

Port of Ramsgate - Maintenance Dredging

Cabinet	30 May 2024
By	Mike Humber - Director of Environment
Cabinet Portfolio Member	Cllr Rick Everitt - Leader of the Council
Key Decision	yes
Decision classification	Unrestricted
Call in status	yes
Ward:	Central Harbour

Purpose of the Report

The council is a Statutory Harbour Authority and has a duty to maintain the Port of Ramsgate and Ramsgate Harbour. This report describes the current demand for maintenance dredging along with the available revenue budget for the same purpose. The report proposes that a key decision be approved to undertake a single dredging campaign with an estimated value of £362k. The report also describes a budget shortfall associated with the proposed 2024/25 maintenance dredging plan.

Recommendation(s):

It is recommended that Cabinet approves the key decision to order works with the marine contractor Van Oord for hydrodynamic dredging with a value in excess of £250k. This work will be undertaken via an existing 4+1 year maintenance dredging term contract that was awarded to Van Oord in June 2021.

It is also recommended that Cabinet approves a one-off General Fund revenue budget virement from the Corporate Contingency budget, to fund the estimated maintenance dredging budget overspend of £152k in the 2024/25 financial year.

1. Summary of Reasons

- 1.1 The Council is the Statutory Harbour Authority for the Port of Ramsgate (including Ramsgate Harbour). Harbour Authorities have a duty to conserve (maintain) the port/harbour so that it is fit for use, this includes a duty to undertake dredging to maintain safe navigation. This report provides details of the maintenance dredging plan for the 2024/25 financial year. The implementation of part of that plan constitutes a key decision due to the value of that part being in excess of £250k. Cabinet are therefore asked to consider the recommendation to approve the

proposed key decision in order for the required dredging campaign at the Port of Ramsgate to take place.

- 1.2 The 2024/25 maintenance dredging plan will result in a budget shortfall of £152k. This report seeks Cabinet's approval of a one-off General Fund revenue budget virement from the Corporate Contingency budget to fund the estimated maintenance dredging budget overspend of £152k. Further details of the budget for this financial year can be found in section 7.1 of this report.

2. Background

- 2.1 Regular maintenance dredging at the port and harbour is required as part of the Council's legal obligation as a Statutory Harbour Authority and also in the interests of safe navigation/mooring for port and harbour customers. The Open Port status of Ramsgate along with provisions included in the Harbour Act mean that there is a duty to maintain sufficient depth for vessels to be able to call. Furthermore, contract obligations exist with commercial customers requiring berths to be accessible for commercial use.
- 2.2 Dredging is a complex marine operation and by its nature is relatively expensive. It is also difficult to fully control financial risk during delivery due to the high unit cost and variables such as weather and dredging productivity.
- 2.3 Following the cessation of the last scheduled ferry service in 2013 a policy of dredging to accommodate the largest vessels using the port at the time was adopted. The budget for dredging was reduced in 2014/15 from £310k to £160k p.a. and more recently to £145k. Similarly the budget for hydrographic monitoring of bed levels has reduced from £20k in 2014/15 to £17k now, this reduction has resulted in the survey frequency being reduced from 4 to 3 times per year. The port has a duty to publish the output of hydrographic monitoring and survey results can be found on the Port of Ramsgate website.
- 2.4 The reduced investment in maintenance dredging over the last 8 years has resulted in bed levels increasing due to the natural accretion of sediments. This is the case in both the port area and also the Outer Basin of Ramsgate Harbour which is home to the Eastern and Western Outer Marinas and approximately 350 floating small vessel berths.
- 2.5 A further factor which influences the rate of accretion is the frequency of large vessel arrivals. When vessels manoeuvre within the port, particularly when the tide is ebbing, there is a scouring effect which remobilises some of the recently deposited sediment thereby reducing the overall rate of accretion. With no scheduled cross channel service in operation and therefore relatively few large vessel arrivals, the rate of accretion is higher now than it was up to the point when the last scheduled service ended in 2013.

2.6 The case for revenue growth was made during the 2023 star chamber process. This led to an increase of £180k being approved for the 2024/25 maintenance dredging budget however this is a one-off increase rather than base budget growth. It is assumed that to sustain this budget growth beyond 2024/25, funding will be found from new port income.

