



Market Dialogue for Upcoming
Dredging Projects in Sweden

Welcome to the Market Dialogue on Dredging Projects

The Swedish Maritime Administration is planning a historical number of dredging projects. Malmporten in Luleå is the largest fairway project, followed by the Skandia Gateway in Gothenburg. For this reason, a market dialogue for interested dredging contractors is arranged June 9th 2022, at Elite Grand Hotel in Norrköping.

The Swedish Government has decided to make its modern time's largest investment in railways, roads and fairways. As a result, The Swedish Maritime Administration (SMA) has never before had so many dredging projects in pipeline as in the years ahead.

The dialogue meeting at Elite Grand Hotel, in the heart of Norrköping, will begin with a presentation of the various fairway projects. After this, the dredging contractors will be offered the opportunity to book individual meetings with the project managers to discuss the projects they are interested in.

The three largest projects

The Swedish Government's national infrastructure plan for the entire transportation system includes three of the SMA's largest projects:

The largest dredging project is Malmporten in Luleå in which 22 million m³ are to be dredged for a maximum draught of 15.0 m (Baltic max, maximum draught in the Baltic Sea). The mining, steel and iron industries are in need of increased transport capacity, especially given the enormous investments being planned in Norrbotten involving the fossil-free steel production that is to be shipped out via Luleå. The legal process for environmental permit for the port expansion and dredging project is complete, with a permit including environmental impact conditions having been established.

The second project, in terms of size, is the Skandia Gateway in Gothenburg. Skandia Harbour, The Port of Gothenburg, is the only port in Scandinavia that can handle the world's largest container ships, with direct routes from Asia. Access to this transoceanic direct shipping line is a strategic function for the Swedish enterprise sector. In Skandia Harbour, 13.5 million m³ are to be dredged from the fairway and turning area. The legal process for environmental permit for the port expansion and dredging project is ongoing but not completed.

The Landsort fairway can be found between Landsort and Södertälje. For the first time in the modern history of The Swedish Maritime Administration, the establishment of two new fairway sections is being planned between Fifång–Regarn and Oaxen–Skansundet. The new fairway sections are needed in order to:

- Create a new, safer fairway with improved capacity and accessibility between Södertälje and Landsort.
- Achieve an acceptable level of safety and increase the capacity and accessibility of the fairway.

Dredging of one million m³ is planned for the Landsort fairway. The process involving establishing the new fairway parts as well as the legal process for environmental permit for the fairway dredging project is ongoing but not completed.

In parallel with these projects, minor trimming actions are also planned. Some of these actions are:

- Umeå, approximately 100,000 m³ of dredging soil in the fairway and around 140,000 m³ in the port area.
- Sundsvall, approximately 8,000 m³ of dredging soil in the fairway.
- Karlskrona, approximately 100,000 m³ of dredging soil in the fairway.

Welcome

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Director of Infrastructure
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Specific challenges in the largest projects

MALMPORTEN

- Very large dredging volumes, 22 million m³ *in situ*.
- Dredging at great depths, up to about 20 m.
- Subglacial deposits and large volumes of rocky moraine.
- Short seasons (approximately 7 months/year).
- Large volumes of rock that are to be blasted and reused partly as landfill material in port areas and time-dependent with the construction of docks.

SKANDIA GATEWAY

- Very large dredging volumes, 13 million m³ *in situ*.
- Dredging at great depths, up to about 20.5 m.
- Large volumes of rock.
- Disposal site in a relatively exposed location.
- Dense ship traffic in dredging areas.

