



SEP Update

2023

Alys Morris
Severn Estuary Partnership
Manager





SEP Highlights

Publication of a new Business Plan 2023-2027

Hosting student placements

Expansion of SEP Big Beach Clean

Expansion of the Litter Free Coast and Sea Somerset

Joint Estuary Day 2023

Reestablishment of the BCSEG

Ongoing communications activity

Ongoing secretariat support

New Partnership Chair







UK's Largest
coastal plain estuary



Largest
tidal range in Europe



Over 110
fish species



100,000 Birds
winter feeding ground



Nature Protected
in designated areas



Blue Carbon




Iconic
surrounding landscapes

Severn Estuary Coastal Group (SECG)

BETA This is a new service – your feedback will help us to improve it.

 Department for Environment Food & Rural Affairs

 [Data Services Platform](#)



[Shoreline Management Plans](#)

[Home](#) [Search](#) [Help](#)

[Home](#) > [Anchor Head to Lavernock Point](#)

Shoreline Management Plan

Anchor Head to Lavernock Point SMP19

Coastal Group: [Severn Estuary](#)

The Anchor Head to Lavernock Point Shoreline Management Plan is split into 66 areas. Their boundaries have been set based on analysis of coastal processes and the character of the shoreline. Select an area to find out more information about it.

[Aust Ferry to New Passage BRIS1](#)

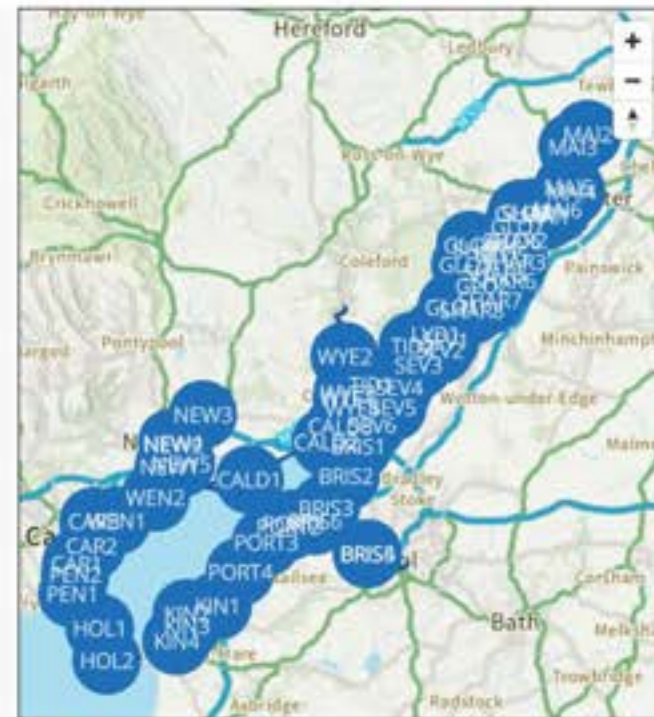
[New Passage to Severnside Works, nr Smoke Lane/Chittening Road BRIS2](#)

[Severnside Works, Nr Smoke Lane/ Chittening Road \(east bank of the River Severn\) to Avonmouth Pier BRIS3](#)

[Avonmouth Pier to Netham Weir BRIS4](#)

[Netham Weir to Avon Road, Easton-in-Gordano BRIS5](#)

[Avon Road, Easton-in-Gordano \(south bank of the River Avon\) to Portishead Pier BRIS6](#)





Association of Severn Estuary
Relevant Authorities (ASERA)





THE BRISTOL PORT COMPANY

Presentation by
John Chaplin BSc CEng FICE



**Severn
Estuary
Partnership**

Planning for the future
– challenges and opportunities

8 June 2023





Planning for the Future

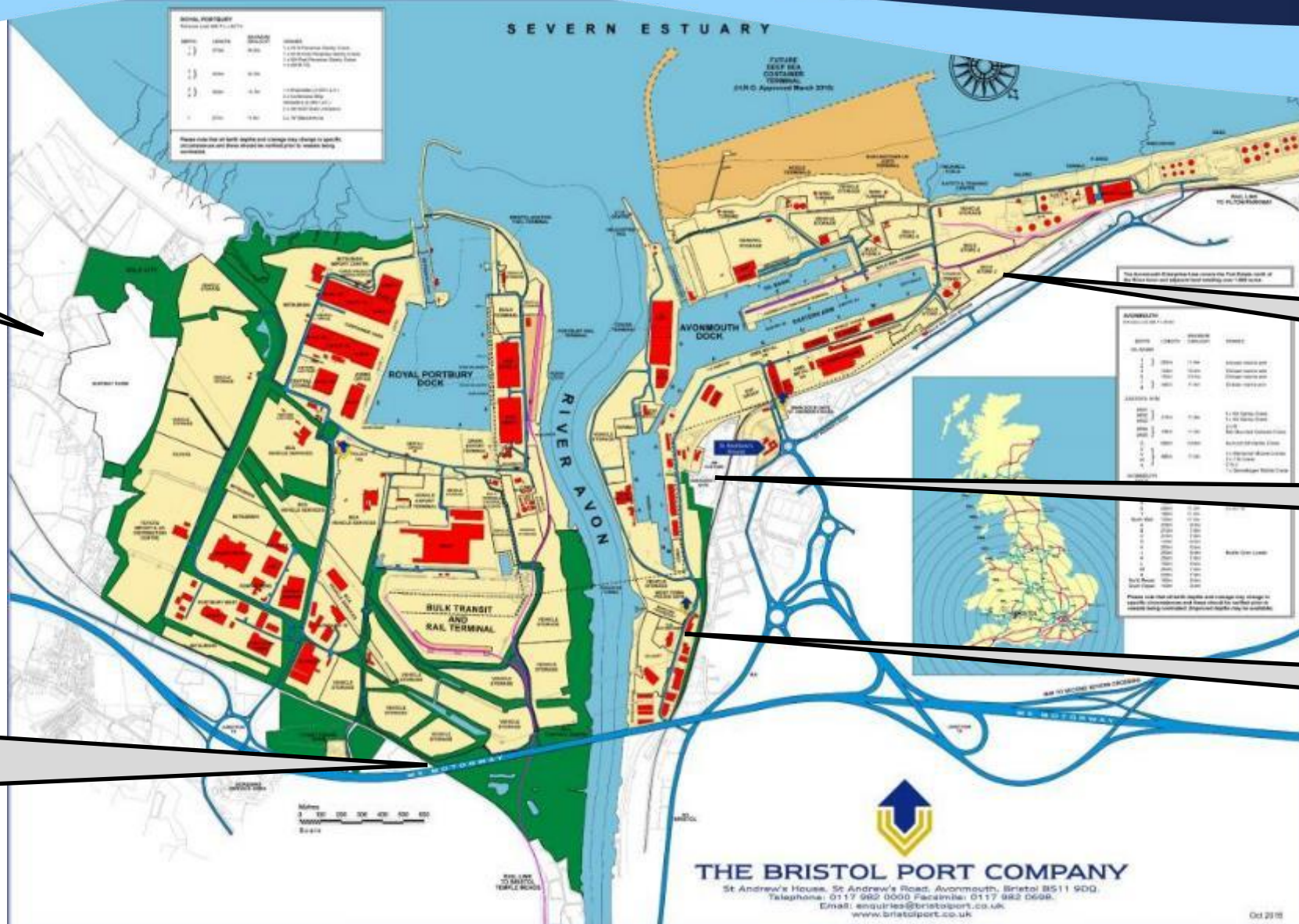
- What do Ports need?

i) Space to grow

Boundary challenges



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Farm land & green belt

Very few homes

Railway & strategic highway (M5)

Railway & industry

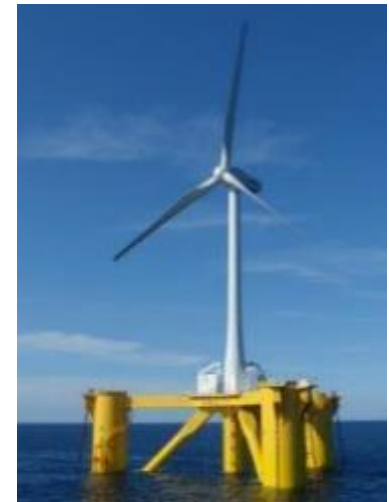
homes

Railway & industry

DSCT - HRO and FLOW



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Expansion



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Court House Farm – Phase 2

Site allocated for Port use in Local Plan

12 acres of low-grade agricultural land

But only 8 acres developable

App validated – 8 August 2022

Decision due – 7 November 2022

LPA delays, late queries, insufficient capacity/specialists, “it’s a complicated site”

Granted – 5 May 2023 (6 months late!!!)



Expansion



THE BRISTOL PORT COMPANY

Shipway Farm

60 acres of arable land

Purchased in 2000

Green Belt

Planning App and appeal in 2001/2

2020 – *“planning likely to be refused due to Green Belt”*

Seeking Approval in Principle in next Local Plan





Planning for the Future

- **What do Ports need?**

ii) **Ability to adapt** (quickly, efficiently, +vely)

Coal trade pre-2018



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Coal (grain & feed) Berths.
2 no. 350m long, 15m draught
120,000 tonne coal ships

coal conveyor

Stockyard
500,000 tonnes capacity
3 no. stacker/reclaimers
Rail connected



Adaptation after coal



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Existing Etex facility
(originally Redland Plaster Board)

Former coal
berth/cranes converted
for gypsum import

Transfer Station
modified to link
to new building

Former coal
conveyor used
for gypsum

Former coal stockyard
resurfaced for vehicle
storage – 16 acres

Expansion of Etex Plaster board factory –
doubling of existing footprint and using 40 acres
of former coal stockyard. £140M investment



Adaptation – off-site fabrication



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Adaptation – charging 3rd party business models



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Adaption – recycling redundant structures



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Planning for the future

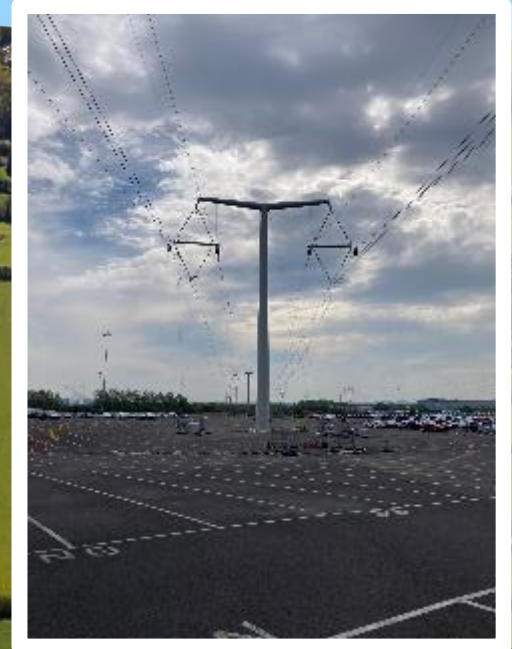
- What do Ports need?

iii) Ability to accommodate others!

HCCP



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nationalgrid

25 acres,
5,000 car spaces

ASEA Flood Defence Works



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Avonmouth Severnside Flood Defence Project
Sponsored by EA, BCC & SGC Contractor: BMM-jv
17 km long Capex circa £80M
1/200 year event to 2097
6 km of defence in Avonmouth Dock Estate



ASEA Flood Defences Works



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Planning for the future

- What do Ports need?

iv) Model shift & Net Zero

Multimodal options



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Road Freight

End to end is easy, quick & efficient

Works well (aside from Friday afternoon in the summer!)

