APPENDIX A
COMMUNITY CONSULTATION

Pambula River, Pambula Lake and Yowaka River Flood Study

Community Questionnaire

CONTACT DETAILS

Please provide your contact details in case we need to contact you for additional information. This information will remain confidential at all times and will not be published.

Name: _____

Street Address: _____

Lot/DP (if known)_____or Rates Assessment Number:_____

Phone No. _____

Email: _____

1) What type of property do you live in / own?

- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Vacant Land
- ☐ Other (Please specify:_____)

2) What is the occupier status of this property?

- ☐ Owner occupied
- ☐ Rental property
- ☐ Business
- ☐ Other (Please specify:_____)

3) How long have you lived /worked in the area?

(a) At your current address? _____

(b) In the catchment area? _____

4) Has your property ever been affected by flooding?

- ☐ Yes
- ☐ No (If you answered No, please go to Question 9)

5) How was your property affected by flooding?

- ☐ Roadway was cut by water
- ☐ My front/backyard was flooded
- ☐ My garage was flooded
- ☐ My house was flooded
- ☐ Other (Please specify:_____)

6) Are you interested in being part of Councils Floodplain Focus Group that will help guide this and future studies? Further information can be found here: https://www.begavalley.nsw.gov.au/cp_themes/default/page.asp?p=DOC-GKM-01-85-66

☐ Yes ☐ No

7) Can you provide additional information on these past floods?

Year of flood(s)	☐ 1971 ☐ 2011 ☐ 1985 ☐ 2012 ☐ 1989 ☐ 2016 ☐ Other (_____)	☐ 1971 ☐ 2011 ☐ 1985 ☐ 2012 ☐ 1989 ☐ 2016 ☐ Other (_____)	☐ 1971 ☐ 2011 ☐ 1985 ☐ 2012 ☐ 1989 ☐ 2016 ☐ Other (_____)
Month of flood			
Approximate time of flood			
Flood depth / height & location			
How confident are you with the height / depth of the flood?	☐ High (exact) ☐ Medium (within 10cm) ☐ Low (within 50cm)	☐ High (exact) ☐ Medium (within 10cm) ☐ Low (within 50cm)	☐ High (exact) ☐ Medium (within 10cm) ☐ Low (within 50cm)

8) Do you have any photographs or videos of these floods?

☐ Yes ☐ No

If you answered 'Yes', can you provide a copy of these photos/videos to assist with the computer flood model calibration? ☐ Yes ☐ No

Are you happy to allow your images to be used for the final report or publicity purposes by Council and its consultant? ☐ Yes ☐ No

9) If you have identified flood marks of use for the flood study and model calibration, are you happy for Council, it's consultant or sub-consultant surveyor, access to your property to capture the flood mark level?

☐ Yes ☐ No

10) Was your property damaged by the floodwaters?

☐ Yes ☐ No

If 'Yes', please provide details:

_____

_____

_____

11) Do you have any suggestions on ways of reducing the flooding problems?

_____

_____

_____

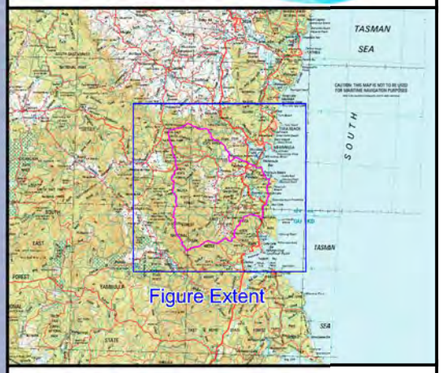
12) Do you have any other comments, suggestions or information that you think may assist the study?

_____

_____

_____

bega valley shire council



Myrtle Mountain
Tura Beach
Merimbula
Pambula River
Seven Mile Creek
Wyndham
MOUNT DARRAGH ROAD
Burtons Creek
Pambula River
Pambula
Pambula Beach
South Pambula
Back Creek
Lochiel
Pambula Lake
Pacific Ocean
Broadwater
NETHERCOTE ROAD
Yowaka River
Yowaka River
BACK CREEK ROAD
Old Hut Creek
Burragate
Nethercote
PRINCES HIGHWAY
Eden
Towamba

LEGEND

- Catchment Boundary
- Watercourse
- Major Road

Questionnaire Responses Locations
Has your property ever been affected by flooding?

- Yes
- No

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale 1:100,000 (at A3)

0 2.5 5.0
Km

Figure A1:
Spatial Distribution of Questionnaire Responses

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip St
Sydney, NSW 2000

File Name: Fig A1 Community Questionnare.wor

Community Questionnaire Responses - Pambula River, Pambula Lake, Yowaka River Flood Study

#	Property Type	Occupier Status	How long have your lived in area?		Has your property ever been affected by flooding	How was your property affected by flooding?					Are you interested in being part of Councils Floodplain Focus Group that will help guide this and future studies?	Can you provide additional information on these past floods					Photos/Videos			If you have identified flood marks of use for the flood study and model calibration, are you happy for Council, it's consultant or sub-consultant surveyor, access to your property to capture the flood mark level?	Was your property damaged by floodwaters, if yes please provide details	Do you have any suggestions on ways of reducing the flooding problems?	Do you have any other comments, suggestions or information that you think may assist the study?
			Current Address (years)	In the catchment area? (years)		Roadway was cut by water	My front/back yard was flooded	My garage was flooded	My house was flooded	Other		Year of flood(s)	Month of flood	Approximate time of flood	Flood depth/height & location	How confident are you with height/ depth of the flood?	Do you have any Photographs or Videos of these floods	If you answered "Yes" can you provide a copy of these photos/videos to assist with the computer flood model calibration?	Are you happy to allow your images to be used for the final report or publicity purposes by Council and its consultant?				
1	Other	Owner Occupied	20		Yes					Harts Ck Flats (Bridge Lake)	Yes	2011, 2012, 2016					No			Yes, only garage and garden sheds	No	Work with not against nature change view of flooding from negative to positive. Retain water in landscape vs engineering to allow the water to escape	Importance of vegetation esp. watercourses drainage line recognition of likely extreme events more frequent occurrence including fire followed by flood.
2	Residential	Owner Occupied	9	9	No						No									No	No		No
3	Vacant Land	Owner Occupied	19	48	No															Yes	No	No	No
4	Residential	Owner Occupied	19		No																		
5	Residential	Owner Occupied	5	5	No															Yes	No	We are on a streamline, more vegetation in the gully has reduced run off plus depth of flowing water.	
6	Residential	Owner Occupied	12	12	No															Yes	No		
7	Residential	Owner Occupied	15		No						No									No	No	Clean out all rivers and wetlands at Pambula	trees on wetlands they hold off water back. Flow will come up to the town as it did years ago
8	Residential	Owner Occupied	13	26	No															Yes	No		
9	Other	Owner Occupied	11	11	No															No	No		Nethercote Rd has one low spot that is subject to inundation when the Yowaka floods. This spot is about 700m from the highway immediately before the road diverges from the riverside. About twenty families are stranded when this happens. It would be simple to raise and floodproof the road whenever roadworks are next undertaken.
10	Other	Owner Occupied	8		Yes	Yes					Yes	2011, 2012, 2016	2011, March 2012, do not recall 2016, do not recall	2011, 8pm	Unknown height Pambula River		Yes	Yes	Yes		No		
11	Other	Owner Occupied	5		No															Yes	No	I think that there needs to more clean ups. I know that there hasn't been a decent flood in a long time. I'm concerned the next decent flood what the Pambula river will wash up. While the levels are low should be getting in there and giving a good tidy up of rotten trees/ dead grass/ limbs and branches etc. Give the river a bit of talk and identifying hazards now.	
12	Other	Owner Occupied	18	45	Yes					Causeway flooded and paddocks near river, fences damaged. Pump damaged	No						Yes						
13	Residential	Owner Occupied	1.5	1.5	No																		
14	Residential	Owner Occupied	21	21	No															No	No		There are more questions on the questionnaire than appear here but we have never had any flooding of any type. Even during the wettest rain events the drainage on our property is excellent.
15	Residential	Owner Occupied	11	11	Yes	Yes				Paddocks Flooded	Yes	2012, 2016, 2014	1st March 2012, 6th June 2016	2012, 3pm 2016, 10am		Medium	Yes	Yes	Yes	Yes	Yes, Fencing washed away. Lost part of hay crop ready to bale. Some areas of erosion	Not unless you can change the rainfall and tides or build a big dam	We have a fair few photos. I can upload to a Dropbox or similar if requested. Also talk to Jack Gordon who is now resident at bimbimbi as he was long time resident at Greigs Flat
16	Residential	Owner Occupied	6	6	No															No	No		
17	Residential	Owner Occupied	3.5	3.5	Yes		Yes				No	2016	Jan	Late January taking months to recede	1m	Medium	Yes	Yes	Yes	Yes	No	Drainage culvert north of causeway on Oaklands Road just past Bega street should be cleared and maintained to allow flood waters to pass through more quickly to Pambula flats.	No
18	Residential	Owner Occupied	1	1	No																		
19	Other	Owner Occupied	15	36	Yes	Yes				Land between Nethercote Rd and Yowaka River	No	1985, mid 1990s, 1989	Autumn, December	Early morning, high tide	Debris 2m, water just below Yowaka Deck	High	No			No	No	Drainage lines - gullies kept grassed minimal soil disturbance	
20	Residential	Owner Occupied	26	26	No															No	No		
21	Residential	Owner Occupied	0.5																				

APPENDIX B
XP-RAFTS MODEL INPUTS

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
1.01	320.5	320.5	11.5	0.0	2759	3.9	11.9
1.02	15.4	411.8	14.2	0.0	345	4.8	1.2
1.03	17.4	570.9	8.6	0.1	509	4.3	2.0
1.04	86.8	811.9	7.6	1.9	771	3.5	3.7
1.05	71.7	1041.0	4.4	1.7	843	4.4	3.2
1.06	21.3	1062.3	4.9	5.0	741	4.8	2.6
1.07	44.5	1280.4	4.9	2.0	688	5.3	2.2
1.08	22.2	1414.7	6.4	3.1	450	4.2	1.8
1.09	40.8	1455.5	4.2	2.6	729	4.0	3.0
1.10	56.8	2458.6	3.6	3.2	1158	4.6	4.2
1.11	118.0	2935.8	6.7	3.1	1592	4.0	6.7
1.12	219.5	3385.4	2.0	2.9	3079	4.0	12.9
1.13	31.1	6955.8	1.7	6.9	715	4.9	2.4
1.14	60.5	7253.5	1.8	5.6	1851	4.6	6.7
1.15	12.1	7265.6	6.8	2.3	145	3.5	0.7
1.16	22.9	7398.3	6.4	4.9	544	5.5	1.7
1.17	209.5	7985.2	2.4	3.0	3204	6.2	8.7
1.18	76.5	8592.3	3.8	1.3	482	3.1	2.6
1.19	18.5	8732.9	1.7	13.3	544	4.9	1.8
1.20	64.1	10643.7	2.3	2.8	887	4.3	3.4
1.21	60.2	10703.9	2.2	7.0	1283	4.5	4.7
1.22	47.3	11474.9	1.9	6.4	1087	3.9	4.6
1.23	35.0	11665.9	4.1	6.0	750	4.5	2.8
1.24	3.5	11669.4	7.2	9.7	187	4.2	0.7
1.25	15.2	11726.8	0.5	11.5	948	4.6	3.5
1.26	8.8	11853.2	0.3	14.1	705	3.8	3.1
1.27	10.9	12015.5	0.0	20.2	1162	2.9	6.7
1.28	28.0	12043.5	0.2	8.9	1257	1.4	14.8
1.29	22.7	12754.6	0.2	9.7	686	1.1	10.5
1.30	4.1	12887.2	0.3	47.2	379	0.4	16.4
1.31	31.8	14023.6	0.5	42.2	990	1.2	13.4
1.32	7.5	14035.6	9.2	22.3	122	2.3	0.9
1.33	58.3	27945.7	0.0	40.5	1208	2.6	7.7
1.34	63.2	28008.9	0.6	71.9	922	0.8	19.6
1.35	32.8	29717.1	1.6	54.3	966	0.8	20.3
1.36	18.5	29781.4	1.3	77.1	1051	2.2	7.8
1.37	9.2	29825.6	1.7	86.5	555	2.4	3.9
1.38	13.1	29883.0	5.9	66.7	584	2.5	3.9
1.39	67.8	30118.7	1.6	36.6	1470	2.4	10.4
1.40	139.1	30490.7	1.8	38.0	247	1.1	3.7
2.01	75.9	75.9	11.9	0.0	2243	2.8	13.1
3.01	141.6	141.6	11.3	0.0	2678	3.3	13.3
4.01	154.3	154.3	9.2	1.3	2691	3.5	12.8
5.01	157.4	157.4	10.7	0.0	2665	3.3	13.6
6.01	173.6	173.6	5.7	1.8	3651	3.3	18.5
7.01	112.0	112.0	4.8	0.0	3324	2.7	20.8
8.01	343.6	343.6	5.1	0.0	4208	3.6	19.3
8.02	108.5	645.1	5.1	0.0	1582	3.4	7.9
8.03	0.9	646.0	11.3	0.0	69	4.3	0.3
8.04	7.9	918.9	6.5	6.4	327	3.9	1.4
8.05	27.5	946.3	3.1	5.3	985	4.4	3.7
9.01	192.9	192.9	6.9	0.0	3438	3.4	17.0
10.01	109.2	109.2	7.3	0.0	2422	3.5	11.4
10.02	1.1	265.0	14.9	0.0	66	3.2	0.3

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
11.01	154.7	154.7	7.9	0.0	2343	3.8	10.3
12.01	122.9	122.9	11.0	0.6	2108	3.1	11.3
12.02	53.6	214.1	4.8	3.5	876	3.4	4.3
12.03	5.6	344.5	8.0	6.6	288	3.5	1.4
13.01	37.6	37.6	14.3	0.6	855	2.2	6.5
14.01	104.0	104.0	7.8	1.1	1929	2.7	11.9
14.02	20.7	124.8	6.5	1.3	230	2.7	1.4
15.01	14.7	14.7	18.2	0.0	611	2.1	4.8
16.01	153.8	153.8	3.7	1.5	2862	2.8	16.9
16.02	76.3	230.1	3.3	2.4	1499	3.2	7.7
17.01	223.0	223.0	6.1	0.0	3094	3.6	14.3
17.02	82.7	504.0	5.0	2.1	1012	3.7	4.6
17.03	44.6	644.7	5.2	2.8	842	3.8	3.7
17.04	33.6	941.4	7.6	2.0	406	4.5	1.5
17.05	165.0	1106.3	5.0	1.6	1071	3.6	5.0
17.06	46.9	1390.3	4.8	2.9	955	4.7	3.4
17.07	51.2	1577.3	4.6	3.3	1088	4.4	4.2
17.08	45.1	2137.1	11.4	2.7	482	5.5	1.5
17.09	48.4	2185.5	5.4	4.6	829	5.4	2.6
17.10	1.8	2363.6	4.5	15.6	150	3.3	0.8
17.11	146.2	3419.6	1.9	3.7	2242	3.9	9.6
17.12	54.3	3473.9	4.4	2.2	394	5.3	1.2
17.13	27.7	3501.6	2.2	6.0	824	4.0	3.4
18.01	198.3	198.3	6.7	1.3	2753	3.7	12.4
19.01	96.1	96.1	5.6	2.1	2822	3.2	14.7
20.01	263.1	263.1	4.6	1.5	3369	3.5	15.8
21.01	214.3	214.3	4.0	1.8	3828	3.3	19.1
21.02	22.8	237.1	7.5	2.9	533	3.5	2.5
22.01	135.8	135.8	6.8	1.1	2342	2.6	14.9
23.01	115.9	115.9	5.6	2.7	2168	2.5	14.5
23.02	110.4	376.2	5.1	3.4	1556	3.4	7.7
23.03	85.8	508.4	4.1	3.6	1351	3.1	7.2
23.04	6.3	514.7	10.2	8.5	214	4.5	0.8
24.01	149.9	149.9	7.1	1.0	2103	2.6	13.3
25.01	46.4	46.4	11.0	0.1	1309	3.5	6.3
26.01	174.3	174.3	4.2	1.5	3044	3.0	17.0
26.02	2.1	176.4	2.9	8.0	133	3.0	0.7
27.01	210.9	210.9	8.1	0.0	2569	3.5	12.3
27.02	209.4	470.7	5.1	1.7	3068	4.3	11.8
27.03	200.6	858.6	2.1	1.9	3069	4.3	12.0
28.01	37.0	37.0	15.0	1.0	1211	2.5	8.1
28.02	13.4	50.4	7.9	4.5	458	2.6	2.9
29.01	187.3	187.3	6.0	1.7	3668	3.4	17.9
30.01	51.1	51.1	6.3	0.0	1166	1.1	17.7
31.01	37.8	37.8	4.4	0.3	799	1.1	12.1
32.01	237.2	237.2	5.3	1.4	3335	3.4	16.2
33.01	109.8	109.8	4.8	1.2	1988	2.6	13.0
34.01	157.7	157.7	6.5	1.3	1941	2.6	12.4
34.02	215.3	373.0	6.2	1.8	1493	3.0	8.2
34.03	4.4	377.4	10.9	4.8	229	4.2	0.9
35.01	111.4	111.4	5.0	1.4	2055	2.7	12.9
35.02	142.5	253.8	2.7	2.1	1612	3.3	8.2
35.03	72.1	337.6	3.3	2.7	636	2.4	4.4
35.04	4.0	341.6	5.9	13.6	194	3.5	0.9

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
35.05	93.9	530.5	2.6	2.2	1129	2.8	6.7
36.01	11.6	11.6	6.3	0.1	534	1.5	5.9
37.01	95.0	95.0	4.5	1.7	2139	2.4	14.8
38.01	101.4	101.4	3.6	1.9	2492	2.3	18.0
38.02	20.7	122.1	4.0	3.7	315	2.1	2.6
39.01	128.1	128.1	5.9	1.0	1708	2.9	9.9
39.02	69.4	257.8	8.9	1.7	965	3.2	5.1
39.03	37.6	371.4	4.9	3.7	1132	3.8	5.0
39.04	225.9	779.8	3.4	2.1	2673	4.8	9.2
39.05	160.7	995.2	2.2	3.7	1799	3.8	7.8
39.06	65.6	1846.8	2.8	4.0	335	2.7	2.1
40.01	60.3	60.3	17.0	1.1	1563	3.1	8.5
41.01	76.1	76.1	20.1	1.1	1698	3.1	9.2
42.01	182.5	182.5	6.1	1.5	2700	3.0	15.2
43.01	54.8	54.8	6.1	1.5	1382	2.6	9.0
44.01	192.2	192.2	8.8	1.6	2896	3.2	15.0
44.02	187.8	500.8	3.5	2.0	2216	3.6	10.3
44.03	80.3	785.9	2.8	1.7	1046	4.2	4.1
45.01	120.9	120.9	8.7	1.2	2076	2.8	12.2
46.01	204.8	204.8	4.1	1.7	3484	3.1	18.9
47.01	162.0	162.0	5.2	1.8	2802	2.8	16.9
47.02	2.5	224.8	13.8	9.6	127	3.0	0.7
47.03	17.4	242.2	5.6	3.7	223	3.1	1.2
47.04	159.8	514.3	3.4	2.5	2377	3.5	11.4
47.05	89.4	660.9	4.4	2.9	731	2.8	4.4
48.01	60.3	60.3	4.6	3.1	1723	2.0	14.3
49.01	86.2	86.2	5.5	1.7	2130	2.2	16.0
49.02	11.0	97.2	6.1	8.3	319	2.4	2.2
49.03	1.1	98.3	12.6	19.6	51	3.3	0.3
50.01	14.1	14.1	6.3	5.0	583	1.2	8.4
51.01	57.1	57.1	7.7	1.7	1490	2.7	9.1
52.01	24.3	24.3	8.5	0.0	1159	2.6	7.4
52.02	38.7	63.0	4.1	0.8	685	2.0	5.8
53.01	98.1	98.1	2.9	0.1	1420	1.9	12.2
54.01	36.2	36.2	4.3	0.6	1164	1.6	12.2
54.02	15.7	51.9	3.2	4.5	406	1.4	4.8
54.03	6.0	57.9	3.7	9.2	174	1.4	2.0
55.01	42.2	42.2	8.0	1.1	1139	2.9	6.6
56.01	57.8	57.8	10.0	1.0	1255	2.7	7.9
56.02	41.4	99.2	4.6	2.5	820	2.7	5.1
56.03	18.4	117.5	2.0	3.2	508	2.4	3.5
57.01	49.9	49.9	8.1	2.8	1384	3.0	7.6
57.02	101.6	151.5	1.7	3.9	2117	2.6	13.7
58.01	100.5	100.5	5.6	1.1	1796	2.8	10.7
58.02	46.4	146.9	4.0	2.9	632	2.5	4.3
58.03	22.9	212.6	1.3	5.6	873	2.4	6.1
58.04	20.2	354.4	1.2	6.5	224	1.3	2.8
58.05	34.6	389.5	0.3	6.9	1260	1.9	11.1
58.06	49.7	572.8	0.5	3.7	797	1.8	7.4
58.07	80.0	658.8	1.2	4.9	1133	1.5	13.0
59.01	42.8	42.8	6.3	0.8	1398	2.0	11.4
60.01	37.9	37.9	8.7	0.6	1090	2.0	9.0
60.02	10.9	48.8	4.6	6.5	498	2.0	4.2
60.03	32.8	114.6	1.5	7.0	836	1.7	8.0

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
61.01	33.0	33.0	5.1	0.1	966	1.1	14.6
62.01	7.0	7.0	1.9	12.4	730	1.1	11.1
63.01	0.5	0.5	4.6	6.1	200	1.9	1.7
64.01	20.7	20.7	5.8	1.7	1071	1.1	16.2
64.02	28.1	121.7	1.1	5.9	327	1.6	3.4
65.01	11.8	11.8	3.6	7.7	900	1.1	13.6
66.01	13.9	13.9	11.0	0.6	539	1.0	8.7
66.02	41.4	57.5	3.6	2.6	649	1.6	6.9
67.01	2.2	2.2	11.3	34.9	281	1.1	4.3
68.01	3.6	3.6	14.9	21.3	291	1.1	4.4
69.01	3.5	3.5	14.4	30.0	320	1.1	4.8
69.02	2.8	6.3	7.7	21.3	167	1.1	2.4
70.01	2.7	2.7	12.9	23.6	253	1.1	3.8
71.01	2.9	2.9	14.2	31.4	347	1.1	5.3
72.01	3.4	3.4	13.9	26.2	330	1.1	5.0
73.01	2.5	2.5	13.1	13.3	253	1.1	3.8
74.01	29.6	29.6	4.4	0.1	1117	1.7	10.8
75.01	83.1	83.1	0.0	2.9	2222	1.0	37.0
75.02	13.8	96.9	0.2	2.2	474	0.5	17.0
76.01	20.6	20.6	5.1	0.2	729	1.0	11.8
76.02	11.0	31.7	0.0	3.9	500	0.5	16.6
77.01	50.5	50.5	6.3	4.7	1125	1.8	10.7
77.02	60.3	110.8	6.1	4.7	632	2.4	4.3
77.03	115.3	226.1	4.1	3.2	1064	2.7	6.5
77.04	25.5	251.6	3.7	4.9	452	2.4	3.2
77.05	16.3	267.9	1.9	11.0	511	2.3	3.7
77.06	3.7	271.5	0.7	14.7	286	1.9	2.6
77.07	7.4	547.6	0.5	12.0	241	1.0	4.0
77.08	21.8	569.4	0.2	3.8	128	1.3	1.6
77.09	3.3	574.5	0.0	16.6	142	1.1	2.2
77.10	5.5	585.7	0.2	40.2	452	1.0	7.8
77.11	7.9	672.2	0.0	7.7	535	0.6	14.8
77.12	33.7	772.6	0.2	3.2	824	0.6	21.5
77.13	18.0	992.9	0.2	3.1	737	0.3	35.5
78.01	48.8	48.8	4.6	4.7	1435	2.3	10.5
78.02	53.5	145.6	0.2	6.3	1266	1.2	18.0
79.01	30.4	30.4	6.4	0.7	971	1.1	14.7
80.01	12.9	12.9	5.6	1.9	570	1.1	8.6
81.01	31.3	31.3	5.8	2.2	1029	2.0	8.5
81.02	3.1	34.4	4.3	8.1	225	1.9	2.0
81.03	2.1	67.7	3.9	6.8	243	1.9	2.2
81.04	3.1	120.0	1.4	12.5	239	0.8	5.3
82.01	5.7	5.7	15.2	4.7	380	1.1	5.8
82.02	21.7	27.4	6.3	2.0	428	1.1	6.5
82.03	3.8	31.2	4.5	8.6	225	1.1	3.5
83.01	19.0	19.0	8.1	10.2	694	1.1	10.5
83.02	5.6	36.4	4.5	26.2	243	1.1	3.7
83.03	3.2	40.5	3.1	17.2	276	1.1	4.2
84.01	3.1	3.1	8.9	25.1	495	1.1	7.5
84.02	2.2	11.9	5.2	35.7	168	1.1	2.6
85.01	6.6	6.6	9.6	16.8	465	1.1	7.0
86.01	0.9	0.9	8.0	41.2	218	1.1	3.3
87.01	4.7	4.7	7.4	29.4	413	1.1	6.3
87.02	2.2	8.8	7.9	11.7	123	1.2	1.8

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
88.01	1.9	1.9	12.2	9.1	224	1.1	3.4
89.01	3.0	3.0	2.8	17.5	355	2.3	2.6
90.01	1.9	1.9	3.6	25.3	159	1.1	2.4
91.01	5.8	5.8	1.2	35.1	424	1.1	6.4
92.01	11.8	11.8	2.7	1.9	605	0.8	12.8
92.02	34.3	49.3	2.6	4.8	581	1.1	8.6
92.03	2.6	51.9	3.6	42.3	122	1.6	1.2
92.04	10.1	72.5	1.6	25.7	312	1.3	4.1
93.01	3.1	3.1	5.6	5.1	339	1.1	5.1
94.01	3.2	3.2	8.4	28.2	492	1.1	7.5
95.01	3.9	3.9	6.3	31.3	397	1.1	6.0
96.01	1.6	1.6	8.2	35.4	193	1.1	2.9
97.01	1.8	1.8	8.5	37.0	173	1.1	2.6
98.01	6.1	6.1	3.6	14.3	585	1.1	8.9
99.01	46.5	46.5	2.7	1.4	1040	1.1	15.6
99.02	10.1	60.2	2.9	17.8	270	1.5	2.9
100.01	1.0	1.0	5.6	22.7	205	1.1	3.1
101.01	0.7	0.7	7.8	29.0	181	1.1	2.7
102.01	1.2	1.2	4.0	31.5	176	1.1	2.7
103.01	0.7	0.7	7.3	51.4	156	1.1	2.4
104.01	2.4	2.4	6.0	31.0	277	1.1	4.2
104.02	3.5	6.5	6.2	23.1	116	1.1	1.8
105.01	0.5	0.5	7.6	54.7	92	1.1	1.4
106.01	119.3	119.3	1.5	0.5	2071	1.5	22.6
106.02	8.0	169.0	0.2	7.3	149	0.6	4.2
107.01	41.7	41.7	5.2	0.4	1356	1.6	14.4
108.01	31.5	31.5	1.8	3.0	1076	1.3	13.6
108.02	1.9	33.4	0.0	7.6	287	0.6	7.6
109.01	57.4	57.4	6.5	0.0	1144	2.0	9.7
110.01	32.0	32.0	7.0	0.0	967	1.7	9.3
111.01	12.6	12.6	23.3	2.5	429	1.7	4.3
112.01	9.6	9.6	23.7	0.0	365	1.1	5.5
113.01	4.5	4.5	25.8	2.0	266	1.1	4.0
114.01	198.8	198.8	5.7	1.5	2872	3.3	14.3
114.02	9.5	294.5	10.0	5.3	371	3.9	1.6
114.03	106.4	572.4	4.0	1.8	1325	4.0	5.5
114.04	410.1	1100.2	2.0	1.9	4199	3.8	18.6
114.05	3.7	1467.7	4.2	8.4	199	3.1	1.1
114.06	93.3	3142.2	3.8	2.3	1311	5.8	3.8
114.07	8.3	3409.3	10.3	3.3	171	5.2	0.5
114.08	134.1	3701.9	2.7	2.8	1775	4.3	6.8
114.09	90.2	3792.1	3.5	2.3	906	5.1	2.9
114.10	62.0	3990.7	3.9	2.4	695	4.6	2.5
114.11	14.9	4257.1	4.9	4.8	183	4.9	0.6
114.12	60.2	4317.3	2.4	4.5	1126	4.7	4.0
114.13	297.2	4988.8	2.0	2.2	3853	5.3	12.1
114.14	160.7	5232.2	1.8	3.0	2434	4.3	9.4
114.15	25.2	5257.4	5.4	2.8	254	3.7	1.2
114.16	79.9	10961.8	4.2	2.6	663	4.5	2.5
114.17	25.1	11728.9	4.7	4.4	594	6.7	1.5
114.18	19.5	11949.2	4.7	3.3	332	5.9	0.9
114.19	109.0	12058.2	2.0	3.3	1105	5.1	3.6
114.20	14.5	12193.1	1.1	8.3	520	4.3	2.0
114.21	74.1	13269.7	0.4	6.2	1635	2.5	11.1

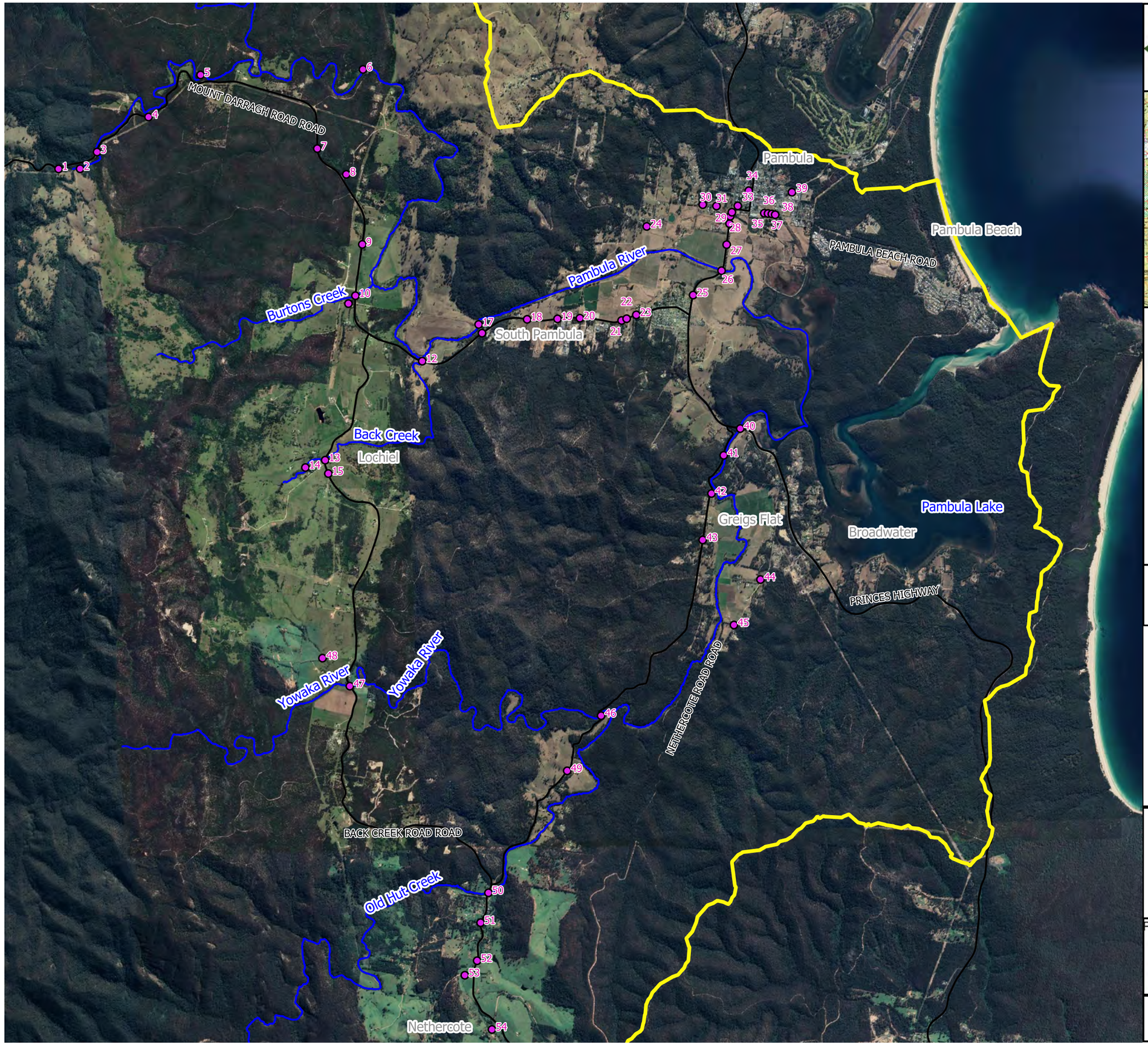
Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
114.22	5.8	13410.7	2.9	12.6	248	1.1	3.7
114.23	1.4	13458.0	7.4	25.5	93	2.4	0.7
114.24	49.7	13581.0	2.6	9.9	1009	3.6	4.7
114.25	59.7	13814.9	1.6	24.8	1563	3.0	8.6
115.01	86.2	86.2	6.6	0.0	2280	3.1	12.2
116.01	171.5	171.5	6.1	0.8	2703	3.4	13.1
117.01	117.7	117.7	6.4	1.4	1880	3.0	10.4
118.01	363.7	363.7	3.3	1.5	5651	3.7	25.6
119.01	350.3	350.3	6.2	1.1	4217	3.6	19.6
119.02	51.7	526.4	7.1	2.3	864	4.5	3.2
119.03	64.8	1360.1	4.3	2.8	1006	4.3	3.9
119.04	92.3	1581.3	3.1	2.9	1611	4.3	6.2
120.01	124.4	124.4	7.1	1.4	2062	3.2	10.7
121.01	168.1	168.1	10.9	1.3	2829	4.0	11.9
121.02	66.2	441.3	6.0	2.2	722	4.2	2.9
121.03	26.0	570.8	8.1	2.8	612	4.6	2.2
121.04	31.1	768.9	5.9	2.9	757	4.5	2.8
122.01	207.0	207.0	9.9	1.2	2445	3.5	11.8
123.01	103.5	103.5	9.2	1.4	2147	3.3	11.0
124.01	167.0	167.0	6.0	1.7	3203	3.4	15.9
125.01	129.0	129.0	8.6	1.3	2286	3.9	9.7
126.01	258.8	258.8	5.6	1.4	3883	3.8	16.9
127.01	158.5	158.5	7.7	1.7	2941	3.3	14.9
128.01	136.6	136.6	5.5	3.3	3039	2.9	17.4
129.01	106.8	106.8	5.6	2.1	2546	2.7	15.5
129.02	27.2	196.2	5.1	1.8	351	2.8	2.1
129.03	55.3	251.5	3.4	4.8	457	2.7	2.8
130.01	62.1	62.1	4.9	1.4	1509	1.9	13.2
131.01	43.0	43.0	13.1	0.2	1011	2.6	6.4
131.02	203.2	246.2	3.3	2.5	1785	2.5	11.8
131.03	128.1	374.3	3.2	2.8	1195	3.1	6.4
132.01	82.8	82.8	9.0	0.9	1523	2.7	9.3
133.01	248.8	248.8	11.6	0.6	3219	3.8	14.3
133.02	97.3	528.8	8.9	1.9	884	3.6	4.1
133.03	105.8	893.6	5.2	2.0	1391	4.8	4.8
133.04	30.4	1005.4	8.1	3.0	618	4.3	2.4
133.05	161.3	1269.5	5.5	2.0	1173	3.7	5.3
133.06	5.8	1275.3	17.2	0.9	38	4.2	0.2
133.07	207.5	2473.6	3.9	2.1	1414	4.0	5.9
133.08	18.6	2492.2	5.0	3.6	400	5.2	1.3
133.09	153.3	2961.1	4.3	2.6	2222	5.4	6.9
133.10	105.9	3251.5	2.9	3.1	1567	4.5	5.9
133.11	345.8	3778.3	2.1	2.0	3616	4.3	14.1
133.12	46.6	5167.9	3.5	6.1	727	4.5	2.7
133.13	225.0	5523.7	1.4	2.5	2212	4.7	7.9
133.14	36.0	5624.5	1.7	7.2	1020	4.9	3.5
134.01	182.6	182.6	11.7	1.5	2918	4.4	11.1
135.01	259.0	259.0	6.5	1.3	3093	3.3	15.8
136.01	81.4	81.4	11.4	1.6	2039	3.9	8.8
137.01	102.8	102.8	9.7	1.9	2331	3.5	11.0
138.01	484.0	484.0	4.4	1.2	3637	3.4	17.9
138.02	110.5	594.4	3.2	2.2	1768	3.9	7.5
138.03	38.2	990.7	4.7	3.2	858	4.5	3.2
139.01	175.6	175.6	6.1	1.5	2072	3.1	11.3

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
139.02	168.7	358.1	3.4	1.6	1002	3.1	5.4
140.01	13.9	13.9	28.3	0.0	498	2.1	3.9
141.01	244.6	244.6	10.8	1.5	2369	3.4	11.6
141.02	43.8	288.4	7.9	1.6	617	4.2	2.5
142.01	27.2	27.2	12.8	0.0	1239	2.1	9.8
143.01	184.5	184.5	12.9	1.6	2534	4.5	9.3
144.01	181.0	181.0	8.4	1.8	3248	2.9	18.4
145.01	130.9	130.9	7.4	1.6	2528	2.9	14.7
145.02	60.7	389.8	4.5	2.2	1161	3.5	5.5
145.03	113.8	600.2	2.6	2.6	1632	3.4	7.9
145.04	7.0	1166.7	9.5	7.0	114	2.6	0.7
145.05	3.3	1170.0	8.5	9.0	143	4.8	0.5
145.06	41.2	1343.0	3.3	7.5	1042	4.4	4.0
146.01	198.2	198.2	4.4	1.7	2586	2.7	16.0
147.01	96.6	96.6	6.5	2.1	2328	2.5	15.2
148.01	287.6	287.6	3.7	3.0	3052	2.9	17.6
148.02	21.1	423.0	8.6	6.0	472	3.1	2.5
148.03	19.3	559.4	4.2	6.3	549	3.4	2.7
149.01	114.4	114.4	4.4	3.3	2489	2.4	17.1
150.01	117.1	117.1	3.5	2.6	2981	2.3	21.2
151.01	95.7	95.7	4.7	1.8	2028	2.3	14.4
152.01	36.1	36.1	7.7	3.4	1001	1.1	15.2
153.01	130.9	130.9	7.1	3.5	2453	2.8	14.8
154.01	50.4	50.4	6.5	2.5	1651	2.3	11.9
154.02	14.4	64.8	6.2	5.8	287	2.3	2.1
155.01	249.0	249.0	3.7	1.5	2716	3.0	15.1
155.02	2.8	251.8	6.8	7.1	150	2.8	0.9
155.03	18.8	397.1	6.7	1.9	240	3.1	1.3
155.04	14.3	411.4	7.8	2.2	213	2.9	1.2
155.05	49.7	636.9	1.8	4.4	1385	3.5	6.6
155.06	7.4	742.0	9.8	7.9	392	4.7	1.4
156.01	121.9	121.9	4.0	1.8	2427	2.6	15.7
156.02	4.6	126.4	6.6	5.5	175	2.2	1.3
157.01	89.7	89.7	4.8	1.7	2041	2.7	12.7
158.01	44.7	44.7	5.1	1.4	1563	2.1	12.7
159.01	41.5	41.5	6.9	1.1	1171	2.9	6.6
160.01	91.6	91.6	5.7	1.5	2068	2.8	12.4
160.02	6.1	97.7	7.3	5.4	294	2.5	1.9
161.01	200.9	200.9	4.5	1.4	3037	3.1	16.5
162.01	12.2	12.2	21.8	0.0	587	2.0	4.9
162.02	106.3	118.5	3.7	1.7	1847	2.9	10.5
162.03	1.9	120.4	2.8	14.7	202	2.2	1.5
163.01	19.3	19.3	4.4	2.2	849	1.0	13.5
163.02	42.6	61.9	4.5	2.5	578	1.6	5.9
163.03	156.5	218.5	4.0	2.2	2743	2.8	16.3
163.04	120.5	338.9	3.4	1.5	1515	3.3	7.6
163.05	168.4	810.2	2.5	1.8	1944	3.7	8.8
163.06	34.0	844.2	0.7	5.7	650	2.6	4.1
164.01	302.9	302.9	2.9	1.7	4661	2.9	26.6
165.01	139.2	139.2	2.7	1.9	2746	2.4	19.2
165.02	19.1	158.3	3.0	4.7	653	2.5	4.3
166.01	32.9	32.9	6.2	0.4	976	1.7	9.4
166.02	40.1	73.0	2.0	4.9	800	1.2	11.5
166.03	62.2	135.2	1.3	3.1	1106	1.2	14.9

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
167.01	24.2	24.2	8.3	0.4	1070	1.1	16.2
167.02	21.7	45.9	3.2	3.8	223	1.7	2.2
168.01	72.8	72.8	6.8	0.2	1661	2.8	9.9
168.02	0.5	73.3	17.2	13.2	50	3.4	0.2
169.01	138.0	138.0	4.6	2.0	1758	2.2	13.1
169.02	17.4	155.4	5.4	5.2	472	2.6	3.0
170.01	18.9	18.9	8.1	11.1	589	1.1	8.9
171.01	23.3	23.3	4.3	6.6	633	1.1	9.5
172.01	13.6	13.6	7.7	5.5	541	1.1	8.2
173.01	27.2	27.2	12.6	0.0	862	2.9	5.0
173.02	179.3	244.5	5.4	3.8	1927	2.7	11.9
173.03	145.3	482.1	4.9	1.4	1422	3.7	6.4
173.04	51.0	533.1	1.5	1.7	1105	2.3	8.1
173.05	25.8	736.0	0.5	68.0	789	0.4	30.4
173.06	63.8	977.7	0.4	80.8	700	0.5	25.2
173.07	12.1	1675.4	0.0	100.0	580	0.2	42.4
174.01	20.7	20.7	16.5	0.0	686	1.7	6.7
175.01	17.3	17.3	6.7	0.0	525	1.4	6.3
176.01	14.7	14.7	15.6	0.0	708	2.4	5.0
176.02	77.7	92.4	7.1	1.8	1777	2.8	10.5
177.01	110.3	110.3	1.2	0.3	2073	0.9	36.4
178.01	57.6	57.6	3.3	0.4	1397	1.2	19.6
179.01	9.1	9.1	2.9	0.1	465	1.1	7.1
180.01	102.6	102.6	1.7	0.0	2271	1.5	25.9
180.02	9.9	112.5	1.7	51.2	267	0.4	10.2
181.01	59.0	59.0	3.8	0.0	1108	1.9	9.7
182.01	6.4	6.4	14.5	0.2	357	1.1	5.4
183.01	72.2	72.2	15.2	1.0	1418	3.1	7.7
183.02	74.2	146.3	5.5	1.9	1146	2.9	6.7
183.03	27.2	267.3	4.0	1.7	357	2.9	2.0
183.04	92.8	435.1	3.1	2.4	1003	3.2	5.3
183.05	17.7	452.7	2.6	5.8	479	2.6	3.0
183.06	63.7	685.5	0.3	88.6	1552	0.6	46.2
184.01	12.2	12.2	13.5	0.0	554	2.2	4.2
184.02	81.6	93.8	5.2	1.6	1817	2.8	10.8
185.01	14.6	14.6	23.3	0.0	743	2.2	5.7
185.02	60.4	74.9	5.7	2.0	1295	2.8	7.8
186.01	32.1	32.1	4.2	3.8	1032	1.1	15.6
187.01	42.4	42.4	5.5	1.1	1128	1.7	10.8
187.02	39.4	81.8	4.0	2.3	444	1.9	3.9
188.01	11.3	11.3	6.3	9.5	597	1.1	9.0
189.01	11.7	11.7	8.9	2.9	454	1.1	6.9
190.01	7.6	7.6	13.8	7.8	394	1.1	6.0
191.01	24.6	24.6	4.9	2.0	536	1.2	7.3
192.01	25.0	25.0	33.1	0.7	303	1.1	4.6
193.01	20.8	20.8	37.1	1.1	330	1.1	5.0
194.01	3.4	3.4	39.3	0.6	336	1.1	5.1
195.01	7.2	7.2	29.7	1.0	427	1.1	6.5
196.01	8.2	8.2	28.0	0.0	376	1.1	5.7
197.01	6.5	6.5	19.2	24.8	234	1.1	3.6
198.01	9.6	9.6	32.2	0.0	375	1.1	5.7
199.01	23.9	23.9	11.7	0.0	497	1.1	7.5
199.02	7.9	31.8	12.9	11.5	86	1.8	0.8
200.01	3.7	3.7	36.8	0.0	365	1.1	5.5

Subcatchment ID	Area (ha)	Total Upstream Area (ha)	Slope (%)	Impervious Prop (%)	Main Stream Length (m)	Average Stream Velocity (m/s)	Lag (mins)
201.01	8.9	8.9	33.5	0.0	462	1.1	7.0
202.01	122.6	122.6	2.7	0.0	2234	1.7	21.5
203.01	12.9	12.9	30.9	0.1	363	1.1	5.5
204.01	8.7	8.7	40.1	1.3	276	1.1	4.2
205.01	11.1	11.1	34.4	4.0	269	1.1	4.1
206.01	2.7	2.7	19.8	32.1	273	1.1	4.1
207.01	9.9	9.9	16.2	32.6	400	1.1	6.1
208.01	16.6	16.6	11.3	3.6	507	1.6	5.2
208.02	5.8	22.4	8.1	38.7	191	1.6	1.9
208.03	18.0	42.9	2.4	26.5	395	0.9	7.1
208.04	59.2	107.3	1.3	4.4	840	0.6	23.4
208.05	35.4	142.7	1.1	0.8	393	0.5	13.7
209.01	2.5	2.5	9.2	38.7	433	1.1	6.6
210.01	5.2	5.2	8.4	26.1	298	1.1	4.5
211.01	5.4	5.4	14.1	18.7	473	1.1	7.2
211.02	0.9	6.3	13.7	28.9	106	1.1	1.6
211.03	16.0	24.6	2.6	15.2	272	1.8	2.5
212.01	2.3	2.3	17.7	47.4	288	1.1	4.4

APPENDIX C
BLOCKAGE CALCULATIONS



bega valley shire council

LEGEND

Hydraulic Structure ID

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale 1:53,000 (at A3)

0 1.0 2.0

Appendix C
Blockage Calculations

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Catchment Simulation Solutions
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Sydney, NSW 2000

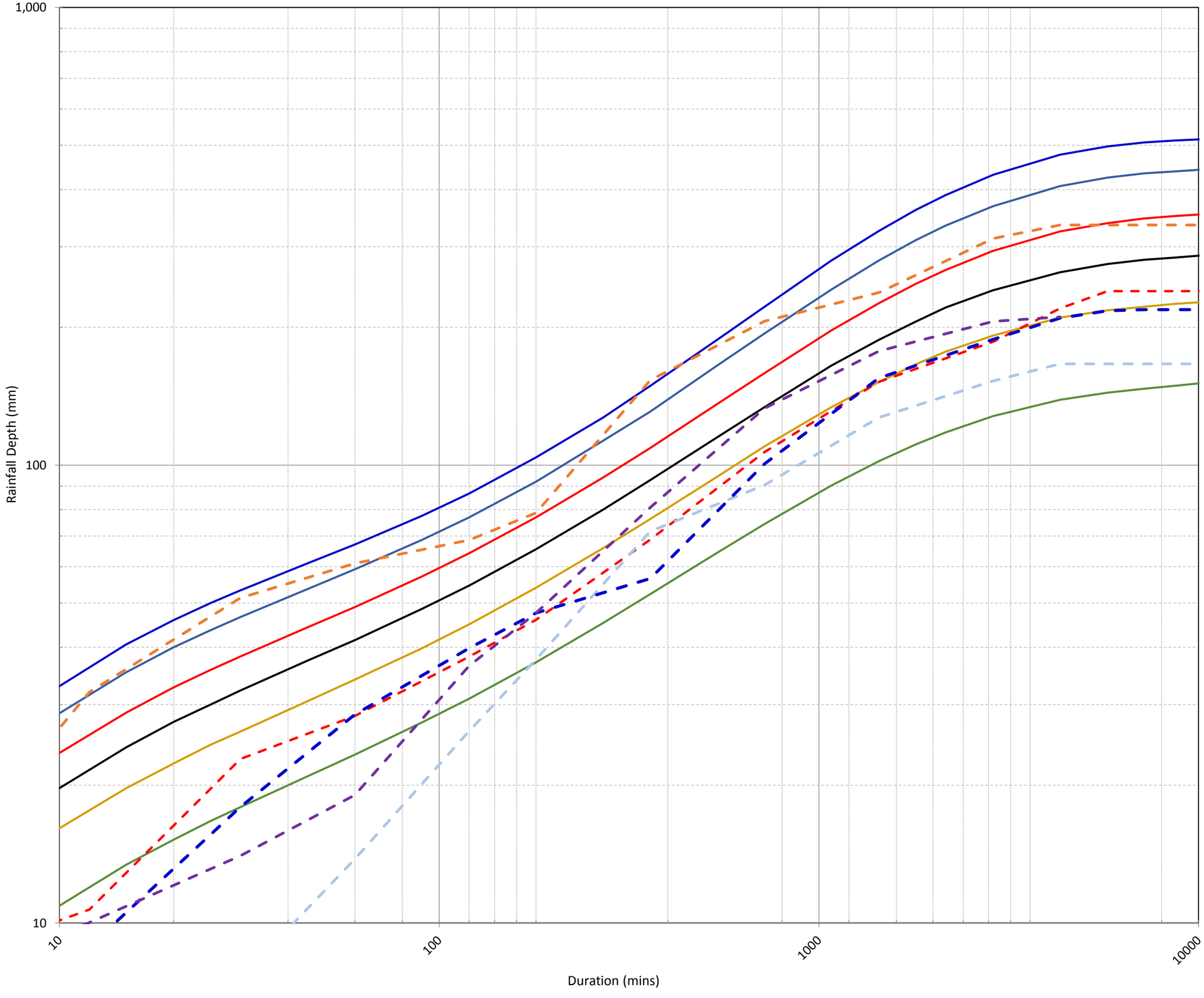
File Name:Appendix C Blockage Calculations.qgs

STRUCTURE BLOCKAGE ASSESSMENT

Structure ID	Roadway	Waterway	Structure Type	Structure Type	Structure Dimensions			Land Use Across Upstream Catchment	Max. L10 (m)	Control Dimension	Main Stream Slope (%)	Debris Availability (L, M, H)	Debris Mobility (L, M, H)	Debris Transportability (L, M, H)	Debris Potential	Debris Potential at Structure	Adjustment for AEP			Design Blockage Level		
					Dia/Width /Span	Height	Cells / Spans										AEP >5%	AEP 5%-0.5%	AEP < 0.5%	AEP >5%	AEP 5%-0.5%	AEP < 0.5%
1	Mount Darragh Rd	Seven Mile Creek	C	Pipe Culvert	2.7	0	1	Dense Trees	3	W<L	0	M	M	L	**MML**	Low	Low	Low	Medium	25%	25%	50%
	Mount Darragh Rd	Seven Mile Creek	C	Pipe Culvert	2.55	0	1	Grass with Scattered Trees	0.8	W>3L	0	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	0%
2	Box Range	Pambula River	C	Pipe Culvert	0.6	0	1	Grass with Scattered Trees	0.8	W<L	0.86	L	M	L	**LML**	Low	Low	Low	Medium	25%	25%	50%
3	Mount Darragh Rd	Pambula River	B	Bridge	32.5	5	3	Dense Trees	3	W>3L	0.86	M	M	L	**MML**	Low	Low	Low	Medium	0%	0%	0%
4	Mount Darragh Rd	Pambula River	C	Pipe Culvert	1.05	0	1	Dense Trees	3	W<L	6.01	M	M	H	**MMH**	Medium	Low	Medium	High	25%	50%	100%
4	Mount Darragh Rd	Pambula River	C	Pipe Culvert	1.05	0	1	Dense Trees	3	L<W<3L	6.01	M	M	H	**MMH**	Medium	Low	Medium	High	0%	10%	20%
5	Chalkhills Road	Pambula River	R	Box Culvert	1.8	0.9	2	Grass with Scattered Trees	0.8	L<W<3L	0.57	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
6	Wolumba Peak Road	Pambula River	R	Box Culvert	3	1.8	3	Dense Trees	3	L<W<3L	0.44	M	M	H	**MMH**	Medium	Low	Medium	High	0%	10%	20%
7	Mount Darragh Rd	Unnamed Creek	R	Box Culvert	3.6	2	1	Dense Trees	3	L<W<3L	1.91	M	M	M	**MMM**	Medium	Low	Medium	High	0%	10%	20%
8	Lochview Farm Road	Unnamed Creek	R	Box Culvert	1.2	0.525	2	Grass with Scattered Trees	0.8	L<W<3L	1.4	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	10%
9	Mount Darragh Rd	Unnamed Creek	R	Box Culvert	3.6	2.1	1	Dense Trees	3	L<W<3L	2.34	M	M	M	**MMM**	Medium	Low	Medium	High	0%	10%	20%
10	Mount Darragh Rd	Burtons Creek	B	Bridge	42.8	9	3	Grass with Scattered Trees	0.8	W>3L	0.73	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	0%
11	Robinsons Road	Unnamed Creek	C	Pipe Culvert	0.45	0	1	Grass with Medium Trees	1.25	W<L	1.24	L	M	M	**LMM**	Low	Low	Low	Medium	25%	25%	50%
12	Mount Darragh Rd	Back Creek	R	Box Culvert	3.6	3.6	3	Grass with Scattered Trees	0.8	W>3L	1.76	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	0%
	Mount Darragh Rd	Back Creek	R	Box Culvert	3.6	2.1	1	Urban	1	W>3L	1.76	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	0%
13	Back Creek Road	Back Creek	R	Box Culvert	2.1	2.1	1	Grass	0.5	W>3L	7.23	L	M	H	**LMH**	Medium	Low	Medium	High	0%	0%	10%
14	Blairlands Road	Back Creek	C	Pipe Culvert	1.2	0	2	Grass with Scattered Trees	0.8	L<W<3L	5.71	L	M	H	**LMH**	Medium	Low	Medium	High	0%	10%	20%
15	Back Creek Road	Unnamed Creek	R	Box Culvert	2.75	2.1	2	Grass	0.5	W>3L	2.57	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	0%
16	Mount Darragh Rd	Unnamed Creek	C	Pipe Culvert	1.5	0	2	Dense Trees	3	W<L	1.93	M	M	M	**MMM**	Medium	Low	Medium	High	25%	50%	100%
17	Unnamed Road	Pambula River	R	Box Culvert	1.8	0.4	2	Dense Trees	3	W<L	8.01	M	M	H	**MMH**	Medium	Low	Medium	High	25%	50%	100%
18	Mount Darragh Rd	Unnamed Creek	C	Pipe Culvert	1.05	0	3	Dense Trees	3	W<L	1.5	M	M	M	**MMM**	Medium	Low	Medium	High	25%	50%	100%
19	Mount Darragh Rd	Unnamed Creek	R	Box Culvert	3	1.2	3	Grass with Medium Trees	1.25	L<W<3L	1.14	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	10%
20	Mount Darragh Rd	Unnamed Creek	R	Box Culvert	3.05	1.22	3	Grass with Medium Trees	1.25	L<W<3L	0.9	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
21	Mount Darragh Rd	Unnamed Creek	C	Pipe Culvert	0.6	0	4	Grass with Medium Trees	1.25	W<L	6.85	L	M	H	**LMH**	Medium	Low	Medium	High	25%	50%	100%
22	Mount Darragh Rd	Unnamed Creek	C	Pipe Culvert	0.6	0	1	Dense Trees	3	W<L	6.85	M	M	H	**MMH**	Medium	Low	Medium	High	25%	50%	100%
23	Mount Darragh Road	Unnamed Creek	C	Pipe Culvert	0.6	0	0	Dense Trees	3	W<L	0.85	M	M	L	**MML**	Low	Low	Low	Medium	25%	25%	50%
24	Oaklands Road	Unnamed Creek	C	Pipe Culvert	0.525	0	1	Grass with Medium Trees	1.25	W<L	0.09	L	M	L	**LML**	Low	Low	Low	Medium	25%	25%	50%
25	Princes Highway	Unnamed Creek	R	Box Culvert	2.1	1.2	2.1	Grass with Scattered Trees	0.8	L<W<3L	0.21	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
26	Princes Highway	Pambula River	B	Bridge	18	3.7	3	Grass with Scattered Trees	0.8	W>3L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	0%
27	Monaro Street	Unnamed Creek	R	Box Culvert	2.1	1.2	57	Grass with Scattered Trees	0.8	L<W<3L	0.05	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
28	Monaro Street	Unnamed Creek	R	Box Culvert	2.1	1.2	24	Grass with Scattered Trees	0.8	L<W<3L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
29	Monaro Street	Unnamed Creek	R	Box Culvert	2.1	1.2	10	Grass	0.5	W>3L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	0%
30	Oaklands Road	Unnamed Creek	R	Box Culvert	1.8	0.6	3	Grass with Medium Trees	1.25	L<W<3L	1.05	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	10%
31	Bega Street	Unnamed Creek	R	Box Culvert	2.1	0.9	3	Grass with Scattered Trees	0.8	L<W<3L	0.07	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
32	Monaro Street	Unnamed Creek	C	Pipe Culvert	0.9	0	1	Grass with Medium Trees	1.25	W<L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	25%	25%	50%
	Monaro Street	Unnamed Creek	C	Pipe Culvert	0.9	0	1	Grass with Medium Trees	1.25	L<W<3L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
	Monaro Street	Unnamed Creek	C	Pipe Culvert	0.9	0	1	Grass with Medium Trees	1.25	W<L	0.06	L	M	L	**LML**	Low	Low	Low	Medium	25%	25%	50%
33	Bullara Street	Unnamed Creek	R	Box Culvert	2	1	0	Urban	1	L<W<3L	3.74	L	M	H	**LMH**	Medium	Low	Medium	High	0%	10%	20%
34	Unnamed Road	Unnamed Creek	C	Pipe Culvert	1.5	0	1	Urban	1	L<W<3L	2.06	M	M	M	**MMM**	Medium	Low	Medium	High	0%	10%	20%
35	Bullara Street	Unnamed Creek	R	Box Culvert	1.8	0.6	1	Urban	1	L<W<3L	2.34	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	10%

