LEGEND
Study Area
Channel
Culverts

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
Bado-Berong Creek (Sans Souci Drain No.2)
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
Goomun Creek (Sans Souci Drain No.3)
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD
Waradiel Creek (Sans Souci Drain No.

Cardno

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 2-1
SANS SOUCI STUDY AREA

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 3-1
RAIN GAUGE LOCATIONS

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Elevation (m AHD)

18.0

5.0

3.0

1.0

-2.0

**LEGEND**

Model Extent

N

W E

S

RAMSGATE RD

PARK ROAD

ALICE ST

RITCHIE ST

CAMILLE ST

SANDRINGHAM ST

BONANZA LANE

BONANZA PDE

RUSSELL LANE

RUSSELL AVE

EVANS ST

POPLAR ST

GRIFFITHS ST

TOYER AVE

IDA ST

KENDALL ST

FONTANEBLEAU ST

RIVERSIDE RD

TONBRIDGE ST

WALTER ST

OLIVER AVE

DELMONT AVE

MINTON AVE

NORMANHAVE

GANNON AVE

MCMILLAN AVE

SANONI AVE

PIGKIN AVE

PRIMROSE AVE

CLAREVILLE AVE

NORWOOD ST

0 200 400

metres

Cardno

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 4-1
SANS SOUCI TERRAIN ELEVATION

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**LEGEND**

- Pits
- Pipes
- Channel
- Culverts
- Cross Sections

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TOORAK
RAMSGATE RD
PARK ROAD
SELMO CT
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
CHUTER AVE
ALFRED
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA DR
SANDRINGHAM ST
ROCKYTON RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
RUSSELL AVE
NORMAN AVE
CANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
PRIMROSE AVE
DICKIN AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOORE ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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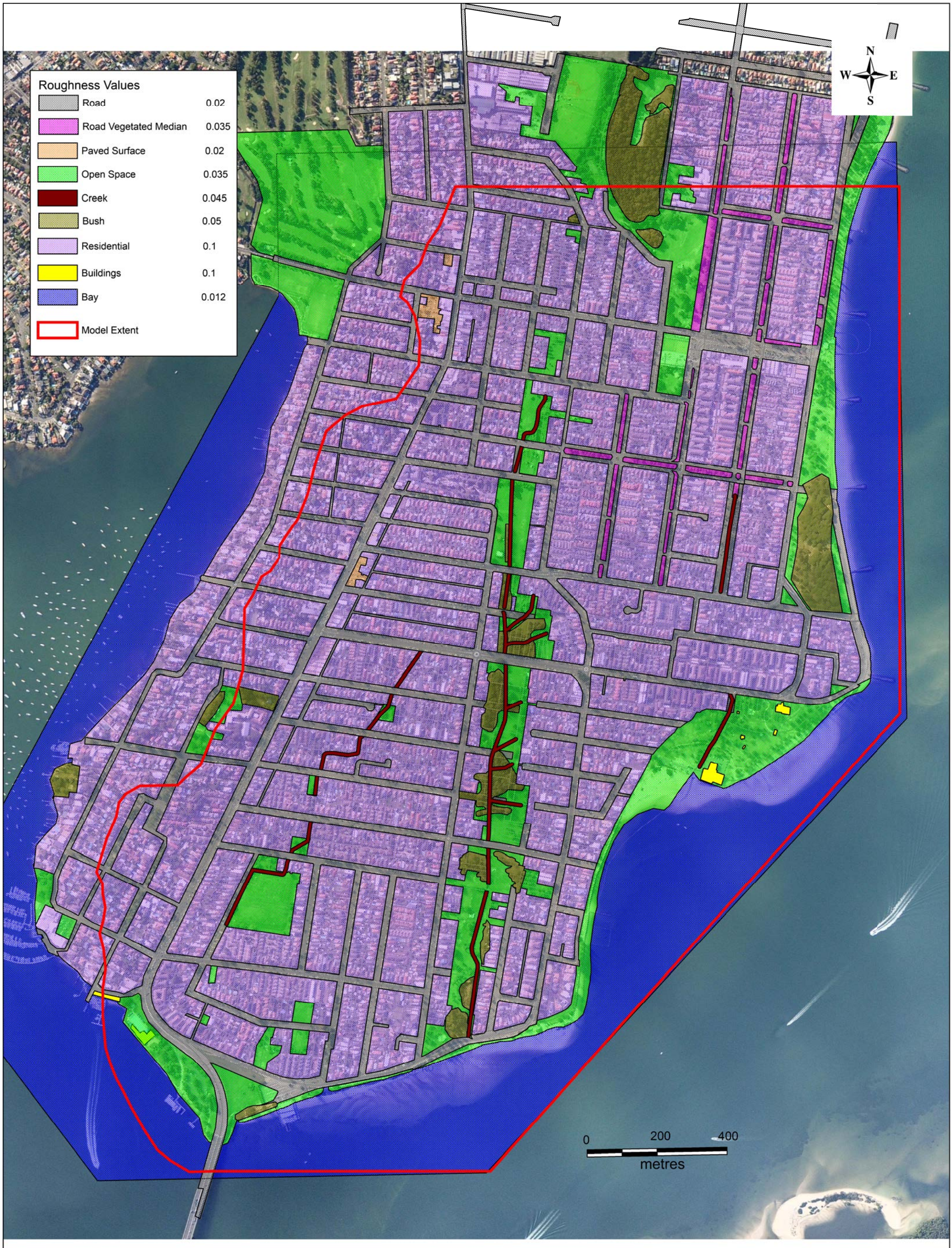
SANS SOUCI FLOOD STUDY REVIEW

FIGURE 4-2
TUFLOW MODEL 1D ELEMENTS

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 4-3
SANS SOUCI HYDRAULIC ROUGHNESS ZONES

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LEGEND

Model Boundary

RAFTS Catchment

Flood Extent - 1% AEP

Flow Measurement Lines

2m Contour

N

W E

S

CLARKES RD

CAMPBELL ST

MACDONALD ST

MARGATE ST

WALMER ST

PARK ROAD

SELMON ST

ALICE ST

16

14

14

10

12

6

8

2

Cardno

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-1
MODEL VALIDATION XP-RAFTS SUB-CATCHMENT

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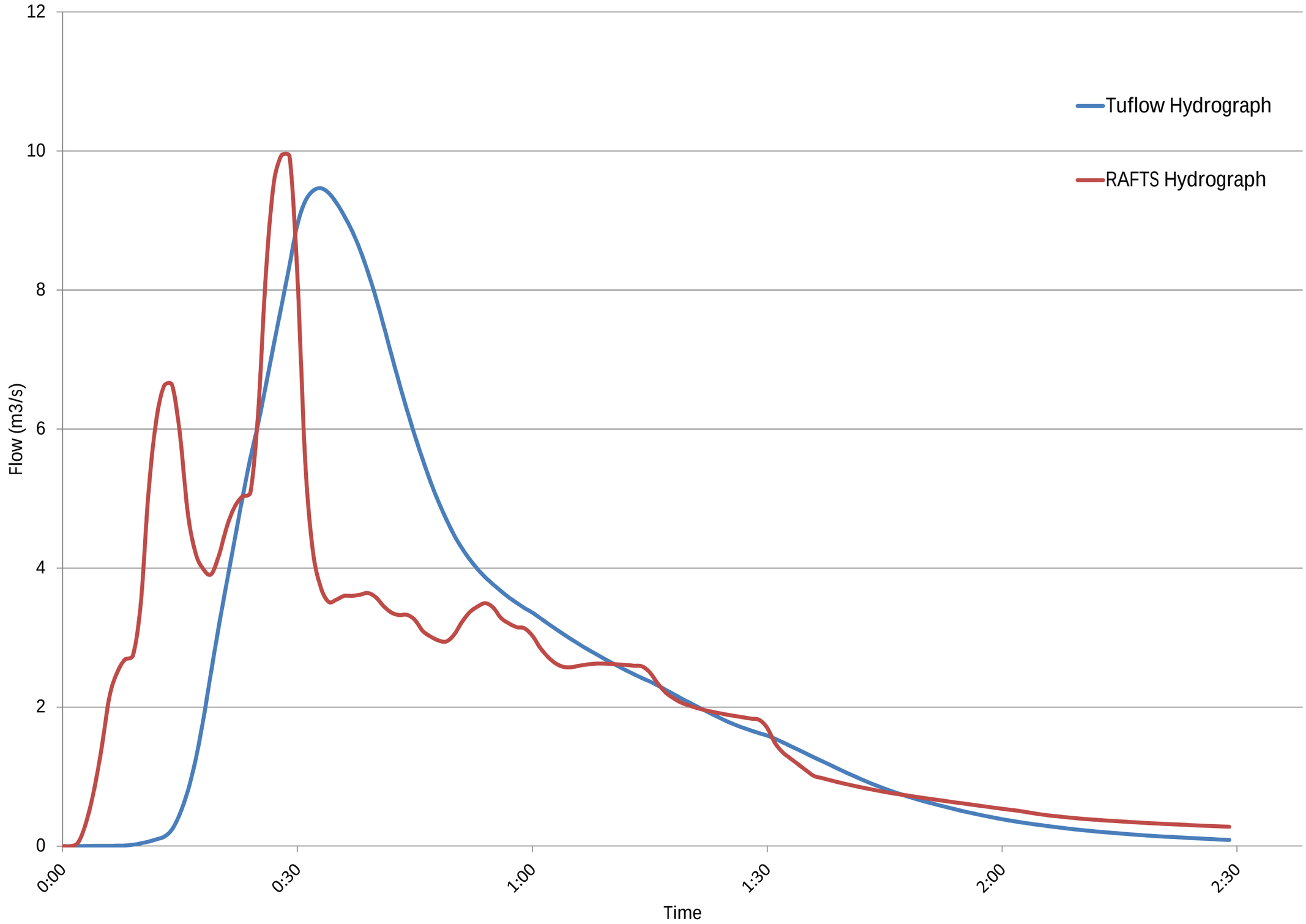




