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ANALYSIS OF CONSTRUCTION MANAGEMENT CONSTRUCTION PROJECTS DEVELOPMENT OF FLATS OF TEGAL ALUR DKI JAKARTA

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ABSTRACT

Location of the development project of Tegal Alur DKI Jakarta KSO.WIKA & CAKRA in the Lingkungan III Tegal Alur West Jakarta coordinates Y: 2500.000 X: 2500.000 (West Jakarta PUPR Office)

Project management is an attempt to use limited resources efficiently, effectively and on time in completing a predetermined / planned project. There are 3 activities of the basic functions of project management namely planning, implementation and control. Of the three activities are controlled resources on a project that includes manpower, equipment, materials, money and methods.

Analysis of Construction Management of Jakarta Tegal Alur DKI Jakarta Project Development Project includes Analysis of Work Implementation Method, Volume Calculation and Budget Plan of Jakarta Tegal Alur DKI Jakarta Development Project, Schedule Compilation at Tegal Alur DKI Jakarta Flower Housing Project, Cash Flow Analysis On Development Project of Tegal Alur DKI Jakarta Flats.

This research methodology is composed of several main stages, namely Preparation of Survey and Identification of Field, Seeking primary data and secondary data in related institution and department needed to complete data needed in preparation of thesis, Conducting analysis of data obtained through identification problem and make formulation, Taking conclusions and suggestions from the results of research.

With Budget Plan Cost and calculation of workload of Jakarta Flat Development Project Tegal Alur DKI Jakarta resulted in Working Time Plan takes 231 days using CPM scheduling method with estimated cost of Rp. 36.690.228.549

Keywords   :Project Management, Bar Chart, Curva S, CPM (Critical Path Method)

1. INTRODUCTION

1.1 Background

The purpose of project management is to manage or manage the implementation of the project in such a way as to obtain optimum results in accordance with the requirements and for the purposes of such achievement should pay attention to the quality of the building, the cost in use and time allocation. (Agnes Dwi Yanthi Winoto, 2014).

Several methods have been developed to overcome in the project such as Network Planning Method such as Critical Path Method (CPM), Barchart and Curve S. Network Planning method is one that can be used to help decide various problems especially planning, scheduling , and project control.

One of the outcomes of the planning is project scheduling, which can provide information on the project schedule and progress of the project in terms of resource performance in the form of cost, labor, equipment and materials and the progress and duration of project completion time. This is intended to help facilitate monitoring and evaluation of project implementation.

Analysis of Construction Management of Tegal Alur DKI Jakarta Flats Development Project is expected to provide an overview of the project conditions so as to facilitate the contractor in making decisions to optimize project performance.

1.2 Problem Formulation

The formulation of the problem in this writing is :

a. Analysis of Work Implementation Methods
b. Calculation of Volume and Budget Plan of Development Project of Tegal Alur DKI Jakarta Flats.
c. Preparation of Schedule on Tegal Alur DKI Jakarta Flats Development Project.
d. Analisa Arus Kas Pada Proyek Pembangunan Rumah Susun Tegal Alur DKI Jakarta

1.3 Purpose and Objectives
a. Purpose

The preparation of the thesis is intended to gain experience, knowledge and insight about the management of building projects, as well as an effort to realize all the science related to theory obtained during a lecture at the Faculty of Engineering, Prodi Civil Engineering University of Swadaya Gunung Jati.

b. Objective

This final project is carried out with the aim to analyze the construction management of the development project of Tegal Alur DKI Jakarta Flats such as:

a. Work Volume Calculation Analysis
b. Work Method Analysis
c. Work Time Schedule Analysis
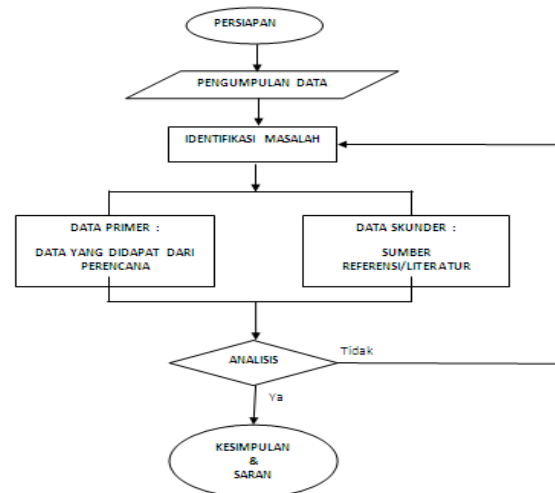d. Cost Analysis

1.4 Thinking Framework

Figure 1. Thinking Framework

2. REVIEW OF LITERATURE AND BASIC THEORY

2.1 GENERAL

The literature review is about similar planning that has been done before. And the theoretical basis that can be used as a reference in analyzing about Project Management.

