

INLET CONDITIONS TO FLOODWAY ON THE NORTH WE WAA TOWN LE IMPROVEMENT. FLOODWAY CUTTING TO GRADE IN THIS SECTION. (DISCUSSIONS WITH THE COUNCIL AND SURVEY OBTAINED).

S OF DRAINAGE CHANNELS TO BE REDUCED TO GROUND LEVEL

FENCE LINES ON EITHER SIDE OF ROAD TO BE REMOVED AND BUILT UP GROUND BENEATH THEM TRIMMED TO FLOODWAY BED LEVEL. 1955 F.L.D

- BANK R.L.s EARLY 1984 (m A.H.D)
- x JAN. '84 PEAK FLOOD LEVELS (m A.H.D)
- Design Crest Levels (m A.H.D)
- 1971 FLOOD LEVELS (m A.H.D)

78

194.21 x

x 192.96

(C5)

(C7)

191.8

193.55

x 192.96

193.78

x 192.99 (2)

193.85

193.78

192.91

194.12

193.10

194.01

194.22

194.17

x 193.07

x 193.06

193.91

193.46

193.81

x 192.51

192.75

192.69

192.60

192.40

193.38

f 192.17

192.81 x

191.47 x

192.69

192.95

193.19

192.51

192.70

192.97

192.57

192.57

192.61

191.58

191.76

192.53

192.08

193.30

191.79

192.78

192.78

192.37

x 191.32

(C7)

191.76

192.24

192.08

191.12

192.08

191.23

191.23

✓ 190.98

191.21

190.93 x

191.00 x

190.81 x

191.16

193.08

192.08

x 190.77

x 190.60

x 190.48

192.38

192.09

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DO NOT SCALE

A1 - 101015 REV.C

10cm
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BM-NSC2 (STAR STAKE)
 E736675.961
 N6654239.790
 RL=192.122 (BASE DATUM USED PM6722)
 BM Location: N.E. END OF ALMA STREET, WEE WAA.

GLENCOE CHANNEL Location:
 E739213.918
 N6655589.707
 RL=194.205 (TOP CENTRE HW BOX CULVERT-RIVER SIDE)
 RL=194.444 (CL ROAD AT CHANNEL)

LEGEND

- ▬ LEVEE BANK
- △ STATION
- CH2600 CHAINAGE

BM-NSC3 (STAR STAKE)
 E734003.338
 N6653095.409
 RL=189.526 (BASE DATUM USED PM6722)
 BM Location: VERA LEAP ROAD CROSSING AT LEVEE BANK, WEE WAA.

VERA LEAP CAUSEWAY Location:
 E734010.567
 N6653051.289
 RL=188.515 (CL ROAD AT CONCRETE CAUSEWAY)

VERA LEAP CAUSEWAY

BM-NSC2 (STAR STAKE)
 E735028.091
 N6653313.437
 RL=190.775 (BASE DATUM USED PM6722)
 BM Location: CRN. SHORT CHURCH STREET, WEE WAA.

VERA LEAP CAUSEWAY Location:
 E734010.567
 N6653051.289
 RL=187.634 (DOWN STREAM CULVERT INVERT)
 RL=188.516 (CL ROAD AT CONCRETE CAUSEWAY)

PLAN SCALE: NOT TO SCALE
 HORIZONTAL SCALE:
 VERTICAL SCALE:

DATUM
AHD
 SURVEYED: G.P.LATHAM
 DESIGNED: G.P.LATHAM
 DRAWN: G.P.LATHAM

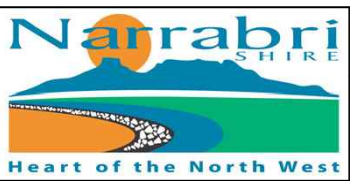
REV.	DATE	DESCRIPTION	DES.	APP.
A	22-11-2010	ISSUED FOR COMMENT	GPL	

APPROVED

DESIGN SERVICES MANAGER

AS CONSTRUCTED

DIRECTOR ENGINEERING SERVICES



NARRABRI SHIRE COUNCIL
 46-48 MAITLAND STREET NARRABRI NSW 2390 PH: (02) 6799 6866 FAX: (02) 6799 6888

TOWNSHIP OF WEE WAA - LEVEE BANK
 Top of Levee Bank Survey by NSC on 10-11-2010
SITE LOCATION PLAN

