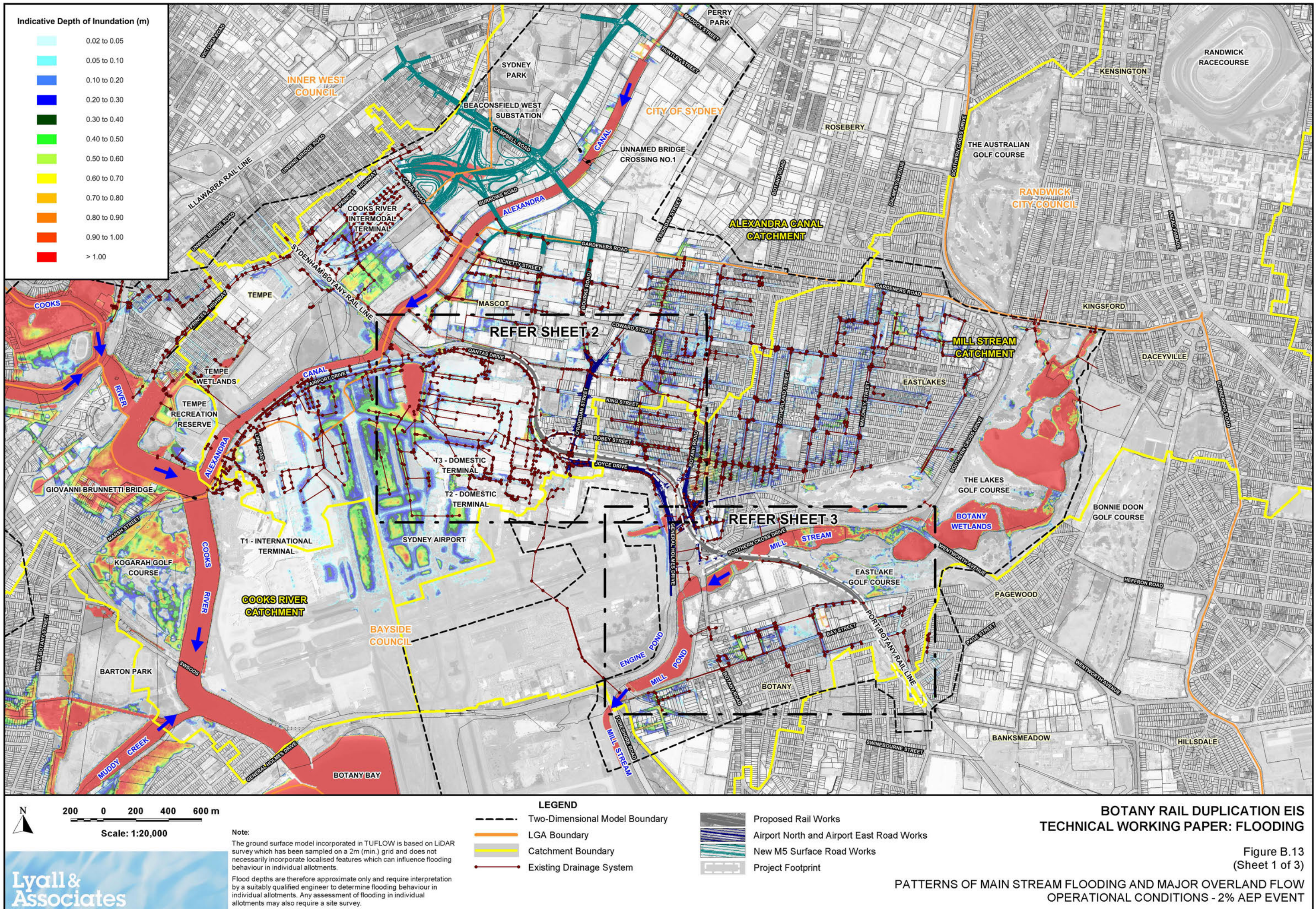


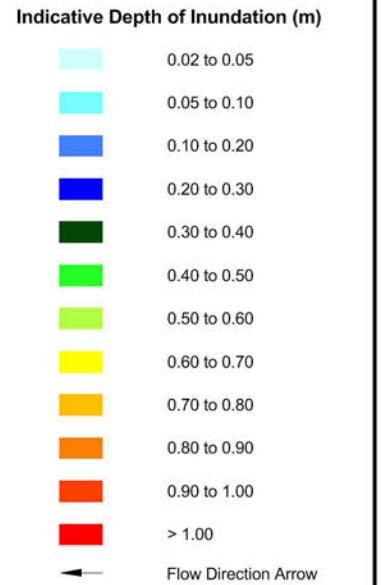
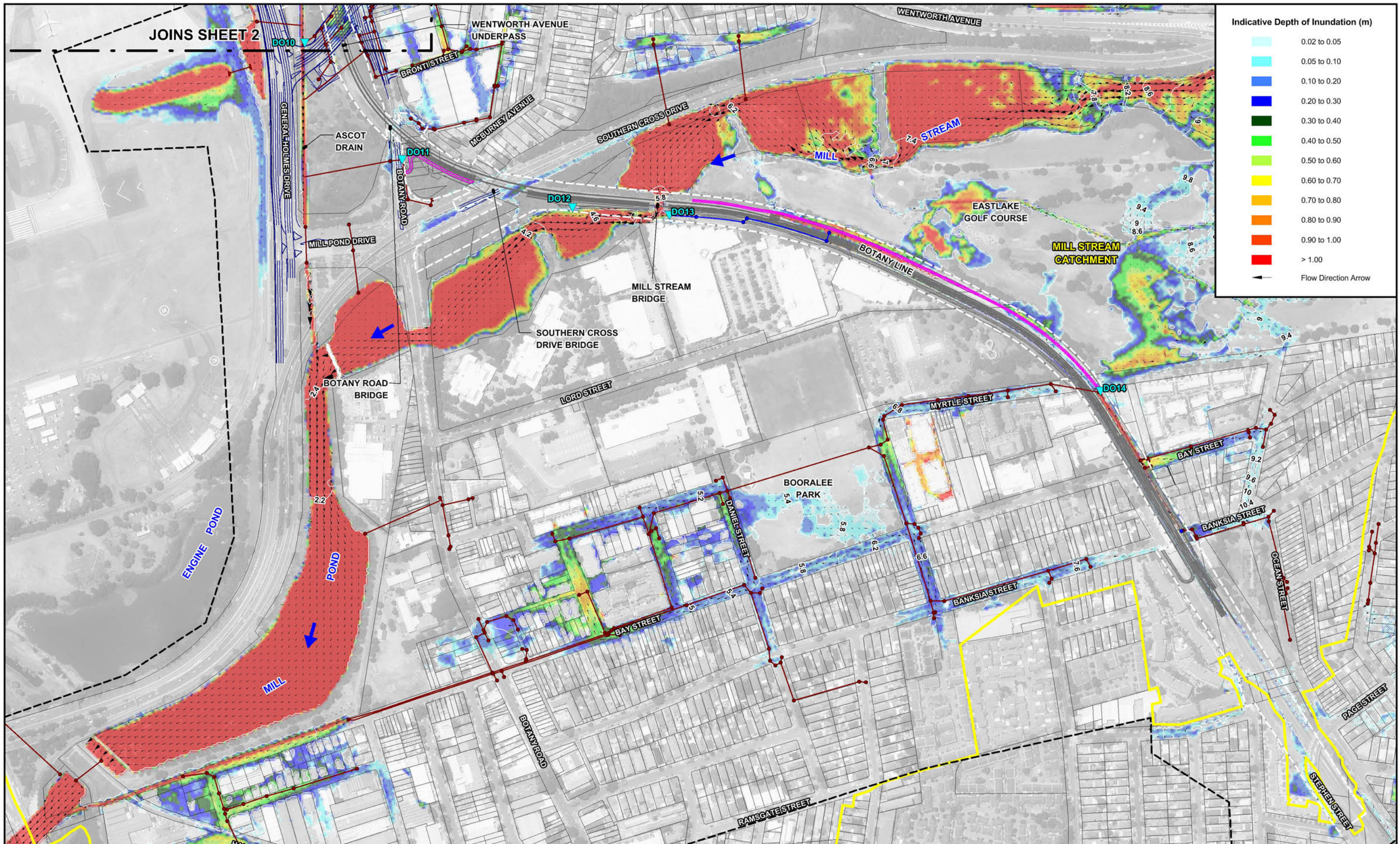
Note:
The ground surface model incorporated in TUFLOW is based on LiDAR survey which has been sampled on a 2m (min.) grid and does not necessarily incorporate localised features which can influence flooding behaviour in individual allotments.
Flood depths are therefore approximate only and require interpretation 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
 - Catchment Boundary
 - Existing Drainage System to Remain
 - Proposed Drainage System

- Proposed Rail Works
- Airport North and Airport East Road Works
- Drainage Outlet Location and Identifier
- Proposed Corridor Access Road
- Project Footprint

