documentation 02

NYC Offshore

- a resilient city approach

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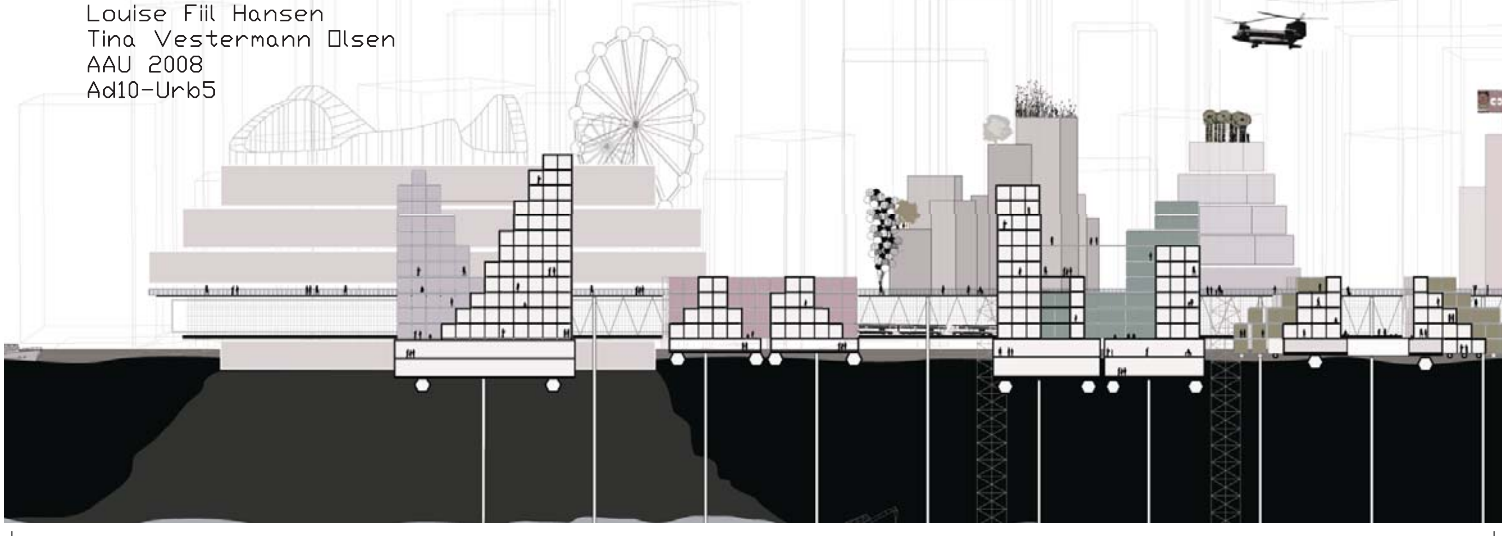

NYC Offshore

- a resilient city approach

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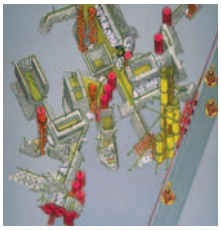
Ill.1: Sketching NYC

p02 Content...



p04 Reading...

The project 'NYC Offshore' is presented through two rapports: 1.0 Presentation and 2.0 Documentation. 1.0 Presentation contains the description of the design project through diagrams, plans, sections, collages and text thus being representative of a delivery for a design competition.

This documentation rapport presents the development of and background material for 1.0 Presentation Rapport: 'NYC Offshore – a resilient city approach'. It is divided in main chapters, which can be read independently however; the current order reflects the procedural development of the project in full. Each chapter serves as a form of supplement and elaboration of the design projects focus. Independently they present different sub-subjects that refer to either methodological, analytical, theoretical or reflective aspects of the project.

Chapter 2.0 What if NYC? describes the basis from which the project has been formulated.

Chapter 3.0 Methodology gives an account of the methods used and the phases they have been used in.

Chapter 4.0 City Context grounds the project through an approximation of context gained through a study trip.

Chapter 5.0 Resilient Cities outlines a theoretical framework for the project.

Chapter 6.0 Learning From presents a perspective on the project through 3 cases.

Chapter 7.0 Hypothetical Site traces place and situation.

Chapter 8.0 WhatWhyHow narrows down focus and reasons.

Chapter 9.0 Design Process lays out the iterations and testing of design.

Chapter 10.0 Conclusion evaluates and recaptures essence.

Chapter 11.0 Discussion discuss the proposed design.

Ill.2: Collage of a flooded Manhattan

p06 What if NYC...

Environmental and Climate changes demand a design response

III.3: NYC from above

2.1 Intro

This project is based on a disaster scenario presented in the international design competition: 'What if New York City were hit by a category three hurricane?'. Being one of the densest cities in USA which is threatened by hurricanes and following storm surges it puts forward a concrete demand for a design response. (Design Competition Brief) This response needs to take into consideration sociological consequences for the involved inhabitants, connections across the urban fabric and perhaps most importantly `practical back to basic´ needs.

The project focuses on a timeframe of `pre´, `post´ and `after post´ in order to develop a design that can be regarded as a qualitative design proposal for the timeframe of 'post' but also a strategic anticipatory tool for dealing with provisional urban neighborhoods during post disaster management. (See: 1.0 Presentation Rapport)

2.2 Initiating problem

NYC is situated in a high risk zone for storm surges.
NYC is defined by its high density.
Provisional Housing is traditionally characterized by low density and the consummation of large areas. Thus there is a need for seeking out a new paradigm supplementing existing temporary housing programs.

These statements give rise to different questions:
How to provide provisional housing for victims of storm surges in New York City?
How to ensure that people can resume their lives and reestablish their links to social and professional networks?
How to incorporate provisional structures in the physical context in NYC?
How to relate the temporary structure to the permanence of the NYC cityscape?

In short the focus of the project is this:
The project addresses the need for considerations about the post disaster measurements, which a hurricane with following storm surge striking New York City requires. This involves considerations on a strategic level, as well as exemplification on a concrete level of design with a post disaster urban neighborhood that addresses the issues of temporality, density and social diversity.

Rising sea levels and an increase in hurricanes and storm surges effect coastal cities on a global scale. On a more local level New York City is one of these cities at risk. Its density, brand and global importance underline its need for prior disaster design investigations for post disaster interventions. The design response must address the New York characteristic of density while also addressing the post disaster design requirements on a strategic level.

2.3 Design Objectives

The intention of this section is to outline the initiating qualitative objectives for the project. The objectives are defined on the basis of the previous listed problem statement.

Density
- Maximize the number of housing units per land
- Provide living spaces at a density level higher than existing available temporary structures
- Emphasize density as the city's third dimension – a concentration of urban life

Rapid deployment
- Provide 'Ready-to-be-used' elements and structures
- Structures that can be occupied as quick as possible after the disaster

Site Flexibility
- Maximize the ability to accommodate various sites
- Flexible and adaptable structures that uses the potential of different sites

Re Usability
- Reuse of structures for future disaster scenarios
- Reuse of structures for others purposes than disasters

Identity
- Maximize the ability of the inhabitants to feel a sense of connection to area
- Quickly re build the identity to attract inhabitants to return to the area
- Re branding the imaginary New York

The listed design objectives are determining for design and focus, thus purposefully directing the process. Moreover in correlation with each other they also present interesting dilemmas. Some of the objectives are to some extent conflicting and these conflicts are challenges that need to be addressed through design.

Objectives such as 'Rapid deployment' and 'Identity' make an odd couple in that they may be regarded as pulling in different directions. Creating identity in the built environment requires taking into consideration people's needs and thus designing for making room – for differences and variables. Sameness does not support these notions. However, rapid deployment demands a certain practicality which does not benefit from a high degree of difference.

Density further problematizes these issues. Density may relate well to criteria of identity in that density can in fact be a qualitative trait for creating social meetings in densely programmed and built areas that will establish ownership and affiliation. But on the other hand density also relates to quantity – and with regard to a criteria of rapid deployment a compliance with both objectives would require a design that is easy to handle: transport and set up, while still establishing as much city space as possible.

2.4 Delimination

NYC Offshore delimits from the following points:
- Structural detailing of the different elements. Diagrammatic sections in scale will illustrate the grounding of the elements and their correlation however; technical construction detailing will not be part of the solution.
- Selection of materials.
- Organizational and legal foundations. The project touches upon involved actors however; a in depth business plan of completion will not be part of the solution.
- The project presents a section of the plan down to a scale of 1:500 however; mostly focuses on the correlation between the parts and not the form of each in its singularity.

2.5 Premises

An important premise for the development for the project has been the international design competition, that has provided maps and demographic information about Prospect Shore as well as an in depth account of the unfolding of events due to a category three hurricane.

Furthermore the design proposals for the competition have served as a basis for discussion. Concretely the design from one specific proposal, in terms of a designed living unit, has been incorporated in 'NYC Offshore' thus serving as a part of the proposed design.

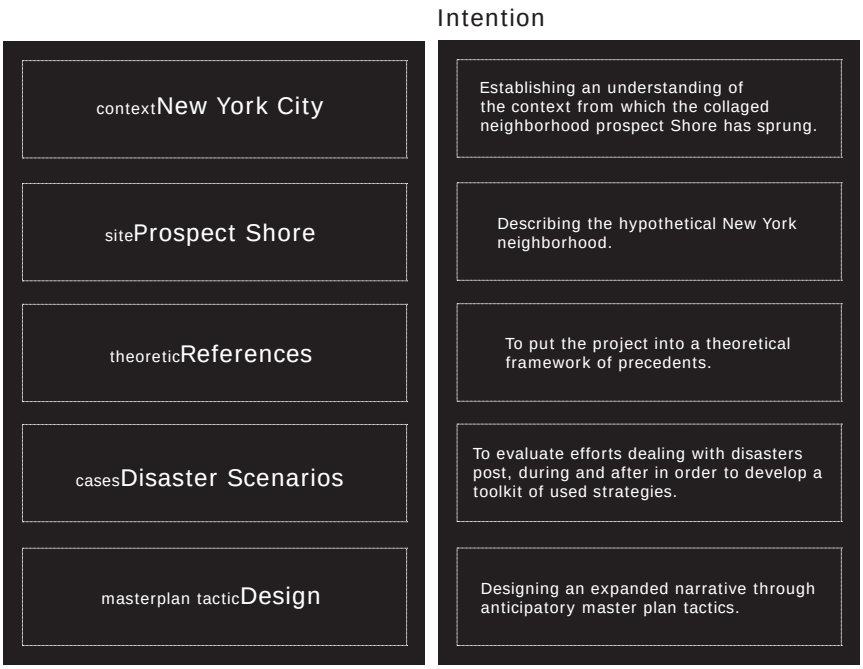
p08 Methodology

In this section the methodological approach is described and visualized in an attempt to clarify the process of the project. It outlines the approaches and methodologies applied in the different project phases seeking to explain the dilemmas faced and the choices made.

Choosing

The initial framework for this project was the competition 'What if New York City were hit by a category 3 hurricane'. As a design competition for post-disaster provisional housing it seeks alternative solutions to the question of how to 'keep people safely and comfortably housed while reconstruction proceeds'. The competition brief have served as a premise for the project, although the design solution itself does not seek to answer the proposed design task alone: the project engages with the presented problem of providing temporary neighborhoods for a displaced population and at the same time proposes a critical alternative to contemporary tendencies and issues when planning for 'resilient' cities. (See Chapter: 5.0 Resilient Cities)

The competition has been terminated and the submissions are available online. As part of the research a selected number of these submissions have been evaluated thus providing insight into a 'bank of material' that has in general proved helpful as inspiration, reference and basis for discussion. (See page 12) In general the competition entries focus on designing the unit which is to solve the problem, put forward in the design competition, of having application in the dense context of NYC. As a consequence the entries have an inside out approach, where considerations about urban spaces and neighborhood quality comes as a secondary remark. The best competition entries were those that considered also the overall functioning of the units when placed together, thus not neglecting uses and coherence.



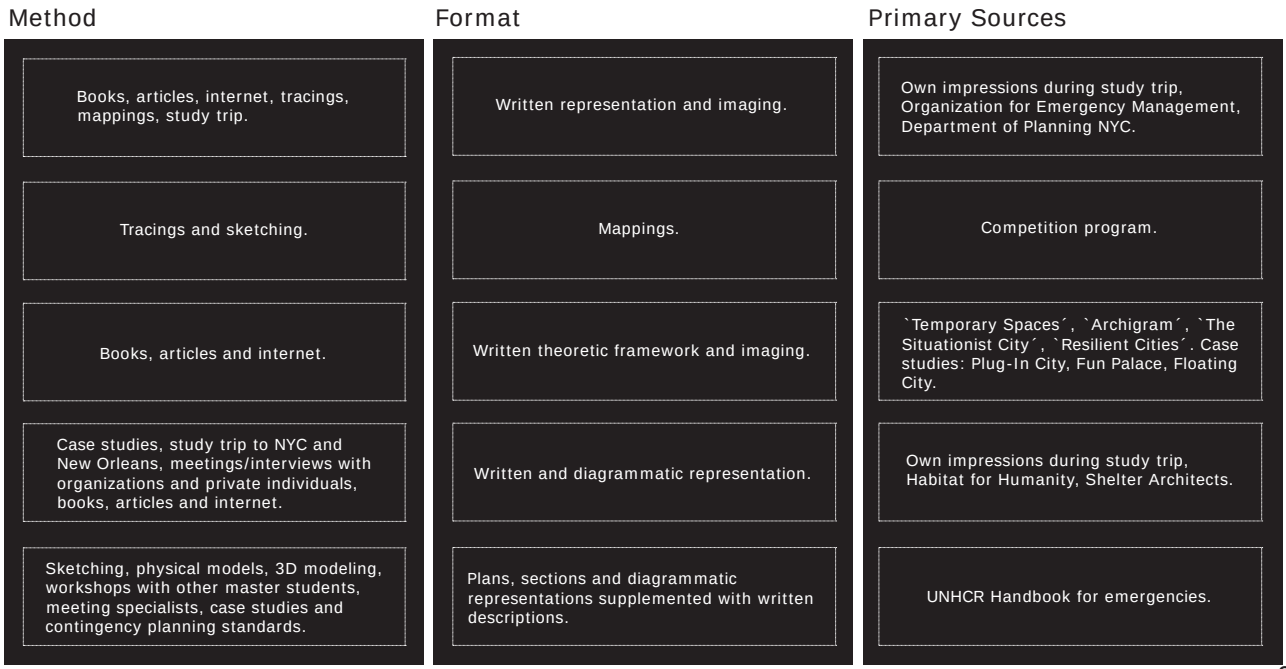
The diagram presents the framework in its full content listing intentions, method, format and sources. In its entirety the diagram makes up the methodological spine of the project.

