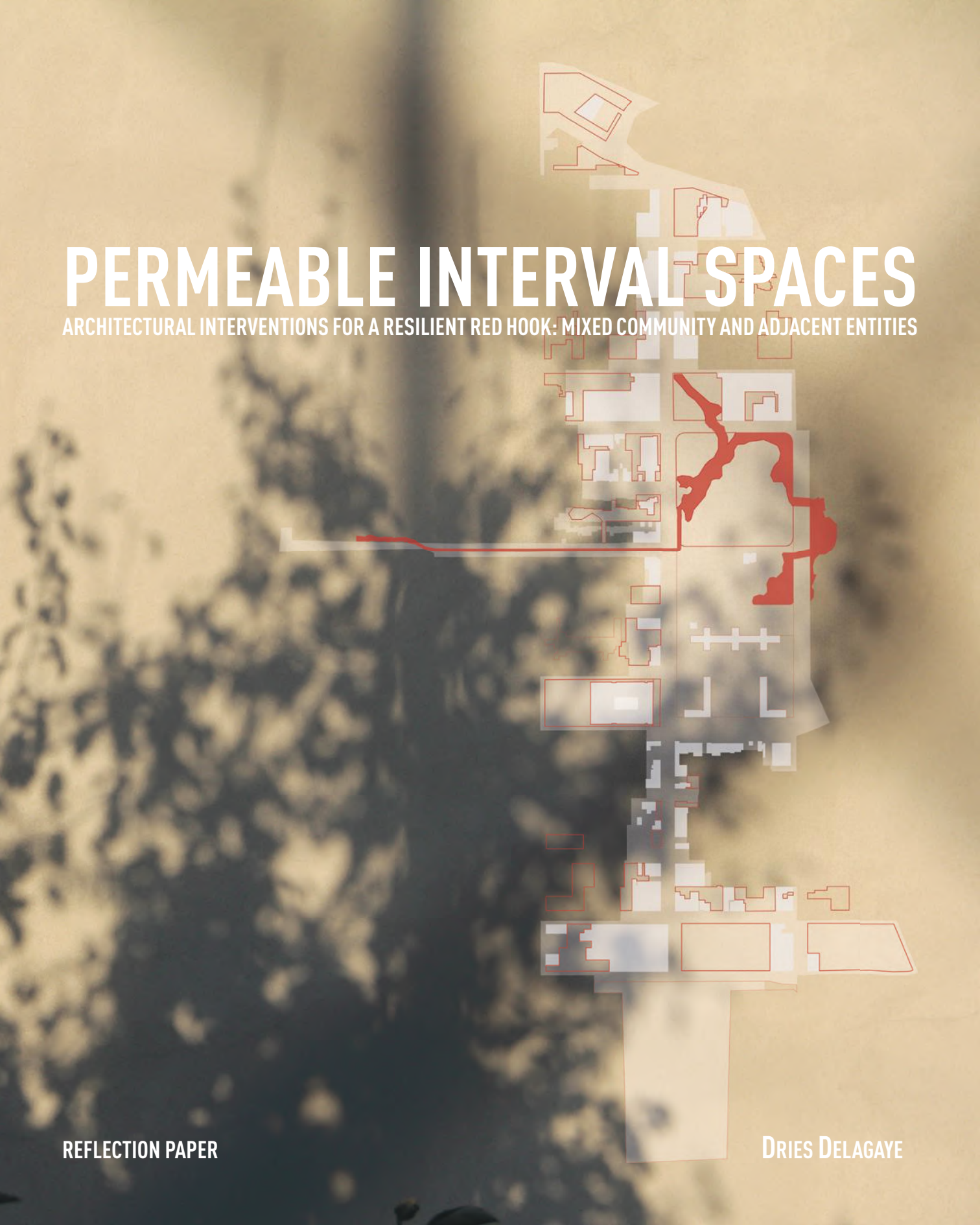
PERMEABLE INTERVAL SPACES

ARCHITECTURAL INTERVENTIONS FOR A RESILIENT RED HOOK: MIXED COMMUNITY AND ADJACENT ENTITIES



REFLECTION PAPER

DRIES DELAGAYE

PERMEABLE INTERVAL SPACES

ARCHITECTURAL INTERVENTIONS FOR A RESILIENT RED HOOK: MIXED COMMUNITY AND ADJACENT ENTITIES

–

A REFLECTION PAPER BY DRIES DELAGAYE

This publication presents a coherent story of research, analysis and reflection as foundation for an urban strategy and a set of architectural interventions responding to the challenges and opportunities of the site. The complete sequence within the publication offers an insight into the progress and outcome of my master dissertation project.

Cover image:
by Dries Delagaye

The following people guided and contributed to the development of this project and publication:
Kris Scheerlinck (academic promotor)
Laurens Luyten (structural advisor)

Lay-out & Editing:
by Dries Delagaye

Printing & Binding:
by Reproduct nv
Voskenslaan 205
9000 Gent (be)

Contact:
Dries Delagaye
Lichtelarestraat 53e
9080 Lochristi (BE)

driesdelagaye@gmail.com

+32 (0)494/91.32.34

Work and publication made during the course of a personal master dissertation project within the framework of Streetscape Territories in Red Hook, proposed by Kris Scheerlinck.

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ku leuven, faculty of architecture,
campus sint-lucas ghent,
class of 2017-2018
www.internationalmasterofarchitecture.be
www.arch.kuleuven.be

KU LEUVEN
faculty of architecture

streetscape territories research group
kris.scheerlinck@streetscapeterritories.com
streetscapeterritories.wordpress.com

STREET
SCAPE
TERRITORIES
RESEARCH
PROJECT

MURAL BETWEEN RED HOOK AND SMITH 9TH STREET SUBWAY STATION
IMAGE BY DRIES DELAGAYE

INTERNATIONAL

The Faculty of Architecture of the KU Leuven offers two international Masters programs – one in Brussels, the other one in Ghent – in which students from all over the world enroll.
The framework of the Ghent Campus is '*Resilient and Sustainable Strategies*', founded on the Brundtland report (United Nations, 1987). Sustainable development is defined as '*development which meets the needs of the present without compromising the ability of future generations to meet their own needs*' and has three interdependent and mutually reinforcing pillars (United Nations, 2005): economic development, social development and environmental protection.
For sustainable architecture, these could be translated as: *providing access to high quality and healthy living and working environments for all, finding ways to create socially sustainable environments at different scales and a wise use of natural resources*.
Central to the two-year program is the critical reflection about architecture and its social, cultural and environmental role for society. How may aspects of sustainability, universal design, urban ecology and energy-efficient technologies contribute to the development of more sustainable architecture for human settlements?

PERSONAL

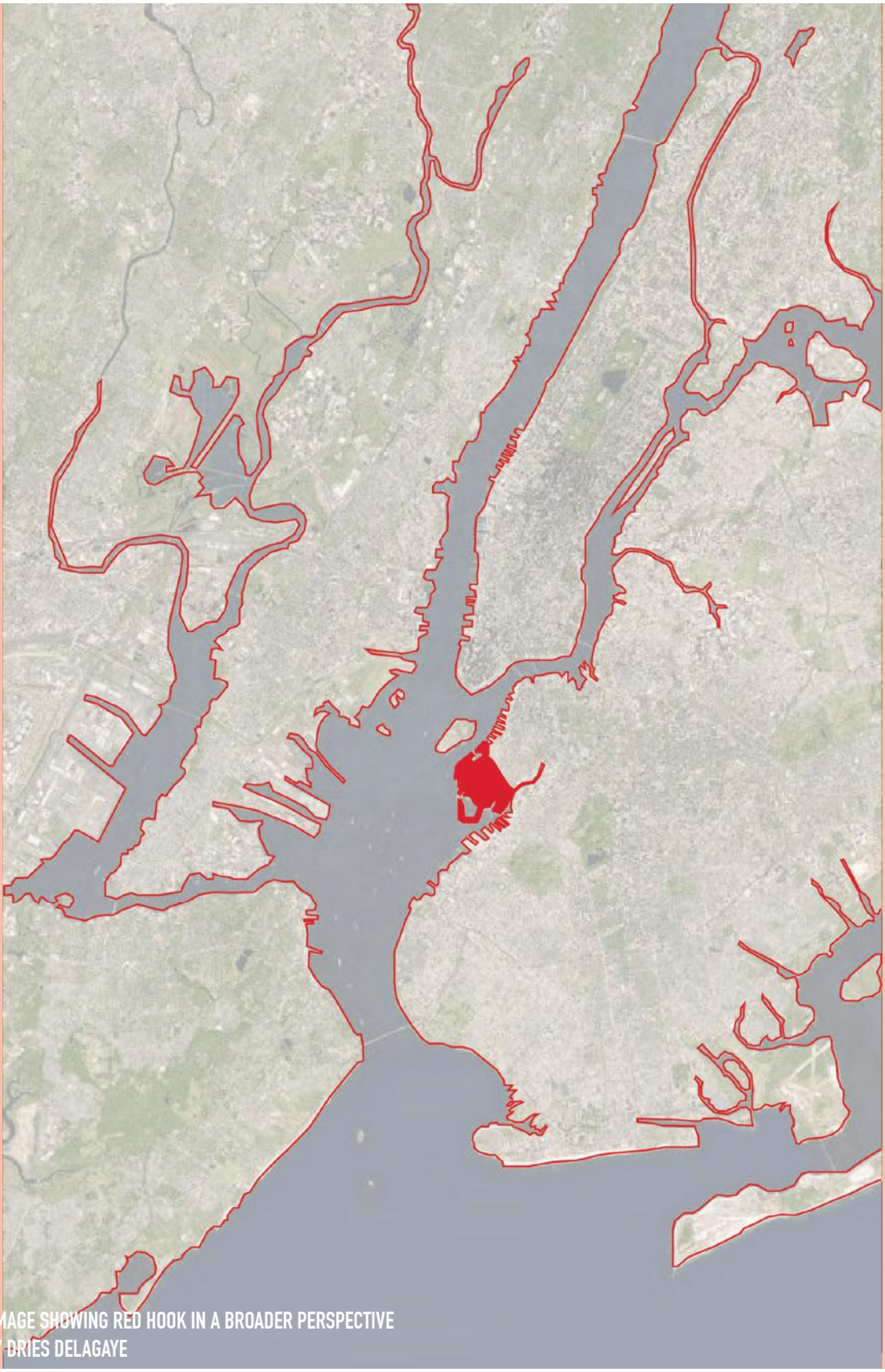
This booklet describes my architecture graduating project at the KU Leuven Faculty of Architecture, Campus Ghent. Throughout my years at this institution, my fascination for interstitial space and the intermediate scale cropped up. At this level, the space becomes an intermediate for the seemingly conflicting adjacencies.
By permeating through, we, as users of space, are captured and released by the interstice. This helps us understanding the surroundings and experiencing more intensely the 'place'.
As Lao Tse claimed, '*only in this vacuum or void lay the truly essential. The reality of a room is to be found in the vacant space enclosed by the roof and the walls, not in the roof and walls themselves'*. The process of transmission or spatial transition creates moments of awareness, allowing dissimilar things and people to coexist. A notice of interpersonal connection is quickly evoked here, since space is likewise about relationships.

The Streetscape Territories project and the observations, research, conversations and collaborations with stakeholders on site in November 2017 and March 2018 spurred me on developing further these architectural thoughts and more specifically for the case of Red Hook, Brooklyn (New York).

STREETSCAPE TERRITORIES

'Streetscape Territories is the name given to a research project about the transformation of the urban fabric that manifests itself through the constant re-configuration of its streetscapes. The research deals with the way architectural elements, property structures and their inherent permeability models, together with emerging programmatic adjacencies, configure streetscapes and how their inhabitants can read and give meaning to them. The research method is based on unveiling multiple narratives of a place through on-site observation and mapping, close collaborations and conversations with stakeholders with a strong focus on permeability and models of proximity within a street or a neighborhood. The research projects start from the assumption that collective space (de Solà-Morales, 1992; Avermaete, 2007) -covering urban space from the domestic scale till the scale of the city- can be understood as a discontinuous territorial configuration (Scheerlinck, 2010), containing different levels of shared use that are defined by multiple physical, cultural or territorial boundaries (Habraken, 1998). Urban space responds to mechanisms of providing and denying conditions for privacy or community that employ systems of borders and boundaries (Sennett, 2013) to configure sets of aggregated, integrated or overlapped territories that are read, interpreted and used by its users in multiple ways. The main research question of the projects is: how do territories and people relate to each other in contemporary streetscapes and how do these relationships contribute to the local identity of the physical and social environment? The projects seeks to pronounce a contemporary discourse on streetscapes as the immediate manifestation of the transformation of the urban fabric and build upon the legacy of narrative approaches on streetscapes by Jacobs, Appleyard, Whyte, Cullen in the 1970s or by Gehl, Fernando, Bobic, van Ulden, Heussen, van der Ham, Franck and Stevens in more recent discourses.'

(SCHEERLINCK, K. (2017-2018) Master Dissertation Framework)



SATELLITE IMAGE SHOWING RED HOOK IN A BROADER PERSPECTIVE
MAPPING BY DRIES DELAGAYE

01
RED HOOK

Introduction of Red Hook
and historical preface:
a productive and decaying landscape

Red Hook (towards) today

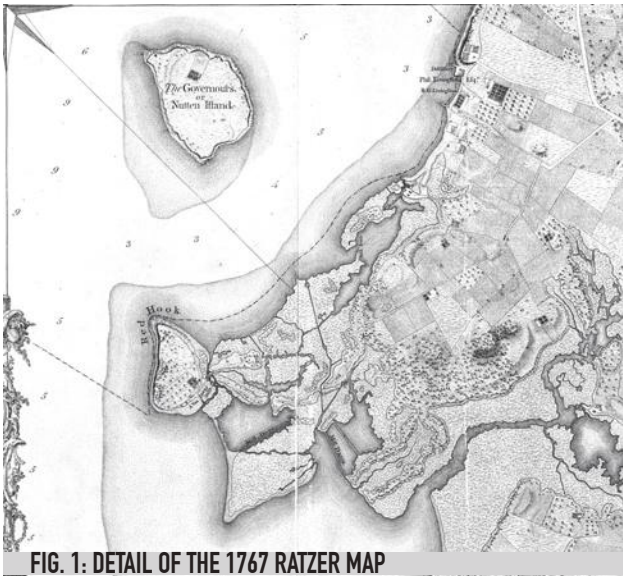


FIG. 1: DETAIL OF THE 1767 RATZER MAP

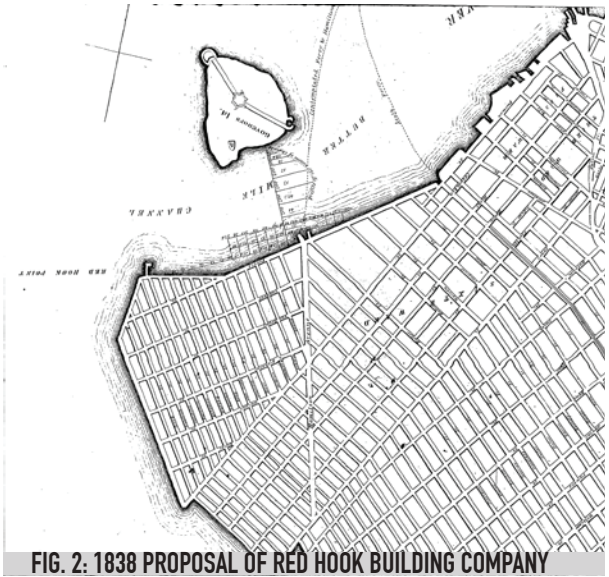


FIG. 2: 1838 PROPOSAL OF RED HOOK BUILDING COMPANY

FIG. 3: ENGRAVING OF W.H.BARTLETT – RED HOOK IN THE CENTER

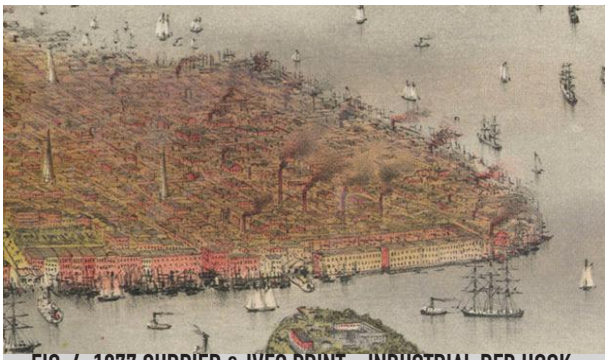


FIG. 4: 1877 CURRIER & IVES PRINT – INDUSTRIAL RED HOOK

FIG. 5: PLAN OF THE ATLANTIC BASIN

FIG. 6 & 7: GRAIN ELEVATORS ON A BOAT AND AT THE ATLANTIC BASIN DOCKS

FIG. 8: ATLANTIC BASIN & NY DOCK COMPANY

INTRODUCTION AND HISTORICAL PREFACE
A PRODUCTIVE AND DECAYING LANDSCAPE

The neighbourhood of Red Hook is located on Brooklyn's western shore and was named "Roode Hoek" by its Dutch settlers in 1636 for the red clay soil and a pointed island at today's Dikeman Street welcoming seafarers into the Upper New York Bay. (SPELLEN, 2015)
The native Lenape people and the first European landowners used the peninsula between Buttermilk Channel and Gowanus Bay mostly for small agricultural activities. During the American War of Independence, the location became militarily relevant when general George Washington gave in 1776 the orders to build Fort Defiance on "the point" to protect New York against British naval attacks. However, the fortress was destroyed the same year during the Battle of Long Island.

In 1830, Red Hook was still a typical Dutch rural settlement of gristmills, creeks, marshes and tide millponds with a total of six buildings.
In 1834, the Van Dyke family sold off this land, which they had held for over a century, to a group of speculating businessmen, the "Red Hook Building Company". (STILES, 1867) Their 1838 proposal for waterfront development into a neighbourhood of inexpensive two-level clapboard houses and potential massive shipping facilities promised to quadruple the property value of land, much of which was still underwater.
Colonel Daniel Richards started the first mayor operation for construction, which was to raze his fifty-acre hill on Red Hook Island (or Cypress Tree Island) and fill in as much of the surrounding marshlands as possible with the removed earth. (BURKARD, 2011) The landscape quickly gave way to grid-streetscapes one knows today and a new but still transforming waterfront fringe.

Transportation connections (three ferries) made Red Hook an attractive residential area in the eyes of workers, everyday commuting to Manhattan. But once the piers of New York City were plagued by perpetual congestion, Red Hook and Brooklyn also offered private investors large stretches of empty waterfront suitable for industrial construction. (SIMON, 2010) From about 1840 to 1920, it thrived as warehousing centre for the storage of low-value high-bulk goods. The elements for industrial efficiency and success were early defined in Red Hooks first developed site, particularly designated for grain industry: the Atlantic Basin. Location and accessibility was crucial, but also the fact that it was solely owned by private investors who ensured safety features against theft and fire.

"They knew how to accomplish the greatest amount of work in the shortest possible space of time" (Daily Eagle, 1874)

Amongst the investors, Richards and Stranahan pioneered the concept of consolidated facilities for shipping and storage by which they annihilated time. This innovation was supported by improved infrastructures, such as hydraulic docks and steam powered grain elevators.
But as soon as Brooklyn received larger ships and increased storage volume, the Beard brothers developed "the wasteland" along the water between the Van Brunt street and the Gowanus Canal under the name Erie Basin. This basin remained also successful well into the twentieth century, not necessarily because of modernization or increased capacity but thanks to subtle improvements in the organisation of the property towards a more general purpose and diversity through lease.

Later efforts to respond to changing market conditions, altering again Red Hook's landscape and its capacity with large-scale concrete-frame factory lofts, have always failed. These failures pointed to a limitation of this physical landscape. The large scale could not properly work within the rhythms of modern production in this small-scale environment, which had a dense collection of buildings and infrastructures, centring on a single use. (SIMON, 2010) Modern production had decreased demands for storage, since goods could be shipped straight out of the factory, bypassing the warehouse (containerization). Red Hooks industrial powerhouse of consolidated warehousing facilities could not survive and ultimately faltered in the twentieth century. The down side to Richards' and Beard's enterprises is that they failed to think about the community they operated out of. The jobs they created for many people were shape-up work, which required applicants to gather around a union representative who selected those to be hired — not-permanently — depending on shipping frequencies and social networking. (BURKARD, 2011)

FIG. 9 & 10: HAMILTON AVENUE (FOR THE PEOPLE) AND CONSTRUCTION OF THE GOWANUS EXPRESSWAY

BROOKLYN DAILY EAGLE, NEW YORK, SUNDAY, FEBRUARY 26, 1933

Red Hook Waste Land Proposed as Site for a Housing Project

FIG. 11: BROOKLYN DAILY EAGLE (FEBRUARY 26, 1933) : "*RED HOOK WASTE LAND* (HENRY STREET) *PROPOSED AS SITE FOR A HOUSING PROJECT*

FIG. 12, 13 & 14: THE *WASTE LAND*, ACTUALLY ØRKENEN SUR, THE NORWEGIAN SLAB CITY IN RED HOOK

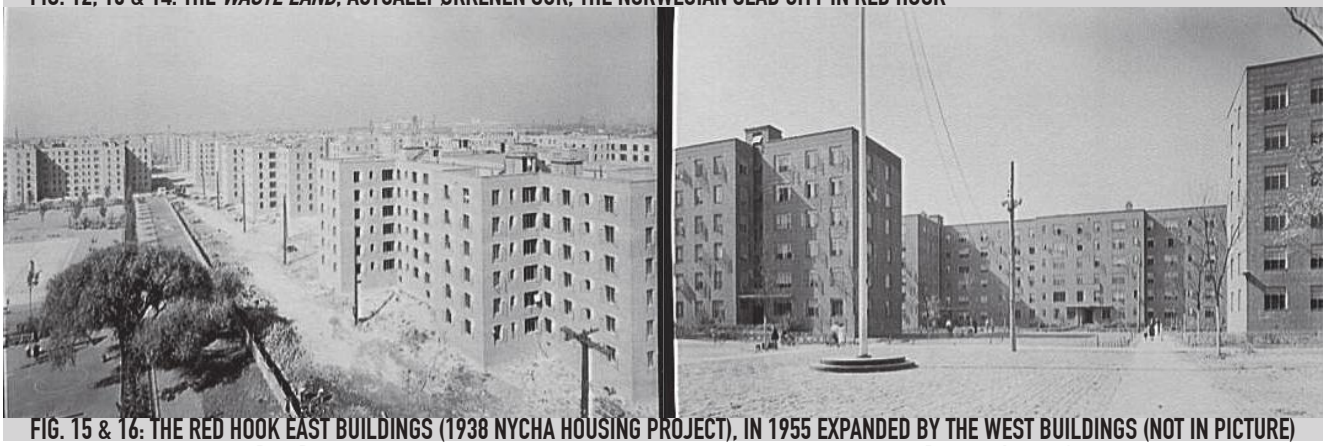


FIG. 15 & 16: THE RED HOOK EAST BUILDINGS (1938 NYCHA HOUSING PROJECT), IN 1955 EXPANDED BY THE WEST BUILDINGS (NOT IN PICTURE)

Red Hook had been wounded already when, between 1939 and 1941, its northern Hamilton Avenue had been buried in shadow and gloom underneath Moses' riveted monster project, The Gowanus Expressway. Once Hamilton Avenue "*had been a place for people, Robert Moses had made it a place for cars*". (CARO, 1974) The road became more critical to the movement of goods and truck vehicles accessing Red Hook, resulting also in a reduced reliance on shipping-facilities. But most unfortunately, the new elevated road (later extended by the Brooklyn-Battery Tunnel) cutted through the lively working-class neighbourhoods of South-Brooklyn, separating Red Hook from Caroll Gardens and the rest of the borough, solely because Robert Moses unilaterally declared it "a slum" not worth saving. (CARO, 1974)
Moses may have referred to the poor and miserable residential conditions of Red Hook that he encountered in the 1930's when he cleared part of the so-called "Slab City" for a recreational park, a public swimming pool and some baseball fields, the Red Hook Play Center.
However, the desperate need for housing programs for the people remained. "Slab City" was one of the shantytowns springing up overnight as dockworker immigrants, homeless and displaced people — initially Irish, Germans and Norwegian; later mostly Afro-Americans and Puerto-Ricans — appropriated vacant lands with scrap shacks, along with their life stock. (SPELLEN, 2017) During the great depression, these corrugated tin shacks and tent cities, surrounded by rusting automobiles and trash, were nicknamed "Tin Can Mountains" or "Hoovervilles".
The idea of building public housing for this mixed community as a mixture of row housing, apartment buildings of varying height and facilities was floated in City Hall already in 1933 but only became tangible substance as the Red Hook East buildings in 1938, after the New York City Housing Authority (NYCHA) was founded. Later and taller additions to the Houses, called the Red Hook West buildings, were built in 1955.

In vain, Red Hook has seen steady erosion since World War II. Economic trends, government actions and neglect produced many of the problems that plague the neighbourhood still today. For the outsider it is difficult to see through the cloud of condemnation from up the Gowanus Expressway. Disinvestment, isolation and abandonment made the City take the many vacant lots in the 1980's for non-payment of taxes, but these were resold at auction and left undeveloped.

FIG. 17: THE STORM SURGE OF HURRICANE SANDY HITS RED HOOK (OCTOBER 2012) – IMAGE BY JUSTIN LANE

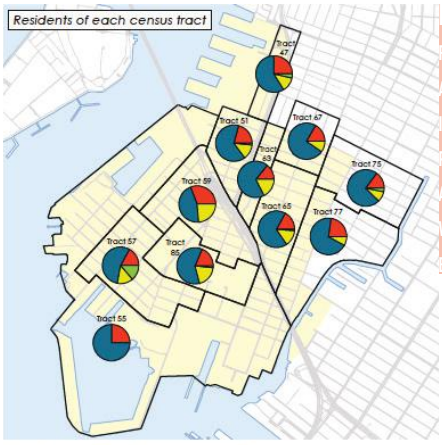


FIG. 18: MEANS TO WORK

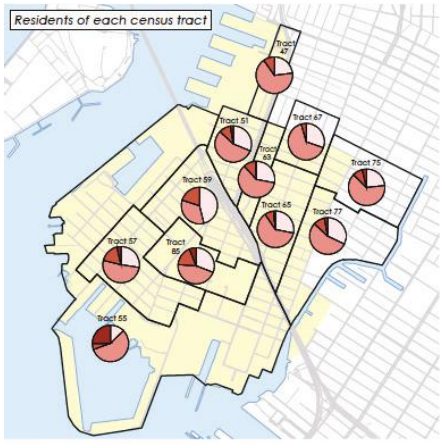
RESPECTIVELY RESIDENCE AND WORKPLACE IN RED HOOK:

PUBLIC TRANSPORTATION (BLUE)

AUTO (RED)

WALK (YELLOW)

BICYCLE (GREEN)



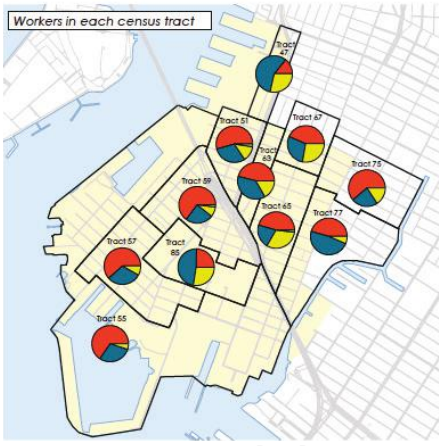


FIG. 19: TRAVEL TIME TO WORK

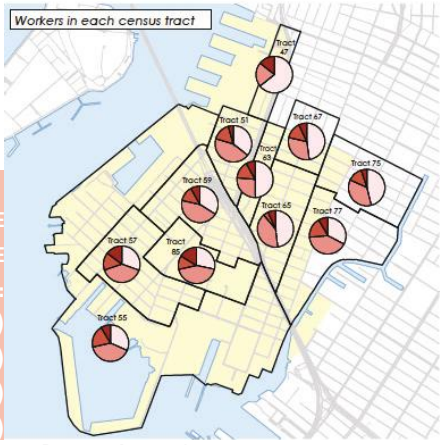
RESPECTIVELY RESIDENCE AND WORKPLACE IN RED HOOK:

90 OR MORE MINUTES (DARKEST RED)

60 TO 89 MINUTES (RED)

30 TO 59 MINUTES (PINK)

LESS THAN 30 MINUTES (LIGHTEST PINK)



RED HOOK (TOWARDS) TODAY

In the past decades Red Hook has endured more than its share of adversity and travail with population, housing units and jobs near historic lows and with large amounts of vacant residential and industrial land used for open storage and dumping.
Despite the negative mainstream statements, artists, artisans, musicians and other creative talent looked differently to Red Hook's conditions and have been attracted to the *rustic charm*, *industrial funk* and the absence of mass construction, which were all preserved and secured by Red Hook's isolation and low accessibility and which they could not experience anymore in other parts of Brooklyn or New York City. This new community settled mostly along Van Brunt Street in the west of Red Hook, nicknamed "the point" / "the back", and helped cleaning up and slowly revitalizing the area.

Jane Jacobs' impassioned defence of humane urban life and planning in the sixties really bore fruit in Red Hook when in 1992 Community Board 6 brought together all kinds of representatives for two years of analyses and debate, resulting in a pro-active 197-a plan setting forth a vision and strategy for rebuilding Red Hook's population and economy through improvements to its physical and social fabric:
"*Red Hook: A Plan for Community Regeneration*". The main elements in the future land use plan were:

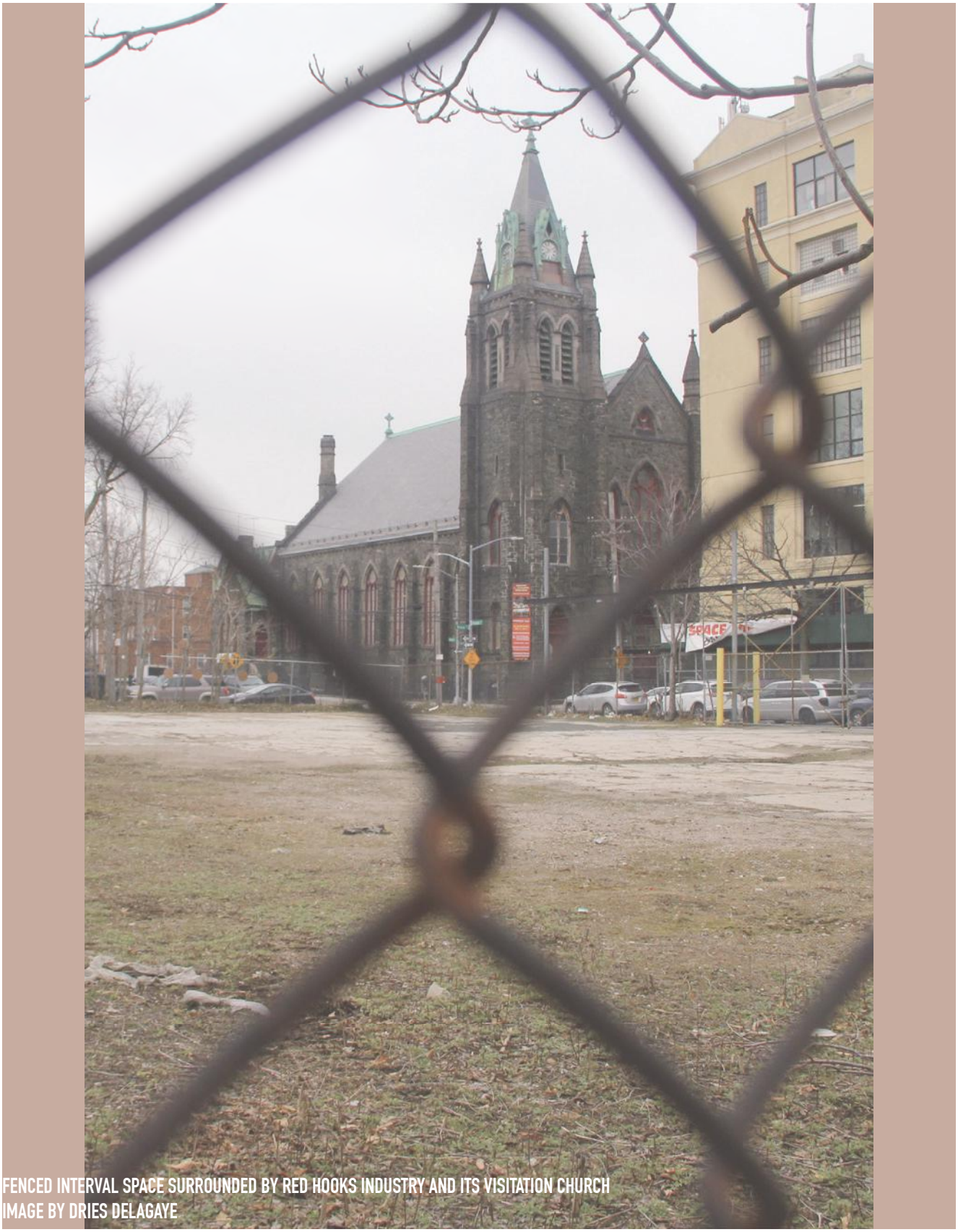
- *New housing through construction of affordable infill units and rehabilitation,*
- *Compatible industry mainly translated into light industry buffers between residences and medium to heavy (maritime) industry,*
- *Commercial development (of Van Brunt Street),*
- *Importance of youth: education, facilities and social services,*
- *Importance of the environment and Red Hook's environmental problems and concerns,*
- *Improvement of parks & greenery: Coffey Park and Park House as major public spaces.*

How proactive the strategy may have been, for over twenty years the same demands appeared on the yearly reports, being ever more specified to plead for a listening ear and top-down actions.

In 2012, Red Hook was seriously hit by hurricane Sandy. The floodwaters rose to six feet and brought nearly the whole community to its knees. Help from outside was insufficient or missed its target. As the water spilled over bulkheads along the shore and spat up from the sewers, emergency provision boats couldn't find proper docking places for instance. While authorities were struggling with widespread damage, Red Hook lost access to power and clean water for weeks. Its different communities were brought together in a way that they all shared the need to rebuild what they had lost. (WALSH, 2017)

Six years later now, the situation switched to new construction and new residents flocking in, as if unaware of the twice a year flooding due to the obsolete combined sewage system. Big commerce – such as Ikea, Fairway Market and a Tesla showroom – and pricey new condos are so much emerging in the neighbourhood that by the third quarter of 2017 Red Hook became Brooklyn's priciest area based on new-home sales. (WALSH, 2017) Besides that, other residents are still in search for more affordable housing and find their solution often in renting from industrials who saw more profit in lightly reconverting their underused industrial properties into residential lofts.
Data from recent Red Hook studies proof that the neighbourhood's inhabitants have lost interaction with local industries. Lacking the locally demanded skills, they prefer to commute a half hour or more to be employed. Despite the few local bus lines through Red Hook and the 1km walk to the closest subway station, commuting happens mainly by means of public transport. Most of the inhabitants, especially NYCHA residents, doesn't own a car and most of the cars in the neighbourhood during the day are related to day visitors, commerce and industrial activity.

These sustainability issues and development trends involving both residential and industrial gentrification together with the risks for their negative effects moved Community Board 6 to revision their strategy in 2016 and focus on their three most pressing issues: *neighbourhood preservation*, *resiliency* and a *more diverse development* "*keeping the community at home and ensuring in-place support networks to allow them to prosper in their home neighbourhoods*". (FY2019 District Needs Statement of CB6)



FENCED INTERVAL SPACE SURROUNDED BY RED HOOKS INDUSTRY AND ITS VISITATION CHURCH
IMAGE BY DRIES DELAGAYE

RQ
RESEARCH QUESTION

"Can more permeable interval spaces and new architectural interventions there socio-economically incubate a resilient Red Hook, given its mixed community and adjacent entities?"

"Can more permeable interval spaces and new architectural interventions there socio-economically incubate a resilient Red Hook, given its mixed community and adjacent entities?"

PERMEABLE

Permeability is a diptych with a social and a natural side. In its social meaning it relates to the depth and accessibility of the streetscape territories. How can private properties be upgraded and introduce new levels of collectivity?
In terms of nature, it is also about the possibility to penetrate the interstices, albeit the pores of the soil composition, so stormwater can be drained naturally. In this way, an area can cope with extreme weather conditions, such as floodings.
The term "permeability" will be elaborated in the next chapters of this reflection paper.

INTERVAL SPACE

Interval spaces are all kinds of spaces in-between private properties and other streetscape territories. They are often defined or appropriated as garden-like extensions to domestic structures or as storage yards to industrial properties. They rarely have a more collective identity in spite of their high potential to restructure and to reconnect. As this paper will reveal, a large share of Red Hooks intervals are vacant or informally used.

ARCHITECTURAL INTERVENTION

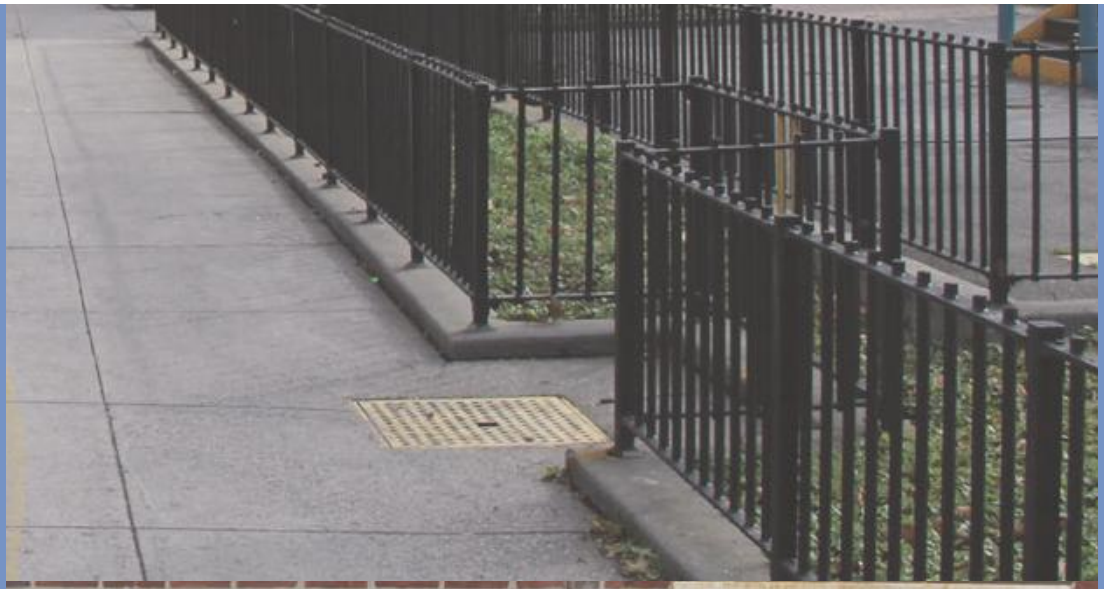
Architecture is about space and constructing that space. It wants some space to become place: a space with a certain (collective) meaning. Intervening means for the architect to knead the existing so that it matches and adds value to the context with its local stakeholders and their behaviour. An architect should avoid to negatively affect these surroundings. Sometimes, an intervention is not at all building.
In the intermezzo, other insights of space and architecture are provided.

SOCIO-ECONOMICALLY INCUBATE

Mixed neighbourhoods with both a residential and industrial identity became vulnerable as they were ignored by last-century politicians, modernist urban planners and architects who wanted to seperate home and work. As one can see now again internationally, societies are in a reappraisal phase of the home-work proximity for many sustainable reasons. Mixed neighbourhoods will become once again urban core structures. How can we incubate productivity and as well enhance the domestic nature of such neighbourhoods?
Spatial interventions in these areas have to focus both on social and economical values.

RESILIENT

Resilience is, by its widest definition, an ability to recover from or adjust easily to misfortune or change.
In 1973, C. S. Holling introduced the term (ecological) resilience to understand non-linear dynamics observed in ecosystems and defined it as "the amount of disturbance that an ecosystem could withstand without changing self-organized processes and structures (stable states)" (GUNDERSON, 2000). We cannot design for the unpredictable but we can design keystone structuring processes and buffers maintaining capacity for renewal in a dynamic environment.
Besides its flood-prone conditions due to more frequent extreme weather conditions (climate change) and outdated sewer systems, Red Hook as a mixed neighbourhood is also prone to the negative effects of both industrial and residential gentrification.



02

CONCEPTUAL FRAMEWORK

FRINGE

VACANCY

PERMEABILITY

MULTIPLE FENCES AT RED HOOKS NYCHA HOUSING
IMAGE BY DRIES DELAGAYE

F R I N G E

BETWEEN TANGENT COMMUNITIES & IN A PIVOTAL SCALE CONDITION

FRINGE :
- (adj.) peripheral, unconventional
- (noun) the outer boundary of an area, group

In its historical heydays, Red Hook and the other neighbourhoods of Brooklyn were already nicknamed "the walled city", (SIMON, 2010) referring to the mammoth warehouses solely defining the streetscape as a consequence of private investors being allowed to take possession of every foot of available waterfront. Critics have been warning for the lack of public waterfront space, although the fenced areas were remarkably more secured and safe.
Spatial delimitation on such scales took also form of touchdown infrastructures in favour of the private car when Robert Moses planned the Gowanus expressway and the Hugh L. Carey Tunnel, cutting through residential Red Hook areas and tearing it off from Caroll Gardens and the other parts of Brooklyn. These hard borders caused Red Hooks isolated (and desolated) condition, but also saved the area in a way from mass construction and gentrification.

Fringe, besides being the outer boundary, appears also on smaller scales within and between the neighbourhood's blocks. Overlap scenarios between neighbours and tangent communities are mostly avoided in a fear for conflict and for the sake of security. Territorial transitions are predefined with punctual gaps and margins. Territorial limits appear in ever more explicit and harsh forms, such as steel gates and (roll) fences, marking the boundary and entrance of someone's property, blocking of former entries (of nowadays vacant sites), keeping grass areas untouched etc.
Although these easy-to-read territories sell better while ensuring qualities to the private sphere, the presence of collective or shared space has decreased at different levels.
By analogy, the level of complexity (depth) in Red Hook's streetscapes has decreased to more linear and simple configuration structures.

Can we intervene in the streetscape territories without implementing multiple corridor elements?
Do we have to focus on ensured seclusion or can we add colour and hierarchy to openness?

"Should we not concentrate on the very configuration of depth sequence rather than attacking its fragile esthetics?" (Kris Scheerlinck)

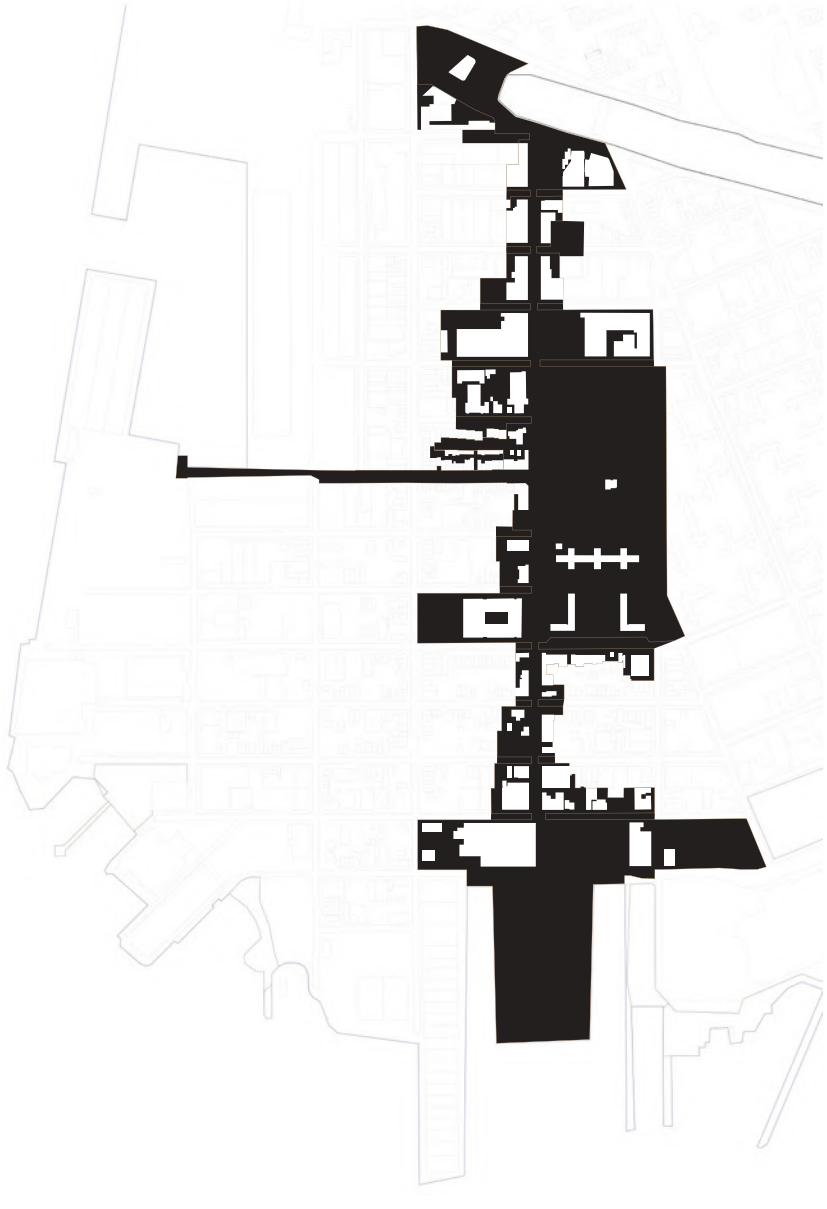


FIG. 20: OPEN SPACE ALONG RICHARDS STREET

SCALE 1:2000

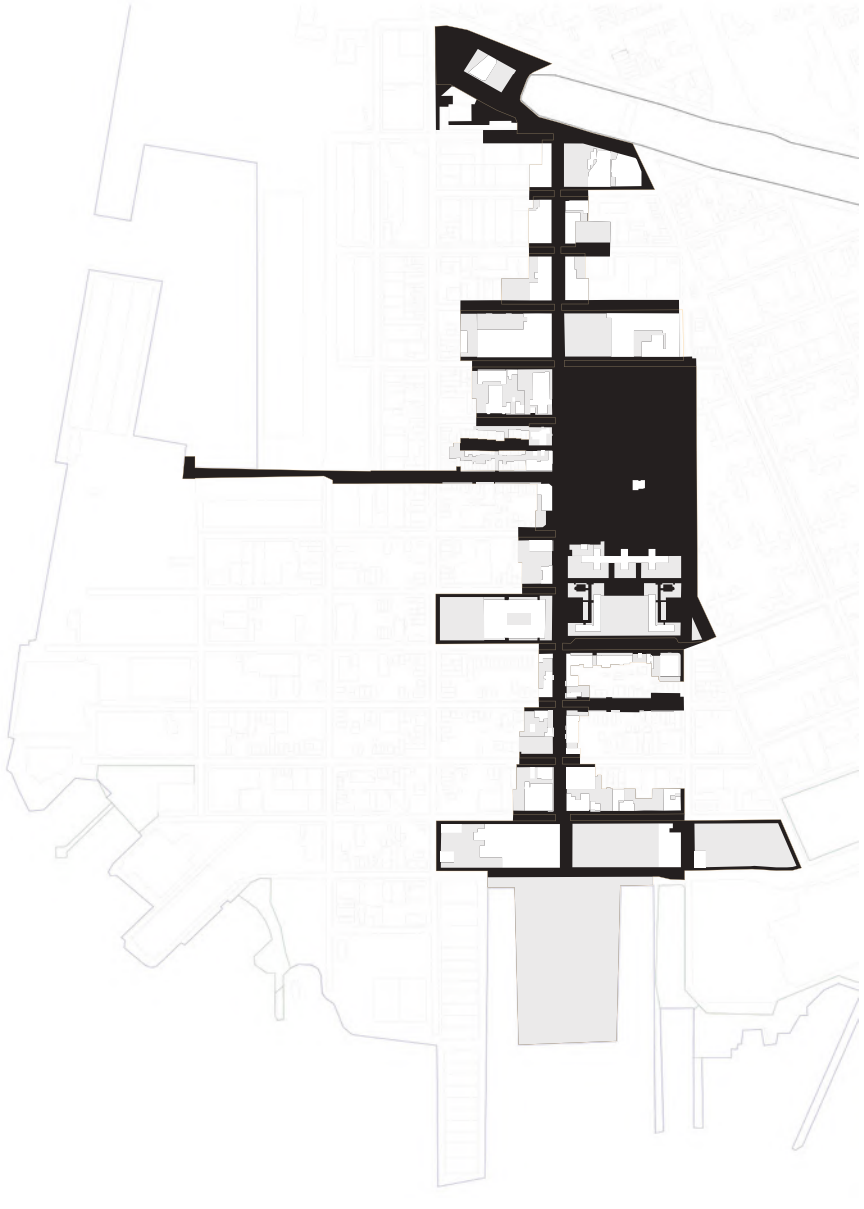


FIG. 21: OPEN SPACE WITHOUT RESTRICTIONS ALONG RICHARDS STREET

SCALE 1:2000

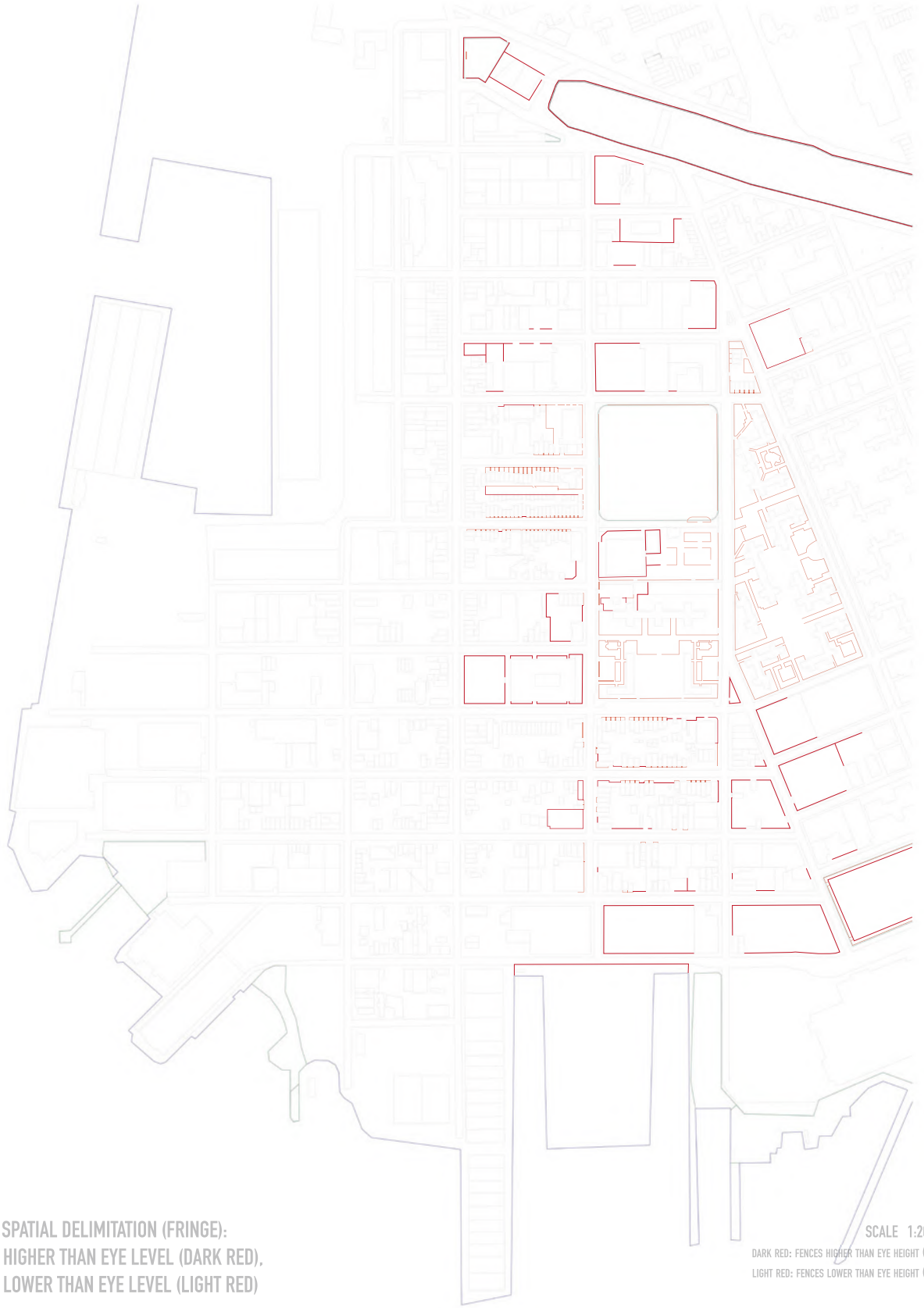


FIG. 22: SPATIAL DELIMITATION (FRINGE):
FENCES HIGHER THAN EYE LEVEL (DARK RED),
FENCES LOWER THAN EYE LEVEL (LIGHT RED)

SCALE 1:2000

DARK RED: FENCES HIGHER THAN EYE HEIGHT (> 150 CM)
LIGHT RED: FENCES LOWER THAN EYE HEIGHT (< 150 CM)

A FORMER YMCA-BUILDING: HERITAGE (?), VACANT AND FOR LEASE AS LIVING OR WORK SPACE
IMAGE BY DRIES DELAGAYE

V A C A N C Y

ABUNDANT & AMBIVALENT BUILD & INTERVALS IN THE EXISTING URBAN FABRIC

VACANCY :
- (noun) an unoccupied, available empty space
= emptiness, vacuum, void

Urbanization and industrialization are two sides of the same coin. Red Hooks industrial flux of nineteenth century growth, its stagnation point and decay in twentieth century changed many times the architecture that filled in the lots and blocks. The mix of thriving single-oriented industry and residents generated a homogeneous appearance with a dense collection of low brick stores dominating over brownstone houses. A stagnating industry felt the need for change and tried to replace its urban fabric by larger-scale infrastructures, which failed and led to decay and demolishment.