FIGURE 5-2
HYDROGRAPH COMPARISON

**LEGEND**

- Calibration Locations
- 1975 Flood Extent Sydney Airport Rainfall
- 1975 Flood Extent Mortdale Appproach

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARSH ST
WALKER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA PDE
RUSSELL LANE
ROCKFRONT RD
POPLARS
EVANS ST
GRIFFITHS ST
TOYER AVE
DA ST
KENDALL ST
MOSS ST
BRANTWOOD ST
PUFFY AVE
NAPOLEON ST
CHUTER AVE
ALFRED ST
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
MCMILLAN AVE
SANONI AVE
DICKIN AVE
ROSELEA AVE
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

P1
P2
P3
P4
P5
P7
P8
P9
P10
P11
P12
P13
P14

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-4
FLOOD EXTENTS AND CALIBRATION LOCATIONS
1975 EVENTS BASED ON TWO RAINFALL APPROACHES

Ground Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.15 to 0.2
- -0.15 to -0.2
- -0.2 to -0.5
- <-0.5

Limited Spot Levels Available from 1976 Survey

N
W E
S

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-5
GROUND LEVEL DIFFERENCES
MODELLED LESS 1976 SPOT

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.1
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
RITCHIE ST
WALTER ST
ALICE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-6
WATER LEVEL DIFFERENCES - 1975 EVENT
SYDNEY AIRPORT LESS MORTDALE

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.1
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
BELMONT AVE
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-7
WATER LEVEL DIFFERENCES - 1975 EVENT
20% RAIN INCREASE LESS MORTDALE

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-8
WATER LEVEL DIFFERENCES - 1975 EVENT
20% RAIN DECREASE LESS MORTDALE

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
BELMONT AVE
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-9
WATER LEVEL DIFFERENCES - 1975 EVENT
20% ROUGHNESS INCREASE LESS MORTDALE

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.1
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-10
WATER LEVEL DIFFERENCES - 1975 EVENT
20% ROUGHNESS DECREASE LESS MORTDALE

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-11
WATER LEVEL DIFFERENCES 1975 EVENT
CASE 1 INITIAL LOSS 15MM LESS MORTDALE APPROACH

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.1
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 5-12
WATER LEVEL DIFFERENCES 1975 EVENT
CASE 2 INITIAL LOSS 20MM LESS MORTDALE APPROACH

**LEGEND**
**PEAK DEPTH (m)**

- 0.15 to 0.40
- 0.4 to 0.60
- 0.6 to 0.80
- 0.8 to 1.0
- 1.0 to 1.20
- 1.2 to 1.50
- 1.5 to 2.0
- >2.0

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-1
FLOOD EXTENT AND PEAK WATER DEPTHS
20% AEP

**LEGEND**
**PEAK DEPTH (m)**

- 0.15 to 0.40
- 0.4 to 0.60
- 0.6 to 0.80
- 0.8 to 1.0
- 1.0 to 1.20
- 1.2 to 1.50
- 1.5 to 2.0
- >2.0

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
ROCKY POINT RD
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-2
FLOOD EXTENT AND PEAK WATER DEPTHS
10% AEP

**LEGEND**
**PEAK DEPTH (m)**

- 0.15 to 0.40
- 0.4 to 0.60
- 0.6 to 1.0
- 0.8 to 1.0
- 1.0 to 1.20
- 1.2 to 1.50
- 1.5 to 2.0
- >2.0

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-3
FLOOD EXTENT AND PEAK WATER DEPTHS
5% AEP

**LEGEND**
**PEAK DEPTH (m)**

- 0.15 to 0.40
- 0.4 to 0.60
- 0.6 to 0.80
- 0.8 to 1.0
- 1.0 to 1.20
- 1.2 to 1.50
- 1.5 to 2.0
- >2.0

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-4
FLOOD EXTENT AND PEAK WATER DEPTHS
1% AEP

**LEGEND**
**PEAK DEPTH (m)**

- 0.15 to 0.40
- 0.4 to 0.60
- 0.6 to 0.80
- 0.8 to 1.0
- 1.0 to 1.20
- 1.2 to 1.50
- 1.5 to 2.0
- >2.0

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
CHUTER AVE
ALFRED ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
IOYER AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-5
FLOOD EXTENT AND PEAK WATER DEPTHS
PMF

PEAK VELOCITY
(m/s)

- >5.01
- 3.01-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.5-0.99
- 0.00-0.49

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
PRIMROSE AVE
DICKIN AVE
TOYER AVE
IDA ST
NAPOLEON ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-6
PEAK VELOCITIES - 20% AEP

PEAK VELOCITY
(m/s)

- >5.01
- 3.01-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.5-0.99
- 0.00-0.49

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
PRIMROSE AVE
DICKIN AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-7
PEAK VELOCITIES - 10% AEP

PEAK VELOCITY
(m/s)

- >5.01
- 3.01-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.5-0.99
- 0.00-0.49

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CAMILLE ST
CHUTER AVE
ALFRED ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
PRIMROSE AVE
DICKIN AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-8
PEAK VELOCITIES - 5% AEP

PEAK VELOCITY
(m/s)

- >5.01
- 3.01-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.5-0.99
- 0.00-0.49

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
RUSSELL AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
GRIFFITHS ST
TOYER AVE
IDA ST
KENDALL ST
CHUTER AVE
ALFRED ST
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
MCMILLAN AVE
SANONI AVE
DICKIN AVE
PRIMROSE AVE
NAPOLEON ST
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-9
PEAK VELOCITIES - 1% AEP

PEAK VELOCITY
(m/s)

- >5.01
- 3.01-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.5-0.99
- 0.00-0.49

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
GRIFFITHS ST
TOYER AVE
IDA ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD
NAPOLEON ST
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
CHUTER AVE
ALFRED ST
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
MCMILLAN AVE
SANONI AVE
DICKIN AVE
PRIMROSE AVE

