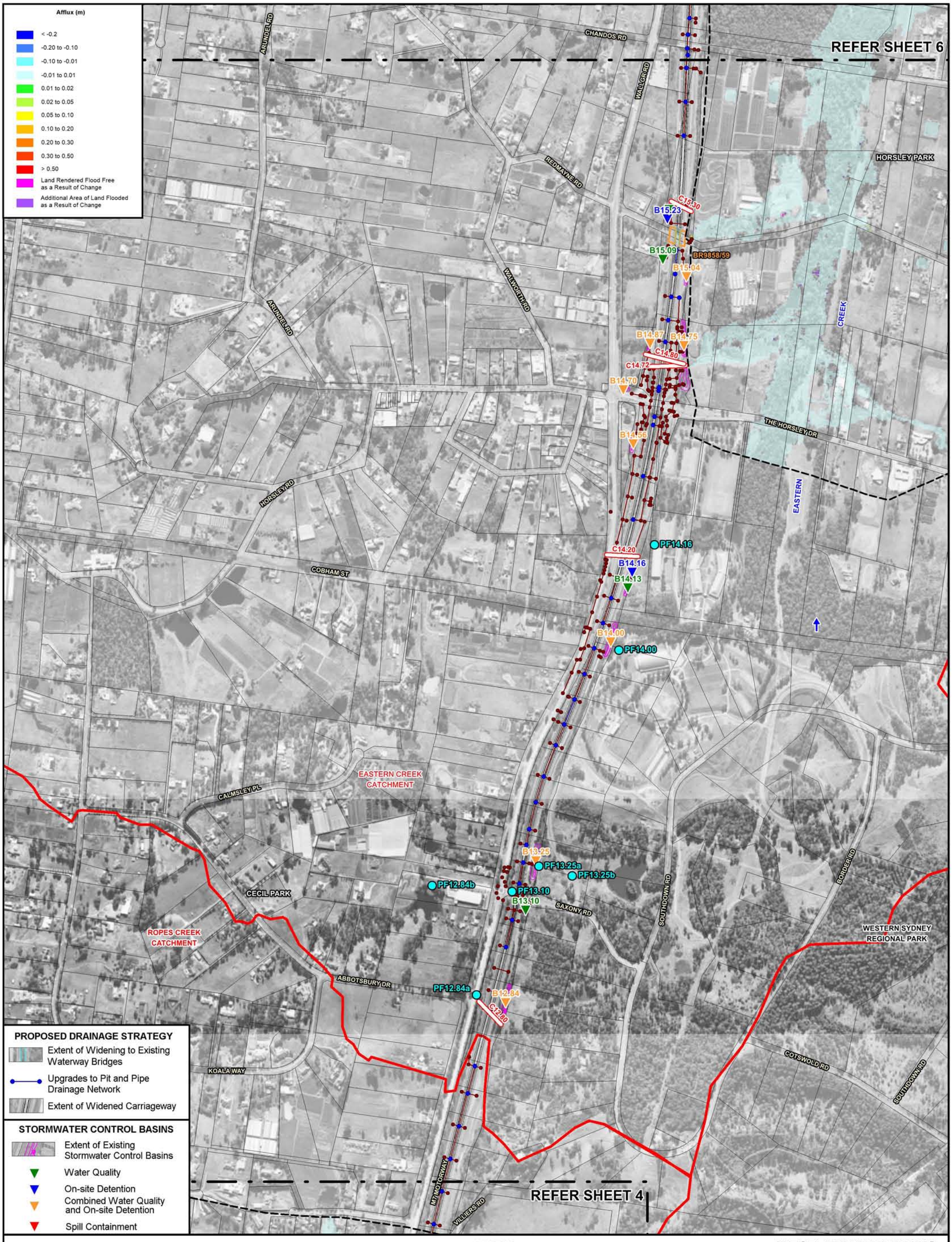


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 4 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP

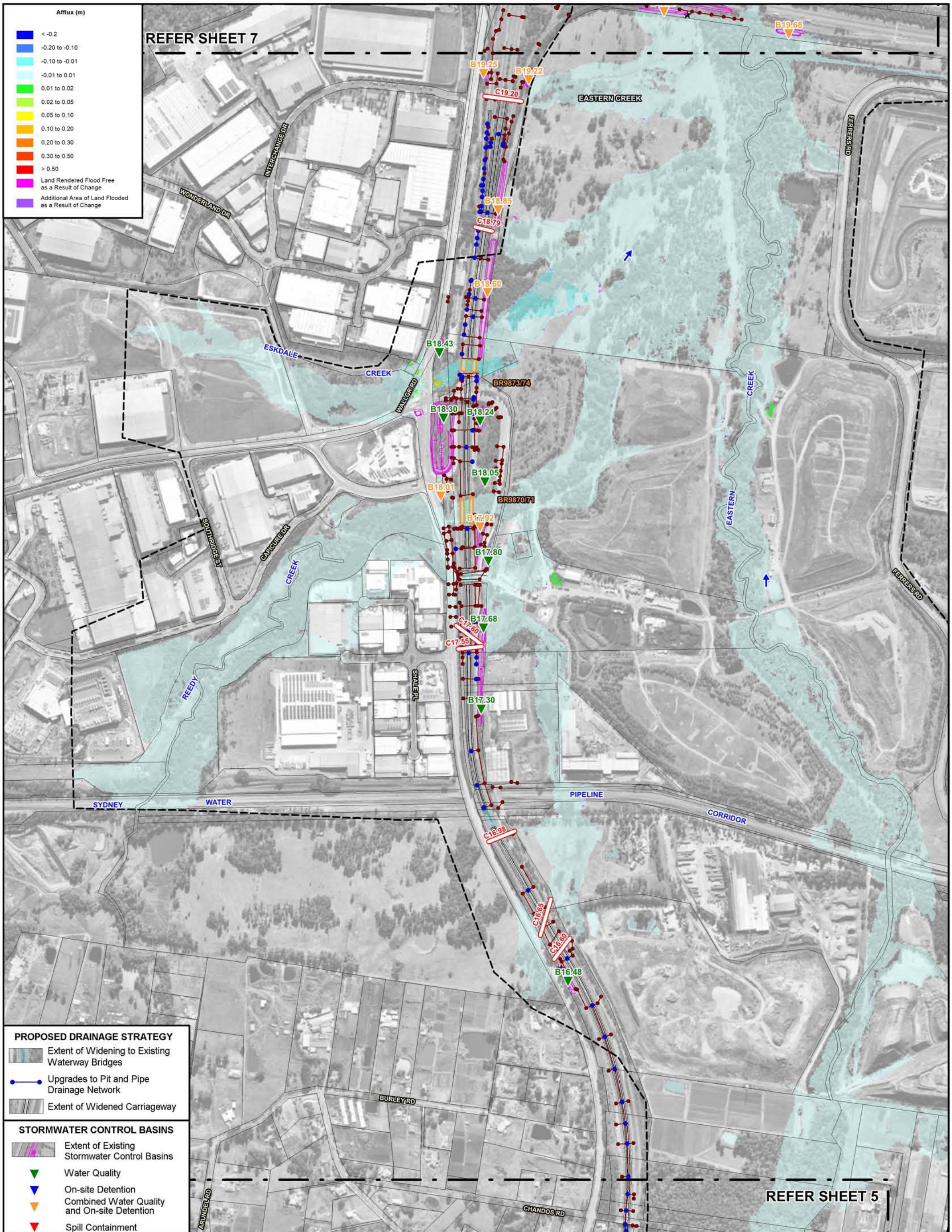


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 5 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP

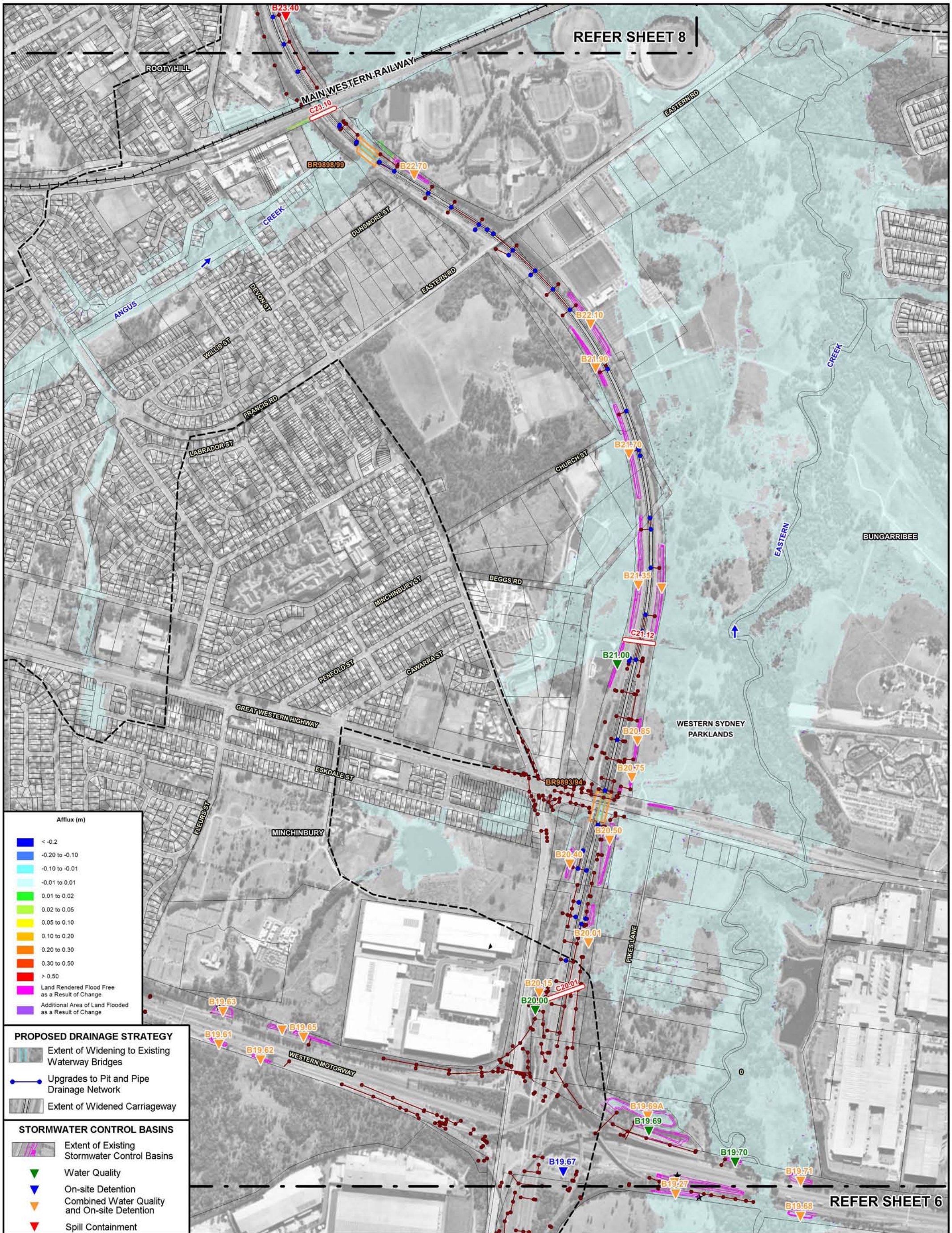


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 6 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

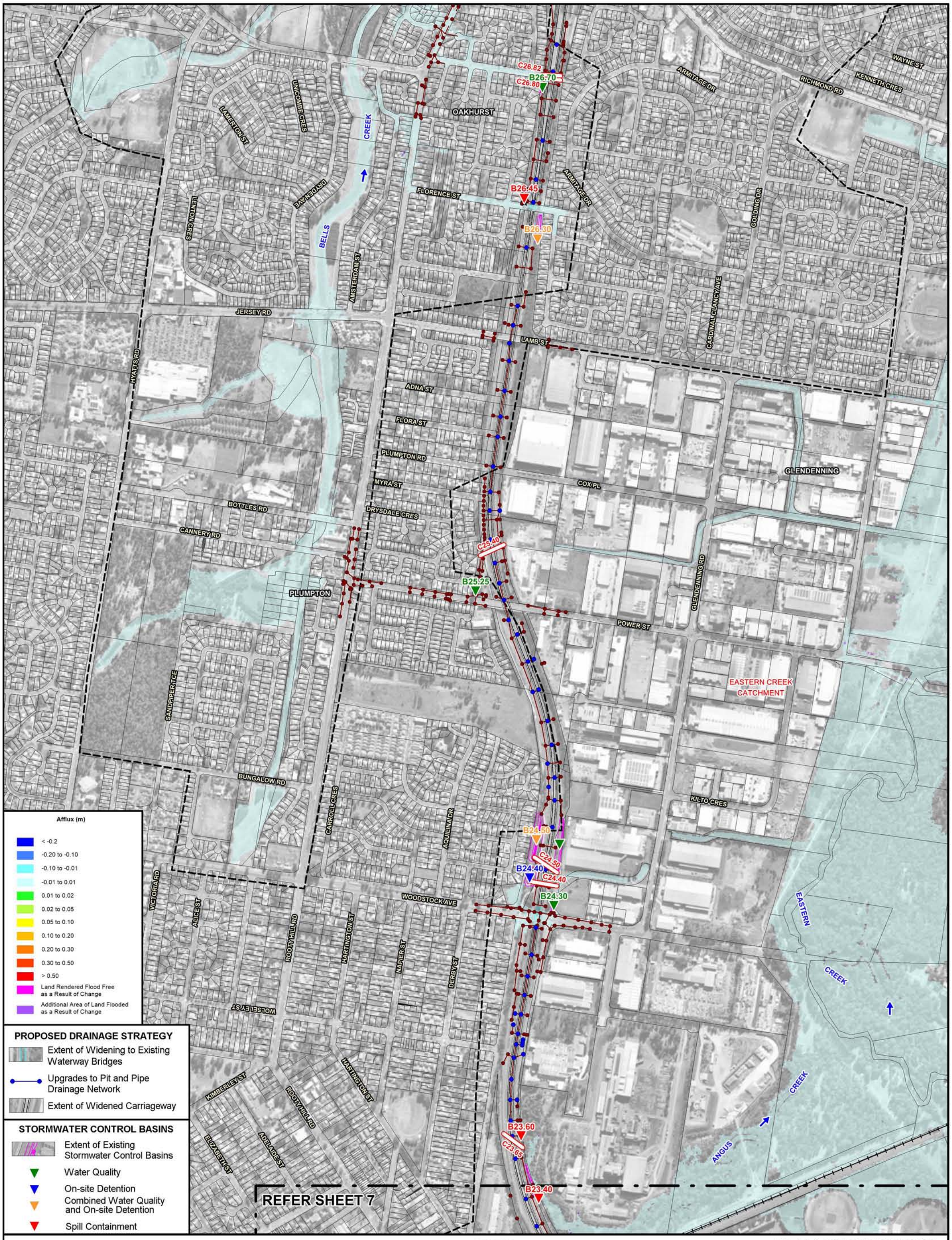
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 7 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP

Lyall & Associates



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

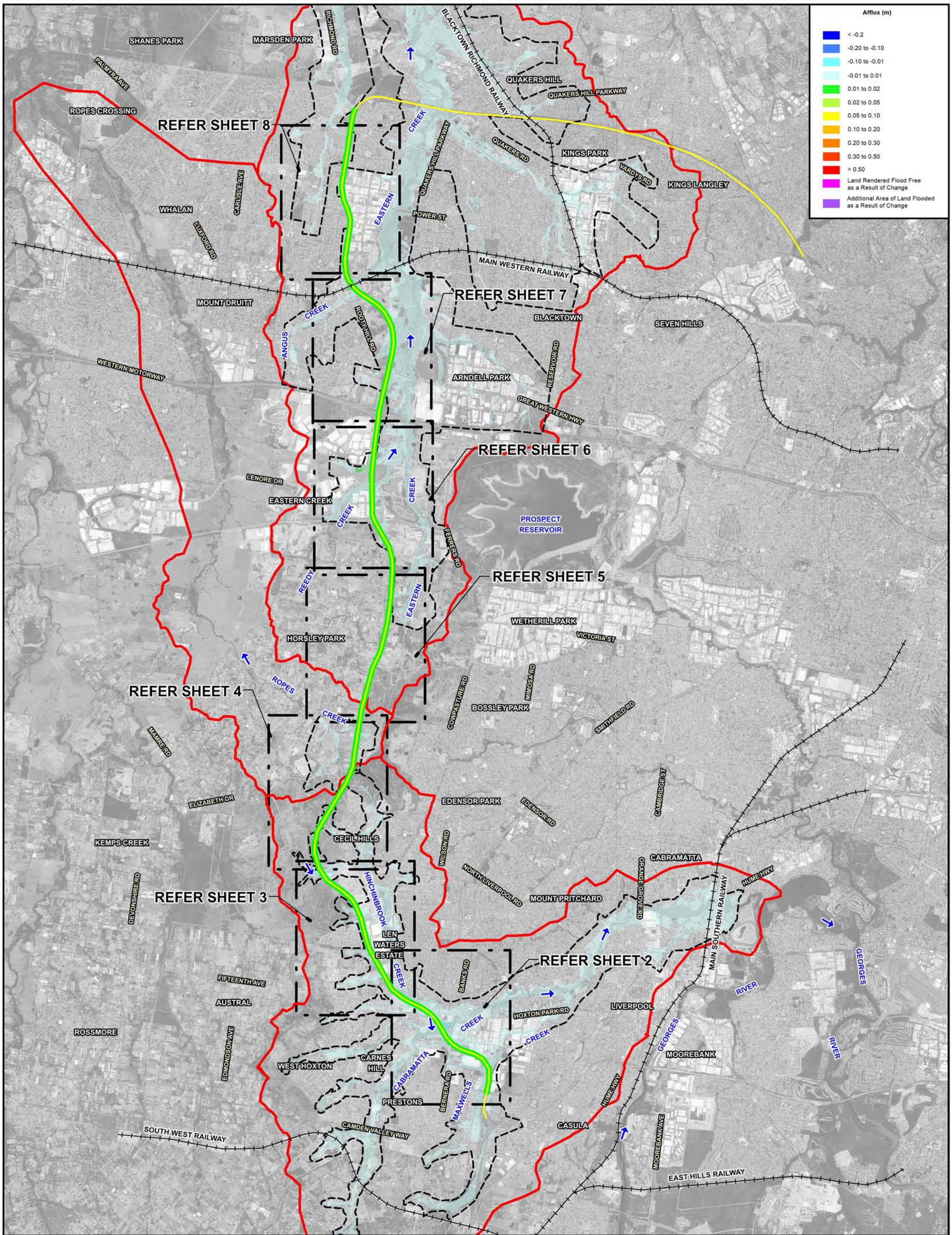
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.16
(Sheet 8 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.5% AEP



N

800 0 800 1600 2400 m

Scale: 1:80,000

LEGEND

- Extent of Major Catchments
- Extent of Two-Dimensional Hydraulic Model Boundary
- Extent of M7 Motorway Widening
- M7 Motorway

