



**MARINE AND COASTAL ACCESS ACT (2009). FORMAL REQUEST FOR APPLICATION
ADVICE BY FALMOUTH DOCKS ENGINEERING COMPANY FOR THE ENVIRONMENTAL
STATEMENT REVIEW ASSOCIATED WITH THE DEVELOPMENT OF FALMOUTH DOCKS,
CORNWALL.**

Reference Number: MLA/2025/00157

From: Kirsty Clarke

Cefas, Lowestoft Laboratory

Date: 21st August 2025

To: Yvonne Golightly - MMO (by MCMS)

1. With reference to the above application for relating to the Environmental Statement (ES) for works relating to Falmouth Docks by Engineering Company (FDEC) and your request for comments dated 21st July 2025 please find my comments below.
2. This minute is provided in response to your advisory request in relation to the above proposal in my capacity as scientific and technical advisor for sediment quality in relation to, and regulatory requirements for dredge and disposal operations. The response pertains to those areas of the application request that are of relevance to this field. This minute does not provide specialist advice regarding benthic ecology, marine processes, fish and fisheries, shellfisheries, or underwater noise as, whilst these are within Cefas' remit, they are outside my area of specialism.
3. In providing this advice I have spent 12.5 hours of the allocated 15 hours by the MMO. I have booked my time to MLA/2025/00157.
4. I have provided my comments based on the below category system:
 - Category 1: **Major Comment (Action)**- It is my advice that the application should not be granted a licence until this is resolved. There is high uncertainty or a large risk to the environment. MMO are strongly advised to request this further information then re-consult Cefas.
 - Category 2: **Minor Comment (Action)**- There is data/ information/ evidence missing that could affect the assessment. Provision of the data/information would allow for due diligence to ensure there is sufficient confidence in the applicant's and my own assessment but would not necessarily preclude the granting of a licence. MMO advised to request further information from applicant and then to re-consult Cefas, however MMO may be able to grant licence if this information is not submitted, provided MMO have clear rationale for their decision.
 - Category 3: **Minor Comment (No Action)**- These highlight those things that should be included as best practice but would not affect my overall conclusions. Should be taken forward by the developer for any future applications/ post consent requirements, or presentation issues. MMO case team could pass this on to applicant however this information is not required for consultation with Cefas.
 - Category 4: **Observation**- Statements regarding what is stated in the application, or areas of good practice are highlighted. No action for MMO case team but this could be passed on to applicant if MMO wish, to pass on areas of good practice.

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Document (s) reviewed (Accessed via MCSM August 2025).

5. Ramboll (2025). Volume 1: Main Environmental Statement by Ramboll (no Document ID) - Chapters
 - 1: Introduction
 - 2: EIA Process and Methodology
 - Proposed Development Description
 - Demolition and Construction Description
 - Intra-Cumulative Effects
 - Marine Water and Sediment Quality
- Ramboll (2025). Volume 2: Main Environmental Statement - Technical Appendices
- 02.12 Habitats Regulations Assessment, Document ID: 15743-RAM-FD-SW-RP-EV-00017
- 8.4 Water Framework Directive Assessment, Document ID: 5743-RAM-FD-SW-RP-EV-00022
- 06.2 Sediment Transport Modelling Report, by HR Wallingford, Document ID: DER6962-RT004 R01-00 24th February 2025
- 06.3 Sediment Plume Modelling Report by HR Wallingford, DER6962-RT003 R02-00 21st March 2025
- Falmouth Docks Development Environmental Statement Non-Technical Summary, (no Document ID), dated April 2025

Additional Documents Reviewed

6. ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query FINAL, by Joe Perron (Cefas) to Yvonne Golightly (MMO), dated 5th August 2024
7. ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query followup FINAL, by Joe Perry (Cefas) to Yvonne Golightly (MMO), dated 7th November 2024.
8. ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query Second Followup FINAL, by Joe Perry (Cefas) to Yvonne Golightly (MMO), dated 21st March 2025.