**BOTANY RAIL DUPLICATION EIS
TECHNICAL WORKING PAPER: FLOODING**





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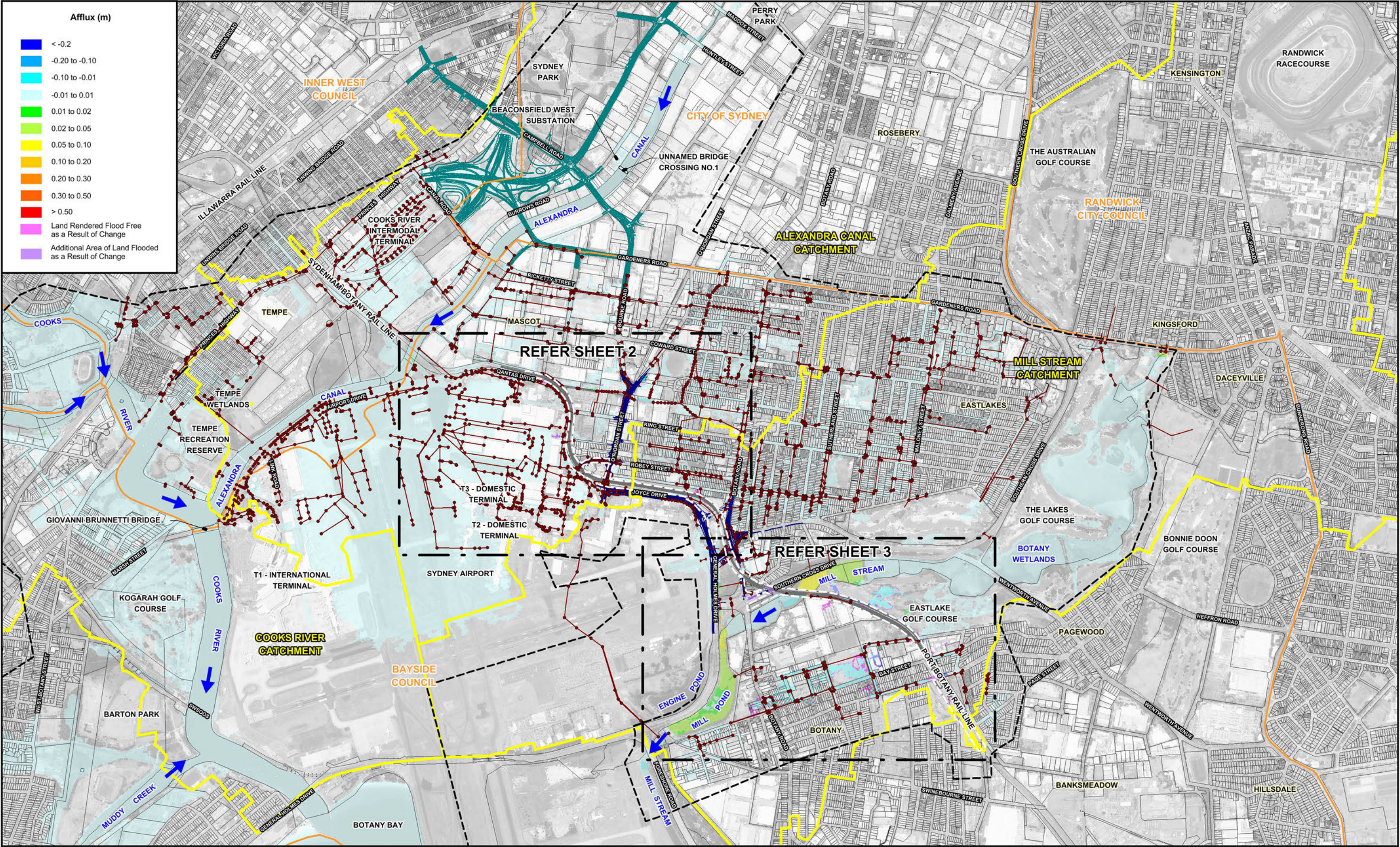
- LEGEND**
- Two-Dimensional Model Boundary
 - Catchment Boundary
 - Existing Drainage System to Remain
 - Proposed Drainage System
 - Drainage Outlet Location and Identifier

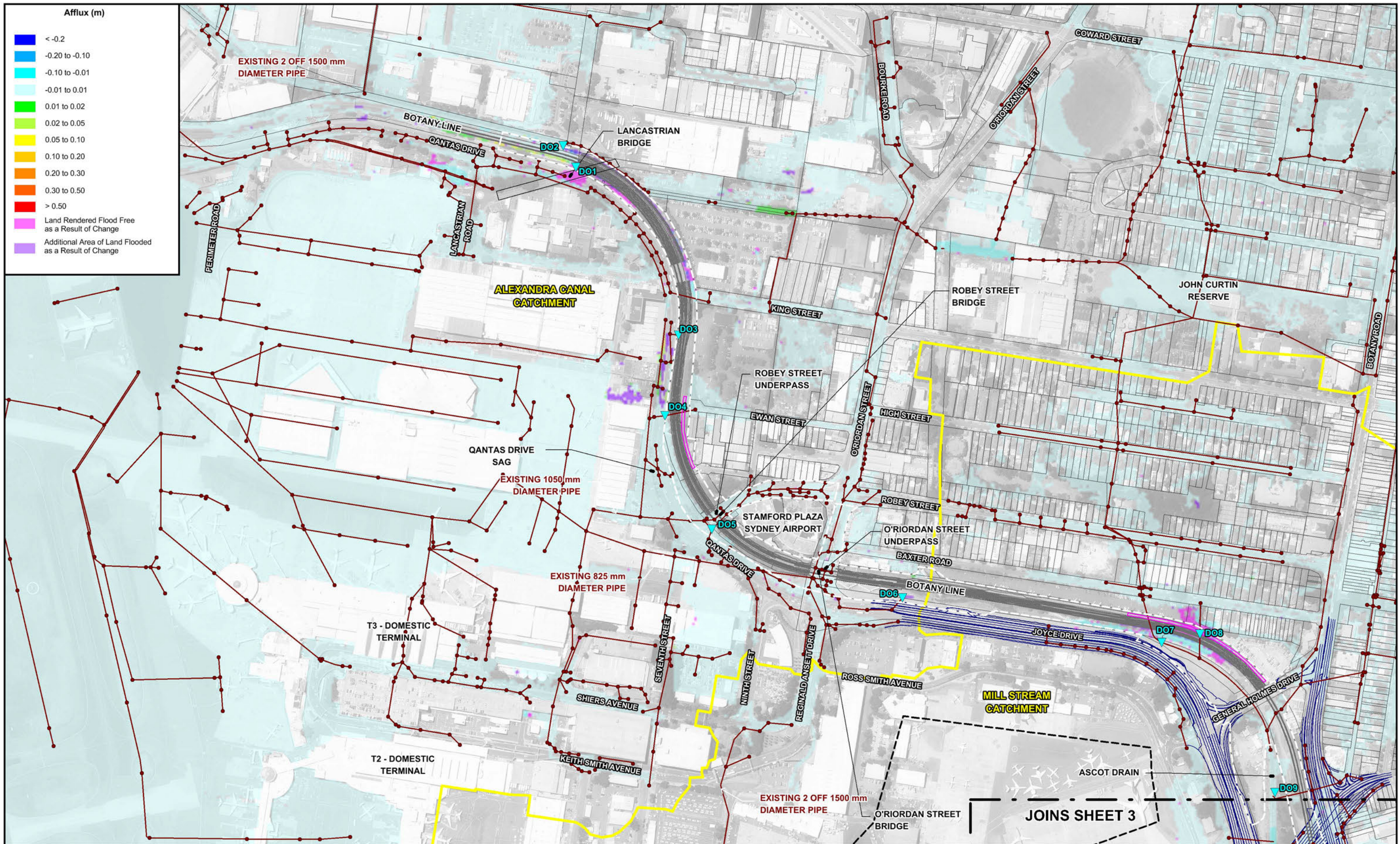
- Proposed Rail Works
- Airport North and Airport East Road Works
- Water Surface Elevation Contours
- Proposed Corridor Access Road
- Project Footprint

**BOTANY RAIL DUPLICATION EIS
TECHNICAL WORKING PAPER: FLOODING**

Figure B.13
(Sheet 3 of 3)

