Our ref : 250061

13 February 2026

Tom McLean
t.mclean@tbig.co.nz

Dear Tom McLean

RE : FLOODPLAIN IMPACT ASSESSMENT - ADDENDUM
14 EDMONTON ROAD; HENDERSON

1. Introduction

This letter serves as an addendum to the Flood Assessment Report prepared by ACH Consulting (dated 23 January 2026) for the Waitakere District Court – New Courthouse Project.

As part of the Fast-Track Approvals Act 2024 process, Auckland Council has requested additional information addressing the following matters:

- An assessment in accordance with the National Policy Statement (NPS), effective from 15 January 2026. This includes consideration of the subject site, as well as upstream and downstream properties.
- A supplementary hazard assessment in accordance with Plan Change 120 (PC120) for the 2-, 10-, and 50-year flood events.
- An assessment, as requested by the panel, of the 100-year flood event with a reduction of 25% cross sectional flow area for the opening under the building to reflect the permeable grate along the southeastern façade.

The Request for Information (RFI) is attached as Appendix A to this letter.

2. Flooding and Model Information

ACH has consulted with Healthy Waters to obtain the 2-, 10-, and 50-year flood event data. This included the following:

- Inflow hydrographs for each of the above flood events for the Oratia Stream and the Edmonton Road overland flow path (OLFP).
- Downstream boundary conditions, provided as staged hydrographs, for each of the above flood events.

All other aspects of the hydraulic model; including the surface topography, friction coefficients, and proposed development layouts for both the *As-Lodged* indicative scheme and the *Alternative* indicative scheme, remain unchanged from the Flood Assessment Report dated 23 January 2026, with the exception of the model scenario incorporating 75% permeable grate along the southeastern façade.

Pre-development and post-development flood modelling was undertaken as part of the additional assessment to evaluate the potential effects of the proposed development on the relevant flood events. Table 1 below provides some key information regarding the regarding the pre- and post-development flooding.

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Table 1 HEC-RAS 2D Model Information

	Climate Change Scenario	1,500 mm Culvert Availability	Pre-Development Site Flooding
50-Year	3.8-Degrees	100% Available	99 % Inundation
10-Year	3.8-Degrees	100% Available	6 % Inundation
2-Year	2.1-Degrees	100% Available	0 % Inundation
100-year Post-Development (75% Permeable Grate)	3.8-Degrees	90% Available	100% Inundation

The 2-year floodplain does not affect the existing site and has therefore not been carried forward into the assessments below. HW hydrographs have been provided in Appendix B.

3. Flood Results

3.1 Pre-Development: 50-year Flood Event

Consistent with the 100-year flood event results, flows from the Edmonton Road overland flow path (OLFP) are not predicted to overtop the Edmonton Road carriageway, as the existing 1,500 mm culvert has sufficient capacity to convey runoff from the upstream catchment. Model results indicate that flood levels within the Edmonton Road OLFP peak approximately 12 hours and 30 minutes after the commencement of the storm event, as shown in Figure 1 below.

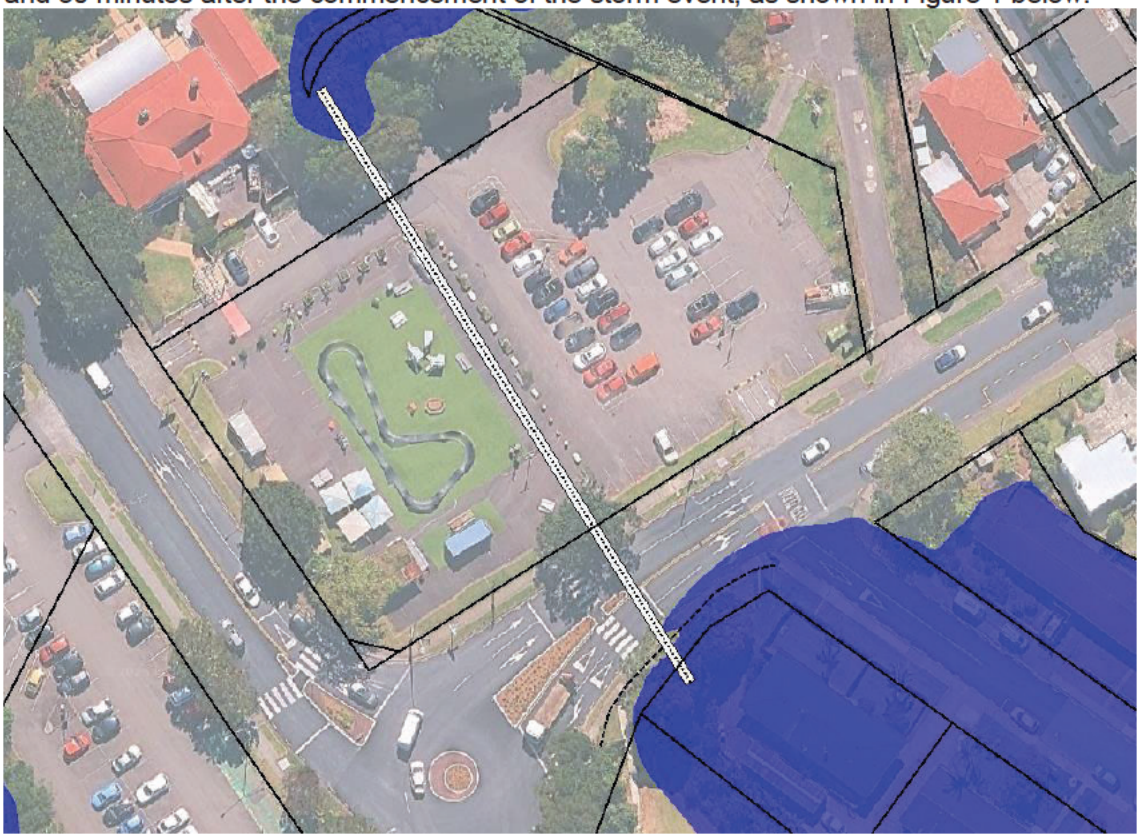


Figure 1 - 50-Year: Edmonton Road OLFP Peak (Storm Duration: 12 hours and 30 minutes)

Peak inundation of the site during the 50-year flood event occurs approximately 14 hours and 10 minutes after storm commencement and is driven by overtopping of the Alderman Drive carriageway by the Oratia Stream at approximately 13 hours and 35 minutes. Figure 2 below illustrates the extent of peak site flooding associated with the 50-year flood event.

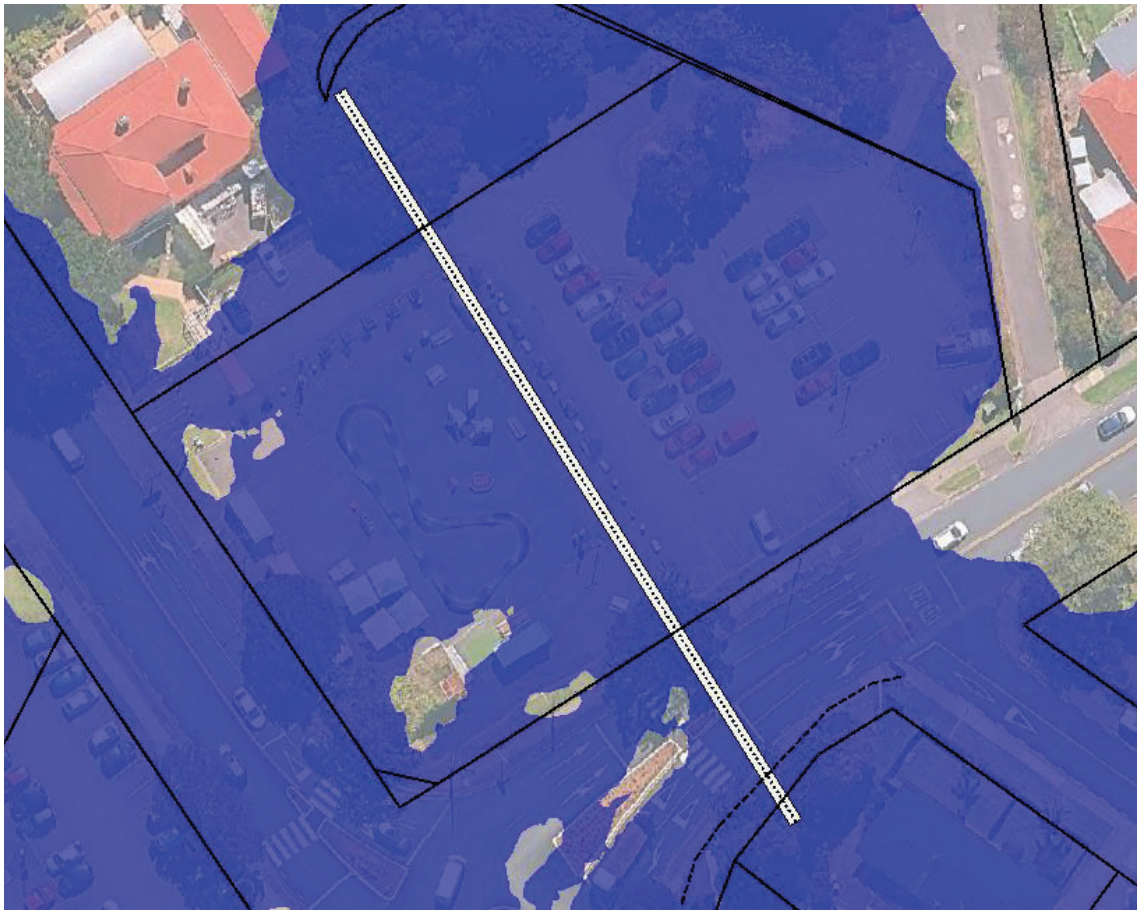


Figure 2 - 50-Year: Pre-Development Peak Flooding (Storm Duration: 14 hours and 10 Minutes)

3.2 *As-Lodged Indicative Scheme: 50-Year Flood Event*

The post-development flood modelling indicates that the proposed egress route, located at the easternmost vehicle crossing, experiences little to no inundation during the peak of the 50-year flood event, as shown in Figure 3 below. Floodwaters are predicted to pass beneath the proposed vehicle crossing, reaching a peak water surface elevation of 7.40 m RL (NZVD2016) before receding toward the northwestern boundary. Velocities along the egress route (0.55 m/s) are largely unchanged when compared to the pre-development conditions.

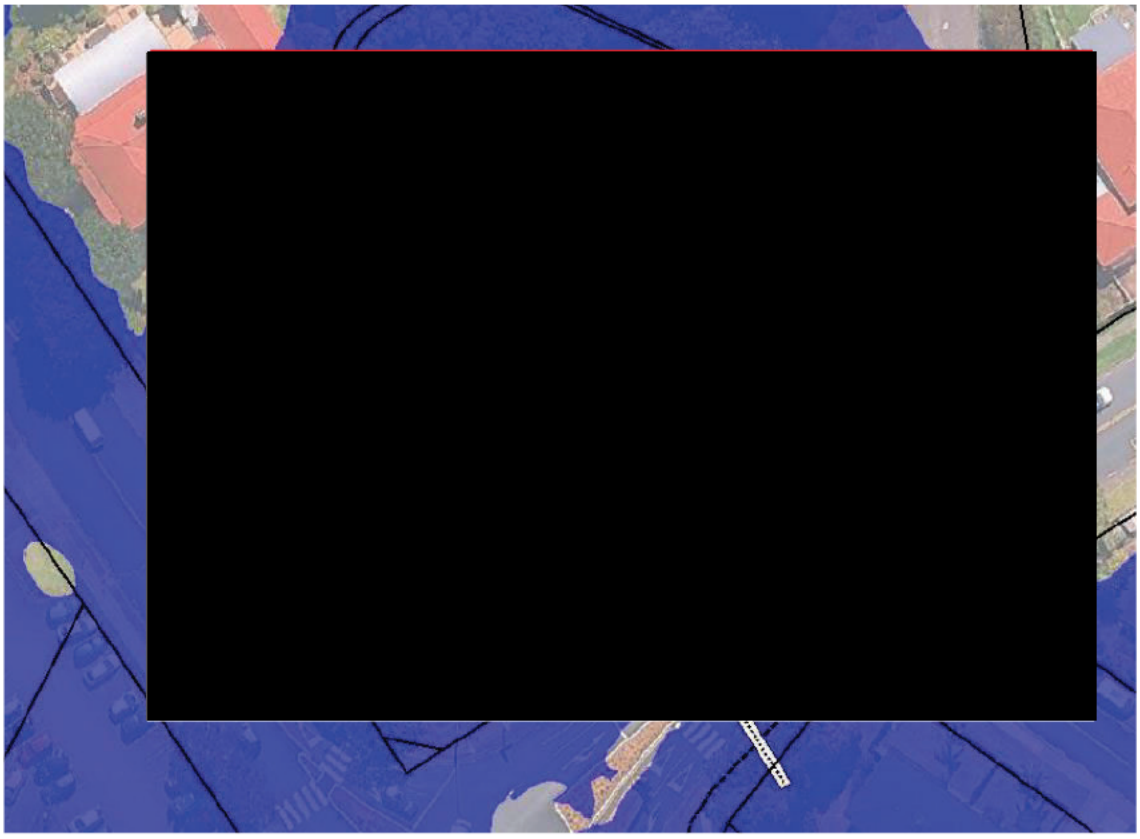


Figure 3 - 50-Year: As-Lodged Scheme (Storm Duration: 14 hours and 10 Minutes)

3.3 *Alternative Indicative Scheme: 50-Year Flood Event*

The post-development flood modelling indicates that the proposed egress route, located at the easternmost vehicle crossing, experiences little to no inundation during the peak of the 50-year flood event, as shown in Figure 4 below. Floodwaters are predicted to pass beneath the proposed vehicle crossing, reaching a peak water surface elevation of 7.41 m RL (NZVD2016) before receding toward the northwestern boundary. Velocities along the egress route (0.55 m/s) are largely unchanged when compared to the pre-development conditions.