Structure ID	Roadway	Waterway	Structure Type	Structure Type	Structure Dimensions			Land Use Across Upstream Catchment	Max. L10 (m)	Control Dimension	Main Stream Slope (%)	Debris Availability (L, M, H)	Debris Mobility (L, M, H)	Debris Transportability (L, M, H)	Debris Potential	Debris Potential at Structure	Adjustment for AEP			Design Blockage Level		
					Dia/Width /Span	Height	Cells / Spans										AEP >5%	AEP 5%-0.5%	AEP < 0.5%	AEP >5%	AEP 5%-0.5%	AEP < 0.5%
36	Bullara Street	Unnamed Creek	C	Pipe Culvert	0.75	0	2	Grass	0.5	L<W<3L	1.58	L	M	M	**LMM**	Low	Low	Low	Medium	0%	0%	10%
37	Bullara Street	Unnamed Creek	C	Pipe Culvert	0.75	0	1	Urban	1	W<L	1.58	L	M	M	**LMM**	Low	Low	Low	Medium	25%	25%	50%
38	Bullara Street	Unnamed Creek	C	Pipe Culvert	0.75	0	2	Urban	1	W<L	1.58	L	M	M	**LMM**	Low	Low	Low	Medium	25%	25%	50%
39	Arthur Kaine Drive	Unnamed Creek	C	Pipe Culvert	0.6	0	4	Urban	1	W<L	1.12	L	M	M	**LMM**	Low	Low	Low	Medium	25%	25%	50%
40	Princes Highway	Yowaka River	B	Bridge	33	15	2	Dense Trees	3	W>3L	0.23	M	M	L	**MML**	Low	Low	Low	Medium	0%	0%	0%
41	Nethercote Rd	Yowaka River	C	Pipe Culvert	0.45	0	3	Grass with Medium Trees	1.25	W<L	0.08	L	M	L	**LML**	Low	Low	Low	Medium	25%	25%	50%
42	Nethercote Road	Yowaka River	C	Pipe Culvert	0.6	0	1	Urban	1	W<L	16.48	L	M	H	**LMH**	Medium	Low	Medium	High	25%	50%	100%
43	Nethercote Rd	Pipeclay Creek	B	Bridge	24	3.3	2	Dense Trees	3	W>3L	1.12	M	M	M	**MMM**	Medium	Low	Medium	High	0%	0%	10%
44	Yowaka River Road	Yowaka River	C	Pipe Culvert	0.375	0	2	Dense Trees	3	W<L	6.08	M	M	H	**MMH**	Medium	Low	Medium	High	25%	50%	100%
45	Yowaka River Road	Yowaka River	C	Pipe Culvert	0.9	0	2	Grass with Medium Trees	1.25	W<L	3.22	L	M	H	**LMH**	Medium	Low	Medium	High	25%	50%	100%
	Yowaka River Road	Yowaka River	C	Pipe Culvert	1.05	0	1	Grass	0.5	L<W<3L	3.22	L	M	H	**LMH**	Medium	Low	Medium	High	0%	10%	20%
46	Nethercote Rd	Yowaka River	B	Bridge	27	2.8	3	Dense Trees	3	W>3L	0.48	M	M	L	**MML**	Low	Low	Low	Medium	0%	0%	0%
47	Back Creek Rd	Yowaka River	B	Bridge	30	4	2	Grass with Scattered Trees	0.8	W>3L	0	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	0%
48	Mine Road	Unnamed Creek	C	Pipe Culvert	0.6	0	1	Grass with Scattered Trees	0.8	W<L	1.98	L	M	M	**LMM**	Low	Low	Low	Medium	25%	25%	50%
49	Nethercote Road	Unnamed Creek	C	Pipe Culvert	0.75	0	1	Dense Trees	3	W<L	5.18	M	M	H	**MMH**	Medium	Low	Medium	High	25%	50%	100%
50	Nethercote Rd	Old Hut Creek	B	Bridge	30	8.5	2	Dense Trees	3	W>3L	0.82	M	M	L	**MML**	Low	Low	Low	Medium	0%	0%	0%
51	Nethercote Road	Unnamed Creek	C	Pipe Culvert	0.9	0	1	Dense Trees	3	W<L	0.73	M	M	L	**MML**	Low	Low	Low	Medium	25%	25%	50%
	Nethercote Road	Unnamed Creek	C	Pipe Culvert	0.9	0	0	Grass	0.5	L<W<3L	0.73	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
52	Nethercote Rd	Centipede Creek	R	Box Culvert	2.4	1.5	3	Grass with Scattered Trees	0.8	L<W<3L	0.93	L	M	L	**LML**	Low	Low	Low	Medium	0%	0%	10%
53	Ruggs Road	Centipede Creek	R	Box Culvert	2.4	1.5	3	Dense Trees	3	W<L	1.13	M	M	M	**MMM**	Medium	Low	Medium	High	25%	50%	100%
54	Fourters Road	Unnamed Creek	C	Pipe Culvert	0.375	0	2	Grass with Scattered Trees	0.8	W<L	3.58	L	M	H	**LMH**	Medium	Low	Medium	High	25%	50%	100%

APPENDIX D
MODEL CALIBRATION RESULTS



LEGEND:

- 1% AEP
- 2% AEP
- 5% AEP
- 10% AEP
- 20% AEP
- 50% AEP
- 2016 Rainfall
- 2012 Rainfall
- 2011 Rainfall
- 1985 Rainfall
- 1971 Rainfall

Figure D1:
Design Intensity - Frequency - Duration Curves
Vs
Historic Rainfall

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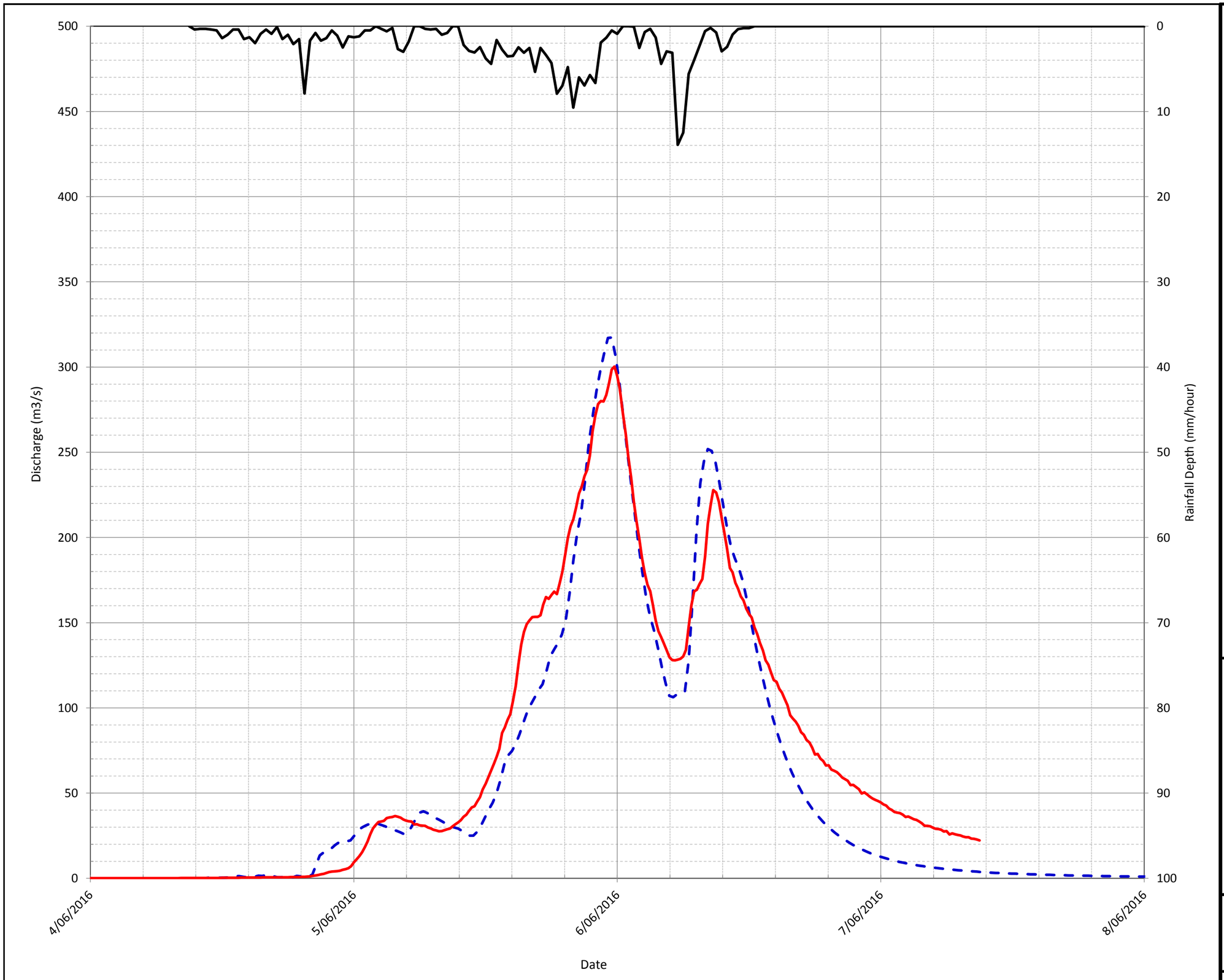
File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Discharge Hydrograph
- Recorded Discharge Hydrograph
- Rainfall

Figure D2: Comparison Between Simulated and Recorded Discharge Hydrographs for Pambula River @ Lochiel for 2016 Flood

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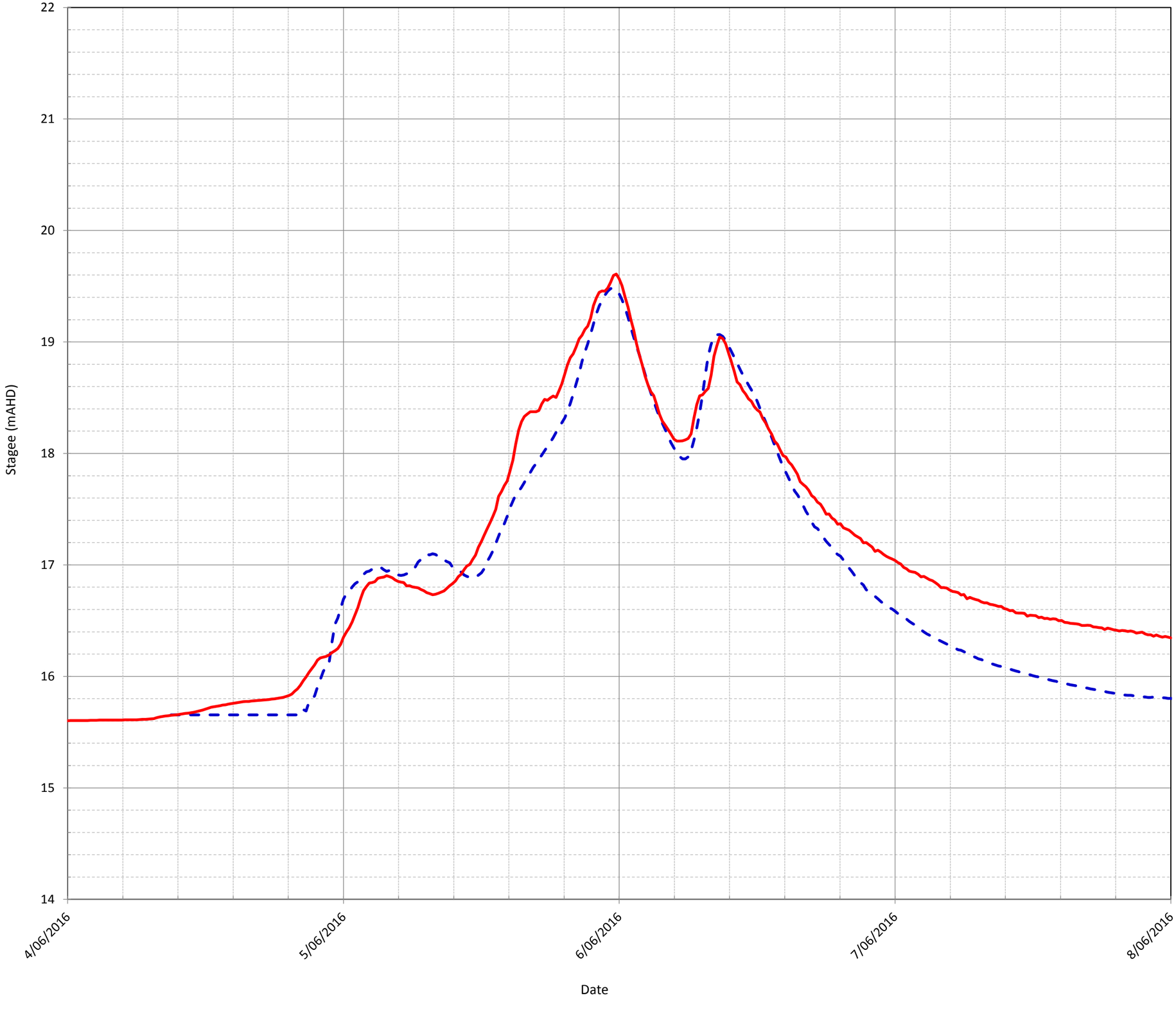
File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D3: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula River @ Lochiel for 2016 Flood

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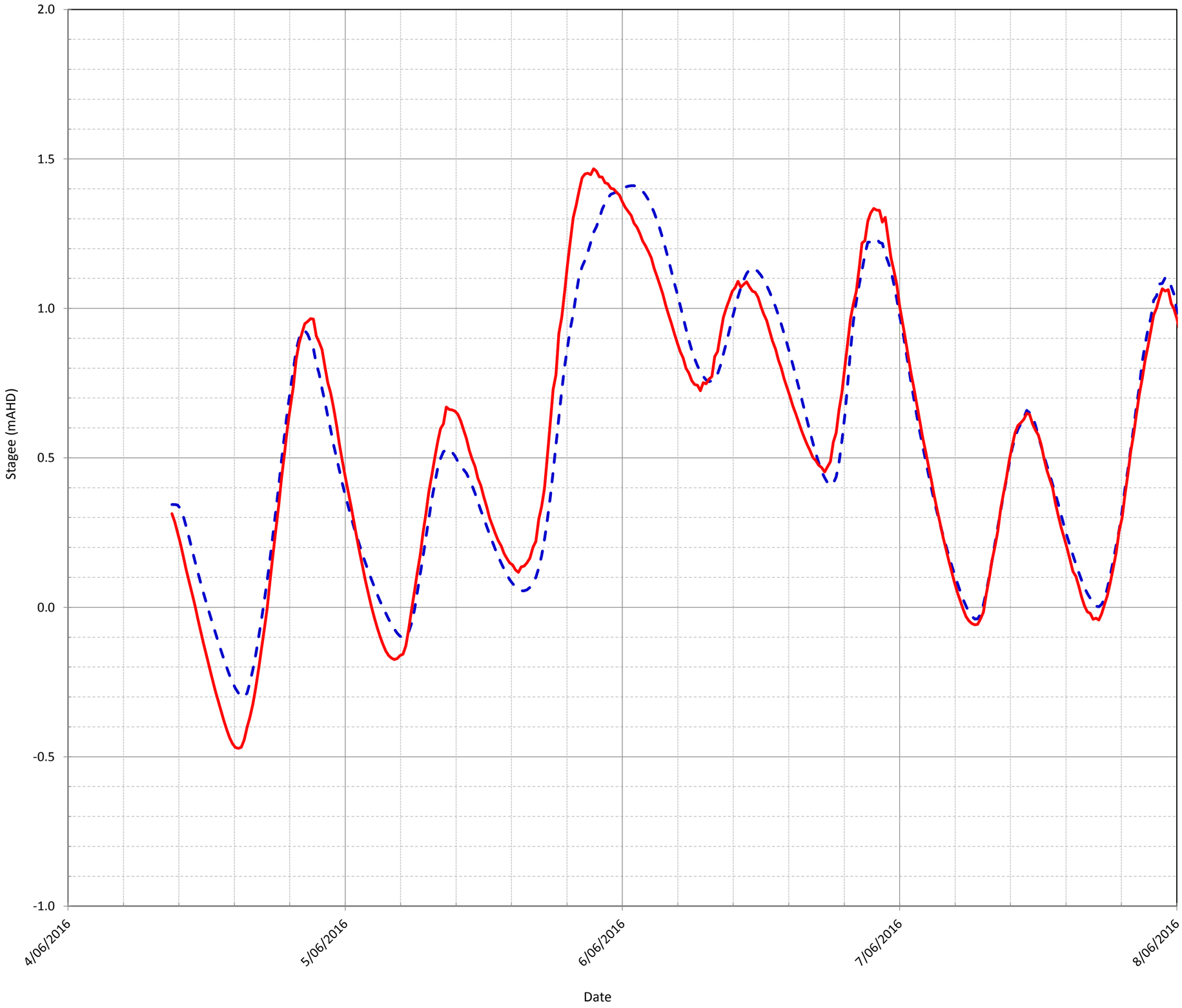
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D4: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula Lake for 2016 Flood

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Catchment Simulation Solutions
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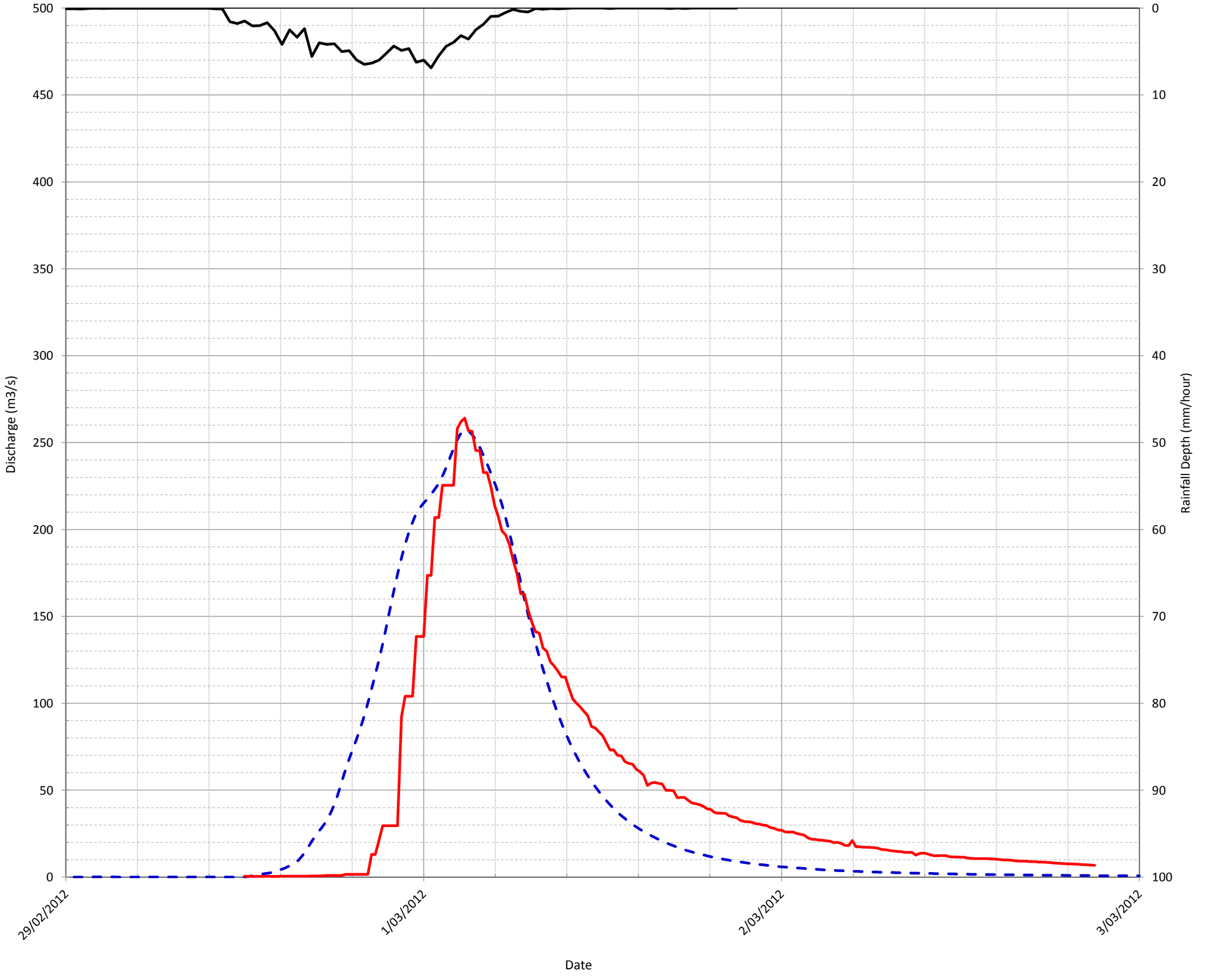
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Discharge Hydrograph
- Recorded Discharge Hydrograph
- Rainfall

Figure D5: Comparison Between Simulated and Recorded Discharge Hydrographs for Pambula River @ Lochiel for 2012 Flood

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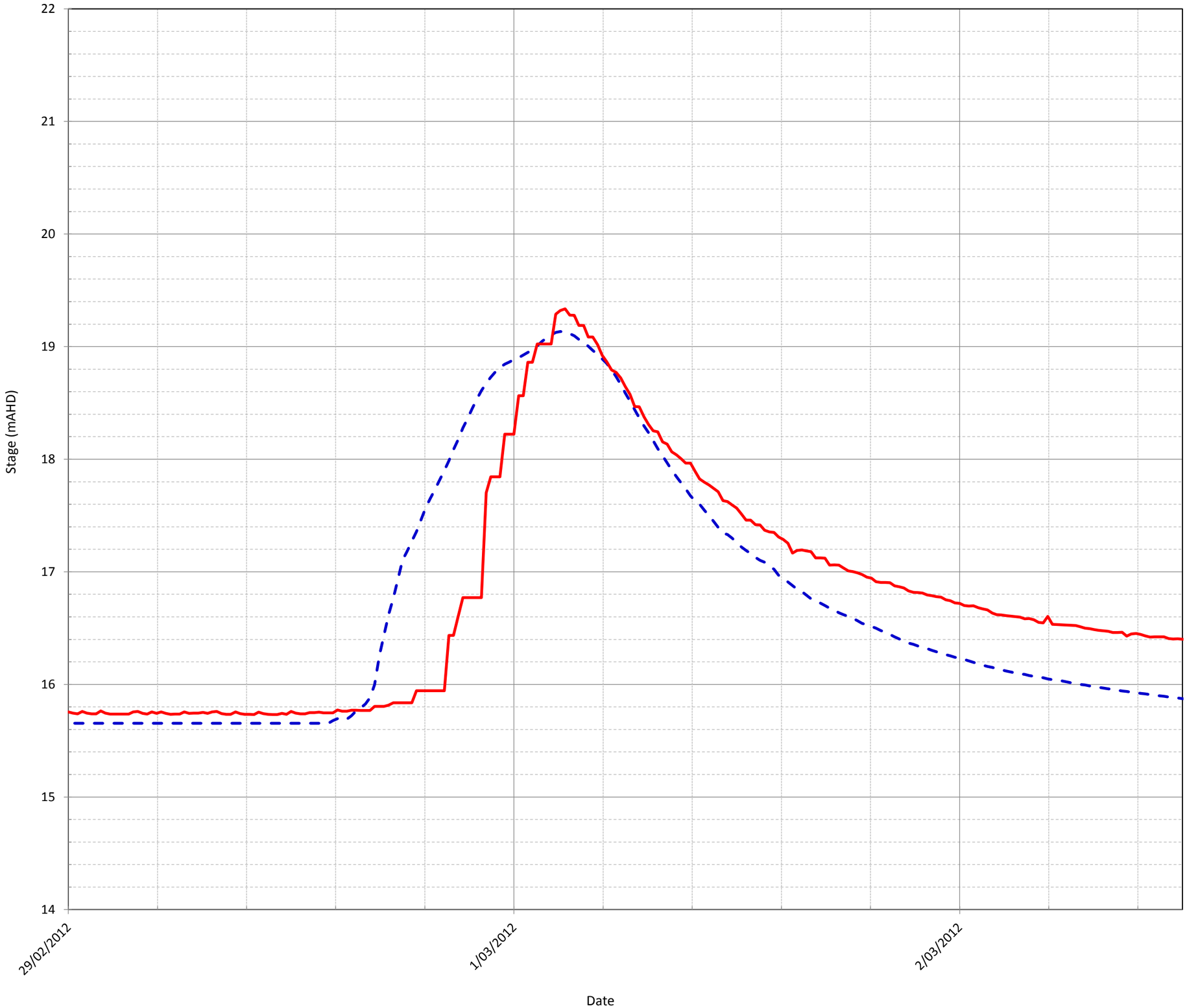
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D6: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula River @ Lochiel for 2012 Flood

Prepared By:
Catchment Simulation Solutions
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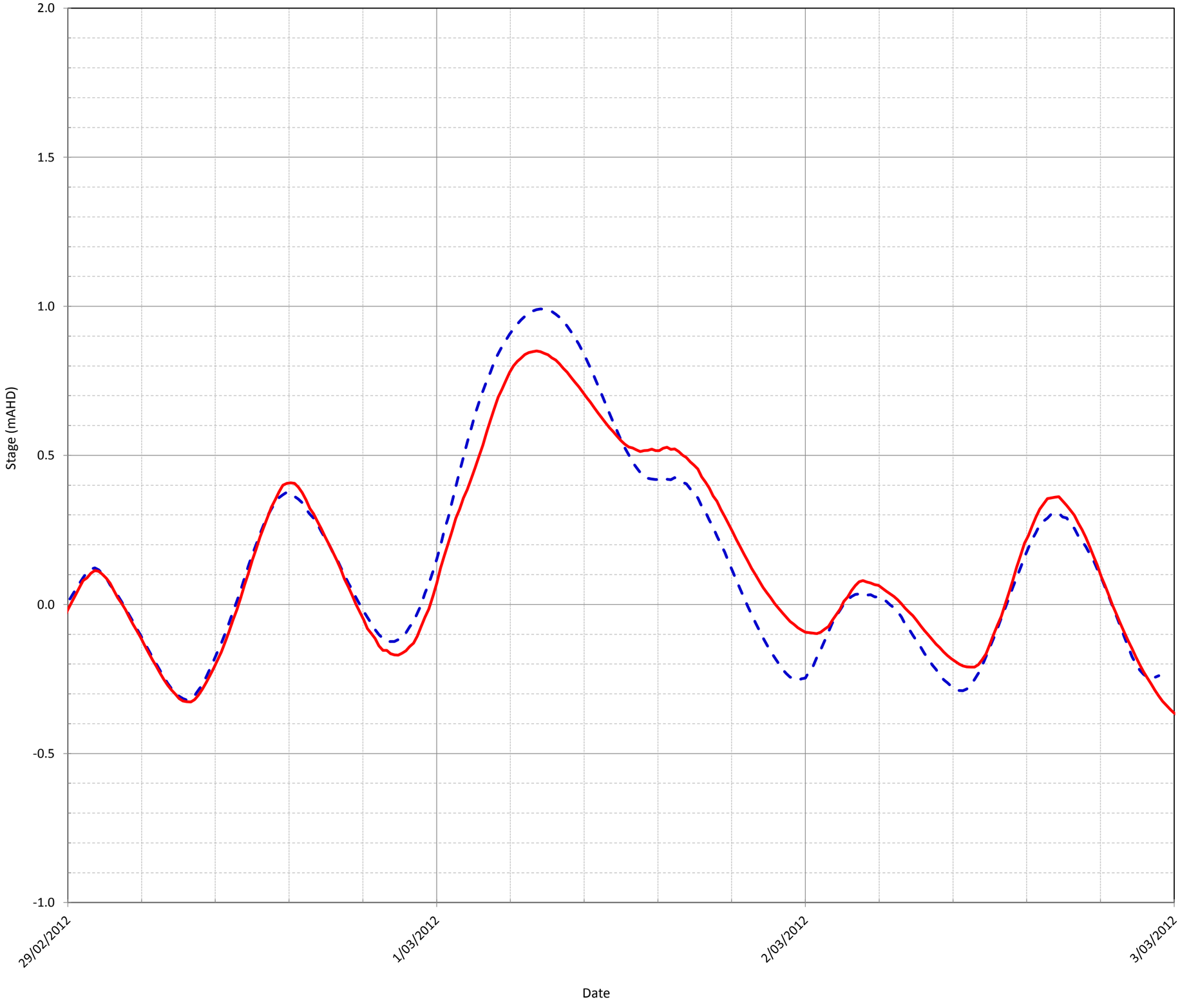
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



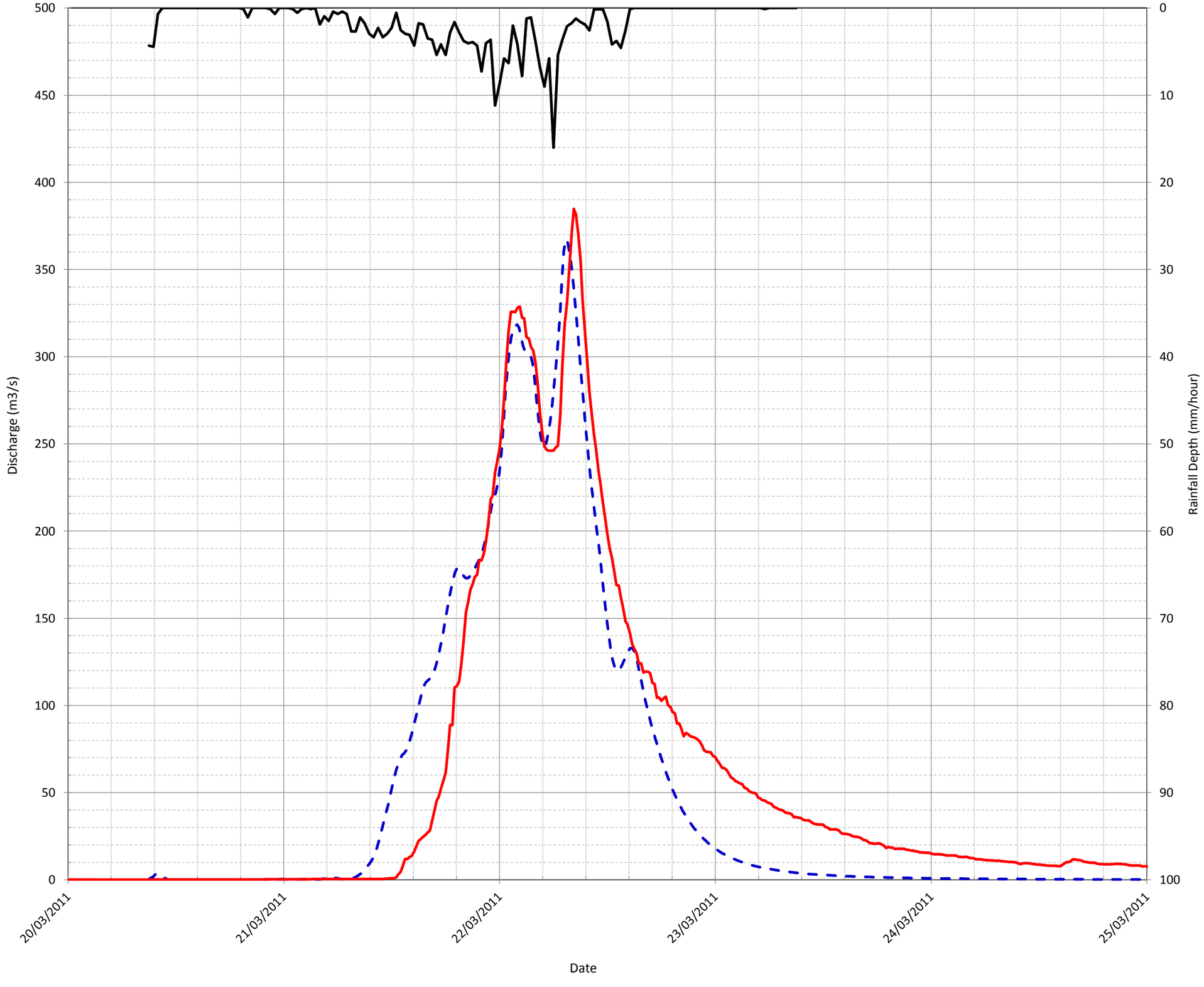
LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D7: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula Lake for 2012 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



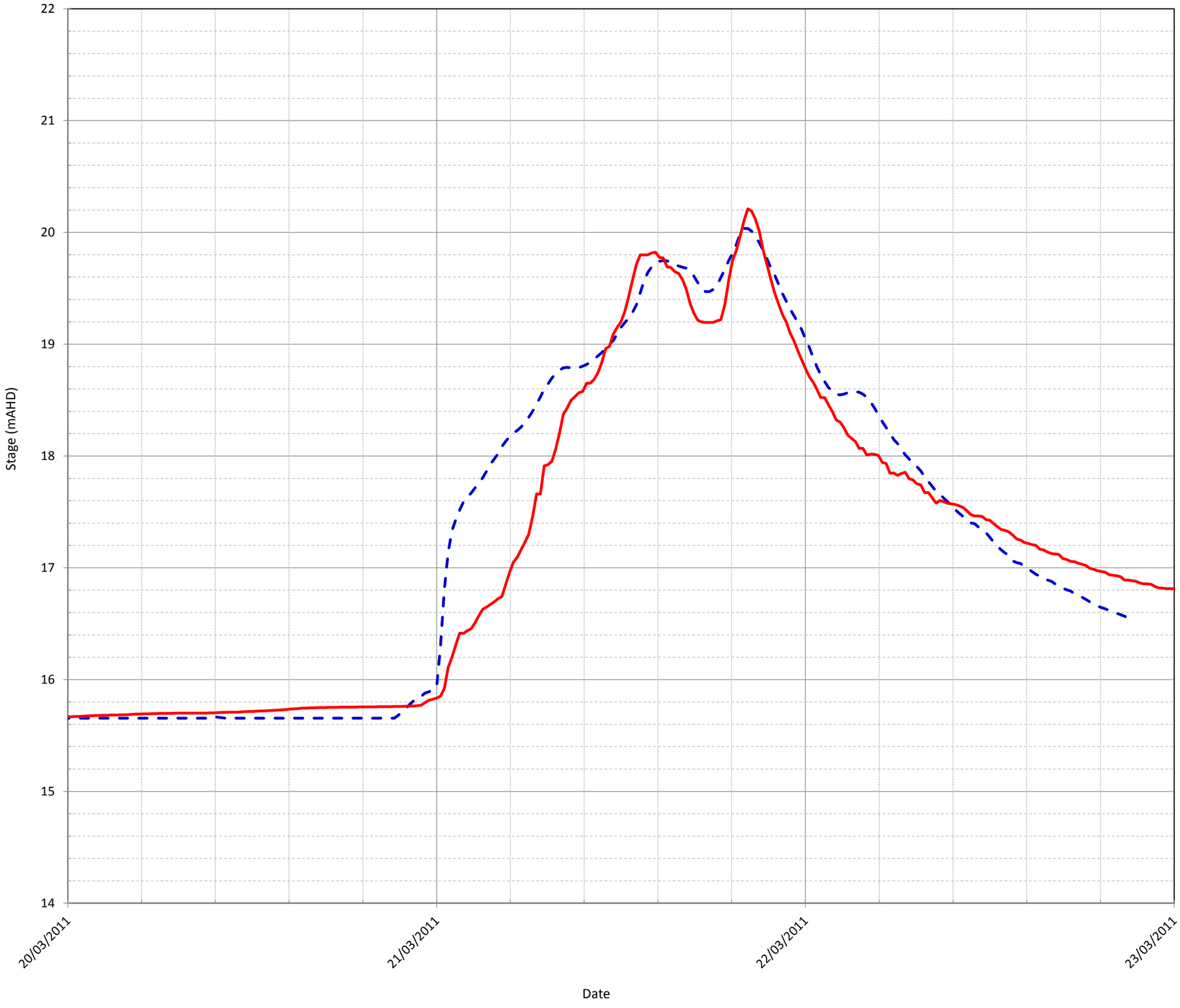
LEGEND:

- Simulated Discharge Hydrograph
- Recorded Discharge Hydrograph
- Rainfall

Figure D8: Comparison Between Simulated and Recorded Discharge Hydrographs for Pambula River @ Lochiel for 2011 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



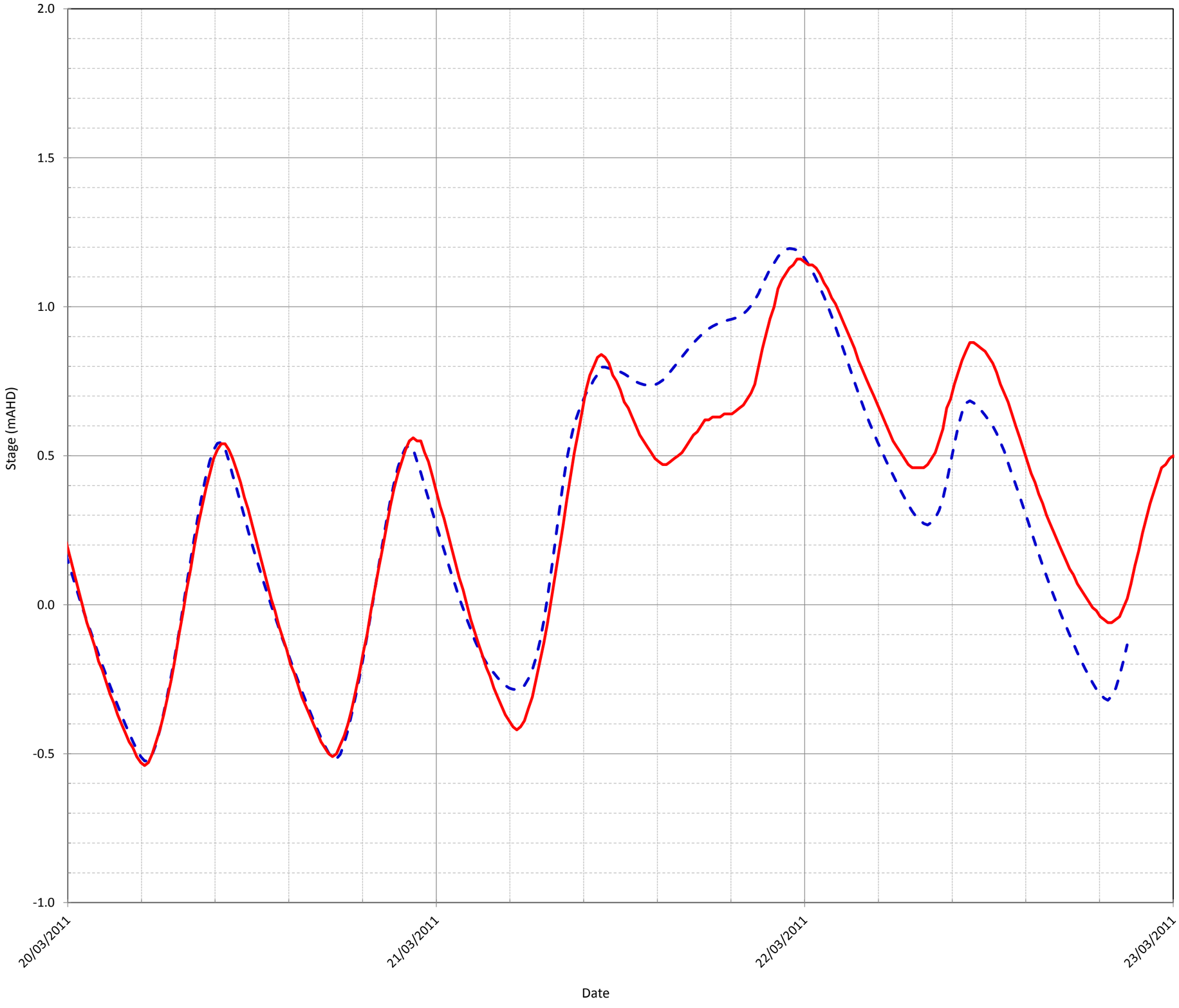
LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D9:
Comparison Between Simulated and Recorded Stage Hydrographs for Pambula River @ Lochiel for 2011 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



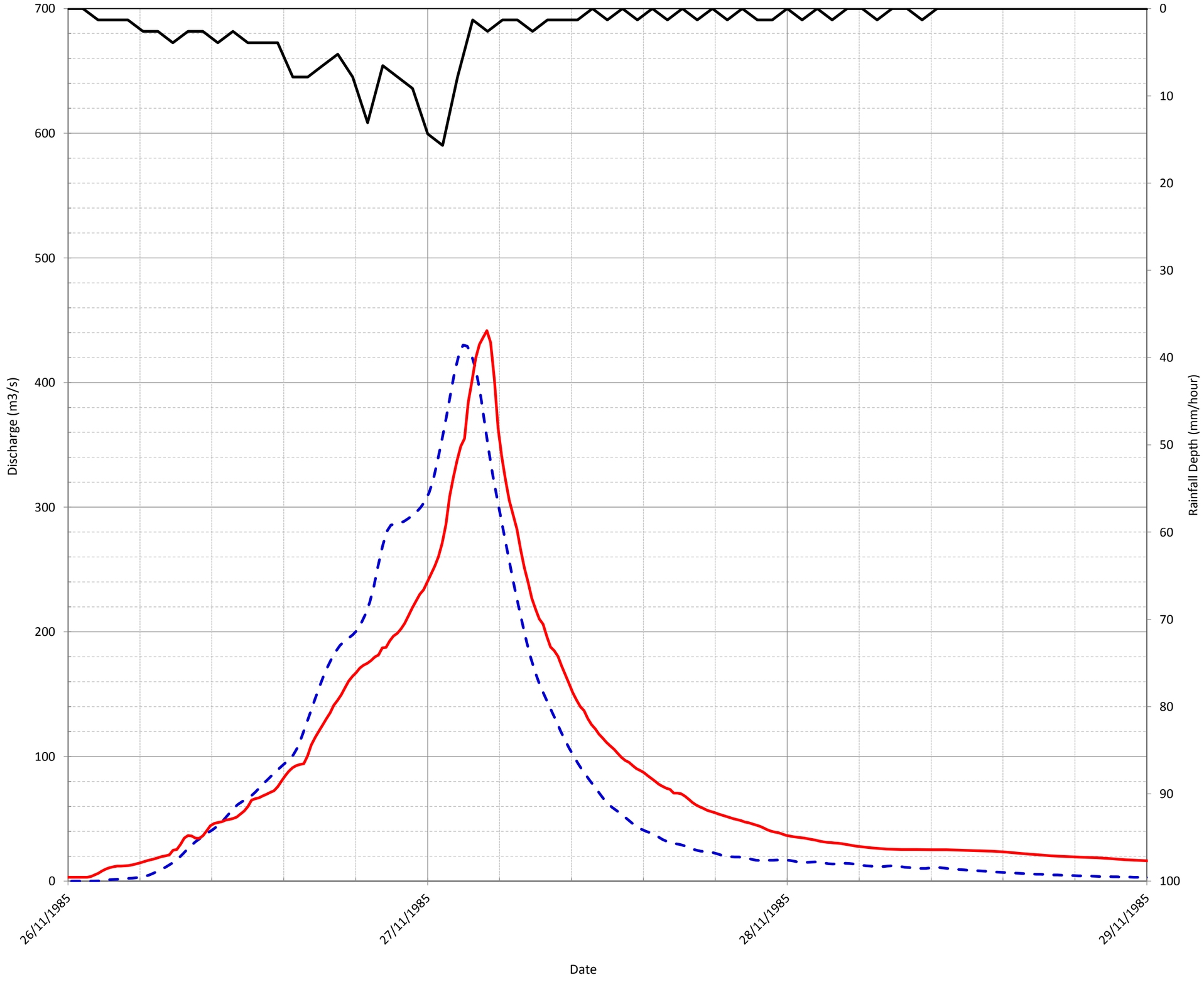
LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D10: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula Lake for 2011 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



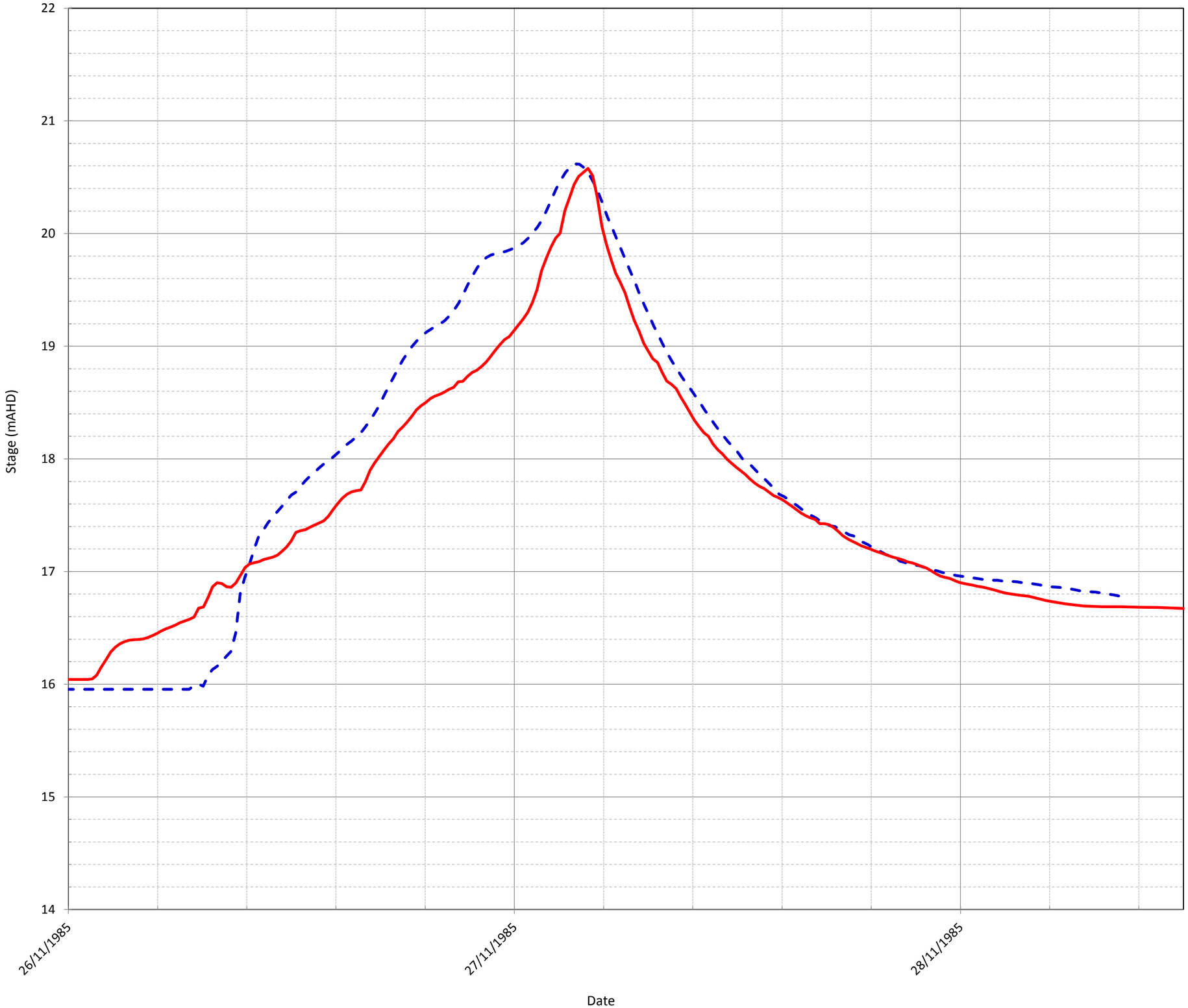
LEGEND:

- Simulated Discharge Hydrograph
- Recorded Discharge Hydrograph
- Rainfall

Figure D11: Comparison Between Simulated and Recorded Discharge Hydrographs for Pambula River @ Lochiel for 1985 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



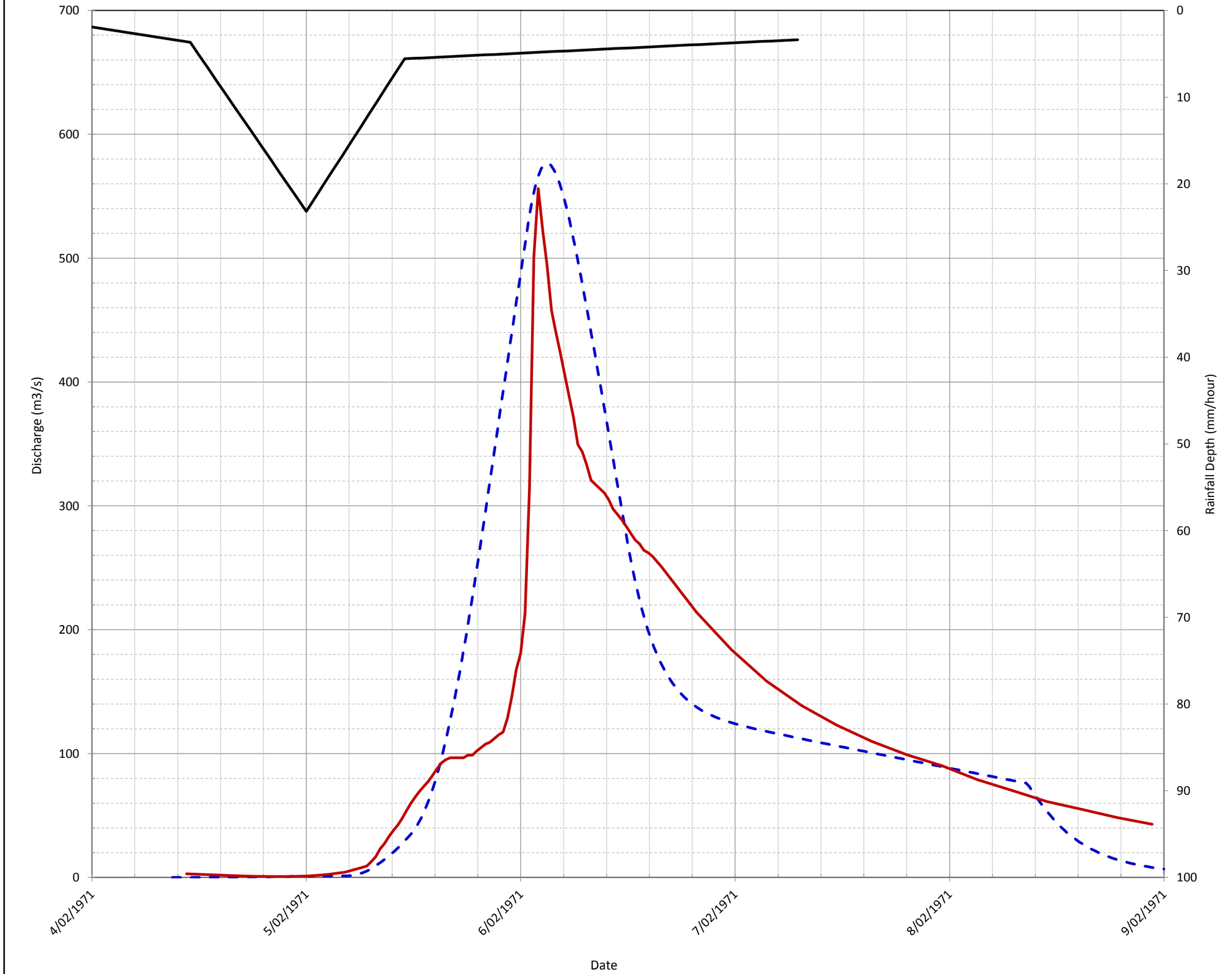
LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D12:
Comparison Between Simulated and Recorded Stage Hydrographs for Pambula River @ Lochiel for 1985 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: Lochiel Stage Hydrographs.xlsx



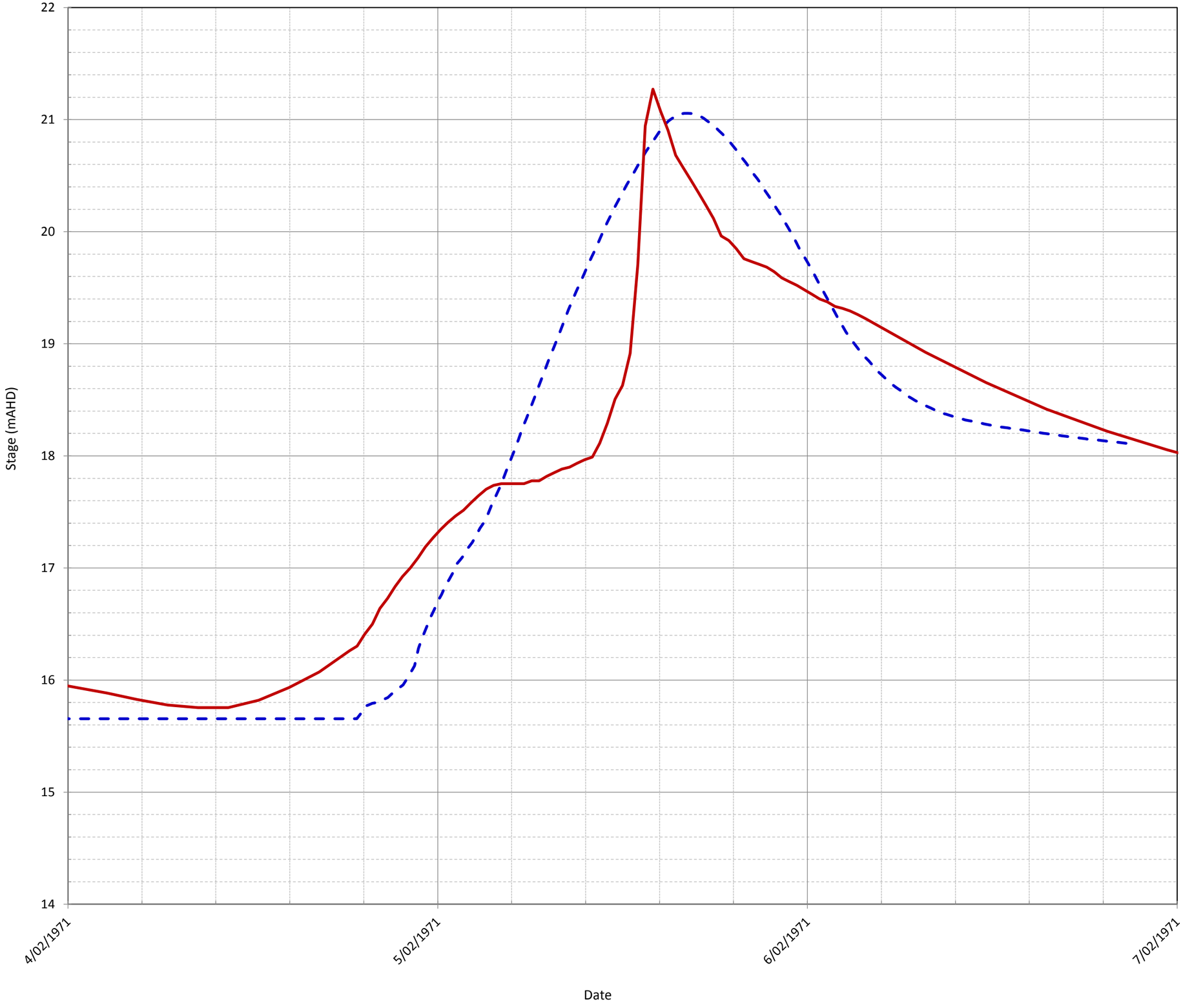
LEGEND:

- Simulated Discharge Hydrograph
- Recorded Discharge Hydrograph
- Rainfall

Figure D13:
Comparison Between Simulated and Recorded Discharge Hydrographs for Pambula River @ Lochiel for 1971 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx



LEGEND:

- Simulated Stage Hydrograph
- Recorded Stage Hydrograph

Figure D14: Comparison Between Simulated and Recorded Stage Hydrographs for Pambula River @ Lochiel for 1971 Flood

Prepared By:
Catchment Simulation Solutions
Suite 10.01, 70 Phillip Street
Sydney, NSW, 2000

File Name: IFD Comparison.xlsx

APPENDIX E

XP-RAFTS OUTPUTS FOR HISTORIC FLOOD SIMULATIONS

XP-RAFTS Peak Discharges for Historic Flood Simulations

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
1.01	10.2	8.48	13.5	13.5	17.8
1.02	13.5	10.9	17.9	17.7	23.0
1.03	18.9	15.0	25.1	24.8	32.0
1.04	26.8	21.3	35.2	35.1	45.5
1.05	34.3	27.5	44.4	44.9	58.3
1.06	35.1	28.1	45.2	45.8	59.5
1.07	41.7	33.6	53.5	54.6	71.4
1.08	45.7	37.1	58.5	60.1	78.7
1.09	47.0	38.2	59.9	61.8	80.9
1.10	76.2	64.3	94.7	102	135
1.11	92.1	77.5	110	123	162
1.12	103	86.8	123	138	184
1.13	207	171	256	282	376
1.14	216	179	263	293	392
1.15	216	179	264	293	393
1.16	220	182	267	299	400
1.17	238	196	279	323	432
1.18	255	209	293	346	464
1.19	259	212	297	352	472
1.20	317	257	354	430	577
1.21	319	258	355	433	580
1.22	344	277	374	465	623
1.23	350	281	378	473	633
1.24	350	281	378	474	633
1.25	352	283	379	476	637
1.26	357	286	381	481	644
1.27	361	290	383	488	652
1.28	362	290	383	488	653
1.29	384	310	394	517	692
1.30	385	311	395	520	695
1.31	417	346	409	562	754
1.32	417	346	409	562	754
1.33	792	679	802	1095	1487
1.34	792	680	802	1096	1490
1.35	841	725	832	1159	1580
1.36	841	726	833	1160	1584
1.37	842	726	833	1161	1586
1.38	842	727	833	1162	1588
1.39	847	733	836	1167	1600
1.40	855	741	839	1177	1619
2.01	2.68	2.01	3.57	3.47	4.34
3.01	4.79	3.65	6.39	6.22	8.00

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
4.01	5.06	3.96	6.63	6.57	8.62
5.01	5.24	4.27	6.45	6.84	8.86
6.01	5.12	4.34	6.68	6.92	9.42
7.01	3.26	2.89	4.04	4.43	6.08
8.01	9.06	8.53	11.9	12.8	18.0
8.02	18.1	16.5	22.8	25.0	34.4
8.03	18.1	16.5	22.9	25.0	34.5
8.04	26.7	24.1	32.2	36.5	49.5
8.05	27.6	24.8	33.1	37.7	51.1
9.01	5.80	5.16	7.19	7.84	10.5
10.01	3.47	3.03	3.59	4.58	6.07
10.02	8.41	7.37	9.02	11.1	14.7
11.01	4.90	4.30	5.37	6.47	8.58
12.01	4.18	3.44	4.01	5.44	6.96
12.02	7.29	5.96	7.06	9.58	12.1
12.03	11.6	9.56	11.5	15.2	19.4
13.01	1.45	1.09	1.39	1.88	2.19
14.01	3.39	2.86	3.42	4.41	5.82
14.02	4.12	3.44	4.19	5.37	7.00
15.01	0.732	0.440	0.647	0.792	0.868
16.01	4.08	3.63	5.29	5.81	8.13
16.02	6.24	5.51	7.66	8.74	12.2
17.01	6.46	5.18	9.14	8.83	12.1
17.02	15.0	12.2	20.1	20.3	27.5
17.03	19.5	15.7	25.6	26.1	35.3
17.04	27.6	22.3	37.1	37.4	50.9
17.05	32.6	26.3	43.0	44.1	59.9
17.06	40.8	32.9	54.1	55.5	75.1
17.07	47.3	37.6	60.8	63.9	85.5
17.08	65.5	51.6	82.7	88.0	117
17.09	67.1	52.8	84.4	90.1	119
17.10	72.2	57.1	90.5	97.1	129
17.11	100	80.8	128	137	184
17.12	102	82.1	130	139	187
17.13	103	82.8	131	140	188
18.01	6.07	4.94	7.89	8.14	10.9
19.01	2.98	2.36	3.84	3.91	5.30
20.01	6.94	5.77	10.1	9.81	13.8
21.01	5.73	4.80	8.14	8.12	11.3
21.02	6.56	5.39	9.21	9.27	12.5
22.01	4.62	3.41	4.79	5.98	7.68
23.01	3.70	2.85	4.91	4.87	6.44
23.02	11.9	9.29	15.3	15.6	20.8
23.03	16.4	12.7	20.5	21.5	28.3