III.4: Method diagram

The reason for expanding the scope of the competition and unfolding the presented issues was motivated by the experiences from a study trip as well as a wish to engage in a discussion about how to build adaptable, resilient cities. Thus the project proposes an outside in approach that addresses interim provisional housing from a neighborhood rationale.

To respond to the presented problems described in the introduction, a set of methods have been applied that are both analytical (mappings and registrations), theoretical, and experimental (testing through design). As such in total they present a holistic way of designing.

Prospect Shore: a Hypothetical NYC neighborhood
The design competition presents a hypothetical site as the grounding place for the design proposals. The build environment of the hypothetical neighborhood is a collage, drawn from parts of the city that are most vulnerable to storm while maintaining the diversity of land and building typologies found across New York City neighborhoods. The storm damage and recovery process in this neighborhood would be typical; therefore a design for Prospect Shore could have application throughout the city.



Mappings of Prospect Shore are based on information obtained in the competition brief where the site is constructed as an average site with a socio demographic profile that is representative of NYC. The mappings comprise a series of time based scenarios constituting an anticipated disaster scenario spanning from three days before the hurricane to 200 days after. The time logic plays an important role in the understanding of the disaster situation and phases of different duration and importance are presented in order to describe the scenario in full.

Mapping/tracing/investigating
The project unfolds in a cross field between a fictional, generic New York City Neighborhood: Prospect Shore as described in the competition material and the context of New York City, which was investigated through a study trip. One specific and important aspect of 'NYC Offshore's methodology is the relation between the hypothetic site and the context it has been derived from.

The competition demand design proposals with generic qualities and have as a consequence constructed a non-place specific site. Generic qualities are best obtained through a degree of generalization and contextual disconnectedness so the project balances a fine line of demonstrating locally anchored design quality while ensuring a degree of generic qualities. (See Chapter: 2.4 Design Objectives)

The project proposes a design for Prospect Shore but does this from a basis of both Prospect Shore and NYC mappings. Thus the analytical task in the project lies in a field between two layers: real mappings of a real city and fictional mappings of a hypothetic neighborhood. Each layer of context has brought with it different knowledge and as a result the project has been formed in a cross field of different knowledge: both empirical, phenomenological and rational generalizations of site and context.

NYC context
New York City is the 'real' context from which the 'imaginary' site has been constructed. In order to establish an understanding of the context from which the collaged neighborhood has sprung a certain degree of grounding became necessary. This was obtained partly through New York City mappings: 'real mappings' constructed on the basis of literature and on-line information from the municipality's web-site.
The mappings drew out principles from different areas: the social geography, morphological conditions and the regulatory context.

Furthermore a study trip founded an understanding of the city with regard to both its dynamic processes, social structures and the morphological layout of neighborhoods. Walking through areas prone for flooding during disaster or storms in general, spurred an understanding of 'before' - and the probable 'after'. Mapping out edge conditions and the type of neighborhoods in danger zones had priority but the in its entirety the study trip initiated a comprehension for the complex urban structures – the social patchwork of places and people further enhanced by the city's density.

Information for mapping NYC was thus gathered through a combination of phenomenological acquired knowledge from the study trip and data collection through literary and on-line resources.

Learning from
In an attempt to gain a perspective on the subject of cities and climate related disasters different cases and situations have been investigated. The purpose was to look into how other cities have dealt with the situation of displacing populations, the construction of temporary neighborhoods and the rebuilding of damaged structures.

A study trip to New Orleans provided us with phenomenological knowledge of the social and physical impacts of the hurricane Katrina which hit the city in 2005. Walking through the city taking pictures and talking to organizations, architects and inhabitants provided us with an elaborate insight into the current situation and the consequences that after almost three years still challenge the urban conditions. In addition readings of articles and books further supported our empirical understanding of the city's reactive patterns.

The analysis recognizes that New York City and New Orleans are distinct cities both in terms of morphology, societal condition and social construction. The problems that New Orleans faced can not be simply transferred and solutions (right and wrongs) can not be applied to a New York context. However there are still dilemmas that are relevant to compare and take into account when anticipating a climate disaster in NYC; how to encourage people to return and how to provide safe, temporary neighborhoods?

In order to support our findings in New Orleans other climate disasters were drawn in through comparison. These disasters were investigated through literature and on-line information. Investigations of contemporary 'realities' has founded a basis for the development of a list of strategies for how to build resilient cities. They constitute a common ground for a discussion about ways to incorporate proactive design solutions and as such present a set of operations on the urban fabric – preparing cities for future disasters be it hurricanes or continual changes as rising sea levels.

Theoretic References and Project Cases
Different theoretic references and project cases supporting the selected theories have helped put the project into a theoretical framework of precedents. This involved reading, discussing and writing – not always in the named order but never the less continuously through out the process in order to narrow down relevant topics. Some sections outline wide theoretic ponderings while others are more case-based serving as exemplification and referential basis for the

development of the design. (See 5.0 Resilient Cities)

Testing through design
The methods used during the process have been various types of design tools: sketching by hand, digital 3d modelling, physical modelling and meetings with specialists. In addition hereto the design response has been developed through a series of dilemmas that has influenced and shaped the project. These will be listed in short here and subsequently elaborated on in the discussion.

#Designing the unit or the system – appropriating scales
The analysis and theoretical references helped identify and set up a frame for the design task: the emphasis has been on designing the system, the environment - the overall coherence thereby creating a basis for urban life and ensuring the return of people.

#Site-specific or/and generic?
Designing for at hypothetical site with a real context has challenged the use of conventional design methodologies. The design task is related more to situations than a specific place, though the project emphasizes the importance of intertwining the local anchoring and the generic aspect.

#'Time variable' design scenarios
The relation between the temporary and the permanent has been a consistent issue in the design process. The project proposes not a fixed master plan but rather a series of time specific design scenarios emphasizing one situation in particular: the 'after' hurricane situation.

Working with the concept 'a kit of parts' proved a useful method for how to firstly: link the different time based situations and secondly: organize the design process in order to both focus on the overall coherence of the system as well as the parts/components.

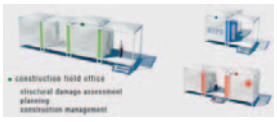
#Rational design or complex fractal systems?
Designing for crisis situations require contemplation regarding transportation, construction (prefabrication) and the rapid deployment. At the same time an important aspect is to design environments that resembles the diversity of a NYC neighborhood and creates a sense of belonging by means of establishing an aesthetic and programmatic value that helps build neighborhood identity.

A

A clear interpretation of the block structure

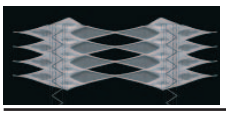
B

Clearly defined spaces
Closed/Open - Public/Private
Dramatic intervention: monumental sameness



C

Relates to context - adjusts appearence
Changes along with the proces of rebuilding
New layer of city



D

Context dependent
Infill
'Ultra temporary'
Sculptural element - branding

E

The layout of the units create variations in the outdoor spaces: as a whole the area appears diverse
Visualize urban density: opens up and enclose spaces
Infrastructure and transportation: 1 truck pr. unit?
Where are the units stored?

F

Strong statement, appealing narrative
Independent from the necessary repair on land

G

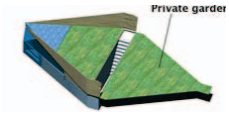
Floatable docks where the structure acts like a framework
Accessible immediately, independent from the necessary repair on land
Second City, where are the units stored?
The density is low

H

Builds on debris - system of exchange
Incorporate landscape design

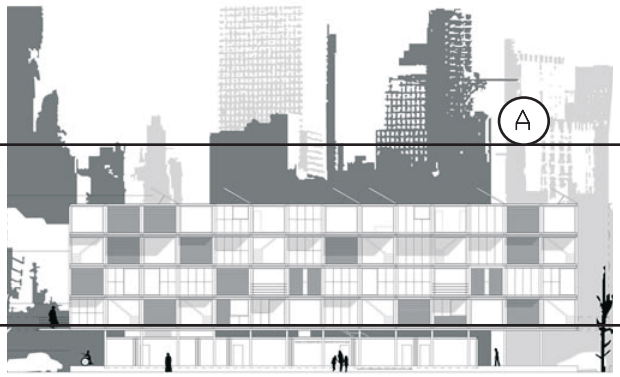
I

In fill - site flexible
Introverted - 'only' living space



J

Double programming of already utilized surface
Public program as anchor point
Entail landscape design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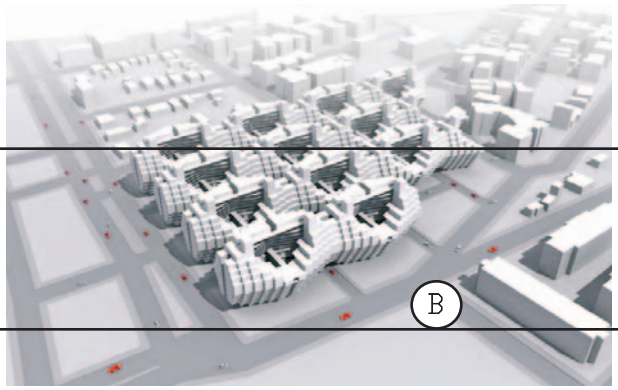
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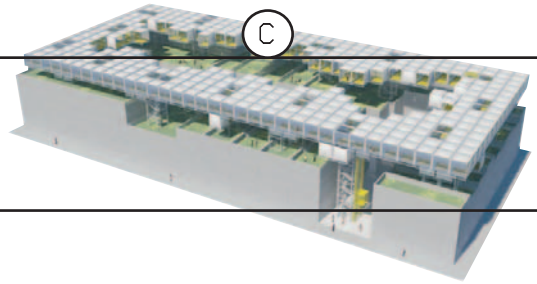
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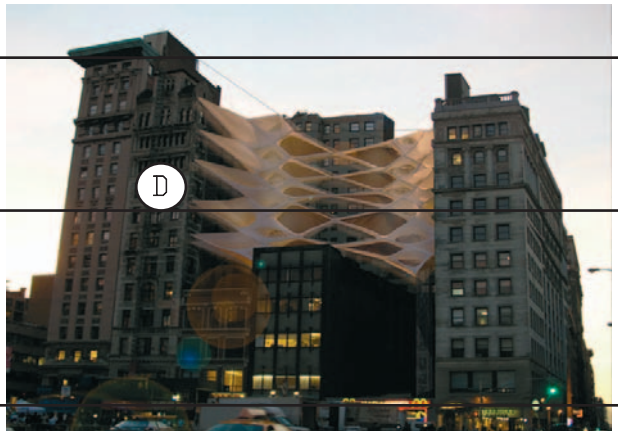
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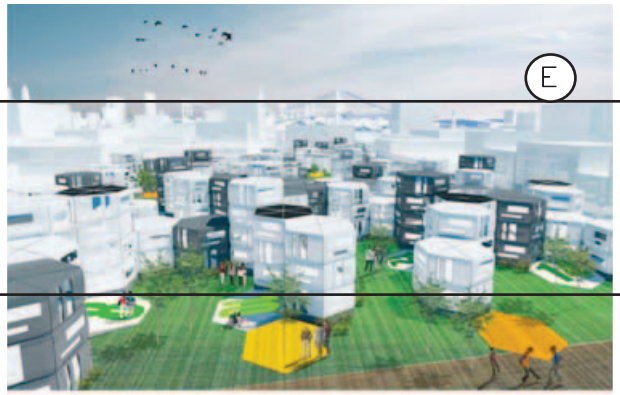
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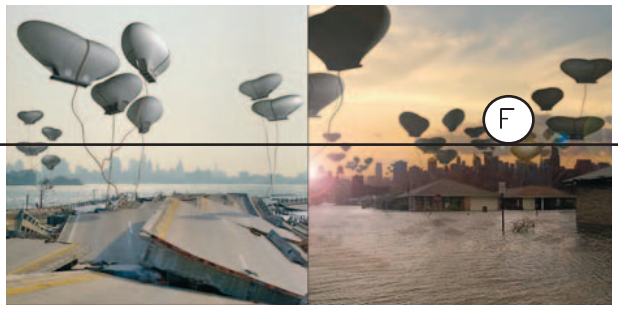
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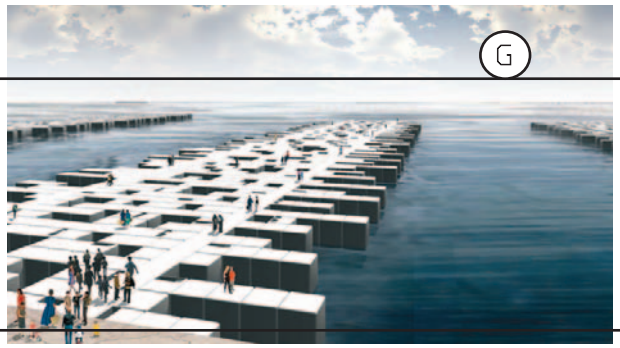
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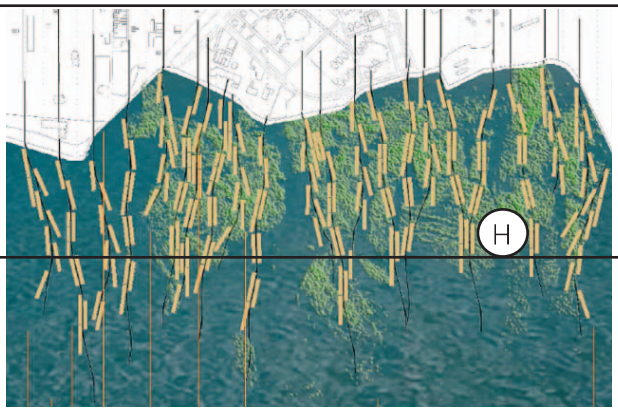
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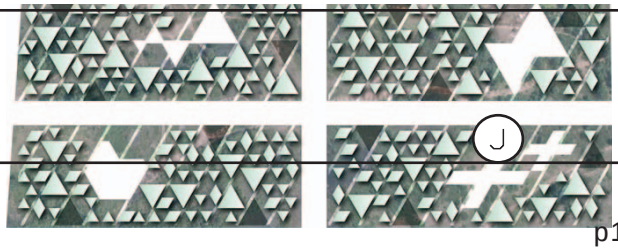

