



HERNESAARI LAND RECLAMATION AREA

Briefing for dredging contractors

11.12.2019, Tommy Nyman

RAMBOLL

Bright ideas. Sustainable change.

Picture: City of Helsinki

HERNESAARI BRIEFING FOR DREDGING CONTRACTORS

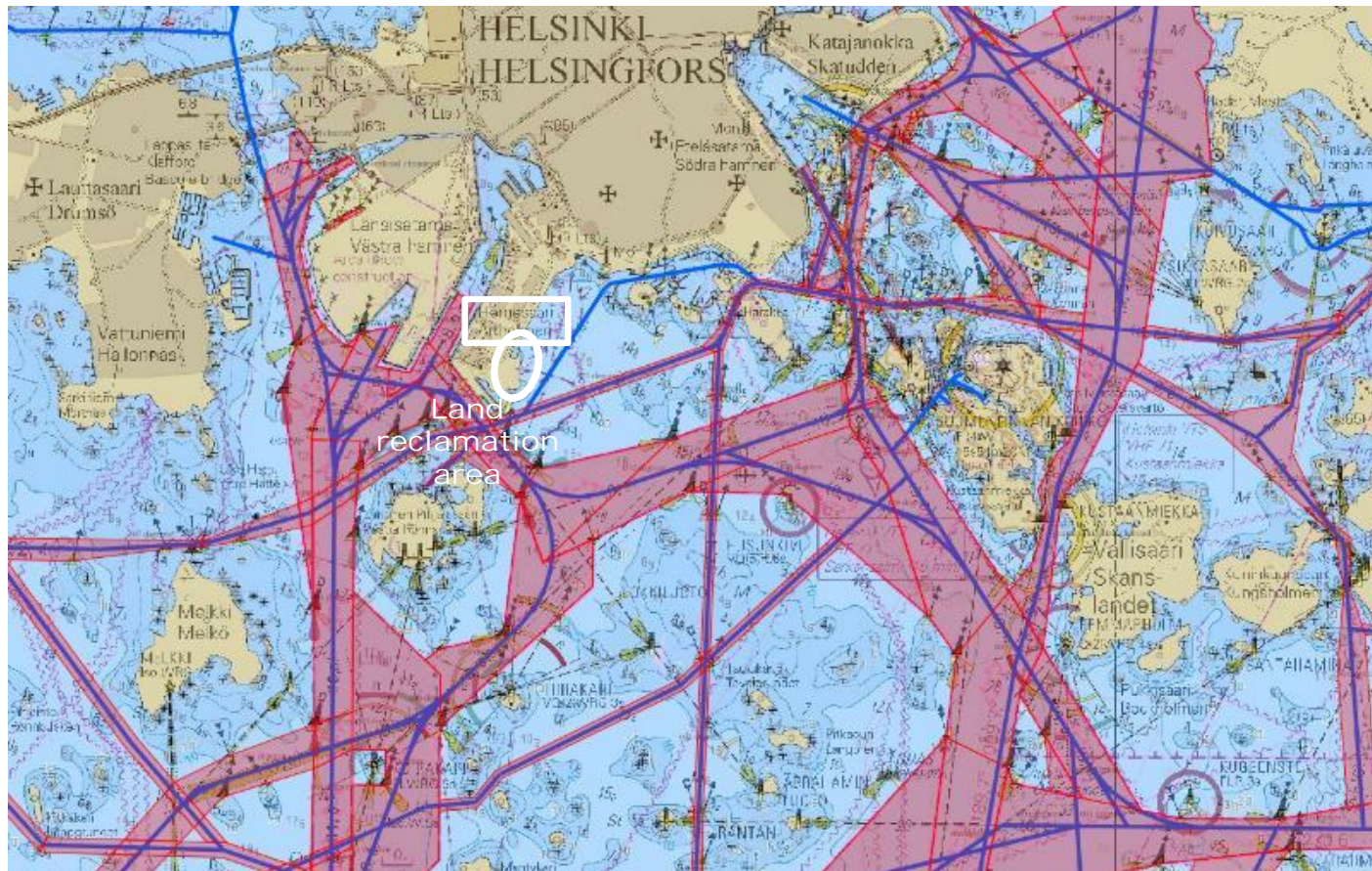
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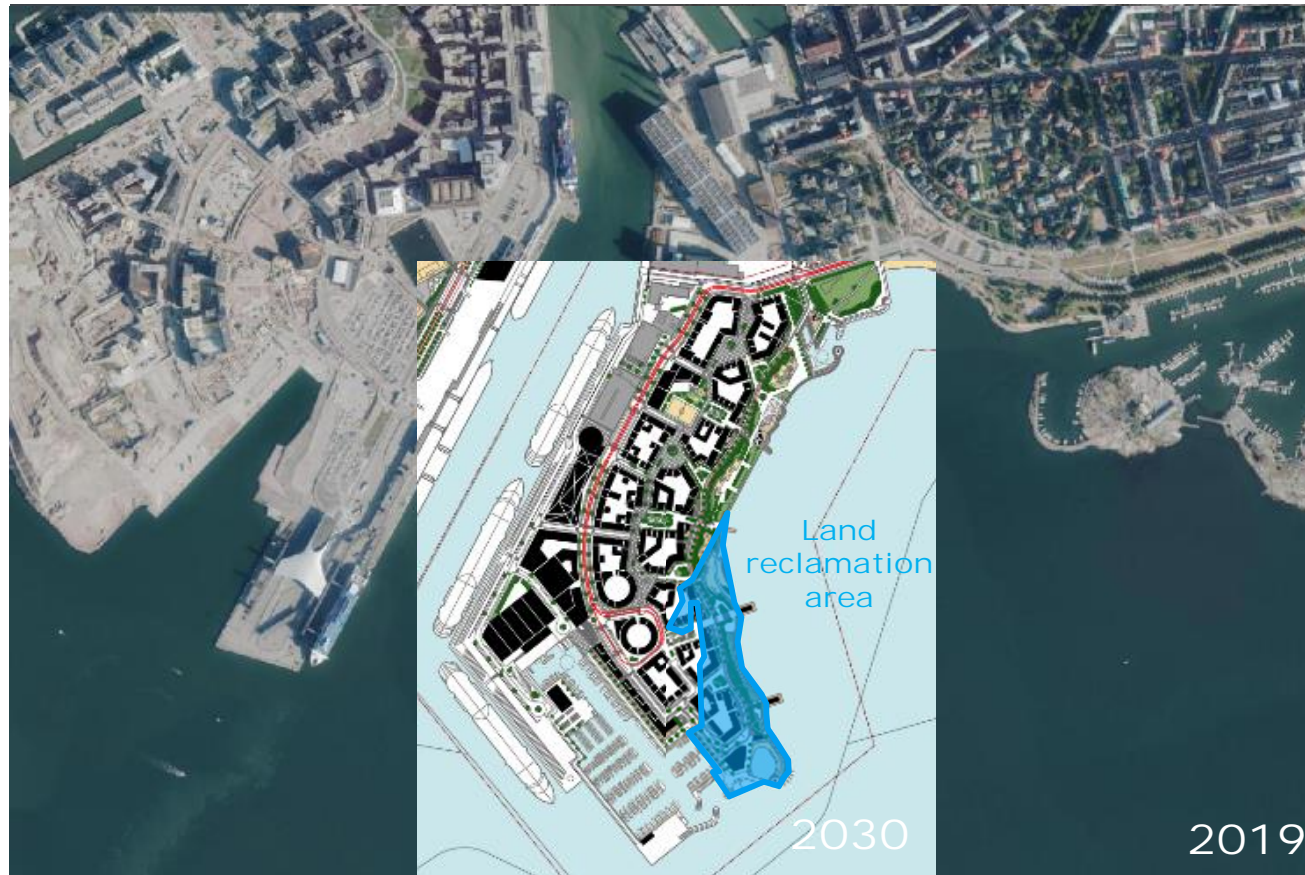
1. HERNESAARI, WHERE: A LAND RECLAMATION AREA IN THE CITY CENTER