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
23.04	16.6	12.9	20.7	21.9	28.6
24.01	4.78	3.70	6.26	6.28	8.32
25.01	1.71	1.21	2.15	2.28	2.69
26.01	4.95	4.16	6.01	6.80	9.36
26.02	5.03	4.22	6.11	6.91	9.47
27.01	6.51	5.17	8.99	8.71	11.6
27.02	14.2	11.5	19.5	19.3	25.7
27.03	23.9	19.7	32.6	33.4	45.5
28.01	1.46	0.961	2.08	1.87	2.15
28.02	1.96	1.31	2.78	2.53	2.93
29.01	5.53	4.66	7.18	7.49	10.2
30.01	1.71	1.27	1.64	2.23	2.87
31.01	1.23	0.913	1.05	1.60	2.11
32.01	6.66	5.98	6.27	9.20	12.7
33.01	3.24	2.77	2.63	4.37	5.98
34.01	4.85	4.30	3.84	6.45	8.67
34.02	12.4	10.1	8.70	16.2	20.9
34.03	12.5	10.3	8.86	16.4	21.2
35.01	3.30	2.58	3.23	4.44	6.07
35.02	6.80	5.38	6.73	9.62	13.4
35.03	9.39	7.23	8.74	13.1	17.9
35.04	9.53	7.33	8.87	13.3	18.1
35.05	15.1	11.3	13.3	20.7	28.4
36.01	0.421	0.288	0.312	0.572	0.673
37.01	2.84	2.05	2.41	3.77	5.19
38.01	2.86	2.05	2.53	3.89	5.44
38.02	3.61	2.50	3.08	4.89	6.60
39.01	3.86	3.21	4.65	5.20	7.02
39.02	8.44	6.67	9.87	11.3	14.4
39.03	12.5	9.76	14.3	16.6	20.9
39.04	24.5	20.3	26.4	33.0	42.9
39.05	31.1	24.9	31.8	41.7	54.6
39.06	57.1	44.4	57.0	76.6	101
40.01	2.34	1.65	2.68	2.98	3.50
41.01	2.93	2.13	3.18	3.77	4.42
42.01	5.71	4.99	5.83	7.57	10.1
43.01	1.89	1.34	1.60	2.43	3.10
44.01	6.31	4.97	6.42	8.26	10.8
44.02	15.8	12.1	15.9	21.1	27.6
44.03	23.9	18.1	23.7	32.2	42.8
45.01	4.22	3.06	4.19	5.49	6.90
46.01	5.62	4.35	5.76	7.87	10.9
47.01	5.36	4.74	4.67	6.97	9.09
47.02	7.53	6.57	6.44	9.77	12.6

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
47.03	8.15	7.08	7.08	10.7	13.6
47.04	16.7	14.0	14.3	22.3	28.7
47.05	21.5	17.3	17.7	28.7	36.9
48.01	2.08	1.76	1.64	2.66	3.41
49.01	2.99	2.43	2.62	3.85	4.91
49.02	3.40	2.75	3.02	4.44	5.55
49.03	3.43	2.78	3.07	4.50	5.62
50.01	0.735	0.438	0.534	0.767	0.835
51.01	2.00	1.39	1.29	2.57	3.25
52.01	0.907	0.604	0.592	1.20	1.41
52.02	2.16	1.43	1.37	2.85	3.57
53.01	3.04	1.84	1.98	4.02	5.42
54.01	1.21	0.838	0.711	1.56	2.04
54.02	1.77	1.22	1.05	2.35	2.94
54.03	1.99	1.39	1.21	2.68	3.29
55.01	1.49	0.961	0.808	1.96	2.42
56.01	2.06	1.40	1.11	2.69	3.32
56.02	3.44	2.44	1.81	4.48	5.64
56.03	4.05	2.92	2.10	5.28	6.67
57.01	1.78	1.30	0.945	2.33	2.86
57.02	4.25	3.74	2.30	5.87	7.95
58.01	3.19	2.62	2.00	4.17	5.58
58.02	4.69	3.88	2.85	6.13	8.16
58.03	6.84	5.68	3.99	8.97	11.8
58.04	11.6	9.21	6.65	15.3	19.8
58.05	12.5	10.1	7.10	16.6	21.6
58.06	18.1	15.5	9.87	24.3	31.5
58.07	20.6	18.3	11.0	27.7	36.2
59.01	1.47	1.20	0.768	1.91	2.43
60.01	1.36	0.971	0.847	1.81	2.19
60.02	1.75	1.24	1.07	2.34	2.81
60.03	3.84	2.85	2.26	5.08	6.42
61.01	1.11	0.841	0.634	1.44	1.86
62.01	0.257	0.193	0.161	0.343	0.404
63.01	0.0344	0.0160	0.0156	0.0282	0.0296
64.01	0.751	0.615	0.363	1.01	1.20
64.02	4.18	3.73	2.07	5.63	6.90
65.01	0.428	0.340	0.227	0.582	0.683
66.01	0.631	0.465	0.272	0.733	0.819
66.02	1.93	1.80	0.957	2.61	3.24
67.01	0.167	0.0865	0.0683	0.129	0.134
68.01	0.265	0.142	0.109	0.211	0.220
69.01	0.264	0.145	0.110	0.208	0.217
69.02	0.441	0.253	0.181	0.369	0.385

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
70.01	0.189	0.108	0.0748	0.156	0.164
71.01	0.213	0.123	0.0864	0.172	0.180
72.01	0.250	0.141	0.101	0.200	0.208
73.01	0.186	0.0985	0.0695	0.145	0.151
74.01	1.04	1.02	0.458	1.35	1.69
75.01	0.944	0.795	0.247	0.984	2.11
75.02	1.13	0.958	0.292	1.19	2.51
76.01	0.733	0.728	0.308	0.968	1.18
76.02	0.804	0.804	0.339	1.10	1.36
77.01	1.77	1.47	0.905	2.30	2.87
77.02	3.93	3.40	1.96	5.10	6.33
77.03	7.42	7.24	3.57	9.78	12.6
77.04	8.34	8.17	3.93	11.0	14.1
77.05	8.92	8.80	4.16	11.8	15.0
77.06	9.05	8.95	4.21	11.9	15.2
77.07	17.8	18.3	8.07	24.1	29.9
77.08	18.3	18.9	8.27	24.8	30.9
77.09	18.4	19.1	8.34	25.0	31.1
77.10	18.8	19.5	8.47	25.6	31.7
77.11	21.5	22.7	9.60	29.4	36.4
77.12	24.0	25.7	10.7	33.0	41.2
77.13	29.0	31.8	13.1	40.3	51.4
78.01	1.66	1.60	0.755	2.16	2.75
78.02	4.14	4.17	1.79	5.75	7.32
79.01	1.10	0.999	0.500	1.47	1.75
80.01	0.531	0.483	0.209	0.660	0.755
81.01	1.11	1.19	0.439	1.44	1.79
81.02	1.22	1.32	0.487	1.61	1.97
81.03	2.43	2.66	1.000	3.29	3.91
81.04	4.89	4.89	1.97	6.10	6.99
82.01	0.331	0.245	0.126	0.319	0.343
82.02	1.07	1.10	0.419	1.36	1.59
82.03	1.24	1.26	0.480	1.57	1.82
83.01	0.773	0.797	0.308	0.977	1.12
83.02	1.75	1.56	0.677	1.95	2.16
83.03	1.98	1.73	0.753	2.17	2.41
84.01	0.199	0.143	0.0737	0.178	0.187
84.02	0.706	0.527	0.284	0.675	0.715
85.01	0.356	0.287	0.152	0.366	0.392
86.01	0.0635	0.0414	0.0257	0.0505	0.0525
87.01	0.301	0.215	0.115	0.270	0.285
87.02	0.581	0.398	0.202	0.507	0.532
88.01	0.134	0.0838	0.0404	0.108	0.112
89.01	0.154	0.130	0.0558	0.165	0.180

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
90.01	0.105	0.0830	0.0414	0.106	0.113
91.01	0.275	0.253	0.124	0.303	0.340
92.01	0.400	0.450	0.160	0.526	0.668
92.02	1.60	1.90	0.656	2.11	2.74
92.03	1.70	2.02	0.727	2.25	2.89
92.04	2.48	2.93	1.21	3.35	4.09
93.01	0.160	0.132	0.0496	0.170	0.185
94.01	0.209	0.149	0.0779	0.184	0.193
95.01	0.259	0.184	0.0990	0.229	0.240
96.01	0.116	0.0775	0.0438	0.0961	0.101
97.01	0.127	0.0854	0.0487	0.106	0.111
98.01	0.284	0.260	0.114	0.322	0.359
99.01	1.36	1.71	0.593	1.85	2.52
99.02	1.87	2.29	0.881	2.56	3.28
100.01	0.0607	0.0422	0.0244	0.0556	0.0586
101.01	0.0506	0.0321	0.0201	0.0404	0.0423
102.01	0.0781	0.0561	0.0316	0.0716	0.0753
103.01	0.0542	0.0351	0.0231	0.0430	0.0447
104.01	0.165	0.107	0.0623	0.141	0.148
104.02	0.424	0.288	0.163	0.375	0.394
105.01	0.0417	0.0258	0.0172	0.0319	0.0331
106.01	2.54	3.29	1.31	3.88	5.84
106.02	4.01	4.78	1.98	5.81	8.28
107.01	1.39	1.47	0.636	1.81	2.35
108.01	0.902	1.13	0.410	1.23	1.69
108.02	0.927	1.16	0.422	1.27	1.75
109.01	1.94	1.99	0.893	2.51	3.23
110.01	1.14	1.10	0.529	1.48	1.83
111.01	0.712	0.476	0.287	0.695	0.749
112.01	0.552	0.357	0.227	0.534	0.571
113.01	0.281	0.170	0.131	0.255	0.270
114.01	5.92	4.89	7.87	8.02	10.8
114.02	9.03	7.31	11.9	12.1	16.1
114.03	17.1	14.1	22.5	23.1	31.2
114.04	28.6	23.6	38.4	40.2	55.7
114.05	37.0	30.9	50.6	52.7	74.0
114.06	88.0	73.1	112	121	165
114.07	95.6	80.1	120	132	179
114.08	104	87.6	129	143	195
114.09	107	90.0	132	147	200
114.10	113	95.6	138	155	211
114.11	122	103	147	167	225
114.12	124	105	148	170	229
114.13	141	120	165	194	262

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
114.14	147	126	171	203	275
114.15	148	127	171	204	276
114.16	314	265	351	430	581
114.17	337	285	369	460	622
114.18	343	290	373	468	634
114.19	346	293	376	472	639
114.20	350	297	378	477	647
114.21	376	323	400	517	702
114.22	381	327	403	523	710
114.23	382	328	404	525	712
114.24	386	332	406	530	719
114.25	392	338	409	539	731
115.01	2.76	2.17	3.48	3.60	4.80
116.01	5.11	4.18	6.78	6.89	9.35
117.01	3.83	3.08	4.37	5.02	6.58
118.01	8.25	7.36	12.1	12.4	18.2
119.01	9.69	8.25	12.5	13.4	18.7
119.02	15.4	12.9	18.8	20.9	28.4
119.03	42.3	34.3	51.3	56.2	74.7
119.04	49.1	40.1	58.7	65.2	86.7
120.01	3.93	3.24	4.43	5.21	6.90
121.01	5.61	4.29	6.71	7.29	9.46
121.02	14.5	11.3	17.5	18.9	24.7
121.03	18.9	14.7	22.6	24.6	32.0
121.04	25.0	19.7	30.1	32.7	42.8
122.01	6.69	5.28	8.24	8.77	11.5
123.01	3.47	2.69	4.07	4.49	5.83
124.01	4.99	4.19	6.28	6.71	9.10
125.01	4.22	3.47	4.52	5.51	7.22
126.01	7.29	6.75	8.23	10.0	13.9
127.01	5.11	4.37	5.28	6.67	8.81
128.01	4.38	3.94	4.23	5.77	7.60
129.01	3.58	3.11	3.29	4.64	6.02
129.02	6.78	5.80	6.33	8.93	11.1
129.03	8.76	7.45	8.04	11.5	14.3
130.01	2.21	1.87	2.01	2.88	3.56
131.01	1.64	1.25	1.66	2.14	2.50
131.02	6.96	6.37	7.36	9.76	13.1
131.03	10.6	9.79	10.7	14.8	20.0
132.01	2.88	2.34	2.17	3.69	4.71
133.01	8.17	5.99	9.85	10.6	13.9
133.02	17.6	13.0	20.9	22.8	29.7
133.03	28.3	21.3	34.3	37.2	49.4
133.04	32.2	24.2	38.8	42.3	55.7

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
133.05	40.5	30.9	48.2	53.3	70.2
133.06	40.7	31.1	48.5	53.6	70.5
133.07	71.8	56.5	88.4	98.1	132
133.08	72.5	57.0	89.1	98.9	133
133.09	87.3	69.2	105	119	159
133.10	96.4	76.9	114	131	175
133.11	110	88.6	128	150	202
133.12	152	125	167	207	277
133.13	161	133	175	220	295
133.14	164	136	177	224	300
134.01	6.15	4.59	7.31	8.01	10.3
135.01	7.50	5.77	9.60	10.2	14.0
136.01	2.86	2.10	3.24	3.69	4.65
137.01	3.49	2.67	3.84	4.51	5.81
138.01	11.5	9.07	16.5	17.0	24.6
138.02	14.4	11.5	20.1	21.1	30.4
138.03	25.8	20.7	33.7	36.8	51.4
139.01	5.30	4.30	6.12	7.11	9.61
139.02	10.1	8.44	12.3	14.2	19.2
140.01	0.802	0.406	0.741	0.770	0.828
141.01	7.99	6.53	8.51	10.4	13.6
141.02	9.52	7.72	10.0	12.4	16.1
142.01	1.06	0.778	1.09	1.36	1.58
143.01	6.30	5.13	6.25	8.20	10.5
144.01	5.92	4.93	5.68	7.76	10.1
145.01	4.34	3.50	4.11	5.65	7.36
145.02	11.9	10.2	11.6	15.9	21.3
145.03	18.6	15.8	17.5	24.7	32.9
145.04	35.9	30.8	32.6	48.1	63.7
145.05	36.0	30.9	32.7	48.3	63.9
145.06	42.0	35.7	37.6	56.1	73.6
146.01	5.62	5.02	5.72	7.75	10.6
147.01	3.33	2.65	2.87	4.29	5.49
148.01	8.18	7.39	7.33	11.2	15.4
148.02	12.7	11.1	11.3	17.2	22.9
148.03	17.1	14.9	15.0	23.0	30.4
149.01	3.73	3.13	3.19	4.88	6.39
150.01	3.68	3.20	3.00	4.88	6.48
151.01	3.23	2.66	2.59	4.16	5.41
152.01	1.33	1.05	1.20	1.78	2.09
153.01	4.28	3.70	3.62	5.60	7.32
154.01	1.78	1.44	1.41	2.32	2.88
154.02	2.30	1.87	1.93	3.10	3.72
155.01	6.30	5.97	5.68	9.09	12.9

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
155.02	6.39	6.05	5.78	9.23	13.1
155.03	10.9	9.98	9.49	15.3	21.0
155.04	11.4	10.4	9.91	16.0	21.7
155.05	18.4	16.5	15.3	25.3	34.1
155.06	21.8	19.5	17.9	29.7	39.9
156.01	3.68	3.30	3.02	4.95	6.68
156.02	3.84	3.44	3.17	5.19	6.93
157.01	2.74	2.46	2.14	3.61	4.92
158.01	1.48	1.26	1.09	1.93	2.51
159.01	1.44	1.18	1.05	1.87	2.36
160.01	2.89	2.58	2.17	3.77	5.08
160.02	3.11	2.76	2.35	4.08	5.43
161.01	5.54	5.33	4.38	7.73	10.7
162.01	0.682	0.391	0.428	0.675	0.728
162.02	3.44	3.29	2.65	4.77	6.39
162.03	3.51	3.35	2.70	4.86	6.49
163.01	0.807	0.614	0.692	0.997	1.13
163.02	2.19	1.86	1.90	2.94	3.55
163.03	6.56	5.97	5.46	9.02	11.9
163.04	9.87	9.05	8.00	13.6	18.3
163.05	21.1	19.6	17.1	30.2	42.0
163.06	21.9	20.4	17.7	31.4	43.8
164.01	7.09	6.65	6.08	10.5	15.3
165.01	3.53	3.44	2.79	5.14	7.25
165.02	4.18	3.98	3.22	6.01	8.29
166.01	1.16	0.988	0.725	1.50	1.88
166.02	2.43	2.19	1.49	3.15	4.10
166.03	4.15	4.01	2.54	5.52	7.40
167.01	0.898	0.729	0.544	1.19	1.40
167.02	1.69	1.40	1.02	2.26	2.66
168.01	2.43	2.12	1.36	3.13	4.09
168.02	2.45	2.13	1.37	3.16	4.12
169.01	4.30	4.19	2.25	5.72	7.62
169.02	4.94	4.77	2.58	6.59	8.61
170.01	0.793	0.650	0.429	0.979	1.11
171.01	0.834	0.744	0.495	1.10	1.34
172.01	0.594	0.462	0.303	0.710	0.797
173.01	1.06	0.820	0.754	1.36	1.58
173.02	7.80	6.98	5.67	10.5	13.5
173.03	15.2	13.9	10.9	20.4	26.6
173.04	16.5	15.3	11.8	22.3	29.2
173.05	21.4	20.2	15.2	29.1	38.9
173.06	27.5	26.8	18.9	37.5	51.3
173.07	50.0	47.0	33.8	66.9	89.9

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
174.01	0.929	0.637	0.641	1.09	1.22
175.01	0.652	0.512	0.468	0.854	1.00
176.01	0.693	0.458	0.465	0.779	0.863
176.02	3.14	2.72	2.22	4.11	5.22
177.01	2.27	2.35	1.67	3.27	5.12
178.01	1.72	1.72	1.17	2.32	3.13
179.01	0.314	0.285	0.193	0.407	0.520
180.01	2.28	2.62	1.59	3.41	5.08
180.02	2.62	2.86	1.83	3.77	5.57
181.01	1.79	1.89	1.03	2.39	3.22
182.01	0.337	0.229	0.173	0.350	0.379
183.01	2.61	2.15	1.92	3.47	4.17
183.02	5.03	4.27	3.55	6.58	8.28
183.03	8.95	7.82	6.30	11.7	15.0
183.04	14.1	12.7	9.98	18.7	24.1
183.05	14.7	13.2	10.3	19.5	25.1
183.06	22.4	20.2	14.9	29.1	38.2
184.01	0.575	0.381	0.377	0.652	0.720
184.02	3.03	2.74	2.14	4.00	5.21
185.01	0.803	0.467	0.516	0.804	0.866
185.02	2.53	2.23	1.84	3.39	4.21
186.01	1.16	0.997	0.714	1.52	1.85
187.01	1.44	1.29	0.928	1.87	2.40
187.02	2.73	2.49	1.75	3.55	4.60
188.01	0.528	0.379	0.299	0.603	0.667
189.01	0.597	0.394	0.331	0.636	0.692
190.01	0.427	0.265	0.237	0.424	0.454
191.01	0.882	0.776	0.561	1.17	1.41
192.01	1.40	0.927	0.644	1.38	1.49
193.01	1.24	0.768	0.586	1.16	1.24
194.01	0.239	0.133	0.110	0.196	0.207
195.01	0.435	0.273	0.195	0.406	0.431
196.01	0.490	0.304	0.226	0.462	0.492
197.01	0.411	0.251	0.217	0.371	0.390
198.01	0.584	0.365	0.251	0.543	0.576
199.01	0.940	0.838	0.502	1.20	1.39
199.02	1.32	1.13	0.698	1.63	1.86
200.01	0.249	0.143	0.115	0.209	0.220
201.01	0.550	0.342	0.236	0.506	0.535
202.01	3.09	3.58	1.99	4.45	6.36
203.01	0.772	0.497	0.323	0.723	0.773
204.01	0.569	0.338	0.241	0.497	0.522
205.01	0.690	0.427	0.303	0.630	0.666
206.01	0.195	0.111	0.0954	0.158	0.165

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
207.01	0.675	0.404	0.333	0.581	0.607
208.01	0.759	0.625	0.335	0.878	0.979
208.02	1.07	0.856	0.530	1.20	1.33
208.03	1.93	1.64	0.942	2.24	2.53
208.04	3.50	3.70	1.81	4.70	5.72
208.05	4.23	4.79	2.21	5.93	7.46
208.06	5.44	5.95	2.62	7.45	9.82
209.01	0.188	0.107	0.0858	0.149	0.156
210.01	0.317	0.213	0.151	0.297	0.314
211.01	0.333	0.214	0.166	0.308	0.325
211.02	0.397	0.251	0.196	0.361	0.380
211.03	1.10	0.943	0.609	1.27	1.44
212.01	0.180	0.102	0.0884	0.139	0.145
_junc_10	21.5	19.3	17.6	29.3	39.5
_junc_108	0.552	0.423	0.226	0.544	0.578
_junc_11	336	284	368	459	621
_junc_111	2.35	2.57	0.966	3.18	3.79
_junc_114	1.36	1.71	0.593	1.85	2.52
_junc_12	10.9	9.70	7.90	14.6	18.7
_junc_13	101	84.4	126	138	188
_junc_138	7.44	6.49	6.31	9.63	12.5
_junc_14	85.4	70.6	109	118	160
_junc_142	5.79	4.97	5.30	7.52	9.57
_junc_143	163	135	177	223	298
_junc_15	312	262	349	426	576
_junc_16	342	290	373	467	633
_junc_165	24.9	26.8	11.1	34.3	42.9
_junc_168	23.3	24.8	10.4	31.9	39.7
_junc_17	95.3	79.8	120	131	179
_junc_174	16.5	13.7	9.10	22.1	28.4
_junc_18	36.8	30.8	50.5	52.5	73.8
_junc_181	0.105	0.0672	0.0432	0.0834	0.0870
_junc_185	0.116	0.0775	0.0438	0.0961	0.101
_junc_186	0.336	0.234	0.127	0.290	0.304
_junc_187	1.84	2.20	0.826	2.46	3.11
_junc_19	135	115	159	185	249
_junc_193	8.06	7.01	5.69	10.6	13.5
_junc_194	11.5	10.0	8.14	15.1	19.2
_junc_199	13.5	10.5	17.4	17.9	23.5
_junc_2	156	129	170	213	285
_junc_20	111	93.8	136	153	207
_junc_204	6.16	5.09	3.61	8.04	10.6
_junc_21	122	103	146	167	225
_junc_22	349	296	378	477	646

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
_junc_228	0.577	0.352	0.285	0.500	0.525
_junc_23	354	301	382	483	655
_junc_231	144	123	167	198	267
_junc_232	18.6	15.4	15.6	24.8	31.9
_junc_233	26.4	21.6	28.0	35.4	46.0
_junc_234	347	279	376	469	628
_junc_24	21.0	17.2	26.8	28.1	37.8
_junc_25	17.0	15.5	14.1	24.1	33.4
_junc_26	14.1	11.5	18.6	19.0	25.5
_junc_263	8.48	6.55	11.2	11.1	14.8
_junc_265	8.33	6.44	11.8	11.2	14.5
_junc_27	8.68	7.06	11.4	11.6	15.6
_junc_28	382	328	404	525	712
_junc_29	380	327	403	522	709
_junc_3	14.1	12.8	12.0	19.6	26.7
_junc_30	384	330	405	528	716
_junc_31	11.6	9.86	10.2	15.2	19.2
_junc_32	390	336	408	536	727
_junc_324	352	282	378	475	636
_junc_328	414	342	408	558	746
_junc_329	23.9	23.1	17.0	32.9	44.4
_junc_33	11.2	8.76	13.0	15.0	18.8
_junc_330	49.8	46.7	33.7	66.6	89.3
_junc_331	840	724	832	1159	1579
_junc_34	18.2	14.7	20.1	24.2	31.0
_junc_35	6.04	4.84	7.32	8.18	10.5
_junc_36	341	275	372	461	617
_junc_37	12.5	10.1	17.0	17.0	22.9
_junc_38	10.5	8.03	10.6	13.8	17.6
_junc_39	382	308	394	515	689
_junc_4	13.6	11.5	16.9	18.6	25.6
_junc_40	18.0	14.6	23.9	24.2	32.8
_junc_41	11.7	9.22	6.65	15.3	19.8
_junc_42	21.5	16.5	21.6	28.9	38.4
_junc_43	55.0	43.1	55.4	73.9	97.4
_junc_44	356	286	381	481	643
_junc_45	315	256	352	427	573
_junc_46	26.4	21.4	35.7	35.9	49.0
_junc_47	361	290	383	487	652
_junc_48	259	212	296	351	471
_junc_49	13.2	13.1	5.97	17.6	22.5
_junc_5	12.3	9.57	15.0	16.1	21.0
_junc_50	39.1	31.7	52.2	53.3	72.4
_junc_51	253	208	292	343	460

Subcatchment ID	Peak Discharge (m^3/s)				
	2016	2012	2011	1985	1971
_junc_52	45.4	36.3	58.8	61.5	82.7
_junc_53	12.4	9.37	11.3	17.0	23.3
_junc_54	63.8	50.4	81.0	85.8	114
_junc_55	72.1	57.0	90.4	97.0	129
_junc_56	232	192	275	315	421
_junc_57	95.4	76.7	123	130	174
_junc_58	219	182	266	298	399
_junc_59	205	170	254	279	372
_junc_6	40.3	32.6	49.0	53.6	71.1
_junc_60	214	177	262	291	389
_junc_61	19.7	16.1	26.6	26.8	35.9
_junc_62	98.3	83.0	118	131	174
_junc_63	87.8	73.9	106	117	154
_junc_64	40.2	32.4	51.9	52.7	68.9
_junc_65	11.4	9.40	11.2	14.9	19.1
_junc_66	74.5	62.9	92.8	99.4	132
_junc_67	44.9	36.4	57.6	59.0	77.4
_junc_68	32.1	25.6	41.7	41.9	54.4
_junc_69	23.9	19.0	31.7	31.4	40.7
_junc_7	46.6	37.8	55.8	61.7	81.9
_junc_70	18.3	14.5	24.3	24.0	31.0
_junc_71	14.9	13.7	19.1	20.7	28.5
_junc_72	26.5	23.8	31.9	36.1	49.1
_junc_73	12.9	10.5	17.0	17.0	22.1
_junc_74	8.38	7.33	8.96	11.1	14.7
_junc_75	24.5	19.7	32.4	35.2	49.4
_junc_76	9.96	8.52	9.83	13.4	17.9
_junc_77	25.1	18.8	30.5	33.0	43.6
_junc_78	31.2	23.4	37.5	40.9	54.0
_junc_79	35.7	26.9	42.6	46.8	61.5
_junc_8	18.0	14.0	21.5	23.3	30.5
_junc_80	14.3	10.6	17.2	18.6	24.2
_junc_81	66.4	51.6	82.0	90.4	122
_junc_82	15.3	12.8	14.5	20.2	26.7
_junc_83	11.9	10.5	10.5	16.0	21.7
_junc_84	82.0	64.6	99.1	111	149
_junc_85	16.4	14.3	14.3	22.0	29.4
_junc_86	102	81.7	120	138	185
_junc_87	35.7	30.6	32.2	47.8	63.3
_junc_88	39.2	33.5	35.3	52.5	69.3
_junc_89	93.6	74.2	111	127	169
_junc_9	23.9	18.9	28.9	31.3	41.0
_junc_90	151	124	165	205	275
_junc_91	10.2	9.44	8.96	14.4	19.9

APPENDIX F

FLOOD FREQUENCY ANALYSIS FOR PAMBULA RIVER AT LOCHIEL GAUGE

F1 Flood Frequency Analysis

Overview

As discussed in the main report, a stream gauge is located on the Pambula River at Lochiel. The gauge provides continuous water level records dating back to 1966. When combined with the rating curve/table for the gauge, this length of record is sufficient to support a Flood Frequency Analysis (FFA).

The following sections outline the FFA that was completed for the Lochiel stream gauge. The FFA was completed in accordance with the 2019 revision of Australian Rainfall and Runoff (ARR2019) (Geoscience Australia, 2019)

Rating Curve

Stream gauges such as the one at Lochiel records flood level information only. To convert the flood level information to flows/discharges (which are required for the FFA), a rating curve is required. The WaterNSW rating curve for the gauge is provided in Figure F1. Figure F1 also shows all "ratings" (i.e., water level and corresponding flow information that was measured at the gauge) that have been captured since the gauge was installed in 1966. The ratings form the basis for the rating curve.

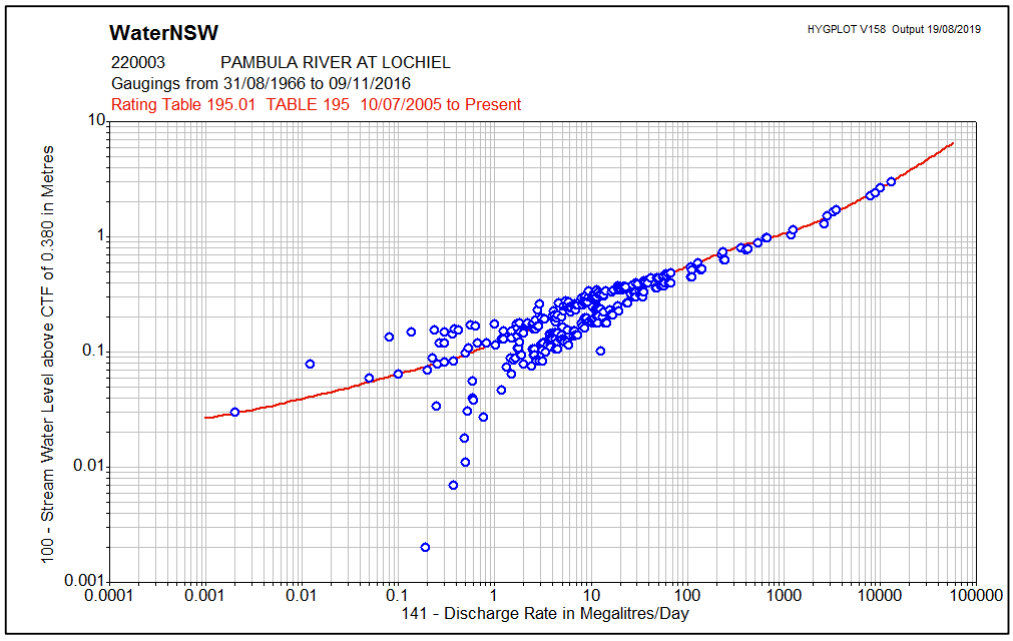


Figure F1 **Rating curve (red) and recorded ratings (blue) for Pambula River at Lochiel stream gauge**

A shown in Figure F1, there is a noticeable "scatter" of ratings around the rating curve, particularly at lower water levels. Therefore, to confirm the reliability of the WaterNSW rating curve before application as part of the FFA, a "synthetic" rating curve was prepared. This was prepared using the TUFLOW model flow and water level results at the Lochiel gauge location.

The resulting synthetic rating curve is shown in Figure F2. The existing waterNSW rating curve is also included in Figure F2.

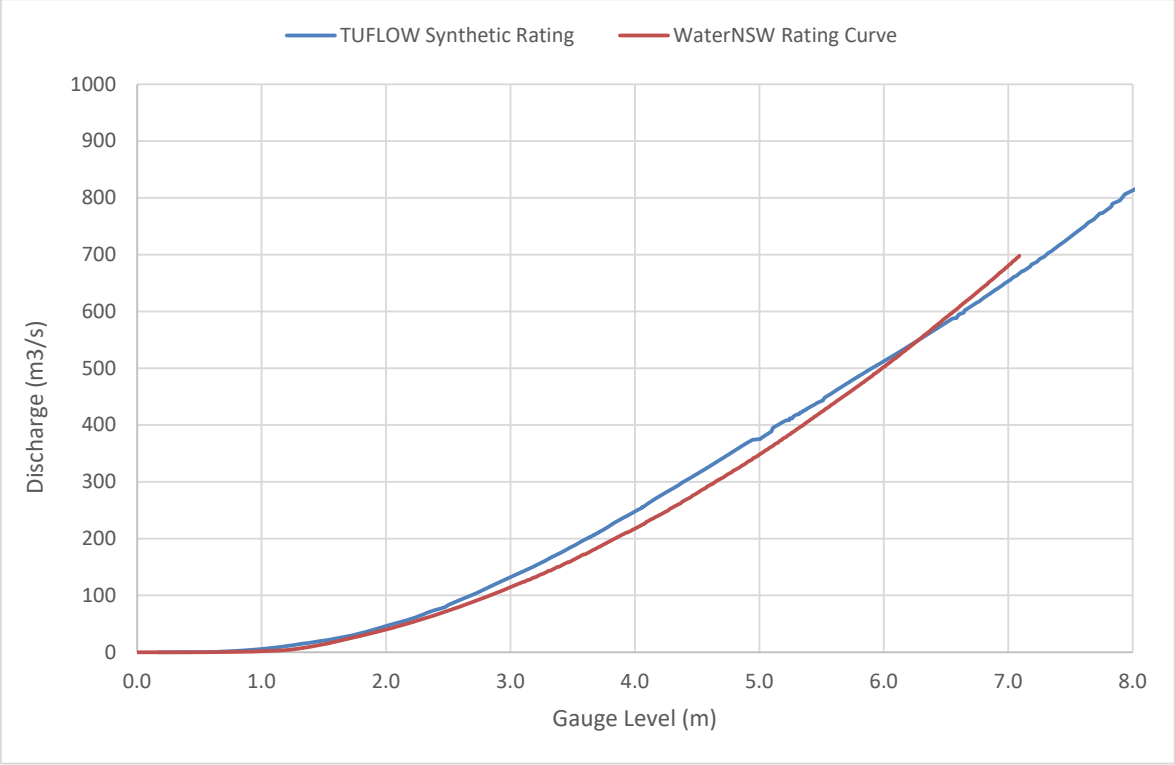


Figure F2 Comparison between WaterNSW rating curve and TUFLOW synthetic rating curve

The comparison in Figure F2 shows a good overall agreement between the two rating curves. The maximum difference in discharge between the two curves for a set gauge level is 30 m^3/s which is negligible when looking at the magnitude of the discharges under consideration as part of the current flood study (i.e., a minimum of ten times larger than the 30 m^3/s difference). As a result, it is considered that the existing WaterNSW rating curve is suitable for application as part of the FFA.

Censoring of Flows

Censoring flows (i.e., removing low flows from the analysis) is typically undertaken as part of a FFA. This is usually done to improve the fit of the observed data to the probability distribution.

As part of this study, the ARR2019 recommended Grubbs-Beck test was used to censor low flows in the peak annual series for the gauge. This removed 27 low flows that fell below approximately 86 m^3/s. The lowest uncensored flow is 109 m^3/s.

Multiple probability distributions were fitted to both the censored and non-censured flows to confirm which dataset provided the best "fit". An example of one such comparison is provided in Figure F3 for the Generalised Extreme Value (GEV) distribution.

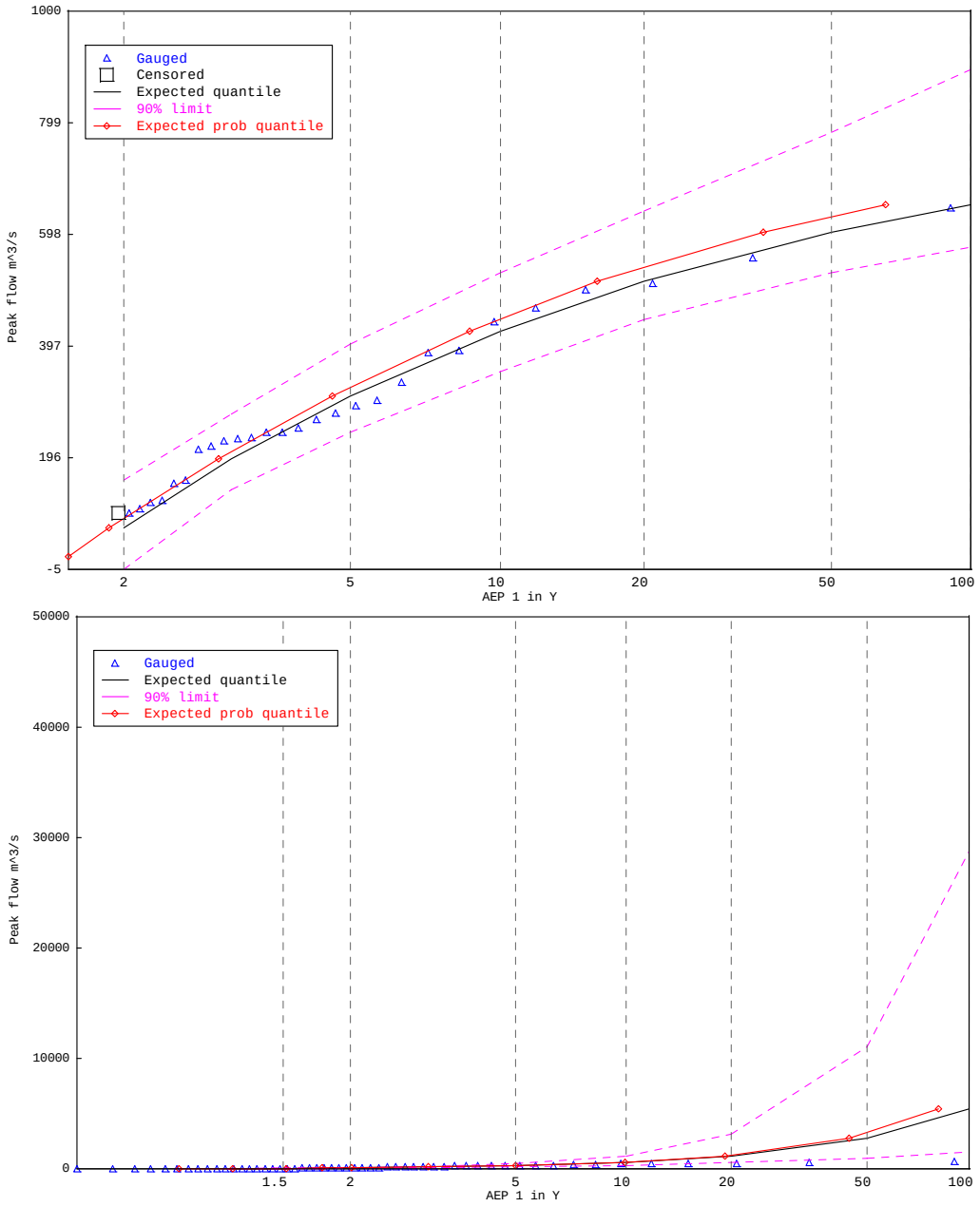


Figure F3 Comparison between censored (top) and uncensored GEV (bottom) probability distributions

Figure F3 shows that the censored flows fit the GEV distribution much better, with all plotting positions for historic floods between the 90% limits in the censored flow distribution. In the uncensored flow distribution, both the low flows and the high flows do not fit the distribution well, and the 90% limits are significantly larger than for the censored flows. As a result, the censored flows only were used for further analysis.

Probability Distribution

A range of probability distributions were tested using the FLIKE software against the recorded data to determine the distribution that provided the best fit. The probability distributions investigated included:

- Gumbel
- Log Normal
- Log Pearson Type III (LP3)
- Generalised Extreme Value (GEV)

Figure F4 to Figure F7 show the probability plots for all of these distributions based upon the censored flow series. A qualitative assessment was undertaken by observing the plotting positions against the expected peak quantile and it was found that LP3 and GEV tended to best fit the data. The Log Normal distribution produced plotting positions that fell outside the 90% limits and is not considered suitable.

Overall, the GEV appears to provide the best overall "fit" to the historic stream gauging information.

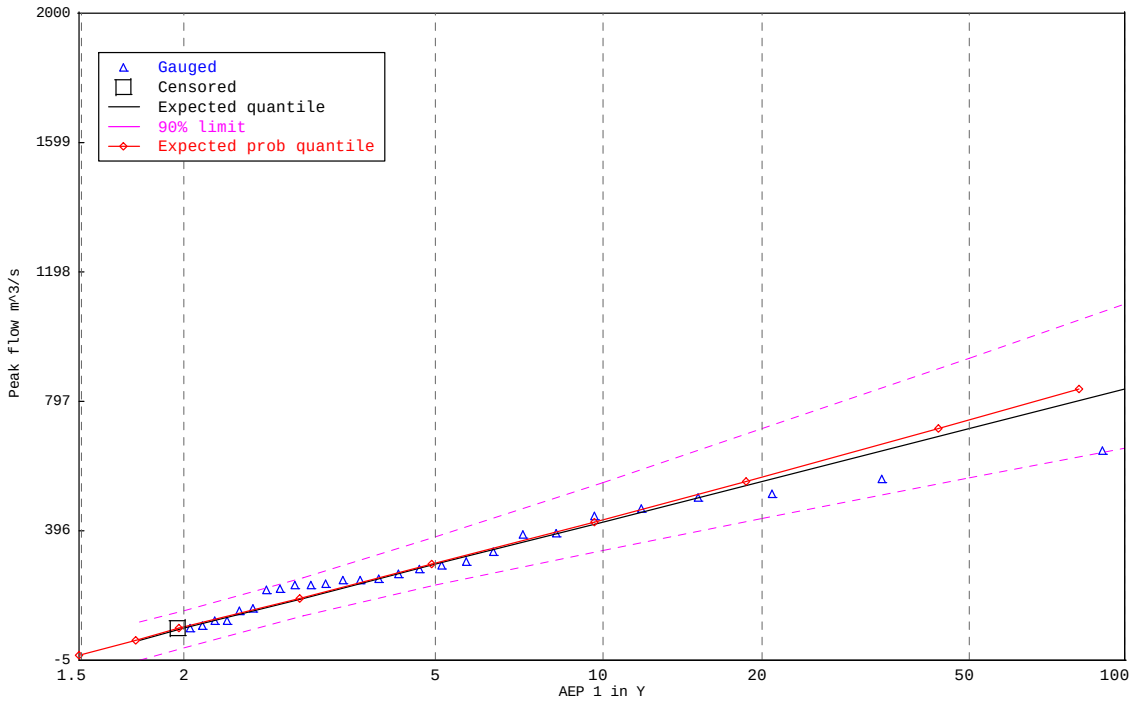


Figure F4 Gumbel Probability Plot (Censored)

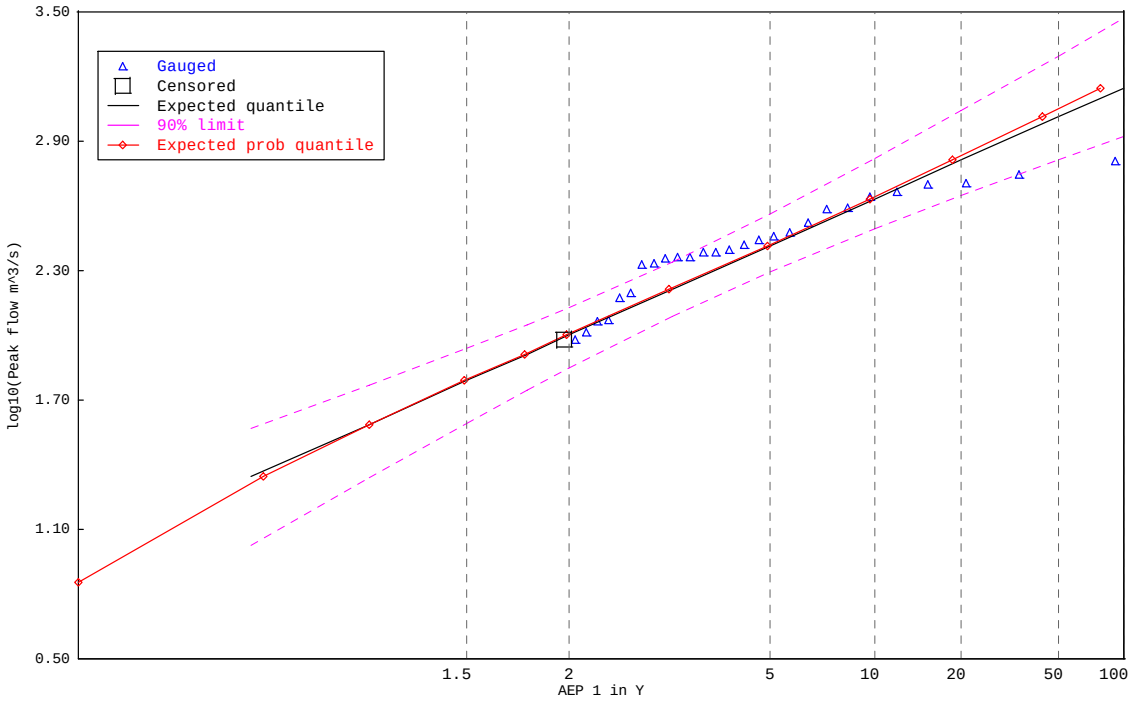


Figure F5 Log Normal Probability Plot (Censored)

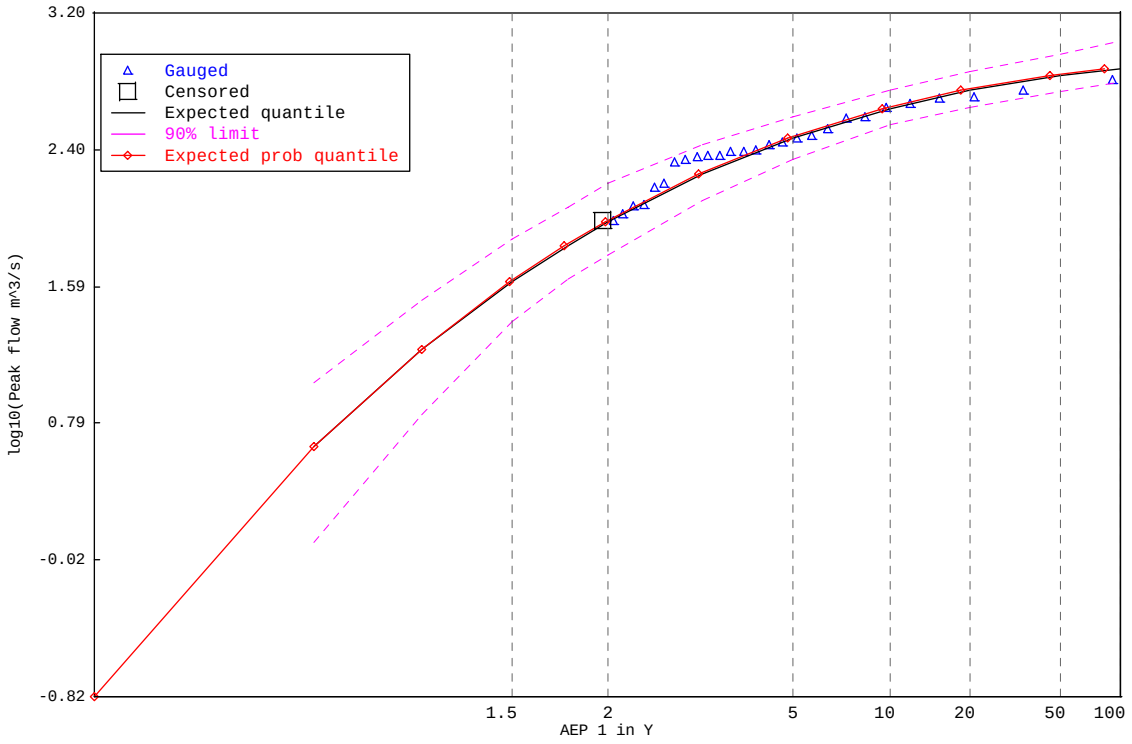


Figure F6 LP3 Probability Plot (Censored)

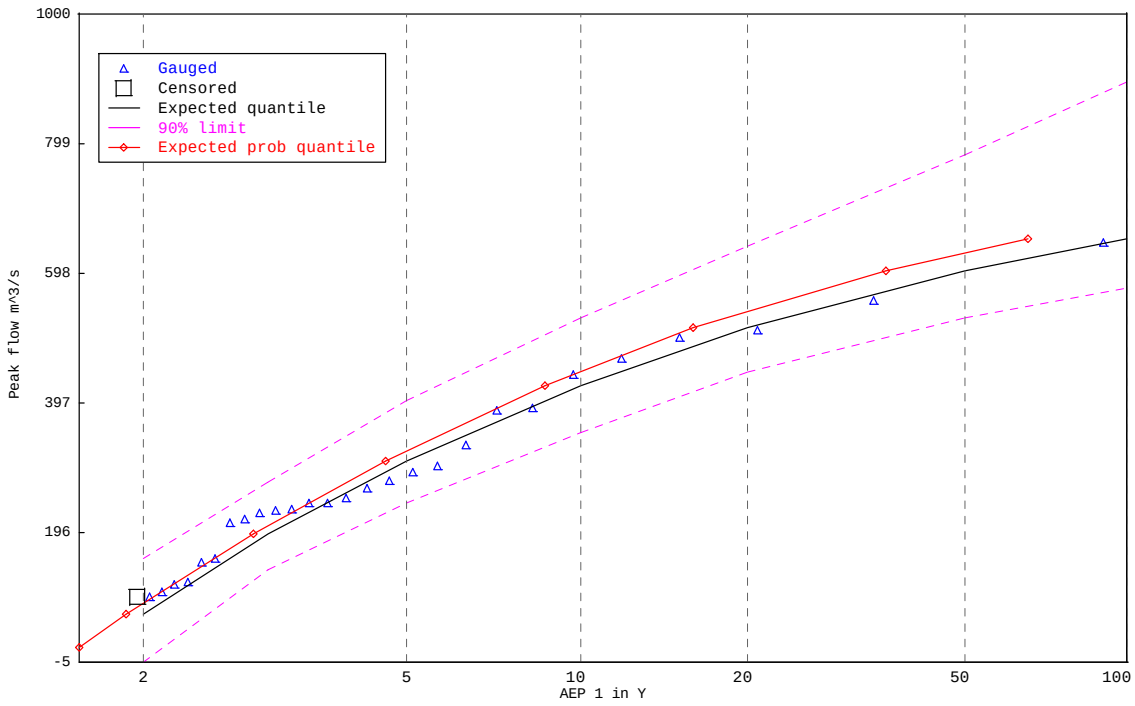


Figure F7 GEV Probability Plot (Censored)

The peak design discharge estimates provided by each probability distribution at the Lochiel gauge is summarised in Table 1. It shows that apart from the log normal distribution, there is a reasonable level of agreements between the three remaining distributions. For events rarer than the 2% AEP flood, the peak discharge estimates start to diverge although there is still a reasonable correlation between the LP3 and GEV which are considered to provide the best overall fits.