J

p14 New York City

City of diversity. City of symbols. City of density. City of mobility. City of hybridity. City of growth. City of liminality. City of immigrants. City of assimilation. City of versatility.
City of high risk to be hit by a category 3 hurricane?

Multiple nicknames have been used to describe and brand New York City. While some call it the 'City of cities' or 'the city that never sleeps' others describe it as 'not one city, but a thousand of cities'. The image of the 'thousand cities-city' is manifested in the notably high population density and a cultural difference that emphasize the notion of an overall heterogeneity and diversity.

This section outlines the present urban conditions of NYC in order to enable an understanding of the city's relation to its surroundings regarding land and water, edge conditions, neighborhoods and existing planning objectives. The city has been studied through field registrations during a study trip and tracings of the physical urbanity as well as of the social networks in the city. (See Chapter: 3.0 Methodology) As such the investigations into the physical, organizational and cultural context is a grounding of the hypothetical neighborhood Prospect Shore.

III.6: NYC skyline

Facts
Five boroughs: Staten Island, Queens, Brooklyn, Manhattan and the Bronx
Population: 8.2 Million
Coastline: in the city more than 600 miles – in the metropolitan area almost 1500 miles
Airports: 3 major
Tunnels and Bridges: 2200

4.1 City of Coast - Land and Water

New York City is located where the Hudson River meets the Atlantic Ocean. The city is surrounded by water – only one of the five boroughs is placed on the mainland – and the close connection to water is as defining for the city today as it has been during its development.

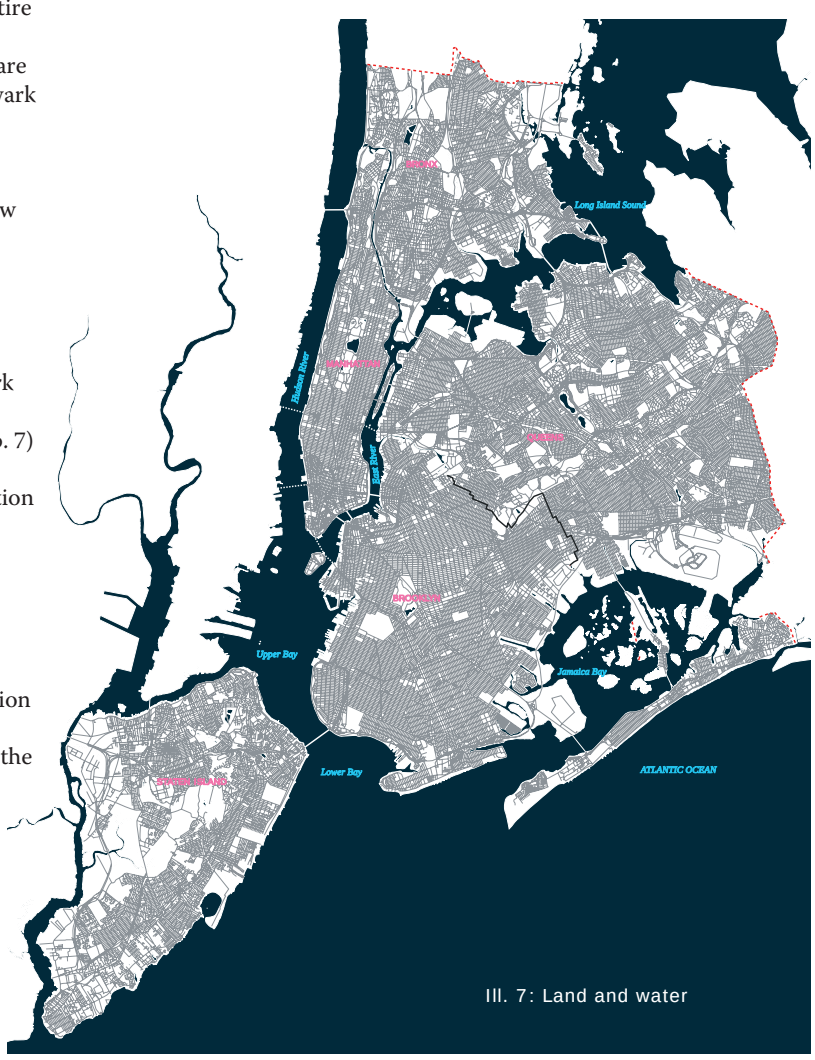
Hudson River flows from the Hudson Valley along the western side of Manhattan and ends up in the New York Bay. Thus the river is a tidal estuary separating New York City from New Jersey. The other river; East River is actually a tidal strait flowing from Long Island Sound along the Eastern side of Manhattan separating the Island from Queens and Brooklyn. Some areas along the coastline offer wetlands and marshes influencing the water quality and protecting the land, while others are being built up.

Drastic changes have been made during the development of the New York City which is known today. The relation between land and water is dynamic; almost 25 % of the Manhattan area is filled land. Previously shallow water habitats or wetlands have been reclaimed in order to make way for urbanity. And this is emblematic – 80 % of the entire Harbor Estuary: 300.000 acres has been reclaimed due to human activities. Some examples of these in-fill projects are Battery Park on Manhattan, much of Ellis Island and Newark Airport. (Clark 2004, p. 5)

These procedures are changing. Protective legislation regarding wetlands is making it more difficult to claim new land and in addition prizes on land are rising due to the booming market. Thus `new land´ is extremely attractive and good business. Now rising sea levels is worsening the matter complicating the frail relation between water and land even further. The fact is that only about 25 % of the historical marsh areas remain in the core area of New York Harbor, and estimates show that there will be no marsh islands left in Jamaica Bay in the year 2024. (Clark 2004, p. 7)

Another aspect worth noticing about the land-water relation is the way that the different water surfaces are utilized. Many bridges and tunnels connect the five boroughs across the water ensuring a functioning infrastructural system. Furthermore, the water surface itself is also used for transportation. Numerous cruise boats from tourist companies freight tourists around Manhattan in order to present the city from its best side: the water side. In addition hereto a water taxi service operates as transport between different locations resulting in a vibrant and active use of the public surface in the city with the most amenity value.

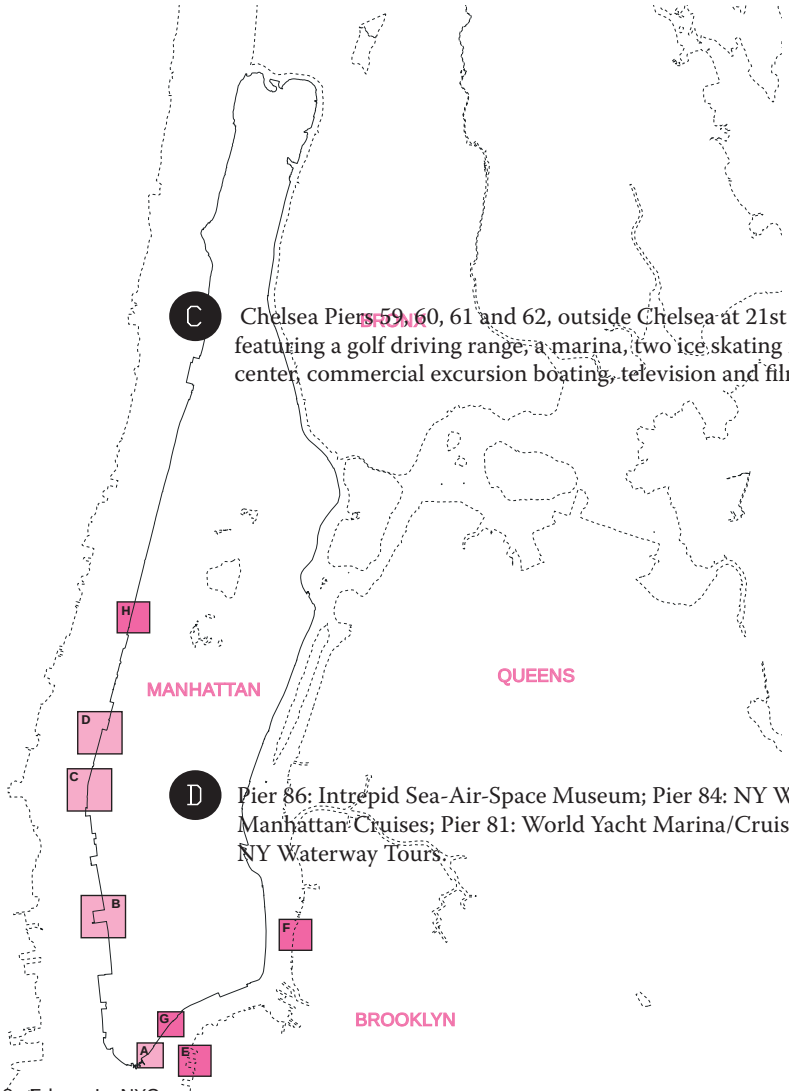
Edge Conditions
With a coast line of more than 600 miles the city of New York presents a diversity of edge conditions that corresponds to the complexity of the urban neighborhoods. A birds perspective of the city reveals a great number of ways the different areas along the edges have been utilized; some function as public parks, some make room for large infrastructural structures and others extend their footprint onto the water surface. These different uses are an important part of the way the city is organized. The selected orthographic representations testify to this diversity of uses.



Ill. 7: Land and water

A South Street Seaport, at the end of Fulton Street: mall facilities, dining and entertainment.

B Pier 53, outside the Meatpacking District: a truck parking facility for the NYC sanitation department.



C Chelsea Piers: 59, 60, 61 and 62, outside Chelsea at 21st street: Sports and recreation complex, featuring a golf driving range, a marina, two ice skating rinks, a bowling alley, a track and gymnastics center, commercial excursion boating, television and film studios and restaurants.

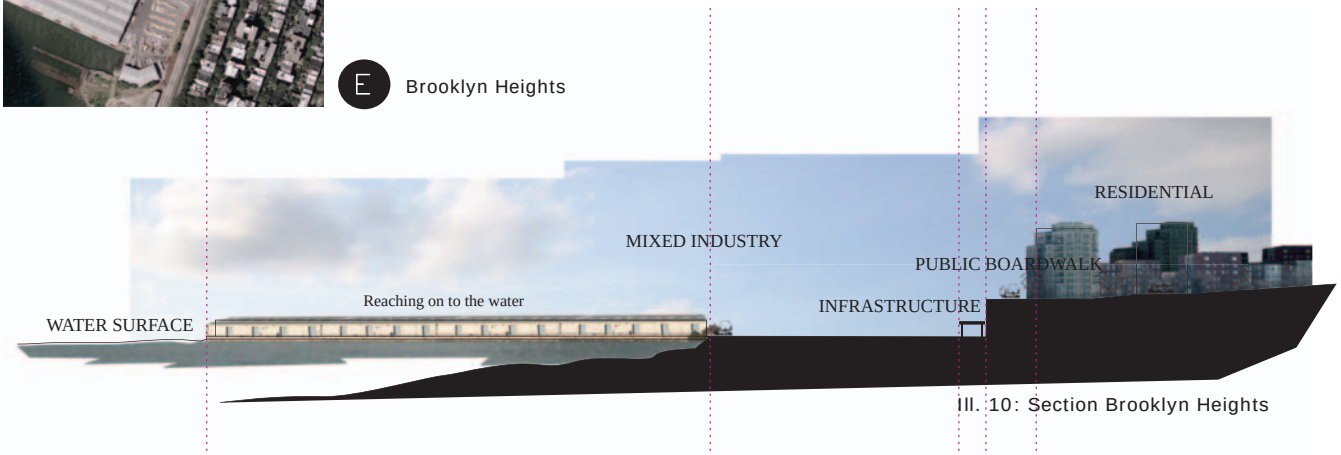
D Pier 86: Intrepid Sea-Air-Space Museum; Pier 84: NY Water Taxis; Pier 83: Circle Line operating Manhattan Cruises; Pier 81: World Yacht Marina/Cruises; Pier 79/78: Midtown ferry terminal and NY Waterway Tours.