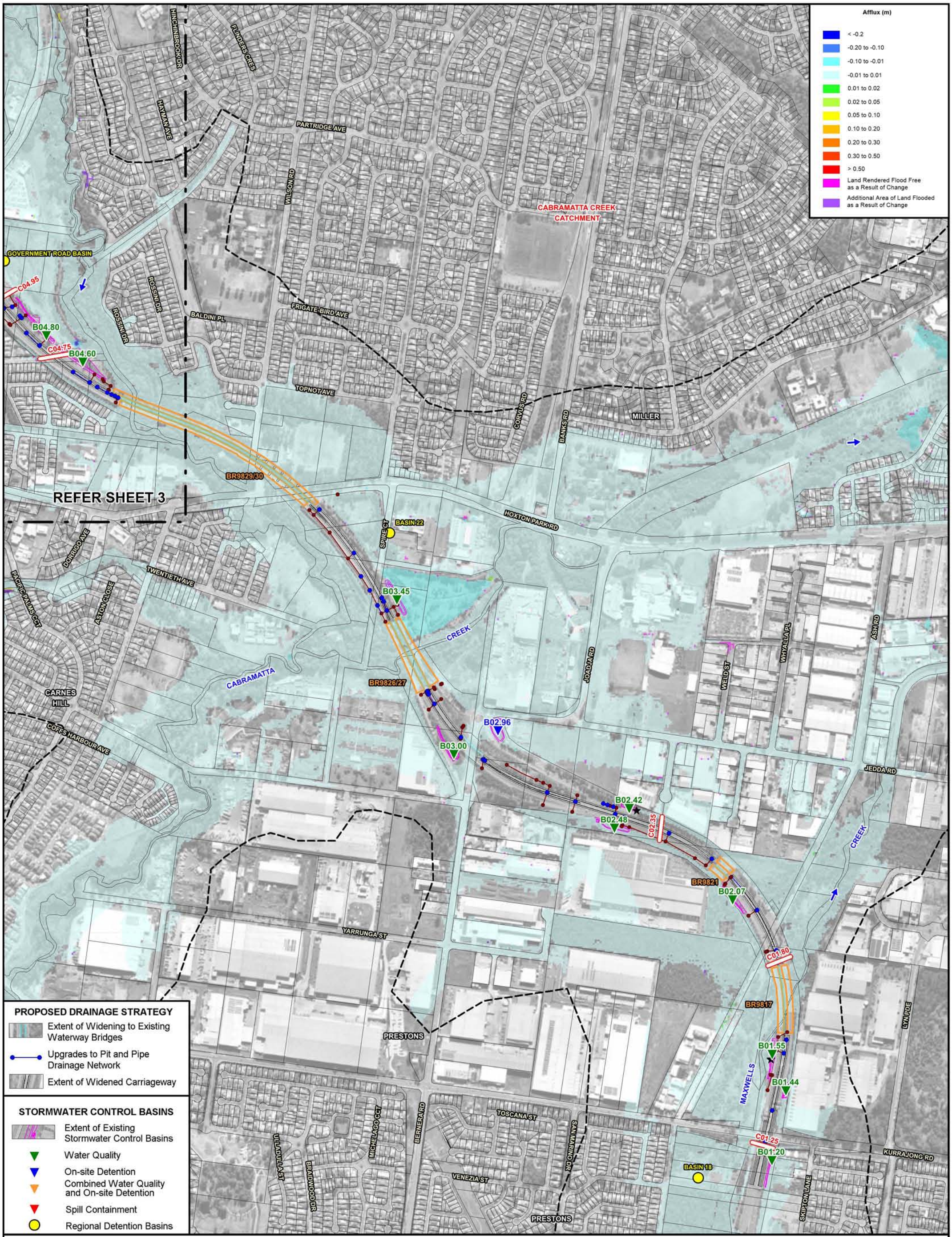
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 1 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP

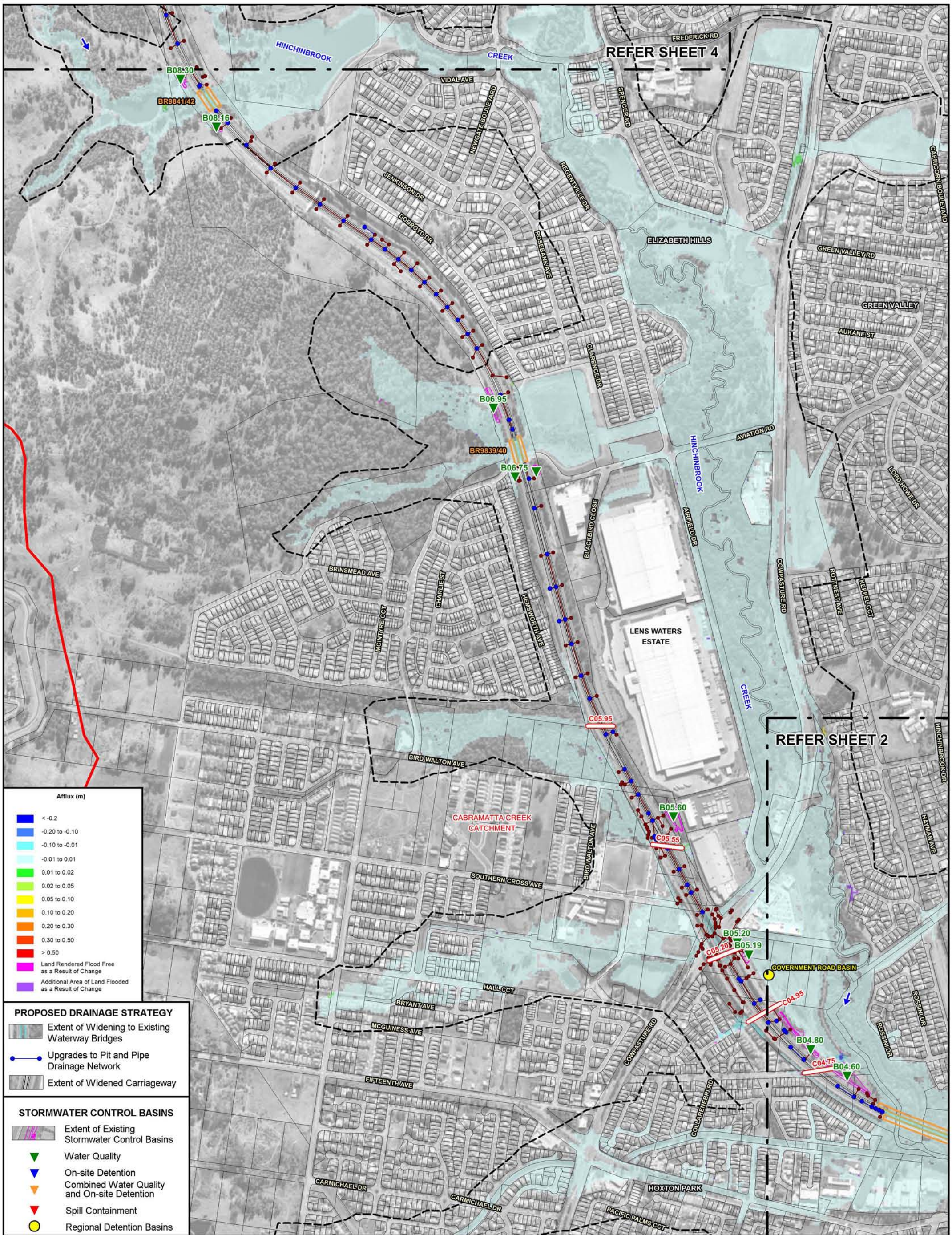
Lyall & Associates



WESTLINK M7 WIDENING
SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 2 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP

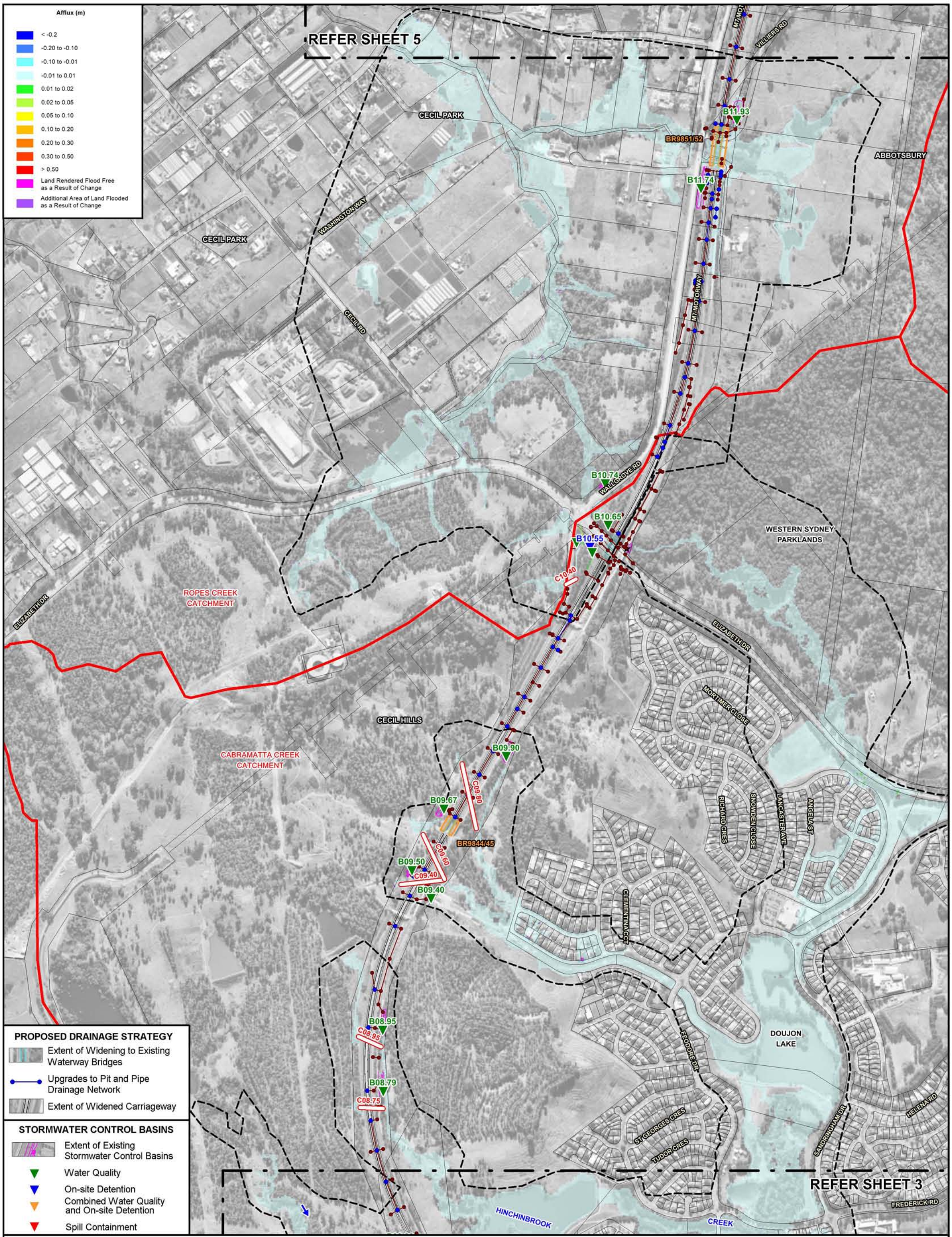


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 3 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP



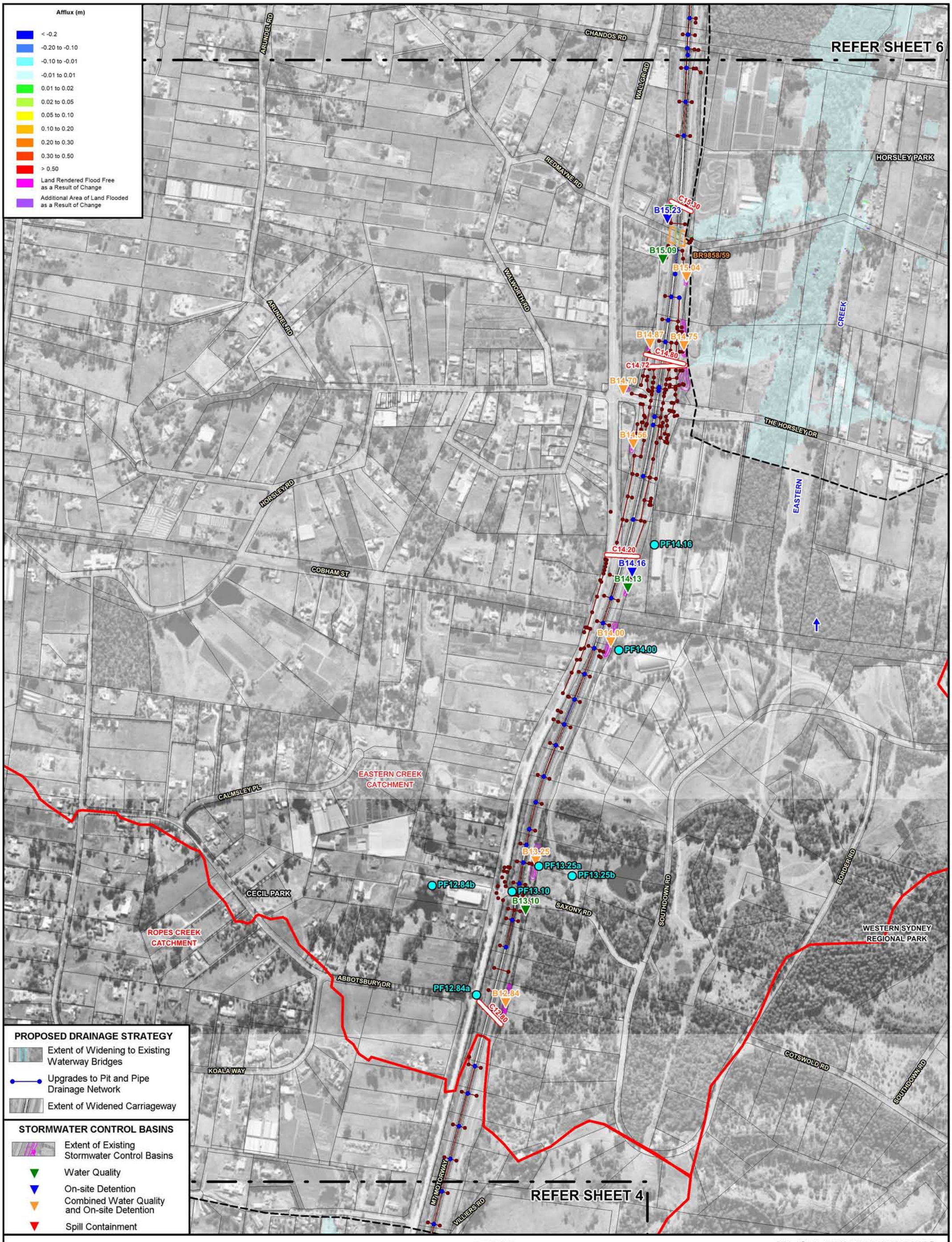
Lyall & Associates

WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 4 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP

