

ODTÜ KIBRIS'LA BİLİM EĞLENCELİDİR.

ANCHORED PILE RETAINING WALL DESIGN OF A HOTEL PROJECT

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Introduction and Statement of the Project

The following project is prepared in accordance with the Civil Engineering design course requirements. The aim of the project is to design and enable a 25m deep excavation for a 5-star hotel situated on the shores of Girne City – Northern Cyprus. Various possible approaches and techniques were employed for the sake of dealing with numerous technical matters regarding the project which were encountered throughout the whole process. Geotechnical knowledge and techniques such as desk studies, site investigation, and idealized soil profile were employed along with intensive literature research for the goal of coming up with the ideal design solution utilizing the design software GEO-5.

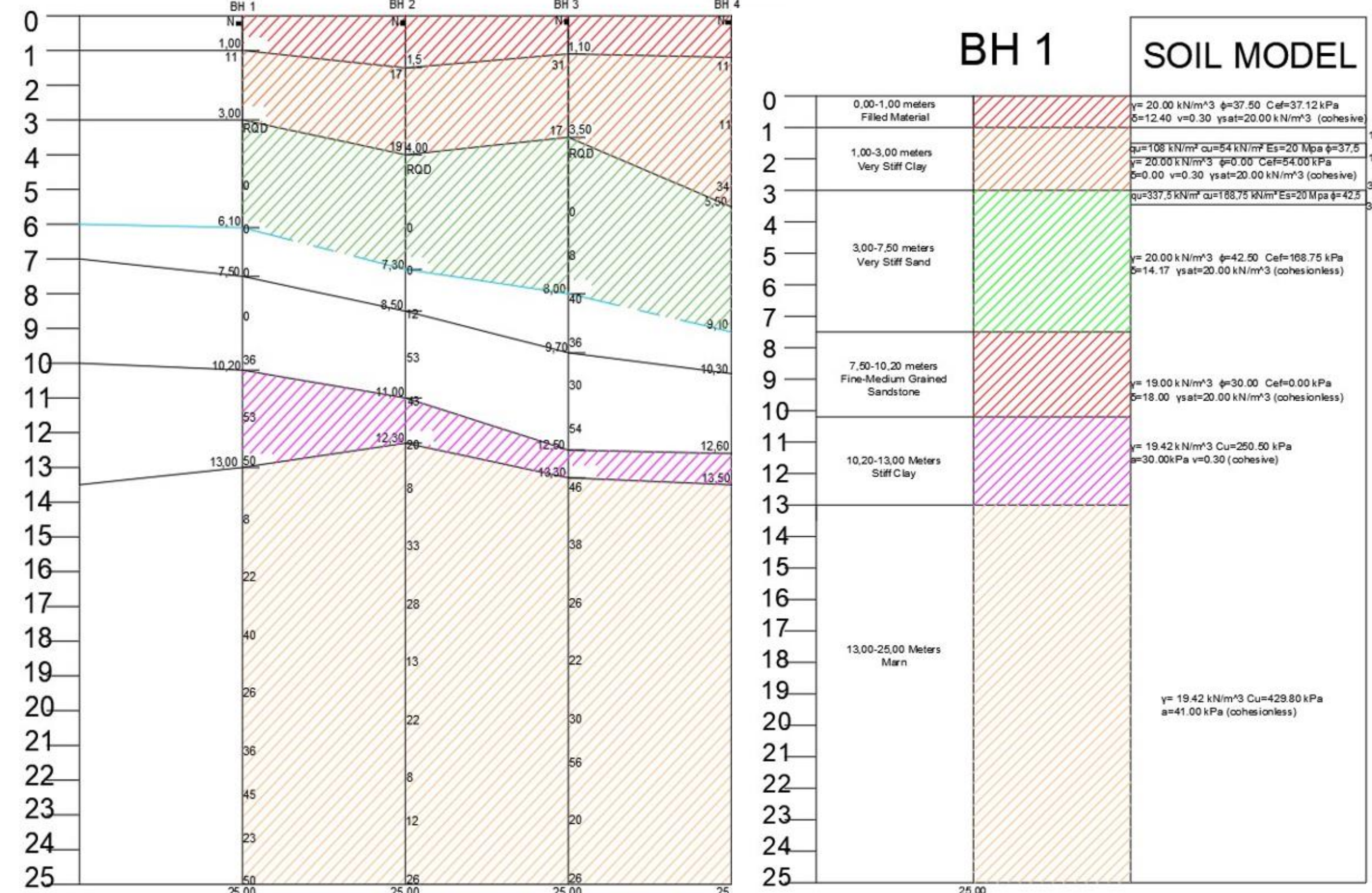
Site Investigation and Desk Study



Site Location



Walkover Survey

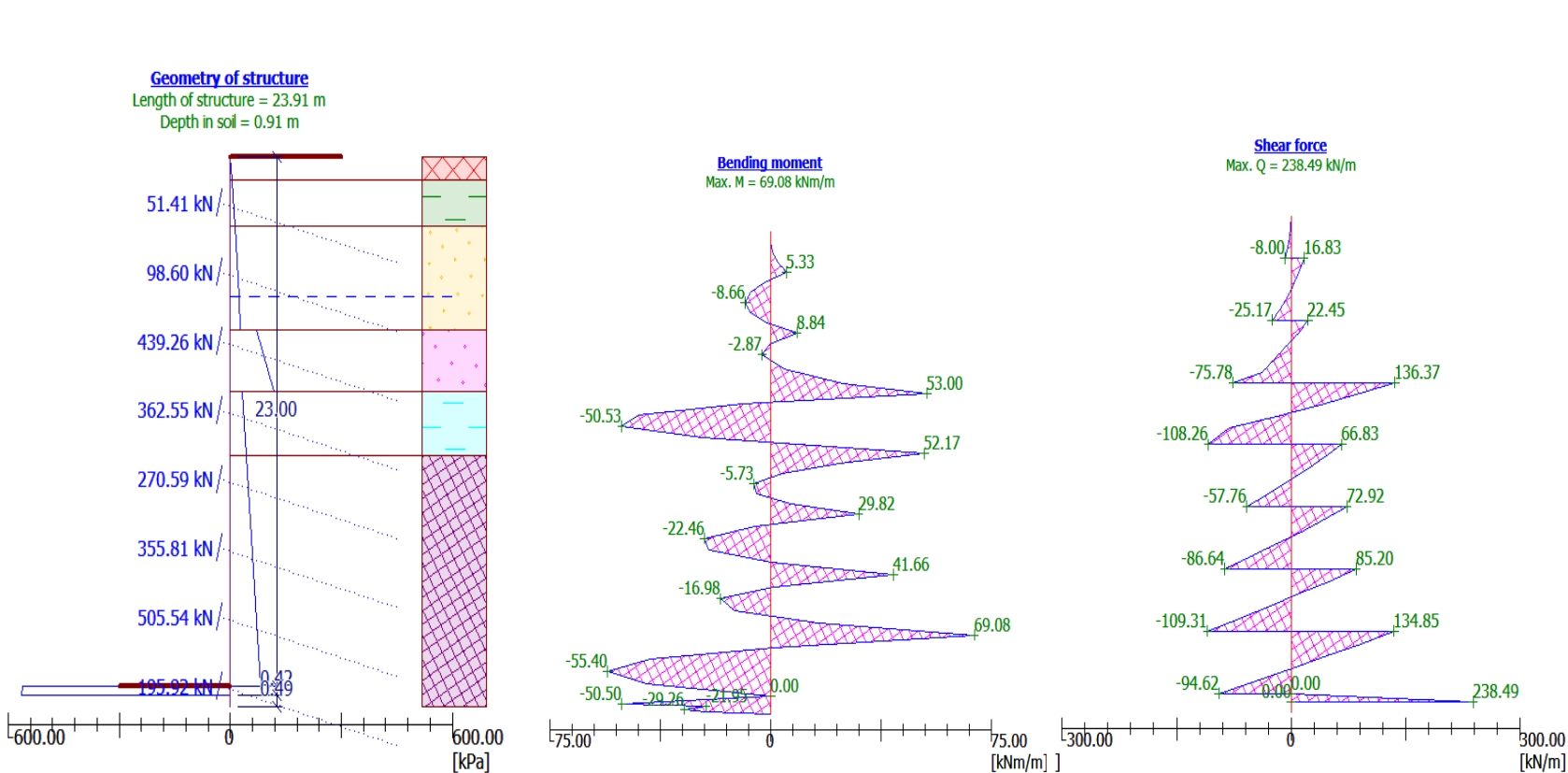


