



ფოთის სანაოსნო ნავსადგური ქარიზი კავანისა და სანაოსნო აზიანი



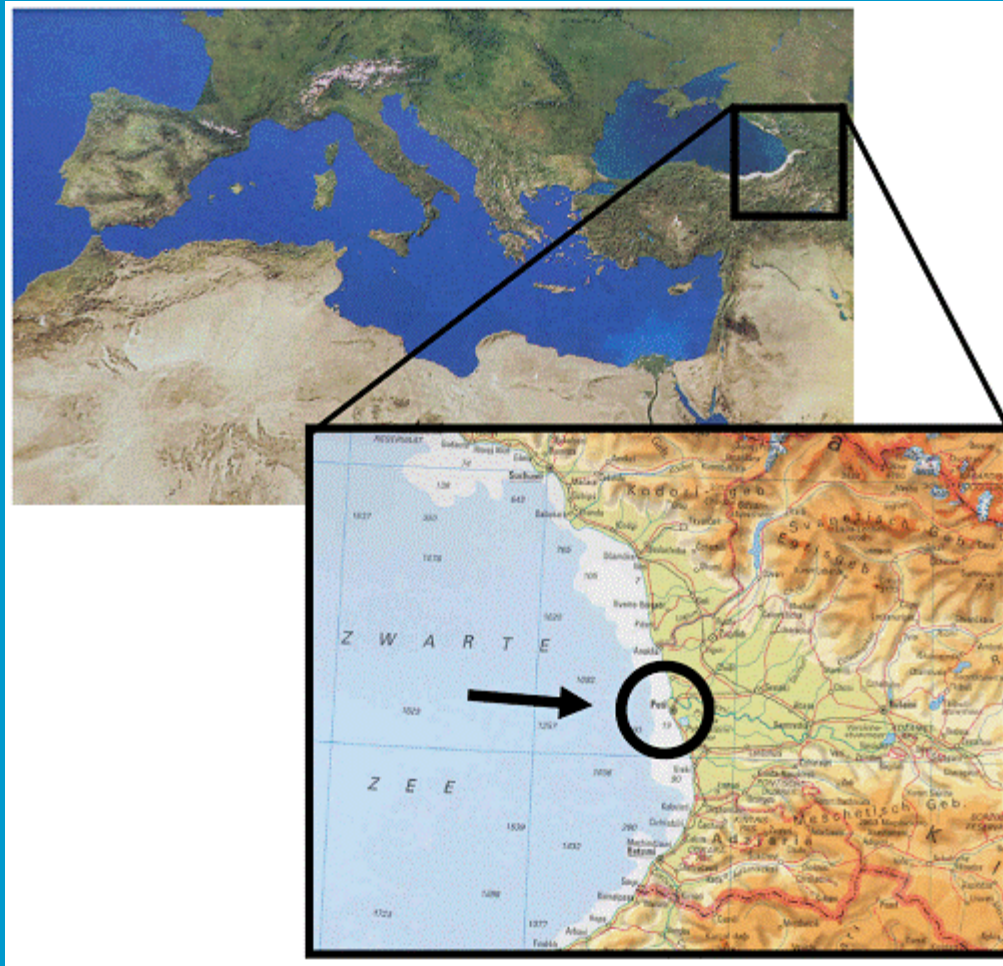
ct5308 Breakwaters and Closure Dams

H.J. Verhagen

May 2, 2012

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Location