

ABSTRACT

Batching Plant Site Layout Optimization (Batching Plant Case Study PT. Adhimix Precast Indonesia Serpong Regional)

Rifki Ghifary¹⁾, Galih Wulandari Subagyo²⁾, Rizka Arbaningrum²⁾

1) Student of Civil Engineering Department, Pembangunan Jaya University

2) Lecturer of Civil Engineering Department, Pembangunan Jaya University

Site layout optimization aims to get the most optimal form of site layout. In this study, the site layout will be optimized using the multi objective function method by minimizing the Traveling Distance (TD) and Safety Index (SI) values. The calculation of the optimum site layout is done by making several alternative transfers of facilities. Based on the calculation results, the minimum TD result is alternative 0 of 4014,261 meters, and the minimum SI result is alternative 4 of 287,034. Alternative 0 cannot be compared because alternative 0 is the basic layout. Then in Alternative 4, there is an increase in TD of 80.98% and a decrease in SI of 12.66% from alternative 0. Therefore, to determine the most optimal site layout, the method is to use the calculation of the percentage value of traveling distance and safety index. Based on the results of interviews with PT. Adhimix Precast Indonesia Serpong area, the percentage rate given for traveling distance is 40% and the safety index is 60%. Based on the calculation of the percentage of TD and SI from all alternative layouts, it was found that the basic layout is the most optimal layout with the minimum value of 1802,897.

Keywords: Optimization, Site Layout, Traveling Distance, Safety Index, Batching Plant

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