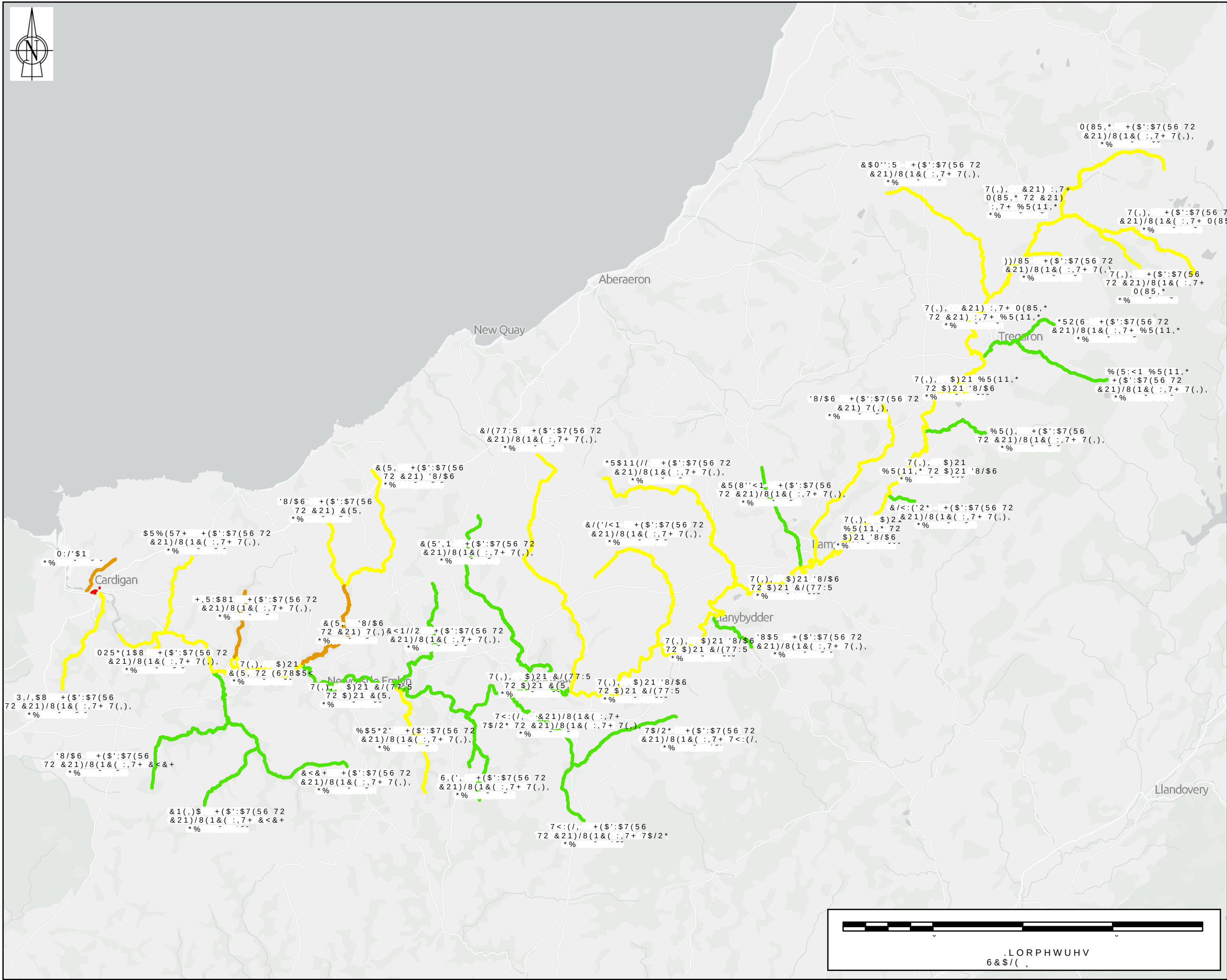




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Appendix E One-dimensional modelling for hydromorphological assessment

Unsteady-state one-dimensional hydraulic modelling was undertaken using the geometry files detailed within the Cardigan Hydraulic Modelling Report (Binnies Ltd, 2024). Fluvial inflows used, as detailed in the Baseline Geomorphology Technical Note (Binnies Ltd, 2026), for the model are displayed in Table 11 and Table 12. The tidal boundary was derived using a combination of Admiralty Total Tide software and the Environment Agency Coastal Flood Boundary dataset (2018). A typical tidal cycle representative of the area was taken from Admiralty Total Tide. Station 0489 (Port Cardigan) was used for this purpose. Model simulations were run for QMED, Q50 and Q1 steady-state fluvial flows and unsteady-state tidal boundary conditions of HAT, MHWS and MLWS. Tidal water levels are displayed in Table 13.