Table 1 Flood Frequency Analysis Peak Design Discharge Estimates

AEP	Peak Flow (m^3/s)			
	Gumbel	Log Normal	LP3	GEV
10%	423	429	433	424
5%	549	649	554	513
2%	712	1032	676	601
1%	834	1406	744	652
0.5%	956	1867	796	693
0.2%	1117	2631	844	735

APPENDIX G
DESIGN RAINFALL

Coastal Intensity-Frequency-Duration Data

Duration	Rainfall Depth (mm)						
	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
1 min	3.88	4.60	5.60	6.39	7.49	9.00	-
2 min	6.26	7.34	8.72	9.75	11.4	13.7	-
3 min	8.65	10.2	12.1	13.6	15.9	19.2	-
4 min	10.8	12.7	15.3	17.3	20.2	24.3	-
5 min	12.7	15.0	18.2	20.6	24.1	29.0	-
10 min	19.6	23.3	28.5	32.7	38.3	46.0	-
15 min	24.1	28.6	35.0	40.2	47.2	56.7	75.0
20 min	27.3	32.5	39.7	45.5	53.4	64.1	-
25 min	29.9	35.5	43.4	49.6	58.2	69.9	-
30 min	32.1	38.1	46.4	53.0	62.1	74.6	110
45 min	37.4	44.2	53.5	60.9	71.3	85.7	141
1 hour	41.6	49.2	59.3	67.2	78.6	94.5	173
1.5 hour	48.8	57.4	68.9	77.8	91.1	109	226
2 hour	55.1	64.7	77.5	87.3	102	123	259
3 hour	66.1	77.6	92.9	105	123	147	320
4.5 hour	80.6	94.7	114	128	151	181	-
6 hour	93.4	110	132	150	176	211	413
9 hour	115	136	165	189	221	266	-
12 hour	134	159	194	222	261	313	-
18 hour	163	194	240	277	325	390	-
24 hour	184	222	275	319	374	450	-
30 hour	201	243	303	352	415	500	-
36 hour	214	260	324	379	445	537	-
48 hour	233	284	356	416	485	586	-
72 hour	253	310	390	457	528	636	-
96 hour	263	323	406	476	549	660	-
120 hour	268	331	415	485	561	674	-
144 hour	272	336	420	491	569	683	-
168 hour	276	340	425	496	575	691	-

Central Intensity-Frequency-Duration Data

Duration	Rainfall Depth (mm)						
	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
1 min	3.90	4.62	5.63	6.43	7.55	9.07	-
2 min	6.22	7.31	8.68	9.73	11.3	13.6	-
3 min	8.62	10.1	12.1	13.6	15.9	19.1	-
4 min	10.8	12.7	15.3	17.3	20.3	24.4	-
5 min	12.7	15.1	18.2	20.7	24.2	29.1	-
10 min	19.7	23.5	28.7	32.9	38.7	46.5	-
15 min	24.2	28.8	35.3	40.6	47.6	57.2	101
20 min	27.5	32.7	40.0	45.9	53.9	64.7	-
25 min	30.0	35.7	43.6	50.0	58.6	70.4	-
30 min	32.2	38.2	46.6	53.3	62.5	75.1	148
45 min	37.4	44.2	53.6	61.0	71.5	85.9	188
1 hour	41.5	49.0	59.2	67.1	78.6	94.5	228
1.5 hour	48.5	57.1	68.6	77.5	90.7	109	294
2 hour	54.6	64.2	76.9	86.7	102	122	338
3 hour	65.5	76.9	92.0	104	122	146	412
4.5 hour	79.9	93.9	113	127	149	179	-
6 hour	92.8	109	131	149	175	210	544
9 hour	115	136	165	188	221	265	-
12 hour	134	159	194	222	262	314	-
18 hour	165	197	242	280	329	394	-
24 hour	188	226	280	325	381	458	-
30 hour	206	249	310	361	425	512	-
36 hour	221	267	334	389	458	552	-
48 hour	241	294	368	431	503	607	-
72 hour	264	324	407	477	551	663	-
96 hour	275	338	425	497	574	689	-
120 hour	281	346	434	507	586	703	-
144 hour	284	350	438	512	593	711	-
168 hour	287	353	442	515	597	717	-

Upper NW Intensity-Frequency-Duration Data

Duration	Rainfall Depth (mm)						
	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
1 min	3.93	4.67	5.70	6.52	7.65	9.18	-
2 min	6.21	7.30	8.68	9.74	11.3	13.6	-
3 min	8.62	10.2	12.2	13.7	16.0	19.2	-
4 min	10.8	12.8	15.4	17.5	20.4	24.5	-
5 min	12.8	15.2	18.4	20.9	24.5	29.4	-
10 min	20.0	23.8	29.2	33.5	39.3	47.2	-
15 min	24.5	29.2	35.9	41.3	48.5	58.2	86.0
20 min	27.8	33.1	40.6	46.7	54.8	65.7	-
25 min	30.3	36.1	44.2	50.7	59.5	71.4	-
30 min	32.5	38.7	47.2	54.0	63.4	76.1	125
45 min	37.6	44.5	54.0	61.6	72.1	86.6	159
1 hour	41.6	49.2	59.4	67.5	79.0	94.9	195
1.5 hour	48.4	57.1	68.6	77.5	90.7	109	253
2 hour	54.4	64.0	76.7	86.5	101	122	289
3 hour	65.3	76.6	91.7	103	121	145	358
4.5 hour	79.9	93.7	112	127	149	179	-
6 hour	93.1	109	131	149	175	210	462
9 hour	116	137	166	189	223	267	-
12 hour	137	162	197	225	265	318	-
18 hour	170	203	249	287	337	405	-
24 hour	196	235	291	337	395	475	-
30 hour	217	261	325	378	445	536	-
36 hour	233	283	352	411	483	583	-
48 hour	258	314	393	460	536	647	-
72 hour	285	350	439	514	594	714	-
96 hour	298	367	460	539	621	745	-
120 hour	304	375	470	550	634	761	-
144 hour	307	379	474	554	641	768	-
168 hour	309	381	476	555	643	772	-

Upper SW Intensity-Frequency-Duration Data

Duration	Rainfall Depth (mm)						
	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
1 min	4.06	4.82	5.86	6.70	7.83	9.36	-
2 min	6.34	7.44	8.87	10.0	11.6	13.8	-
3 min	8.8	10.4	12.4	14.0	16.3	19.5	-
4 min	11.1	13.1	15.8	17.9	20.8	24.9	-
5 min	13.2	15.6	18.9	21.4	25.0	29.9	-
10 min	20.6	24.5	30.0	34.4	40.2	48.1	-
15 min	25.3	30.1	36.9	42.4	49.6	59.2	75.0
20 min	28.7	34.1	41.7	47.9	56.0	66.9	-
25 min	31.3	37.2	45.4	52.0	60.8	72.7	-
30 min	33.5	39.7	48.4	55.4	64.7	77.3	110
45 min	38.6	45.7	55.4	63.1	73.6	88.0	141
1 hour	42.7	50.4	60.8	69.1	80.6	96.4	173
1.5 hour	49.6	58.4	70.2	79.4	92.6	111	226
2 hour	55.8	65.5	78.6	88.7	104	124	259
3 hour	66.9	78.5	94.1	106	124	148	320
4.5 hour	82.1	96.3	116	131	153	182	-
6 hour	95.9	113	135	153	180	215	413
9 hour	120	142	172	195	229	274	-
12 hour	142	168	204	233	273	326	-
18 hour	177	210	258	297	348	416	-
24 hour	205	244	301	348	407	486	-
30 hour	226	271	336	390	458	550	-
36 hour	244	293	364	423	496	597	-
48 hour	269	325	405	472	549	661	-
72 hour	297	360	451	526	606	727	-
96 hour	310	377	471	550	633	757	-
120 hour	316	385	481	561	646	773	-
144 hour	319	390	486	566	654	782	-
168 hour	321	392	488	568	658	787	-

GSDM CALCULATION SHEET

LOCATION INFORMATION

Catchment Pambula & Yowaka Rivers Area 301 km^2

State New South Wales Duration Limit 6.0 hrs

Latitude 36.9669^0S Longitude 149.7995^0E

Portion of Area Considered:

Smooth, **S** = 0.00 (0.0 - 1.0) Rough, **R** = 1.00 (0.0 - 1.0)

ELEVATION ADJUSTMENT FACTOR (EAF)

Mean Elevation 202 m

Adjustment for Elevation (-0.05 per 300m above 1500m) 0.00

EAF = **1.00** (0.85 – 1.00)

MOISTURE ADJUSTMENT FACTOR (MAF)

MAF = **0.60** (0.40-1.00)

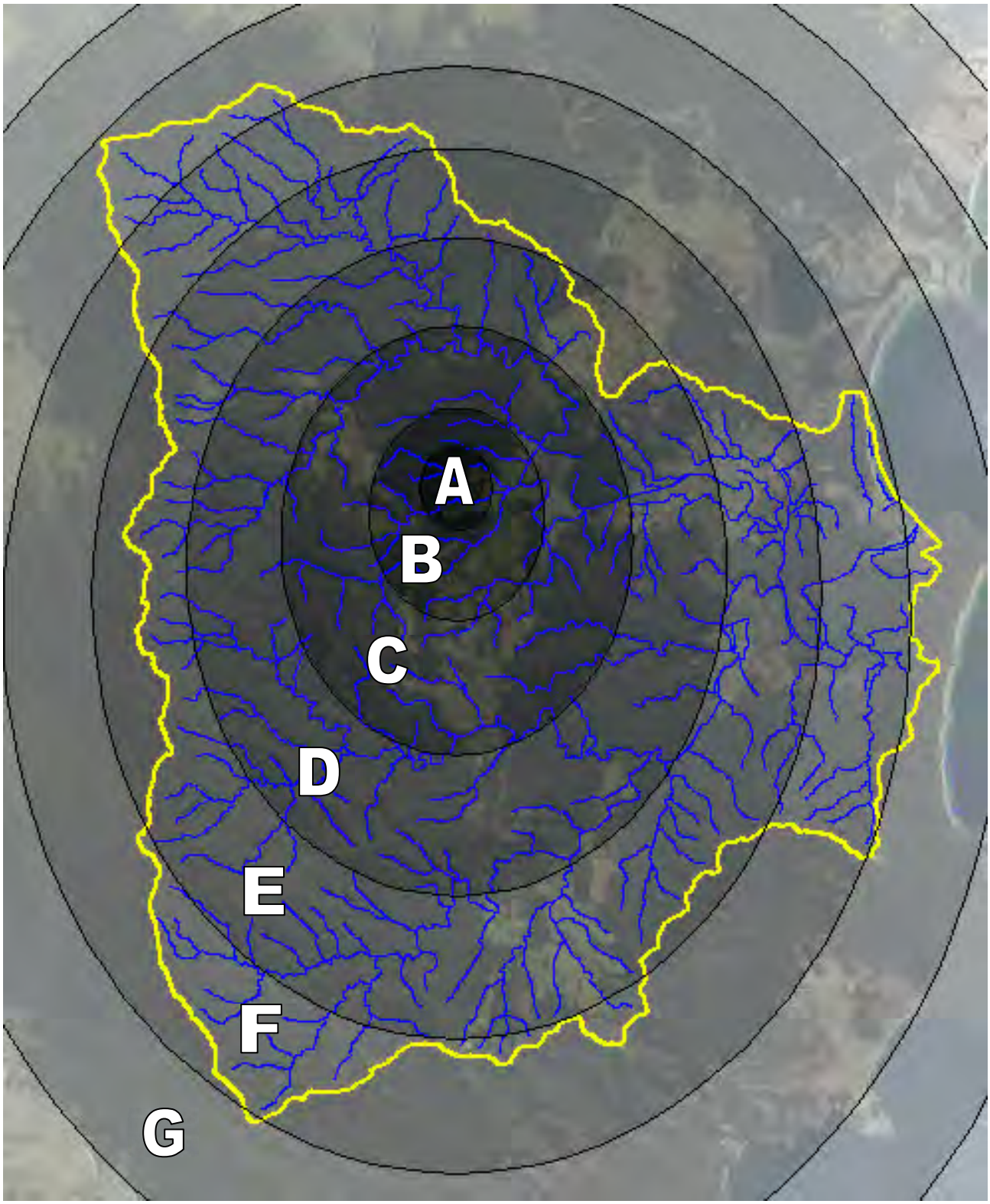
PMP VALUES (mm)

Duration (hours)	Initial Depth -Smooth (D_S)	Initial Depth -Rough (D_R)	PMP Estimate = (D_SxS + D_RxR) x MAF x EAF	Rounded PMP Estimate (nearest 10 mm)
0.25	140	140	84	80
0.50	204	204	123	120
0.75	260	260	156	160
1.00	315	315	189	190
1.50	362	412	247	250
2.00	412	473	284	280
2.50	446	539	323	320
3.00	479	584	350	350
4.00	545	660	396	400
5.00	589	709	426	430
6.00	627	756	454	450

Prepared By David. Tetley Date 07/02/2020

Checked By Chris Ryan Date 11/02/2020

GSDM SPATIAL DISTRIBUTION



GSDM SPATIAL DISTRIBUTION

DURATION = 0.25 Hours							
Ellipse	**Catchment Area Between Ellipse (km^2)**	**Catchment Area Enclosed by Ellipse (km^2)**	**Initial Mean Rainfall Depth (mm)**	**Adjusted Mean Rainfall Depth (mm)**	**Rainfall Volume enclosed by Ellipse ($mm.km^2$)**	**Rainfall Volume between Ellipses ($mm.km^2$)**	**Mean Rainfall Depth between ellipses (mm)**
A	2.58	2.58	232	139	359	359	139
B	13.36	15.94	204	122	1952	1592	119
C	48.92	64.86	177	106	6890	4938	101
D	85.30	150.16	157	94	14187	7297	86
E	96.53	246.69	145	87	21442	7255	75
F	50.51	297.20	140	84	24990	3548	70
G	7.70	304.91	140	84	25540	550	71
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DURATION = 0.50 Hours							
Ellipse	**Catchment Area Between Ellipse (km^2)**	**Catchment Area Enclosed by Ellipse (km^2)**	**Initial Mean Rainfall Depth (mm)**	**Adjusted Mean Rainfall Depth (mm)**	**Rainfall Volume enclosed by Ellipse ($mm.km^2$)**	**Rainfall Volume between Ellipses ($mm.km^2$)**	**Mean Rainfall Depth between ellipses (mm)**
A	2.58	2.58	336	202	520	520	202
B	13.36	15.94	301	181	2880	2359	177
C	48.92	64.86	260	156	10122	7243	148
D	85.30	150.16	231	139	20808	10686	125
E	96.53	246.69	213	128	31458	10650	110
F	50.51	297.20	205	123	36606	5148	102
G	7.70	304.91	204	123	37396	790	103
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GSDM SPATIAL DISTRIBUTION (continued)

DURATION = 0.75 Hours							
Ellipse	**Catchment Area Between Ellipse (km^2)**	**Catchment Area Enclosed by Ellipse (km^2)**	**Initial Mean Rainfall Depth (mm)**	**Adjusted Mean Rainfall Depth (mm)**	**Rainfall Volume enclosed by Ellipse ($mm.km^2$)**	**Rainfall Volume between Ellipses ($mm.km^2$)**	**Mean Rainfall Depth between ellipses (mm)**
A	2.58	2.58	425	255	658	658	255
B	13.36	15.94	383	230	3663	3005	225
C	48.92	64.86	330	198	12846	9183	188
D	85.30	150.16	293	176	26393	13547	159
E	96.53	246.69	270	162	39984	13590	141
F	50.51	297.20	261	157	46617	6633	131
G	7.70	304.91	260	156	47623	1006	131
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DURATION = 1.0 Hours							
Ellipse	**Catchment Area Between Ellipse (km^2)**	**Catchment Area Enclosed by Ellipse (km^2)**	**Initial Mean Rainfall Depth (mm)**	**Adjusted Mean Rainfall Depth (mm)**	**Rainfall Volume enclosed by Ellipse ($mm.km^2$)**	**Rainfall Volume between Ellipses ($mm.km^2$)**	**Mean Rainfall Depth between ellipses (mm)**
A	2.58	2.58	493	296	764	764	296
B	13.36	15.94	449	269	4295	3532	264
C	48.92	64.86	397	238	15452	11157	228
D	85.30	150.16	356	214	32068	16616	195
E	96.53	246.69	329	198	48746	16677	173
F	50.51	297.20	317	190	56475	7729	153
G	7.70	304.91	315	189	57649	1174	152
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GSDM SPATIAL DISTRIBUTION (continued)

DURATION = 1.5 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	636	382	985	985	382
B	13.36	15.94	575	345	5500	4515	338
C	48.92	64.86	511	307	19889	14389	294
D	85.30	150.16	460	276	41482	21592	253
E	96.53	246.69	427	256	63271	21789	226
F	50.51	297.20	414	248	73772	10501	208
G	7.70	304.91	412	247	75367	1596	207
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DURATION = 2.0 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	744	447	1152	1152	447
B	13.36	15.94	672	403	6428	5276	395
C	48.92	64.86	590	354	22965	16537	338
D	85.30	150.16	529	317	47652	24687	289
E	96.53	246.69	491	294	72616	24963	259
F	50.51	297.20	475	285	84674	12059	239
G	7.70	304.91	473	284	86527	1852	241
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GSDM SPATIAL DISTRIBUTION (continued)

DURATION = 2.5 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	821	493	1272	1272	493
B	13.36	15.94	742	445	7097	5826	436
C	48.92	64.86	663	398	25806	18708	382
D	85.30	150.16	600	360	54048	28243	331
E	96.53	246.69	558	335	82631	28583	296
F	50.51	297.20	541	325	96444	13812	273
G	7.70	304.91	539	323	98556	2113	274
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DURATION = 3.0 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	901	541	1396	1396	541
B	13.36	15.94	810	486	7748	6353	476
C	48.92	64.86	717	430	27908	20160	412
D	85.30	150.16	649	389	58462	30554	358
E	96.53	246.69	604	362	89381	30918	320
F	50.51	297.20	586	351	104443	15063	298
G	7.70	304.91	584	350	106762	2319	301
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GSDM SPATIAL DISTRIBUTION (continued)

DURATION = 4.0 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	1030	618	1595	1595	618
B	13.36	15.94	926	556	8858	7263	544
C	48.92	64.86	811	487	31568	22710	464
D	85.30	150.16	730	438	65804	34235	401
E	96.53	246.69	683	410	101074	35270	365
F	50.51	297.20	663	398	118224	17150	340
G	7.70	304.91	660	396	120831	2607	338
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DURATION = 5.0 Hours

Ellipse	Catchment Area Between Ellipse (km^2)	Catchment Area Enclosed by Ellipse (km^2)	Initial Mean Rainfall Depth (mm)	Adjusted Mean Rainfall Depth (mm)	Rainfall Volume enclosed by Ellipse ($mm.km^2$)	Rainfall Volume between Ellipses ($mm.km^2$)	Mean Rainfall Depth between ellipses (mm)
A	2.58	2.58	1135	681	1758	1758	681
B	13.36	15.94	1018	611	9738	7980	597
C	48.92	64.86	890	534	34642	24904	509
D	85.30	150.16	797	478	71793	37151	436
E	96.53	246.69	737	442	109126	37333	387
F	50.51	297.20	712	427	127012	17886	354
G	7.70	304.91	709	426	129750	2738	356
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GSDM SPATIAL DISTRIBUTION (continued)

DURATION = 6.0 Hours							
Ellipse	**Catchment Area Between Ellipse (km^2)**	**Catchment Area Enclosed by Ellipse (km^2)**	**Initial Mean Rainfall Depth (mm)**	**Adjusted Mean Rainfall Depth (mm)**	**Rainfall Volume enclosed by Ellipse ($mm.km^2$)**	**Rainfall Volume between Ellipses ($mm.km^2$)**	**Mean Rainfall Depth between ellipses (mm)**
A	2.58	2.58	1200	720	1859	1859	720
B	13.36	15.94	1084	651	10369	8511	637
C	48.92	64.86	950	570	36979	26610	544
D	85.30	150.16	848	509	76387	39407	462
E	96.53	246.69	785	471	116240	39853	413
F	50.51	297.20	759	456	135393	19153	379
G	7.70	304.91	756	454	138330	2938	381
H	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX H
XP-RAFTS ARR2019 OUTPUTS

Results - ARR Data Hub
[STARTTXT]

Input Data Information
[INPUTDATA]
Latitude,-36.935000
Longitude,149.810000
[END_INPUTDATA]

River Region
[RIVREG]
Division,South East Coast (NSW)
River Number,20
River Name,Towamba River
[RIVREG_META]
Time Accessed,17 August 2020 02:01PM
Version,2016_v1
[END_RIVREG]

ARF Parameters
[LONGARF]
Zone,SE Coast
a,0.06
b,0.361
c,0.0
d,0.317
e,8.11e-05
f,0.651
g,0.0
h,0.0
i,0.0
[LONGARF_META]
Time Accessed,17 August 2020 02:01PM
Version,2016_v1
[END_LONGARF]

Storm Losses
[LOSSES]
ID,9848.0
Storm Initial Losses (mm),21.0
Storm Continuing Losses (mm/h),6.2
[LOSSES_META]
Time Accessed,17 August 2020 02:01PM
Version,2016_v1
[END_LOSSES]

Temporal Patterns
[TP]
code,SSmainland
Label,Southern Slopes (Vic/NSW)
[TP_META]
Time Accessed,17 August 2020 02:01PM
Version,2016_v2
[END_TP]

Areal Temporal Patterns
[ATP]
code,SSmainland
arealabel,Southern Slopes (Vic/NSW)
[ATP_META]
Time Accessed,17 August 2020 02:01PM
Version,2016_v2
[END_ATP]

Median Preburst Depths and Ratios
[PREBURST]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),1.6 (0.071),1.3 (0.038),1.0 (0.025),0.8 (0.016),2.0 (0.034),2.9 (0.044)
90 (1.5),3.1 (0.114),3.9 (0.099),4.4 (0.092),5.0 (0.087),4.6 (0.068),4.4 (0.057)
120 (2.0),2.9 (0.093),3.6 (0.081),4.1 (0.075),4.6 (0.071),4.4 (0.057),4.2 (0.049)
180 (3.0),4.1 (0.112),7.6 (0.142),10.0 (0.153),12.2 (0.159),8.4 (0.091),5.5 (0.053)
360 (6.0),8.4 (0.162),20.4 (0.270),28.4 (0.308),36.0 (0.333),31.2 (0.239),27.6 (0.187)
720 (12.0),7.6 (0.104),15.3 (0.142),20.4 (0.154),25.3 (0.161),25.5 (0.133),25.6 (0.117)
1080 (18.0),5.8 (0.066),13.0 (0.099),17.7 (0.110),22.2 (0.115),26.8 (0.112),30.2 (0.110)
1440 (24.0),2.5 (0.025),7.4 (0.050),10.6 (0.058),13.7 (0.062),19.0 (0.069),23.0 (0.072)
2160 (36.0),0.5 (0.005),1.5 (0.009),2.2 (0.010),2.9 (0.011),6.7 (0.021),9.5 (0.025)
2880 (48.0),0.0 (0.000),0.2 (0.001),0.3 (0.001),0.4 (0.002),2.2 (0.006),3.4 (0.008)
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
[PREBURST_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST]

10% Preburst Depths
[PREBURST10]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
90 (1.5),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
120 (2.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
180 (3.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
360 (6.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
720 (12.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
1080 (18.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0

(0.000)
1440 (24.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
2160 (36.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
2880 (48.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
[PREBURST10_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been
slightly altered. Point values remain unchanged.
[END_PREBURST10]

25% Preburst Depths
[PREBURST25]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
90 (1.5),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000)
120 (2.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
180 (3.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
360 (6.0),0.0 (0.000),1.0 (0.013),1.6 (0.018),2.3 (0.021),1.0 (0.007),0.0
(0.000)
720 (12.0),0.1 (0.001),0.7 (0.006),1.1 (0.008),1.4 (0.009),0.6 (0.003),0.0
(0.000)
1080 (18.0),0.0 (0.000),0.3 (0.002),0.4 (0.003),0.6 (0.003),1.4 (0.006),2.0
(0.007)
1440 (24.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
2160 (36.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
2880 (48.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0
(0.000)
[PREBURST25_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been
slightly altered. Point values remain unchanged.
[END_PREBURST25]

75% Preburst Depths
[PREBURST75]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),19.1 (0.828),25.1 (0.742),29.0 (0.703),32.8 (0.673),27.9 (0.474),24.2
(0.362)
90 (1.5),28.7 (1.055),35.8 (0.904),40.6 (0.841),45.2 (0.794),40.0 (0.585),36.1
(0.468)
120 (2.0),36.8 (1.198),46.3 (1.035),52.6 (0.967),58.7 (0.918),52.5 (0.686),47.9

(0.555)
180 (3.0),35.1 (0.953),52.3 (0.973),63.6 (0.975),74.5 (0.973),69.9 (0.762),66.4 (0.643)
360 (6.0),27.3 (0.527),57.1 (0.755),76.9 (0.835),95.9 (0.885),94.4 (0.724),93.4 (0.632)
720 (12.0),26.1 (0.357),45.6 (0.422),58.5 (0.442),70.8 (0.451),78.3 (0.409),84.0 (0.383)
1080 (18.0),16.9 (0.192),36.0 (0.275),48.6 (0.301),60.7 (0.314),65.2 (0.274),68.6 (0.250)
1440 (24.0),18.4 (0.185),25.0 (0.169),29.4 (0.160),33.6 (0.152),53.0 (0.193),67.5 (0.212)
2160 (36.0),8.9 (0.078),20.4 (0.119),28.0 (0.130),35.3 (0.135),50.8 (0.156),62.4 (0.164)
2880 (48.0),1.4 (0.011),7.8 (0.042),12.0 (0.051),16.0 (0.056),24.7 (0.069),31.2 (0.074)
4320 (72.0),0.0 (0.000),0.4 (0.002),0.7 (0.003),0.9 (0.003),3.0 (0.008),4.5 (0.010)
[PREBURST75_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST75]

90% Preburst Depths
[PREBURST90]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),63.2 (2.736),100.8 (2.982),125.7 (3.044),149.5 (3.065),120.2 (2.042),98.2 (1.471)
90 (1.5),76.9 (2.831),108.8 (2.745),130.0 (2.691),150.2 (2.641),145.7 (2.134),142.4 (1.846)
120 (2.0),69.0 (2.247),100.2 (2.240),120.9 (2.222),140.7 (2.200),146.0 (1.906),150.0 (1.737)
180 (3.0),77.4 (2.100),118.4 (2.205),145.6 (2.232),171.7 (2.241),148.5 (1.620),131.1 (1.270)
360 (6.0),88.4 (1.709),116.5 (1.539),135.1 (1.466),152.9 (1.411),169.0 (1.295),181.0 (1.226)
720 (12.0),60.5 (0.827),90.4 (0.838),110.1 (0.832),129.1 (0.823),155.8 (0.813),175.7 (0.801)
1080 (18.0),46.7 (0.529),75.3 (0.575),94.3 (0.583),112.4 (0.582),149.2 (0.627),176.8 (0.644)
1440 (24.0),60.1 (0.605),72.1 (0.487),80.0 (0.435),87.6 (0.396),114.4 (0.417),134.5 (0.423)
2160 (36.0),37.6 (0.328),57.8 (0.337),71.1 (0.331),84.0 (0.322),110.9 (0.341),131.1 (0.345)
2880 (48.0),19.7 (0.159),34.4 (0.185),44.2 (0.189),53.5 (0.187),71.3 (0.199),84.5 (0.201)
4320 (72.0),7.7 (0.058),19.8 (0.098),27.7 (0.109),35.4 (0.113),47.8 (0.121),57.1 (0.123)
[PREBURST90_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

[END_PREBURST90]

Interim Climate Change Factors
[CCF]
,RCP 4.5,RCP6,RCP 8.5
2030,0.648 (3.2%),0.687 (3.4%),0.811 (4.0%)
2040,0.878 (4.4%),0.827 (4.1%),1.084 (5.4%)
2050,1.081 (5.4%),1.013 (5.1%),1.446 (7.3%)
2060,1.251 (6.3%),1.229 (6.2%),1.862 (9.5%)
2070,1.381 (7.0%),1.460 (7.4%),2.298 (11.9%)
2080,1.465 (7.4%),1.691 (8.6%),2.719 (14.2%)
2090,1.496 (7.6%),1.906 (9.7%),3.090 (16.3%)

[CCF_META]
Time Accessed,17 August 2020 02:01PM
Version,2019_v1
Note,ARR recommends the use of RCP4.5 and RCP 8.5 values. These have been updated to the values that can be found on the climate change in Australia website.
[END_CCF]

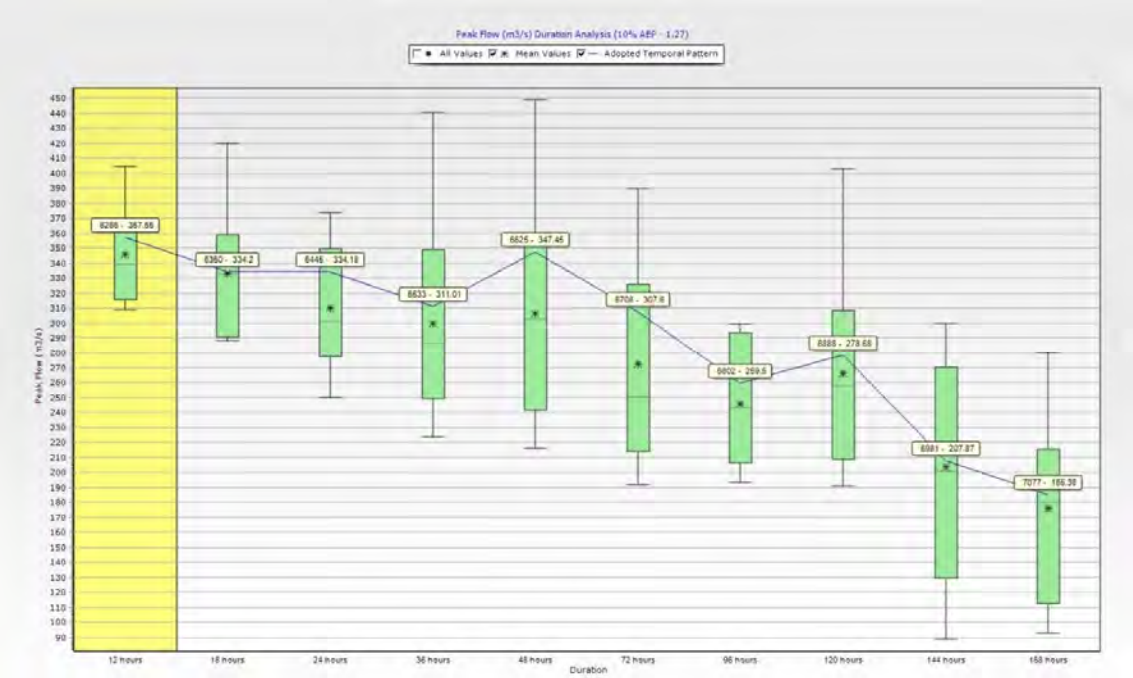
Probability Neutral Burst Initial Loss
[BURSTIL]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),11.1,8.6,8.1,7.7,7.3,4.8
90 (1.5),10.1,8.0,8.0,7.4,6.6,4.0
120 (2.0),10.0,8.1,7.7,7.0,7.0,3.9
180 (3.0),10.2,7.9,7.4,6.3,6.6,3.4
360 (6.0),10.7,6.7,6.6,6.3,7.2,2.2
720 (12.0),12.8,8.4,8.6,7.5,8.6,3.6
1080 (18.0),15.0,9.6,9.7,7.9,9.0,4.7
1440 (24.0),16.0,11.5,11.5,9.5,10.9,5.2
2160 (36.0),18.6,14.1,13.5,10.6,13.7,6.6
2880 (48.0),21.1,17.0,16.3,13.9,16.3,8.8
4320 (72.0),23.0,20.1,19.3,20.6,17.8,9.9
[BURSTIL_META]
Time Accessed,17 August 2020 02:01PM
Version,2018_v1
Note,As this point is in NSW the advice provided on losses and pre-burst on the NSW Specific Tab of the ARR Data Hub is to be considered. In NSW losses are derived considering a hierarchy of approaches depending on the available loss information. Probability neutral burst initial loss values for NSW are to be used in place of the standard initial loss and pre-burst as per the losses hierarchy.
[END_BURSTIL]Transformational Pre-burst Rainfall
[PREBURST_TRANS]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),10.1,12.6,13.1,13.5,13.9,16.4
90 (1.5),11.1,13.2,13.2,13.8,14.6,17.2
120 (2.0),11.2,13.1,13.5,14.2,14.2,17.3
180 (3.0),11.0,13.3,13.8,14.9,14.6,17.8
360 (6.0),10.5,14.5,14.6,14.9,14.0,19.0
720 (12.0),8.4,12.8,12.6,13.7,12.6,17.6
1080 (18.0),6.2,11.6,11.5,13.3,12.2,16.5

1440 (24.0),5.2,9.7,9.7,11.7,10.3,16.0
2160 (36.0),2.6,7.1,7.7,10.6,7.5,14.6
2880 (48.0),0.1,4.2,4.9,7.3,4.9,12.4
4320 (72.0),0.0,1.1,1.9,0.6,3.4,11.3
[PREBURST_TRANS_META]
The tranformational pre-burst is intended for software suppliers in the NSW area and is simply the Initial Loss - Burst Initial Loss. It is not appropriate to use these values if considering a calibrated initial loss.
[END_PREBURST_TRANS]

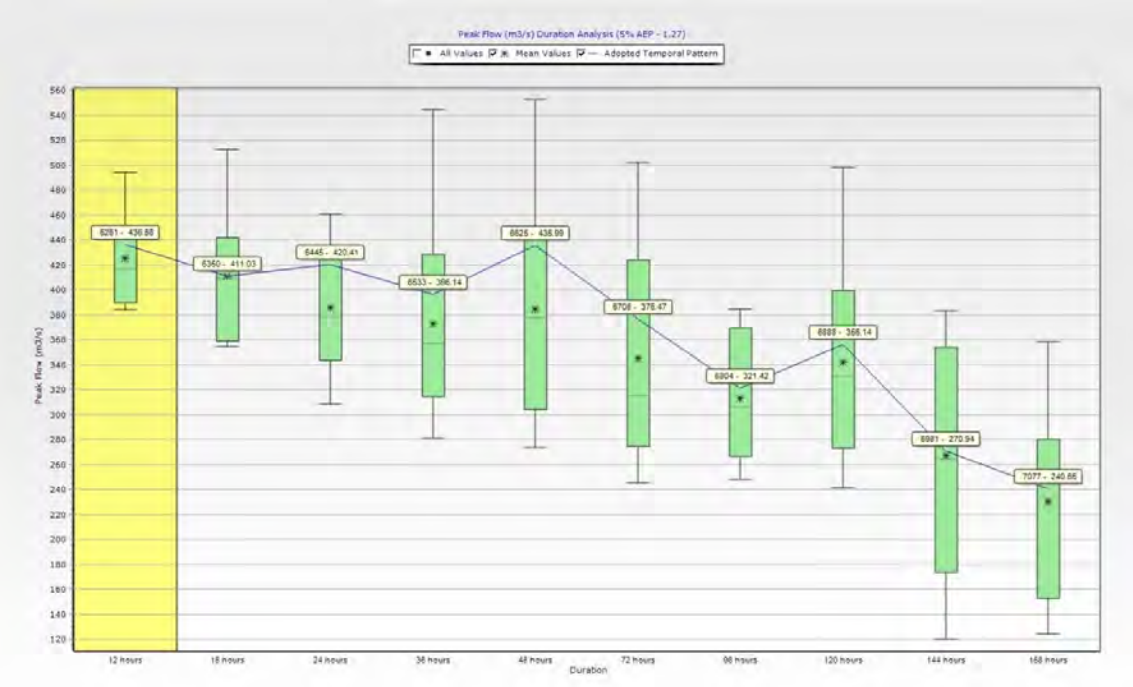
[ENDTXT]

ARR2019 Box Plots for Pambula River at Princes Highway

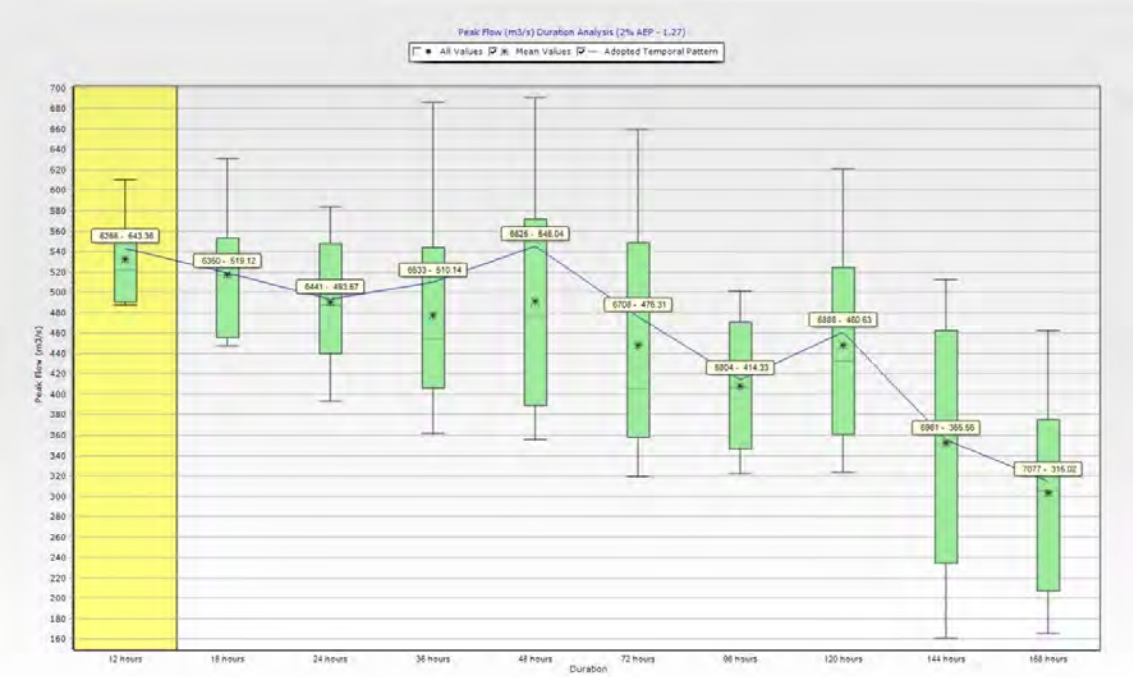
10%AEP



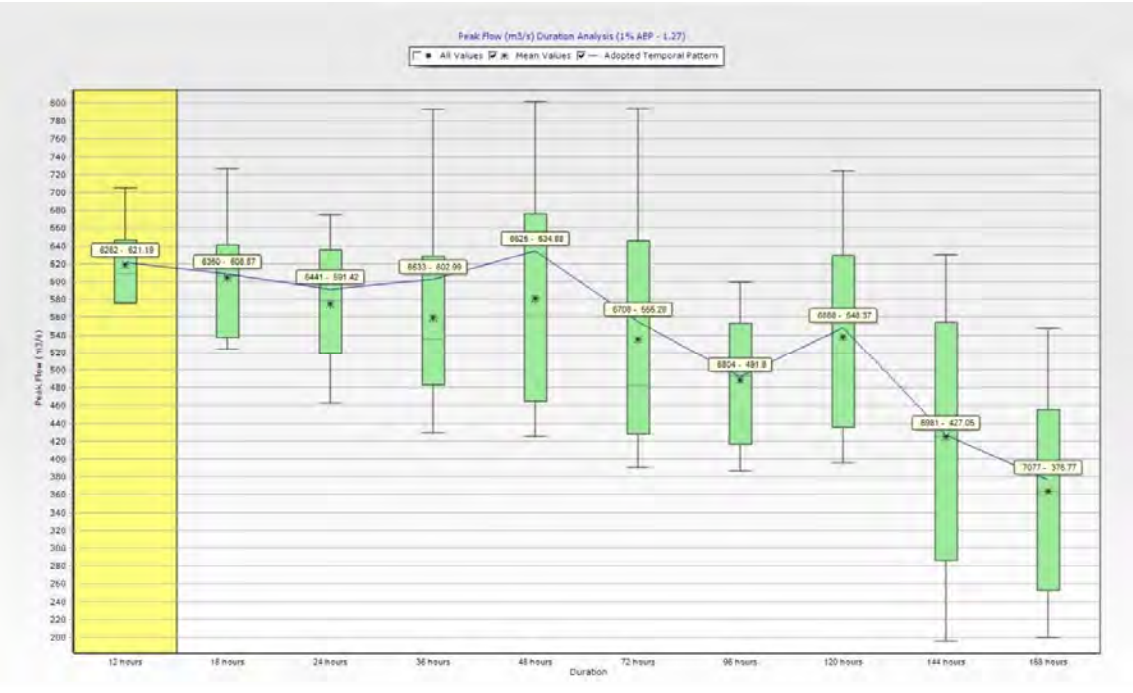
5%AEP



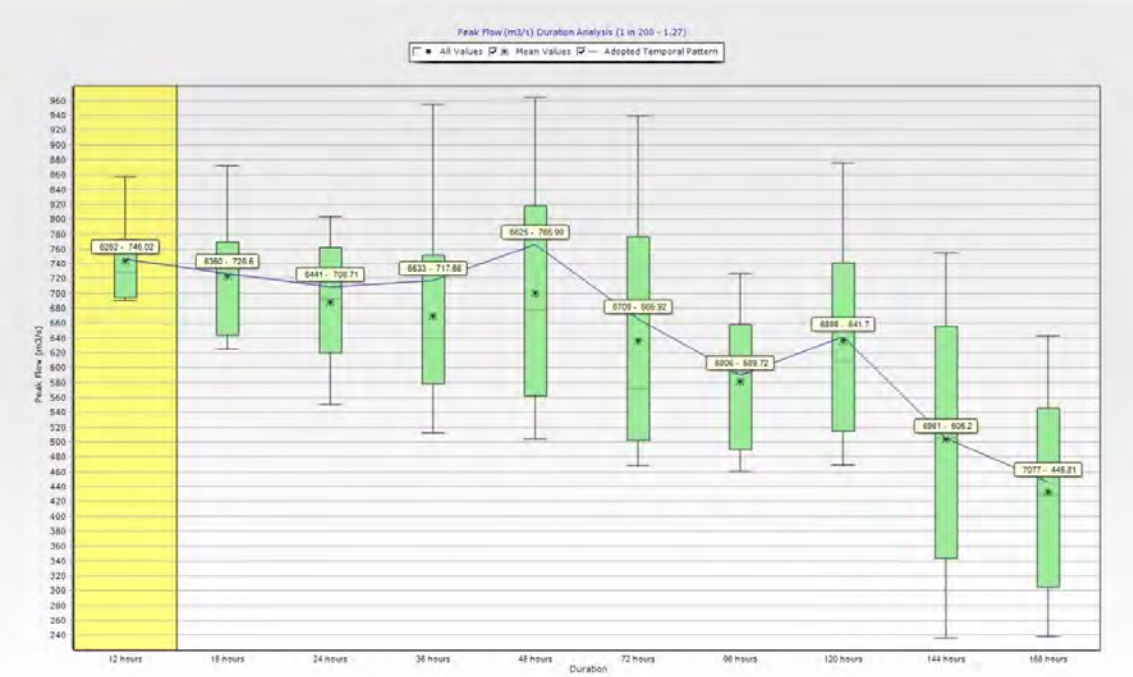
2%AEP


Peak Flow (m3/s) Duration Analysis (2% AEP - L.27)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
6266 - 643.36
6360 - 519.12
6441 - 493.67
6533 - 510.14
6625 - 548.04
6708 - 476.31
6804 - 414.23
6888 - 460.63
6961 - 365.55
7077 - 316.02
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
Duration

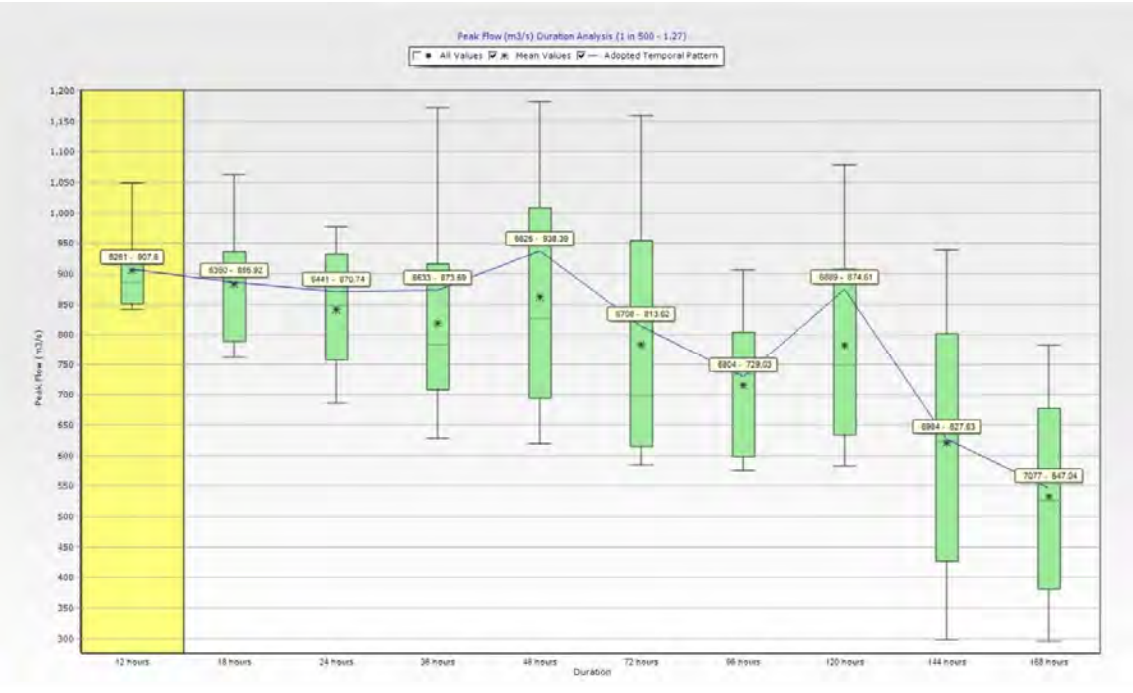
1%AEP


Peak Flow (m3/s) Duration Analysis (1% AEP - L.27)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
6262 - 621.19
6360 - 608.87
6441 - 591.42
6633 - 602.99
6625 - 624.88
6709 - 555.29
6804 - 491.8
6888 - 540.37
6961 - 427.05
7077 - 376.77
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
Duration

0.5%AEP

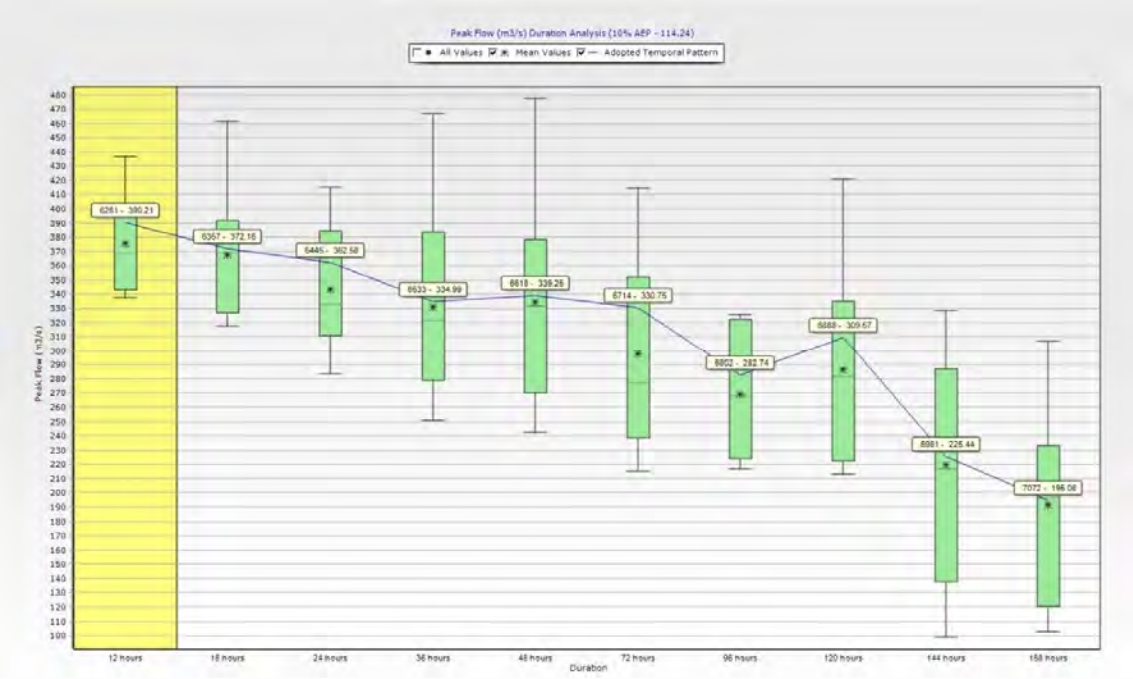

Peak Flow (m3/s) Duration Analysis (1 in 200 - 1.27)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
6282 - 746.02
6360 - 726.6
6441 - 708.71
6633 - 717.68
6625 - 765.99
6709 - 666.92
6806 - 649.72
6888 - 641.7
6961 - 606.2
7077 - 446.81

0.2%AEP

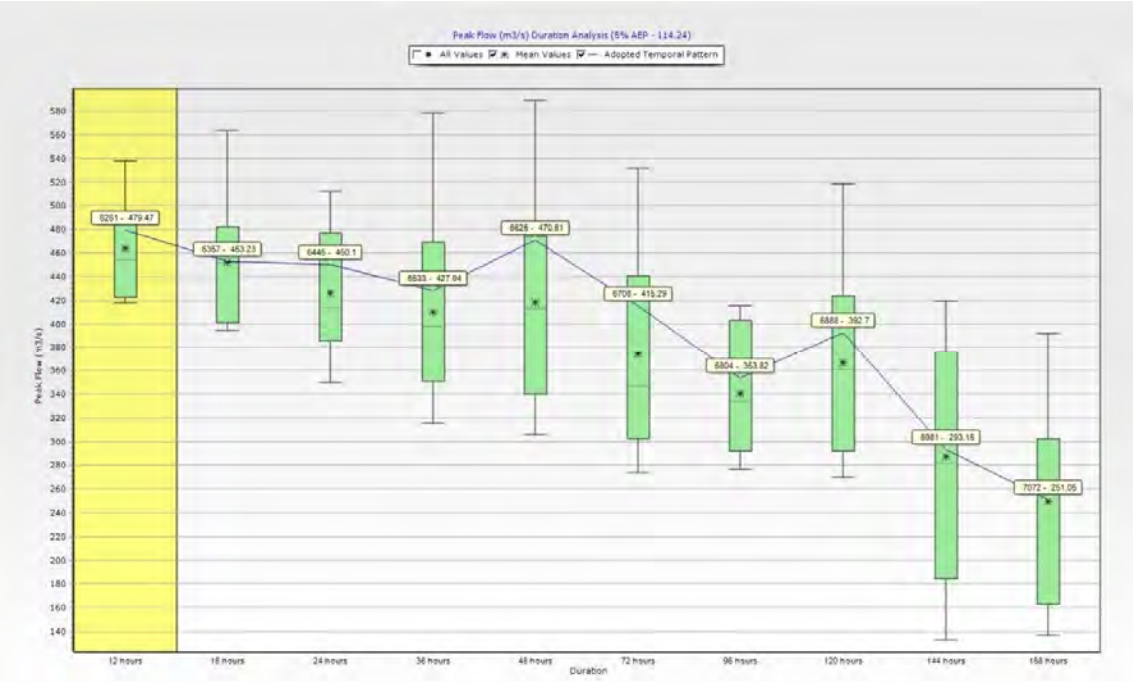

Peak Flow (m3/s) Duration Analysis (1 in 500 - 1.27)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
8261 - 907.6
6360 - 886.92
6441 - 870.74
6633 - 873.69
6625 - 938.39
6709 - 813.62
6804 - 729.03
6889 - 874.61
6904 - 827.63
7077 - 847.04

ARR2019 Box Plots for Yowaka River at Princes Highway

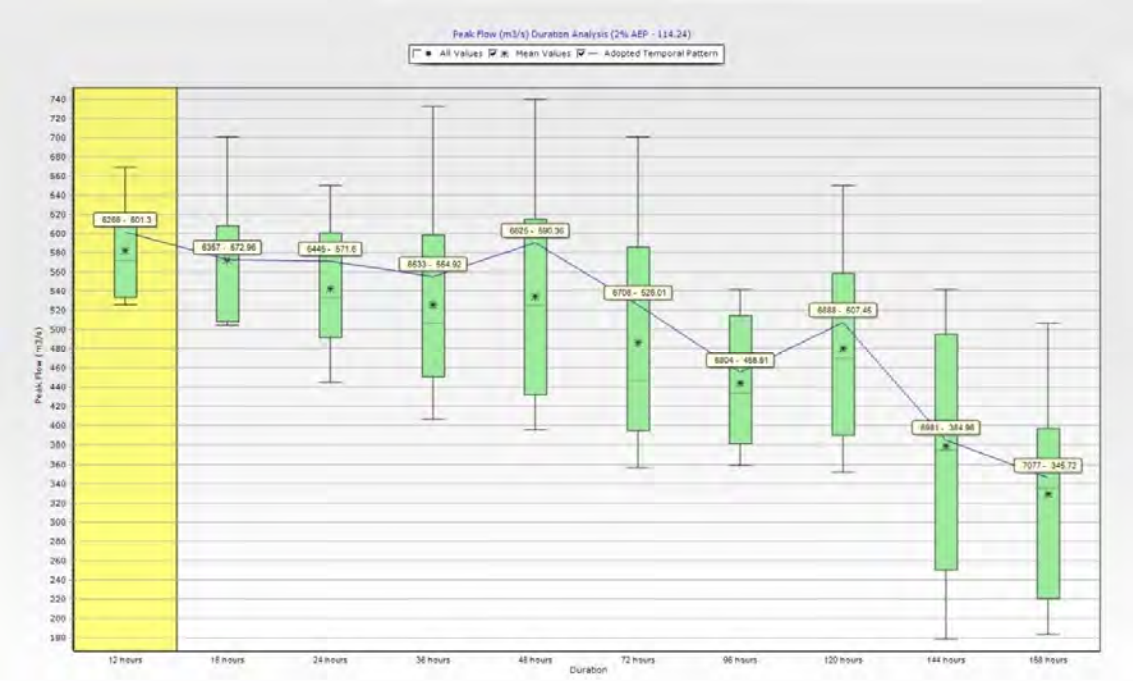
10%AEP



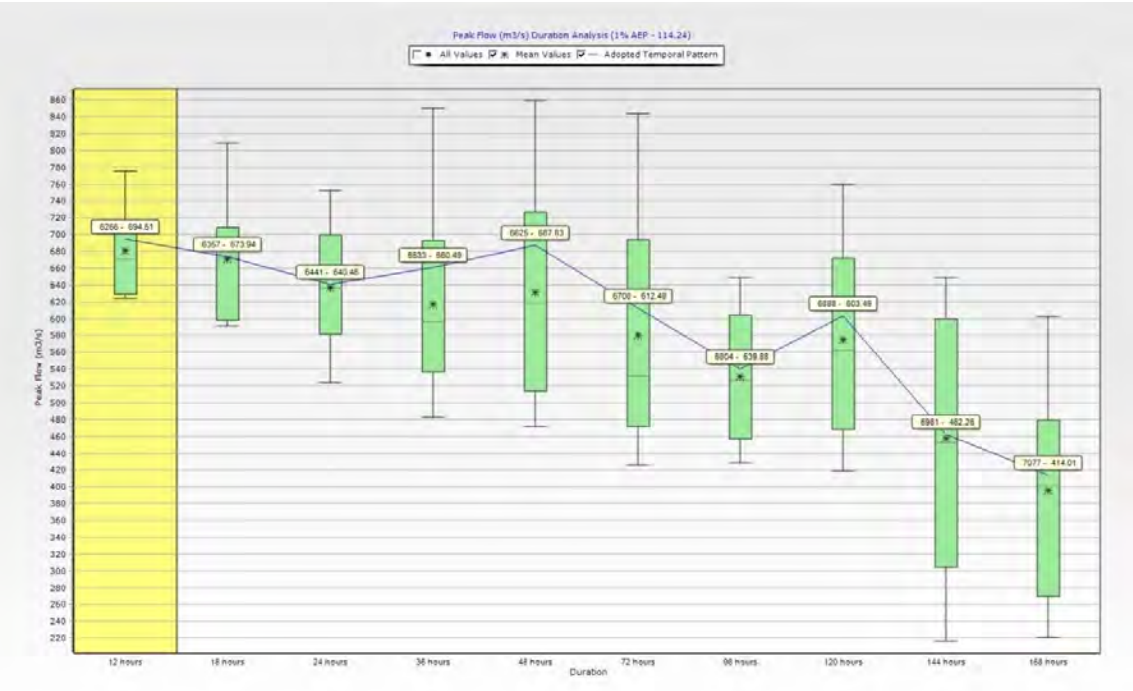
5%AEP



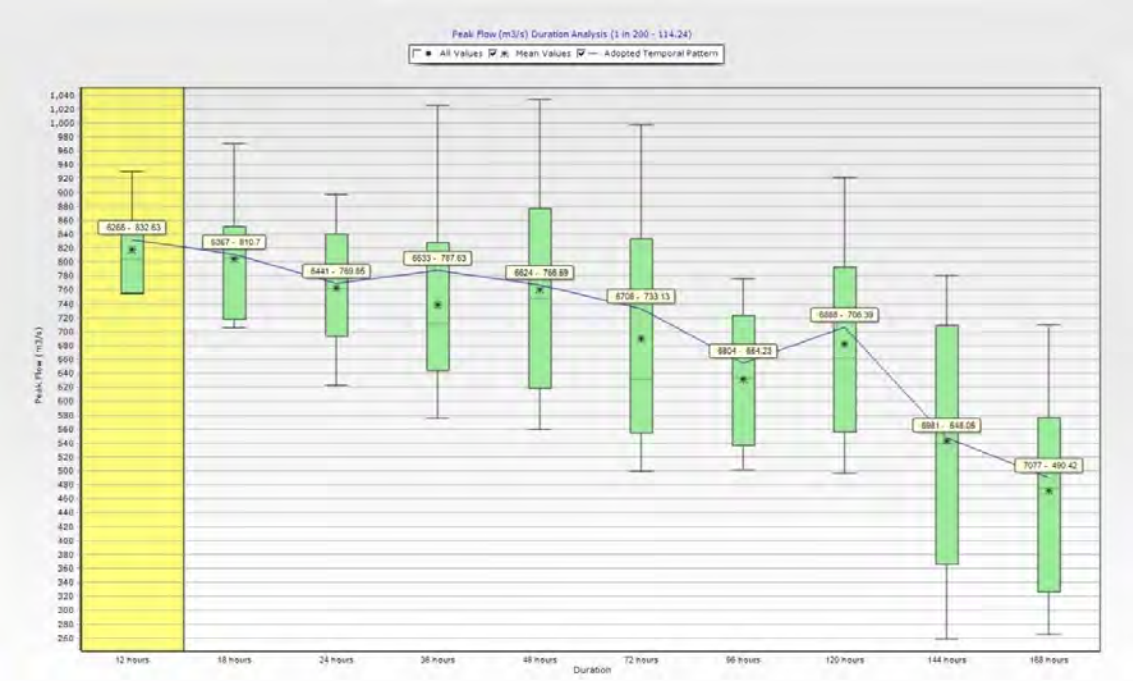
2%AEP


Peak Flow (m3/s) Duration Analysis (2% AEP - 114.24)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
6268 - 601.3
6357 - 572.96
6445 - 571.6
6633 - 564.92
6625 - 590.36
6706 - 526.01
6804 - 468.81
6888 - 507.46
6981 - 384.98
7077 - 345.72

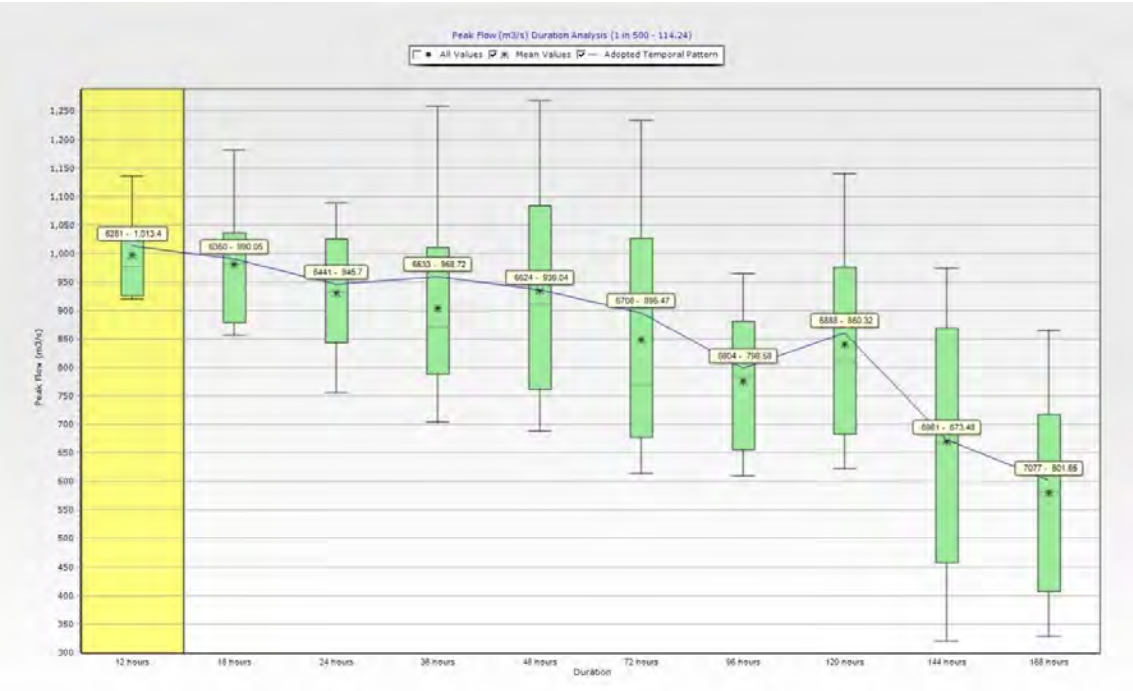
1%AEP


Peak Flow (m3/s) Duration Analysis (1% AEP - 114.24)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
6266 - 694.51
6357 - 673.94
6441 - 640.46
6633 - 660.49
6625 - 687.63
6700 - 612.49
6804 - 539.88
6888 - 603.48
6981 - 482.28
7077 - 414.01

0.5%AEP


Peak Flow (m3/s) Duration Analysis (1 in 200 - 114.24)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
4266 - 832.83
6367 - 810.7
6441 - 769.65
6633 - 787.63
6624 - 768.89
6708 - 733.13
6804 - 664.23
6888 - 706.39
6981 - 648.05
7077 - 490.42

0.2%AEP


Peak Flow (m3/s) Duration Analysis (1 in 500 - 114.24)
All Values
Mean Values
Adopted Temporal Pattern
Peak Flow (m3/s)
Duration
12 hours
18 hours
24 hours
36 hours
48 hours
72 hours
96 hours
120 hours
144 hours
168 hours
6281 - 1,013.4
6360 - 990.05
6441 - 945.7
6633 - 968.72
6624 - 936.04
6708 - 895.47
6804 - 798.58
6888 - 860.32
6981 - 673.48
7077 - 801.65

10% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	10.2	6262	10.3	14.1
1.02	12 hours	13.4	6266	13.6	18.7
1.03	12 hours	18.7	6266	18.9	26.1
1.04	12 hours	26.5	6266	26.8	36.9
1.05	12 hours	33.9	6261	34.0	46.9
1.06	12 hours	34.6	6261	34.7	47.8
1.07	12 hours	41.1	6261	41.3	57.0
1.08	12 hours	45.1	6261	45.4	62.7
1.09	12 hours	46.3	6261	46.7	64.5
1.10	12 hours	75.1	6261	76.3	105
1.11	12 hours	90.3	6261	91.6	126
1.12	12 hours	100	6261	102	141
1.13	12 hours	203	6261	208	287
1.14	12 hours	211	6261	217	299
1.15	12 hours	212	6261	217	300
1.16	12 hours	216	6261	221	305
1.17	12 hours	232	6261	238	329
1.18	12 hours	249	6261	256	353
1.19	12 hours	253	6261	260	359
1.20	12 hours	308	6261	318	438
1.21	12 hours	309	6261	319	441
1.22	12 hours	332	6266	342	473
1.23	12 hours	337	6266	348	480
1.24	12 hours	337	6266	348	480
1.25	12 hours	339	6266	350	483
1.26	12 hours	342	6266	353	488
1.27	12 hours	346	6266	358	493
1.28	12 hours	347	6266	358	494
1.29	12 hours	366	6266	377	521
1.30	12 hours	367	6266	379	522
1.31	12 hours	395	6266	408	562
1.32	12 hours	395	6266	408	563
1.33	12 hours	775	6266	794	1095
1.34	12 hours	775	6266	794	1096
1.35	12 hours	818	6266	836	1154
1.36	12 hours	818	6266	836	1154
1.37	12 hours	819	6266	836	1154
1.38	12 hours	819	6266	837	1155
1.39	12 hours	824	6266	840	1159
1.40	12 hours	830	6266	845	1167
2.01	12 hours	2.62	6262	2.63	3.63
3.01	12 hours	4.73	6265	5.61	7.74
4.01	12 hours	5.02	6261	5.09	7.02
5.01	12 hours	5.20	6266	5.21	7.19
6.01	12 hours	5.18	6261	5.31	7.33
7.01	12 hours	3.29	6266	3.34	4.61
8.01	18 hours	9.13	6350	9.14	12.6
8.02	12 hours	18.0	6258	18.1	25.0
8.03	12 hours	18.0	6258	18.2	25.0