Description of the proposed works

9. Falmouth Docks Engineering Company (FDEC (hereafter ‘the Applicant’)) are progressing a project to redevelop existing infrastructure and install new infrastructure at Falmouth Docks. To facilitate these works, capital dredging is required to remove ~640,000m³ from around the main jetty and other parts of the docks, with limited post-development maintenance dredging also expected to be required of 8,000m³ every 5 years.
10. Dredge pockets are proposed along the berths at Western Wharf, north and south of Queen’s Wharf, and in the western basin adjacent to the proposed FLOW¹ Deck to achieve the required bed depths and under keel clearances of -10.5 m Chart Datum (CD). The remaining elements of King’s Wharf and Empire Wharf would be removed and surface-skimming of the eastern side of the causeway would be undertaken to -5.5 m CD (see Figure 1 and Table 5.4 in Annex 1 for a breakdown of dredge volumes per area). Seabed and rock material have been identified in the dredge pockets through ground investigation surveys which will be removed by backhoe dredger(s); excavators, grabs and spud leg barges will also be used for revetment, reclamation and backfilling works. Disposal of acceptable material is proposed to Falmouth Bay (B) disposal site (PL075 (see Figure 2)).

¹ Floating offshore wind

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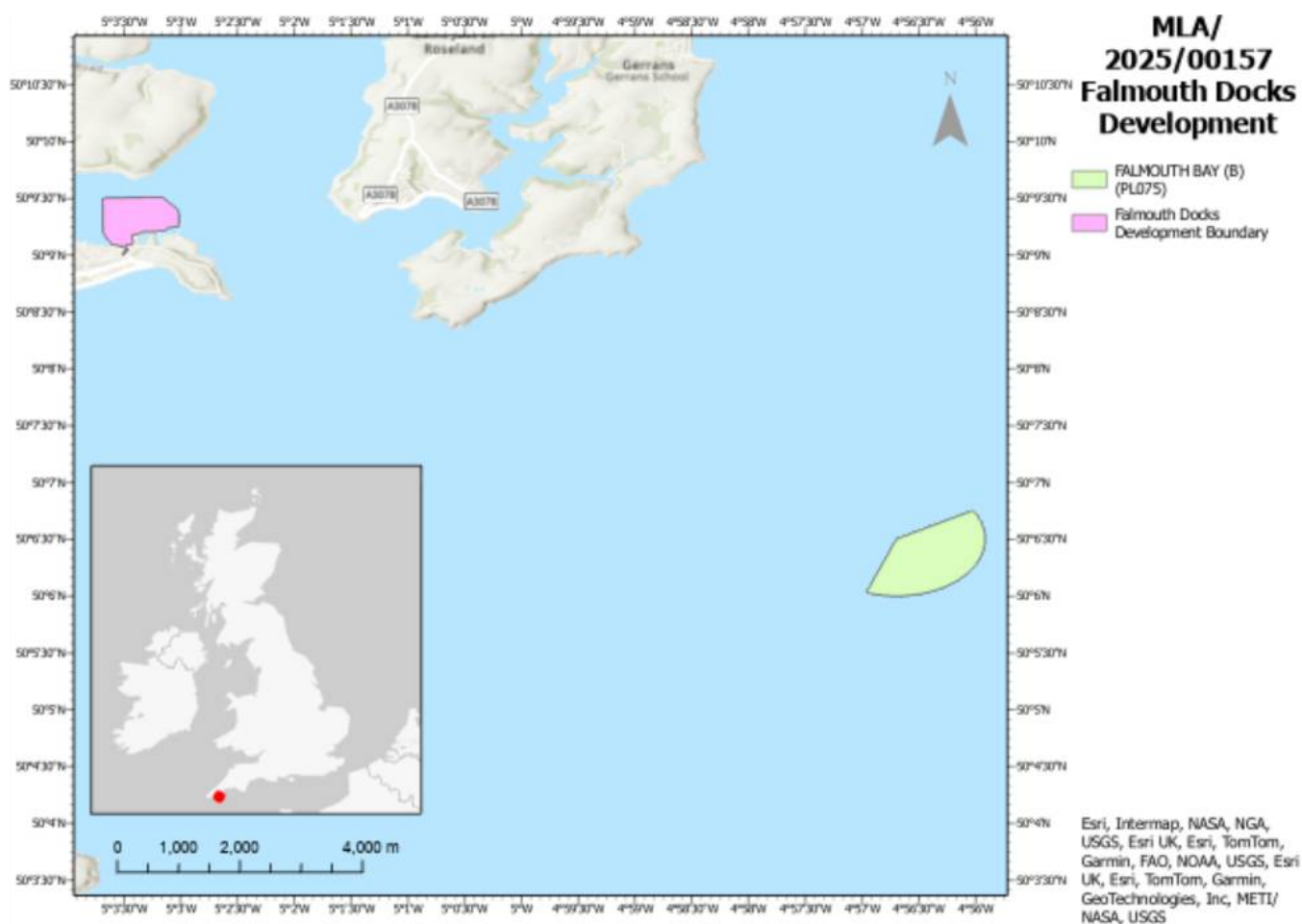