LANDSORT FAIRWAY

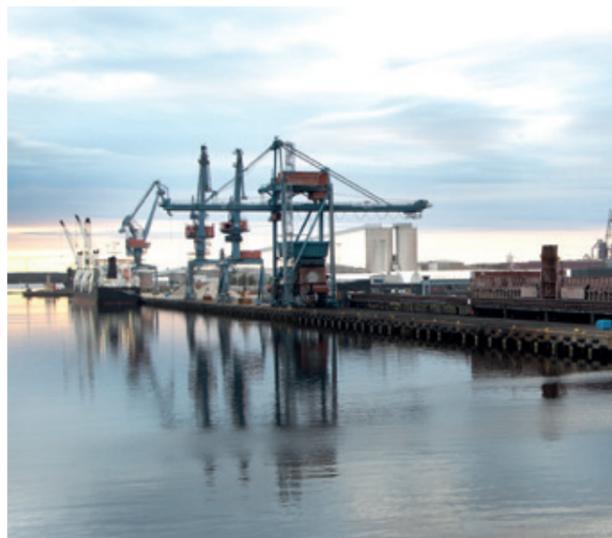
- Dredging volume, 1 million m³ *in situ*.
- Rock blasting in weather exposed locations.
- Potentially long transport distance to the dumping area.
- Partly narrow passages to be dredged with ongoing traffic.

REFERENCES FOR THE OBJECT

The number of participants in the market dialogue is limited. Contractors who sign up must fulfil the following criteria.

- Contract with rock volumes in excess of 300,000 m³ *in situ*.
- Contract with dredging volume at least 2,000,000 m³ *in situ*.
- Contract with 15 m great dredging depths.





Malmporten, Luleå

Iron ore from the mines in northern Sweden and Finland is delivered to customers all over the world. Malmporten is the largest dredging project in Sweden of modern times, aiming for The port of Luleå to be able to accept vessels that can carry up to 160,000 tonnes, compared to the current maximum of 50,000 tonnes (during ice-free period).

The Iron Ore Line to Narvik is currently heavily strained, and considering the industry's competitive conditions, since ability for larger vessels is crucial for Luleå. Iron ore is a low value commodity which demand ships with high cargo capacity to keep transport costs as well as fuel consumption and emissions low. Higher cargo capacity is also important for inbound shipments of coal to the steelwork.

Due to lower fuel consumption and emissions per transported tonne of goods, larger vessels are beneficial for the environment. The measures planned also entail increased maritime safety and prevent ships from waiting to enter the port due to present traffic restrictions. The sea routes to Luleå are being upgraded to adhere to the Swedish Transport Agency's recommendations and international guidelines for fairway marking and safety margins.

Considering that there is ice in the Gulf of Bothnia for five to six months of the year, the transport route close to the Swedish coast is also being improved. In order to reduce the travel time and the need for ice-breaking assistance, this route in connection with the Sandgrönn fairway is the best option during wintertime.

The majority of the dredging is taking place in the fairways to Luleå, but a small intervention is also required in Norra Kvarken. The present depth in Norra Kvarken limits the size of vessels that can access ports in northern Sweden and Finland within Gulf of Bothnia. Malmporten involves enabling Port of Luleå, when free of ice, to accept the largest vessels that are able to enter the Baltic Sea, and which have a draught of 15.0 m. The project also involves increasing the cargo handling capacity of The Port of Luleå.

Name of project: Malmporten.

Where: Luleå.

Planned implementation period: April 2024–December 2026.

State of maturity: Environmental permit and financing are ready.

Preliminary dredging volume: Total of approximately 22 million m³ *in situ*.

Planned depth: Between 16.85 m and 12.85 m, RH2000. In other words, water level relative to the zero level in the Swedish national altitude system RH2000. For the foundation of docks, a trench depth of around 19–20 m may be applicable.

Approximate distribution of rock/dredgable material: Rock, approximately 1 million m³ *in situ*, sand and moraine, approximately 20 million m³ *in situ*, contaminated material, approximately 0.6 million m³ *in situ*.

Known contaminated material?/Management of contaminated material? Partly to controlled dumping and partly to disposal site due to degree of contamination. Both fractions to be covered and enclosed with clean dredging masses. A land disposal site will be created by excavating within the boundary of the dock.

Potential distance to disposal site or landfill site: Clean and moderately contaminated dredging spoil: About five nautical miles. Contaminated dredging spoil: Transport to disposal sites varies between two and ten nautical miles. Three disposal sites are available.

Special conditions: Partnership with the Port of Luleå. Luleå Hamn AB's construction works are being implemented in parallel with the dredging activities as well as normal port operations. Control of the dredging areas in order to maintain vessel traffic to Sandskärs kajen and other berths west of this quay. Some of the dredging spoil in the form of blasted rock and sand will be used to create new port areas.