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	26.5	6266	27.2	37.6
8.05	12 hours	27.4	6266	28.1	38.8
9.01	12 hours	5.85	6261	5.97	8.24
10.01	12 hours	3.48	6262	3.50	4.83
10.02	12 hours	8.43	6262	8.46	11.7
11.01	12 hours	4.92	6262	4.93	6.80
12.01	12 hours	4.12	6265	4.91	6.78
12.02	12 hours	7.15	6266	7.17	9.89
12.03	12 hours	11.4	6266	11.4	15.8
13.01	12 hours	1.38	6266	1.42	1.96
14.01	12 hours	3.37	6261	3.38	4.66
14.02	12 hours	4.08	6265	4.77	6.58
15.01	12 hours	0.580	6262	0.610	0.842
16.01	18 hours	4.14	6351	4.18	5.77
16.02	12 hours	6.27	6258	6.36	8.78
17.01	12 hours	6.52	6261	6.74	9.30
17.02	12 hours	15.2	6261	15.5	21.4
17.03	12 hours	19.5	6261	19.9	27.5
17.04	12 hours	27.5	6266	28.3	39.0
17.05	12 hours	32.5	6266	33.4	46.1
17.06	12 hours	40.4	6261	41.7	57.5
17.07	12 hours	46.3	6261	47.5	65.6
17.08	12 hours	63.9	6261	65.2	89.9
17.09	12 hours	65.4	6261	66.7	92.0
17.10	12 hours	70.5	6261	72.0	99.4
17.11	12 hours	98.6	6261	101	140
17.12	12 hours	100	6261	103	142
17.13	12 hours	101	6261	104	143
18.01	12 hours	6.12	6261	6.20	8.56
19.01	12 hours	2.99	6261	3.04	4.20
20.01	18 hours	7.03	6350	7.04	9.72
21.01	12 hours	5.79	6267	5.79	7.99
21.02	12 hours	6.49	6267	6.50	8.97
22.01	12 hours	4.55	6265	5.41	7.47
23.01	12 hours	3.71	6266	3.75	5.18
23.02	12 hours	11.8	6262	11.9	16.4
23.03	12 hours	16.2	6261	16.3	22.5
23.04	12 hours	16.4	6261	16.5	22.8
24.01	12 hours	4.79	6262	4.79	6.61
25.01	12 hours	1.68	6266	1.72	2.37
26.01	12 hours	5.01	6258	5.04	6.96
26.02	12 hours	5.08	6258	5.11	7.05
27.01	12 hours	6.56	6261	6.62	9.14
27.02	12 hours	14.1	6261	14.4	19.9
27.03	12 hours	23.5	6258	23.6	32.6
28.01	12 hours	1.36	6266	1.42	1.96
28.02	12 hours	1.85	6266	1.92	2.65
29.01	12 hours	5.60	6261	5.74	7.92
30.01	12 hours	1.69	6265	2.00	2.76
31.01	12 hours	1.22	6261	1.22	1.68

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	6.75	6258	6.80	9.38
33.01	12 hours	3.28	6266	3.33	4.60
34.01	12 hours	4.90	6261	5.00	6.90
34.02	12 hours	12.1	6261	12.1	16.7
34.03	12 hours	12.2	6261	12.3	16.9
35.01	12 hours	3.34	6266	3.40	4.69
35.02	18 hours	6.79	6350	6.84	9.44
35.03	12 hours	9.21	6258	9.33	12.9
35.04	12 hours	9.33	6258	9.46	13.1
35.05	12 hours	14.8	6258	14.8	20.5
36.01	12 hours	0.420	6266	0.430	0.593
37.01	12 hours	2.78	6261	2.85	3.93
38.01	12 hours	2.80	6258	2.83	3.91
38.02	12 hours	3.46	6258	3.47	4.79
39.01	12 hours	3.91	6266	3.97	5.48
39.02	12 hours	8.17	6261	8.21	11.3
39.03	12 hours	11.9	6266	12.5	17.2
39.04	12 hours	23.5	6261	23.8	32.9
39.05	12 hours	29.7	6261	30.2	41.7
39.06	12 hours	54.5	6261	55.6	76.7
40.01	12 hours	2.16	6266	2.24	3.09
41.01	12 hours	2.71	6266	2.79	3.85
42.01	12 hours	5.58	6261	5.65	7.80
43.01	12 hours	1.81	6265	2.15	2.97
44.01	12 hours	6.10	6261	6.11	8.43
44.02	12 hours	15.2	6261	15.3	21.2
44.03	12 hours	23.0	6261	23.4	32.3
45.01	12 hours	4.03	6259	4.83	6.67
46.01	12 hours	5.52	6258	5.62	7.76
47.01	12 hours	5.19	6261	5.24	7.23
47.02	12 hours	7.27	6261	7.34	10.1
47.03	12 hours	7.87	6261	7.94	11.0
47.04	12 hours	16.0	6261	16.3	22.4
47.05	12 hours	20.7	6261	20.9	28.9
48.01	12 hours	1.99	6266	2.02	2.79
49.01	12 hours	2.86	6259	3.40	4.69
49.02	12 hours	3.25	6266	3.32	4.58
49.03	12 hours	3.29	6266	3.38	4.66
50.01	12 hours	0.550	6262	0.590	0.814
51.01	12 hours	1.91	6266	1.91	2.64
52.01	12 hours	0.860	6266	0.890	1.23
52.02	12 hours	2.06	6266	2.10	2.90
53.01	12 hours	2.97	6262	2.98	4.11
54.01	12 hours	1.16	6265	1.36	1.88
54.02	12 hours	1.70	6266	1.75	2.42
54.03	12 hours	1.91	6266	2.02	2.79
55.01	12 hours	1.42	6259	1.68	2.32
56.01	12 hours	1.98	6266	2.00	2.76
56.02	12 hours	3.28	6266	3.32	4.58
56.03	12 hours	3.86	6266	3.91	5.40

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	1.70	6262	1.71	2.36
57.02	12 hours	3.92	6267	4.01	5.53
58.01	12 hours	3.11	6266	3.11	4.29
58.02	12 hours	4.55	6262	4.56	6.29
58.03	12 hours	6.59	6266	6.63	9.15
58.04	12 hours	11.1	6261	11.1	15.3
58.05	12 hours	11.9	6261	11.9	16.4
58.06	12 hours	17.2	6261	17.3	23.9
58.07	12 hours	19.6	6261	19.9	27.5
59.01	12 hours	1.41	6265	1.68	2.32
60.01	12 hours	1.31	6266	1.32	1.82
60.02	12 hours	1.68	6262	1.72	2.37
60.03	12 hours	3.62	6266	3.67	5.06
61.01	12 hours	1.07	6265	1.26	1.74
62.01	12 hours	0.250	6262	0.260	0.359
63.01	12 hours	0.020	6262	0.020	0.028
64.01	12 hours	0.730	6266	0.740	1.02
64.02	12 hours	4.01	6261	4.02	5.55
65.01	12 hours	0.420	6262	0.430	0.593
66.01	12 hours	0.520	6262	0.560	0.773
66.02	12 hours	1.87	6261	1.88	2.59
67.01	12 hours	0.100	6262	0.110	0.152
68.01	12 hours	0.170	6262	0.170	0.235
69.01	12 hours	0.170	6261	0.170	0.235
69.02	12 hours	0.290	6262	0.300	0.414
70.01	12 hours	0.120	6262	0.130	0.179
71.01	12 hours	0.140	6262	0.150	0.207
72.01	12 hours	0.160	6262	0.170	0.235
73.01	12 hours	0.110	6262	0.120	0.166
74.01	12 hours	0.990	6266	0.990	1.37
75.01	48 hours	0.770	6625	0.770	1.06
75.02	48 hours	0.920	6621	0.920	1.27
76.01	12 hours	0.700	6266	0.710	0.980
76.02	12 hours	0.750	6266	0.760	1.05
77.01	12 hours	1.70	6266	1.72	2.37
77.02	12 hours	3.74	6266	3.80	5.24
77.03	12 hours	7.09	6261	7.17	9.89
77.04	12 hours	7.93	6261	7.99	11.0
77.05	12 hours	8.45	6261	8.51	11.7
77.06	12 hours	8.57	6261	8.63	11.9
77.07	12 hours	16.7	6261	16.7	23.0
77.08	12 hours	17.0	6261	17.1	23.5
77.09	12 hours	17.1	6261	17.2	23.7
77.10	12 hours	17.4	6261	17.5	24.1
77.11	12 hours	19.9	6261	20.1	27.7
77.12	12 hours	22.2	6261	22.5	31.0
77.13	12 hours	26.6	6261	27.3	37.6
78.01	12 hours	1.59	6261	1.60	2.21
78.02	12 hours	3.74	6261	3.75	5.18
79.01	12 hours	1.07	6266	1.09	1.50

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	0.470	6262	0.500	0.690
81.01	12 hours	1.06	6266	1.07	1.48
81.02	12 hours	1.18	6262	1.18	1.63
81.03	12 hours	2.36	6262	2.41	3.33
81.04	12 hours	4.37	6262	4.49	6.20
82.01	12 hours	0.230	6262	0.240	0.331
82.02	12 hours	0.970	6262	1.01	1.39
82.03	12 hours	1.11	6262	1.15	1.59
83.01	12 hours	0.710	6262	0.750	1.04
83.02	12 hours	1.42	6262	1.50	2.07
83.03	12 hours	1.57	6262	1.66	2.29
84.01	12 hours	0.140	6262	0.150	0.207
84.02	12 hours	0.500	6262	0.530	0.731
85.01	12 hours	0.270	6262	0.280	0.386
86.01	12 hours	0.040	6261	0.040	0.055
87.01	12 hours	0.210	6262	0.220	0.304
87.02	12 hours	0.380	6262	0.400	0.552
88.01	12 hours	0.080	6262	0.080	0.110
89.01	12 hours	0.120	6262	0.130	0.179
90.01	12 hours	0.080	6262	0.080	0.110
91.01	12 hours	0.230	6262	0.250	0.345
92.01	12 hours	0.380	6261	0.380	0.524
92.02	12 hours	1.54	6261	1.58	2.18
92.03	12 hours	1.64	6261	1.70	2.35
92.04	12 hours	2.39	6261	2.50	3.45
93.01	12 hours	0.120	6262	0.130	0.179
94.01	12 hours	0.140	6262	0.150	0.207
95.01	12 hours	0.180	6262	0.190	0.262
96.01	12 hours	0.070	6262	0.080	0.110
97.01	12 hours	0.080	6262	0.090	0.124
98.01	12 hours	0.240	6262	0.250	0.345
99.01	12 hours	1.34	6266	1.37	1.89
99.02	12 hours	1.79	6261	1.85	2.55
100.01	12 hours	0.040	6262	0.040	0.055
101.01	12 hours	0.030	6262	0.030	0.041
102.01	12 hours	0.050	6262	0.060	0.083
103.01	12 hours	0.030	6261	0.040	0.055
104.01	12 hours	0.110	6262	0.110	0.152
104.02	12 hours	0.280	6262	0.300	0.414
105.01	12 hours	0.030	6261	0.030	0.041
106.01	18 hours	2.62	6350	2.65	3.66
106.02	18 hours	3.81	6355	3.85	5.31
107.01	12 hours	1.34	6265	1.57	2.17
108.01	12 hours	0.880	6258	0.890	1.23
108.02	12 hours	0.900	6258	0.910	1.26
109.01	12 hours	1.86	6266	1.86	2.57
110.01	12 hours	1.09	6266	1.09	1.50
111.01	12 hours	0.500	6262	0.530	0.731
112.01	12 hours	0.380	6262	0.400	0.552
113.01	12 hours	0.190	6262	0.190	0.262

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	6.00	6261	6.13	8.46
114.02	12 hours	9.15	6261	9.27	12.8
114.03	12 hours	17.7	6261	18.1	25.0
114.04	18 hours	27.8	6357	27.8	38.4
114.05	18 hours	37.1	6357	37.4	51.6
114.06	12 hours	88.8	6266	91.2	126
114.07	12 hours	96.1	6266	98.8	136
114.08	12 hours	104	6266	107	148
114.09	12 hours	107	6266	110	152
114.10	12 hours	113	6266	116	160
114.11	12 hours	121	6261	124	171
114.12	12 hours	122	6261	126	174
114.13	12 hours	138	6261	142	196
114.14	12 hours	143	6261	148	205
114.15	12 hours	144	6261	149	206
114.16	12 hours	309	6261	320	441
114.17	12 hours	330	6261	341	471
114.18	12 hours	336	6261	348	480
114.19	12 hours	338	6261	350	483
114.20	12 hours	342	6261	354	489
114.21	12 hours	368	6261	382	527
114.22	12 hours	371	6261	386	532
114.23	12 hours	373	6261	387	534
114.24	12 hours	376	6261	390	538
114.25	12 hours	382	6261	396	547
115.01	12 hours	2.88	6261	2.88	3.97
116.01	12 hours	5.39	6261	5.52	7.62
117.01	12 hours	3.71	6262	3.72	5.13
118.01	18 hours	9.35	6350	9.39	13.0
119.01	12 hours	10.2	6258	10.4	14.3
119.02	12 hours	16.0	6261	16.5	22.7
119.03	12 hours	43.7	6261	44.2	61.0
119.04	12 hours	50.6	6261	51.3	70.7
120.01	12 hours	4.13	6262	4.14	5.71
121.01	12 hours	5.80	6266	5.82	8.03
121.02	12 hours	15.0	6261	15.0	20.7
121.03	12 hours	19.5	6266	19.6	27.1
121.04	12 hours	25.8	6261	25.9	35.7
122.01	12 hours	6.97	6261	6.99	9.65
123.01	12 hours	3.58	6265	4.21	5.81
124.01	12 hours	5.28	6261	5.38	7.42
125.01	12 hours	4.39	6266	4.39	6.06
126.01	12 hours	7.16	6258	7.24	9.99
127.01	12 hours	5.32	6261	5.37	7.41
128.01	12 hours	4.28	6261	4.36	6.02
129.01	12 hours	3.45	6265	4.04	5.58
129.02	12 hours	6.49	6266	6.64	9.16
129.03	12 hours	8.36	6266	8.53	11.8
130.01	12 hours	2.12	6266	2.14	2.95
131.01	12 hours	1.63	6266	1.69	2.33

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	6.69	6267	6.76	9.33
131.03	12 hours	10.3	6258	10.4	14.4
132.01	12 hours	2.74	6259	3.26	4.50
133.01	12 hours	8.45	6266	8.50	11.7
133.02	12 hours	18.1	6266	18.2	25.0
133.03	12 hours	29.2	6261	29.5	40.7
133.04	12 hours	33.1	6261	33.3	46.0
133.05	12 hours	41.6	6261	42.0	57.9
133.06	12 hours	41.8	6261	42.2	58.2
133.07	12 hours	73.3	6258	73.4	101
133.08	12 hours	73.9	6261	76.0	105
133.09	12 hours	88.8	6261	91.1	126
133.10	12 hours	97.8	6261	100	138
133.11	12 hours	110	6261	114	157
133.12	12 hours	153	6261	157	217
133.13	12 hours	161	6261	165	228
133.14	12 hours	163	6261	168	232
134.01	12 hours	6.34	6266	6.35	8.76
135.01	12 hours	7.95	6261	8.18	11.3
136.01	12 hours	2.91	6259	3.45	4.76
137.01	12 hours	3.59	6265	4.25	5.87
138.01	18 hours	12.9	6350	12.9	17.8
138.02	18 hours	15.9	6350	15.9	22.0
138.03	18 hours	27.3	6350	27.5	38.0
139.01	12 hours	5.60	6261	5.69	7.85
139.02	12 hours	10.6	6258	10.7	14.8
140.01	12 hours	0.600	6262	0.620	0.856
141.01	12 hours	8.28	6261	8.33	11.5
141.02	12 hours	9.82	6261	9.84	13.6
142.01	12 hours	1.05	6266	1.10	1.52
143.01	12 hours	6.47	6266	6.47	8.93
144.01	12 hours	6.15	6261	6.16	8.50
145.01	12 hours	4.50	6261	4.51	6.22
145.02	12 hours	12.4	6261	12.6	17.4
145.03	12 hours	19.1	6261	19.5	26.9
145.04	12 hours	36.7	6261	37.4	51.6
145.05	12 hours	36.8	6261	37.5	51.8
145.06	12 hours	42.2	6261	43.0	59.4
146.01	12 hours	5.95	6258	5.97	8.24
147.01	12 hours	3.41	6265	4.05	5.59
148.01	12 hours	8.63	6258	8.66	12.0
148.02	12 hours	13.2	6261	13.5	18.6
148.03	12 hours	17.4	6261	17.8	24.6
149.01	12 hours	3.88	6266	3.92	5.41
150.01	12 hours	3.60	6266	3.66	5.05
151.01	12 hours	3.11	6265	3.65	5.04
152.01	12 hours	1.28	6266	1.32	1.82
153.01	12 hours	4.16	6266	4.22	5.82
154.01	12 hours	1.70	6266	1.70	2.35
154.02	12 hours	2.24	6262	2.24	3.09

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	18 hours	6.18	6351	6.26	8.64
155.02	18 hours	6.26	6351	6.35	8.76
155.03	12 hours	10.5	6267	10.5	14.5
155.04	12 hours	10.9	6267	11.0	15.2
155.05	12 hours	17.5	6258	17.7	24.4
155.06	12 hours	20.8	6258	20.8	28.7
156.01	12 hours	3.62	6261	3.67	5.06
156.02	12 hours	3.77	6261	3.83	5.29
157.01	12 hours	2.68	6261	2.72	3.75
158.01	12 hours	1.42	6261	1.42	1.96
159.01	12 hours	1.37	6259	1.64	2.26
160.01	12 hours	2.82	6262	2.82	3.89
160.02	12 hours	3.02	6261	3.04	4.20
161.01	12 hours	5.44	6258	5.53	7.63
162.01	12 hours	0.490	6262	0.510	0.704
162.02	12 hours	3.34	6258	3.36	4.64
162.03	12 hours	3.40	6258	3.42	4.72
163.01	12 hours	0.710	6262	0.740	1.02
163.02	12 hours	2.11	6262	2.11	2.91
163.03	12 hours	6.29	6261	6.45	8.90
163.04	12 hours	9.52	6266	9.84	13.6
163.05	18 hours	20.3	6350	20.4	28.2
163.06	18 hours	21.1	6350	21.2	29.3
164.01	18 hours	7.29	6350	7.31	10.1
165.01	18 hours	3.47	6351	3.50	4.83
165.02	12 hours	4.00	6267	4.06	5.60
166.01	12 hours	1.10	6259	1.30	1.79
166.02	12 hours	2.33	6266	2.33	3.22
166.03	12 hours	3.97	6261	4.05	5.59
167.01	12 hours	0.850	6266	0.880	1.21
167.02	12 hours	1.62	6266	1.66	2.29
168.01	12 hours	2.34	6265	2.75	3.80
168.02	12 hours	2.36	6266	2.36	3.26
169.01	12 hours	4.22	6261	4.29	5.92
169.02	12 hours	4.79	6261	4.88	6.73
170.01	12 hours	0.710	6262	0.750	1.04
171.01	12 hours	0.800	6266	0.830	1.15
172.01	12 hours	0.510	6262	0.550	0.759
173.01	12 hours	0.980	6266	1.02	1.41
173.02	12 hours	7.44	6261	7.52	10.4
173.03	12 hours	14.6	6261	14.7	20.3
173.04	12 hours	15.8	6261	16.1	22.1
173.05	12 hours	20.0	6261	20.6	28.5
173.06	12 hours	25.7	6261	26.8	37.0
173.07	12 hours	46.9	6261	48.5	66.9
174.01	12 hours	0.770	6262	0.810	1.12
175.01	12 hours	0.620	6266	0.640	0.883
176.01	12 hours	0.560	6262	0.590	0.814
176.02	12 hours	3.01	6266	3.08	4.25
177.01	18 hours	2.20	6350	2.24	3.09

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	1.69	6261	1.73	2.39
179.01	12 hours	0.300	6265	0.360	0.497
180.01	18 hours	2.33	6350	2.34	3.23
180.02	18 hours	2.59	6357	2.59	3.57
181.01	12 hours	1.75	6261	1.78	2.46
182.01	12 hours	0.250	6262	0.260	0.359
183.01	12 hours	2.53	6266	2.56	3.53
183.02	12 hours	4.79	6266	4.90	6.76
183.03	12 hours	8.57	6266	8.80	12.1
183.04	12 hours	13.5	6261	13.5	18.6
183.05	12 hours	14.1	6261	14.1	19.4
183.06	12 hours	21.3	6261	21.4	29.6
184.01	12 hours	0.460	6262	0.490	0.676
184.02	12 hours	2.92	6261	2.93	4.04
185.01	12 hours	0.580	6262	0.610	0.842
185.02	12 hours	2.44	6266	2.60	3.59
186.01	12 hours	1.11	6262	1.13	1.56
187.01	12 hours	1.38	6265	1.64	2.26
187.02	12 hours	2.62	6265	3.08	4.25
188.01	12 hours	0.430	6262	0.460	0.635
189.01	12 hours	0.450	6262	0.480	0.662
190.01	12 hours	0.310	6262	0.320	0.442
191.01	12 hours	0.840	6266	0.860	1.19
192.01	12 hours	1.00	6262	1.04	1.44
193.01	12 hours	0.850	6262	0.880	1.21
194.01	12 hours	0.150	6262	0.160	0.221
195.01	12 hours	0.300	6262	0.300	0.414
196.01	12 hours	0.330	6262	0.350	0.483
197.01	12 hours	0.280	6262	0.290	0.400
198.01	12 hours	0.400	6262	0.410	0.566
199.01	12 hours	0.860	6266	0.900	1.24
199.02	12 hours	1.17	6262	1.21	1.67
200.01	12 hours	0.160	6262	0.160	0.221
201.01	12 hours	0.370	6262	0.380	0.524
202.01	18 hours	3.02	6351	3.03	4.18
203.01	12 hours	0.530	6262	0.550	0.759
204.01	12 hours	0.360	6262	0.370	0.511
205.01	12 hours	0.470	6262	0.490	0.676
206.01	12 hours	0.120	6262	0.130	0.179
207.01	12 hours	0.440	6262	0.470	0.649
208.01	12 hours	0.630	6262	0.660	0.911
208.02	12 hours	0.880	6262	0.940	1.30
208.03	12 hours	1.66	6262	1.74	2.40
208.04	12 hours	3.04	6261	3.21	4.43
208.05	12 hours	3.79	6258	3.82	5.27
208.06	18 hours	4.54	6350	4.62	6.38
209.01	12 hours	0.120	6262	0.120	0.166
210.01	12 hours	0.220	6262	0.240	0.331
211.01	12 hours	0.230	6262	0.240	0.331
211.02	12 hours	0.270	6262	0.280	0.386

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	0.940	6262	0.980	1.35
212.01	12 hours	0.110	6261	0.110	0.152
_junc_10	12 hours	20.5	6258	20.6	28.4
_junc_108	12 hours	0.410	6262	0.430	0.593
_junc_11	12 hours	329	6261	341	470
_junc_111	12 hours	2.29	6262	2.33	3.22
_junc_114	12 hours	1.34	6266	1.37	1.89
_junc_12	12 hours	10.4	6261	10.5	14.4
_junc_13	12 hours	101	6266	104	144
_junc_138	12 hours	7.18	6261	7.23	9.98
_junc_14	12 hours	86.0	6266	88.3	122
_junc_142	12 hours	5.55	6266	5.56	7.67
_junc_143	12 hours	162	6261	167	231
_junc_15	12 hours	307	6261	317	438
_junc_16	12 hours	335	6261	347	479
_junc_165	12 hours	23.0	6261	23.4	32.3
_junc_168	12 hours	21.6	6261	21.8	30.1
_junc_17	12 hours	95.9	6266	98.5	136
_junc_174	12 hours	15.8	6261	15.8	21.8
_junc_18	18 hours	37.0	6357	37.3	51.4
_junc_181	12 hours	0.070	6261	0.070	0.097
_junc_185	12 hours	0.070	6262	0.080	0.110
_junc_186	12 hours	0.220	6262	0.240	0.331
_junc_187	12 hours	1.78	6261	1.87	2.58
_junc_19	12 hours	132	6261	137	189
_junc_193	12 hours	7.70	6266	7.93	10.9
_junc_194	12 hours	11.0	6266	11.4	15.7
_junc_199	12 hours	13.4	6261	13.6	18.7
_junc_2	12 hours	157	6261	161	222
_junc_20	12 hours	111	6266	114	157
_junc_204	12 hours	5.94	6266	5.95	8.21
_junc_21	12 hours	120	6261	124	171
_junc_22	12 hours	341	6261	354	488
_junc_228	12 hours	0.380	6262	0.400	0.552
_junc_23	12 hours	346	6261	358	495
_junc_231	12 hours	140	6261	145	200
_junc_232	12 hours	17.9	6261	18.1	25.0
_junc_233	12 hours	25.3	6261	25.6	35.3
_junc_234	12 hours	335	6266	345	476
_junc_24	12 hours	21.4	6261	21.7	30.0
_junc_25	18 hours	16.2	6350	16.4	22.6
_junc_26	12 hours	14.6	6261	14.8	20.4
_junc_263	12 hours	8.49	6262	8.50	11.7
_junc_265	12 hours	8.28	6261	8.32	11.5
_junc_27	12 hours	8.84	6261	8.97	12.4
_junc_28	12 hours	373	6261	387	534
_junc_29	12 hours	371	6261	386	532
_junc_3	12 hours	13.6	6258	13.8	19.0
_junc_30	12 hours	375	6261	389	537
_junc_31	12 hours	11.2	6261	11.2	15.4

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	380	6261	395	544
_junc_324	12 hours	339	6266	349	482
_junc_328	12 hours	392	6266	405	559
_junc_329	12 hours	22.3	6261	23.2	32.0
_junc_33	12 hours	10.8	6266	11.3	15.6
_junc_330	12 hours	46.6	6261	48.1	66.4
_junc_331	12 hours	817	6266	836	1153
_junc_34	12 hours	17.5	6261	17.5	24.2
_junc_35	12 hours	5.91	6261	5.97	8.24
_junc_36	12 hours	329	6266	339	468
_junc_37	12 hours	12.6	6261	12.9	17.8
_junc_38	12 hours	10.1	6266	10.2	14.0
_junc_39	12 hours	365	6266	376	519
_junc_4	12 hours	14.3	6258	14.3	19.7
_junc_40	12 hours	18.1	6261	18.5	25.5
_junc_41	12 hours	11.1	6261	11.1	15.3
_junc_42	12 hours	20.6	6261	21.0	28.9
_junc_43	12 hours	52.6	6261	53.6	73.9
_junc_44	12 hours	342	6266	353	487
_junc_45	12 hours	306	6261	316	435
_junc_46	12 hours	26.4	6266	27.1	37.5
_junc_47	12 hours	346	6266	357	493
_junc_48	12 hours	252	6261	260	358
_junc_49	12 hours	12.3	6261	12.4	17.1
_junc_5	12 hours	12.8	6266	12.9	17.8
_junc_50	12 hours	38.9	6266	40.2	55.5
_junc_51	12 hours	247	6261	254	350
_junc_52	12 hours	44.7	6261	45.9	63.4
_junc_53	12 hours	12.1	6258	12.2	16.8
_junc_54	12 hours	62.5	6261	63.7	87.9
_junc_55	12 hours	70.4	6261	71.9	99.3
_junc_56	12 hours	227	6261	233	321
_junc_57	12 hours	93.9	6261	96.4	133
_junc_58	12 hours	215	6261	220	304
_junc_59	12 hours	201	6261	206	284
_junc_6	12 hours	41.6	6261	42.1	58.1
_junc_60	12 hours	210	6261	215	297
_junc_61	12 hours	19.7	6261	20.2	27.8
_junc_62	12 hours	96.3	6261	98.0	135
_junc_63	12 hours	86.2	6261	87.4	121
_junc_64	12 hours	39.7	6261	39.9	55.1
_junc_65	12 hours	11.2	6265	13.3	18.4
_junc_66	12 hours	73.4	6261	74.5	103
_junc_67	12 hours	44.3	6261	44.7	61.7
_junc_68	12 hours	31.7	6266	31.9	44.1
_junc_69	12 hours	23.7	6261	23.7	32.7
_junc_7	12 hours	48.0	6261	48.6	67.0
_junc_70	12 hours	18.1	6266	18.3	25.2
_junc_71	12 hours	14.8	6258	15.0	20.7
_junc_72	12 hours	26.3	6266	26.9	37.2

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	12.8	6266	12.9	17.8
_junc_74	12 hours	8.40	6262	8.42	11.6
_junc_75	18 hours	26.2	6350	26.3	36.3
_junc_76	12 hours	10.4	6261	10.5	14.5
_junc_77	12 hours	25.9	6261	26.1	36.0
_junc_78	12 hours	32.1	6261	32.3	44.5
_junc_79	12 hours	36.7	6261	36.8	50.8
_junc_8	12 hours	18.6	6266	18.7	25.7
_junc_80	12 hours	14.8	6266	14.8	20.5
_junc_81	12 hours	67.7	6261	69.4	95.8
_junc_82	12 hours	15.7	6261	15.9	22.0
_junc_83	12 hours	12.5	6261	12.7	17.6
_junc_84	12 hours	83.5	6261	85.5	118
_junc_85	12 hours	16.8	6261	17.1	23.7
_junc_86	12 hours	104	6261	106	147
_junc_87	12 hours	36.5	6261	37.2	51.3
_junc_88	12 hours	39.8	6261	40.5	55.9
_junc_89	12 hours	94.9	6261	97.2	134
_junc_9	12 hours	24.7	6261	24.8	34.2
_junc_90	12 hours	152	6261	156	215
_junc_91	12 hours	9.87	6267	9.93	13.7

5% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	12.4	6262	12.5	16.9
1.02	12 hours	16.2	6266	16.4	22.3
1.03	12 hours	22.6	6266	22.9	31.1
1.04	12 hours	32.1	6266	32.3	43.9
1.05	12 hours	41.1	6266	41.2	56.0
1.06	12 hours	41.9	6266	42.1	57.2
1.07	12 hours	49.8	6266	50.1	68.2
1.08	12 hours	54.7	6266	55.1	75.0
1.09	12 hours	56.3	6266	56.6	77.0
1.10	12 hours	91.7	6261	92.5	126
1.11	12 hours	110	6261	111	151
1.12	12 hours	123	6261	125	169
1.13	12 hours	249	6261	254	345
1.14	12 hours	259	6261	264	359
1.15	12 hours	260	6261	265	360
1.16	12 hours	264	6261	270	367
1.17	12 hours	285	6261	291	396
1.18	12 hours	305	6261	313	425
1.19	12 hours	310	6261	318	432
1.20	12 hours	378	6261	387	527
1.21	12 hours	380	6261	390	530
1.22	12 hours	408	6261	418	568
1.23	12 hours	414	6261	425	578
1.24	12 hours	415	6261	425	578
1.25	12 hours	416	6261	427	581
1.26	12 hours	421	6261	432	587
1.27	12 hours	425	6261	437	594
1.28	12 hours	426	6261	437	594
1.29	12 hours	449	6266	461	627
1.30	12 hours	451	6266	463	629
1.31	12 hours	486	6266	498	677
1.32	12 hours	486	6266	498	677
1.33	12 hours	953	6266	971	1321
1.34	12 hours	954	6266	972	1322
1.35	12 hours	1006	6266	1023	1391
1.36	12 hours	1007	6266	1023	1392
1.37	12 hours	1008	6266	1024	1392
1.38	12 hours	1009	6266	1024	1393
1.39	12 hours	1014	6266	1028	1398
1.40	12 hours	1022	6266	1034	1407
2.01	12 hours	3.15	6262	3.22	4.38
3.01	12 hours	5.71	6259	6.76	9.19
4.01	12 hours	6.08	6266	6.11	8.31
5.01	12 hours	6.28	6259	7.46	10.1
6.01	12 hours	6.34	6261	6.44	8.76
7.01	12 hours	4.06	6266	4.13	5.62
8.01	18 hours	11.3	6350	11.3	15.4
8.02	12 hours	22.3	6266	22.9	31.1
8.03	12 hours	22.3	6266	22.9	31.2

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	32.6	6261	33.3	45.3
8.05	12 hours	33.6	6261	34.3	46.7
9.01	12 hours	7.16	6262	7.16	9.74
10.01	12 hours	4.24	6262	4.25	5.78
10.02	12 hours	10.3	6262	10.3	14.0
11.01	12 hours	5.96	6261	5.97	8.12
12.01	12 hours	4.99	6259	5.90	8.02
12.02	12 hours	8.66	6266	8.78	11.9
12.03	12 hours	13.8	6266	13.9	19.0
13.01	12 hours	1.66	6262	1.74	2.37
14.01	12 hours	4.10	6262	4.10	5.58
14.02	12 hours	4.96	6265	5.86	7.97
15.01	12 hours	0.690	6262	0.730	0.993
16.01	12 hours	5.17	6258	5.23	7.11
16.02	12 hours	7.81	6258	7.84	10.7
17.01	12 hours	8.04	6261	8.21	11.2
17.02	12 hours	18.6	6262	18.6	25.3
17.03	12 hours	23.9	6262	23.9	32.5
17.04	12 hours	33.8	6261	34.4	46.8
17.05	12 hours	39.8	6261	40.6	55.2
17.06	12 hours	49.7	6261	50.7	69.0
17.07	12 hours	56.8	6261	57.8	78.6
17.08	12 hours	78.3	6261	79.3	108
17.09	12 hours	80.1	6261	81.2	110
17.10	12 hours	86.3	6261	87.6	119
17.11	12 hours	121	6261	123	168
17.12	12 hours	123	6261	125	171
17.13	12 hours	124	6261	127	172
18.01	12 hours	7.49	6262	7.49	10.2
19.01	12 hours	3.65	6262	3.66	4.98
20.01	12 hours	8.71	6258	8.84	12.0
21.01	12 hours	7.20	6258	7.29	9.91
21.02	12 hours	8.07	6258	8.15	11.1
22.01	12 hours	5.50	6259	6.52	8.87
23.01	12 hours	4.52	6266	4.57	6.22
23.02	12 hours	14.4	6262	14.5	19.7
23.03	12 hours	19.6	6261	19.7	26.8
23.04	12 hours	19.9	6261	20.0	27.2
24.01	12 hours	5.81	6261	5.81	7.90
25.01	12 hours	2.03	6266	2.11	2.87
26.01	12 hours	6.17	6261	6.34	8.62
26.02	12 hours	6.26	6261	6.42	8.73
27.01	12 hours	8.01	6262	8.04	10.9
27.02	12 hours	17.3	6261	17.6	23.9
27.03	12 hours	29.1	6261	30.0	40.7
28.01	12 hours	1.64	6262	1.73	2.35
28.02	12 hours	2.23	6266	2.35	3.20
29.01	12 hours	6.86	6261	6.96	9.47
30.01	12 hours	2.05	6266	2.05	2.79
31.01	12 hours	1.48	6265	1.73	2.35

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	8.35	6261	8.60	11.7
33.01	12 hours	4.03	6261	4.09	5.56
34.01	12 hours	5.96	6262	5.97	8.12
34.02	12 hours	14.7	6266	14.9	20.3
34.03	12 hours	14.9	6266	15.2	20.6
35.01	12 hours	4.11	6261	4.17	5.67
35.02	12 hours	8.46	6258	8.52	11.6
35.03	12 hours	11.5	6258	11.5	15.6
35.04	12 hours	11.6	6258	11.6	15.8
35.05	12 hours	18.3	6266	18.7	25.5
36.01	12 hours	0.510	6266	0.530	0.721
37.01	12 hours	3.42	6266	3.47	4.72
38.01	12 hours	3.47	6266	3.56	4.84
38.02	12 hours	4.26	6261	4.35	5.92
39.01	12 hours	4.80	6262	4.82	6.56
39.02	12 hours	9.97	6266	10.3	14.1
39.03	12 hours	14.5	6266	15.2	20.6
39.04	12 hours	28.9	6261	29.0	39.5
39.05	12 hours	36.5	6261	36.9	50.2
39.06	12 hours	67.1	6261	67.8	92.2
40.01	12 hours	2.60	6266	2.70	3.67
41.01	12 hours	3.27	6266	3.40	4.62
42.01	12 hours	6.84	6261	6.88	9.36
43.01	12 hours	2.19	6266	2.19	2.98
44.01	12 hours	7.44	6266	7.50	10.2
44.02	12 hours	18.6	6261	18.7	25.4
44.03	12 hours	28.2	6261	28.6	38.9
45.01	12 hours	4.90	6262	4.94	6.72
46.01	12 hours	6.88	6258	6.91	9.40
47.01	12 hours	6.30	6266	6.34	8.62
47.02	12 hours	8.81	6266	8.93	12.1
47.03	12 hours	9.54	6266	9.84	13.4
47.04	12 hours	19.6	6261	19.6	26.7
47.05	12 hours	25.3	6266	26.1	35.5
48.01	12 hours	2.40	6266	2.42	3.29
49.01	12 hours	3.46	6259	4.09	5.56
49.02	12 hours	3.94	6266	4.02	5.47
49.03	12 hours	3.99	6266	4.09	5.56
50.01	12 hours	0.660	6262	0.700	0.952
51.01	12 hours	2.30	6266	2.31	3.14
52.01	12 hours	1.04	6266	1.09	1.48
52.02	12 hours	2.50	6266	2.56	3.48
53.01	12 hours	3.64	6262	3.67	4.99
54.01	12 hours	1.41	6265	1.67	2.27
54.02	12 hours	2.06	6266	2.12	2.88
54.03	12 hours	2.32	6266	2.45	3.33
55.01	12 hours	1.73	6262	1.76	2.39
56.01	12 hours	2.39	6266	2.40	3.26
56.02	12 hours	3.98	6266	4.00	5.44
56.03	12 hours	4.68	6266	4.70	6.39

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	2.07	6266	2.12	2.88
57.02	12 hours	4.84	6267	4.92	6.69
58.01	12 hours	3.80	6262	3.81	5.18
58.02	12 hours	5.56	6262	5.57	7.58
58.03	12 hours	8.05	6266	8.07	11.0
58.04	12 hours	13.5	6266	13.6	18.4
58.05	12 hours	14.5	6261	14.5	19.8
58.06	12 hours	21.0	6261	21.1	28.7
58.07	12 hours	24.0	6261	24.2	33.0
59.01	12 hours	1.71	6259	2.03	2.76
60.01	12 hours	1.59	6266	1.61	2.19
60.02	12 hours	2.04	6266	2.05	2.79
60.03	12 hours	4.41	6266	4.48	6.09
61.01	12 hours	1.30	6259	1.54	2.09
62.01	12 hours	0.300	6262	0.320	0.435
63.01	12 hours	0.030	6262	0.030	0.041
64.01	12 hours	0.880	6266	0.910	1.24
64.02	12 hours	4.89	6266	5.20	7.07
65.01	12 hours	0.510	6262	0.540	0.734
66.01	12 hours	0.630	6262	0.660	0.898
66.02	12 hours	2.27	6261	2.27	3.09
67.01	12 hours	0.120	6262	0.130	0.177
68.01	12 hours	0.200	6262	0.210	0.286
69.01	12 hours	0.200	6261	0.200	0.272
69.02	12 hours	0.340	6262	0.360	0.490
70.01	12 hours	0.150	6262	0.160	0.218
71.01	12 hours	0.160	6261	0.160	0.218
72.01	12 hours	0.190	6262	0.200	0.272
73.01	12 hours	0.140	6262	0.150	0.204
74.01	12 hours	1.20	6262	1.21	1.65
75.01	48 hours	1.06	6621	1.07	1.46
75.02	36 hours	1.25	6536	1.27	1.73
76.01	12 hours	0.850	6266	0.860	1.17
76.02	12 hours	0.910	6262	0.920	1.25
77.01	12 hours	2.06	6262	2.06	2.80
77.02	12 hours	4.54	6266	4.60	6.26
77.03	12 hours	8.65	6261	8.70	11.8
77.04	12 hours	9.67	6261	9.69	13.2
77.05	12 hours	10.3	6261	10.3	14.0
77.06	12 hours	10.5	6261	10.5	14.2
77.07	12 hours	20.3	6266	21.4	29.2
77.08	12 hours	20.8	6266	22.0	29.9
77.09	12 hours	20.9	6266	22.1	30.1
77.10	12 hours	21.3	6261	21.3	28.9
77.11	12 hours	24.3	6261	24.4	33.1
77.12	12 hours	27.2	6261	27.4	37.2
77.13	12 hours	32.8	6261	33.4	45.4
78.01	12 hours	1.94	6261	1.94	2.64
78.02	12 hours	4.59	6261	4.59	6.24
79.01	12 hours	1.29	6266	1.32	1.80

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	0.570	6262	0.600	0.816
81.01	12 hours	1.28	6266	1.29	1.75
81.02	12 hours	1.42	6266	1.45	1.97
81.03	12 hours	2.86	6262	2.96	4.03
81.04	12 hours	5.28	6262	5.48	7.45
82.01	12 hours	0.280	6262	0.290	0.394
82.02	12 hours	1.18	6262	1.23	1.67
82.03	12 hours	1.35	6262	1.41	1.92
83.01	12 hours	0.850	6262	0.900	1.22
83.02	12 hours	1.70	6262	1.80	2.45
83.03	12 hours	1.89	6262	1.99	2.71
84.01	12 hours	0.160	6262	0.170	0.231
84.02	12 hours	0.600	6262	0.630	0.857
85.01	12 hours	0.320	6262	0.340	0.462
86.01	12 hours	0.050	6261	0.050	0.068
87.01	12 hours	0.250	6262	0.260	0.354
87.02	12 hours	0.460	6262	0.490	0.666
88.01	12 hours	0.100	6262	0.100	0.136
89.01	12 hours	0.150	6262	0.160	0.218
90.01	12 hours	0.090	6262	0.100	0.136
91.01	12 hours	0.280	6262	0.300	0.408
92.01	12 hours	0.470	6266	0.480	0.653
92.02	12 hours	1.88	6261	1.90	2.58
92.03	12 hours	2.00	6261	2.04	2.77
92.04	12 hours	2.91	6261	3.01	4.09
93.01	12 hours	0.150	6262	0.150	0.204
94.01	12 hours	0.170	6262	0.180	0.245
95.01	12 hours	0.210	6262	0.220	0.299
96.01	12 hours	0.090	6262	0.090	0.122
97.01	12 hours	0.100	6262	0.100	0.136
98.01	12 hours	0.280	6262	0.300	0.408
99.01	12 hours	1.66	6261	1.68	2.28
99.02	12 hours	2.21	6261	2.27	3.09
100.01	12 hours	0.050	6262	0.050	0.068
101.01	12 hours	0.040	6262	0.040	0.054
102.01	12 hours	0.060	6262	0.070	0.095
103.01	12 hours	0.040	6261	0.040	0.054
104.01	12 hours	0.130	6262	0.140	0.190
104.02	12 hours	0.340	6262	0.360	0.490
105.01	12 hours	0.030	6261	0.030	0.041
106.01	18 hours	3.30	6350	3.31	4.50
106.02	18 hours	4.76	6355	4.81	6.54
107.01	12 hours	1.63	6265	1.93	2.62
108.01	12 hours	1.09	6261	1.12	1.52
108.02	12 hours	1.12	6261	1.15	1.56
109.01	12 hours	2.26	6259	2.66	3.62
110.01	12 hours	1.31	6262	1.35	1.84
111.01	12 hours	0.610	6262	0.630	0.857
112.01	12 hours	0.470	6262	0.490	0.666
113.01	12 hours	0.230	6262	0.230	0.313

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	7.35	6261	7.45	10.1
114.02	12 hours	11.2	6261	11.3	15.4
114.03	12 hours	21.7	6261	21.9	29.8
114.04	18 hours	34.4	6355	34.9	47.5
114.05	18 hours	45.9	6357	46.1	62.6
114.06	12 hours	109	6261	112	152
114.07	12 hours	118	6261	121	165
114.08	12 hours	128	6261	132	179
114.09	12 hours	132	6261	135	183
114.10	12 hours	139	6261	142	193
114.11	12 hours	148	6261	152	206
114.12	12 hours	150	6261	154	209
114.13	12 hours	170	6261	174	237
114.14	12 hours	177	6261	182	248
114.15	12 hours	178	6261	183	249
114.16	12 hours	381	6261	391	532
114.17	12 hours	406	6261	418	569
114.18	12 hours	413	6261	426	579
114.19	12 hours	416	6261	429	584
114.20	12 hours	421	6261	434	590
114.21	12 hours	453	6261	469	637
114.22	12 hours	458	6261	474	644
114.23	12 hours	460	6261	475	646
114.24	12 hours	464	6261	479	652
114.25	12 hours	471	6261	487	662
115.01	12 hours	3.49	6262	3.50	4.76
116.01	12 hours	6.59	6261	6.66	9.06
117.01	12 hours	4.54	6261	4.55	6.19
118.01	18 hours	11.6	6350	11.6	15.8
119.01	12 hours	12.7	6266	13.1	17.8
119.02	12 hours	19.7	6261	20.1	27.3
119.03	12 hours	53.3	6261	53.8	73.1
119.04	12 hours	61.7	6261	62.3	84.8
120.01	12 hours	5.04	6261	5.10	6.94
121.01	12 hours	7.01	6259	8.32	11.3
121.02	12 hours	18.2	6266	18.2	24.8
121.03	12 hours	23.6	6266	23.6	32.2
121.04	12 hours	31.3	6266	31.5	42.9
122.01	12 hours	8.47	6266	8.51	11.6
123.01	12 hours	4.33	6265	5.15	7.00
124.01	12 hours	6.45	6261	6.52	8.87
125.01	12 hours	5.33	6266	5.34	7.26
126.01	12 hours	8.90	6261	9.18	12.5
127.01	12 hours	6.45	6266	6.51	8.85
128.01	12 hours	5.23	6261	5.33	7.25
129.01	12 hours	4.20	6265	4.97	6.76
129.02	12 hours	7.87	6266	8.04	10.9
129.03	12 hours	10.1	6266	10.3	14.1
130.01	12 hours	2.56	6266	2.57	3.50
131.01	12 hours	1.98	6262	2.08	2.83

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	8.32	6258	8.45	11.5
131.03	12 hours	12.8	6258	12.8	17.4
132.01	12 hours	3.32	6259	3.92	5.33
133.01	12 hours	10.2	6265	12.1	16.4
133.02	12 hours	21.9	6265	26.0	35.4
133.03	12 hours	35.6	6261	35.7	48.5
133.04	12 hours	40.3	6266	40.6	55.3
133.05	12 hours	50.6	6261	50.7	68.9
133.06	12 hours	50.9	6261	50.9	69.2
133.07	12 hours	90.1	6261	92.0	125
133.08	12 hours	90.9	6261	92.7	126
133.09	12 hours	109	6261	111	151
133.10	12 hours	120	6261	122	166
133.11	12 hours	135	6261	139	188
133.12	12 hours	188	6261	191	260
133.13	12 hours	197	6261	202	275
133.14	12 hours	201	6261	206	280
134.01	12 hours	7.67	6266	7.68	10.4
135.01	12 hours	9.74	6261	9.94	13.5
136.01	12 hours	3.51	6262	3.56	4.84
137.01	12 hours	4.34	6265	5.17	7.03
138.01	18 hours	15.9	6351	16.0	21.8
138.02	18 hours	19.6	6351	19.8	26.9
138.03	18 hours	33.4	6350	33.7	45.9
139.01	12 hours	6.84	6261	6.90	9.38
139.02	12 hours	13.1	6261	13.5	18.3
140.01	12 hours	0.710	6262	0.740	1.01
141.01	12 hours	10.0	6266	10.0	13.6
141.02	12 hours	11.9	6266	11.9	16.2
142.01	12 hours	1.26	6262	1.32	1.80
143.01	12 hours	7.81	6266	7.85	10.7
144.01	12 hours	7.46	6266	7.52	10.2
145.01	12 hours	5.46	6266	5.46	7.43
145.02	12 hours	15.1	6261	15.3	20.8
145.03	12 hours	23.4	6261	23.7	32.2
145.04	12 hours	44.9	6261	45.6	62.0
145.05	12 hours	45.0	6261	45.7	62.2
145.06	12 hours	51.7	6261	52.4	71.2
146.01	12 hours	7.35	6261	7.52	10.2
147.01	12 hours	4.11	6259	4.89	6.65
148.01	12 hours	10.6	6261	10.9	14.8
148.02	12 hours	16.1	6261	16.5	22.4
148.03	12 hours	21.3	6261	21.7	29.6
149.01	12 hours	4.72	6261	4.76	6.47
150.01	12 hours	4.42	6262	4.42	6.01
151.01	12 hours	3.77	6265	4.47	6.08
152.01	12 hours	1.55	6266	1.61	2.19
153.01	12 hours	5.08	6261	5.15	7.00
154.01	12 hours	2.07	6262	2.10	2.86
154.02	12 hours	2.73	6262	2.78	3.78

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	12 hours	7.75	6267	7.81	10.6
155.02	12 hours	7.84	6267	7.92	10.8
155.03	12 hours	13.1	6258	13.3	18.0
155.04	12 hours	13.7	6258	13.8	18.8
155.05	12 hours	21.8	6261	22.3	30.3
155.06	12 hours	25.7	6261	26.1	35.5
156.01	12 hours	4.47	6262	4.47	6.08
156.02	12 hours	4.65	6261	4.72	6.42
157.01	12 hours	3.28	6262	3.29	4.47
158.01	12 hours	1.74	6265	2.05	2.79
159.01	12 hours	1.66	6259	1.98	2.69
160.01	12 hours	3.44	6262	3.45	4.69
160.02	12 hours	3.69	6261	3.71	5.05
161.01	12 hours	6.77	6258	6.79	9.23
162.01	12 hours	0.590	6262	0.610	0.830
162.02	12 hours	4.13	6261	4.23	5.75
162.03	12 hours	4.20	6261	4.30	5.85
163.01	12 hours	0.860	6262	0.900	1.22
163.02	12 hours	2.56	6262	2.61	3.55
163.03	12 hours	7.79	6261	7.92	10.8
163.04	12 hours	11.8	6261	12.1	16.5
163.05	12 hours	25.3	6267	25.3	34.4
163.06	12 hours	26.3	6258	26.7	36.4
164.01	18 hours	9.12	6350	9.13	12.4
165.01	12 hours	4.35	6267	4.36	5.93
165.02	12 hours	5.04	6267	5.04	6.85
166.01	12 hours	1.33	6262	1.35	1.84
166.02	12 hours	2.83	6265	3.35	4.56
166.03	12 hours	4.90	6261	4.94	6.72
167.01	12 hours	1.04	6266	1.08	1.47
167.02	12 hours	1.97	6266	2.04	2.77
168.01	12 hours	2.84	6262	2.84	3.86
168.02	12 hours	2.86	6265	3.37	4.58
169.01	12 hours	5.18	6262	5.18	7.04
169.02	12 hours	5.88	6261	5.96	8.11
170.01	12 hours	0.860	6262	0.910	1.24
171.01	12 hours	0.970	6262	0.980	1.33
172.01	12 hours	0.620	6262	0.650	0.884
173.01	12 hours	1.18	6262	1.24	1.69
173.02	12 hours	9.11	6266	9.55	13.0
173.03	12 hours	17.9	6261	17.9	24.4
173.04	12 hours	19.4	6261	19.6	26.6
173.05	12 hours	24.7	6261	25.3	34.4
173.06	12 hours	31.8	6261	32.9	44.8
173.07	12 hours	57.6	6261	59.0	80.3
174.01	12 hours	0.940	6262	0.990	1.35
175.01	12 hours	0.740	6266	0.770	1.05
176.01	12 hours	0.670	6262	0.700	0.952
176.02	12 hours	3.65	6266	3.70	5.03
177.01	18 hours	2.77	6357	2.78	3.78

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	2.08	6261	2.11	2.87
179.01	12 hours	0.360	6259	0.430	0.585
180.01	18 hours	2.90	6350	2.91	3.96
180.02	18 hours	3.22	6357	3.23	4.39
181.01	12 hours	2.15	6262	2.15	2.92
182.01	12 hours	0.300	6262	0.310	0.422
183.01	12 hours	3.05	6266	3.10	4.22
183.02	12 hours	5.80	6266	5.89	8.01
183.03	12 hours	10.4	6266	10.6	14.4
183.04	12 hours	16.4	6266	16.9	23.0
183.05	12 hours	17.1	6266	17.6	23.9
183.06	12 hours	25.9	6266	26.3	35.7
184.01	12 hours	0.560	6262	0.590	0.802
184.02	12 hours	3.55	6266	3.64	4.95
185.01	12 hours	0.690	6262	0.730	0.993
185.02	12 hours	2.96	6266	3.13	4.26
186.01	12 hours	1.34	6266	1.37	1.86
187.01	12 hours	1.68	6259	2.01	2.73
187.02	12 hours	3.19	6265	3.78	5.14
188.01	12 hours	0.530	6262	0.570	0.775
189.01	12 hours	0.550	6262	0.580	0.789
190.01	12 hours	0.370	6262	0.390	0.530
191.01	12 hours	1.03	6266	1.05	1.43
192.01	12 hours	1.20	6262	1.25	1.70
193.01	12 hours	1.02	6262	1.06	1.44
194.01	12 hours	0.180	6262	0.190	0.258
195.01	12 hours	0.360	6262	0.370	0.503
196.01	12 hours	0.410	6262	0.420	0.571
197.01	12 hours	0.340	6262	0.350	0.476
198.01	12 hours	0.480	6262	0.500	0.680
199.01	12 hours	1.04	6262	1.09	1.48
199.02	12 hours	1.41	6262	1.48	2.01
200.01	12 hours	0.190	6262	0.200	0.272
201.01	12 hours	0.450	6262	0.460	0.626
202.01	12 hours	3.78	6258	3.84	5.22
203.01	12 hours	0.630	6262	0.660	0.898
204.01	12 hours	0.440	6262	0.460	0.626
205.01	12 hours	0.560	6262	0.580	0.789
206.01	12 hours	0.150	6261	0.150	0.204
207.01	12 hours	0.530	6262	0.560	0.762
208.01	12 hours	0.760	6262	0.790	1.07
208.02	12 hours	1.06	6262	1.12	1.52
208.03	12 hours	2.00	6262	2.11	2.87
208.04	12 hours	3.75	6261	3.95	5.37
208.05	12 hours	4.72	6258	4.73	6.43
208.06	18 hours	5.68	6350	5.75	7.82
209.01	12 hours	0.140	6262	0.150	0.204
210.01	12 hours	0.270	6262	0.280	0.381
211.01	12 hours	0.280	6262	0.290	0.394
211.02	12 hours	0.320	6262	0.330	0.449

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	1.14	6262	1.19	1.62
212.01	12 hours	0.130	6261	0.140	0.190
_junc_10	12 hours	25.4	6261	25.9	35.2
_junc_108	12 hours	0.490	6262	0.510	0.694
_junc_11	12 hours	405	6261	417	567
_junc_111	12 hours	2.77	6262	2.86	3.89
_junc_114	12 hours	1.66	6261	1.68	2.28
_junc_12	12 hours	12.7	6266	13.3	18.0
_junc_13	12 hours	124	6261	127	173
_junc_138	12 hours	8.70	6266	8.76	11.9
_junc_14	12 hours	106	6261	108	147
_junc_142	12 hours	6.73	6259	7.99	10.9
_junc_143	12 hours	200	6261	204	278
_junc_15	12 hours	378	6261	388	528
_junc_16	12 hours	413	6261	425	578
_junc_165	12 hours	28.2	6261	28.5	38.8
_junc_168	12 hours	26.4	6261	26.6	36.1
_junc_17	12 hours	118	6261	121	164
_junc_174	12 hours	19.3	6266	19.6	26.6
_junc_18	18 hours	45.8	6357	45.9	62.5
_junc_181	12 hours	0.080	6261	0.080	0.109
_junc_185	12 hours	0.090	6262	0.090	0.122
_junc_186	12 hours	0.270	6262	0.280	0.381
_junc_187	12 hours	2.17	6261	2.25	3.06
_junc_19	12 hours	163	6261	167	227
_junc_193	12 hours	9.34	6266	9.54	13.0
_junc_194	12 hours	13.4	6266	13.7	18.7
_junc_199	12 hours	16.3	6261	16.4	22.3
_junc_2	12 hours	192	6261	196	267
_junc_20	12 hours	136	6261	140	190
_junc_204	12 hours	7.25	6261	7.26	9.87
_junc_21	12 hours	148	6261	151	206
_junc_22	12 hours	420	6261	433	589
_junc_228	12 hours	0.450	6262	0.470	0.639
_junc_23	12 hours	426	6261	439	597
_junc_231	12 hours	173	6261	177	241
_junc_232	12 hours	21.8	6261	21.9	29.7
_junc_233	12 hours	31.0	6261	31.1	42.3
_junc_234	12 hours	411	6261	422	573
_junc_24	12 hours	26.2	6261	26.5	36.0
_junc_25	12 hours	20.3	6267	20.3	27.6
_junc_26	12 hours	17.8	6261	18.0	24.4
_junc_263	12 hours	10.3	6261	10.4	14.1
_junc_265	12 hours	10.1	6261	10.1	13.8
_junc_27	12 hours	10.8	6262	10.8	14.7
_junc_28	12 hours	460	6261	475	646
_junc_29	12 hours	458	6261	473	644
_junc_3	12 hours	16.9	6258	17.0	23.1
_junc_30	12 hours	462	6261	478	650
_junc_31	12 hours	13.5	6266	13.9	18.9

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	469	6261	485	660
_junc_324	12 hours	416	6261	426	580
_junc_328	12 hours	482	6266	495	673
_junc_329	12 hours	27.6	6261	28.4	38.6
_junc_33	12 hours	13.1	6266	13.7	18.7
_junc_330	12 hours	57.3	6261	58.7	79.8
_junc_331	12 hours	1006	6266	1023	1391
_junc_34	12 hours	21.3	6266	22.0	29.9
_junc_35	12 hours	7.23	6261	7.27	9.89
_junc_36	12 hours	404	6261	414	563
_junc_37	12 hours	15.5	6261	15.7	21.4
_junc_38	12 hours	12.3	6266	12.4	16.8
_junc_39	12 hours	448	6266	460	625
_junc_4	12 hours	17.7	6261	18.0	24.5
_junc_40	12 hours	22.2	6262	22.2	30.2
_junc_41	12 hours	13.5	6266	13.6	18.5
_junc_42	12 hours	25.3	6261	25.6	34.9
_junc_43	12 hours	64.7	6261	65.4	88.9
_junc_44	12 hours	421	6261	431	586
_junc_45	12 hours	376	6261	385	524
_junc_46	12 hours	32.5	6261	33.2	45.1
_junc_47	12 hours	425	6261	436	593
_junc_48	12 hours	309	6261	317	431
_junc_49	12 hours	15.0	6261	15.1	20.5
_junc_5	12 hours	15.5	6266	15.5	21.1
_junc_50	12 hours	47.9	6261	49.0	66.6
_junc_51	12 hours	303	6261	310	421
_junc_52	12 hours	54.9	6261	55.9	76.0
_junc_53	12 hours	15.0	6266	15.4	21.0
_junc_54	12 hours	76.5	6261	77.6	105
_junc_55	12 hours	86.3	6261	87.6	119
_junc_56	12 hours	278	6261	284	386
_junc_57	12 hours	115	6261	117	160
_junc_58	12 hours	264	6261	269	366
_junc_59	12 hours	247	6261	251	341
_junc_6	12 hours	50.8	6261	51.2	69.7
_junc_60	12 hours	257	6261	262	357
_junc_61	12 hours	24.1	6261	24.5	33.3
_junc_62	12 hours	118	6261	119	162
_junc_63	12 hours	105	6261	106	144
_junc_64	12 hours	48.1	6266	48.4	65.9
_junc_65	12 hours	13.6	6266	13.7	18.6
_junc_66	12 hours	89.7	6261	90.4	123
_junc_67	12 hours	53.8	6266	54.2	73.7
_junc_68	12 hours	38.4	6266	38.5	52.4
_junc_69	12 hours	28.7	6266	28.9	39.3
_junc_7	12 hours	58.5	6261	59.0	80.3
_junc_70	12 hours	21.9	6266	22.1	30.0
_junc_71	12 hours	18.3	6258	18.4	25.0
_junc_72	12 hours	32.3	6261	33.0	44.9