Figure 2. The proposed development area in relation to Falmouth Bay B disposal site (PL075)

11. To guide the applicant's sediment modelling for the Environmental Statement (ES), and in light of the contaminant results observed, Cefas and the applicant had ongoing discussions at the pre-application stage (ENQ/2024/00120) which led to the refinement and agreement of two proposed management scenarios² from an original three³ (the third eventually being considered too conservative and disproportionate to the risk posed). These two management scenarios were defined as follows and placed in the context of disposal volumes per scenario (see Table 1) for the applicant to base the ES upon:

- i. **Scenario 1 (less conservative):** Allows limited material with moderate impacts to be disposed to sea, where the impact was only marginally above the SQG⁴. The impact was isolated or interpreted as at the outer boundary of a more significant impact (based on the surrounding data, the number of compounds at elevated concentrations in each sample, and the magnitude of the impacts). This scenario provides an interpretation of all site data considering overall context of the magnitude of impact, number of compounds present in the sample, material types, and vertical and lateral distribution of

² ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query followup FINAL, by Joe Perry (Cefas) to Yvonne Golightly (MMO), dated 7th November 2024.

³ ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query FINAL, by Joe Perry (Cefas) to Yvonne Golightly (MMO), dated 5th August 2024

⁴ Sediment Quality Guidelines

contaminants. A limited buffer on vertical and lateral extent of impact is included to provide a best estimate of materials which may pose a significant risk to the marine environment.

- ii. **Scenario 2 (more conservative):** Allows limited material to be disposed to sea, if one compound was only marginally above the moderate risk level (SQG2). In particular, marginal impacts of metals which were all below Cefas AL2 and likely to be naturally high in the area due to the local geology and mining history. The assessment results in the deeper samples from VC-01, VC-14 and VC-19 being added to those considered unsuitable for disposal to sea in Scenario 1. This scenario also includes a slightly greater 'buffer' on vertical and lateral extent of impact to provide a more precautionary approach to uncertainties in the dataset.

Table 1. Breakdown of disposal volumes, by method, material type and Management Scenario adopted

Disposal	Type of Material	Approximate Volume of Material (m ³)	
		Scenario 1	Scenario 2
Potential re-use on site	Rock	65,000	65,000
Suitable for disposal at sea at approved disposal site	Seabed material (and rock)	394,000	357,000
Disposal at land	Seabed material	184,000	221,000
TOTAL		643,000	

12. As per the previous consultation⁵, the applicant's preferred option is Scenario 2.

13. The ES has been provided; thus, this consultation is for the review of the information pertaining to dredging and disposal activities (paragraphs 5-15) within.

Responses to Questions posed by the MMO Case Officer. All responses are observations unless otherwise stated.

MMO Question 1 – Question 1. To the best of your knowledge is the description of the environment and potential impacts accurate?

14. Yes, a description of the environment of the proposed dredge area has been provided in Chapter 8 of the ES, which has been informed by a thorough desk-based review of publicly available information and the review of water and sediment sampling data. A Water Framework Directive (WFD) Assessment (paragraph 12) was also carried out based on 643,000m³ of material being dredged and removed from the site, of which a proportion (between approximately 184,000m³ (29%) and 221,000m³ (34%)) is contaminated and unsuitable for disposal at sea. I consider that the WFD assessment sufficiently details the baseline environment and assesses the impacts from the development on the following receptors:

- Hydromorphology

⁵ ENQ/2024/00120 Falmouth Docks Capital Dredge – Pre-application Query Second Followup FINAL, by Joe Perry (Cefas) to Yvonne Golightly (MMO), dated 21st March 2025.

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- Biology (Habitats)
- Fish
- Water Quality
- Protected Areas
- Invasive Non-Native Species
- Groundwater

15. The WFD assessment has adequately considered the potential effects from increased suspended sediment concentrations (SSC (Section 4.3.7 of the WFD)), and the mobilisation/disturbance of sediment-bound contaminants (Chapter 8 'Marine and Water and Sediment Quality' (paragraph 10)), which is appropriate. However, I invite comment from the Environment Agency (EA) on water quality, as this is not within my remit.