Figure 4 - 50-Year: Alternative Scheme (Storm Duration: 14 hours and 10 Minutes)

3.4 Pre-Development: 10-year Flood Event

Peak flooding during the 10-year flood event is driven by a backflow effect from the downstream boundary conditions, with water surface elevations reaching 6.39 m RL (NZVD2016) within the site as seen in Figure 5 below. This results in localized flooding along the northwestern boundary, following the gulley running through the centre of the property, while the remainder of the site remains unaffected by the event.

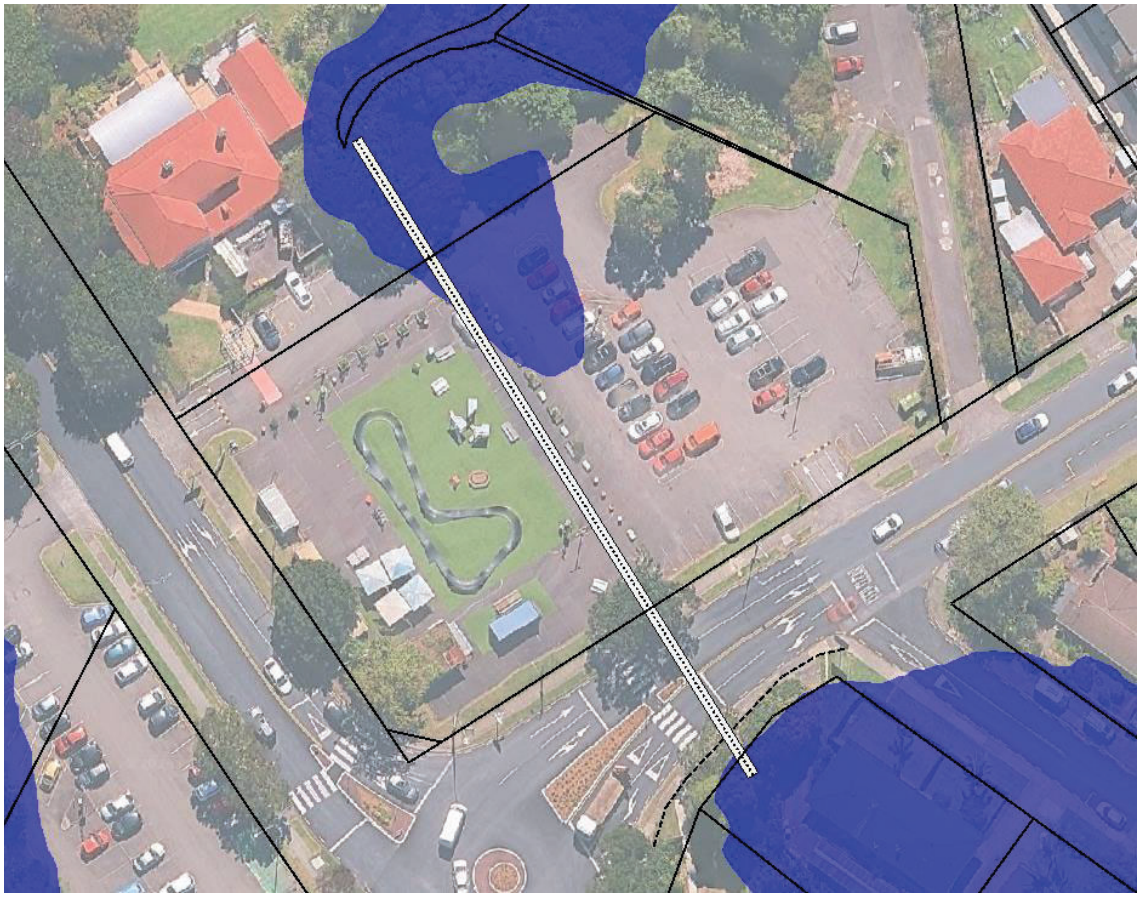


Figure 5 - 10-Year: Pre-Development Peak Flooding (Storm Duration: 14 hours and 30 Minutes)

3.5 *As-Lodged Indicative Scheme: 10-Year Flood Event*

Consistent with pre-development conditions, flooding is confined to the northwestern boundary, caused by backflow from the downstream boundary conditions (Figure 6 below). The introduction of the proposed trapezoidal channel results in an approximate 4.7 m increase in the floodplain footprint, with no additional flooding impacts anticipated. Velocities of the floodplain are near 0 due to the ponding nature of the floodplain in the subject site.

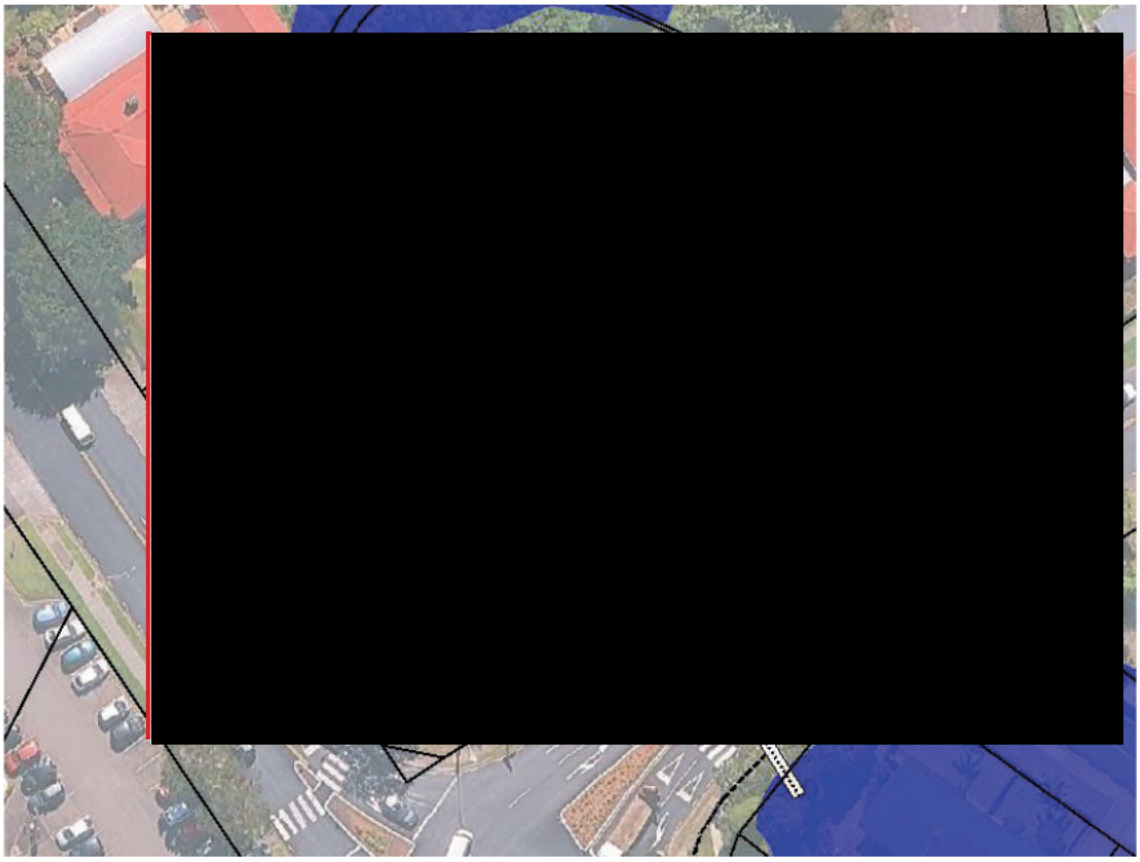


Figure 6 - 10-Year: As-Lodged Scheme Peak Flooding (Storm Duration: 14 hours and 30 Minutes)

3.6 *Alternative Indicative Scheme: 10-Year Flood Event*

Consistent with pre-development conditions, flooding is confined to the northwestern boundary, caused by backflow from the downstream boundary conditions (Figure 7 below). The introduction of the proposed earthworks and foundations results in an approximate 7.0 m increase in the floodplain footprint, with no additional flooding impacts anticipated. Velocities of the floodplain are near 0 due to the ponding nature of the floodplain in the subject site.

Figure 7 - 10-Year: Alternative Scheme Peak Flooding (Storm Duration: 14 hours and 30 Minutes)

3.7 As-Lodged Indicative Scheme: 100-Year Flood Event with 75% Permeable Grate

The post-development model incorporates a 75% permeable grate along the openings along the southeastern façade. This results in a 10–20 mm increase in water levels within the upstream catchment, particularly in the Takapu Street floodplain, compared to the fully permeable scenario, and a total increase of approximately 140 mm relative to pre-development conditions. Flood levels in all other areas surrounding the site remain unchanged compared to the As-Lodged scheme without with no grate. Figure 8 below illustrates peak flooding with a 75% permeable grate.

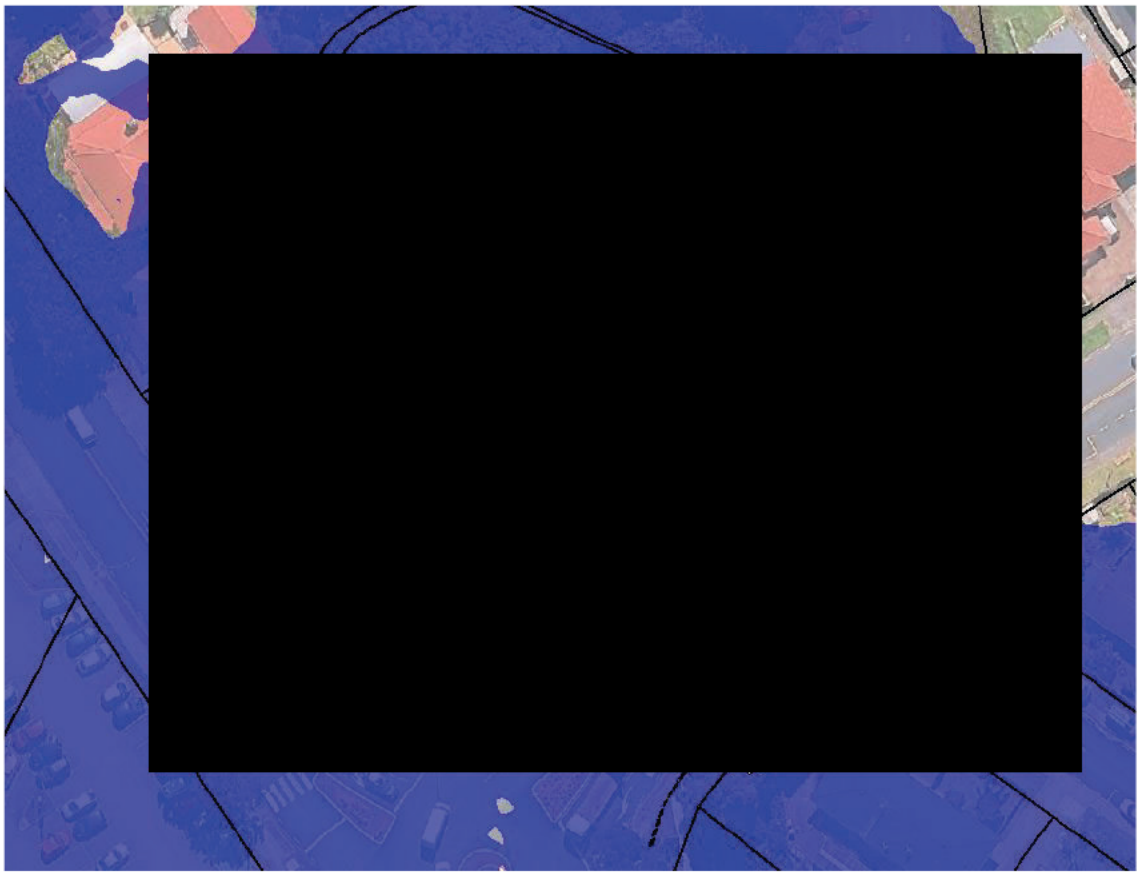


Figure 8 - 10-Year: As-Lodged Scheme Peak Flooding (Storm Duration: 14 hours and 10 Minutes)