Ill. 8: Edges In NYC
Each marked area relates to an observed use of edge condition

Ill. 9: Edge Uses

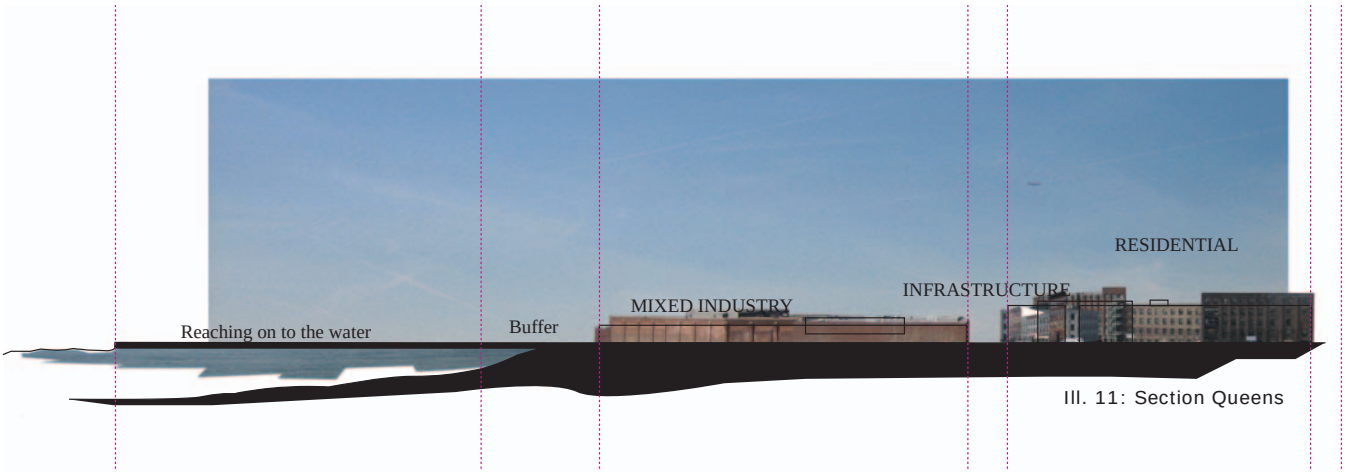
Topographic variations in the city landscape have left its traces on the different edge conditions with regards to the meeting between the water and the city. The study trip revealed different typical situations which describe these meetings. The following four examples will illustrate these in a diagrammatic manner.

E Brooklyn Heights

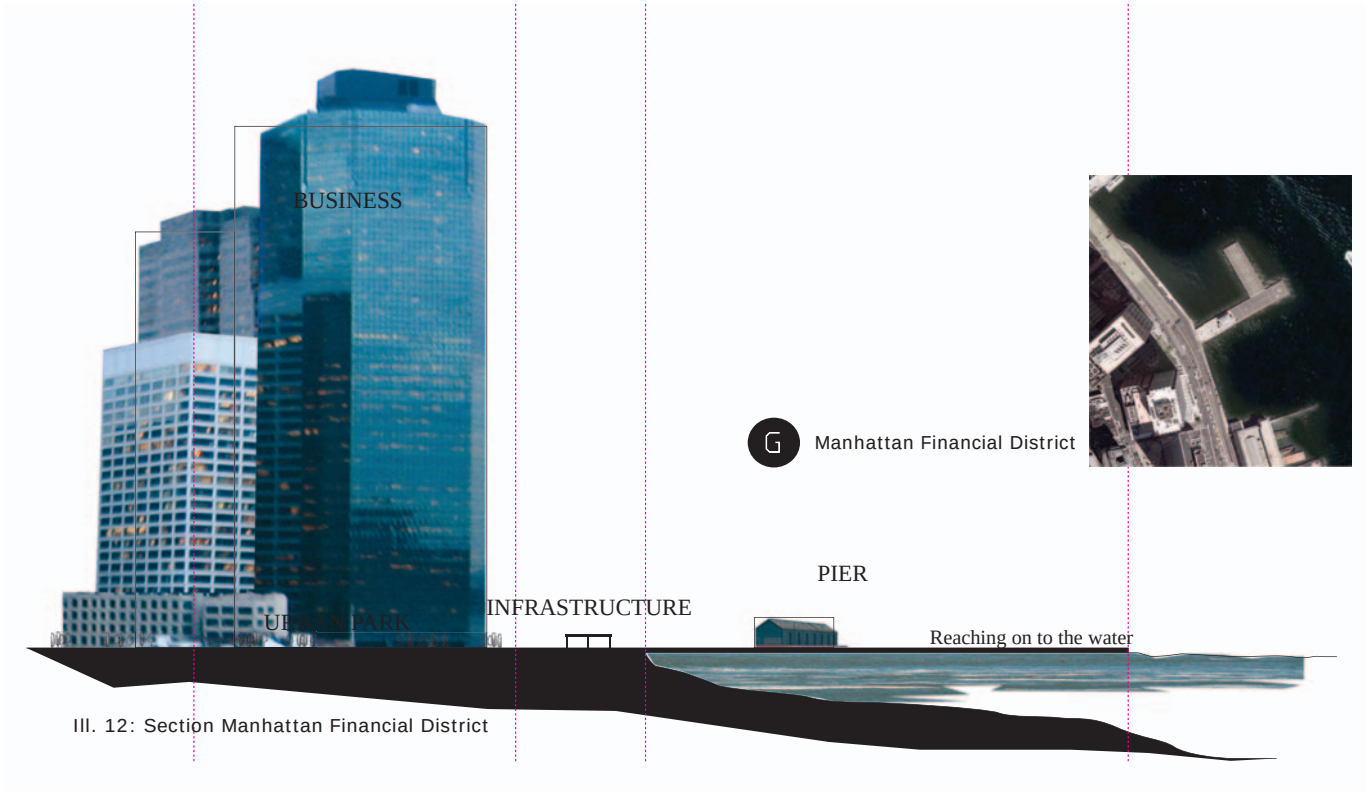


Ill. 10: Section Brooklyn Heights

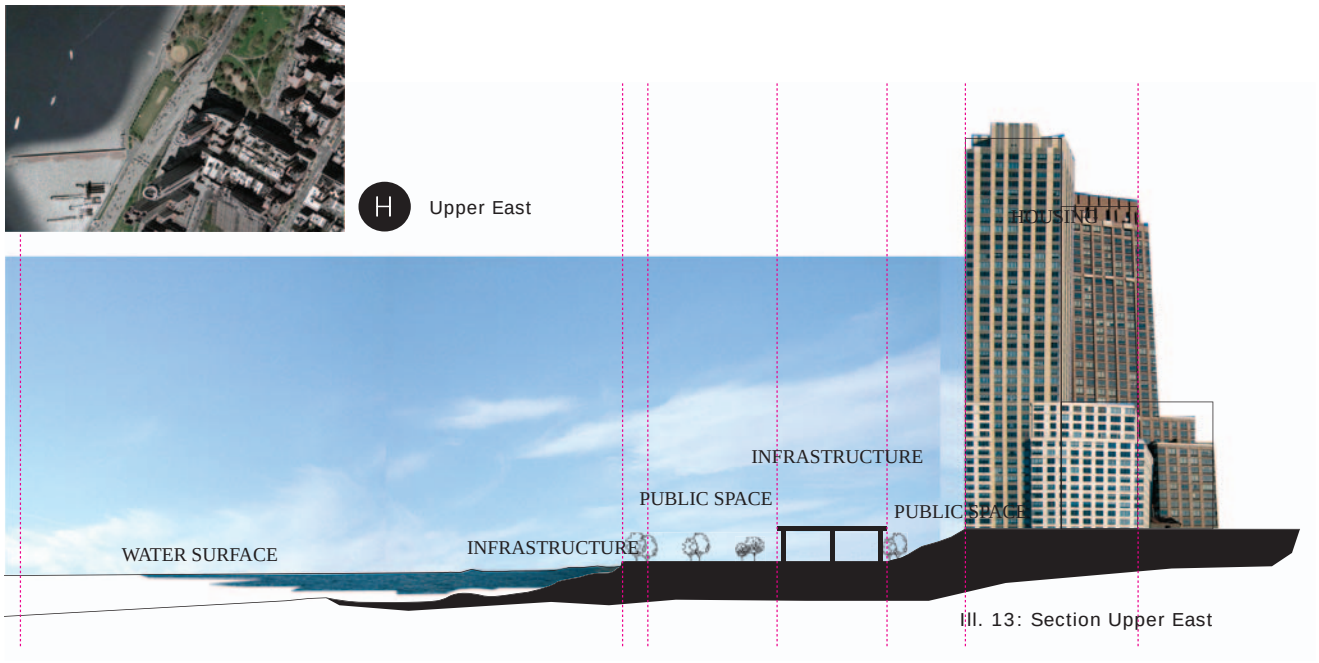
F Queens



Ill. 11: Section Queens



Ill. 12: Section Manhattan Financial District



Ill. 13: Section Upper East

4.2 City of Diversity

Within the five boroughs a number of different place names are hiding: SoHo, Noho, Tribeca, Chinatown, Little Italy, Greenwich Village, Upper East, Lower East, Upper West, Harlem, Brooklyn, Queens, Flushing and so on – and behind each name a neighborhood with its own story.

During year 2000 the neighborhoods of New York City reached a combined population of over 8 million people across ethnicities and ages defining the city as a true plethora of differences. This number is expected to rise even higher: to over 9 million in 2030. Only 35 % of the population is White non-Hispanic and 36 % of the total count is born outside the United States testifying to the immigrant appeal of the urbanity. (Fainstein 2006, p. X)

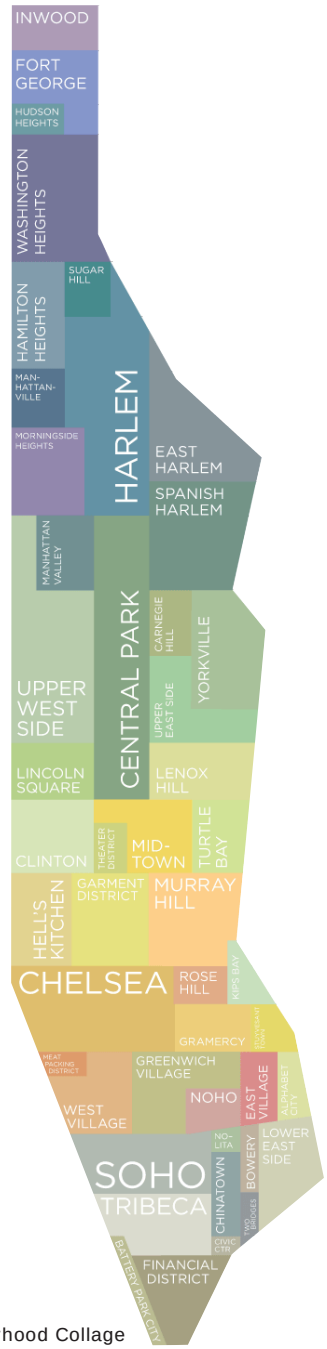
With about 8400 residents pr square mile the city is extremely dense. This density and ethnic multiplicity results in high concentration of heterogeneity. In addition the city is characterized by its post-industrial business profile; with about 90 % occupied in the service sector the tourism industry in the city is booming. These facts help describe the basics of the city; however perhaps most importantly is the symbolic significance of the brand NYC.