of the project



Existing breakwater



May 2, 2012

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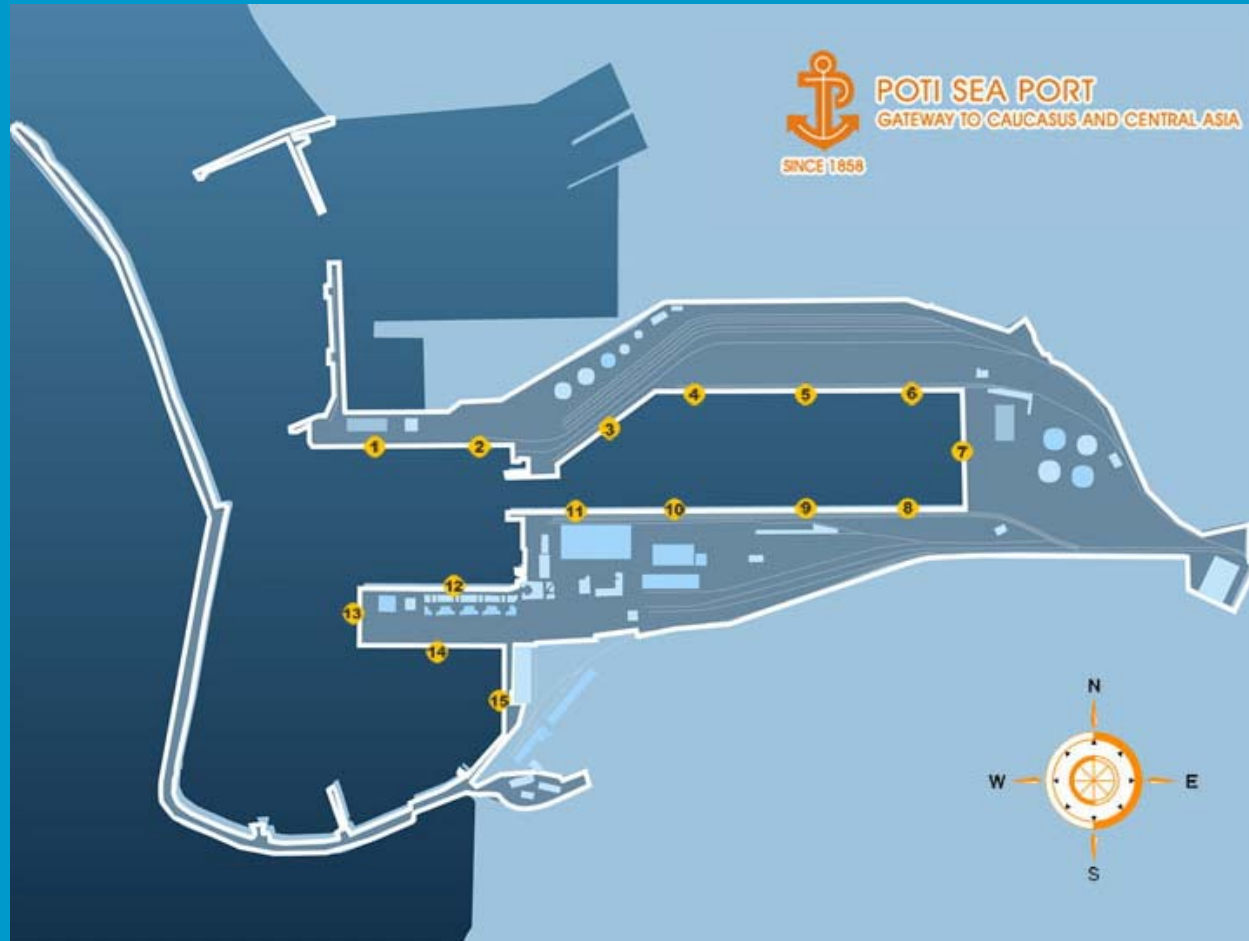
Overview of the project