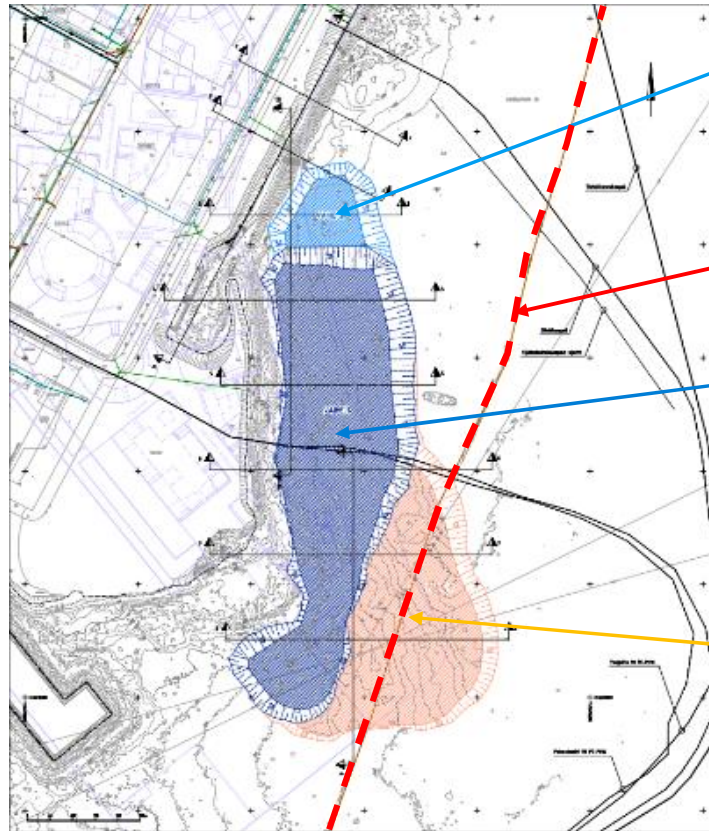
1. HERNESAARI, WHERE: A LAND RECLAMATION AREA NEAR BUSY FAIRWAYS



2. HERNESAARI BEFORE, TODAY AND TOMORROW



3. DREDGING WORKS, PLANS FOR HERNESAARI



(Phase 3, later, not in this contract)

Why phases 1 and 2?!?

Pressure sewage pipe Ø 630 mm for over 25 000 inhabitants, in use until 08/2020

Phase 1, year 2020:

Dredging: 210 000 m³ clay and silt, 3 hectare

Max water depth now 14 m

Max dredging level 25 m below sea level

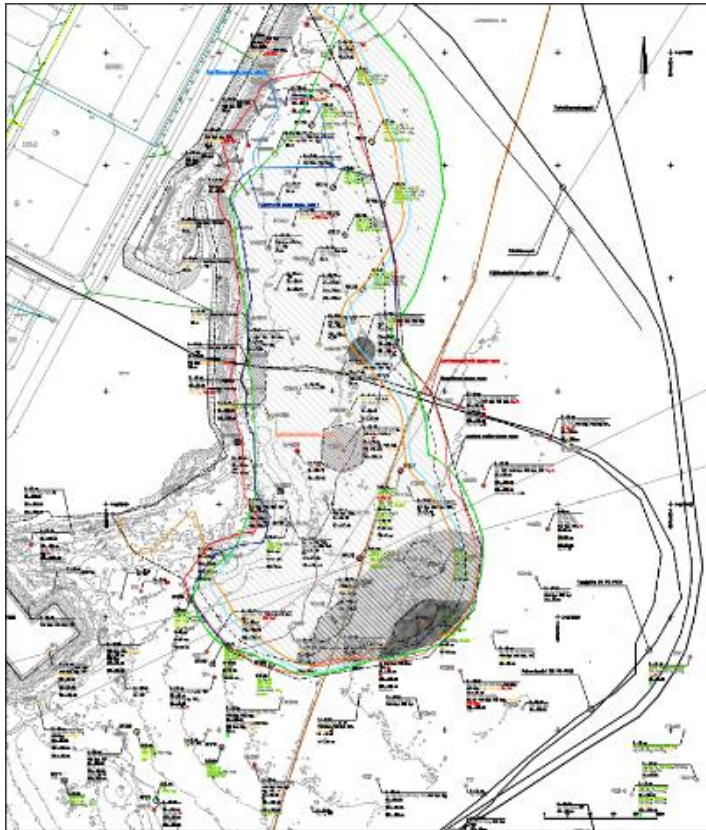
Phase 2, year 2021:

Dredging: 110 000 m³ clay and silt, 2.4 hectare

Max water depth now 14 m

Max dredging level 22 m below sea level

3. DREDGING WORKS, PLANS FOR HERNESAARI

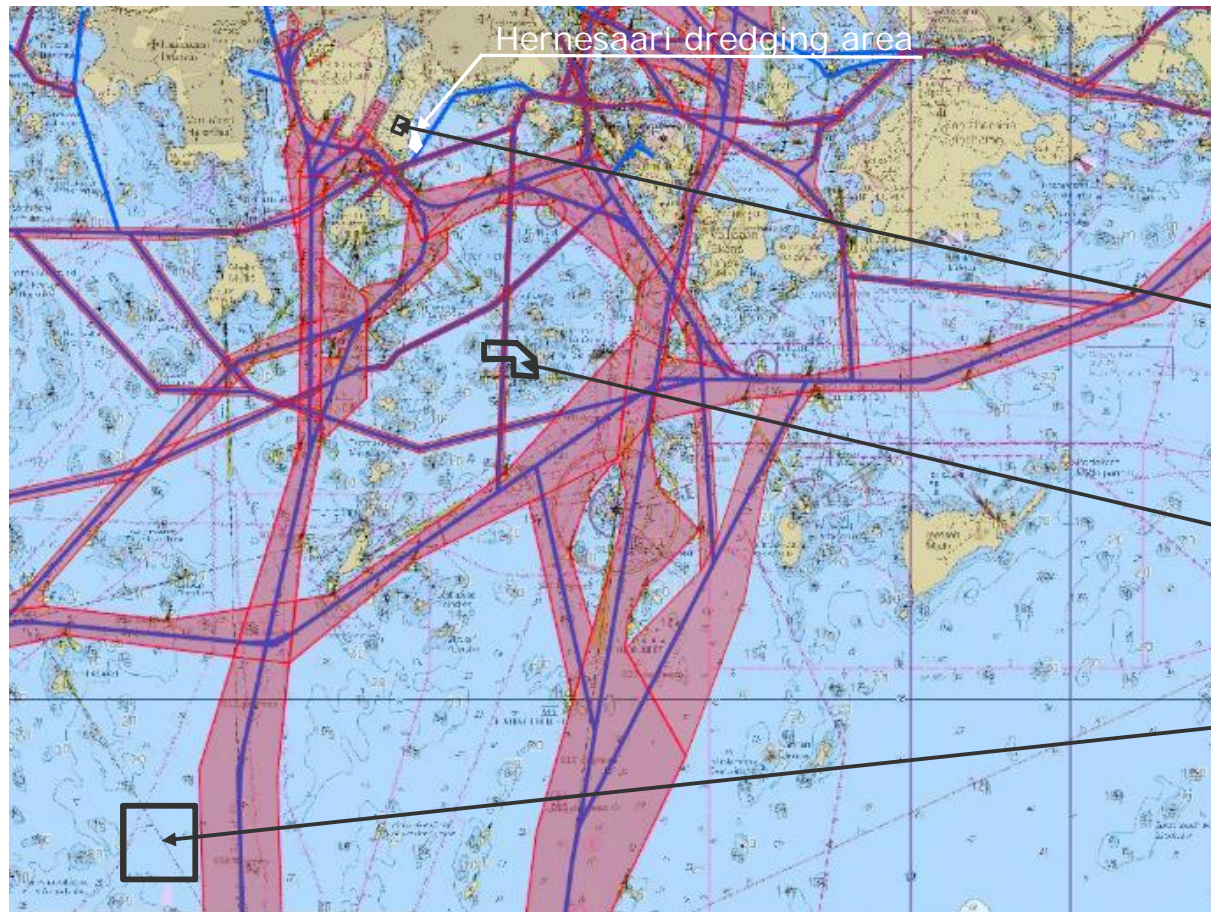


BUT... before the major dredging works, dredging of the surface sediment must be excavated with environment friendly bucket.