Most traffic utilizes SRN – N, S, E & W

Local challenges on A4 and A403 serving ASEA (M49-Junction)

Sub-Nat' road network critical for staff, tenants



Rail Freight

Terminals in Avonmouth and RPD

Aggregates, cement, IBA, containers, AILs

Challenges – cost, gauge clearance, paths, passengers



Sea Freight – coastal shipping

Port to Port



Active Travel & public transport

BPC-BUG, electric bikes

Challenges: phases of the moon, distances, operations

Net Zero – plant & equipment



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Planning for the future

- What do Ports need?

iv) Developing green solutions to address both the nature and climate emergencies

Enhancing & increasing biodiversity



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The Bristol Company has conserved and enhanced the Port Area through a programme of conservation projects. 250 acres (10% of Port Estate) is green space/corridors – grassland, woodland, salt marsh, reed beds





THE BRISTOL PORT COMPANY

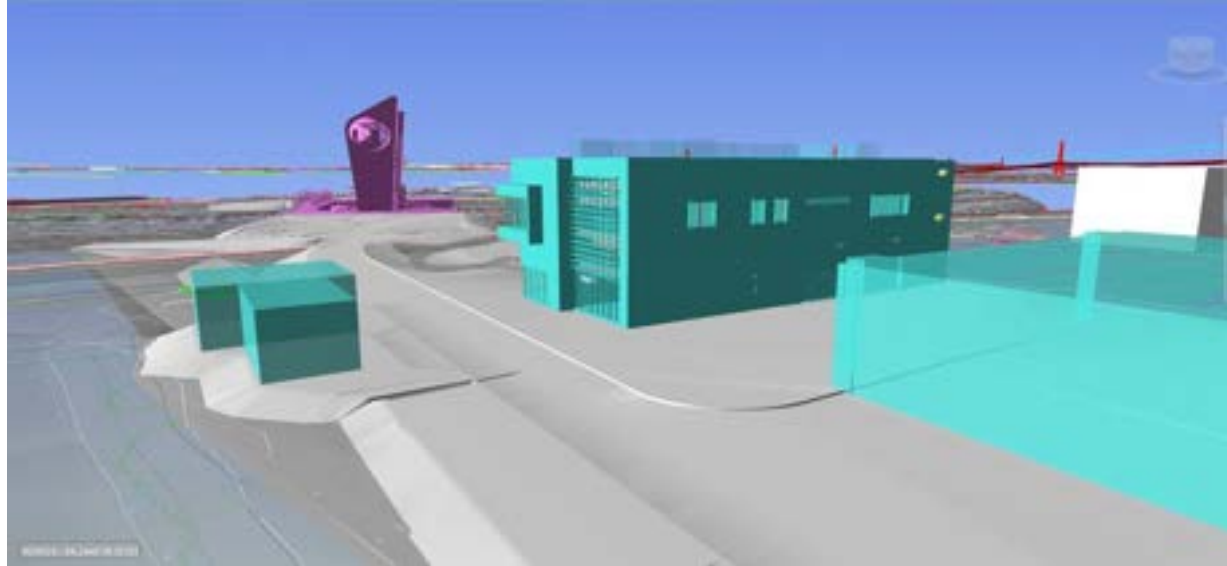
Thank you

www.bristolport.co.uk

john.chaplin@bristolport.co.uk



Bridgwater Tidal Barrier Scheme



Project Partners



Barrier & Operational Site

Downstream Banks

Fish & Eel Passes



Creating a community resilient to flooding and coastal change

Funded by



Somerset
Council



Environment
Agency



Planning & outline design – Jacobs
Detailed design – SNC-Lavalin (Atkins)
Early works - Kier

Working with

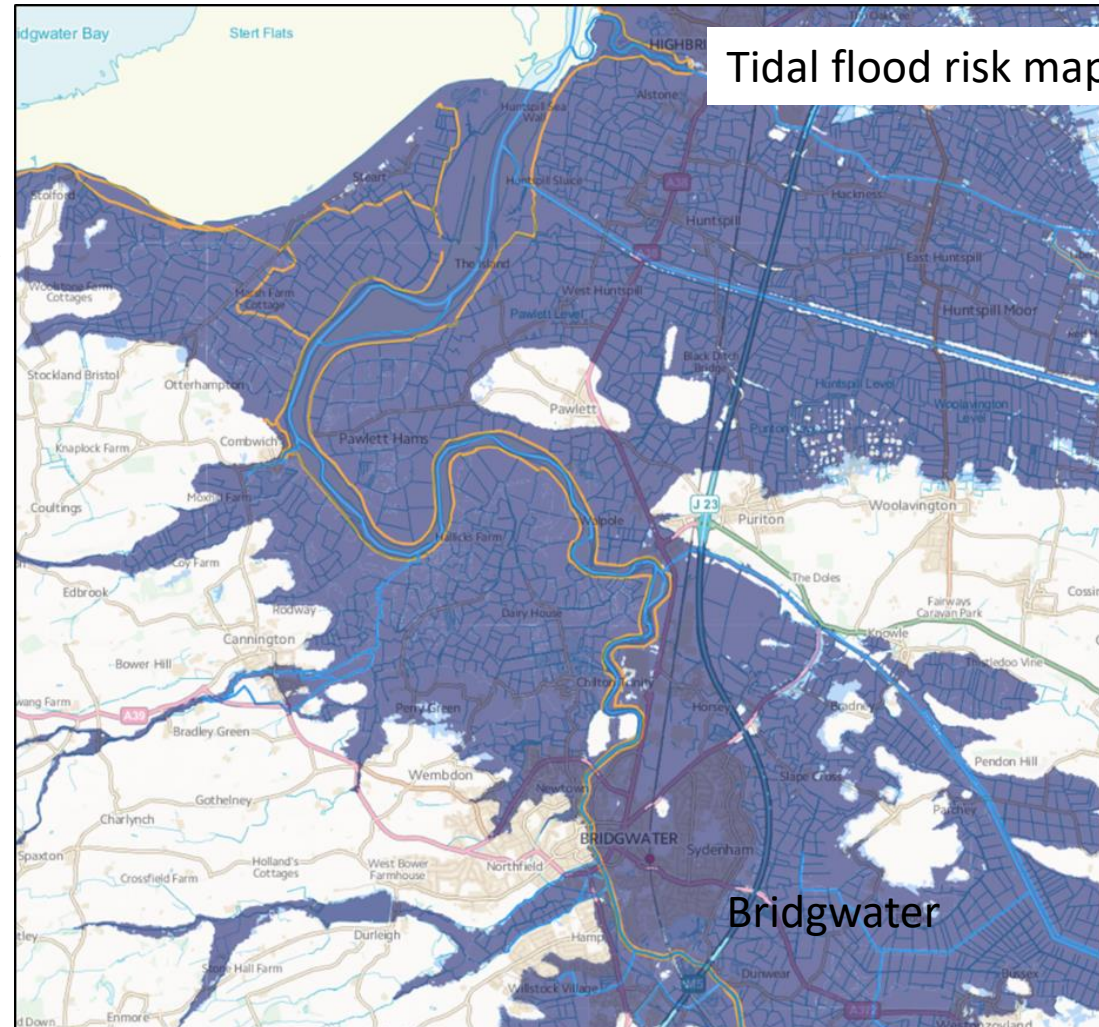


Parrett IDB
Inland Waterways Association



Why is it needed?

- Flood Zone - 3
- Sea Level Rise
 - 0.4m to 1.2m next 100 years
- FRM solution is critical for sustainable growth of Bridgwater
 - Housing, employment, retail and leisure (Hinkley Point C NNB)
- 11,300 homes (Pre 2012), 1,500 businesses
- Benefit / Cost Ratio BC 8:1
- Principal climate change adaptation action for Bridgwater



Bridgwater Tidal Barrier Scheme



Why now?



A spectacular failure of defences in 2012

A close shave in 2014 demonstrates the case for investment

Defra Minister (Owen Paterson) approved the inclusion of the Barrier in **Somerset's 2014 Flood Action Plan** following widespread Levels & Moors flooding



Bridgwater Tidal Barrier Scheme

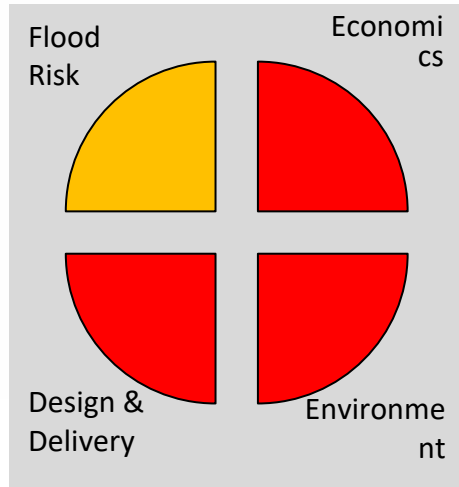


Current Position

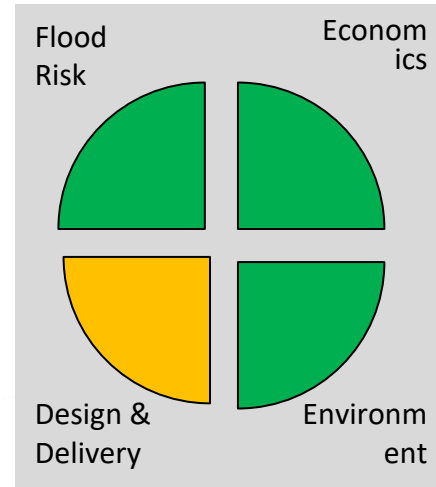
- Secretary of State granted Transport and Works Act Order that gives EA legal powers to construct in tidal waters
- OBC approved by LPRG, Defra and HM Treasury
- Marine Management Organisation and Defra accept Environmental Statement and Habitat Regulations Assessment. MMO licence received end of July 22
- Ground and Archaeological investigations for the compound and downstream defences
- Detailed design at 90% stage
- Barrier and downstream enabling works started
- Barrier procurement being planned