"Contemporary New York is remarkable for its hybridity and liminality, for the mix of people in its public spaces and the paths it continues to offer for upward mobility." (2006 Fainstein)

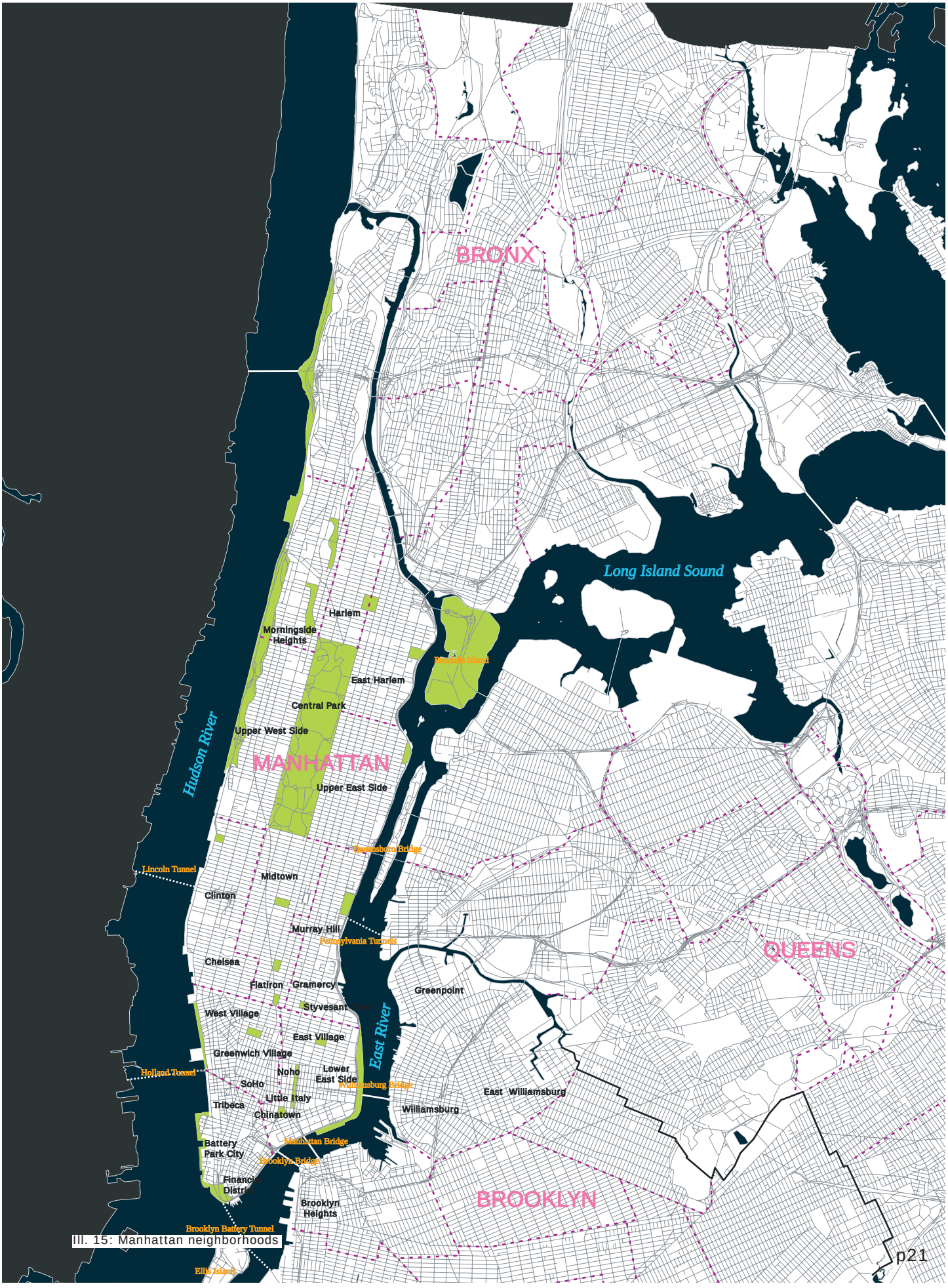
"New York is to the nation what the white church spire is to the village – the visible symbol of aspiration and faith, the white plume saying the way is up." (2005 Page)

As Susan Fainstein and Max Page both point out, the city of New York is a founding basis for the `American Dream´. As the port through which numerous immigrants arrived to the United States the city rests on a foundation of future promises and opportunity. This consciousness is a legacy that has endured, although it has become more nuanced through the problems of segregation and inequality, which leave standing marks for the future prospects of its inhabitants. The terror attack of 9-11 has cemented the city's position as a symbol in USA even further – not giving in to force, not giving up on its way of life.

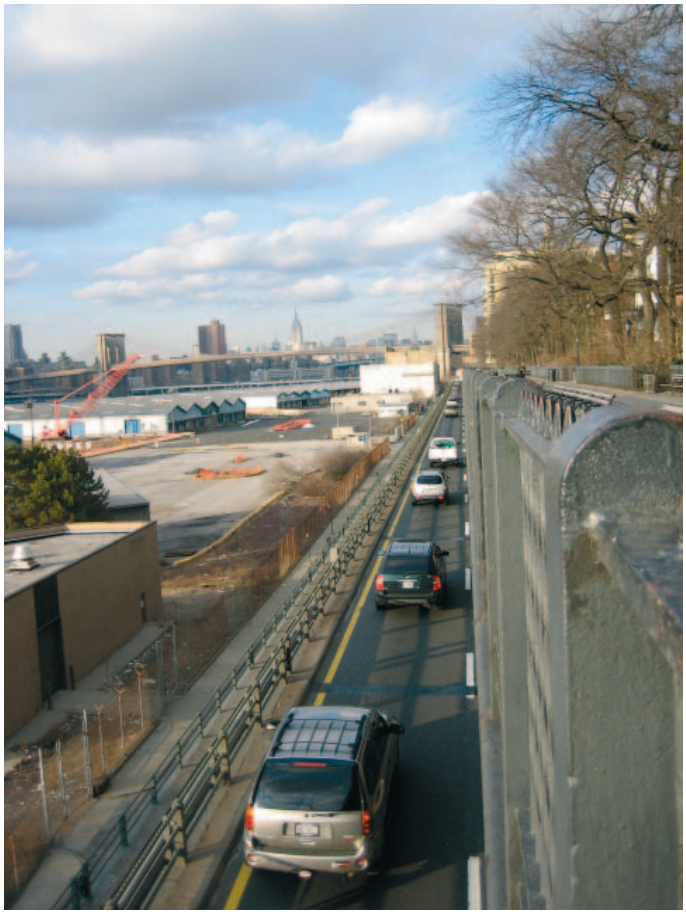
Neighborhoods
The following pages present subjective impressions of a more phenomenological character formed during the study trip in early march 2008. (See Chapter: 3.0 Methodology) The selected photographs testify to density, grid structure and edge conditions in the different neighborhoods. The pictures underline the diversity of the city experienced from the feet of the observer.



Ill. 14: Neighborhood Collage



Ill. 15: Manhattan neighborhoods



Ill. 16: Series of photographs

Ill. 17: Series of photographs

4.3 PlaNYC

The city of New York is currently in the process of re-envisioning its goals for the future through the extensive planning tool PlaNYC 2030, a guiding document describing 10 goals generated through a participatory process orchestrated by the major Michael R. Bloomberg.

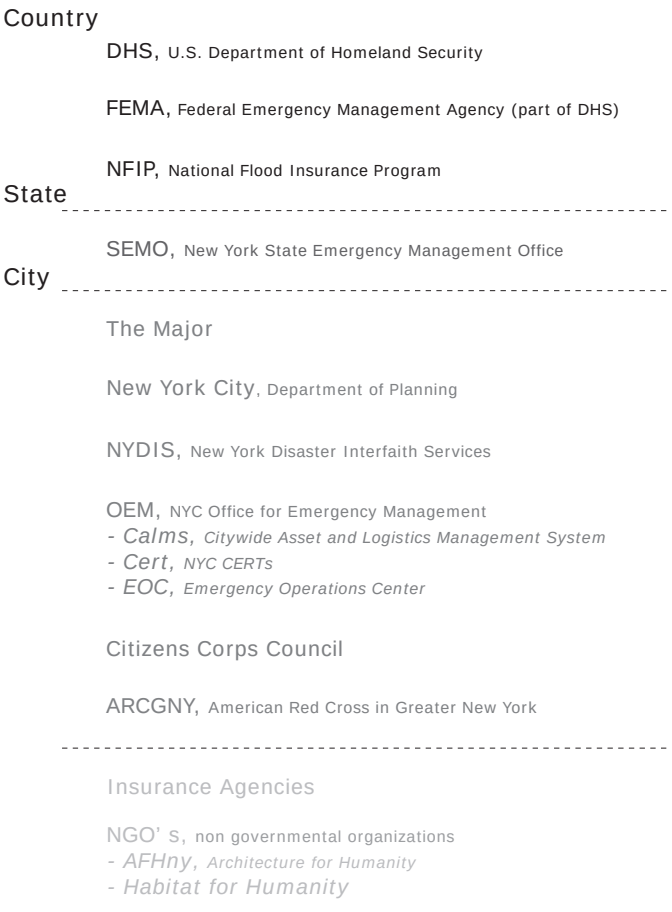
The final rapport describes the result of what is characterized as a four-month public outreach process presented in 6 different categories: Land, Water, Transportation, Energy, Air and Climate Change. The general tone of the rapport is optimistic starting out with an introduction emphasizing the way the city have turned a negative development of decreasing population, increasing crime, collapsing neighborhoods and neglected infrastructure in the 1970s into a `city stronger than ever´. (Bloomberg 2007, p. 3)

The current agenda of planning is saturated with the demands for housing in order to accommodate the increasing population. Many former industrial sites along the waterfront have been seized in order to make way for new housing. However, the amount of brown fields is not abundant resulting in the inflation of prices. (Fainstein 2006)

Projects underway reflect the focus of the planning department: both providing playgrounds and green spaces, upgrading the water system and bettering a congested infrastructural system are key issues. The concept of a resilient New York City is touched upon in the category: Climate Change however; it is merely dealt with through communicative initiatives. These include bettering the information about the risks through maps and improving the conditions for the citizens living in flood prone areas in relation to their insurance possibilities. (PlaNYC 2030) One initiative is the campaign issued by the Organization for Emergency Management in 2003: Ready New York. This campaign focuses on educating New Yorkers and informing them of the different kinds of hazards they are facing. (Ready New York)

Preparing NYC
The competition `What if New York City were hit by a category 3 hurricane´ testifies to the growing attention towards environmental issues, especially with respect to the consequences to the physical structures in the New York City: infrastructures and buildings. Moreover, the social consequences of the potentially disastrous event are as important and in need of a response on the same level as other physical damages. The current contingency planning efforts in NYC does not put much focus on the pre-disaster conditions in terms of avoiding damages; mostly they focus on awareness and popular education for use in the `during´ and `post-disaster´ period. (OEM)

The relevant institutional and voluntary actors within contingency planning in NYC are active in different areas. Some are relevant on a national scale: governmentally run. Others are based in the city itself making use of voluntary efforts: privately run. The array of relevant institutional actors will effect contingency planning efforts both pre-, during and post disaster however; in different ways and on the basis of different rationales. When engaging with the scenario of a disaster striking NYC it becomes important to understand the web of existing power relationships. These relations are illustrated in a diagrammatic Institutional Landmap.



Ill. 18: Institutional Landmap
See Appendix for full listing of the actors

4.4 The City of disaster

'….Even without the climate changes, New York is at risk from a hurricane that could drive a storm surge more than twenty feet above mean sea level over lower Manhattan and other costal areas of the City, flooding subway and vehicular tunnels and putting Kennedy and La Guardia Airports under water.' (Barnett, Kristina 2007, p. 15)

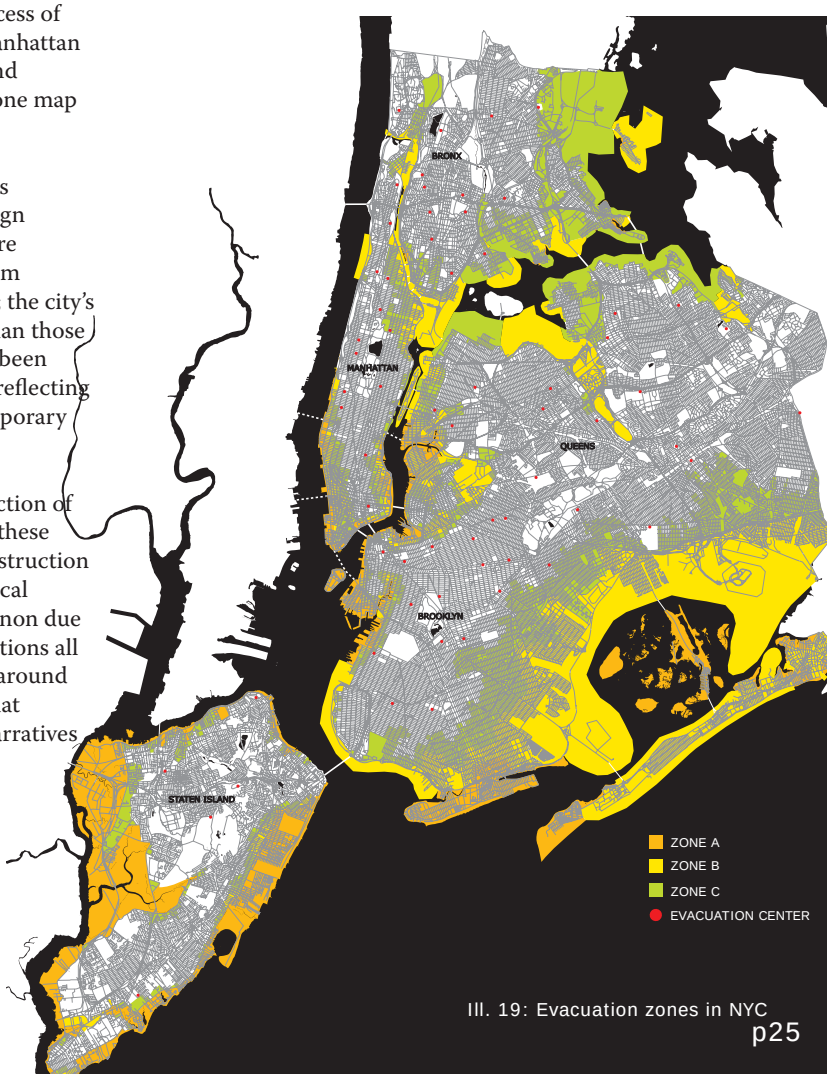
The city's geographic position and morphological nature puts it in harms way of rising sea levels and continuously stronger and recurring storm surges, some due to major hurricanes. Furthermore, a specific geographic characteristic in New York Bay called the New York Bright will strengthen and lead a possible hurricane on a path towards the city. (Design Competition Program) The city's infrastructure is prone for flooding resulting in an immediate paralysis of the city's network that will endure throughout the process of reparation. Other areas such as the south tip of Manhattan and the banks of southern Manhattan, Brooklyn and Queens's areas are also exposed. The evacuation zone map clearly show which areas are at most risk.

