

## 10 Conclusion

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Flood modelling has been undertaken for urban catchments that comprises parts of the suburbs of Seaforth, Balgowlah, Clontarf, Balgowlah Heights, Fairlight, and Manly.

A direct rainfall approach (rainfall-on-grid) has been used to model flood behaviour using SOBEK. Three significant rainfall events were used to validate the model against available historical data.

Validation of the hydrologic component of the flood model was undertaken using XP-RAFTS.

The validated flood model was used to assess a range of flood events, namely:

- 20% AEP;
- 10% AEP;
- 2% AEP;
- 1% AEP;
- 0.5% AEP;
- The PMF.

Each event was run for a number of durations ranging from the 15 minute event up to the 3 hour event in order to determine the critical duration for the study area. Flood peak inundation extents have been determined for each AEP event whilst the peak flood water level, peak flood depths and velocities, hydraulic categories and provisional flood hazard has been determined for the 20% AEP, 1% AEP and the PMF.