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	15.6	6266	15.6	21.2
_junc_74	12 hours	10.2	6262	10.2	13.9
_junc_75	18 hours	32.1	6350	32.3	43.9
_junc_76	12 hours	12.7	6261	12.9	17.5
_junc_77	12 hours	31.5	6261	31.5	42.9
_junc_78	12 hours	39.0	6261	39.0	53.0
_junc_79	12 hours	44.6	6266	44.9	61.0
_junc_8	12 hours	22.5	6265	26.5	36.1
_junc_80	12 hours	17.9	6265	21.2	28.8
_junc_81	12 hours	83.1	6261	84.6	115
_junc_82	12 hours	19.2	6261	19.3	26.3
_junc_83	12 hours	15.3	6261	15.6	21.2
_junc_84	12 hours	102	6261	104	142
_junc_85	12 hours	20.5	6261	21.0	28.5
_junc_86	12 hours	127	6261	129	176
_junc_87	12 hours	44.6	6261	45.3	61.6
_junc_88	12 hours	48.7	6261	49.4	67.2
_junc_89	12 hours	116	6261	118	161
_junc_9	12 hours	30.0	6266	30.2	41.1
_junc_90	12 hours	186	6261	190	258
_junc_91	12 hours	12.4	6258	12.6	17.1

2% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	15.4	6262	15.5	19.6
1.02	12 hours	20.1	6266	20.2	25.7
1.03	12 hours	28.0	6266	28.2	35.9
1.04	12 hours	39.8	6266	39.9	50.6
1.05	12 hours	50.9	6266	50.9	64.6
1.06	12 hours	51.9	6266	51.9	66.0
1.07	12 hours	61.8	6266	62.0	78.7
1.08	12 hours	67.9	6266	68.2	86.7
1.09	12 hours	69.8	6266	70.2	89.1
1.10	12 hours	114	6261	115	146
1.11	12 hours	137	6261	138	175
1.12	12 hours	153	6261	155	197
1.13	12 hours	312	6261	316	402
1.14	12 hours	324	6261	329	418
1.15	12 hours	325	6261	330	419
1.16	12 hours	331	6261	336	427
1.17	12 hours	356	6261	363	461
1.18	12 hours	382	6261	390	495
1.19	12 hours	388	6261	396	503
1.20	12 hours	473	6261	483	613
1.21	12 hours	476	6261	486	617
1.22	12 hours	510	6261	520	661
1.23	12 hours	519	6266	529	672
1.24	12 hours	519	6266	529	672
1.25	12 hours	521	6266	531	675
1.26	12 hours	526	6266	537	682
1.27	12 hours	532	6266	543	690
1.28	12 hours	533	6266	544	691
1.29	12 hours	562	6266	574	728
1.30	12 hours	564	6266	575	731
1.31	12 hours	608	6266	620	787
1.32	12 hours	609	6266	620	787
1.33	12 hours	1196	6266	1211	1538
1.34	12 hours	1197	6266	1212	1539
1.35	12 hours	1263	6266	1276	1621
1.36	12 hours	1264	6266	1277	1622
1.37	12 hours	1265	6266	1277	1622
1.38	12 hours	1266	6266	1278	1623
1.39	12 hours	1272	6266	1283	1629
1.40	12 hours	1282	6266	1291	1640
2.01	12 hours	3.90	6262	4.04	5.13
3.01	12 hours	7.04	6259	8.16	10.4
4.01	12 hours	7.53	6266	7.54	9.58
5.01	12 hours	7.77	6266	7.78	9.88
6.01	12 hours	7.93	6262	7.96	10.1
7.01	12 hours	5.10	6262	5.13	6.52
8.01	18 hours	14.3	6350	14.4	18.3
8.02	12 hours	28.0	6266	28.7	36.5
8.03	12 hours	28.1	6266	28.8	36.5

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	40.8	6261	41.6	52.8
8.05	12 hours	42.1	6261	42.9	54.4
9.01	12 hours	8.93	6262	8.98	11.4
10.01	12 hours	5.27	6262	5.28	6.71
10.02	12 hours	12.7	6262	12.7	16.2
11.01	12 hours	7.41	6262	7.42	9.42
12.01	12 hours	6.15	6262	6.19	7.86
12.02	12 hours	10.7	6262	10.7	13.6
12.03	12 hours	17.1	6266	17.3	21.9
13.01	12 hours	2.05	6262	2.17	2.76
14.01	12 hours	5.09	6266	5.09	6.46
14.02	12 hours	6.15	6266	6.18	7.85
15.01	12 hours	0.850	6262	0.900	1.14
16.01	12 hours	6.53	6258	6.55	8.32
16.02	12 hours	9.83	6266	10.1	12.8
17.01	12 hours	10.0	6262	10.1	12.8
17.02	12 hours	23.1	6262	23.3	29.5
17.03	12 hours	29.8	6262	29.9	38.0
17.04	12 hours	42.2	6261	42.8	54.4
17.05	12 hours	49.8	6262	49.8	63.2
17.06	12 hours	62.1	6261	63.1	80.1
17.07	12 hours	71.0	6261	72.0	91.5
17.08	12 hours	97.7	6261	98.8	125
17.09	12 hours	100.0	6261	101	128
17.10	12 hours	108	6261	109	139
17.11	12 hours	152	6261	154	196
17.12	12 hours	154	6261	157	199
17.13	12 hours	155	6261	158	201
18.01	12 hours	9.30	6262	9.34	11.9
19.01	12 hours	4.55	6262	4.56	5.79
20.01	12 hours	11.0	6258	11.1	14.1
21.01	12 hours	9.10	6258	9.12	11.6
21.02	12 hours	10.2	6258	10.2	12.9
22.01	12 hours	6.78	6262	6.80	8.64
23.01	12 hours	5.60	6261	5.63	7.15
23.02	12 hours	17.9	6262	18.0	22.9
23.03	12 hours	24.4	6266	24.6	31.3
23.04	12 hours	24.7	6266	25.0	31.8
24.01	12 hours	7.21	6262	7.21	9.16
25.01	12 hours	2.49	6266	2.59	3.29
26.01	12 hours	7.76	6261	7.91	10.0
26.02	12 hours	7.86	6261	8.02	10.2
27.01	12 hours	9.93	6266	9.95	12.6
27.02	12 hours	21.6	6261	21.8	27.7
27.03	12 hours	36.5	6261	37.5	47.6
28.01	12 hours	2.03	6262	2.15	2.73
28.02	12 hours	2.76	6262	2.91	3.70
29.01	12 hours	8.58	6262	8.61	10.9
30.01	12 hours	2.51	6262	2.52	3.20
31.01	12 hours	1.84	6262	1.84	2.34

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	10.5	6261	10.7	13.6
33.01	12 hours	5.06	6262	5.09	6.46
34.01	12 hours	7.42	6262	7.44	9.45
34.02	12 hours	18.2	6266	18.3	23.3
34.03	12 hours	18.4	6266	18.7	23.7
35.01	12 hours	5.14	6262	5.17	6.57
35.02	12 hours	10.7	6258	10.8	13.7
35.03	12 hours	14.5	6261	14.9	18.9
35.04	12 hours	14.7	6261	15.1	19.2
35.05	12 hours	23.1	6261	23.6	30.0
36.01	12 hours	0.630	6266	0.650	0.826
37.01	12 hours	4.30	6262	4.33	5.50
38.01	12 hours	4.41	6261	4.50	5.72
38.02	12 hours	5.39	6261	5.51	7.00
39.01	12 hours	5.97	6262	6.01	7.63
39.02	12 hours	12.4	6266	12.8	16.2
39.03	12 hours	18.1	6266	18.8	23.9
39.04	12 hours	36.0	6261	36.1	45.8
39.05	12 hours	45.6	6261	45.8	58.2
39.06	12 hours	84.0	6261	84.5	107
40.01	12 hours	3.21	6266	3.36	4.27
41.01	12 hours	4.06	6266	4.28	5.44
42.01	12 hours	8.53	6262	8.54	10.8
43.01	12 hours	2.69	6262	2.71	3.44
44.01	12 hours	9.24	6259	10.8	13.7
44.02	12 hours	23.2	6261	23.3	29.6
44.03	12 hours	35.4	6261	35.8	45.5
45.01	12 hours	6.08	6262	6.26	7.95
46.01	12 hours	8.72	6261	8.98	11.4
47.01	12 hours	7.84	6266	7.87	9.99
47.02	12 hours	10.9	6266	11.0	14.0
47.03	12 hours	11.8	6266	12.2	15.5
47.04	12 hours	24.4	6261	24.4	31.0
47.05	12 hours	31.5	6266	32.4	41.1
48.01	12 hours	2.96	6259	3.43	4.36
49.01	12 hours	4.29	6262	4.36	5.54
49.02	12 hours	4.90	6262	5.00	6.35
49.03	12 hours	4.97	6262	5.06	6.43
50.01	12 hours	0.820	6262	0.860	1.09
51.01	12 hours	2.84	6262	2.90	3.68
52.01	12 hours	1.29	6266	1.35	1.71
52.02	12 hours	3.11	6262	3.13	3.98
53.01	12 hours	4.56	6266	4.58	5.82
54.01	12 hours	1.75	6259	2.05	2.60
54.02	12 hours	2.56	6266	2.64	3.35
54.03	12 hours	2.89	6266	3.05	3.87
55.01	12 hours	2.15	6266	2.16	2.74
56.01	12 hours	2.95	6266	2.96	3.76
56.02	12 hours	4.93	6266	4.96	6.30
56.03	12 hours	5.80	6266	5.82	7.39

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	2.55	6266	2.58	3.28
57.02	12 hours	6.11	6267	6.19	7.86
58.01	12 hours	4.75	6266	4.75	6.03
58.02	12 hours	6.94	6266	6.95	8.83
58.03	12 hours	10.1	6261	10.1	12.8
58.04	12 hours	16.8	6266	17.0	21.6
58.05	12 hours	18.1	6261	18.1	23.0
58.06	12 hours	26.3	6261	26.4	33.5
58.07	12 hours	30.0	6261	30.3	38.4
59.01	12 hours	2.12	6262	2.15	2.73
60.01	12 hours	1.97	6266	2.04	2.59
60.02	12 hours	2.54	6266	2.61	3.31
60.03	12 hours	5.48	6266	5.63	7.15
61.01	12 hours	1.61	6259	1.88	2.39
62.01	12 hours	0.380	6262	0.400	0.508
63.01	12 hours	0.030	6262	0.030	0.038
64.01	12 hours	1.09	6266	1.13	1.44
64.02	12 hours	6.09	6266	6.46	8.20
65.01	12 hours	0.630	6262	0.660	0.838
66.01	12 hours	0.780	6262	0.820	1.04
66.02	12 hours	2.83	6266	3.03	3.85
67.01	12 hours	0.150	6261	0.150	0.191
68.01	12 hours	0.240	6262	0.260	0.330
69.01	12 hours	0.240	6261	0.250	0.318
69.02	12 hours	0.410	6262	0.440	0.559
70.01	12 hours	0.180	6262	0.190	0.241
71.01	12 hours	0.200	6261	0.200	0.254
72.01	12 hours	0.230	6261	0.230	0.292
73.01	12 hours	0.170	6261	0.170	0.216
74.01	12 hours	1.48	6262	1.53	1.94
75.01	48 hours	1.46	6621	1.49	1.89
75.02	48 hours	1.72	6618	1.75	2.22
76.01	12 hours	1.06	6266	1.07	1.36
76.02	12 hours	1.14	6262	1.16	1.47
77.01	12 hours	2.54	6266	2.58	3.28
77.02	12 hours	5.60	6266	5.65	7.18
77.03	12 hours	10.8	6266	11.0	14.0
77.04	12 hours	12.0	6266	12.3	15.7
77.05	12 hours	12.8	6266	13.1	16.7
77.06	12 hours	13.0	6266	13.3	16.9
77.07	12 hours	25.3	6266	26.7	33.9
77.08	12 hours	25.8	6266	27.4	34.8
77.09	12 hours	26.0	6266	27.6	35.1
77.10	12 hours	26.5	6266	28.1	35.6
77.11	12 hours	30.3	6266	32.0	40.6
77.12	12 hours	33.9	6261	34.0	43.1
77.13	12 hours	41.1	6261	41.7	53.0
78.01	12 hours	2.39	6266	2.44	3.10
78.02	12 hours	5.74	6266	6.10	7.75
79.01	12 hours	1.59	6266	1.65	2.10

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	0.700	6262	0.740	0.940
81.01	12 hours	1.59	6266	1.60	2.03
81.02	12 hours	1.76	6266	1.80	2.29
81.03	12 hours	3.54	6262	3.70	4.70
81.04	12 hours	6.51	6262	6.84	8.69
82.01	12 hours	0.340	6262	0.360	0.457
82.02	12 hours	1.46	6262	1.53	1.94
82.03	12 hours	1.67	6262	1.76	2.24
83.01	12 hours	1.06	6259	1.13	1.44
83.02	12 hours	2.09	6262	2.23	2.83
83.03	12 hours	2.32	6262	2.47	3.14
84.01	12 hours	0.200	6262	0.210	0.267
84.02	12 hours	0.730	6262	0.770	0.978
85.01	12 hours	0.400	6262	0.420	0.533
86.01	12 hours	0.060	6261	0.060	0.076
87.01	12 hours	0.300	6262	0.320	0.406
87.02	12 hours	0.560	6262	0.590	0.749
88.01	12 hours	0.120	6262	0.130	0.165
89.01	12 hours	0.180	6262	0.190	0.241
90.01	12 hours	0.120	6262	0.130	0.165
91.01	12 hours	0.340	6262	0.370	0.470
92.01	12 hours	0.580	6266	0.590	0.749
92.02	12 hours	2.34	6261	2.35	2.98
92.03	12 hours	2.48	6261	2.52	3.20
92.04	12 hours	3.64	6261	3.73	4.74
93.01	12 hours	0.180	6262	0.190	0.241
94.01	12 hours	0.210	6262	0.220	0.279
95.01	12 hours	0.260	6262	0.270	0.343
96.01	12 hours	0.110	6262	0.120	0.152
97.01	12 hours	0.120	6262	0.130	0.165
98.01	12 hours	0.350	6262	0.370	0.470
99.01	12 hours	2.08	6262	2.09	2.65
99.02	12 hours	2.77	6261	2.86	3.63
100.01	12 hours	0.060	6262	0.060	0.076
101.01	12 hours	0.050	6261	0.050	0.064
102.01	12 hours	0.080	6262	0.080	0.102
103.01	12 hours	0.050	6261	0.050	0.064
104.01	12 hours	0.160	6262	0.170	0.216
104.02	12 hours	0.420	6262	0.440	0.559
105.01	12 hours	0.040	6261	0.040	0.051
106.01	18 hours	4.31	6350	4.33	5.50
106.02	18 hours	6.17	6355	6.21	7.89
107.01	12 hours	2.03	6266	2.03	2.58
108.01	12 hours	1.38	6261	1.41	1.79
108.02	12 hours	1.40	6261	1.44	1.83
109.01	12 hours	2.79	6262	2.79	3.54
110.01	12 hours	1.63	6266	1.64	2.08
111.01	12 hours	0.750	6262	0.780	0.991
112.01	12 hours	0.570	6262	0.600	0.762
113.01	12 hours	0.280	6262	0.280	0.356

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	9.16	6262	9.21	11.7
114.02	12 hours	13.9	6262	13.9	17.7
114.03	12 hours	27.0	6262	27.1	34.4
114.04	18 hours	43.8	6355	44.2	56.1
114.05	18 hours	58.4	6357	58.5	74.3
114.06	12 hours	137	6261	139	177
114.07	12 hours	148	6261	151	192
114.08	12 hours	161	6261	164	209
114.09	12 hours	165	6261	168	214
114.10	12 hours	174	6261	177	225
114.11	12 hours	186	6261	190	241
114.12	12 hours	188	6261	192	244
114.13	12 hours	213	6261	219	278
114.14	12 hours	222	6261	228	290
114.15	12 hours	223	6261	229	291
114.16	12 hours	478	6261	490	622
114.17	12 hours	509	6261	524	665
114.18	12 hours	519	6261	533	677
114.19	12 hours	523	6261	538	683
114.20	12 hours	528	6261	544	690
114.21	12 hours	569	6261	588	747
114.22	12 hours	575	6266	594	754
114.23	12 hours	577	6266	596	757
114.24	12 hours	582	6266	601	764
114.25	12 hours	592	6266	610	775
115.01	12 hours	4.33	6262	4.34	5.51
116.01	12 hours	8.22	6262	8.27	10.5
117.01	12 hours	5.64	6266	5.65	7.18
118.01	18 hours	14.8	6350	14.9	18.9
119.01	12 hours	15.9	6266	16.3	20.7
119.02	12 hours	24.6	6261	24.9	31.7
119.03	12 hours	66.1	6261	66.5	84.4
119.04	12 hours	76.5	6261	77.1	97.9
120.01	12 hours	6.22	6262	6.22	7.90
121.01	12 hours	8.64	6259	10.0	12.7
121.02	12 hours	22.4	6262	22.4	28.4
121.03	12 hours	29.1	6259	33.7	42.8
121.04	12 hours	38.6	6266	38.8	49.3
122.01	12 hours	10.4	6259	12.2	15.5
123.01	12 hours	5.34	6259	6.20	7.87
124.01	12 hours	8.04	6262	8.07	10.2
125.01	12 hours	6.56	6259	7.66	9.73
126.01	12 hours	11.2	6261	11.5	14.6
127.01	12 hours	7.98	6266	8.04	10.2
128.01	12 hours	6.50	6261	6.53	8.29
129.01	12 hours	5.22	6266	5.24	6.65
129.02	12 hours	9.80	6262	9.96	12.6
129.03	12 hours	12.6	6262	12.9	16.3
130.01	12 hours	3.16	6266	3.17	4.03
131.01	12 hours	2.42	6266	2.55	3.24

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	10.5	6258	10.6	13.5
131.03	12 hours	16.2	6261	16.6	21.0
132.01	12 hours	4.12	6262	4.19	5.32
133.01	12 hours	12.6	6262	12.7	16.1
133.02	12 hours	27.1	6259	31.4	39.9
133.03	12 hours	44.1	6261	44.2	56.2
133.04	12 hours	49.9	6266	50.3	63.9
133.05	12 hours	62.7	6261	62.8	79.7
133.06	12 hours	63.0	6261	63.1	80.1
133.07	12 hours	113	6261	115	146
133.08	12 hours	114	6261	116	147
133.09	12 hours	136	6261	139	176
133.10	12 hours	150	6261	153	194
133.11	12 hours	170	6261	173	220
133.12	12 hours	235	6261	239	304
133.13	12 hours	247	6261	253	321
133.14	12 hours	251	6261	257	327
134.01	12 hours	9.42	6259	10.9	13.9
135.01	12 hours	12.2	6262	12.2	15.5
136.01	12 hours	4.34	6262	4.49	5.70
137.01	12 hours	5.35	6266	5.36	6.81
138.01	18 hours	20.2	6350	20.3	25.8
138.02	18 hours	24.9	6350	25.1	31.9
138.03	18 hours	42.4	6350	43.0	54.6
139.01	12 hours	8.50	6262	8.54	10.8
139.02	12 hours	16.4	6261	16.7	21.3
140.01	12 hours	0.880	6262	0.910	1.16
141.01	12 hours	12.4	6259	14.4	18.3
141.02	12 hours	14.7	6259	17.0	21.6
142.01	12 hours	1.55	6262	1.63	2.07
143.01	12 hours	9.61	6262	9.67	12.3
144.01	12 hours	9.20	6266	9.21	11.7
145.01	12 hours	6.71	6259	7.82	9.93
145.02	12 hours	18.8	6261	18.9	24.1
145.03	12 hours	29.1	6261	29.4	37.3
145.04	12 hours	55.9	6261	56.7	72.0
145.05	12 hours	56.0	6261	56.8	72.2
145.06	12 hours	64.3	6261	65.1	82.6
146.01	12 hours	9.18	6261	9.34	11.9
147.01	12 hours	5.09	6266	5.11	6.49
148.01	12 hours	13.3	6261	13.7	17.3
148.02	12 hours	20.1	6261	20.6	26.2
148.03	12 hours	26.5	6261	27.1	34.5
149.01	12 hours	5.82	6261	5.82	7.39
150.01	12 hours	5.52	6261	5.57	7.07
151.01	12 hours	4.69	6259	5.46	6.93
152.01	12 hours	1.92	6262	2.03	2.58
153.01	12 hours	6.30	6266	6.38	8.10
154.01	12 hours	2.55	6266	2.56	3.25
154.02	12 hours	3.36	6262	3.47	4.41

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	12 hours	9.85	6267	9.85	12.5
155.02	12 hours	9.97	6267	9.98	12.7
155.03	12 hours	16.6	6258	16.7	21.2
155.04	12 hours	17.3	6258	17.3	22.0
155.05	12 hours	27.4	6261	27.9	35.4
155.06	12 hours	32.3	6261	32.9	41.8
156.01	12 hours	5.59	6262	5.62	7.14
156.02	12 hours	5.82	6262	5.83	7.40
157.01	12 hours	4.11	6262	4.14	5.26
158.01	12 hours	2.16	6259	2.50	3.18
159.01	12 hours	2.07	6266	2.08	2.64
160.01	12 hours	4.30	6262	4.31	5.47
160.02	12 hours	4.61	6261	4.64	5.89
161.01	12 hours	8.59	6261	8.84	11.2
162.01	12 hours	0.720	6262	0.750	0.953
162.02	12 hours	5.23	6261	5.37	6.82
162.03	12 hours	5.33	6261	5.46	6.93
163.01	12 hours	1.06	6262	1.12	1.42
163.02	12 hours	3.19	6266	3.30	4.19
163.03	12 hours	9.78	6261	9.90	12.6
163.04	12 hours	14.9	6261	15.2	19.3
163.05	12 hours	32.2	6258	32.6	41.4
163.06	12 hours	33.5	6258	33.9	43.0
164.01	18 hours	11.6	6350	11.7	14.8
165.01	12 hours	5.58	6258	5.68	7.21
165.02	12 hours	6.45	6258	6.54	8.31
166.01	12 hours	1.66	6262	1.71	2.17
166.02	12 hours	3.52	6259	4.10	5.21
166.03	12 hours	6.11	6261	6.15	7.81
167.01	12 hours	1.28	6266	1.34	1.70
167.02	12 hours	2.43	6266	2.53	3.21
168.01	12 hours	3.52	6262	3.53	4.48
168.02	12 hours	3.55	6262	3.56	4.52
169.01	12 hours	6.45	6261	6.49	8.24
169.02	12 hours	7.31	6261	7.34	9.32
170.01	12 hours	1.06	6262	1.14	1.45
171.01	12 hours	1.20	6262	1.23	1.56
172.01	12 hours	0.760	6262	0.800	1.02
173.01	12 hours	1.46	6262	1.54	1.96
173.02	12 hours	11.4	6266	11.9	15.1
173.03	12 hours	22.3	6261	22.3	28.4
173.04	12 hours	24.3	6261	24.5	31.1
173.05	12 hours	31.0	6261	31.7	40.2
173.06	12 hours	40.0	6261	41.3	52.4
173.07	12 hours	72.1	6261	73.6	93.5
174.01	12 hours	1.15	6262	1.22	1.55
175.01	12 hours	0.920	6262	0.970	1.23
176.01	12 hours	0.830	6262	0.870	1.10
176.02	12 hours	4.52	6266	4.59	5.83
177.01	18 hours	3.64	6357	3.66	4.65

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	2.59	6262	2.61	3.31
179.01	12 hours	0.460	6266	0.460	0.584
180.01	18 hours	3.76	6350	3.77	4.79
180.02	18 hours	4.16	6350	4.17	5.30
181.01	12 hours	2.67	6266	2.68	3.40
182.01	12 hours	0.370	6262	0.390	0.495
183.01	12 hours	3.77	6266	3.87	4.91
183.02	12 hours	7.20	6262	7.22	9.17
183.03	12 hours	12.9	6266	13.1	16.7
183.04	12 hours	20.4	6266	21.0	26.7
183.05	12 hours	21.3	6266	21.8	27.7
183.06	12 hours	32.1	6266	32.6	41.4
184.01	12 hours	0.690	6262	0.730	0.927
184.02	12 hours	4.43	6266	4.52	5.74
185.01	12 hours	0.860	6262	0.890	1.13
185.02	12 hours	3.67	6266	3.84	4.88
186.01	12 hours	1.66	6266	1.71	2.17
187.01	12 hours	2.08	6266	2.09	2.65
187.02	12 hours	3.97	6266	3.97	5.04
188.01	12 hours	0.650	6262	0.690	0.876
189.01	12 hours	0.680	6262	0.710	0.902
190.01	12 hours	0.460	6262	0.480	0.610
191.01	12 hours	1.27	6266	1.29	1.64
192.01	12 hours	1.48	6262	1.54	1.96
193.01	12 hours	1.26	6262	1.30	1.65
194.01	12 hours	0.220	6262	0.230	0.292
195.01	12 hours	0.440	6262	0.460	0.584
196.01	12 hours	0.500	6262	0.520	0.660
197.01	12 hours	0.410	6262	0.430	0.546
198.01	12 hours	0.590	6262	0.610	0.775
199.01	12 hours	1.28	6262	1.35	1.71
199.02	12 hours	1.74	6262	1.84	2.34
200.01	12 hours	0.230	6262	0.240	0.305
201.01	12 hours	0.550	6262	0.570	0.724
202.01	12 hours	4.86	6258	4.95	6.29
203.01	12 hours	0.780	6262	0.810	1.03
204.01	12 hours	0.540	6262	0.570	0.724
205.01	12 hours	0.690	6262	0.720	0.914
206.01	12 hours	0.180	6261	0.190	0.241
207.01	12 hours	0.650	6262	0.690	0.876
208.01	12 hours	0.930	6262	0.990	1.26
208.02	12 hours	1.31	6262	1.39	1.77
208.03	12 hours	2.45	6262	2.61	3.31
208.04	12 hours	4.73	6261	4.96	6.30
208.05	12 hours	5.97	6261	6.27	7.96
208.06	18 hours	7.32	6350	7.46	9.47
209.01	12 hours	0.170	6261	0.180	0.229
210.01	12 hours	0.330	6262	0.340	0.432
211.01	12 hours	0.340	6262	0.350	0.445
211.02	12 hours	0.390	6262	0.410	0.521

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	1.40	6262	1.47	1.87
212.01	12 hours	0.160	6261	0.170	0.216
_junc_10	12 hours	31.9	6261	32.5	41.3
_junc_108	12 hours	0.600	6262	0.630	0.800
_junc_11	12 hours	508	6261	523	664
_junc_111	12 hours	3.42	6266	3.57	4.53
_junc_114	12 hours	2.08	6262	2.09	2.65
_junc_12	12 hours	15.9	6266	16.5	20.9
_junc_13	12 hours	156	6261	159	202
_junc_138	12 hours	10.8	6266	10.8	13.8
_junc_14	12 hours	132	6261	135	171
_junc_142	12 hours	8.35	6266	8.40	10.7
_junc_143	12 hours	250	6261	256	325
_junc_15	12 hours	474	6261	486	618
_junc_16	12 hours	518	6261	533	676
_junc_165	12 hours	35.3	6261	35.4	45.0
_junc_168	12 hours	33.0	6266	34.6	44.0
_junc_17	12 hours	148	6261	151	191
_junc_174	12 hours	24.0	6266	24.5	31.1
_junc_18	18 hours	58.3	6357	58.3	74.1
_junc_181	12 hours	0.100	6261	0.100	0.127
_junc_185	12 hours	0.110	6262	0.120	0.152
_junc_186	12 hours	0.330	6262	0.350	0.445
_junc_187	12 hours	2.70	6261	2.78	3.53
_junc_19	12 hours	204	6261	209	265
_junc_193	12 hours	11.6	6266	11.8	15.0
_junc_194	12 hours	16.5	6266	17.0	21.6
_junc_199	12 hours	20.3	6261	20.3	25.8
_junc_2	12 hours	240	6261	245	312
_junc_20	12 hours	171	6261	175	222
_junc_204	12 hours	9.04	6266	9.07	11.5
_junc_21	12 hours	185	6261	189	240
_junc_22	12 hours	527	6261	543	690
_junc_228	12 hours	0.550	6262	0.590	0.749
_junc_23	12 hours	534	6261	550	699
_junc_231	12 hours	217	6261	222	282
_junc_232	12 hours	27.2	6266	28.2	35.8
_junc_233	12 hours	38.7	6266	39.7	50.4
_junc_234	12 hours	515	6266	525	666
_junc_24	12 hours	32.6	6262	32.7	41.5
_junc_25	12 hours	25.8	6258	26.2	33.2
_junc_26	12 hours	22.2	6262	22.2	28.2
_junc_263	12 hours	12.8	6261	12.8	16.3
_junc_265	12 hours	12.5	6266	12.9	16.4
_junc_27	12 hours	13.5	6262	13.5	17.2
_junc_28	12 hours	577	6266	596	757
_junc_29	12 hours	575	6266	594	754
_junc_3	12 hours	21.3	6261	21.8	27.7
_junc_30	12 hours	580	6266	599	761
_junc_31	12 hours	16.8	6266	17.3	21.9

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	589	6266	608	772
_junc_324	12 hours	520	6266	531	674
_junc_328	12 hours	604	6266	616	782
_junc_329	12 hours	34.7	6261	35.7	45.3
_junc_33	12 hours	16.3	6266	17.1	21.7
_junc_330	12 hours	71.8	6261	73.2	92.9
_junc_331	12 hours	1262	6266	1276	1621
_junc_34	12 hours	26.5	6266	27.3	34.6
_junc_35	12 hours	8.98	6266	9.41	12.0
_junc_36	12 hours	505	6261	516	655
_junc_37	12 hours	19.3	6262	19.4	24.6
_junc_38	12 hours	15.2	6266	15.3	19.4
_junc_39	12 hours	561	6266	572	726
_junc_4	12 hours	22.0	6261	22.4	28.4
_junc_40	12 hours	27.7	6262	27.8	35.3
_junc_41	12 hours	16.9	6266	17.0	21.6
_junc_42	12 hours	31.8	6261	32.1	40.8
_junc_43	12 hours	81.0	6261	81.5	104
_junc_44	12 hours	526	6266	537	682
_junc_45	12 hours	470	6261	480	610
_junc_46	12 hours	40.6	6262	40.6	51.5
_junc_47	12 hours	532	6266	543	690
_junc_48	12 hours	387	6261	395	502
_junc_49	12 hours	18.7	6266	19.4	24.7
_junc_5	12 hours	19.1	6259	22.2	28.2
_junc_50	12 hours	59.8	6261	60.9	77.3
_junc_51	12 hours	379	6261	386	491
_junc_52	12 hours	68.6	6261	69.6	88.4
_junc_53	12 hours	18.9	6261	19.4	24.6
_junc_54	12 hours	95.5	6261	96.6	123
_junc_55	12 hours	108	6261	109	139
_junc_56	12 hours	348	6261	354	449
_junc_57	12 hours	144	6261	146	186
_junc_58	12 hours	330	6261	335	426
_junc_59	12 hours	309	6261	313	398
_junc_6	12 hours	63.0	6261	63.4	80.5
_junc_60	12 hours	322	6261	327	415
_junc_61	12 hours	30.1	6261	30.5	38.7
_junc_62	12 hours	147	6261	148	188
_junc_63	12 hours	131	6261	131	167
_junc_64	12 hours	59.6	6266	59.9	76.0
_junc_65	12 hours	16.8	6266	16.9	21.5
_junc_66	12 hours	112	6261	112	143
_junc_67	12 hours	66.8	6266	67.1	85.2
_junc_68	12 hours	47.5	6266	47.6	60.5
_junc_69	12 hours	35.5	6266	35.7	45.4
_junc_7	12 hours	72.5	6261	72.9	92.6
_junc_70	12 hours	27.1	6266	27.2	34.6
_junc_71	12 hours	23.1	6266	23.7	30.1
_junc_72	12 hours	40.5	6261	41.2	52.3

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	19.3	6259	22.4	28.5
_junc_74	12 hours	12.7	6262	12.7	16.1
_junc_75	18 hours	40.7	6350	41.2	52.3
_junc_76	12 hours	15.8	6261	15.9	20.2
_junc_77	12 hours	39.0	6261	39.1	49.6
_junc_78	12 hours	48.3	6261	48.3	61.4
_junc_79	12 hours	55.2	6266	55.5	70.5
_junc_8	12 hours	27.7	6259	32.2	40.9
_junc_80	12 hours	22.1	6259	25.6	32.5
_junc_81	12 hours	104	6261	106	134
_junc_82	12 hours	23.7	6261	23.9	30.3
_junc_83	12 hours	19.0	6261	19.5	24.8
_junc_84	12 hours	128	6261	130	165
_junc_85	12 hours	25.6	6261	26.2	33.2
_junc_86	12 hours	159	6261	161	205
_junc_87	12 hours	55.5	6261	56.3	71.5
_junc_88	12 hours	60.6	6261	61.4	78.0
_junc_89	12 hours	145	6261	148	188
_junc_9	12 hours	37.1	6266	37.2	47.2
_junc_90	12 hours	233	6261	237	301
_junc_91	12 hours	15.7	6258	15.8	20.0

1% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	17.8	6262	17.9	21.2
1.02	12 hours	23.1	6259	26.6	31.4
1.03	12 hours	32.2	6266	32.3	38.1
1.04	12 hours	45.8	6262	45.8	54.0
1.05	12 hours	58.5	6262	58.7	69.3
1.06	12 hours	59.7	6262	59.9	70.7
1.07	12 hours	71.2	6262	71.5	84.4
1.08	12 hours	78.3	6262	78.6	92.8
1.09	12 hours	80.6	6262	80.9	95.5
1.10	12 hours	132	6262	132	156
1.11	12 hours	159	6262	159	187
1.12	12 hours	178	6266	180	212
1.13	12 hours	362	6266	366	432
1.14	12 hours	377	6262	377	445
1.15	12 hours	377	6262	378	445
1.16	12 hours	384	6262	384	454
1.17	12 hours	414	6262	414	489
1.18	12 hours	444	6262	445	525
1.19	12 hours	451	6262	452	534
1.20	12 hours	550	6262	552	651
1.21	12 hours	553	6262	555	655
1.22	12 hours	593	6262	595	702
1.23	12 hours	603	6262	605	714
1.24	12 hours	603	6262	605	714
1.25	12 hours	606	6262	608	717
1.26	12 hours	612	6262	614	725
1.27	12 hours	619	6262	621	733
1.28	12 hours	620	6262	622	734
1.29	12 hours	654	6262	656	774
1.30	12 hours	656	6262	658	777
1.31	12 hours	708	6262	710	837
1.32	12 hours	708	6262	710	838
1.33	12 hours	1395	6266	1396	1647
1.34	12 hours	1396	6262	1399	1651
1.35	12 hours	1473	6262	1477	1743
1.36	12 hours	1475	6262	1479	1745
1.37	12 hours	1475	6262	1480	1746
1.38	12 hours	1477	6262	1482	1748
1.39	12 hours	1484	6262	1491	1759
1.40	12 hours	1496	6262	1504	1775
2.01	12 hours	4.50	6262	4.73	5.58
3.01	12 hours	8.13	6262	8.32	9.82
4.01	12 hours	8.67	6262	8.71	10.3
5.01	12 hours	8.93	6262	9.02	10.6
6.01	12 hours	9.20	6266	9.27	10.9
7.01	12 hours	5.91	6266	5.96	7.03
8.01	12 hours	16.8	6266	17.2	20.2
8.02	12 hours	32.7	6262	32.9	38.8
8.03	12 hours	32.8	6262	32.9	38.8

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	47.6	6262	47.8	56.3
8.05	12 hours	49.0	6262	49.2	58.1
9.01	12 hours	10.3	6261	10.4	12.3
10.01	12 hours	6.07	6262	6.10	7.20
10.02	12 hours	14.7	6262	14.8	17.4
11.01	12 hours	8.55	6262	8.61	10.2
12.01	12 hours	7.09	6262	7.31	8.63
12.02	12 hours	12.3	6262	12.6	14.9
12.03	12 hours	19.7	6262	20.1	23.7
13.01	12 hours	2.34	6266	2.46	2.90
14.01	12 hours	5.84	6262	5.87	6.93
14.02	12 hours	7.05	6262	7.07	8.34
15.01	12 hours	0.980	6262	1.03	1.22
16.01	12 hours	7.68	6266	7.88	9.30
16.02	12 hours	11.5	6266	11.7	13.9
17.01	12 hours	11.7	6266	11.7	13.8
17.02	12 hours	26.9	6261	27.2	32.0
17.03	12 hours	34.5	6262	34.9	41.2
17.04	12 hours	49.2	6266	49.4	58.3
17.05	12 hours	57.9	6266	58.2	68.6
17.06	12 hours	72.3	6262	72.6	85.7
17.07	12 hours	82.6	6262	82.7	97.5
17.08	12 hours	113	6261	115	135
17.09	12 hours	116	6261	117	138
17.10	12 hours	125	6262	125	148
17.11	12 hours	176	6261	179	211
17.12	12 hours	179	6261	182	215
17.13	12 hours	181	6261	184	217
18.01	12 hours	10.8	6261	10.8	12.8
19.01	12 hours	5.27	6266	5.29	6.24
20.01	12 hours	13.0	6266	13.3	15.7
21.01	12 hours	10.7	6266	10.9	12.9
21.02	12 hours	11.9	6261	12.2	14.4
22.01	12 hours	7.83	6262	8.04	9.49
23.01	12 hours	6.46	6261	6.46	7.62
23.02	12 hours	20.7	6261	20.7	24.4
23.03	12 hours	28.1	6262	28.2	33.3
23.04	12 hours	28.5	6262	28.6	33.7
24.01	12 hours	8.32	6262	8.37	9.88
25.01	12 hours	2.85	6266	2.94	3.47
26.01	12 hours	9.02	6262	9.12	10.8
26.02	12 hours	9.14	6262	9.23	10.9
27.01	12 hours	11.5	6261	11.5	13.6
27.02	12 hours	25.0	6262	25.1	29.6
27.03	12 hours	42.7	6266	43.5	51.4
28.01	12 hours	2.32	6266	2.45	2.89
28.02	12 hours	3.15	6266	3.31	3.91
29.01	12 hours	9.94	6266	9.98	11.8
30.01	12 hours	2.89	6262	2.91	3.43
31.01	12 hours	2.11	6262	2.13	2.51

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	12.2	6262	12.3	14.5
33.01	12 hours	5.85	6266	5.90	6.96
34.01	12 hours	8.58	6261	8.62	10.2
34.02	12 hours	20.9	6266	20.9	24.7
34.03	12 hours	21.2	6266	21.3	25.1
35.01	12 hours	5.95	6266	6.00	7.08
35.02	12 hours	12.6	6266	12.8	15.1
35.03	12 hours	16.9	6266	17.2	20.3
35.04	12 hours	17.1	6266	17.5	20.7
35.05	12 hours	26.9	6262	27.1	31.9
36.01	12 hours	0.720	6266	0.740	0.873
37.01	12 hours	5.02	6262	5.08	5.99
38.01	12 hours	5.17	6262	5.21	6.15
38.02	12 hours	6.31	6261	6.45	7.61
39.01	12 hours	6.92	6261	6.97	8.22
39.02	12 hours	14.3	6266	14.6	17.2
39.03	12 hours	20.9	6262	21.0	24.8
39.04	12 hours	41.8	6261	41.8	49.3
39.05	12 hours	53.0	6261	53.1	62.6
39.06	12 hours	97.5	6262	97.6	115
40.01	12 hours	3.69	6266	3.84	4.53
41.01	12 hours	4.68	6266	4.93	5.82
42.01	12 hours	9.86	6261	9.87	11.6
43.01	12 hours	3.10	6262	3.18	3.75
44.01	12 hours	10.7	6262	10.7	12.6
44.02	12 hours	26.9	6266	26.9	31.8
44.03	12 hours	41.2	6262	41.2	48.6
45.01	12 hours	7.01	6262	7.34	8.66
46.01	12 hours	10.2	6262	10.2	12.1
47.01	12 hours	9.02	6262	9.07	10.7
47.02	12 hours	12.6	6262	12.6	14.9
47.03	12 hours	13.7	6262	13.8	16.2
47.04	12 hours	28.2	6261	28.2	33.3
47.05	12 hours	36.4	6266	37.0	43.6
48.01	12 hours	3.41	6262	3.48	4.11
49.01	12 hours	4.98	6262	5.17	6.10
49.02	12 hours	5.68	6266	5.75	6.79
49.03	12 hours	5.75	6266	5.85	6.90
50.01	12 hours	0.940	6262	0.990	1.17
51.01	12 hours	3.28	6262	3.40	4.01
52.01	12 hours	1.48	6266	1.54	1.82
52.02	12 hours	3.60	6266	3.65	4.31
53.01	12 hours	5.30	6261	5.32	6.28
54.01	12 hours	2.03	6262	2.04	2.41
54.02	12 hours	2.97	6262	3.04	3.59
54.03	12 hours	3.36	6262	3.44	4.06
55.01	12 hours	2.46	6262	2.59	3.06
56.01	12 hours	3.39	6262	3.58	4.22
56.02	12 hours	5.68	6262	5.90	6.96
56.03	12 hours	6.69	6262	6.91	8.15

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	2.93	6266	2.93	3.46
57.02	12 hours	7.22	6267	7.26	8.57
58.01	12 hours	5.49	6262	5.52	6.51
58.02	12 hours	8.01	6262	8.08	9.53
58.03	12 hours	11.6	6262	11.7	13.7
58.04	12 hours	19.4	6259	22.2	26.2
58.05	12 hours	21.0	6266	21.0	24.8
58.06	12 hours	30.5	6261	30.5	36.0
58.07	12 hours	34.8	6261	35.0	41.2
59.01	12 hours	2.44	6262	2.52	2.97
60.01	12 hours	2.26	6266	2.31	2.73
60.02	12 hours	2.91	6266	2.94	3.47
60.03	12 hours	6.35	6262	6.36	7.50
61.01	12 hours	1.86	6262	1.90	2.24
62.01	12 hours	0.430	6266	0.460	0.543
63.01	12 hours	0.040	6262	0.040	0.047
64.01	12 hours	1.25	6266	1.29	1.52
64.02	12 hours	7.04	6262	7.15	8.44
65.01	12 hours	0.720	6266	0.760	0.897
66.01	12 hours	0.890	6262	0.950	1.12
66.02	12 hours	3.28	6262	3.29	3.88
67.01	12 hours	0.170	6261	0.180	0.212
68.01	12 hours	0.270	6261	0.270	0.319
69.01	12 hours	0.270	6261	0.280	0.330
69.02	12 hours	0.470	6262	0.500	0.590
70.01	12 hours	0.200	6261	0.200	0.236
71.01	12 hours	0.230	6261	0.230	0.271
72.01	12 hours	0.260	6261	0.270	0.319
73.01	12 hours	0.190	6261	0.190	0.224
74.01	12 hours	1.72	6262	1.80	2.12
75.01	36 hours	1.86	6536	1.87	2.21
75.02	36 hours	2.19	6531	2.21	2.61
76.01	12 hours	1.21	6266	1.22	1.44
76.02	12 hours	1.32	6262	1.35	1.59
77.01	12 hours	2.92	6262	3.02	3.56
77.02	12 hours	6.44	6262	6.71	7.92
77.03	12 hours	12.4	6266	12.6	14.8
77.04	12 hours	13.9	6266	14.0	16.6
77.05	12 hours	14.8	6266	15.0	17.7
77.06	12 hours	15.0	6266	15.2	17.9
77.07	12 hours	29.3	6266	30.5	36.0
77.08	12 hours	30.0	6266	31.3	36.9
77.09	12 hours	30.2	6266	31.6	37.2
77.10	12 hours	30.8	6266	32.1	37.9
77.11	12 hours	35.2	6266	36.5	43.1
77.12	12 hours	39.3	6261	39.3	46.4
77.13	12 hours	47.9	6261	48.7	57.4
78.01	12 hours	2.75	6262	2.78	3.28
78.02	12 hours	6.71	6266	7.07	8.34
79.01	12 hours	1.84	6266	1.90	2.24

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	0.810	6262	0.860	1.01
81.01	12 hours	1.84	6266	1.84	2.17
81.02	12 hours	2.04	6266	2.07	2.44
81.03	12 hours	4.07	6266	4.23	4.99
81.04	12 hours	7.47	6262	7.93	9.36
82.01	12 hours	0.390	6262	0.410	0.484
82.02	12 hours	1.67	6266	1.77	2.09
82.03	12 hours	1.91	6266	2.02	2.38
83.01	12 hours	1.21	6259	1.29	1.52
83.02	12 hours	2.39	6262	2.56	3.02
83.03	12 hours	2.65	6262	2.84	3.35
84.01	12 hours	0.230	6262	0.240	0.283
84.02	12 hours	0.840	6262	0.890	1.05
85.01	12 hours	0.460	6262	0.490	0.578
86.01	12 hours	0.070	6261	0.070	0.083
87.01	12 hours	0.340	6262	0.360	0.425
87.02	12 hours	0.640	6262	0.680	0.802
88.01	12 hours	0.140	6262	0.150	0.177
89.01	12 hours	0.200	6262	0.220	0.260
90.01	12 hours	0.130	6262	0.150	0.177
91.01	12 hours	0.390	6259	0.420	0.496
92.01	12 hours	0.670	6262	0.690	0.814
92.02	12 hours	2.71	6261	2.72	3.21
92.03	12 hours	2.87	6261	2.92	3.45
92.04	12 hours	4.22	6261	4.31	5.09
93.01	12 hours	0.200	6262	0.220	0.260
94.01	12 hours	0.230	6262	0.250	0.295
95.01	12 hours	0.290	6262	0.310	0.366
96.01	12 hours	0.120	6262	0.140	0.165
97.01	12 hours	0.140	6262	0.150	0.177
98.01	12 hours	0.400	6262	0.430	0.507
99.01	12 hours	2.41	6266	2.43	2.87
99.02	12 hours	3.20	6261	3.30	3.89
100.01	12 hours	0.070	6262	0.070	0.083
101.01	12 hours	0.050	6261	0.050	0.059
102.01	12 hours	0.090	6262	0.100	0.118
103.01	12 hours	0.060	6261	0.060	0.071
104.01	12 hours	0.180	6262	0.190	0.224
104.02	12 hours	0.470	6262	0.500	0.590
105.01	12 hours	0.040	6261	0.050	0.059
106.01	18 hours	5.14	6350	5.17	6.10
106.02	18 hours	7.30	6355	7.34	8.66
107.01	12 hours	2.33	6262	2.34	2.76
108.01	12 hours	1.61	6262	1.62	1.91
108.02	12 hours	1.65	6262	1.65	1.95
109.01	12 hours	3.21	6262	3.24	3.82
110.01	12 hours	1.88	6266	1.90	2.24
111.01	12 hours	0.850	6262	0.890	1.05
112.01	12 hours	0.660	6262	0.690	0.814
113.01	12 hours	0.320	6262	0.330	0.389

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	10.6	6262	10.7	12.7
114.02	12 hours	16.1	6262	16.2	19.1
114.03	12 hours	31.3	6266	31.5	37.1
114.04	18 hours	51.6	6355	52.0	61.4
114.05	18 hours	68.9	6355	69.8	82.3
114.06	12 hours	160	6266	162	191
114.07	12 hours	173	6266	175	207
114.08	12 hours	188	6266	191	225
114.09	12 hours	193	6266	195	230
114.10	12 hours	203	6266	206	243
114.11	12 hours	217	6266	220	260
114.12	12 hours	220	6266	223	264
114.13	12 hours	249	6266	254	300
114.14	12 hours	260	6266	265	313
114.15	12 hours	261	6266	267	315
114.16	12 hours	558	6266	569	671
114.17	12 hours	595	6266	606	715
114.18	12 hours	606	6266	617	728
114.19	12 hours	610	6266	622	734
114.20	12 hours	617	6266	629	742
114.21	12 hours	666	6266	679	801
114.22	12 hours	673	6266	686	810
114.23	12 hours	675	6266	689	812
114.24	12 hours	681	6266	695	820
114.25	12 hours	692	6266	705	832
115.01	12 hours	4.99	6261	5.00	5.90
116.01	12 hours	9.51	6261	9.59	11.3
117.01	12 hours	6.51	6262	6.54	7.72
118.01	18 hours	17.4	6350	17.6	20.7
119.01	12 hours	18.6	6262	18.8	22.1
119.02	12 hours	28.6	6262	28.8	33.9
119.03	12 hours	76.5	6262	76.5	90.3
119.04	12 hours	88.6	6266	88.7	105
120.01	12 hours	7.17	6262	7.21	8.51
121.01	12 hours	9.91	6262	10.0	11.8
121.02	12 hours	25.7	6262	25.9	30.6
121.03	12 hours	33.4	6262	33.6	39.6
121.04	12 hours	44.5	6262	44.6	52.6
122.01	12 hours	12.0	6262	12.1	14.3
123.01	12 hours	6.14	6262	6.26	7.39
124.01	12 hours	9.28	6266	9.31	11.0
125.01	12 hours	7.55	6262	7.59	8.96
126.01	12 hours	13.1	6262	13.3	15.6
127.01	12 hours	9.18	6262	9.23	10.9
128.01	12 hours	7.52	6266	7.53	8.89
129.01	12 hours	6.01	6262	6.09	7.19
129.02	12 hours	11.3	6266	11.4	13.5
129.03	12 hours	14.5	6266	14.7	17.3
130.01	12 hours	3.64	6262	3.83	4.52
131.01	12 hours	2.77	6266	2.89	3.41

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	12.3	6261	12.6	14.9
131.03	12 hours	18.9	6261	19.3	22.7
132.01	12 hours	4.77	6262	4.98	5.88
133.01	12 hours	14.5	6262	14.6	17.3
133.02	12 hours	31.1	6262	31.3	36.9
133.03	12 hours	50.9	6262	51.0	60.2
133.04	12 hours	57.5	6259	66.2	78.2
133.05	12 hours	72.4	6262	72.4	85.4
133.06	12 hours	72.7	6259	83.6	98.7
133.07	12 hours	131	6261	133	157
133.08	12 hours	132	6261	135	159
133.09	12 hours	159	6261	161	190
133.10	12 hours	174	6261	177	209
133.11	12 hours	198	6261	201	238
133.12	12 hours	273	6266	277	327
133.13	12 hours	288	6266	293	346
133.14	12 hours	293	6266	298	352
134.01	12 hours	10.8	6262	11.0	13.0
135.01	12 hours	14.1	6266	14.2	16.8
136.01	12 hours	5.01	6262	5.26	6.21
137.01	12 hours	6.16	6262	6.33	7.47
138.01	18 hours	23.5	6350	23.8	28.1
138.02	18 hours	29.1	6350	29.5	34.8
138.03	18 hours	49.7	6357	49.9	58.9
139.01	12 hours	9.81	6261	9.89	11.7
139.02	12 hours	19.1	6262	19.2	22.6
140.01	12 hours	1.00	6262	1.05	1.24
141.01	12 hours	14.2	6262	14.3	16.9
141.02	12 hours	16.9	6262	16.9	20.0
142.01	12 hours	1.78	6262	1.90	2.24
143.01	12 hours	11.1	6262	11.4	13.4
144.01	12 hours	10.6	6262	10.6	12.6
145.01	12 hours	7.72	6262	7.79	9.19
145.02	12 hours	21.7	6266	21.9	25.8
145.03	12 hours	33.6	6266	33.8	39.9
145.04	12 hours	64.7	6261	65.4	77.2
145.05	12 hours	64.9	6261	65.6	77.4
145.06	12 hours	74.4	6261	75.1	88.6
146.01	12 hours	10.7	6262	10.8	12.7
147.01	12 hours	5.85	6262	6.07	7.16
148.01	12 hours	15.5	6262	15.6	18.4
148.02	12 hours	23.3	6261	23.8	28.1
148.03	12 hours	30.7	6261	31.3	36.9
149.01	12 hours	6.69	6262	6.71	7.92
150.01	12 hours	6.37	6266	6.38	7.53
151.01	12 hours	5.42	6262	5.52	6.51
152.01	12 hours	2.21	6266	2.31	2.73
153.01	12 hours	7.27	6266	7.27	8.58
154.01	12 hours	2.93	6262	3.06	3.61
154.02	12 hours	3.85	6266	3.99	4.71

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	12 hours	11.7	6258	11.8	13.9
155.02	12 hours	11.8	6258	11.9	14.1
155.03	12 hours	19.5	6261	20.0	23.5
155.04	12 hours	20.3	6261	20.7	24.4
155.05	12 hours	32.1	6261	32.7	38.6
155.06	12 hours	37.8	6261	38.5	45.4
156.01	12 hours	6.48	6266	6.51	7.68
156.02	12 hours	6.75	6262	6.77	7.99
157.01	12 hours	4.79	6266	4.80	5.66
158.01	12 hours	2.48	6262	2.50	2.95
159.01	12 hours	2.38	6262	2.47	2.91
160.01	12 hours	4.99	6262	5.02	5.92
160.02	12 hours	5.34	6262	5.35	6.31
161.01	12 hours	10.0	6262	10.1	11.9
162.01	12 hours	0.820	6262	0.870	1.03
162.02	12 hours	6.11	6261	6.26	7.39
162.03	12 hours	6.22	6261	6.37	7.52
163.01	12 hours	1.21	6262	1.29	1.52
163.02	12 hours	3.66	6266	3.73	4.40
163.03	12 hours	11.4	6261	11.5	13.6
163.04	12 hours	17.4	6262	17.4	20.6
163.05	12 hours	38.1	6258	38.3	45.2
163.06	12 hours	39.6	6258	39.8	47.0
164.01	18 hours	13.7	6350	13.9	16.4
165.01	12 hours	6.60	6258	6.64	7.84
165.02	12 hours	7.61	6258	7.64	9.02
166.01	12 hours	1.92	6262	2.01	2.37
166.02	12 hours	4.06	6262	4.08	4.81
166.03	12 hours	7.09	6262	7.09	8.37
167.01	12 hours	1.47	6266	1.53	1.81
167.02	12 hours	2.79	6266	2.88	3.40
168.01	12 hours	4.06	6262	4.09	4.83
168.02	12 hours	4.09	6262	4.12	4.86
169.01	12 hours	7.48	6262	7.52	8.87
169.02	12 hours	8.47	6261	8.50	10.0
170.01	12 hours	1.21	6259	1.30	1.53
171.01	12 hours	1.38	6266	1.41	1.66
172.01	12 hours	0.870	6262	0.930	1.10
173.01	12 hours	1.68	6266	1.78	2.10
173.02	12 hours	13.2	6266	13.6	16.0
173.03	12 hours	25.9	6266	26.4	31.2
173.04	12 hours	28.3	6261	28.3	33.4
173.05	12 hours	36.2	6261	36.9	43.5
173.06	12 hours	46.9	6266	48.1	56.7
173.07	12 hours	84.1	6266	85.6	101
174.01	12 hours	1.32	6262	1.41	1.66
175.01	12 hours	1.06	6266	1.11	1.31
176.01	12 hours	0.950	6262	1.01	1.19
176.02	12 hours	5.24	6266	5.26	6.21
177.01	18 hours	4.42	6357	4.43	5.23

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	3.01	6261	3.04	3.59
179.01	12 hours	0.530	6262	0.550	0.649
180.01	18 hours	4.47	6350	4.50	5.31
180.02	18 hours	4.93	6350	4.96	5.85
181.01	12 hours	3.10	6261	3.13	3.69
182.01	12 hours	0.430	6262	0.450	0.531
183.01	12 hours	4.34	6266	4.45	5.25
183.02	12 hours	8.34	6266	8.40	9.91
183.03	12 hours	14.9	6262	14.9	17.6
183.04	12 hours	23.7	6266	24.1	28.5
183.05	12 hours	24.7	6266	25.1	29.6
183.06	12 hours	37.1	6266	37.4	44.1
184.01	12 hours	0.790	6262	0.840	0.991
184.02	12 hours	5.13	6266	5.19	6.12
185.01	12 hours	0.980	6262	1.03	1.22
185.02	12 hours	4.24	6262	4.28	5.05
186.01	12 hours	1.92	6266	1.96	2.31
187.01	12 hours	2.40	6262	2.46	2.90
187.02	12 hours	4.56	6262	4.60	5.43
188.01	12 hours	0.740	6262	0.790	0.932
189.01	12 hours	0.770	6262	0.810	0.956
190.01	12 hours	0.530	6262	0.560	0.661
191.01	12 hours	1.46	6266	1.47	1.73
192.01	12 hours	1.69	6262	1.78	2.10
193.01	12 hours	1.44	6262	1.50	1.77
194.01	12 hours	0.250	6262	0.260	0.307
195.01	12 hours	0.510	6262	0.530	0.625
196.01	12 hours	0.570	6262	0.600	0.708
197.01	12 hours	0.470	6262	0.500	0.590
198.01	12 hours	0.670	6262	0.710	0.838
199.01	12 hours	1.47	6266	1.56	1.84
199.02	12 hours	2.00	6259	2.13	2.51
200.01	12 hours	0.260	6262	0.280	0.330
201.01	12 hours	0.630	6262	0.660	0.779
202.01	12 hours	5.75	6258	5.79	6.83
203.01	12 hours	0.890	6262	0.940	1.11
204.01	12 hours	0.620	6262	0.650	0.767
205.01	12 hours	0.790	6262	0.820	0.968
206.01	12 hours	0.210	6261	0.210	0.248
207.01	12 hours	0.740	6262	0.800	0.944
208.01	12 hours	1.07	6262	1.14	1.35
208.02	12 hours	1.49	6262	1.60	1.89
208.03	12 hours	2.81	6262	3.02	3.56
208.04	12 hours	5.52	6261	5.76	6.80
208.05	12 hours	6.98	6261	7.35	8.67
208.06	18 hours	8.69	6350	8.88	10.5
209.01	12 hours	0.200	6261	0.200	0.236
210.01	12 hours	0.370	6262	0.390	0.460
211.01	12 hours	0.390	6262	0.410	0.484
211.02	12 hours	0.450	6262	0.470	0.555

