

MAMBA'UL ULUM MOJOKERTO ISLAMIC BOARDING SCHOOL RENOVATION MENTORING

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ARTICLE INFO:

Article history:

For Example :

Received 20 August 2020

Received in revised form

10 September 2020

Accepted 30 October 2020

Available online 30 November 2020

Keywords:

Mentoring, Islamic boarding school, bathroom

Abstract

The Mambaul Ulum Islamic boarding school was established in 1958 with the aim of fostering students to become the next generation capable of upholding Islamic teachings in the future, tapping students who are able to play an active role in various fields of life in the midst of society and creating santri who independent, physically and mentally healthy and serving the community for the welfare of the afterlife. To achieve this goal, representative educational facilities are needed to support the learning, teaching, and mentoring process of the students. Supporting facilities that should not be neglected are bathing, washing, and toilet facilities. These facilities must be designed in accordance with applicable standards so that students can avoid diseases that can hinder their learning activities. This community service aims to assist Islamic boarding schools in designing and overseeing the implementation of bathroom renovations in accordance with existing construction standards. So that a clean, safe and comfortable boarding environment is created to facilitate the learning process of the students. The result of this assistance is a planning document for renovating the bathroom of the Mambaul Ulum Islamic boarding school and assistance in supervising its construction work.

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1. Introduction

The Mamba'ul Ulum Islamic Boarding School was founded by K.H. Manshur Hamid in 1958 on an area of 14,688 m². From its inception until now the Mamba'ul Ulum Islamic boarding school has several educational units, namely:

1. Madrasah Ibtida'iyah (founded 1958)
2. Madrasah Muallimin / Muallimat first and upper level (established in 1960)
3. Raudhothul Athfal (founded 1993)
4. Health vocational school (established in 2011)

The purpose of establishing the Mamba'ul Ulum Islamic boarding school is to nurture students to become the next generation capable of upholding Islamic teachings in the future, tapping students who are able to play an active role in various fields of life in the midst of society and creating independent, physically and mentally healthy students. and serve the community for the welfare of the afterlife. To achieve this goal, representative educational facilities are needed to support the learning and teaching process of the students.

From the beginning of the construction of the Islamic boarding school until now, the buildings used by the students for their daily activities have not changed. So that the condition of the building is still an ancient building and less suitable according to construction standards. The buildings that are prioritized for renovation are the bathroom and toilet buildings. This is because some toilets are not functioning properly, the size of the toilets is too small, making it difficult for the students to move around and the layout of the toilets and bathrooms is not in accordance with construction rules. On the other hand, a bathroom renovation needs to be done to make washing and drying facilities. Currently washing activities are carried out by students in the washing area, while the facilities for drying are almost non-existent, so the students are drying clothes in front of the room each. This certainly disturbs the aesthetics of the boarding school. The problem is that the current building is not designed for a two-story construction, so it is necessary to redesign the building as shown in figure 1.



Figure 1. Existing conditions of bathrooms and toilets at the Mambaul Ulum Islamic Boarding School

This community engagement aims to assist Islamic boarding schools in designing and overseeing the implementation of bathroom renovations in accordance with existing construction standards. So that a clean, safe and comfortable cottage environment is created to facilitate the learning process of the students. Some of the benefits of this community service activity are :

1. Islamic Boarding Schools : receive design assistance and supervision in implementing bathroom renovations in accordance with standards, bill of quantity and budget plan document are in accordance with SNI, cost management documents for bathroom renovation activities, estimating the cost and time spent renovating the bathroom, assistance in making accountability reports for funds received from the Provincial Government of East Java for bathroom renovation activities.
2. Team : can provide realtime experience for students in designing and building the construction in accordance with SNI standards.