16. **Minor Comment (Action):** The ES states that *“the site straddles the boundary between two designated shellfish water protected areas (Penryn and Carrick Roads) and the Percuil shellfish water protected areas lies approximately 3.5 km to the east of the site on the far side of the Fal estuary.”* In light of this, the MMO may wish to consult Shellfish advisors and relevant Statutory Nature Conservation Bodies (SNCB) for comment.

Question 2. Has the appropriate evidence base been used? Is the evidence complete for its intended use, i.e., is there sufficient information to allow a decision on the application to be made? If not, please explain why and what you would expect to see and any additional work.

17. Yes. The sections of the ES relevant to my remit have been produced in line with the two agreed management scenarios discussed within previous consultation between Cefas and the applicant.

18. A sampling campaign was undertaken from 18th – 20th March 2024 comprising 21 vibrocore station, with interval samples collected at a range of depths from surface (0m) to 5m. All samples were analysed for trace metals, organotins, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), polybrominated diphenyl ethers (PBDEs) and particle size (PSA). Analyses were undertaken by SOCOTEC and Ocean Ecology (PSA only), who are both validated by the MMO in the analyses they undertook. The contaminant and physical data from this campaign has been used to inform Chapter 8, which is appropriate. These sediment data formed the basis of discussions under ENQ/2024/00120 and were the basis of the development of the dredged material management scenarios. Therefore, I defer comment on the results to previous advice.

19. Additionally, sediment transport and plume modelling (paragraphs 13 and 14) has been undertaken using the GAIA module, coupled to HR Wallingford's calibrated TELEMAC-2D hydrodynamic model of Falmouth and the wider Fal estuary. Plume modelling has been undertaken on three specific modelling scenarios (from least to most conservative). The transport model is intended to predict the potential effect of the proposed development on the naturally occurring levels of suspended sediment and infill rates within the existing operational areas of the port and across the wider estuary and does not consider the three scenarios in the plume modelling.

20. Ultimately, as sediment modelling is not immediately within my remit, I defer further comment to the Coastal Processes advice team, who are best placed for reviewing the modelling undertaken.

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Question 3. Do you agree with the conclusions reached?

21. Chapter 8 of the ES concludes that:

- *“Impacts of dredging on marine sediment **within the dredge footprint** will be a permanent, high magnitude beneficial impact to the marine sediment within the dredge footprint (low sensitivity) and therefore is considered to be a permanent, Minor Beneficial effect. This is not significant in EIA terms.*
- *Impacts of dredging on marine sediment **outside of the dredge footprint** is a permanent, low magnitude impact to the marine sediment outside of the dredge footprint (high sensitivity) and therefore is considered to be a permanent, Minor Adverse effect. This is not significant in EIA terms.*
- *The effect on the marine sediment **at the disposal site (medium sensitivity)** from the disposal of the dredged material is of low magnitude, thus the effect is considered to be Minor Adverse. This is not significant in EIA terms.*
- *The impact to any sensitive receptors at or surrounding the site from the **operational development** (maintenance dredging) are considered to be Negligible Adverse. This is not significant in EIA terms.”*

22. **Minor Comment (No Action):** The applicant considers that the impacts of dredging within the dredge footprint will be ‘minor beneficial’ due to the removal of “shallow sediments... impacted with elevated concentrations of contaminants within the dredge footprint, thus removing a large contaminant mass from the marine environment and leaving the new seabed level a higher quality and less of a risk to the marine environment.” Although what the applicant is describing could be considered ‘de facto remediation’ of the marine environment by removing high-risk material with no disposal at sea, this statement could be considered speculative, as I am unable to locate robust evidence to support this within Chapter 8 of the ES. Additionally, evidence as to how the effects of removing high-risk material would be of minor benefit in comparison to the effects of leaving the material in-situ due to no dredging (i.e. the baseline condition), would need to be presented to support this conclusion. Moreover, I consider that the effects to water quality from dredging material above AL2, even with a closed bucket, would likely have some negative temporary effects as zero loss of material during dredging cannot be avoided, whereas a no dredging scenario would not be expected to cause negative temporary effects due to the material being undisturbed. Currently, this statement is not adequately substantiated with any apparent evidence. This does not affect my overall conclusions of the application, however.