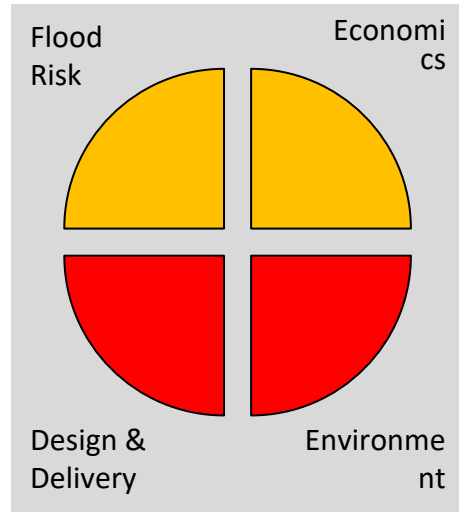
Bridgwater Tidal Barrier Scheme



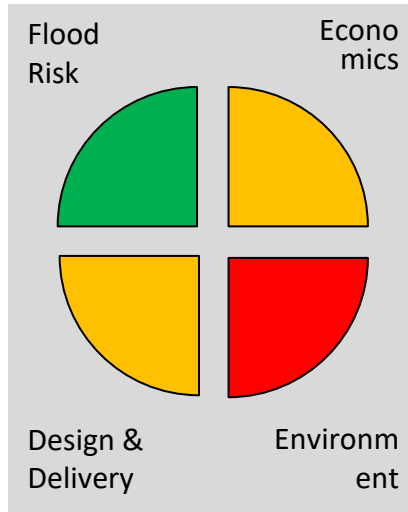
Raise Walls



Tidal Surge Barrier



Lagoon



Tidal Exclusion Sluice

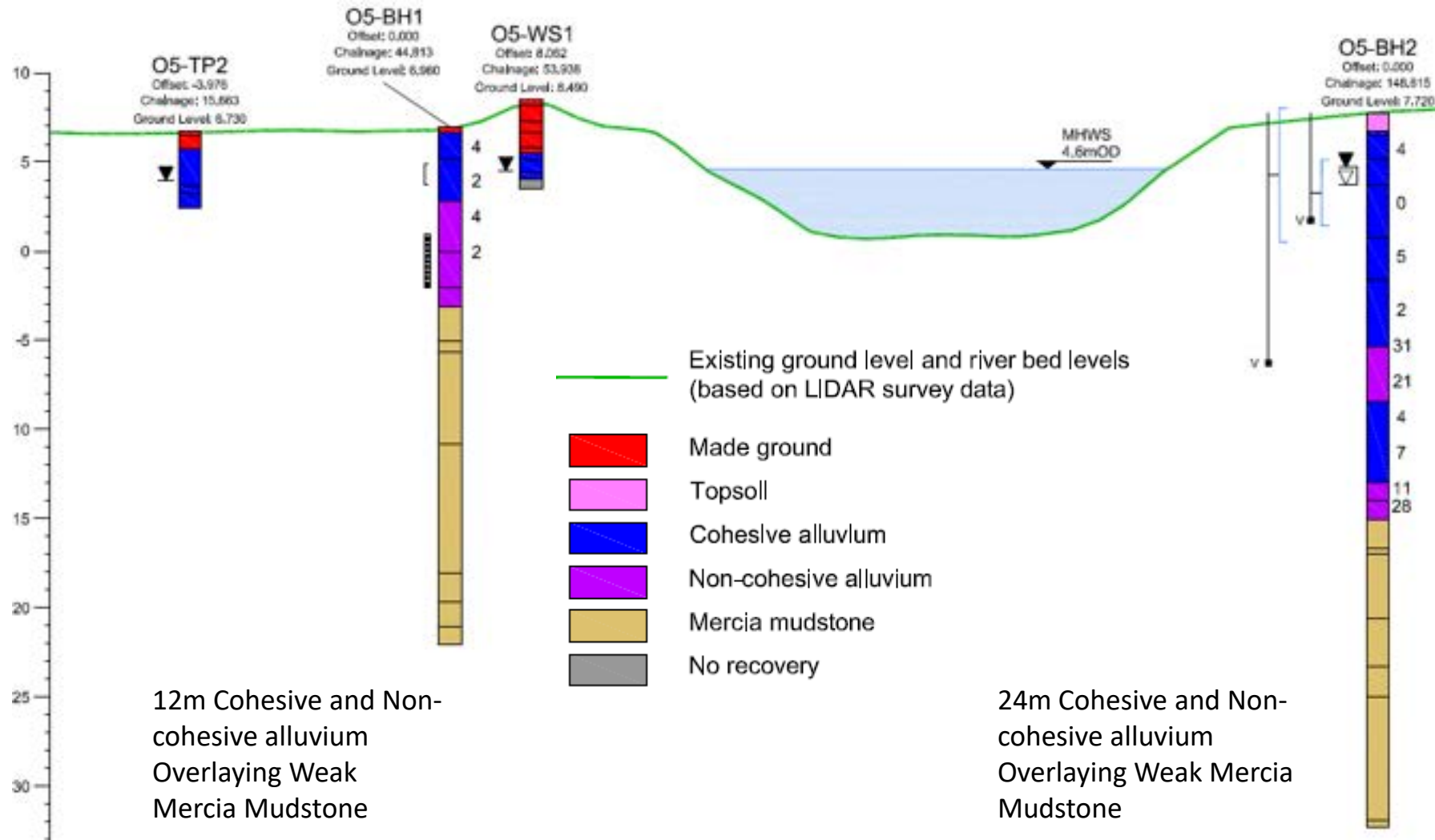
Options considered

Bridgwater Tidal Barrier Scheme



Long list of locations

Phase 1 Ground Investigation



Phase 2 Ground Investigation

- Investigation of the depth and condition of bed rock
- Land based works are similar to earlier 2016 works
- 4 boreholes within the river using jack-up barge
- Geophysical investigations



- Public drops-latest 25 May 2023
- Noise levels agreed with Environmental Health
- Active monitoring
- 7am to 7pm weekday working
- Barge movements tide dependant
- Late September to late December

Express Park / Chilton Trinity - Selected

- ✓ Greatest confidence in delivery – cost and legal powers
- ✓ Same standard of tidal flood protection
- ✓ More stable river channel
- ✓ Access options
- ✓ Smaller structure - reduced O&M
- ✓ Aligns with SDC Green Network Plan & Bridgwater Vision
- ✓ Announced March 2017



Gate Type Assessment

- Carried out an assessment of 11 gate types
- Identified 2 gate types as preferred for this scheme

Rising sector gate



Thames Barrier

Vertical lift gate



Hull Barrier

Bridgwater Tidal Barrier Scheme



Chosen Design – Twin Vertical Lift Gate

- ✓ Proven reliability in a high silt environment
- ✓ Easier to maintain and replace than other barrier types
- ✓ Similar technology to other major sluices in Somerset

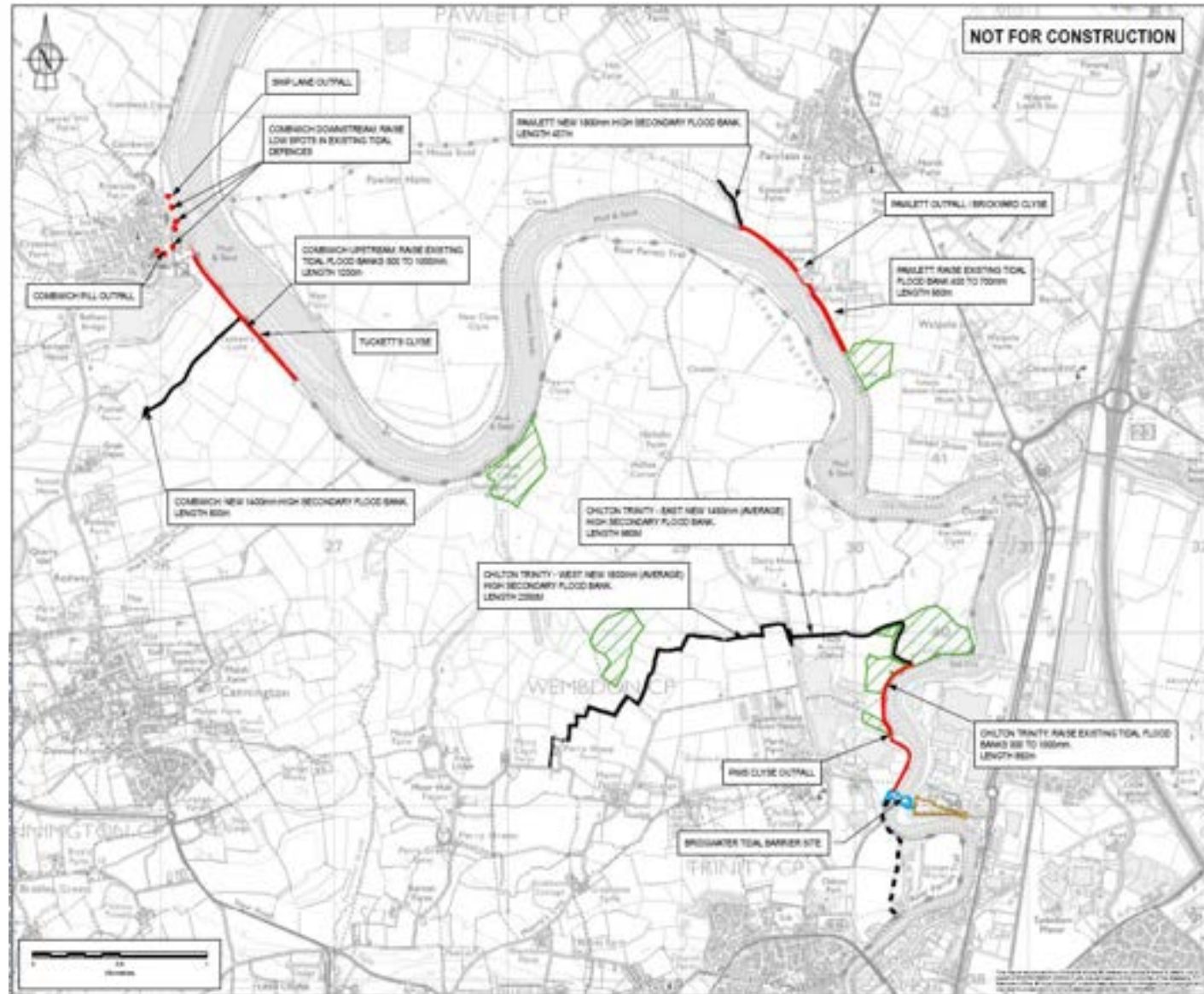
Minimises Whole Life Cost and operational carbon emissions



Bridgwater Tidal Barrier Scheme



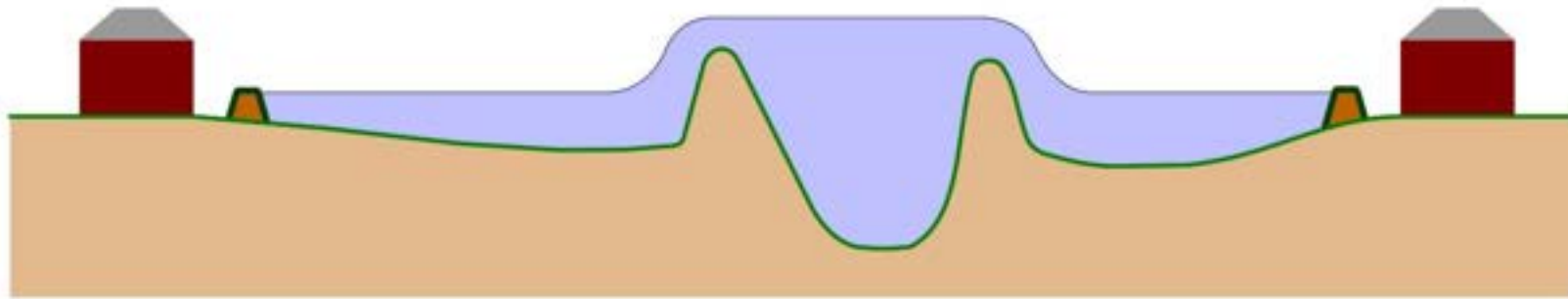
Downstream defences



Downstream Defence Improvements

- Existing primary bank raising (Red)
- New secondary banks (Black)
 - Chilton Trinity
 - Pawlett
 - Combwich
- Borrow pits (Green)