Surface sediment contains harmful substances to the sea environment and can not be disposed to sea.

- Dredging works will be done in two phases (2020 and 2021).
- Dredged surface sediment: 50 000 m³.
- Dredging area: The whole dredging area, 8 hectare.
- Depth: 0,5...2 m below sea bed.

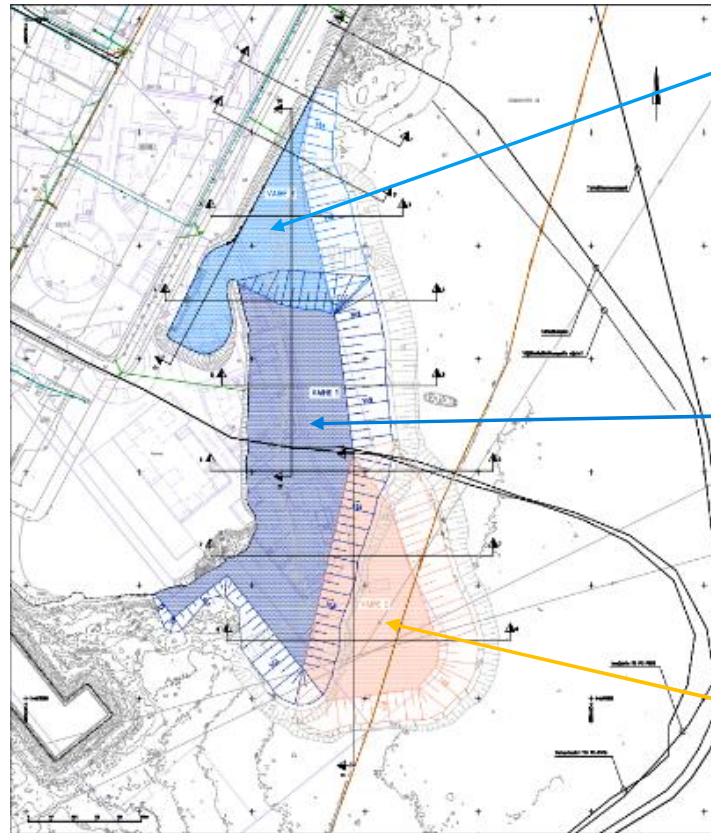
3. DREDGING WORKS, PLANS FOR HERNESAARI



Disposal areas for dredged materials:

- Surface sediment containing harmful substances:
 - Hernesaari sediment pools on land
- Major dredging of clay and silt
 - Lokkiluoto disposal site at sea, about 3 km from Hernesaari
 - Koirasaarenluodot disposal site at sea, about 9 km from Hernesaari

4. LAND RECLAMATION WORKS, PLANS FOR HERNESAARI



(Phase 3, later, can not be used during this contract)

One major source of blasted rock: underwater blasting works at Vuosaari fairway

If all the needed filling material will be delivered to Hernesaari by barges, help of excavation machines will be needed in coast of Hernesaari

Phase 1, can be started in year 2020:

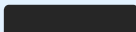
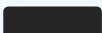

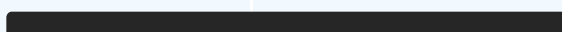









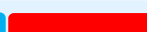


Total 550 000 m³ filling to level + 2 (=2 m over sea level) of which 350 000 m³ below level -4 (= can be filled with barges)



Filling material mainly blasted rock

Phase 2, can be started year 2021:

Total 350 000 m³ filling to level + 2 (=2 m over sea level) of which 250 000 m³ below level -4 (= can be filled with barges)