"The industrialists who had helped build Red Hook's streetscape were left with little control over the system they had created once conditions of industry changed." (SIMON, 2010)

What ultimately remains is a fragmental landscape in which the pivotal scale, uncertainties and constant negotiations on territorial organisation are dominant. The many vacant lots, which were once taken by the City and resold at auction, are still left undeveloped. Most of them are highly sealed; others are taken as open storage for light industries or used for dumping. Former industrial lofts are begging to be leased as office space or for residential use.

"Buildings define empty volumes of space in between, which can be seen as ordering space. Buildings seem to be physical artefacts, but that is illusionary: transformations of space through objects means ordering relations between people. In other words, this constitutes a system of social relations."
(HILLIER & HANSON, 1984; SCHEERLINCK, 2013)

Therefore, vacant builds and intervals in a mixed neighbourhood as Red Hook can be the crucial basis for the revival of a diverse productive landscape interacting with an urban fabric inhabited by low-wage workers, artists and creative talent. They might have the potential to regulate models of proximity by defining buffers between adjacent industries and residences as well as between different communities.

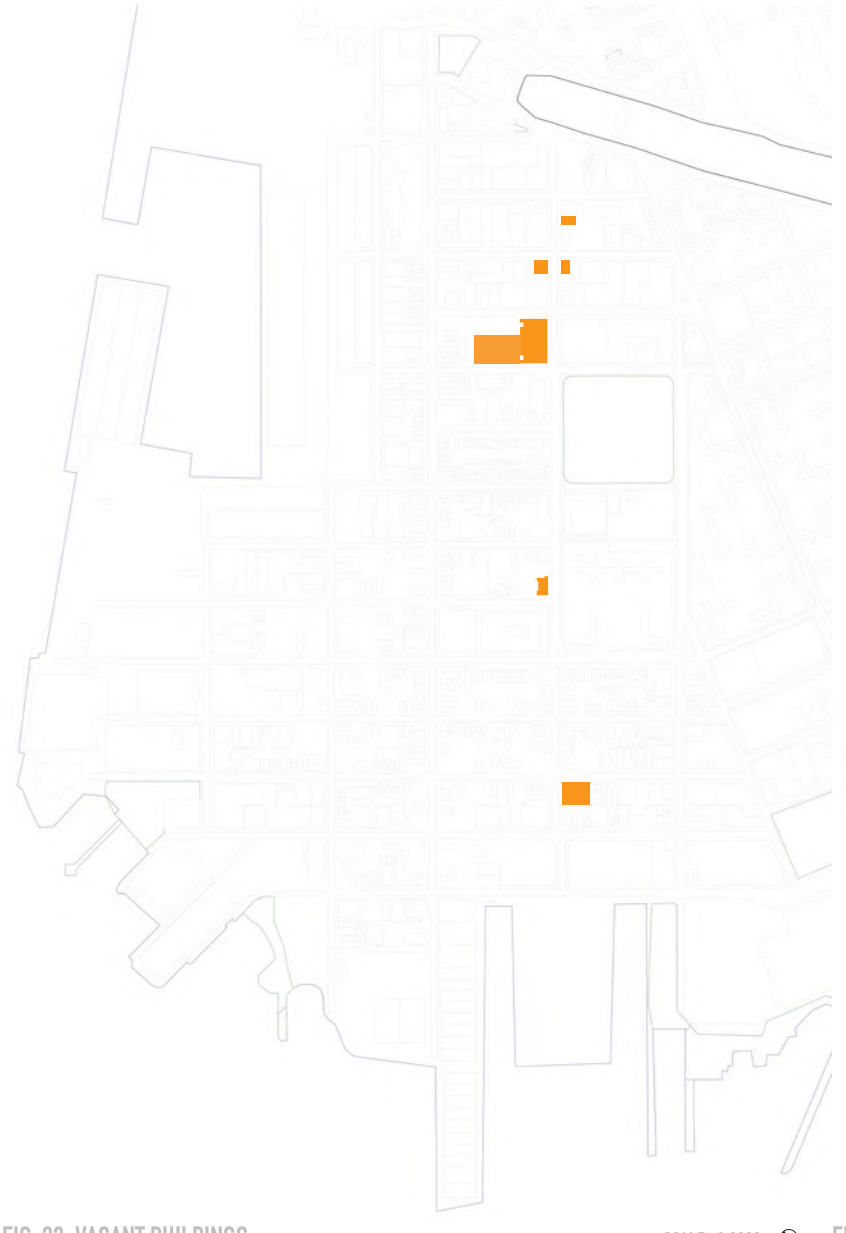


FIG. 23: VACANT BUILDINGS
ALONG RICHARDS STREET

SCALE 1:2000

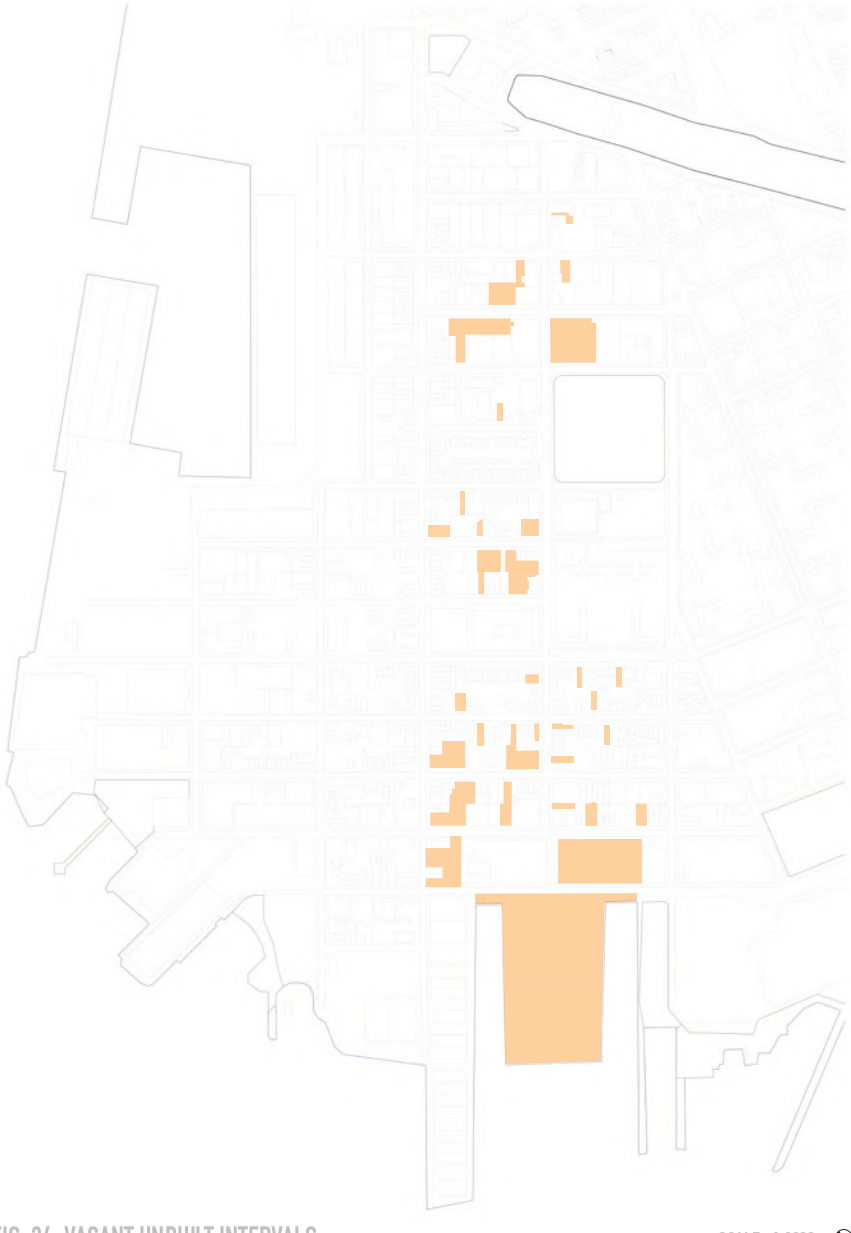


FIG. 24: VACANT UNBUILT INTERVALS
ALONG RICHARDS STREET

SCALE 1:2000

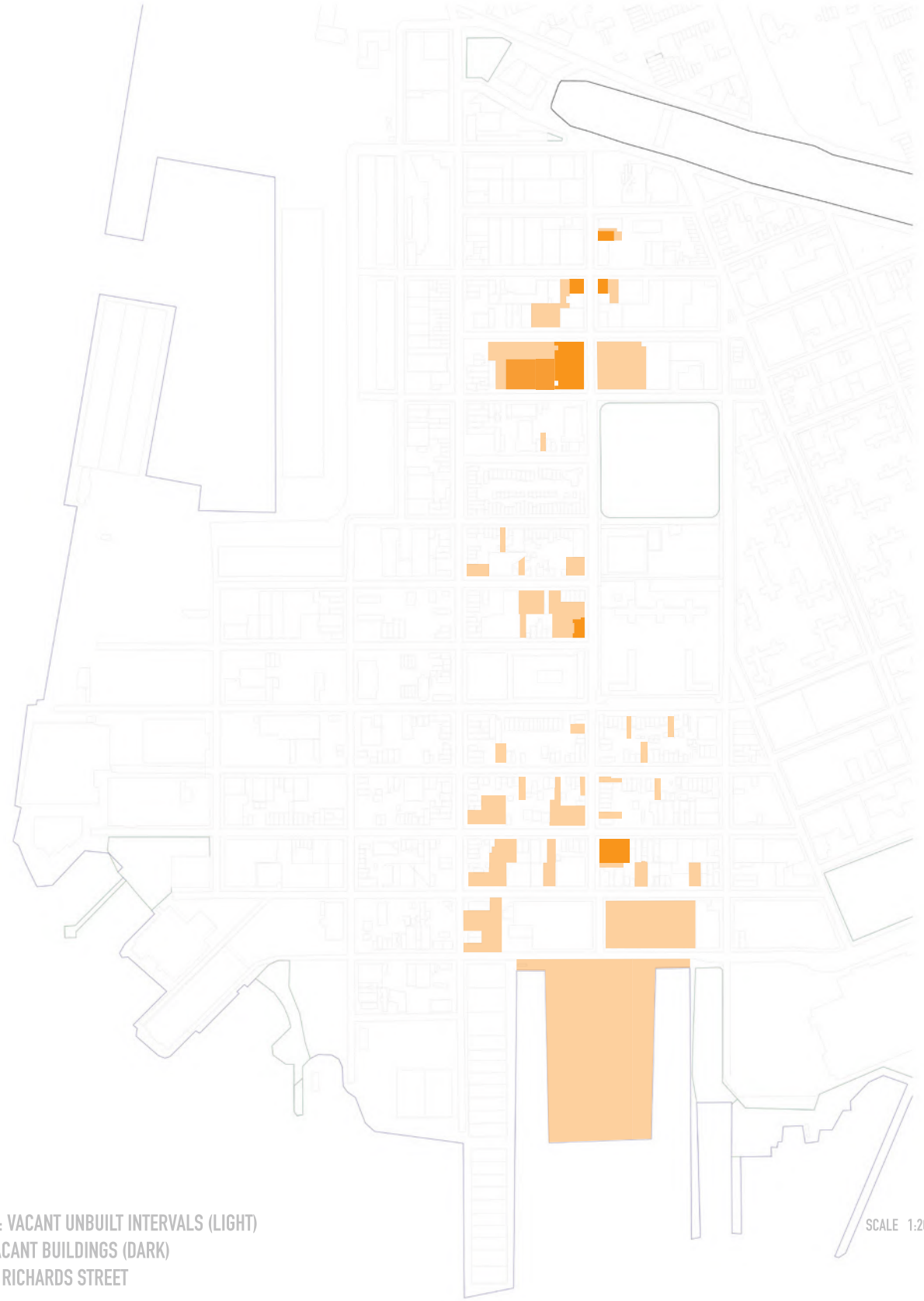


FIG. 25: VACANT UNBUILT INTERVALS (LIGHT)
AND VACANT BUILDINGS (DARK)
ALONG RICHARDS STREET

AN INTERRUPTION IN SPATIAL DELIMITATION PROVIDING ACCESS TO A PLAYGROUND & WILD VEGETATION OVERWINNING THE MAN-MADE LANDSCAPE
IMAGE BY DRIES DELAGAYE

PERMEABILITY

TOWARDS A RESILIENT RED HOOK IN SOCIAL AND NATURAL MEANS

> PERMEATE(D) :
- (verb) to pass Into or through every part
or to penetrate through the pores, Interstlces

Permeability, in social means, is highly related to fringe and territorial depth since it focuses on the possibility of crossing multiple boundaries and – not only accessing but also – passing through properties and interstices. This allows overlaps scenarios and increases depth in the streetscapes. As M. De Sola-Morales suggests, private enclosed spaces could be interconnected to turn them into parts of the collective realm. (SCHEERLINCK, 2012)

Red Hook's configuration structure could be made less simple and linear by allowing more gaps and margins in and between its spatial delimitations. In the first place, the many vacant interstices could provide these needed margins to understand certain adjacencies and explore enriched spatial transitions.

–

Permeability, per physical and natural definition, measures the ability of a porous (soil) material to allow fluids to pass through its pore spaces or fractures. Public parks, private gardens, bio swales and cracks in the streets and sidewalks represent permeable surfaces in Red Hook. Urbanization and industrialization sealed and asphalted lots of Red Hooks footprint. From these hard surfaces (including also the roofs of the built environment) storm water is still drained nowadays to a combined sewer system causing at least twice a year inundation issues at the overflows (CSO's). Sealed surfaces should be broken open for natural storm water infiltration into the soil and to make the neighbourhood less vulnerable for heavy rainfalls, fast flooding and ponding water.
However, we also have to take into account the very nature of Red Hooks underground structure. Dry clay soils often show cracks as deep as two to four feet that are the major channels for water penetration. After wetting, these swell shut and the clay soil has more small pores through which water moves more slowly and thus the soil has a higher water holding capacity. (FERGUSON, 2016)
The groundwater table throughout Red Hook is only five tot ten feet below the surface and can be pushed up by storm surges. (WALSH, 2017)
For this reason, green roofs and stormwater-harvesting systems (f.e. to flush toilets) should be implemented as complementary.
Furthermore, studying the waterlogged preindustrial landscape of Red Hook might reveal interesting structures to cope better with storm water drainage and run off.

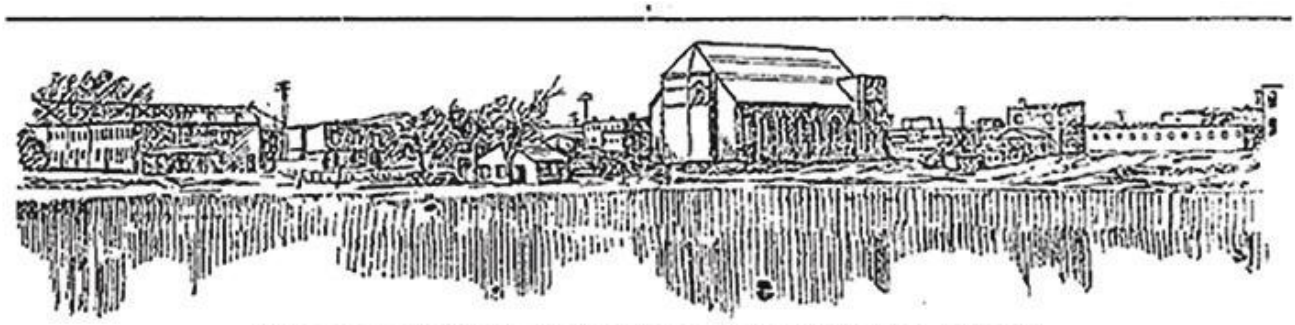


FIG. 26: THE SITE OF COFFEY PARK AT TIME OF PURCHASE (1893): SWAMPY DUMPING LAND 6 FT BELOW STREET & 5 FT HIGH STAGNANT WATER

FIG. 27: COFFEY PARK NOWADAYS (MARCH 2018) – IMAGE BY DRIES DELAGAYE

FIG. 28, 29 & 30: OVERGROWN SIDEWALK CRACKS, PONDING WATER DUE TO SEWER INUNDATION AND A SIDEWALK WITH BIOSWALES

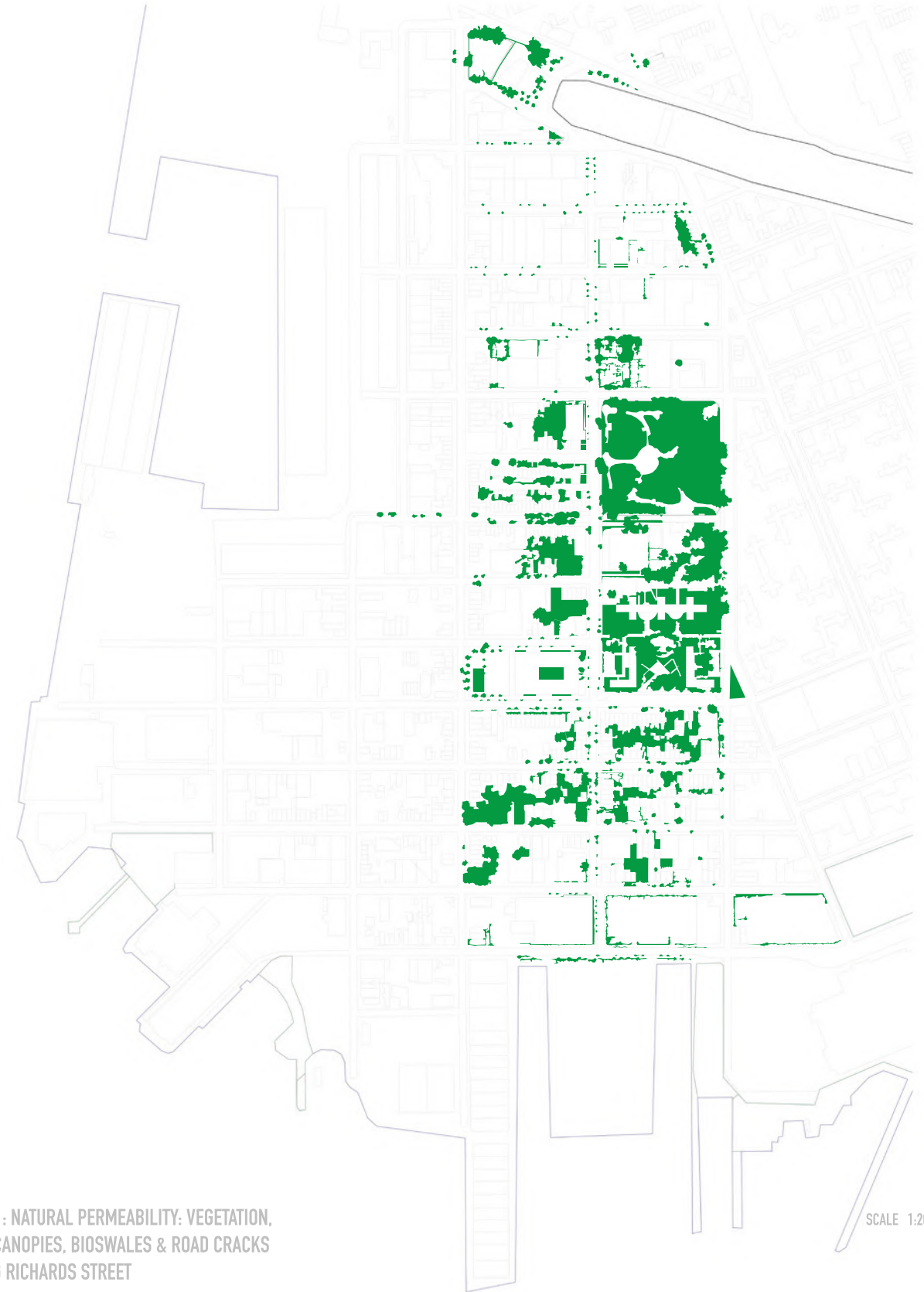


FIG. 31: NATURAL PERMEABILITY: VEGETATION, TREE CANOPIES, BIOSWALES & ROAD CRACKS ALONG RICHARDS STREET

SCALE 1:2000

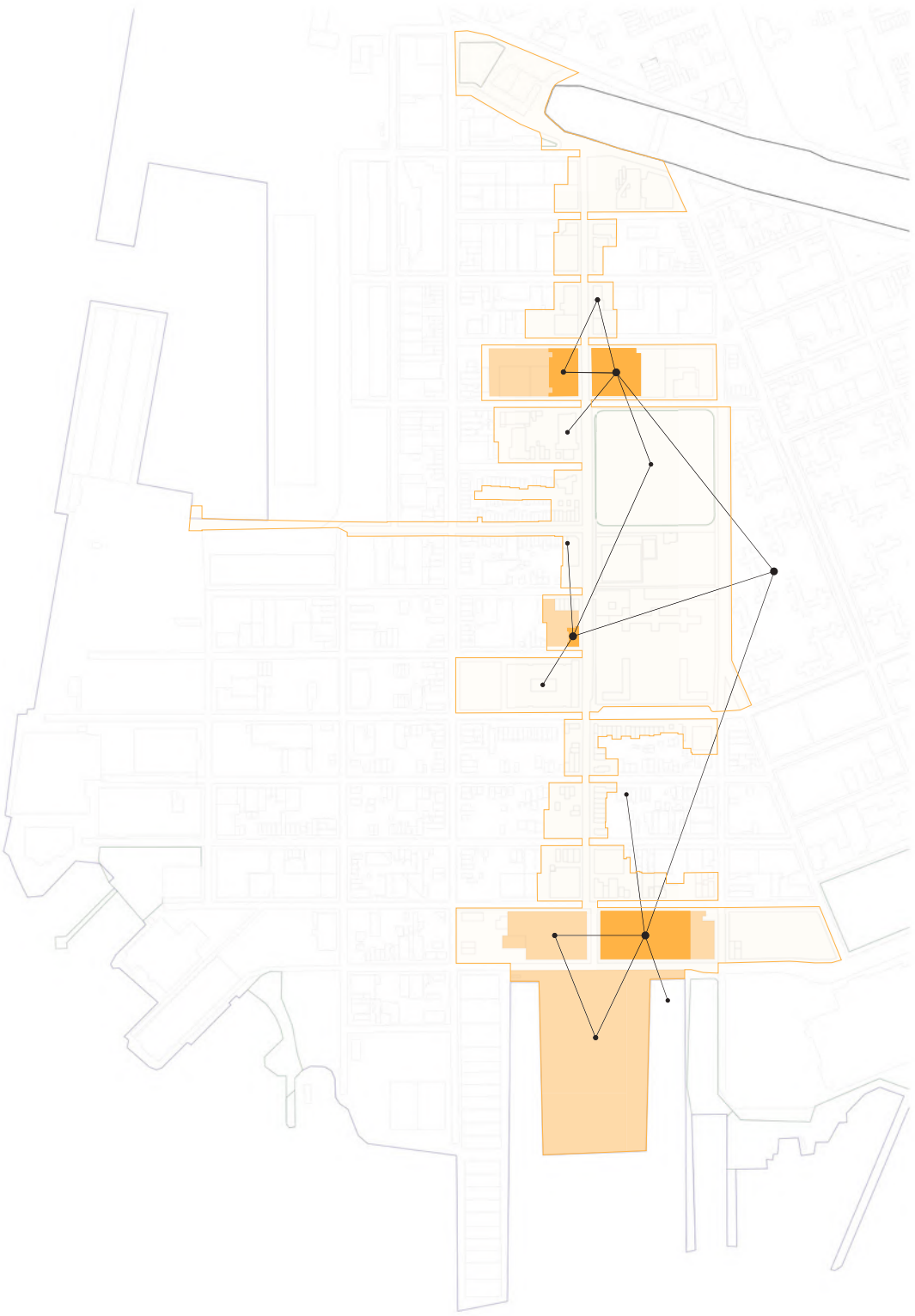


FIGURE 32 : THE SELECTED AREA OF RICHARDS STREET WITH THE THREE INTERRELATING SITES OF PREFERENCE
MAPPING BY DRIES DELAGAYE

SCALE 1:2000

03

SITE SELECTION

Richards Street: a sequential street

Three selected sites and their surroundings

- .r (build+interval)
- ymca (interval)
- ebcy (interval)

FIG. 33: COLLAGE OF SEQUENTIAL SECTIONS THROUGH RICHARDS STREET, REPRESENTING SPATIAL TRANSITIONS

RICHARDS STREET
A SEQUENTIAL STREET

Richards Street was named after Red Hooks first visionary developer, Col. Daniel Richards, who initiated both the street grid urbanization and the industrialization such as Atlantic Basin. The street runs from Red Hooks northern fringe (Hamilton Avenue / Hugh L. Carey Tunnel) to its southern waterfront fringe (Beard Street / site of Revere Sugar Refinery), passing by one of Red Hooks major public green spaces, Coffey Park.

Zoning maps of Red Hook show that major parts of this neighbourhood, especially its waterfront areas and northern fringe, are still designated for industries. As historically, residential and communal programs take its central areas.
The industrial areas, which represented initially the Brooklyn stores, are nowadays mostly zoned as M1-1/M1-2 light industries, such as repair and woodworking shops, wholesale services and storage facilities. Although this zoning has certain performance standards, also offices, hotels, certain retail and community facilities or even joint living-work quarters may be allowed by permit. M1-districts often function as buffers between more heavy industries and residential or commercial districts. Districts zoned for heavy industries (M2 and M3) are ever more limited or rezoned in this mixed neighbourhood. The site of the Revere Sugar Refinery, for instance, will be developed in the near future as a tech campus. Because of recent industrial gentrifying trends, the City established Industrial Business Zones (IBZ) to protect existing manufacturing districts and encourage industrial growth through expanded business assistance services. IBZ's do not allow rezoning for residential use.
The residential areas are zoned as R5- and R6-districts. The R5-districts produce three- to four-story attached houses, such as the historical brownstone houses, and small apartments with a height limit of 40 feet (about 12 meters). Larger-scale multi-family buildings, set back from the street, which are often called "tower in the park" developments, mainly characterize the R6-districts. In the case of Red Hook, the R6-district represents the NYCHA housing projects.

As we can trace the lines of Red Hooks streets, all of them represent a sequence of different street sections and zones. Richards Street was selected as exemplary model since it interconnects different outer and inner fringes at different scales. In the north, the street connects with one of the few accesses to Red Hook and cuts through an industrial (IBZ) district. When crossing an industrial-residential inner fringe, the street intermediates between a vacant multi-story industrial loft and a vacant sealed interval space. It reaches Coffey Park and the Visitation Church and starts tracing an inner fringe between different residential districts, inhabited by respectively the NYCHA-housing community at the east and a community of mainly artists at the west. At its southern part, Richards Street crosses again fringes between residences, buffering industrial lots and an outer fringe, the waterfront of Erie Basin.

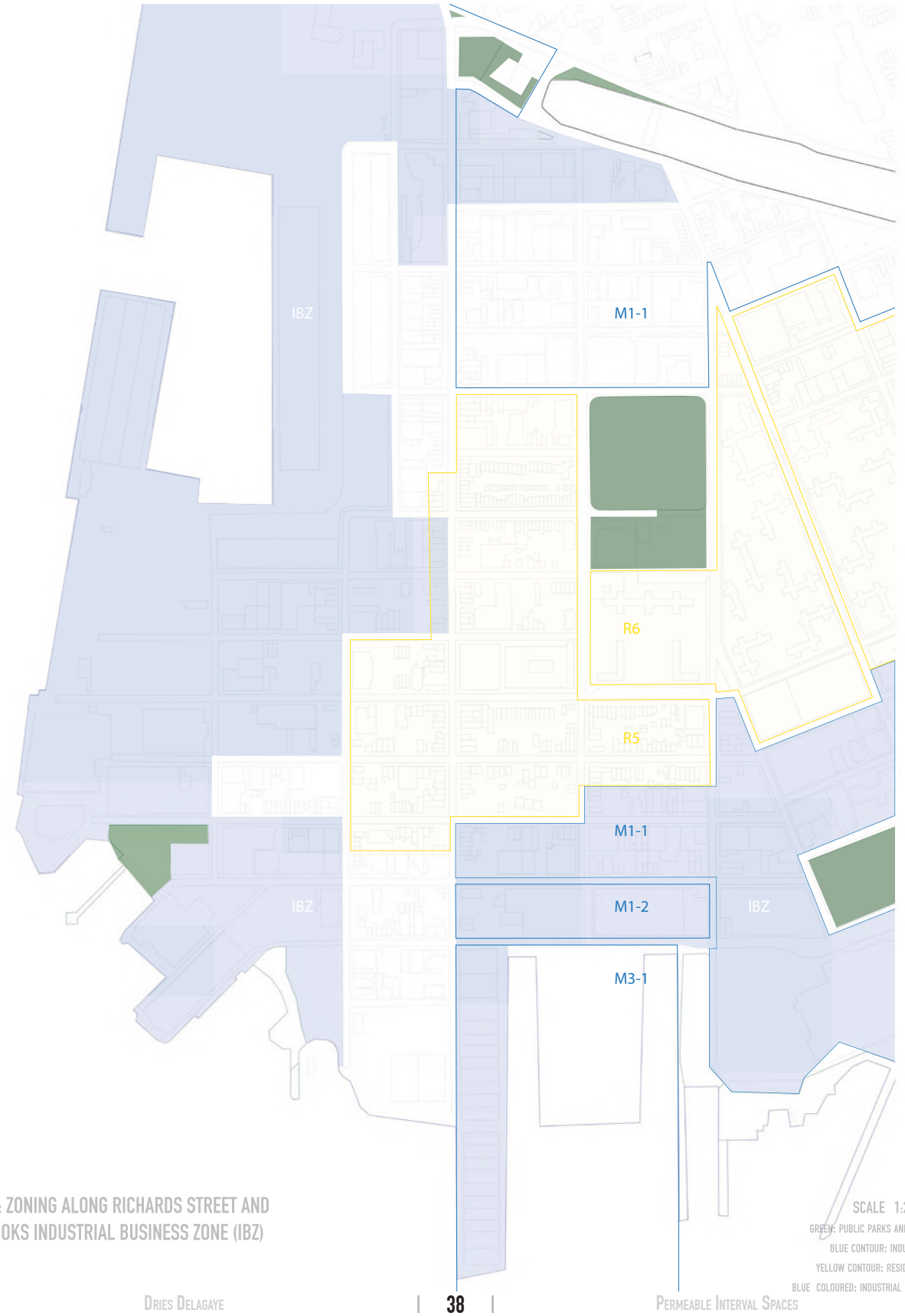


FIG. 34: ZONING ALONG RICHARDS STREET AND RED HOOKS INDUSTRIAL BUSINESS ZONE (IBZ)

SCALE 1:2000

GREEN: PUBLIC PARKS AND GREEN AREAS

BLUE CONTOUR: INDUSTRIAL ZONING

YELLOW CONTOUR: RESIDENTIAL ZONING

BLUE COLOURED: INDUSTRIAL BUSINESS ZONE

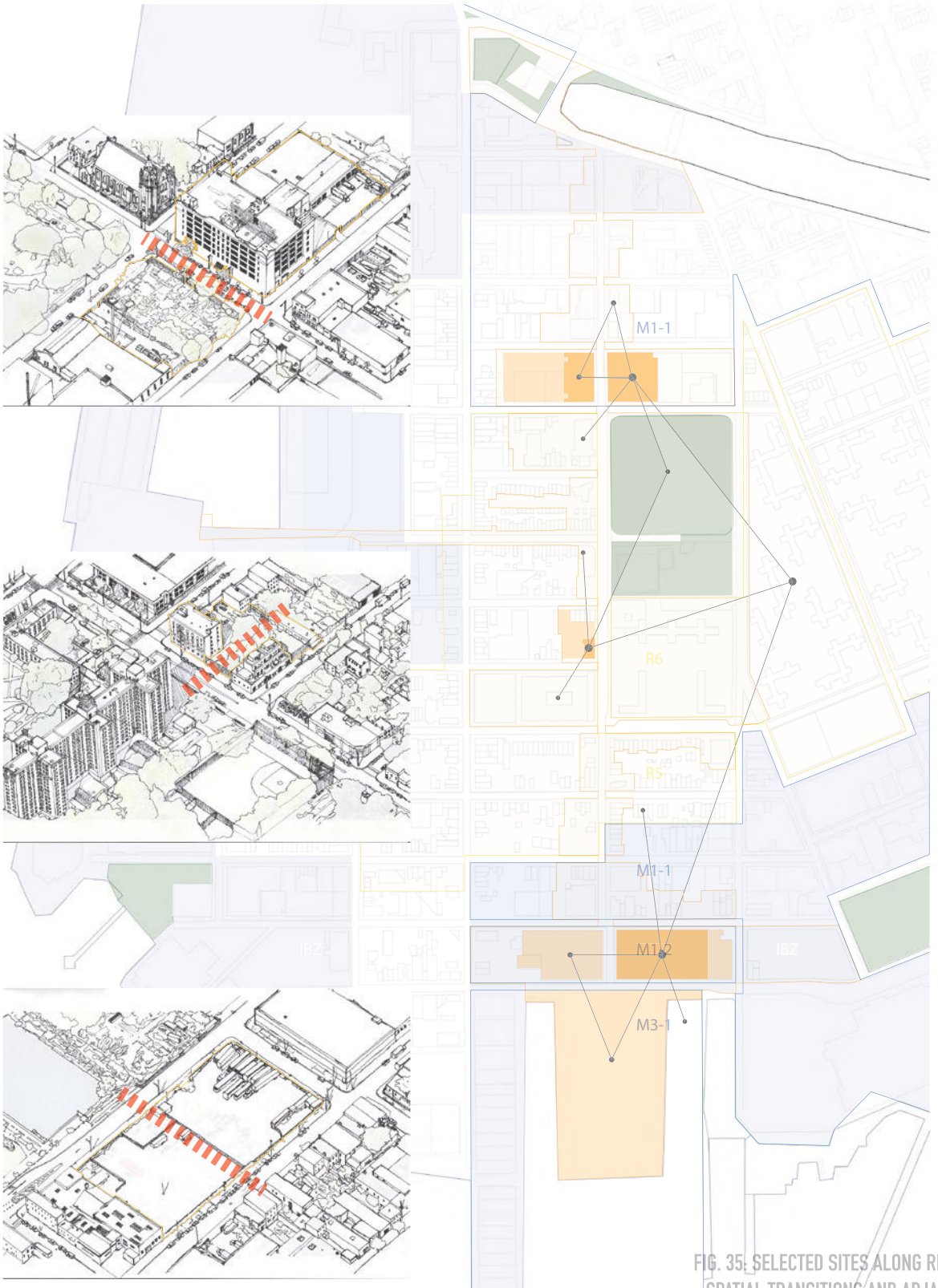


FIG. 35: SELECTED SITES ALONG RICHARDS
SPATIAL TRANSITIONS AND ADJACENCIES

FIG. 36: AERIAL VIEW OF THE .R-SITE: THE MULTI-STORY LOFT, VISITATION CHURCH (2), COFFEY PARK & STILL BUILDINGS ON THE INTERVAL (4).

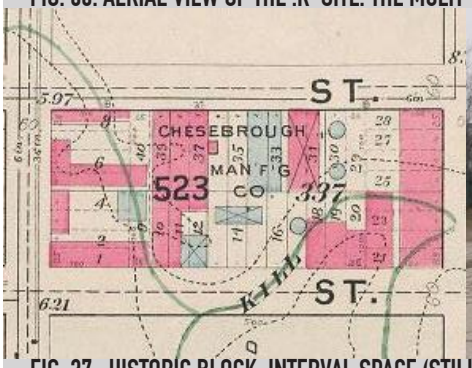


FIG. 37 : HISTORIC BLOCK: INTERVAL SPACE (STILL BUILD) AND CREEK TRACED;

FIG. 38 : INTERVAL SPACE (UNBUILT) NOWADAYS

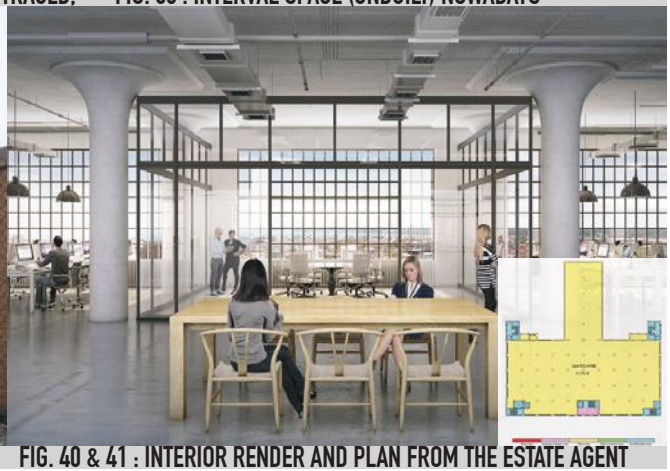


FIG. 39 : THE MULTISTORY LOFT WITH THE .R-SIGN ON BILLBOARD;

FIG. 40 & 41 : INTERIOR RENDER AND PLAN FROM THE ESTATE AGENT

THREE SELECTED SITES
AND THEIR SURROUNDINGS

Most of the maps focus on this selected area of Richards Street with its surrounding blocks or are zooming in even more in order to really understand —with the needed detail— the very nature of these typical Red Hook streetscape configurations.
Within this sequential street area three sites were selected for design development because of their buffering potential and fringe conditions.
All three sites include multiple spatial limits, adjacencies, certain degrees of vacancy and a potential permeability or spatial transition between different communities or between residences and industries, involving public and / or collective realms such as Coffey Park and the waterfront.

–

. R
A VACANT INDUSTRIAL MULTI-STORY LOFT & A VACANT INDUSTRIAL INTERVAL SPACE (RICHARDS I VERONA I DELEVAN STREETS)

The selected northern site is situated within two blocks through which a spatial transition from light industries (north) to communal buildings and residences (south) occurs. Still being zoned as light-industrial (M1-1) and taking into account the importance of industry, the site should remain industrial and could furthermore interact with the adjacencies of other industries, local residents and communal spaces (Visitation Church, Coffey Park…).

The vacant interval space is a square area of about 3760 square meters at the western part of the urban block just north of Coffey Park.
The historical Chesebrough (Vaseline) Company and other industries once owned this block, but its current owner (Harbor Tech.) reconverted the buildings on the eastern half of the block into residential lofts. The central property, abutting the interval space at its east side, is an unused warehouse. Built volumes on the interval space were demolished and the space is now a fenced plain field of cracked concrete slabs and overgrown vegetation.

The six-story building at the other side of Richards Street was a vacant industrial loft until the owner started last year with refurbishments and the lease of its large open-plan floors (1860 square meters), divided into industrial (start-up) spaces starting from 700 square meters.
The building has a mushroom column structure on a six-meter grid, five vertical circulation cores, high ceilings and large windows with all-round views of Red Hook and New York City. Loading docks and lower industrial warehouses (2800sqm) are situated at the back.
Its height makes the building also interesting for potential refuge during storm surges.

The mysterious ".R" on the billboard atop this building dates back from 1917 when it was constructed for paper-goods manufacturer E. J. Trum.
The story tells that the next owner attempted to pull down the letters for its own sign but that the R wouldn't budge. The ".R" has been part of Red Hooks landscape for almost 30 years now. (JACOBSON, 2001)

FIG. 42, 43 & 44 : TRIPLE ACCESS TO THE INTERVAL SPACE: FROM RICHARDS (NYCHA), FROM SULLIVAN (PS15) AND FROM KING (BROWNSTONES)

FIG. 45 & 46 : ON-SITE IMAGES OF THE INTERVAL SPACE WHEN ENTERING FROM RICHARDS STREET

FIG. 47 : THE FORMER BETHELSHIP SEAMEN'S BRANCH OF THE YMCA;

FIG. 48 : ON-SITE IMAGE WHEN ENTERING FROM KING STREET

FIG. 49, 50, 51 & 52 : SITE ENCLOSURES & SURROUNDING : CARRIAGE HOMES, SULLIVAN STREET HOUSE, RUINED STORAGE & OPPOSING VACANCY

YMCA

A VACANT INTERVAL SPACE WITHIN A RESIDENTIAL DISTRICT (RICHARDS I SULLIVAN I KING STREETS)

The second, more centrally located site is a fenced, vacant and grass-overgrown interval space of about 1700 square meters. If made more permeable, a spatial transition would occur from the large-scale NYCHA West Houses (low-wage worker community) towards a small-scale mix of attached houses and apartment typologies (artist community and new residents). Both a pivotal scale condition and risks for conflict are embedded in the adjacencies and overlaps at this site. These conditions, however, make the site also a preferred location to bring together gathering communities and individuals and respond to the CB6-demands for different communal facilities.

The interval space is both in form and meaning defined by its enclosing volumes.
The six-story building at the corner of Richards and Sullivan Streets originally opened in 1922 as Bethelship Seamen's Branch of the YMCA, officially "James Harvey Williams Memorial Hall". It housed 95 dormitory rooms, showers and baths, a locker room, an infirmary, a restaurant, barbershop, tailor's shop, athletic facilities, billiards rooms, reading and writing rooms, classrooms for religious education, an employment office and other activity rooms to keep sailors from all over the world on shore and out of problem. The Branch was active until the industry and demographics at Red Hooks piers had changed by 1948. Later on, the building reopened respectively as the Sullivan hotel and as government offices, but by the end of the 1970s it was abandoned. According to some sources (SPELLEN, 2015), the abandoned building was used in the 1980s as an informal youth clubhouse. Although the building is not yet landmarked, it could be put on the Register for its historical significance and architectural style. Nowadays, the building houses twenty apartments and a ground level childcare service that partly uses the interval space as a playground.

The volume at the corner of Richards and King Streets is developed in the recent years after Sandy – in the same trend as the 22 townhouses more to the west along Sullivan and King Streets. The former carriage houses were converted into three-bedroom apartments with terraces and ground-level ateliers and are listed at about 2 million dollars. (BESONEN, 2016)

The interval space is further enclosed at the back by a thirty meter long ruined one-story storage building (at King Street) and a two-story semi-attached house (at Sullivan Street) with private garden abutting the interval space.

While at its east side the interval space opens up from between its enclosing volumes towards Richards Street and the NYCHA West Houses, at its south side (Sullivan Street) it invites the Patrick F. Daly School (P.S. 15) to use its available land. At its north side (King Street) and west side it opens up to other residents (Brownstone houses) and finds interaction with other vacant and backyard interval spaces.

FIG. 53 & 54 : THE FORMER INDUSTRIAL BUILDING ON SITE: NOW EXTENDED SPACE FOR ART INSTALLATIONS

FIG. 55 & 56 : THE TWO ACCESSES TO THE VACANT INTERVAL SPACE FROM BEARD STREET (THE WATERFRONT)

FIG. 57 : AN ALMOST COMPLETE OVERVIEW OF THE EBCY-SITE (LOOKING NORTH) WITH THE WATERFRONT STRIP IN FRONT

EBCY

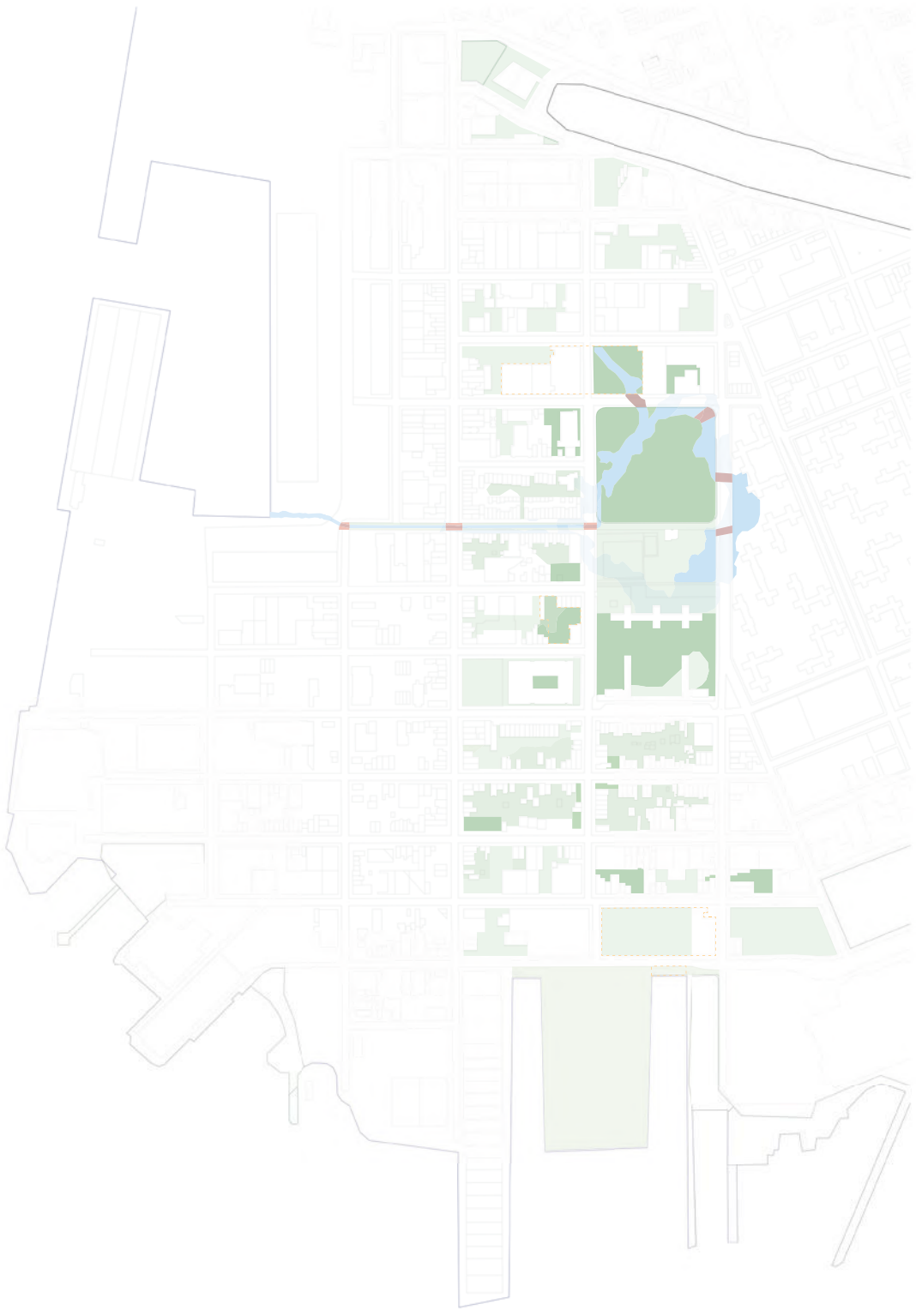
AN INDUSTRIAL INTERVAL SPACE AT THE WATERFRONT FRINGE (RICHARDS I BEARD I VAN DYKE I DWIGHT STREETS)

The third and southern site takes the area of an urban block (60x145m) on which a former industrial built volume occupies an area of 1830 square meters at the side of Dwight Street. This building has now a joint living-work program for artists with the larger spaces used to create and exhibit larger installations.
The rest of the block consists of two fenced unbuilt industrial lots used for the open storage and repair of respectively coach buses and vehicles used in the media and film production industry.
Beard Street at the south traces the waterfront fringe with a strip of 44 meters directly bordering the waterside.