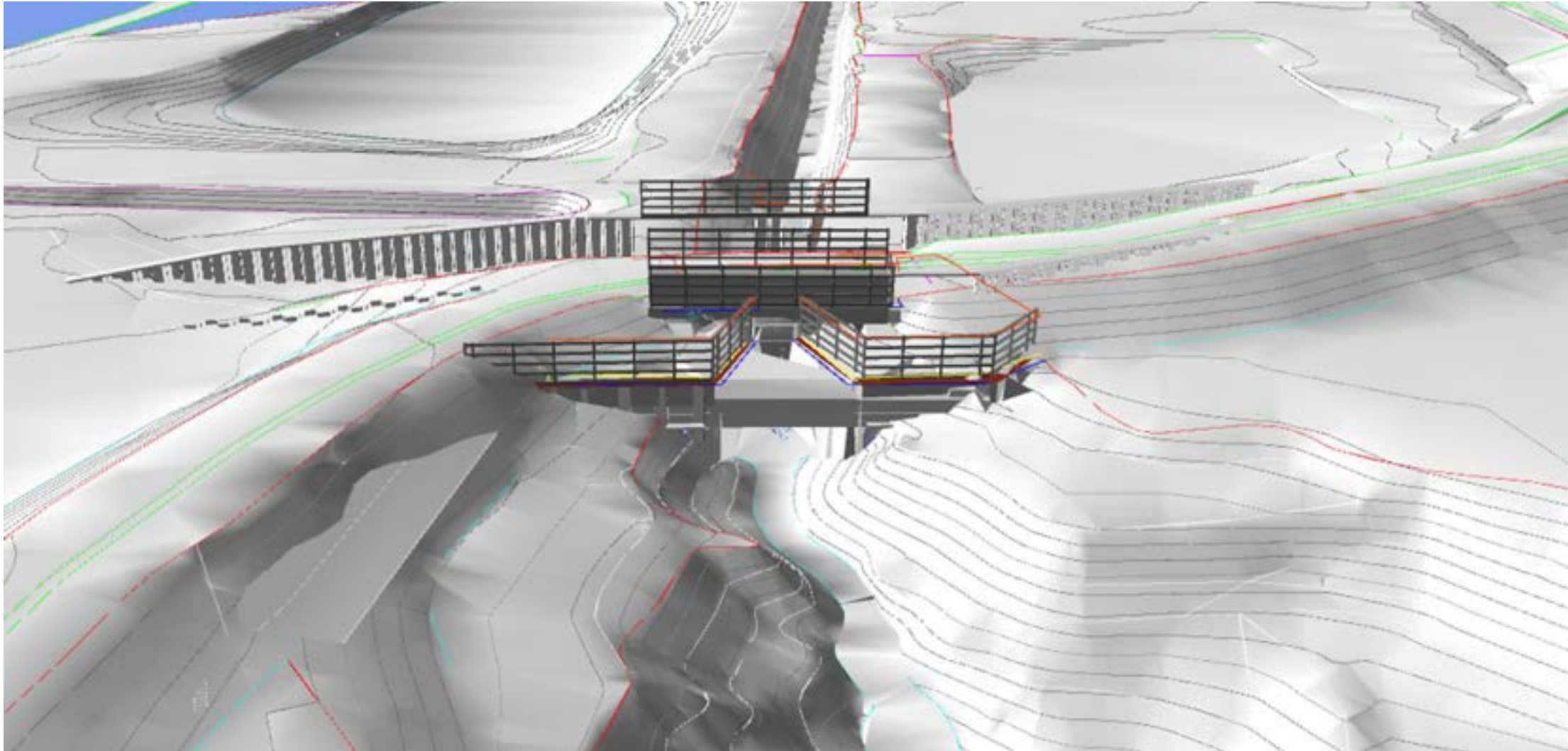
Existing river banks and secondary defences



High spring tide and exceptional storm surge



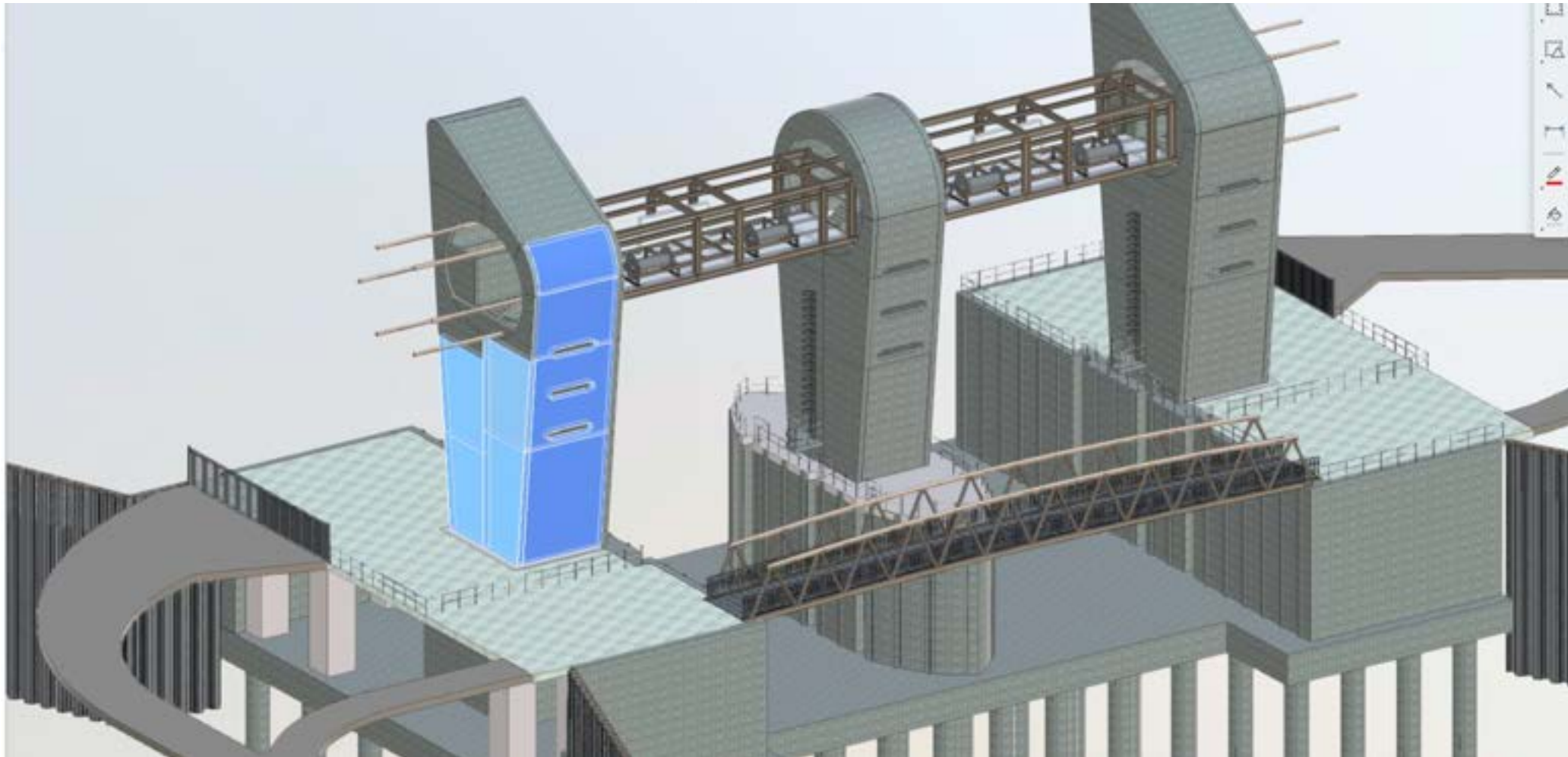
Downstream defence detailed design



Bridgwater Tidal Barrier Scheme



Barrier detailed design



Bridgwater Tidal Barrier Scheme



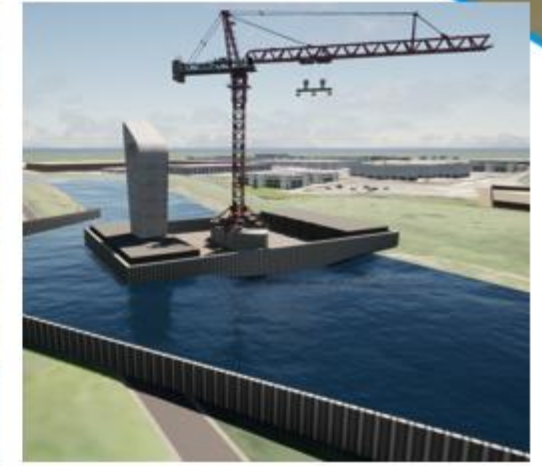
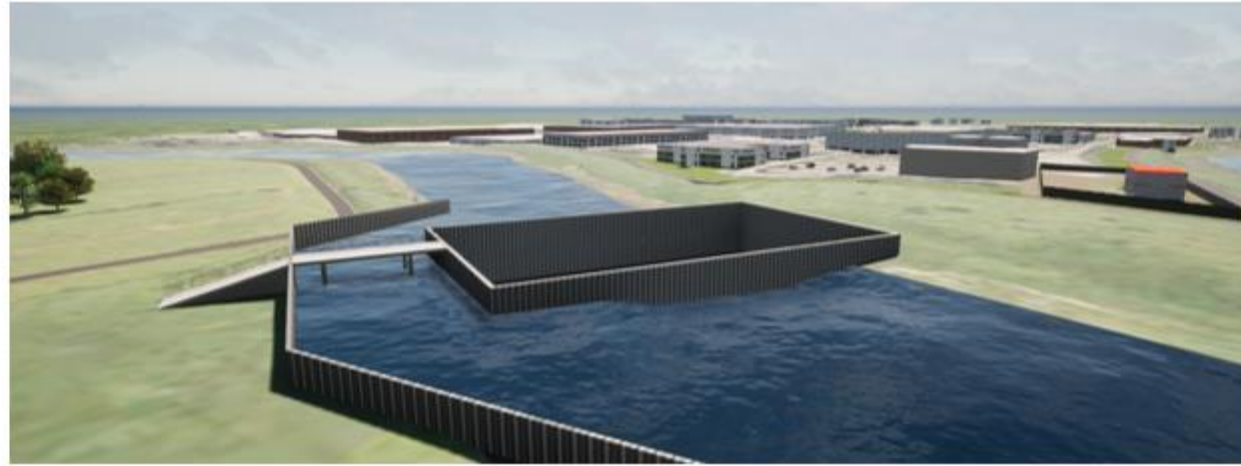
Barrier detailed design – foot/cycle bridge