The city has experienced several notable hurricanes with consequences revealing its vulnerability (Design Competition Program) and now climate changes are bettering the conditions for hurricanes making them stronger and even occurring more often. However; the city's relationship to disaster involves other narratives than those dealing with environmental disasters. The city has been imagined destroyed in a number of different ways reflecting the different concerns and problems in the contemporary society. (2005 Page, p. 76)

When immigration increased the imagined destruction of the city was at the hands of frantic immigrants. In these days a discourse of catastrophe movies narrates destruction at the hands of either new viruses, mutated biological weapons or the scenario at hand: natural phenomenon due to environmental changes. These cultural constructions all reflect the conditions in the city they are spiraling around and now the threat of hurricanes poses a danger that requires a design response both in terms of new narratives and concrete manifestations.

4.5 Closing remarks

This chapter focused on the City of New York with special emphasis on Land and Water, neighborhoods and planning in relation to the disaster. There are two significant aspects about NYC that should be emphasized with regards to the design project. The relationship between water and land is and has always been dynamic. The edge has been redrawn and land has been constructed in order to make room for buildings and people. The edge is the face of the city outwards and the boundary of its expansion. As such the edge is a contested phenomenon: here land is in demand but also extremely rare. In addition hereto existing building tendencies depicts this through a tendency of continuously developing city along the edge. Thus the awareness of hurricane danger has resulted in the writing out of an international design competition – but nevertheless sends no resonance through to the planning system. The physical demarcation between land and water is dynamic but in addition the edge is utilized for functions of a more temporary character - poles for the placement of extra piers are clearly visible in the waters along the edge.



Ill. 19: Evacuation zones in NYC

p26 Resilient Cities

The relationship between climate change and urbanization will be of vital importance to the future well being of the human population. With over half of the world's population living in urban areas it is important to acknowledge the threat the climate changes impose on cities and inhabitants.

Costal urbanized areas are predominantly vulnerable to changes in climate. In recent years there has been an increasing focus on planning and environmental issues for costal structures which mainly aims at developing sustainable built environments. (Allsop 2005) However current tendencies in costal developments around the world does not reflect this notion: The Pudong district grows vertically from the marshes in Shanghai, high rise towers are constructed on newly formed islands off the coast of Dubai and in Easthampton a New York waterfront site was recently sold for more than 100.000.000§.
These tendencies leads Jonathan Barnett and Kristina Hill to conclude that: "The possible effects of storm surges, on top of a global rise in sea level, don't seem to be influencing how investors, governments and tenants are making decisions about all this". (Barnett 2007, p. 14)

Due to climate changes cities are increasingly forced to resist more frequent and extreme weather events and more climate variability. Thus the relationship between climate change and urbanization will be of vital importance to the future well being of the human population. With over half of the world's population living in urban areas it is important to acknowledge the threat climate changes impose on cities and inhabitants. A pivotal urban design challenge is to ensure that cities can deal with the consequences of unpredictable future threats such as natural disasters. They need to adapt to this situation and attempt to prevent or reduce damage to the built environment. It is however important to set aside the idea that cities should become 'climate proof' and instead aim at making them 'climate adaptive'.

Adaptability implies integration of both short and long term solutions. Immediate and short term solutions might be radical such as relocating communities and changing construction methods. In a long term perspective the solution can be to apply forecast and risk analysis to urban planning in an attempt to comprehend the challenges cities face. Adaptability can be comprehensive and expensive, but the alternative scenario might possibly be even more expensive and have far reaching consequences. (Danish Minstry of the Environment)

Handling this unpredictability requires both long term strategies and short term flexibility and adaptability. It is impossible to protect cities entirely against such changes but "we can strengthen their ability to bund back and long-term sustainability by making sure that the mindset and tools available to meet such challenges are at our disposal and capable of doing the job". (Danish Minstry of the Environment)

Designing climate adaptive cities calls for a flexible organization of urban structures to enable rapid decisions and immediate action in crisis situations. It also demands a flexible approach to urban planning where strategies and plans are continually adjusted and evaluated to meet changing needs. It is an open minded approach that makes room for experimentation and bottom-up initiatives. (Embrace crisis, chaos and change) Thus it becomes important to focus on a specific city characteristic when discussing what is required for planning to make a difference within disaster management: resilience.

The following section elaborates on the term: resilient city. It advocates an understanding of a holistic approach to urban planning and climate changes emphasizing the importance of developing proactive strategies for how to build resilient cities. In continuation hereof disaster management is related to the concept of temporary cities. Interim urbanities present an understanding of city, which is not centered on form but presents a potential in the city, which can be explored. Furthermore general concepts such as adaptability and flexibility are studied through the avant-garde groups SI, exemplified with works of Archigram and Cedric Price, and the Japanese Metabolism Movement.

5.1 A Vulnerable City System

This section will outline a view of the city as a dynamic system – a process which is always underway. (Gausa 2003, p. 583) Crimson Architectural Historians advocate the recognition of three dynamics of power that influence the making of cities: hard-, org- and software. (Crimson 1997) Hardware represents the structures which make the city, software the ways people use the city articulated through social networks and orgware that constitutes the layer of organizing, regulating or financing structures that operate in the city. (Crimson 2007) As such this understanding does not support the city perceived as a coherent unit that can be steered through a top down approach alone. They describe this mistaken perception of city as a `phenomenological fog whisking you away from the streets to a civic never-never land´: a powerful description of a dangerous and mistaken belief in city equilibrium.

In prolongation: "Traditional theories about space have been heretofore relatively static and centralized, with little interest in the dynamic shapes that assert themselves more forcefully each day." (Gausa 2003, p. 583) Those dynamic shapes refer to the same constructions of power, which Crimson present as the new material with which cities are built. The contemporary city is continuously being discussed in order for professions to come to terms with its architectural manifestations. However; a shift in focus towards the relation between the parts of the city have sprung forward as an agenda that does not – for some to much frustration – only concentrate on the superficial part of the urban system: those build icons that merely act as attractors. (Guallert 2003, p. 584) This agenda requires a re-evaluation of profession and existing role-systems:"…architecture will have to mutate into an activity that initially participates in the creation of this new system." (Gausa 2003, p. 584)

An understanding of city as a system consisting of both hard-, soft- and orgware must, on equal terms as the previously conceived rationally permanent city, react to a given disaster. However; this would entail reactions on levels that expand beyond reconstructing physical damages. When dealing with the city in the aftermath of disaster different mechanisms need to be considered: existing agendas and narratives, the affected people as well as the changed physical fabric of buildings and infrastructure.

Vulnerability is a key aspect when it comes to discussing city systems and disaster management, in that it relates to the capability of a city system to cope with the consequences of disaster. Despite initiatives on vulnerability reduction (See Learning From), systems are continually being challenged and the vulnerabilities of people and places continue to increase in many developing countries. Among factors that contribute to the rise of vulnerability are war, terror and climate changes. As phenomenon terror, war and environmental disasters differ from each other however, they can be compared in relation to their affect on city systems. Other factors that add to vulnerability are the level of preparedness within existing contingency planning but perhaps most importantly social processes. To a certain extent they cause some people to become more vulnerable to the effects of disaster than others. And social processes are a result of power configurations in a given society: "While hazards are natural, disasters are not". (Bankoff, Hilhorst xxxx, p.2)

In the book: Risk Society – Towards a New Modernity, Ulrich Beck argues the coming of a new modernity: "In advanced modernity the social production of wealth is systematically accompanied by the social production of risks."(Beck 1992, p. 19) This is the reverse side of modernity: it is no longer a given that modern society leads to progress alone – instead it distributes 'bads and dangers'. Moreover, the coming of a new modernity prescribes there being an old one. And this was manifested through the industrial society that distributed goods. However, as society develops side effects follows making the relation between development and its consequences more complex: new developments may be regarded as progress to some – but for others these developments reduce freedom and possibility. (Andersen, Kaspersen 1996)

Disasters are an example of one of these produced risks. To some extent disasters are socially created and thus depend on decisions that have been made in society. As an example of climate related disasters man-made activities mitigate C02 which results in rising sea levels and water temperatures. This leads to more severe storms and heavy rainfall. War and terror are examples of other kinds of disasters that are very much so grounded in society. Again, other risks such as biological weapons and exhausted soils are far more difficult to perceive. One common denominator though is that these risks do not limit themselves to act within national states. They are per definition trans-national and require joined efforts across borders.

One important characteristic of the new modernity is that it is reflexive: "modernization is becoming reflexive; it is becoming its own theme." (Beck 1992, p. 19) We are becoming continuously aware of the risks that are being produced. Furthermore, as stated before the produced risks are not objective but are objects for translation. (Andersen, Kaspersen 1996) The distribution of these dangers is a key issue. Just as modernity sought to distribute products in order to ensure welfare, risk society now stands in the dilemma of having to distribute the 'bads and dangers'. In this respect the awareness of risks becomes a politic discipline: modern society possesses powers of destruction.

5.2 Interim Cities

The subject of temporality is related to post-disaster management as post-disaster provisional housing is of a temporary character, filling up space and time while the prevailing state of things is reestablished. From a contingency discourse the relation between 'before' - and 'after' urban disaster is regarded as a mere transition between conditions, where the established interim situation is reduced to an urbanism of necessity.

Populations are on the move everywhere and interim urbanities are erected as provisional, ad hoc solutions as a response to displacements caused by natural catastrophes, conflicts and poverty. These interim solutions that are planned from the outset to be impermanent often, over time, turn into permanent fixtures. (Bertsch 2006) Examples span from theatrical and artistic events occupying urban spaces claiming the advantage of temporality to refugee cities occupied for decades. Such urbanities challenges the relation between that, which is preconceived as a temporal state and something which must be regarded as an urban milieu containing (as the lowest common denominator) permanent qualities.

This nomadic tendency of contemporary culture is a condition that stands in contradiction to the image of the city as a 'time-honoured', stationary entity. Our urbanity has to a great extent become a temporary urbanism and concepts such as impermanence, provisional, instability and ephemeral replace conventional terms. This shift from notions on fixed localities to temporary accommodation and activities for mass migration requires equivalent forms of flexibility in planning and a new understanding of the city. The social consequences of rapid urbanization encourage temporality and flexibility when designing urban spaces (Bevan 2006).

The former head of planning in Barcelona Joan Busquets touches upon this subject stating that "Cities are changing their geography - it's time to develop a flexible urbanism" (Busquets 2007). His experience stems among others from his involvement in the planning of the 1992 Olympic Games. Cities are expanding beyond borders defined by planners and these new urban structures are often perceived as formless. This he emphasizes is far from reality, and goes on to underline the importance of understanding and working with these emerging new urban forms. The key issues to a flexible approach is to understand the city as an open system and to operate simultaneously on different scales acknowledging that the city no longer lets itself be planned in a traditional understanding: to break with the tendency that planning is for the long term and not accommodated to adjust to rapid changes in use. (Nielsen 2007)

"Whether brought about by natural catastrophe or initiated by choice, instant cities emerge, only to disappear again just as rapidly. This has given rise to non-paradigmatic terminologies such as relief urbanism, deadline urbanism, or event urbanism." (Holcim Forum 2007)

While Busquets talks about flexibility in planning for new urban structures, architect and PhD candidate Penelope Dean emphasizes the temporal aspect of a flexible, temporary urbanism. One he denotes as 'deadline urbanism'. The fact that global events such as Olympic Games require short term, one-off plans or the reality that urbanization in China occurs at a pace that leaves little sufficient time to plan indicates that new approaches has emerged. Tendencies like these have given rise to a new type of urban plan that incorporates a time variable:"Instead of plans producing deadlines, deadlines now produce plans". (Dean 2005)

Unlike modernist rational planning that relied on the 'fixed, big picture master plan – an inflexible static model' – deadline urbanism operates in the immediate short term, relies on fast response and acts rather than reacts. It is a temporal planning practice - a combination of a scenario and a master plan. As a flexible, time based and dynamic model it deals with risks in real time and emergencies can be accommodated. (Dean 2005) The tool is the deadline plan which is dictated by time based events more than imposed models and ideals. This plan incorporates a build in obsolescence – a use by date – that enables it to 'perform under economic rationalism, meet budgets and satisfy schedules'. (Dean 2005) With a 'short term, quick fix design agenda' the plan is outcome-focused and unlike the master plan it is not as much interested in comprehensive wholes but realizable parts.

Examples of deadline plans are Olympic cities. Planned to accommodate temporary events their validation lies in their ability to adapt to the existing city scape and transform into a permanent urbanism. Planning for this type of event based urbanism is a gamble. The plans are produced quickly, exclusively for a time limited event and with no guaranty of an afterlife. Time, date and place generate urban plans that are 'ultimately fast and disposable' --- a new aesthetic.

5.3 Retelling site and place

When working with transitional cities the retelling of a given site is important. In the event of disaster the physical environment is affected – in parts even erased. As a result the city fabric is automatically turned into a site for reconstruction: both in terms of repairing the damaged but also in terms of rebuilding the destroyed.

Interim uses of spaces in the city must relate to already established uses in that they are presenting uses in an already utility saturated context. In the example of post disaster provisional housing a proposed urban design would inscribe itself in a plethora of discourses relating to contingency planning. In order to understand these, this section will call attention to the consistent interplay between place and site, which goes on within the planning profession.

To some extent disaster events overturn previous narratives on a given site but they also reveal social structures of the context. (See Chapter: 5.0 Resilient Cities) This was very clear in the aftermath of Hurricane Katrina. Furthermore, in this case the view of the disaster event in itself is being increasingly considered as an initiator of a new and better beginning. This shifting focus, from the disastrous consequences to people and material, to the expected bettering of conditions is to some extent what can be expected to occur with time however; it also reflects the power of the narrative – the good story.