2.2 REVIEW OF REFERENCE
1. Research conducted before

a. Management Analysis Project development PT. PRIMA MULTI BUSINESS INDONESIA XL (Yudi Sutomo (2015))
b. Analysis of Building Structure Building. The title of the research is Analysis of Construction Management Construction of Grand Orchard Cirebon store

house (Tanto sutanto Diharjo, (2015))

c. Analysis of Project Implementation Management of PT. Indo Food Cbp Cirebon (Rihad Arif Zein (2011))

2. The Differences of Prior Research with Current Research

Current research is Analysis of Construction Management of Tegal Alur DKI Jakarta's Construction Project Basically has an element of similarity with previous research when viewed from the aspect of its objective is to overcome the problems in project management such as compiling the performance of time, Preparation Schedule execution, Time Schedule re-planning, cost and Implementation method. Projects in the field.

Based on the results of the study of the above three planning regarding the construction management planning of a building structure. assessed that the most approximate and equality in the planning of a construction management system with the planning that is doing now is the first planning.

2.3 BASIC THEORY
2.1.1. GENERAL PRINCIPLES OF PROJECT MANAGEMENT

According to George R.Terry: Terry defines management in his Principles of Management, "A process that distinguishes the planning, organizing, mobilization and supervision by utilizing both science and art in order to achieve predetermined goals

2.1.2. DEFINITION OF ANALYSIS

Analysis is needed in planning especially for planning development either a region or a building construction. So that development planning can be done optimally.

2.1.3. DEFINITION OF PROJECT MANAGEMENT

According to IAI (Indonesian Institute of Accountants) project management is the management of the whole construction process starting from the process of preparing the project initiative, ie the stage of the formulation of project needs or ideas, budget preparation and overall development schedule until the completion of the construction process including the maintenance period as well proccurement 'procurement' equipment and building supplies.

2.4 DATA ANALYSIS METHOD

Method of data analysis conducted in this research, the method of CPM (Critical Path Method) as a corrective action to analyze the network work for the implementation of the project to be ideal

1. Bar chart

Bar Chart Is a set of activity lists arranged in vertical direction columns, and horizontal direction columns show the time scale. The start and end of an activity can be seen clearly while the duration of the activity is illustrated by the length of the bar chart.

The block chart consists of the x-axis and the y-axis, the y-axis representing the description of the activity or work package from the project scope while the x-axis represents the duration or time required for each activity with daily, weekly and monthly units.

2. S Curve

The S curve is a graph developed by Warren T. Hanumm on the basis of observing a large number of projects from the beginning to the end of the project.

The S curve can show the progress of a project based on activity, time and workloads represented as the cumulative percentage of all project activities. The visualization of the S curve can provide information on the progress of the project by comparing it to the planned schedule. From here it is known whether there is a delay or acceleration of the project schedule.

3. Budget Plan

The Budget Plan is a calculation of the amount of costs required for materials and wages, as well as other costs associated with building or project implementation. Budget cost is the price of building materials that are carefully calculated, meticulously and qualified. The cost budget in the same building will vary in each

region, due to the difference in material prices and labor costs.

4. Critical Path Method

T. Hani Handoko (1993) argues that CPM is a method designed to optimize project costs whereby it can be determined when exchanges of costs and time must be made to meet project completion schedules for the minimal cost possible.

CPM provides the following benefits:

a. Provide a graphical display and the flow of a project's activities.
b. Predict the time required to complete a project.
c. Indicate the flow of activities that are important to consider in maintaining the project completion schedule.Provide graphical display and the flow of activities of a project.