2. Methods

The construction of bathing, washing, and toilet facilities must meet the requirements of healthy toilet requirements must meet the requirements (Aruan, dkk, 2017):

1. Try optimizing natural lighting so that during the day, bathroom and toilet users do not need to turn on the lights.
2. The ventilation holes are designed to allow air exchange from the air and air circulation can happen well.
3. The walls of the bathroom / toilet must be watertight so that water splashes do not damage building components.
4. The maximum distance between the user's location and the toilets is 100 m.
5. The minimum number of users of the communal toilets is 6 head of the family.
6. Minimum infiltration distance from clean water sources is minimum 10 m.
7. The bathroom has a bathtub.
8. The bathroom building is equipped with a door measuring 0.6 -0.8 m with a minimum height of 1.8 m.
9. Minimum space area for a women's bathroom is 2.4m², measuring 2m x 1.2m, made not slippery with a slope towards the floor drain.

Bathrooms and toilets are mandatory supporting facilities for Islamic boarding school activities. With the current inadequate condition of the bathroom and toilet, the team provided a solution by redesigning the old bathroom and toilet. With existing conditions, the bathroom

renovation that will be carried out is designed into two floors, where the first floor is for the bathroom and WC while the second floor is designed for washing and drying clothes. The foundation of the old building was not designed for two-story construction, so it needed to be redesigned starting from the lower structure to the second floor structure along with the supporting utilities, both clean and dirty water.

The stages to be carried out are as follows:

1. Measuring existing conditions
2. Redesigning the bathroom and toilet in the form of a Detailed Engineering Design drawing.
3. Calculating the unit price analysis according to the base cost model of Mojokerto district in 2019
4. Calculating the budget plan in accordance with SNI (Unas, 2018).
5. Comparing material prices and work time if using different materials (Makassar, 2019).
6. Perform time and cost analysis.

The output target of this community service is publication in a national journal, and a case study in the book chapter of the Civil Engineering course.

This community service is planned for 5 months from January to May 2020. It is located in the Mamba'ul Ulum Islamic Boarding School, Awang-awang Village, Mojokerto District, Mojokerto Regency. The stages in the implementation of this community service are as follows:

1. Site survey : Measurement of existing conditions
2. Drawing of existing location plans: Draw with autocad software
3. Calculation of unit price analysis and Budget Plan : Calculation analysis is performed according to SNI using Microsoft Excel worksheets
4. Supervision of work in the field : Supervision is carried out in accordance with the progress of work in the field. By documenting work and recording work progress
5. Making bill of quantity activities : Making bill of quantity activities using MS word and Microsoft Excel worksheets

3. Result and Discussion ← Cambria, Bold, 12 pt

The method of implementation carried out in this community service includes stages including:

1. Carrying out a situation analysis process by completing the administrative process from the Mamba'ul Ulum Foundation management to the representatives of the Islamic University of

Majapahit Mojokerto represented by lecturers from the civil engineering study program, the engineering faculty, who then coordinated the members and the team.

2. Conduct a field survey to determine the condition and size of the building to be renovated. First, surveys are carried out to obtain real-time data and verify previous data / information. Second, take measurements of existing buildings, and third, collect secondary data by interviewing the foundation with related perceptions of building needs and size requirements.
3. Analysis of bathroom needs by considering :
 - The number of students in the Islamic boarding school.
 - Standard need for clean water per person per day.
 - Standard septic tank size for sanitation.
 - the area of land to be constructed
 - Taking into account the size of the room
4. Analysis of the landscape considerations of buildings including by considering:
 - Physical conditions and environmental impacts
 - Zoning requirements based on the trajectory of the sun, wind, circulation, topography, noise, and others.
 - With the results of the spatial analysis, it creates a building site and zoning study
 - Forming an Islamic character in the placement of water and sanitation installations.
5. The results of the planning for renovation of this Islamic boarding school will be the completeness of the documents in the application for grant funding assistance from the Ministry of Religion.
6. The implementation of this community service activity lasts for 6 months with an explanation in the discussion chapter.

