POLITECNICO DI TORINO

Honors thesis

COURSE OF MSc DEGREE IN ARCHITECTURE

CONSTRUCTION AND CITY

Abstract

New York re-Horizon
Laboratory West Chelsea

Tutor

Alessandro Mazzotta

by

Giacomo Pregnolato

February 2019

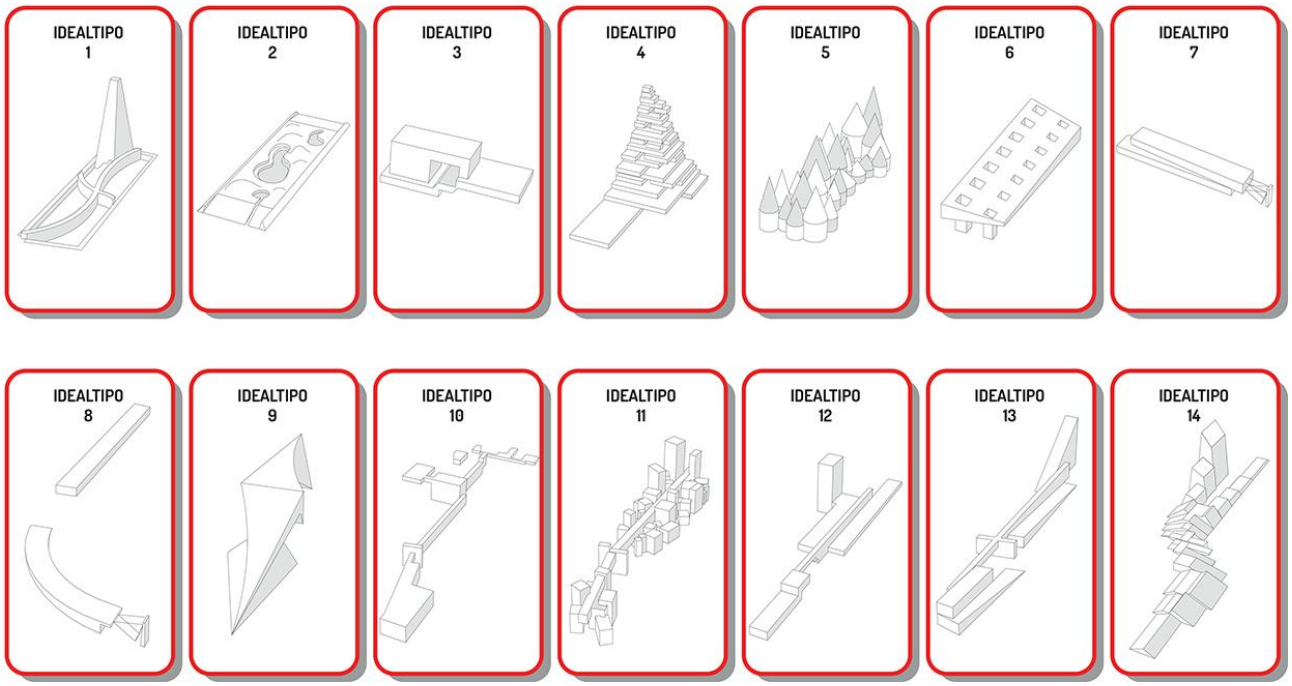
The continuous growth of the world population is accompanied by the increase in the population density of the main urban centres. The most common response of large metropolis to the need for new volumes is the development of verticality. The skyscraper is often considered the most rational solution to maximize the volume in the dense city, but relegating to a marginal role the quality of the urban space in addition to the resolution of the real critical issues of the context. The renewed sensitivity of public opinion on environmental issues and rapid and drastic changes in climate have led city administrations to investigate new design alternatives in order to build sustainable, resilient and greener cities.

Architects are increasingly called to mediate between the demands of new high-density volumes, the creation of public spaces for the communities and the increase in the percentage of urban green areas. The large cubage, typical of skyscrapers, then become a laboratory of experimentation open to the fantasies of designers and visionaries who use the volumetric potential to respond to the daily challenges of population centres.

New York City has always been an urban laboratory to inspire. The dichotomy between vertical development and the attention given to the horizontal dimension of public space makes it a paradigmatic case. The major real estate developments currently under construction will increase the proliferation of skyscrapers in the Manhattan skyline over the next few years. At the same time, the city demonstrates its openness to the innovation of its public spaces, promoting its realization in a resilient and sustainable key to create new performing built landscapes.

Starting from an international competition of ideas that requires the design of a green skyscraper in the district of West Chelsea, on the island of Manhattan, the thesis project uses this request to propose a development that favours the horizontal dimension.

This choice, which does not want to be an a priori critique of verticality, wants to investigate an alternative that is more suitable for resolving specific problems in the neighbourhood.
A study of the form is then conducted with the aim of proposing the project that best meets the design criteria, derived from the analysis of the context, the requests of the competition announcement and the strategies for sustainability and resilience adopted by the city of New York.
A multi-criteria analysis (Analytic Network Process) is then applied for the evaluation of the criteria and volumetric prototypes. Following the evaluation of the results and their sharing, design indications are provided that apply to the volumetric identified by the analysis as the most performing, principles of sustainability and resilience to flooding, in line with the strategic plans adopted by the city.



For further information, please contact:
Giacomo Pregnolato, pregnolato.jack@gmail.com