"All sites exist first as places. Before places become object of urban planning and design, they exist in personal experience, hearsay, and collective memories. Standing between planners and designers and the sites on which they hope to act are socially embedded narratives…". (Beauregard 2005, p. 39)

Here Beauregard presents his thesis on the relation between place and site. Place is understood as something embedded with personal narratives and uses – familiarities and subjective understandings. These characteristics will always be present, leaving places dripping with meaning and pre-existing conditions that cannot be erased: "Places are never empty."(Beauregard 2005, p. 39) In extension, site is a term covering the planner's approximation to the place. This approximation is necessary in order for the planner to engage with the place and it entails a simplification of the embedded narratives and uses. As such the interpretation of place is an act of power: the planner deliberately chooses which understanding of place should make out the foundation of a future design proposal. Thus site is constructed on the basis of place. Constructed by professionals which must hierarchic sort out narratives in order to take control: "They turn what they are given into what they know..". (Beauregard 2005, p. 41)

These transitions between place – site, and ultimately back to place through the appropriation of space are the results of a site discourse: "Professionals isolate in order to control, and this hermetic move enables professionals to claim that their depiction captures the foundational nature, the truth, of the place – at least for purposes of development." (Beauregard 2005, p. 41) The formulation of this discourse stems from the overall notion that `planners and designers abhor narrative vacuums´ (Beauregard 2005, p. 54) leaving them with one option alone: to acknowledge and be aware of their methods for sorting and choosing between narratives. When the term site per definition is legitimized through its transitional characteristic – as places transform into new places – the foundation on which a new place is constructed is in fact constructed too.

When dealing with urban planning concentrating on offering in-between solutions to a forced reality, the relation between place and site, such as Beauregard presents it, posits a significant tool for awareness. Awareness of those choices made that effects the way the interim structures are to engage with old meanings and perhaps establish new ones. In relation hereto Throgmorton states that planning can be thought of as a form of persuasive storytelling, reflecting an outlook on planning as a future oriented profession with the planner in center as the narrator, who makes possible futures known to those supposed to live in them. (Throgmorton 2003)

Throgmorton takes a stance to the nature of this storytelling-practice. He recognizes emotions as the guiding force behind the planner and as a result the planning discipline becomes normatively grounded. Thus he rejects final judgments about the true story and emphasizes relativity between narrator – the story itself – and the interpretation of it. In that way the act of story-telling is in fact a communicative act. So the key issue remains: on route to the persuasive story, what have been chosen and perhaps equally important, what have been rejected?

In continuation hereof Kevin Rozario argues that: "disaster zones are significant as cultural construction sites." (Rozario 2005) He emphasizes the need for a re-construction on two inter-dependent levels. As stated before the most visible effects of a disastrous event is the impact to the physical environment. However; just as important as the re-construction of homes and neighborhoods is the re-configuration of place.

"When offices, stores, and homes are suddenly and unexpectedly annihilated, it is necessary not only to manufacture new material structures but also to repair torn cultural fabrics and damaged psyches. With this in mind, I propose to explore the relationship between the rebuilding of cities with mortar and bricks and the rebuilding of cultural environments with words and images in the aftermath of great urban disasters – a double process neatly caught in the twin meanings of the world reconstruction as "remaking" and as "retelling". (Rozario 2005, p. 27)

Disasters and narratives depend on each other; thus engaging with post disaster provisional housing entails an engagement that does not relate to the build environment alone. Both Beauregard and Throgmorton underline the importance of narratives in relation to the discipline of planning. And when it comes to engaging in post-disaster periods the normative aspect which Throgmorton describe will unavoidably be influenced by the situation.

The discussion of interim cities, temporary urbanism and flexible planning or in general transitional cities, is no new phenomena however evidently relevant in a contemporary planning perspective. It draws upon theories and concepts developed by the Situationists during the 1960s and 70s where new urban models and experiments embracing the notion of obsolescence, temporality and megastructuralism appeared. Following section outlines concepts and cases that touch upon the subject of interim cities.

5.4 A city of situations, SI

Situationism covers a range of different subgroups seeking a confrontation with a view of the city as a static environment and its inhabitants as mere spectators. Situationist International or SI existed from 1957 to 1972 and was constituted on the background of two other avant-garde groups: Lettrist International (1952-1957) and the International Movement for an Imaginist Bauhaus (1954-1957). The movement protested against modernism and rationality in that they did not believe in the reduction of man into a part of a capitalized system of images, representations and products named `the spectacle´ (1998 Sadler). In this world of spectacle the individual was isolated and the authentic life was believed reduced to mere appearance.

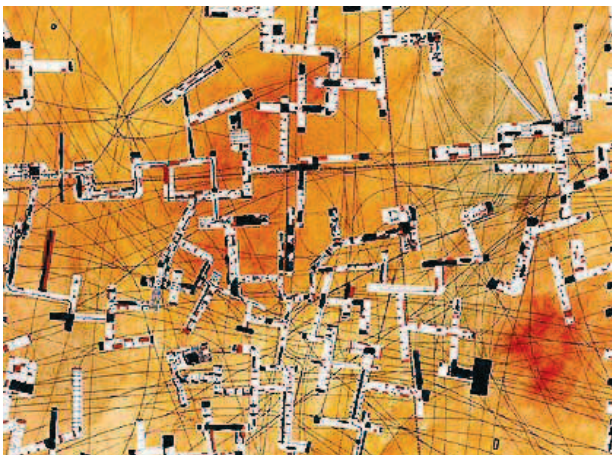
SI wanted to be not another avant-garde group but the last. This reflects the inherent rejection of the academic world of interpretations and its given ideas. The group sought an involvement and participation resulting in active urban milieus with no veil between society and people. Academic analysis was criticized for being merely non-engaging and descriptive: "The passions have been sufficiently interpreted; the point now is to discover new ones." (1957 Debord, p. 11)

The concept situationism hints to the underlying and unifying mission of pursuing:"…the production of environments that permitted and fostered the creation of `situations´; moments of intense pleasure and playfulness that would subvert, dislocate, and undermine the `normality´ of the everyday and show it to be what it really was, i.e the putrid, stale, alienated, and repetitive cycle of the ever same." (Swyngedouw 2002, p. 7-8) This quote testifies to the low regard which SI had for the life lived in society and freeing the individual from the constraints of society thus became a central and repetitive idea with two specific concepts connected to it: alienation and emancipation.

In relation hereto, the city was in one way regarded as a representation of capitalism where the alienated life culminated, but on the other hand SI also recognized the city as the environment where the much sought after emancipation of the individual should take place. (Swyngedouw 2002) This positioned the city in a dilemma. As a place for fulfillment of desire and source for the formulation of new desires it presented an indispensable element in the pursuit of life. The result was a concept of unitary urbanism that came about through the use of psycho geography, detournement (diversion) and derive (drifting) – methodical tools developed with the goal of creating a new understanding of city: "The most elementary unit of unitary urbanism is not the house, but the architectural complex, which combines all the factors conditioning an ambiance, or a series of clashing ambiances, on the scale of the constructed situation." (1957 Debord, p. 8)

Unitary Urbanism emphasized the will of the inhabitant as the shaping power. The thought up urban forms should be modifiable in order to comply with the will of the user (Ivain 1953) leaving the role of the planner less defined and determinative. Debord shifts focus from the physical elements that makes a city: walls, columns, floors and ceilings to `emotionally moving situations´, which should be the new building material within architecture. "And the experiments conducted with this material will lead to new, as yet unknown forms." (1957 Debord, p. 8)

These unknown forms have been explored through the works of Archigram, Cedric Price and the Japanese Metabolists: all avant-garde groups that sought to define a new approach to planning placing distance between the rationality of modernity and the complexity of the post-modern society. In their joined efforts they pose a radical reformulation of the modern city ideology that repositions both power and initiative. Recurrent themes are temporality, replacement of parts, the focus on non-form and thus an understanding of city that focuses on the partial instead of the entirety.

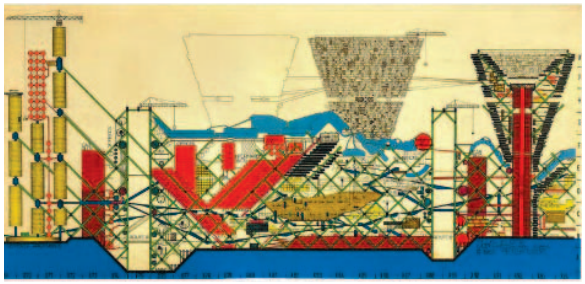


Ill. 20: New Babylon

5.4.1 Case Study, Archigram

Project: Plug in City
Architects: Archigram/Peter Cook
Analyzing and critiquing the corporate modernism and rationalist urban planning the Archigram architects questioned the very fundamentals of architecture and urbanism – from its relationship to society to the production of buildings. In fact they questioned the need for building at all and suggests that in order to survive we must "invent new artefacts, new situations, and regard shelter or urbanism merely as a term of reference that does not demand a 'house' or a 'city".(Cook 1972)

Their approach to design was the idea of 'metamorphosis'- the continually changing but always existing environment. Bewitched by nomadic fantasies, they argued that "an architecture based on mobility and malleability could set people free". They created fantasy utopias - entire cityscapes that were never build but encouraged a reevaluation of the build environment. These fantasy utopias present their view on the quality of city life: its symbolism, its dynamic and its dependence on situations as much as established form. (Sorkin 1998)

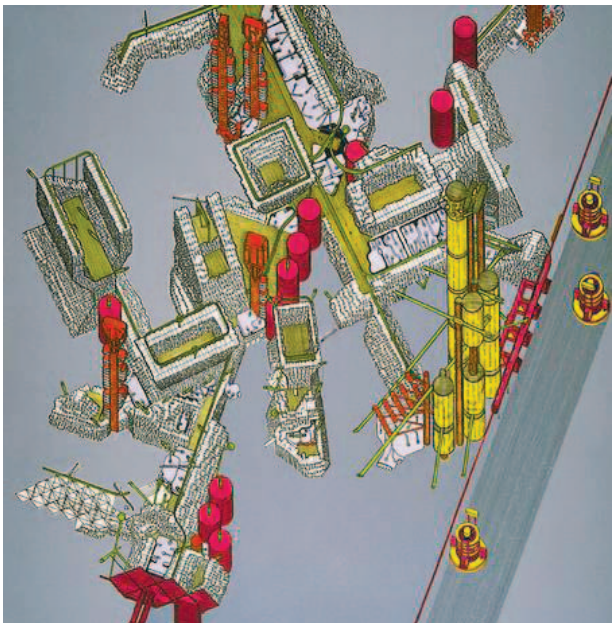


Ill. 21: Plug In City

Their project 'Plug in City' is a proposal for an imaginary and temporary environment that reflects the mobile lifestyle promised by the auto industries and the information technology. It is a combination of ideas and elements that investigate what happens if entire urban environments are programmed and structured for change. It is a city mega structure containing no permanent buildings, just a massive framework into which dwellings can be slotted. According to Peter Cook "The plug in city is set up by applying a large scale network-structure, containing access ways and essential services to any terrain. Into this network are placed units which cater for all needs. These units are planned for obsolescence". (Cook 1972)

All components are connected to a grid providing each capsule with its necessary functions. Each silo has its own purpose, from schools to commerce to dwelling. The mobility of capsules is provided by means of cranes operating from a railway on top of the structure whereas the mobility of the functions is managed by hovercrafts moving in between the silos. It is a mega structure of infrastructure connecting towering silos of movable units. (Cook 2007)

The project proposes an alternative to the known city form. Containing futuristic but recognizable hierarchies and elements it is a society build of temporary elements that will eventually become more permanent. The ever-moving and ever-changing elements of the design represent a hierarchy of relative permanence which is visible in the cross section (fig) where the longest-lasting elements tend to be placed at the base of the section, and the shortest lasting elements tend to be at the top or the periphery.
(Cook 1972)



Ill. 22: Plug In City

The plug in city is a physical representation of mobility and adaptability. On a human scale the project characterize the possibilities and tendencies of a nomadic population. When providing people with the ability to move in short periods of time obstacles related to relocation will be reduced and jobs, houses and lives will become semipermanent and global. The mega structure is thought to infiltrate the city as already built by using the paths made by cranes and expanding the already existing infrastructure. In an urban perspective the structure links the existing centres of population and it was even proposed that the structure could penetrate city boundaries and connect entire countries. (Sadler 2007)

5.4.2 Case Cedric Price

Project: Fun Palace (7 acre =30.000 m2)
Architects: Cedric Price
Another architect also occupied with the situationistic tendencies in architecture and urbanism was Cedric Price. With concepts such as 'time based urban interventions' and 'anticipatory architecture' he emphasized the notion of impermanent architecture and urbanism designed for continual change. He believed that the role of an architect was to ask the right questions and to find elegant solutions to everyday problems at the same time advocating that architecture should be 'liberating, enabling and life enhancing'. (text) Most of his works are characterized by a flexible approach which extended to all aspects of his work. He possessed a radical idea of what architecture might be and used a pragmatism almost comparable with the approach of an engineer. (Mathews 2007)