Historically, this site was used to store coal and was named the "Erie Basin Coal Yard" (EBCY).
This was a class 4 bonded yard which was a storage space for foreign imports without payment of duty or taxes and was required to be enclosed by a fence of at least 3,5m high and a gate securable with a US Custom Service's lock. (MAJOR, 1872)

In appearance the site has barely changed today, but the residential communities (north of the site) are highly demanding easier, safer and more public waterfront access. At the same time, Red Hook industrials are stressing on the importance of (maritime) industries and, after all, this site is incorporated in Red Hook's Industrial Business Zone.

The challenge is to provide the site a more efficient (densified) industrial structure without blocking the demanded spatial transition, collective passages through, from residences in the north towards the waterfront at the south.



04

URBAN SCALE STRATEGY

A work method of four packages
- Depth Configurations
- Open Space Configurations
- Natural Permeability
- Streetscape Activities

Three sites, Three scenarios

The Urban Strategy

FIG. 58 : DEPTH CONFIGURATION AT SITE 1 (.R-SITE, RICHARDS STREET NORTH)

A WORK METHOD OF FOUR PARALLEL PACKAGES

Building further on the conceptual framework (FRINGE — VACANCY — PERMEABILITY), four relating packages were defined to be analysed and tested in parallel on each of the three selected sites as a work method that would lead to an urban strategy for a resilient Richards Street — as an example for a resilient Red Hook. Studies and experiments on DEPTH CONFIGURATION, OPEN SPACE CONFIGURATIONS, NATURAL PERMEABILITY and STREETSCAPE ACTIVITIES will give us a better understanding of the very structure and functioning of the territories and give new insights into ways to possibly enrich them.

—

DEPTH CONFIGURATION

Depth relates to the ways space is organized and, in turn, space is about access configuration. Controlling access equals to territorial control. Access defines the permeability in properties.

In this first mapping package, red lines represent the main flow through the public space, obviously corresponding to streetscapes and public passages. Black lines ending in a dot, trace the ways we access the private properties. Dashed lines describe existing fringes on a smaller scale, spatial limits, that should be crossed.

One can notice, in general, that there are few accesses from Richards Street. Logically, this is explained by the orientation of Red Hooks rectangular blocks with their longest lengths perpendicular to Richards Street. Users also refer in general only to this longest length when talking about "a block". Such a one-way linear approach is also mainly applied for accessing the properties.
Most of the residential blocks are designed with houses at the perimeter, just leaving space for private front yards, abutting but disconnected backyards and one way to enter and exit the property. In a few cases, part of the block —mostly where new projects appear— follows the concept of perimeter blocks with shared courtyards at the back. Within the NYCHA superblocks, again, connecting it only to passages perpendicular to Richards Street controls most of the housing access.
Remarkably, also majority of the public buildings (such as the Visitation Church) apply such a one-way accessibility.
Industrial blocks at the south are commonly defined by abutting warehouses with lengths as half the block width and also with one-way access. Even if a warehouse takes the full block width, one-way access is usual there. At the north, however, industrial properties often have two accesses providing a certain degree of permeability through the block.

By upgrading such private —sometimes-vacant— properties to collective or shared spaces and / or by interconnecting properties, new degrees of permeability and enriched depth configurations can be introduced.

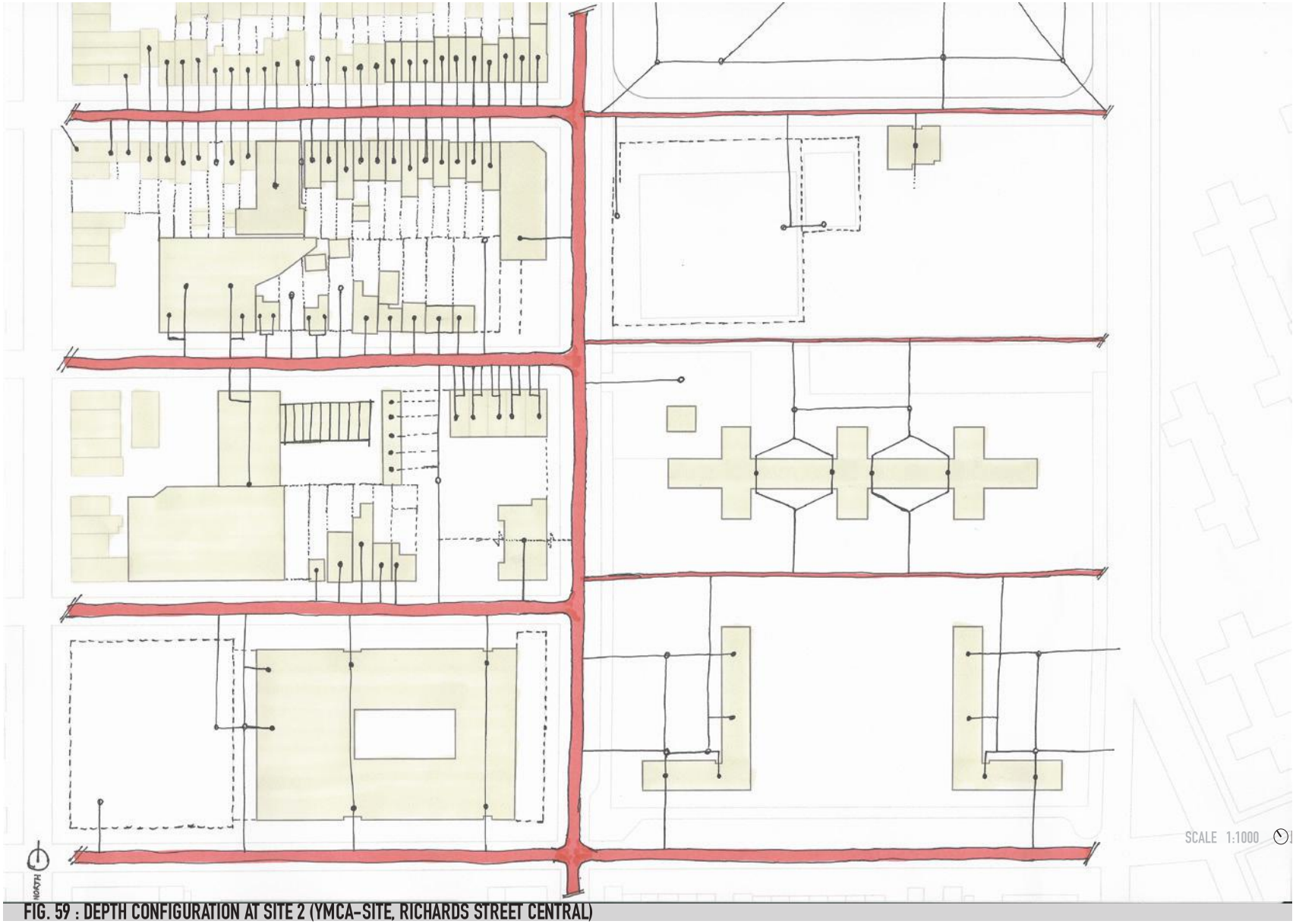


FIG. 59 : DEPTH CONFIGURATION AT SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL)

FIG. 60 : DEPTH CONFIGURATION AT SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH)

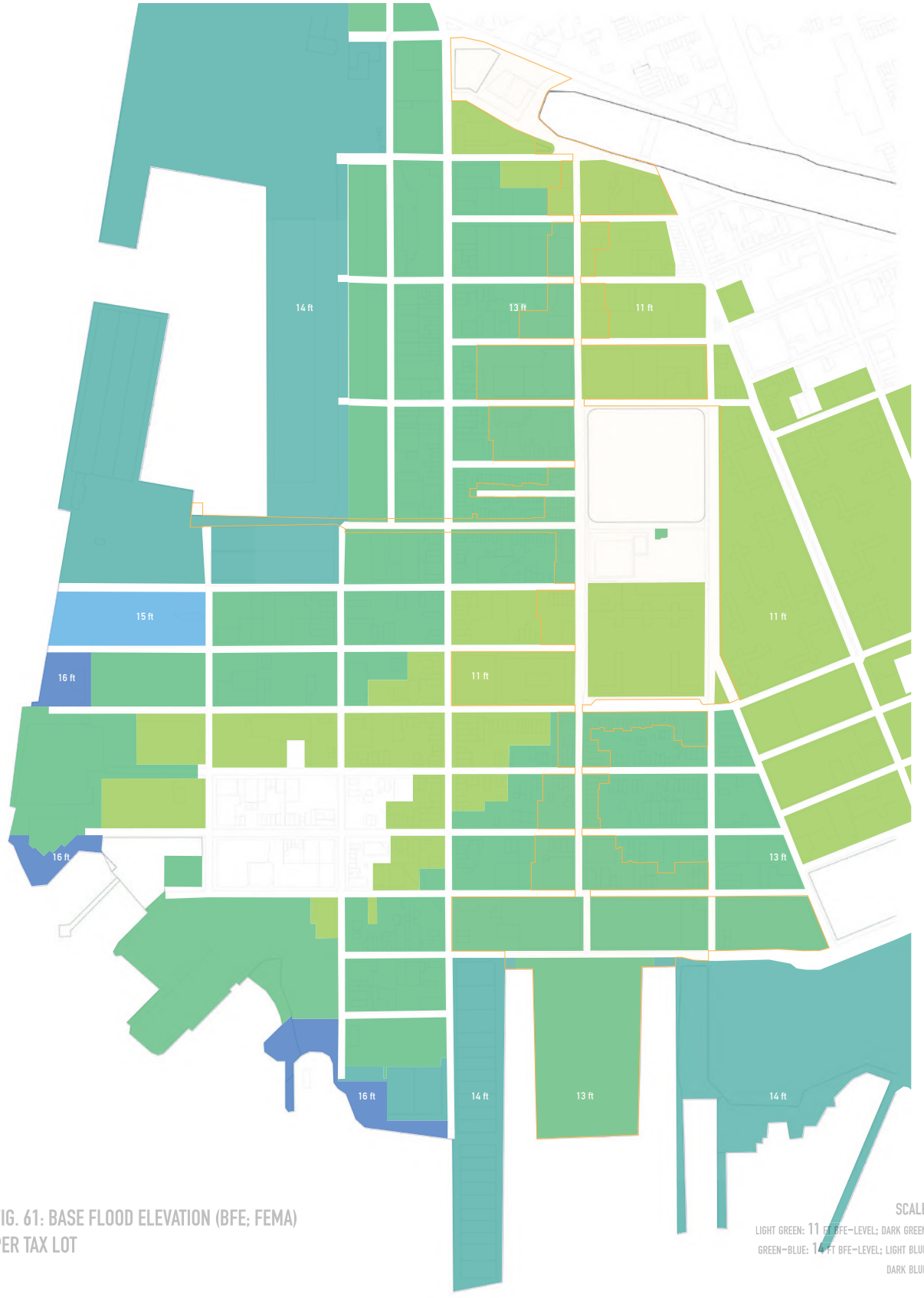


FIG. 61: BASE FLOOD ELEVATION (BFE; FEMA) PER TAX LOT

SCALE 1:2000

LIGHT GREEN: 11 FT BFE-LEVEL; DARK GREEN: 13 FT BFE-LEVEL; GREEN-BLUE: 14 FT BFE-LEVEL; LIGHT BLUE: 15 FT BFE-LEVEL; DARK BLUE: 16 FT BFE-LEVEL.

OPEN SPACE CONFIGURATIONS

Starting from Hillier and Hanson's persuasion that buildings define empty volumes of space in between, which is ordering space and ordering relations between people, different built volumes where introduced on each of the three interval sites. Since this experiment can be endless, the more minimal and radical interventions were considered first: no volume (existing situation) and full site occupation. Since these interventions have no added value or more disadvantages than advantages, smaller and a multiplicity of volumes were tested. To generate smarter alternatives, the focus was not that much on the form of the built artefacts but rather on the meaning of the kneaded interstice and its permeability.

Taking also into account Red Hooks flood-prone conditions, the set of experiments was extended with elevated volumes.
These artefacts are conceptually not limiting any permeability but can orient the interstice(s) due to their proportions.
According to a mapping of the base flood elevation (BFE) per lot, built structures should be flood-proof till a height of 11 to 13 feet (3,35 to 3,96 meters) at the selected site locations. "Base Flood Elevation is the computed elevation to which floodwaters are anticipated to rise during the base flood event (1-percent-annual-chance or a 100-year storm flood)". (FEMA, 2013; Walsh, 2014)

For each site, the options providing more permeability are preferred.
For site 1 (".R-site"), added small volume(s) can protrude as an extension from the existing multi-story loft, leaving open the ground level and majority of the interval space.
For site 2 ("YMCA-site"), an elevated volume – preferably a sheltering structure or canopy – can cover part of the interval space and interact in certain ways with the enclosing buildings.
For site 3 ("EBCY-site"), several unconnected volumes can be laid down on site, kneading collective interstices in between so residents can easily find their way through the site towards the waterfront. Adding a small volume at the waterfront would emphasize the proximity of water and point out the environmental awareness (e.g. as demanded waterfront docking).

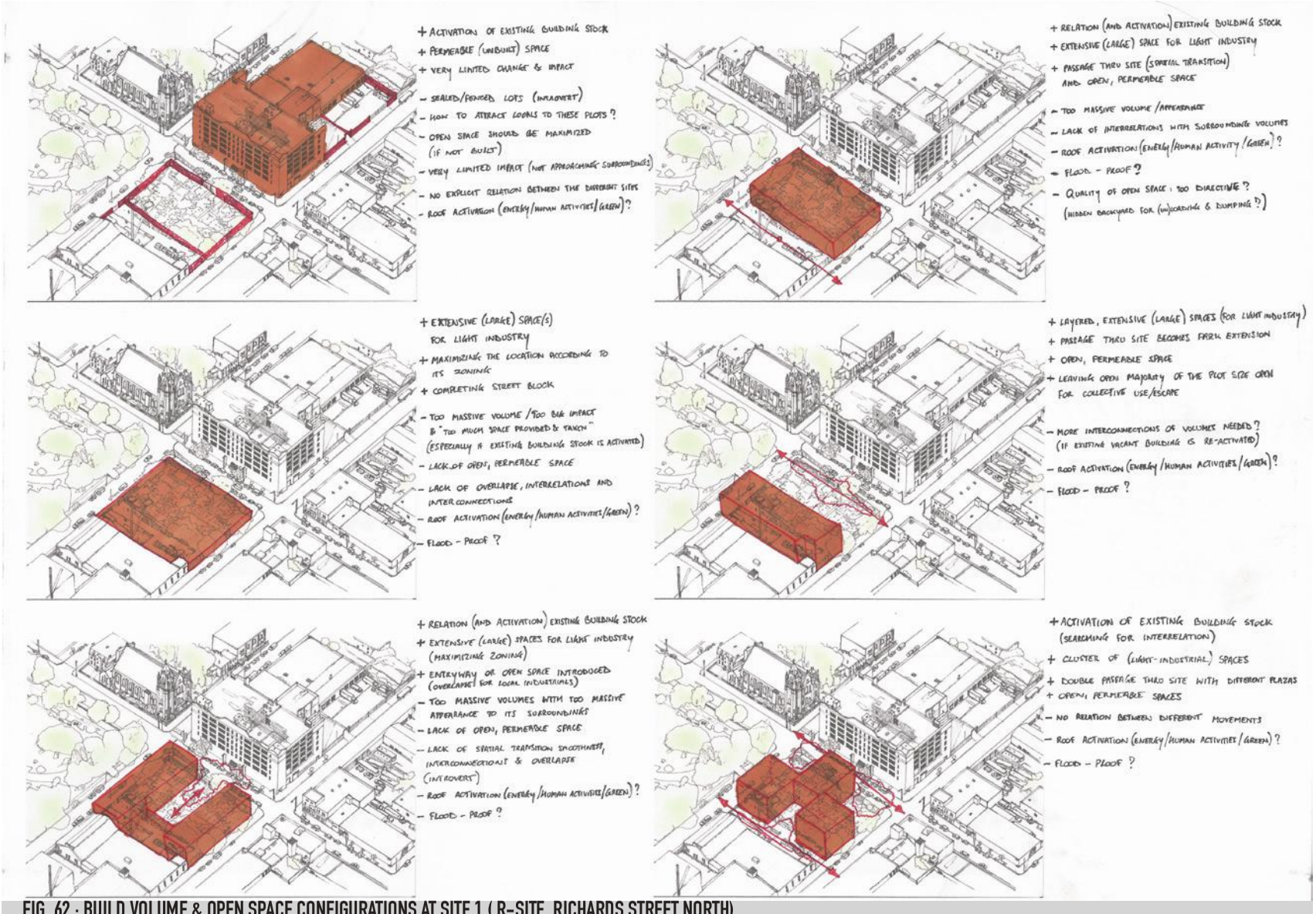


FIG. 62 : BUILD VOLUME & OPEN SPACE CONFIGURATIONS AT SITE 1 (.R-SITE, RICHARDS STREET NORTH)

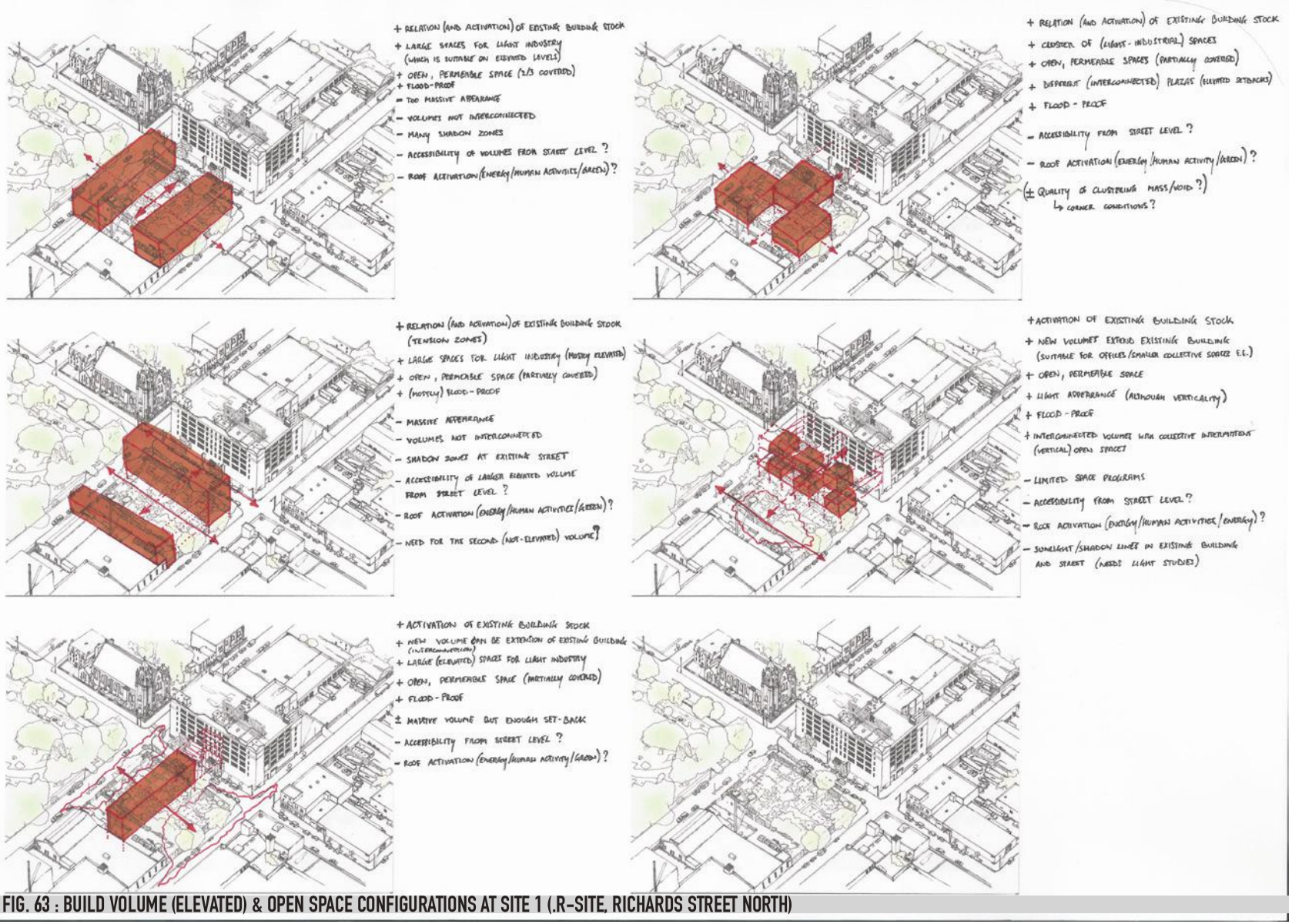
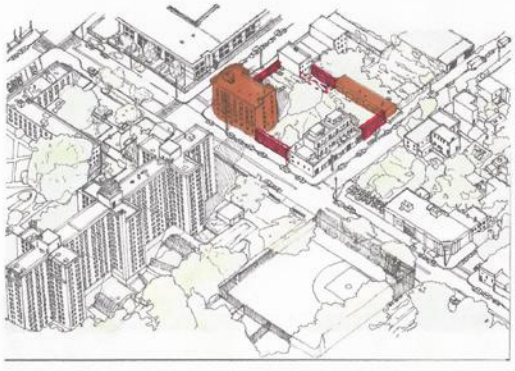
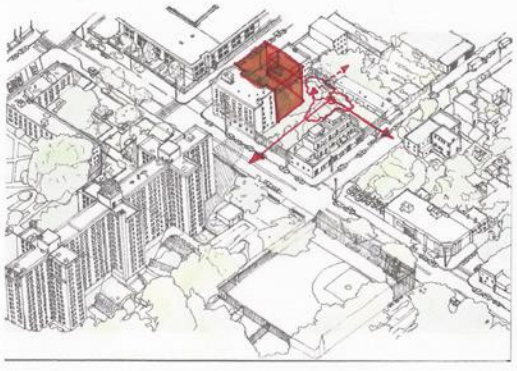


FIG. 63 : BUILD VOLUME (ELEVATED) & OPEN SPACE CONFIGURATIONS AT SITE 1 (.R-SITE, RICHARDS STREET NORTH)



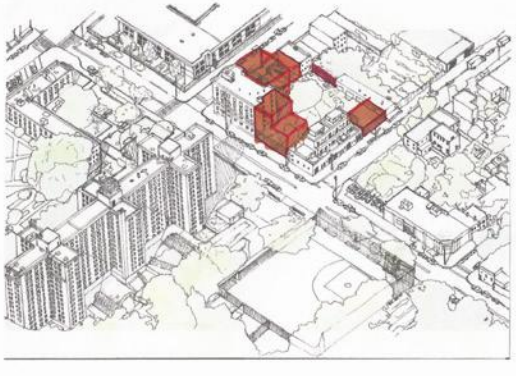
+ ACTIVATION OF EXISTING BUILDING STOCK
+ GARDEN SPACE
+ OPEN, PERMEABLE SPACE

– INTROVERT & SEALED
– LACK OF COLLECTIVITY



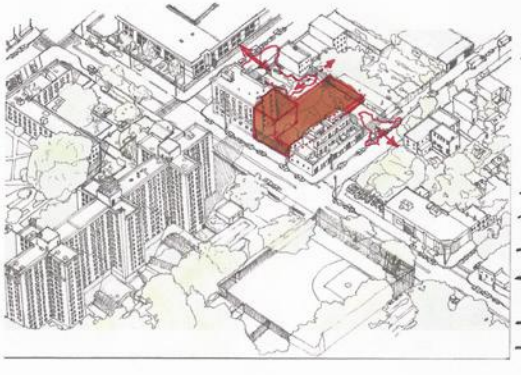
+ ACTIVATION OF EXISTING BUILDING STOCK
+ OPEN, PERMEABLE GARDEN SPACE
+ NEW VOLUME EXTENDS EXISTING BUILDING (BOUDARIE)
+ APPROACHING COMMUNITIES /OVERLAPSE

– NOT VISUALLY PRESENT FOR NYCHA RESIDENTS
– TOO MASSIVE APPEARANCE RELATING TO PS15 SCHOOL
– FLOOD - PROOF ?



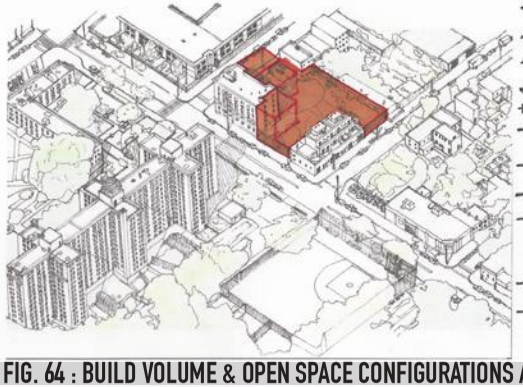
+ ACTIVATION OF EXISTING BUILDING STOCK
+ NEW VOLUMES EXTENDS EXISTING BUILDING (AND CONNECTS)
+ COMPLETING STREET BLOCK
+ ENCLOSED GARDEN SPACE (OPEN, PERMEABLE)

– INTROVERT /SEALED
– LACK OF COMMUNITY CONTRIBUTION & PRESENCE (NO OVERLAPSE OR INTERACTION)
– NO INTERCONNECTION BETWEEN BUILT VOLUMES
– FLOOD - PROOF ?
– LACK OF LIGHT IN EXISTING BUILDING (BLOCKED NE- AND NW- SIDES)



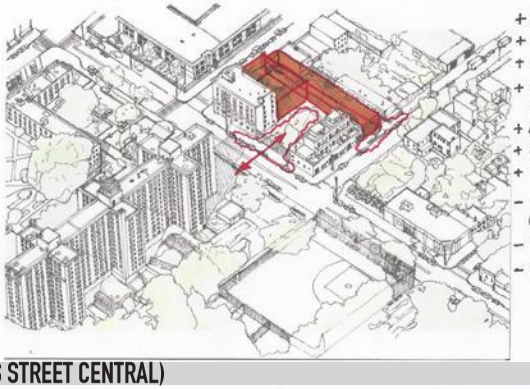
+ ACTIVATION OF EXISTING BUILDING STOCK
+ OPEN, PERMEABLE GARDEN SPACES (AT TWO SIDES)
+ NEW VOLUMES EXTENDS EXISTING BUILDING
+ OVERLAPSE ZONES AT STREETSIDES (INVITATION)
+ LONGITUDINAL (LARGE) SPACE FOR WORK/ART ACTIVITIES
+ INTERCONNECTING VOLUMES
+ VISUAL PRESENCE FOR ALL SURROUNDINGS

– TOO MASSIVE APPEARANCE AT 1 SIDE (NYCHA)
– NO PASSAGE THRU SITE (LIMITED CONTRIBUTION AS GATHERING SPACE)
– FLOOD - PROOF ?
– ROOF ACTIVATION (ENERGY /HUMAN ACTIVITY /GREEN) ?



+ ACTIVATION OF EXISTING BUILDING STOCK
+ NEW VOLUMES EXTENDS EXISTING BUILDING
+ BUILDING VOLUMES INTERCONNECTED
+ COMPLETING STREET BLOCK
+ LARGE SPACE FOR WORK/ART ACTIVITIES
– LACK OF OPEN & PERMEABLE SPACE

– TOO MASSIVE VOLUME
– FLOOD - PROOF ?
– LACK OF COMMUNITY CONTRIBUTION & PRESENCE (NO OVERLAPSE OR INTERACTION)
– ROOF ACTIVATION (ENERGY/HUMAN ACTIVITY/GREEN) ?
– SETBACKS NEEDED (ZONING RESIDENTIAL) (LACK OF LIGHT IN EXISTING BUILDING)



+ ACTIVATION OF EXISTING BUILDING STOCK
+ OPEN, PERMEABLE GARDEN SPACE
+ NEW VOLUMES EXTENDS EXISTING BUILDING
+ OVERLAPSE ZONES AT STREETSIDES AND MOSTLY AT EASTERN SET-BACK
+ LONGITUDINAL (LARGE) SPACE FOR WORK/ART ACTIVITIES
+ INTERCONNECTING VOLUMES
+ VISUAL PRESENCE FOR ALL SURROUNDINGS

– NO PASSAGE THRU SITE (LIMITED CONTRIBUTION AS GATHERING SPACE)
– FLOOD - PROOF ?
– ROOF ACTIVATION (ENERGY /HUMAN ACTIVITY /GREEN) ?

FIG. 64 : BUILD VOLUME & OPEN SPACE CONFIGURATIONS AT SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL)

FIG. 65 : BUILD VOLUME (ELEVATED) & OPEN SPACE CONFIGURATIONS AT SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL)

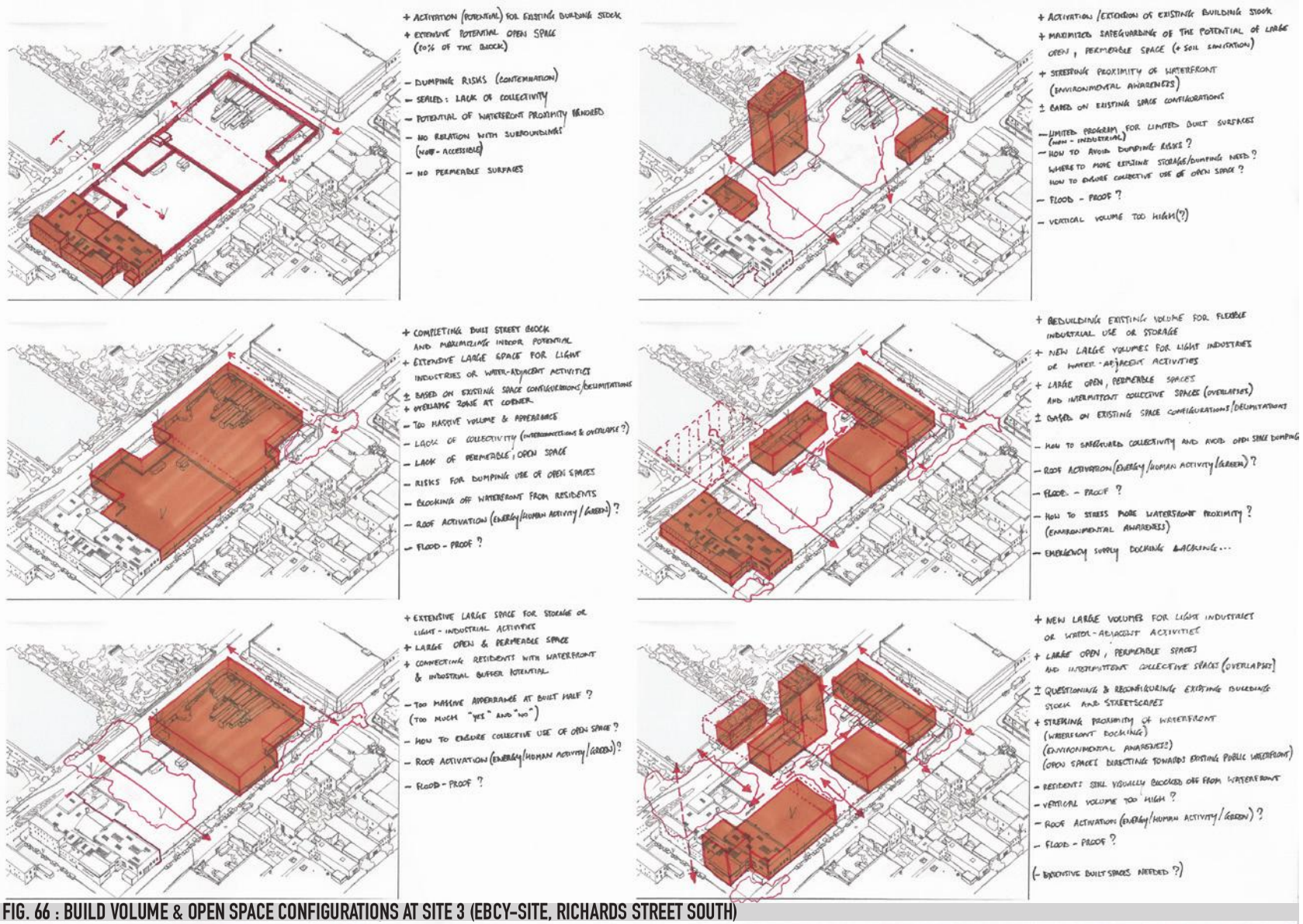


FIG. 66 : BUILD VOLUME & OPEN SPACE CONFIGURATIONS AT SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH)

FIG. 67 : NATURAL PERMEABILITY AT SITE 1 (.R-SITE, RICHARDS STREET NORTH) : VEGETATION, TREE CANOPIES, BIOSWALES & OVERGROWN ROAD CRACKS

NATURAL PERMEABILITY

In a first set of mappings for natural permeability, the presence of existing greenery is checked on a more detailed scale in the surroundings of each site. At first sight, greenery already has quite a relevant share in Red Hook. Annotation should be made: the mapping makes also an inventory of tree canopies, obviously occupying more space (on the map) than their trunk really does.
The main green areas – Coffey Park, the NYCHA superblock and residential backyards – substantially consist of grasslands and trees.
Greenery in the streets is in most cases designed as bioswales, which are capturing, treating and infiltrating the first and often most polluted water of a storm event. Despite being one of the most effective green infrastructures for slowing down and cleansing runoff storm water, this only is not sufficient for dealing with Red Hooks flood- and ponding water issues.
The set of mappings charts also places where nature takes over again the man-made landscape, such as weeds growing out of street and sidewalk cracks or wild vegetation at lot or block perimeters. The selected intervals (especially the ".R-site") appear as overgrown spaces. These natures of little or no maintenance indicate most likely vacant or underused areas that could be made more permeable without much resistance.

A second natural permeability mapping studies how Red Hooks preindustrial landscape looked like and compares this with current after-flooding issues of salination ponds due to ponding water. The map was based on graphics of the cartographer Eymund Diegel, who overlaid the modern street grids onto historic maps from surveys of Ratzer (1766) and Stiles (1867). (DIEGEL, 2010; SALGUERO, 2014)
The historic peninsula and islands (such as the Hook or Cypress Tree Island) are drawn as beige coloured and outlined areas. The green areas represent historical wetlands and marshes. Creeks and (mill) ponds (white areas in between) were managed by small dams and tidal water.
Blue lines indicate water flow directions based on the topography, while blue stains locate main water ponding locations nowadays. One can see that the most protracted issues (ponding water) mostly occur where the creeks, marshes and ponds were located.

Overlaying this map with the footprints of existing buildings, we immediately gaze upon what could be a too progressive strategy for restoring Red Hooks historical and natural landscape. Realistically, we cannot give up majority of Red Hooks modern streetscapes but the map points out at least the pressing demand for more natural permeability.
Eventually, nature will always win.

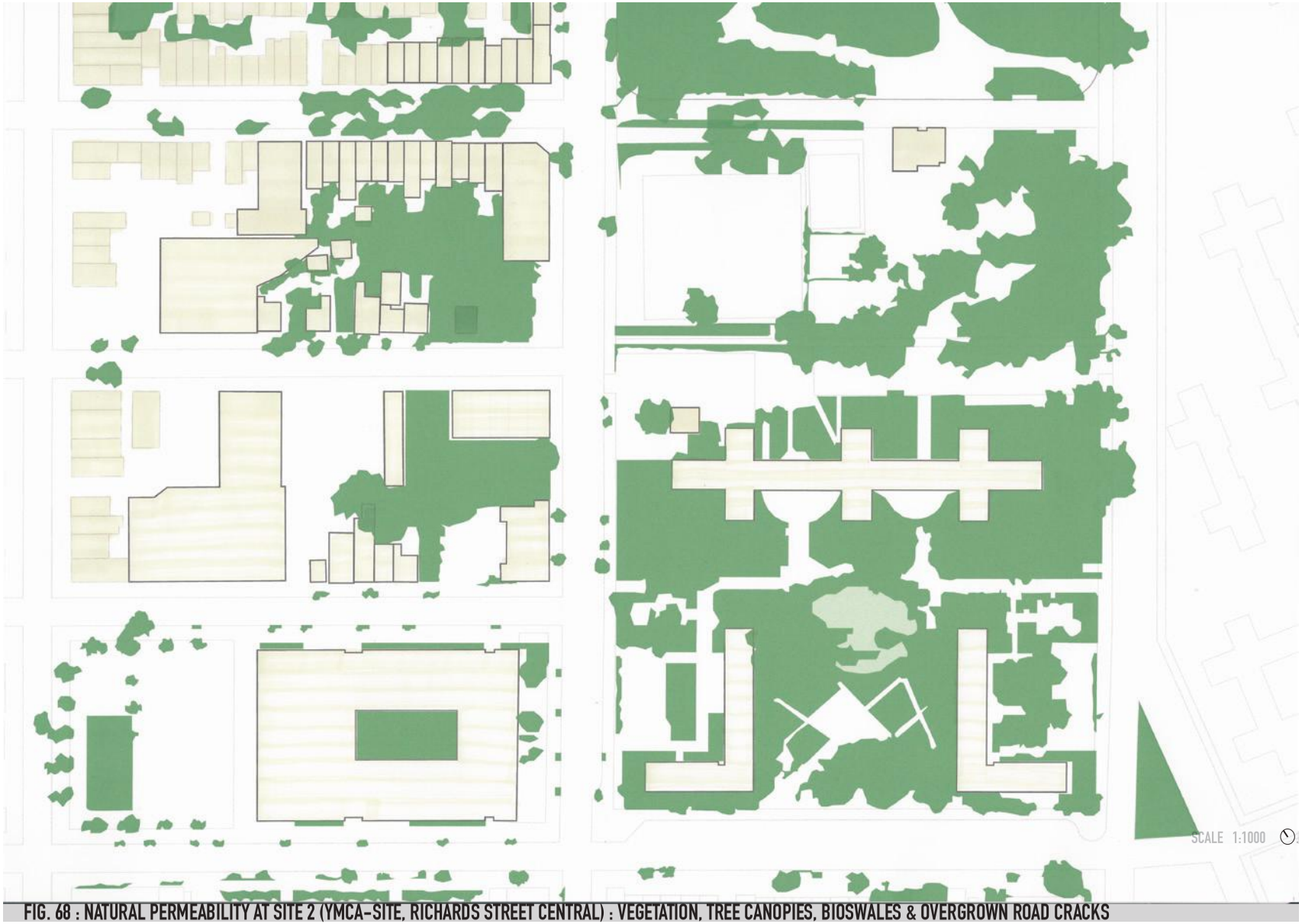


FIG. 68 : NATURAL PERMEABILITY AT SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL) : VEGETATION, TREE CANOPIES, BIOSWALES & OVERGROWN ROAD CRACKS

FIG. 69 : NATURAL PERMEABILITY AT SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH) : VEGETATION, TREE CANOPIES, BIOSWALES & OVERGROWN ROAD CRACKS

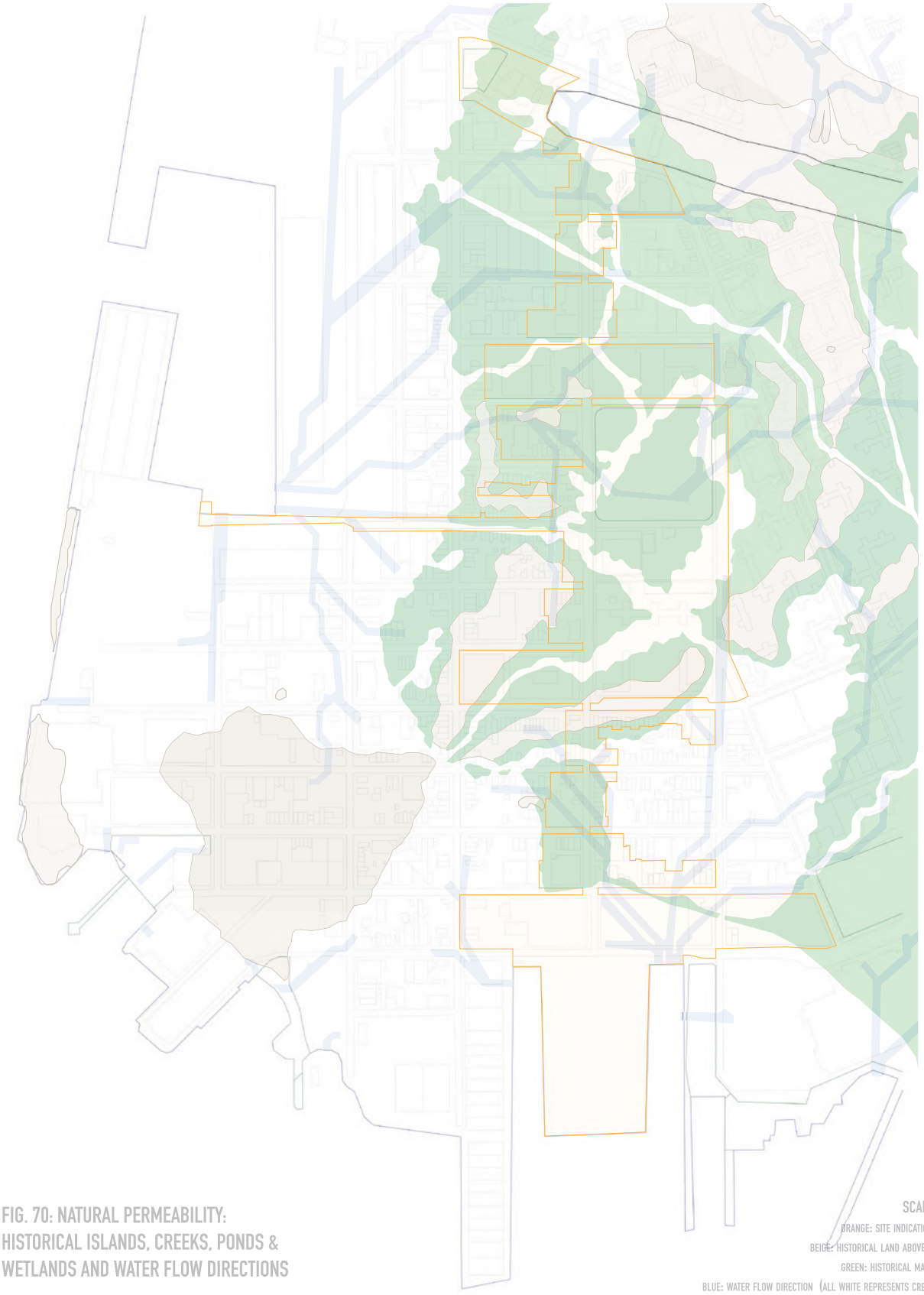


FIG. 70: NATURAL PERMEABILITY:
HISTORICAL ISLANDS, CREEKS, PONDS &
WETLANDS AND WATER FLOW DIRECTIONS

SCALE 1:2000

ORANGE: SITE INDICATION (RICHARDS STREET);
BEIGE: HISTORICAL LAND ABOVE SEA LEVEL (ISLANDS);
GREEN: HISTORICAL MARSHES AND WETLANDS;
BLUE: WATER FLOW DIRECTION (ALL WHITE REPRESENTS CREEKS, PONDS & WATER)

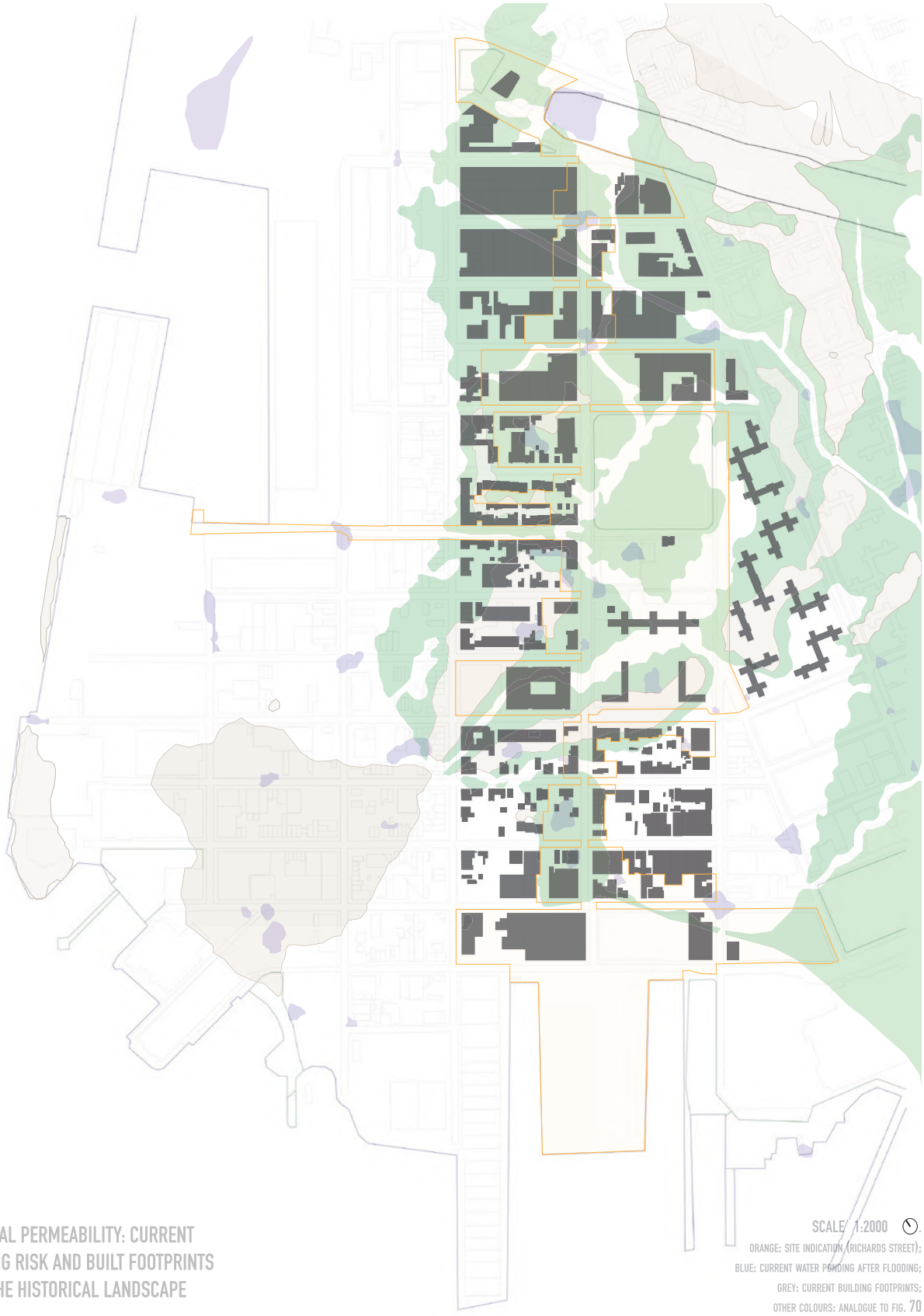


FIG. 71: NATURAL PERMEABILITY: CURRENT WATER PONDING RISK AND BUILT FOOTPRINTS OVERLAYING THE HISTORICAL LANDSCAPE

SCALE: 1:2000

ORANGE: SITE INDICATION (RICHARDS STREET);
BLUE: CURRENT WATER PONDING AFTER FLOODING;
GREY: CURRENT BUILDING FOOTPRINTS;
OTHER COLOURS: ANALOGUE TO FIG. 70

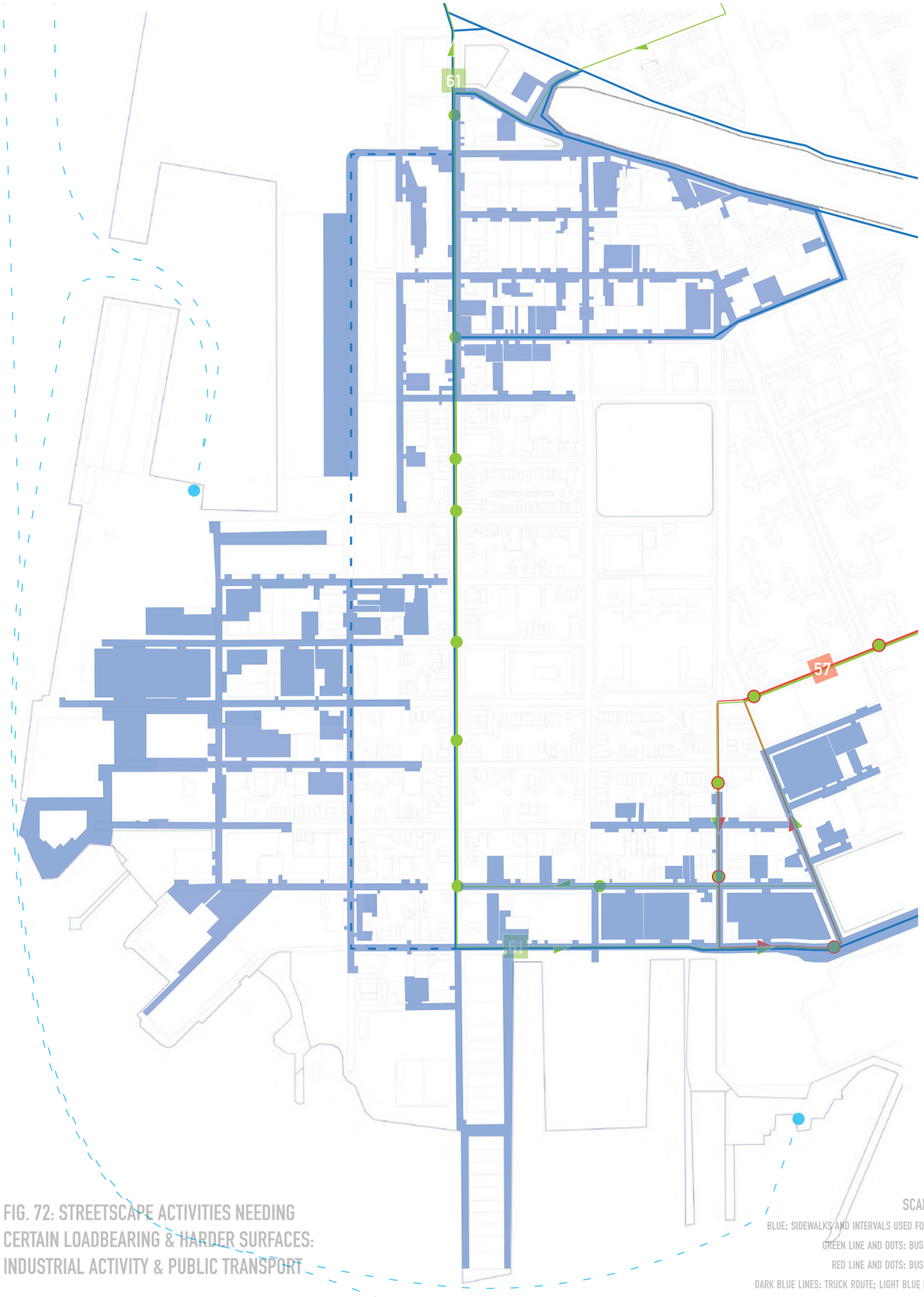


FIG. 72: STREETSCAPE ACTIVITIES NEEDING CERTAIN LOADBEARING & HARDER SURFACES: INDUSTRIAL ACTIVITY & PUBLIC TRANSPORT

SCALE 1:2000

BLUE: SIDEWALKS AND INTERVALS USED FOR INDUSTRIAL ACTIVITY;
GREEN LINE AND DOTS: BUS 61 ROUTE AND STOPS;
RED LINE AND DOTS: BUS 57 ROUTE AND STOPS;
DARK BLUE LINES: TRUCK ROUTE; LIGHT BLUE DASHED LINES: FERRIES

STREETSCAPE ACTIVITIES

Streets are pre-programmed spaces for different kinds of traffic and velocities: sidewalks at the sides for (slow) pedestrians, central asphalt or cobble stone lanes for (fast) cars, mostly still shared in Brooklyn with bicycle (slow) traffic.
Provided the spacious widths, however, most of these streetscapes in Red Hook are informally also used for other activities than solely traffic.