5. Cashflow

Cashflow is one of the other planning products in construction planning, such as scheduling, construction methods, and implementation budget. (Widiasanti & Lenggoni, 2013, p. 136)

3. METHOD AND RESEARCH OBJECT
3.1. RESEARCH METHOD

The research method used is quantitative and qualitative methods, the definition is like this :
a. Quantitative method is the method by collecting and studying the literature related to planning and Analysis of Calculation.
b. Qualitative method is a method done by collecting field data to be used as data in the object.
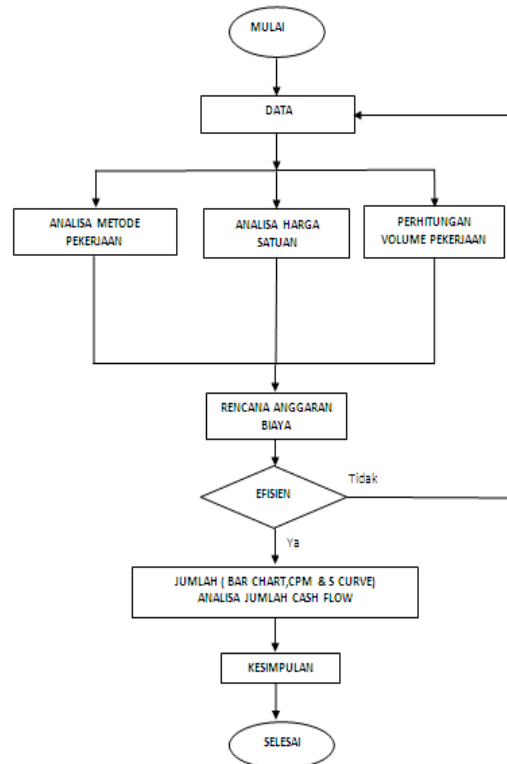
3.2. RESEARCH FRAMEWORK

Figure 2. Research Framework

3.3. RESEARCH LOCATION

Location of the development project of Tegal Alur DKI Jakarta KSO.WIKA & CAKRA in the Lingkungan III Tegal Alur West Jakarta coordinates Y: 2500.000 X: 2500.000 (West Jakarta PUPR Office)
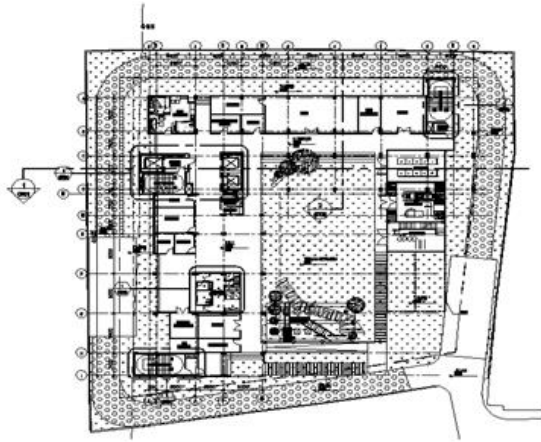

Figure 3. Project Location

4. RESEARCH RESULT AND DISCUSSION
4.1. GENERAL DESCRIPTION OF DEVELOPMENT PROJECTS

The construction of the Tegal Alur DKI Jakarta built in the neighborhood of III Tegal Alur subdistrict, Kalideres Sub-district, West Jakarta, is seven floors, intended as a habitable vertical dwelling for the people of DKI Jakarta

affected by the relocation by the Provincial Government of DKI Jakarta.

(Sumber : Shop Drawing Struktur)

Figure 4. Site Plan For The Development Of Apartment Projects In Jakarta

4.1.1. Project General Data

Project name:
Development Project of Tegal Alur DKI Jakarta's Leased Apartment

Project location:
Lingkungan street III Tegal Alur, Kalideres DKI Jakarta

Types of Foundation : Pile Foundation(Square Pile) & Pilecap

Structure Type : Reinforced Concrete

Concrete Quality : Fc'30

Quality Reinforcement : BJTS 40

4.1.2. Job Description
a. Preparatory work
1) Land Cleaning
2) Measurement and installation of bouwplank
3) Work of security fence
4) The making of the Board of Directors

b. Land and Foundation Work
1) Pile foundation work Uk. 35x35.
2) Excavation of soil pile cap and sloof.

