

FLOOD RISK Appendix S



What does 'hold the line' mean?

'Hold the Line' is one of the four policies that are used in the Shoreline Management Plan. It's only chosen if it's economically, socially and environmentally the best one to do for Portsmouth. The other three policies, Advance the Line, Managed Realignment, and No Active Intervention, are currently not viable.

For Portsmouth 'hold the line' is the only choice.

<https://southseacoastalscheme.org.uk/resources/hold-the-line-shoreline-management-plans/>

<https://southseacoastalscheme.org.uk/wp-content/uploads/2018/04/5.-Hold-the-Line-Policy.pdf>

The risk



Portsmouth's flood risk

The climate crisis and rising sea levels are expected to see Tipner West flood unless defended. Furthermore, protected habitats such as the intertidal mudflats and coastal meadow will reduce as a result of sea level rises with 40% of Portsmouth's Intertidal Habitats likely to be lost by 2120.

In addition, without intervention flooding at Tipner West could spread through to Tipner East and Stamshaw. The Council has a mandate to hold the line from rising sea levels. As there are no homes currently on the Tipner West site sea defences cannot be funded by the Environment Agency and must therefore be funded by the Council.

Portsmouth's sea-levels are due to rise by around 70cm over the next 70 years.

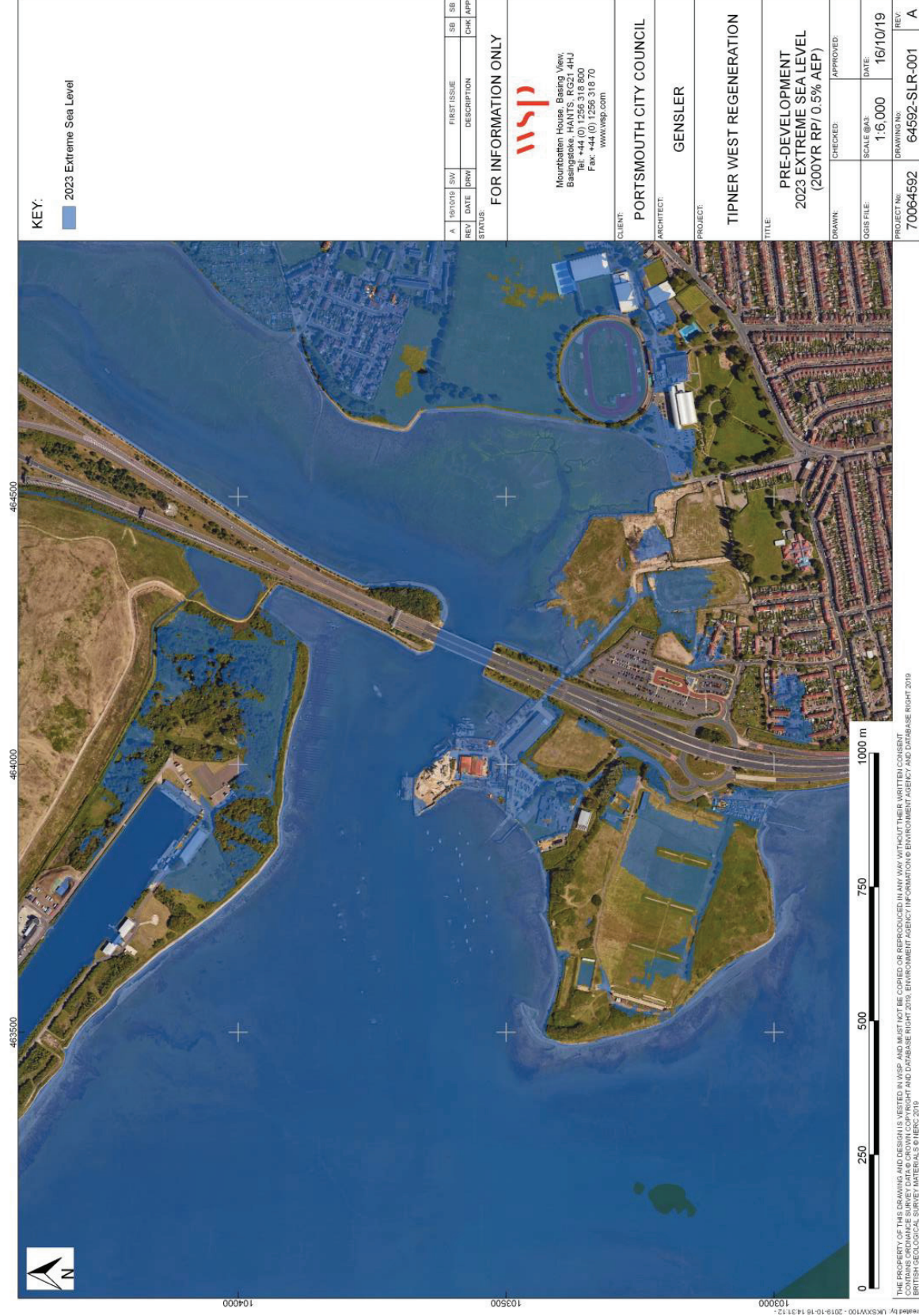
The existing coastal defences at Tipner West are in poor condition. The 2011 Portsea Island Coastal Strategy Study estimated that defences on Horsea Island East may fail within 5-10 years, and within 10-15 years on Tipner West. Due to lack of maintenance over recent years, there is an increasingly high risk that these defences could fail sooner.