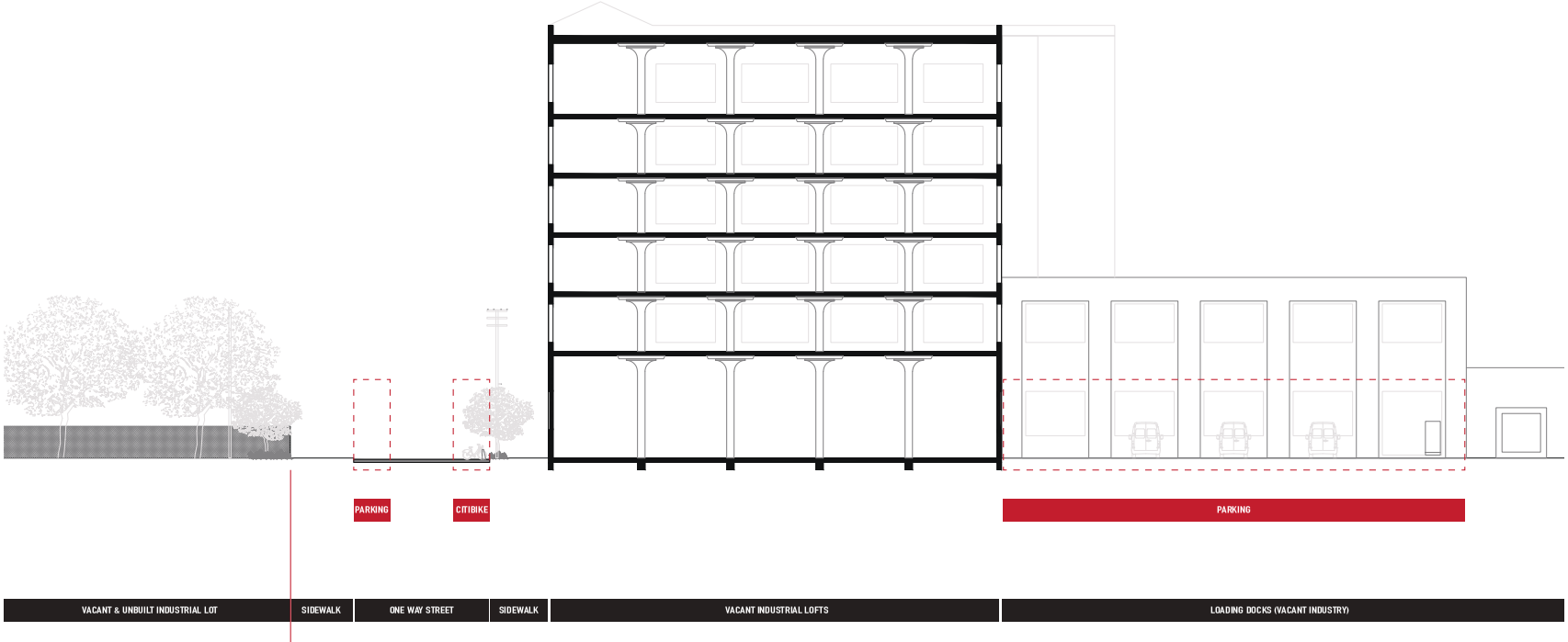
Section mappings of streetscapes directly abutting the three selected sites show for instance that the sides of the "car area" become parking spaces. In the industrial districts, these spaces are occupied when possible for loading / unloading, for expanding workspace, for commerce etc. In most cases, also the abutting sidewalk is even occupied, whereby pedestrians temporally have to use the street as sidewalk and different activities overlap. At other locations, parts of the street are used for Citibike-stations or sidewalks can become part of the fire escape of abutting properties.

On a larger scale, other specific types of traffic are interesting to map since they relate to certain activities and conditions.
The first following map shows public transportation, being two bus lines and two ferry lines. Bus 61 runs on the Van Brunt Street (parallel and west to Richards Street), Beard or Van Dyke Street and Dwight or Otsego Street (depending on the direction), and takes Lorraine Street in its way to leave (or enter) Red Hook. Bus 57 overlaps this last part of the route, reaching only Ikea and only in proximity of the third site ("EBCY-site"). Both bus lines have numerous stops. The ferry lines have stops at Atlantic Basin and adjacent to Ikea.

The other map traces the existing truck routes and charts all the streets, parts of sidewalks and open spaces intermittently used for industrial or economical purpose. These areas are subject to more heavy loads or certain activities so they cannot be made fully permeable (in natural means). The dashed blue line on the map is the communally proposed new truck route that would run on Conover Street between Beard Street and Hamilton Avenue instead of on the commercial strip of Van Brunt Street. (COMMUNITY BOARD 6, 2018)
This map also proofs the advantage and the feasibility of this change since the new truck route will overlap more with the industrial (streetscape) activity.

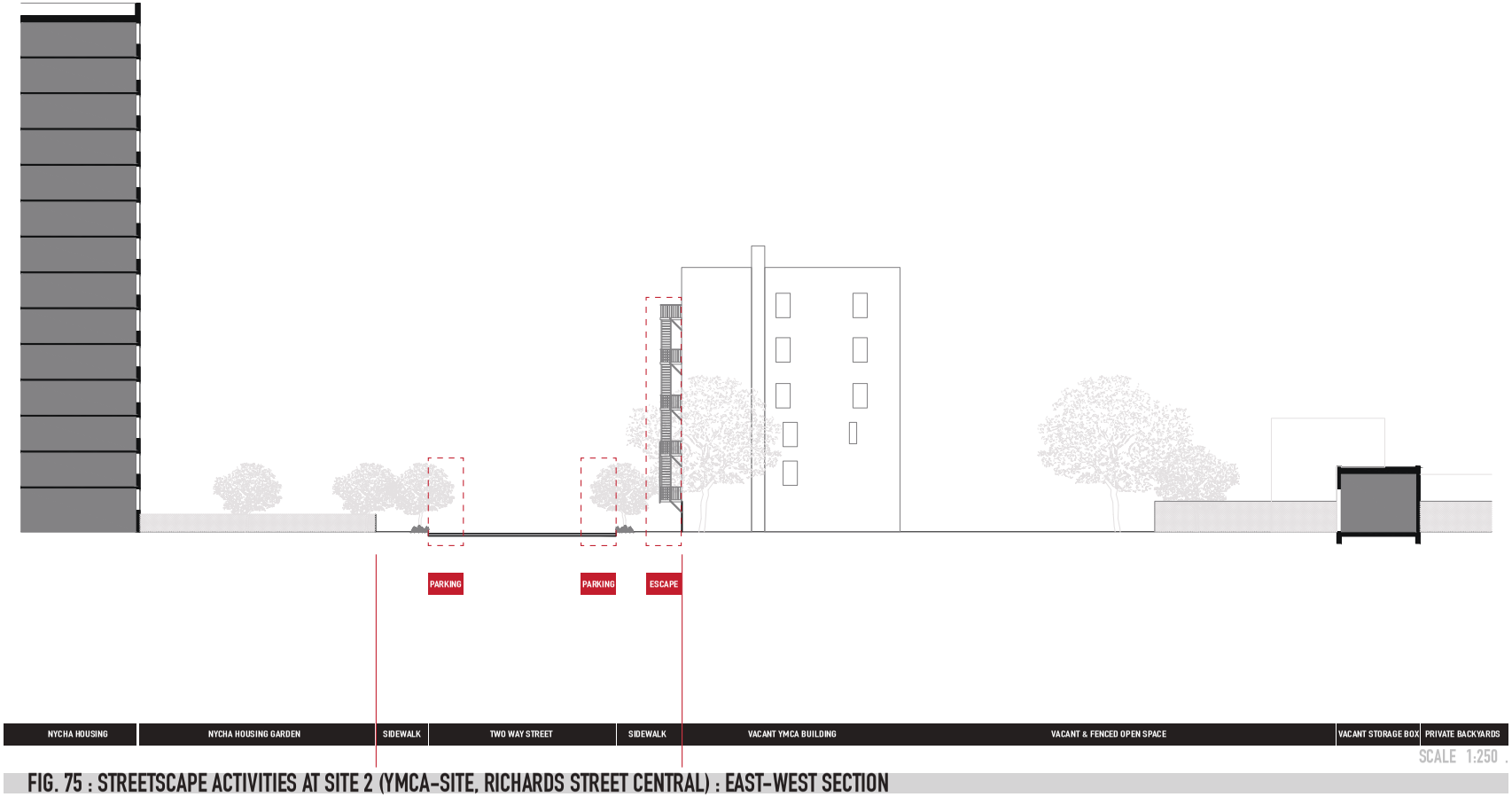
SCALE 1:250 .

FIG. 73 : STREETSCAPE ACTIVITIES AT SITE 1 (.R-SITE, RICHARDS STREET NORTH) : SOUTH-NORTH SECTION



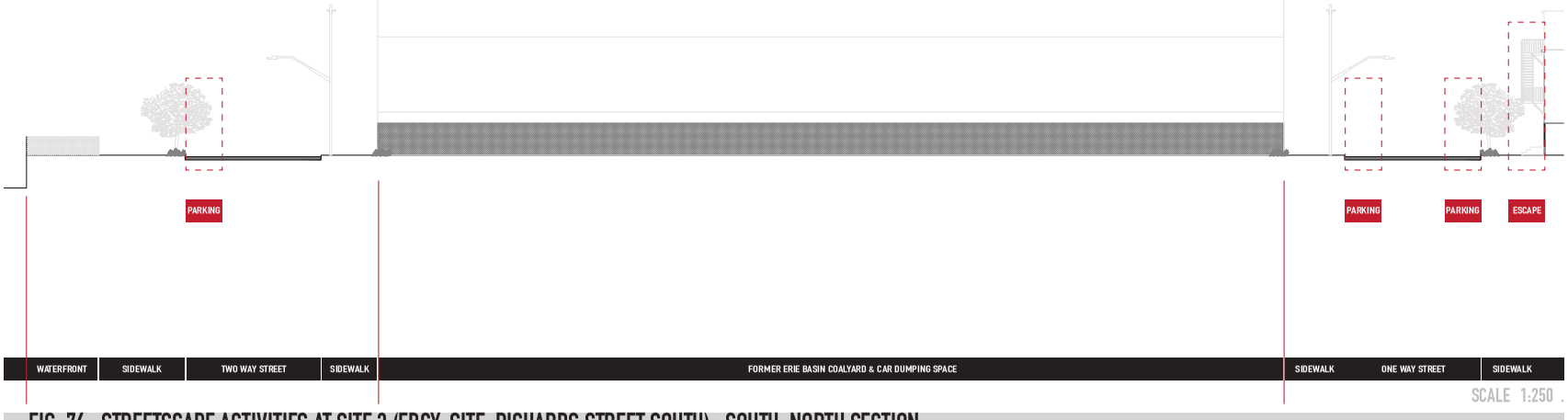
SCALE 1:250 .

FIG. 74 : STREETSCAPE ACTIVITIES AT SITE 1 (.R-SITE, RICHARDS STREET NORTH) : EAST-WEST SECTION



SCALE 1:250 .

FIG. 75 : STREETSCAPE ACTIVITIES AT SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL) : EAST-WEST SECTION



SCALE 1:250

FIG. 76 : STREETSCAPE ACTIVITIES AT SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH) : SOUTH-NORTH SECTION

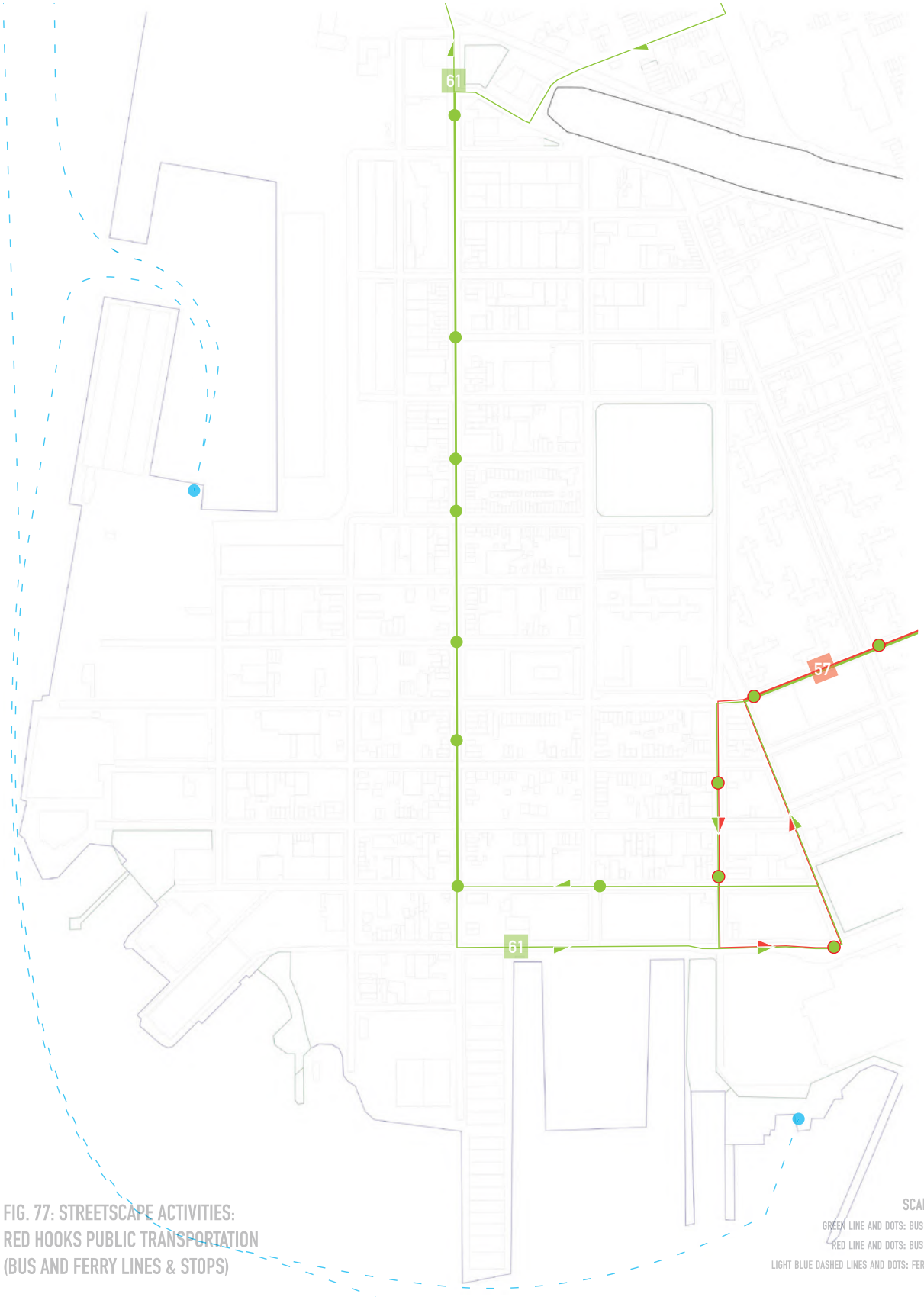


FIG. 77: STREETSCAPE ACTIVITIES:
RED HOOKS PUBLIC TRANSPORTATION
(BUS AND FERRY LINES & STOPS)

SCALE 1:2000

GREEN LINE AND DOTS: BUS 61 ROUTE AND STOPS;
RED LINE AND DOTS: BUS 57 ROUTE AND STOPS;
LIGHT BLUE DASHED LINES AND DOTS: FERRY ROUTES AND STOPS.

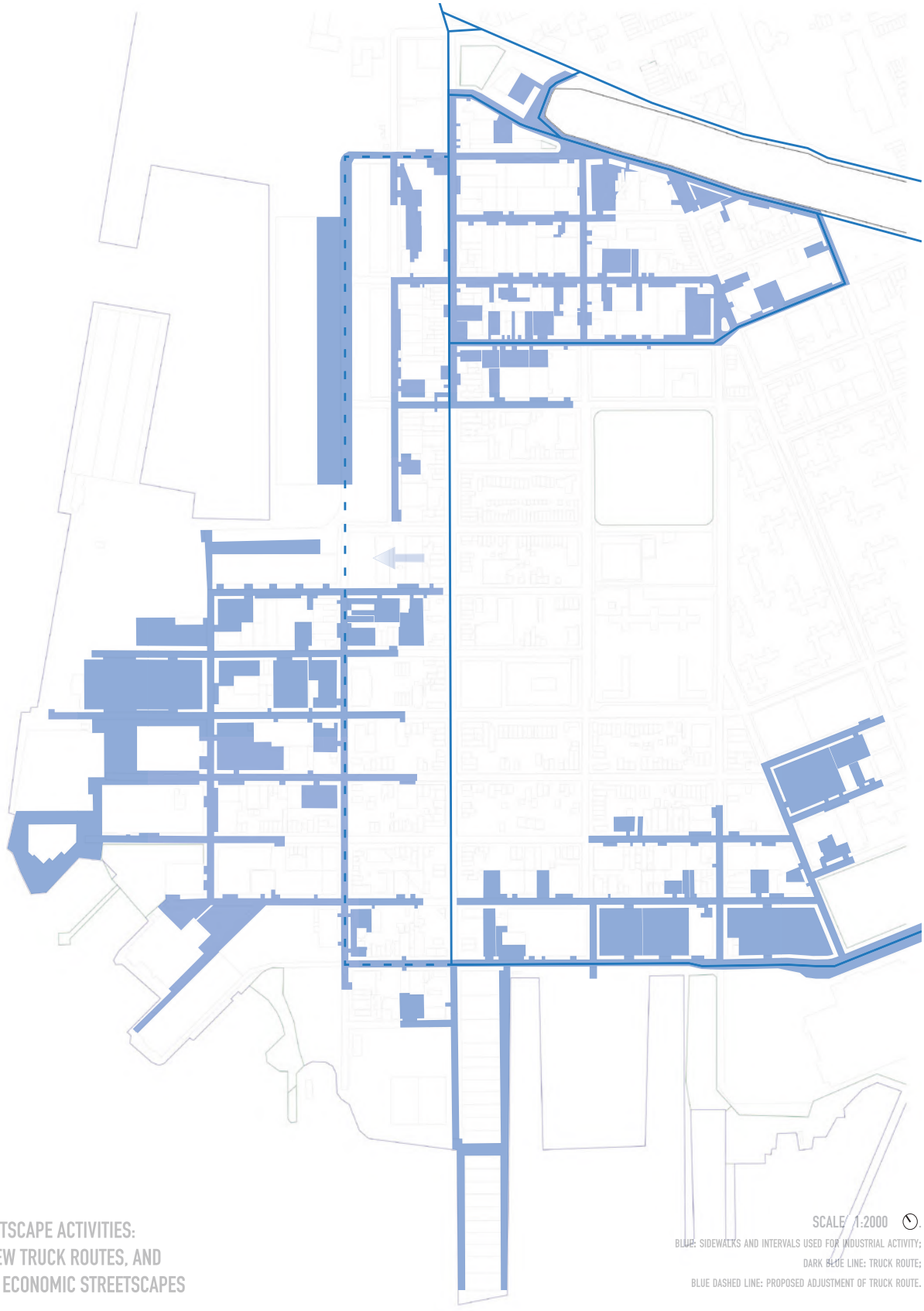


FIG. 78: STREETSCAPE ACTIVITIES:
CURRENT & NEW TRUCK ROUTES, AND
INDUSTRIAL & ECONOMIC STREETSCAPES

SCALE 1:2000

BLUE: SIDEWALKS AND INTERVALS USED FOR INDUSTRIAL ACTIVITY;
DARK BLUE LINE: TRUCK ROUTE;
BLUE DASHED LINE: PROPOSED ADJUSTMENT OF TRUCK ROUTE.

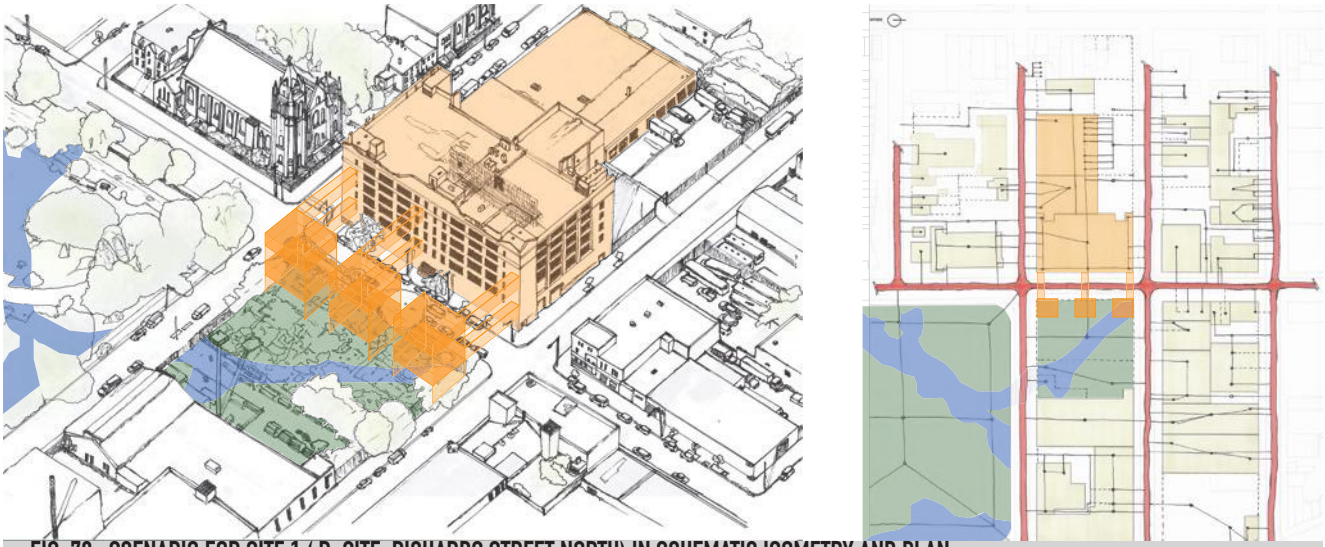


FIG. 79 : SCENARIO FOR SITE 1 (.R-SITE, RICHARDS STREET NORTH) IN SCHEMATIC ISOMETRY AND PLAN

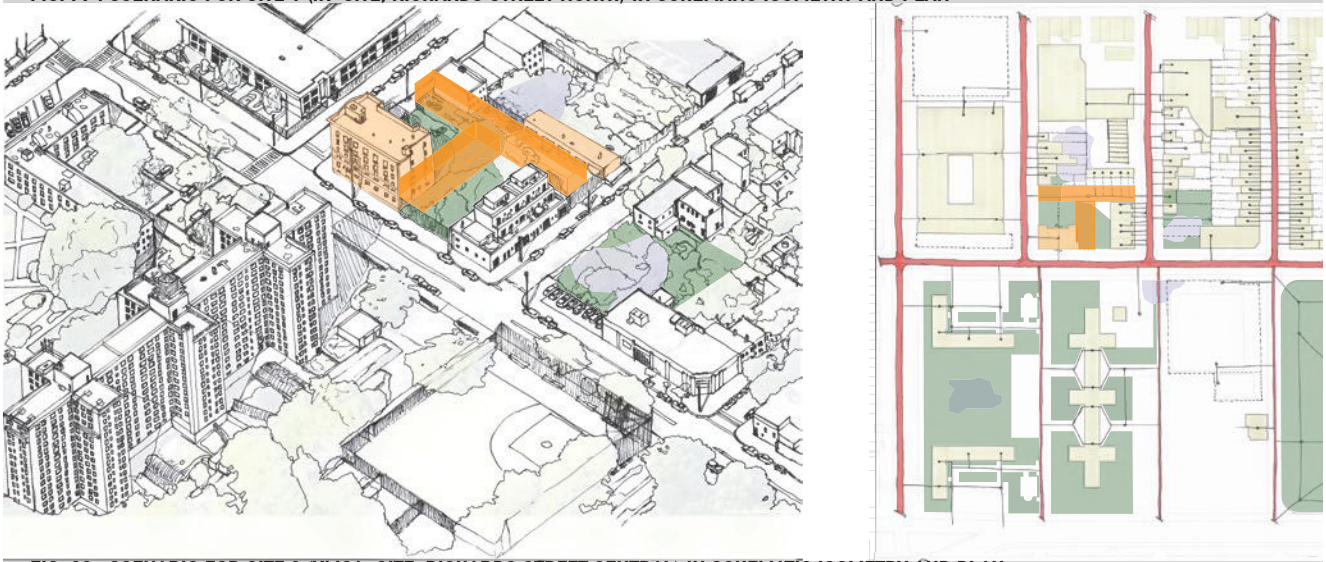


FIG. 80 : SCENARIO FOR SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL) IN SCHEMATIC ISOMETRY AND PLAN

FIG. 81 : SCENARIO FOR SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH) IN SCHEMATIC ISOMETRY AND PLAN

THREE SITES, THREE SCENARIOS

Merging the four parallel work packages brings us to a preferred scenario for each site.
Whilst this step is anyway about preference or selection, made choices are at any time backed-up by former analysis and argumentation.

.R – SITE

Providing a collective interval space where residents and industrials can interact (with the eye on local employment) should increase depth here. Therefore, fences around should be removed and, if possible, interconnections and passages through certain properties could be made.
Adding built volume should encourage the industrial entity of the surrounding, especially the multi-story loft which it wishes to extend and programmatically support. The street level can become an incubating workforce development center, translated into a flexible open-plan space. On top smaller volumes with a certain degree of openness and collectivity in between can provide smaller (individual) workspaces that are now lacking in the spacious loft plans.
The interval space surface will be mainly cleared from impervious materials in order to restore a preindustrial creek and permeable soil, such as the preindustrial wetlands. In this way, the place will find both visual and physical connection with Coffey Park's new nature and provide a garden-like decompression zone for industries in the north. Delavan Street will still function as a truck route and an area where industrial activity coexists with the streets collective nature.

YMCA – SITE

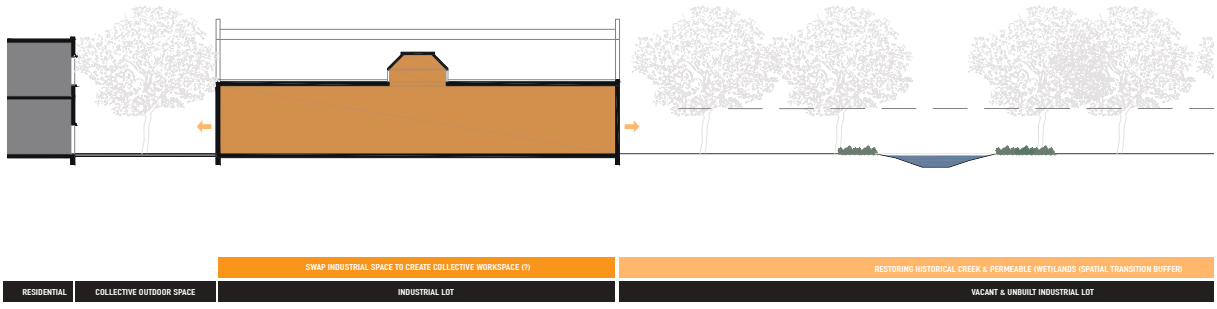
Also on this site, the interval space should be made more collective by removing the existing fences.
A certain enclosure can provide more security at some times however, but the depth configuration can become really interesting here.
Built volume on street level should be limited as much as possible to supporting structures for a flood-proof elevated canopy that facilitates and provides shelter for a diversity of activities underneath and within. The small storage building in the back can be rebuilt and opened up towards the gathering communities in the interval space.
At the same time, the grasses and permeable soil of this interval should be kept and maintained as much as possible.

EBCY – SITE

At the third site residents wish an easy way through towards the waterfront, wherefore spatial delimitation should be avoided or limited as much as possible again. While industrial activity happens here nowadays mainly as open storage, new unconnected built volumes can house a new set of light-industries or warehousing indoor. The interstitial spaces become collective spaces, shared for communal and economical purpose. The adjacency of water introduces an environmental awareness program with an awareness center and docking facility right at the waterfront. Wherever possible, natural permeability should be implemented.

SCALE 1:250 .

FIG. 82 : SCENARIO FOR SITE 1 (.R-SITE, RICHARDS STREET NORTH) IN SCHEMATIC SOUTH-NORTH SECTION



SCALE 1:250 .

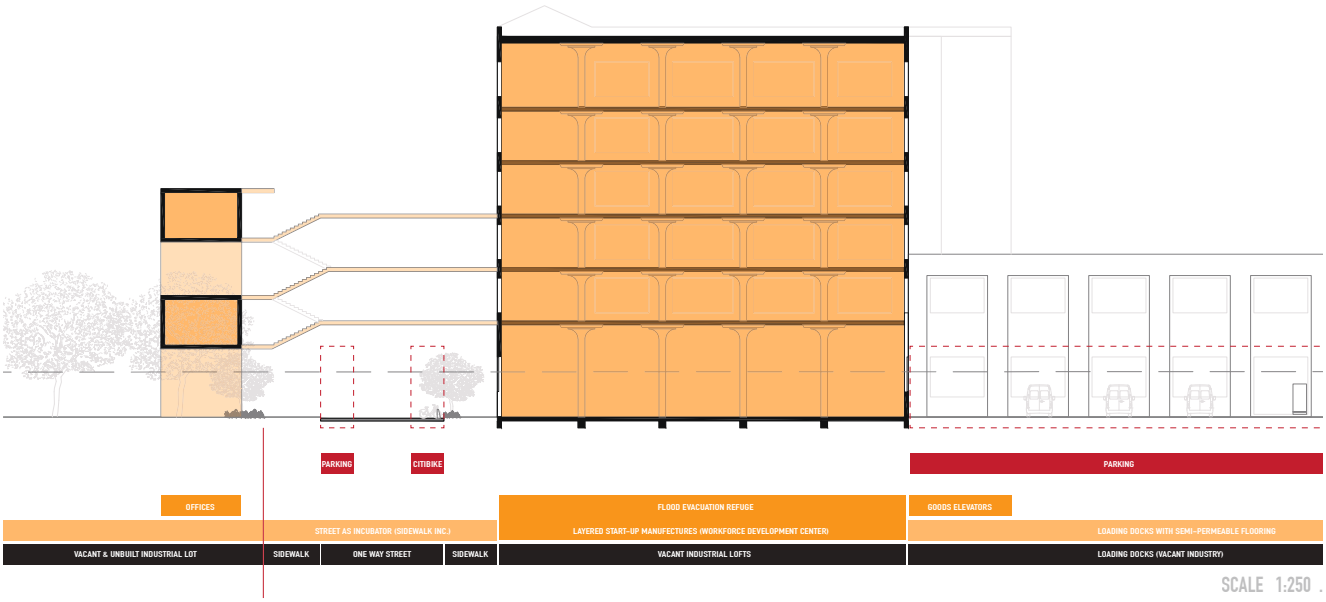


FIG. 83 : SCENARIO FOR SITE 1 (.R-SITE, RICHARDS STREET NORTH) IN SCHEMATIC EAST-WEST SECTION

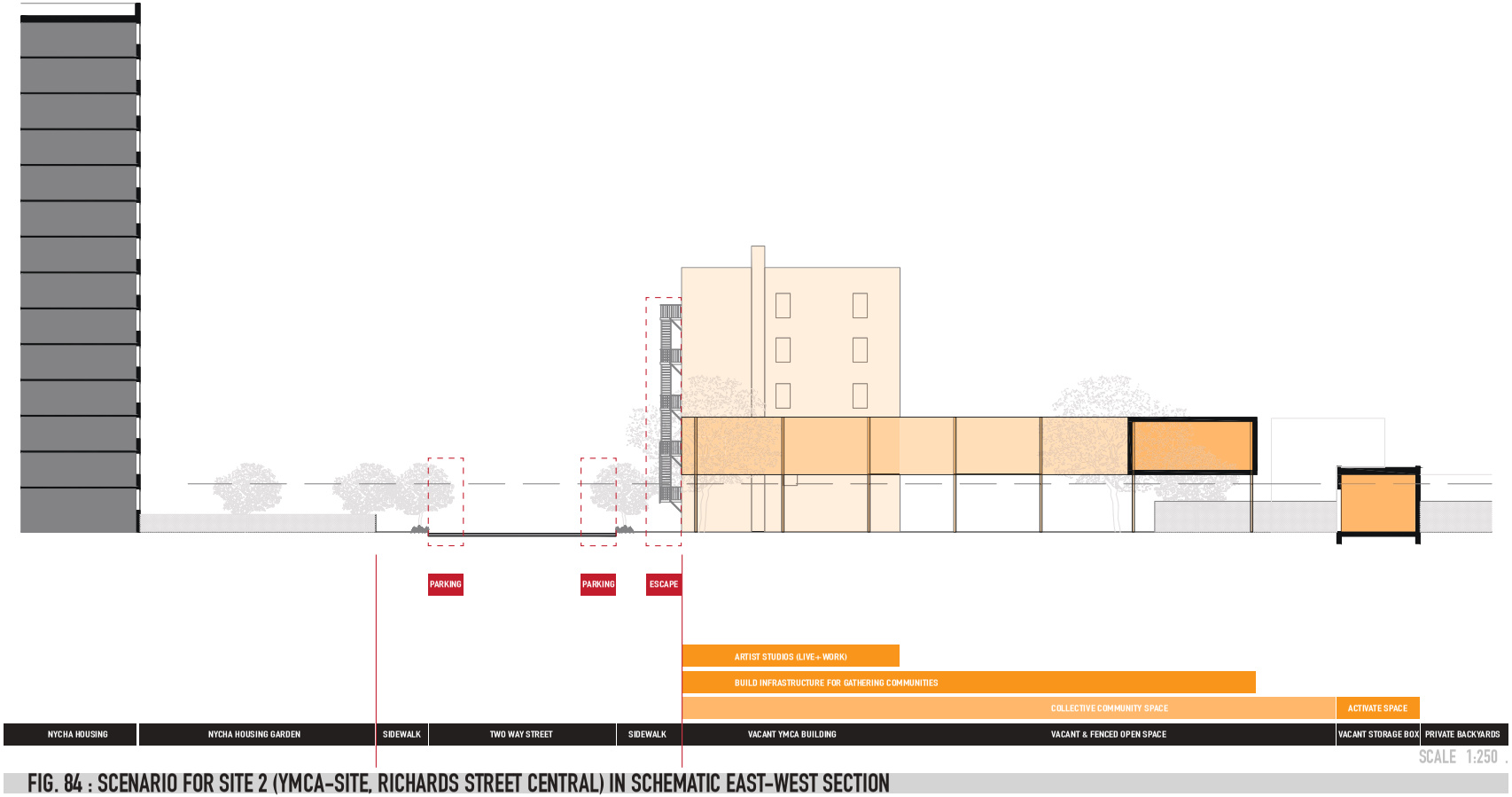


FIG. 84 : SCENARIO FOR SITE 2 (YMCA-SITE, RICHARDS STREET CENTRAL) IN SCHEMATIC EAST-WEST SECTION

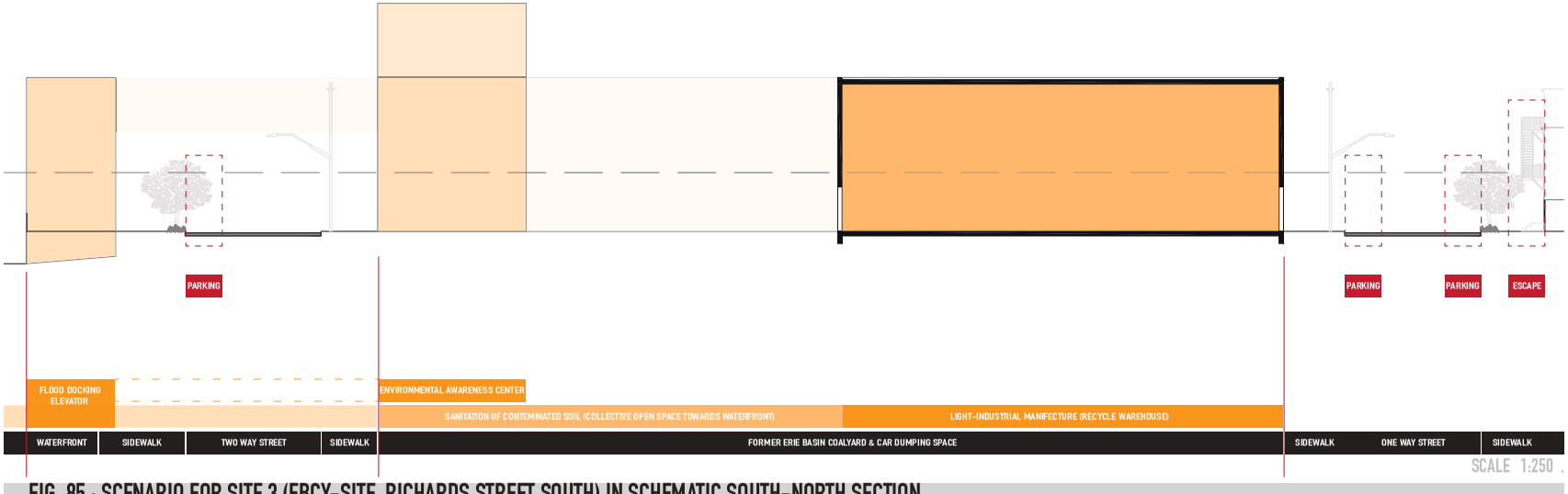


FIG. 85 : SCENARIO FOR SITE 3 (EBCY-SITE, RICHARDS STREET SOUTH) IN SCHEMATIC SOUTH-NORTH SECTION

FIG. 86: THE URBAN STRATEGY: RESTORATION OF KOETIES KILL, PERMEABLE (DARK) AND SEMI-PERMEABLE (LIGHT) SPACES

SCALE 1:2000

BLUE: RESTORED KOETIES KILL CREEK & NEW STREET CREEK;
RED: CONFLICT SPOTS OF RESTORED & CURRENT LANDSCAPE (BRIDGES);
ORANGE DASHED: THREE SELECTED SITES;
GREEN: PERMEABLE (DARK) AND SEMI-PERMEABLE (LIGHT).

A proposed urban strategy for the streetscape territories surrounding Richards Street is an integrated system, in a holistic approach, enhancing depth and open space configurations (fringe and vacancy) and both social and natural permeability. Demanded, present and forgotten infrastructures and activities will be (re)introduced or enforced as a response to the needs and vulnerability of the local communities. The focus is on resiliency related to Red Hooks identity of a flood-prone, probably gentrifying and mixed neighbourhood. None of these conditions can be neglected and none of them can be solved, but a multitude of interdependent measures is required to avoid their adverse impacts.

Stormwater management is a first overall issue. Property owners should be encouraged to convert their roofs into green roofs and to install stormwater-harvesting systems for reuse in water closets, washing machines etc. Stormwater that will be still drained from harder surfaces should be routed to pervasive soils and restored creeks for infiltration and a slowed-down run-off, and not anymore to the (combined) sewage. Natural permeability in the streets takes shape in a further implementation and maintenance of bioswales, located at the lower block ends, and a restoration of the Belgian Block cobble roads. The latter turns out to be far more durable and pervasive than commonly used asphalt material, while serving as traffic calming device and enhancing the historic integrity of the community.

According to the mapping, the restoration of the "Koeties or Cow Kill Creek" is the most feasible. This water element was mainly situated on the NYCHA superblocks, the ".R-site" and Coffey Park with its downstream flow towards the western shore in the proximity of Pioneer Street. Although this restoration attempts to limit conflicts with the modern street grid by a limited amount of small creek tunnels or road bridges, it will inevitably require the (partial) reconstruction of Pioneer Street with an open creek (excluding car traffic there) or with an overarched creek (such as Ate Atema's Gowanus Street Creek proposal). Besides the fact that its natural course was historically nearest there, a creek at Pioneer Street is also the preferred choice since it will barely conflict with designated economical areas and truck routes and since a water element in a residential street has added values. Metaphorically, Pioneer Street points also the most direct way to the collective waterfront of Atlantic Basin with its ferry stop.

Natural permeability (pervious soils and wetland restoration) can be fully implemented in the darker green areas on the map because these areas are underused or already designated for nature and recreation. They also match with historical wetland areas.
The other green areas allow nowadays only for certain degrees of natural permeability due to their industrial activity or their too private character (requiring negotiation).

As a mixed neighbourhood with a long absence of mass construction and investment, Red Hook is very susceptible to impacts of both residential and industrial gentrification. In any case, the rezoning of industrial property (buildings or land) for the reconversion into upmarket residential lofts should not be tolerated, never mind impossible. This phenomena caused in the past in other Brooklyn neighbourhoods like Williamsburg moving out industries and communities. In Red Hook, some new-built homes list for millions of dollars and already widen the social gap at certain places. Industry and affordable living always coexisted in this neighbourhood.

To keep this resilient in the future means to (re)-connect and to interact. Isolation has limited benefits.
In the booming 19th century, people were settling at a place for its affordable living or for the presence of industry and in turn, the industry was daily counting on the availability of local employees (albeit skilled artisans or just anybody that connected and pleaded for work).
Red Hooks communities and industrials have to reconnect. They all have the right to know what is going on, who is settled here, what is the local economy about, what are the local demands etc. etc. Local skills education and local employment will be far more sustainable than being dependent on remote transportation (from) outside. On top of that, productivity can already originate from the interesting mix of artist and low-wage worker communities as such.
...

FIG. 87, 88 & 89 : STORMWATER MANAGEMENT IN THE STREET: CREEKS, BIOSWALES, RESTORED BELGIAN BLOCKS (ASPHALT REMOVAL)
PIONEER STREET CREEK REFERENCES: ROOMBEEK THE BROOK (SANTENCO; FIG. 87) OR GOWANUS STREET CREEK (ATE ATEMA; FIG.89)

FIG. 90, 91 & 92 : RICHARD STREET'S EXISTING SHARED GARDEN, A POCKET PARK CONTROLLED BY THE NEIGHBOURING RESIDENTS

...
Again, the green areas on the urban strategy map represent areas that allow permeability in different levels.
This time, it means a representation of social permeability.

Darker green areas propose public parks and, more importantly, collective pocket parks.
These spaces can be completely open —meaning without any spatial delimitation — or can be controlled by neighbouring residents (e.g. opening times). Already two examples of the latter exist at the southern area of Richards Street. They appear more as shared gardens where everybody is invited to enjoy and maintain. At appropriate places, areas of overlaps, these pocket parks can be upgraded with structures and facilities supporting certain activities and, in general, the gathering of the diverse communities and individuals.

Light green areas in the north (north of Verona Street) and in the south (south of Coffey Street) represent private industrial intervals mostly used as docking zones, outdoor working space, parking or open storage nowadays. Some of these activities are time-dependent and therefore, the intervals can have a more shared or collective character at other times. Even within a timing overlaps, these spaces can become the crucial spaces for interaction between industrials and residents, activated as workshop spaces, production exhibition spaces, sales areas etc. Streetscape activities turn out to have positive socio-economic impacts. (SEE APPENDIX B)

Light green areas in the central (residential) districts mainly map the private backyards which will probably remain private due to everyone's need for privacy, but could possibly become bigger gardens shared by neighbours within a block. This, however, needs again negotiation on the levels of the urban block and the private.

A SPACE FOR MA AND INTERRELATIONS BETWEEN INTERIOR AND EXTERIOR AT NIKKO IMPERIAL PALACE.
IMAGE BY DRIES DELAGAYE

INTER
MEZZO

ALTERNATIVE SPACE CONCEPTS

The Japanese concepts of wa (relational space), ba (knowledge-mobilizing space), ma (void or empty place) & tokoro (location).

Void Metabolism by Atelier Bow-Wow

JAPANESE CONCEPTS OF SPACE

In Japanese culture, the concept of space is not so much about built entities but rather about relationships between people. Spaces structure interactions and connections among people and the community. So, spaces have meanings prior to any activity that would happen within them. Four terms are mainly used for the concept of space, each looking from a different perspective at human relationships: relational space (wa), knowledge-mobilizing space (ba), void or empty place (ma) and location (tokoro).

RELATIONAL SPACE : WA

Wa is the space that forms an awareness of interpersonal connection. It recognizes the way space affects relationships that should be maintained and reinforced for the social harmony.
Private rooms and intimate furniture set-ups allow for opinions to be expressed and shared that would be unthinkable in other environments.
Workspaces, for instance, are usually not the most suitable environments to address frictions and stresses created by co-working.
With the eye on more healthy working environments, more intimate private spaces can be designed in adjacency of the collective workspace.

KNOWLEDGE-MOBILIZING SPACE : BA

Ba is the context that harbours meaning. It is the space and arrangement of elements ensuring the connections (dialogue) by which people's knowledge and experience will be more likely formed and shared. Ba is shared space that asks us to be open for things and events outside of our experience, specialization or tastes and for interaction with people we might not normally meet.
An example is the open-office with a large workspace shared by many workers, so information is rapidly – often accidentally – shared.
Different ways of seeing and handling with issues often lead to breakthroughs.
Also collective overlap spaces that facilitate events where different individuals can (unintentionally) meet can be Ba.

VOID OR EMPTY PLACE : MA

Ma is space as a time and mood structured process. It is about creating moments of awareness (interruptions), allowing dissimilar things to coexist. Ma is void, emptiness or interval in space that allows reflection and integration to better address modern life's contradictions or tensions.
Ma can be scattered, small parks that make the mind leave behind distractions and worries.

LOCATION : TOKORO

Tokoro is the location or site with its (historical, cultural, social…) context.
It is ambivalent about boundaries and inevitably connected with all the activities around it.
Being part of a place necessitates a dynamic relationship with it.
With other words, an intervention cannot be in Red Hook without Red Hook being in the intervention.

VOID METABOLISM

ATELIER BOW-WOW

Atelier Bow-Wow considers the city as a type of Metabolism, since it is a field of autonomous, self-regenerating grains. The building regeneration, however, would not revolve anymore around a core (1960s architectural thought), but around a void —the gap space between buildings — and would be actuated by the initiatives of individuals rather than the accumulation of central capital.