23. Table 8.12 of Chapter 8 summarises the effects of Dredging and Disposal on Marine Water and Sediment Quality for each stage of the development in sufficient detail.

24. I consider that the conclusions presented within Chapter 8 of ES (see paragraph 21) regarding the potential impacts from dredging Falmouth Docks and subsequent disposal to Falmouth Bay (B) disposal site (PL075) have been based appropriately on both the survey contaminant data and plume modelling of the dredging and disposal activities in each of the three specific modelling scenarios. Therefore, I am content with the conclusions given that they are well-evidenced and detailed; however, I again invite comment from the EA regarding aspects of the conclusions in which water quality is referenced.

Question 4. Are the proposed mitigation and monitoring measures sufficient?

25. The following mitigations are presented in Chapter 8, (relevant to my remit):

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- Use of a 10 m³ (or smaller) lidded backhoe dredger allows for increased accuracy in areas of contamination, reduced production rate and reduced sediment disturbance and release rate in comparison to dredging using other plant.
- Use of microcore where possible.
- Dredging from 1.75 hours before low water to 1.75 hours before high water only, non-continuously over 58 weeks (the quickest timeframe that this could realistically be undertaken)) would minimise the potential for adverse effects on water quality (in terms of Environmental Quality Standards exceedances), clarity (SSC) and sediment deposition.
- The timing of the dredging (on an adjusted flood tide) would reduce the dispersion distance of sediment and aqueous contaminant plumes and allow for periods of down-time during which no dredging would occur, and suspended sediment and dissolved contaminants would be dispersed.
- Minimisation of the extent of dredging and the number of piles as far as practicable as part of the design, whilst ensuring structural integrity and achievement of development objectives.

26. The applicant states that monitoring is already undertaken at the site and will continue once the proposed development is operational. This comprises:

- Wave buoy, meteorological and tide gauge monitoring
- Automatic Identification System monitoring
- Monthly dry docks discharge water quality monitoring.

27. **Minor Comment (Action):** I strongly recommend that a closed bucket backhoe dredger is used for the removal of material in which contaminants were observed above Action Level (AL) 2 and consider it prudent for this to be stipulated this as a licence condition.

28. **Minor Comment (No Action):** The applicant may wish to consider the use of silt curtains, if feasible, during demolition and dredging activities, as another form of mitigation to potentially reduce the dispersion of both non and contaminated sediment into the wider area.

29. Ultimately, I consider that the mitigations proposed, and existing measures, are likely to be adequate.

Question 5. Are there any minor technical or presentational comments that affect the overall confidence in the conclusions? Please insert as an annex.

30. Yes, I note in the plume modelling report that Falmouth Bay (B) (PL075) disposal site is, at times, referenced incorrectly as 'Falmouth Bay Disposal Site (PL075)' and '(PL080)'. However, I assume that this is a typographical error given that the only difference between the site names is the inclusion of 'B' for site PL075. The applicant may wish to correct this to avoid any potential confusion going forward.

Question 6. Is the EIA methodology and assessment presented clearly and fully justified?

31. Yes, the EIA methodology is well described in Chapter 2 of the ES, and follows a widely used, defendable process.

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Question 7. Is there an adequate description of the potential cumulative and inter-related impacts and effects on the physical and biological environment?

32. Yes, these are suitably discussed in Chapter 20 of the ES. The ES considers that *“the residual intra-project cumulative effect on water quality is likely to be temporary minor adverse (not significant)”* and *“the potential for intra-project cumulative effects on seabed sediment, on- and off-site... would result in a permanent minor adverse (not significant) effect”* in respect of:

- removing marine sediment beneath the site
- mobilised marine sediment including contaminated sediment settling out onto downgradient seabed
- disposal of uncontaminated sediment at sea: dredged marine sediment placed onto seabed.

33. This assessment appears to be appropriate; however, I cannot conclusively comment on cumulative effects as I am not aware of all activities occurring in the vicinity. Furthermore, cumulative effects are very difficult to assess, and EIA-based cumulative effects assessments (CEAs) led by developers of individual projects have clear shortcomings (when compared to CEAs led by government agencies on a regional and strategic level (Willstead et al., 2017).

Question 8. Do you have any other comments on the proposed works which have not been covered by the questions posed above?