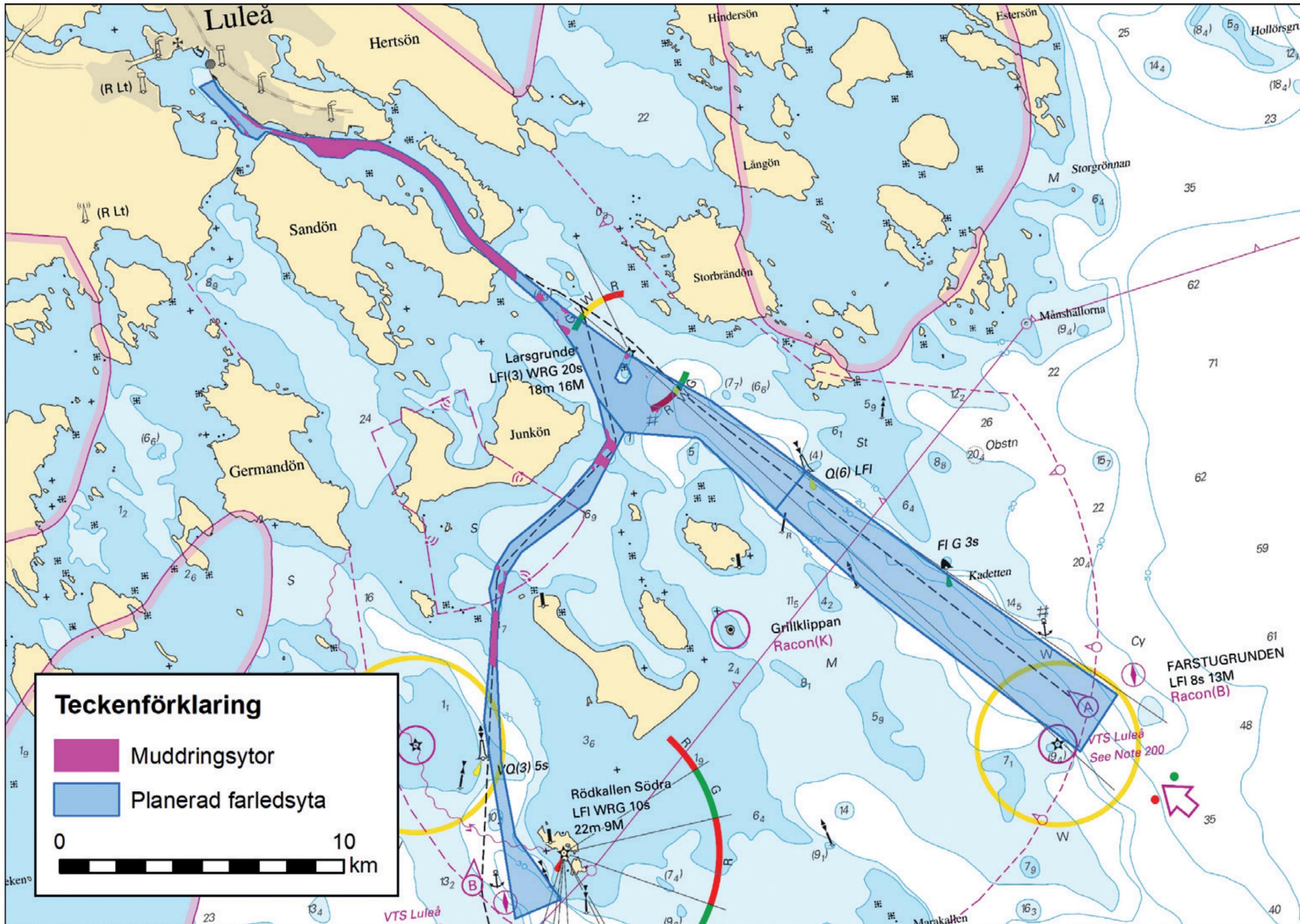
Estimated production time: About seven months per year for a period of three to four years.

Type of contract: Not decided.

