



A

FEATURES

Client	Port of Turku Ltd
Project	Maintenance dredging of main channel and replacement of sea marks
Location	The main channel of Port of Turku, Finland
Period 1	Autumn 2018 – December 2018
Contractor	Terramare Oy

SCOPE

The maintenance project included 13 different dredgings in the areas of the main channel and the harbour basin, with the minimum depth varying between -11.00 and -8.10 metres. The contract also included the replacement of the channel's sea marks, with the old ice buoys being replaced by spindle buoys.

A View of the worksite at the main channel of Port of Turku.

B The Viking Line and Silja Line car ferries operate in the channel.

QUANTITIES | MAINTENANCE DREDGING

Dredging area, total	120,000 m ²
Dredging, depth	-8.00 ... -11.10 metres

QUANTITIES | REPLACEMENT OF THE SEA MARKS

Replaced sea marks	21 units
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MAIN PLANT

Backhoe dredger	Attila (Hitachi EX 1900-5)
Towable barges	SCG 3 & 4 (500 m ³ each)
Channel maintenance vessel	Seili (Meritaito Oy)



B



INTRODUCTION

Turku’s main harbour and main channel are located at the mouth of the River Aura, which carries sediment into the area. The sedimentation in the harbour area and channel requires maintenance dredging at regular intervals. This ensures that the

channel and the harbour basin maintain their officially stated navigation depth and safety.

Terramare implemented maintenance dredging at the site in autumn 2018. The contract also included the replacement of the channel’s sea marks, with the old ice buoys being replaced by spindle buoys.

MAINTENANCE DREDGING

The maintenance dredging at the Port of Turku included 13 different dredgings in the areas of the main channel and the harbour basin, with the minimum depth varying between –11.00 and –8.10 metres. The dredging work covered an area of approximately 120,000 m². In the dredgings, an average 20 centimetre layer of sediment deposited by the River Aura was removed from the bottom of the harbour basin and channel. The dredging was carried out by Terramare’s backhoe dredger Attila, with a lip plate attached to the dredger’s bucket. The towable barges SCG 3 and SCG 4 were used to transport the dredging masses. Each vessel has a load capacity of 500 m³.

REPLACEMENT OF SEA MARKS

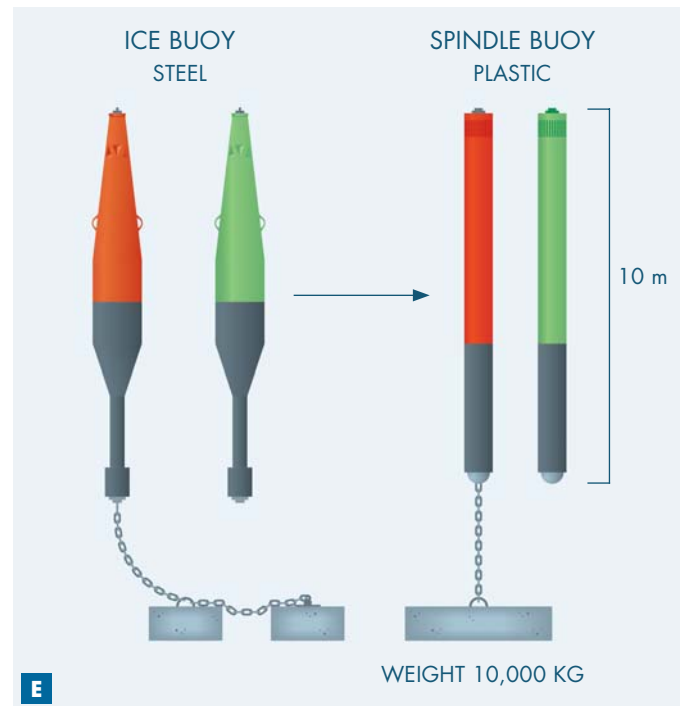
In connection with the maintenance dredging, the replacement of sea marks in Turku’s main channel was carried out. This involved replacing the old ice buoys with new spindle buoys.

The new spindle buoys require less maintenance than the ice buoys. The replacement of the sea marks was implemented in cooperation with a subcontractor, Meritaito Oy. The old sea marks were removed by the backhoe dredger Attila, which also levelled the bottom for the bottom weights of the new spindle buoys. The new spindle buoys were positioned and installed in place by the subcontractor with its own channel maintenance vessel Seili. A total of 21 sea marks were replaced in the contract.

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PORT OF TURKU, FINLAND

MAINTENANCE DREDGING OF MAIN CHANNEL AND REPLACEMENT OF SEA MARKS



- C** The flow of the River Aura carries into Turku’s harbour and main channel sediment that has to be removed at regular intervals.
- D** Dredging with a lip bucket. Pictured is the backhoe dredger Attila.
- E** The old steel ice buoys were replaced with plastic spindle buoys.