

Development of suitable BIM model for public housing construction projects (Study period: FY 2019–)

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(Keywords) BIM, public rental housing, maintenance and management, i-Construction

1. Introduction

The Ministry of Land, Infrastructure, Transport and Tourism has been calling for the improvement of construction projects, including i-Construction activities. The Construction BIM Promotion Group was also launched in June 2019. Activities to promote the use of BIM have started in the field of construction.

The number of staff with a specialty in construction technology and management is expected to decrease in the field of public housing as well. Thus, the use of BIM during the construction, maintenance, and management phase is being considered as a new way of ensuring efficiency and quality in the design, construction, maintenance, and management procedures of a construction project and to improve the efficiency of maintenance and management.

2. Development of BIM model for public rental housing

The renewal, maintenance, and management of public rental housing, which was constructed during the period of rapid economic growth and is now facing the expiration of its service life, have become urgent issues. Thus, this study will verify the effectiveness of using BIM in improving the efficiency of the renewal, maintenance, and management of the stock of public rental housing.

To develop a BIM model that suits the public rental housing project, this study verifies the effects of using BIM and its efficacy by testing a BIM model that can be used for general purposes in the design, maintenance, and management of public rental housing based on actual rental housing construction (reconstruction) projects.

The verification is being conducted with the support of experts, the Building Research Institute, and public rental housing construction contractors. Last year, a BIM model related to a construction (reconstruction) project for public rental housing was prepared. With the model, the effects of using BIM are being examined.

Also, the examination of the possibility of using the BIM model, assuming its uses in the maintenance and management phase after construction, was also conducted.

This year, the pilot version of the BIM model that can be used in the maintenance and management phase was created by referring to the pilot BIM model to be used during the construction phase that was created last year. The effect of using the BIM is now being examined through a hearing with public rental housing administrators. (See Figure: Outline of the study.)

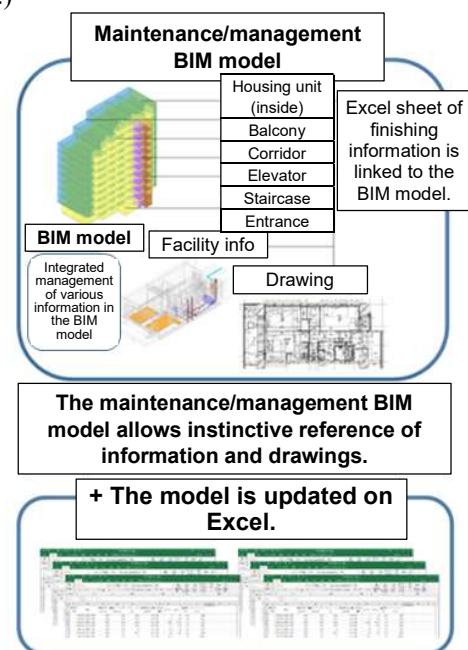


Figure: Outline of the study

3. Future direction

Using findings from this study, the draft of a guideline for the production and use of the BIM model that is suitable for public housing construction projects is going to be prepared.

☞ For more information:

1) Housing Stock Management Division webpage

<http://www.nilim.go.jp/lab/ieg/index.htm>