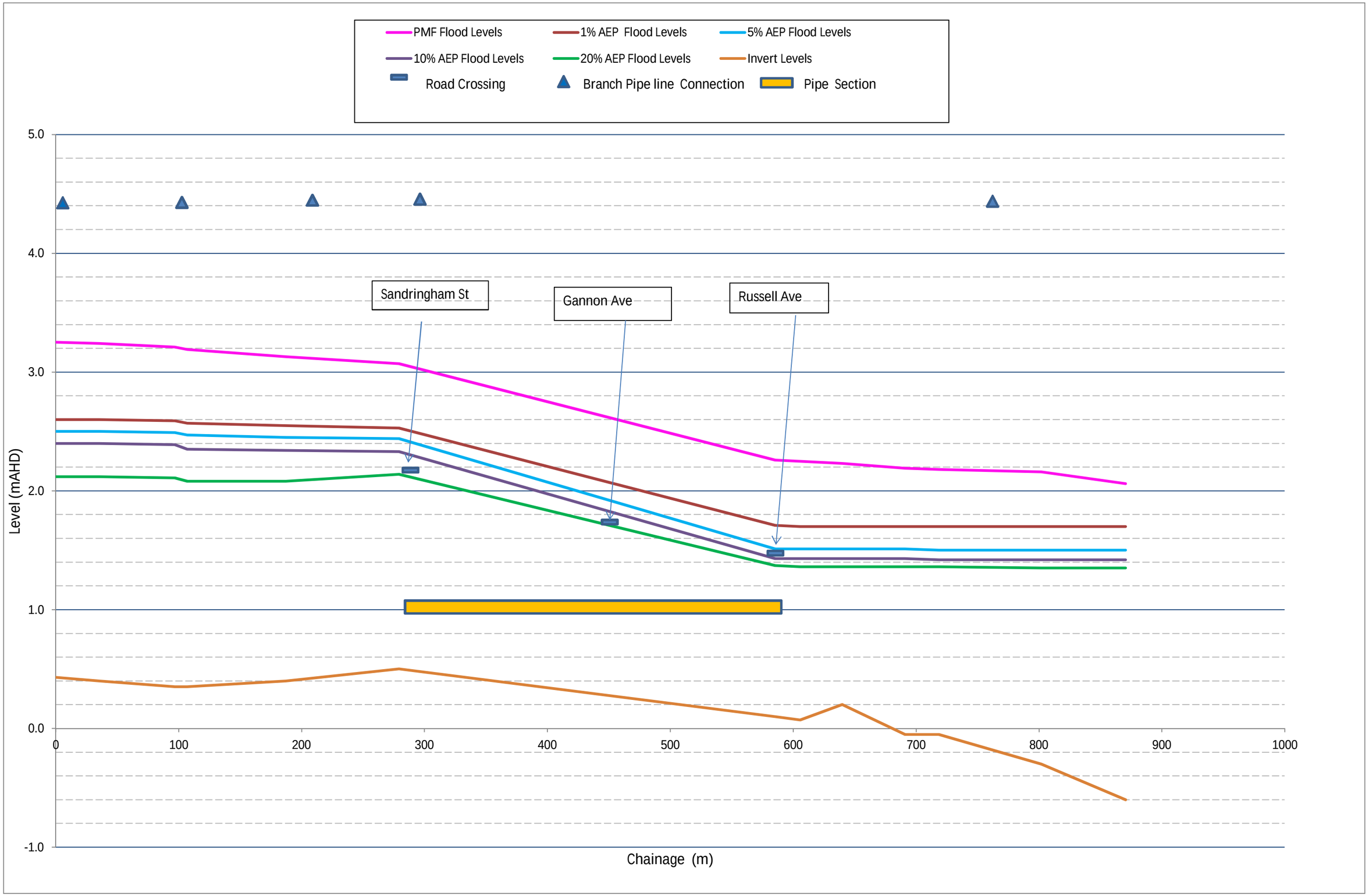
0 200 400
metres

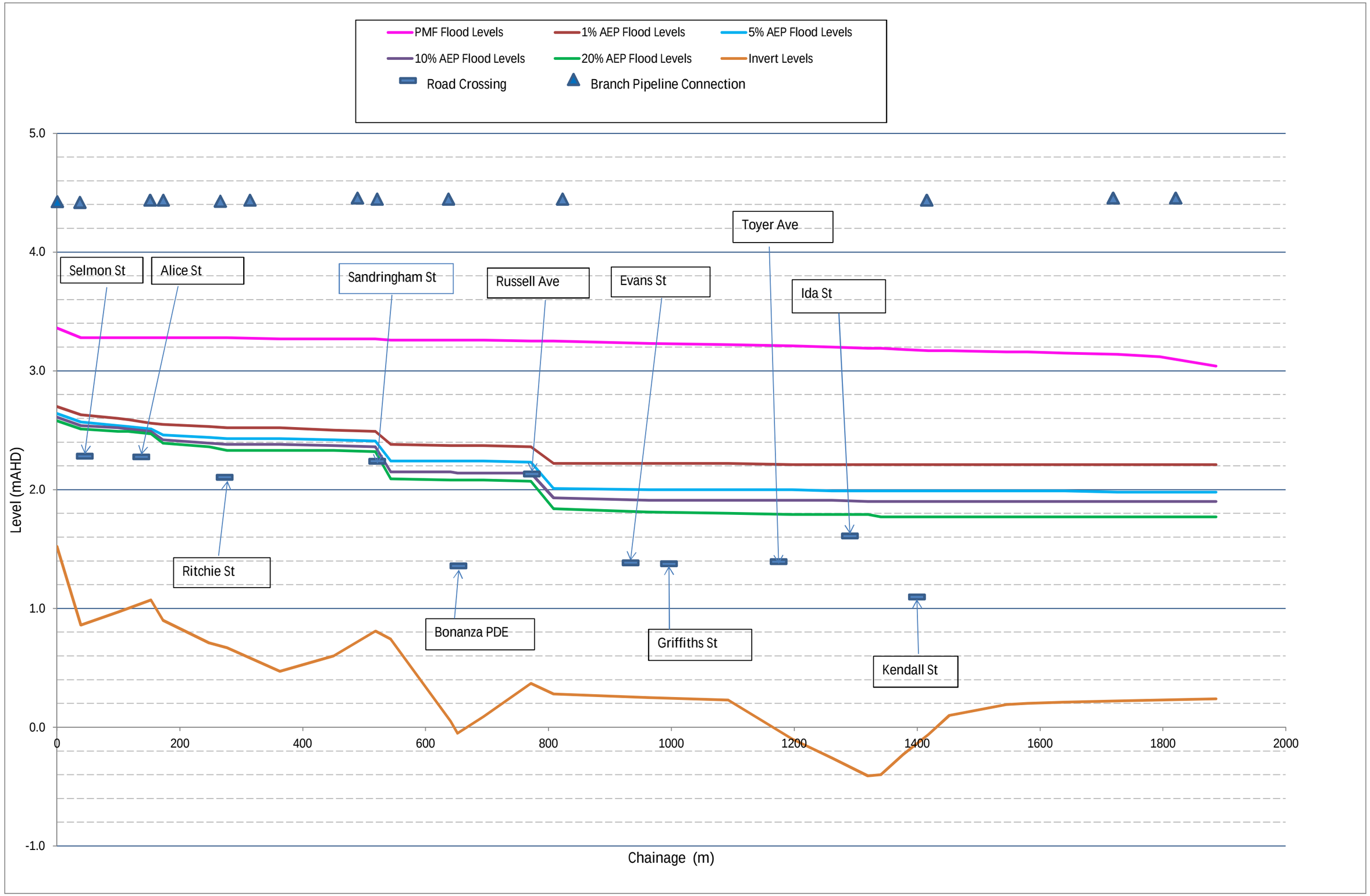
Cardno

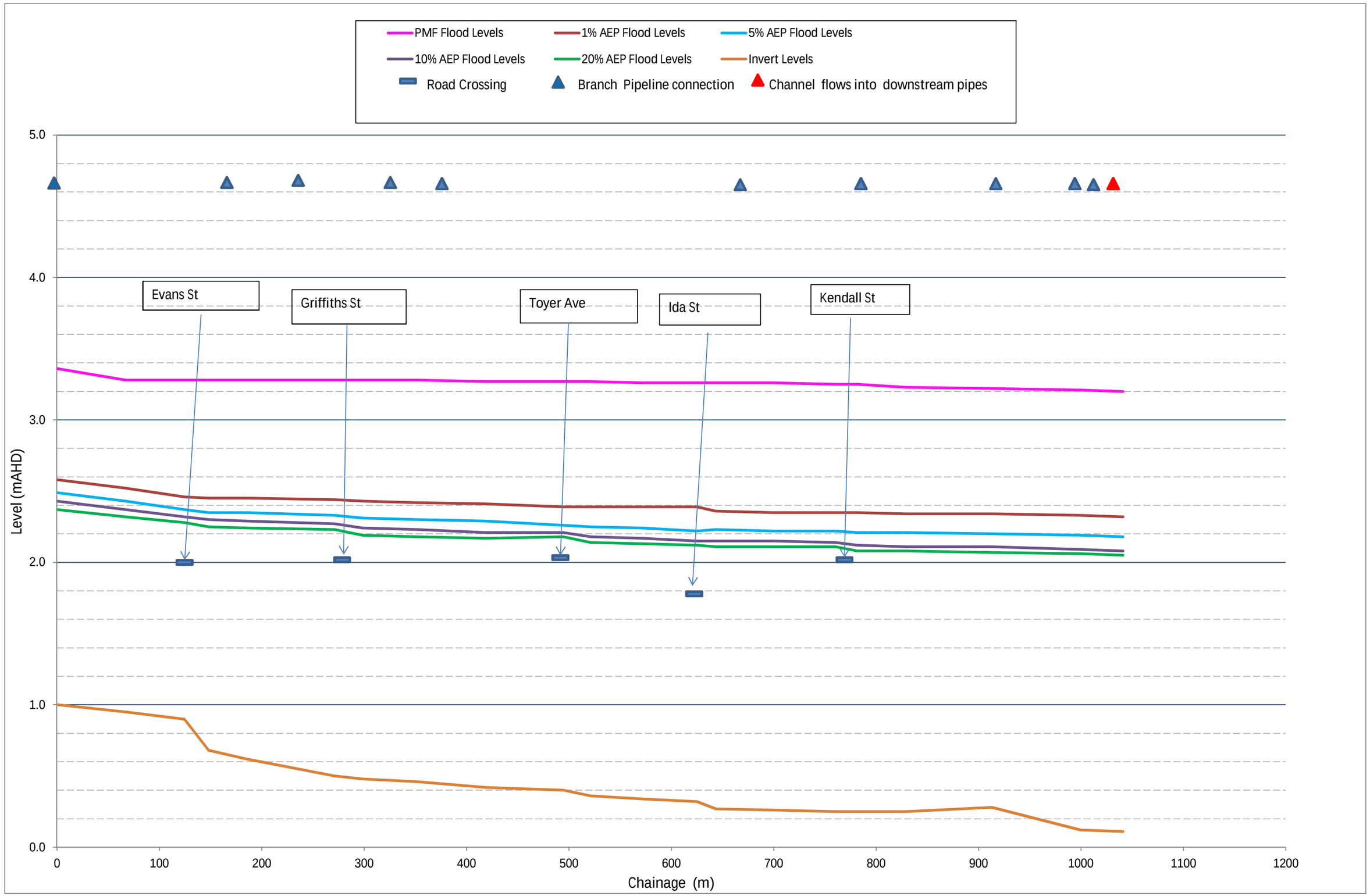
NA49913054
September 2015

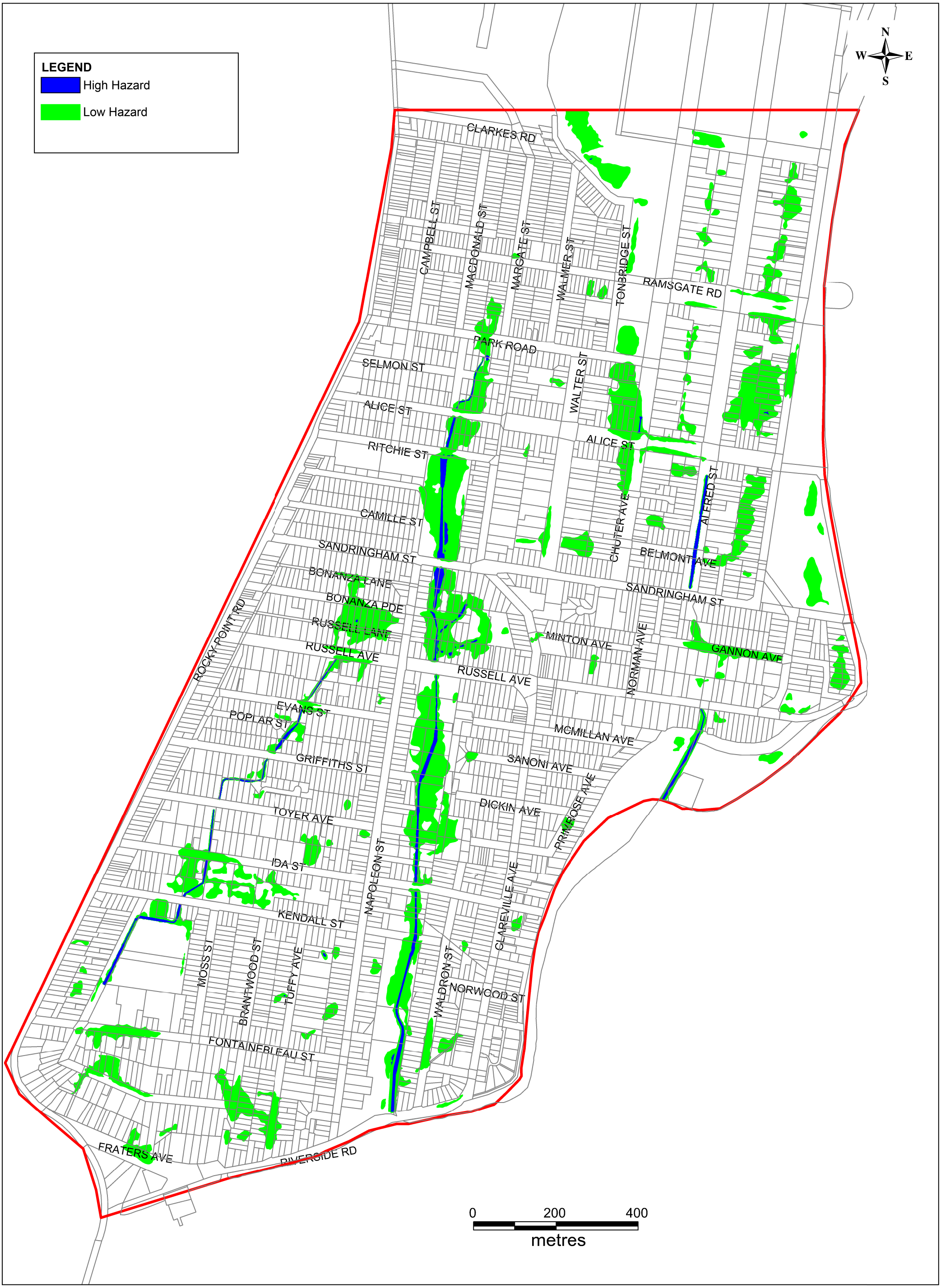
SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-10
PEAK VELOCITIES - PMF


PMF Flood Levels
1% AEP Flood Levels
5% AEP Flood Levels
10% AEP Flood Levels
20% AEP Flood Levels
Invert Levels
Road Crossing
Branch Pipe line Connection
Pipe Section
Sandringham St
Gannon Ave
Russell Ave
Level (mAHD)
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
0
100
200
300
400
500
600
700
800
900
1000
Chainage (m)


PMF Flood Levels
1% AEP Flood Levels
5% AEP Flood Levels
10% AEP Flood Levels
20% AEP Flood Levels
Invert Levels
Road Crossing
Branch Pipeline Connection
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
Level (mAHD)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Chainage (m)
Selmon St
Alice St
Sandringham St
Russell Ave
Evans St
Toyer Ave
Ida St
Ritchie St
Bonanza PDE
Griffiths St
Kendall St


PMF Flood Levels
1% AEP Flood Levels
5% AEP Flood Levels
10% AEP Flood Levels
20% AEP Flood Levels
Invert Levels
Road Crossing
Branch Pipeline connection
Channel flows into downstream pipes
5.0
4.0
3.0
2.0
1.0
0.0
Level (mAHD)
Evans St
Griffiths St
Toyer Ave
Ida St
Kendall St
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
Chainage (m)

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-14
PROVISIONAL HAZARD - 20% AEP