Bridgwater Tidal Barrier Scheme



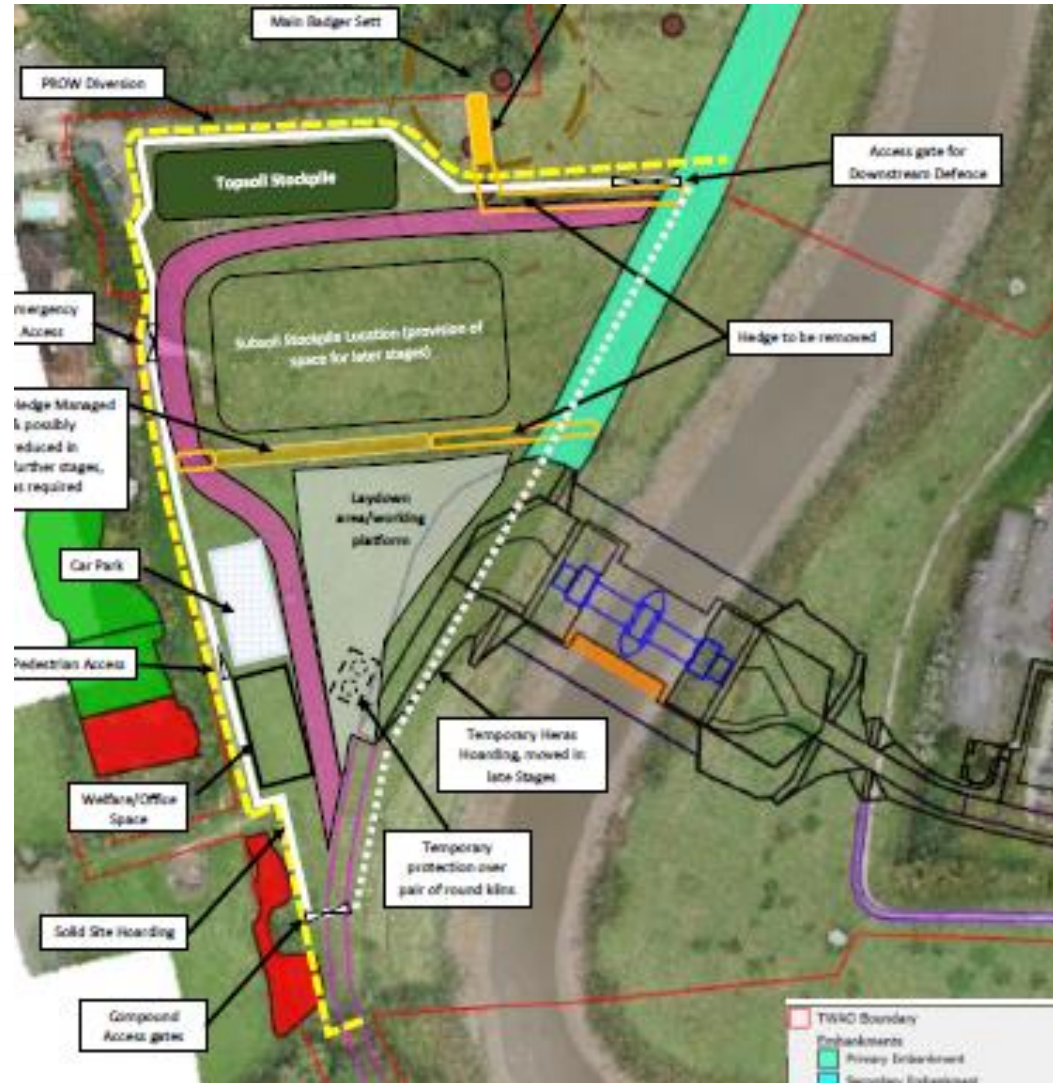
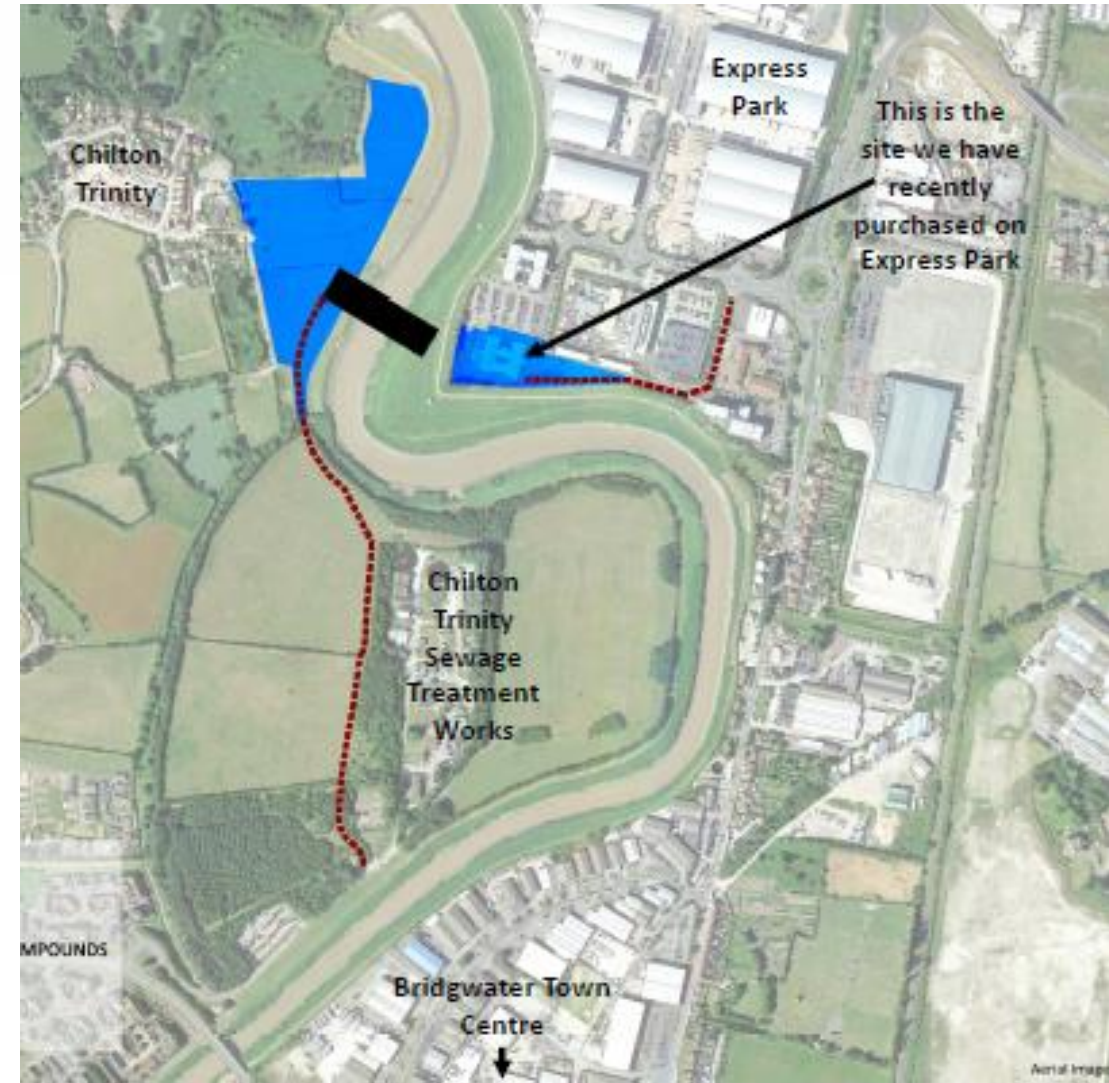
Likely Barrier Construction Sequence