In the last decades buildings were made solely for their occupants, facilitated with modernized air conditioning. Gaps between adjacent buildings were left undefined. Consequently, opportunities to spend time in (sheltered) outdoor areas were eliminated and streets got a lacklustre presence.
According to Atelier Bow-wow, buildings of the new generation should have interior spaces inviting non-occupants and quasi-exterior spaces that coax occupants out of their buildings. More importantly, gap spaces in between buildings should be redefined.
These gaps could be micro public spaces if they thrive out of necessity on the behaviour of their users. If not, they degrade again to unused, vacant spaces in the neighbourhood. They should have the characteristics of a defamiliarized social space, reframing daily life into something self-evident or even light-hearted.

Also for Atelier Bow-Wow architecture is not so much about spaces but more about organizing relationships, managing daily activities within defined performance spaces, and in specific: relationships between people and social spaces.

"It is not people who create social spaces, but social spaces that use people to bring themselves into being." (TSUKAMOTO & KAIJIMA, 2010)

THE TWO ARCHITECTURAL INTERVENTIONS IN A CONTEXT MODEL.
IMAGE BY DRIES DELAGAYE

05
DESIGN PROPOSALS

A PRIORI
THE FIRST INTERVENTION : THE .R-SITE
THE SECOND INTERVENTION: THE YMCA-SITE

"Can more permeable interval spaces and new architectural interventions there socio-economically incubate a resilient Red Hook, given its mixed community and adjacent entities?"

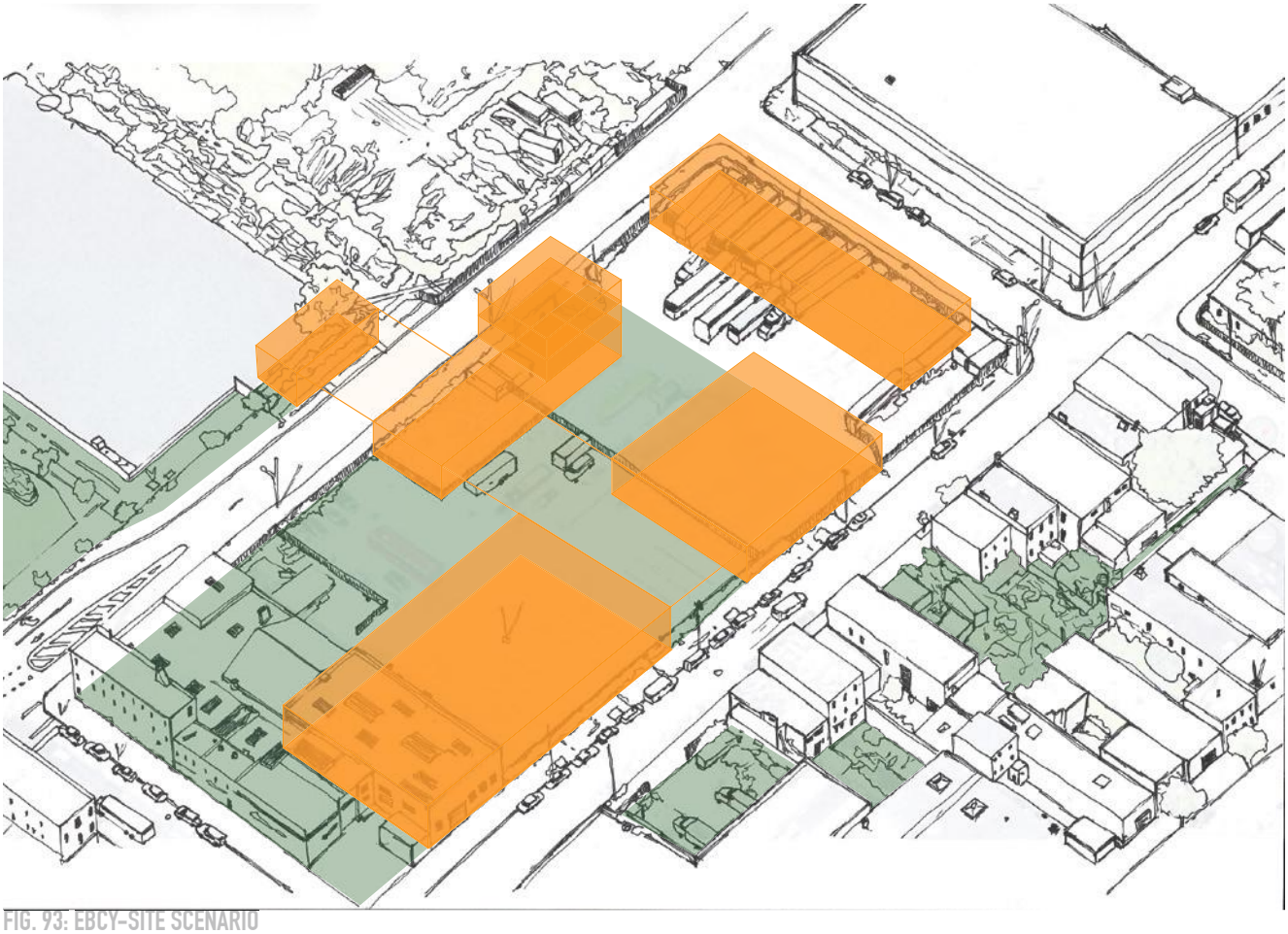


FIG. 93: EBCY-SITE SCENARIO

Stated by the research question, the aim of the design proposals within this Red Hook streetscape territories dissertation is to architecturally intervene within Red Hooks interval spaces – starting with making these spaces more permeable and collective – in order to provide keystone socio-economic structures and processes for a resilient Red Hook.
The design development is founded on the site scenarios that were achieved within the urban strategy and focuses in the first place on the parameters that were provided by both the research studio and the conceptual framework. Initially, also the selection of the sites was based on their really specific and linear conditions in terms of Fringe, Vacancy and Permeability and on their potential to become more dynamic and collective right at these places of spatial transition where Red Hook's mixed communities and adjacent entities could be reconnected and eventually restructured.
The urban strategy set up in the first place plans to restore the preindustrial Koeties Kill Creek which will run from the fringe of the northern industrial area, through Coffey Park and Pioneer Street towards Atlantic Basin and will manage a natural stormwater run-off from the surrounding industrial and residential sites there. This plan has a direct and physical impact on the first site (.R-site) since Koeties Kill is starting there and cutting diagonally through the lot. For the other areas, the urban strategy stresses on the importance of garden-like or pocket park structures to ensure the share of pervious soil in Red Hook. Furthermore, the urban strategy also brings forward a set of parameters on the building level to still relieve these natural permeable spaces as much as possible. Green roofs and rainwater harvesting systems should be a design integrated standard.

While in the next chapter the scenarios for the first (.R) and the second (YMCA) site will be further developed towards detailed design, this dissertation will provide for the third site (EBCY) only the conceptual scenario described in the urban strategy chapter.
This concept proposes to densify the industrial lot with large build volumes, not to block off passage to the waterfront but just to move industrial storage to the interiors and to maximize industrial activity while kneading more interesting interstices inbetween where residents and industrials could interact. In this way, fencing can be avoided while the open space can still be used on a flexible timing base for either industrial, economic or social activities. This suggested use of the space is a direct application of the conclusions made in the paper of appendix B.
By replacing the decaying existing building by a new store of similar volume perpendicular to the former one, a new open space is emerging at the same time which opens up as a continuation of the existing public waterfront park.
The adjacency of human's most crucial but locally also most threatening element, water, makes the third site the most preferred and feasible for an environmental awareness program. The only volumes higher than a double floor height are the "vertical" artifacts nearest to the water which will house such programs rather than light industries. However, a flexible timing again can make these spaces available at times as offices for local industrial stakeholders. The awareness program includes a centre where the local youth will be informed about Red Hooks environmental risks, sustainability and resilience, and a docking station right at the water as well. The docking facility is an answer to the issues emergency boats had concerning lacking proper docks during storm and flood events. The dock should be able to follow the movements of the water to ensure proper docking at all times. Therefore, the historic hydraulic elevators on tug boats may be an interesting reference.
As the third site is situated in proximity of the nineteenth century brick-and-mortar warehouses, it could also make use of or assimilate this architectural language. Nevertheless, it is more important to provide large open space plans with efficient and flexible structures which can cope with the twice-a-year floodings and more extreme weather conditions.

THE FIRST INTERVENTION : THE .R-SITE

FIG. 94: A NEW DEPTH CONFIGURATION FOR THE .R-SITE.

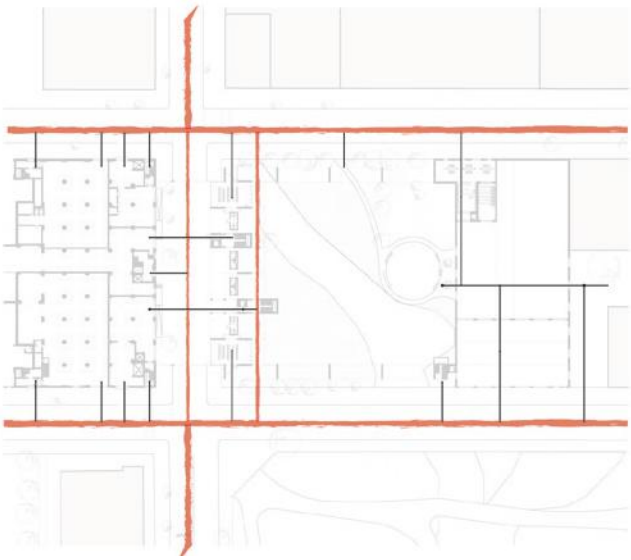


FIG. 95: A NEW OPEN SPACE CONFIGURATION FOR THE .R-SITE.

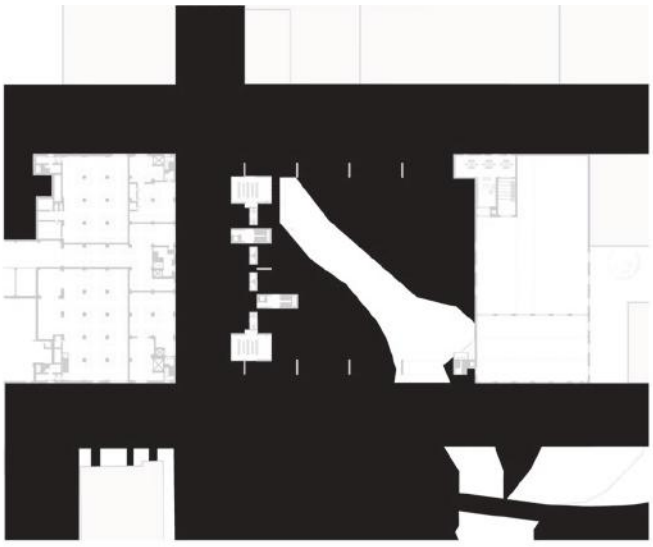
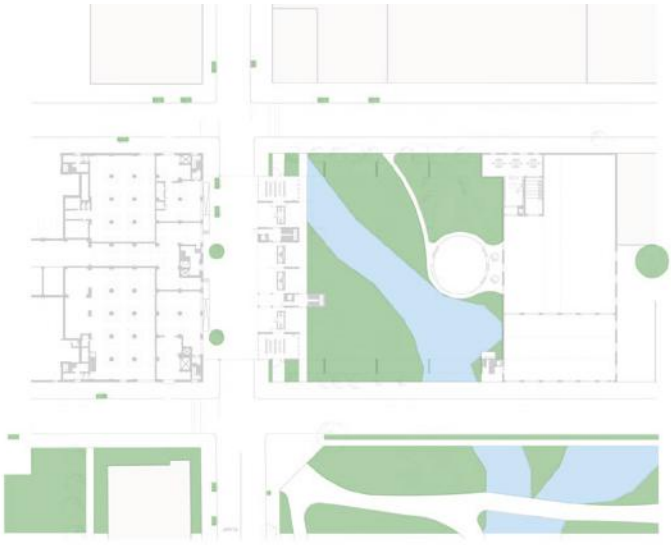


FIG. 96: A NEW NATURAL PERMEABILITY FOR THE .R-SITE.



PREFACE

The .R-site represents different pivotal scale conditions to be dealed with.
In its own identity, it represents a large emptiness, the interval space, directly next to one of the highest industrial structures that altered Red Hooks landscape, the six-story loft, and with Richards Street as a nowadays cumbersome mediator. Located just north of Coffey Park, the interval might appeal as a compressed and downscaled version of it when the cracked concrete surfaces make place for the reintroduced Koeties Kill Creek. However, within the industrial area it will doubtless be the largest decompression zone or void (MA).
The six-story building overshadows the small residential houses and even the Visitation Church just south of it, but the long-time standing billboard with .R-sign and its own height makes it also one of Red Hooks most recognizable landmarks and suitable places for storm refuge.
Five circulation cores within the building can serve quick and smooth evacuations, although the staircases are not that visually present.
But more importantly, it establishes with all its mass and with its steel tiara the industry within the neighbourhood. Its mushroom column structure and enormous floor plans provide suitable space for collective workspaces, although it lacks nowadays some facilities and spatial opportunities to switch to more individual and smaller human-scale workspaces.

As proposed in the urban strategy and the scenario for the .R-site, the aim of the architectural intervention here is to maintain and enhance the industrial identity while mentoring every local stakeholder through the spatial transition from home to work contained within the site. The interval space with the Koeties Kill Creek mainly becomes a collective garden, free from fences, and will be partially occupied by a new build structure extending the existing industrial property. Richard Street inbetween will be charged with such a spatial tension that it will become a collective outdoor working environment – with the eye on local employment and interaction – rather than just keep on being a place for street circulation. This design decision will also keep cargo vans and trucks on the designated routes on Delevan Street and out of the residential areas.
To incubate more productivity, the architectural intervention will incorporate supportive pedestrian bridge structures and the vacant industrial building to the east of the interval in order to reactivate it for manifecturing and as a medium for the spatial transition and reconnection of residents and industry.

DEPTH , OPEN SPACE & PERMEABILITY

The architectural intervention is initiated by adjustments to the existing fabric and the existing landscape at the level of the street. The interval space is freed from spatial delimitation, while new street level openings will be made in the front facade of the six-story loft and the side facades of the vacant industrial warehouse east of the interval. Making these new accesses is possible since these facades are not structurally supporting the existing fabric. Besides a north-south spatial transition, an east-west permeability is as well established. Local residents are invited into the buildings at streetlevel and the occupants inside are triggered to go outside. New paths and ramps are bridging distances and heights between the street and the actual additional entrances. The street level of the part of Richards Street at the intervention is raised and levelled with the sidewalk level to have a flat (exterior) work floor there.
The architectural intervention is continued with a limited footprint for the new build extension: two concrete cores with the vertical circulation and a repetition at vast rythm of a concrete wall forming the foundation and the pedestal, so the more permanent program is lifted up above the base flood elevation. At street level, two lecture rooms at the sides of the extension building are enclosed by the concrete walls and windows onto the street and the garden. They define the street level program more as a workforce development center for potential local workforces.
Four other (non-structural) cores, shower rooms and accessible public toilets, are the mediatory devices inbetween the main structures that will enclose and align more the main exterior open spaces.
This architecture and spatial configuration increases the depth by making the lot almost fully permeable, providing different ways and levels of accessibility to both the existing and new build artifacts and by making the open space more dynamic and collective.
The mediatory devices shape the open space as a series of different exterior rooms: a sheltered double height work space at Richards Street, lower spaces providing more shadow – some looking to that workspace, a second series towards the garden – and the large cloister-like garden only enclosed by a rythm of concrete walls supporting connection bridges.
In terms of natural permeability, majority of the site is not sealed and permeable. If sealed or covered, the collected rainwater runs off to green roofs, rainwater harvesting systems, the garden or maintained bioswales at Richards Street.

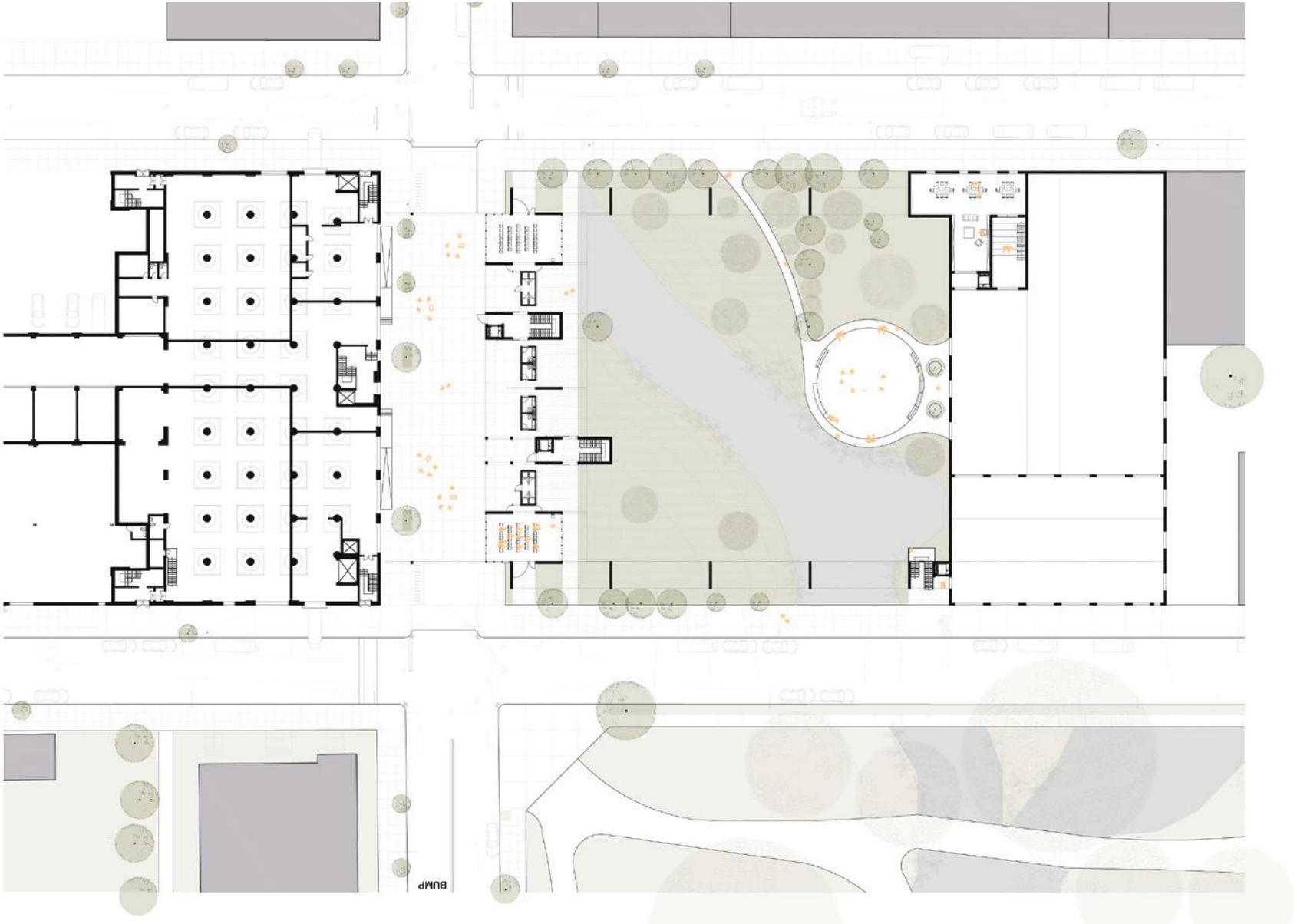


FIG. 97 : PLAN OF THE STREET LEVEL, INCLUDING CONTEXT (RESCALED)

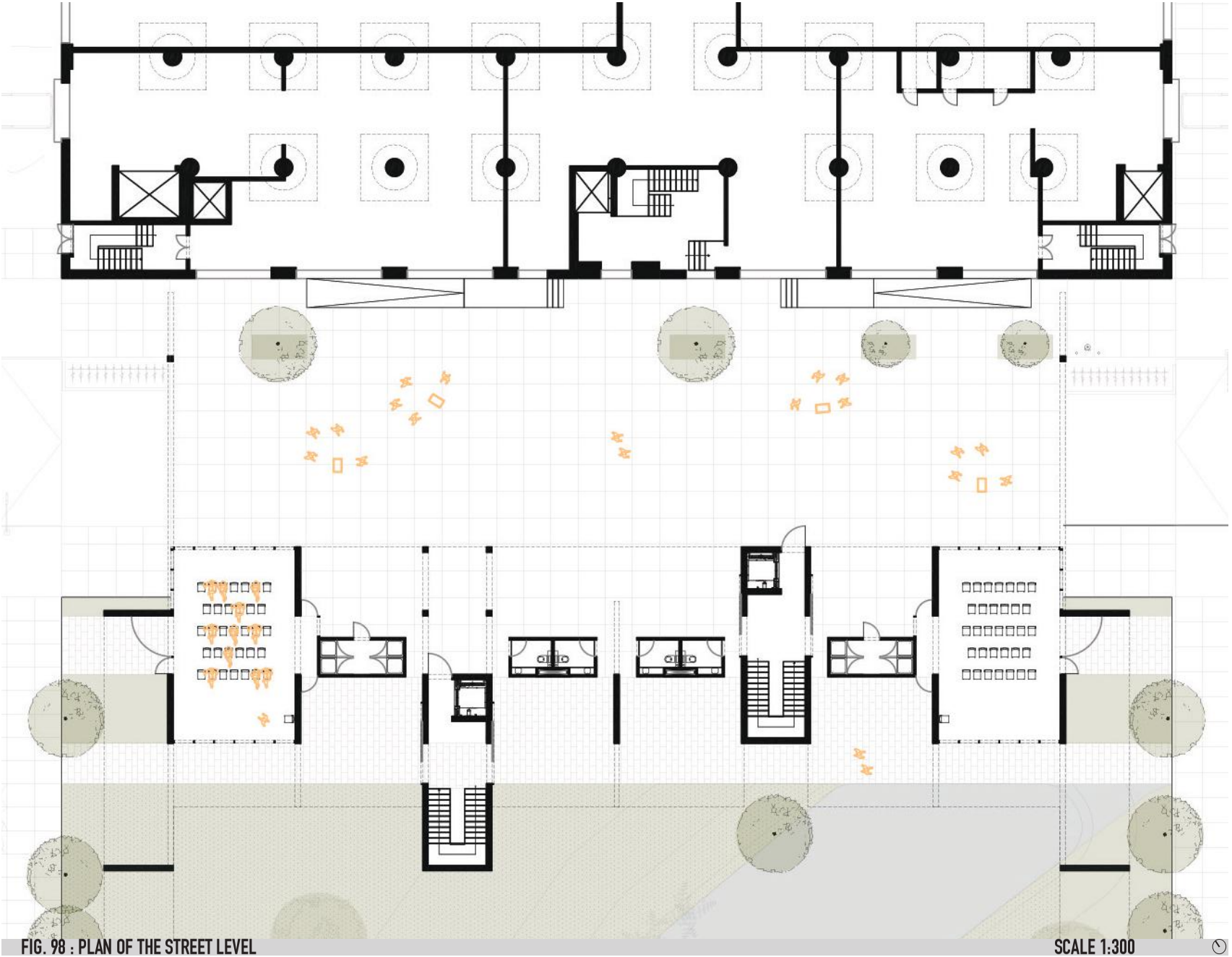


FIG. 98 : PLAN OF THE STREET LEVEL

SCALE 1:300

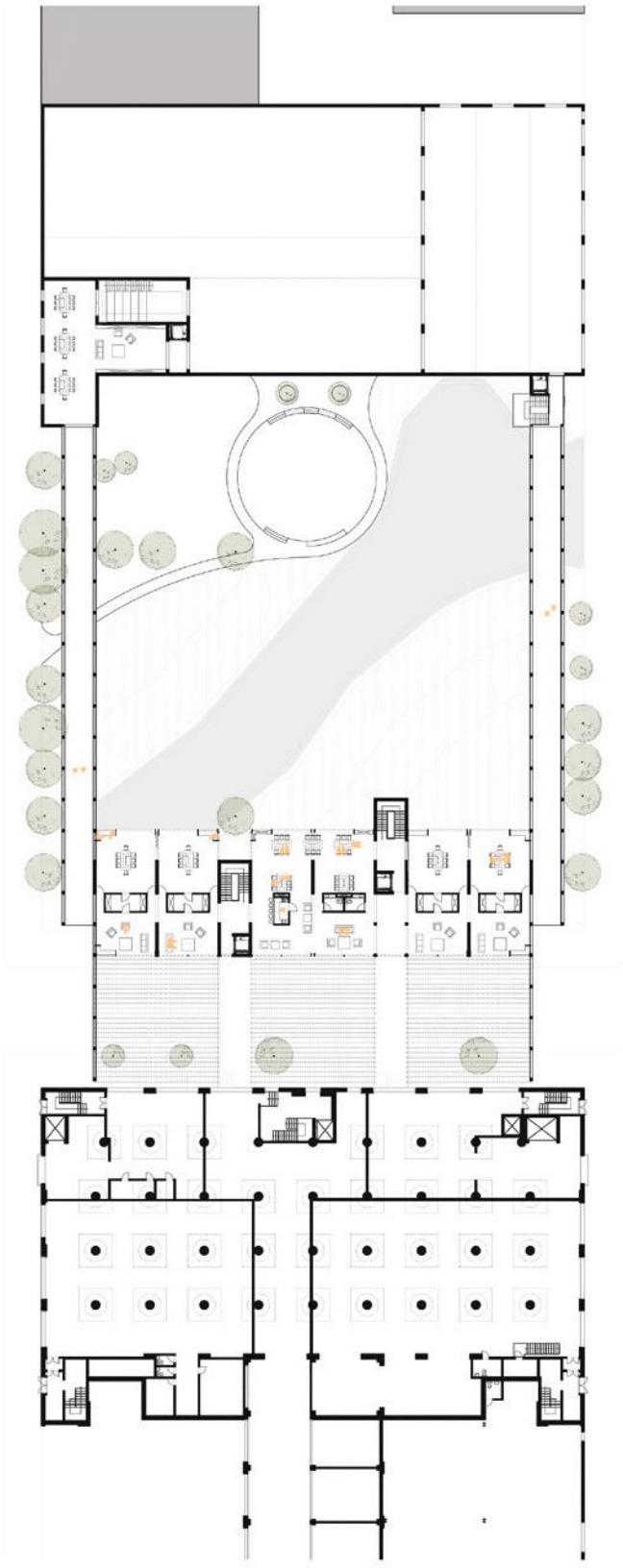


FIG. 99 : PLAN OF THE FIRST FLOOR, WITH CONTEXT (RESCALED)

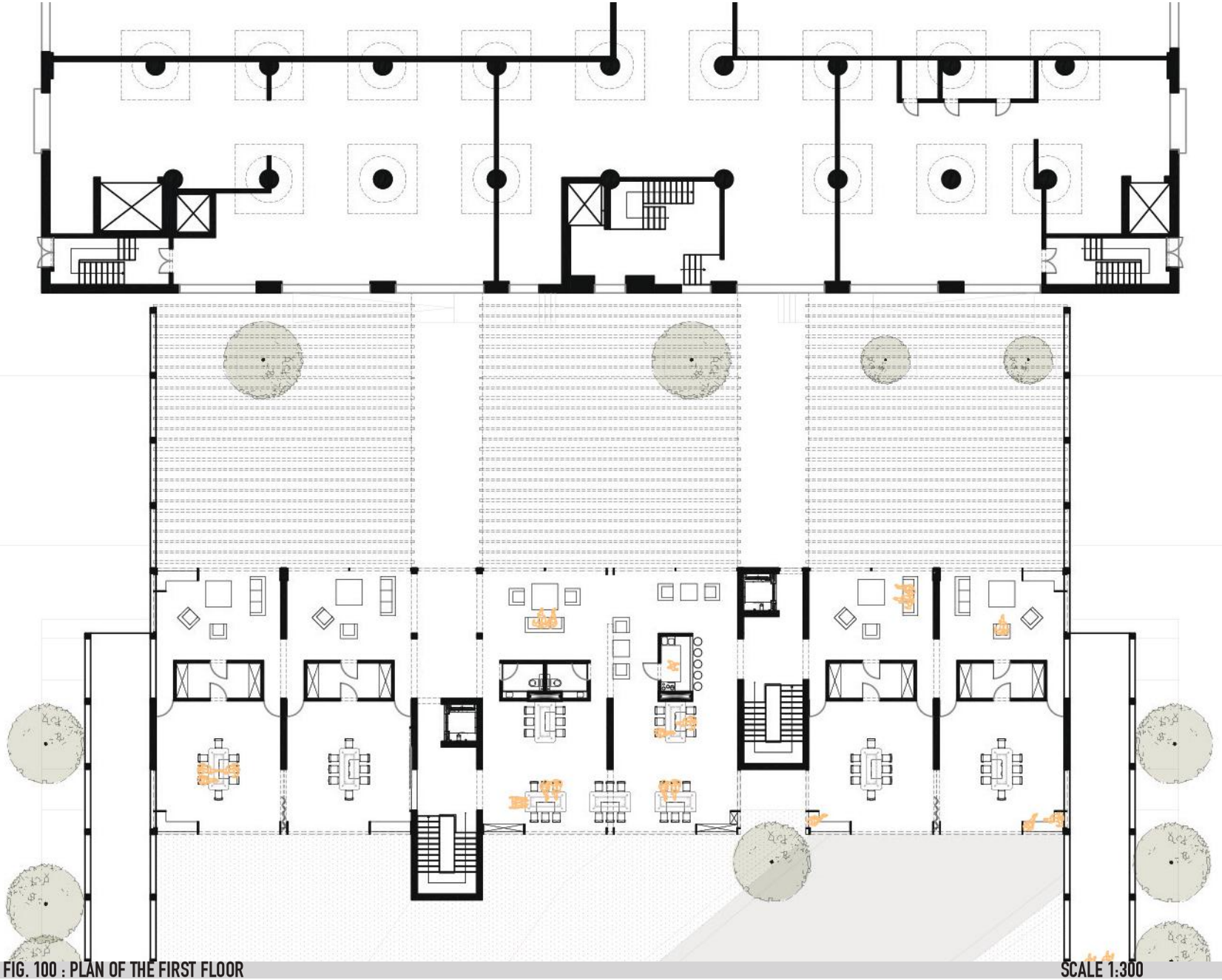


FIG. 100 : PLAN OF THE FIRST FLOOR

SCALE 1:300

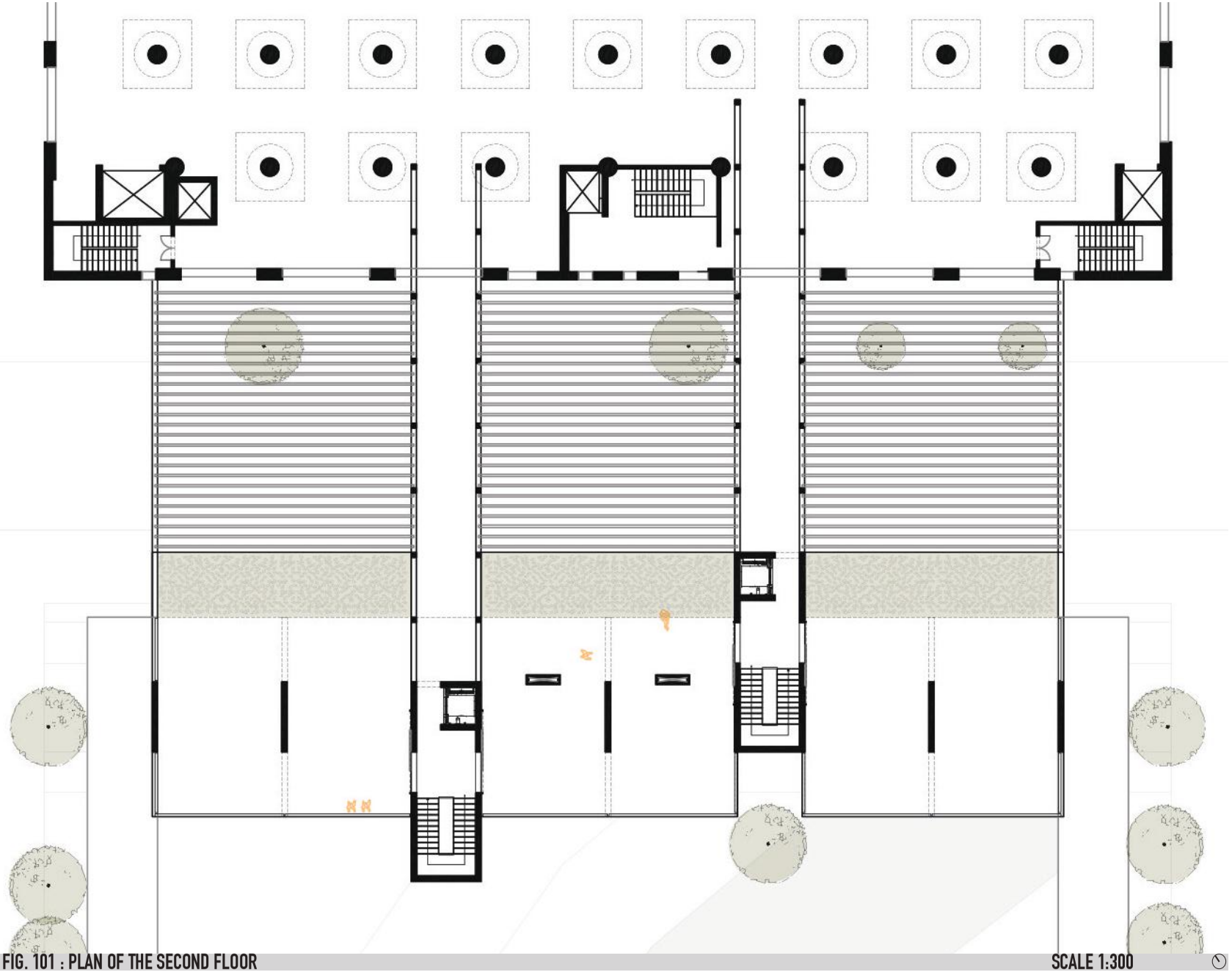


FIG. 101 : PLAN OF THE SECOND FLOOR

SCALE 1:300

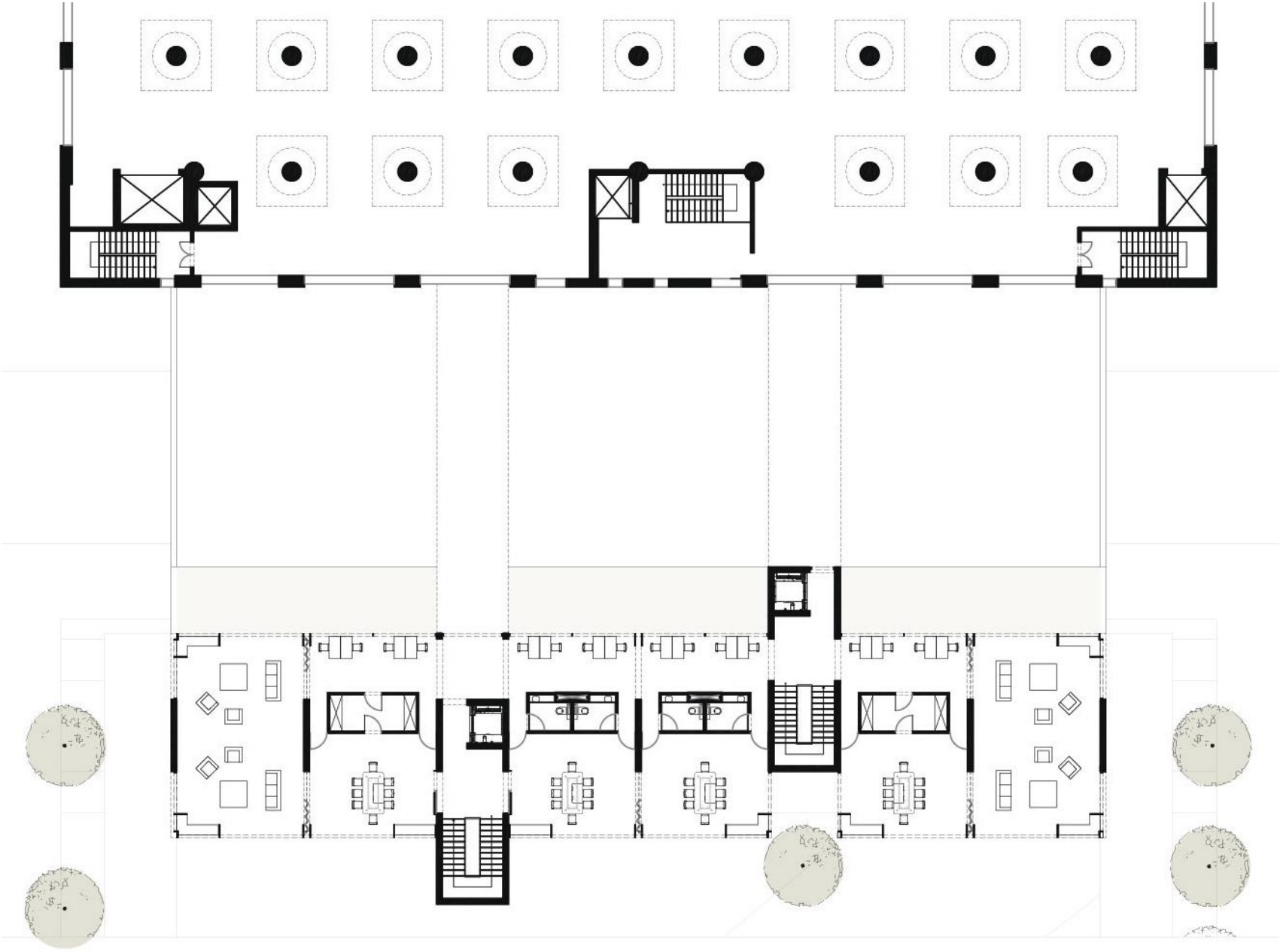


FIG. 102 : PLAN OF THE THIRD FLOOR SCALE 1:300

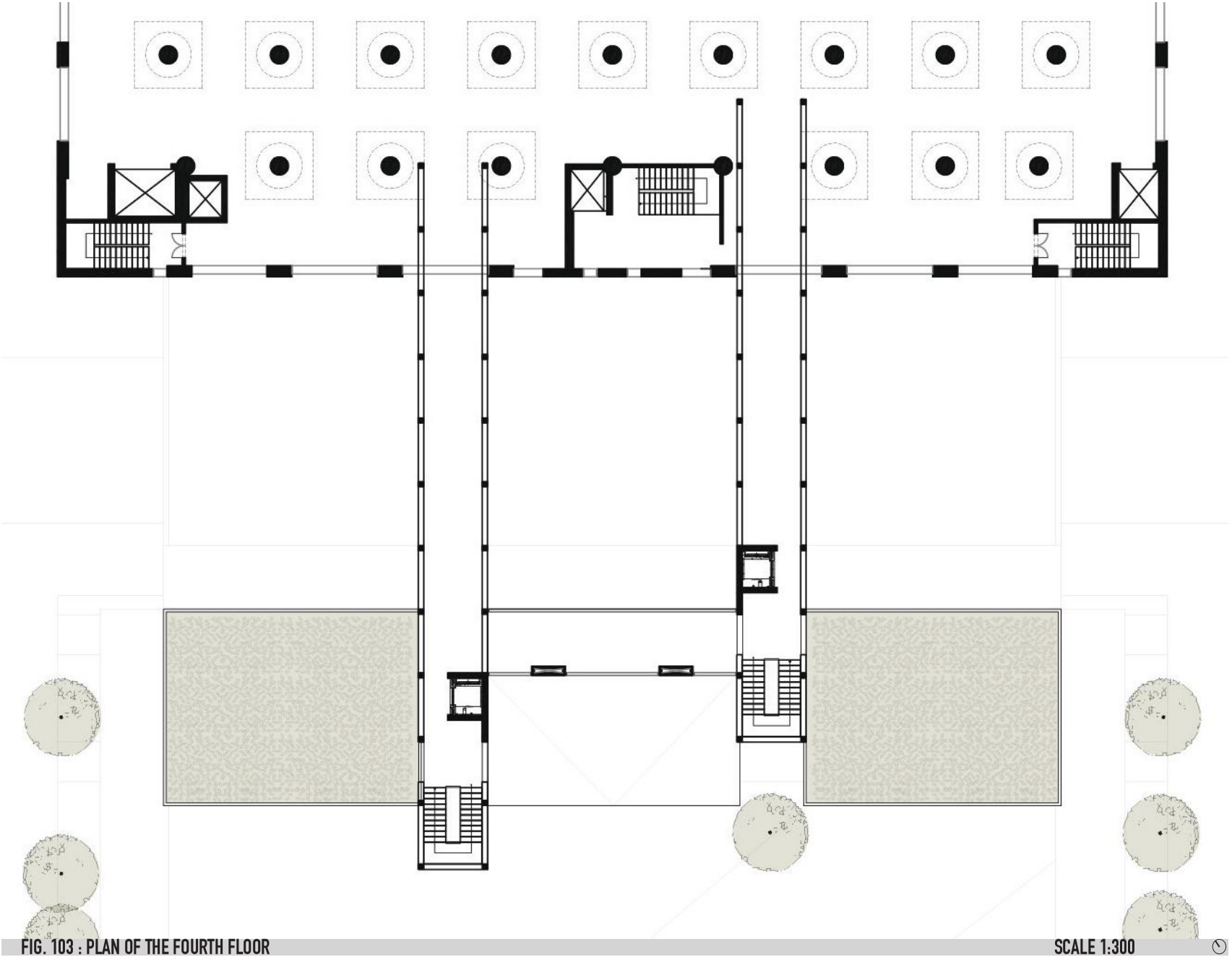


FIG. 103 : PLAN OF THE FOURTH FLOOR

SCALE 1:300

FIG. 104 : COMPLETE SECTION THROUGH THE .R-SITE AND ITS SURROUNDINGS (RESCALED)

FIG. 105 : SECTION THROUGH THE .R-SITE – THE COLLECTIVE WORKSPACE SCALE 1:200

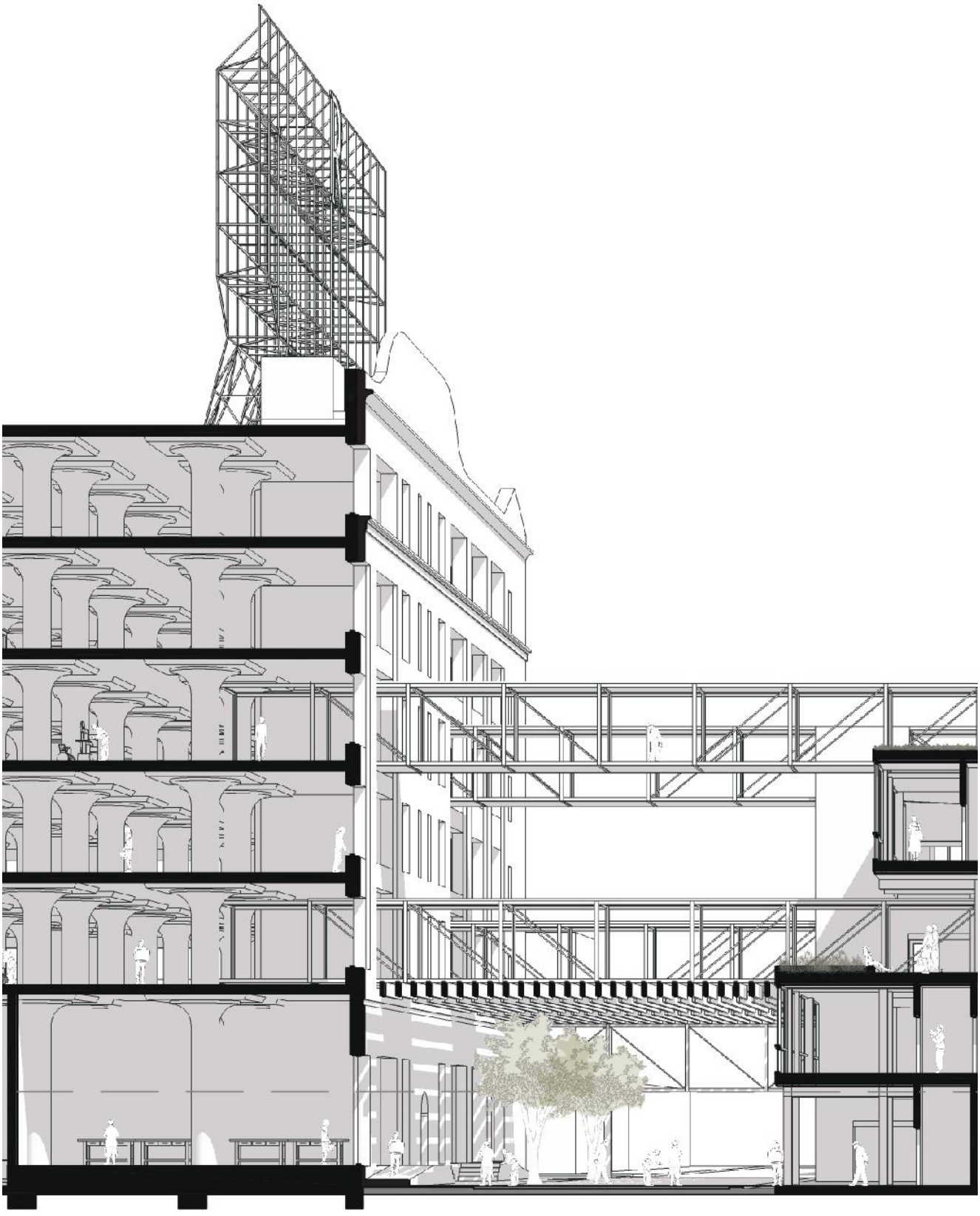


FIG. 106 : SECTION THROUGH THE .R-SITE - THE EXTENSION BUILDING SCALE 1:200

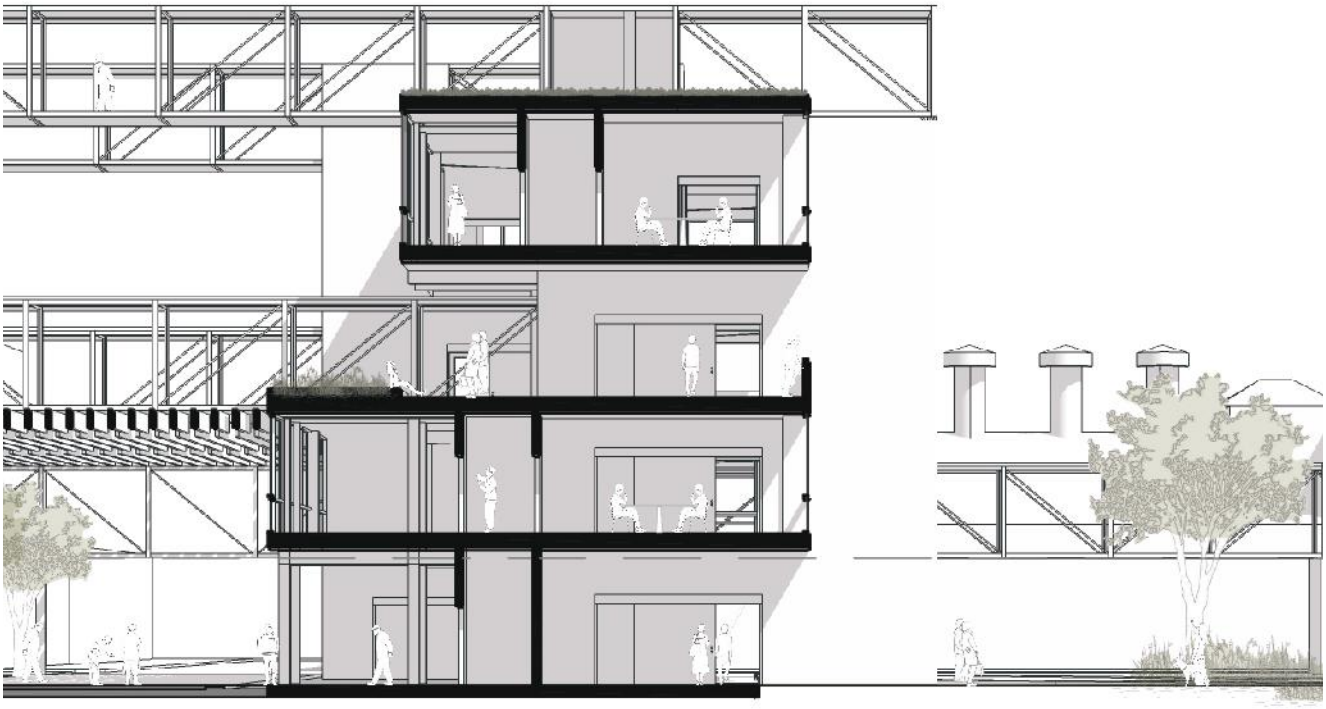


FIG. 107 : SECTION THROUGH THE .R-SITE - THE MA: A CLOISTERLIKE GARDEN WITH THE KOETIES KILL CREEK SCALE 1:200

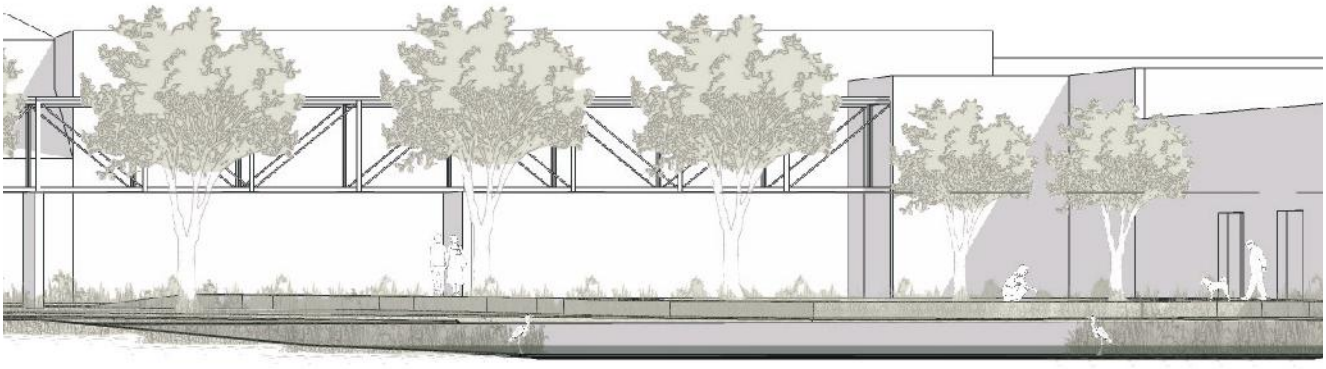
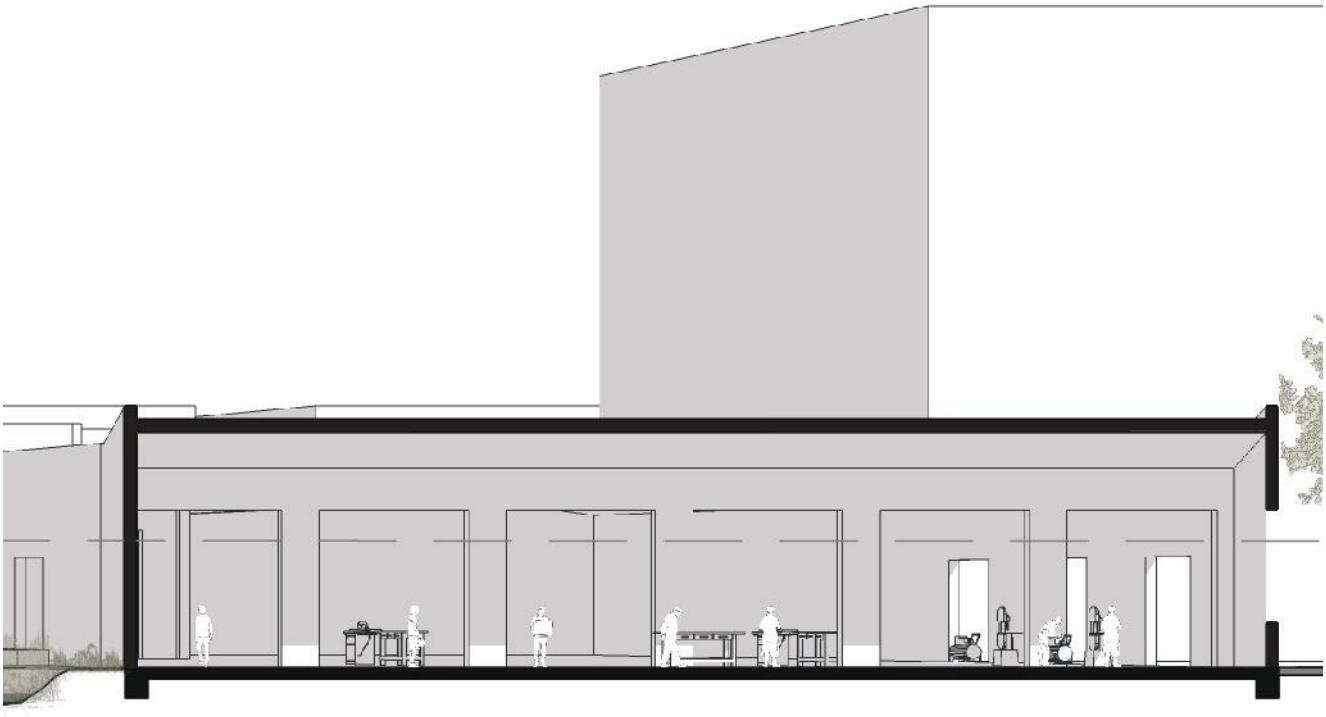


