June 14, 2019

**Ar. Margret D. Rosario**

**Chair, Department of Architecture**

Dear Ar. Rosario:

I am Ivan John A. Naparota, a second year MSEE (Master of Science in Electrical Engineering) student of University of San Carlos. My research study is entitled **“Multi-objective Optimization of Window-to-Wall Ratio Considering Energy and Day-lighting: A Case Study in an Existing School Building in Cebu, Philippines”**. Generally, it aims to find the optimum window sizes for the SAFAD building that will give the least energy consumption while considering the right amount of natural light entering the rooms, it is very common for buildings, especially buildings in the Philippines, that energy required for cooling (Air Conditioners) takes the biggest chunk of the total energy consumption, minimizing the total energy consumption by altering the window size of a building will tell us that we need significantly small windows to prevent penetration of heat through sunlight. But doing so will prevent the entrance of natural light into the building space and natural light has its own health and psychological benefits to the building occupants that needs consideration, also, we can harvest natural light to supplement the artificial lights in the rooms that will also minimize the energy consumption needed for lighting.

I will do computer simulations to achieve the objectives of this research, I need to have a virtual model of the SAFAD building considering the same materials, geometry, electrical equipment, plugged loads, usage patterns, and other significant characteristics of the building so that it will give me outputs like total energy consumption and illuminance that have values which are close enough to measured data.

On that note, I am writing this letter to request your good office that I will be allowed to install illuminance sensors and obtain illuminance data to one of the unused classrooms in the SAFAD building this summer to validate my simulation results. My sensors will be removed after gathering one month worth of data. If granted permission, I prefer room AF308 because it will be an optimum place for the illuminance sensors since there are no obstructions for sunlight to enter the room.

Thank you very much and I’m hoping for a positive response.

Sincerely,

**Ivan John A. Naparota**

Student, MSEE

Noted by:

**Engr. Isabelo A. Rabuya, MS Engr. Percival J. Forcadilla, MEng**

Adviser Chair, DEEE