ABSTRACT

DESIGN OF FLOATING STADIUM WITH 45,000 CAPACITY OF SEATS AT JAKARTA GULF

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Indonesian’s football industry is getting better and professional. DKI Jakarta Province has a big potential of football market. Nevertheless, there is only one stadium which has the requirements to hold football championships in DKI Jakarta. So that, there is a need to build other stadiums which accord to the standard. Meanwhile, DKI Jakarta citizens are increasing. This affects the buildable land area decrease. Because of that, the sea area of Jakarta’s gulf becomes a choice. This final project has an objective to design a floating stadium which is able to be operated in Jakarta’s gulf. An iteration method is used in this research. The first step of this research was allocated to design the superstructure which has the form of stadium. Then the work is continued to design the lines plan and the general arrangement of hull. To identify whether the design is matched with operating conditions or not, the calculations of stability, resistance, powering, LWT, DWT, physics, and building cost according to standards and comparators prices was done. If there is unsuitability in calculation, redesigning needs to be done until the design meets standards. The results of this iteration are L = 200 m, B = 125 m, T = 4.21 m, H = 10 m, where this structure consists of 6 pontoons with the main dimensions of the fore starboard, aft starboard, fore portside, and fore starboard pontoon are L = 60 m, B = 33.5 m, H = 10 m and the main dimensions of the middle starboard and portside pontoon are L = 70.4 m, B = 33.5 m, H = 10 m.

Keywords : floating stadium, pontoon, Jakarta gulf