Table 11, Afon Teifi Flood Flow

AEP	Peak Flow (m³/s)
50% (QMED)	253
20%	330
10%	389
2%	542
1%	618

Low flows were estimated to be as detailed in Table 12.

Table 12, Afon Teifi Non-flood Flows

Percentage Exceedance	Flow (m³/s)
Q50	19.9
Q1	174

Table 13, Teifi Estuary Tide Levels

Tide	Level (m OD)
High Astronomical Tide (HAT)	2.86
Mean High Water Spring (MHWS)	2.28
Mean Low Water Spring (MLWS)	-1.74

Figure 2 details the model node locations relevant to the Scheme.

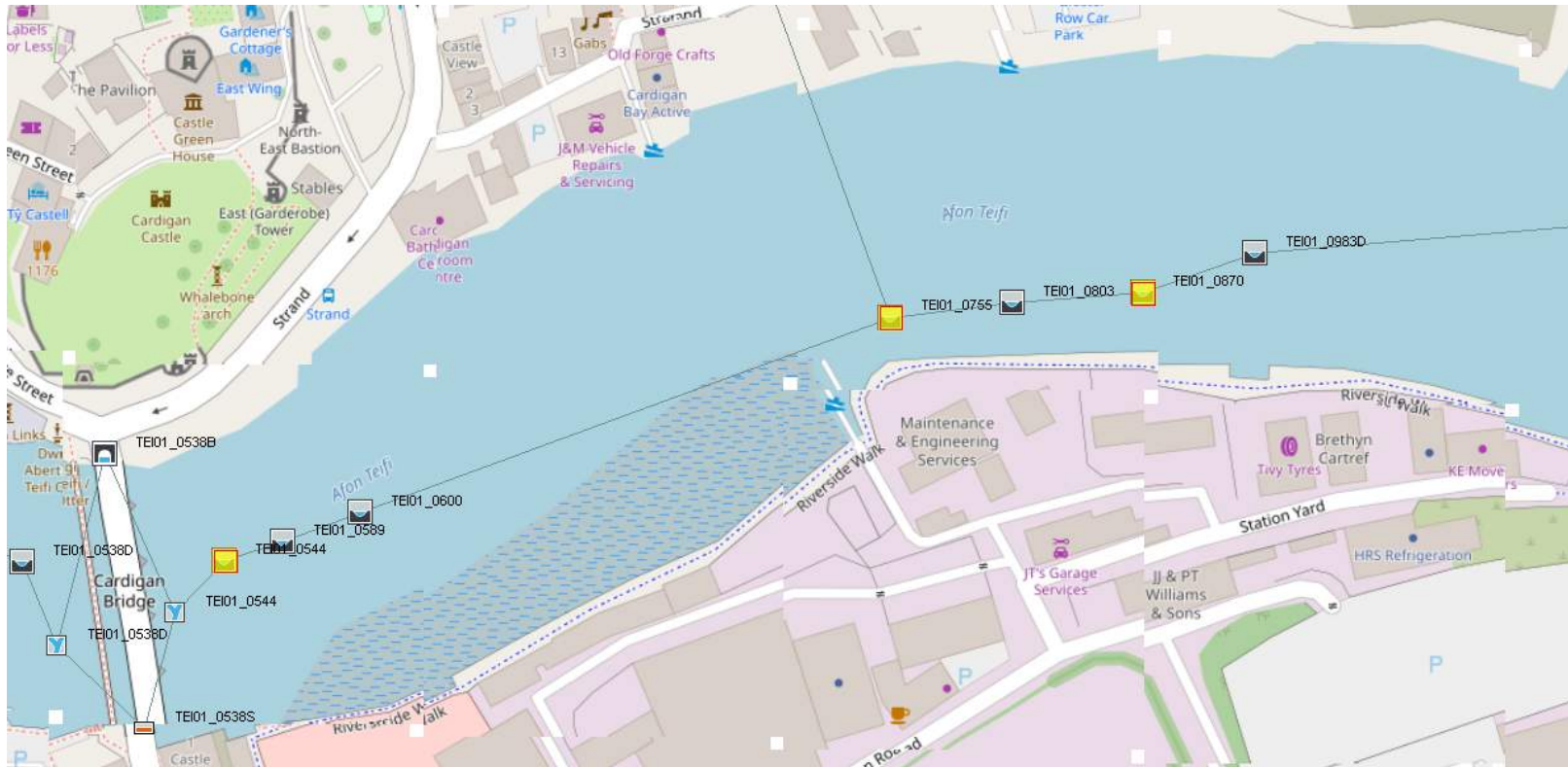
Figure 2, Hydraulic model node locations, a

Figure 3, Hydraulic model node locations, b