3.8 Alternative Indicative Scheme: 100-Year Flood Event with 75% permeable grate

The post-development model incorporates a 75% permeable grate along the openings along the southeastern façade. This results in a 10–20 mm increase in water levels within the upstream catchment, particularly in the Takapu Street floodplain, compared to the un-grated scenario, and a total increase of approximately 160 mm relative to pre-development conditions. Flood levels in all other areas surrounding the site remain unchanged compared to the Alternative scheme without a grate. Figure 9 below illustrates peak flooding with a 75% permeable grate.

Figure 9 - 10-Year: Alternative Scheme Peak Flooding (Storm Duration: 14 hours and 10 Minutes)

4. PC120 Assessment

4.1 As-Lodged Indicative Scheme: 100-Year Flood Event with 75% Permeable Grate.

The proposed building is elevated above the floodplain, providing a minimum freeboard of 300 mm. As a result, all occupants are not at risk from flooding. During site egress, the depth–velocity product indicates a low hazard risk along the easternmost vehicle crossing, while the flood depth in the same area falls within the medium hazard risk category. Flood mapping results are provided in Appendix C.

4.2 Alternative Indicative Scheme: 100-Year Flood Event with 75% permeable grate

The proposed building is elevated above the floodplain, providing a minimum freeboard of 300 mm. As a result, all occupants are not at risk from flooding. During site egress, the depth–velocity product indicates a low hazard risk along the easternmost vehicle crossing, while the flood depth in the same area falls within the medium hazard risk category. Flood mapping results are provided in Appendix C.

4.3 As-Lodged Indicative Scheme: 50-Year Flood Event

The proposed building is elevated above the floodplain. As a result, all occupants are not at risk from flooding. During site egress, the depth–velocity product indicates a low hazard risk along the easternmost vehicle crossing, while the flood depth in the same area falls within the low hazard risk category. Flood mapping results are provided in Appendix C.

4.4 Alternative Indicative Scheme: 50-Year Flood Event

The proposed building is elevated above the floodplain. As a result, all occupants are not at risk from flooding. During site egress, the depth–velocity product indicates a low hazard risk along the easternmost vehicle crossing, while the flood depth in the same area falls within the low hazard risk category. Flood mapping results are provided in Appendix C.

4.5 As-Lodged Indicative Scheme: 10-Year Flood Event

The proposed building is elevated above the floodplain. As a result, all occupants are not at risk from flooding. No flooding is experienced over the egress route and therefore people are not at risk from flooding. Flood mapping results are provided in Appendix C.

4.6 Alternative Indicative Scheme: 10-Year Flood Event

The proposed building is elevated above the floodplain. As a result, all occupants are not at risk from flooding. No flooding is experienced over the egress route and therefore people are not at risk from flooding. Flood mapping results are provided in Appendix C.

5. National Statement Policy Assessment

5.1 As-Lodged & Alternative Indicative Scheme – 100-Year with 75% permeable grate

The 100-year floodplain is considered a “possible” event in accordance with Table 1 of Appendix 1 in the NPS. The building is designed to withstand floodwaters, and only minor damage to land and structures is expected during a 100-year flood event. Accordingly, the consequence level for property, per Table 2 of Appendix 1 in the NPS, is minor. Occupants within the building are elevated above the 100-year floodplain with a minimum freeboard of 300 mm, resulting in a negligible consequence level for people inside. During egress via the easternmost vehicle crossing, isolated minor injuries may occur, as flood depths could reach up to 500 mm to 540 mm. Consequently, the consequence level for people leaving the building also falls within the minor category under Table 2 of Appendix 1 in the NPS.

Based on these assessments, the building and its occupants are classified within a low-risk hazard category, while occupants egressing the site during peak flooding fall within a medium-risk hazard category. Under the NPS (Section 1.4), egressing occupants during peak flooding are considered to represent a significant natural hazard risk.

5.2 As-Lodged & Alternative Scheme – 50-Year

The 50-year floodplain is considered a “likely” event in accordance with Table 1 of Appendix 1 in the NPS. The building is designed to withstand floodwaters, and only minor damage to land and structures is expected during a 50-year flood event. Accordingly, the consequence level for property, per Table 2 of Appendix 1 in the NPS, is minor. Occupants within the building are elevated above the 50-year floodplain, resulting in a negligible consequence level for people inside. During egress via the easternmost vehicle crossing, no injuries are expected, as flood waters are located below the proposed vehicle crossing with some minor overtopping occurring. Consequently, the consequence level for people leaving the building also falls within the negligible category under Table 2 of Appendix 1 in the NPS.

Based on these assessments, the building and its occupants, as well as occupants egressing from the site during peak 50-year flooding, are classified within a low-risk hazard category.

5.2 As-Lodged & Alternative Scheme – 10-Year

The 10-year floodplain is confined to the northwestern boundary, and the proposed building achieves a freeboard of over 2 m under both the As-Lodged and Alternative indicative scheme plans. The building is designed to withstand the minor flooding along the northwestern boundary, ensuring that all occupants remain safe during peak flooding. Furthermore, no flooding is expected along the egress route.

Based on these assessments, the building and its occupants, as well as occupants egressing the site during peak 10-year flooding, are classified within the low-risk hazard category.

6. Conclusions

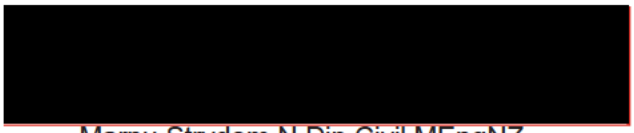
The additional assessments led to the following conclusions:

- The upstream floodplain along Takapu Street shows an increase of approximately 20 mm compared to the un-grated models, resulting in a total increase of 140 mm for the As-Lodged scheme and 160 mm for the Alternative scheme relative to pre-development levels.
- Under PC120, the egress route is classified as medium-risk hazard for the 100-year, 75% permeable grate flood event, due to a flood depth of 500 mm along the route.
- Under PC120, the egress route is classified as low-risk hazard at the peak of the 50-year flood event for both the As-Lodged and Alternative schemes.
- Under the NPS, the egress route is classified as medium-risk hazard for the 100-year flood event for both the As-Lodged and Alternative schemes, with flood depths of 500 mm along the route. This constitutes a significant natural hazard risk under Section 1.4 of the NPS.
- Under the NPS, the building and its occupants are classified as low-risk hazard for all flood events up to 100 years, due to the building being designed to accommodate floodwaters and the provision of freeboard to the finished floor level.
- Both the As-Lodged and Alternative schemes have minimal impact on the 10-year flood event.
- The 2-year flood event does not extend into the subject property.
- The NPS and PC120 hazard classifications are consistent in identifying the building and its occupants, as well as site egress for all flood events other than the 100-year event, as being within low to negligible hazard categories.

- Both the NPS and PC120 classify site egress during the 100-year flood event as medium hazard.

We trust that the above is satisfactory for your needs. Should you have any queries or require further information please do not hesitate to contact the undersigned at this office.

Yours faithfully



Marnu Strydom N.Dip Civil MEngNZ
Engineer

Appendix A

RFI Letter

Fast-track

Te Kāwanatanga o Aotearoa
New Zealand Government

Fast-track Approvals Act 2024

MINUTE 3 OF THE EXPERT PANEL
Request for information
Waitākere District Court – New Courthouse Project [FTAA-2508-1096]
5 February 2026

[1] This Minute addresses expert conferencing, a request to the Applicant for further information, and the appointment of a special advisor.

Expert conferencing

[2] As outlined in Minute 1, comments on the application invited under section 53 of the Fast-track Approvals Act 2024 (**the Act**) closed on 22 January 2026. The Applicant's response to those comments was received on 29 January 2026, and can be viewed on the fast-track website, here: https://www.fasttrack.govt.nz/projects/waitakere-district-court-new-courthouse-project/comments-from-invited-parties

[3] The Panel is now considering the application, comments received, and the applicant's response to those comments. The Panel considers that there are certain matters relating to flooding and urban design that would warrant expert conferencing.

[4] Expert conferencing will take place online via Microsoft Teams, and pending the availability of invited parties, will be held on 19 February 2026.

[5] Relevant experts representing both the Applicant and Auckland Council will be asked to attend. More information, including the specific matters to be discussed, will follow in an additional Minute.

Request for information

[6] Under section 67 of the Act, the Panel may request further information from certain parties at any time before the final decision on the application is made.

[7] The Panel requests that the Applicant provide the information outlined in **Appendix 1** of this Minute. Specifically, information relating to the National Policy Statement for Natural Hazards 2025, which came into effect on 15 January 2026.

[8] In order to allow time for both the Panel and Auckland Council to consider the applicant's response before expert conferencing is held, the response from the applicant is due by **13 February 2026**.

Appointment of special advisor

[9] Under clause 10(2) of Schedule 3 of the Act, the Panel may appoint a special adviser to assist the Panel with a substantive application in relation to any matters the Panel may determine.

[10] The Panel has appointed Sonia Vitasovich to assist with typing matters.

Heather Ash
Waitākere District Court – New Courthouse Project Expert Panel Chair

Appendix 1 – Information requested from the Applicant regarding flooding matters

[1] The Panel notes that the National Policy Statement for Natural Hazards 2025 (NPS Natural Hazards) came into force on 15 January 2026. The Panel therefore requests that the Applicant confirms how the objectives and policies of the NPS Natural Hazards have been applied to the Notice of Requirement (NoR) site. Noting that the NPS Natural Hazards applies to a range of hazards, please confirm which hazards are applicable for the site.

[2] With respect to Policy 1 of the NPS Natural Hazards, has the flood hazard risk within, upstream, and downstream of the NoR site been assessed in a manner that is consistent with, or is more conservative than, an assessment using the risk matrix in the NPS Natural Hazards?

[3] With respect to Policy 6, it is the Panel's understanding that the flood hazard risk within and downstream of the NoR site has been assessed using rainfall data in line with Auckland Unitary Plan PC120 assessment criteria. Please advise whether the assessment against the criteria of PC120 is consistent with the requirements of Policy 6.

[4] With respect to flood hazard risk, the assessment against PC120 covers a 100-year Average Recurrence Interval (ARI) event, including the effects of climate change. Please also provide assessments of 2, 10 and 50 year ARI events, as this would assist the Panel in reviewing likelihood and proportionate risk.

[5] The Panel considers that the building and civil design response, and the Flood Emergency Management Plan are critical to the residual risk assessment. With respect to building and civil design, flood effects need to be considered in the event that the flood gate fails to operate. Effects in this circumstance should be included as part of the likelihood and consequence risk assessment, as per the implementation of the NPS Natural Hazards.