Bridgwater Tidal Barrier Scheme

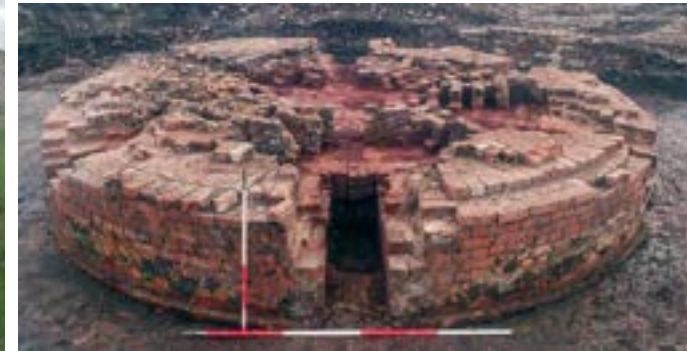


West access and compound



Bridgwater Tidal Barrier Scheme

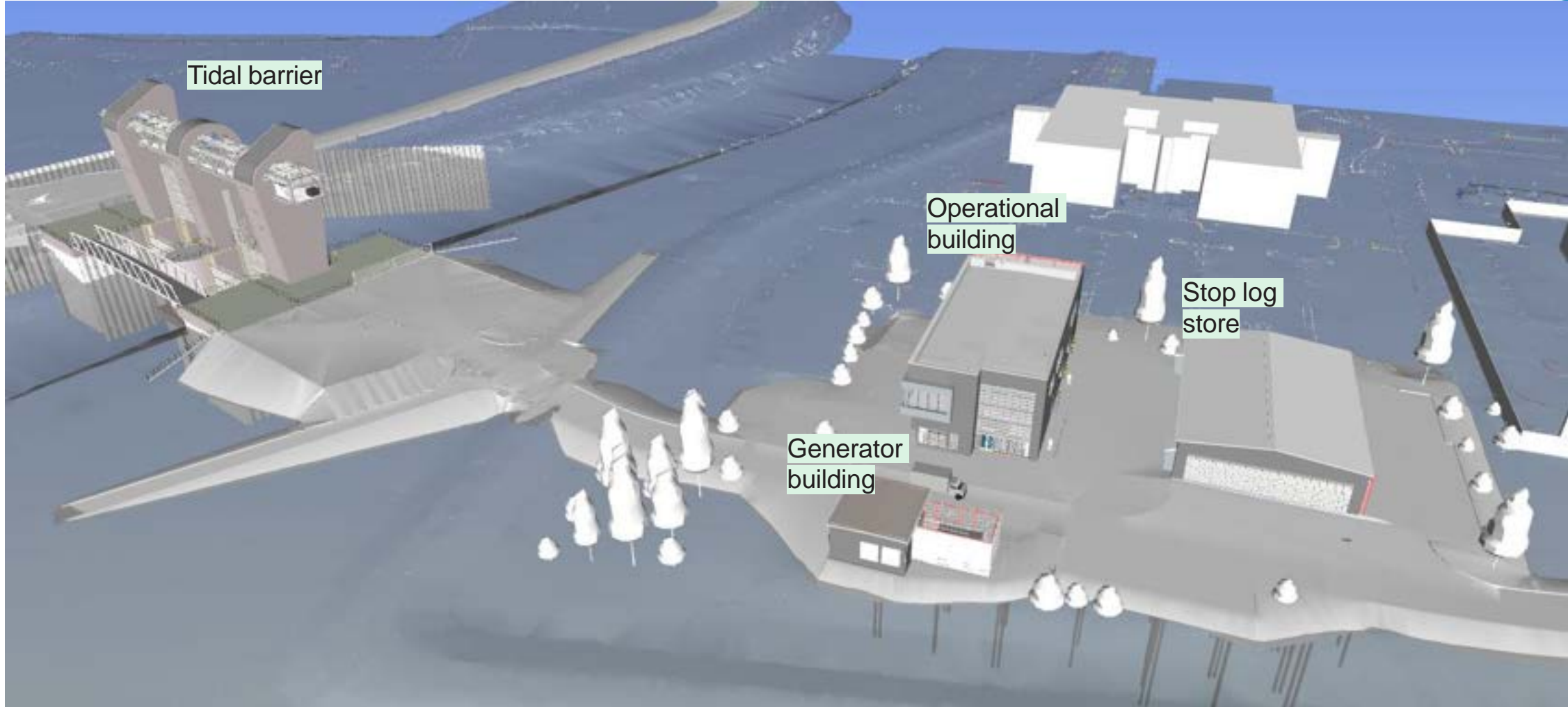
Ground and archaeology investigations



Bridgwater Tidal Barrier Scheme



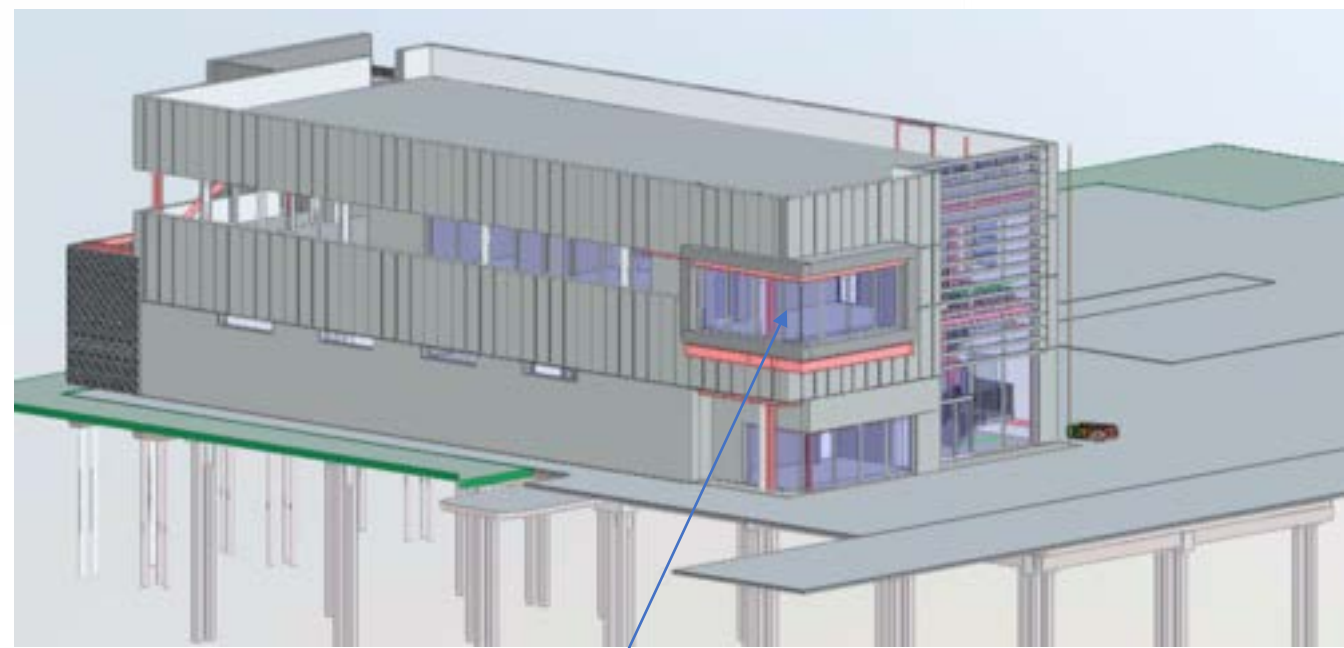
Operational Site – Express Park



Bridgwater Tidal Barrier Scheme



Operational Building – Express Park



Control Room



Barrier Operation

Surge Tides

- Closed if tide is forecast to exceed 7.3m in Bridgwater
- Closed at low water for 4 - 6 hours
- Operated on average 1 – 5 times a year
- Frequency of operation will increase as sea levels rise

High River Flows

- Small upstream benefit in excluding surge tides

Maintenance

- Operated once or twice a month

Sediment Management

- Under consideration – ongoing silt monitoring & boat surveys

Operational frequency

	Barrier operations (average per year)		
Year	Tidal flood risk management 6 hrs	Testing and training 4-5 hrs	Maintenance 1-2hrs
2024 Year 1	1 - 5	Up to 5	12 - 24
2055 Year 30	2 - 12	Up to 3	10 - 20
2124 Year 100	20 - 55	0	6 - 12

Bridgwater Tidal Barrier Scheme



Start coastal management 2014



New wetlands from borrow pits in BTB project



Blue Heritage WWT, SDC and EA

Somerset Levels and Moors

Environmental Legacy



Local archaeology



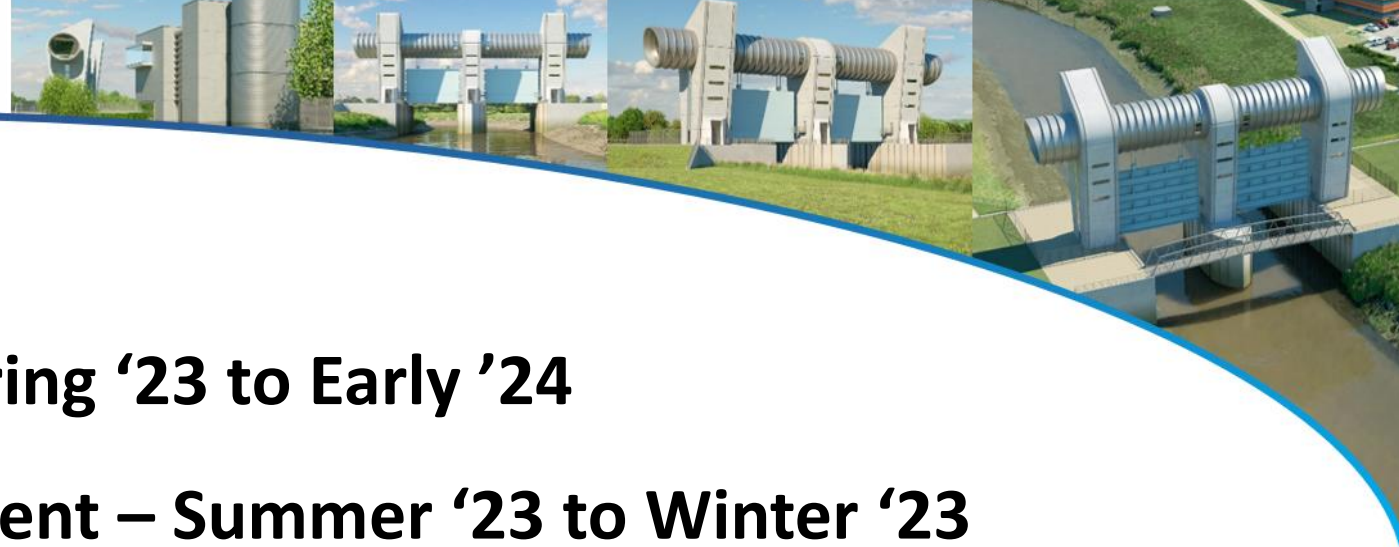
BTB provides 5 upstream fishpasses and 7 eelpasses



Riverside park



Local transport improvement



Delivery Programme

- **FBC Assurance & Approval – Spring '23 to Early '24**
- **Barrier works tender & assessment – Summer '23 to Winter '23**
- **Downstream defences construction – Summer '23 to late '27**
- **Barrier bypass channel – Early '24 to Autumn '26**
- **Barrier construction – Early '24 to Autumn '27**
- **Fish Pass Improvements – Early '24 to Autumn '27**
- **Properties will be protected in 2026/27**

Bridgwater Tidal Barrier Scheme



Council have purchased land for control room building and stores

EA-owned land can form amenity park

Pedestrian/Cycle bridge aligns with sustainable transport aims

An enhanced future for Bridgwater



Coastal Partnerships Network

A National Framework Championing Coastal Coordination

Amy Pryor

Technical Director, Thames Estuary Partnership
Leader, Coastal Partnerships Network

Context – What is Championing Coastal Coordination (3C's)



3Cs Projects

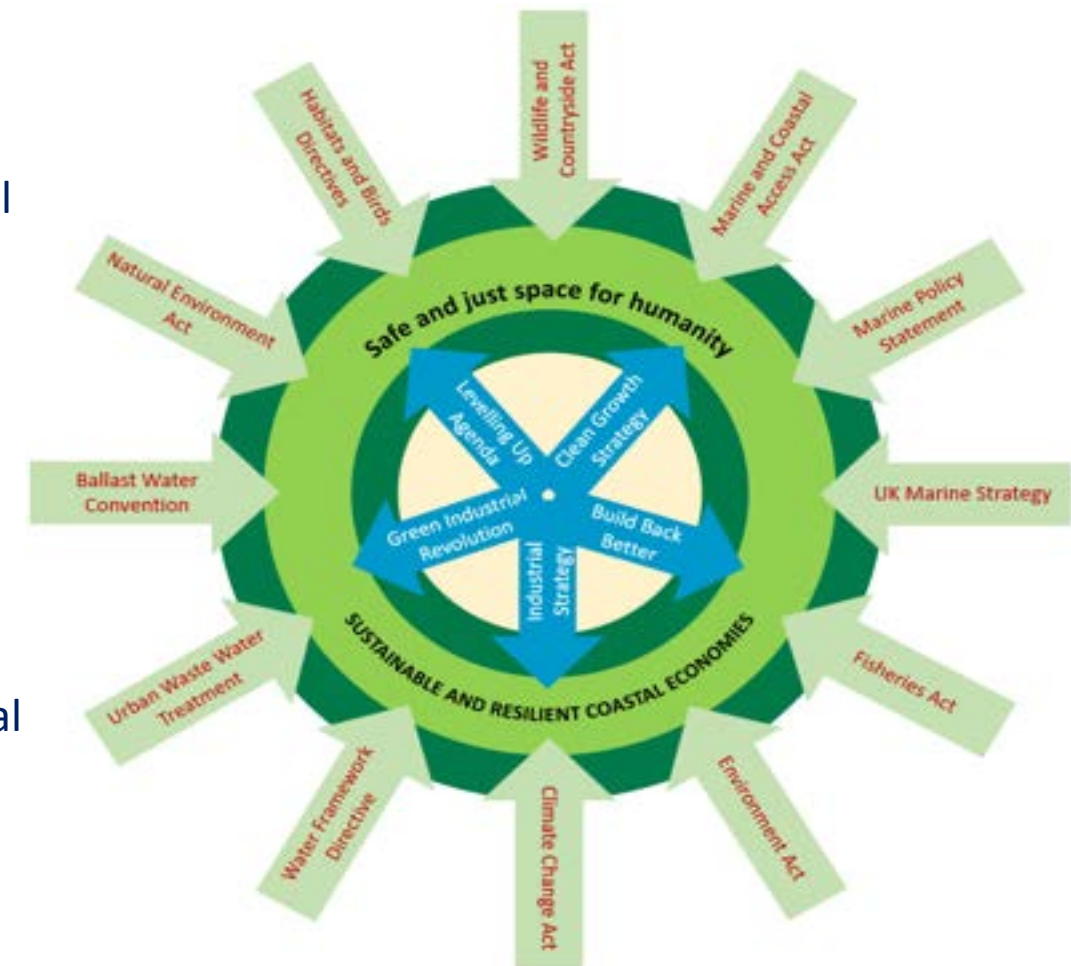
- Cheshire Wildlife Trust
- Cornwall Wildlife Trust
- Deben Estuary Partnership
- National Trust (Isle of Purbeck)
- North Devon Biosphere Foundation
- North York Moors National Park Trust
- Recycling Of Used Plastics Limited
- Solway Firth Partnership
- Somerset Wildlife Trust
- Sussex Wildlife Trust
- The Coastal Partnership Network
- Thames21
- University of the West of England

3Cs is an Environment Agency funded initiative with support from Natural England, the Marine Management Organisation, and the Association of Inshore Fisheries and Conservation Authorities. It is a collaboration seeking to explore how to enhance and progress coordination for coastal sustainability and resilience in England.