As there are no homes on the Tipner West site it is extremely unlikely that flood defences would be funded by the Environment Agency and must therefore be funded by the Council.

<https://coastalpartners.org.uk/static/media/resources/2011-04-14-portsea-star2-11-final-revc-blanked-sigs.pdf>

2023 Extreme Sea Level (0.5% Annual Exceedance Probability) – Pre-Development Scenario and Tipner Lake Sea Defence Scheme

An extreme flood (e.g. 1 in 200yr return period can happen anytime – next week, next month, next year, or in 200 years. It happens on average (over an infinite time period) once every 200 years but there is no reason why that might not be two or more times next year.



KEY:

■ 2023 Extreme Sea Level

A	REV	DATE	BY	DESCRIPTION	SB	SB

STATUS: FOR INFORMATION ONLY



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ARCHITECT: GENSLER

PROJECT: TIPNER WEST REGENERATION

TITLE: PRE-DEVELOPMENT 2023 EXTREME SEA LEVEL (200YR RP/0.5% AEP)

DRAWN	CHECKED	APPROVED

OSIS FILE	SCALE @A1	DATE
	1:6,000	16/10/19

PROJECT NO.	DRAWING NO.	REV.
70064592	64592-SLR-001	A

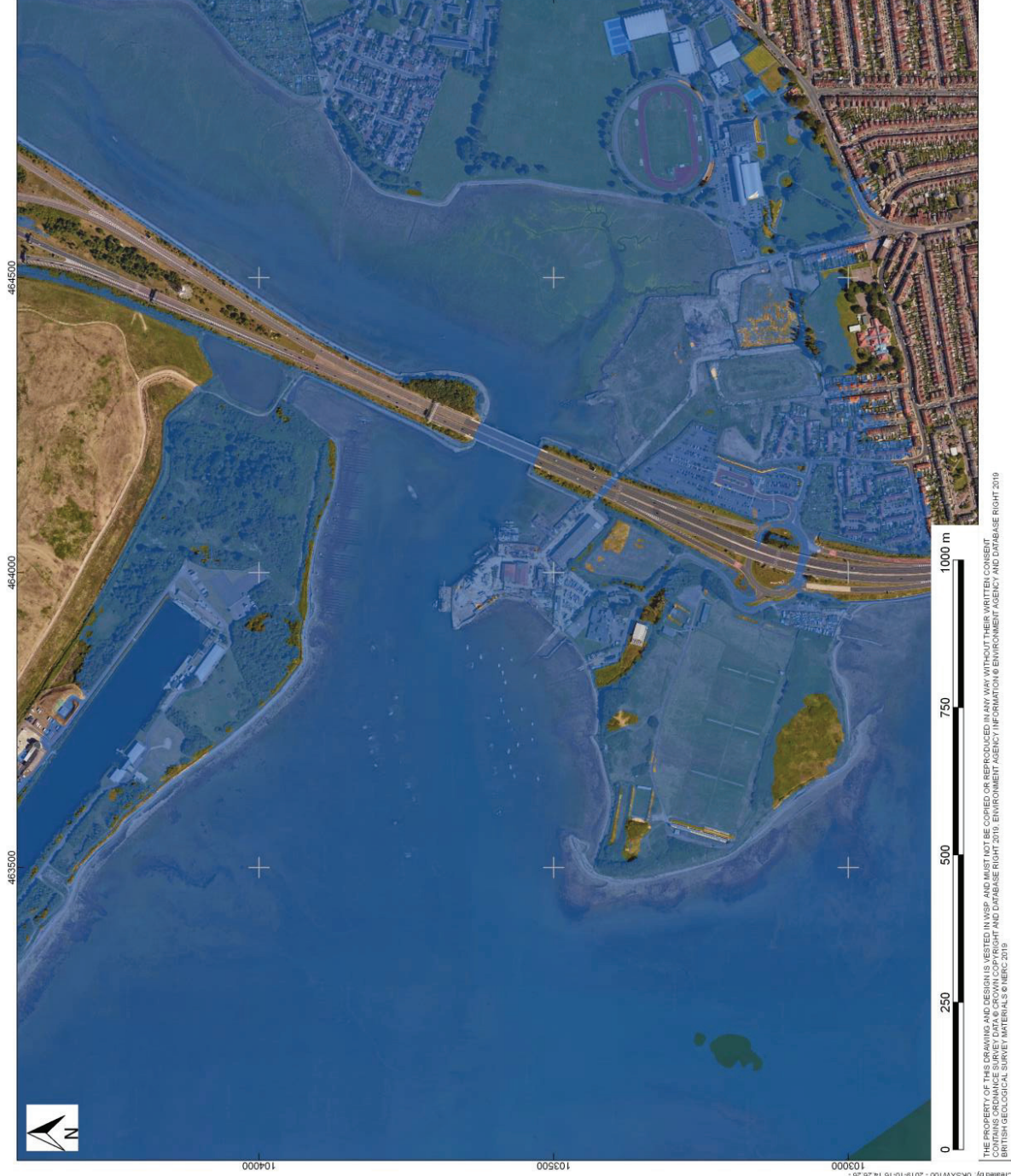
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Does not account for completed flood defence work in North Portsea

2123 Extreme Sea Level (0.5% Annual Exceedance Probability) – Pre-Development Scenario and Tipner Lake Sea and Tipner Defence Scheme

An extreme flood (e.g. 1 in 200yr return period can happen anytime – next week, next month, next year, or in 200 years. It happens on average (over an infinite time period) once every 200 years but there is no reason why that might not be two or more times next year.



KEY:

■ 2123 Extreme Sea Level

A	REV	DATE	SW	DRW	FIRST ISSUE	DESCRIPTION	SB	CHK	APP

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PROJECT:

TIPNER WEST REGENERATION

TITLE:

PRE-DEVELOPMENT
2123 EXTREME SEA LEVEL
(200YR RP/0.5% AEP)

DRAWN: _____ CHECKED: _____ APPROVED: _____

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REV: A

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Does not account for completed flood defence work in North Portsea



Portsmouth
CITY COUNCIL

Do nothing at Tipner West

In the 'do-nothing' case for Tipner West, the existing defences are at the end of their life, will fail soon and coastal erosion will take place which will lead to contaminants being released into the harbour which is designated and PCC may therefore be liable under laws to protect the designated site. This will also result in the loss of the existing land uses on the site, including the Harbour School. Across Portsmouth Harbour it is anticipated that the protected intertidal habitats are likely to see a 40% reduction by 2120 as a result of sea level rises.