3. Relevant Issues

3.1 Following analysis of hydrographic data collected in January 2024 a draft dredging plan has been prepared for the Port of Ramsgate and Ramsgate Harbour. More detail on this draft plan can be found at Appendix A. The draft plan is based upon a method of dredging known as hydrodynamic dredging. Further information on this type of dredging can be found in section 4 of this report.

3.2 The proposed dredging campaign will focus on the removal of sediment in the following areas:

- the main port entrance (between the rock breakwaters) from which both the port and harbour are accessed
- the entrance to Ramsgate Harbour (between the east and west pier heads)
- the turning circle area of the port, used by larger vessels for turning before arriving at, or after leaving the berths
- the approach to Berth 4/5. This is necessary to ensure that vessels bringing aggregates to Ramsgate have an adequate tidal window in which to arrive, discharge their cargo and then leave the port.

3.3 In addition to the council's duty to conserve as a Statutory Harbour Authority it has a contractual obligation with Brett Aggregates via a lease and accompanying facilities agreement to provide vessels with access to Berth 4/5 for the purpose of discharging cargoes. There is no break clause in the lease and accompanying facilities agreement which include provision for extension at the leasee's discretion up until 2054. Periodic dredging is required to maintain vessel access to Berth 4/5.

3.4 A dredging term contract exists with the marine dredging and works contractor Van Oord. This contract includes provisions for the use of hydrodynamic dredgers from 2 separate size classes. An order has already been placed this financial year for dredging using a 'small' 18 metre 260kW class of dredger for works in the Outer Basin of Ramsgate Harbour. This work was undertaken in the last 2 weeks of April 2024 at a cost of £75k to remove sediment in fairways and at marina berths of the Eastern and Western Outer Marinas. This dredging is now complete and does not form part of the proposed port dredging for which the approval of a key decision is required.

3.5 The dredging planned this year within the port turning circle, port entrance, harbour entrance and the approach to Berth 4/5 will need to be undertaken using a larger

class of dredger that is also referenced in the term contract. This 36 metre, 800kW class of hydrodynamic dredger has significantly greater dredging capacity than the smaller class dredger mentioned in paragraph 3.2 above. It is also better suited to the wave conditions in the more exposed location of the port turning circle and at the port entrance. The volume of sediment to be removed during this dredging campaign is approximately 124,000m³ based upon a target depth of -4.0m Chart Datum* (CD). For context the sediment to be removed is roughly the same in volume as the water held in 50 Olympic size swimming pools. This port dredging has an estimated cost of £362k and accounts for the majority of the cost of the port and harbour dredging plan for 2024/25.

*Chart Datum is a local level that the tide will not frequently fall below, or in other words, one of the lowest low tides. The level varies for each port and is dependent on local tidal conditions. All bed levels published in hydrographic charts for a port will be expressed as a value above or below the local chart datum.

- 3.6 The proposed port maintenance dredging expenditure constitutes a key decision as the value is in excess of the £250k key decision threshold for contracts for this single item. This report therefore recommends approval of this key decision to allow an order to be placed via the existing term contract for maintenance dredging with the contractor Van Oord.
- 3.7 It is essential that dredging at the port is undertaken within the next 1-2 months to maintain an acceptable depth of water in the port at all states of the tide. Furthermore it makes sense to plan this work over the summer if possible to avoid the increased bad weather risk associated with winter dredging. Weather interruption to dredging operations is at the council's risk as client. Van Oord has indicated that a window in their 2024 works programme exists in the second half of June. The next available window is not until November 2024 when the dredger will be nearby (in the vicinity of the English Channel) again.
- 3.8 The rate of sediment accretion between the September 2023 and January 2024 survey was greater than anticipated. In order to secure the dredger in June and ensure that we undertake essential dredging in the next 1-2 months, an order has been placed via the maintenance dredging term contract for a smaller dredging campaign in the same areas identified in paragraph 3.3. The volume of sediment to be removed during this smaller dredging campaign is approximately 75,000m³ to a target depth of -3.5m CD at an estimated cost of £228k. Although a smaller volume, this essential work will improve access at the port and harbour entrances, deepen the port turning circle area and will expand the tidal window for port operations on Berth 4/5. However, on its own, it's a suboptimal option as there is a greater chance that we would need to undertake further dredging later in the financial year.
- 3.9 The approval of the proposed key decision described in this report will result in the value of the planned work at the port with the contractor Van Oord being increased from £228k to the full value (£362k). This increase in the quantity of dredging