Appendix B

HW Hydrographs

100Yr ARI MPD 3.8 degree Climate change adjusted scenario

Time(hrs)	Flow at Great North Road Bridge (m3/s)	Flow at Takapu Street (m3/s)	Water Level at downstream (mRL) - 1946 Vertical Datum	NZVD2016 Δ-280mm
0	0	0.00	2.700000	2.420
0.17	0.182	0.00	2.701290	2.421
0.33	0.1576	0.00	2.700836	2.421
0.5	0.1475	0.00	2.699755	2.420
0.67	0.1248	0.00	2.700918	2.421
0.83	0.1296	0.00	2.700631	2.421
1	0.1401	0.00	2.699390	2.419
1.17	0.116	0.00	2.698925	2.419
1.33	0.1235	0.00	2.699653	2.420
1.5	0.1119	0.00	2.699567	2.420
1.67	0.1353	0.00	2.700139	2.420
1.83	0.0961	0.00	2.701819	2.422
2	0.1392	0.00	2.700802	2.421
2.17	0.1495	0.00	2.699927	2.420
2.33	0.1243	0.00	2.700146	2.420
2.5	0.1833	0.00	2.700914	2.421
2.67	0.1842	0.00	2.699709	2.420
2.83	0.1917	0.01	2.698469	2.418
3	0.2202	0.01	2.699890	2.420
3.17	0.2535	0.01	2.701042	2.421
3.33	0.2572	0.01	2.701210	2.421
3.5	0.3009	0.01	2.701108	2.421
3.67	0.3848	0.02	2.701849	2.422
3.83	0.4437	0.02	2.701206	2.421
4	0.547	0.03	2.700725	2.421
4.17	0.5913	0.03	2.701656	2.422
4.33	0.7659	0.04	2.700476	2.420
4.5	0.9128	0.05	2.700273	2.420
4.67	1.016	0.05	2.701275	2.421
4.83	1.159	0.06	2.703217	2.423
5	1.288	0.07	2.702843	2.423
5.17	1.414	0.07	2.702008	2.422
5.33	1.577	0.08	2.702583	2.423
5.5	1.694	0.09	2.702603	2.423
5.67	1.818	0.09	2.702602	2.423
5.83	1.992	0.09	2.701993	2.422
6	2.188	0.10	2.703183	2.423
6.17	2.477	0.11	2.704298	2.424
6.33	2.793	0.12	2.706258	2.426
6.5	3.115	0.14	2.709886	2.430
6.67	3.413	0.13	2.710225	2.430
6.83	3.733	0.19	2.709337	2.429
7	4.166	0.22	2.710749	2.431

7.17	4.704	0.25	2.712404	2.432
7.33	5.355	0.28	2.714257	2.434
7.5	5.947	0.30	2.717067	2.437
7.67	6.542	0.32	2.719215	2.439
7.83	7.41	0.34	2.724434	2.444
8	8.493	0.35	2.729508	2.450
8.17	9.171	0.36	2.732327	2.452
8.33	10.06	0.37	2.736040	2.456
8.5	10.96	0.38	2.740524	2.461
8.67	11.97	0.39	2.745276	2.465
8.83	13.05	0.39	2.751199	2.471
9	14.22	0.40	2.756899	2.477
9.17	15.57	0.41	2.765556	2.486
9.33	17.3	0.44	2.779402	2.499
9.5	19.28	0.47	2.795371	2.515
9.67	21.39	0.50	2.814817	2.535
9.83	22.98	0.53	2.833185	2.553
10	25.05	0.56	2.856994	2.577
10.17	27	0.60	2.886729	2.607
10.33	29.13	0.67	2.921649	2.642
10.5	31.24	0.75	2.959568	2.680
10.67	34.17	0.83	3.004292	2.724
10.83	37.34	0.90	3.060441	2.780
11	40.3	0.95	3.115872	2.836
11.17	43.59	1.05	3.175362	2.895
11.33	47.82	1.21	3.250047	2.970
11.5	51.81	1.40	3.333129	3.053
11.67	60.88	1.82	3.447379	3.167
11.83	69.48	2.46	3.609774	3.330
12	85.21	4.15	3.860013	3.580
12.17	111.49	8.60	4.303009	4.023
12.33	146.85	9.32	4.858090	4.578
12.5	176.71	6.52	5.276073	4.996
12.67	195.78	4.49	5.557988	5.278
12.83	211.68	3.33	5.765812	5.486
13	236.05	2.79	5.986347	5.706
13.17	274.48	2.38	6.280854	6.001
13.33	329.56	1.98	6.633363	6.353
13.5	374.99	0.38	7.003200	6.723
13.67	399.5	0.80	7.332182	7.052
13.83	401.2	0.97	7.571800	7.292
14	387.34	1.05	7.725187	7.445
14.17	362.27	1.31	7.810290	7.530
14.33	333.65	1.54	7.830130	7.550
14.5	302.76	1.79	7.792624	7.513
14.67	274.47	1.86	7.710892	7.431
14.83	248.89	1.46	7.593058	7.313
15	225.9	1.10	7.449717	7.170

15.17	203.91	0.93	7.281643	7.002
15.33	182.3	0.83	7.084666	6.805
15.5	162.84	0.75	6.866020	6.586
15.67	146.17	0.69	6.625348	6.345
15.83	133.88	0.64	6.384342	6.104
16	123.71	0.60	6.144670	5.865
16.17	113.52	0.58	5.902543	5.623
16.33	105.24	0.56	5.667892	5.388
16.5	97.63	0.55	5.453488	5.173
16.67	92.86	0.55	5.252610	4.973
16.83	87.07	0.55	5.068813	4.789
17	81.99	0.55	4.894581	4.615
17.17	77.59	0.55	4.730719	4.451
17.33	73.86	0.54	4.568597	4.289
17.5	70.94	0.54	4.421808	4.142
17.67	67.69	0.54	4.286958	4.007
17.83	64.55	0.54	4.164744	3.885
18	62.84	0.54	4.060300	3.780
18.17	61.01	0.52	3.971785	3.692
18.33	59.32	0.49	3.894868	3.615
18.5	58.64	0.45	3.825503	3.546
18.67	58.78	0.39	3.768006	3.488
18.83	57.36	0.37	3.714095	3.434
19	53.83	0.34	3.664650	3.385
19.17	52.46	0.32	3.617324	3.337
19.33	50.96	0.30	3.572062	3.292
19.5	49.82	0.29	3.530627	3.251
19.67	48.3	0.28	3.492591	3.213
19.83	47.08	0.28	3.454637	3.175
20	45.6	0.27	3.419524	3.140
20.17	43.4	0.27	3.379928	3.100
20.33	41.52	0.27	3.339880	3.060
20.5	39.98	0.27	3.298230	3.018
20.67	38.46	0.27	3.256137	2.976
20.83	36.48	0.27	3.219529	2.940
21	35.46	0.26	3.188307	2.908
21.17	34	0.26	3.155942	2.876
21.33	32.53	0.26	3.123521	2.844
21.5	31.47	0.26	3.093004	2.813
21.67	30.87	0.26	3.067489	2.787
21.83	30.39	0.26	3.046518	2.767
22	29.68	0.26	3.026639	2.747
22.17	29.36	0.26	3.011136	2.731
22.33	28.91	0.26	2.997862	2.718
22.5	28.64	0.26	2.988228	2.708
22.67	28.14	0.26	2.978919	2.699
22.83	28.01	0.26	2.972166	2.692
23	27.84	0.26	2.967533	2.688

23.17	27.57	0.26	2.963985	2.684
23.33	27.51	0.26	2.960923	2.681
23.5	27.47	0.26	2.959577	2.680
23.67	27.44	0.26	2.958744	2.679
23.83	27.42	0.26	2.957644	2.678
24	27.41	0.26	2.956878	2.677
24.17	24.48	0.25	2.954864	2.675
24.33	25.48	0.23	2.959210	2.679
24.5	26.47	0.21	2.964525	2.685
24.67	26.08	0.18	2.966453	2.686
24.83	25.46	0.16	2.960675	2.681
25	24.58	0.14	2.949118	2.669
25.17	23.85	0.12	2.938130	2.658
25.33	23.31	0.10	2.925701	2.646
25.5	22.11	0.09	2.909176	2.629
25.67	21.53	0.08	2.898590	2.619
25.83	20.08	0.07	2.881479	2.601
26	19.54	0.06	2.867724	2.588
26.17	17.84	0.05	2.849693	2.570
26.33	16.29	0.05	2.829908	2.550
26.5	15.37	0.04	2.812529	2.533
26.67	14.34	0.04	2.797656	2.518
26.83	13.37	0.03	2.788351	2.508
27	12	0.03	2.773334	2.493
27.17	10.69	0.03	2.758292	2.478
27.33	9.47	0.02	2.744558	2.465
27.5	9.09	0.02	2.739426	2.459
27.67	7.914	0.02	2.732008	2.452
27.83	7.106	0.02	2.724243	2.444
28	6.405	0.02	2.717834	2.438
28.17	5.659	0.02	2.713135	2.433
28.33	5.084	0.02	2.709671	2.430
28.5	4.371	0.02	2.707929	2.428
28.67	3.581	0.01	2.705633	2.426
28.83	3.034	0.01	2.702627	2.423
29	2.586	0.01	2.702139	2.422
29.17	2.262	0.01	2.703858	2.424
29.33	1.976	0.01	2.703372	2.423
29.5	1.836	0.01	2.700435	2.420
29.67	1.565	0.01	2.698094	2.418
29.83	1.289	0.01	2.698100	2.418
30	1.304	0.01	2.699928	2.420
30.17	1.268	0.01	2.700478	2.420
30.33	1.125	0.01	2.699030	2.419
30.5	1.087	0.01	2.697258	2.417
30.67	0.993	0.01	2.697368	2.417
30.83	0.8963	0.01	2.699201	2.419
31	0.8388	0.01	2.698618	2.419

31.17	0.7961	0.01	2.698120	2.418
31.33	0.7454	0.01	2.698799	2.419
31.5	0.7263	0.01	2.699392	2.419
31.67	0.6652	0.01	2.700387	2.420
31.83	0.6579	0.01	2.700821	2.421
32	0.6077	0.00	2.700850	2.421

50Yr ARI MPD 3.8 degree Climate change adjusted scenario

Time(hrs)	Flow at Great North Road Bridge (m3/s)	Flow at Takapu Street (m3/s)	Water Level at downstream (mRL) - 1946 Vertical Datum	NZVD2016 Δ-280mm
0	0	0.00	2.700000	2.420
0.17	0.1935	0.00	2.701290	2.421
0.33	0.1637	0.00	2.700809	2.421
0.5	0.1502	0.00	2.699704	2.420
0.67	0.1325	0.00	2.700832	2.421
0.83	0.1336	0.00	2.700570	2.421
1	0.1425	0.00	2.699368	2.419
1.17	0.1422	0.00	2.699066	2.419
1.33	0.137	0.00	2.699718	2.420
1.5	0.1347	0.00	2.699541	2.420
1.67	0.1252	0.00	2.700002	2.420
1.83	0.0933	0.00	2.701772	2.422
2	0.1379	0.00	2.700835	2.421
2.17	0.1476	0.00	2.699886	2.420
2.33	0.0961	0.00	2.699938	2.420
2.5	0.1774	0.00	2.700722	2.421
2.67	0.1551	0.01	2.699641	2.420
2.83	0.1533	0.01	2.698298	2.418
3	0.1565	0.01	2.699852	2.420
3.17	0.1844	0.01	2.700891	2.421
3.33	0.1864	0.01	2.700988	2.421
3.5	0.2172	0.01	2.700938	2.421
3.67	0.2339	0.02	2.701513	2.422
3.83	0.2593	0.02	2.700831	2.421
4	0.3146	0.02	2.700155	2.420
4.17	0.3494	0.03	2.700828	2.421
4.33	0.4233	0.03	2.700440	2.420
4.5	0.5191	0.04	2.699888	2.420
4.67	0.7211	0.04	2.703167	2.423
4.83	0.6039	0.05	2.703210	2.423
5	0.7403	0.05	2.702354	2.422
5.17	0.8263	0.06	2.701771	2.422
5.33	0.9151	0.06	2.702366	2.422
5.5	1.026	0.07	2.702218	2.422
5.67	1.091	0.07	2.701625	2.422
5.83	1.227	0.08	2.701141	2.421
6	1.307	0.08	2.701640	2.422
6.17	1.454	0.09	2.702904	2.423
6.33	1.616	0.10	2.705196	2.425