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	1.60	6262	1.71	2.02
212.01	12 hours	0.190	6261	0.200	0.236
_junc_10	12 hours	37.3	6261	38.0	44.9
_junc_108	12 hours	0.680	6262	0.730	0.861
_junc_11	12 hours	594	6266	605	714
_junc_111	12 hours	3.94	6266	4.08	4.81
_junc_114	12 hours	2.41	6266	2.43	2.87
_junc_12	12 hours	18.4	6266	18.8	22.2
_junc_13	12 hours	182	6266	184	217
_junc_138	12 hours	12.4	6262	12.5	14.7
_junc_14	12 hours	155	6266	157	185
_junc_142	12 hours	9.64	6262	9.92	11.7
_junc_143	12 hours	291	6266	297	350
_junc_15	12 hours	554	6266	565	666
_junc_16	12 hours	605	6266	616	727
_junc_165	12 hours	40.9	6261	41.0	48.4
_junc_168	12 hours	38.2	6266	39.6	46.7
_junc_17	12 hours	173	6266	175	206
_junc_174	12 hours	27.7	6266	28.0	33.0
_junc_18	18 hours	68.7	6355	69.6	82.1
_junc_181	12 hours	0.110	6261	0.110	0.130
_junc_185	12 hours	0.120	6262	0.140	0.165
_junc_186	12 hours	0.370	6262	0.400	0.472
_junc_187	12 hours	3.13	6261	3.21	3.79
_junc_19	12 hours	238	6266	242	286
_junc_193	12 hours	13.4	6262	13.5	15.9
_junc_194	12 hours	19.1	6262	19.2	22.7
_junc_199	12 hours	23.4	6262	23.4	27.6
_junc_2	12 hours	280	6266	284	335
_junc_20	12 hours	200	6266	202	239
_junc_204	12 hours	10.4	6262	10.5	12.4
_junc_21	12 hours	216	6266	219	259
_junc_22	12 hours	616	6266	628	741
_junc_228	12 hours	0.630	6262	0.670	0.791
_junc_23	12 hours	624	6266	636	751
_junc_231	12 hours	253	6266	258	305
_junc_232	12 hours	31.4	6266	32.2	37.9
_junc_233	12 hours	44.8	6266	45.5	53.7
_junc_234	12 hours	598	6262	600	708
_junc_24	12 hours	37.8	6266	37.9	44.7
_junc_25	12 hours	30.4	6258	30.7	36.2
_junc_26	12 hours	25.6	6266	25.7	30.3
_junc_263	12 hours	14.8	6262	14.8	17.5
_junc_265	12 hours	14.4	6266	14.7	17.3
_junc_27	12 hours	15.6	6262	15.7	18.5
_junc_28	12 hours	675	6266	688	812
_junc_29	12 hours	673	6266	686	809
_junc_3	12 hours	25.0	6261	25.5	30.1
_junc_30	12 hours	679	6266	692	817
_junc_31	12 hours	19.4	6266	19.7	23.2

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	689	6266	702	828
_junc_324	12 hours	605	6262	607	716
_junc_328	12 hours	703	6262	704	831
_junc_329	12 hours	40.7	6261	41.8	49.3
_junc_33	12 hours	18.9	6262	18.9	22.3
_junc_330	12 hours	83.7	6261	85.1	100
_junc_331	12 hours	1472	6262	1476	1742
_junc_34	12 hours	30.6	6266	31.2	36.8
_junc_35	12 hours	10.4	6266	10.7	12.7
_junc_36	12 hours	588	6262	590	696
_junc_37	12 hours	22.4	6262	22.7	26.7
_junc_38	12 hours	17.6	6262	17.8	21.0
_junc_39	12 hours	652	6262	654	772
_junc_4	12 hours	25.7	6262	25.9	30.5
_junc_40	12 hours	32.1	6262	32.4	38.3
_junc_41	12 hours	19.5	6259	22.3	26.3
_junc_42	12 hours	36.9	6266	37.1	43.8
_junc_43	12 hours	94.0	6262	94.1	111
_junc_44	12 hours	612	6262	614	724
_junc_45	12 hours	547	6262	549	647
_junc_46	12 hours	47.3	6266	47.5	56.0
_junc_47	12 hours	619	6262	621	733
_junc_48	12 hours	451	6262	451	533
_junc_49	12 hours	21.7	6266	22.2	26.2
_junc_5	12 hours	21.9	6262	22.1	26.0
_junc_50	12 hours	69.8	6262	70.2	82.8
_junc_51	12 hours	441	6262	441	521
_junc_52	12 hours	79.8	6262	80.0	94.4
_junc_53	12 hours	22.1	6262	22.1	26.1
_junc_54	12 hours	111	6262	111	131
_junc_55	12 hours	125	6262	125	148
_junc_56	12 hours	404	6262	405	477
_junc_57	12 hours	168	6261	170	201
_junc_58	12 hours	383	6262	383	452
_junc_59	12 hours	359	6266	363	428
_junc_6	12 hours	72.9	6266	73.0	86.1
_junc_60	12 hours	374	6262	374	441
_junc_61	12 hours	34.9	6262	35.1	41.5
_junc_62	12 hours	170	6262	170	201
_junc_63	12 hours	151	6262	151	179
_junc_64	12 hours	68.8	6262	69.0	81.4
_junc_65	12 hours	19.3	6262	19.7	23.2
_junc_66	12 hours	129	6262	129	153
_junc_67	12 hours	77.1	6262	77.4	91.3
_junc_68	12 hours	54.7	6262	54.8	64.6
_junc_69	12 hours	40.9	6259	47.0	55.4
_junc_7	12 hours	83.9	6262	84.0	99.1
_junc_70	12 hours	31.2	6259	35.8	42.3
_junc_71	12 hours	27.0	6262	27.1	31.9
_junc_72	12 hours	47.1	6262	47.3	55.8

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	22.2	6262	22.3	26.3
_junc_74	12 hours	14.6	6262	14.7	17.4
_junc_75	18 hours	47.6	6357	48.0	56.6
_junc_76	12 hours	18.3	6266	18.5	21.8
_junc_77	12 hours	45.0	6262	45.0	53.1
_junc_78	12 hours	55.7	6259	64.2	75.7
_junc_79	12 hours	63.6	6259	73.1	86.3
_junc_8	12 hours	31.8	6262	32.0	37.8
_junc_80	12 hours	25.3	6262	25.4	30.0
_junc_81	12 hours	121	6261	123	145
_junc_82	12 hours	27.4	6261	27.6	32.6
_junc_83	12 hours	22.1	6262	22.1	26.1
_junc_84	12 hours	149	6261	151	178
_junc_85	12 hours	29.6	6261	30.2	35.6
_junc_86	12 hours	185	6261	187	221
_junc_87	12 hours	64.3	6261	65.0	76.7
_junc_88	12 hours	70.2	6261	70.9	83.6
_junc_89	12 hours	169	6261	171	202
_junc_9	12 hours	42.6	6262	42.8	50.5
_junc_90	12 hours	271	6266	275	324
_junc_91	12 hours	18.5	6261	19.0	22.4

0.5% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	21.3	6262	21.4	22.4
1.02	12 hours	27.7	6266	27.8	29.1
1.03	12 hours	38.6	6266	38.7	40.7
1.04	12 hours	54.8	6262	55.5	58.3
1.05	12 hours	70.0	6262	70.9	74.4
1.06	12 hours	71.4	6262	72.4	76.0
1.07	12 hours	85.0	6262	85.1	89.4
1.08	12 hours	93.6	6262	93.6	98.3
1.09	12 hours	96.2	6262	96.3	101
1.10	12 hours	159	6266	159	167
1.11	12 hours	190	6266	190	200
1.12	12 hours	214	6261	214	225
1.13	12 hours	435	6261	438	459
1.14	12 hours	453	6261	456	479
1.15	12 hours	453	6261	457	480
1.16	12 hours	462	6261	465	488
1.17	12 hours	497	6262	498	522
1.18	12 hours	534	6262	535	561
1.19	12 hours	542	6262	543	570
1.20	12 hours	661	6262	663	696
1.21	12 hours	665	6262	667	700
1.22	12 hours	713	6262	715	751
1.23	12 hours	724	6262	726	763
1.24	12 hours	724	6262	727	763
1.25	12 hours	728	6262	730	766
1.26	12 hours	735	6262	737	774
1.27	12 hours	744	6262	746	783
1.28	12 hours	745	6262	747	784
1.29	12 hours	786	6262	788	827
1.30	12 hours	789	6262	791	830
1.31	12 hours	851	6262	852	895
1.32	12 hours	851	6262	853	895
1.33	12 hours	1675	6262	1678	1761
1.34	12 hours	1676	6262	1680	1764
1.35	12 hours	1769	6262	1774	1863
1.36	12 hours	1771	6262	1776	1865
1.37	12 hours	1772	6262	1777	1866
1.38	12 hours	1773	6262	1779	1868
1.39	12 hours	1782	6262	1790	1879
1.40	12 hours	1796	6262	1806	1896
2.01	12 hours	5.39	6266	5.44	5.71
3.01	12 hours	9.71	6262	10.0	10.5
4.01	12 hours	10.3	6262	10.4	10.9
5.01	12 hours	10.7	6262	10.9	11.5
6.01	12 hours	11.0	6266	11.0	11.6
7.01	12 hours	7.10	6266	7.13	7.49
8.01	12 hours	20.4	6266	20.8	21.8
8.02	12 hours	39.5	6262	39.7	41.7
8.03	12 hours	39.5	6262	39.8	41.8

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	57.3	6262	57.5	60.4
8.05	12 hours	59.0	6262	59.2	62.2
9.01	12 hours	12.4	6261	12.5	13.1
10.01	12 hours	7.26	6262	7.29	7.65
10.02	12 hours	17.6	6262	17.6	18.5
11.01	12 hours	10.2	6262	10.3	10.8
12.01	12 hours	8.49	6262	8.81	9.25
12.02	12 hours	14.7	6266	14.8	15.5
12.03	12 hours	23.5	6266	23.6	24.7
13.01	12 hours	2.79	6262	2.95	3.10
14.01	12 hours	6.98	6262	7.03	7.38
14.02	12 hours	8.44	6262	8.57	9.00
15.01	12 hours	1.16	6262	1.22	1.28
16.01	12 hours	9.25	6262	9.28	9.74
16.02	12 hours	13.9	6262	14.0	14.7
17.01	12 hours	14.0	6261	14.2	14.9
17.02	12 hours	32.2	6261	32.4	34.1
17.03	12 hours	41.4	6261	41.6	43.6
17.04	12 hours	59.1	6266	59.3	62.3
17.05	12 hours	69.6	6266	69.7	73.2
17.06	12 hours	86.9	6262	87.3	91.6
17.07	12 hours	99.2	6261	99.9	105
17.08	12 hours	136	6261	136	143
17.09	12 hours	139	6261	139	146
17.10	12 hours	150	6261	151	158
17.11	12 hours	212	6261	214	225
17.12	12 hours	216	6261	218	228
17.13	12 hours	217	6261	219	230
18.01	12 hours	12.9	6261	12.9	13.6
19.01	12 hours	6.29	6262	6.31	6.63
20.01	12 hours	15.7	6266	16.0	16.8
21.01	12 hours	12.9	6262	12.9	13.6
21.02	12 hours	14.4	6261	14.7	15.5
22.01	12 hours	9.35	6262	9.68	10.2
23.01	12 hours	7.72	6266	7.72	8.11
23.02	12 hours	24.7	6262	24.9	26.2
23.03	12 hours	33.6	6262	33.7	35.4
23.04	12 hours	34.1	6266	34.1	35.8
24.01	12 hours	9.92	6262	9.98	10.5
25.01	12 hours	3.40	6266	3.56	3.74
26.01	12 hours	10.9	6266	10.9	11.5
26.02	12 hours	11.0	6262	11.1	11.6
27.01	12 hours	13.8	6262	13.9	14.5
27.02	12 hours	30.1	6261	30.2	31.7
27.03	12 hours	51.5	6261	52.3	54.9
28.01	12 hours	2.76	6262	2.92	3.07
28.02	12 hours	3.75	6262	3.97	4.17
29.01	12 hours	11.9	6266	11.9	12.5
30.01	12 hours	3.45	6262	3.50	3.68
31.01	12 hours	2.51	6262	2.53	2.66

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	14.7	6266	14.9	15.6
33.01	12 hours	7.03	6266	7.04	7.39
34.01	12 hours	10.3	6262	10.3	10.8
34.02	12 hours	25.0	6266	25.1	26.3
34.03	12 hours	25.3	6266	25.5	26.7
35.01	12 hours	7.14	6266	7.17	7.53
35.02	12 hours	15.2	6262	15.2	16.0
35.03	12 hours	20.4	6262	20.5	21.5
35.04	12 hours	20.7	6262	20.7	21.8
35.05	12 hours	32.5	6262	32.6	34.3
36.01	12 hours	0.860	6266	0.910	0.956
37.01	12 hours	6.02	6261	6.05	6.35
38.01	12 hours	6.22	6262	6.28	6.59
38.02	12 hours	7.59	6261	7.68	8.06
39.01	12 hours	8.30	6261	8.31	8.73
39.02	12 hours	17.2	6266	17.7	18.6
39.03	12 hours	25.2	6262	25.5	26.8
39.04	12 hours	50.2	6266	51.2	53.8
39.05	12 hours	63.6	6266	64.5	67.7
39.06	12 hours	117	6266	118	124
40.01	12 hours	4.43	6262	4.72	4.96
41.01	12 hours	5.61	6262	5.97	6.27
42.01	12 hours	11.8	6262	11.9	12.5
43.01	12 hours	3.72	6262	3.85	4.04
44.01	12 hours	12.8	6262	12.8	13.4
44.02	12 hours	32.3	6266	32.4	34.1
44.03	12 hours	49.5	6261	49.8	52.2
45.01	12 hours	8.40	6266	8.43	8.85
46.01	12 hours	12.4	6262	12.4	13.1
47.01	12 hours	10.8	6262	10.9	11.4
47.02	12 hours	15.1	6262	15.3	16.1
47.03	12 hours	16.4	6266	16.6	17.4
47.04	12 hours	33.8	6266	34.7	36.5
47.05	12 hours	43.6	6262	43.7	45.9
48.01	12 hours	4.10	6262	4.22	4.43
49.01	12 hours	5.96	6262	6.24	6.55
49.02	12 hours	6.80	6266	6.95	7.30
49.03	12 hours	6.89	6266	7.07	7.42
50.01	12 hours	1.12	6262	1.18	1.24
51.01	12 hours	3.93	6262	4.10	4.31
52.01	12 hours	1.78	6262	1.89	1.98
52.02	12 hours	4.31	6266	4.40	4.62
53.01	12 hours	6.34	6262	6.37	6.69
54.01	12 hours	2.42	6262	2.46	2.58
54.02	12 hours	3.55	6266	3.63	3.81
54.03	12 hours	4.01	6262	4.12	4.33
55.01	12 hours	2.93	6262	3.09	3.24
56.01	12 hours	4.07	6266	4.12	4.33
56.02	12 hours	6.79	6262	7.07	7.42
56.03	12 hours	7.99	6262	8.30	8.72

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	3.50	6266	3.53	3.71
57.02	12 hours	8.77	6258	8.83	9.27
58.01	12 hours	6.55	6262	6.57	6.90
58.02	12 hours	9.55	6262	9.61	10.1
58.03	12 hours	13.8	6262	13.9	14.6
58.04	12 hours	23.2	6259	26.5	27.8
58.05	12 hours	25.0	6266	25.1	26.4
58.06	12 hours	36.4	6266	36.9	38.7
58.07	12 hours	41.6	6266	42.0	44.1
59.01	12 hours	2.90	6262	3.00	3.15
60.01	12 hours	2.70	6266	2.77	2.91
60.02	12 hours	3.46	6266	3.53	3.71
60.03	12 hours	7.59	6262	7.67	8.05
61.01	12 hours	2.22	6262	2.28	2.39
62.01	12 hours	0.520	6259	0.550	0.578
63.01	12 hours	0.040	6262	0.040	0.042
64.01	12 hours	1.49	6266	1.56	1.64
64.02	12 hours	8.39	6262	8.57	9.00
65.01	12 hours	0.860	6262	0.920	0.966
66.01	12 hours	1.06	6262	1.13	1.19
66.02	12 hours	3.90	6262	3.93	4.13
67.01	12 hours	0.200	6261	0.210	0.221
68.01	12 hours	0.320	6261	0.320	0.336
69.01	12 hours	0.320	6261	0.330	0.347
69.02	12 hours	0.550	6262	0.590	0.620
70.01	12 hours	0.240	6261	0.240	0.252
71.01	12 hours	0.270	6261	0.280	0.294
72.01	12 hours	0.310	6261	0.310	0.326
73.01	12 hours	0.220	6261	0.230	0.242
74.01	12 hours	2.05	6266	2.07	2.17
75.01	36 hours	2.30	6536	2.32	2.44
75.02	36 hours	2.72	6536	2.75	2.89
76.01	12 hours	1.45	6266	1.47	1.54
76.02	12 hours	1.58	6262	1.62	1.70
77.01	12 hours	3.47	6266	3.49	3.66
77.02	12 hours	7.67	6266	7.71	8.10
77.03	12 hours	14.9	6266	15.0	15.8
77.04	12 hours	16.6	6266	16.8	17.7
77.05	12 hours	17.7	6262	17.7	18.6
77.06	12 hours	17.9	6262	18.0	18.8
77.07	12 hours	35.1	6262	35.2	36.9
77.08	12 hours	36.0	6266	37.7	39.6
77.09	12 hours	36.3	6266	38.0	39.9
77.10	12 hours	36.9	6266	38.7	40.6
77.11	12 hours	42.2	6266	44.0	46.1
77.12	12 hours	47.2	6266	49.1	51.6
77.13	12 hours	57.6	6261	58.2	61.1
78.01	12 hours	3.28	6262	3.32	3.49
78.02	12 hours	8.08	6266	8.61	9.04
79.01	12 hours	2.19	6266	2.29	2.40

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	0.960	6262	1.02	1.07
81.01	12 hours	2.19	6266	2.23	2.34
81.02	12 hours	2.43	6266	2.50	2.63
81.03	12 hours	4.86	6266	5.12	5.38
81.04	12 hours	8.89	6262	9.43	9.90
82.01	12 hours	0.470	6262	0.500	0.525
82.02	12 hours	1.99	6262	2.13	2.24
82.03	12 hours	2.28	6262	2.43	2.55
83.01	12 hours	1.44	6259	1.54	1.62
83.02	12 hours	2.84	6262	3.03	3.18
83.03	12 hours	3.15	6262	3.36	3.53
84.01	12 hours	0.270	6262	0.280	0.294
84.02	12 hours	1.00	6262	1.06	1.11
85.01	12 hours	0.540	6262	0.580	0.609
86.01	12 hours	0.080	6261	0.080	0.084
87.01	12 hours	0.400	6262	0.430	0.452
87.02	12 hours	0.750	6262	0.800	0.840
88.01	12 hours	0.160	6262	0.170	0.179
89.01	12 hours	0.240	6262	0.260	0.273
90.01	12 hours	0.160	6262	0.170	0.179
91.01	12 hours	0.460	6259	0.490	0.515
92.01	12 hours	0.800	6262	0.820	0.861
92.02	12 hours	3.23	6266	3.30	3.47
92.03	12 hours	3.43	6261	3.45	3.62
92.04	12 hours	5.05	6262	5.06	5.31
93.01	12 hours	0.240	6262	0.260	0.273
94.01	12 hours	0.280	6262	0.300	0.315
95.01	12 hours	0.340	6262	0.360	0.378
96.01	12 hours	0.150	6261	0.150	0.158
97.01	12 hours	0.160	6261	0.170	0.179
98.01	12 hours	0.480	6262	0.520	0.546
99.01	12 hours	2.88	6261	2.91	3.06
99.02	12 hours	3.82	6261	3.92	4.12
100.01	12 hours	0.080	6262	0.090	0.095
101.01	12 hours	0.060	6261	0.060	0.063
102.01	12 hours	0.110	6262	0.120	0.126
103.01	12 hours	0.070	6261	0.070	0.074
104.01	12 hours	0.210	6262	0.230	0.242
104.02	12 hours	0.560	6262	0.590	0.620
105.01	12 hours	0.050	6261	0.050	0.053
106.01	18 hours	6.19	6350	6.23	6.54
106.02	18 hours	8.78	6355	8.89	9.33
107.01	12 hours	2.76	6262	2.81	2.95
108.01	12 hours	1.94	6262	1.96	2.06
108.02	12 hours	1.98	6262	1.99	2.09
109.01	12 hours	3.83	6262	3.91	4.11
110.01	12 hours	2.24	6266	2.28	2.39
111.01	12 hours	1.01	6262	1.06	1.11
112.01	12 hours	0.780	6262	0.820	0.861
113.01	12 hours	0.380	6262	0.390	0.410

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	12.7	6262	12.8	13.5
114.02	12 hours	19.3	6262	19.3	20.3
114.03	12 hours	37.4	6266	37.5	39.4
114.04	18 hours	62.1	6355	62.9	66.1
114.05	18 hours	83.0	6355	84.4	88.6
114.06	12 hours	192	6261	194	204
114.07	12 hours	208	6261	211	221
114.08	12 hours	226	6261	229	240
114.09	12 hours	231	6261	235	246
114.10	12 hours	244	6266	247	259
114.11	12 hours	260	6261	264	277
114.12	12 hours	264	6261	268	281
114.13	12 hours	299	6261	305	320
114.14	12 hours	313	6261	319	335
114.15	12 hours	314	6261	321	337
114.16	12 hours	669	6261	681	715
114.17	12 hours	714	6266	727	763
114.18	12 hours	727	6266	740	777
114.19	12 hours	733	6266	746	783
114.20	12 hours	740	6266	754	791
114.21	12 hours	800	6266	814	855
114.22	12 hours	808	6266	823	864
114.23	12 hours	811	6266	826	867
114.24	12 hours	818	6266	833	874
114.25	12 hours	831	6266	845	887
115.01	12 hours	5.92	6262	5.93	6.23
116.01	12 hours	11.3	6261	11.4	11.9
117.01	12 hours	7.80	6262	7.82	8.21
118.01	18 hours	20.9	6350	21.1	22.1
119.01	12 hours	22.2	6262	22.5	23.6
119.02	12 hours	34.1	6262	34.3	36.0
119.03	12 hours	91.0	6266	91.2	95.7
119.04	12 hours	106	6266	106	111
120.01	12 hours	8.52	6262	8.56	8.99
121.01	12 hours	11.8	6262	12.1	12.7
121.02	12 hours	30.6	6262	30.8	32.3
121.03	12 hours	39.8	6262	40.3	42.3
121.04	12 hours	52.8	6259	60.7	63.7
122.01	12 hours	14.3	6262	14.3	15.0
123.01	12 hours	7.31	6262	7.52	7.90
124.01	12 hours	11.1	6262	11.1	11.7
125.01	12 hours	8.96	6262	9.05	9.50
126.01	12 hours	15.8	6266	16.0	16.8
127.01	12 hours	10.9	6262	10.9	11.5
128.01	12 hours	9.00	6262	9.02	9.47
129.01	12 hours	7.21	6262	7.39	7.76
129.02	12 hours	13.6	6266	13.9	14.6
129.03	12 hours	17.4	6266	17.7	18.6
130.01	12 hours	4.37	6266	4.42	4.64
131.01	12 hours	3.28	6266	3.47	3.64

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	14.9	6261	15.1	15.8
131.03	12 hours	22.8	6261	23.1	24.3
132.01	12 hours	5.72	6262	6.00	6.30
133.01	12 hours	17.3	6262	17.4	18.3
133.02	12 hours	37.0	6262	37.7	39.6
133.03	12 hours	60.6	6259	69.9	73.3
133.04	12 hours	68.4	6266	68.4	71.9
133.05	12 hours	86.1	6259	99.0	104
133.06	12 hours	86.5	6259	99.5	104
133.07	12 hours	157	6261	159	167
133.08	12 hours	158	6261	160	168
133.09	12 hours	189	6261	191	201
133.10	12 hours	208	6261	210	221
133.11	12 hours	237	6261	240	252
133.12	12 hours	326	6261	330	346
133.13	12 hours	345	6261	349	367
133.14	12 hours	351	6261	356	373
134.01	12 hours	12.9	6262	13.3	13.9
135.01	12 hours	16.9	6266	16.9	17.8
136.01	12 hours	5.95	6266	5.97	6.27
137.01	12 hours	7.32	6262	7.59	7.97
138.01	18 hours	28.2	6350	28.5	29.9
138.02	18 hours	34.9	6350	35.2	37.0
138.03	18 hours	59.4	6357	59.4	62.4
139.01	12 hours	11.7	6261	11.7	12.3
139.02	12 hours	22.9	6262	22.9	24.0
140.01	12 hours	1.18	6262	1.23	1.29
141.01	12 hours	16.9	6262	17.0	17.8
141.02	12 hours	20.0	6262	20.2	21.2
142.01	12 hours	2.11	6262	2.24	2.35
143.01	12 hours	13.2	6262	13.6	14.3
144.01	12 hours	12.6	6262	12.6	13.2
145.01	12 hours	9.18	6262	9.36	9.83
145.02	12 hours	25.9	6261	26.0	27.3
145.03	12 hours	40.0	6261	40.1	42.1
145.04	12 hours	77.2	6261	77.6	81.5
145.05	12 hours	77.4	6261	77.9	81.8
145.06	12 hours	88.8	6261	89.0	93.5
146.01	12 hours	12.8	6266	12.9	13.5
147.01	12 hours	6.95	6262	7.25	7.61
148.01	12 hours	18.5	6262	18.7	19.6
148.02	12 hours	27.8	6261	28.4	29.8
148.03	12 hours	36.7	6261	37.2	39.1
149.01	12 hours	7.95	6262	7.97	8.37
150.01	12 hours	7.62	6266	7.63	8.01
151.01	12 hours	6.48	6262	6.68	7.01
152.01	12 hours	2.63	6266	2.77	2.91
153.01	12 hours	8.70	6266	8.76	9.20
154.01	12 hours	3.50	6266	3.50	3.68
154.02	12 hours	4.60	6262	4.80	5.04

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	12 hours	14.2	6266	14.5	15.2
155.02	12 hours	14.3	6266	14.8	15.5
155.03	12 hours	23.5	6261	23.9	25.1
155.04	12 hours	24.4	6261	24.9	26.1
155.05	12 hours	38.5	6261	39.1	41.1
155.06	12 hours	45.3	6261	45.9	48.2
156.01	12 hours	7.77	6266	7.79	8.18
156.02	12 hours	8.08	6262	8.09	8.49
157.01	12 hours	5.72	6266	5.73	6.02
158.01	12 hours	2.95	6262	2.97	3.12
159.01	12 hours	2.82	6262	2.94	3.09
160.01	12 hours	5.94	6262	5.96	6.26
160.02	12 hours	6.37	6266	6.44	6.76
161.01	12 hours	12.1	6262	12.2	12.8
162.01	12 hours	0.980	6262	1.03	1.08
162.02	12 hours	7.33	6261	7.44	7.81
162.03	12 hours	7.46	6261	7.57	7.95
163.01	12 hours	1.45	6262	1.54	1.62
163.02	12 hours	4.36	6266	4.49	4.71
163.03	12 hours	13.7	6261	13.7	14.4
163.04	12 hours	20.9	6262	21.0	22.0
163.05	12 hours	46.1	6266	47.2	49.6
163.06	12 hours	48.0	6266	49.1	51.6
164.01	18 hours	16.5	6350	16.7	17.5
165.01	12 hours	8.01	6261	8.24	8.65
165.02	12 hours	9.21	6261	9.42	9.89
166.01	12 hours	2.28	6266	2.29	2.40
166.02	12 hours	4.83	6262	4.90	5.15
166.03	12 hours	8.47	6262	8.47	8.89
167.01	12 hours	1.76	6266	1.87	1.96
167.02	12 hours	3.33	6266	3.51	3.69
168.01	12 hours	4.86	6262	4.97	5.22
168.02	12 hours	4.90	6262	5.00	5.25
169.01	12 hours	8.92	6262	8.96	9.41
169.02	12 hours	10.1	6266	10.2	10.8
170.01	12 hours	1.44	6262	1.54	1.62
171.01	12 hours	1.65	6266	1.70	1.79
172.01	12 hours	1.03	6262	1.10	1.16
173.01	12 hours	2.00	6262	2.13	2.24
173.02	12 hours	15.8	6266	16.2	17.0
173.03	12 hours	31.0	6266	31.7	33.3
173.04	12 hours	33.8	6266	34.6	36.3
173.05	12 hours	43.5	6261	44.1	46.3
173.06	12 hours	56.4	6261	57.8	60.7
173.07	12 hours	101	6261	102	107
174.01	12 hours	1.57	6262	1.67	1.75
175.01	12 hours	1.26	6262	1.34	1.41
176.01	12 hours	1.13	6262	1.19	1.25
176.02	12 hours	6.29	6266	6.38	6.70
177.01	18 hours	5.40	6357	5.42	5.69

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	3.60	6261	3.63	3.81
179.01	12 hours	0.630	6266	0.630	0.662
180.01	18 hours	5.39	6350	5.43	5.70
180.02	18 hours	5.94	6350	5.98	6.28
181.01	12 hours	3.71	6261	3.74	3.93
182.01	12 hours	0.510	6262	0.540	0.567
183.01	12 hours	5.21	6266	5.44	5.71
183.02	12 hours	10.0	6266	10.2	10.7
183.03	12 hours	17.9	6262	18.2	19.1
183.04	12 hours	28.4	6266	29.1	30.6
183.05	12 hours	29.5	6266	30.3	31.8
183.06	12 hours	44.4	6262	44.7	46.9
184.01	12 hours	0.940	6262	1.00	1.05
184.02	12 hours	6.14	6266	6.27	6.58
185.01	12 hours	1.16	6262	1.22	1.28
185.02	12 hours	5.07	6262	5.17	5.43
186.01	12 hours	2.28	6266	2.36	2.48
187.01	12 hours	2.85	6262	2.93	3.08
187.02	12 hours	5.42	6262	5.51	5.79
188.01	12 hours	0.880	6262	0.930	0.977
189.01	12 hours	0.920	6262	0.970	1.02
190.01	12 hours	0.630	6262	0.660	0.693
191.01	12 hours	1.74	6266	1.79	1.88
192.01	12 hours	2.02	6262	2.11	2.22
193.01	12 hours	1.71	6262	1.78	1.87
194.01	12 hours	0.300	6262	0.310	0.326
195.01	12 hours	0.600	6262	0.630	0.662
196.01	12 hours	0.680	6262	0.710	0.746
197.01	12 hours	0.560	6262	0.590	0.620
198.01	12 hours	0.800	6262	0.830	0.872
199.01	12 hours	1.76	6262	1.88	1.97
199.02	12 hours	2.39	6262	2.55	2.68
200.01	12 hours	0.310	6262	0.330	0.347
201.01	12 hours	0.750	6262	0.780	0.819
202.01	12 hours	6.97	6266	7.14	7.50
203.01	12 hours	1.06	6262	1.11	1.17
204.01	12 hours	0.740	6262	0.770	0.809
205.01	12 hours	0.930	6262	0.980	1.03
206.01	12 hours	0.250	6261	0.250	0.263
207.01	12 hours	0.880	6262	0.940	0.987
208.01	12 hours	1.27	6262	1.35	1.42
208.02	12 hours	1.78	6262	1.89	1.98
208.03	12 hours	3.33	6262	3.58	3.76
208.04	12 hours	6.63	6261	6.88	7.22
208.05	12 hours	8.41	6261	8.85	9.29
208.06	18 hours	10.5	6350	10.7	11.2
209.01	12 hours	0.230	6261	0.240	0.252
210.01	12 hours	0.440	6262	0.470	0.494
211.01	12 hours	0.460	6262	0.480	0.504
211.02	12 hours	0.530	6262	0.560	0.588

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	1.90	6262	2.04	2.14
212.01	12 hours	0.220	6261	0.230	0.242
_junc_10	12 hours	44.8	6261	45.4	47.7
_junc_108	12 hours	0.810	6262	0.860	0.903
_junc_11	12 hours	712	6266	725	762
_junc_111	12 hours	4.70	6266	4.93	5.18
_junc_114	12 hours	2.88	6261	2.91	3.06
_junc_12	12 hours	22.0	6266	22.6	23.7
_junc_13	12 hours	218	6261	221	232
_junc_138	12 hours	14.9	6262	15.1	15.9
_junc_14	12 hours	186	6261	188	197
_junc_142	12 hours	11.6	6266	11.6	12.1
_junc_143	12 hours	349	6261	353	371
_junc_15	12 hours	664	6261	676	710
_junc_16	12 hours	726	6266	738	775
_junc_165	12 hours	49.0	6266	51.0	53.5
_junc_168	12 hours	45.8	6266	47.6	50.0
_junc_17	12 hours	207	6261	210	221
_junc_174	12 hours	33.1	6266	33.4	35.1
_junc_18	18 hours	82.8	6355	84.2	88.4
_junc_181	12 hours	0.130	6261	0.130	0.137
_junc_185	12 hours	0.150	6261	0.150	0.158
_junc_186	12 hours	0.440	6261	0.440	0.462
_junc_187	12 hours	3.74	6261	3.78	3.97
_junc_19	12 hours	286	6261	291	305
_junc_193	12 hours	16.1	6262	16.4	17.2
_junc_194	12 hours	23.0	6262	23.4	24.5
_junc_199	12 hours	28.0	6266	28.0	29.4
_junc_2	12 hours	335	6261	338	355
_junc_20	12 hours	240	6266	243	255
_junc_204	12 hours	12.4	6262	12.5	13.1
_junc_21	12 hours	259	6261	263	276
_junc_22	12 hours	740	6266	753	790
_junc_228	12 hours	0.750	6262	0.800	0.840
_junc_23	12 hours	749	6266	763	801
_junc_231	12 hours	305	6261	310	326
_junc_232	12 hours	37.7	6266	38.6	40.5
_junc_233	12 hours	53.8	6266	54.8	57.6
_junc_234	12 hours	719	6262	721	757
_junc_24	12 hours	45.2	6266	45.2	47.5
_junc_25	12 hours	36.9	6266	37.7	39.6
_junc_26	12 hours	30.6	6261	30.7	32.3
_junc_263	12 hours	17.7	6262	17.7	18.6
_junc_265	12 hours	17.3	6266	17.6	18.5
_junc_27	12 hours	18.6	6261	18.7	19.6
_junc_28	12 hours	811	6266	825	867
_junc_29	12 hours	808	6266	822	864
_junc_3	12 hours	30.1	6261	30.6	32.1
_junc_30	12 hours	815	6266	830	871
_junc_31	12 hours	23.3	6266	23.6	24.8

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	827	6266	842	884
_junc_324	12 hours	727	6262	729	766
_junc_328	12 hours	844	6262	845	888
_junc_329	12 hours	49.1	6261	50.1	52.6
_junc_33	12 hours	22.7	6262	23.0	24.1
_junc_330	12 hours	100	6261	101	107
_junc_331	12 hours	1768	6262	1773	1861
_junc_34	12 hours	36.7	6262	36.8	38.6
_junc_35	12 hours	12.5	6266	13.0	13.6
_junc_36	12 hours	706	6262	708	744
_junc_37	12 hours	26.9	6261	27.1	28.4
_junc_38	12 hours	21.1	6262	21.6	22.7
_junc_39	12 hours	784	6262	786	825
_junc_4	12 hours	30.6	6262	30.8	32.4
_junc_40	12 hours	38.5	6261	38.7	40.6
_junc_41	12 hours	23.2	6259	26.5	27.8
_junc_42	12 hours	44.4	6261	44.6	46.8
_junc_43	12 hours	113	6266	114	119
_junc_44	12 hours	735	6262	737	774
_junc_45	12 hours	657	6262	659	692
_junc_46	12 hours	56.8	6266	57.0	59.8
_junc_47	12 hours	744	6262	746	783
_junc_48	12 hours	541	6262	542	569
_junc_49	12 hours	26.0	6266	26.8	28.1
_junc_5	12 hours	26.0	6262	26.2	27.6
_junc_50	12 hours	83.9	6262	84.3	88.6
_junc_51	12 hours	529	6262	530	557
_junc_52	12 hours	95.9	6262	96.0	101
_junc_53	12 hours	26.7	6262	26.8	28.1
_junc_54	12 hours	133	6261	133	140
_junc_55	12 hours	150	6261	151	158
_junc_56	12 hours	486	6262	486	510
_junc_57	12 hours	201	6261	203	213
_junc_58	12 hours	460	6261	464	487
_junc_59	12 hours	431	6261	433	455
_junc_6	12 hours	86.8	6266	87.0	91.3
_junc_60	12 hours	449	6261	452	475
_junc_61	12 hours	41.9	6262	42.1	44.2
_junc_62	12 hours	204	6266	204	215
_junc_63	12 hours	181	6266	182	191
_junc_64	12 hours	82.1	6262	82.2	86.3
_junc_65	12 hours	23.1	6262	23.8	24.9
_junc_66	12 hours	155	6266	155	163
_junc_67	12 hours	92.1	6262	92.2	96.8
_junc_68	12 hours	65.4	6262	66.4	69.7
_junc_69	12 hours	48.9	6262	49.5	52.0
_junc_7	12 hours	99.8	6266	99.9	105
_junc_70	12 hours	37.4	6266	37.4	39.2
_junc_71	12 hours	32.6	6262	32.8	34.5
_junc_72	12 hours	56.7	6262	57.0	59.9

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	26.5	6262	26.6	27.9
_junc_74	12 hours	17.5	6262	17.6	18.4
_junc_75	18 hours	57.0	6357	57.2	60.0
_junc_76	12 hours	21.8	6261	21.9	23.0
_junc_77	12 hours	53.5	6259	61.7	64.8
_junc_78	12 hours	66.3	6259	76.3	80.2
_junc_79	12 hours	75.6	6259	86.9	91.3
_junc_8	12 hours	37.8	6262	38.3	40.2
_junc_80	12 hours	30.1	6262	30.6	32.2
_junc_81	12 hours	144	6261	146	153
_junc_82	12 hours	32.7	6266	33.0	34.6
_junc_83	12 hours	26.4	6261	26.8	28.2
_junc_84	12 hours	178	6261	179	188
_junc_85	12 hours	35.4	6261	35.9	37.7
_junc_86	12 hours	220	6261	222	233
_junc_87	12 hours	76.7	6261	77.1	81.0
_junc_88	12 hours	83.7	6261	84.1	88.3
_junc_89	12 hours	202	6261	203	214
_junc_9	12 hours	50.6	6262	50.7	53.2
_junc_90	12 hours	324	6261	327	343
_junc_91	12 hours	22.3	6261	22.7	23.8

0.2% AEP XP-RAFTS Peak Flows

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
1.01	12 hours	25.7	6262	25.9	23.8
1.02	12 hours	33.6	6266	33.7	31.0
1.03	12 hours	46.9	6266	47.1	43.3
1.04	12 hours	66.5	6262	68.1	62.7
1.05	12 hours	85.1	6262	87.1	80.2
1.06	12 hours	86.8	6262	89.0	81.8
1.07	12 hours	103	6262	105	96.5
1.08	12 hours	114	6262	115	106
1.09	12 hours	117	6262	118	109
1.10	12 hours	193	6266	193	178
1.11	12 hours	231	6266	232	213
1.12	12 hours	260	6266	263	242
1.13	12 hours	530	6266	536	493
1.14	12 hours	552	6261	553	508
1.15	12 hours	553	6261	554	509
1.16	12 hours	563	6261	564	519
1.17	12 hours	607	6261	608	559
1.18	12 hours	651	6262	651	599
1.19	12 hours	661	6262	662	609
1.20	12 hours	806	6261	807	742
1.21	12 hours	810	6261	811	746
1.22	12 hours	868	6261	869	799
1.23	12 hours	882	6261	883	812
1.24	12 hours	882	6261	883	812
1.25	12 hours	886	6261	887	816
1.26	12 hours	896	6261	896	825
1.27	12 hours	906	6261	908	835
1.28	12 hours	908	6261	909	836
1.29	12 hours	957	6261	958	882
1.30	12 hours	961	6261	962	885
1.31	12 hours	1037	6261	1037	954
1.32	12 hours	1037	6261	1037	954
1.33	12 hours	2041	6262	2045	1882
1.34	12 hours	2043	6262	2049	1885
1.35	12 hours	2157	6261	2163	1990
1.36	12 hours	2159	6261	2164	1991
1.37	12 hours	2160	6261	2164	1991
1.38	12 hours	2162	6261	2165	1992
1.39	12 hours	2173	6261	2173	2000
1.40	12 hours	2190	6262	2203	2027
2.01	12 hours	6.54	6266	6.68	6.15
3.01	12 hours	11.8	6262	12.3	11.3
4.01	12 hours	12.6	6262	12.8	11.8
5.01	12 hours	13.0	6262	13.4	12.3
6.01	12 hours	13.5	6266	13.5	12.4
7.01	12 hours	8.66	6261	8.67	7.98
8.01	12 hours	24.9	6262	25.0	23.0
8.02	12 hours	48.1	6262	48.5	44.6
8.03	12 hours	48.2	6262	48.5	44.6

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
8.04	12 hours	69.7	6262	69.8	64.2
8.05	12 hours	71.9	6262	71.9	66.2
9.01	12 hours	15.1	6262	15.2	14.0
10.01	12 hours	8.81	6262	8.88	8.17
10.02	12 hours	21.3	6262	21.3	19.6
11.01	12 hours	12.4	6262	12.5	11.5
12.01	12 hours	10.3	6262	10.8	9.90
12.02	12 hours	17.9	6266	18.0	16.6
12.03	12 hours	28.6	6266	28.8	26.5
13.01	12 hours	3.38	6262	3.58	3.29
14.01	12 hours	8.50	6262	8.67	7.98
14.02	12 hours	10.3	6262	10.6	9.71
15.01	12 hours	1.41	6262	1.48	1.36
16.01	12 hours	11.3	6262	11.4	10.5
16.02	12 hours	17.0	6262	17.2	15.8
17.01	12 hours	17.1	6261	17.2	15.9
17.02	12 hours	39.3	6262	39.5	36.3
17.03	12 hours	50.4	6262	50.7	46.6
17.04	12 hours	72.1	6266	72.3	66.5
17.05	12 hours	84.9	6261	85.2	78.4
17.06	12 hours	106	6262	106	97.8
17.07	12 hours	121	6261	121	112
17.08	12 hours	166	6266	168	154
17.09	12 hours	169	6266	172	158
17.10	12 hours	183	6266	185	170
17.11	12 hours	259	6261	260	239
17.12	12 hours	263	6261	264	243
17.13	12 hours	265	6261	266	245
18.01	12 hours	15.7	6262	15.7	14.5
19.01	12 hours	7.66	6262	7.68	7.07
20.01	12 hours	19.3	6262	19.4	17.8
21.01	12 hours	15.8	6262	15.9	14.6
21.02	12 hours	17.6	6261	17.9	16.5
22.01	12 hours	11.3	6262	11.8	10.9
23.01	12 hours	9.36	6262	9.36	8.61
23.02	12 hours	30.1	6262	30.2	27.8
23.03	12 hours	40.8	6266	40.8	37.6
23.04	12 hours	41.4	6262	41.5	38.2
24.01	12 hours	12.1	6262	12.1	11.1
25.01	12 hours	4.13	6262	4.40	4.05
26.01	12 hours	13.3	6266	13.4	12.3
26.02	12 hours	13.4	6262	13.5	12.5
27.01	12 hours	16.7	6262	16.8	15.5
27.02	12 hours	36.6	6266	37.0	34.1
27.03	12 hours	63.1	6261	63.8	58.7
28.01	12 hours	3.34	6262	3.54	3.26
28.02	12 hours	4.54	6262	4.81	4.43
29.01	12 hours	14.5	6261	14.6	13.4
30.01	12 hours	4.20	6262	4.32	3.97
31.01	12 hours	3.04	6262	3.07	2.82

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
32.01	12 hours	18.0	6266	18.1	16.7
33.01	12 hours	8.57	6262	8.61	7.92
34.01	12 hours	12.5	6262	12.6	11.5
34.02	12 hours	30.4	6266	30.6	28.2
34.03	12 hours	30.8	6266	31.2	28.7
35.01	12 hours	8.70	6262	8.74	8.04
35.02	12 hours	18.6	6262	18.7	17.2
35.03	12 hours	25.0	6262	25.0	23.0
35.04	12 hours	25.3	6262	25.3	23.3
35.05	12 hours	39.7	6262	39.8	36.6
36.01	12 hours	1.04	6262	1.11	1.02
37.01	12 hours	7.33	6266	7.34	6.75
38.01	12 hours	7.61	6262	7.66	7.05
38.02	12 hours	9.26	6261	9.36	8.61
39.01	12 hours	10.1	6262	10.1	9.32
39.02	12 hours	20.9	6262	21.2	19.5
39.03	12 hours	30.6	6262	31.3	28.8
39.04	12 hours	60.9	6266	62.4	57.4
39.05	12 hours	77.3	6266	78.4	72.1
39.06	12 hours	143	6266	143	132
40.01	12 hours	5.38	6262	5.73	5.27
41.01	12 hours	6.79	6262	7.22	6.64
42.01	12 hours	14.4	6262	14.4	13.3
43.01	12 hours	4.53	6262	4.73	4.35
44.01	12 hours	15.5	6262	15.8	14.5
44.02	12 hours	39.2	6266	39.4	36.3
44.03	12 hours	60.3	6266	60.6	55.7
45.01	12 hours	10.2	6266	10.3	9.47
46.01	12 hours	15.1	6262	15.2	14.0
47.01	12 hours	13.1	6262	13.4	12.4
47.02	12 hours	18.4	6266	18.4	16.9
47.03	12 hours	19.9	6266	20.3	18.7
47.04	12 hours	41.2	6262	41.3	38.0
47.05	12 hours	53.1	6262	53.7	49.4
48.01	12 hours	5.00	6266	5.01	4.61
49.01	12 hours	7.22	6266	7.27	6.69
49.02	12 hours	8.24	6266	8.51	7.83
49.03	12 hours	8.35	6266	8.65	7.96
50.01	12 hours	1.35	6262	1.42	1.31
51.01	12 hours	4.78	6266	4.81	4.43
52.01	12 hours	2.15	6262	2.28	2.10
52.02	12 hours	5.22	6266	5.34	4.91
53.01	12 hours	7.71	6262	7.74	7.12
54.01	12 hours	2.92	6262	3.00	2.76
54.02	12 hours	4.29	6266	4.40	4.05
54.03	12 hours	4.84	6262	4.99	4.59
55.01	12 hours	3.55	6266	3.59	3.30
56.01	12 hours	4.95	6266	5.13	4.72
56.02	12 hours	8.25	6266	8.37	7.70
56.03	12 hours	9.71	6266	9.80	9.02

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
57.01	12 hours	4.25	6266	4.36	4.01
57.02	12 hours	10.8	6261	10.9	10.0
58.01	12 hours	7.95	6262	7.97	7.33
58.02	12 hours	11.6	6262	11.7	10.7
58.03	12 hours	16.8	6262	16.8	15.5
58.04	12 hours	28.1	6266	28.1	25.9
58.05	12 hours	30.4	6266	30.6	28.1
58.06	12 hours	44.2	6266	44.9	41.3
58.07	12 hours	50.6	6266	51.1	47.0
59.01	12 hours	3.51	6262	3.67	3.38
60.01	12 hours	3.26	6266	3.39	3.12
60.02	12 hours	4.19	6266	4.33	3.98
60.03	12 hours	9.21	6266	9.36	8.61
61.01	12 hours	2.68	6262	2.78	2.56
62.01	12 hours	0.630	6259	0.680	0.626
63.01	12 hours	0.050	6262	0.050	0.046
64.01	12 hours	1.81	6262	1.93	1.78
64.02	12 hours	10.2	6262	10.5	9.62
65.01	12 hours	1.04	6262	1.12	1.03
66.01	12 hours	1.28	6262	1.35	1.24
66.02	12 hours	4.73	6262	4.79	4.41
67.01	12 hours	0.240	6261	0.250	0.230
68.01	12 hours	0.390	6261	0.390	0.359
69.01	12 hours	0.390	6261	0.400	0.368
69.02	12 hours	0.670	6262	0.710	0.653
70.01	12 hours	0.290	6261	0.290	0.267
71.01	12 hours	0.320	6261	0.330	0.304
72.01	12 hours	0.370	6261	0.380	0.350
73.01	12 hours	0.270	6261	0.270	0.248
74.01	12 hours	2.48	6266	2.50	2.30
75.01	36 hours	2.91	6531	2.96	2.72
75.02	36 hours	3.44	6536	3.49	3.21
76.01	12 hours	1.76	6266	1.83	1.68
76.02	12 hours	1.93	6262	1.99	1.83
77.01	12 hours	4.22	6266	4.28	3.94
77.02	12 hours	9.34	6266	9.54	8.78
77.03	12 hours	18.1	6262	18.2	16.8
77.04	12 hours	20.2	6262	20.5	18.8
77.05	12 hours	21.6	6262	21.9	20.1
77.06	12 hours	21.8	6262	22.2	20.4
77.07	12 hours	42.8	6262	43.2	39.7
77.08	12 hours	43.9	6262	44.0	40.5
77.09	12 hours	44.2	6262	44.3	40.7
77.10	12 hours	45.0	6262	45.0	41.4
77.11	12 hours	51.4	6262	51.7	47.5
77.12	12 hours	57.5	6266	60.0	55.2
77.13	12 hours	70.3	6261	70.7	65.0
78.01	12 hours	3.98	6262	4.08	3.75
78.02	12 hours	9.89	6266	10.6	9.73
79.01	12 hours	2.64	6266	2.79	2.57

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
80.01	12 hours	1.17	6262	1.24	1.14
81.01	12 hours	2.64	6266	2.69	2.47
81.02	12 hours	2.93	6266	3.03	2.79
81.03	12 hours	5.88	6262	6.22	5.72
81.04	12 hours	10.7	6262	11.4	10.5
82.01	12 hours	0.570	6262	0.600	0.552
82.02	12 hours	2.43	6262	2.59	2.38
82.03	12 hours	2.77	6262	2.95	2.71
83.01	12 hours	1.74	6262	1.86	1.71
83.02	12 hours	3.44	6262	3.65	3.36
83.03	12 hours	3.81	6262	4.04	3.72
84.01	12 hours	0.320	6262	0.340	0.313
84.02	12 hours	1.20	6262	1.27	1.17
85.01	12 hours	0.660	6262	0.700	0.644
86.01	12 hours	0.090	6261	0.100	0.092
87.01	12 hours	0.490	6262	0.520	0.478
87.02	12 hours	0.910	6262	0.960	0.883
88.01	12 hours	0.190	6262	0.210	0.193
89.01	12 hours	0.290	6262	0.310	0.285
90.01	12 hours	0.190	6262	0.200	0.184
91.01	12 hours	0.550	6262	0.600	0.552
92.01	12 hours	0.970	6266	0.980	0.902
92.02	12 hours	3.91	6266	3.98	3.66
92.03	12 hours	4.15	6266	4.31	3.97
92.04	12 hours	6.11	6262	6.20	5.70
93.01	12 hours	0.290	6262	0.310	0.285
94.01	12 hours	0.330	6262	0.350	0.322
95.01	12 hours	0.410	6262	0.440	0.405
96.01	12 hours	0.180	6261	0.180	0.166
97.01	12 hours	0.200	6261	0.200	0.184
98.01	12 hours	0.580	6262	0.620	0.570
99.01	12 hours	3.51	6261	3.54	3.26
99.02	12 hours	4.64	6261	4.75	4.37
100.01	12 hours	0.100	6262	0.110	0.101
101.01	12 hours	0.080	6261	0.080	0.074
102.01	12 hours	0.130	6262	0.140	0.129
103.01	12 hours	0.080	6261	0.080	0.074
104.01	12 hours	0.260	6262	0.270	0.248
104.02	12 hours	0.670	6262	0.700	0.644
105.01	12 hours	0.060	6261	0.060	0.055
106.01	18 hours	7.62	6350	7.71	7.09
106.02	18 hours	10.8	6355	11.0	10.1
107.01	12 hours	3.35	6262	3.43	3.16
108.01	12 hours	2.36	6262	2.37	2.18
108.02	12 hours	2.41	6262	2.42	2.23
109.01	12 hours	4.68	6262	4.84	4.45
110.01	12 hours	2.71	6266	2.76	2.54
111.01	12 hours	1.23	6262	1.27	1.17
112.01	12 hours	0.940	6262	0.990	0.911
113.01	12 hours	0.460	6262	0.480	0.442

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
114.01	12 hours	15.5	6261	15.5	14.3
114.02	12 hours	23.4	6266	23.5	21.6
114.03	12 hours	45.4	6266	45.4	41.8
114.04	18 hours	75.9	6355	77.2	71.1
114.05	18 hours	101	6355	103	95.1
114.06	12 hours	233	6261	235	216
114.07	12 hours	253	6261	255	235
114.08	12 hours	275	6261	277	255
114.09	12 hours	281	6261	284	261
114.10	12 hours	296	6261	299	275
114.11	12 hours	317	6261	319	294
114.12	12 hours	321	6261	324	298
114.13	12 hours	365	6261	370	340
114.14	12 hours	381	6261	387	356
114.15	12 hours	383	6261	389	358
114.16	12 hours	815	6261	825	759
114.17	12 hours	870	6261	881	811
114.18	12 hours	885	6261	897	826
114.19	12 hours	893	6261	905	833
114.20	12 hours	902	6261	915	842
114.21	12 hours	976	6261	991	912
114.22	12 hours	986	6261	1001	921
114.23	12 hours	989	6261	1005	924
114.24	12 hours	997	6261	1013	932
114.25	12 hours	1013	6261	1029	946
115.01	12 hours	7.15	6262	7.24	6.66
116.01	12 hours	13.7	6262	13.8	12.7
117.01	12 hours	9.46	6262	9.62	8.85
118.01	18 hours	25.5	6350	25.7	23.7
119.01	12 hours	26.9	6266	27.0	24.8
119.02	12 hours	41.3	6261	41.5	38.2
119.03	12 hours	110	6266	110	101
119.04	12 hours	128	6266	128	118
120.01	12 hours	10.3	6262	10.3	9.48
121.01	12 hours	14.3	6262	14.7	13.6
121.02	12 hours	37.0	6262	37.8	34.8
121.03	12 hours	48.1	6262	49.4	45.4
121.04	12 hours	63.9	6262	64.5	59.4
122.01	12 hours	17.2	6262	17.4	16.0
123.01	12 hours	8.83	6262	9.16	8.43
124.01	12 hours	13.4	6262	13.5	12.4
125.01	12 hours	10.8	6262	11.1	10.2
126.01	12 hours	19.4	6266	19.6	18.0
127.01	12 hours	13.2	6262	13.2	12.2
128.01	12 hours	10.9	6262	10.9	10.0
129.01	12 hours	8.75	6262	9.05	8.33
129.02	12 hours	16.5	6266	17.0	15.6
129.03	12 hours	21.2	6266	21.8	20.0
130.01	12 hours	5.32	6266	5.47	5.03
131.01	12 hours	3.96	6262	4.21	3.87

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
131.02	12 hours	18.2	6261	18.4	16.9
131.03	12 hours	27.8	6261	28.1	25.8
132.01	12 hours	6.93	6266	6.98	6.42
133.01	12 hours	20.9	6262	21.4	19.6
133.02	12 hours	44.7	6262	46.1	42.4
133.03	12 hours	73.2	6266	73.2	67.4
133.04	12 hours	82.7	6262	82.8	76.1
133.05	12 hours	104	6266	104	96.1
133.06	12 hours	105	6266	105	96.7
133.07	12 hours	191	6261	193	177
133.08	12 hours	192	6261	194	178
133.09	12 hours	230	6261	231	213
133.10	12 hours	253	6261	254	234
133.11	12 hours	288	6261	291	267
133.12	12 hours	397	6261	399	367
133.13	12 hours	419	6261	423	389
133.14	12 hours	426	6261	430	396
134.01	12 hours	15.6	6262	16.2	14.9
135.01	12 hours	20.5	6266	20.6	19.0
136.01	12 hours	7.17	6266	7.30	6.72
137.01	12 hours	8.85	6266	8.86	8.15
138.01	18 hours	34.6	6350	34.9	32.1
138.02	18 hours	42.7	6350	43.1	39.6
138.03	18 hours	72.6	6350	73.2	67.3
139.01	12 hours	14.2	6262	14.2	13.1
139.02	12 hours	27.8	6262	27.8	25.6
140.01	12 hours	1.42	6262	1.48	1.36
141.01	12 hours	20.5	6262	20.8	19.1
141.02	12 hours	24.2	6262	24.8	22.8
142.01	12 hours	2.53	6262	2.68	2.47
143.01	12 hours	15.9	6262	16.6	15.3
144.01	12 hours	15.2	6262	15.5	14.2
145.01	12 hours	11.1	6262	11.4	10.5
145.02	12 hours	31.4	6266	31.5	29.0
145.03	12 hours	48.5	6266	48.8	44.9
145.04	12 hours	93.4	6266	95.0	87.4
145.05	12 hours	93.7	6266	95.3	87.7
145.06	12 hours	107	6266	110	101
146.01	12 hours	15.5	6266	15.6	14.3
147.01	12 hours	8.40	6266	8.48	7.80
148.01	12 hours	22.5	6262	22.6	20.8
148.02	12 hours	33.7	6261	34.1	31.3
148.03	12 hours	44.5	6261	44.7	41.1
149.01	12 hours	9.61	6266	9.62	8.85
150.01	12 hours	9.24	6262	9.26	8.52
151.01	12 hours	7.87	6266	7.87	7.24
152.01	12 hours	3.18	6262	3.36	3.09
153.01	12 hours	10.6	6266	10.6	9.71
154.01	12 hours	4.25	6266	4.31	3.97
154.02	12 hours	5.58	6262	5.86	5.39

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
155.01	12 hours	17.5	6261	17.9	16.4
155.02	12 hours	17.7	6261	18.1	16.7
155.03	12 hours	28.8	6261	29.2	26.9
155.04	12 hours	29.9	6261	30.4	27.9
155.05	12 hours	47.1	6261	47.6	43.8
155.06	12 hours	55.3	6261	55.9	51.4
156.01	12 hours	9.43	6262	9.46	8.70
156.02	12 hours	9.81	6266	9.88	9.09
157.01	12 hours	6.96	6262	6.98	6.42
158.01	12 hours	3.57	6262	3.63	3.34
159.01	12 hours	3.42	6262	3.58	3.29
160.01	12 hours	7.21	6262	7.24	6.66
160.02	12 hours	7.73	6266	7.82	7.19
161.01	12 hours	14.8	6266	14.9	13.7
162.01	12 hours	1.19	6262	1.24	1.14
162.02	12 hours	8.96	6261	9.06	8.34
162.03	12 hours	9.11	6261	9.22	8.48
163.01	12 hours	1.76	6262	1.87	1.72
163.02	12 hours	5.28	6266	5.53	5.09
163.03	12 hours	16.7	6266	17.0	15.6
163.04	12 hours	25.5	6262	25.5	23.5
163.05	12 hours	56.7	6266	57.9	53.3
163.06	12 hours	59.1	6266	60.3	55.5
164.01	18 hours	20.3	6350	20.5	18.9
165.01	12 hours	9.82	6261	10.0	9.24
165.02	12 hours	11.3	6261	11.5	10.6
166.01	12 hours	2.75	6266	2.78	2.56
166.02	12 hours	5.85	6262	5.97	5.49
166.03	12 hours	10.3	6262	10.3	9.50
167.01	12 hours	2.13	6262	2.26	2.08
167.02	12 hours	4.05	6262	4.30	3.96
168.01	12 hours	5.91	6262	6.10	5.61
168.02	12 hours	5.95	6262	6.14	5.65
169.01	12 hours	10.8	6262	10.9	10.0
169.02	12 hours	12.3	6266	12.4	11.4
170.01	12 hours	1.75	6262	1.87	1.72
171.01	12 hours	2.00	6266	2.10	1.93
172.01	12 hours	1.25	6262	1.33	1.22
173.01	12 hours	2.42	6262	2.56	2.36
173.02	12 hours	19.2	6266	19.8	18.2
173.03	12 hours	37.6	6266	38.5	35.4
173.04	12 hours	41.1	6266	42.1	38.7
173.05	12 hours	53.2	6261	53.6	49.3
173.06	12 hours	69.1	6261	70.4	64.7
173.07	12 hours	123	6261	124	114
174.01	12 hours	1.91	6262	2.03	1.87
175.01	12 hours	1.53	6262	1.62	1.49
176.01	12 hours	1.36	6262	1.44	1.32
176.02	12 hours	7.63	6266	7.77	7.15
177.01	18 hours	6.69	6350	6.74	6.20