**PATTERNS OF MAIN STREAM FLOODING AND MAJOR OVERLAND FLOW
OPERATIONAL CONDITIONS - 2% AEP EVENT**





Scale: 1:5,000

Note:
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LEGEND

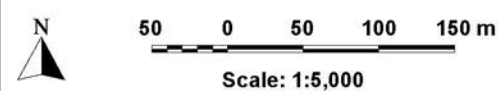
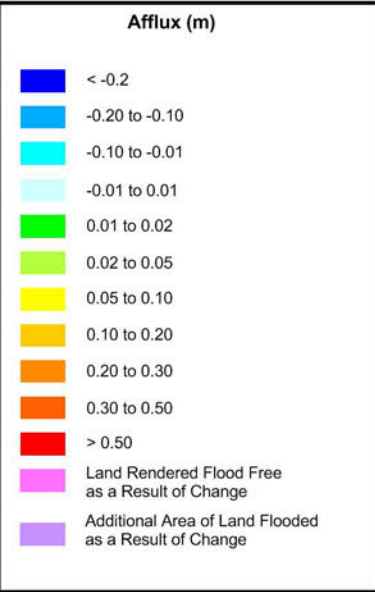
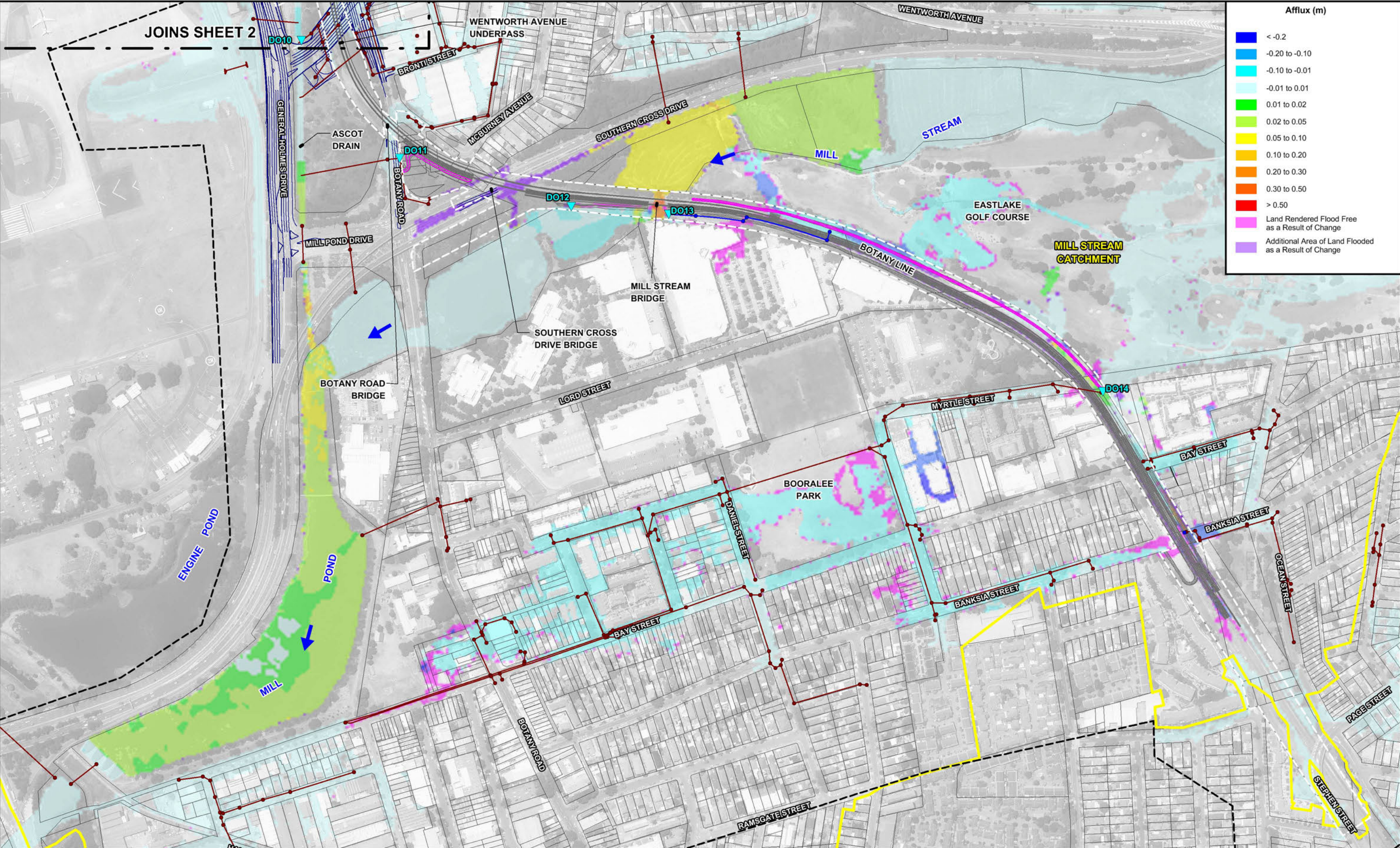
- Two-Dimensional Model Boundary
- Catchment Boundary
- Existing Drainage System to Remain
- Proposed Drainage System

- Proposed Rail Works
- Airport North and Airport East Road Works
- Drainage Outlet Location and Identifier
- Proposed Corridor Access Road
- Project Footprint

BOTANY RAIL DUPLICATION EIS TECHNICAL WORKING PAPER: FLOODING

Figure B.14
(Sheet 2 of 3)

IMPACT OF PROJECT OPERATION ON FLOOD BEHAVIOUR
2% AEP EVENT



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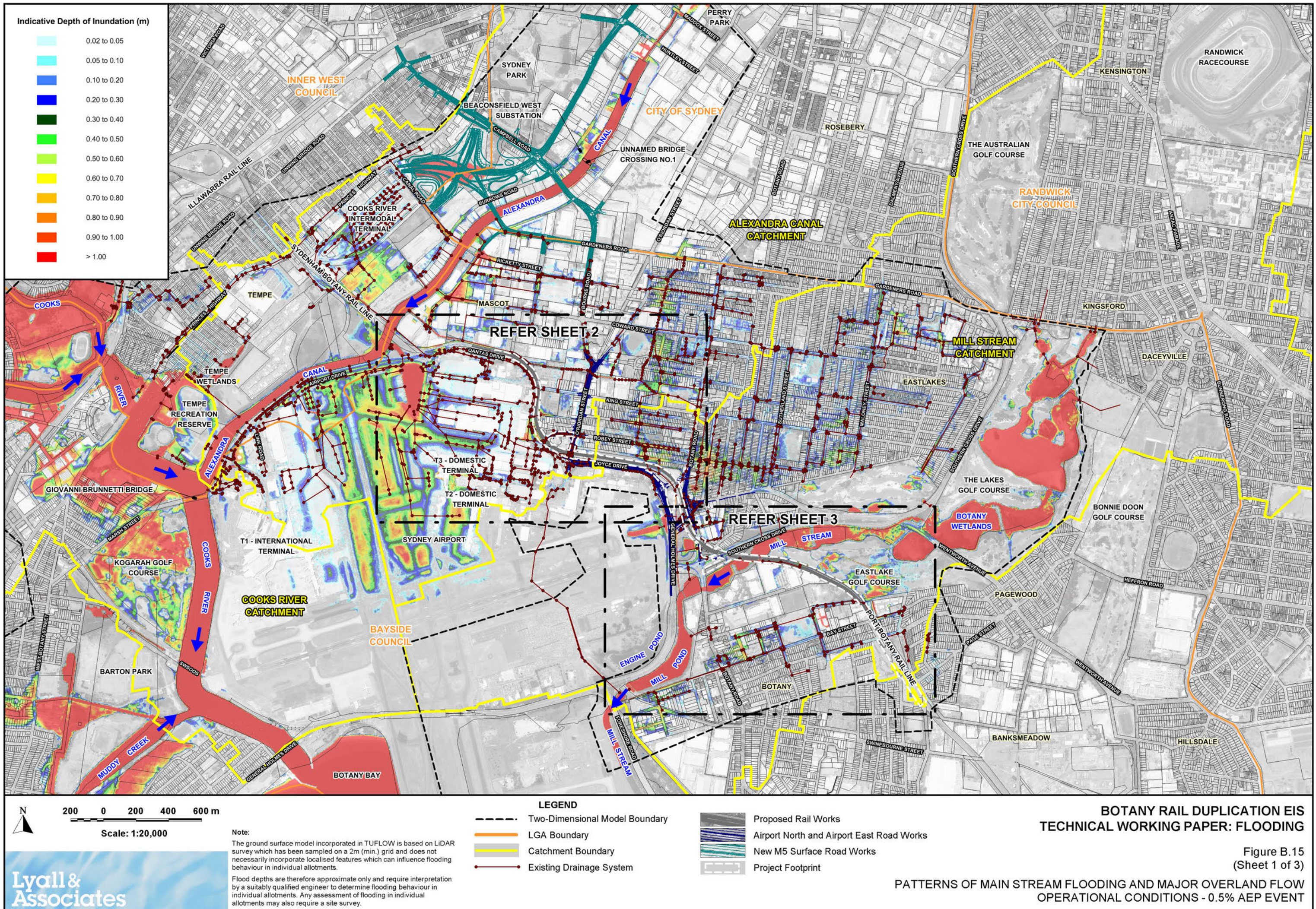
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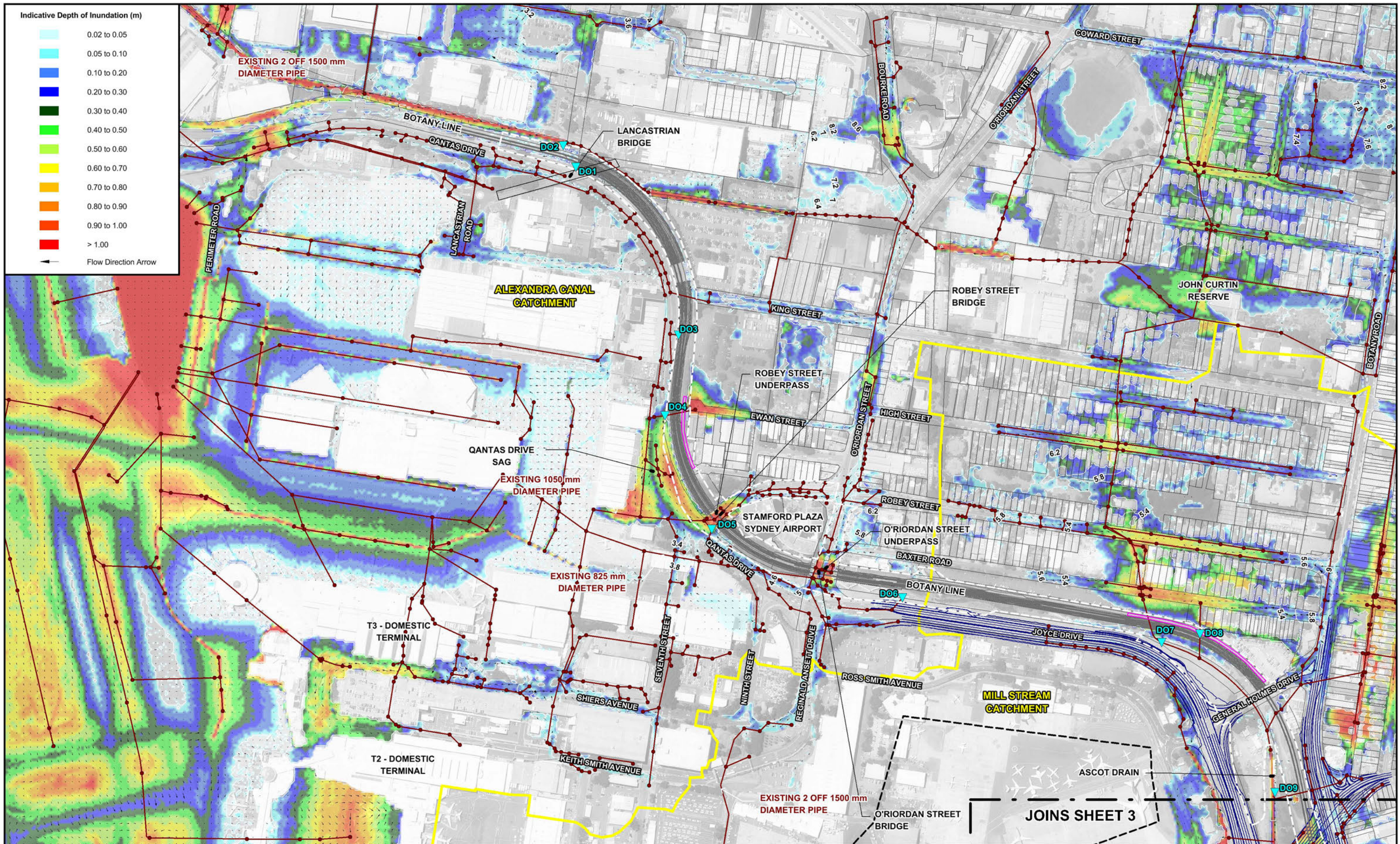
- LEGEND**
- Two-Dimensional Model Boundary
 - Catchment Boundary
 - Existing Drainage System to Remain
 - Proposed Drainage System