6.5	1.829	0.12	2.707147	2.427
6.67	2.069	0.14	2.708021	2.428
6.83	2.377	0.15	2.707195	2.427
7	2.613	0.18	2.708661	2.429
7.17	2.876	0.21	2.708955	2.429
7.33	3.233	0.23	2.709557	2.430
7.5	3.623	0.25	2.711861	2.432
7.67	4.105	0.27	2.714005	2.434
7.83	4.504	0.29	2.716723	2.437
8	4.936	0.30	2.718956	2.439
8.17	5.581	0.31	2.723348	2.443
8.33	6.243	0.32	2.727042	2.447
8.5	6.912	0.33	2.728890	2.449
8.67	7.726	0.34	2.731824	2.452
8.83	8.521	0.34	2.736812	2.457
9	9.303	0.35	2.741033	2.461
9.17	10.26	0.36	2.748048	2.468
9.33	10.94	0.38	2.753974	2.474
9.5	11.94	0.41	2.762211	2.482
9.67	13.04	0.44	2.772319	2.492
9.83	14.44	0.46	2.786104	2.506
10	16.96	0.50	2.803169	2.523
10.17	18.44	0.53	2.823023	2.543
10.33	20.02	0.59	2.843683	2.564
10.5	22.04	0.66	2.874879	2.595
10.67	24.36	0.73	2.909156	2.629
10.83	26.26	0.79	2.946088	2.666
11	28.68	0.83	2.987880	2.708
11.17	31.8	0.93	3.045759	2.766
11.33	35.24	1.07	3.110213	2.830
11.5	38.82	1.22	3.181769	2.902
11.67	43.76	1.55	3.277491	2.997
11.83	50.71	2.14	3.416049	3.136
12	63.42	3.65	3.636235	3.356
12.17	86.96	7.34	4.031482	3.751
12.33	115.95	8.25	4.538989	4.259
12.5	139.06	5.88	4.945570	4.666
12.67	158.56	4.11	5.235876	4.956
12.83	175.82	3.11	5.460043	5.180
13	194.46	2.59	5.675877	5.396
13.17	221.22	2.19	5.917986	5.638
13.33	258.57	1.82	6.228541	5.949
13.5	302.62	1.53	6.564996	6.285
13.67	332.85	0.51	6.889850	6.610

13.83	341.35	0.76	7.156074	6.876
14	334.51	1.15	7.337536	7.058
14.17	316.83	1.37	7.437263	7.157
14.33	292.8	1.55	7.468849	7.189
14.5	267.89	1.34	7.448417	7.168
14.67	243.28	1.06	7.383856	7.104
14.83	220.15	0.92	7.282429	7.002
15	197.4	0.88	7.145856	6.866
15.17	174.51	0.82	6.973642	6.694
15.33	153.62	0.76	6.775550	6.496
15.5	135.4	0.70	6.544895	6.265
15.67	122.38	0.64	6.312520	6.033
15.83	110.93	0.59	6.076316	5.796
16	100.73	0.56	5.829633	5.550
16.17	93.16	0.53	5.595989	5.316
16.33	86.25	0.52	5.377813	5.098
16.5	81.05	0.51	5.177299	4.897
16.67	76.5	0.50	4.991863	4.712
16.83	71.63	0.50	4.813422	4.533
17	67.17	0.50	4.640939	4.361
17.17	63.84	0.50	4.480600	4.201
17.33	60.08	0.50	4.329838	4.050
17.5	56.67	0.50	4.191230	3.911
17.67	53.79	0.50	4.068616	3.789
17.83	51.42	0.50	3.960946	3.681
18	49.78	0.50	3.879138	3.599
18.17	48.57	0.48	3.801151	3.521
18.33	47.48	0.45	3.733586	3.454
18.5	46.36	0.40	3.674363	3.394
18.67	45.16	0.38	3.617557	3.338
18.83	44.25	0.35	3.563863	3.284
19	43.32	0.32	3.516891	3.237
19.17	42.36	0.30	3.474522	3.195
19.33	41.65	0.29	3.438015	3.158
19.5	40.49	0.27	3.405643	3.126
19.67	39	0.27	3.369585	3.090
19.83	37.62	0.26	3.331432	3.051
20	36.3	0.25	3.294123	3.014
20.17	34.89	0.25	3.262226	2.982
20.33	33.69	0.25	3.235203	2.955
20.5	31.68	0.25	3.201868	2.922
20.67	30.49	0.25	3.173389	2.893
20.83	29.22	0.25	3.141494	2.861
21	27.45	0.25	3.107114	2.827

21.17	26.34	0.25	3.078173	2.798
21.33	25.63	0.25	3.051876	2.772
21.5	24.89	0.25	3.027188	2.747
21.67	24.16	0.25	3.004810	2.725
21.83	23.56	0.25	2.984612	2.705
22	23	0.24	2.966861	2.687
22.17	22.61	0.24	2.954018	2.674
22.33	22	0.24	2.940592	2.661
22.5	21.81	0.24	2.932614	2.653
22.67	21.59	0.24	2.926024	2.646
22.83	21.42	0.24	2.920866	2.641
23	21.24	0.24	2.917402	2.637
23.17	21.17	0.24	2.914930	2.635
23.33	21.12	0.24	2.913151	2.633
23.5	21.1	0.24	2.912036	2.632
23.67	21.08	0.24	2.910995	2.631
23.83	21.08	0.24	2.910219	2.630
24	21.07	0.24	2.909671	2.630
24.17	21.45	0.22	2.907844	2.628
24.33	22.57	0.20	2.913347	2.633
24.5	23.16	0.19	2.918186	2.638
24.67	22.82	0.17	2.924072	2.644
24.83	22.28	0.15	2.916380	2.636
25	21.7	0.13	2.906857	2.627
25.17	20.92	0.11	2.895145	2.615
25.33	20.41	0.10	2.888494	2.608
25.5	19.47	0.08	2.877626	2.598
25.67	18.44	0.07	2.865928	2.586
25.83	16.89	0.06	2.850560	2.571
26	15.97	0.05	2.835030	2.555
26.17	14.18	0.05	2.818220	2.538
26.33	13.77	0.05	2.809741	2.530
26.5	12.9	0.04	2.797706	2.518
26.67	12.34	0.04	2.788907	2.509
26.83	11.02	0.03	2.776819	2.497
27	9.359	0.03	2.760994	2.481
27.17	8.497	0.03	2.749733	2.470
27.33	7.686	0.03	2.740391	2.460
27.5	6.78	0.02	2.735144	2.455
27.67	5.907	0.02	2.725602	2.446
27.83	7.134	0.02	2.717872	2.438
28	6.38	0.02	2.715514	2.436
28.17	5.638	0.02	2.711258	2.431
28.33	5.19	0.02	2.710998	2.431

28.5	4.147	0.01	2.708391	2.428
28.67	3.543	0.01	2.704173	2.424
28.83	2.982	0.01	2.700820	2.421
29	2.658	0.01	2.704161	2.424
29.17	2.273	0.01	2.704341	2.424
29.33	2.001	0.01	2.701128	2.421
29.5	1.848	0.01	2.697998	2.418
29.67	1.586	0.01	2.698117	2.418
29.83	1.314	0.01	2.698483	2.418
30	1.358	0.01	2.700857	2.421
30.17	1.295	0.01	2.700985	2.421
30.33	1.161	0.01	2.698565	2.419
30.5	1.122	0.01	2.696498	2.416
30.67	0.9907	0.01	2.697976	2.418
30.83	0.9355	0.01	2.697636	2.418
31	0.8929	0.01	2.698184	2.418
31.17	0.7891	0.01	2.697658	2.418
31.33	0.7826	0.01	2.699351	2.419
31.5	0.719	0.01	2.700491	2.420
31.67	0.6727	0.01	2.701200	2.421
31.83	0.6803	0.01	2.700698	2.421
32	0.6176	0.00	2.700612	2.421

10Yr ARI MPD 3.8 degree Climate change adjusted scenario

Time(hrs)	Flow at Great North Road Bridge (m3/s)	Flow at Takapu Street (m3/s)	Water Level at downstream (mRL) - 1946 Vertical Datum	NZVD2016 Δ-280mm
0	0	0.00	2.700000	2.420
0.17	0.1852	0.00	2.701285	2.421
0.33	0.1557	0.00	2.700783	2.421
0.5	0.1442	0.00	2.699614	2.420
0.67	0.1257	0.00	2.700717	2.421
0.83	0.1268	0.00	2.700484	2.420
1	0.1353	0.00	2.699352	2.419
1.17	0.1214	0.00	2.698946	2.419
1.33	0.1257	0.00	2.699672	2.420
1.5	0.1105	0.00	2.699585	2.420
1.67	0.1242	0.00	2.700017	2.420
1.83	0.0695	0.01	2.701766	2.422
2	0.1178	0.06	2.700719	2.421
2.17	0.1287	0.00	2.699686	2.420
2.33	0.0945	0.02	2.699749	2.420
2.5	0.1428	0.01	2.700612	2.421
2.67	0.1219	0.02	2.699664	2.420
2.83	0.1271	0.02	2.698210	2.418
3	0.1352	0.02	2.699663	2.420
3.17	0.1485	0.00	2.700696	2.421
3.33	0.1328	0.01	2.700647	2.421
3.5	0.1389	0.00	2.700631	2.421
3.67	0.1445	0.00	2.701308	2.421
3.83	0.1528	0.00	2.700321	2.420
4	0.1851	0.01	2.699596	2.420
4.17	0.1763	0.01	2.700185	2.420
4.33	0.2075	0.01	2.699604	2.420
4.5	0.214	0.01	2.698976	2.419
4.67	0.202	0.01	2.700020	2.420
4.83	0.2535	0.01	2.701533	2.422
5	0.3028	0.02	2.701271	2.421
5.17	0.3201	0.01	2.700438	2.420
5.33	0.3682	0.01	2.701156	2.421
5.5	0.4266	0.02	2.701073	2.421
5.67	0.4508	0.03	2.700463	2.420
5.83	0.5171	0.03	2.700234	2.420
6	0.5312	0.03	2.700389	2.420
6.17	0.6195	0.04	2.699661	2.420
6.33	0.7337	0.04	2.701760	2.422

6.5	0.7965	0.05	2.703364	2.423
6.67	0.864	0.06	2.703934	2.424
6.83	0.9942	0.07	2.702328	2.422
7	1.129	0.08	2.702875	2.423
7.17	1.341	0.10	2.703080	2.423
7.33	1.503	0.11	2.703031	2.423
7.5	1.687	0.13	2.704101	2.424
7.67	1.976	0.14	2.704986	2.425
7.83	2.303	0.17	2.707288	2.427
8	2.593	0.17	2.708117	2.428
8.17	2.863	0.18	2.709001	2.429
8.33	3.154	0.19	2.709865	2.430
8.5	3.464	0.20	2.709011	2.429
8.67	3.825	0.21	2.709606	2.430
8.83	4.23	0.21	2.711556	2.432
9	4.577	0.22	2.712703	2.433
9.17	4.976	0.23	2.714641	2.435
9.33	5.621	0.24	2.719668	2.440
9.5	6.176	0.26	2.723297	2.443
9.67	6.873	0.27	2.726344	2.446
9.83	7.231	0.29	2.728498	2.448
10	7.898	0.31	2.731471	2.451
10.17	8.676	0.33	2.736217	2.456
10.33	9.393	0.37	2.741747	2.462
10.5	10.42	0.41	2.749596	2.470
10.67	11.12	0.46	2.758640	2.479
10.83	12.33	0.51	2.768942	2.489
11	14.07	0.54	2.784524	2.505
11.17	16.08	0.61	2.807169	2.527
11.33	18.4	0.69	2.837911	2.558
11.5	20.62	0.78	2.873465	2.593
11.67	23.46	0.99	2.921807	2.642
11.83	27.12	1.35	2.995443	2.715
12	36.62	2.21	3.128144	2.848
12.17	51.28	4.56	3.391267	3.111
12.33	70.87	5.70	3.763297	3.483
12.5	87.04	4.50	4.077544	3.798
12.67	99.66	3.21	4.318867	4.039
12.83	112.85	2.45	4.521454	4.241
13	127.93	2.02	4.725584	4.446
13.17	147.68	1.70	4.946720	4.667
13.33	166.4	1.41	5.180993	4.901
13.5	185.07	1.19	5.431263	5.151
13.67	203.28	1.05	5.705212	5.425