undertaken is significant as it will allow a greater depth to be achieved (target depth -4.0m CD) across the entire area to be dredged and will therefore allow for a longer tidal window for large vessels using Berth 4/5.

- 3.10 Subject to Cabinet approving the recommendation of this report, the further dredging will be ordered via the existing and compliant maintenance dredging contract in advance of the contractor Van Oord mobilising the dredger to Ramsgate in the second half of June.
- 3.11 The cost of mobilising a dredger is high and it is important that the dredging specified is undertaken in as few visits as possible per year to avoid repeat mobilisation costs. The proposal to spend a total of £362k on hydrodynamic dredging in June at the port is considered to offer the best value option to meet statutory harbour authority obligations in the 2024/25 financial year with respect to dredging and reduce the likelihood of requiring further dredging in this financial year.
- 3.12 The dredging planned for the port in June will take 2-3 weeks to complete. Hydrodynamic dredging must be carefully coordinated with the tide and dredging will take place for approximately 6 hours in every 12.5 hour tidal cycle. Engagement will take place with stakeholders at the port and the harbour and updates will be provided as required via Notices to Mariners. The dredging operation will have limited impact on existing customers and will be coordinated via the Harbour Team and Port Control to keep any impact to a minimum. The dredging will not coincide with any major events including Ramsgate Week which is scheduled to take place in August this year.

4.0 Dredging Methodology

- 4.1 The majority of sediment (circa 75%) at the port and harbour can be classified as silt. The origin of this clay like material is largely from estuaries including the River Stour and is also generated by the process of coastal erosion. Fine silt particles can travel long distances in the sea via tidal currents. This material only falls out of suspension when the current velocity is reduced, such as when the suspended silt enters a harbour.
- 4.2 The remaining sediment at Ramsgate (circa 25%) is classified as sand. This material is far coarser and moves less readily via tidal currents, however the long shore drift process and strong currents during storm conditions mean that sand is still deposited in the port and the entrance of the harbour.
- 4.3 These two very different materials are removed via separate methods. Water Injection Dredging (WID) is a high volume/low pressure form of hydrodynamic dredging. It is a modern and technically advanced method which is used to remove silt. There is no need to excavate the silt and transport it to an offshore disposal site, this reduces operational time and improves cost efficiency.

- 4.4 A further method of hydrodynamic dredging is also used at Ramsgate to remove sand. This is called 'Mass Flow' and uses a high volume/high pressure method to push sand to the harbour entrance where it will be mobilised away from the port via the tidal currents that exist there.
- 4.5 A more traditional method of mechanical dredging known as grab dredging is often used to remove sand at Ramsgate, however for the 2024/25 campaign this has not been proposed, partly as a result of budgetary pressures.
- 4.6 Under the correct circumstances, hydrodynamic dredging offers an environmentally sustainable solution due to the controlled release of sediment back into the water column outside the port where the sediment continues to be carried naturally by tidal currents. Water Injection dredging undertaken by a statutory harbour authority does not require a marine licence as the material is not deposited at a licenced disposal site at sea. However environmental study and monitoring remains an important factor in ensuring that the dredging operation does not negatively impact local designated sites or water quality. A specialist consultant will be commissioned to undertake real time monitoring during the dredging campaign to determine whether the dredging operation has the potential to negatively impact these receptors. As with previous dredging operations, close communication will exist between the consultant, the council and the dredging contractor so that any adjustments to the operation can be made quickly to avoid adverse impact. Hydrodynamic dredging using the same size class of dredger as proposed for use in June has been successfully undertaken several times before at the Port of Ramsgate with environmental monitoring in place to protect important local subtidal and intertidal habitat.
- 4.7 Hydrodynamic dredging methods have been used at Ramsgate for approx. 12 years and have in general proven to be successful and more financially efficient than mechanical methods. Previous hydrodynamic dredging campaigns at Ramsgate have delivered PV productivity rates of circa. £2.00/m³ (of sediment removed). By comparison, mechanical dredging can cost in the region of £3.50/m³ and also requires disposal of dredged sediments at an offshore site in compliance with a marine licence.