Procurement process, tender period, pre-qualification: FFU, written tender specifications, are being planned and announced in Q4, October–December, 2022.

Footnote:

Malm is the Swedish word for ore.



Teckenförklaring

- Muddringsytor
- Planerad farledsyta



Luleå

Hertsön

Hindersön

Estersön

Sandön

Långön

Storbrändön

Storgrönan

Larsgrunde
LFI(3) WRG 20s
18m 16M

Junkön

Germandön

Grillklippan
Racon(K)

FIG 3s

Kadetten

FARSTUGRUNDEN
LFI 8s 13M
Racon(B)

Rödkaullen Södra
LFI WRG 10s
22m-9M

VTS Luleå
See Note 200

VTS Luleå

Marakallen

Skandia Gateway in Gothenburg

The Port of Gothenburg is the only port in Sweden used by the world's largest container vessels and provides direct routes between Sweden and the Far East. However, the depth of the fairway and turning area must be increased in order to maintain the port's strategic importance.

Name of project: The Skandia Gateway – Deeper fairway in The Port of Gothenburg.

Where: Gothenburg. Widening and deepening of the northern fairway to the Skandia Harbour and the turning area.

Planned implementation period: August 2025 to May 2027; if possible, the start of construction can be brought forward one year. A decision about the implementation period will be made before summer 2022.

State of maturity: Main hearing in the Land and Environment Court ends on April 1st 2022, with an environmental permit expected in May 2022. In case of an appeal, permit may be delayed about 12 months.

The financing of the project is secured.

Planned depth: Maximum depth for dredging is 20.5 m in the outer part of the fairway. In the inner part the maximum depths are 19.4 and 19.25 m.

Preliminary dredging volume: Approximately 13.5 million m³ *in situ*.

Approximate distribution of rock/dredgable material: Approximately 13 million m³ of clay and about 340,000 m³ of rock *in situ*.

Known contaminated material?/Management of contaminated material? Approximately 285,000 m³ of clay *in situ* is classified as contaminated material. The project is applying for an environmental permit for dumping contaminated spoil at sea and cover these with around 10 m of clean dredged clay.

Potential distance to disposal site or landfill site: The project is applying for an environmental permit to dispose all spoil at sea. The intended disposal site is located around 8–10 nautical miles from the dredging area.

Potential difficult traffic situation: As the work area is located in and around the existing fairway, there is a lot of traffic and stringent demands for coordination with the Swedish Maritime Administration's Vessel Traffic

Service (VTS) and The Port of Gothenburg, among others. There is also a southern fairway to Gothenburg that can be used to reduce traffic in the northern fairway.

Special conditions: The project is being implemented in partnership with Port of Gothenburg. The Swedish Maritime Administration is responsible for dredging the fairway and adjusting the fairway markings. The Port of Gothenburg is responsible for dock measures, including the dredging 50 m from docks.