- Proposed Rail Works
- Airport North and Airport East Road Works
- Drainage Outlet Location and Identifier
- Proposed Corridor Access Road
- Project Footprint

**BOTANY RAIL DUPLICATION EIS
TECHNICAL WORKING PAPER: FLOODING**

Figure B.14
(Sheet 3 of 3)
IMPACT OF PROJECT OPERATION ON FLOOD BEHAVIOUR
2% AEP EVENT

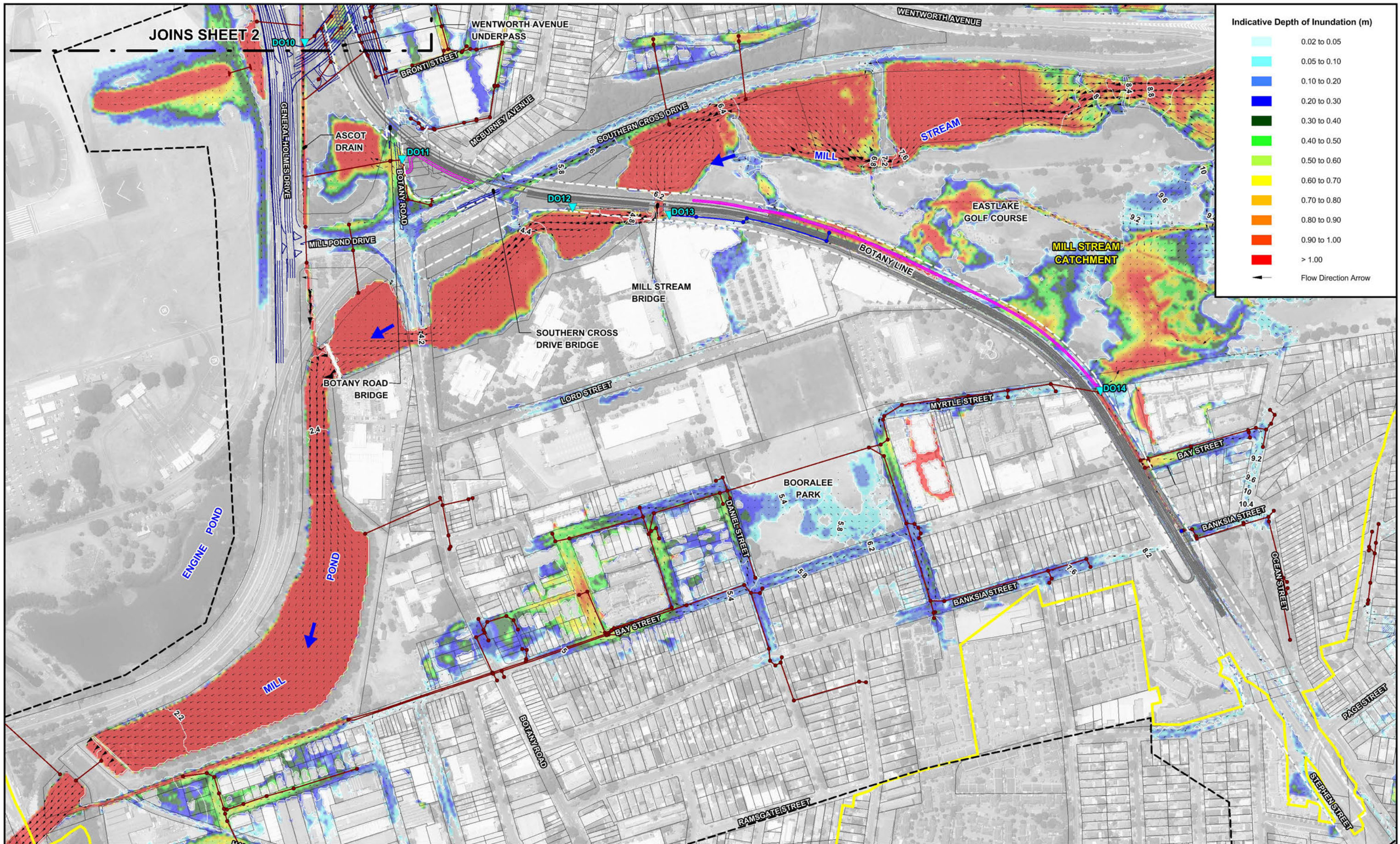




BOTANY RAIL DUPLICATION EIS TECHNICAL WORKING PAPER: FLOODING

Figure B.15
(Sheet 2 of 3)

**PATTERNS OF MAIN STREAM FLOODING AND MAJOR OVERLAND FLOW
OPERATIONAL CONDITIONS - 0.5% AEP EVENT**



Scale: 1:5,000

Note:
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LEGEND

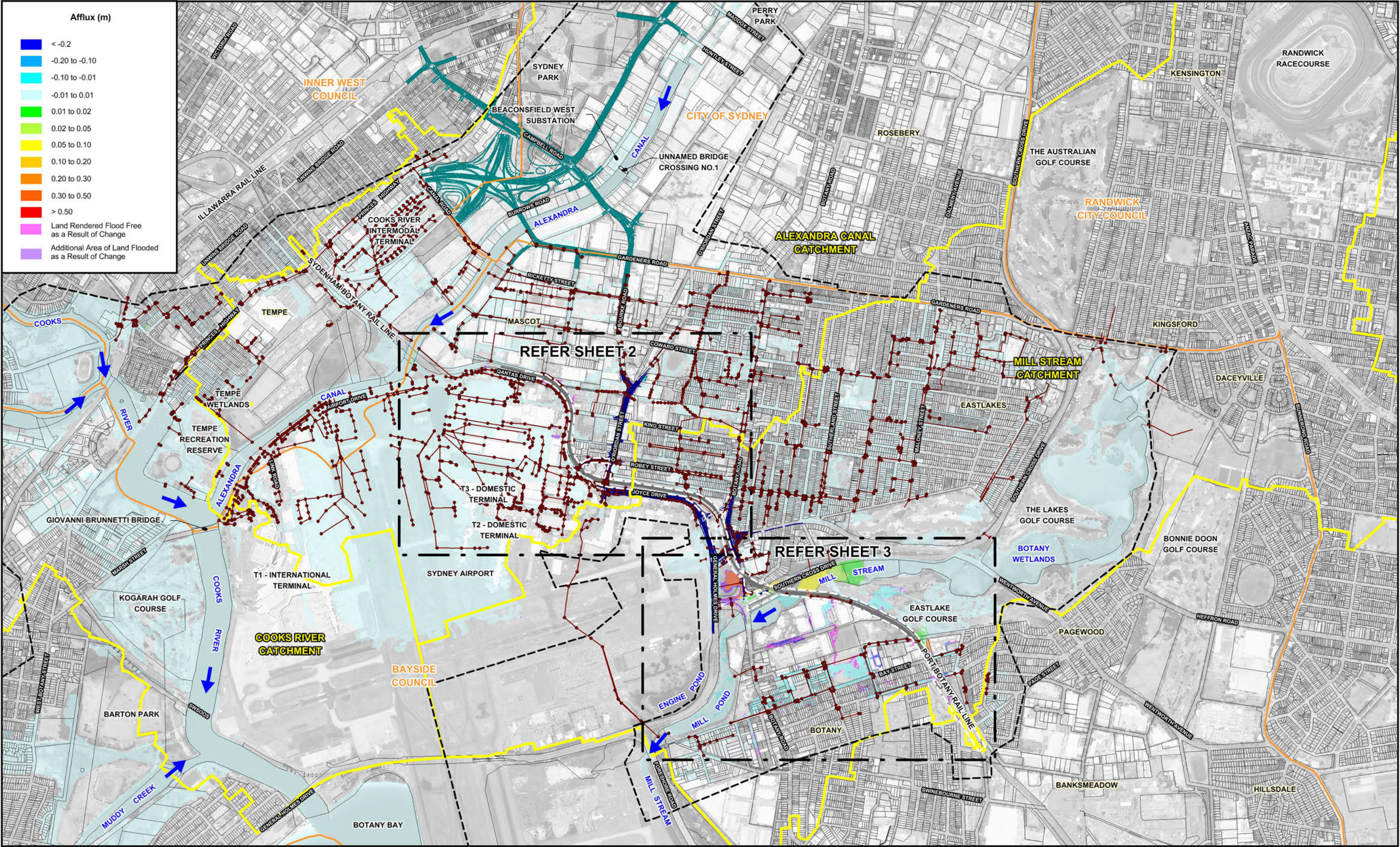
- Two-Dimensional Model Boundary
- Catchment Boundary
- Existing Drainage System to Remain
- Proposed Drainage System
- Drainage Outlet Location and Identifier

- Proposed Rail Works
- Airport North and Airport East Road Works
- Water Surface Elevation Contours
- Proposed Corridor Access Road
- Project Footprint

BOTANY RAIL DUPLICATION EIS TECHNICAL WORKING PAPER: FLOODING

Figure B.15
(Sheet 3 of 3)