13.83	216.94	0.96	5.956754	5.677
14	223.99	0.90	6.195522	5.916
14.17	222.77	0.85	6.369091	6.089
14.33	214.19	0.79	6.469868	6.190
14.5	200.12	0.75	6.500630	6.221
14.67	182.63	0.71	6.469409	6.189
14.83	163.24	0.67	6.383306	6.103
15	143.15	0.65	6.248032	5.968
15.17	125.56	0.62	6.070155	5.790
15.33	110.61	0.57	5.877038	5.597
15.5	96.79	0.53	5.657281	5.377
15.67	85.92	0.49	5.444390	5.164
15.83	78.14	0.45	5.237817	4.958
16	71.87	0.42	5.041339	4.761
16.17	66.22	0.41	4.847101	4.567
16.33	62.22	0.39	4.664181	4.384
16.5	58.62	0.38	4.485511	4.206
16.67	55.23	0.38	4.312623	4.033
16.83	52.07	0.37	4.154419	3.874
17	49.47	0.37	4.014261	3.734
17.17	47.03	0.37	3.892347	3.612
17.33	45.15	0.37	3.790844	3.511
17.5	43.59	0.37	3.698942	3.419
17.67	41.73	0.37	3.614761	3.335
17.83	39.96	0.37	3.538066	3.258
18	38.46	0.37	3.468657	3.189
18.17	37.16	0.35	3.408242	3.128
18.33	36.17	0.34	3.357602	3.078
18.5	35.29	0.32	3.313880	3.034
18.67	34.28	0.29	3.263908	2.984
18.83	33.29	0.27	3.228543	2.949
19	31.82	0.25	3.194831	2.915
19.17	30.89	0.24	3.167032	2.887
19.33	30.53	0.22	3.143129	2.863
19.5	29.04	0.21	3.122719	2.843
19.67	27.95	0.20	3.103293	2.823
19.83	26.71	0.20	3.081285	2.801
20	25.72	0.19	3.059364	2.779
20.17	25.17	0.19	3.040110	2.760
20.33	24.25	0.19	3.021601	2.742
20.5	23.37	0.18	3.001443	2.721
20.67	22.38	0.18	2.982475	2.702
20.83	20.97	0.18	2.960196	2.680
21	20.08	0.18	2.939665	2.660

21.17	19.2	0.18	2.921176	2.641
21.33	18.24	0.18	2.901958	2.622
21.5	17.76	0.18	2.885916	2.606
21.67	17.17	0.18	2.872592	2.593
21.83	16.91	0.18	2.863374	2.583
22	16.57	0.18	2.854969	2.575
22.17	16.09	0.18	2.845961	2.566
22.33	15.73	0.18	2.838960	2.559
22.5	15.59	0.18	2.831898	2.552
22.67	15.47	0.18	2.828069	2.548
22.83	15.31	0.18	2.824838	2.545
23	15.15	0.18	2.821859	2.542
23.17	15.09	0.18	2.820317	2.540
23.33	15.06	0.18	2.819118	2.539
23.5	15.04	0.18	2.818947	2.539
23.67	15.02	0.18	2.818897	2.539
23.83	14.98	0.18	2.818389	2.538
24	14.96	0.18	2.818129	2.538
24.17	17.04	0.17	2.817950	2.538
24.33	17.64	0.16	2.820916	2.541
24.5	18.13	0.14	2.826086	2.546
24.67	18.58	0.13	2.831769	2.552
24.83	18.35	0.11	2.830212	2.550
25	17.63	0.14	2.822587	2.543
25.17	17.62	0.10	2.819741	2.540
25.33	16.88	0.09	2.813586	2.534
25.5	16.9	0.08	2.810499	2.530
25.67	16.07	0.07	2.803990	2.524
25.83	15.57	0.06	2.794212	2.514
26	14.71	0.05	2.786532	2.507
26.17	13.85	0.05	2.779373	2.499
26.33	12.87	0.05	2.769489	2.489
26.5	11.9	0.04	2.760227	2.480
26.67	11.32	0.04	2.754573	2.475
26.83	10.24	0.03	2.746428	2.466
27	9.819	0.03	2.740581	2.461
27.17	8.808	0.03	2.732463	2.452
27.33	7.993	0.03	2.725826	2.446
27.5	7.258	0.02	2.722367	2.442
27.67	6.452	0.02	2.715361	2.435
27.83	5.807	0.02	2.712407	2.432
28	5.283	0.02	2.711506	2.432
28.17	4.838	0.02	2.711799	2.432
28.33	3.918	0.02	2.706988	2.427

28.5	3.425	0.02	2.702320	2.422
28.67	2.823	0.01	2.701087	2.421
28.83	2.63	0.01	2.704123	2.424
29	2.27	0.01	2.702641	2.423
29.17	2.009	0.01	2.699808	2.420
29.33	1.801	0.01	2.698419	2.418
29.5	1.574	0.01	2.698077	2.418
29.67	1.344	0.01	2.699451	2.419
29.83	1.331	0.01	2.701297	2.421
30	1.266	0.01	2.700284	2.420
30.17	1.186	0.01	2.699047	2.419
30.33	1.079	0.01	2.697655	2.418
30.5	1.016	0.01	2.697410	2.417
30.67	0.9201	0.01	2.697776	2.418
30.83	0.8599	0.01	2.697700	2.418
31	0.7721	0.01	2.698600	2.419
31.17	0.7474	0.01	2.698924	2.419
31.33	0.7152	0.01	2.700511	2.421
31.5	0.6912	0.01	2.700473	2.420
31.67	0.666	0.01	2.701619	2.422
31.83	0.6071	0.01	2.700647	2.421
32	0.293	0.01	2.698976	2.419

2Yr ARI MPD 2.1 degree Climate change adjusted scenario

Time(hrs)	Flow at Great North Road Bridge (m3/s)	Flow at Takapu Street (m3/s)	Water Level at downstream (mRL) - 1946 Vertical Datum	NZVD2016 Δ-280mm
0	0	0	2.7	2.420
0.17	0.1988	0.002	2.701295	2.421
0.33	0.1684	0.0001	2.700764	2.421
0.5	0.1567	0.0021	2.699568	2.420
0.67	0.1356	0	2.700551	2.421
0.83	0.1364	0.0016	2.700375	2.420
1	0.1462	0.0016	2.699303	2.419
1.17	0.1298	0.0016	2.698922	2.419
1.33	0.1362	0.0002	2.699715	2.420
1.5	0.1185	0.0016	2.699565	2.420
1.67	0.1193	-0.0001	2.700101	2.420
1.83	0.077	0.0013	2.701785	2.422
2	0.1179	0.0001	2.70062	2.421
2.17	0.132	0.0012	2.699497	2.419
2.33	0.0866	0.0067	2.699697	2.420
2.5	0.1371	0.0102	2.700396	2.420
2.67	0.1628	0.0048	2.699572	2.420
2.83	0.1203	0.0067	2.698225	2.418
3	0.1215	0.0017	2.699765	2.420
3.17	0.1662	0.0075	2.700652	2.421
3.33	0.1203	0.009	2.700745	2.421
3.5	0.1449	0.0044	2.70062	2.421
3.67	0.1395	0.008	2.701048	2.421
3.83	0.106	0.0029	2.699969	2.420
4	0.1057	0.0085	2.699349	2.419
4.17	0.1121	0.0119	2.700137	2.420
4.33	0.1219	0.0066	2.699412	2.419
4.5	0.1276	0.0066	2.698746	2.419
4.67	0.0973	0.0118	2.699848	2.420
4.83	0.1468	0.0093	2.701178	2.421
5	0.1681	0.0088	2.701032	2.421
5.17	0.1505	0.0102	2.69997	2.420
5.33	0.1228	0.0101	2.700607	2.421
5.5	0.1496	0.0091	2.700396	2.420
5.67	0.1757	0.0094	2.699702	2.420
5.83	0.181	0.0093	2.699021	2.419
6	0.2065	0.0104	2.699923	2.420
6.17	0.1913	0.0126	2.700129	2.420
6.33	0.2265	0.0155	2.700634	2.421

6.5	0.2868	0.017	2.702222	2.422
6.67	0.311	0.0199	2.701696	2.422
6.83	0.3457	0.0226	2.70019	2.420
7	0.3724	0.0257	2.700596	2.421
7.17	0.4196	0.0296	2.700697	2.421
7.33	0.4925	0.0335	2.699863	2.420
7.5	0.5418	0.0383	2.699863	2.420
7.67	0.6197	0.0433	2.700736	2.421
7.83	0.7314	0.0491	2.701044	2.421
8	0.8951	0.0549	2.702155	2.422
8.17	1.003	0.0612	2.702162	2.422
8.33	1.089	0.0664	2.702966	2.423
8.5	1.247	0.0718	2.702313	2.422
8.67	1.413	0.0766	2.701465	2.421
8.83	1.538	0.0816	2.701763	2.422
9	1.668	0.0858	2.701796	2.422
9.17	1.82	0.0917	2.702228	2.422
9.33	2.011	0.0974	2.703591	2.424
9.5	2.272	0.1035	2.705466	2.425
9.67	2.494	0.1097	2.705292	2.425
9.83	2.793	0.1154	2.705375	2.425
10	2.984	0.1208	2.706163	2.426
10.17	3.204	0.1321	2.705736	2.426
10.33	3.409	0.1433	2.705885	2.426
10.5	3.699	0.1523	2.707528	2.428
10.67	4.062	0.1711	2.709443	2.429
10.83	4.49	0.1824	2.710614	2.431
11	4.894	0.1983	2.71232	2.432
11.17	5.327	0.2222	2.714776	2.435
11.33	5.757	0.2503	2.717993	2.438
11.5	6.51	0.2797	2.722991	2.443
11.67	7.361	0.3377	2.728793	2.449
11.83	8.413	0.435	2.737934	2.458
12	9.892	0.6664	2.757201	2.477
12.17	12.56	1.285	2.803243	2.523
12.33	16.38	1.793	2.863114	2.583
12.5	22.84	1.835	2.923795	2.644
12.67	29.09	1.493	2.987268	2.707
12.83	36.2	1.172	3.06015	2.780
13	42.6	0.9726	3.128686	2.849
13.17	47.58	0.8086	3.193252	2.913
13.33	55.06	0.689	3.278443	2.998
13.5	61	0.6016	3.381376	3.101
13.67	67.13	0.5418	3.489482	3.209

13.83	72.54	0.4922	3.599172	3.319
14	77.4	0.4627	3.716404	3.436
14.17	80.93	0.4325	3.814008	3.534
14.33	81.65	0.4037	3.902433	3.622
14.5	80.45	0.3795	3.955015	3.675
14.67	76.74	0.3581	3.976263	3.696
14.83	71.2	0.34	3.965915	3.686
15	66.49	0.3257	3.935084	3.655
15.17	60.46	0.3075	3.884915	3.605
15.33	54.29	0.2889	3.821884	3.542
15.5	49.49	0.2716	3.759447	3.479
15.67	46.25	0.2552	3.698053	3.418
15.83	43.29	0.2408	3.629471	3.349
16	40.28	0.2284	3.55751	3.278
16.17	37.76	0.2186	3.479061	3.199
16.33	34.56	0.2107	3.40327	3.123
16.5	32.39	0.2044	3.325764	3.046
16.67	31.14	0.1998	3.261335	2.981
16.83	29.28	0.1965	3.186333	2.906
17	28.06	0.1939	3.130805	2.851
17.17	27.02	0.1922	3.086158	2.806
17.33	25.99	0.1909	3.046868	2.767
17.5	24.71	0.1901	3.012273	2.732
17.67	23.95	0.1895	2.981524	2.702
17.83	22.64	0.189	2.951941	2.672
18	21.78	0.1889	2.930265	2.650
18.17	20.86	0.1832	2.911644	2.632
18.33	20.15	0.1758	2.892567	2.613
18.5	19.67	0.1679	2.87824	2.598
18.67	18.95	0.1597	2.865193	2.585
18.83	18.36	0.1511	2.854732	2.575
19	18.13	0.1428	2.845301	2.565
19.17	17.54	0.1357	2.836044	2.556
19.33	16.87	0.1242	2.825985	2.546
19.5	16.72	0.1262	2.820655	2.541
19.67	16.38	0.1144	2.816583	2.537
19.83	15.95	0.1143	2.810658	2.531
20	15.48	0.1124	2.805183	2.525
20.17	15.09	0.1103	2.800597	2.521
20.33	14.67	0.1071	2.795602	2.516
20.5	14.56	0.1057	2.792756	2.513
20.67	14.29	0.1045	2.789809	2.510
20.83	13.82	0.1041	2.785624	2.506
21	13.5	0.1029	2.781711	2.502