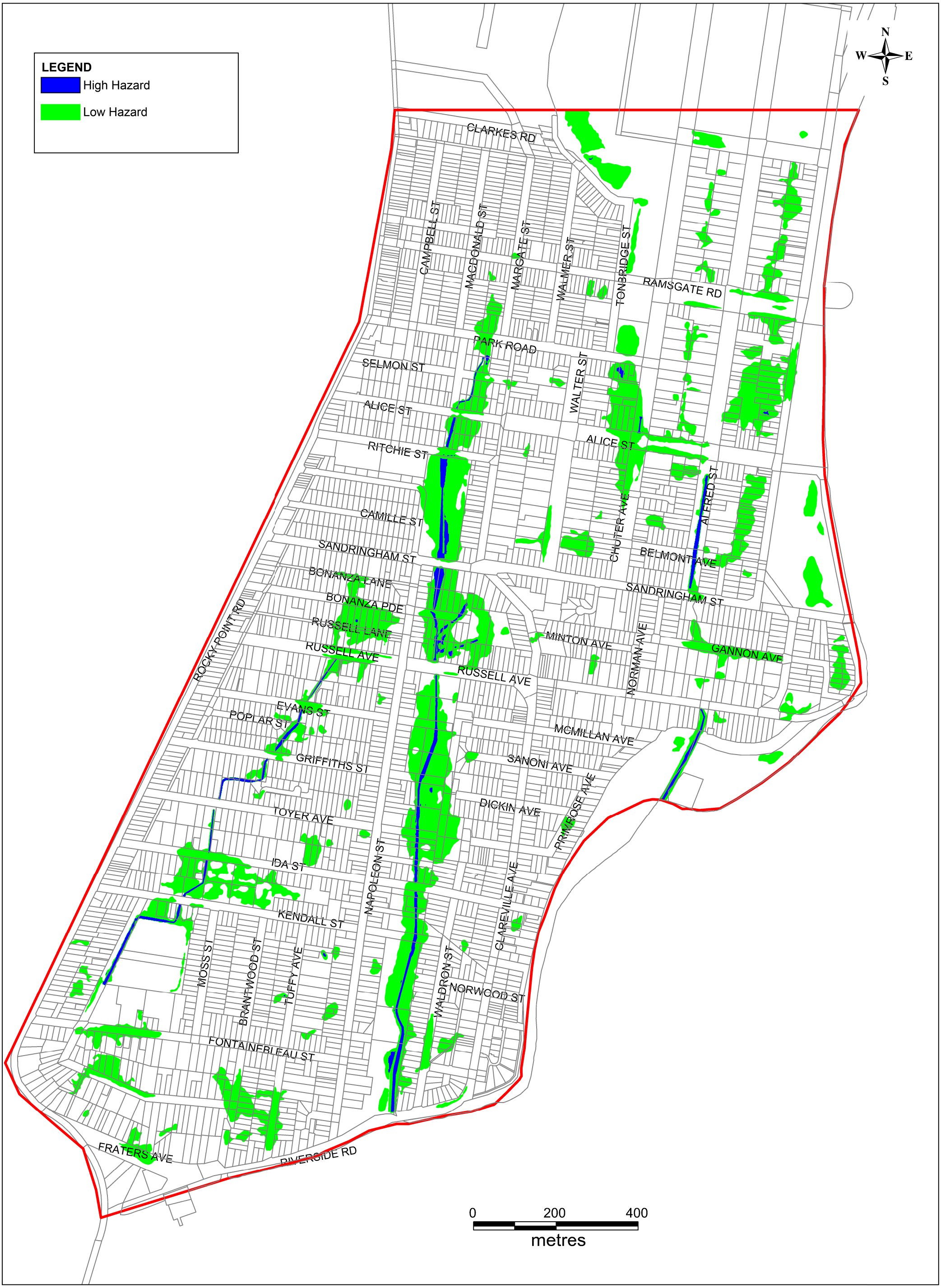


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FIGURE 6-15
PROVISIONAL HAZARD - 10% AEP

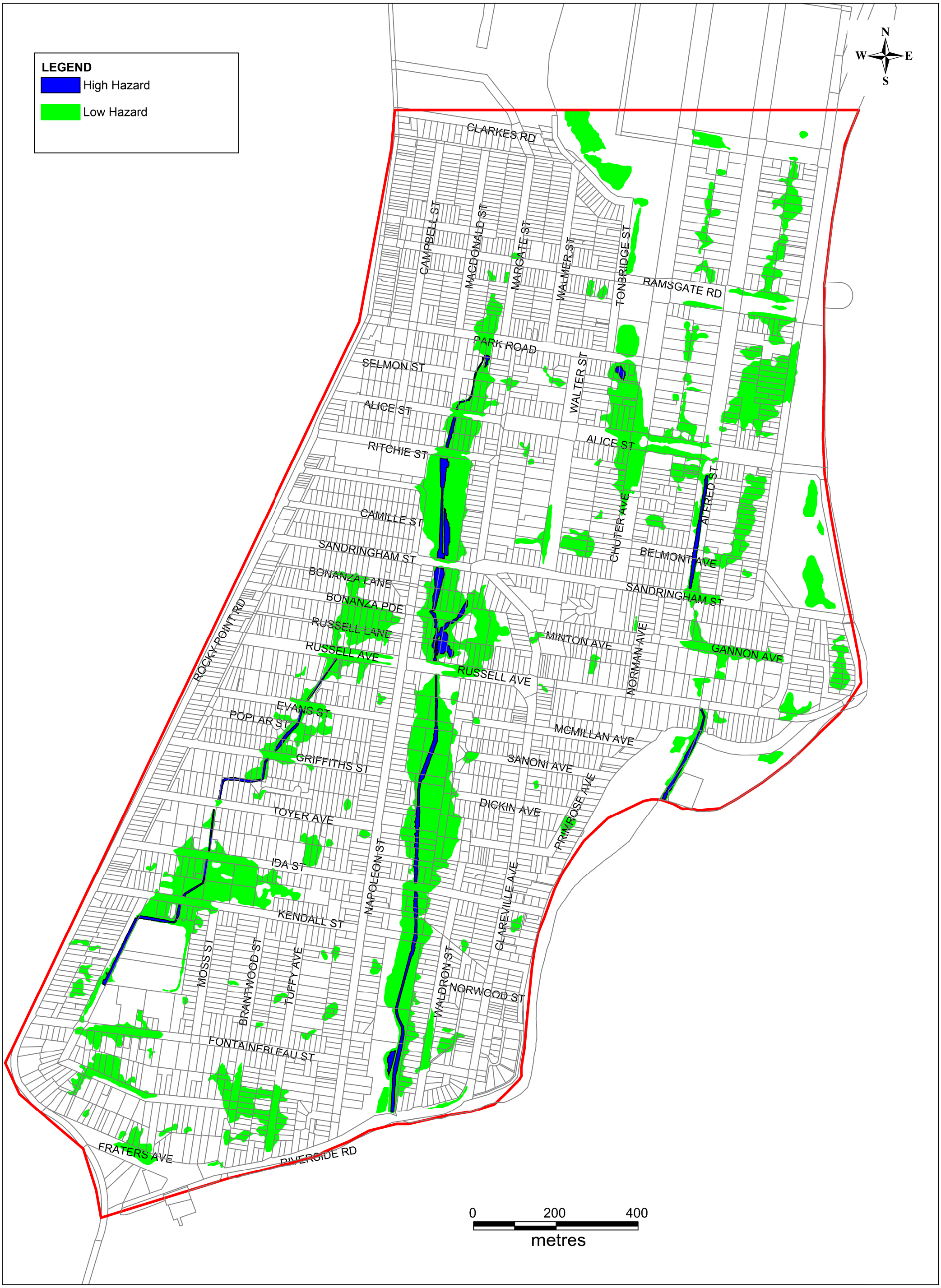


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FIGURE 6-16
PROVISIONAL HAZARD - 5% AEP

