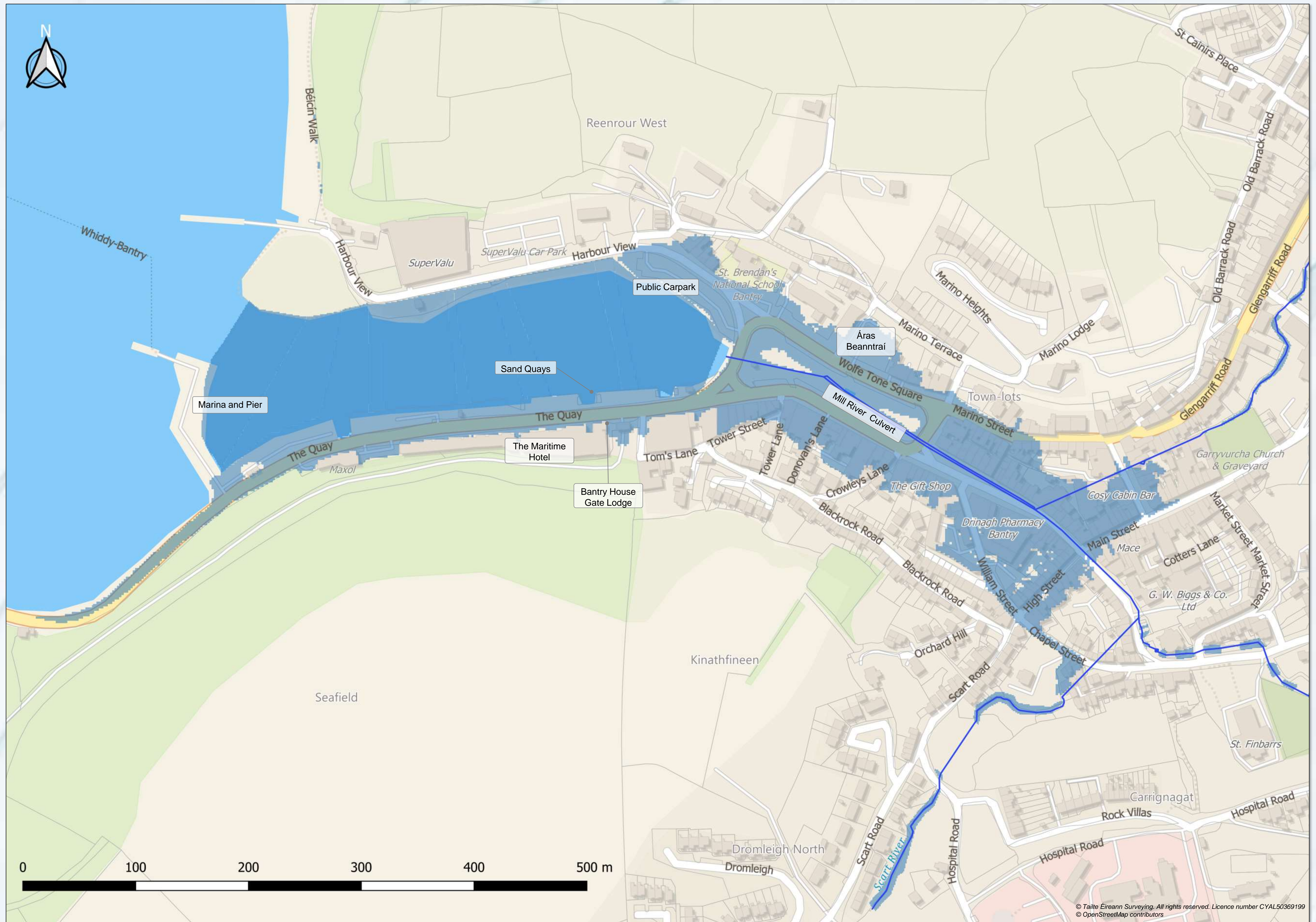


# 4 Areas identified at risk from coastal flooding



Predicted flood extents for 0.5% AEP tidal level, with 50% AEP fluvial flow

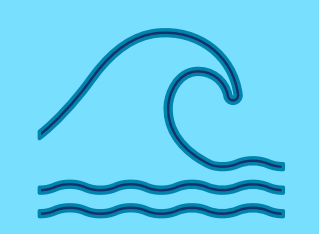
## Tidal / Coastal Flooding

- Tidal flooding begins to occur within Bantry at approximately Spring Tide level.
- The predictive flood map shows areas predicted to be flooded during a theoretical flood event with an estimated probability of occurrence.
- The flood extents shown refer to the 0.5% Tidal AEP. Refer to the table below for indication of frequency of this event.
- Tidal flooding is generally seen to begin to propagate from the location of Sand Quays, which is the lowest point of the current defenses. This tidal inflow then inundates Wolfe Tone Square, flowing both across the square and east towards High Street.

Annual Exceedance Probability	Odds of occurrence in a given year	Return Period (Years)
10%	10:1	10
0.5%	200:1	200