21.17	12.97	0.1019	2.776247	2.496
21.33	12.74	0.1011	2.771802	2.492
21.5	12.46	0.1009	2.768362	2.488
21.67	12.01	0.101	2.764257	2.484
21.83	11.44	0.1009	2.758841	2.479
22	11.08	0.1006	2.754144	2.474
22.17	10.71	0.1005	2.74989	2.470
22.33	10.4	0.1004	2.747434	2.467
22.5	10.17	0.1004	2.746053	2.466
22.67	10.01	0.1003	2.74476	2.465
22.83	9.94	0.1005	2.743101	2.463
23	9.729	0.1004	2.741865	2.462
23.17	9.649	0.1014	2.74075	2.461
23.33	9.577	0.1003	2.739445	2.459
23.5	9.448	0.1005	2.739187	2.459
23.67	9.429	0.1006	2.737774	2.458
23.83	9.391	0.1015	2.737072	2.457
24	9.35	0.1006	2.736876	2.457
24.17	10.91	0.0982	2.739724	2.460
24.33	11.41	0.0913	2.745167	2.465
24.5	11.81	0.0874	2.748164	2.468
24.67	11.75	0.0786	2.74681	2.467
24.83	10.81	0.0731	2.743775	2.464
25	11	0.0773	2.744072	2.464
25.17	10.63	0.0588	2.741885	2.462
25.33	11.05	0.0561	2.739583	2.460
25.5	10.58	0.0464	2.73906	2.459
25.67	10.1	0.0439	2.734819	2.455
25.83	9.779	0.039	2.731088	2.451
26	9.03	0.0355	2.728219	2.448
26.17	8.634	0.0308	2.725603	2.446
26.33	8.314	0.028	2.725234	2.445
26.5	8.13	0.0272	2.724108	2.444
26.67	7.497	0.0241	2.720841	2.441
26.83	7.188	0.0218	2.716699	2.437
27	6.542	0.0207	2.714468	2.434
27.17	6.242	0.0205	2.714888	2.435
27.33	5.79	0.0174	2.711589	2.432
27.5	5.4	0.0152	2.70856	2.429
27.67	4.494	0.0146	2.705371	2.425
27.83	4.066	0.0141	2.704814	2.425
28	3.652	0.0128	2.703797	2.424
28.17	3.204	0.0117	2.703003	2.423
28.33	2.931	0.0113	2.703659	2.424

28.5	2.684	0.0105	2.701672	2.422
28.67	2.382	0.0099	2.700225	2.420
28.83	2.136	0.0094	2.701135	2.421
29	1.922	0.0086	2.700393	2.420
29.17	1.751	0.0082	2.700722	2.421
29.33	1.64	0.0076	2.69991	2.420
29.5	1.372	0.0072	2.698693	2.419
29.67	1.381	0.0068	2.699924	2.420
29.83	1.318	0.0066	2.700607	2.421
30	1.16	0.0064	2.69726	2.417
30.17	1.172	0.0061	2.696385	2.416
30.33	1.066	0.0057	2.698034	2.418
30.5	0.9628	0.0052	2.699308	2.419
30.67	0.9034	0.0049	2.699747	2.420
30.83	0.8449	0.0049	2.699809	2.420
31	0.8016	0.0047	2.700019	2.420
31.17	0.7779	0.0047	2.700244	2.420
31.33	0.699	0.0043	2.701422	2.421
31.5	0.6955	0.0043	2.700503	2.421
31.67	0.6846	0.0041	2.698462	2.418
31.83	0.5966	0.0041	2.699852	2.420
32	0.4218	0.0041	2.699433	2.419

Appendix C

Flood Maps

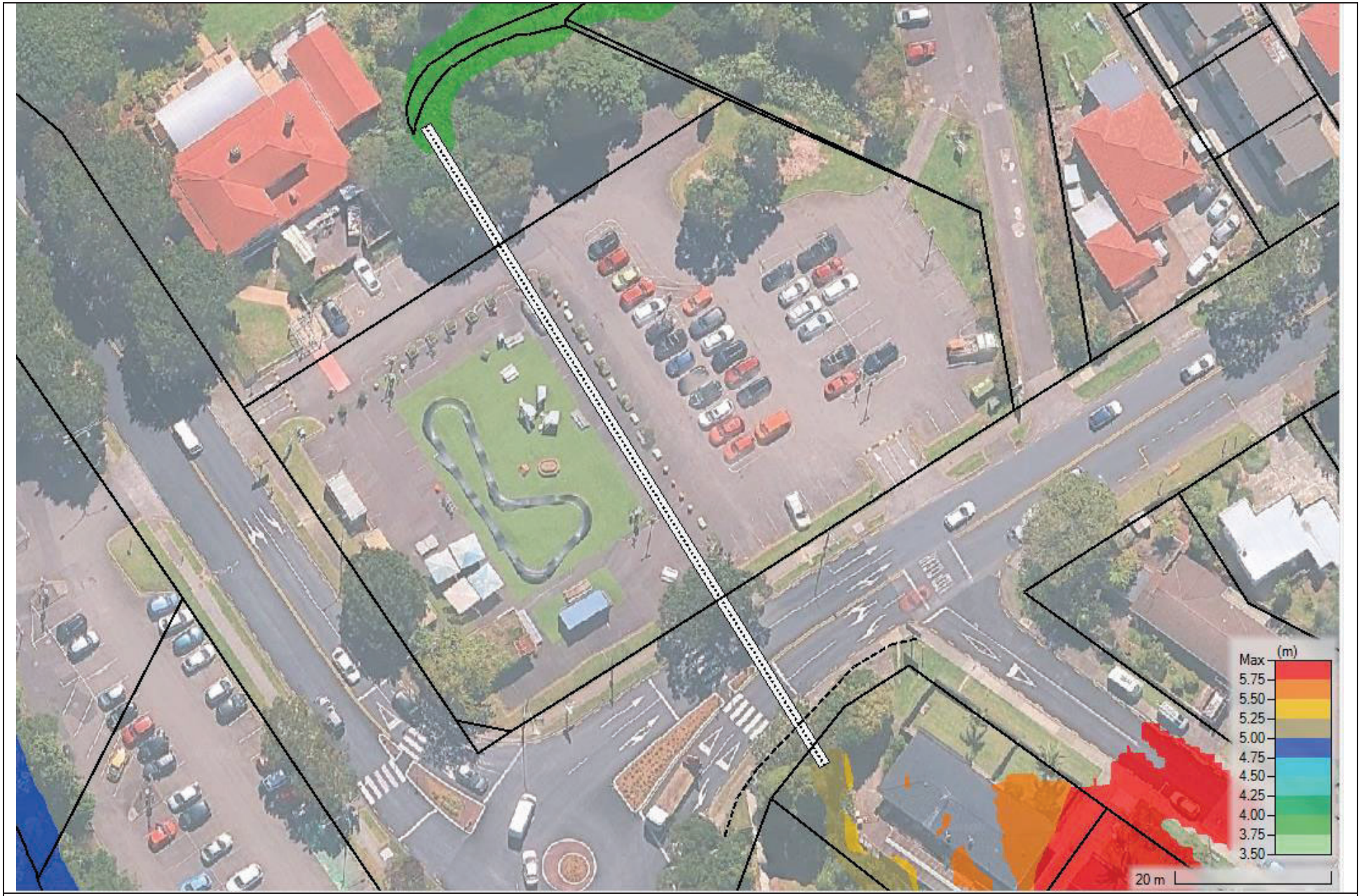


Figure 47: Pre-Development – 2-Year Floodplain (Peak Flood – 14 hrs 35 mins)

Figure 48: Pre-Development – 10-Year Floodplain (Peak 14 hrs and 30 mins)

Figure 49: Pre-Development – 50-Year Floodplain (Peak 14 hrs and 10 mins)

Figure 50: As-Lodged Post-Development – 10-Year Floodplain (Peak 14 hrs and 30 mins)

Figure 51: As-Lodged Post-Development – 10-Year PC120 Depth Velocity Product (Peak 14 hrs and 30 mins)

Figure 52: As-Lodged Post-Development – 10-Year PC120 Depth Map (Peak 14 hrs and 30 mins)

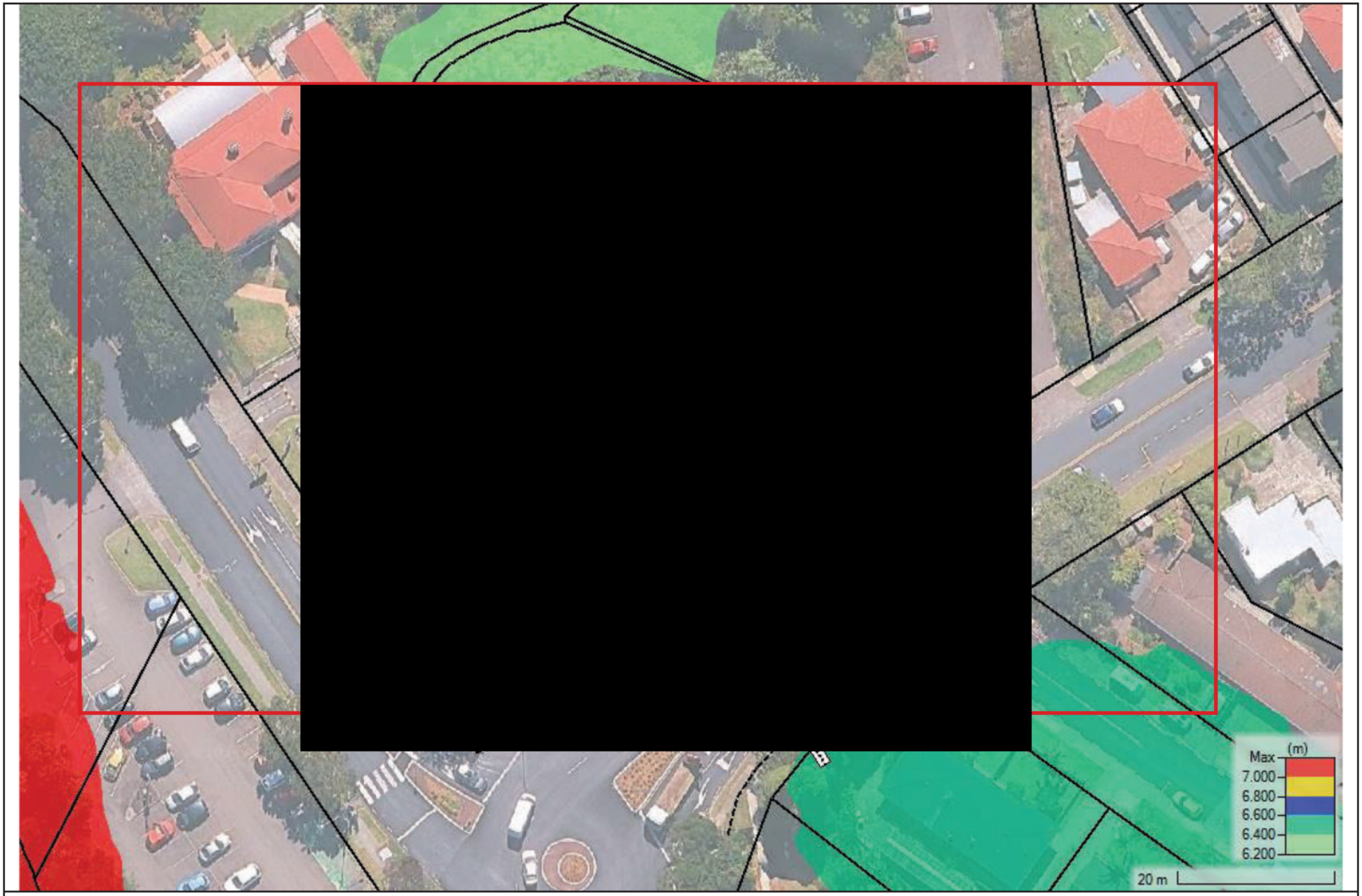


Figure 53: Alternative Post-Development – 10-Year Floodplain (Peak 14 hrs and 30 mins)

