

Low Impact Development Strategies Applied in the Water System Planning in the Coastal Eco-Green Campus

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Abstract : With the rapid enlargement of the size of Chinese universities, newly built campuses are springing up everywhere in recent years. It is urged to build eco-green campus because the role of higher education institutions in the transition to a more sustainable society has been highlighted for almost three decades. On condition that a new campus is usually built on an undeveloped site, where the basic infrastructure is not completed, finding proper strategies in planning and design of the campus becomes a primary concern. Low Impact Development (LID) options have been proposed as an alternative approach to make better use of rainwater in planning and design of an undeveloped site. On the basis of analyzing the natural circumstance, geographic condition, and other relative information, four main LID approaches are coordinated in this study of Hebei Union University, which are 'Storage', 'Retaining', 'Infiltration' and 'Purification'. 'Storage' refers to a big central lake in the campus for rainwater harvesting. 'Retaining' means rainwater gardens scattered in the campus, also being known as bioretention areas which mimic the naturally created pools of water, to decrease surface flow runoff. 'Infiltration' is designed of grassed swales, which also play a part of floodway channel. 'Purification' is known as either natural or artificial wetland to reduce pollutants such as nitrogen and phosphorous in the waterbody. With above mentioned measures dealing with the synthetic use of rainwater in the acid & alkali area in the coastal district, an eco-green campus construction and an ecological sustainability will be realized, which will give us more enlightenment and reference.

Keywords : newly built campus, low impact development, planning design, rainwater reuse

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