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
178.01	12 hours	4.40	6261	4.43	4.08
179.01	12 hours	0.760	6266	0.770	0.708
180.01	18 hours	6.61	6350	6.69	6.15
180.02	18 hours	7.28	6350	7.35	6.76
181.01	12 hours	4.54	6261	4.56	4.20
182.01	12 hours	0.620	6262	0.650	0.598
183.01	12 hours	6.31	6266	6.69	6.15
183.02	12 hours	12.2	6266	12.5	11.5
183.03	12 hours	21.8	6266	22.3	20.5
183.04	12 hours	34.6	6262	34.8	32.0
183.05	12 hours	36.0	6262	36.2	33.3
183.06	12 hours	54.1	6266	54.7	50.3
184.01	12 hours	1.14	6262	1.20	1.10
184.02	12 hours	7.46	6262	7.49	6.89
185.01	12 hours	1.41	6262	1.47	1.35
185.02	12 hours	6.19	6262	6.40	5.89
186.01	12 hours	2.76	6266	2.86	2.63
187.01	12 hours	3.45	6262	3.58	3.29
187.02	12 hours	6.58	6262	6.73	6.19
188.01	12 hours	1.06	6262	1.13	1.04
189.01	12 hours	1.11	6262	1.16	1.07
190.01	12 hours	0.760	6262	0.790	0.727
191.01	12 hours	2.12	6266	2.21	2.03
192.01	12 hours	2.43	6262	2.54	2.34
193.01	12 hours	2.07	6262	2.16	1.99
194.01	12 hours	0.360	6262	0.380	0.350
195.01	12 hours	0.730	6262	0.760	0.699
196.01	12 hours	0.820	6262	0.860	0.791
197.01	12 hours	0.680	6262	0.720	0.662
198.01	12 hours	0.960	6262	1.01	0.929
199.01	12 hours	2.13	6262	2.26	2.08
199.02	12 hours	2.89	6262	3.07	2.82
200.01	12 hours	0.380	6262	0.400	0.368
201.01	12 hours	0.900	6262	0.940	0.865
202.01	12 hours	8.58	6266	8.75	8.05
203.01	12 hours	1.28	6262	1.33	1.22
204.01	12 hours	0.890	6262	0.930	0.856
205.01	12 hours	1.13	6262	1.18	1.09
206.01	12 hours	0.290	6261	0.300	0.276
207.01	12 hours	1.06	6262	1.13	1.04
208.01	12 hours	1.54	6262	1.63	1.50
208.02	12 hours	2.15	6262	2.28	2.10
208.03	12 hours	4.03	6262	4.31	3.97
208.04	12 hours	8.10	6261	8.39	7.72
208.05	12 hours	10.3	6261	10.8	9.94
208.06	18 hours	12.9	6350	13.1	12.0
209.01	12 hours	0.280	6261	0.280	0.258
210.01	12 hours	0.530	6262	0.570	0.524
211.01	12 hours	0.560	6262	0.590	0.543
211.02	12 hours	0.650	6262	0.680	0.626

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
211.03	12 hours	2.30	6262	2.46	2.26
212.01	12 hours	0.260	6261	0.280	0.258
_junc_10	12 hours	54.7	6261	55.2	50.8
_junc_108	12 hours	0.980	6262	1.04	0.957
_junc_11	12 hours	868	6261	879	809
_junc_111	12 hours	5.69	6262	6.02	5.54
_junc_114	12 hours	3.51	6261	3.54	3.26
_junc_12	12 hours	26.7	6262	26.8	24.6
_junc_13	12 hours	266	6261	268	246
_junc_138	12 hours	18.1	6262	18.6	17.1
_junc_14	12 hours	226	6261	228	210
_junc_142	12 hours	14.1	6266	14.2	13.1
_junc_143	12 hours	424	6261	428	393
_junc_15	12 hours	809	6261	819	754
_junc_16	12 hours	884	6261	896	824
_junc_165	12 hours	59.8	6266	62.3	57.3
_junc_168	12 hours	55.8	6262	55.9	51.4
_junc_17	12 hours	252	6261	255	234
_junc_174	12 hours	40.2	6262	40.4	37.1
_junc_18	18 hours	101	6355	103	94.9
_junc_181	12 hours	0.160	6261	0.160	0.147
_junc_185	12 hours	0.180	6261	0.180	0.166
_junc_186	12 hours	0.530	6262	0.570	0.524
_junc_187	12 hours	4.53	6266	4.81	4.43
_junc_19	12 hours	349	6261	352	324
_junc_193	12 hours	19.6	6266	20.1	18.5
_junc_194	12 hours	28.0	6266	28.7	26.4
_junc_199	12 hours	33.9	6266	34.1	31.4
_junc_2	12 hours	407	6261	409	376
_junc_20	12 hours	292	6261	294	271
_junc_204	12 hours	15.1	6262	15.2	14.0
_junc_21	12 hours	316	6261	318	293
_junc_22	12 hours	901	6261	914	841
_junc_228	12 hours	0.900	6262	0.960	0.883
_junc_23	12 hours	913	6261	926	852
_junc_231	12 hours	371	6261	376	346
_junc_232	12 hours	45.9	6262	46.3	42.6
_junc_233	12 hours	65.3	6266	66.8	61.4
_junc_234	12 hours	875	6261	876	806
_junc_24	12 hours	54.8	6262	54.8	50.4
_junc_25	12 hours	45.3	6261	46.3	42.6
_junc_26	12 hours	37.1	6262	37.2	34.2
_junc_263	12 hours	21.4	6262	21.5	19.7
_junc_265	12 hours	21.0	6266	21.4	19.7
_junc_27	12 hours	22.6	6262	22.7	20.9
_junc_28	12 hours	989	6261	1005	924
_junc_29	12 hours	985	6261	1001	921
_junc_3	12 hours	36.9	6261	37.3	34.3
_junc_30	12 hours	994	6261	1010	929
_junc_31	12 hours	28.3	6266	29.0	26.6

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_32	12 hours	1008	6261	1025	943
_junc_324	12 hours	885	6261	886	815
_junc_328	12 hours	1029	6262	1030	947
_junc_329	12 hours	60.2	6261	61.1	56.2
_junc_33	12 hours	27.6	6262	28.2	25.9
_junc_330	12 hours	122	6261	123	113
_junc_331	12 hours	2156	6261	2162	1989
_junc_34	12 hours	44.7	6262	45.3	41.7
_junc_35	12 hours	15.2	6266	15.8	14.5
_junc_36	12 hours	860	6261	861	792
_junc_37	12 hours	32.8	6262	33.0	30.3
_junc_38	12 hours	25.6	6262	26.5	24.4
_junc_39	12 hours	955	6261	956	879
_junc_4	12 hours	37.1	6266	37.2	34.2
_junc_40	12 hours	46.9	6262	47.1	43.3
_junc_41	12 hours	28.2	6266	28.2	25.9
_junc_42	12 hours	54.1	6266	54.4	50.1
_junc_43	12 hours	137	6266	138	127
_junc_44	12 hours	895	6261	896	824
_junc_45	12 hours	801	6261	802	738
_junc_46	12 hours	69.4	6262	69.8	64.2
_junc_47	12 hours	906	6261	907	835
_junc_48	12 hours	660	6262	661	608
_junc_49	12 hours	31.7	6266	32.8	30.2
_junc_5	12 hours	31.5	6262	32.2	29.6
_junc_50	12 hours	102	6262	103	94.6
_junc_51	12 hours	646	6262	646	594
_junc_52	12 hours	117	6261	117	108
_junc_53	12 hours	32.6	6262	32.6	30.0
_junc_54	12 hours	162	6266	164	151
_junc_55	12 hours	183	6266	185	170
_junc_56	12 hours	592	6261	593	545
_junc_57	12 hours	246	6261	246	227
_junc_58	12 hours	561	6261	562	517
_junc_59	12 hours	525	6266	530	488
_junc_6	12 hours	105	6266	105	96.7
_junc_60	12 hours	548	6261	548	504
_junc_61	12 hours	51.1	6266	51.2	47.1
_junc_62	12 hours	248	6266	249	229
_junc_63	12 hours	220	6266	221	204
_junc_64	12 hours	99.8	6262	101	93.2
_junc_65	12 hours	28.1	6266	28.2	25.9
_junc_66	12 hours	188	6266	189	174
_junc_67	12 hours	112	6262	113	104
_junc_68	12 hours	79.5	6262	81.5	75.0
_junc_69	12 hours	59.4	6266	59.5	54.7
_junc_7	12 hours	121	6266	121	111
_junc_70	12 hours	45.3	6266	45.4	41.8
_junc_71	12 hours	39.8	6262	40.1	36.9
_junc_72	12 hours	69.1	6262	69.2	63.7

Subcatchment	Critical Duration	Average Discharge (m^3/s)	Adopted TP ID	Raw Discharge (m^3/s)	Factored Discharge (m^3/s)
_junc_73	12 hours	32.2	6262	32.7	30.1
_junc_74	12 hours	21.2	6262	21.3	19.6
_junc_75	18 hours	69.6	6350	70.3	64.6
_junc_76	12 hours	26.4	6266	26.6	24.4
_junc_77	12 hours	64.7	6266	64.9	59.7
_junc_78	12 hours	80.1	6266	80.4	74.0
_junc_79	12 hours	91.4	6262	91.9	84.5
_junc_8	12 hours	45.8	6262	46.9	43.2
_junc_80	12 hours	36.5	6262	37.5	34.5
_junc_81	12 hours	175	6261	177	163
_junc_82	12 hours	39.5	6266	40.0	36.8
_junc_83	12 hours	31.9	6261	32.2	29.6
_junc_84	12 hours	216	6261	217	200
_junc_85	12 hours	42.9	6261	43.2	39.7
_junc_86	12 hours	267	6261	268	247
_junc_87	12 hours	92.8	6266	94.2	86.7
_junc_88	12 hours	101	6266	103	94.8
_junc_89	12 hours	245	6261	246	226
_junc_9	12 hours	61.2	6262	61.8	56.8
_junc_90	12 hours	393	6261	395	364
_junc_91	12 hours	27.3	6261	27.7	25.5

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
1.01	4 hours	72.7
1.02	3 hours	96.3
1.03	3 hours	137
1.04	3 hours	194
1.05	3 hours	249
1.06	3 hours	255
1.07	4 hours	301
1.08	4 hours	329
1.09	4 hours	339
1.1	4 hours	537
1.11	4 hours	658
1.12	4 hours	733
1.13	4 hours	1571
1.14	4 hours	1638
1.15	4 hours	1641
1.16	4 hours	1672
1.17	4 hours	1811
1.18	4 hours	1979
1.19	4 hours	2022
1.2	4 hours	2625
1.21	4 hours	2644
1.22	4 hours	2867
1.23	4 hours	2918
1.24	4 hours	2919
1.25	4 hours	2932
1.26	4 hours	2963
1.27	4 hours	2992
1.28	4 hours	2994
1.29	4 hours	3153
1.3	4 hours	3161
1.31	4 hours	3375
1.32	4 hours	3375
1.33	4 hours	6176
1.34	4 hours	6179
1.35	4 hours	6452
1.36	4 hours	6453
1.37	4 hours	6453
1.38	4 hours	6454
1.39	4 hours	6471
1.4	4 hours	6497
2.01	3 hours	21.7
3.01	3 hours	36.1
4.01	4 hours	36.3
5.01	3 hours	38.7
6.01	4 hours	36.6
7.01	4 hours	23.2
8.01	4 hours	55.4
8.02	4 hours	117
8.03	4 hours	118

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
8.04	4 hours	179
8.05	4 hours	185
9.01	4 hours	39.8
10.01	4 hours	27.0
10.02	4 hours	62.9
11.01	4 hours	35.6
12.01	3 hours	34.8
12.02	3 hours	60.2
12.03	3 hours	94.5
13.01	2 hours	13.1
14.01	4 hours	26.9
14.02	3 hours	32.8
15.01	1.50 hour	6.58
16.01	4 hours	29.5
16.02	4 hours	46.4
17.01	4 hours	48.2
17.02	4 hours	120
17.03	4 hours	156
17.04	4 hours	214
17.05	4 hours	262
17.06	4 hours	323
17.07	4 hours	381
17.08	4 hours	528
17.09	4 hours	543
17.1	4 hours	584
17.11	4 hours	795
17.12	4 hours	810
17.13	4 hours	818
18.01	4 hours	50.5
19.01	4 hours	24.6
20.01	5 hours	50.9
21.01	5 hours	42.9
21.02	4 hours	48.0
22.01	3 hours	51.5
23.01	4 hours	29.4
23.02	4 hours	94.9
23.03	4 hours	133
23.04	4 hours	135
24.01	4 hours	37.2
25.01	2 hours	17.8
26.01	4 hours	40.4
26.02	4 hours	40.9
27.01	4 hours	46.9
27.02	4 hours	103
27.03	4 hours	172
28.01	2 hours	13.1
28.02	2 hours	17.7
29.01	4 hours	40.8
30.01	3 hours	18.6

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
31.01	3 hours	13.0
32.01	4 hours	52.9
33.01	4 hours	27.3
34.01	4 hours	40.5
34.02	3 hours	109
34.03	3 hours	111
35.01	4 hours	35.5
35.02	5 hours	67.3
35.03	5 hours	91.1
35.04	5 hours	92.1
35.05	4 hours	152
36.01	2 hours	5.38
37.01	4 hours	33.9
38.01	5 hours	34.7
38.02	4 hours	42.4
39.01	4 hours	35.4
39.02	3 hours	84.3
39.03	3 hours	129
39.04	3 hours	251
39.05	3 hours	326
39.06	4 hours	629
40.01	2 hours	28.4
41.01	2 hours	36.3
42.01	4 hours	58.2
43.01	3 hours	24.9
44.01	3 hours	70.3
44.02	3 hours	180
44.03	4 hours	278
45.01	3 hours	51.9
46.01	5 hours	67.5
47.01	3 hours	58.5
47.02	3 hours	82.8
47.03	3 hours	90.2
47.04	3 hours	183
47.05	3 hours	240
48.01	3 hours	23.2
49.01	3 hours	38.4
49.02	3 hours	43.5
49.03	3 hours	43.9
50.01	1.50 hour	8.29
51.01	3 hours	22.7
52.01	2 hours	11.4
52.02	3 hours	24.0
53.01	4 hours	31.5
54.01	3 hours	13.1
54.02	3 hours	19.3
54.03	3 hours	21.5
55.01	3 hours	17.3
56.01	3 hours	23.5

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
56.02	3 hours	36.5
56.03	3 hours	42.2
57.01	3 hours	17.8
57.02	3 hours	32.3
58.01	3 hours	30.3
58.02	3 hours	43.3
58.03	3 hours	62.0
58.04	3 hours	111
58.05	3 hours	116
58.06	3 hours	162
58.07	3 hours	181
59.01	3 hours	14.1
60.01	2 hours	16.5
60.02	2 hours	21.1
60.03	3 hours	40.1
61.01	3 hours	11.8
62.01	2 hours	2.73
63.01	30 min	0.360
64.01	2 hours	7.83
64.02	3 hours	38.9
65.01	2.50 hours	4.45
66.01	1.50 hour	6.39
66.02	3 hours	17.5
67.01	30 min	1.58
68.01	30 min	2.55
69.01	30 min	2.62
69.02	30 min	4.06
70.01	30 min	1.83
71.01	30 min	2.12
72.01	30 min	2.44
73.01	30 min	1.86
74.01	3 hours	8.93
75.01	6 hours	3.09
75.02	6 hours	3.79
76.01	3 hours	6.51
76.02	3 hours	6.84
77.01	3 hours	17.1
77.02	3 hours	38.2
77.03	3 hours	63.8
77.04	3 hours	71.7
77.05	3 hours	76.4
77.06	3 hours	77.4
77.07	3 hours	151
77.08	3 hours	153
77.09	3 hours	154
77.1	3 hours	156
77.11	3 hours	175
77.12	3 hours	189
77.13	3 hours	217

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
78.01	3 hours	15.2
78.02	3 hours	35.2
79.01	2 hours	11.4
80.01	1.50 hour	5.41
81.01	3 hours	9.68
81.02	3 hours	10.7
81.03	3 hours	21.5
81.04	1.50 hour	39.8
82.01	1.50 hour	2.74
82.02	2 hours	9.12
82.03	1.50 hour	10.5
83.01	2 hours	6.96
83.02	1.50 hour	14.2
83.03	1.50 hour	15.7
84.01	45 min	1.62
84.02	1.50 hour	5.61
85.01	1.50 hour	3.05
86.01	30 min	0.610
87.01	1.50 hour	2.38
87.02	45 min	4.50
88.01	45 min	1.05
89.01	1.50 hour	1.29
90.01	1.50 hour	0.900
91.01	15 min	2.49
92.01	3 hours	3.05
92.02	4 hours	11.8
92.03	4 hours	12.4
92.04	3 hours	18.0
93.01	1.50 hour	1.35
94.01	45 min	1.70
95.01	45 min	2.07
96.01	45 min	0.980
97.01	45 min	1.06
98.01	1.50 hour	2.52
99.01	4 hours	9.38
99.02	4 hours	12.4
100.01	45 min	0.520
101.01	30 min	0.460
102.01	45 min	0.660
103.01	30 min	0.530
104.01	1.50 hour	1.25
104.02	1.50 hour	3.22
105.01	30 min	0.420
106.01	6 hours	14.9
106.02	4 hours	23.7
107.01	3 hours	10.7
108.01	4 hours	6.01
108.02	4 hours	6.13
109.01	3 hours	15.5

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
110.01	3 hours	9.99
111.01	1.50 hour	5.78
112.01	1.50 hour	4.49
113.01	45 min	2.29
114.01	4 hours	46.9
114.02	4 hours	71.7
114.03	4 hours	134
114.04	4 hours	214
114.05	4 hours	269
114.06	4 hours	660
114.07	4 hours	729
114.08	4 hours	798
114.09	4 hours	820
114.1	4 hours	877
114.11	4 hours	954
114.12	4 hours	970
114.13	4 hours	1092
114.14	4 hours	1137
114.15	4 hours	1142
114.16	4 hours	2295
114.17	4 hours	2445
114.18	4 hours	2487
114.19	4 hours	2504
114.2	4 hours	2530
114.21	4 hours	2748
114.22	4 hours	2775
114.23	4 hours	2782
114.24	4 hours	2804
114.25	4 hours	2844
115.01	4 hours	22.7
116.01	4 hours	38.9
117.01	3 hours	34.7
118.01	6 hours	58.6
119.01	4 hours	67.3
119.02	4 hours	111
119.03	4 hours	321
119.04	4 hours	377
120.01	4 hours	31.0
121.01	3 hours	44.3
121.02	4 hours	113
121.03	4 hours	148
121.04	4 hours	195
122.01	4 hours	52.3
123.01	3 hours	28.2
124.01	4 hours	38.4
125.01	3 hours	38.0
126.01	5 hours	67.9
127.01	3 hours	44.7
128.01	3 hours	45.3

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
129.01	3 hours	39.4
129.02	3 hours	76.2
129.03	3 hours	98.7
130.01	3 hours	25.9
131.01	2 hours	16.9
131.02	4 hours	52.3
131.03	4 hours	82.8
132.01	3 hours	29.1
133.01	4 hours	58.8
133.02	3 hours	131
133.03	4 hours	202
133.04	4 hours	231
133.05	4 hours	293
133.06	4 hours	294
133.07	4 hours	482
133.08	4 hours	486
133.09	4 hours	595
133.1	4 hours	665
133.11	4 hours	755
133.12	4 hours	1055
133.13	4 hours	1115
133.14	4 hours	1138
134.01	3 hours	47.7
135.01	4 hours	49.3
136.01	3 hours	24.8
137.01	3 hours	28.8
138.01	6 hours	67.1
138.02	6 hours	85.7
138.03	4 hours	158
139.01	4 hours	36.0
139.02	4 hours	67.3
140.01	1.50 hour	6.13
141.01	4 hours	63.1
141.02	4 hours	75.1
142.01	2 hours	10.8
143.01	3 hours	59.3
144.01	4 hours	46.4
145.01	3 hours	34.2
145.02	4 hours	85.7
145.03	4 hours	135
145.04	4 hours	256
145.05	4 hours	257
145.06	4 hours	302
146.01	4 hours	38.3
147.01	3 hours	27.8
148.01	4 hours	54.5
148.02	4 hours	86.4
148.03	4 hours	120
149.01	4 hours	29.0

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
150.01	4 hours	28.4
151.01	3 hours	26.4
152.01	2 hours	12.7
153.01	3 hours	38.0
154.01	3 hours	17.5
154.02	3 hours	22.7
155.01	6 hours	41.6
155.02	6 hours	42.0
155.03	4 hours	73.9
155.04	4 hours	77.0
155.05	4 hours	127
155.06	4 hours	152
156.01	4 hours	27.7
156.02	4 hours	28.7
157.01	4 hours	20.6
158.01	4 hours	11.7
159.01	3 hours	12.1
160.01	4 hours	22.4
160.02	4 hours	23.9
161.01	4 hours	38.6
162.01	1.50 hour	5.57
162.02	4 hours	24.3
162.03	4 hours	24.6
163.01	1.50 hour	9.83
163.02	2 hours	25.5
163.03	3 hours	63.9
163.04	4 hours	90.2
163.05	5 hours	179
163.06	5 hours	185
164.01	6 hours	62.7
165.01	5 hours	27.6
165.02	5 hours	31.4
166.01	3 hours	9.98
166.02	3 hours	19.4
166.03	4 hours	31.0
167.01	2 hours	9.37
167.02	2 hours	17.0
168.01	3 hours	22.4
168.02	3 hours	22.5
169.01	4 hours	36.9
169.02	3 hours	41.5
170.01	2 hours	7.04
171.01	3 hours	7.25
172.01	1.50 hour	5.22
173.01	2 hours	8.75
173.02	4 hours	52.4
173.03	4 hours	103
173.04	4 hours	111
173.05	4 hours	138

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
173.06	4 hours	170
173.07	4 hours	324
174.01	1.50 hour	7.49
175.01	2 hours	5.41
176.01	1.50 hour	5.49
176.02	3 hours	23.6
177.01	6 hours	11.5
178.01	4 hours	11.7
179.01	3 hours	2.50
180.01	6 hours	13.2
180.02	6 hours	14.1
181.01	4 hours	12.2
182.01	1.50 hour	2.64
183.01	3 hours	23.0
183.02	3 hours	40.5
183.03	3 hours	67.7
183.04	3 hours	104
183.05	3 hours	109
183.06	4 hours	156
184.01	1.50 hour	4.58
184.02	4 hours	21.3
185.01	1.50 hour	6.62
185.02	3 hours	20.2
186.01	3 hours	10.3
187.01	3 hours	10.9
187.02	3 hours	19.9
188.01	1.50 hour	4.58
189.01	1.50 hour	5.01
190.01	1.50 hour	3.28
191.01	3 hours	7.27
192.01	1.50 hour	11.5
193.01	1.50 hour	9.59
194.01	45 min	1.83
195.01	1.50 hour	3.33
196.01	1.50 hour	3.65
197.01	45 min	3.08
198.01	1.50 hour	4.30
199.01	2 hours	7.72
199.02	2 hours	10.4
200.01	45 min	1.91
201.01	1.50 hour	4.04
202.01	4 hours	18.8
203.01	1.50 hour	5.63
204.01	45 min	4.23
205.01	45 min	5.15
206.01	45 min	1.55
207.01	45 min	4.94
208.01	1.50 hour	6.06
208.02	1.50 hour	8.16

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
208.03	2 hours	13.8
208.04	3 hours	21.6
208.05	3 hours	25.4
208.06	4 hours	28.8
209.01	45 min	1.41
210.01	1.50 hour	2.31
211.01	1.50 hour	2.45
211.02	1.50 hour	2.85
211.03	1.50 hour	7.66
212.01	30 min	1.58
_junc_10	4 hours	151
_junc_108	1.50 hour	4.58
_junc_11	4 hours	2440
_junc_111	3 hours	20.9
_junc_114	4 hours	9.38
_junc_12	3 hours	75.6
_junc_13	4 hours	771
_junc_138	3 hours	81.8
_junc_14	4 hours	638
_junc_142	3 hours	64.8
_junc_143	4 hours	1130
_junc_15	4 hours	2277
_junc_16	4 hours	2483
_junc_165	3 hours	195
_junc_168	3 hours	186
_junc_17	4 hours	727
_junc_174	3 hours	152
_junc_18	4 hours	268
_junc_181	30 min	0.970
_junc_185	45 min	0.980
_junc_186	45 min	2.71
_junc_187	4 hours	13.4
_junc_19	4 hours	1053
_junc_193	3 hours	61.1
_junc_194	3 hours	87.8
_junc_199	4 hours	108
_junc_2	4 hours	1088
_junc_20	4 hours	860
_junc_204	3 hours	56.8
_junc_21	4 hours	950
_junc_22	4 hours	2527
_junc_228	45 min	3.95
_junc_23	4 hours	2561
_junc_231	4 hours	1112
_junc_232	3 hours	205
_junc_233	3 hours	274
_junc_234	4 hours	2895
_junc_24	4 hours	167
_junc_25	5 hours	148

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
_junc_26	4 hours	110
_junc_263	4 hours	66.5
_junc_265	4 hours	60.2
_junc_27	4 hours	69.2
_junc_28	4 hours	2782
_junc_29	4 hours	2774
_junc_3	4 hours	97.3
_junc_30	4 hours	2796
_junc_31	3 hours	134
_junc_32	4 hours	2835
_junc_324	4 hours	2929
_junc_328	4 hours	3360
_junc_329	4 hours	151
_junc_33	3 hours	116
_junc_330	4 hours	323
_junc_331	4 hours	6451
_junc_34	3 hours	186
_junc_35	3 hours	57.5
_junc_36	4 hours	2838
_junc_37	4 hours	98.2
_junc_38	3 hours	122
_junc_39	4 hours	3147
_junc_4	4 hours	97.1
_junc_40	4 hours	144
_junc_41	3 hours	111
_junc_42	4 hours	244
_junc_43	4 hours	602
_junc_44	4 hours	2961
_junc_45	4 hours	2606
_junc_46	4 hours	205
_junc_47	4 hours	2991
_junc_48	4 hours	2017
_junc_49	3 hours	113
_junc_5	4 hours	96.1
_junc_50	4 hours	310
_junc_51	4 hours	1958
_junc_52	4 hours	365
_junc_53	4 hours	125
_junc_54	4 hours	514
_junc_55	4 hours	583
_junc_56	4 hours	1763
_junc_57	4 hours	754
_junc_58	4 hours	1667
_junc_59	4 hours	1551
_junc_6	4 hours	305
_junc_60	4 hours	1624
_junc_61	4 hours	144
_junc_62	4 hours	704
_junc_63	4 hours	623

PMF XP-RAFTS ARR 2019 Peak Flows		
Subcatchment	Critical Duration	Adopted Discharge (m3/s)
_junc_64	4 hours	289
_junc_65	3 hours	92.9
_junc_66	4 hours	523
_junc_67	4 hours	323
_junc_68	3 hours	233
_junc_69	3 hours	173
_junc_7	4 hours	358
_junc_70	3 hours	132
_junc_71	4 hours	94.1
_junc_72	4 hours	177
_junc_73	3 hours	92.4
_junc_74	4 hours	62.6
_junc_75	4 hours	150
_junc_76	4 hours	70.7
_junc_77	4 hours	178
_junc_78	4 hours	223
_junc_79	4 hours	259
_junc_8	4 hours	141
_junc_80	4 hours	106
_junc_81	4 hours	446
_junc_82	4 hours	111
_junc_83	4 hours	81.8
_junc_84	4 hours	557
_junc_85	4 hours	115
_junc_86	4 hours	708
_junc_87	4 hours	255
_junc_88	4 hours	282
_junc_89	4 hours	644
_junc_9	4 hours	186
_junc_90	4 hours	1043
_junc_91	4 hours	69.6

APPENDIX I

HYDRAULIC CATEGORY VERIFICATION

HYDRAULIC CATEGORY VERIFICATION

Floodway

By definition, a floodway is an area that if only partially blocked would produce a significant impact on upstream water levels (NSW Government, 2005). Accordingly, the suitability of the delineated floodways was verified by partially blocking the floodways at various locations and quantifying the impact that this blockage had on peak 1% AEP flood levels. This approach is in accordance with recommendations outlined in the Office of Environment and Heritage's 'Floodway Definition' guideline (2007).

The TUFLOW hydraulic model was updated to include partial blockage of the delineated floodways at several locations across the catchment and was re-run for the 1% AEP event. The peak 1% AEP flood levels from the partly obstructed floodway models runs were compared against 'existing' 1% AEP flood levels to create flood level difference maps (i.e., maps showing the location and magnitude of changes in flood level). The difference maps are shown in **Plate I1** to **Plate I4**.

Plate I1 to **Plate I4** show that the obstructions increase peak 1% AEP flood levels by at least 0.2 metres upstream of each blockage location. In some areas, the flood level increases approach 0.4 metres. This is considered to be a 'significant impact' on upstream water levels.

Overall, the partial blockage of the delineated floodways is predicted to produce significant impacts on upstream water levels. Therefore, it is considered that the delineated floodway extents conform to the *'Floodplain Development Manual'* definitions and are suitable for application across the catchment.

Flood Storage

Flood storage areas are important for the temporary storage of floodwaters during the passage of a flood. They are areas that, if filled/removed, would result in flood levels in nearby areas increasing.

To confirm the suitability of the flood storage areas, all flood storage areas were assigned a high Manning's "n" value of 1.0. This will still allow water to be "stored" but will inhibit the conveyance of water. Therefore, it will assist in confirming that they are storage areas and not flow conveyance/floodway areas. Flood Fringe areas were also assigned a high roughness as part of the flood storage assessment.

The updated model was used to re-simulate the 1% AEP flood. Peak 1% AEP flood levels were compared against 'existing' 1% AEP flood levels and the resulting difference mapping is shown in **Plate I5** for the most extensive flood storage area located south of Pambula.

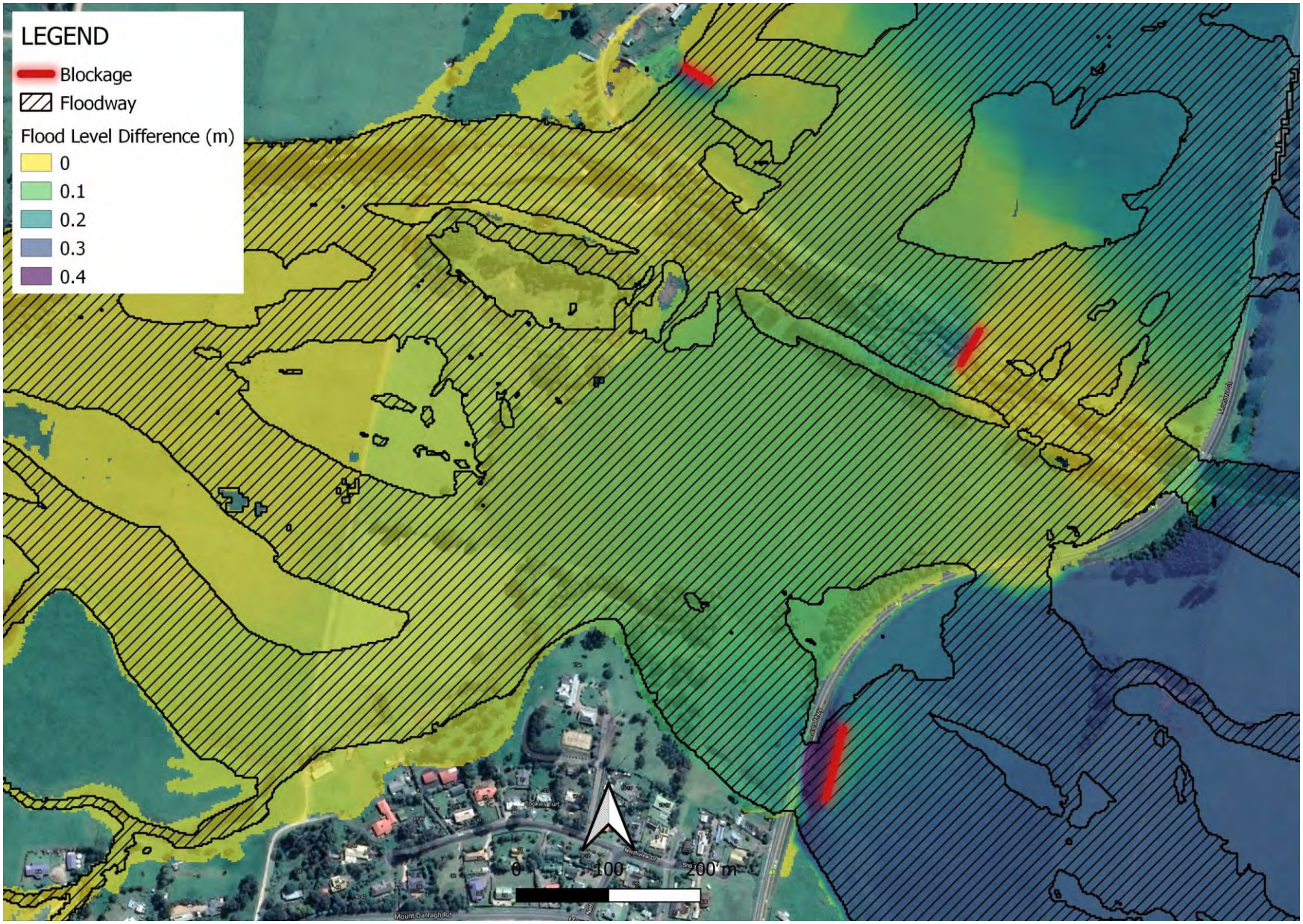


Plate I1 1% AEP Flood Level Differences associated with partial obstruction of floodways in the vicinity of South Pambula

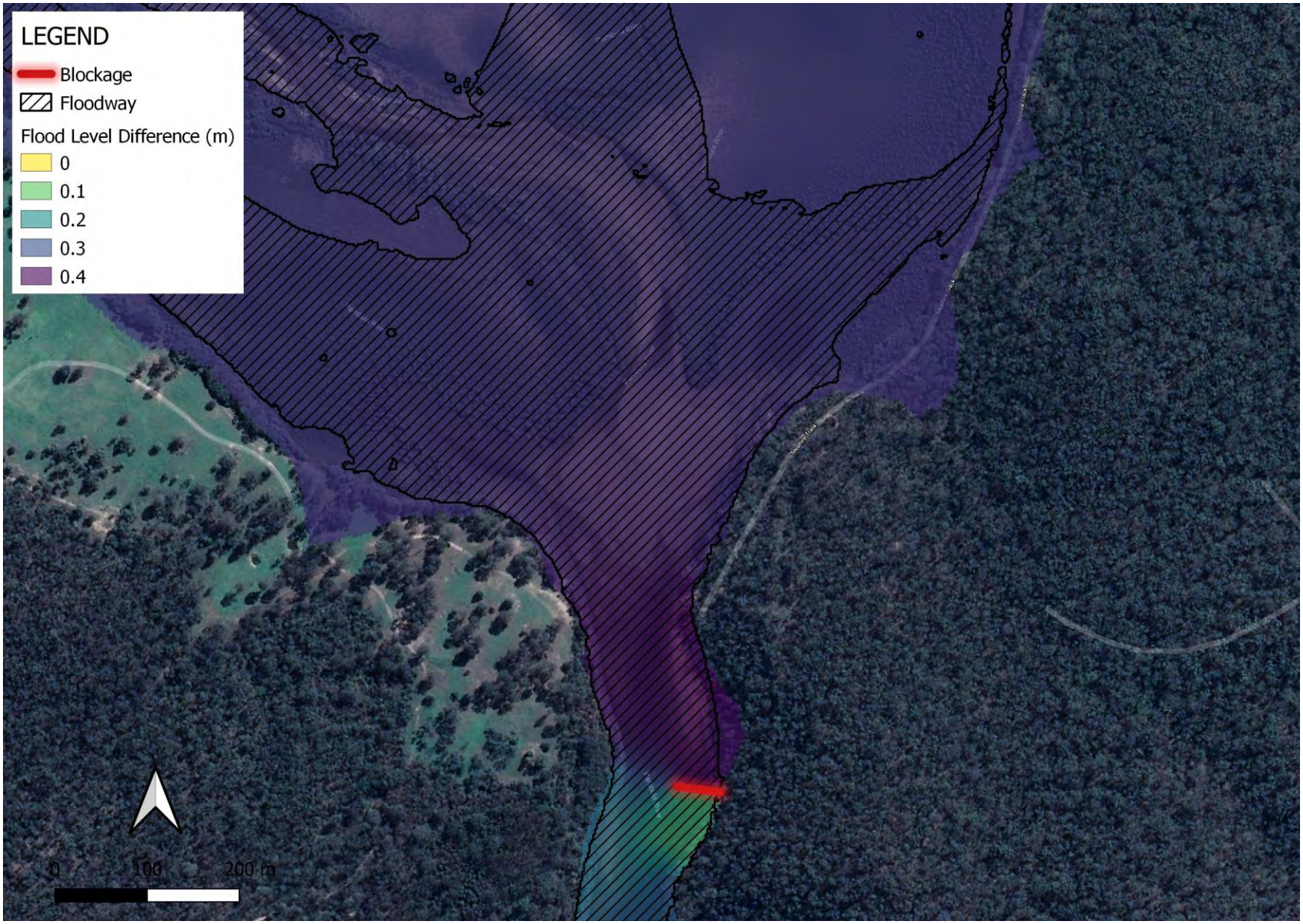


Plate I2 **1% AEP Flood Level Differences for Pambula River associated with obstruction of floodway upstream of the Yowaka River confluence**

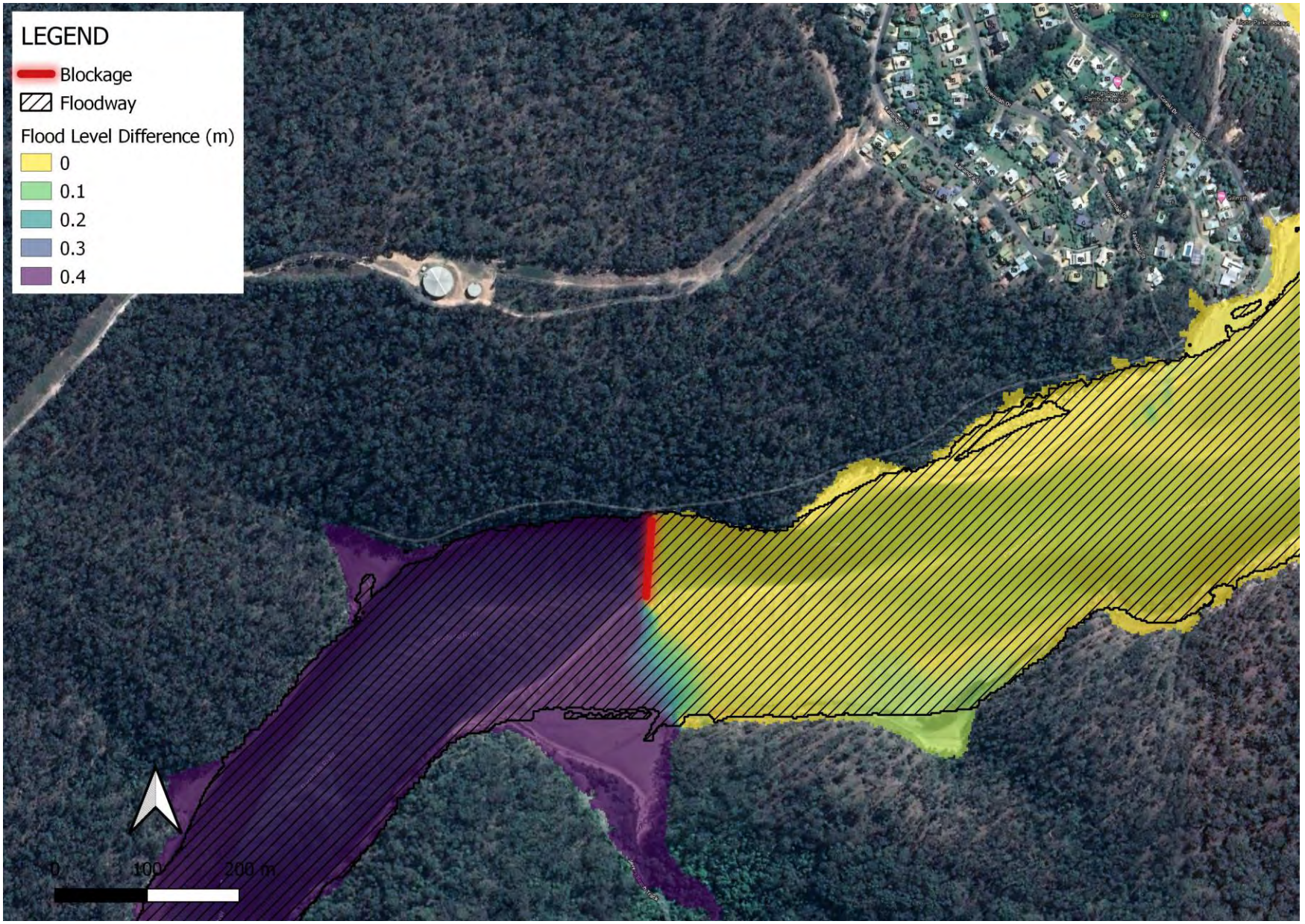


Plate I3 **1% AEP Flood Level Differences associated with obstruction of floodway along lower Pambula River**

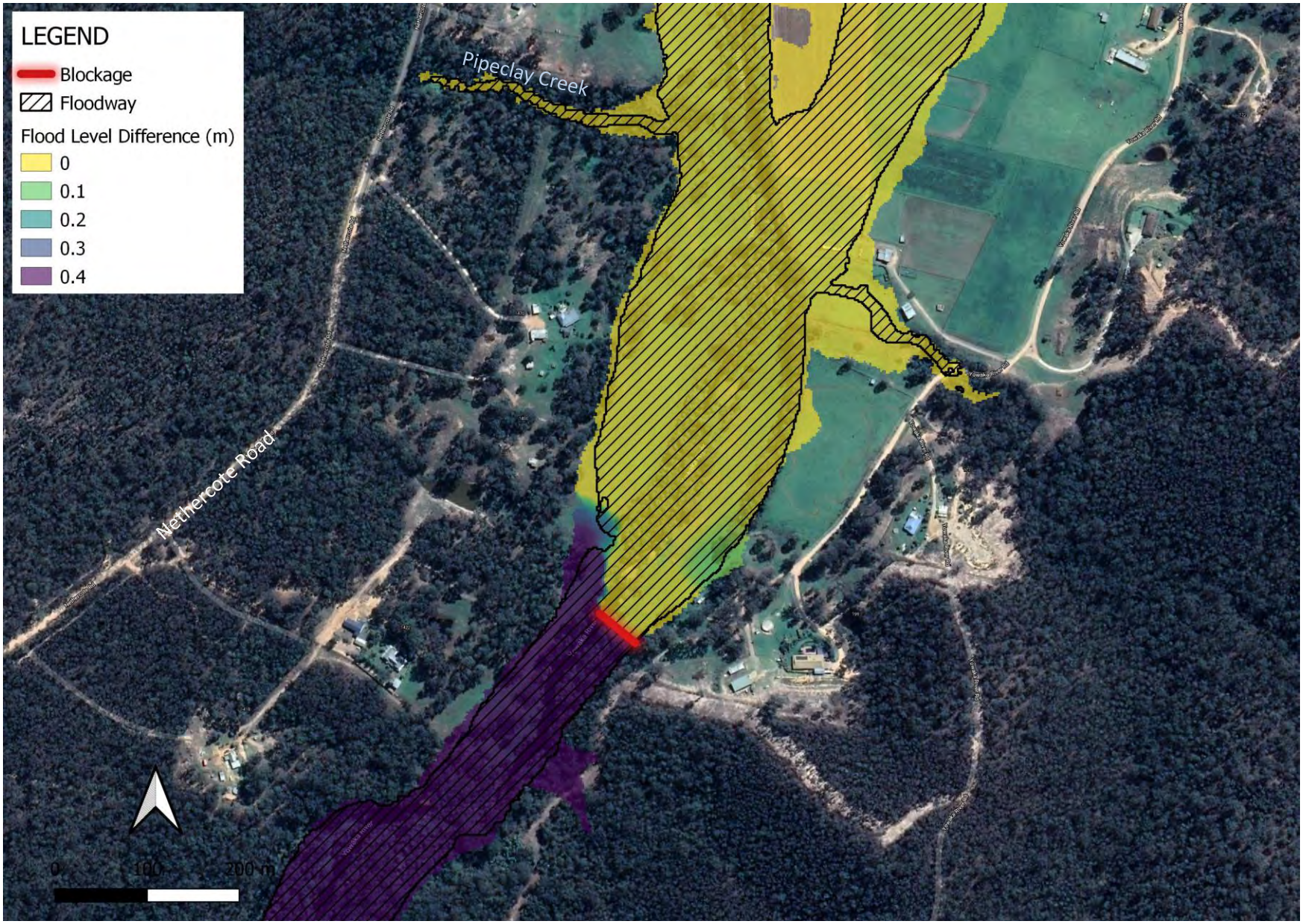


Plate I4 **1% AEP Flood Level Differences associated with obstruction of floodway along Yowaka River south of Griegs Flat**

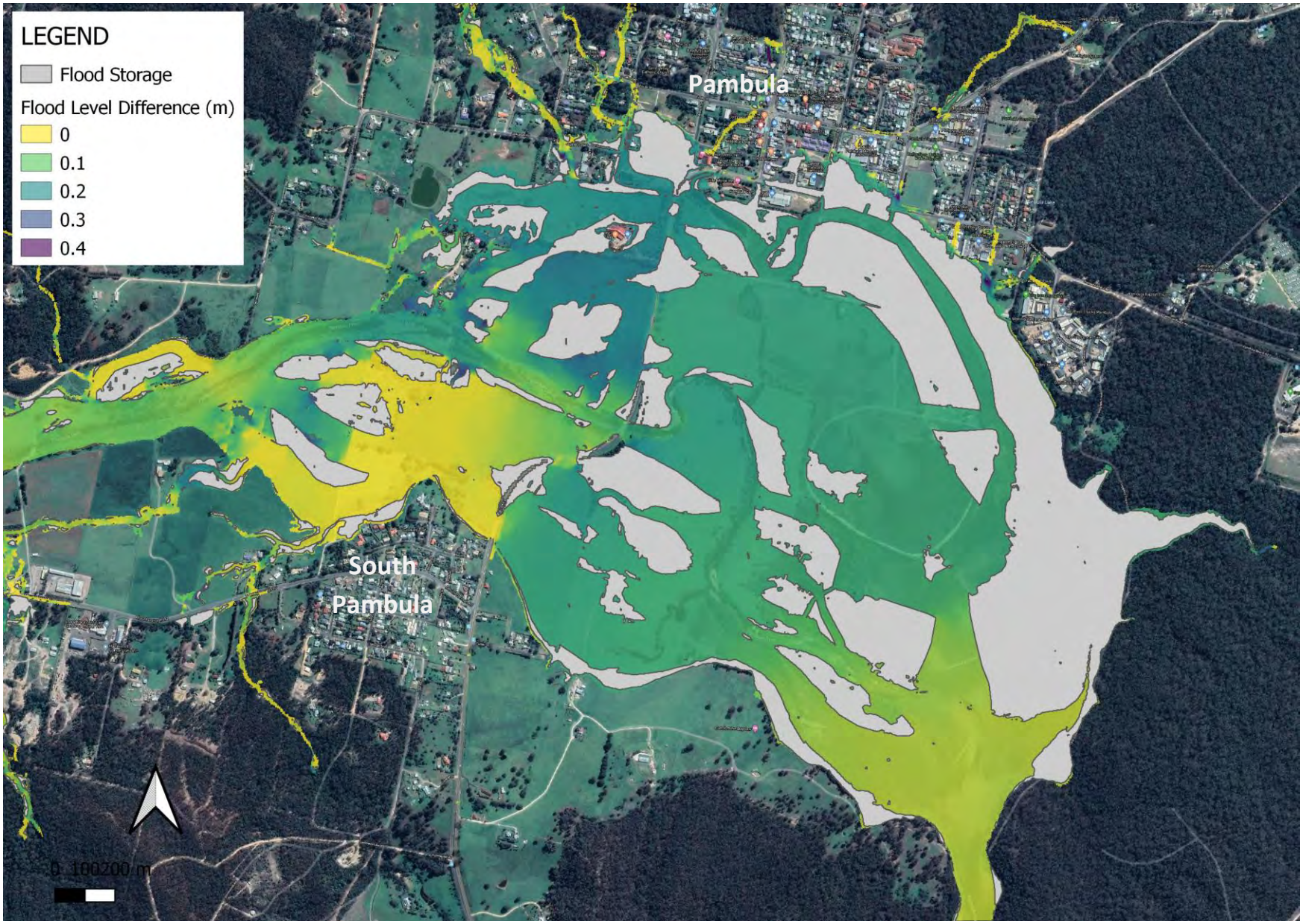


Plate I5 **1% AEP flood Level differences associated with filling across Flood Storage and Flood Fringe Areas south of Pambula.**

The difference map show that removal of all flood storage areas would increase peak 1% AEP flood levels by at least 0.05 metres, but more commonly between 0.1 and 0.2 metres. Accordingly, the impacts of filling of storage areas are predicted to be less significant than the partial floodway obstruction. Nevertheless, these flood level impacts are still considered to be "significant" indicating that the "filled" areas are affording important storage across the catchment.

Accordingly, it is considered that the extent of the delineated flood storages is appropriate and suitable for application across the catchment.

Flood Fringe

Flood Fringe areas are the remaining sections of flood-affected land after floodway and flood storage areas have been defined. They are areas that, if filled, would not have a significant impact on the pattern of flood flow and/or flood levels. Accordingly, verification of the delineated flood fringe extents was completed by filling all flood fringe areas, re-running the 1% AEP event and quantifying the impact that the filling had on flood behaviour.

Flood level difference mapping was prepared for select locations and is shown in **Plate I6** to **Plate I7**.

The difference mapping shows that filling of all flood fringe areas will increase peak flood level by less than 0.1 metres at all locations. This is considered to be a relatively minor impact on peak flood levels. That is, filling of flood fringe areas is not predicted to have any significant impact on flooding and indicates that the delineated flood fringe extents conform to the *'Floodplain Development Manual'* definitions and are suitable for application across the catchment.

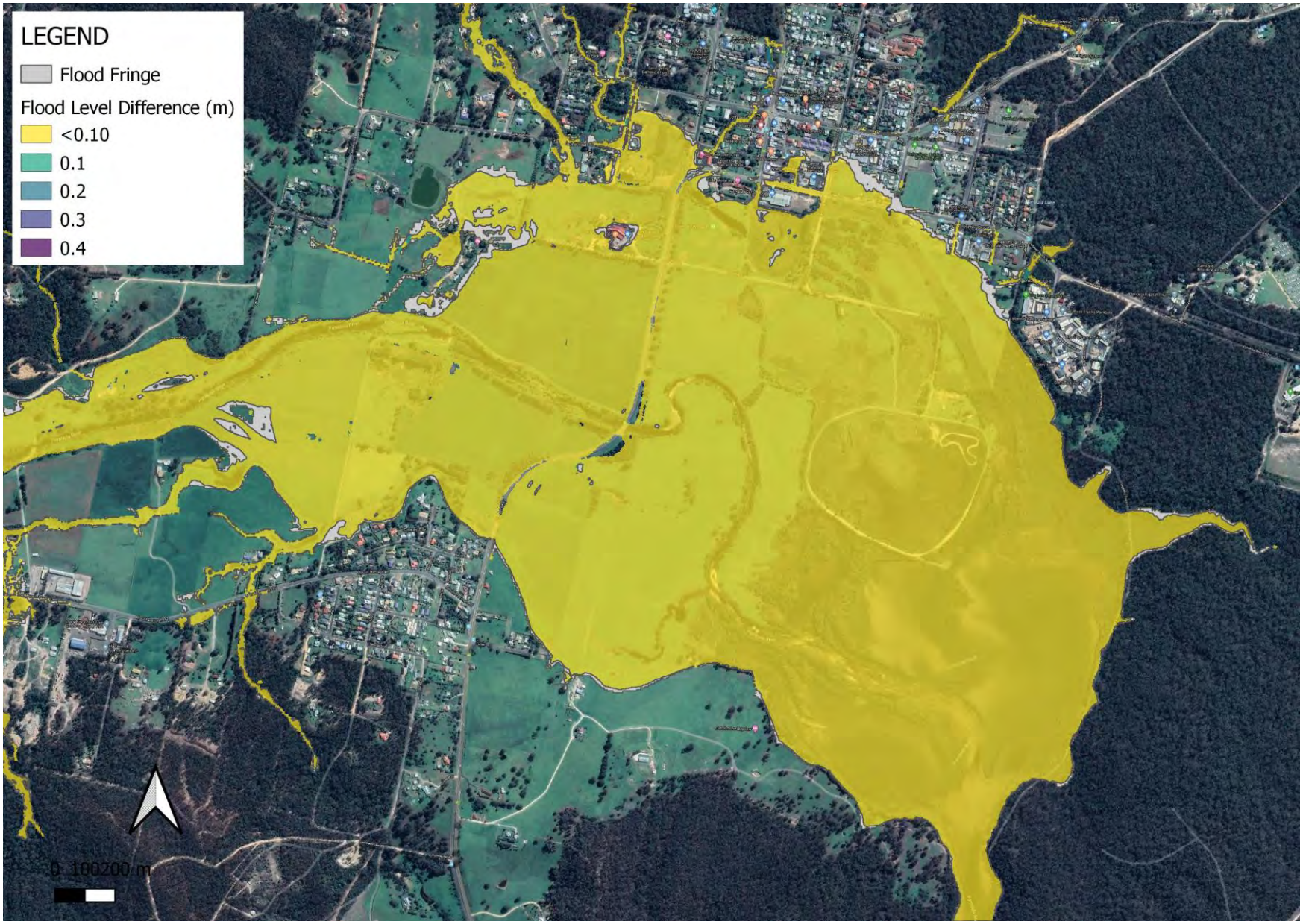


Plate I6 1% AEP flood level differences associated with filling of Flood Fringe Areas near Pambula

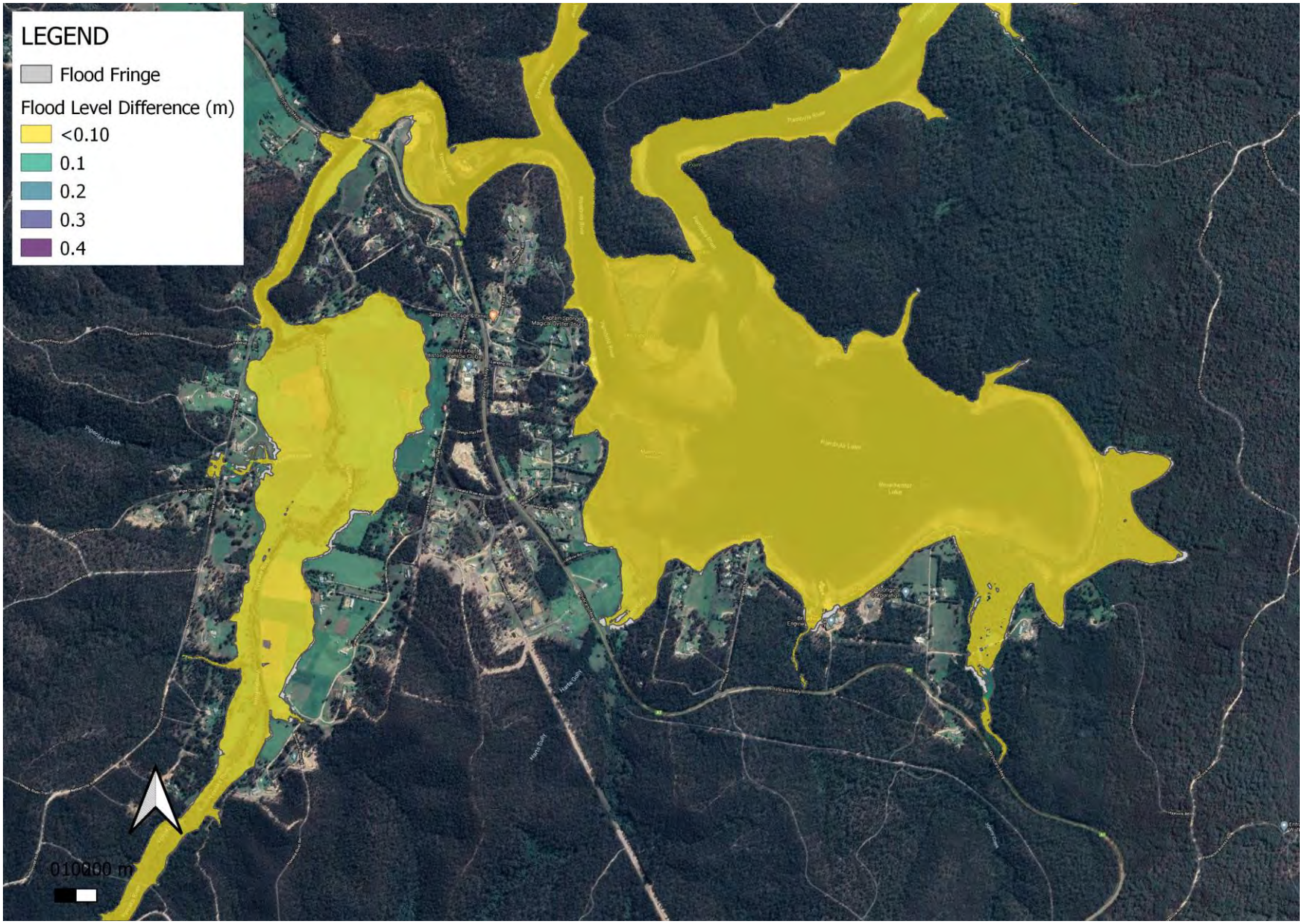


Plate I7 **1% AEP flood level differences associated with filling of Flood Fringe Areas near Greigs Flat and Pambula Lake**