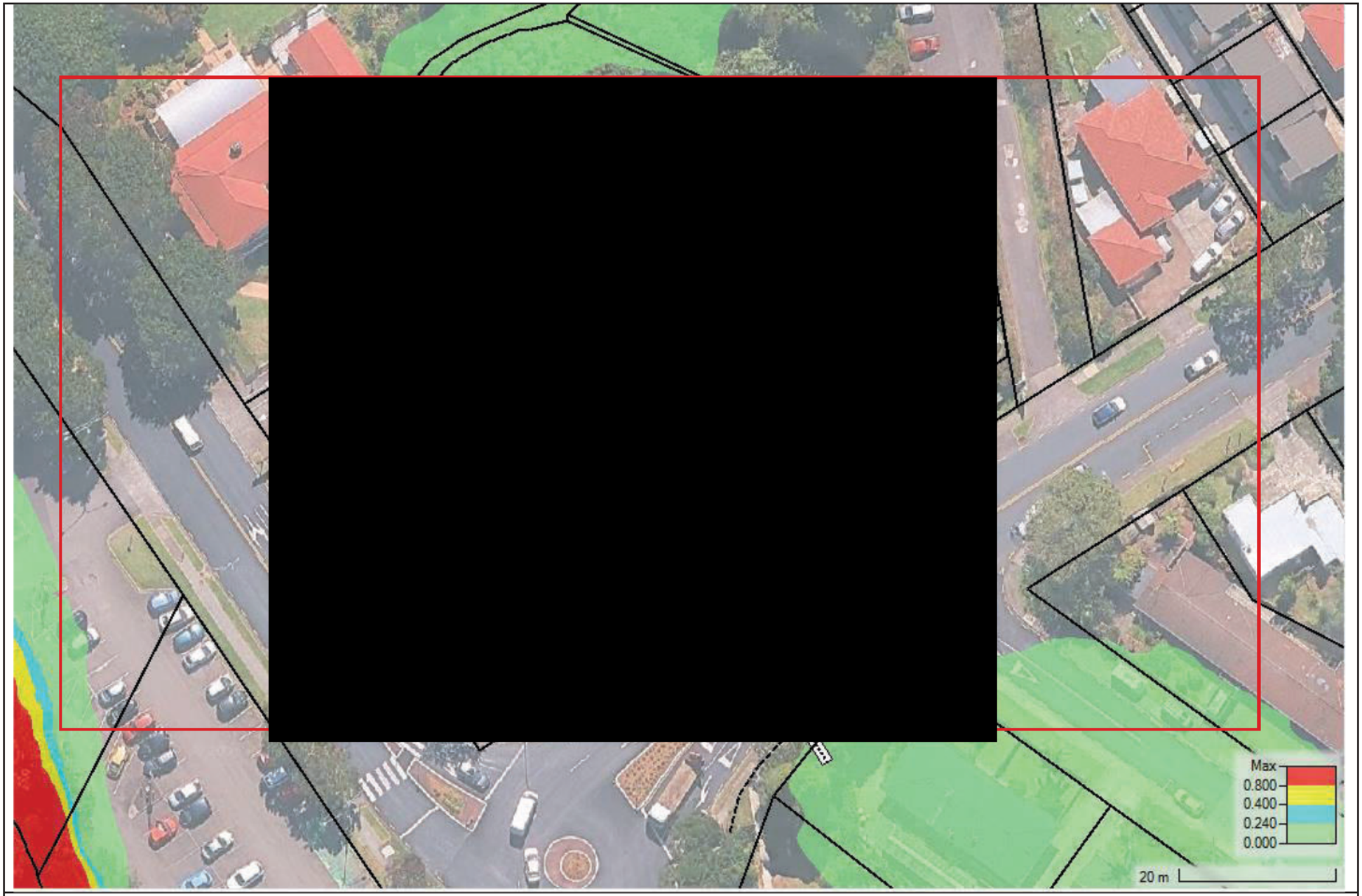


Figure 54: Alternative Post-Development – 10-Year PC120 Depth Velocity Product (Peak 14 hrs and 30 mins)

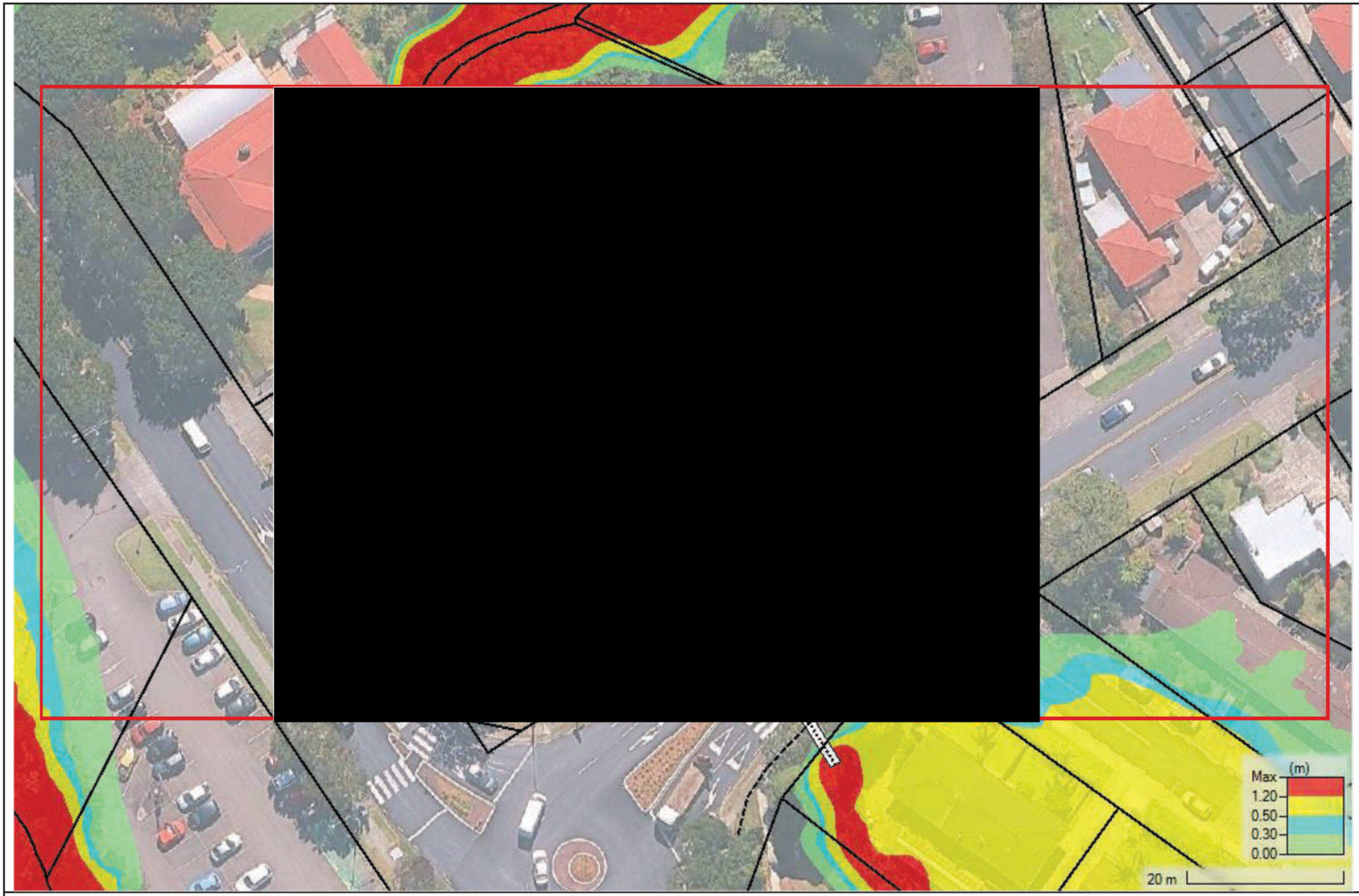


Figure 55: Alternative Post-Development – 10-Year PC120 Depth Map (Peak 14 hrs and 30 mins)

Figure 56: As-Lodged Post-Development – 50-Year Floodplain (Peak 14 hrs and 10 mins)

Figure 57: As-Lodged Post-Development – 50-Year PC120 Depth Velocity Product (Peak 14 hrs and 10 mins)

Figure 58: As-Lodged Post-Development – 50-Year PC120 Depth Map (Peak 14 hrs and 10 mins)

Figure 59: Alternative Post-Development – 50-Year Floodplain (Peak 14 hrs and 10 mins)

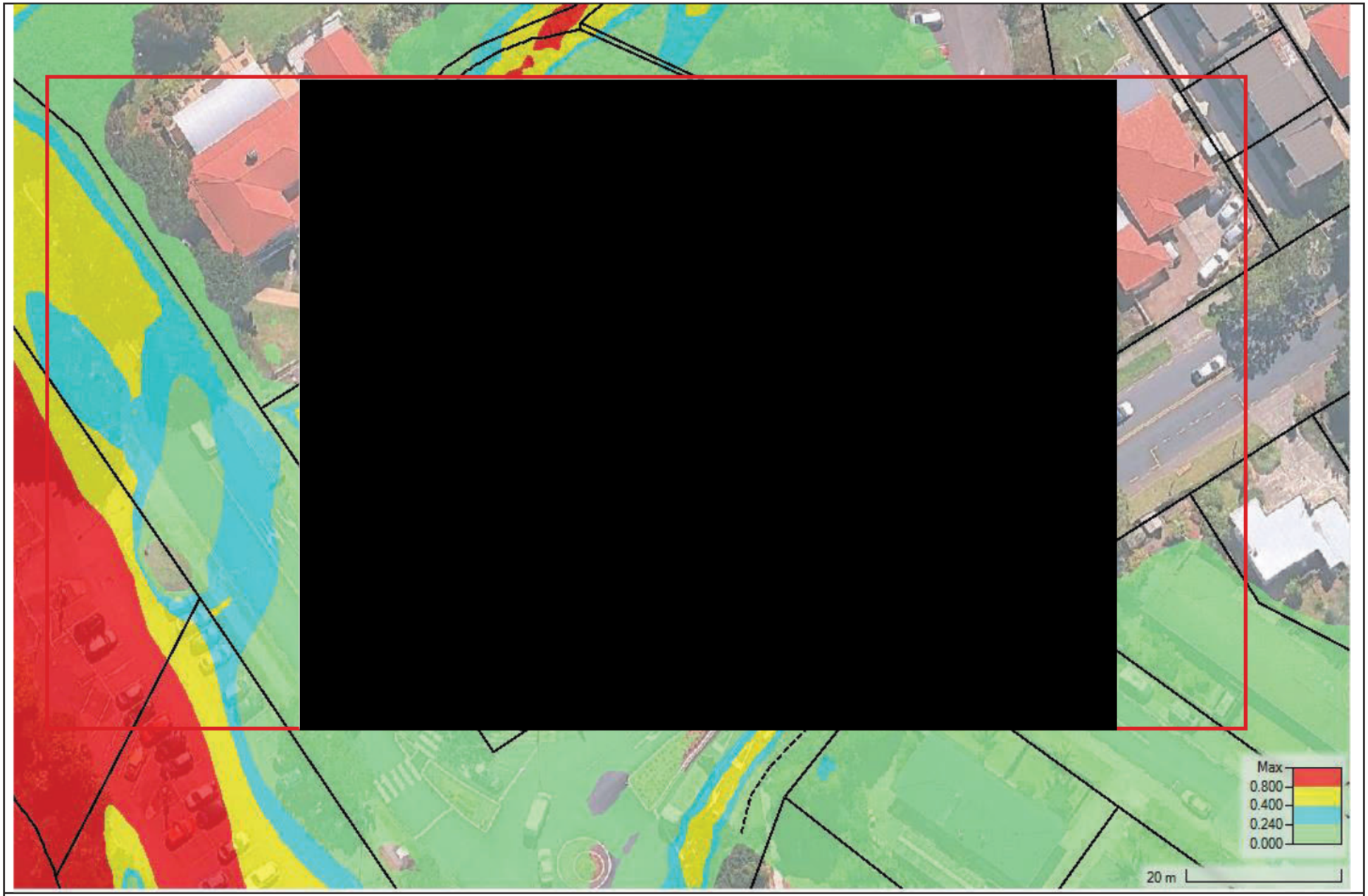


Figure 60: Alternative Post-Development – 50-Year PC120 Depth Velocity Product (Peak 14 hrs and 10 mins)

Figure 61: Alternative Post-Development – 50-Year PC120 Depth Map (Peak 14 hrs and 10 mins)