5. Alternative Options

- 5.1 The council has a duty to conserve (maintain) the port which includes dredging in the interests of safe navigation. The scale of dredging over recent years has been reduced and the volume of sediment that has accreted has increased as a result. There is no 'do nothing' option this year as this would mean that navigation and commercial business would be impacted.
- 5.2 An alternative lower cost option does however exist which would be to only undertake dredging indicated in Appendix A, item 2 instead of Appendix A, item 3. This option

will improve access and navigational depth but is not the optimal option. There would be a far greater risk of needing further dredging later in the year which would incur further mobilisation fees and would require winter dredging operations which would likely be less cost efficient. This option could therefore result in a higher cost overall at year end than indicated in the recommended option.

6. Consultation

6.1 The council has a duty as a Statutory Harbour Authority to undertake dredging in the interests of navigation. There is no public law or statutory duty to consult in relation to this decision however engagement with stakeholders has taken place and is referenced separately in section 3 of this report.

7. Corporate Implications

7.1 Finance and Resources

7.1.1 The target depth and volume of dredging required is informed by our legal obligation and also existing customer need. The current budget is insufficient to deliver the amount of dredging that is recommended this year. Not meeting this recommendation could impact upon the Council's compliance with the 'Open Port Duty' and more seriously could raise navigational safety risk leading to an increased risk of claims for damage in the event of vessel groundings. There could also be an impact on budgeted income and future business opportunity.

7.1.2 The proposed port and harbour dredging plan for 2024/25 will lead to an estimated total spend on dredging in this financial year of £477k and will result in an estimated revenue overspend of £152k against the approved budget. It is proposed that this budget shortfall is addressed via an in-year budget virement (transfer) from the corporate contingency budget.

7.1.3 Table 1 - 2024/25 Revenue Expenditure Budget

2024/25 Dredging Budget	Budget (£k)	Notes
Ramsgate Harbour	73	
Port of Ramsgate	72.5	
Additional budget	180	Approved as part of the annual budget for 2024/25 only
Total 24/25 Budget	325.5	
Estimated value of 2024/25 dredging plan	(477)	See Appendix A for breakdown
Estimated shortfall & proposed budget virement	(152)	

7.2 Legal and Constitutional

- 7.2.1 In accordance with the provisions of the Harbours Act 1964 and the Port and Marine Safety Code 2016 the Council, as the Statutory Harbour Authority, is under a duty to maintain and conserve the port and harbour so that they are fit for use. This includes a duty to maintain safe navigation to which dredging is essential.
- 7.2.2 The Harbours Act 1964 empowers authorities to create bylaws for effective harbour management. For these purposes the Ramsgate Corporation Act 1934 and the Ramsgate Harbour Revision Order 1979 are relevant. The former provides for the power to dredge at Ramsgate Harbour and the latter extends the area of the Harbour.
- 7.2.3 In accordance with the provisions of Article 13, Part 2 of the Council's constitution the decision being sought is a key decision. Part 3 of the Council's Constitution, the Scheme of Delegation, provides that all key decisions must be taken by Cabinet.
- 7.2.4 It is proposed that this matter be funded by budget virement. Cabinet has the power to take this decision as the Council's financial procedure rules provide that cabinet approval should be sought for all virements between budget heads which are in excess of £50,000.

