



# Research on Residential Quarters Based on the Concept of Sponge City

Hu Jiayu, Li Manhua, Shu Yang\*

Urban Design Institute, Wuhan University, Wuhan, China

## Email address:

178120029@qq.com (Hu Jiayu), 1286193849@qq.com (Li Manhua), 1318579332@qq.com (Shu Yang)

\*Corresponding author

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**Abstract:** In order to solve the increasingly serious water environment problem in China, the concept of Sponge City is gradually being applied to urban construction. As one of the carriers of the sponge city, the Sponge Community area has an important impact on the urban stormwater management work and plays a key role in urban construction. Compared with the traditional community, the Sponge Community can effectively collect and allocate rainwater, establish an effective relationship between the hard building landscape and the natural environment, and effectively improve the ecological climate and ecological environment of the community. In this paper, through the combination of literature collection research, empirical analysis and theoretical analysis, based on the existing research in China, combined with the relevant theories of Sponge City, comprehensive analysis of the constituent elements of Sponge City, such as vertical greening and rain garden, The specific measures most suitable for the Sponge Community are summarized as follows: concave green space, permeable pavement and other technical measures. At the same time, through the combination of practice and theory, the unique Sponge City Water circulation mechanism is summarized. Finally, through the analysis of the current situation of the Sponge Community and the current development of the sv, the problems and solutions encountered in the middle and late stages of the Sponge Community design are expounded, in order to draw some inspirations for the development of the Sponge Community.

**Keywords:** Water Environment, Sponge City, Sponge Community, Residential Water Cycle

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178120029@qq.com (胡嘉渝), 1286193849@qq.com (李满花), 1318579332@qq.com (舒阳)