- Position – significant loss of coastal habitat, communities at flood and erosion risk
- Problem – management of coastal issues poses complex challenges
- Proposal – enhance and progress coordination and collaboration

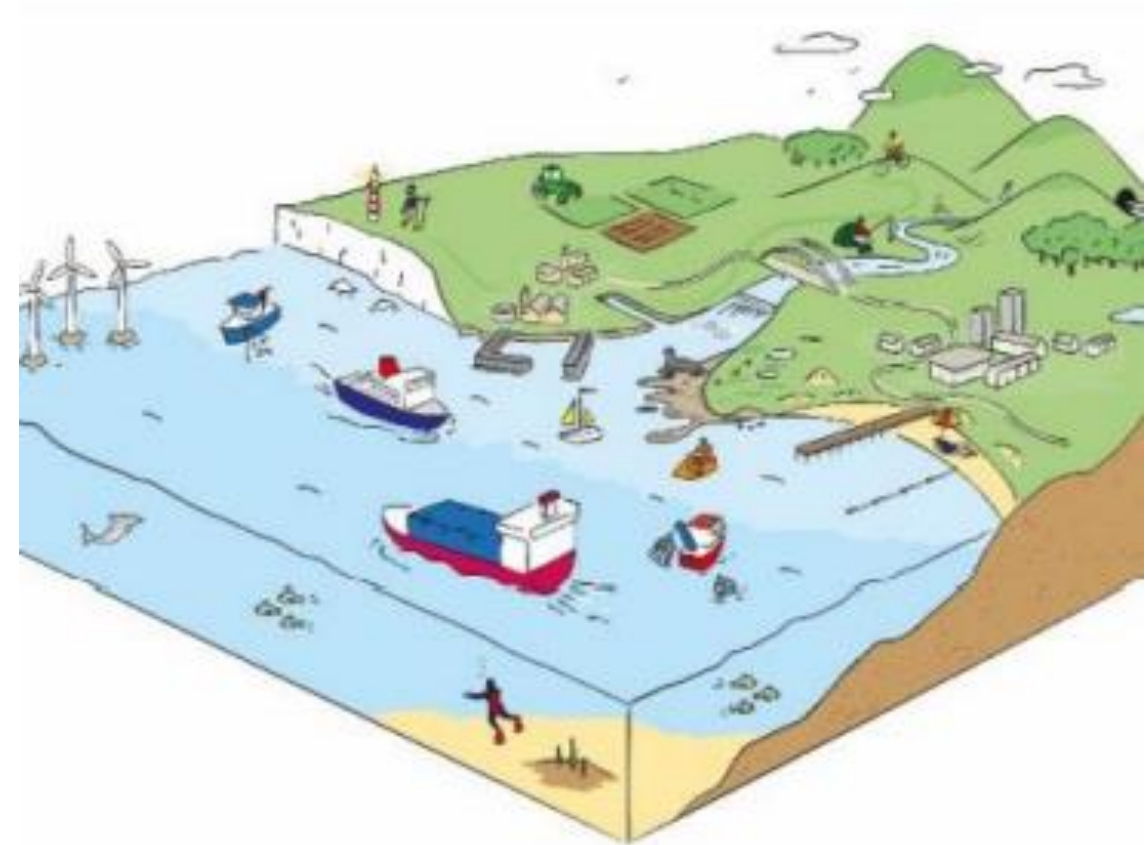
Key Pilot Headlines

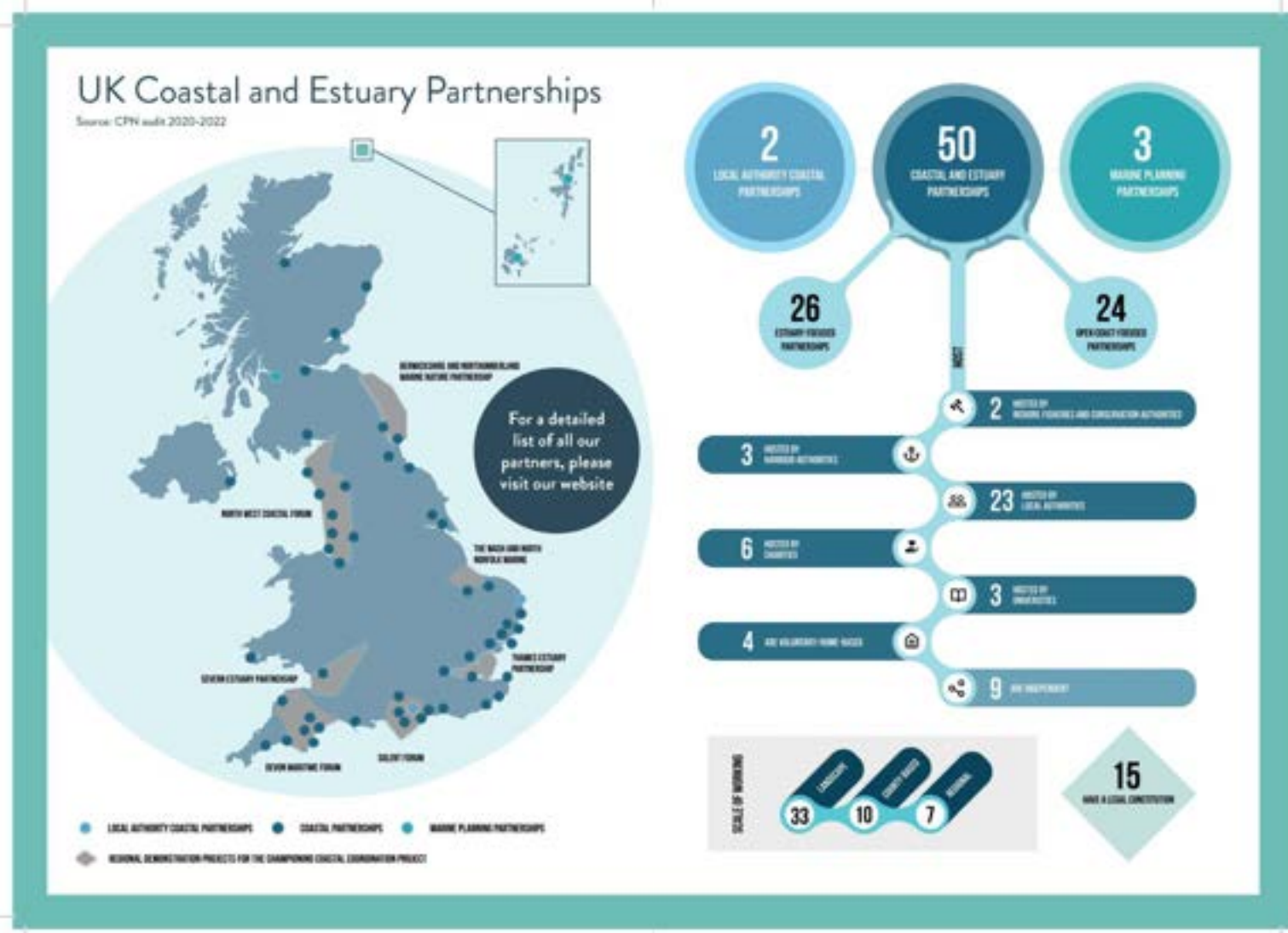
- Support and infrastructure needed to achieve coordination and collaboration across sectors, across land/sea and across socio-economic and environmental drivers
 - National Framework Leadership Group
 - Coastal Communications Hub – one stop shop for all things coastal
 - Coastal Data Explorer – improve access to data and data skills
 - Deep engagement, particularly with private sector
 - Building capacity to level up understanding between and across sectors
 - CEPs provide neutral convening and local interpretation of national drivers
 - Evaluation of social capital and impact of CEPs to drive blended finance models



Key Pilot Headlines

- Opportunities to integrate and align delivery across the land/sea interface via Government agendas abound:
 - Flood and Coastal Risk with Coastal Group Network, Coastal Groups and RFCC
 - Coastal Habitat Restoration is NbS and Blue Carbon
 - Emerging Marine Natural Capital and BNG
 - Fisheries Management Plans
 - Climate Resilience
- ‘Landing’ marine development and restoration
 - Levelling Up and Shared Prosperity
 - Net Zero
 - Fisheries Management Plans
 - Local Nature Recovery Plans
 - Marine Plan Refresh
- Shaping future policies and strategies
 - Nested Coastal Plans
 - UK Coastal Strategy



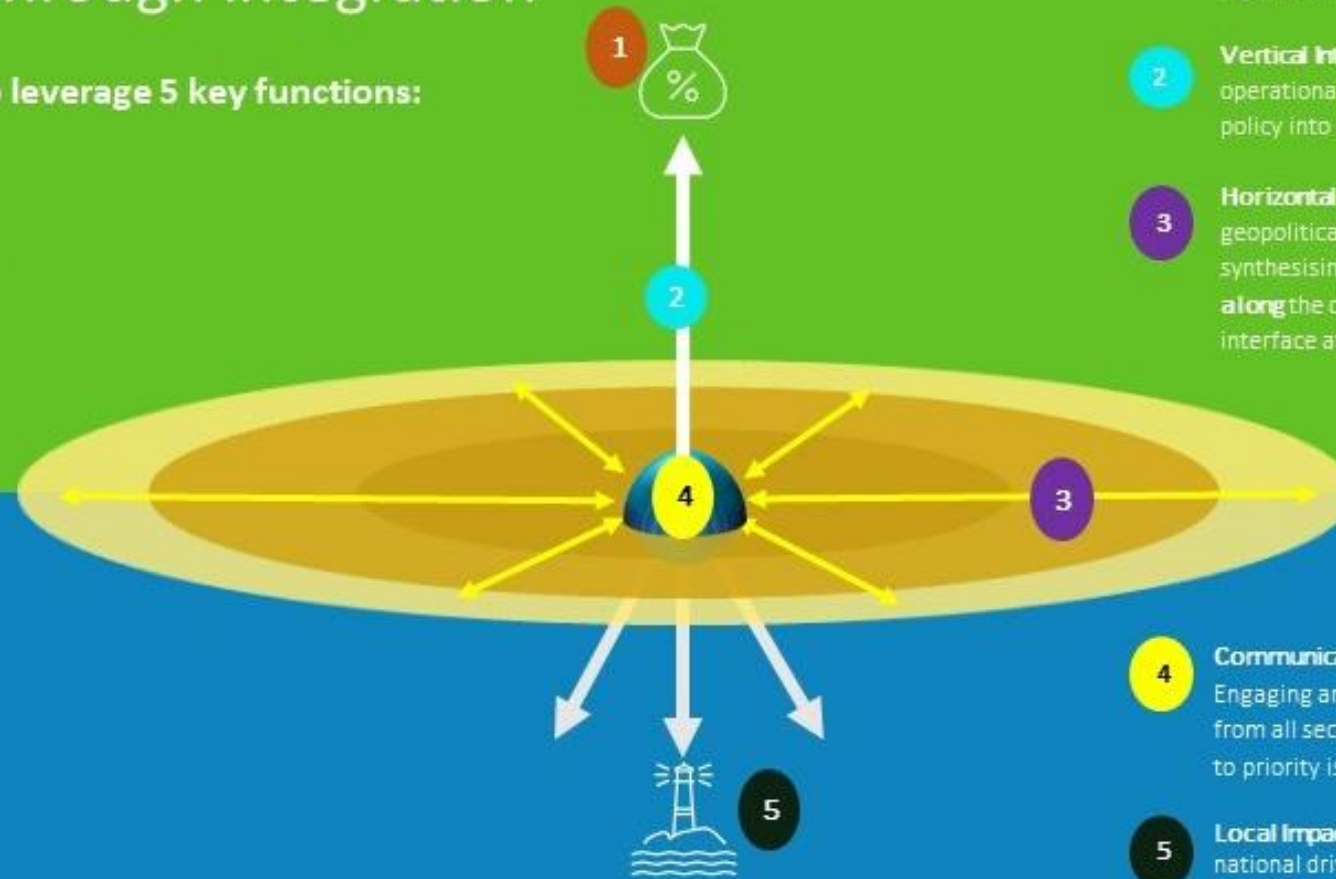


‘Cross-sectoral place-based partnerships advocating for the system level approach, sustainable use of marine resources and integrated, coordinated management across a stretch of coastline or estuary’

Coordination at the Coast: resilience through integration

Coastal Partnership leverage 5 key functions:

1. Accessing funding
2. Vertical Integration
3. Horizontal Integration
4. Communications
5. Bottom-up delivery



1 Harmonising funding: Accessing and rationalising government funding instruments with integrated policy and legislation.