7.3 Council Policies and Priorities

- 7.3.1 Maintenance dredging is a routine but essential operational activity undertaken as required on a recurring basis. Dredging at the port and harbour supports the council in the delivery of the following corporate plan priorities:
- To protect our environment
 - To create a thriving place

7.4 Risk

- 7.4.1 Dredging is a relatively high risk activity and costs can vary due to the high unit cost per day and the potential for factors such as other vessel movements or poor sea/weather conditions to interrupt dredging operations.
- 7.4.2 The existing competitively priced dredging contract was awarded to Van Oord in 2021. This contractor has experience of delivering contracted dredging operations at Ramsgate over a long period of time and has proven to offer a high quality service. This helps to reduce delivery risk which might otherwise lead to a lower confidence when estimating proposed dredging plan costs.
- 7.4.3 The following operational points all influence financial risk as they affect the likelihood of achieving dredging plan objectives within the estimated cost of that plan:
- Productivity - Dredging is almost always paid for on a day rate basis with an additional charge for mobilisation and demobilisation. For all dredging types a

productivity rate is determined per day which informs the dredge campaign estimate. The proposed plan includes WID and Mass Flow dredging at the port this year. A number of factors such as the sediment particle size and weather conditions can affect productivity and therefore influence the cost of the works.

- Weather - The client usually carries the risk associated with poor weather which can slow down or stop operations. This can quickly impact the cost and success of dredging works; (the daily cost of the proposed dredging will be circa £19,000 per day).
- Due to the current low frequency of large vessel arrivals there is a risk that post dredging accretion will continue to occur at a relatively high rate. This issue can be further exacerbated by northerly sector storms which increase the amount of sediment in the water column which then falls out of suspension in the port and harbour.
- Table 1 includes an estimated sum for environmental monitoring. This is an important activity which must accompany every substantial hydrodynamic dredging campaign. This real time monitoring via a marine consultant mitigates the potential for adverse effects on the designated marine sites that surround the port and harbour. Changes to the dredging plan as a result of this monitoring may lead to revised dredging operations and dredger down time which will increase the overall cost of the 2024/25 plan.

7.4.5 In order to help mitigate the impact of the above risks, a 10% allowance for additional dredging has been included in the estimated dredging plan duration. The recommended option is planned to require a total of 30.5 tides of dredging but the value indicated (£362k) allows for 34 tides of dredging which therefore includes the 10% contingency allowance.

7.5 Climate Change and Biodiversity

7.5.1 The method proposed in this instance is hydrodynamic dredging which is highly efficient in terms of cost effectiveness and CO₂ footprint per m³ of sediment removed.

7.5.2 The vessel which is planned to undertake the hydrodynamic dredging in June was launched in 2021 and is equipped with a hybrid energy management system. Consequently, the vessels can store energy in batteries from residual heat that is normally lost. This energy is subsequently used for purposes including propulsion. Diesel-electric engines reduce greenhouse gas emissions. The new water injection vessel complies with the new International Maritime Organisation (IMO) TIER III legislation for reducing Nitrogen Oxide emissions.

7.5.3 Environmental monitoring will be undertaken alongside the dredging operation to mitigate the risk of adverse effects on nearby receptors. This is important as the port is in close proximity to multiple designated sites that are rich in biodiversity. These

sites include the Thanet Coast Marine Conservation Zone, the Thanet Coast Special Area of Conservation and the Sandwich and Pegwell Bay National Nature Reserve.

8. Equality, Equity and Diversity Implications

8.1 The proposal has limited relevance to the duty in respect of the protected characteristics. A test for relevance has been undertaken and has concluded that the duty is not engaged by this proposal and no impacts have been identified. Should any issues arise as a direct result of this proposal in the future, they will be assessed accordingly.

8.2 The maintenance dredging term contract includes a section on equality and diversity requirements. In particular the contractor is required to discharge their obligations strictly in accordance with equality laws, statutes, regulations and statutory Codes of Practice.

9. Crime and Disorder Implications and Community impact

9.1 The subject of this report is not considered to have any discernible crime and disorder implications.

Subject History

Information regarding the history of this issue including decisions on funding has been set out in the body of the report. Most recently a proposal was made to increase the maintenance dredging budget by 180k for the 2024/25 financial year. This proposal was approved as part of the annual budget at the meeting of Council on 9 February 2024.

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Appendices

Appendix A - 2024/25 Port of Ramsgate and Ramsgate Harbour
Maintenance Dredging Plan

Background Papers

None

Report Sign Off / Signed off by / Date sent / Date signed off / Initials

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