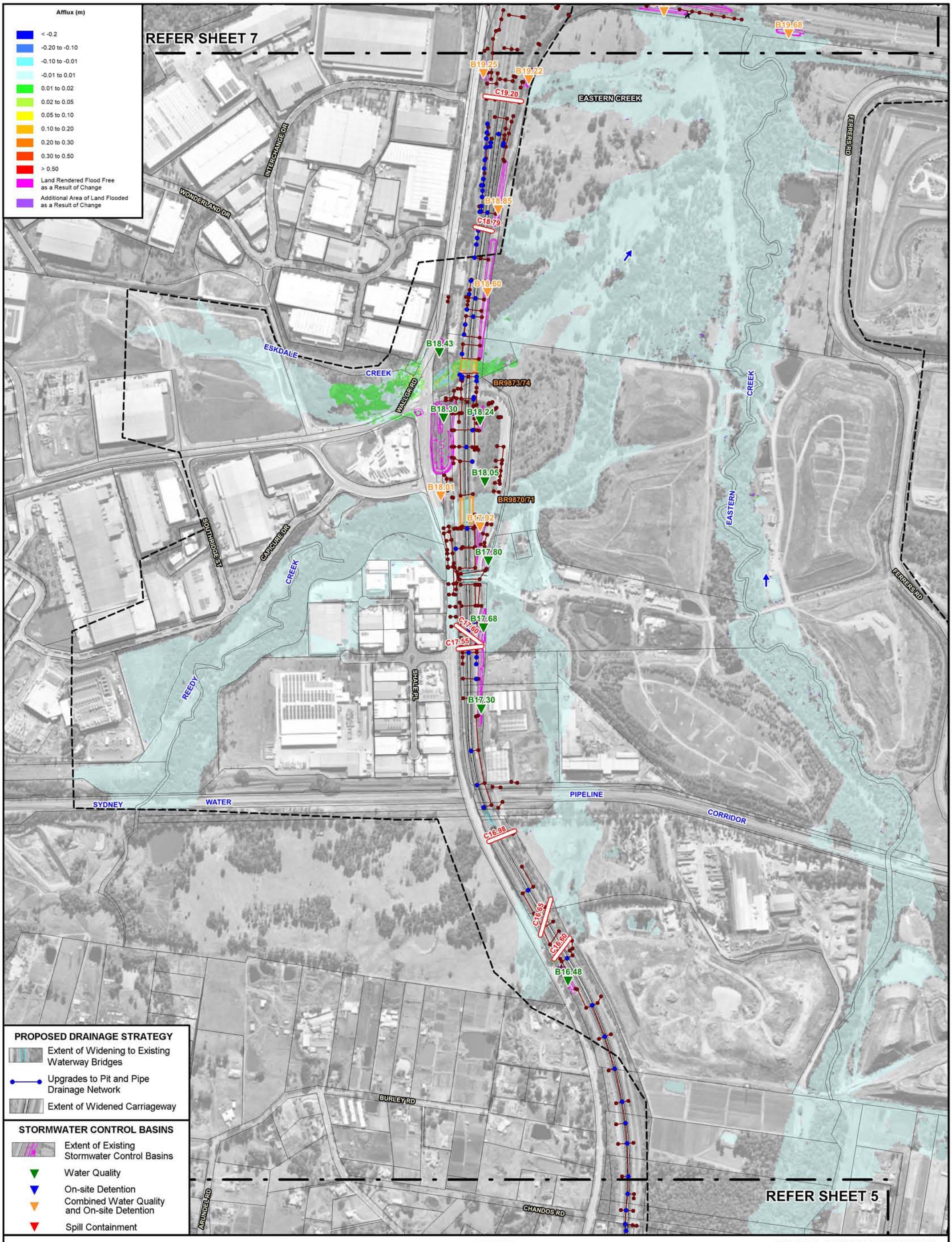


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 5 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP

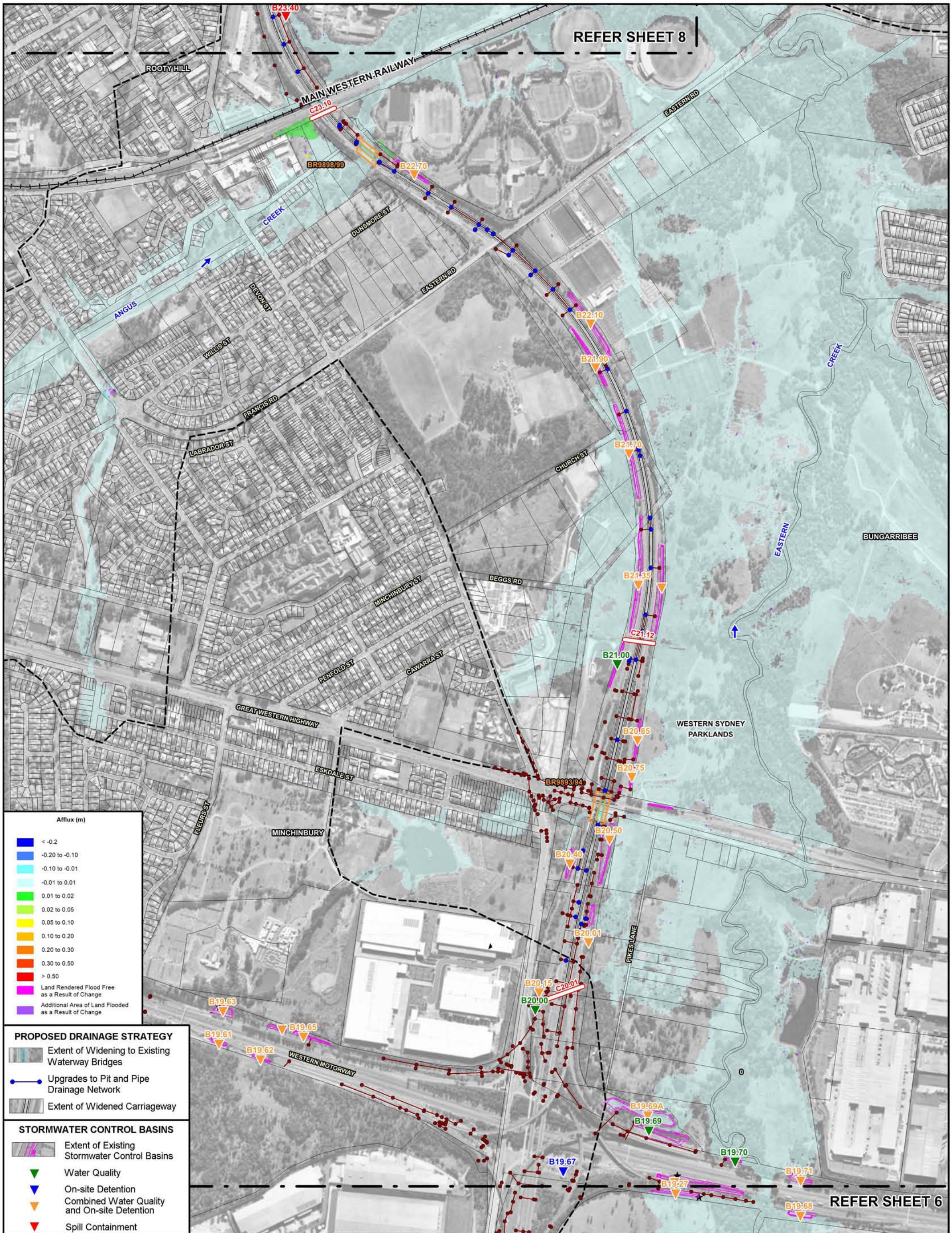


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 6 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP



N

100 0 100 200 300 m

Scale: 1:10,000

LEGEND

- Extent of Major Catchments
- BR9851 — Existing Bridge Waterway Crossing and Identifier
- Existing M7 Motorway Pit and Pipe Drainage Network
- C01.25 — Existing Transverse Drainage Structure and Identifier
- Extent of Two-Dimensional Hydraulic Model Boundary

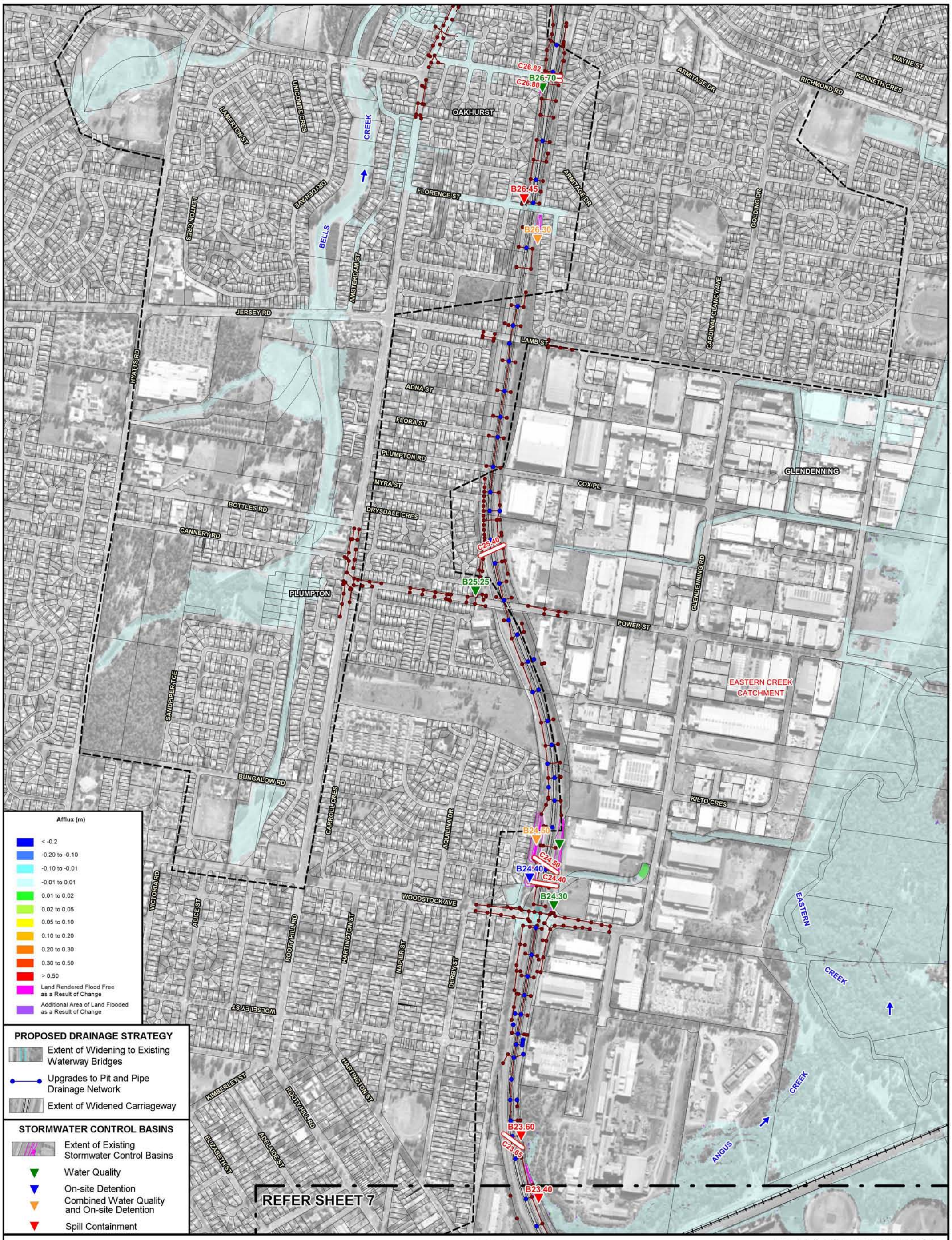
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 7 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP

Lyall & Associates

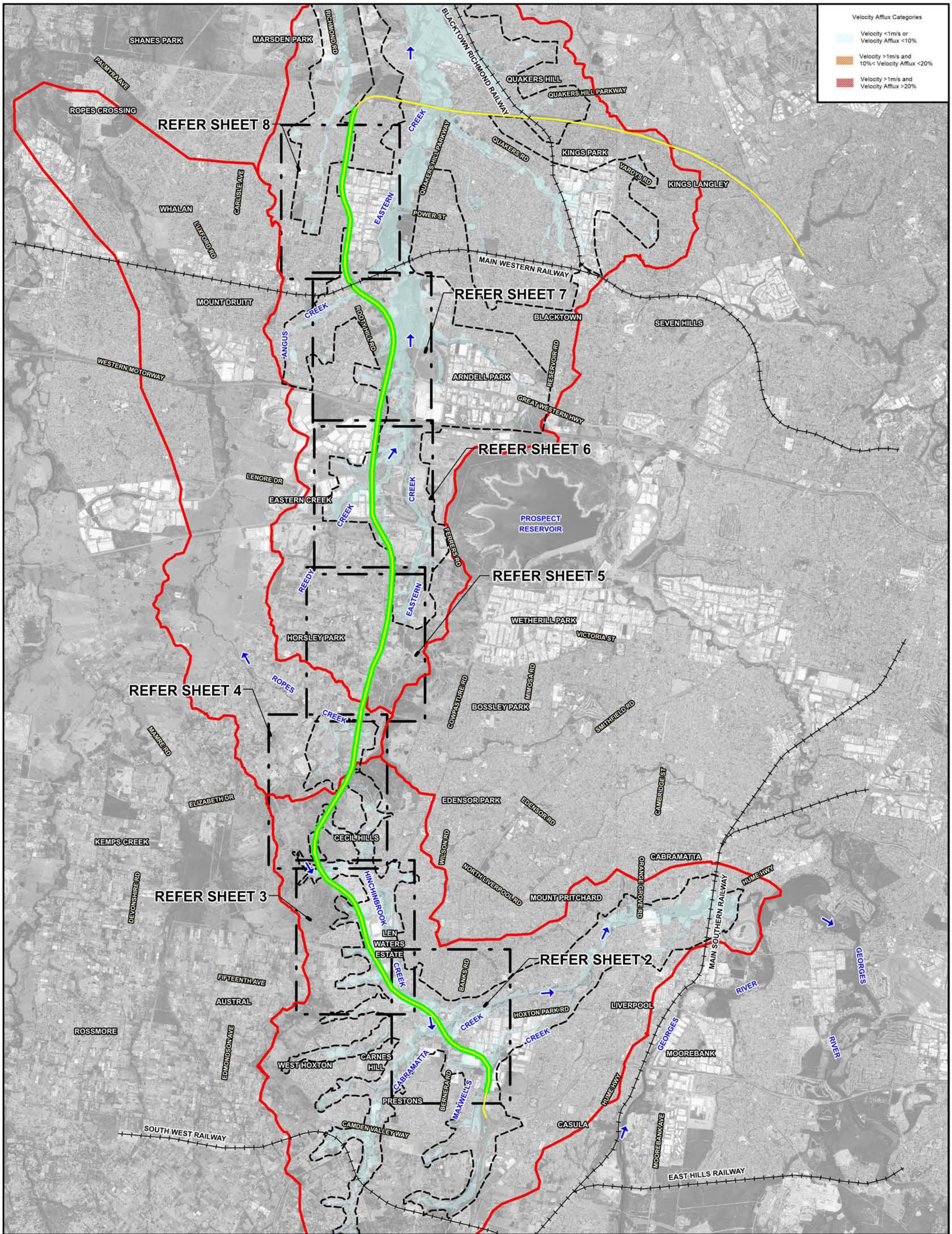


WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.17
(Sheet 8 of 8)

IMPACT OF PROPOSED MODIFICATION ON FLOOD BEHAVIOUR
0.2% AEP



N

800 0 800 1600 2400 m

Scale: 1:80,000

LEGEND

- Extent of Major Catchments
- Extent of Two-Dimensional Hydraulic Model Boundary
- Extent of M7 Motorway Widening
- M7 Motorway

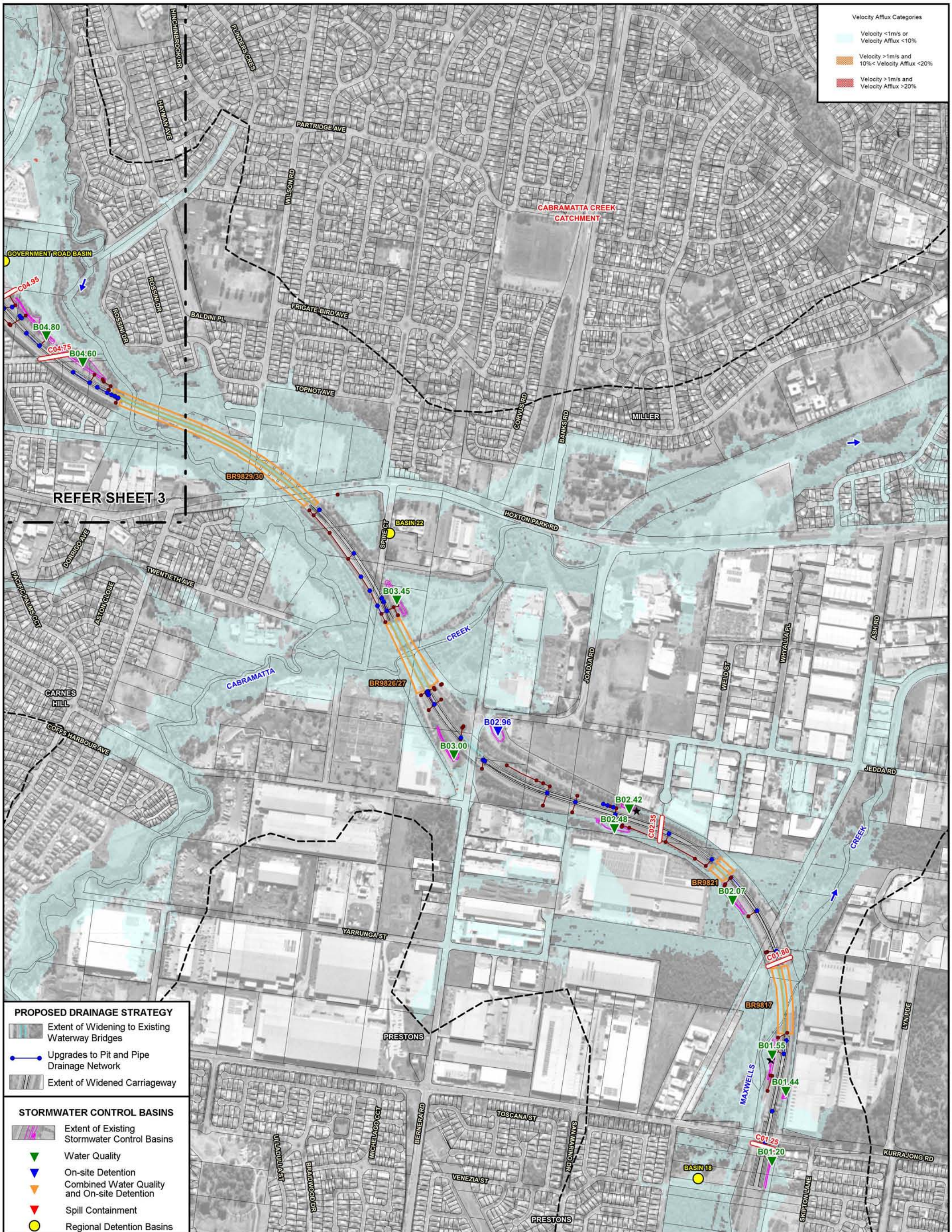
WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.18
(Sheet 1 of 8)

IMPACT OF PROPOSED MODIFICATION ON PEAK FLOW VELOCITIES
5% AEP

Lyall & Associates



WESTLINK M7 WIDENING

SURFACE WATER AND FLOODING IMPACT ASSESSMENT

Figure C.18
(Sheet 2 of 8)

IMPACT OF PROPOSED MODIFICATION ON PEAK FLOW VELOCITIES
5% AEP