ANALISIS PERENCANAAN DESAIN *CATWALK (*CT10-CT14) *THE REFINERY DEVELOPMENT MASTER PLAN (RDMP) PROJECT* RU V PADA DERMAGA JETTY PERTAMINA BALIKPAPAN KALIMANTAN TIMUR

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ABSTRAK

Proyek Refinery Development Master Plan RU V di Balikpapan Kalimantan Timur adalah proyek strategis nasional yang dilaksanakan pemerintah upaya pencegahan penurunan ketahanan energi nasional untuk pemulihan perekonomian pasca pandemic covid-19.

Tugas akhir ini membahas struktur *catwalk* pada dermaga jetty PT. Pertamina Balikpapan Klaimantan Timur, yaitu jembatan yang berfungsi penghubung antar dermaga (*loading platform*) dengan *breasting dolphin*, penghubung antar *mooring* dengan *breasting dolphin*, serta penghubung antar *mooring dolphin*. Struktur *catwalk* didesain berdasarkan kriteria desain dan standar yang berlaku dengan mempertimbangkan kondisi lingkungan dan beban-beban yang terjadi pada *catwalk* yang terdiri dari beban mati, beban hidup, beban tes, beban panas, beban gelombang, beban arus, beban angin, dan beban gempa.

Hasil analisis pada struktur *catwalk* dengan beton bertulang digunakan beton dengan fc' 35 Mpa dan pada *steel Pipe Pile* digunakan spesifikasi fy = 250 Mpa dan Fu = 400 Mpa, pada analisis perencanaan struktur *catwalk* digunakan *Software* SAP2000 versi 21, dan yang menjadi acuan pada analisis ini adalah AISC – ASD89 dan ACI318M-14. Nilai *capacity ratio* terbesar yang diperoleh adalah CT10 = 0.0009, CT11= 0.012 , CT12 = 0.315, CT13 = 0.307, CT14 = 0.882, dan CTS7,8 = 0.361, sehingga tiang pancang masih aman digunakan.

Kata Kunci: *Catwalk, Tiang Pancang, Steel Stress Ratio*, Beton Bertulang

CATWALK DESIGN PLANNING ANALYSIS (CT10-CT14) THE REFINERY DEVELOPMENT MASTER PLAN (RDMP) PROJECT RU V *AT PERTAMINA BALIKPAPAN JETTY PIER, EAST KALIMANTAN*

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ABSTRACT

The Refinery Development Mater Plan RU V Project in Balikpapan, East Kalimantan is a national strategic project implemented by the government in a effort to prevent a decline in national energy security for economic recovery after the covid-19 pandemic.
This final project discusses of the catwalk at the jetty of PT. Pertamina Balikpapan East Kalimantan, which is a bridge that fuctions as a link between the docks (loading platforms) and breasting dolphins, link between moorings and breasting dolphins, and link between moorings dolphins. The structure of the catwalk is designed based on design criteria and applicable standards taking into account environmental conditions and loads that occur on the catwalk consisting of dead loads, live loads, test loads, heat loads, wave loads, current loads, wind loads and earthquake loads.
The results of the analysis on the catwalk structure with reinforced concrete used concrete with fc' 35 Mpa and for the steel pipe pile specifications fy =250 Mpa and fu = 400 Mpa, in the catwalk structure planning analysis used software SAP2000 version 21, and the references in this analysis were AISC – ASD89 and ACI318M-14.The largest capacity ratio values obtained were CT10 = 0.0009, CT11= 0.012 , CT12 = 0.315, CT13 = 0307, CT14 = 0.882, dan CTS7,8 = 0.361, so the piles are still safe to used.

Keywords: Catwalk, Steel Pipe Pile, Steel Stress Ratio, Reinforced Concrete