2 Vertical Integration: Working to distil, operationalise and translate national policy into local delivery and impact.

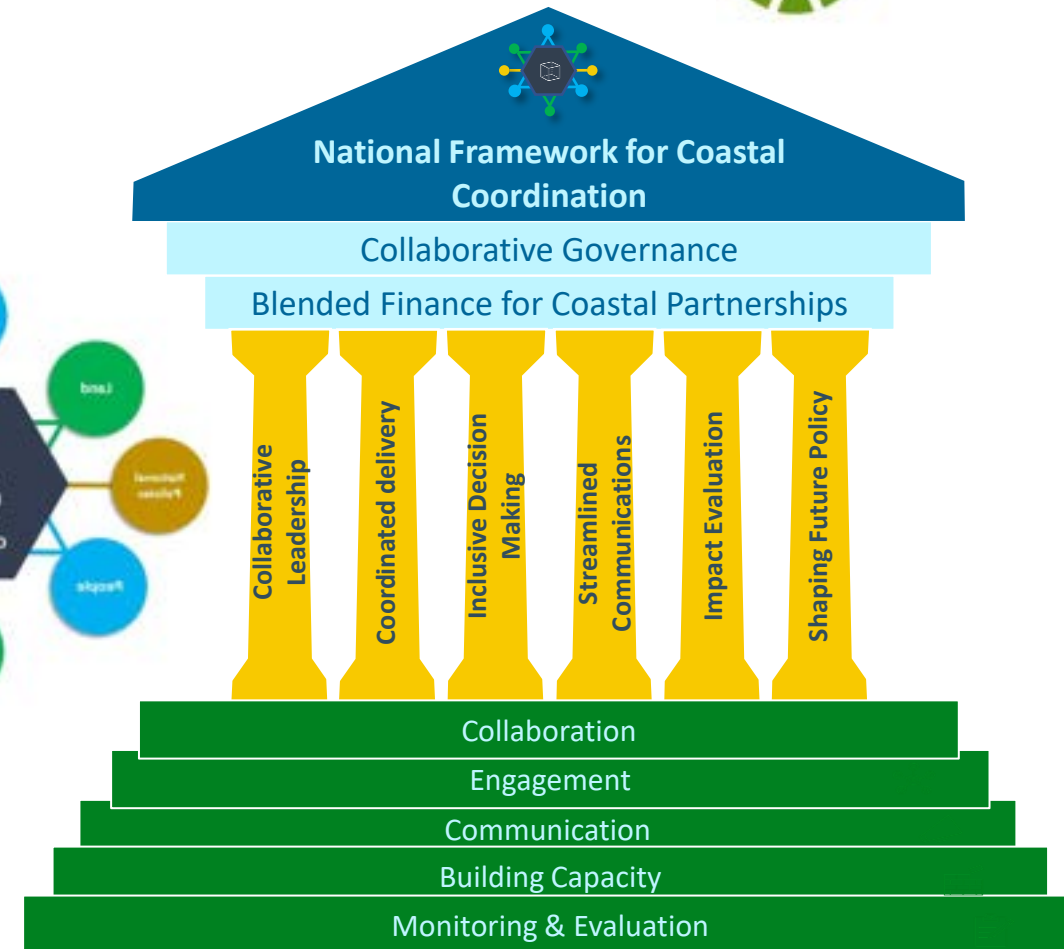
3 Horizontal Integration: Bridging geopolitical and sectoral divides by synthesising a broad range of issues **along** the coast and **across** the land-sea interface at nested scales.

4 Communications for Coordination: Engaging and convening stakeholders from all sectors to co-create solutions to priority issues.

5 Local Impact and Delivery: Translating national drivers in to meaningful action through partnerships and dialogue.

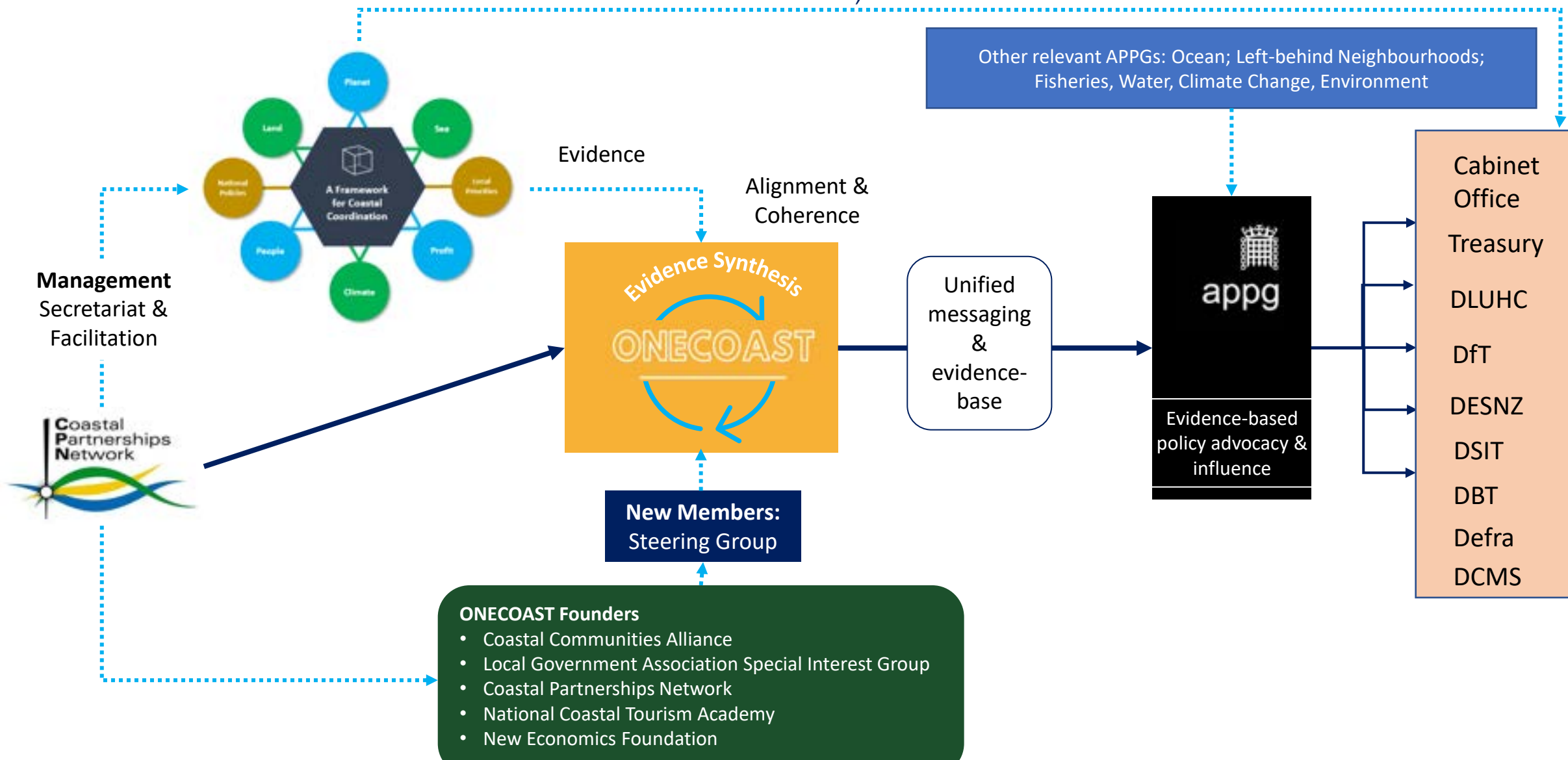
A National Framework for Coastal Collaboration

- Co-designing the framework with public, private and civic organisations
- Building collaborative governance
- Integrating delivery across socio-economic and environmental needs and targets
- Building capacity
- Streamlining communications
- Improving evidence
- Enabling inclusive decision making
- Advocating to shape future policies



OneCoast

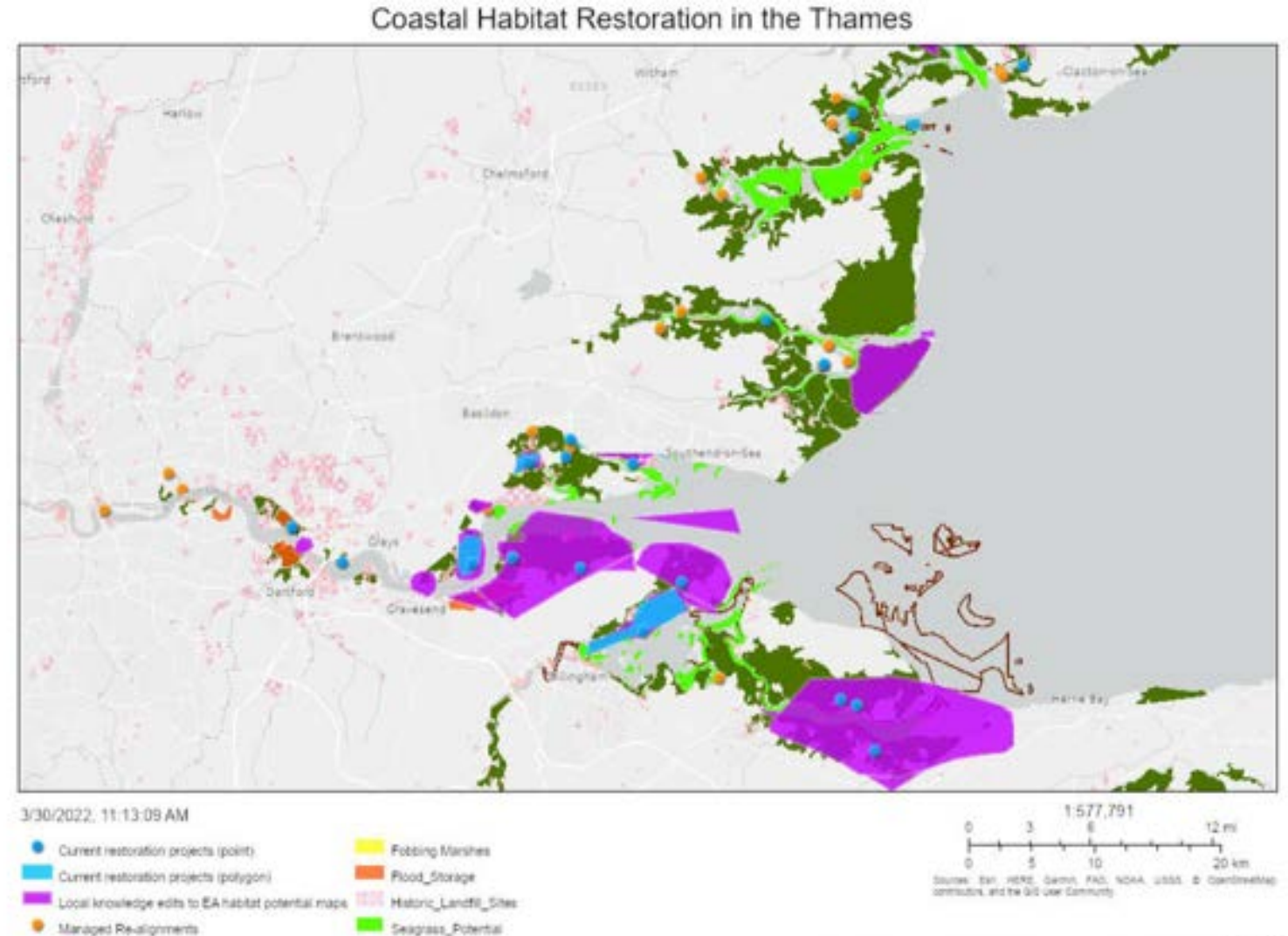
A public, private and civic consortia working together to enable a united voice to support our coastal communities and environment to be more resilient, sustainable and thrive



Coastal Habitat Restoration and Natural Capital



- Coastal habitat restoration planning through CEPs
- Key to connecting terrestrial, marine and catchment plans and legislation
- CaBA ECWG & WAMM
 - Sediment transport
 - Nutrient neutrality
 - Upstream/downstream benefits
 - CEPs and CaPs collaboration
- Beneficial Use
- Natural capital metric testing
- Social capital scoping
- Regional Demonstration Projects



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www.thamesestuarypartnership.org

www.coastalpartnershipsnetwork.org.uk

