NATURE CONQUERS CONSTRUCTION

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ABSTRACT

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THESIS BY RYAN ROSENBERG

This project began as a critique of the current notions of “green” architecture. It grew into the creation of a system for integrating nature with structure, the organic with the constructed. A grand entry for the Highline Park on the Lower Westside of Manhattan is used as a means for generating a domain upon which plants, specifically hanging ivy, could thrive. Simple elements such as columns, cables, stairs and ramps, can become a means for creating immersive living volumes, fostering instances where nature can conquer construction.
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THE PROJECT INITIALLY STARTED AS A SARCASTIC CRITIQUE ON THE NOTIONS OF SUSTAINABILITY, AND A LOOK AT HOW THE CURRENT TREND CREATED A RIFT BETWEEN THESE TECHNOLOGIES AND THE ARCHITECTURE ITSELF. IN THIS MODEL, SUSTAINABILITY CAN BE SEEN AS BLIGHT; STRUCTURES ARE COVERED IN A MYRIAD OF APPLIANCES, BLURRING OUT THE ARCHITECTURE BENEATH. THEY SEEMED TO BE AN OSTENTATIOUS GESTURE, A BLATANT CRY TO BE NOTICED FOR ONE’S NOBLE DEEDS TOWARDS BETTERING THE PLANET. IT IS AS IF LITTLE IN THE "GREEN" MOVEMENT WAS ACTUALLY BASED ON NATURE, OR THE INTERACTION BUILDINGS HAVE WITH IT.
IN RESEARCH OF SYSTEMS RETROFITTED TO EXISTING BUILDINGS AND STRUCTURES, THE MOST INTEGRATED AND NATURAL SYSTEM WAS THAT OF THE "GREEN WALL" OR THE VERTICAL GARDEN. THESE ARCHITECTURAL ELEMENTS ARE DESIGNED IN SUCH A WAY AS TO SERVE THEIR PHYSICAL NECESSITIES, WHILE PROVIDING A HABITABLE PLACE FOR PLANT LIFE TO THRIVE ON. THE TANGIBLE RELATIONSHIP OF THE NATURALLY GROWN AND THAT WHICH IS DESIGNED AND CONSTRUCTED BY MAN BECAME INTRIGUING. ARCHITECTURE CAN BECOME A HABITAT FOR GROWTH, A MEANS FOR PLANTS AND STRUCTURE TO COEXIST. ARCHITECTURE IS BORN OF THE EARTH; ITS MATERIALS, ITS GROUNDING ARE ALL NECESSITIES. THE INHABITATION OF THE VERTICAL PLANE ALLOWS THE ABILITY TO USE THE GROWN AS AN ARCHITECTURAL ELEMENT. THE CONTROL OF THE VERTICAL GROWTH AND THE TANGIBLE BENEFITS IT BRINGS TO THE ARCHITECTURE MAKE IT A TRUE MEANS OF SUSTAINABLE DEVELOPMENT.
VINE PHOTO STUDY

NATURE CONQUERS CONSTRUCTION
Instead of dismantling the High Line, it was redeveloped as a part of one of the most prolific urban reuse projects in the city’s history. Diller, Scofidio and Renfro took the lead in the design and created a stunning piece of urban architecture. The designers were able to successfully convert a piece of dormant infrastructure into “a postindustrial instrument of leisure reflection about the very categories of nature and culture.” The High Line changes the interaction with the pedestrian and the indigenous plant life of the High Line. A once inaccessible greenway in the sky, the High Line now successfully combines the wild organic, with the rigidly organized built environment. It creates a surreal place, a mile long park in the sky, bustling with activity and life, a character very fitting of the neighborhood.

Opportunities for green space would arise in the form of a forgotten piece of the city’s infrastructure. The High Line, a railway elevated above the lower west side of Manhattan, is an iconic structure, one that has been a part of the community for almost a century. Once standing as a means for transportation of goods to and from the lower west side, the High Line was an artery of activity as well a structural triumph over the rigidly established grid of the city. After being decommissioned, the High Line stood as a relic, an unused ribbon of iron and concrete bisecting its way across lower Manhattan. It became an urban artifact which time and necessity forgot, only to be reclaimed by the flora and fauna that which once flourished on the island it sits upon. The High Line presented the city with an opportunity to incorporate an elevated greenway, while protecting an iconic structure from imminent demolition.
THOUGH INCREDIBLY SUCCESSFUL, THE HIGH LINE STILL LACKS A DIRECT CONNECTION TO THE STREET. OTHER THAN THE GANSEVOORT ENTRANCE ON THE FAR SOUTH SIDE OF THE PARK, ENTRIES ARE SCARCE, SPARSE, UTILITARIAN, AND COMpletely OUT OF CHARACTER. MOST ENTRANCES ARE SIMPLE “FIRE STAIR” STYLE STRUCTURES COMPOSED OF COLD STEEL SCAFFOLDING AND METAL MESH. TO DIRECTLY CONNECT THE HIGH LINE WITH THE STREETS BELOW, THE IMPLEMENTATION OF A GRAND ENTRANCE BECOMES A MEANS FOR PROVIDING AN ICONIC ENTRY TO THE PARK, ONE THAT PROVIDES CERTAIN AFFORDANCES TO THE ACTIVITIES CAPTURED ABOVE.
The project site is located between 17th and 18th Street on 10th Avenue. Currently a city owned and operated parking facility, the site will be given to the Highline as part of future development phases. The site presents unique opportunities; it is situated facing the Lower West Side, a bustling community teeming with life. The location is centrally located on the first phase of the Highline, and above a bustling plaza on the High Line already is a center of activity.
EARLY ITERATIONS FOCUSED ON PROVIDING VINES A MEANS FOR GROWTH AROUND A BASIC STRUCTURE. A COLUMN AND A GATE WERE WRAPPED IN A SYSTEM OF CABLES IN ORDER TO ATTEMPT TO CONTROL THE PATH OF GROWTH. THE HIGH LINE PLAZA ON THE GROUND BECAME A TECTONIC PARK, A PLACE TO HOUSE A SERIES OF COLUMNS, GATES AND RAMPS. THOUGH THERE BECAME A DISCONNECT BETWEEN THE STRUCTURE, THE CIRCULATION UP TO THE HIGH LINE AND THE PLANTS THAT WOULD GROW AROUND IT.
IMPLEMENTATION