PATTERNS OF MAIN STREAM FLOODING AND MAJOR OVERLAND FLOW
OPERATIONAL CONDITIONS - 0.5% AEP EVENT



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 |

LEGEND

| | |
|--------------------------------|---|
| Two-Dimensional Model Boundary | Proposed Rail Works |
| LGA Boundary | Airport North and Airport East Road Works |
| Catchment Boundary | New M5 Surface Road Works |
| Existing Drainage System | Project Footprint |

Scale: 1:20,000

200 0 200 400 600 m

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Botany Rail Duplication EIS

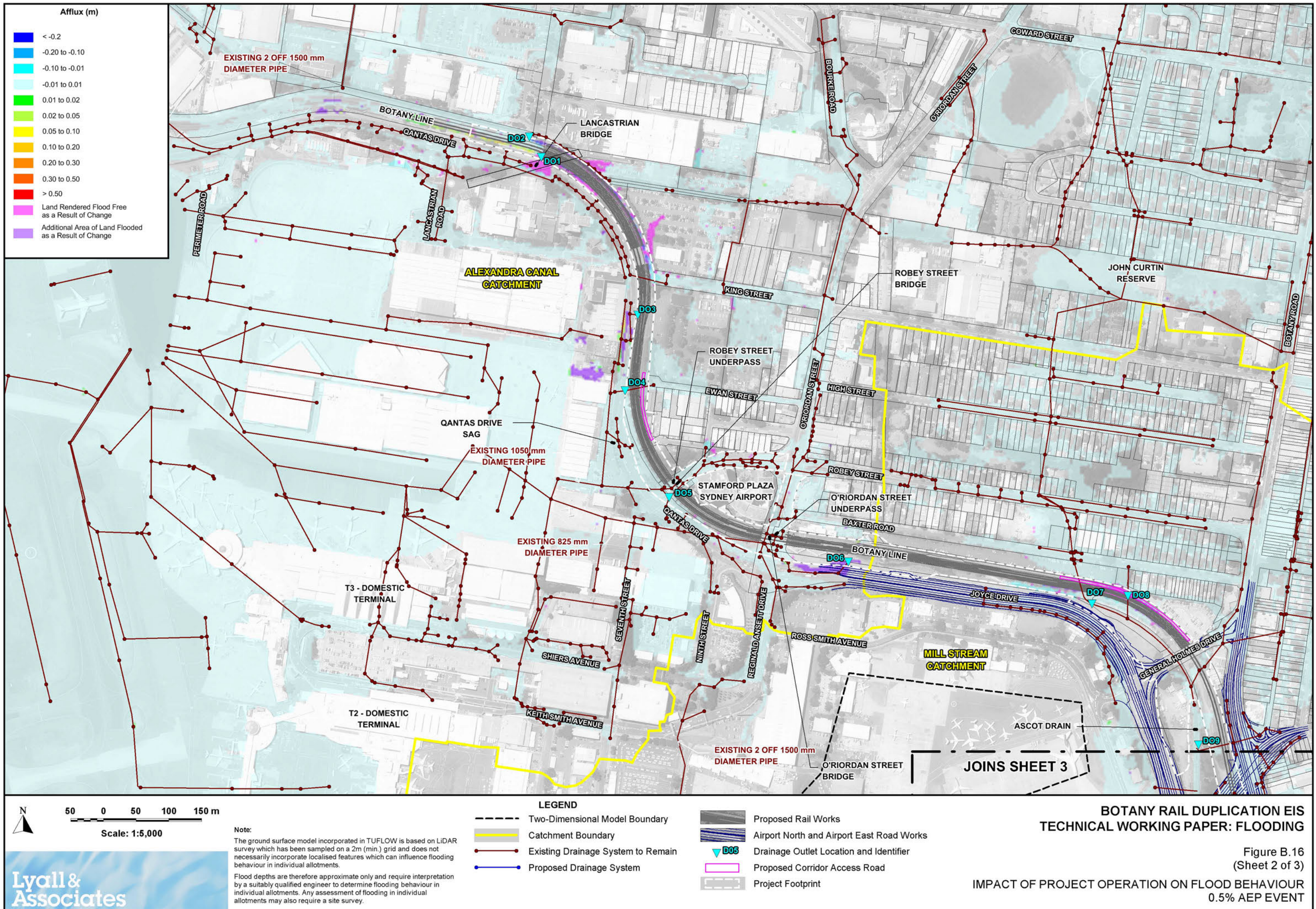
TECHNICAL WORKING PAPER: FLOODING

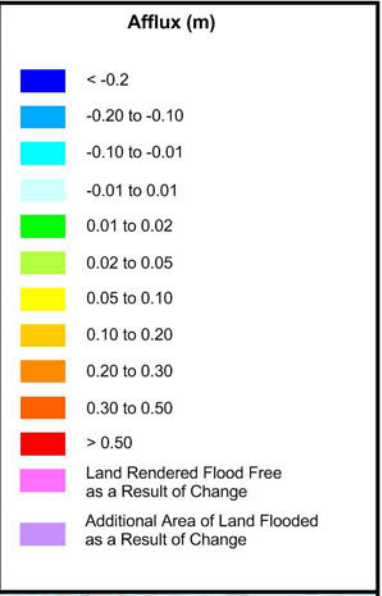
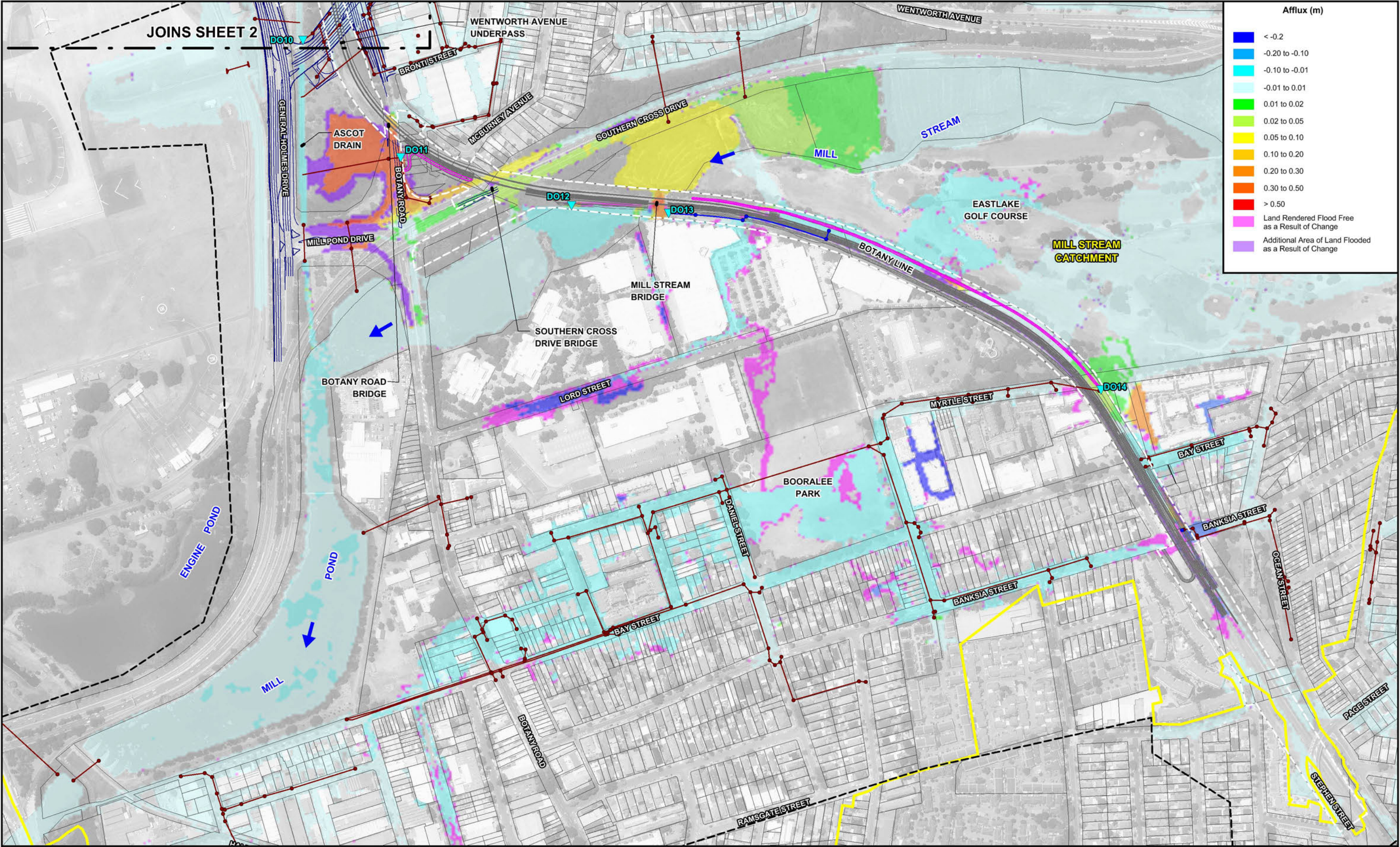
Figure B.16

(Sheet 1 of 3)