3) The work of urugan sand under pile cap, sloof and floor work.
4) Working floor work under pile cap and sloof.

c. Concrete Reinforced Concrete Work
1) Pile cap foundation work
➢ Tipe pc 5= 2,185 x 2,185 x 1,200
➢ Tipe pc 6= 1,750 x 2,800 x 1,200
➢ Tipe pc 8= 1,750 x 3,850 x 1,200
➢ Tipe pc 9= 2,800 x 2,800 x 1,200
➢ Tipe pc 9A=3,615 x 2,800 x 1,200
➢ Tipe pc 10=1,750 x 5,075 x 1,200
➢ Tipe pc 11=2,519 x 3,850 x 1,200
➢ Tipe pc 12=1,750 x 6,250 x 1,200
➢ Tipe pc 12A=1,750x5,625 x 1,200
➢ Tipe pc 22=4,900 x 4,475 x 1,200
➢ Tipe pc 22A=3,850x7,350 x 1,200
➢ Tipe pc 24=5,125x 9,500 x 1,200

2) The work of the pedestal column
➢ Tipe K1= 0,700 x 1,000
➢ Tipe K2= 0,700 x 1,200
➢ Tipe K3= 0,700 x 1,300
➢ Tipe K4= 0,300 x 0,300

3) Tie Beam Works
➢ Tipe TB1 = 0,200 x 0,400
➢ Tipe TB2-7= 0,400 x 0,600
➢ Tipe TB8-12= 0,500 x 0,800
➢ Tipe TB13= 0,400 x 0,500
➢ Tipe TB14-16= 0,500 x 0,800
➢ Tipe LB1 = 0,300 x 0,500
➢ Tipe W10= 0,500 x 1,400

4) Work beam
➢ Tipe B1 = 0,200 x 0,400

➢ Tipe B2-B7= 0,300 x 0,400
➢ Tipe B8-12= 0,400 x 0,500
➢ B13-B15   = 0,400 x 0,600
➢ Tipe LB1   = 0,300 x 0,500

d. Architectural Work

1) The work of plastering walls, and nat grout.
2) Ceramic work
3) Work frames, doors, and windows
4) Ceiling work
5) Work staircase railing
6) Front and page work
7) Roof covering work

e. Electrical Mechanical Works

1) Electrical installation work
2) Water installation work

4.2. METHOD OF IMPLEMENTATION OF WORK

a. Work Preparation

Situations and Measures prior to the implementation of the construction of the initial stage of work is preparatory work.

- Everything concerning the smoothness of the implementation work should be prepared on site before carrying out the work.
- Detailed schedule, Time schedule, equipment and labor mobilization, and completeness of field administration must be prepared before starting work.
- For the smoothness of previous activities the contractor should pay attention to the placement of materials and traffic.

b. Land and Foundation Work

a. Excavation Work Pile soil cap and Sloof
b. *Urugan* sand work under pile cap, sloof, and floor work. *Urugan* Sand compacted upholstery until it reaches thickness. *Urugan* Sand in accordance with the working drawings and technical specifications that are about 10 cm.

c. Work floor work under pile cap, sloof, and floor work After the soil is dug and granted sand, the work floor is then made with a mixture of 1Pc concrete: 3Ps: 5Kr. Before the concrete mix is laid, the ground floor is leveled first. The thickness of the work floor is about 5 cm, after the work floor hardened then placed on the foundation of Plat Places.
d. Compaction Work

c. Structural Work
1. Pile cap foundation work
2. Sloof's work
3. Works Formwork
4. Reinforcement Works
5. Work column
6. Work Beams, Plates Floors and Stairs
7. Roof Covering Works

d. Architectural Work
1. Wall Works, Plastering, and *Acian*
2. Granite and Ceramic Installation Works
3. Work Frame, Door, Window and Partition
4. Ceiling Work
5. Paintwork
6. Railling Stair Works

e. Electrical Mechanical Works.
1. Electrical Installation Works
2. Water Installation Works

4.3. ANALYSIS OF UNIT PRICE
4.3.1.   Material and Wage Analysis

Analysis of a work ingredient, which is the amount / volume of each material, as well as the amount of costs required. While the meaning of wage analysis of a worker is to calculate the number of personnel required, and the amount of cost required for the job. (H. Bachtiar, 1993)