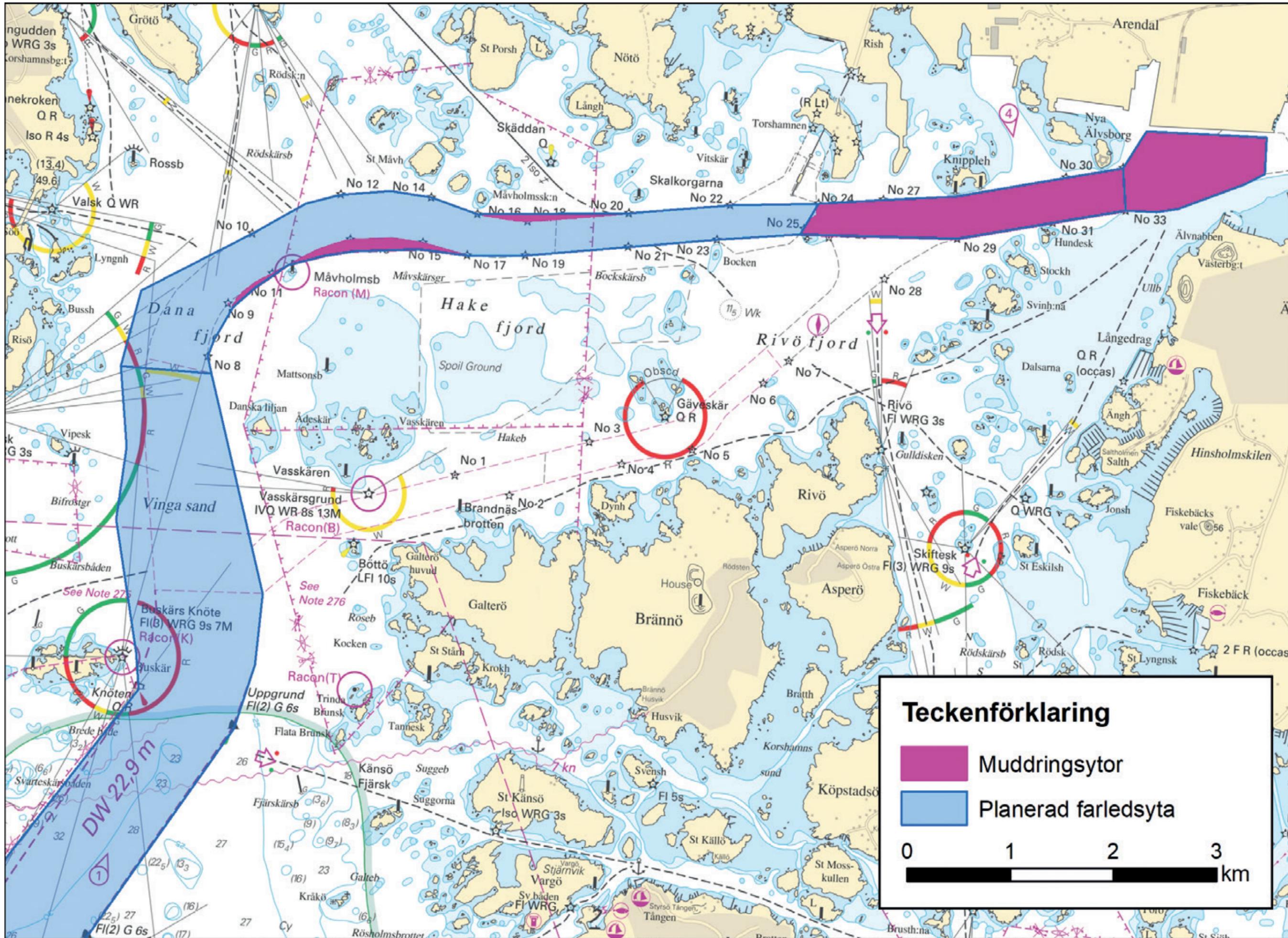
It shall be noted that a similar dredging project was conducted in Gothenburg over the years 2002–2004. Therefore, the area and the risks are well known.

Estimated production time: Approximately two seasons, with a break in disruptive works between the middle of May and the middle of August.

Type of contract: Not decided.

Procurement process, tender period, pre-qualification: A formal decision regarding the procurement process is being made before summer 2022. If production is to start in August 2025, the procurement will be advertised around the turn of the year 2023/2024, with the contract being signed before the end of 2024. If production is to start in August 2024, the project expects procurement to be advertised in early spring 2023.





Landsort Fairway, Landsort–Södertälje

Name of project: The Landsort Fairway.

Where: Public Fairway 511 between Landsort and Södertälje.

Planned implementation period: From 2024 to 2025, inclusive.

State of maturity: The Government is currently considering the establishment of two new fairways. The water activities will then be subject to review, and this is expected to take place in 2022–2023. The project is included in the Government's infrastructure plan.

Planned depth: Dredging depth varies from 14.0 to 11.65 m.

Preliminary dredging volume: Approximately one million m³ in situ.

Approximate distribution of rock/dredgable material: The material consists of approximately 950,000 m³ in situ of loose material consisting of clay and cohesive matter and around 70,000 m³ in situ of rock.

Known contaminated material?/Management of contaminated material? Permit to sea disposal of the spoil will be applied for. The dredgable material is divided into two types, clean masses and a minor amount of contaminated dredging spoil.