IMPACT OF PROJECT OPERATION ON FLOOD BEHAVIOUR

0.5% AEP EVENT





50 0 50 100 150 m
Scale: 1:5,000

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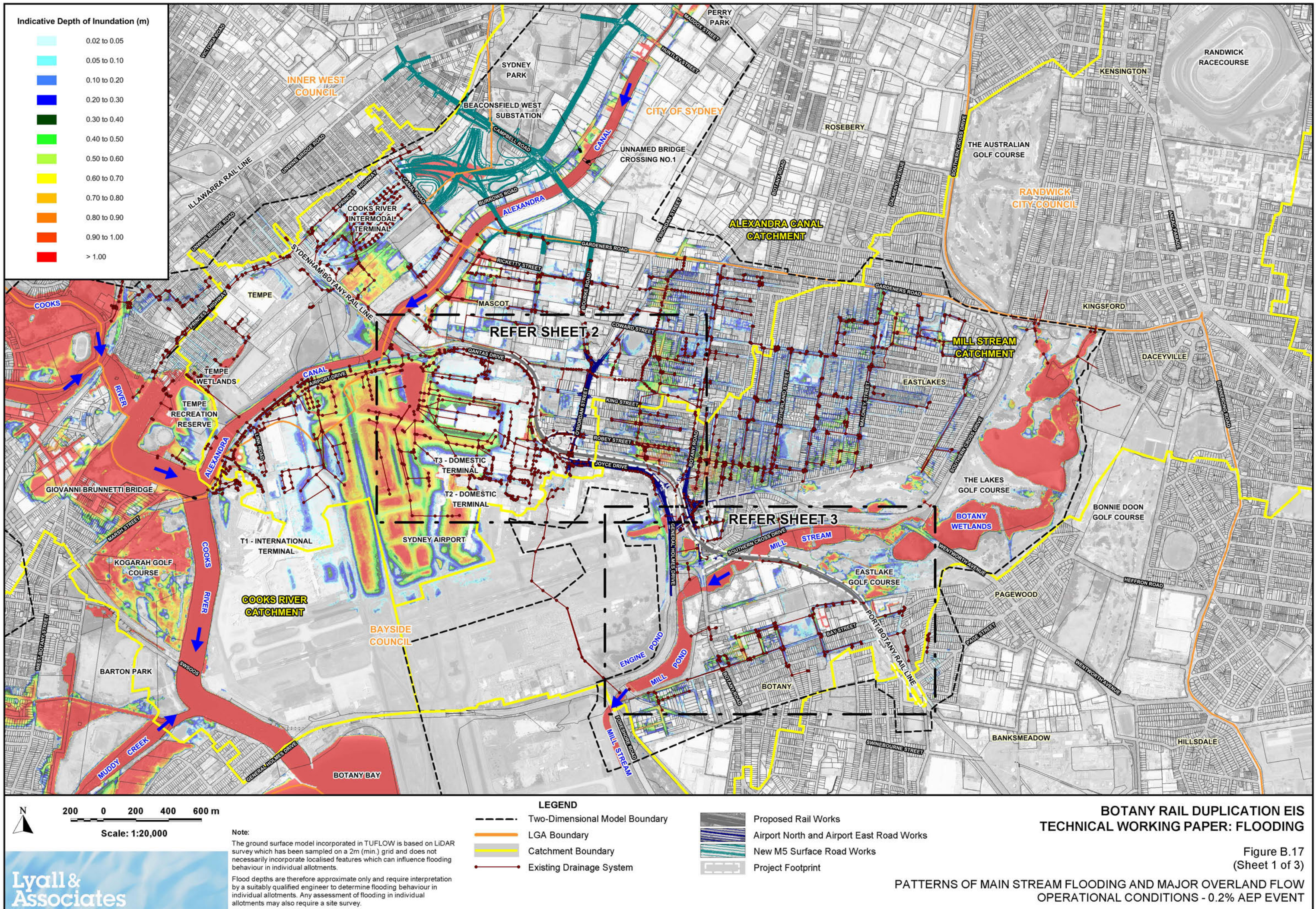
LEGEND

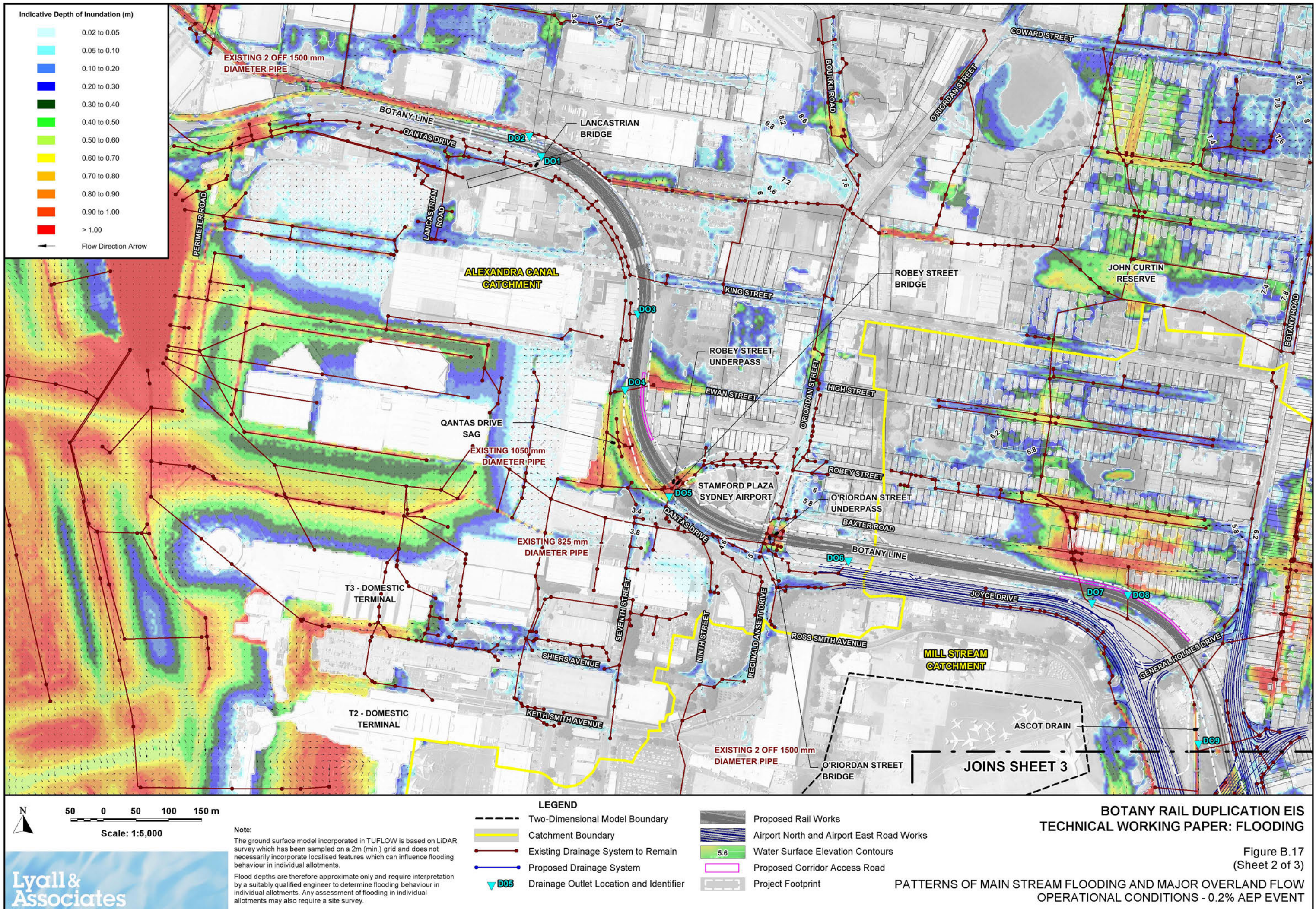
| | |
|--|---|
| --- Two-Dimensional Model Boundary | Proposed Rail Works |
| --- Catchment Boundary | Airport North and Airport East Road Works |
| --- Existing Drainage System to Remain | Drainage Outlet Location and Identifier |
| --- Proposed Drainage System | Proposed Corridor Access Road |
| | Project Footprint |

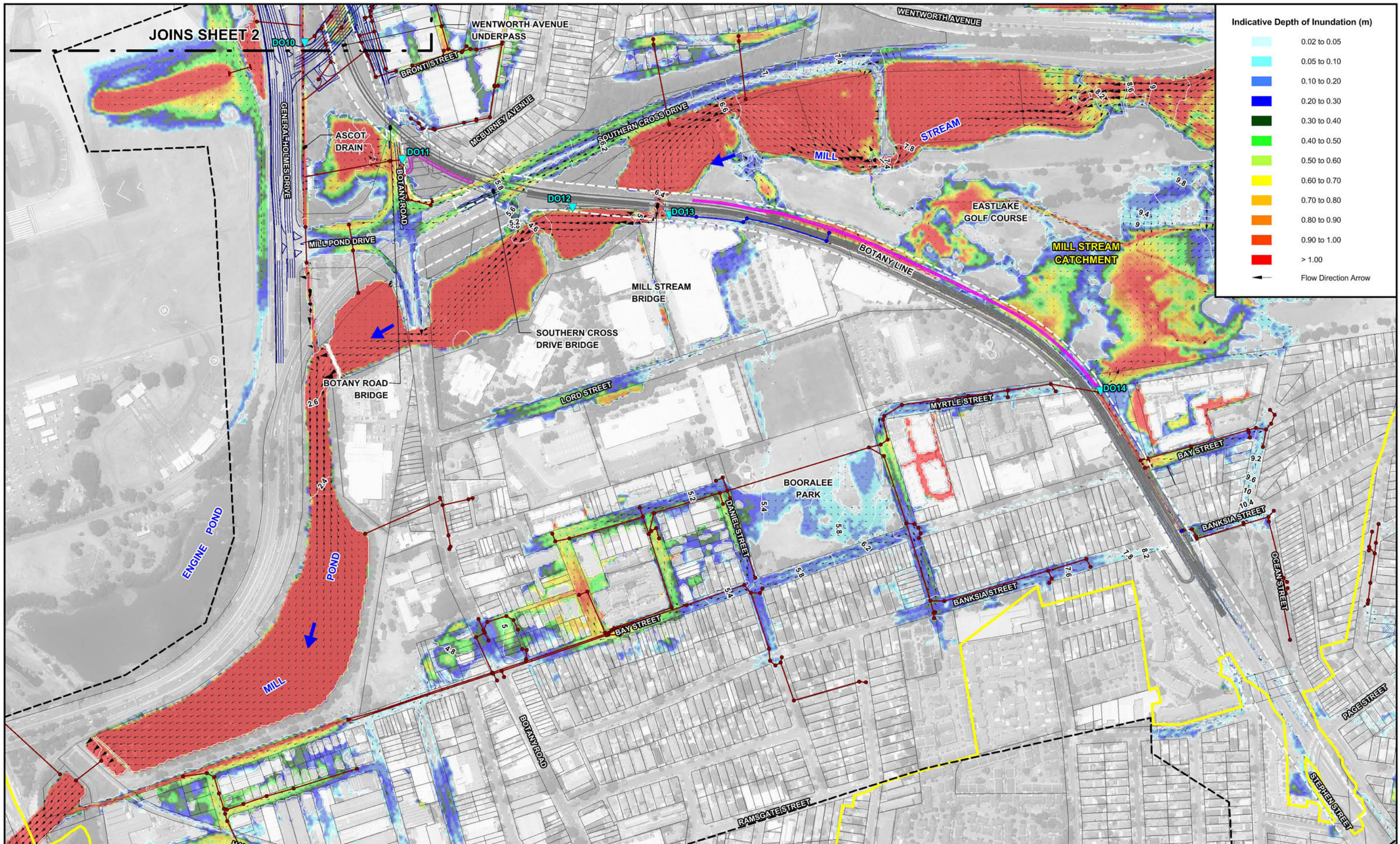
BOTANY RAIL DUPLICATION EIS
TECHNICAL WORKING PAPER: FLOODING

Figure B.16
(Sheet 3 of 3)