FILE No. 1018196	No. OF SHEETS 1	SHEET No. 1
PROJECT No. 1018196		
DRAWING No. WWL-067-01		REV. A

CAD FILE NAME: G:\Eng\Design\PROJECTS\1018196 - Flood Levels for Vera's Leap & Glencoe Causeways\DESIGN\WWL-067-01.dwg

Appendix C Mike 11 model

The “Narrabri – Wee Waa Flood Study” verified the Mike 11 model by plotting the observed flood levels at Gunidgera against Mike 11 modelled flood levels as shown in Figure Appendix C-1 (Appendix G of the Narrabri – Wee Waa Flood Study).

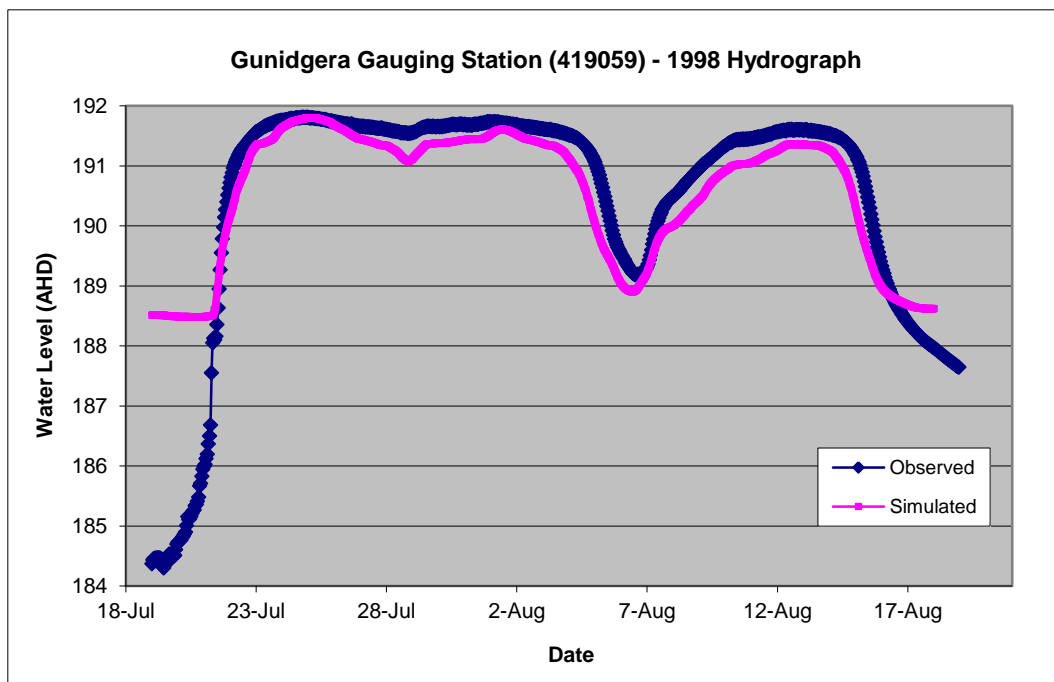


Figure Appendix C-1 Narrabri – Wee Waa flood study verification results

URS tried to replicate Figure Appendix C-1 to verify the Mike 11 model received from Council was the same as the one used for the “Narrabri – Wee Waa Flood Study”. This was done to ensure the hydrographs that were extracted from Mike 11 and used as the TUFLOW inflow hydrographs are accurate. However when the Mike 11 model received from Council was run, URS could not replicate the results shown in Figure Appendix C-1 (taken from Appendix G of the “Narrabri – Wee Waa Flood Study”). The cross section reportedly used to extract the Mike 11 results used in the Flood Study report was not present in the received model. Therefore two MIKE 11 chainages were picked to represent Gunidgera; chainage 33006 which is closest to that used in the Flood Study; and 31512 which was used because it appears to be located in close proximity to the Gunidgera flood gauge.