IN ORDER TO RESOLVE THE TENSION BETWEEN A SEPARATE STAIR AND RAMP SYSTEM, A UNITY OF THE TWO WAS NECESSARY. ARTHUR ERICKSON PIONEERED THE DESIGN OF A "STRAMP" SYSTEM, ESSENTIALLY THE COMBINATION OF A STAIR AND A RAMP. THE INTERACTION OF THE PARTS PROVIDES AN EFFECTIVE MEANS OF TRANSPORT UP TO THE HIGH LINE BUT ALSO TAKES ON CERTAIN QUALITIES NOT USUALLY EXPERIENCED IN THE URBAN SETTING. NO TWO PATHS TO THE HIGHLINE ARE THE SAME; EACH PERSON CAN CHOOSE TO MEANDER THEIR OWN WAY UP THIS "URBAN HILLSIDE". ESSENTIALLY, BY EASING ACCESS FOR SOME, IT WAS POSSIBLE TO CREATE INSTANCES FOR INTERACTIONS WITH THE STRUCTURE AND THE PLANTS THAT GROW AROUND IT.
A system of truss gates serves multiple purposes. They provide a means for structuring the "stramp"; instead of a poured concrete system the lightness of the "stramp" was emphasized by hanging each individual stair. The truss gates also formed a sense of enclosure, tapering towards the tops acting as a funnel from the street to the high line. The cable which holds up each stair, and those that tie the trusses to the ground became places for ivy to grow. A "forest" of cables skews perspective, and makes the journey up to the high line seem much longer than it really is.
PHOTO STUDY: MODEL DOCUMENTATION

P28: LENS: 70-200MM | F2.4 | A:4SEC
P29: LENS: 70-200MM | F2.4 | A:8SEC
P30: LENS: 70-200MM | F2.4 | A:6SEC
P31: LENS: 70-200MM | F2.4 | A:6SEC
P32: LENS: 70-200MM | F2.4 | A:10SEC
P33: LENS: 70-200MM | F2.4 | A:10SEC

PHOTO STUDY: URBAN RELIC

P34: 14-54MM | F2.4 | A:10SEC
P35: LENS: 14-54MM | F5.4 | A:6SEC
P36: LENS: 14-54MM | F5.4 | A:8SEC
P37: LENS: 14-54MM | F5.4 | A:4SEC
P38: LENS: 14-54MM | F5.4 | A:8SEC

PHOTO STUDY: NATURE CONQUERS

P4: LENS: 14-54MM | F5.6 | A:1/200
P5: LENS: 14-54MM W/ .4X FISHEYE | F5.6 | A:1/140
P6: LENS: 14-54MM | F5.4 | A:1/120
P7: LENS: 14-54MM | F5.6 | A:1/160

CREDITS

P9: FIG. 1
“VIEW OF CENTRAL PARK FROM A HELICOPTER ON ITS WAY FROM THE TOP OF THE PAN-AM BUILDING IN DOWNTOWN NEW YORK CITY TO JFK AIRPORT, 1967 [581540688].JPG”
NOTE: THIS FILE IS LICENSED UNDER THE CREATIVE COMMONS ATTRIBUTION-SHARE ALIKE 2.0 GENERIC LICENSE VIA WIKI-COMMONS, AS SUCH IT IS PUBLIC DOMAIN

P10: FIG. 2 “GOOGLE MAP AGGREGATION”
GOOGLE SATELLITE IMAGERY USED UNDER PERMISSION OF GOOGLE’S FAIR USE AGREEMENT.

P11: FIG. 3 “GOOGLE MAP”
GOOGLE SATELLITE IMAGERY USED UNDER PERMISSION OF GOOGLE’S FAIR USE AGREEMENT.

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