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# BUILDING INFORMATION MODELING APPLICATION FOR GROUNDWATER RECHARGE: DEVELOPMENT OF MULTIPLE STRUCTURES

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## Abstract

Globally the researchers are identifying the new ways for better urban sustainability. One major issue in the current world is the lack of fresh water availability in cities due to rapid increase in the population. To meet water requirement, scientist are exploring different ways to enhance the groundwater recharge capacity. One such solution is the use of building information modelling (BIM) technology to identify multiple structures that can be constructed to provide the potential recharge. This research aims to develop multiple structures which can provide ground water recharge capability. For the development of the BIM design for the potential ground water recharge, multiple stages were implemented i.e., Collaborative Design, Virtual Design, Parametric Design, Pipeline Design, Simulated Installation and Material Table Statistics. Based on these stages, major structures of recharge from surface runoff water were identified. These structures included house rooftop rainwater harvesting, porous roads, small dams and gravel paths. This paper will provide the baseline methodology for the BIM development for water recharge construction projects.

*Keywords*: building information modelling (BIM), ground water, porous road construction, rain water harvesting, urban sustainability

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