~ 65 properties at risk



Flood Depths range from 0.23 – 1.04m



Example of recorded tide level data from waterlevel.ie/hydro-data



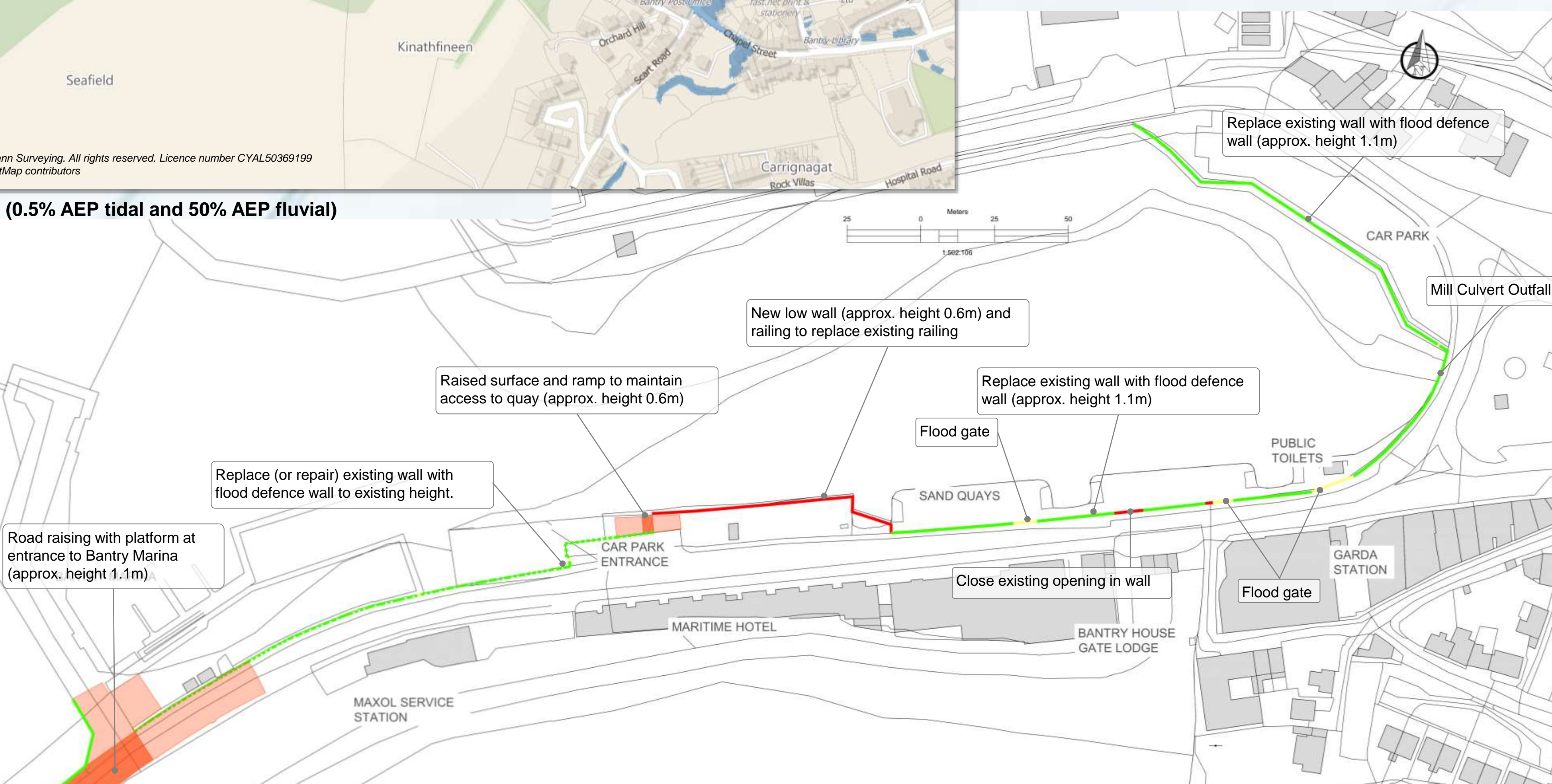
# 5 Coastal Defence



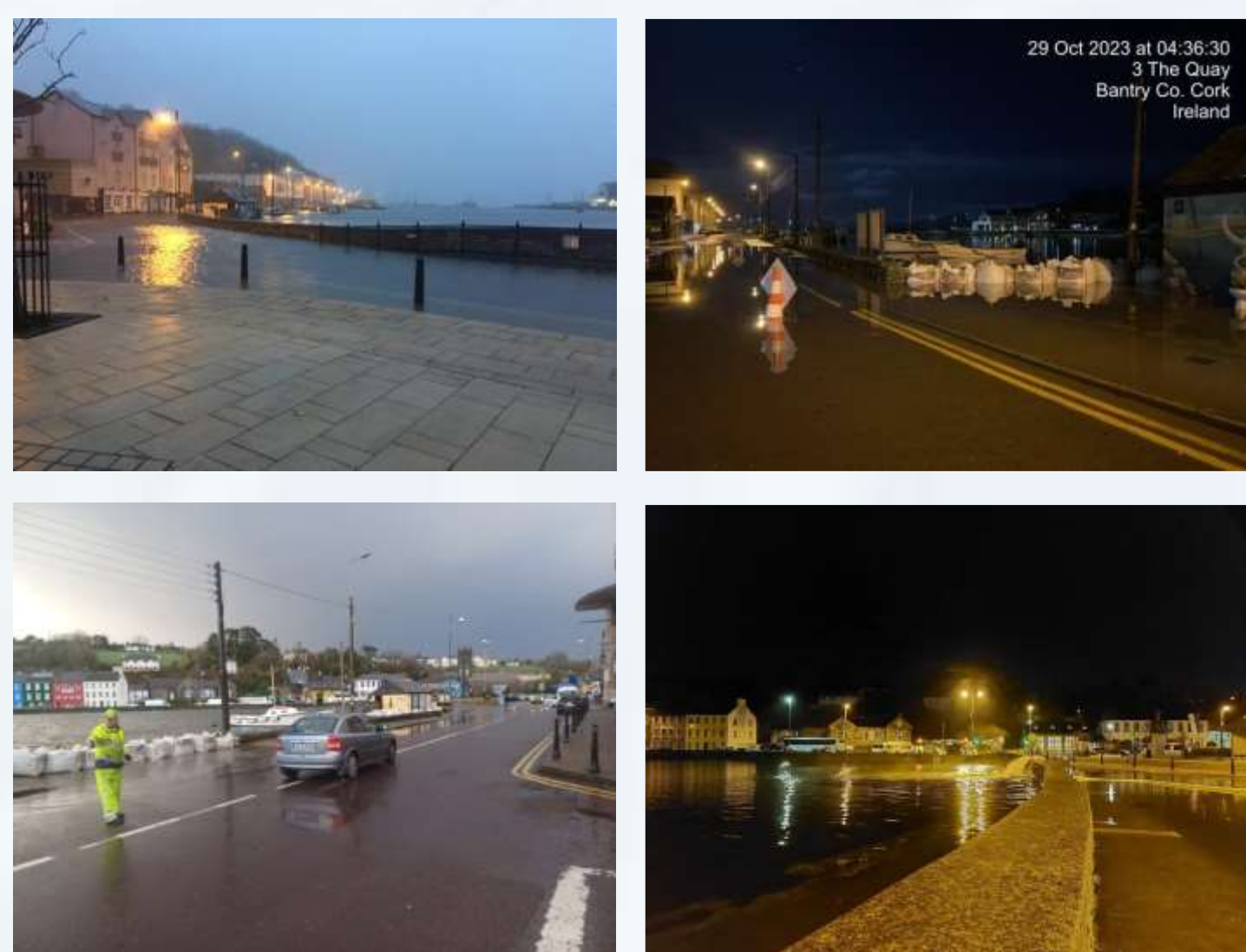
Coastal Flood Extents (0.5% AEP tidal and 50% AEP fluvial)