Table 1. Tool Price Analysis

Tabel 4.3 Analisis Harga Alat

NO	PERALATAN	HARGA SATUAN (Rp)	
1	Asphalt Spayer	Rp. 113.747,09	Jam
2	Compresor	Rp. 185.882,28	Jam
3	Dump truck 3.5 ton	Rp. 297.684,44	Jam
4	Dump truck 5 ton	Rp. 401.725,39	Jam
5	Motor grader	Rp. 499.769,35	Jam
6	Wheel Loader	Rp. 389.008,13	Jam
7	Three Wheel Roller	Rp. 207.652,93	Jam
8	Tandem Roller	Rp. 307.225,14	Jam
9	Water Tanker	Rp. 283.674,99	Jam
10	Asphalt Distributor	Rp. 375.875,18	Jam
11	AMP	Rp. 4.219.019,76	Jam
12	Genset	Rp. 494.672,17	Jam
13	Tyre Roller	Rp. 463.787,91	Jam
14	Conc. Mixer	Rp. 71.434,36	Jam
15	Conc. Pan Mixer	Rp. 361.536,03	Jam
16	Truck Mixer	Rp. 596.950,86	Jam

4.3.2. Work Unit Price Analysis

What is meant by the unit price of work is, the amount of material prices and wages of labor based on the calculation of the analysis. The price of materials obtained on the market, collected in a list called the price list of materials. (H. Bachtiar, 1993, p. 133)
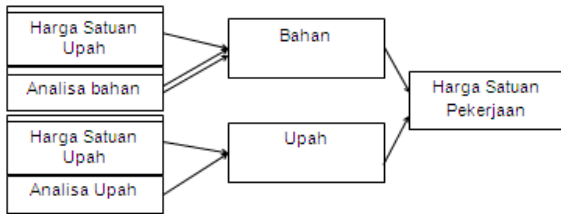

Figure 5. Work unit price scheme

From the above scheme then got the formulation as follows:

HARGA SATUAN PEKERJAAN = BAHAN + UPAH

(Soirce Ibrahim, Rencana dan Estimate Real of Cost, Jakarta 1993)

4.4. CALCULATION OF BUDGET PLAN

The Begrooting Plan of a building or project is a calculation of the amount of costs required for materials and wages, as well as other costs associated with the execution of the building or project. (Ibrahim, 1993, p.3)

Before calculating the Budget Plan, first calculate the volume of each job obtained from the working draw (*bestek*).

After calculating the volume of each subsequent work is to calculate the Budget Plan by multiplying the volume with the unit price. (Winoto, 2014)

TABEL
REKAP PROYEK PEMBANGUNAN RUMAH SUSUN TEGAL ALUR DKI JAKARTA

No	Uraian Kegiatan	Jumlah Harga	Bobot
1	**PEKERJAAN PESIAPAN**	Rp 3.240.038.033	8,939
2	**PEKERJAAN KONSTRUKSI**		
3	**PEKERJAAN STRUKTUR**		
4	**Pondasi Pancang**	Rp 2.005.469.809	5,533
5	**Struktur Bawah**	Rp 2.180.788.015	6,016
6	**Struktur Atas**		
7	Lantai 1	Rp 749.106.292	2,067
8	Lantai 2	Rp 1.211.724.909	3,343
9	Lantai 3	Rp 1.874.224.157	5,171
10	Lantai 4	Rp 1.874.224.157	5,171
11	Lantai 5	Rp 1.116.980.356	3,082
12	Lantai 6	Rp 1.116.980.356	3,082
13	Lantai 7	Rp 1.149.741.398	3,172
14	Lantai atap 1	Rp 883.106.130	2,436
15	Lantai atap 2	Rp 436.404.577	1,204
16	**PEKERJAAN ARSITEK**		
17	Pekerjaan pas.bata	Rp 4.213.406.259	11,624
18	Pekerjaan Lantai dan Keramik	Rp 1.473.564.518	4,065
19	Pekerjaan Kosen Pintu Jendela	Rp 1.621.547.200	4,474
22	Pekerjaan Sanitair	Rp 306.769.700	0,846
23	Pekerjaan Plafond	Rp 811.709.513	2,239
24	Pekerjaan Pengecatan	Rp 711.733.671	1,964
26	**PEKERJAAN MEKANIKAL & ELEKTRIKAL**		
27	**PEKERJAAN MEKANIKAL**		
28	Instalasi air bersih & air kotor	Rp 1.972.546.218	5,442
29	Sistem tata udara	Rp 380.857.500	1,051
30	Fire Hydrant & Sprinkler	Rp 199.089.300	0,549
31	Instalasi Gas	Rp 256.000.000	0,706
32	Transportasi dalam gedung (Lift+Gondola)	Rp 4.573.500.000	12,617
34	**PEKERJAAN ELEKTRIKAL**		
35	Instalasi daya dan & penerangan	Rp 590.500.000	1,629
36	Fire Alarm	Rp 199.089.300	0,549
37	Sound System	Rp 50.456.890	0,139
38	MATV	Rp 150.000.000	0,414
39	Penangkal Petir	Rp 10.504.200	0,029
40	CCTV	Rp 213.669.000	0,589
41	Sistem Genset	Rp 524.000.000	1,446
42	Pekerjaan Pendukung	Rp 150.000.000	0,414
	JUMLAH	Rp 36.247.731.456	100,000