Discussion

The implementation of this community service activity is a series of processes that begin with a survey until the bathroom renovation planning document is realized.

Planning Analysis

In this planning analysis is based on the needs of students for a healthy and proper bathroom. From the results of discussions with the management of the foundation, they wanted several rooms and buildings including:

1. Bathrooms totaling 12 rooms
2. Toilets are 11 rooms
3. 2nd floor is for drying clothes and washing clothes
4. Expansion of the size of the septic and sewerage sanitation

The planning and development process is carried out in stages show on figure 2, starting with:

1. Building planning as outlined in the shop drawing and calculation of the cost budget and time progress in the form of a time schedule.
2. Construction construction with a sequence of activities, namely:
 - Preparatory work
 - Cut and Fill work
 - Concrete structural work includes foundation, sloof, beam, column, slab and staircase
 - Door and Window jobs
 - Electrical installation work
 - Clean Water and Dirty Water Installation Work
 - Septictank work





Figure 2. Stage of Construction
 Source: Field Data (2020)

Analyze the size of the room

As stated above, the scope of this community service activity is assisting the renovation of the Mamba'ul Ulum Islamic boarding school located in Mojokerto Regency. Renovation considerations are needed with the increasing number of students who carry out education in these Islamic boarding schools, so the need for bathroom facilities must be developed for the feasibility of housing and a healthy environment.

Table 1. Table of recapitulation of total room area in Islamic Boarding School Mamba'ul Ulum

No.	Room	Amount of Room (pcs)	Total of Area (m ²)
1.	Bathroom	19	3
2.	Toilet	17	1,7
3.	Laundry	1	156

Source: Analysis Results (2020)
 Field Data

Preparation of Design Documents

The entire process above, was communicated between the management of the Foundation and the FT Undip Community Service Team during several meetings. And at the end of the planning process, the planning document is structured as follows on figure 3 namely:

- Floor plan
- Front View and Side View
- Long section and cross section
- Electrical installation
- Septic tank
- Sanitation