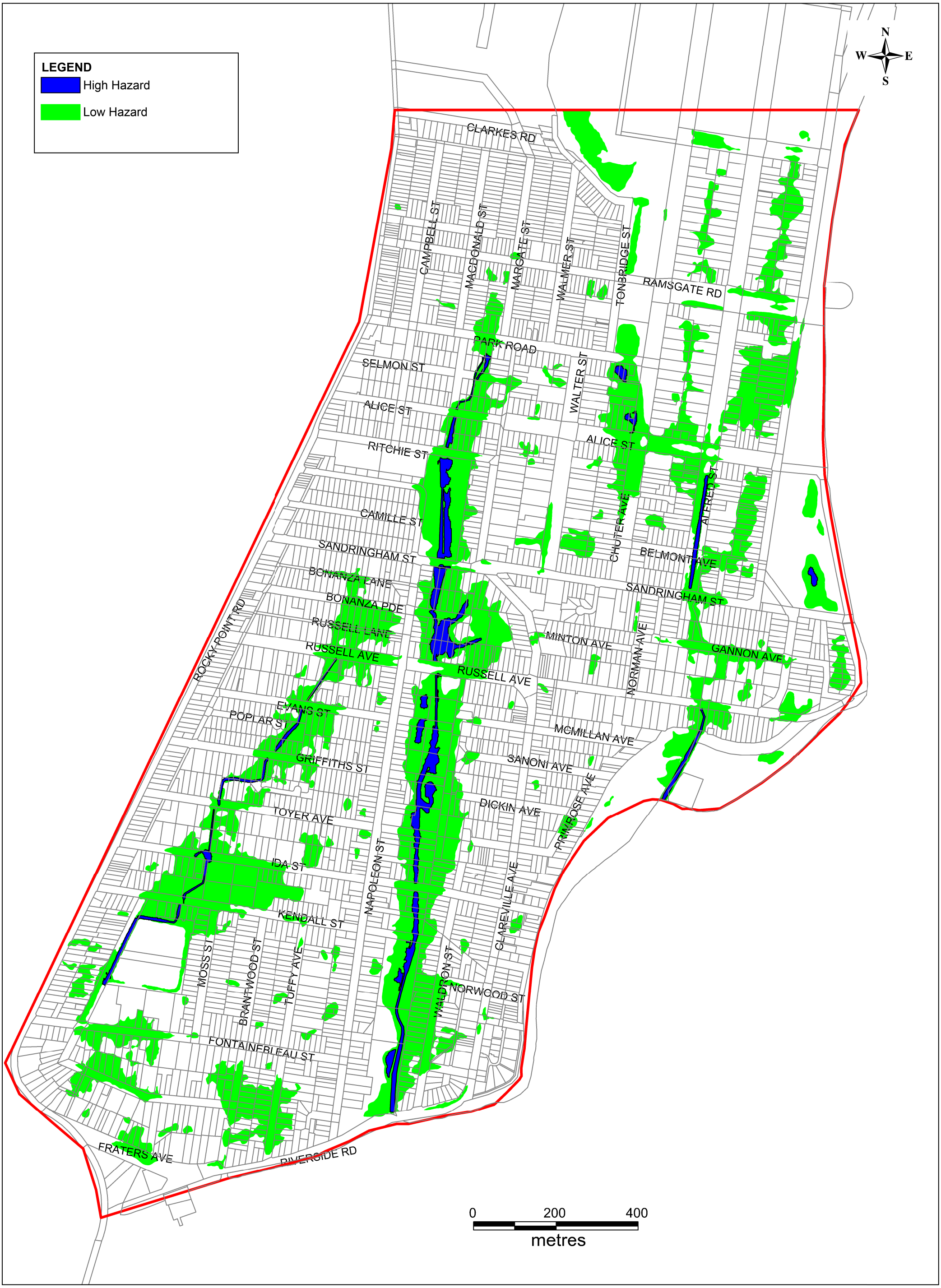


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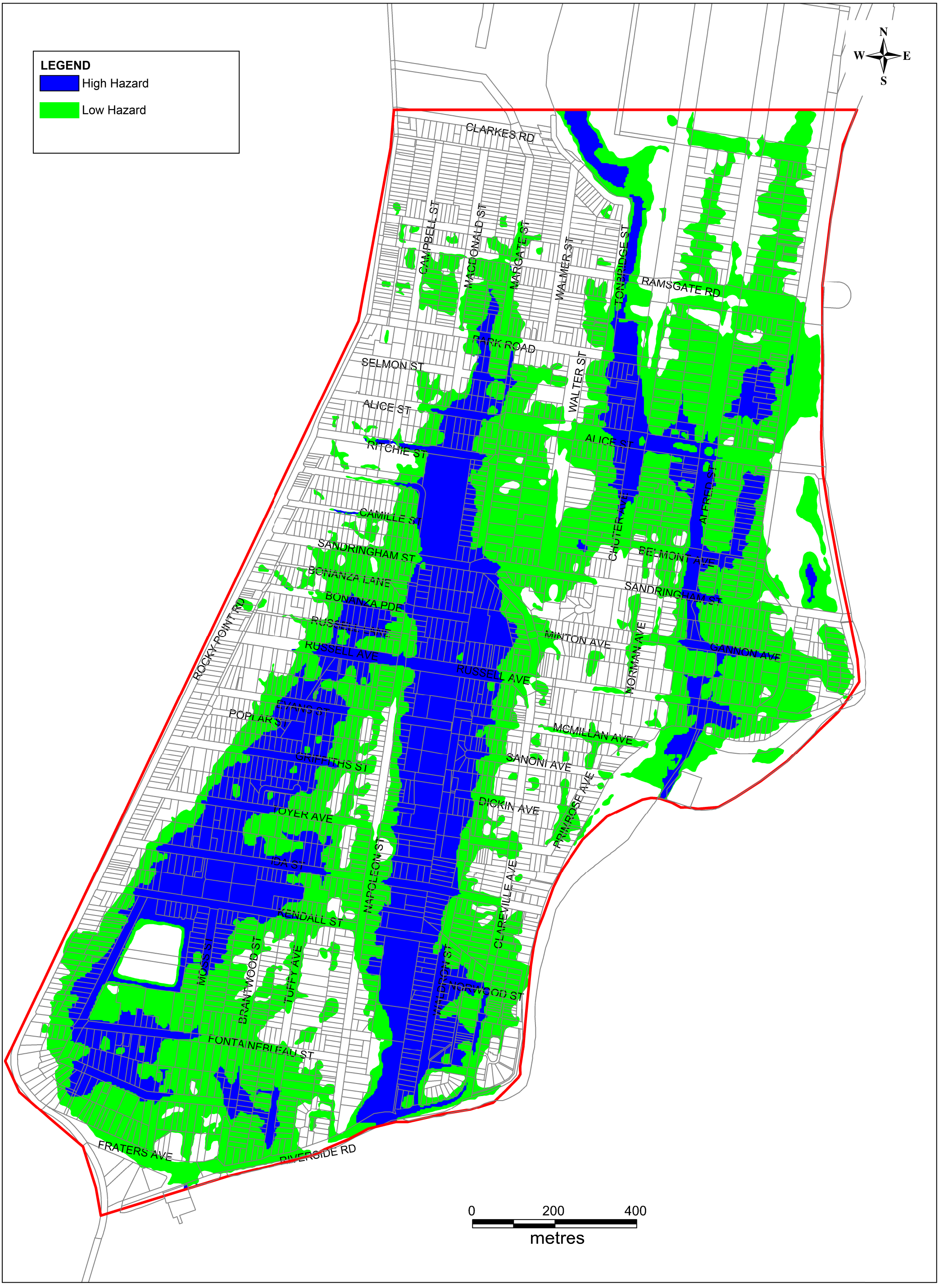
FIGURE 6-17
PROVISIONAL HAZARD - 1% AEP




Cardno

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-18
PROVISIONAL HAZARD - PMF

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**LEGEND**

- Floodway
- Flood Storage
- Flood Fringe

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-19
HYDRAULIC CATEGORIES - 20% AEP

NA49913054
September 2015

**LEGEND**

- Floodway
- Flood Storage
- Flood Fringe

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL AVE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-20
HYDRAULIC CATEGORIES - 10% AEP

**LEGEND**

- Floodway
- Flood Storage
- Flood Fringe

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
ROCKY POINT RD
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-21
HYDRAULIC CATEGORIES - 5% AEP

**LEGEND**

- Floodway
- Flood Storage
- Flood Fringe

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL AVE
BELMONT AVE
MINTON AVE
NORMAN AVE
GANNON AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
GRIFFITHS ST
MCMILLAN AVE
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-22
HYDRAULIC CATEGORIES - 1% AEP

**LEGEND**

- Floodway
- Flood Storage
- Flood Fringe

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
ALFRED ST
CHESTER AVE
CAMILLE ST
SANDRINGHAM ST
BONANZA PDE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL AVE
RUSSELL AVE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
TOKIN AVE
POINSETTIA AVE
IDA ST
MAIN TOGA ST
CAREVILLE AVE
KENDALL ST
DRAKE AVE
DRANSWOOD ST
WALDRON AVE
NORWOOD ST
FONTANELLE ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-23
HYDRAULIC CATEGORIES - PMF

**LEGEND**

- High Flood Risk Precinct
- Medium Flood Risk Precinct
- Overland Flood Risk Precinct
- Low Flood Risk Precinct

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
RUSSELL AVE
EVANS ST
POPLAR ST
GRIFFITHS ST
TOYER AVE
IDA ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD
NAPOLEON ST
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
DICKIN AVE
PRIMROSE AVE
SANONI AVE
MCMILLAN AVE
NORMAN AVE
MINTON AVE
SANDRINGHAM ST
CHUTER AVE
BELMONT AVE
ALFRED ST
GANNON AVE

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 6-24
FLOOD RISK PRECINCTS

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-1
WATER LEVEL DIFFERENCES - 1% AEP
10% RAIN INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
PRIMROSE AVE
DICKIN AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

NA49913054
September 2015

SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-2
WATER LEVEL DIFFERENCES - 1% AEP
20% RAIN INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
ALICE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
ROCKY POINT RD
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDEON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-3
WATER LEVEL DIFFERENCES - 1% AEP
30% RAIN INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
ALICE ST
RITCHIE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
NORMAN AVE
GANNON AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-4
WATER LEVEL DIFFERENCES - 1% AEP
0.4M OCEAN LEVEL INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
BELMONT AVE
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALPOLE ST
HORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-5
WATER LEVEL DIFFERENCES - 1% AEP
0.9M OCEAN LEVEL INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.2
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
CHUTER AVE
ALFRED ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
MINTON AVE
NORMAN AVE
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
TOYER AVE
DICKIN AVE
PRIMROSE AVE
IDA ST
NAPOLEON ST
KENDALL ST
CLAREVILLE AVE
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

Cardno

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-6
WATER LEVEL DIFFERENCES - PMF
0.4M OCEAN LEVEL INCREASE LESS EXISTING