IMPACT OF PROJECT OPERATION ON FLOOD BEHAVIOUR
0.5% AEP EVENT







Scale: 1:5,000

Note:
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LEGEND

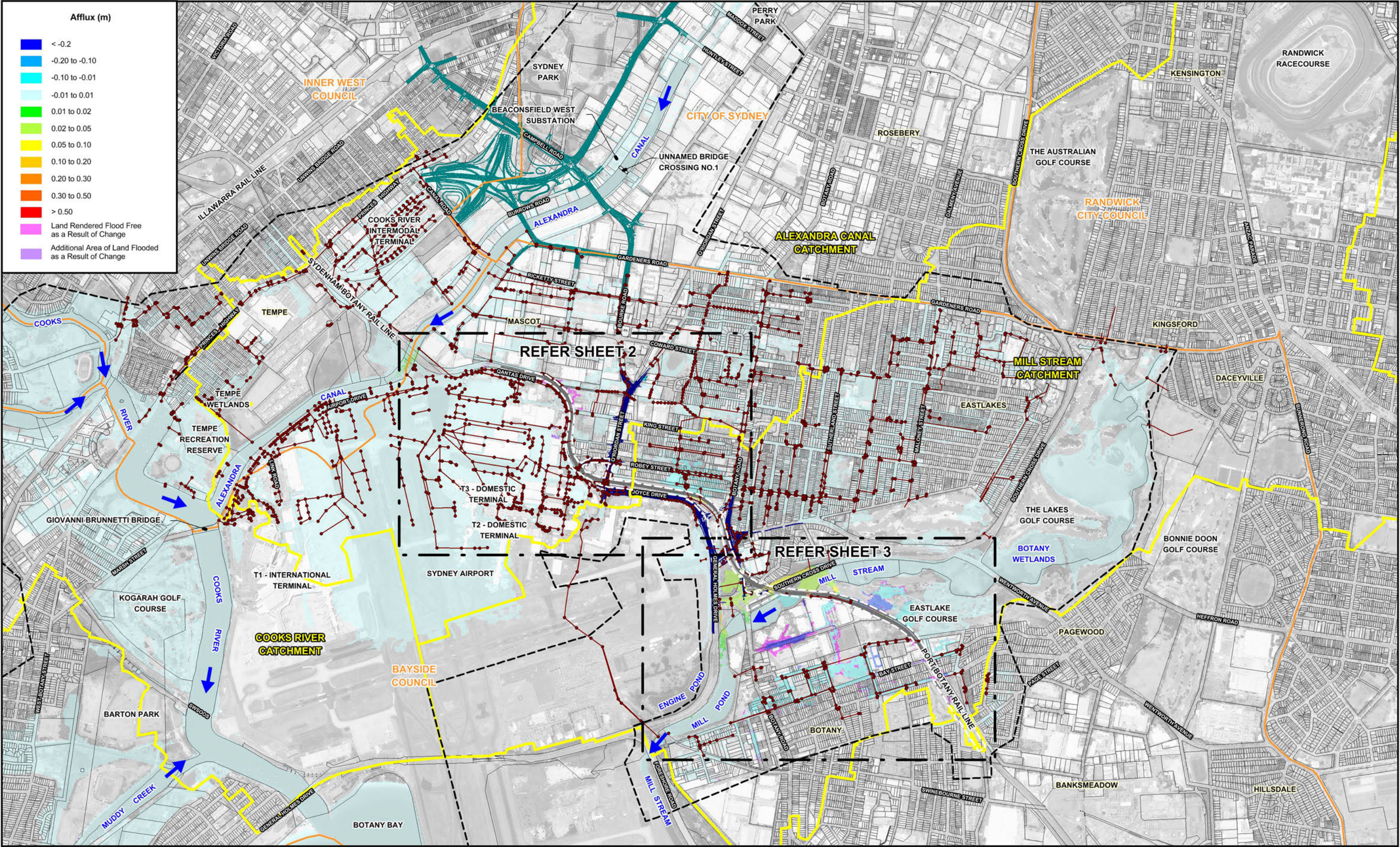
- Two-Dimensional Model Boundary
- Catchment Boundary
- Existing Drainage System to Remain
- Proposed Drainage System
- Drainage Outlet Location and Identifier

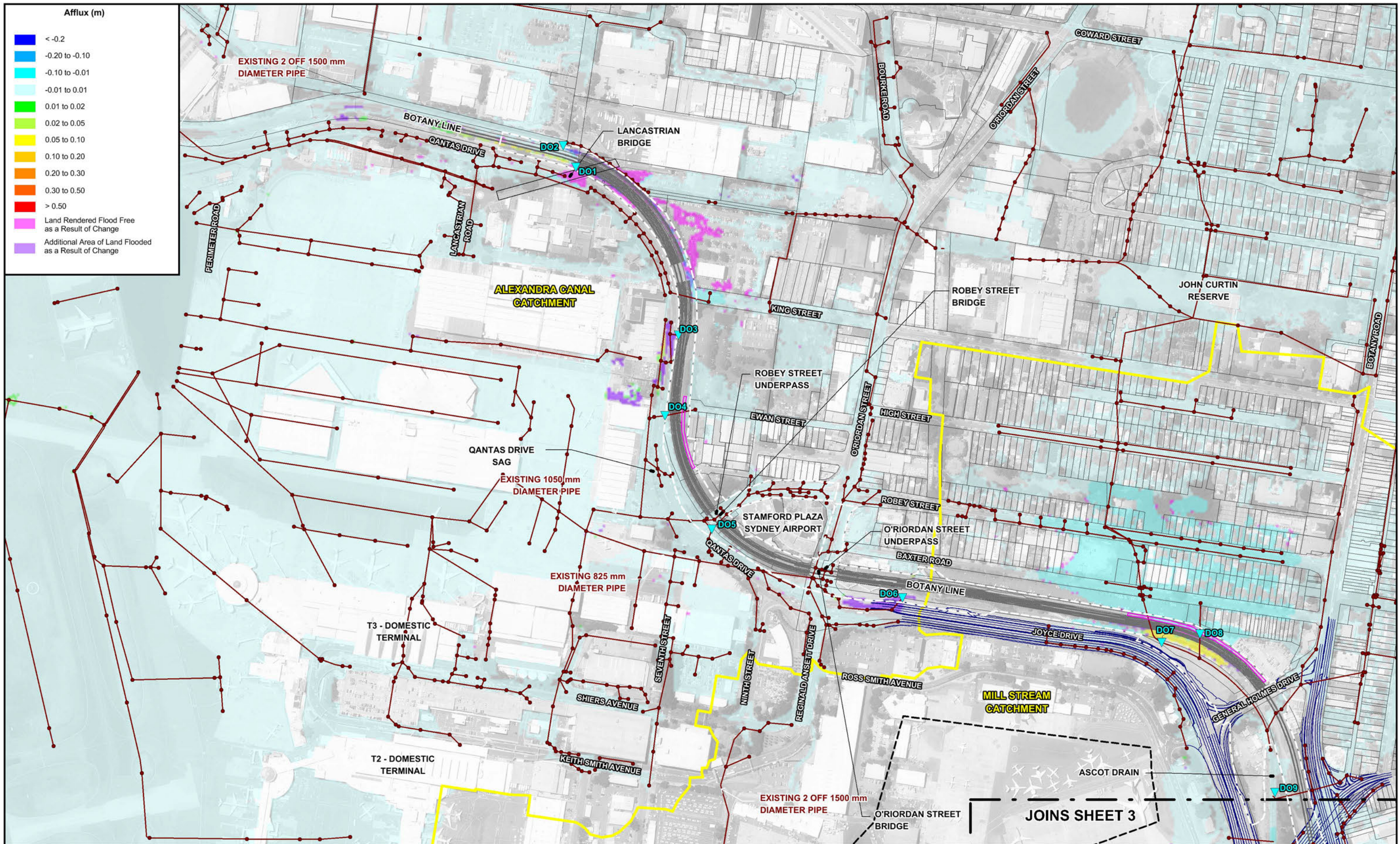
- Proposed Rail Works
- Airport North and Airport East Road Works
- Water Surface Elevation Contours
- Proposed Corridor Access Road
- Project Footprint

BOTANY RAIL DUPLICATION EIS TECHNICAL WORKING PAPER: FLOODING

Figure B.17
(Sheet 3 of 3)