4.5. PREPARATION OF PROJECT SCHEDULING

4.5.1. Barchart analysis

Based on the planning and results of the calculation then if using the Analysis by Barchart method is as follows and attached:
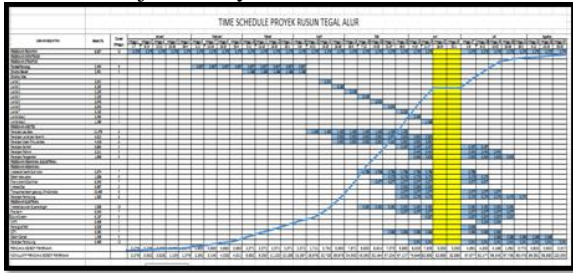
Table 2. Analysis Barchart
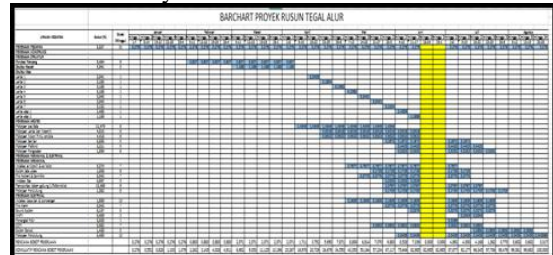
4.5.2. Curve S Analysis

Based on the planning and the result of weight calculation then use Analysis of S curve is as follows.

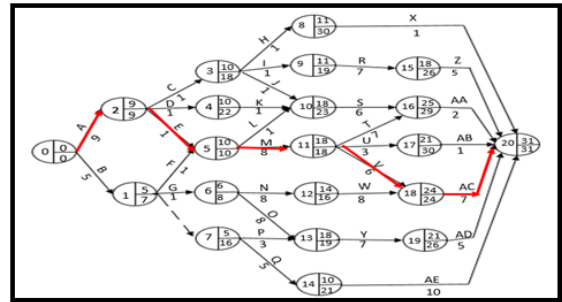**Table 3.** Project Analysis Kurva S

4.5.3. CPM Analysis

1. Preparation of Working Network Schedule (AOA Method)

Acitivity On Arrow (AOA) or Arrow Diagram consists of arrows and circles / rectangles. The arrows describe the activity / activity, while the circle / quadrilateral describes the event (event). (Ervianto, 2005, p 233)

Table 4. Activity On Arrow

2. Determining the Relationship Between Activities

In the CPM, compile the components in the order of dependence logic through the basis of making the working period, so it is known for the activities from the beginning of the project until the completion of the project completion of the project as a whole.

The order of activities in accordance with the logic of its dependence on the Development Project of Tegal Alur DKI Jakarta Flats, the

sequence of activities and vice versa can be in the table below.