Appendix C - Mike 11 model

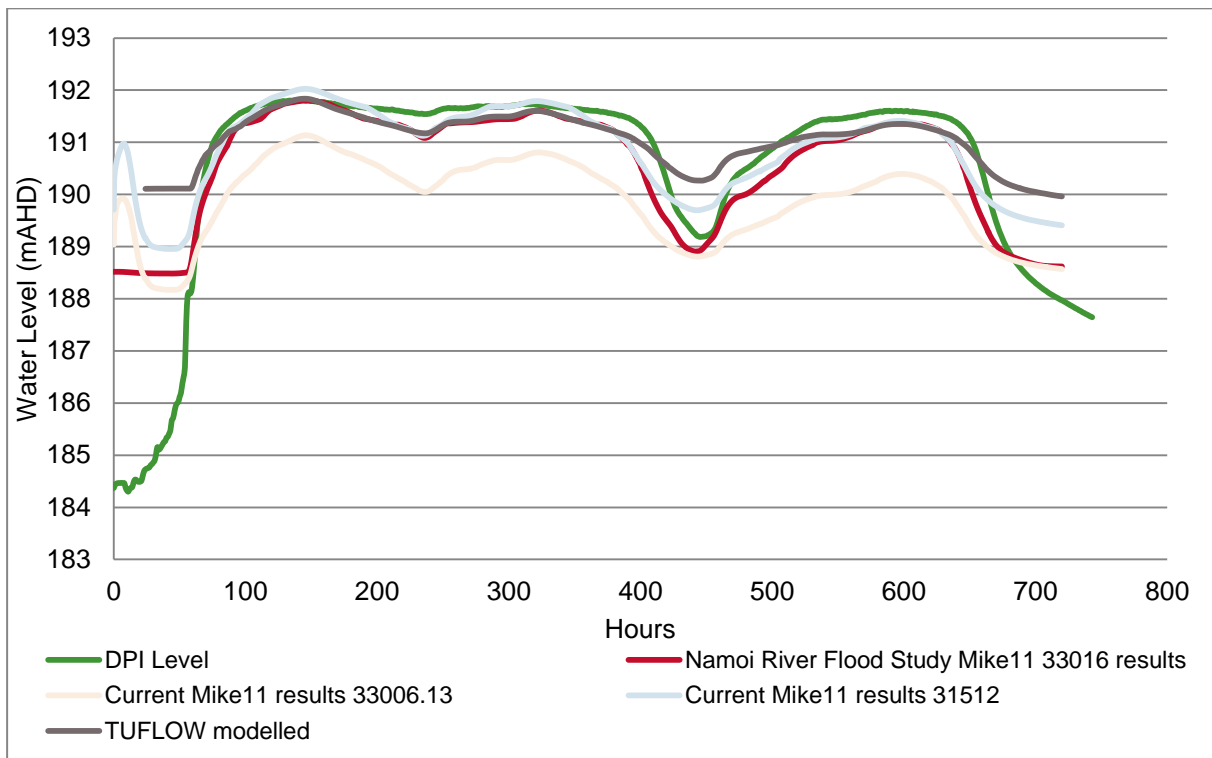


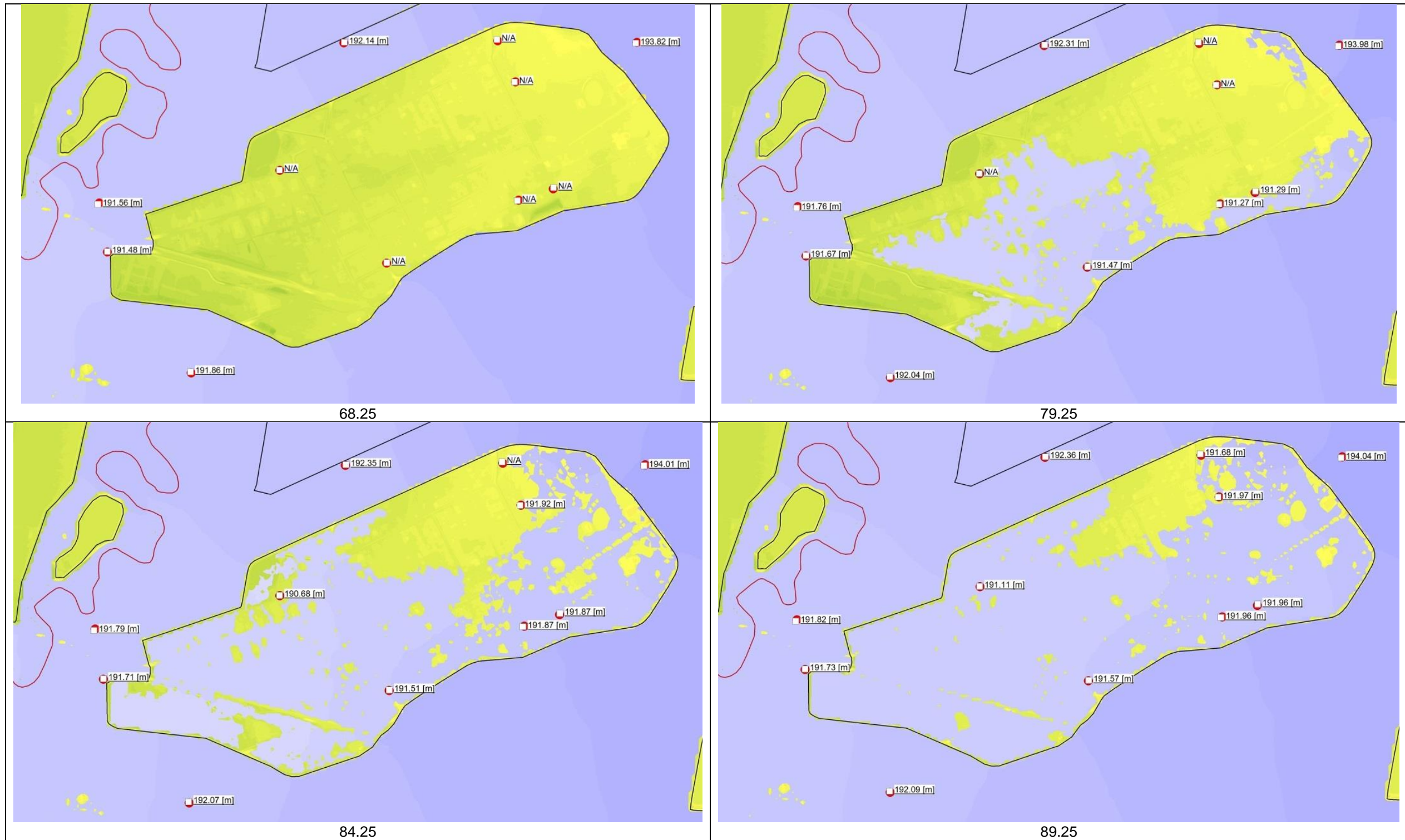
Figure Appendix C-2 Narrabri – Wee Waa flood study verification results compared to Mike 11 URS and TUFLOW results.

As shown in Figure Appendix C-2 cross section 31512 results show the best correlation to the observed and TUFLOW modelled flood levels, however it over-estimates them both by approximately 0.3m. This is considered a sufficient match for the data to be used for comparisons in this study.

Given that the results from the flood study could not be replicated using the Mike 11 model there is a degree of uncertainty over the input hydrographs used for the TUFLOW model. However the correlation between the TUFLOW model and observed flood levels are a relatively good fit and do not appear to have suffered from this uncertainty.

Appendix D 1% AEP flood inundation extents over time

Appendix D - 1% AEP flood inundation extents over time



Appendix D - 1% AEP flood inundation extents over time



Figure Appendix D-3 Progression of flooding through Wee Waa when the levee is overtopped during a 1% AEP design flood event

Appendix E Flood Extents and Hazard Mapping