The clean dredging masses are planned to be disposed of in the proposed disposal areas without specific restrictions. This consists of sand, gravel, blasted rock and clay without contaminants, but also mud and similar material with some degree of contamination.

The moderately contaminated soil requires specific management. The plan is to dredge this material, approximately 20,000 m³ in situ, early on in the implementation phase and dispose of this at the bottom of a suitable disposal site. The moderately contaminated spoil is planned to be dredged by using an environmental dredging bucket.

Potential distance to disposal site or landfill site: A plan for management of the spoil is not yet complete. Several disposal sites are being investigated.

Potential difficult traffic situation: Approximately 2,500 vessel movements take place each year. Traffic in the fairway will continue during the planned dredging works

and measures will be put in place to ensure that traffic is disrupted as little as possible.

Skansundet, the narrow between Södertörn and Mörkö, is crossed by a road ferry. At present, this normally sails once every half hour between 06:00 and 23:00 hours. Each crossing takes around three minutes.

Special conditions: The majority of the work areas are relatively protected and factors such as waves, wind and currents are thus not expected to have any impact on the implementation of the project, other than occasionally. However, the weather conditions may be problematic when dredging the outer areas.

Estimated production time: Probable period of works 15 August 2024–31 March 2025. In order to minimise the negative environmental impact, the works will be carried out in early autumn and winter.

In order to allow the dredging to be limited to one season, an early start is important in this project. It is especially important to complete operations in the southern area early, i.e. late summer or early autumn. Difficult weather conditions during late autumn and winter may lead to a delay. When procuring a contractor, requirements are set on the basis of the conditions in the environmental permit.

Type of contract: Not decided.





Measures in Fairway to Karlskrona

Name of project: Increased availability and safety in the common fairway to Karlskrona.

Where: Common fairway 271.

Planned implementation period: Around 2025–2026.

State of maturity: Decision concerning start ready for the fairway design and environmental permit process that begins in spring 2022.

Preliminary dredging volume: Approximately 80,000 m³.

Planned depth: Minimum depth 12.0 m.

Approximate distribution of rock/dredgeable material: Approximately 75,000 m³ of dredgeable material and 5,000 m³ of rock to be blasted.

Contaminated material?/Management of contaminated material? Uncertain, as far as known only a small portion of contaminated material.

Potential distance to disposal site or landfill site: Uncertain, permit is not in place. The plan is a marine disposal site, estimated distance less than five nautical miles.