Gambar 4.3 *Arrow Diagram*

Figure 6. Arrow Diagram

3. Backward Calculation

The purpose of backward pass is to obtain the slowest time (LETA = Latest Event Time Noda A) on N stain and finish time slowest (LETN = Latest Event Time Noda N) node of all activities by taking its minimum value

Table 5. Countdown

Table 6. Advanced calculations

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Perhitungan Maju

NO KEJADIAN	KEGIATAN	EETᵢ	DURASI	EETⱼ	KETERANGAN
1	B	0	5	5	-
2	A	0	9	9	-
3	C	9	1	10	-
4	D	9	1	10	-
5	E	9	1	10	Diambil Terbesar yaitu 10
	F	5	1	6	
6	G	5	1	6	-
7	DUMMY	5	0	5	-
8	H	10	1	11	-
9	I	10	1	11	-
10	J	10	1	11	Diambil Terbesar yaitu 18
	K	10	1	11	
	L	10	8	18	
11	M	10	8	18	-
12	N	6	8	14	-
13	O	6	8	14	Diambil Terbesar yaitu 14
	P	5	3	8	
14	Q	5	5	10	-
15	K	11	7	18	-
16	S	18	6	24	Diambil Terbesar yaitu 25
	T	18	7	25	
17	U	18	3	21	-
18	V	18	6	24	Diambil Terbesar yaitu 24
	W	14	8	22	
19	Y	14	7	21	-
20	X	11	10	21	Diambil Terbesar yaitu 31
	Z	18	5	23	
	AA	25	2	27	
	AB	21	1	22	
	AC	24	7	31	
	AD	21	5	26	

PERHITUNGAN FREE FLOAT DAN TOTAL FLOAT

KEGIATAN	KEJADIAN		DURASI	KEJADIAN		FREE FLOAT	TOTAL FLOAT
	EETi	LETi		EETj	LETj		
A	0	0	9	9	9	0	0
B	0	2	5	5	7	0	2
C	9	17	10	10	18	-9	-1
D	9	21	1	10	22	0	12
E	9	9	1	10	10	0	0
F	5	9	1	6	10	0	4
G	5	7	1	6	8	0	2
H	10	20	1	11	21	0	10
I	10	18	1	11	19	0	8
J	10	22	1	11	23	0	12
K	10	22	1	11	23	0	12
L	10	15	8	18	23	0	5
M	10	10	8	18	18	0	0
N	6	8	8	14	16	0	2
O	6	0	8	14	16	0	2
P	6	16	3	8	19	-1	10
Q	5	16	5	10	21	0	11
R	0	19	7	0	26	-7	19
S	18	23	6	24	29	0	5
T	18	22	7	25	29	0	4
U	18	27	3	21	30	0	9
V	18	18	6	24	24	0	0
W	14	16	8	22	24	0	2
X	11	21	7	21	31	3	13
Y	14	19	10	21	26	-3	2
Z	18	26	5	23	31	0	8
AA	25	29	2	27	31	0	4
AB	21	30	1	22	31	0	9
AC	24	24	7	31	31	0	0
AD	21	26	5	26	31	0	5
AE	10	21	10	20	31	0	11

4. Identify the Critical Path, Total Float and Project Completion Period

The Critical Path Method, where the approach used only uses one type of duration on its activities. The Critical Path is a path with a collection of activities having the longest duration that can be known when its activity has Total Float 0.

What is meant by the critical path in this step is the path consisting of a series of activities within the scope of the project, which, if delayed will result in the overall project delays, activities on this path are called critical activities, whereas float is the time voltage of a certain non-critical activity of the project.

5. Cash Flow Project Cash Flow Planning

Cashflow is the approximate flow of funds to be spent on the construction of the project in accordance with the Time Schedule that has been drawn up by the contractor. Making Cashflow is usually used at the beginning of the presentation with the owner because it aims to manage the finances of the owner about the amount of expenditure each week. This Cashflow creation is related to Curve S. The main formula of Cashflow building project creation is:

Cashflow = Plan Progress (%) x Total

Table 7. Total Float

Table 8. Cashflow Project

DURASI : 31 MINGGU

PERIODE JANUARI 2017 - AGUSTUS 2017		HARGA BAHAN	HARGA ALAT	HARGA PEKERJA	KUMULATIF
JANUARI 2017	1	Rp 759.711.250	Rp 473.289.353	Rp 81.000.000	1.314.000.603
	2	Rp 759.711.250	Rp 473.289.353	Rp 78.300.000	1.311.300.603
	3	Rp 759.711.250	Rp 473.289.353	Rp 59.700.000	1.292.700.603
	4	Rp 759.711.250	Rp 473.289.353	Rp 64.500.000	1.297.500.603
FEBRUARI 2017	5	Rp 759.711.250	Rp 473.289.353	Rp 63.900.000	1.296.900.603
	6	Rp 759.711.250	Rp 473.289.353	Rp 61.800.000	1.294.800.603
	7	Rp 759.711.250	Rp 473.289.353	Rp 36.420.000	1.269.420.603
	8	Rp 759.711.250	Rp 473.289.353	Rp 50.580.000	1.283.580.603
MARET 2017	9	Rp 927.796.588	Rp 351.603.333	Rp 59.700.000	1.339.099.921
	10	Rp 927.796.588	Rp 604.8.000.00	Rp 64.500.000	1.358.460.000
	11	Rp 1.948.195.016	Rp 604.8.000.00	Rp 50.580.000	2.004.823.016
	12	Rp 657.989.810	Rp 6.56.8.000.00	Rp 59.700.000	723.857.810
APRIL 2017	13	Rp 1.948.195.016	Rp 6.56.8.000.00	Rp 64.500.000	2.019.263.016
	14	Rp 574.097.508	Rp 6.56.8.000.00	Rp 50.580.000	1.031.245.508
	15	Rp 574.097.508	Rp 32.615.000.00	Rp 59.700.000	1.066.212.508
	16	Rp 1.948.195.016	Rp 32.615.000.00	Rp 210.615.000	2.191.225.016
MEI 2017	17	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	1.548.975.600
	18	Rp 574.097.508	Rp 32.615.000.00	Rp 210.615.000	1.217.127.508
	19	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	1.064.230.000
	20	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	1.542.005.000
JUNI 2017	21	Rp 655.610.934	Rp 21.816.736.27	Rp 141.753.260	819.180.929
	24	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	1.578.592.200
JULI 2017	25	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	608.563.754
	26	Rp 487.048.754	Rp 16.207.500.00	Rp 105.307.500	608.563.754
	27	Rp 655.610.934	Rp 21.816.736.27	Rp 141.753.260	819.180.929
	28	Rp 400.796.851	Rp 16.207.500.00	Rp 91.170.000	1.702.600.000
AGUSTUS 2017	29	Rp 400.796.851	Rp 16.207.500.00	Rp 91.170.000	508.174.351
	30	Rp 400.796.851	Rp 16.207.500.00	Rp 91.170.000	508.174.351
	31	Rp 539.508.203	Rp 21.816.736.27	Rp 122.722.927	684.047.867
JUMLAH					36.249.731.455

5. CONCLUSIONS AND SUGGESTIONS
5.1. CONCLUSIONS

After data collection, discussion and analysis in the previous chapters based on the results of existing data, it can be drawn a conclusion as follows::

1. To reduce the problem of densely populated settlements in the capital is to build vertical housing one of the rental houses programmed by the provincial government and central government.
2. 2. Based on the Budget Plan of the Project Development of Tegal Alur DKI Jakarta Flats more or less cost Rp. 36.690.228.549 Unspecified: (Thirty Six Billion Six Hundred Ninety Million Two Hundred Twenty Eighty Five Five Hundred Forty Nine Rupiah)
3. 3. With Budget Plan The cost and calculation of workload of Tegal Alur DKI Jakarta Flat Development Project in the result of Working Plan Time requires 231 days using CPM scheduling method
4. By Using Network Planning Diagram Sheduling can be seen clearly Time work that can be delayed or must be done

5. With Cash Flow Project Flow Preparation can be known the amount of Expenses incurred on a weekly or monthly basis.
6. With Project Management Analysis can be in the know Quality of materials, Cost and Time Planned On Development Project Flats Tegal Alur DKI Jakarta.

5.2. ADVICE

1. In the planning of Cost Calculation, it is necessary to evaluate the price which is done by Government or Private, whether it is Material Price and Worker's Wage in West Jakarta.
2. Material Requirement Monitoring Should pay attention to Work Requirement According to Contents of Budget Plan so it can minimize lost material or loss.
3. There needs to be a review of the identification of problems that will occur in the Project as it will affect the scheduling of project execution time and cost planning.
4. Provide the ability of Analysis Method to try to change part of the process, Then observe the effect on the project as a whole

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