International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056
Volume: 03 Issue: 02 | Feb-2016 www.irjet.net p-ISSN: 2395-0072

JUST IN TIMEAPPLICATION AND FEASIBILITY STUDY ON CONSTRUCTION PROJECT

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Abstract - *Just in time has a lot of Potential for managing building material from manufacturing shop to construction site. The traditional approach used in construction industry many years ago. Companies try to adopt new method to stay in competition. Companies must strive to create high quality, and Low cost products that can get to the customers in the shortest time possible Just in time production reduces the lot size This Paper Deals with Implementing Just in Time Inventory Control Approach on Highway Construction. JIT has lot Effect on Material Delivery Operation. During implementation of JIT organization is required to put desired efforts on all levels of the work*

1. INTRODUCTION

Just in Time method used for concrete delivery in Japan. JIT principle was introduced by Toyota Company in Japan. JIT is a system that produces the required material at the time and in the amount of quantities needed.JIT Principle increases the efficiency of the workers.

JIT combines difficult objectives like low cost, less area requirement for material storage, high quality material delivery.

JIT Implementation depends on supplier. The character supplier is strongly dependent on the success or failure of any materials-planning system. Selection of vendors is the important initial step, because selection of vendors affects the construction itself.

2. Concept Of Just in Time

. JIT Concept is, "Company manufactured only what is needed, when it is needed and in the how much quantity that is needed". The company produces only what the customer order.JIT can also be defined as producing the necessary quantity of material, with the required quality

JIT Implementation steps:

One of the major objectives in implementing JIT System is to achieve a common goal of the whole company.

First step:

I) calculation of material quantity

II) ABC analysis procedure.

III) Material Selection.

Second Step:

I) Selection of Vendor.

Third Step:

I) preparation of material procurement plan.

II) Calculation of equipment productivity.

Case study

Introduction about company:

Site Place: Aland

Nature of work: Road Construction

Nature of Road:Black top road

Total Length of Road: 63KM

Total Cost of Project: 37Cr

.Name of Organisation: Patil and Company

Mo No: 9036450000.

3 JIT Implementation process:

3.1) Material Quantity Calculation

Total monthly target= 3.5 km

GSB required for 1 km = 660 cum. (lxbxh)

For 3.5 km GSB required = 3.5x660=2310 cum.

WMM required for 1 km=979 cum.

For3.5kmWMM Required=979X3.5=3426.5

BM required for 1 km=297 cum.

For 3.5 km BM Required=297X3.5=1039.5 cum

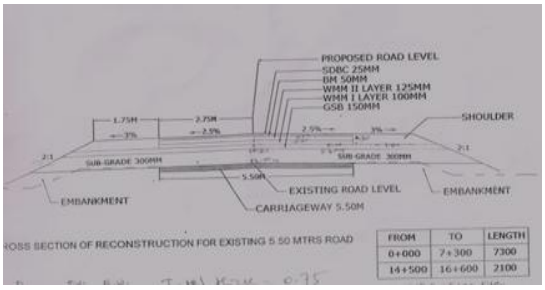


Fig no 2: Shows road cross section

Sample material calculation for BM:

1000X5.5X0.054 (LXBXH) = 297 Cum

3.2) ABC Analysis:

ABC Analysis was performed to select the material for JIT Application.

3.3) Material Selection:

For JIT application BM, GSB and WMM Material Selected.

Step 2:

3.4) Vendor Selection Process:

One of the major things parameter which may have High influence an success of JIT is Vendor Selection. Five criteria's were selected for vendor evaluation they are cost, quality, providing document in time, service and cooperation. Based on the material following vendors were Primarily Selected.

i) Murum

a) Hindustan Company b) Trimurti Company C) Moraya Company.

ii) GSB and WMM

a) Paranjape Company

iii) BM and SDBC

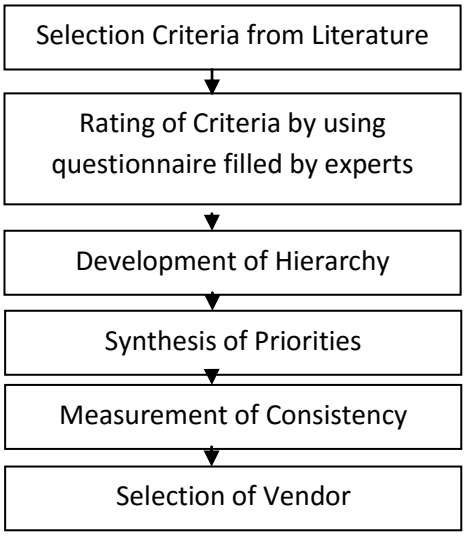
a) Rudra Company

Analytical Hierarchy Process was used for vendor selection and following vendors are selected.

i) Murum- Hindustan Company

ii) GSB and WMM- Paranjape Compan

iii) BM and SDBC- Rudra Company



Step 3:

3.5) Monthly material procurement plan

JIT, calls for material procurement when required, so based on equipment productivity and fleet management from available equipment, procurement plan is developed.

Fleet required for laying GSB is loader, Paving machine, Grader are Required.

4. CONCLUSIONS:

Due to proper planning equipment utilization improved.

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