PATTERNS OF MAIN STREAM FLOODING AND MAJOR OVERLAND FLOW
OPERATIONAL CONDITIONS - 0.2% AEP EVENT





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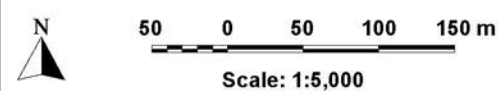
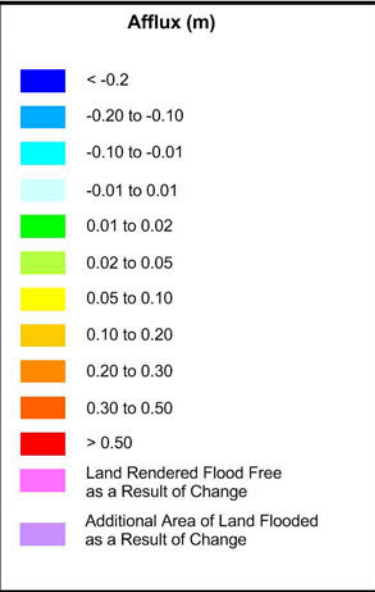
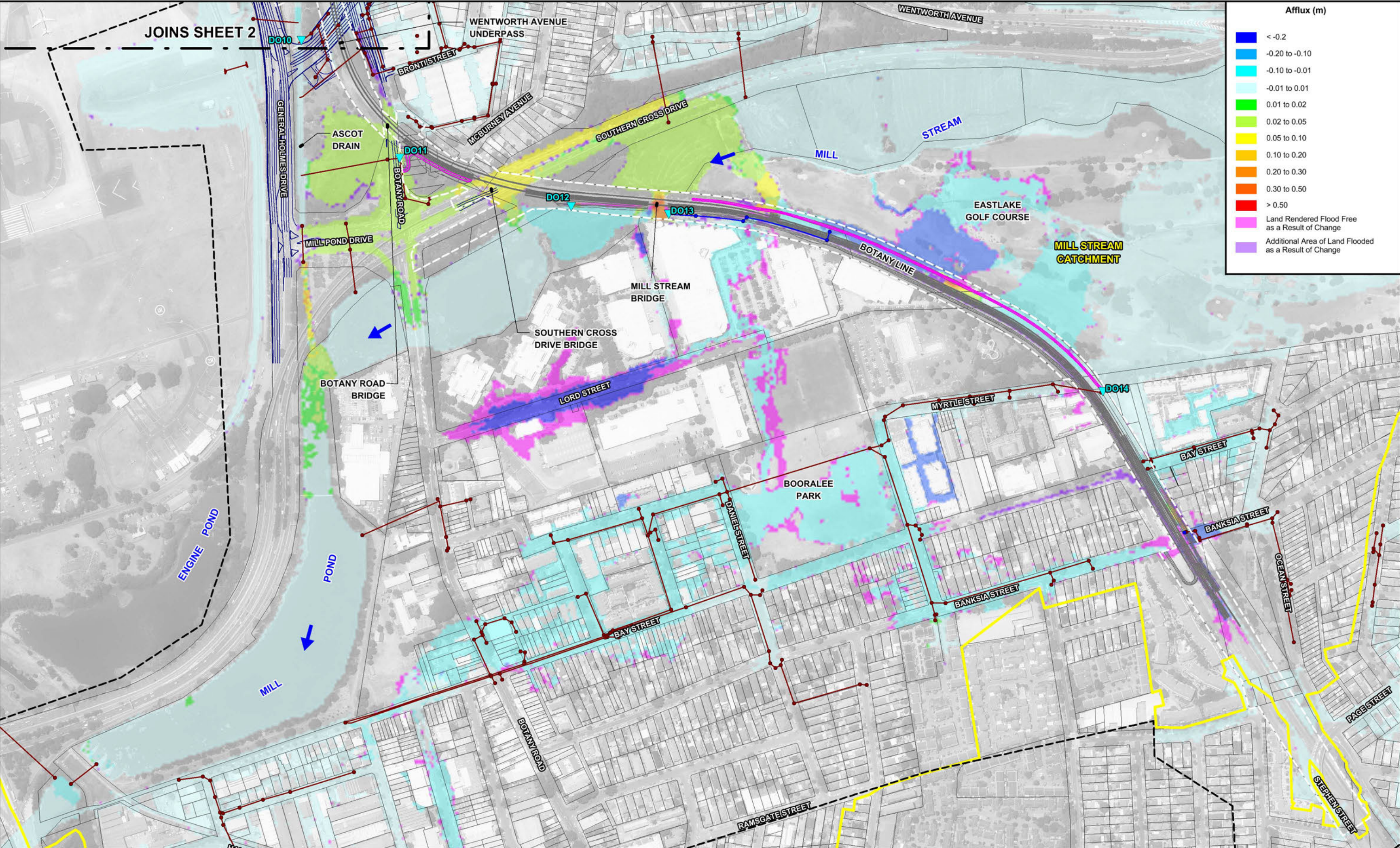
- LEGEND**
- Two-Dimensional Model Boundary
 - Catchment Boundary
 - Existing Drainage System to Remain
 - Proposed Drainage System

- Proposed Rail Works
- Airport North and Airport East Road Works
- Drainage Outlet Location and Identifier
- Proposed Corridor Access Road
- Project Footprint

BOTANY RAIL DUPLICATION EIS TECHNICAL WORKING PAPER: FLOODING

Figure B.18
(Sheet 2 of 3)

IMPACT OF PROJECT OPERATION ON FLOOD BEHAVIOUR
0.2% AEP EVENT

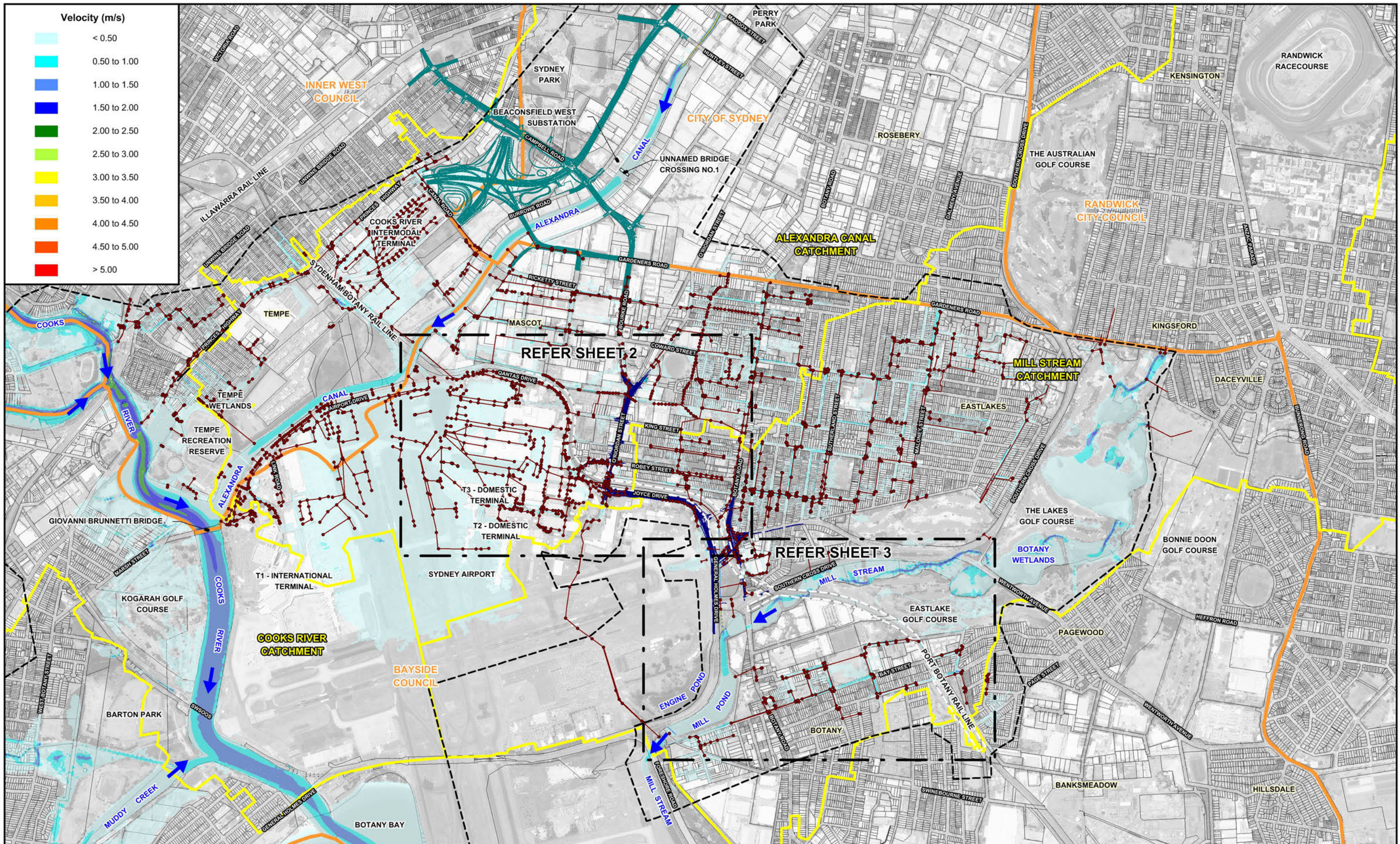


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- LEGEND
- Two-Dimensional Model Boundary
 - Catchment Boundary
 - Existing Drainage System to Remain
 - Proposed Drainage System

- Proposed Rail Works
- Airport North and Airport East Road Works
- Drainage Outlet Location and Identifier
- Proposed Corridor Access Road
- Project Footprint

BOTANY RAIL DUPLICATION EIS
TECHNICAL WORKING PAPER: FLOODING



BOTANY RAIL DUPLICATION EIS **TECHNICAL WORKING PAPER: FLOODING**

Figure B.19
(Sheet 1 of 3)

PEAK FLOW VELOCITIES
PRE-PROJECT CONDITIONS - 10% AEP EVENT