- **Sea levels are rising and habitats will be affected as they are not protected as this work is unfunded**
- **doing nothing to the existing land mass is, at best, a short-term position as flood defences will be required at significant cost**
- **installing flood defences will result in environmental damage**
- **without sea defences there would be a contamination risk to the harbour**

The Lennox Point masterplan has been developed with input from Flood Risk and Coastal Engineers. To mitigate flood risk, coastal defences are proposed around the perimeter of the development, with a minimum crest height of +4.5mAOD to take into account anticipated sea level rise to +4.44mAOD (1 in 200 year Return Period) in 2123 (over an assumed development lifespan of 100 years from 2023). Furthermore, it is proposed to raise all land to +4.5mAOD

Coastal Partners

Coastal Partners- North Portsea Island Information

NPI Overview - <https://coastalpartners.org.uk/project/protecting-the-future-of-north-portsea-island/>

NPI Phase 1 Anchorage Park - <https://coastalpartners.org.uk/project/north-portsea-island-anchorage-park>

NPI Phase 2 Milton Common - <https://coastalpartners.org.uk/project/north-portsea-island-milton-common>

NPI Phase 3 Tipner Lake - <https://coastalpartners.org.uk/project/north-portsea-island-tipner-lake>

NPI Phase 4 – Eastern Road - <https://coastalpartners.org.uk/project/north-portsea-island-eastern-road/>

Southsea Coastal Scheme - <https://southseacoastalscheme.org.uk/>

All the schemes in Portsmouth are delivery outputs of the Portsea Island Coastal Strategy adopted by PCC and the Environment Agency in 2010. This document <https://coastalpartners.org.uk/project/portsea-island-coastal-strategy/> forms the basis of all business cases to undertake coastal work in Portsmouth. Tipner West is revered as Flood Cell 5 (extract pg 33)

Flood Cells 5	Other Comments	Typical Photos of the Existing Defences
	Although there are few properties at risk of flooding, works are required to protect against leaching of contaminants from Tipner Landfill site. Tipner is a key development area identified within the Portsmouth City Local Plan and emerging Portsmouth Plan)	

Costs

Please note these costs (October 2021) are uninflated, indicative costs

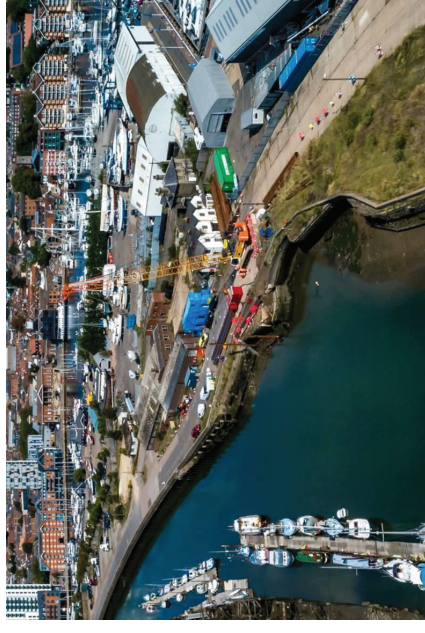
EXAMPLE IMAGERY

Please note: Flood defence costs have been explored in partnership with the costal scheme, already in construction. The exact nature and costs for sea defences at Tipner West will depend on which option is selected for the site. However flood defences are likely to cost between £4,000 and £16,500 per linear metre and are projected to be on average £7,750 per linear metre. This is in line with current flood defence work in the city. For example, flood defence work in North Portsea cost £7,800 per linear metre in 2018 (£9,700 per linear metre in 2021). Please note the costs of construction and materials continues to rise at pace which will impact the future cost of flood defence work.

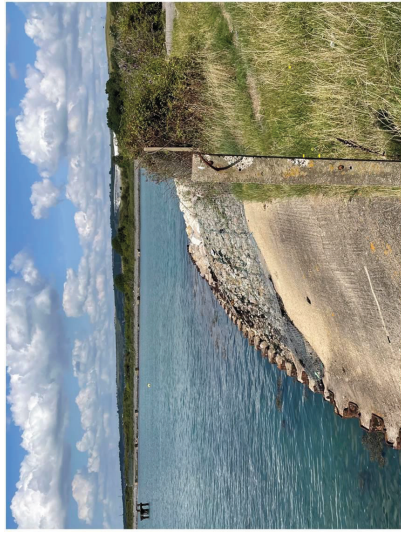
Costs assumed are as follows:



Rock Core Bund £6,500/m



Quay Walls £16,300/m



Hard Edge £4,500/m



Soft Edge £3,800/m

Development and Tidal Flood Risk Position Statement

Extracts below

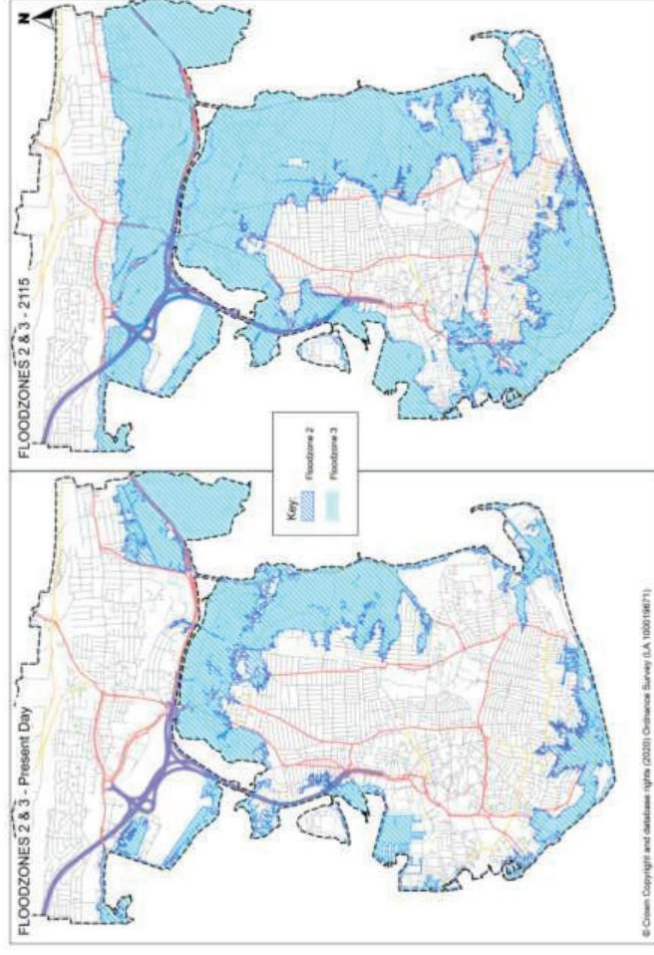
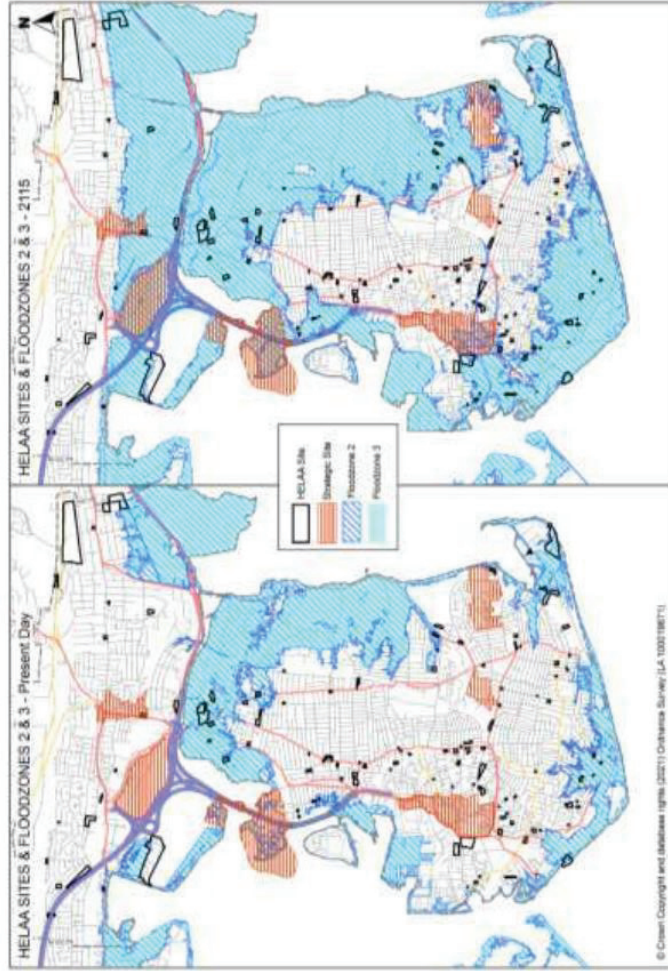


Figure 1 - EA flood zones March 2020 and predicted 2115