Peak Water Level Difference
metres

- >0.5
- 0.2 to 0.5
- 0.1 to 0.2
- 0.01 to 0.1
- -0.01 to -0.1
- -0.1 to -0.2
- -0.2 to -0.5
- <-0.5

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA LANE
BONANZA PDE
RUSSELL LANE
RUSSELL AVE
ROCKY POINT RD
EVANS ST
POPLAR ST
GRIFFITHS ST
TOYER AVE
IDA ST
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
NAPOLEON ST
CLAREVILLE AVE
WALDRON ST
NORWOOD ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD
CUTLER AVE
ALFRED ST
BELMONT AVE
SANDRINGHAM ST
MINTON AVE
NORMAN AVE
GANNON AVE
MCMILLAN AVE
SANONI AVE
DICKIN AVE
PRIMROSE AVE

0 200 400
metres

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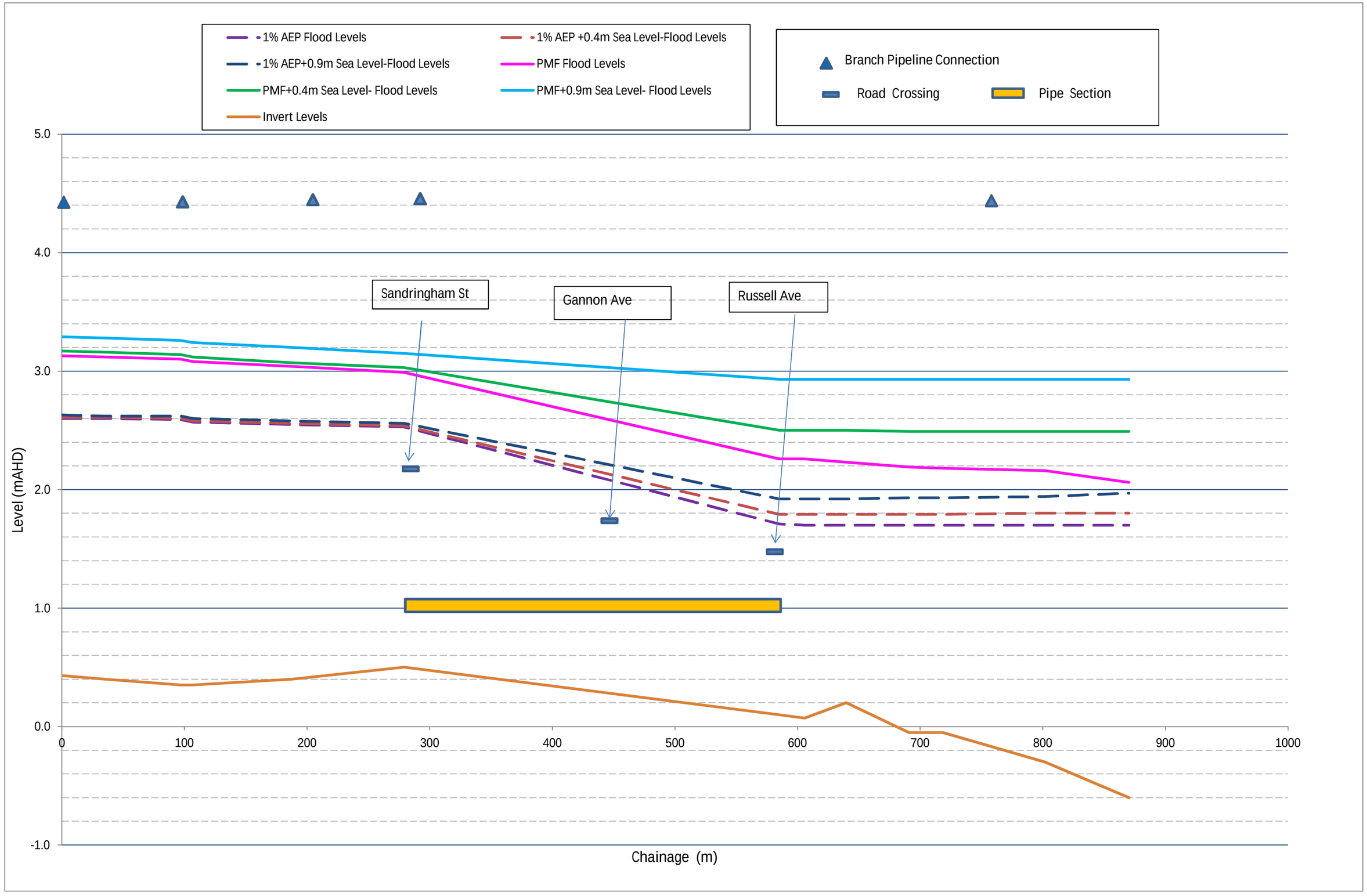
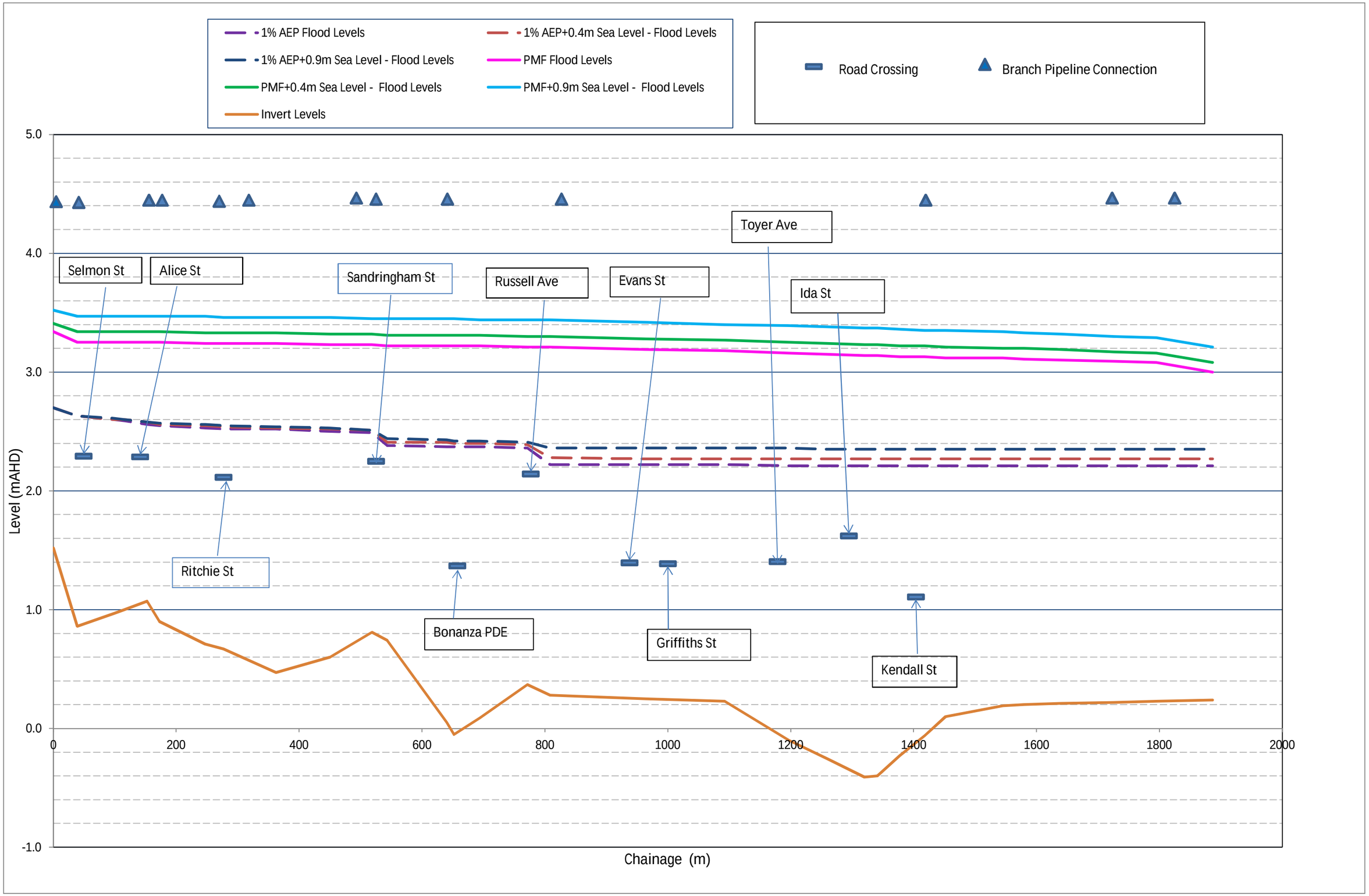
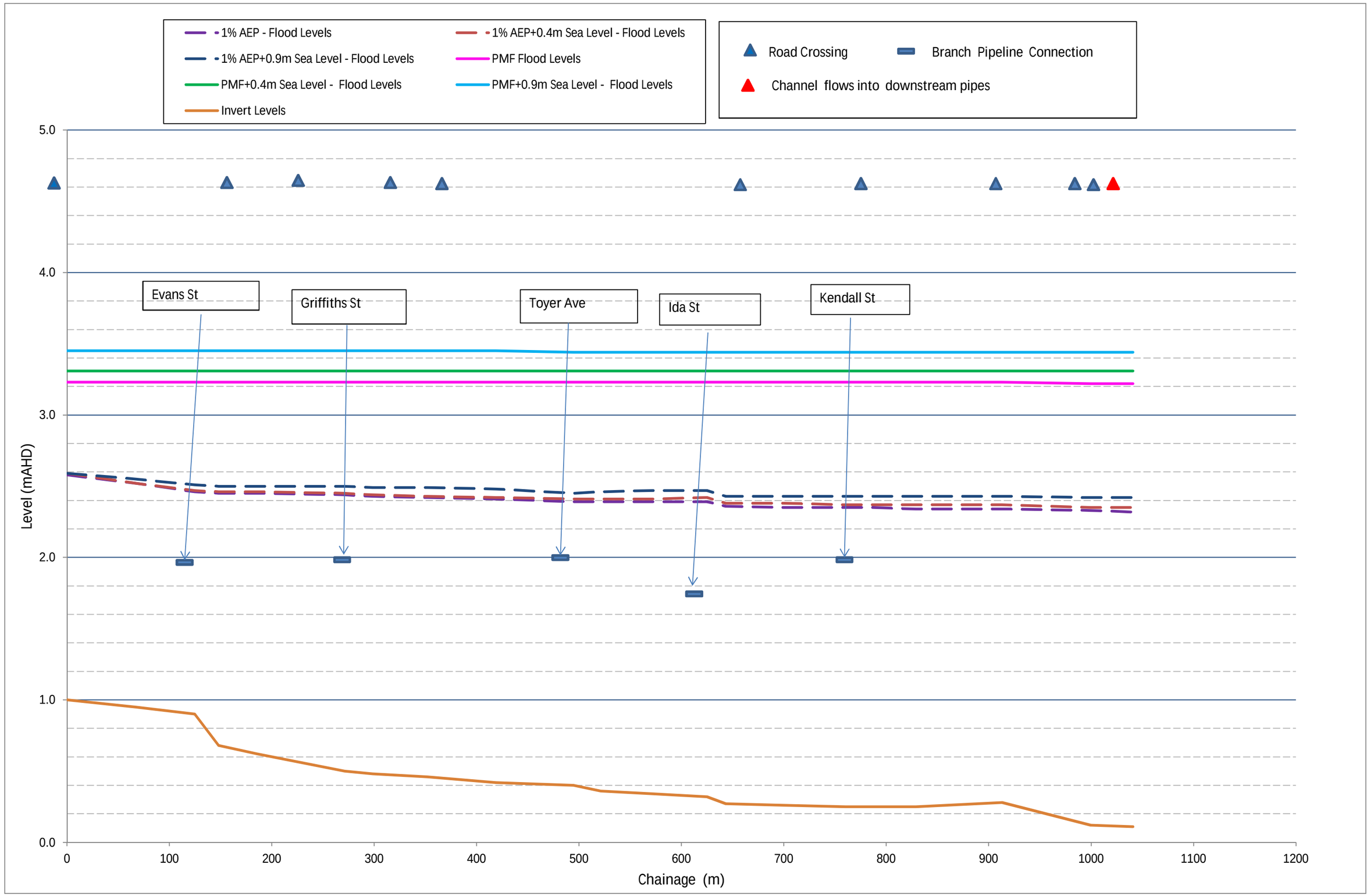
SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-7
WATER LEVEL DIFFERENCES - PMF
0.9M OCEAN LEVEL INCREASE LESS EXISTING