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Port plan



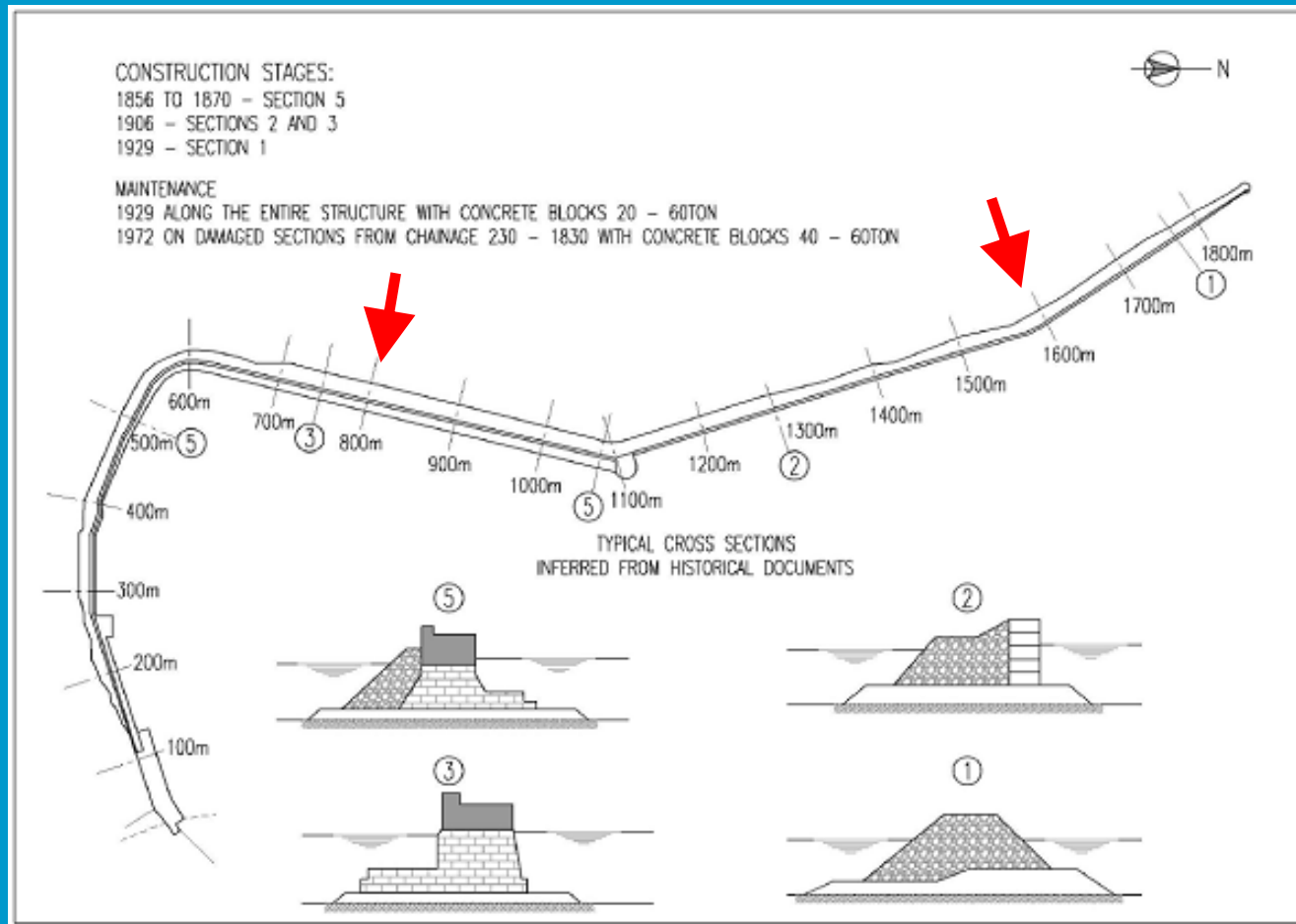
The breakwater rehabilitation



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Breakwater cross sections



typical cross sections



Figure 4 Breakwater chainage 0-1040 m



Figure 5 Typical profile chainage 0-1040 m



Figure 8 Breakwater chainage 1270-1810 m



Figure 9 Typical profile chainage 1270-1810 m

Your assignment

The design of the rehabilitation of the breakwater has the following objectives:

- Save the breakwater from collapsing, at least for the next decades, because the collapse of the breakwater will bring the Port operations to severe interruptions.
- Reduce the number of days the Port is not operational due to the poor conditions of the breakwater.

Information

- Hydrographic charts → Map Room
- Tides → Internet sites
- Waves → Argoss and Global Wave Statistics
 - ~~Global wave statistics in Library and BlackBoard~~
 - Argoss via www.waveclimate.com:
 - username: VerhagenG
 - Password: TX3728NG

actual meteo information

- <http://www.dmi.gov.tr/en-US/marine-metu3-detail.aspx>

your assignment

- Design a breakwater cross section (800 or 1600)
- With the given material (rock, Xblock, etc)
- For a maintenance free breakwater
- With a life time of 20 years or 50 years

- Determine armour unit size
- Determine overall sizes of cross section (e.g. crest height)
- Make a drawing good enough for a cost estimate
- Design toe, etc.

Type of calculation

- Determine near shore boundary data with SwanOne
- Use classical approach, and preferably also PIANC approach and probabilistic approach
- Use Breakwat and/or Cress for calculations
- Make a short report (5 pages of text) including some info on the execution method

Presentation

- Give a presentation of approx. 10 minutes next week; also 5 minutes are available for questions per group
- Do not present obvious information (everyone will know where Poti is)
- Morning groups start at 8:30
- Afternoon groups start at 13:00
- You have to be present either in the morning, or in the afternoon (thus not the whole day)

Your mark

- depends on the quality of the report
- depends on the quality of your presentation
- depends on the quality of the questions you ask to other groups

Good Luck !!



activity in Port of Poti