34. I have no further comments at this time.

Summary

35. Overall, I consider that the ES is detailed and comprehensive, and the conclusions are well-evidenced. For conclusions regarding water quality, I defer comment to the EA and would recommend that the MMO considers inviting comment from other relevant SNCBs also.

36. I have raised four minor comments for the applicant to address and/or review.

Kirsty Clarke

Specialist Advisor (Dredge and Disposal)

Quality Check	Date
Joe Perry	21.08.2025

References

Willstead, E., Gill, A. B., Birchenough, S. N. R., & Jude, S. (2017). Assessing the cumulative environmental effects of marine renewable energy developments: Establishing common ground. *Science of the Total Environment*, 577, 19–32.

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Annex 1

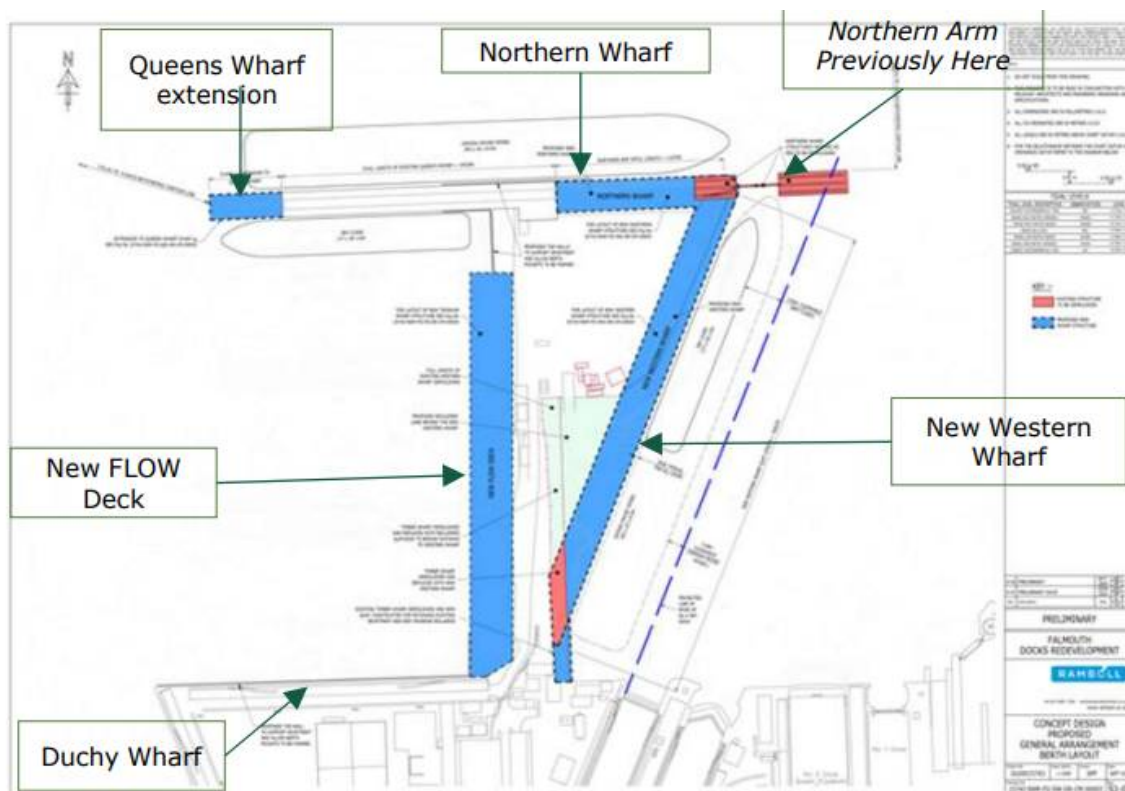


Figure 1. Areas of the development site

Table 5.4: Approximate Dredge Quantities

	Area (m ²)	Volume (m ³)
Western Wharf, Northern Wharf and north of Queen's Wharf to -10.5 m CD	55,500	230,000
South of Queen's Wharf to -10.5 m CD	9,800	33,000
FLOW Deck, Duchy Wharf and Western Basin to -10.5 m CD	60,000	224,000
Graded sides	55,000	123,000
Surface Skim to Eastern Basin	46,700	27,000
Removal of obstructions (previous King's and Empire Wharves) in Western Basin	5,500	6,000
Total	232,500	643,000

