

V. Conclusions and Suggestions

5.1 Conclusion

1. To find out the Value Engineering in the Cimanggis Cibitung Toll Road construction project, it is necessary to assess the best use of concrete construction in the implementation of cimanggis Cibitung Toll Road work.
 2. The type of use of concrete construction on the construction of the Cimanggis Cibitung Toll Road is to precast used piles, girders, wing stiffeners, barriers, fullslabs, panel fences, U ditch channels and ready mix for foundry pierhead columns, rigid for roads, ashmen and road barriers, while ready mix is used for lean concrete casting, rigid pavement, pearhead and Column and for Processed Concrete used for stone pair work times as retaining walls, drainage channels, parking lots.
 3. The method used to find out the best use of concrete construction between Precast concrete, Ready Mix and Processed Concrete is used AHP Method (**Analytic Hierarchy Process**),
 4. For the use of AHP, there must be as follows :
Purpose: Choosing a good type of concrete construction
Criteria for Time, Environment, Production, quality of goods, strength and cost
Alternatives : Precast Concrete, Ready Mix Concrete and Olah Concrete
 5. From the results of calculations with AHP with EVN values, the criteria are obtained:
 - a. Time 0.04
 - b. Lingkungan0,03
 - c. Production 0.22
 - d. Quality of goods 0.48
 - e. Kekuatan0,15
 - f. Biaya0,08
- For the construction work of the Cimanggis Cibitung Toll Road, the quality of concrete is very important in the construction work of the Cimanggis Cibitung Toll Road construction, for then concrete production becomes the second important thing continued the strength of concrete to know the sturdiness of concrete used in the field then the cost is also an important factor after strength because of the cost that we can know whether the concrete cooking is the most efficient, fast and not problematic only last time in the implementation of cimanggis cibitung road construction work as well as the environment in maintaining the sustainability of the toll environment that can also serve to maintain the strength of concrete.
6. From the selected alternatives such as Precast Concrete, Ready Mix and Processed Concrete, the results of Precast Concrete, Ready Mix Concrete and Processed Concrete are seen from the aspects of time, environment, production, quality of goods, strength and cost, the results obtained through the AHP Method are as follows:
 - a. Precast Concrete 0.754
 - b. Concrete Readymix 0.178
 - c. Processed Concrete 0.071

So the cultivation of Precast Concrete in the Cimanggis Cibitung project is very important, especially for efficiency, environmentally friendly and dust hazards while Ready Mix Concrete is important for casting parts that are difficult to use precast concrete, lastly processed concrete for casting certain parts in the field.

5.2 Suggestions

1. The result of the observation that the use of Precast Concrete for large projects, especially for toll road projects, is needed, especially in terms of Quality, Time < cost, Environment, Strength and production speed.
2. In using the *AHP* program we can make the best consideration of alternatives to the use of precast concrete, Ready Mix Concrete and Processed Concrete, *AHP* calculations can also get the best criteria from concrete construction work in the field, especially toll road construction work.
3. From the results obtained by using the *AHP* Method by spreading Questioner to respondents, it is known that the majority of respondents want the future of Precast concrete as an alternative to the construction of toll roads.

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