### LEGEND

- NEW STREAM
- EXISTING STREAM
- EXISTING CULVERT PIPE
- NEW CULVERT PIPE
- EXISTING CULVERT PIPE REPLACEMENT
- NEW WALL
- REBUILT WALL
- REPAIRED OR RAISED WALL
- FLOOD GATE
- EMBANKMENT
- ROAD RAISING
- FLOW CONTROL STRUCTURE
- AREA OF EXCAVATION
- FLOOD EXTENTS
- EXISTING BUILDING



Potential measure to defend against coastal flooding



Past experience of flooding on quays



Sand Quays (foreground) and Bantry House Gate Lodge (background)



Entrance to Bantry Harbour Marina



Quay area opposite Maritime Hotel

## Options

From the assessment of options for coastal defences, only one viable option was identified. As described below, the proposed measure to provide protection from high tides is a coastal wall around the harbour. A tidal barrier at the harbour entrance was also considered but was determined to be not viable.

## Potential Measures

### Proposal

- Replacement of existing walls around harbour at public carpark, Wolfe Tone Square, The Quays, and Marina.
- Height of new wall will be similar height to existing walls. Minor height raising in limited locations.
- New low-level wall and railing at location of existing railing near hotel underground carpark entrance.
- Provision of flood gates at existing access points to quays. One access point to be closed.
- Raising of N71 near Bantry Harbour Marina and Pier.

### Considerations

- Architectural finish of wall that is sympathetic to the character of the existing public realm (Architectural Conservation Area).
- Scenic views.
- Access to quays and marina.
- Archaeological and heritage status of Sand Quays and Bantry House Gate Lodge.

## Alternative Measures

An initial assessment on the viability of a tidal barrier was undertaken as an alternative to sea wall defences. This has been ruled out as a viable option for the following reasons:

- The barrier, when closed, results in the harbour becoming tide-locked. This causes a restriction on fluvial (river) flows. The volume of storage provided on the harbour side of any tidal barrier is insufficient for a coincident rainfall event happening with the barrier closed.
- Coastal flooding currently occurs in less than the 1 in 2 year (T2) event. Therefore, frequent operation of the tidal barrier would be required or alternatively some seawall interventions would be undertaken in combination with the barrier.
- Significant defences will be required on land to prevent high tidal levels by-passing the barrier in climate change scenarios. See adjacent image for high-end future scenario (HEFS).
- Specialist operational expertise will be required and on stand-by.