FIG. 107 : SECTION THROUGH THE .R-SITE - THE REACTIVATED WAREHOUSE AND ACCESS FOR THE RESIDENTS SCALE 1:200



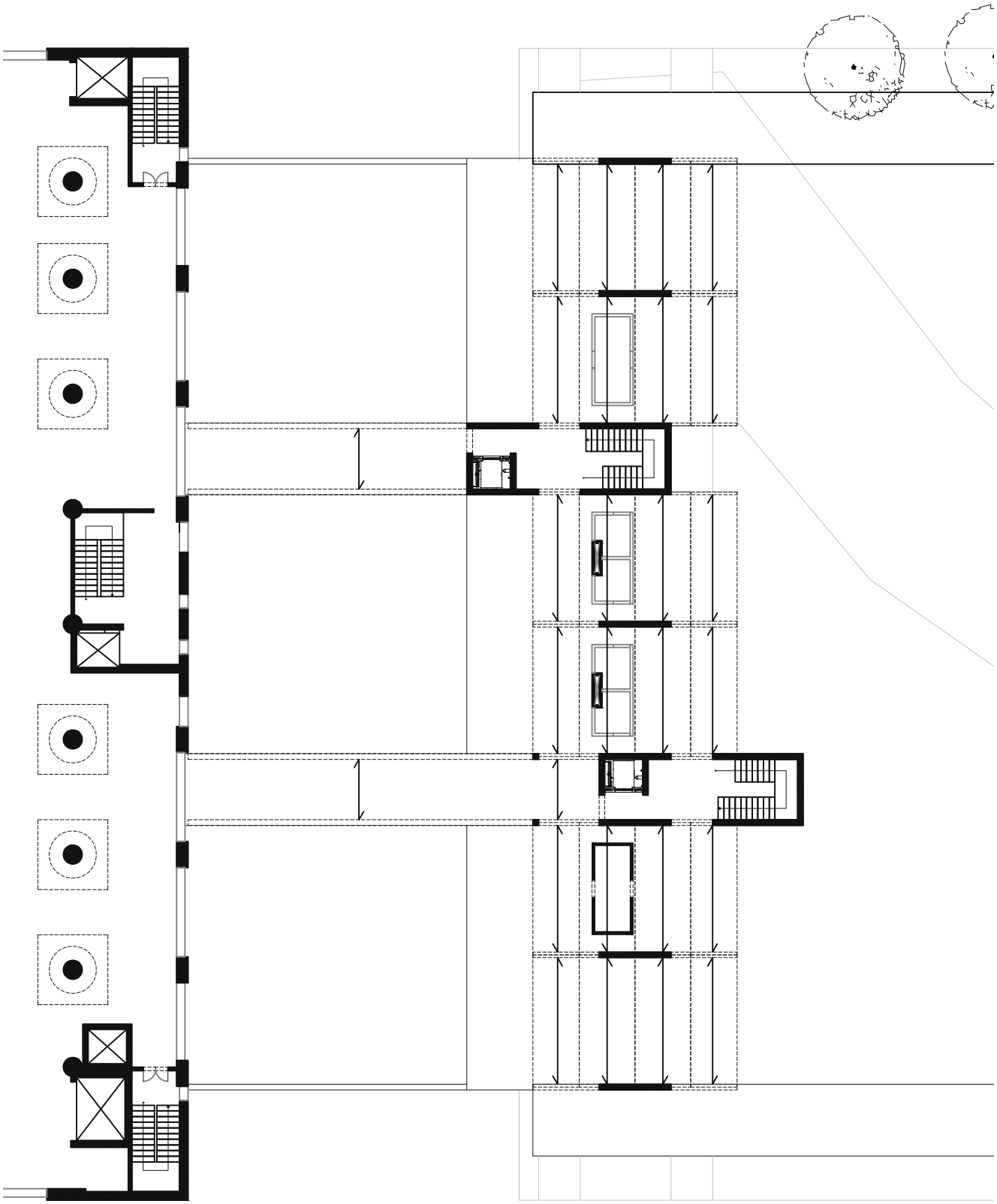


FIG. 108 : STRUCTURAL SCHEME FOR A TYPICAL FLOOR OF THE .R-SITE SCALE 1:200

A SUCCESSION OF SPACES (PROGRAM)

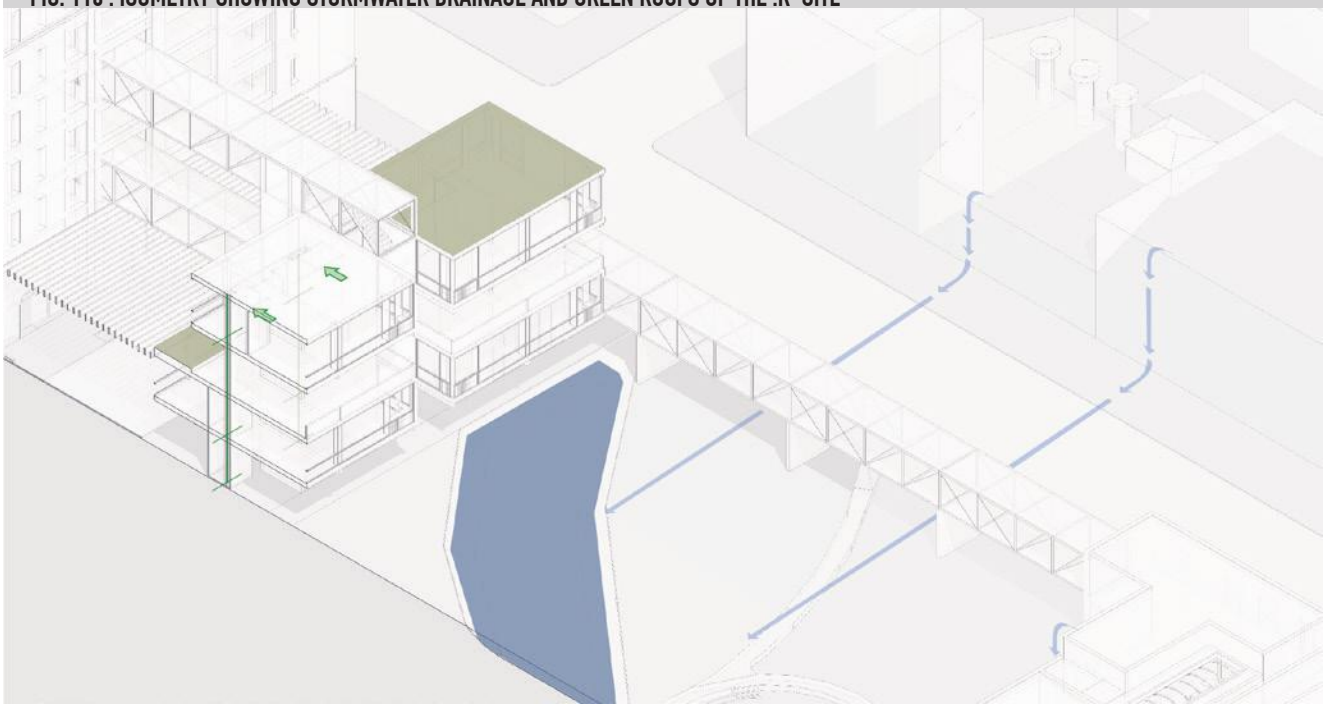
Rephrased what is described before already, the large open plans of the six-story building together with the new permeable streetlevel interventions are able to host BA and MA on site. However, a more easy connection and transition between these collective start-up landscapes (BA) and the interruptive empty interval (MA) will be facilitated within the proposed building extension. While the interval allows dissimilar things to coexist within the pivotal scales of the surroundings, a new smaller MA will be introduced to allow the six-story mass to coexist with the void. Therefore, the connecting steel truss bridges between the industrial loft and the extension building arrive on outdoor space levels introducing the larger entities. The upper bridges are running from the third floor of the existing building and are landing on top of the two cores and the green roof level (or the fourth floor) of the extension building, assimilating the architectural language of the steel billboard structure on top of the massive industrial loft. Another pair of steel truss bridges lower are spanning between the first floor of the existing and the second floor of extension, which is a series of exterior rooms or terraces solely enclosed by a floor, a ceiling, parapets and the essential structural elements of the building.
The other floors (first and third floor) of the extension building houses the interior program that facilitates the - so far lacking - WA or relational space. This kind of space takes shape in different configurations: offices for at most eight people, more intimate seating areas, corridors activated by two-person work desks etc. A small kitchen and refectory on the first floor, similar to a Japanese Izakaya, suggest workers to take a lunch break together at the table, talk face-to-face or just have a seat and a chat with some colleagues. This space can also be more collective and accessible as a local neighbourhood bar.
The configuration of main spaces is defined again by the structural circulation cores, structural walls and non-structural cores or mediatory devices (toilets, archives, the kitchen etc.). This set up allows to have a mostly continuous or open space configuration, rarely disrupted by doors. The structural circulation cores playfully stand out and set back from the overall elevation of the extension building whereby they become visually and physically more present so the way up to higher levels during floodings and other emergency cases (or down during fire escape) is obviously found.

STRUCTURAL DESIGN

The materials used for the structures of the architectural intervention are concrete, steel and cross laminated timber (CLT).
Since we will face a global sand crisis, the use of concrete is limited to the most essential primary structures for the foundation and the cores. This includes the two circulation cores (over their full height) and the foundation walls on street level (untill just above the base flood elevation) since they have to withstand floodwaters. On top of the foundation walls and further up, the massive structure is materialized in cross laminated timber walls. Being for many reasons very sustainable, most importantly this renewing wood product stores a significant amount of carbon dioxides that will not be released in the air. The material is also used for the secondary structures (floors, roofs) and for the non-structural cores of mediatory devices. Floors always span seven meters between the structural walls and cores. The complete floor widths can be divided in standard prefabricated CLT-elements: four 295cm wide panels plus one 245cm panel per bay for the first and second floor, two 295cm panels and two 245cm panels per bay for the third and fourth floor (roof level). Structural analyses of the CLT-producers (e.g. Stora Enzo) in terms of vibration and deformation suggest using L7s-2 panels, a 220mm thick panel of 7 layers with at both sides two lengthwise cover layers for strength. The cross lamination ensures the stiffness of the panels.
Steel is used for the pedestrian truss bridges connecting the different buildings. Each truss bridge is a stiff structure spanning at least 14 meters and composed of two interconnected (welded on site) Pratt-like trusses with crossbracing. Steel dimensions of the tee bar and L-profiles were reduced as much as possible to 140mm and 10mm thick flanges to obtain a (visually) light structure referring to the billboard. Buckling and torque behaviour of the profiles should be further analyzed by engineers and structural software. Fire safety of this elements is increased with layers of fire resistant paint and eventually a sprinklersystem for cooling down the elements. Floors of the bridges are made again with CLT.
The canopy sheltering Richards Street (the collective outdoor work space) is structurally translated in parallel high dimensioned CLT- or LVL-beams filtering the natural light from above. At one side, these beams will be imposed on top of the trusses of the first floor while, at the other side (and centrally), they will be suspended with a steel plate connection from the bottom of the truss bridges of the second floor. Architecturally, this construction appeals as if the beams are floating in the air.

FIG. 109 : ISOMETRY SHOWING NATURAL VENTILATION AND COOLING FOR THE .R-SITE

FIG. 110 : ISOMETRY SHOWING STORMWATER DRAINAGE AND GREEN ROOFS OF THE .R-SITE



ZERO IMPACT BUILDING INTEGRATION

In order to limit the dependence on consuming mechanical technics such as air groups, a fully natural ventilation and cooling during the warmer seasons is proposed for the building. Small windows in the facades, located at the spatial intersections and in line with the structural walls, open to supply fresh air from outside directly in the work environment. Since the latter has an open plan configuration, the air can also flow uninterruptedly towards the vertical staircase cores. Only vilt curtains are at times interrupting the continuity to accoustically and spatially divide the larger space. Due to the verticality of the cores and the larger void between the staircases and since warm air rises, a chimney effect can be introduced to naturally extract the air from the floors up to the top of the cores where small pivoting openings between the concrete and the truss bridge extract the air back to the outside environment.

Also in terms of stormwater drainage, zero impact building was integrated into the design. The Koeties Kill creek will collect storm water from the roofs of surrounding industrial properties and also from the extension building. However, the design of the extension building integrates green roofs at different levels to reduce the run-off and uses part of its roof to catch water for a rainwater harvesting system connected to the toilets in the building. Eventually, it is almost only rainwater collected from the sheltering canopy that will run-off to the bioswales underneath and to the garden and Koeties Kill.

DETAIL & CONSTRUCTION

The architectural intervention can be constructed in different phases starting with adjustments to the existing fabric and landscape and with the concrete structures, representing the buildings foundation and its structural cores. Directly after this phase and while the concrete is drying, Koeties Kill creek can already be digged and additional greenery can be planted in the garden so it will already have time to grow.
For the further phases, construction and supply of materials can happen from Richards, Delevan and/or Verona Streets, so there is no need for heavy trucks or a crane in the interval garden anymore.
When the concrete has dried, the prefabricated transportable parts of the steel truss bridges can be brought to the site to be attached to the concrete structures and welded there to one piece. The truss bridges hovering over the sides of the garden are lifted from Delevan and Verona Streets and attached on top of the concrete walls enclosing the garden. The truss bridges between the existing building and the extension are hoisted from Richards Street to attach first on top of the concrete floors of the existing building, right between the mushroom columns. Directly afterwards, the steel structures will be attached to the concrete cores of the extension building. For the upper bridges that will be attached on top of the concrete cores, contractors should pay attention to the small gap space left inbetween for the pivoting openings of the natural ventilation. This detail makes the steel structure look like detached and hovering over the core.
At this phase, construction can be continued with installing the prefabricted primary and secondary structures in CLT and at a time the non-structural mediatory device cores in CLT that will further define the final space lay-out.
During the final phase, all floor, wall and roof finishes and carpentry, including the window details, will be done by the contractors.

The for this intervention selected detail shows the corner solution with bench that recurs in almost every small corner workspace. Located in the corner, the atmosphere recalls a certain intimacy while catching a lot of daylight and providing a wide view on the garden with its water element and its greenery.
The section shows the floor and roof package, as well as the construction of the wooden windows. On top of the CLT floor panels, a 60mm layer of screed is poured on which cork tiles are glued. The screed provides a thickness in which eventual floor heating ducts can be installed.
Underneath the CLT-floors a suspended ceiling (for the exterior space) is constructed with a thick and continuous insulation package inbetween and a continuous vapour barrier and sealing PE-foil.
For the ceiling or roof package, the CLT-panels are treated and exposed at the inside. On top of this structural layer, the insulation package is continued, together with the roofing. A floating floor structure is as well constructed on top for the terraces above.
The corner bench itself is crafted using thinner CLT-elements and steel L-connectors, usually applied in CLT-constructions. At some other corners, cabinets are similarly installed instead of a bench, so the workspaces does not require any other storage than this and the archives.

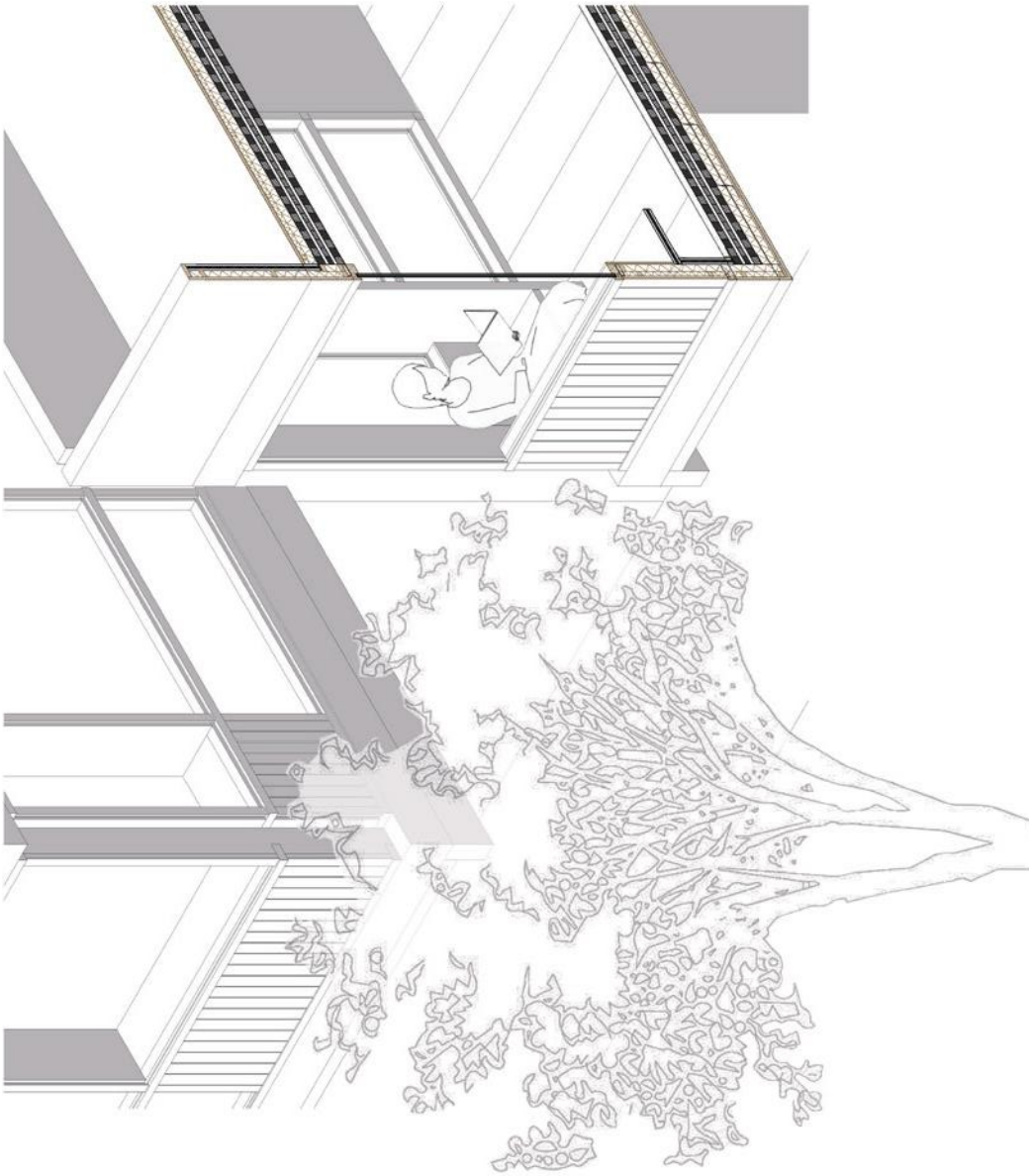


FIG. 111 : ISOMETRIC CORNER DETAIL OF THE .R-SITE (RESCALED)

FIG. 112 : ISOMETRIC CORNER DETAIL OF THE .R-SITE SCALE 1:20

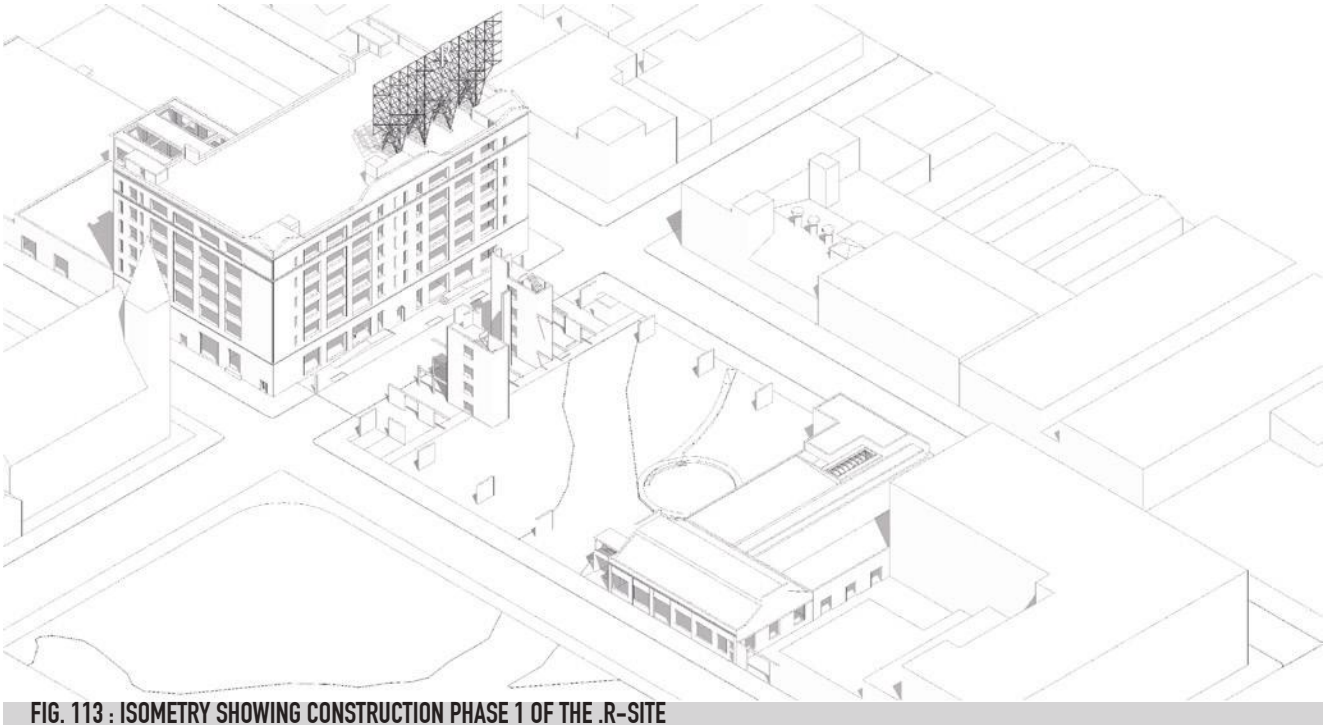
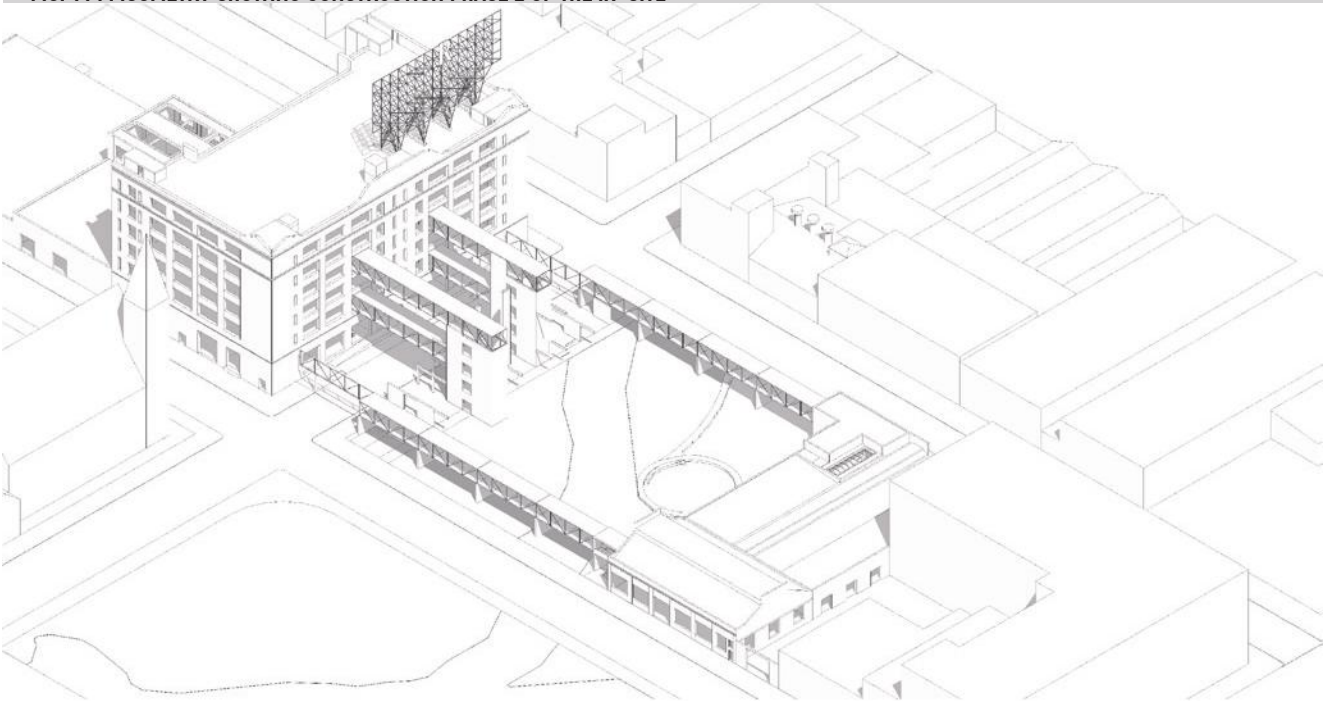


FIG. 113 : ISOMETRY SHOWING CONSTRUCTION PHASE 1 OF THE .R-SITE

FIG. 114 : ISOMETRY SHOWING CONSTRUCTION PHASE 2 OF THE .R-SITE



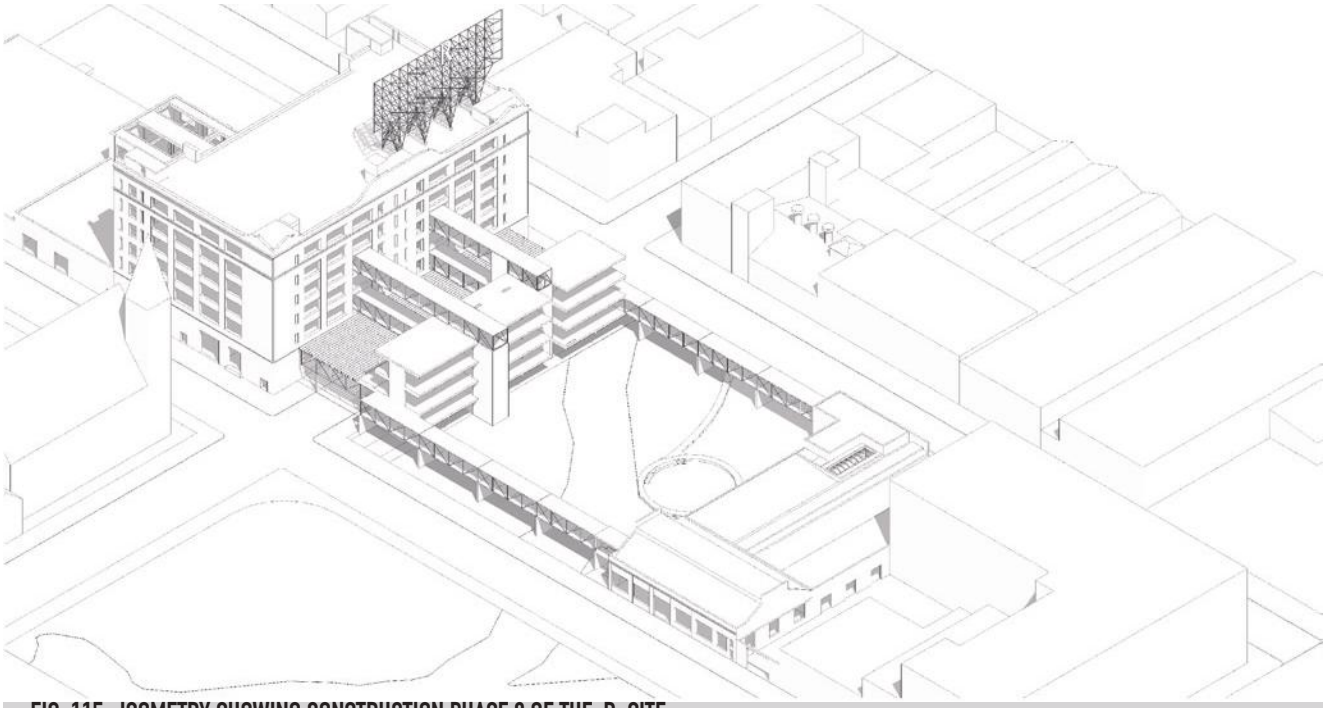


FIG. 115 : ISOMETRY SHOWING CONSTRUCTION PHASE 3 OF THE .R-SITE

FIG. 116 : ISOMETRY SHOWING CONSTRUCTION PHASE 4 OF THE .R-SITE

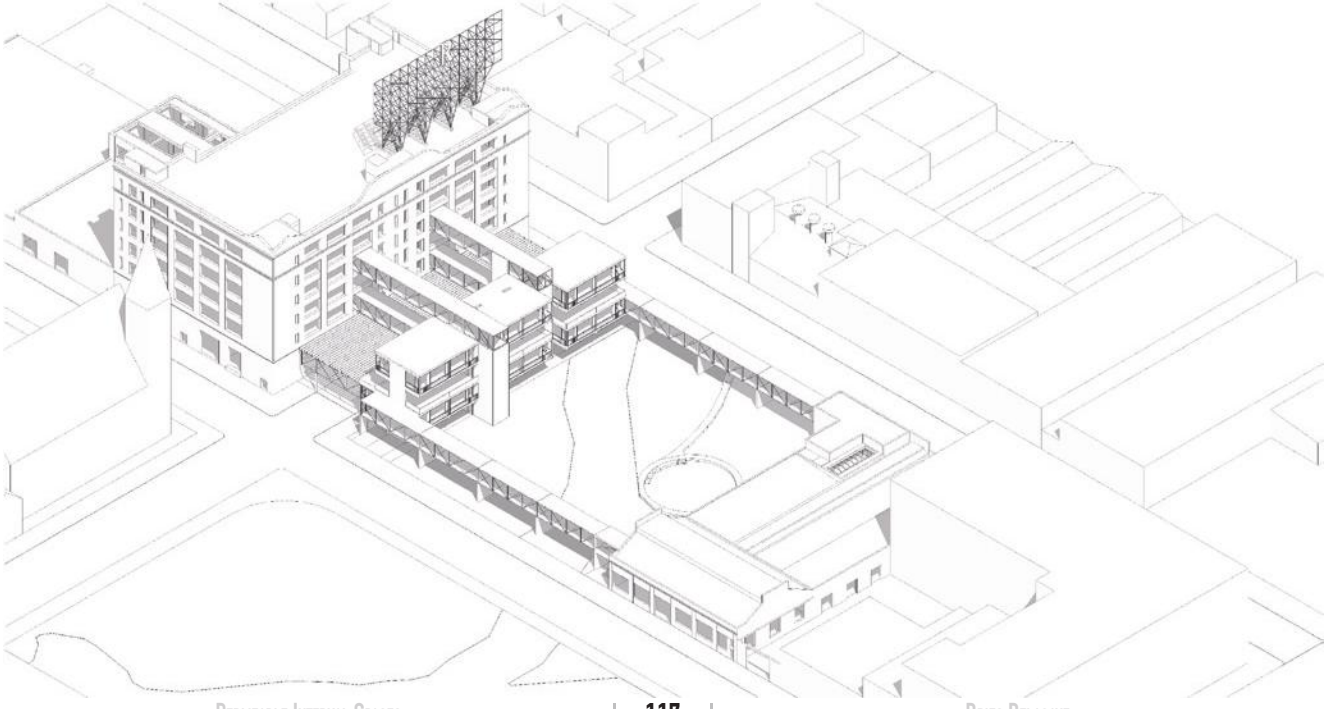


FIG. 117 : STREETVIEW AS A BEFORE-AFTER COLLAGE - VIEW FROM RICHARDS STREET NORTH

FIG. 118 : STREETVIEW AS A BEFORE-AFTER COLLAGE - VIEW FROM VERONA STREET

FIG. 119 : STREETVIEW AS A BEFORE-AFTER COLLAGE - VIEW FROM DELEVAN STREET

FIG. 120 : FINAL VISUALISATION OF THE GARDEN LOOKING TO THE EXTENSION BUILDING

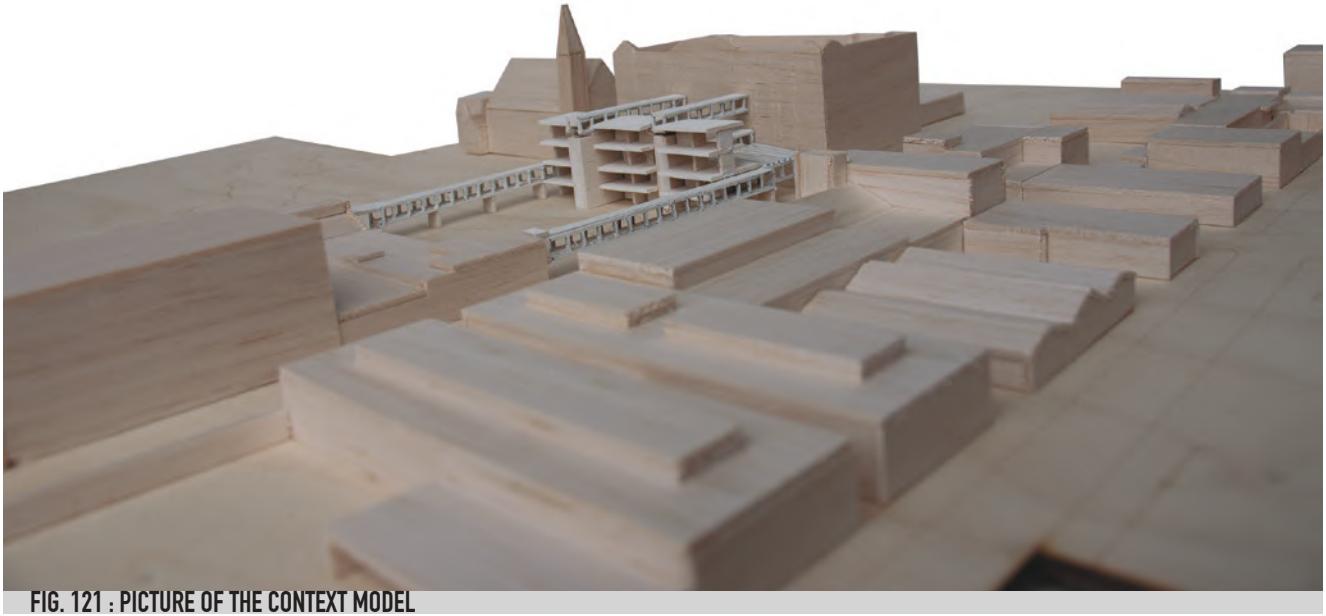
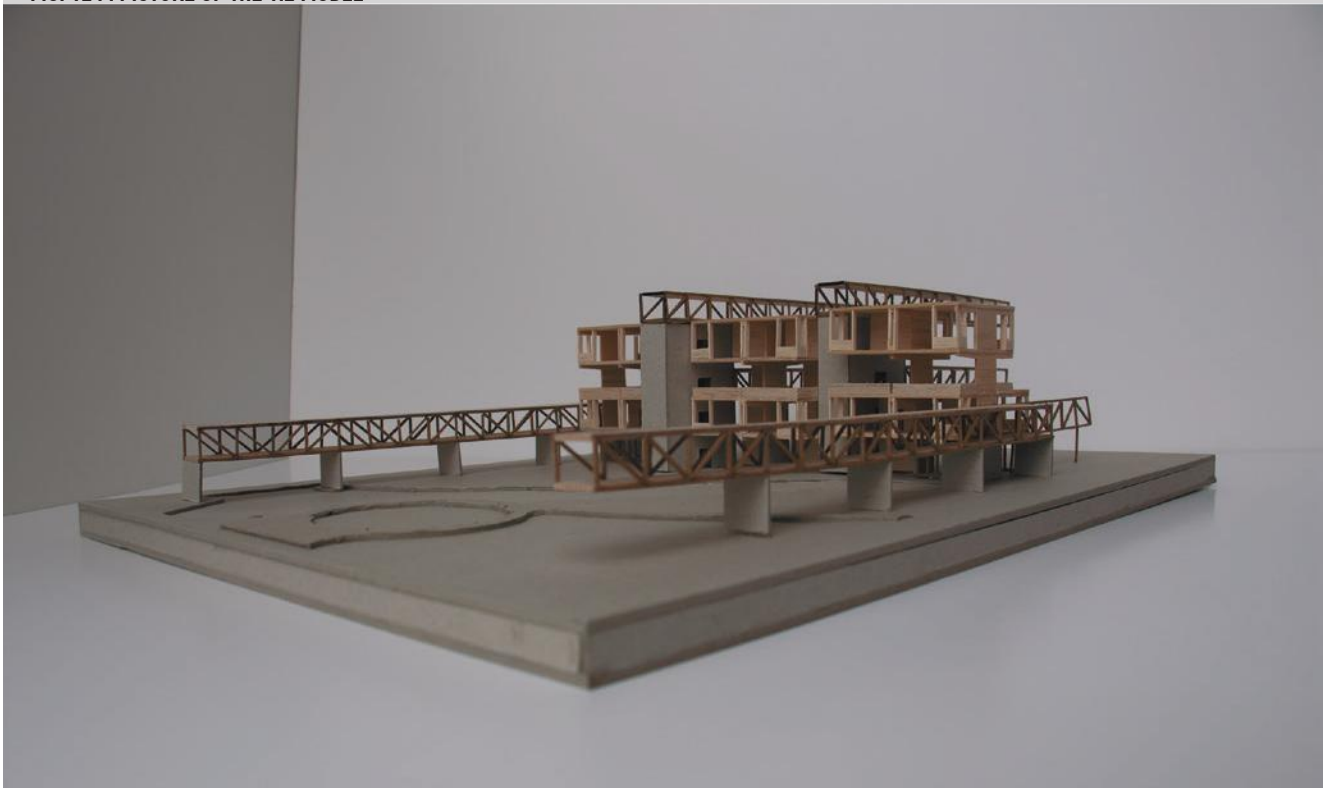


FIG. 121 : PICTURE OF THE CONTEXT MODEL

FIG. 122 : PICTURE OF THE CONTEXT MODEL

FIG. 123 : PICTURE OF THE 1:200 MODEL

FIG. 124 : PICTURE OF THE 1:2 MODEL



THE SECOND INTERVENTION : THE YMCA-SITE

FIG. 125: A NEW DEPTH CONFIGURATION FOR THE YMCA-SITE.

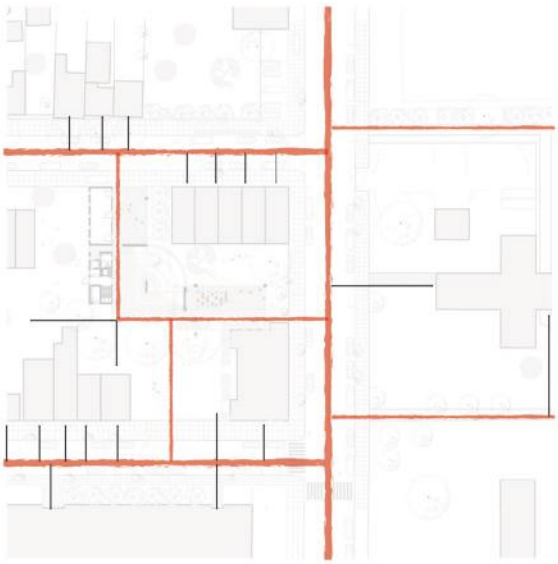
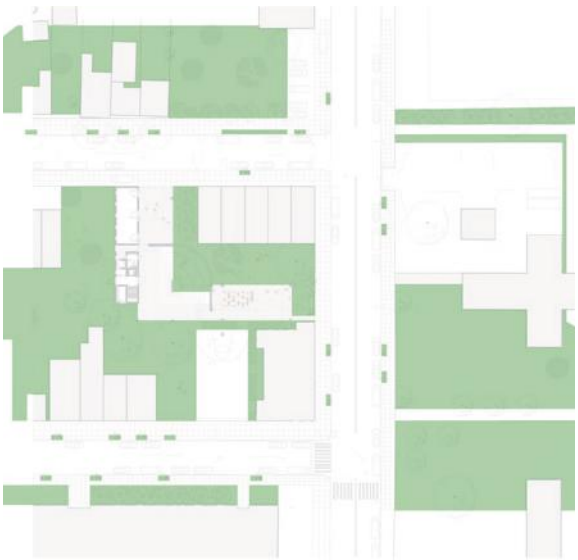


FIG. 126: A NEW OPEN SPACE CONFIGURATION FOR THE YMCA-SITE.

FIG. 127: A NEW NATURAL PERMEABILITY FOR THE YMCA-SITE.



Also the YMCA-site represents different pivotal scale and fringe conditions to be dealed with.
In its own identity, the interval space could be an interstitial mediator but nowadays it acts more like an empty, fenced and passive vacant property feeling the spatial tension between its five enclosing volumes. None of this volumes make use of this space nowadays, although the former YMCA-building occupies part of it at the back at times as a small parking facility and improvised childcare playground. The low and linear building enclosing the site at the back is even totally decayed and should be either demolished or rebuild to anticipate unsafe behaviour.
The proximity of the NYCHA West Houses with its low-wage worker community and the fringe with other communities implies more tensions of a social nature at the site. But also architecturally, the 14-story high social housing overshadows this empty void and the surrounding lower residences. Nevertheless, making space here more permeable and collective and facilitating communal activities demanded by the neighbourhood through Community Board 6 (Appendix A) at this spot, will reconnect the communities and cope with their risk for conflicts.

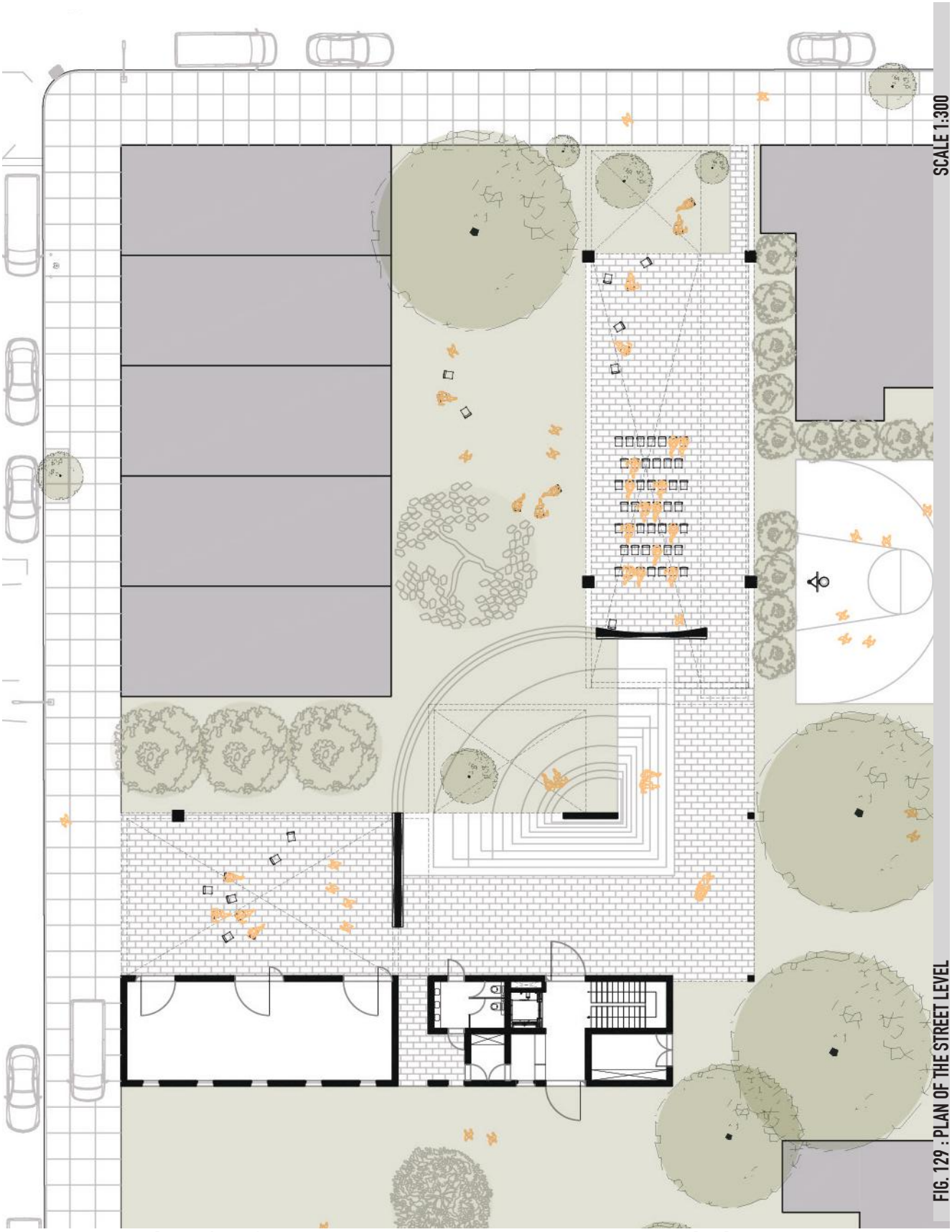
As proposed in the urban strategy and the scenario for the YMCA-site, the aim of the architectural intervention here is to enhance the social and communal identity of the site by removing the existing fences in the first place. High levels of collectivity are obtained since the interval opens towards the NYCHA housing and Richards Street to the east, towards the Patrick F. Daly School (P.S.15) to the south and towards other residences and backyards to the north and to the west. The interval space will become a collective pocket park, partially sheltered by hovering structures above the base flood elevation at Richards and King Street. These structures can be used to lower, lift up, hang and/or store certain objects as needed at certain moments, just like the theater above the stage. Interior space will be housed in the rebuild low and linear volume in the back and in an elevated volume (above the BFE as well) subtly lurking behind those hovering structures.
Except for the covered spaces, all the other surfaces will be kept permeable and pervious and with maintained greenery to recall the atmosphere of a garden or backyard.

DEPTH, OPEN SPACE & PERMEABILITY

The architectural intervention is initiated by adjustments to the existing fabric and landscape at the level of the street. The interval space is freed from any spatial delimitation, while a small undulation in the terrain is raised to support an elevated structure above and to become a real slope for seating and overlooking the gardenlike space. The needed additional earth can be brought from the adjacent Coffey Park or the first site where Koeties Kill creek is being digged. The low, linear volume in the back will be rebuild with different new openings to access a series of interior spaces, passages through and to access the floating volume above via a staircase up. The footprint of the architectural intervention is further limited to five concrete columns, a structural wall and a projection wall on the site. The presence of the hovering structures, reaching even two of the three surrounding streets, invite local stakeholders and passants into the interval space by suggesting that there is more inside and lead people in the interval through the series of rooms and towards the other streets and communities.