Idealised Soil Profile

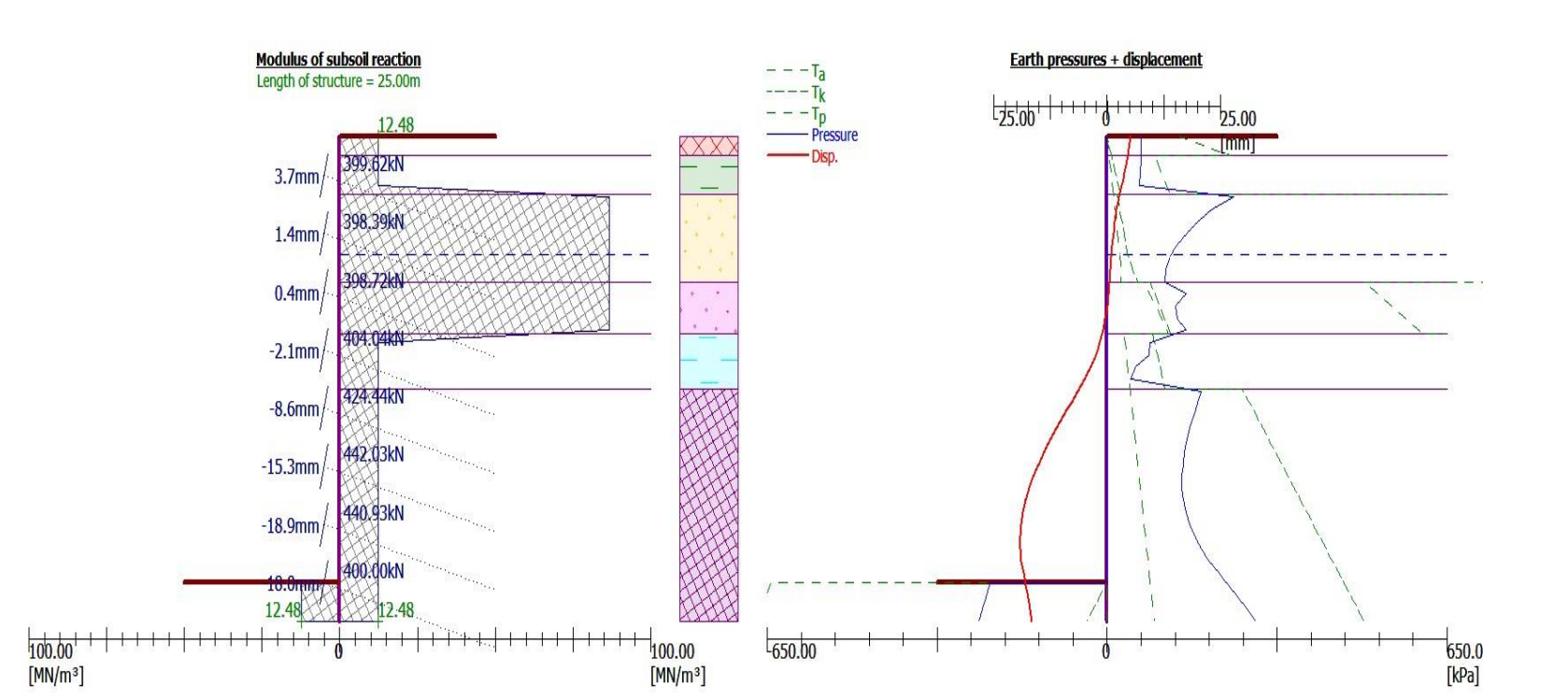
Analysis and Design

Based on thorough analysis of data and calculations, sheeting design and sheeting check analysis are successfully performed for the proposed design where a total of eight anchors are required over 25m of depth given the constructed idealized soil profile. The design satisfies bending, shear, and design integrity requirements. The figures below illustrates the various analysis done utilizing GEO-5 such the slope stability check.

