

عنوان مقاله:

Propose new technique for waterways and faults near urban regions, with consideration region development

محل انتشار:

کنفرانس ملی چالشهای معاصر در معماری، منظر و شهرسازی (سال: 1395)

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خلاصه مقاله:

As catchments develop urbanized because of inhabitants growth the impervious surfaces shaped by buildings and pavements in the expense of permeable soil, depressions, and vegetation cause rainwater to stream rapidly over the landscape. To moderate the contrary impact of urbanization such as augmented flooding and depleted groundwater recharge, about the world, several best managements performs, in other words, green infrastructures have been practised, and soak-away rain garden is one of them. However, to have a swift calculation of soak-away rain gardens on a range of potential hydrologic circumstances (e.g., scope of the soak-away rain garden, saturated hydraulic conductivity of the in-situ soil, and saturated hydraulic conductivity of the filter media), hydrologic design strategies or design charts of soak-away rain gardens that are precise for local circumstances are not currently available for many areas including Singapore. Therefore, in this paper, with a design hyetograph of 3-month average rainfall strengths of Singapore, hydrologic design charts, particularly, design charts on overflow capacity (as a % of total runoff volume) of soak-away rain gardens are established for a range of potential hydrologic conditions by developing a mathematical model based on Richard's equation using COMSOL Multiphysics, a finite element analysis and solver software package for different physics and engineering requests. These easy to use look-up hydrologic design diagrams will be .of countless helpfulness for local managers in the design of soak-away rain gardens

کلمات کلیدی:

Comsol, Design Diagrams, Rainfall, Flood volume

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