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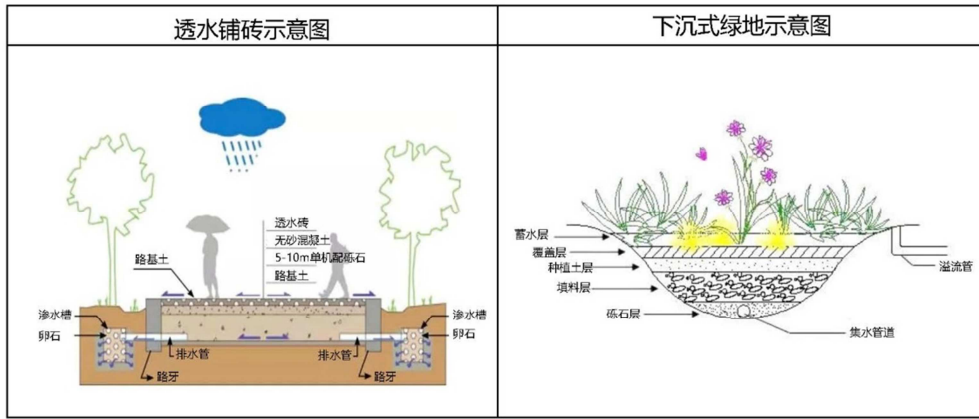
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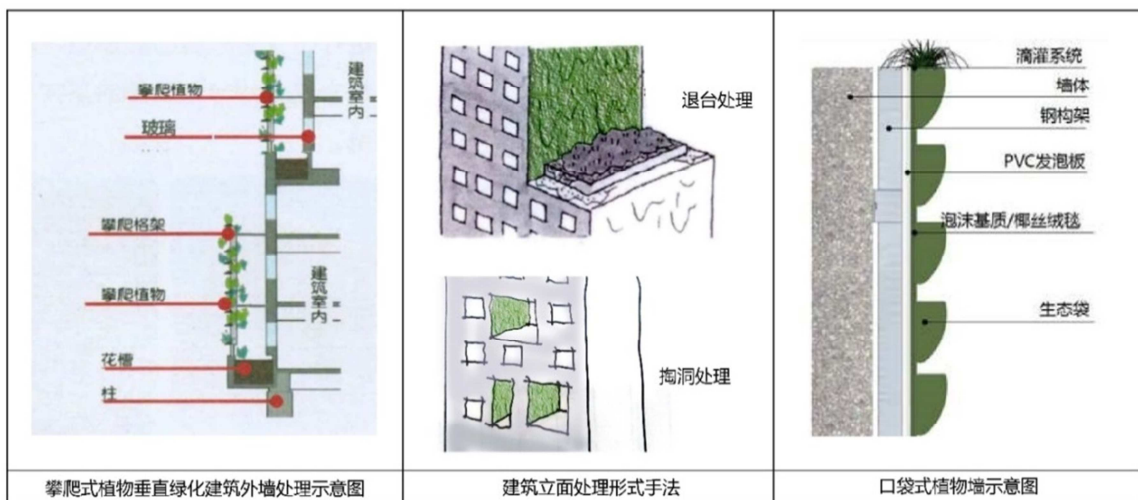
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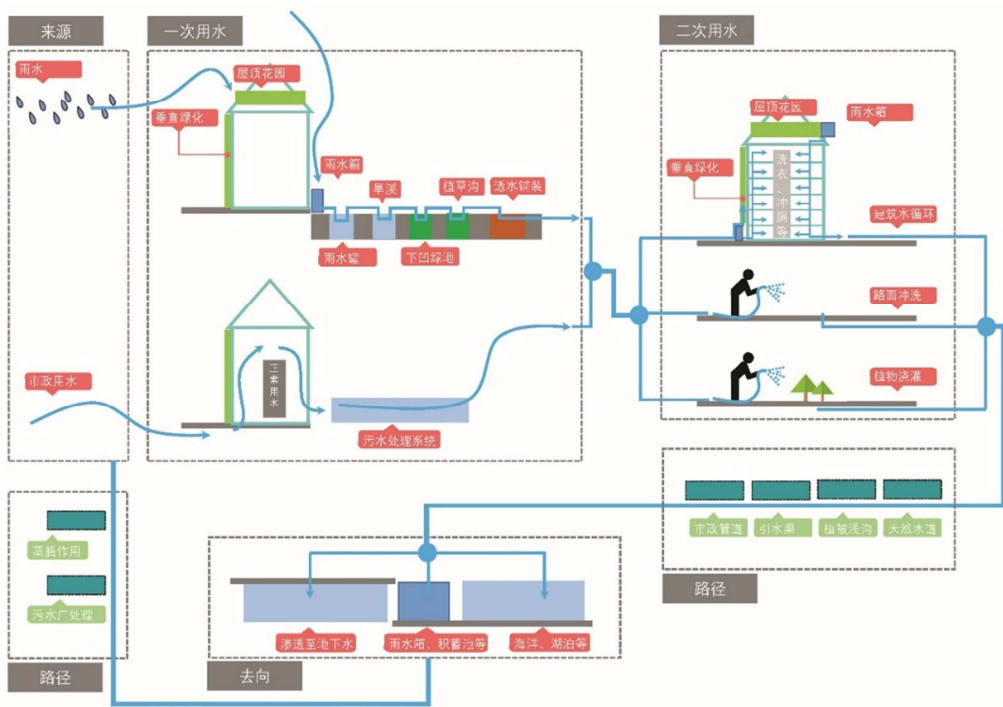
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[1] [L].2014-10-22

[2] [EB/OL]. <https://baike.baidu.com/item/16012711>

PPP

[3] “ ”  
[EB/OL].  
<https://ecep.ofweek.com/2017-06/ART-93000-8120-30140259.html>,(2017-06-05)[2019-11-14]

[11]

5

[4] “ ” [EB/OL].  
[http://news.qingdaonews.com/wap/2018-01/08/content\\_20075059.htm](http://news.qingdaonews.com/wap/2018-01/08/content_20075059.htm) (2019-01-08)[2019-11-14]

[5] “ ”  
[J]. 2015,39(6):26-36

[6] (LID) [J].  
2015, 41(3):1-7

[7] [EB/OL].  
<http://www.chla.com.cn/hm/2015/0730/236747.html>,  
(2017-05-30)[2019-11-14]

PPP

[8] [D].  
,2016(06)

[11]

[9] [J]. 2016

[10] [D].  
2016

[11] Inside china’s leading ‘sponge city’: Wuhan’s war with water  
[EB/OL]. Theguardian.  
<https://www.theguardian.com/cities/2019/jan/23/inside-chinas-leading-sponge-city-wuhans-war-with-water>,(2019-01-23)[2019-11-14].