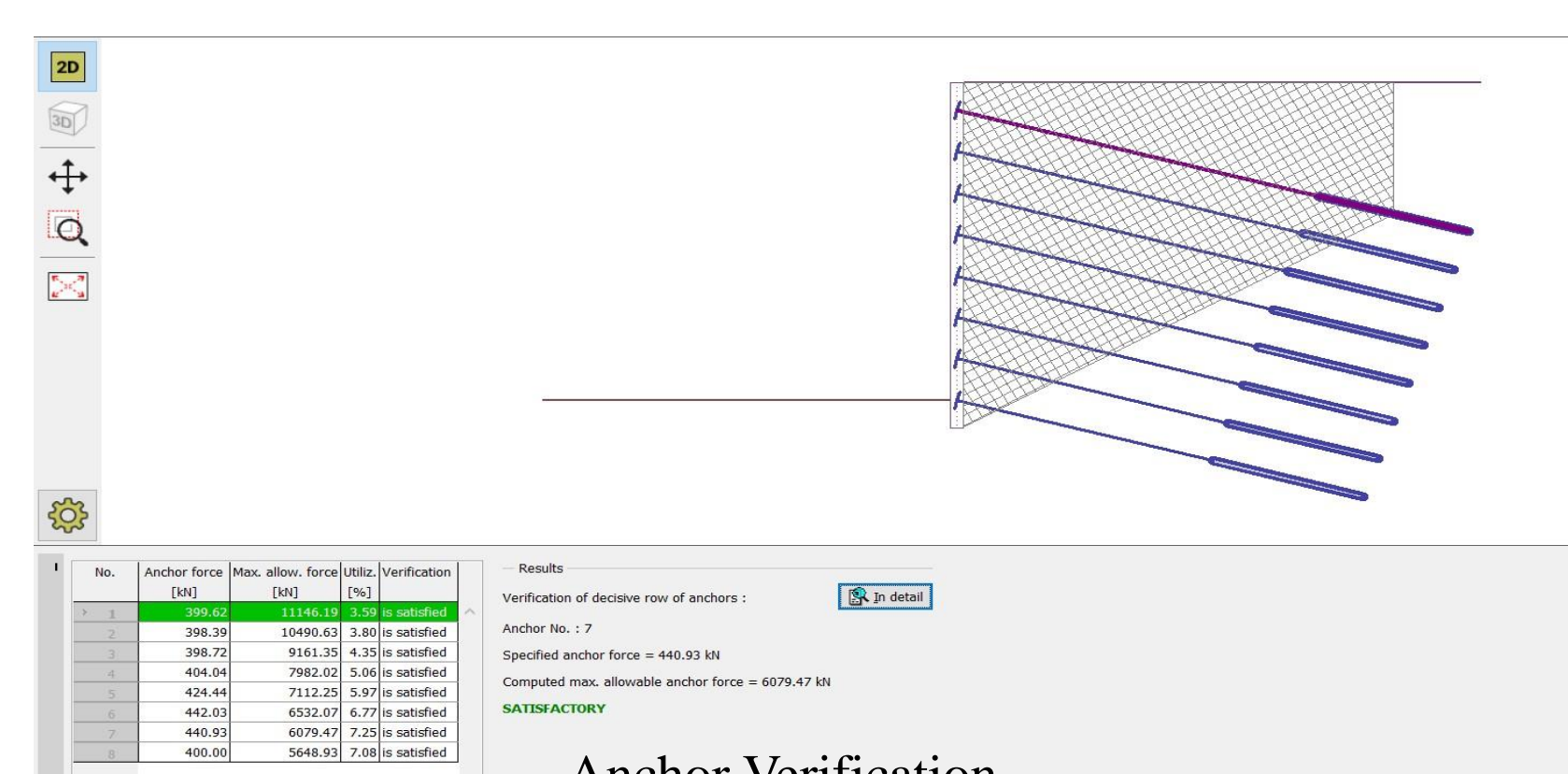
Analysis



Sheeting Design Analysis

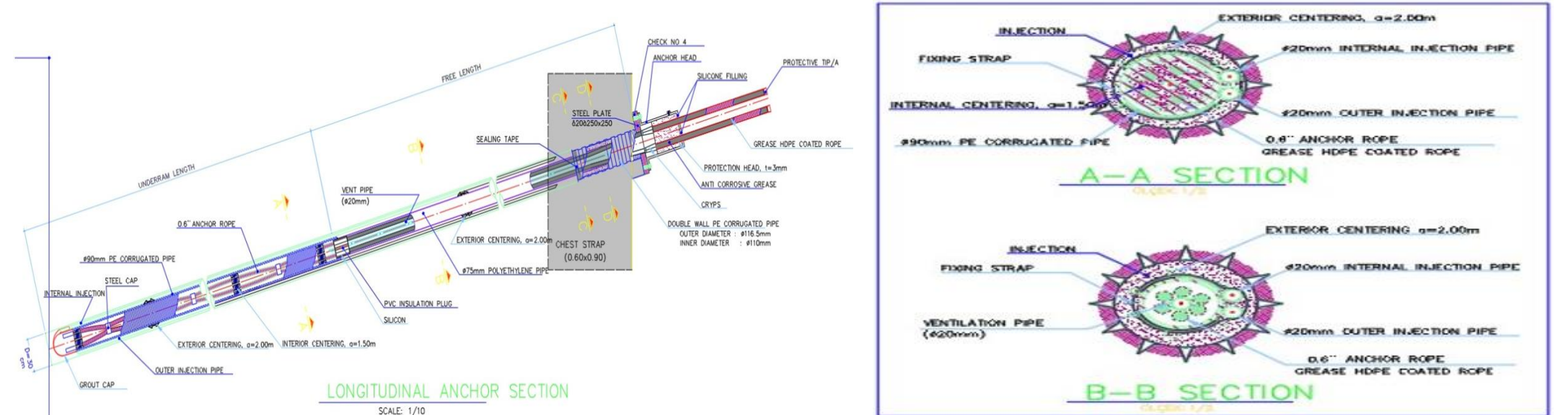