The architectural intervention increases the depth by making the lot fully permeable and collective, providing accesses and spatial transitions from all orthogonal directions. In this way, an overlap is established in the interval space which becomes together with the surrounding streetscapes much more dynamic. It proposes the surrounding residences to partially open up their backyards as well, although this is not a crucial change to make the interval on itself work.
The open space is continuous throughout the interval and is rather shaped vertically in section by the series of exterior rooms with their different height perceptions.
In terms of natural permeability, majority of the site is not sealed and permeable. Only underneath the hovering and elevated structures there is a pavement to facilitate certain activities and gathering communities. However, this layer can still be a semi-permeable pattern such as the historic Belgian Blocks. The rainwater collected from the sheltering canopies runs directly off to the pervious soils of the interval space. The roof of the floating volume above the slope collects rainwater for a rainwater harvesting system connected with its toilets.
The roof of the rebuild longitudinal volume is constructed as a green roof to still limit run-off to pervious clay soils.

FIG. 128 : PLAN OF THE STREET LEVEL, INCLUDING CONTEXT (RESCALED)



SCALE 1:300

FIG. 129 : PLAN OF THE STREET LEVEL

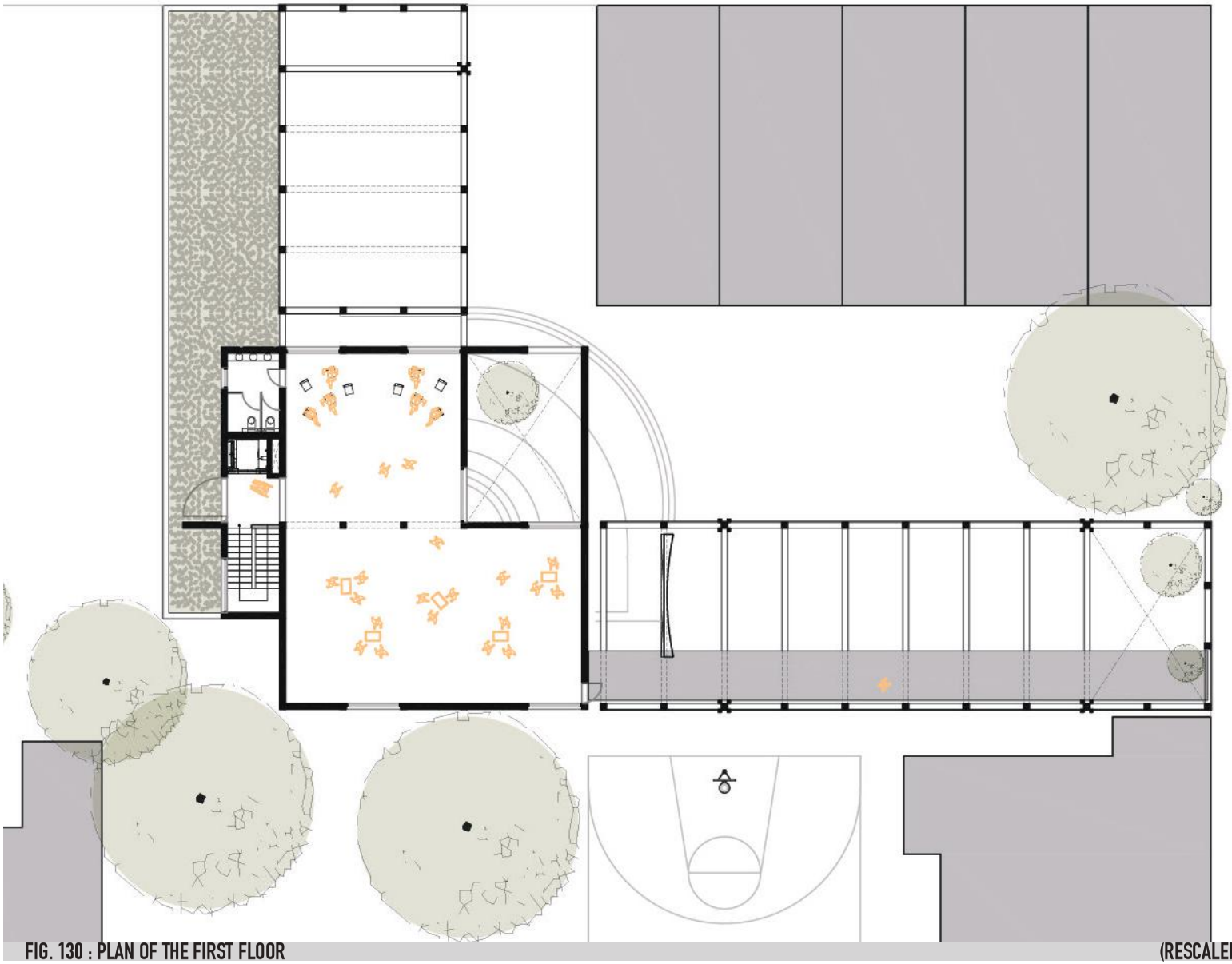


FIG. 130 : PLAN OF THE FIRST FLOOR (RESCALED)

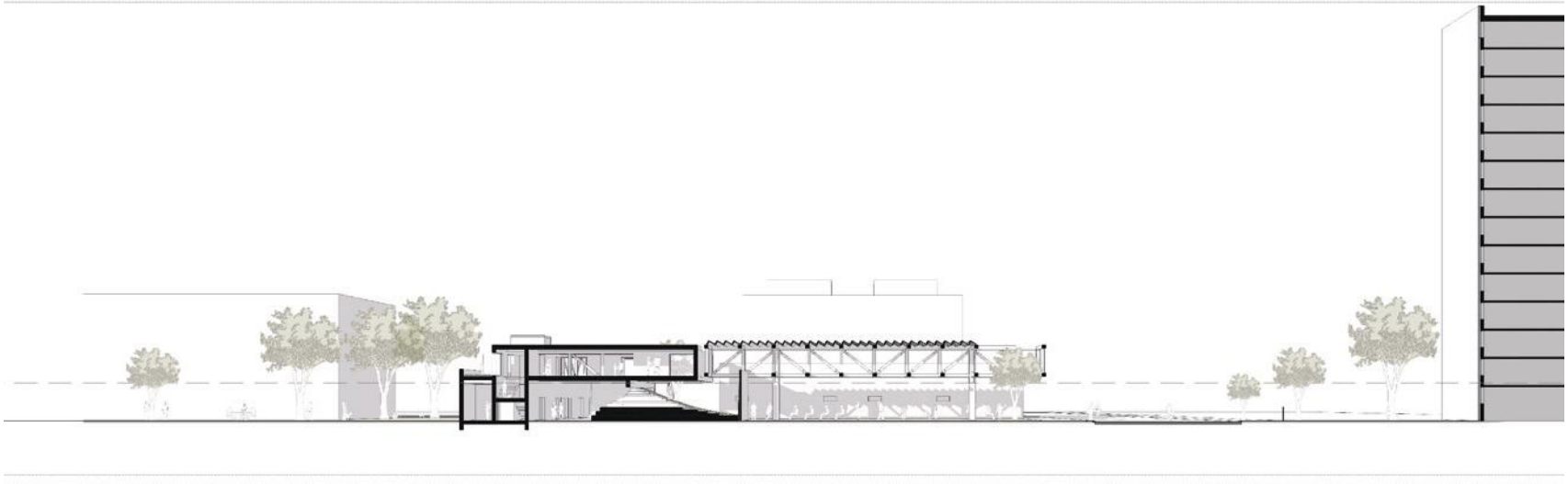


FIG. 131 : COMPLETE SECTION THROUGH THE YMCA-SITE (RESCALED)

FIG. 132 : SECTION THROUGH THE YMCA-SITE – THE REBUILD AND THE FLOATING VOLUME SCALE 1:200

FIG. 133 : SECTION THROUGH THE YMCA-SITE – THE SLOPING TERRAIN AND THE THEATERLIKE STRUCTURE SCALE 1:200

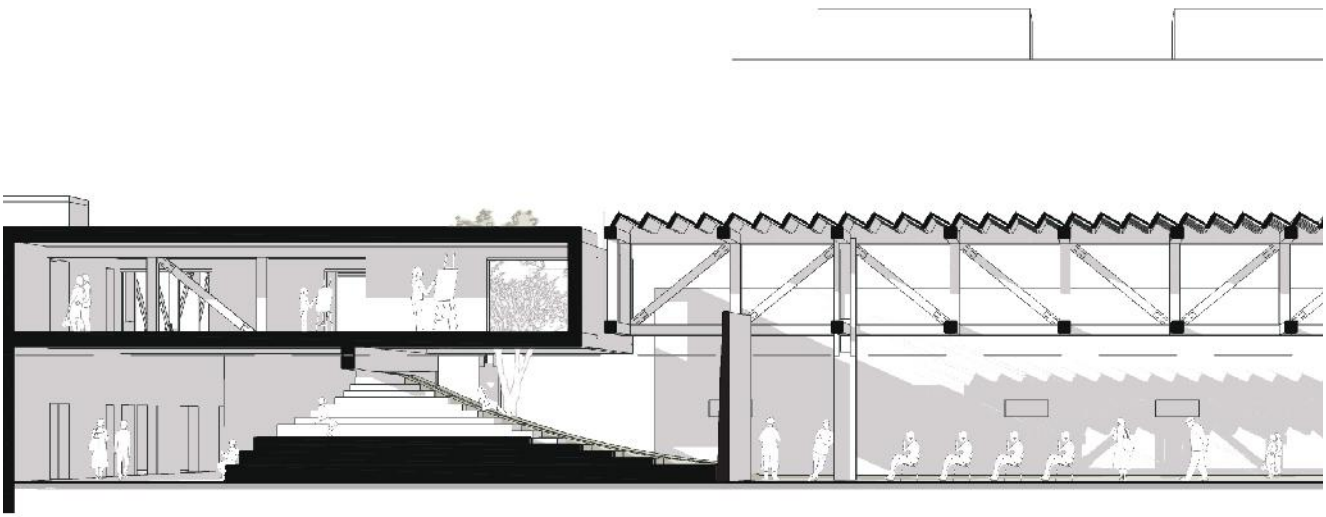
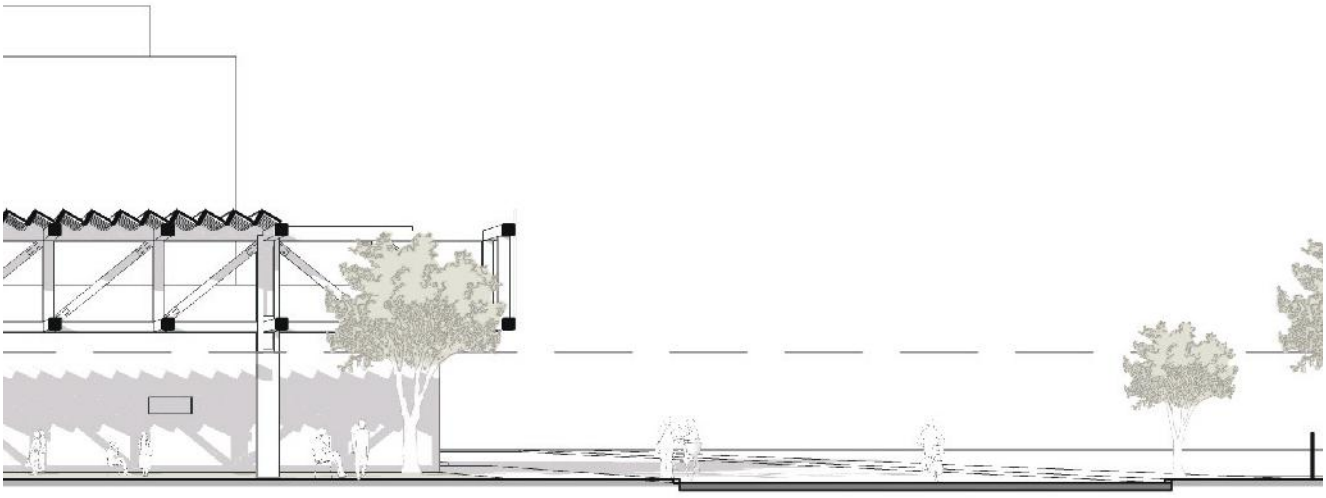


FIG. 134 : SECTION THROUGH THE YMCA-SITE – THE FRONT GARDEN AND RELATION TO RICHARDS STREET SCALE 1:200



A SUCCESSION OF SPACES (PROGRAM)

The architectural intervention for the YMCA-site is not designed around a certain program. No space or room, except for the mediatory devices like vertical circulation and public toilets, is really defined. The design works with a series of suggestive spaces and a high level of flexibility and copes in this way with the risks of flooding. It does not want to take away activity from the streetscapes because that is the place where communal interaction happens, but therefore, it can only accept the events of flooding.
At the other hand, it obviously want to protect the objects and things needed to really activate. Therefore, the hovering canopies are designed with a certain extra height to accomodate elevated room for storage of this objects as the architecture were a cut-out theater that will lift up and lower the demanded attributes.
The width of the hovering structures is nine meters, which search a relation with the facing facade of the NYCHA housing at Richards Street. Entering underneath the hovering structure from there, the community arrives first in a space that appeals like a front garden where the existing vegetation was kept. The hovering structure does not provide a roof there and the soil is pervious. Passing by the first two supporting columns for the hovering structure, a roof and pavement is provided. A massive concrete wall at the other end of the hovering structure suggests to be used for projections and charges the space under the canopy with the potential to become a lecture hall, performance space or theater. Institutions such as Community Board 6, collectives or just individual originators could organize events and debates here whether or not concerning the neighbourhood. Behind the wall, the end of the hovering structure almost touches the other elevated volume. The latter is partially supported by a sloping terrain which has a stepped design underneath that elevated volume and a natural slope towards the uncovered garden spaces. The space underneath the elevated volume is more intimate since it is half the height of the previous "rooms" and because the ceiling and the upgoing terrain creates a certain tension. This exterior room will probably attract individuals rather than large groups and can facilitate more quiet activities such as the demanded remote library hubs at times. From this place, one can overlook a larger open space at the southern part of the interval space which can be used as a playground by the childcare service, the Patrick F. Daly school and/or for after-school and summer youth activities. The hovering structure at King Street covers a smaller space that is further enclosed by primary structures: a column, a structural wall -dividing this space also from the room with the sloping terrain - and the rebuild volume in the back. This space appears like an extension of the interior space of the rebuild volume. The double room provides space for a youth club once located here, for street dance or for similar demanded activities related to Red Hooks youth and communities.
The rest of the rebuild volume houses mediatory spaces like public toilets, a local info desk, a staircase and elevator and a storage space that can function as a garden shed for neighbouring residents.
The upper interior space within the elevated volume is solely defined by its enclosing walls and its structure which visually divides the space into two interconnected rooms. This interior can host as well a wide range of activities in the case of colder weather or for the artist community for example who often asks for more conditioned light.

STRUCTURAL DESIGN

The materials used for the architectural intervention are concrete and cross laminated timber (CLT). Again, the use of concrete is limited to foundation structures untill a certain height above the base flood elevation. This implicates that the rebuild volume should also mainly be rebuild using concrete. To refer to the existing architecture and structure however, also masonry could be used. The other concrete elements are mainly columns and two walls (one structural and one non-structural) untill a height of about 3,5 meter that will support the hovering structures.
Above the base flood elevation, cross laminated timber is used for primary and secondary structures. The hovering structures consist of interconnected Pratt-like trusses with crossbracing, all in wood, except for the steel connectors.
The CLT-structure of the floating volume will be supported by the walls of the rebuild volume and a concrete beam superimposed on the sloping terrain and the structural wall. Also here, the CLT-structure consists of similar trusses. The secondary structure of floors and roof and the wallmaking elements are L7s-2 CLT-panels with mainly a width of 295cm and a thickness ranging from 60mm for walls and 220mm for floor-making elements. A part of the rebuild volume works as a concrete core to which the CLT-trusses are attached.

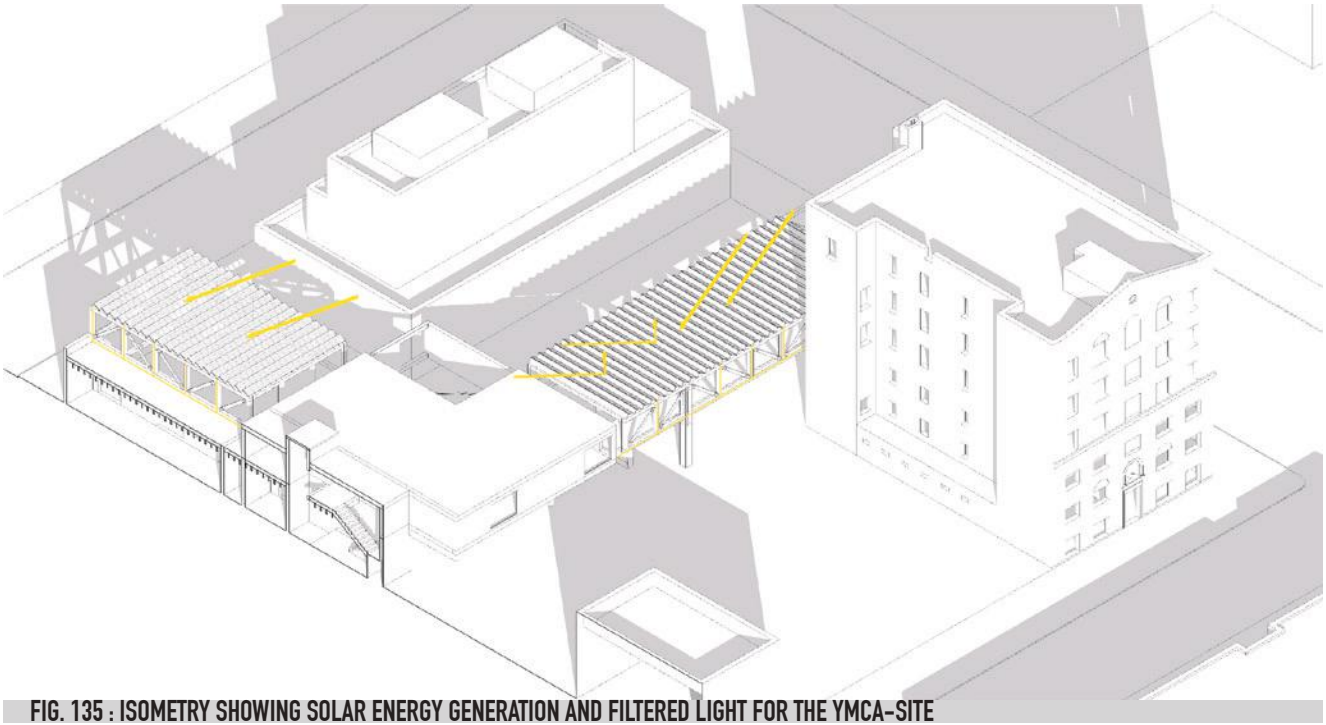
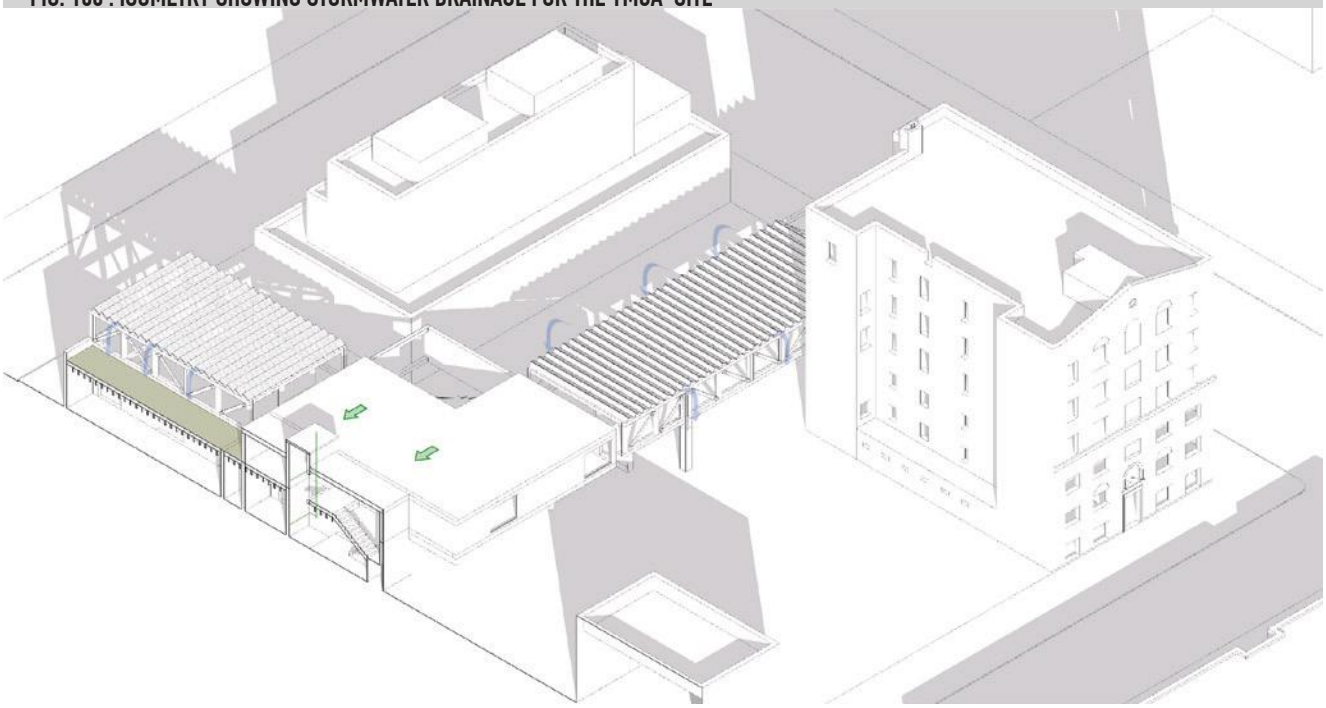


FIG. 135 : ISOMETRY SHOWING SOLAR ENERGY GENERATION AND FILTERED LIGHT FOR THE YMCA-SITE

FIG. 136 : ISOMETRY SHOWING STORMWATER DRAINAGE FOR THE YMCA-SITE



ZERO IMPACT BUILDING INTEGRATION

Remarkable for this architectural intervention is not the ventilation (since most of the spaces are sheltered outdoor spaces), but the generation of energy. The roof of the hovering structures appears as a shed roof that consists of solar glass panels and inclined CLT-beams, kept in place by other CLT-structures at the sides. This shed roof can filter or block the light depending from the location of the sun and generates electricity in the meanwhile. This electricity can be used for the activities that the intervention itself facilitates or can be shared with the neighbourhood buildings through the microgrid that Community Board 6 and other institutions are proposing.

Also in terms of stormwater drainage, zero impact building was integrated into the design. The roof of the floating volume will mainly collect rainwater for its rainwater harvesting system which is connected to the (public) toilets in the building.
Rainwater collected by the shed roofs of the hovering structures will run off to the pervious soils of the interval space and to the green roof of the rebuild longitudinal volume.

DETAIL & CONSTRUCTION

The architectural intervention can be constructed in different phases starting with adjustments to the existing fabric and landscape and with the concrete structures, representing the buildings foundation. In the first place, the longitudinal volume at the back of the site will be rebuild and the supporting columns and walls will be poured. To have all the concrete works within the initial phase, also the non-structural projection wall can be poured in place. If the community wishes to have an even quicker building process, these concrete elements could be prefabricated. However the foundation works are still dependent of the drying process of concrete. While the concrete have been drying, additional soil can be brought to the site from Coffey Park to shape the slope.
After this first phase, the prefabricated CLT trusses, beams and panels for floors, roofs and walls are brought to the site.
The hovering truss canopies are constructed, lifted and attached on top of the foreseen concrete supports (mainly the columns). Also the floating volume is constructed. The advantage of the site is that there is access from three streets to supply materials and to enter the site with trucks and bobcats. The use of a crane can be probably avoided due to the limited height of the architectural intervention.
During the final phase, all floor, wall and roof finishes and carpentry, including the window details, will be done by the contractors.

The selected detail cuts twice through the floating volume at the place where also the primary concrete beam is supported by the sloping terrain. In this way, it cuts also through the different structural layers: a massive primary concrete beam, one of the CLT trusses perpendicularly on top and the CLT floors attached to the primary CLT trusses by typical steel L-connectors. The floor, wall and roof packages and finishes are analogue to those of the .R-site.
Furthermore, the detail shows the atmosphere with the sloping terrain which appeals natural at one side and stepped at the other sides.
In the interior, it shows how the CLT truss becomes visible at the very core of that room and reveals and suggest how the structure of that floating volume really works.

FIG. 137 : ISOMETRIC DETAIL SHOWING STRUCTURE FOR THE FLOATING VOLUME OF THE YMCA-SITE

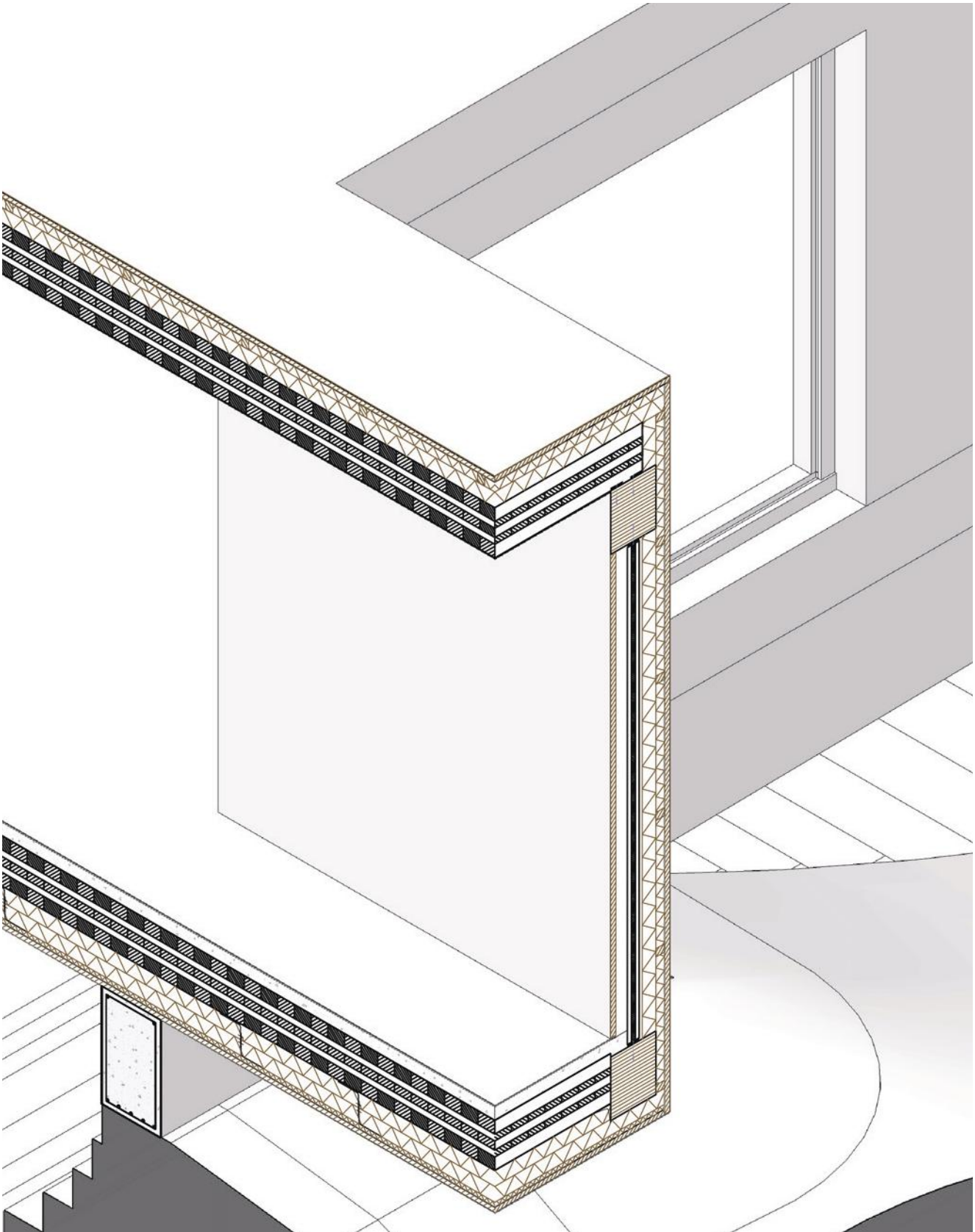


FIG. 138 : ISOMETRIC DETAIL SHOWING STRUCTURE FOR THE FLOATING VOLUME OF THE YMCA-SITE SCALE 1:20

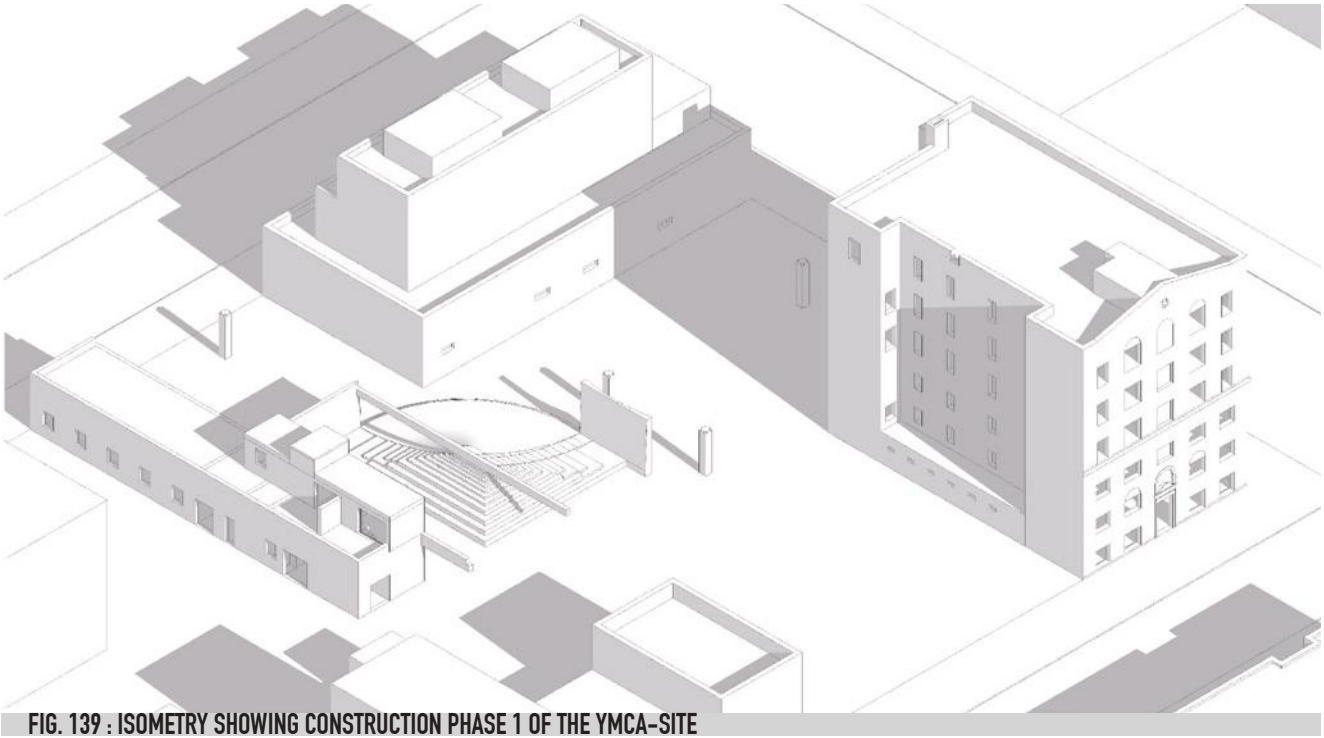
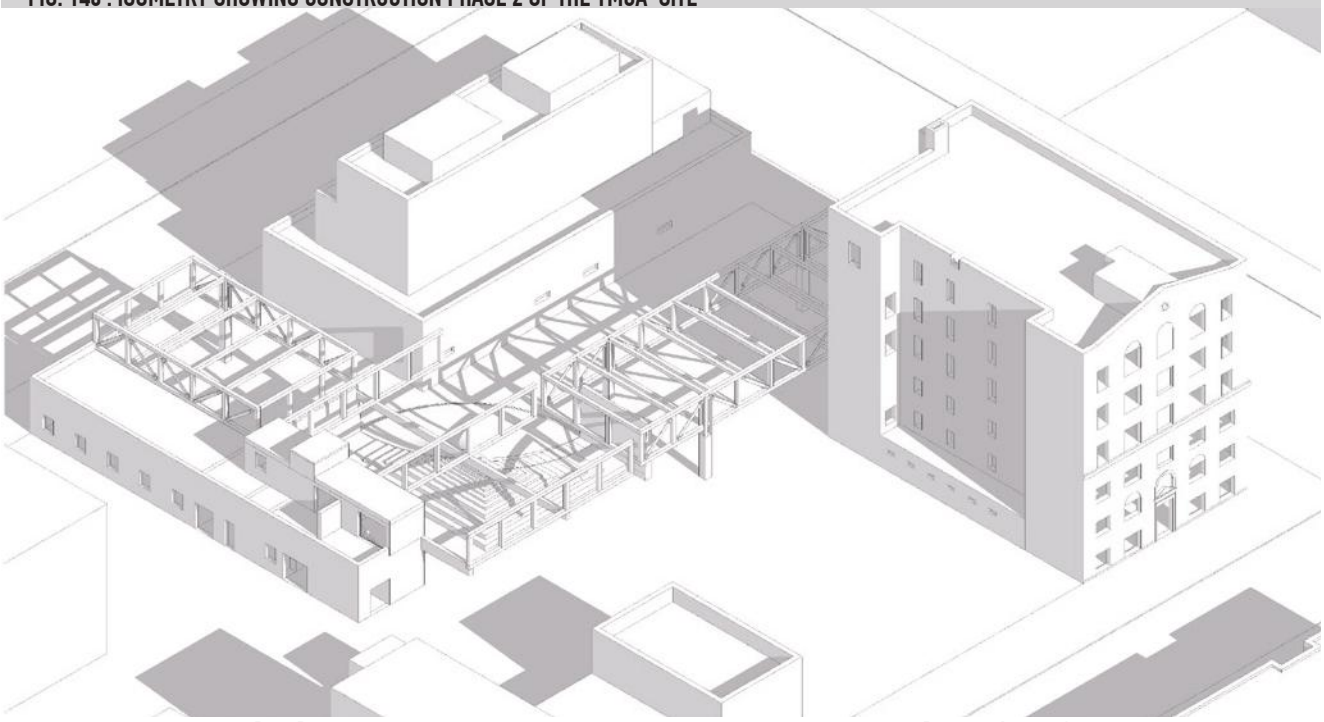


FIG. 139 : ISOMETRY SHOWING CONSTRUCTION PHASE 1 OF THE YMCA-SITE

FIG. 140 : ISOMETRY SHOWING CONSTRUCTION PHASE 2 OF THE YMCA-SITE



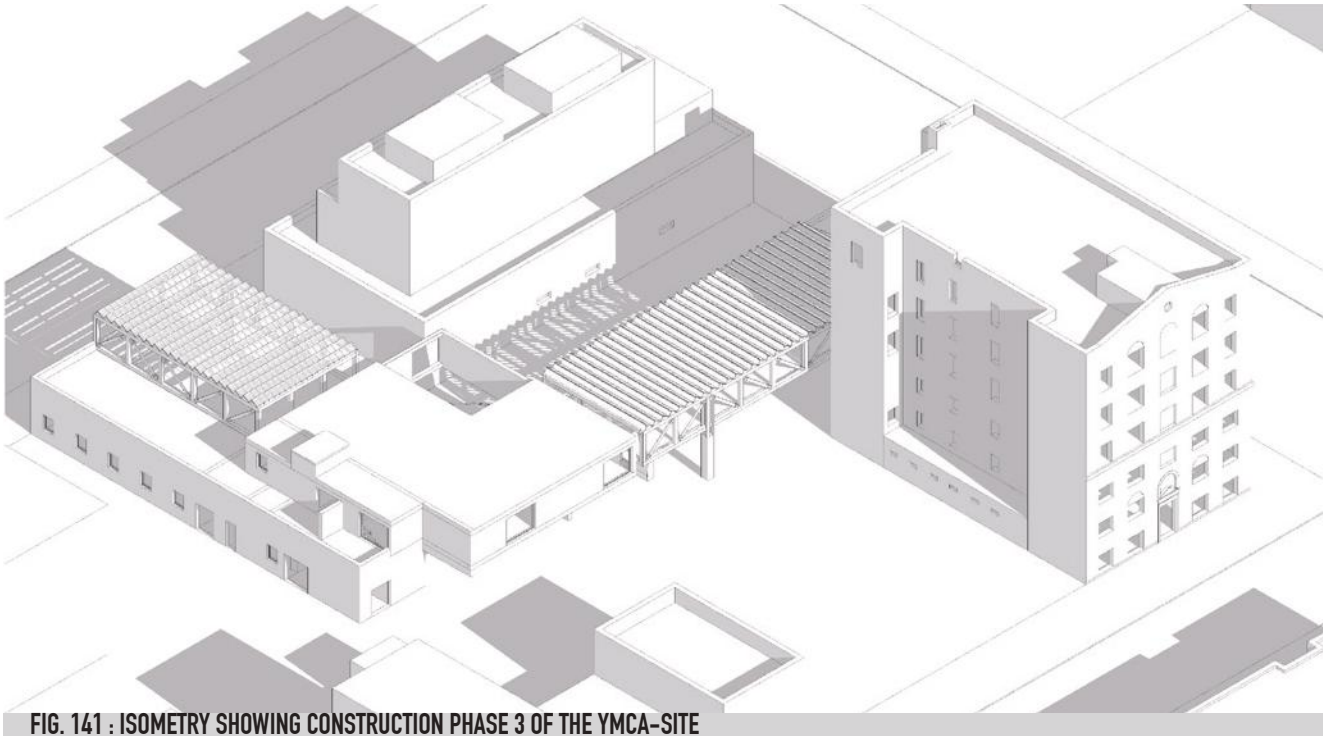


FIG. 141 : ISOMETRY SHOWING CONSTRUCTION PHASE 3 OF THE YMCA-SITE

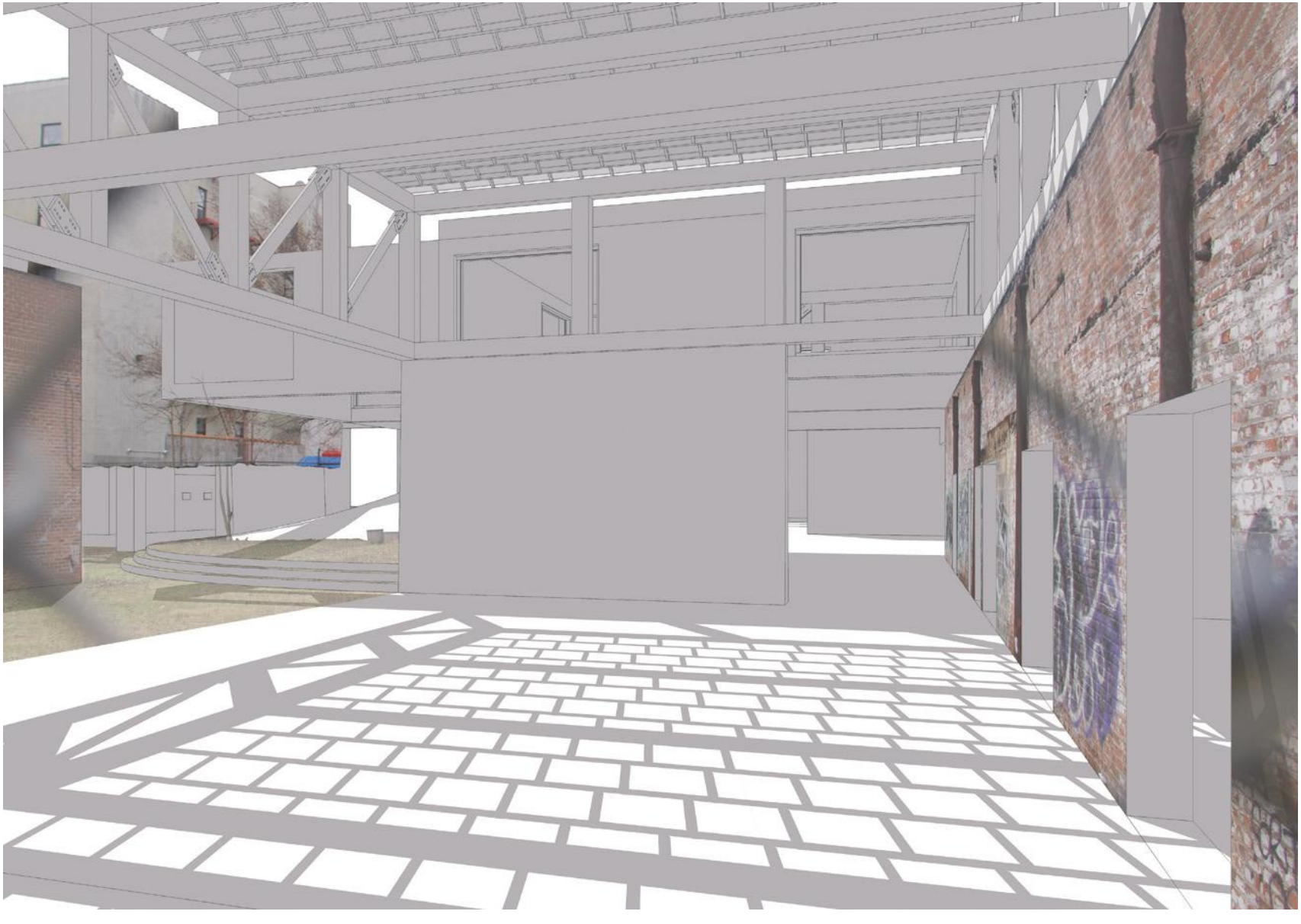


FIG. 142 : STREETVIEW AS BEFORE-AFTER COLLAGE - VIEW FROM KING STREET (1)

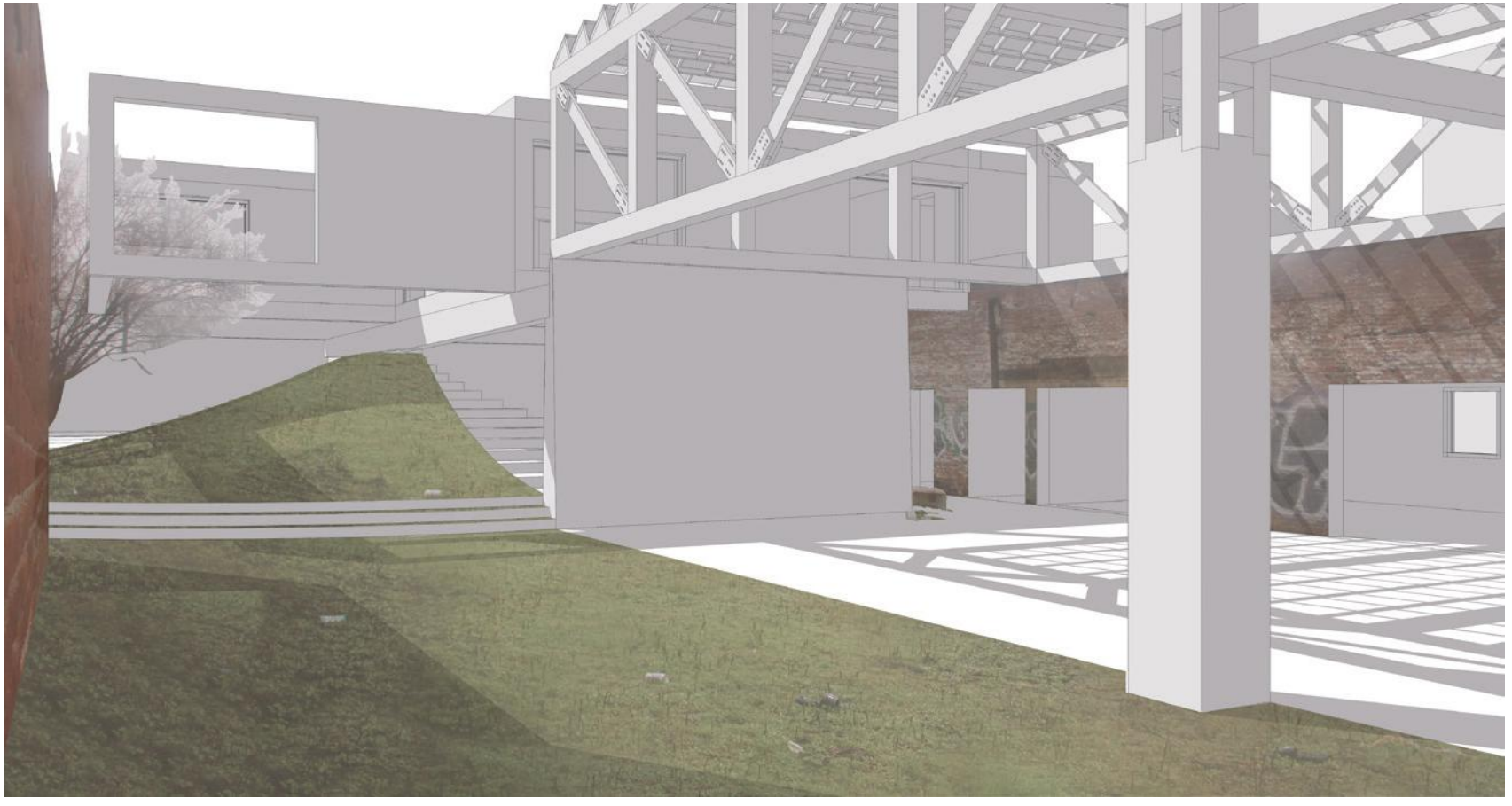


FIG. 143 : STREETVIEW AS BEFORE-AFTER COLLAGE - VIEW FROM KING STREET (2)