Filling material mainly blasted rock

Location	Task	2019	2020	2021
DEEPENING OF THE VUOSAARI SEAWAY AND HARBOR				
	Design phase			
	Tendering phase			
	Contract signing			
	Construction phase			
	Contract closing activities			
RECLAMATION SITES AT CITY OF HELSINKI				
Hernesaari	Design phase			
	Tendering phase			
	Contract signing			
	Dredging – Contaminated sediments			
	Dredging			
	Land reclamation			
Melkki, Jätkäsaari	Land reclamation			
Ruusuniemi, Vuosaari	Land reclamation			

Phase 1: 
Phase 2: 

5. SUMMARY

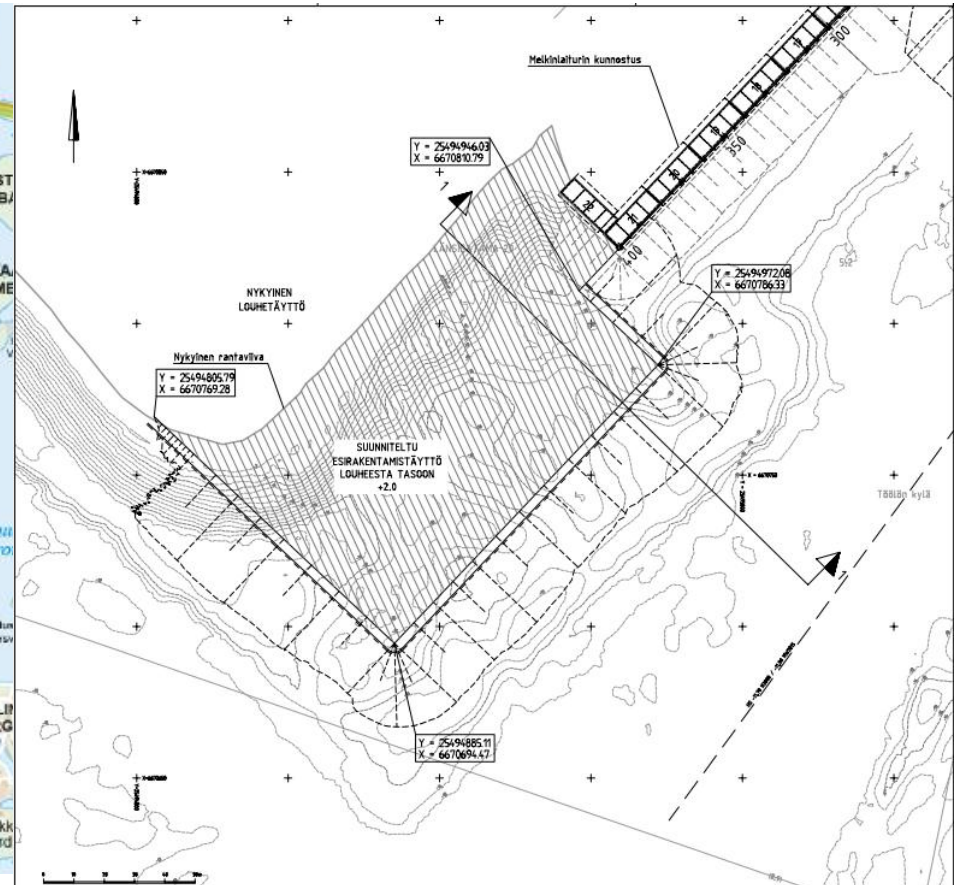
Hernesaari is located near the Helsinki city center and beside busy fairways.

Land reclamation works enables turning the Hernesaari area in to housing and business development area.

Dredging works will be done in two phases. Total amount of dredged silt and clay is approximately 320 000 m³ and it will be disposed to sea. Before that, surface sediment, approximately 50 000 m³, shall be dredged and disposed to land.

Land reclamation works can be started in two phases. Total material needed for the filling works is approximately 900 000 m³ of which approximately 600 000 m³ can be filled by barges (filling level 4 m below sea level). Filling work up from 4 m below sea level can be done by barges, if helped by excavation machines in coast of Hernesaari.

MELKKI, JÄTKÄSAARI



RUUSUVUORENKANAVA, VUOSAARI