Sheeting Check Analysis



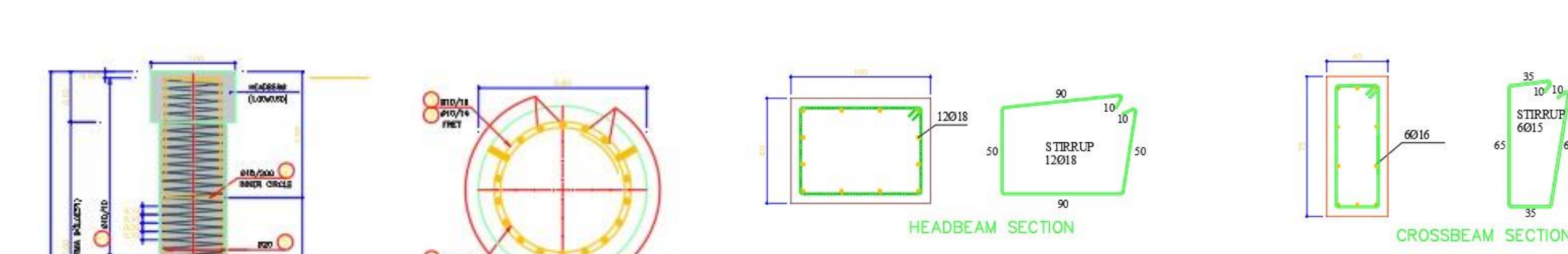
Anchor Verification

Design

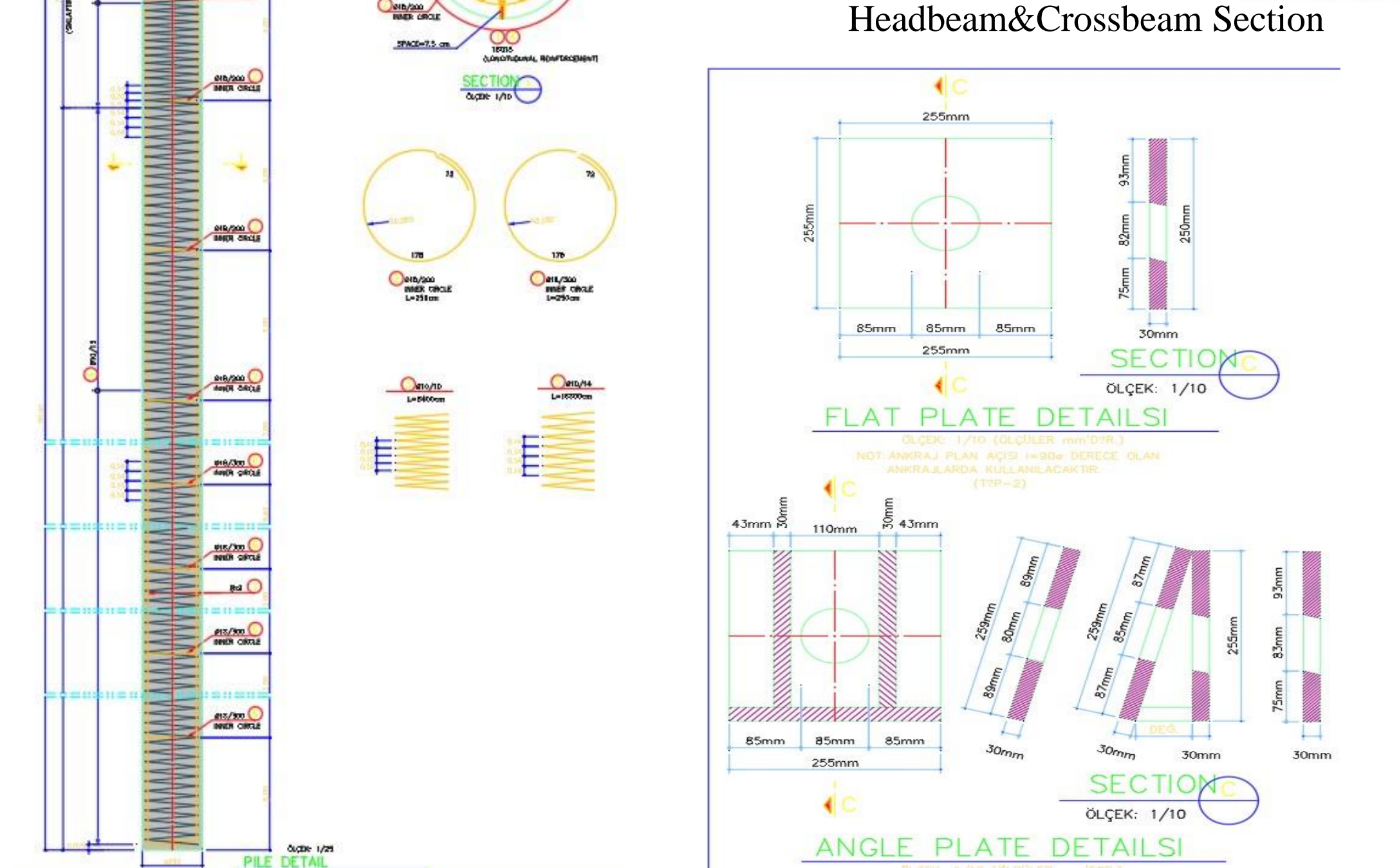


Anchor Section

Detailed Anchor Section



Headbeam & Crossbeam Section



Pile Detail

Plate Detail