FIG. 144 : STREETVIEW AS BEFORE-AFTER COLLAGE - VIEW FROM SULLIVAN STREET

FIG. 145 : STREETVIEW AS BEFORE-AFTER COLLAGE - VIEW FROM RICHARDS STREET

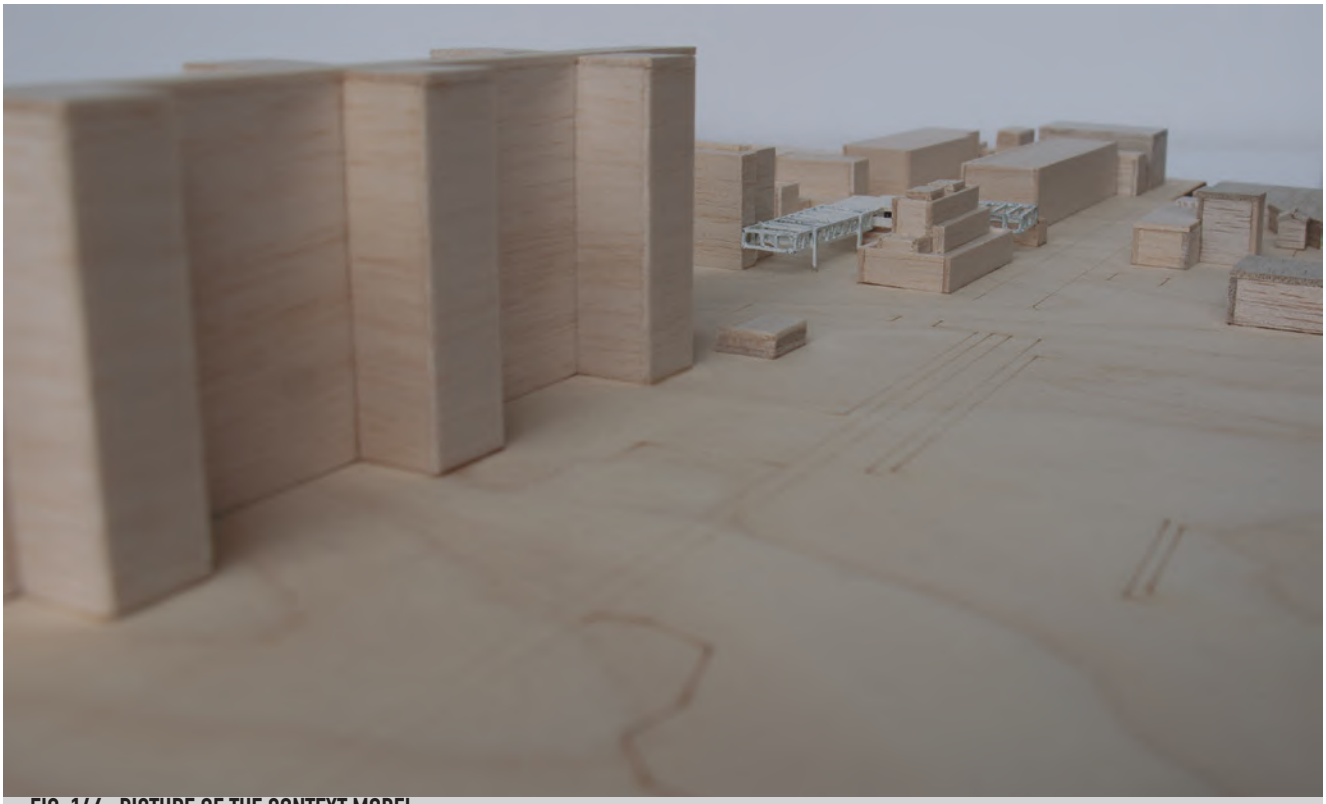


FIG. 146 : PICTURE OF THE CONTEXT MODEL

FIG. 147 : PICTURE OF THE CONTEXT MODEL

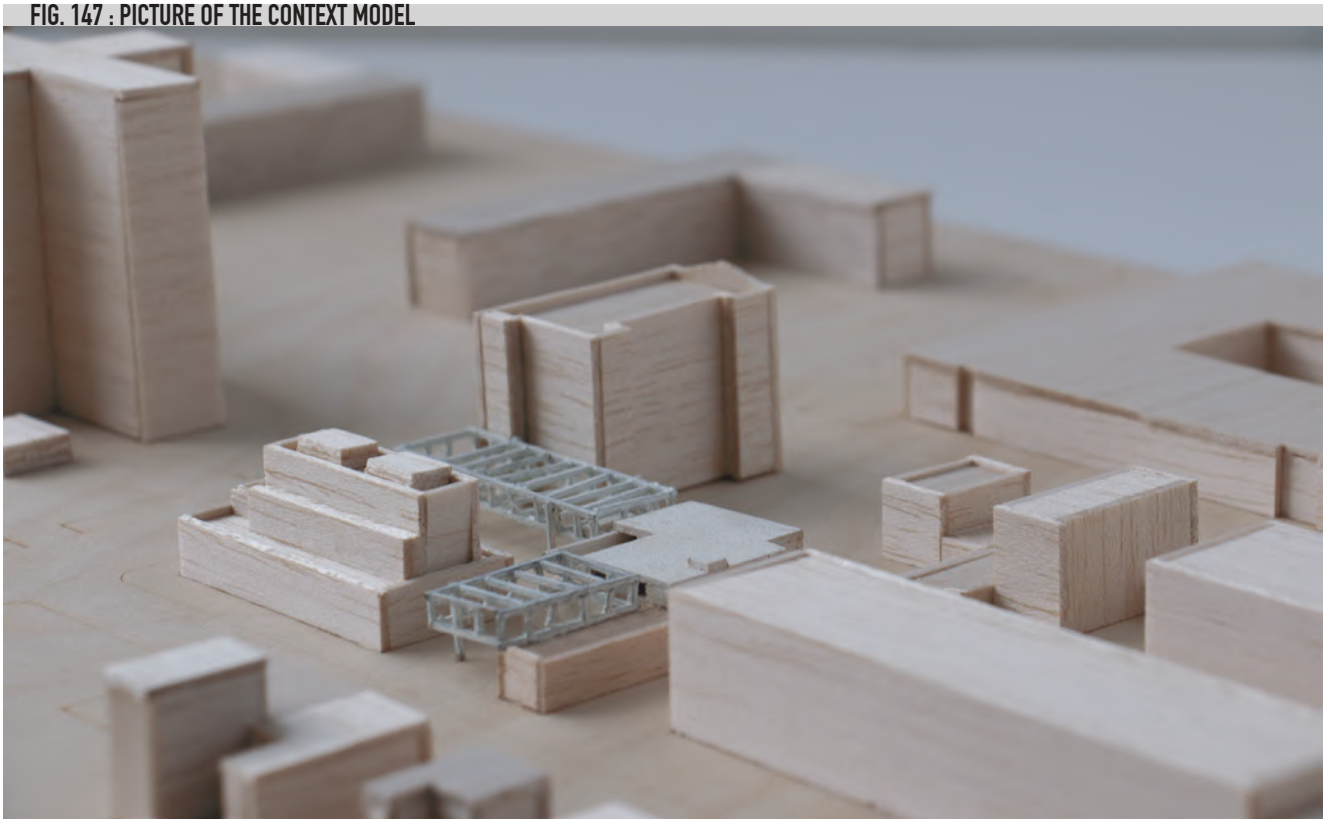
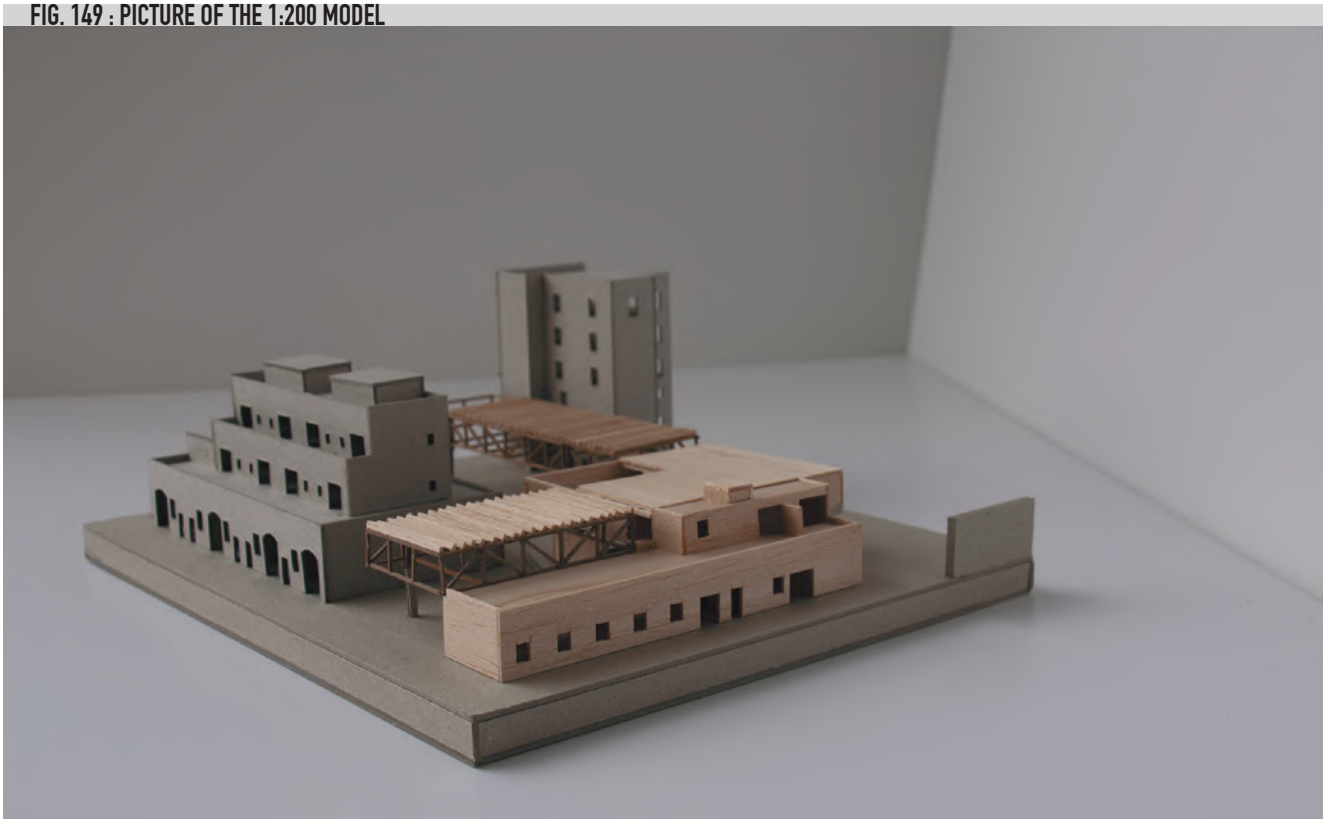
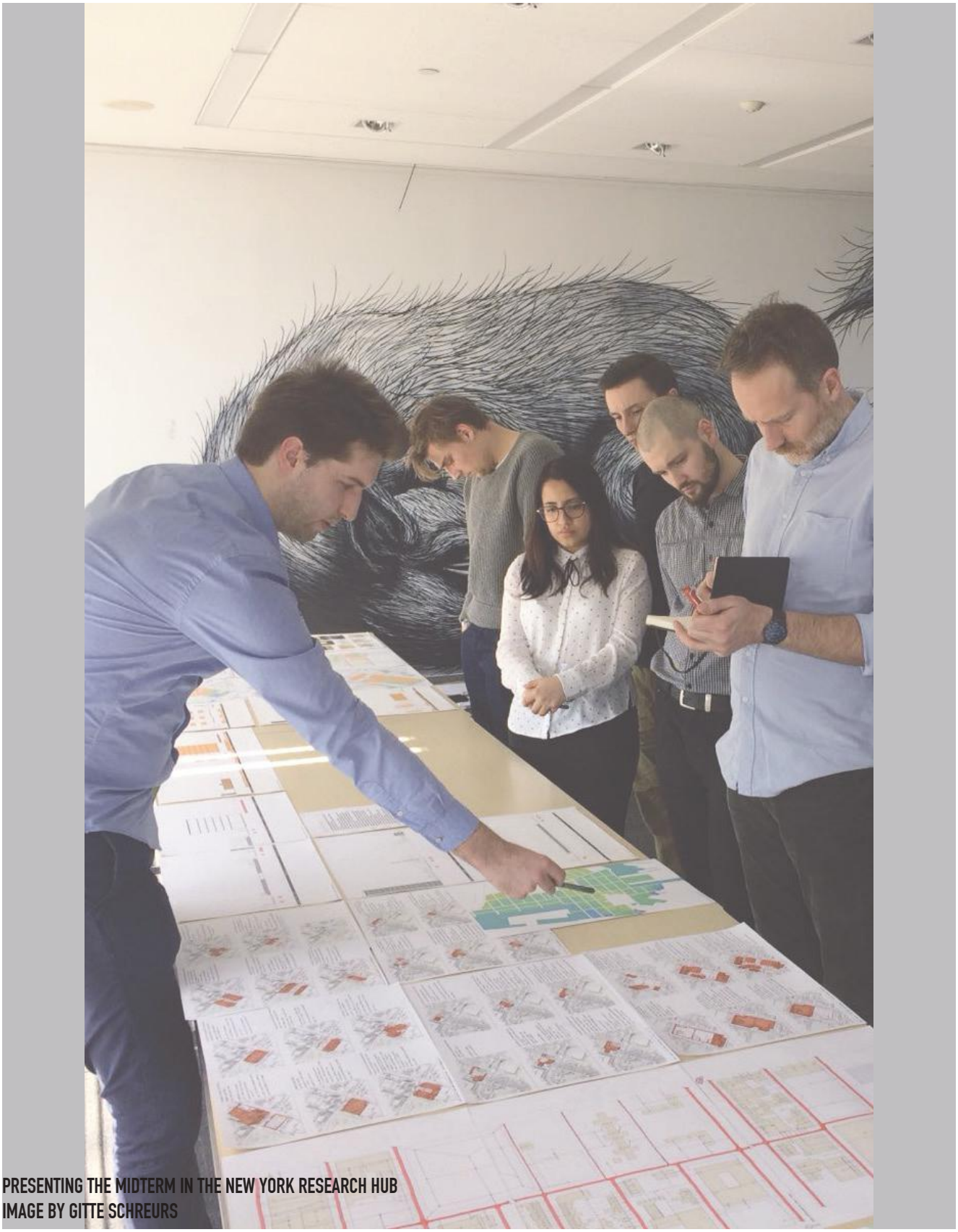


FIG. 148 : PICTURE OF THE 1:200 MODEL

FIG. 149 : PICTURE OF THE 1:200 MODEL





PRESENTING THE MIDTERM IN THE NEW YORK RESEARCH HUB
IMAGE BY GITTE SCHREURS

06
CONCLUSIONS & REFLECTIONS

The greatest enrichment of this autonomous master dissertation comes from the confluence of personal inspirations, researches mainly resulting from and filtered through the fact of being on site and a design process leading to well-founded architectural interventions.
Initially and as noted down at the start of this reflection paper, I had chosen the dissertation framework of streetscape territories out of a personal fascination for interval spaces and the intermediate scale. With my longtime passion for architecture, I am inspired by these processes and spatial transitions occurring at the level of the street that creates moments of awareness and allows dissimilar things and people to coexist. Travelling - consciously being at the places, being in other cultures - has always enriched my mindset.

Also during this whole dissertation process, being twice in a year on site in Red Hook and New York for about two weeks each time spurred me to make important decisions and big steps for the project and nourished my enthousiasm. After an intense very first week of observations, conversations and debates there in November 2017, the site preference and the conceptual framework were already drafted. I am also very thankfull that we as dissertation students could be part of new ambitions that officially started up in November by opening the New York Research Hub. I was left inspired and returned home with a lot of questions as well. In March 2018 we went back to New York with all these inspirations and questions translated into mappings and proposals for the midterm evaluation. But more importantly, we were back there on site for fact checking and feasibility, and to experience in how far the site would have changed already. This treshold brought me directly to the design development of my proposals and in seemingly rapid acceleration to the moment up to now, writing the conclusions and reflections.

Weekly gathering with the other students of the studio for full day work sessions allowed us to learn from eachother and learn from people that were working on different sites or different frameworks. The studio set-up taught me the efficient working methods of parallel packages and (obsessed) detailed mappings such as depth configurations, open space configurations and streetscape activity sections.
These media really pushes designers and architects to go deeper in understanding the interrelations between streetscape territories - how certain use of space and certain adjacencies are accepted - and let him arrive at formulating scenarios and urban strategies.

The case of Red Hook with its all American context and environment gave me the opportunity to research and intervene outside the Flemish landscapes and urban fabrics. Nevertheless, more enriching was to work on Red Hooks identity as an industrial-residential neighbourhood with a mixed community, a long history of decay and disinvestment and a possible revival nowadays with all the inherent risks for the effects of both residential and industrial gentrification.
Gentrification is a well-known and well-experienced phenomena in the neighbourhoods surrounding the metropolis of New York City. Working on one of the last areas that did not have this enormous transformations yet means also working with contradictory feelings, tensions and skepticism in the mind of some local stakeholders. However, interventions contributing to the neighbourhood itself are enthusiastically welcomed. And this is what this dissertation studio and project was all about.
Furthermore, I will take this Red Hook research and design process with me further on as a glocal case study for urban fabrics with coexisting residential and industrial structures. Internationally, architects and urban planners recently picked up the debate again and are pleading for the proximity of home-work, creating productive landscapes. These intentions and challenges were also part of this personal process, especially for the first architectural intervention that aims to enhance the socio-economic structures.

Red Hooks floodprone conditions inevitably demanded to rethink its resilience and sustainability aspects.
My urban strategy for the neighbourhood tries to learn from history and natural resources. The decision to restore one of the preindustrial creeks together with its pervious marshes is not at all a mere aesthetical choice. It is based on how the landscape used to drain stormwater to the bigger waters and to the soils and on efficient primitive agricultural techniques applied once by the Dutch pioneers.
The strategy accepts that there is no way to completely solve the flooding issues (such as a continuous flood wall) and focuses rather on the rebound of the neighbourhood, the resilience. The focus on interval spaces starts from a strong belief that these often neglected spaces can make the difference. Reactivation will mean sanitation for example, so floodwaters will be less polluted and polluting the rest of the area. But the interval is also way more about allowing dissimilar things to coexist: a mediator for adjacencies.
The urban strategy emphasizes the importance of maintaining the light-industrial zones since they will be important for local employment and well-being. Crucial is to reconnect residents with the economy. The first architectural intervention provides spaces and structures to facilitate this reconnection and interaction: a workforce development center for local education of demanded skills, collective workspaces, offices and a neighbourhood refectory and bar. Even more, the truss bridges connect different properties to encourage and ease interaction.
The intervention focuses also on social aspects and the quality of work. The importance of different kinds of work environments, the presence of greenery in the form of a garden as decompression zone, a space for mediation.

The other intervention focuses on sustainable communities and reduced inequalities. Again, the intervention is always initiated by making the intervals more permeable and upgrade them to collective spaces. At the YMCA-site the aim is to bring together different individuals and communities and to facilitate spaces for certain activities that will encourage them to gather (there). A basis for this scenario is the strong belief that the risk and fear for conflicts is solved by "avoiding and neglecting" but by confrontation and interaction. Nowadays, Red Hook has more fences than such communal facilities and the demanding proposals of Community Board 6 forms a long list.

Both interventions attempt to be examplary, each for a specific type of mediatory space without specifying the program too much.
Flexibility in (urban) architecture willl be really important in the next decades. The first site becomes an incubator for productivity, the other site a community incubator. Both interventions and the urban strategy incorporate at least following UN sustainability goals in their design:

(3) Good health and well-being,
(4) Quality education (be it as a workforce development and skills education),
(6) Clean water and sanitation,
(7) Affordable and clean energy,
(8) Decent work and economic growth,
(9) Industry, innovation and infrastructure,
(10) Reduced inequalities
(11) Sustainable cities and communities
(13) Climate action

THOUGHTFULL THANKING NOTE

First of all, I would like to thank my promotor and initiator of the Streetscape Territories research and design project, Kris Scheerlinck. The many lectures and debates he arranged both in New York and here in Ghent, his many valuable insights and discussions with him have helped me enriching my research and argumentation and helped me bringing my project to the the level where it is today.
I would also like to thank the teachers of KU LEUVEN who discussed with me the more detailed aspects of my research and intervention: Laurens Luyten and Hannes Van Damme.
Also during our New York visits we were guided and informed very well by people of several institutions and partnership, amongst others Deborah Gans and David Burney of Pratt Institute in Brooklyn. Special attention goes also to the people of the Flanders House who welcomed us several times and facilitated part of their office for the New York research hub.
I appreciate deeply all the insights, talks and information local stakeholders of Red Hook and Community Board 6 provided me and the people that accomodated us on site during those days.
Thank you to my parents and my family for supporting me every day during my years at the architecture faculty and for giving me the opportunity to become what I always wanted to be ever since I was a young boy.
A general, but sincere thank you to all my friends and fellow students for the many discussions, insights and interest in my projects.

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RESEARCH QUESTION — PERMEABLE INTERVAL SPACES

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FIGURE LIST

NOTE: Most of the images and mapping were taken and produced by myself, using on site pictures, notes and sketches or satellite imagery with streetview option (Google Earth & Bing maps). If not stated otherwise, other figures can be found under their related references in the reference list. Most of the historical imagery can be found on the databases of the New York & Brooklyn Public Library.

COVER IMAGE/ Shadows of wildly growing vegetation projected on a vacant building wall; own image & overlay mapping of fringes and proposed creek; own mapping.

FOREWORD IMAGE/ Mural between Red Hook and Smith 9th Street subway station; own image

CHAPTER 01 – RED HOOK

TITLE PAGE IMAGE Sattelite image showing Red Hook in a broader perspective; own mapping
FIG. 01/ Detail of the 1767 Ratzer map.
FIG. 02/ 1838 Proposal of Red Hook Building Company.
FIG. 03/ Engraving of W. H. Bartlett – Red Hook in the center.
FIG. 04/ 1877 Currier & Ives print – Industrial Red Hook.
FIG. 05/ Plan of the Atlantic Basin.
FIG. 06/ Grain elevators on a boat.
FIG. 07/ Grain elevators at the Atlantic Basin Docks.
FIG. 08/ Atlantic Basin & NY Dock Company.
FIG. 09/ Hamilton Avenue (for the people).
FIG. 10/ Construction of the Gowanus Expressway.
FIG. 11/ Brooklyn Daily Eagle (February 26, 1933): "Red Hook waste land (Henry Street) proposed as site for a housing project.
FIG. 12, 13 & 14/ The waste land, actually Orkenen Sur, the Norwegian Slab City in Red Hook.
FIG. 15 & 16/ The Red Hook East Buildings (1938 NYCHA Housing Project), in 1955 expanded by the West Buildings (not in picture).
FIG. 17/ The storm surge of hurricane Sandy hits Red Hook (October, 2012), image by Justin Lane.
FIG. 18/ Means to work, mapping by NY City Department of City Planning (Transportation Study).
FIG. 19/ Travel time to work, mapping by NY City Department of City Planning (Transportation Study).

CHAPTER 02 – CONCEPTUAL FRAMEWORK

TITLE PAGE IMAGES Multiple fences at Red Hooks NYCHA Housing; own image.
A former YMCA-Building: Heritage (?), Vacant and for lease as living or work space; own image.
An interruption in spatial delimitation providing access to a playground & wild vegetation; own image.
FIG. 20/ Open space along Richards Street; own mapping.
FIG. 21/ Open space without restrictions along Richards Street; own mapping.
FIG. 22/ Spatial delimitation (Fringe); own mapping.
FIG. 23/ Vacant buildings along Richards Street; own mapping.
FIG. 24/ Vacant unbuilt intervals along Richards Street; own mapping.

CHAPTER 03 — SITE SELECTION

CHAPTER 04 — URBAN STRATEGY

FIG. 69/ Natural permeability at site 3; own mapping.
FIG. 70/ Natural permeability: historical creeks, ponds & wetlands and water flow directions; own reproduced mapping from Proteus Gowanus (Available at: https://www.flickr.com/photos/51802375@N04/9758098064/).
FIG. 71/ Natural permeability: current water ponding risk and built footprints overlaying the historical landscape; own mapping.
FIG. 72/ Streetscape activities needing certain loadbearing & harder surfaces; own mapping.
FIG. 73/ Streetscape activities at site 1 (section); own mapping.
FIG. 74/ Streetscape activities at site 1 (section); own mapping.
FIG. 75/ Streetscape activities at site 2 (section); own mapping.
FIG. 76/ Streetscape activities at site 3 (section); own mapping.
FIG. 77/ Streetscape activities: Red Hooks Public Transportation; own mapping based on PT-maps.
FIG. 78/ Streetscape activities: Current and new truck routes and industrial streetscapes; own mapping. (Truck route mapping reproduced from NYC Department of City Planning (Transportation Study)
FIG. 79/ Scenario for site 1; own drawings.
FIG. 80/ Scenario for site 2: own drawings.
FIG. 81/ Scenarion for site 3; own drawings.
FIG. 82/ Scenario for site 1 (section); own drawing.
FIG. 83/ Scenario for site 1 (section); own drawing.
FIG. 84/ Scenario for site 2 (section); own drawing.
FIG. 85/ Scenario for site 3 (section); own drawing.
FIG. 86/ The urban strategy: restoration of Koeties Kill, permeable and semi-permeable spaces, own drawing.
FIG. 87/ Stormwater management in the street: Roombreek the Brook reference; SANTenCO.
FIG. 88/ Stormwater management in the street: restored Belgian blocks; own image.
FIG. 89/ Stormwater management in the street: Gowanus Street Creek reference; Ate Atema.
FIG. 90, 91 & 92/ Richards Street's existing shared garden, a pocket park controlled by the neighbouring residents; own images.

INTERMEZZO — ALTERNATIVE SPACE CONCEPTS

TITLE PAGE IMAGE A space for MA and interrelations between interior and exterior at Nikko Imperial Palace; own image.

CHAPTER 05 — DESIGN PROPOSALS

TITLE PAGE IMAGE The two architectural interventions in their context model; own image.

NOTE: All images and drawings in chapter 05 are created by Dries Delagaye.

APPENDIX A: LONG LIST OF PROGRAMMATIC ALTERNATIVES

- Break open impervious surfaces where possible (also streets?) for natural storm water drainage and sanitation of contaminated soils
- Plant greens for improving air quality & surroundings, creating shade, and reducing impact of wind & other green infrastructure such as bioswales, offline retention capacities, rain barrels… (reduce overflow events)
- Linkages between open space resources (and waterfront)
- Designated places for flooding, such as reconstructing a historical creek at Coffey Park
- Preservation of considerable landmarks and Belgian Block cobblestone streets
- Maintain sidewalks & eventually upgrade bus stops (shelter, directions, schedules)
- More frequent garbage (litter basket) or recycling pick-up (for schools/institutions)
- Regulate truck traffic routes (avoid residential blocks) & traffic calming measures
  (Radar speed signs > 25MPH limit, variable message boards, NYPD bicycle patrol…)
- Regular-fare and one-fare public transport services (bus, (historical) trolley line, metro)
  and/or free bus-subway transfers
- Visual, physical and recreational waterfront public access (continuous, inviting & safe)
- Replacement of the deteriorated and closed building with rest rooms at Coffey Park
  ("can be upscaled and upgraded to Community center by adding recreation rooms with safety mats and equipment, drinking fountains, day care center or senior center")
- Rehabilitation of NYPD PSA1 satellite building (80 Dwight Street)
- Play fields to promote day camp/after-school activities and (formation of) RH teams
- Covered and/or open space for local crafts markets
- Flexible space for diverse cultural events, such as Red Hook International Film Festival
  (reference: BMW Guggenheim Lab by Atelier Bow-wow)
- Community theatre or general purpose performance space
- Flexible space for (street) dance practice and events and other youth programs
- Satellite library hubs with reading programs
- Infill housing & contextual residential development on scattered vacant R5/6-lots
- Rehabilitation of (City-owned) buildings for affordable/rental housing units
  & Housing for special needs households (seniors, formerly homeless…)
- Reactivation of the Bethelship Seamen's branch building (YMCA) for limited time dwellings for visiting artists and seamen (containerships/cruises) (seasonal tourism)
- Encouragement of live-work opportunities (for the growing arts community)
- New senior center or facility for an aging population
- Center for (specialized) family health care services
- Child care services (ACS)
- Workshop spaces for job training, skills development (demanded by local industry) and other assisting programs (for local entrepreneurship) / Local economic utility
  = Red Hook Workforce Development Center
- Supportive structures for existing industrial buildings
  (f.e. elevators to bring goods up above flood risk level)
- Rail and Barge options for business districts (will reduce truck traffic)
- Large open plan buildings for light manufacturing (with storage) as contextual buffers
- Film and media support industries: set and stage design, stunt car modification…
  *same skills could be redeployed to meet architectural and interior needs:
  woodworking, furniture making, concrete and plaster casting…
- Large incubator space to bring many small start-ups "together under one roof"

- New maritime industry & (cult.) activities (small boat storage and repair, ferry stops…)
- Materials Recovery Facility: indoor storage for salvaged goods and reclaimed materials such as recyclable building components to reduce waste and prevent dumping on other sites (+ new skills and employment)
- Environmental education & programming to promote sustainability in areas such as composting, recycling, stormwater capture & reuse, green infrastructure and environmental stewardship
- Sanitation garages or other sanitation infrastructure
- Energy generation (rooftop activation) for self-sufficiency (during hazardous floods)
  Solar collection array > take advantage of open space and roofs (lack of shadow lines)
  (Emergency generators)
  (move technical rooms away from ground floors, especially in the large NYCHA-houses)
- Energy plant connected with a Red Hook Microgrid
- Tourism center (Red Hook Cruise Terminal)

! Ground floor levels are flood-prone, be aware with program !

APPENDIX B: RESEARCH PAPER PRODUCTIVE SIDEWALKS

SIDEWALK INC.

THE SOCIO-ECONOMIC IMPACT OF ADJACENT ACTIVITIES IN THE STREETSCAPES OF NEW YORK'S MIXED INDUSTRIAL - RESIDENTIAL NEIGHBOURHOODS.

Dries Delagaye, KU Leuven - Faculty of Architecture - Campus Ghent, Belgium

Abstract:

In the 19th century the sidewalks of New York were sung and praised as vibrant public spaces. Its industrial waterfront neighbourhoods, the so-called Walled Cities (SIMON, 2010), were criticized for lacking these pedestrian territories as stores occupied every square foot area up to the very street lines. Nowadays however, almost every activity but walking on the ubiquitous sidewalks has been governed by taxation regulations and designated Business Improvement Districts [1]. Nevertheless, the sidewalks are also informally controlled and claimed by abutting property occupants and other groups that recognize these collective spaces as providing a "platform for retail and industry to unfold itself, based on a high interaction with citizens" (VAN DAMME, 2016).

What is needed to sustain – or keep viable – this mixed identity of the streetscapes in industrial-residential neighbourhoods? How can the presence and adjacency of sidewalk activities incubate productivity in the city? Moreover, what is their social impact?
Within this research paper different cities with similar dynamics were compared.

Keywords: ***Productivity, Sidewalks, Informal economy, Collective Space***

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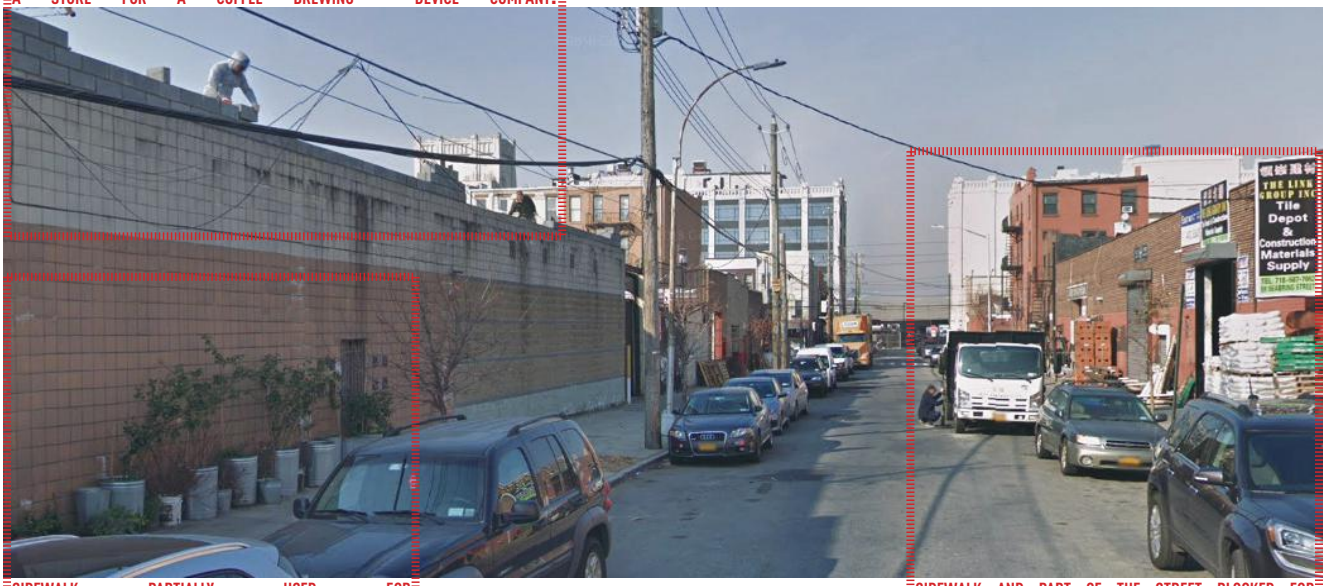
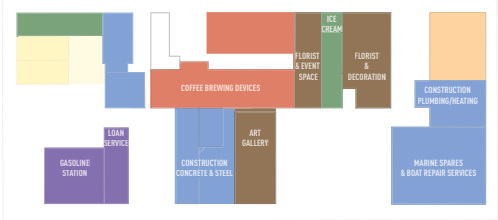
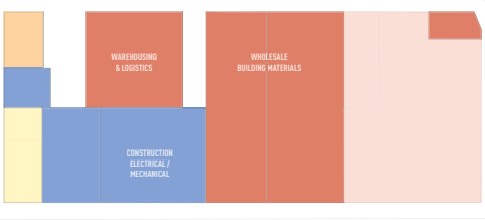
CONSTRUCTION WORKERS REBUILDING A STORE FOR A COFFEE BREWING DEVICE COMPANY.

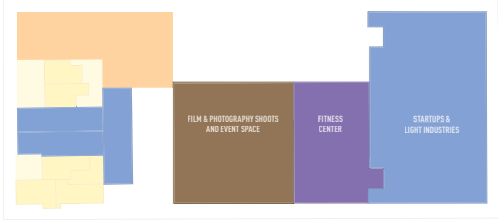


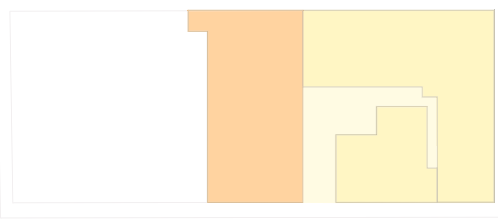
SIDEWALK PARTIALLY USED FOR EXHIBITING THE PLANTS OF THE LOCAL FLORIST.

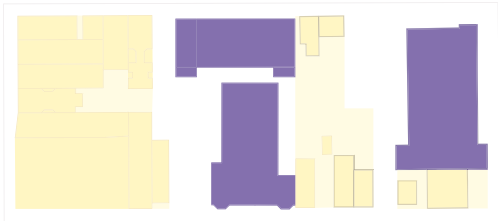
SIDEWALK AND PART OF THE STREET BLOCKED FOR LOADING AND UNLOADING OF CONSTRUCTION MATERIALS.











UP: INFORMAL STREETSCAPE ACTIVITIES AND ECONOMICAL VARIETY OF COMPLIMENTARY TENANTS IN COMMERCE STREET, RED HOOK, BROOKLYN (NY). (IMAGE: GOOGLE STREETVIEW)

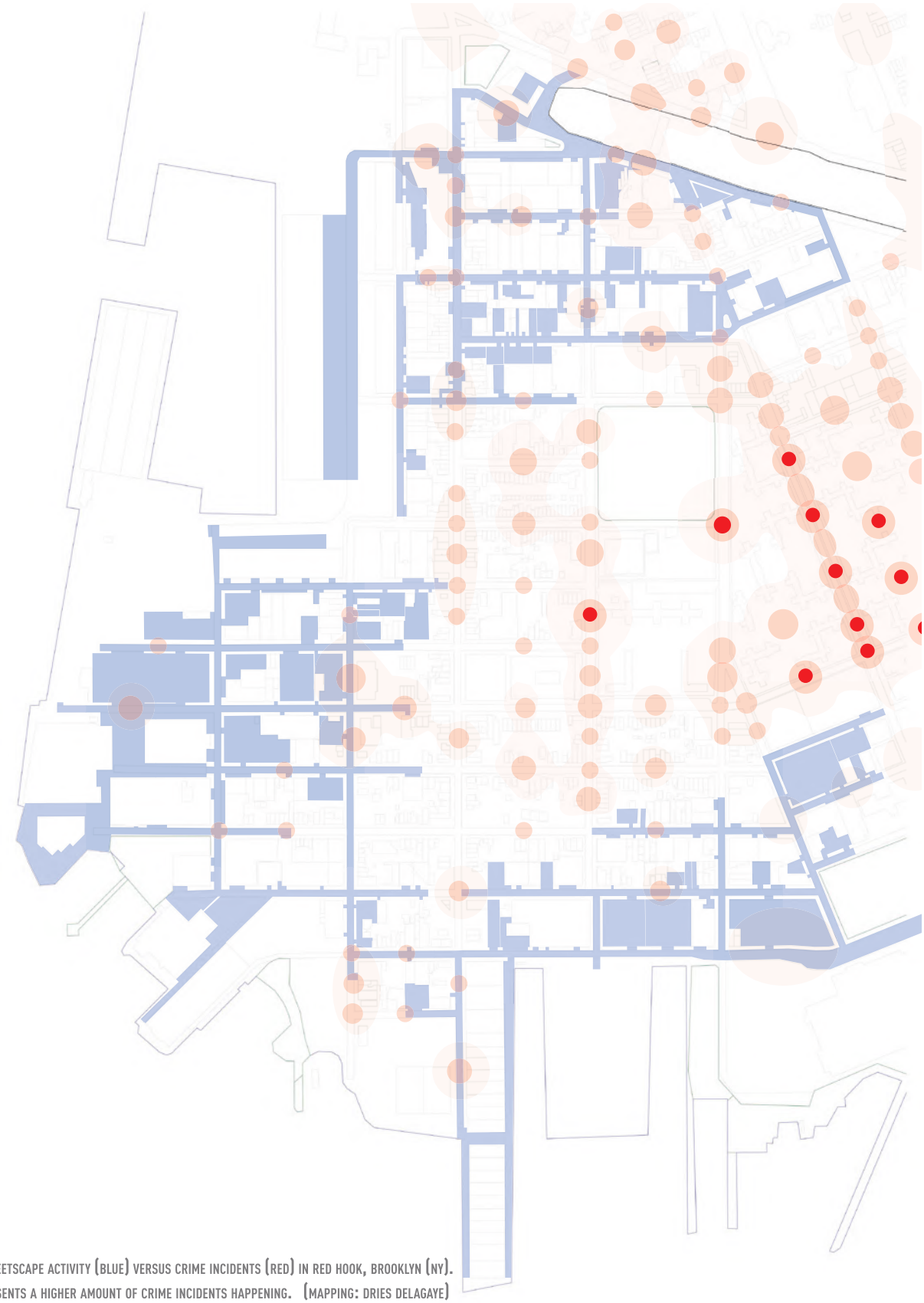
DOWN: ECONOMICAL MIX AND VARIETY OF COMPLIMENTARY TENANTS INHERENT TO THE ORGANIZATIONAL STRUCTURE OF RED HOOK, BROOKLYN (NY). (MAPPING: DRIES DELAGAYE)

Small manufacturing and production businesses are the backbone of local economies and have the opportunity to redefine what it means to be an industrial area, but they often lack a supporting public face. Ilana Preuss of Recast City strongly believes that industrial-residential neighbourhoods only need four focus points to revive and stay viable: ORGANIZATION, PROMOTION, DESIGN and ECONOMIC RESTRUCTURING (PREUSS, 2017).
Learning from Brooklyn's successful "Industry City" –which houses workspace, retail, amenities and an innovation lab for education and job training– she adopts this so-called "National Main Street Center"[2] model on an existing industrial core.

In the first place, the local property and business owners should be brought together to gauge their interest in promoting and creating the "main street" and to make the organizational structure. Open communication about the goals and the outcomes for the district is crucial. Equally important is the communication to the broader community that mostly does not know what businesses are located in their surrounding and what might be (uniquely) sourced from there. Connecting all parties enhances promotion for all of them. Preuss proposes that this can happen through certain events since businesses may not want too much foot traffic every day of the week. Events are time and labour intensive but also a great way of exposing both the producers and the properties.
Related to these inevitable higher levels of exposure, the Main Street model believes that (re-)design of the exterior conditions should be the third focus point: exterior signage for the inside production, welcoming outdoor environments translated into landscaping, proper sidewalks and facades, public space, parking facilities etc.
Preuss makes clear that the Main Street also will not fit everywhere, neither with every industrial use and that building types, relationship to the streets, availability of safe sidewalks and location within the larger community need to be taken into account.
Last but not least, the Main Street model proposes a crucial smart business placement or economic restructuring to introduce a more interesting mix of both public-facing and interior-only production businesses. This goes hand in hand with training sessions for the producers about wholesaling, retail merchandising, marketing and participation in public events.

Although each of these focus points has their qualities, this model advocates too explicitly a clean and safe space with a coherent design and a careful mix of complimentary tenants.
Local tenants will have to voluntarily support reinvestment efforts and will be held accountable for the revolving loans and for hiring paid staff for implementation of the plans, as well as for voluntarily improving and fixing-up the public space.
While "organization" and "promotion" rather work with bottom-up methods, "economic restructuring" and – way more – "design" are quickly translated into top-down actions.
This ambiguity makes the main street model be similar to a Business Improvement District (BID) and relate to the "broken windows theory"[3] which risks excluding any uncontrolled or informal activity from the streets.

Do we prefer a gentrifying clean image to remained affordable properties for the small-scale producers? Should we not focus on the very nature and functioning of the existing streetscapes in these mixed neighbourhoods? Even more, what are the qualities inherent to informal streetscape activity?



ECONOMICAL STREETSCAPE ACTIVITY (BLUE) VERSUS CRIME INCIDENTS (RED) IN RED HOOK, BROOKLYN (NY). DARK RED REPRESENTS A HIGHER AMOUNT OF CRIME INCIDENTS HAPPENING. (MAPPING: DRIES DELAGAYE)

"*Blocked or narrowed pedestrian pass ways because of a present productivity (loading / unloading, parking, garage and front yard sales etc) are common and accepted as normal. In other words, existing streetscapes are informally controlled being defended, challenged or negotiated territories.*" (VAN DAMME, 2013)

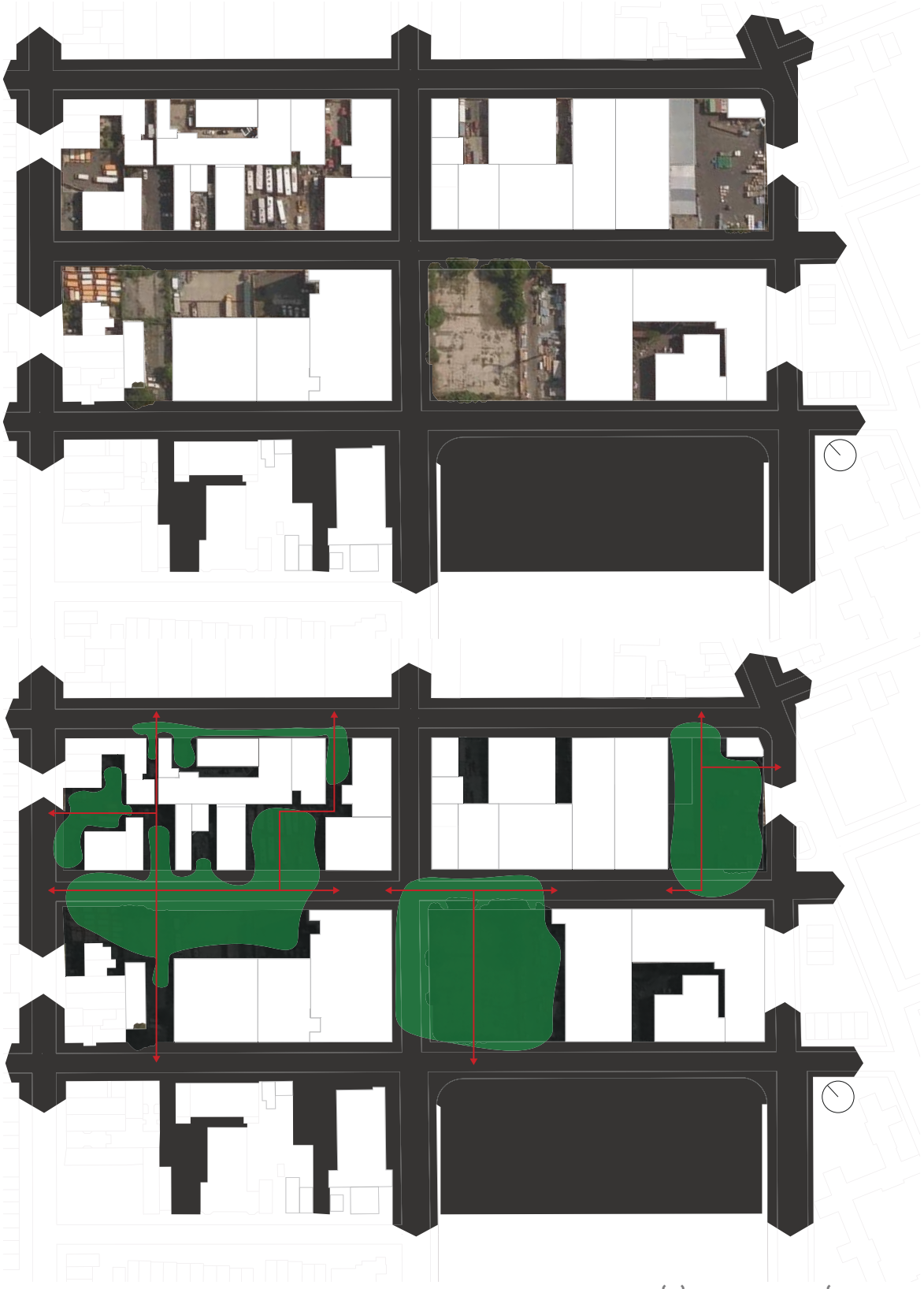
In the mixed residential-industrial neighbourhoods of New York, the proximity of sidewalks directly bordering abutter's front yards and businesses creates an interdependence and daily impact, although these neighbourhoods receive mostly not that much traffic in their streets.
According to Van Damme, the series of adjacent informal activities that sidewalks and front yards up to the doorsteps are able to host, lead to a social coherence and an economical enforcement of the environment and their changing spatial configuration and public-private boundary (overlap use) does create a more vibrant streetscape.

Also the Economic Roundtable of Los Angeles researched in 2015 on the economic and geographic impact of informal streetscape activities such as street vendors, commonly considered in American cities as harming the local brick-and-mortar businesses. Notwithstanding the negative impacts of the informal penalty, the research organization surprisingly reported that such street entrepreneurs immensely contribute to the local economy (YEN LIU, BURNS & FLAMING, 2015).
Street vendors generate millions due to an economic multiplier effecting from a sequence of economic activities, that stimulates both local and upstream supplier chain businesses, adds value and induces more impact by revenue spending on different levels.
Although street vendors avoid direct competition and avoid selling in places in close proximity to retailers who offer similar products or services (KETTLES, 2004), studies find that they play complementary role to brick-and-mortar establishments in geographic proximity, which enjoy relatively more firm expansion and job growth.
The Economic Roundtable makes the comparison with shopping malls and airports where pushcarts and kiosks are introduced as a strategy to add "colour and variety" to lure more shoppers into stores so these will have access to a lot of customers that they would not have otherwise.

This also relates in a way to the organizational structure and variety of complimentary tenants that Preuss proposed with her model. A mapping of industrial activity within the mixed neighbourhood of Red Hook, however, illustrates that economic restructuring can be limited since variety seems to be already inherent to light-industry clusters. Nevertheless, interconnection and communication with the broader (residential) area is not yet guaranteed.

The Economic Roundtable also found out that the presence of informal actors watching over the streets reduce conditions of anonymity and anti-social behaviour, increase neighbourhood stability, and contribute to communal economic viability. Especially in less facilitated communities, for instance, sidewalk sales bring together residents.

In terms of crime, again, mapping all of Red Hooks streetscape economic activity and overlaying this with a mapping of criminal incidents seems to ratify the Roundtable's stance on the social impact of the informality. Furthermore, it refutes somehow the Broken Windows Theory. Informal sidewalk activities still serve an economic and social purpose!



UP: CURRENT OPEN SPACE CONFIGURATION WITH PRIVATELY OWNED, SEALED ECONOMIC INTERVAL SPACES, RED HOOK, BROOKLYN (NY). (MAPPING: DRIES DELAGAYE)

DOWN: TEMPORARILY OPENING UP AND ALTERNATIVELY ACTIVATING INTERVAL SPACES AT THE INDUSTRIAL-RESIDENTIAL FRINGE, RED HOOK, BROOKLYN (NY). (MAPPING: DRIES DELAGAYE)

Now one question remains if the current streetscapes really have to be redesigned or transformed in order to reconnect residents and industrials mutually.

While mayor Bloomberg's pilot program for the pedestrianization of Times Square and other city areas was praised in New York City as a catalyst for street transformation by privileging leisure and recreation over automobile transportation, it also allocated the existing scattered (informal) economic sidewalk activities to newly freed, partitioned and designated street areas in order to regulate these more and cope with conflicts between fast pedestrians and slower or stationary uses.
Federal actions only take advantage when local advocacy groups support them and actually, the more glocally successful recent space innovating initiatives has often come from below. Food trucks on vacant lots and parkings (Urban Vitality Group, 2008) and sidewalk cafés have proliferated in North-American cities, but the grassroots sidewalk initiatives got not only at all ahead in food and beverages. In 2005, the artist collaborative "Rebar" exhibited by relaxing for two hours on a one-time rolled-out turf park in a metered parking spot in San Francisco. Their web documentation of the event went viral, so by 2011, their annual "PARK(ing) Day" produced 975 one-day parks in 35 countries and Rebar further collaborated with planning departments to install more permanent leisure and green space pavement extensions into the streets.
As Kim notices in her "mixed-use Sidewalk" study (KIM, 2012), these controversies and informal events point out that we are in an active period of reconstructing fundamental social and state-society relations through public space.
According to Kim, the most important criteria for an "ideal" public sphere space are that people can physically congregate and create and exchange counter-hegemonic dispositions, which can happen in the often overlooked interstitial spaces such as sidewalks. She also concludes that we can better manage and govern competing sidewalk claims with some kind of regulatory society mechanism that allocates what particular behaviours are allowed in the space at particular times, rather than partitioning the city (e.g. by Business Improvement Districts) to accommodate different preferences.

The very structure of properties and streetscapes in industrial-residential neighbourhoods such as Red Hook reveal open spaces that could be temporally opened up to hold informal events that reconnect the local industries with the residents. In collective workshops, residents could eventually participate in the industrial activities that are extended and showcased on the interval spaces. Industrials can organize repair cafés to which residents can bring things to be fixed. Eventually, these kind of events will not only bring together residents and industrials but also industrials mutually.

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As we can conclude, industrial-residential neighbourhoods sustain by focussing on the four points of the main street model, translated into activation, open communication and interaction, but without really implementing the main street itself. There is no need for really centring, partitioning or redesigning. The existing streetscapes should be rather upgraded by opening up its private interval spaces at times, allowing informal overlap and adjacent activities, since these already have inherent in itself socio-economic impacts.

FOOTNOTES:

(1) Business Improvement District: *A geographical area where local stakeholders oversee and fund the maintenance, improvement, and promotion of their commercial district. BIDS deliver services and improvements above and beyond those provided by the city, such as street cleaning and maintenance, public safety and hospitality, marketing, beautification, capital improvements, advocacy and business development. Oversight and supporting funds are provided by the City of New York.* (NYC SMALL BUSINESS SERVICES, 2018)

(2) Main Street: *The Main Street movement grew out of recognition that a community is only as strong as its core. Main Street empowers communities to set their own destinies. While revitalization is challenging work, the Main Street program offers a road map for locally owned, locally driven prosperity. Across the country, thousands of communities have used the Main Street Approach to transform their economies, leverage local leadership, and improve overall quality of life.* (THE NATIONAL MAIN STREET CENTER, 2018)

(3) Broken Windows Theory: *A criminological theory proposed by Wilson and Kelling that used broken windows as a metaphor for disorder and incivility within a community and linked this visible signs of crime, anti-social behaviour and civil disorder to subsequent occurrences of serious crimes within that urban environment.* (McKee, 2013)

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