ABSTRACT

Construction Waste (CW) contributes a significant portion of solid waste generation throughout the world, most of which ends up in landfill causing environmental pollution due to which various Construction Waste Management (CWM)) strategies are adopted for its reduction and reuse purposes. CW is generated due to various factors, most common factor for CW generation is design change orders which requires rework. In Pakistan BIM usage in construction industry is not common as a result reworks are done in construction phase which leads to CW. This project aims to show the factors causing generation of CW, strategies adopted for CW reduction and common CW materials in Karachi, Pakistan. A Questionnaire Survey was conducted to prioritize the CW factors, CWM Strategies and CW Materials in Karachi, Pakistan. In addition to Questionnaire survey a case study was carried on NIC located in NED University in Karachi for showing the benefits of BIM as CWM strategy. BIM can be utilized in many ways as CWM strategy. In this project Clash Detection aspect of BIM is emphasised as it detects clashes in design phase thus avoiding reworks which in turns reduces CW. For Clash detection Architectural, Structural and MEP Plans were integrated in Navisworks. The outcomes of this project shows that from Questionnaire response analysis the most common factor for construction waste generation is Design Change Order, for its reduction the most common strategy used is Value Engineering, common construction waste materials includes steel, crush, concrete, cement, and tiles. Clash Detection of integrated model of NIC Building results showed various clashes and most of which were false clashes.