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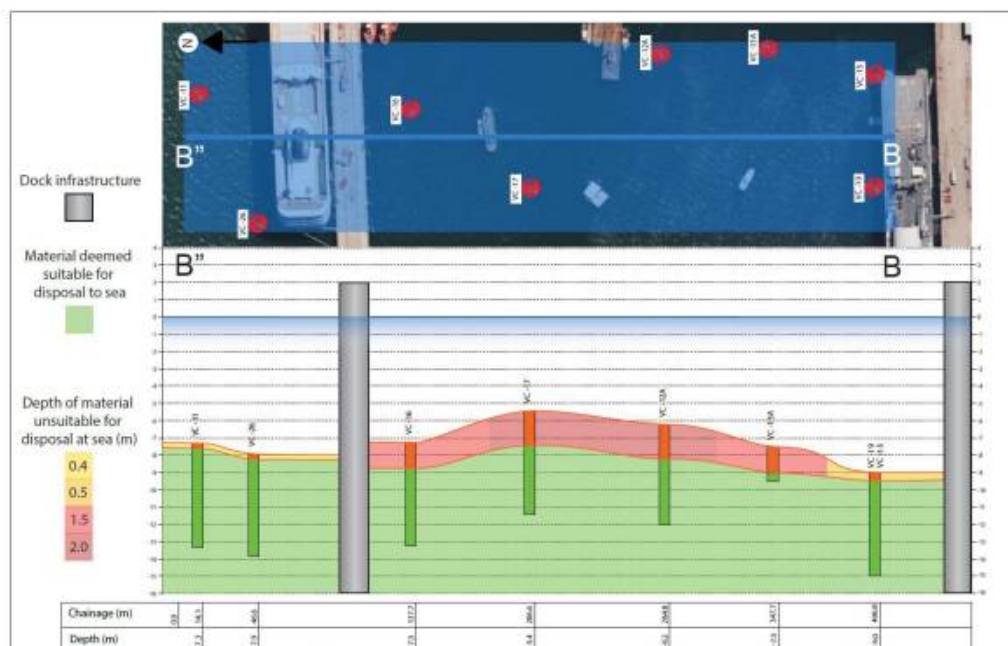


Figure 8.4 Scenario 1: Western Area

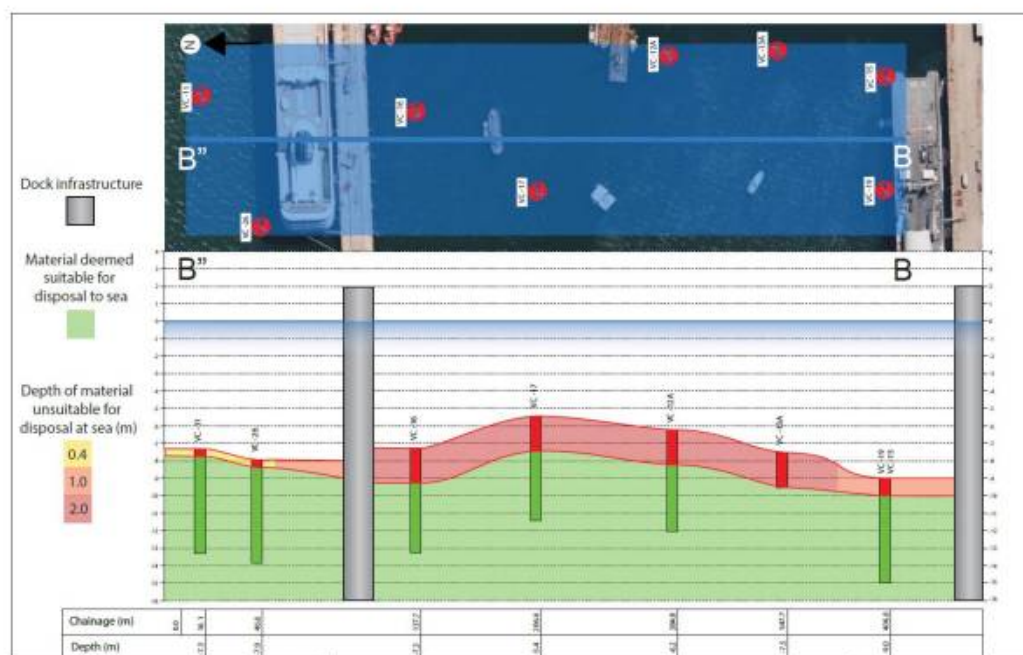


Figure 8.5 Scenario 2: Western Area

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