1% AEP Flood Levels
1% AEP +0.4m Sea Level-Flood Levels
1% AEP+0.9m Sea Level-Flood Levels
PMF Flood Levels
PMF+0.4m Sea Level- Flood Levels
PMF+0.9m Sea Level- Flood Levels
Invert Levels
Branch Pipeline Connection
Road Crossing
Pipe Section
Sandringham St
Gannon Ave
Russell Ave
Level (mAHD)
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
0
100
200
300
400
500
600
700
800
900
1000
Chainage (m)


1% AEP Flood Levels
1% AEP+0.4m Sea Level - Flood Levels
1% AEP+0.9m Sea Level - Flood Levels
PMF Flood Levels
PMF+0.4m Sea Level - Flood Levels
PMF+0.9m Sea Level - Flood Levels
Invert Levels
Road Crossing
Branch Pipeline Connection
Level (mAHD)
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Chainage (m)
Selmon St
Alice St
Sandringham St
Russell Ave
Evans St
Toyer Ave
Ida St
Ritchie St
Bonanza PDE
Griffiths St
Kendall St


1% AEP - Flood Levels
1% AEP+0.4m Sea Level - Flood Levels
1% AEP+0.9m Sea Level - Flood Levels
PMF Flood Levels
PMF+0.4m Sea Level - Flood Levels
PMF+0.9m Sea Level - Flood Levels
Invert Levels
Road Crossing
Branch Pipeline Connection
Channel flows into downstream pipes
Evans St
Griffiths St
Toyer Ave
Ida St
Kendall St
Level (mAHD)
5.0
4.0
3.0
2.0
1.0
0.0
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
Chainage (m)

**LEGEND**

Flood Planning Area
Existing Scenario

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
CHUTER AVE
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
RUSSELL AVE
MINTON AVE
GANNON AVE
NORMAN AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
CLARE
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-11
FLOOD PLANNING AREA
EXISTING SCENARIO

**LEGEND**

- Affected by FPL and PMF
- Only affected by PMF
- Only affected by FPL
- Cadastre
- Study Area

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
CAMILLE ST
SANDRINGHAM ST
BONANZA PDE
ROCKY POINT TCE
RUSSELL AVE
RUSSELL AVE
CHUTER AVE
ALFRED ST
BELMONT AV
SANDRINGHAM ST
MINTON AVE
NORMAN AV
GANNON AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKINSON AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NARELLE CRT
CLAREVILLE AVE
KENDALL ST
MOSS ST
SANTWOOD ST
TUFFY AVE
WALDRON ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-12
FLOOD PLANNING AREA - PMF COMPARISON

**LEGEND**

Flood Planning Area
Year 2050

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALTER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
ALFRED ST
CAMILLE ST
SANDRINGHAM ST
BONANZA PDE
SANDRINGHAM ST
MINTON AVE
GANNON AVE
NORMA AV
ROCKYPOINT RD
RUSSELL AVE
RUSSELL AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
KENDALL ST
MARCUS CL
WOSS ST
SANDWOOD ST
UFFY AVE
CHARLES AVE
WILDRIGHT ST
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-13
FLOOD PLANNING AREA
BASED ON 2050 SEA LEVEL RISE BENCHMARK

**LEGEND**

Flood Planning Area
Year 2100

N
W E
S

CLARKES RD
CAMPBELL ST
MACDONALD ST
MARGATE ST
WALMER ST
TONBRIDGE ST
RAMSGATE RD
PARK ROAD
SELMON ST
ALICE ST
WALTER ST
ALICE ST
RITCHIE ST
ALFRED ST
CHUTER AVE
CAMILLE ST
SANDRINGHAM ST
BELMONT AVE
BONANZA LANE
BONANZA PDE
SANDRINGHAM ST
ROCKY POINT RD
RUSSELL LANE
MINTON AVE
GANNON AVE
RUSSELL AVE
RUSSELL AVE
NORMAN AVE
EVANS ST
POPLAR ST
MCMILLAN AVE
GRIFFITHS ST
SANONI AVE
DICKIN AVE
PRIMROSE AVE
TOYER AVE
IDA ST
NAPOLEON ST
CLAREVILLE AVE
KENDALL ST
MOSS ST
BRANTWOOD ST
TUFFY AVE
WALDRON ST
NORWOOD ST
CLARE
FONTAINEBLEAU ST
FRATERS AVE
RIVERSIDE RD

0 200 400
metres

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SANS SOUCI FLOOD STUDY REVIEW

FIGURE 7-14
FLOOD PLANNING AREA
BASED ON 2100 SEA LEVEL RISE BENCHMARK