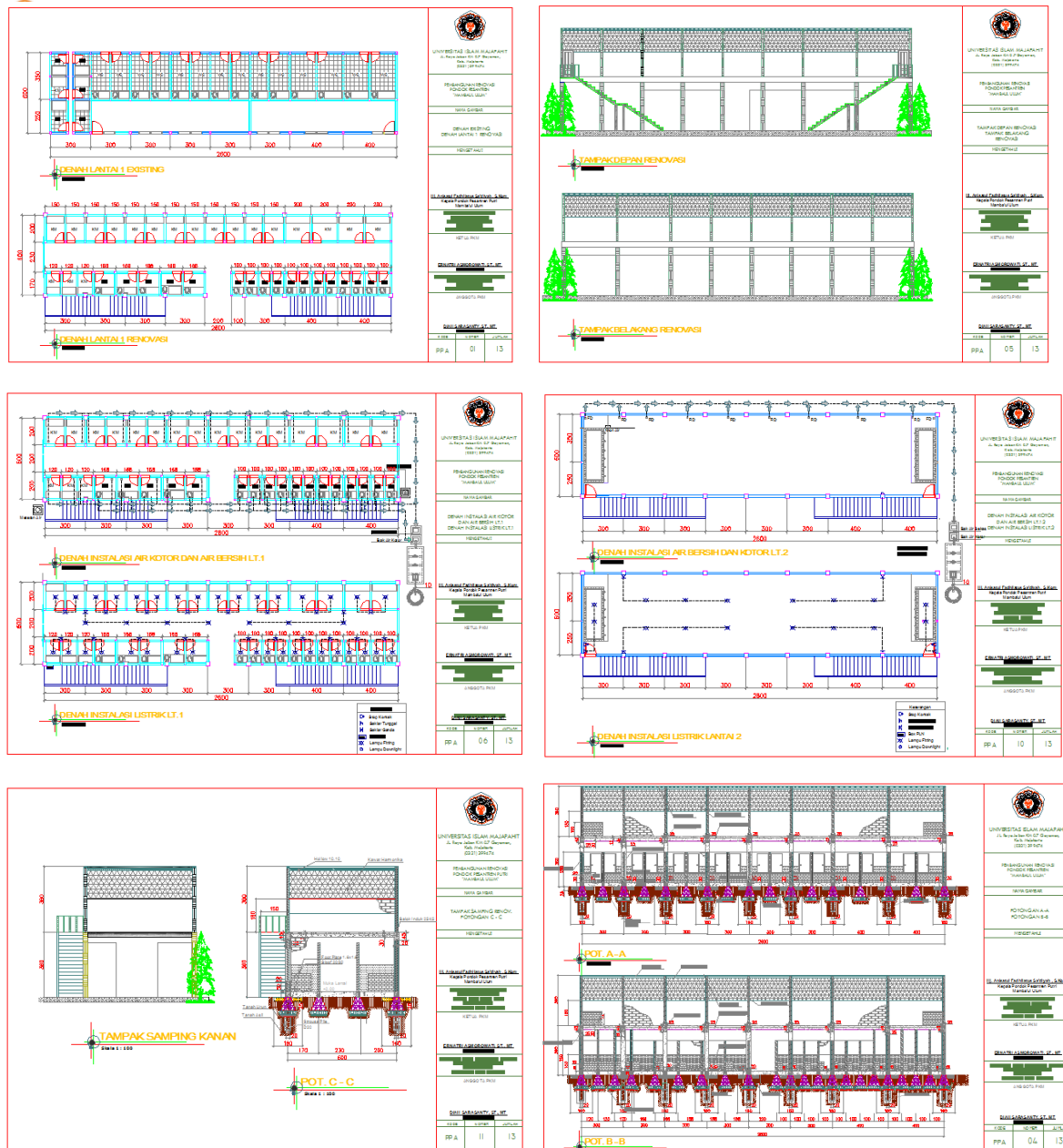


Figure 2. Shop Drawing of Renovation

Source: Analysis Results (2020)

4. Conclusion

The conclusion of the Community Service activity entitled "Mamba'ul Ulum Mojokerto Islamic Boarding School Renovation Mentoring" is as follows:

- This activity pattern is a form of continuous activity with the previous building drawing planning

- The construction stages of the plan drawings are carried out in stages by prioritizing 3 types of buildings, namely: bathrooms, toilets, washing clothes, and septic tanks
- Planning carried out to support the teaching and learning process in a good manner supported by a healthy and comfortable environment
- The efficiency of the building is obtained at the end of the activity, namely with a 2-floor design equipped with mobility 2 stairs will make it easier for students to carry out teaching and learning activities properly.

References

- J. P. Masyarakat, "Jpm (Jurnal Pemberdayaan Masyarakat)," Vol. 3, No. 1, 2018.
- A. Arruan, B. F. Sompie, M. Sibi, And P. Pratisis, "Analisis Koefisien Harga Satuan Tenaga Kerja Di Analisis Bow Pada Pembesian Dan Bekisting Kolom," Vol. 2, No. 2, 2017.
- K. K. Estimasi, "Pemodelan Estimasi Biaya Berdasarkan Harga Bahan Dan Upah Tenaga Kerja," Vol. 3, No. 1995, Pp. 1–4, 2019.
- S. El Unas, M. H. Hasyim, And J. Timur, "Analisa Perbandingan Harga Satuan Pekerjaan Beton Bertulang Berdasarkan Sni Dan Software Ms Project," Pp. 1–8, 2018.
- S. B. Makassar And U. M. Palopo, "Penyusunan Analisis Standar Belanja Pembangunan Gedung Dan Rehabilitasi Ruang Kelas Lingkup Pemerintah Kabupaten Buton ," Vol. 3, No. 2, Pp. 9–16, 2019.