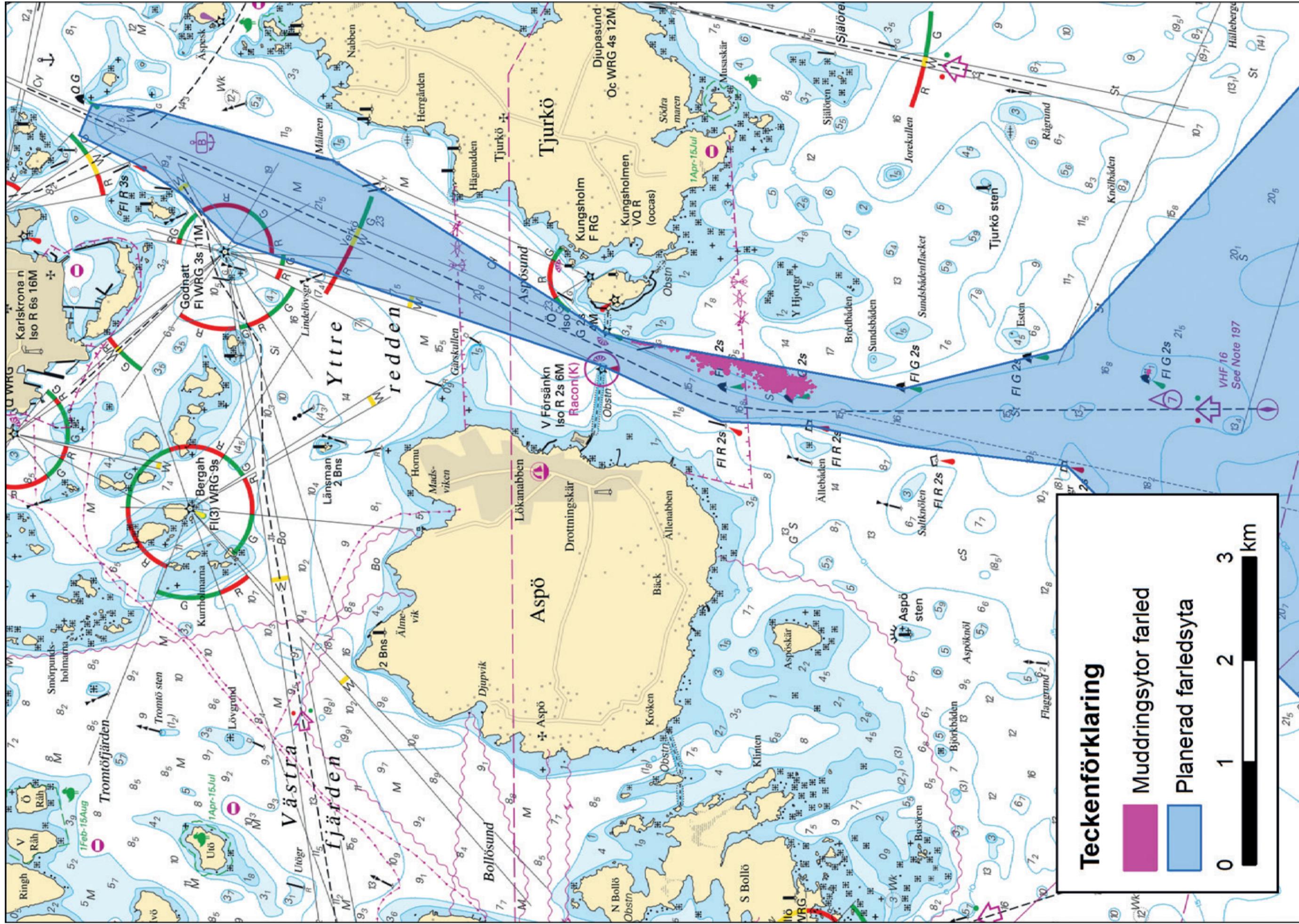
Traffic situation: A ferry route that engage four vessels, normally eight passages per day. The existing fairway is being widened, and the marine traffic will not have any impact on the dredging activities.

Special conditions: Restricted military area. The dredging site is located in an open sea area, severely affected by wind and swell from southerly directions.

Estimated production time: Less than one season.

Type of contract: Not decided.

Procurement process, tender period: Begins after completion of the environmental permit process, estimated to be around 2024–2025.



Teckenförklaring

- Muddringsytor farled
- Planerad farledsytta



Measures in The Port of Umeå

Name of project: Measures to increase capacity and safety in Fairway 730 and The Port of Umeå.

Where: Fairway 730 (and potentially the port area in Umeå).

Planned implementation period: Around 2025–2026.

State of maturity: Decision concerning start ready for fairway inquiry that begins in spring 2022.

Preliminary dredging volume: Fairway approximately 100,000 m³, port area approximately 140,000 m³.

Planned depth: From 14.1 m in the open sea, 13.0 m in the next part of the fairway and 12.5 m in the port area.

Approximate distribution of rock/dredgable material: Uncertain, as far as known only a small quantity of rock.

Known contaminated material?/Management of contaminated material? Uncertain, as far as known only a small amount of contaminated material.

Potential distance to disposal site or landfill site: Uncertain, permit not in place. The plan is for a marine disposal site, estimated distance 5–8 nautical miles.

Potential difficult traffic situation: A ferry route in the outer section of the fairway, otherwise relatively low traffic intensity.

Special conditions: Estimated dredging season around May–December/January, depending on conditions in environmental permit/judgment. Outer parts exposed to weather and sea state. The period in which works can take place may be limited due to early formation of sea ice.

Estimated production time: One season.

Type of contract: Not decided.

Procurement process, tender period, pre-qualification: Begins after completion of the environmental permit process, estimated to be around 2024–2025.





SWEDISH MARITIME
ADMINISTRATION