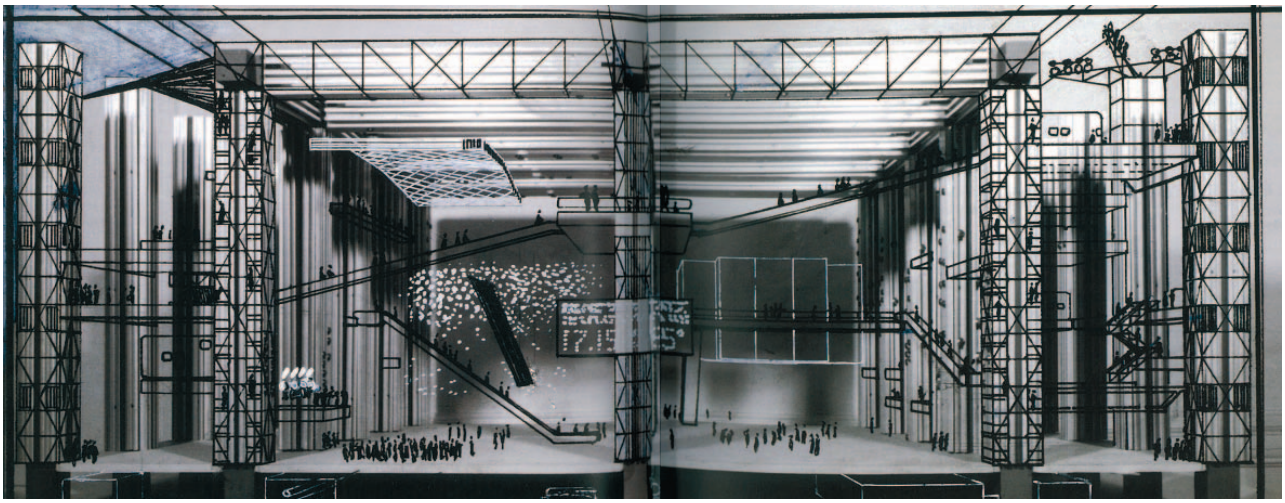
His projects present urban models of mobile, social spaces and one in particular: 'the Fun Palace' - an unrealized project from 1960-1960, shows his somewhat provocative approach to architecture and urbanism. In this project he worked with Joan Littlewood to create an "improvisational architecture endlessly in the process of construction, dismantling, and reassembly." (http://www.audacity.org/SM-26-11-07-01.htm)

The idea was to design a flexible performing space - a laboratory of fun, with facilities for dancing, music, drama and fireworks. Visually the project is imagined as a provocative panorama of mega structures and programmatically it is a "proposal for a temporary, multi-programmed twenty-four-hour entertainment center that marries communication technologies and standard building components to produce a machine capable of adapting to the user's needs and desires" (Lobsinger 2000, p 24).

The project proposes not a building but a 'kit of parts' where pre-fabricated walls, platforms, service towers, cranes, escalators and lifts enable the interior environment to fit any sort of event. The exterior physical frame consists of an unenclosed steel frame conceived as a skeletal framework, within and around activities can grow and develop. Virtually every part of the mega structure is variable. According to Price "Its form and structure, resembling a large shipyard in which enclosures such as theatres, cinemas, restaurants, workshops, rally areas, can be assembled, moved, re-arranged and scrapped continuously." (Mathews 2007)

While the structure and form is described using the metaphor of a shipyard – the interior layout of the palace is organized as basilica with a main nave, two aisles and a transept in shape of a crane. The central nave hosts the mass activities (movies, theatre and rallies) and the side aisles hold the 'human servicing activities' (restaurants, bars, children areas and workshops). In the layout there are only two forms of access – by water and by air. The river, the helicopter and a long distance observation deck are the only relations to the exterior. (Mathews 2007)

Made up by a 'kit of parts' the Fun Palace is not a building in a conventional sense. Price refers to it as an 'anti building' where "the varied and ever changing activities will determine the form of the site" (Mathews 2007, p.73). In order to enclose these activities and to be adaptable to the shifting cultural and social conditions the anti-building must be equally flexible. In this project, unlike in 'The Plug in city', flexibility and variability is not based on physical obsolescence, fashion or taste, but the constantly changing programmatic needs of the users. It is a laboratory for creating situations where not only the environment is subject to change but the people as well. (Mathews 2007)

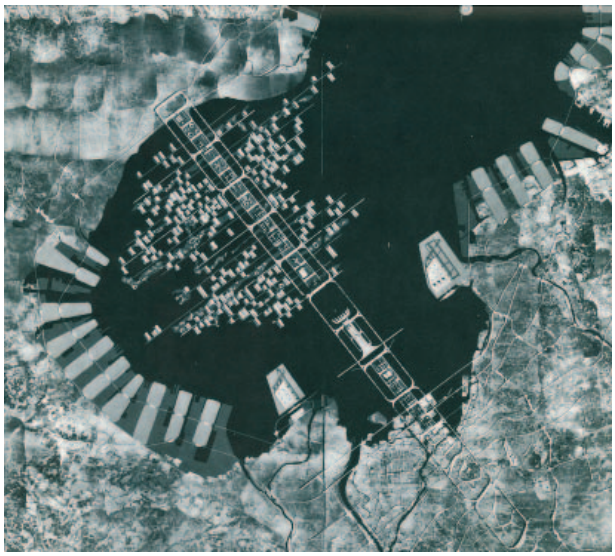


Ill. 23: Fun Palace

5.5 Japanese Metabolism

As a reaction to the modernism movement four practicing architects and one architectural critic from Japan proclaimed a shift going from: the age of the machine to the age of life. The headline was Metabolism: the biological process through which life is maintained as a cycle of producing and destroying cells. (Franklin Ross 1978, p. 7) Transferred to architecture and urbanism the movement advocated systems dealing with the problem of rapid urban growth through the introduction of mobile and flexible elements instead of a fixed urban form. (2004 Pernice) As such the Metabolism Movement can be related to SI and Archigram.

After the Pacific War Japan was undergoing a change from a rural to an urban society while trying to rebuild itself, and in this time of development the country wished to absorb Western thought in order to improve its industrial system: "…no other goal than to measure progress by degree of Europeanization".(Kurokawa XXXX, p. 2) With the publication of the manuscript: Metabolism 1960, the Metabolism Movement set a new agenda opposing with the adoption of western ideals with a critical theory of society that was in part also an architectural theory (Pernice 2004). Although springing from nationally specific premises, this manuscript coincided with the international critique of the modern movement.

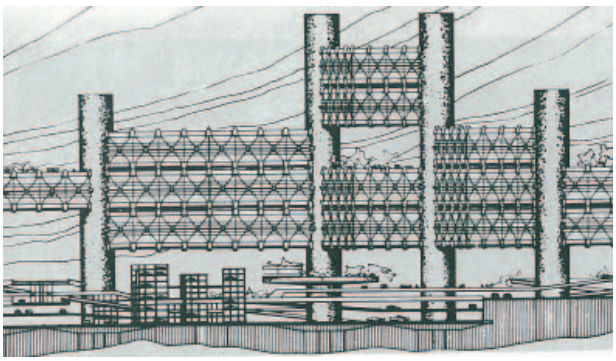


Ill. 24: Plan For Tokyo

In contrast to Modernism, Metabolism sought an architectural system which was open spatially and temporally, and where each part of the system could be replaced or simply removed according to need and correlation to the other parts. As such: "The city is conceived as a metaphor of the human body, and is seen as a structure that is composed by elements (cells) that are born, grow and then die, whereas the entire body continues living and developing." (Pernice 2004, p. 359)

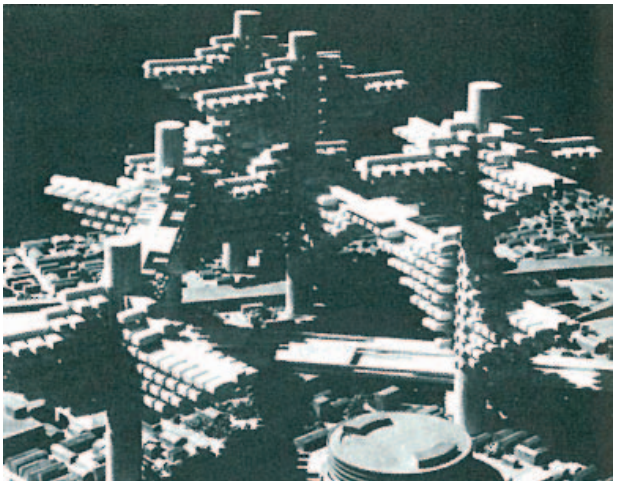
The metabolism recognized another order than that of man: a respect for the system of nature resulted in a focus on ecology, symbiosis and sustainability. Kurokawa states that the architecture of life – referring to the thoughts of the Metabolism movement – expresses meaning and not function (Kurokawa xxxx). As a consequence the proposed architectural project of the Metabolism movement was based on temporality, exchangeability and a plurality of life.

Project: Plan for Tokyo, developed further into the Tsukiji Plan
Architect: Kenzo Tange and Urtec
One of the most significant proposals for urban development was the urban plan for Tokyo in 1960 by Kenzo Tange and URTEC. Here Tokyo was expanded across Tokyo Bay in a series of mega clusters with a row of linear loops presenting a grid-like structure that covered the water surface. (1978 Franklin Ross) This plan was refined later on – a section was developed into the Tsukiji Plan which presented the idea of lifting up the infrastructure, while linking huge core shafts that functioned as vertical servicing elements to horizontally oriented ground floors. In that way the Tsukili Plan presented a 3 dimensional city system of elements playing different roles in relation to use and structural characteristics. A skeleton of infrastructure serviced and stabilized a more rapidly changing layer of residences reflecting Tange´s ambition to incorporate adaptability to change. This was a through going aspect of Metabolism projects.



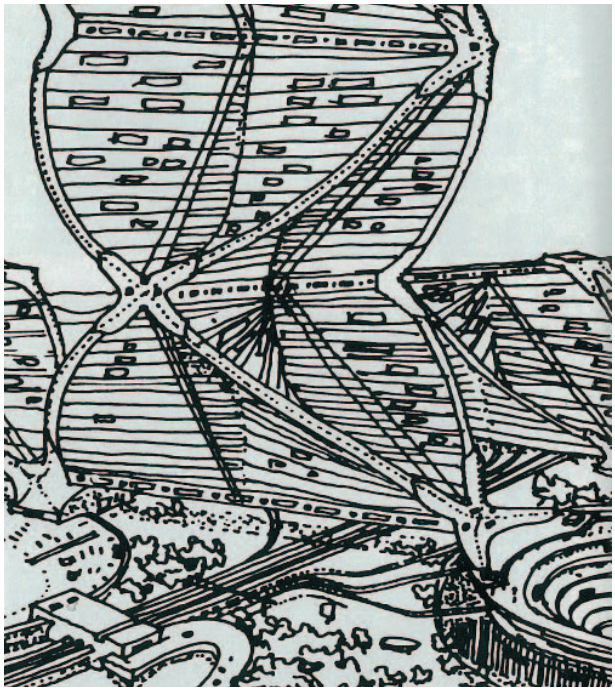
Ill. 25: City in the sky

Project: City in the sky
Architect: Arata Isozaki
In correlation hereto the proposed project `City in the Sky´ from 1962 by Arata Isozaki also worked with vertically oriented core shafts and horizontally branching arms. These supported plug-in residential units that could be added or removed according to need. Thus the system corresponded to the Metabolism idea of flexibility in a dynamic society.



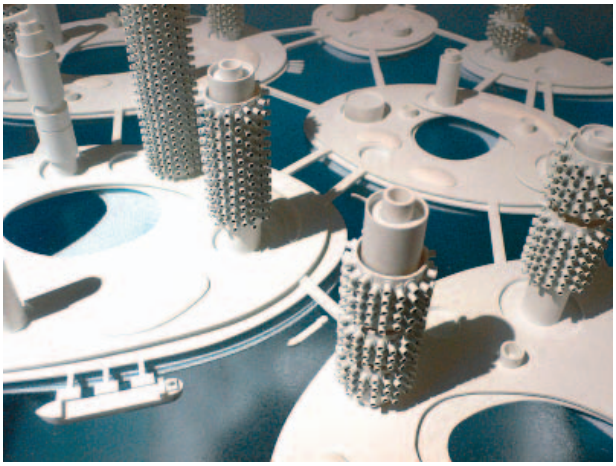
Ill. 26: City in the sky

Project: Helix City
Architect: Kisho Kurokawa
Around the same time Isozaki designed the `City in the Sky´ Kisho Kurokawa designed a proposal for a Helix City. The design was based on a translation of the DNA string into cylindrical floating cities with grid towers twisting around their own center rising vertically from the ground. (Franklin Ross 1978) The system incorporated horizontal infrastructural elements and living units that fitted into the spaces defined by the structure. This project also explored new ground in that it was imagined as water based urbanity thus commenting on the growth dilemma experienced in the Japanese cities at the time.



Ill. 27: Helix City

Project: Ocean City
Architect: Kiyonori Kikutake
This project proposes the placement of man-made island slabs as new ground for high cylindrical tower structures into which smaller living units could be plugged in. The project could obtain a high density of people but with the ensured exchangeability of the different elements, the structure remained flexible and as such responsive to the requirements of society. With geometrical shapes a certain monumentality separated this project from the clear identifiable grid-system seen in the other presented projects.



Ill. 28: Ocean City

5.6 Conclusion

The previous paragraphs have advocated a holistic approach to urban planning dealing when climate related disaster scenarios. This entails considerations on a number of different levels regarding both the physical damages but also social consequences. Thus it hints to the fact that concentrating one-sidedly on providing provisional housing for displaced climate refugees is – still relevant off course – but never the less a reactive response that neglects to acknowledge other significant factors. Let's evaluate those which have been outlined in the previous paragraphs.

Theory
A disaster affects the entirety of city systems: both hard, org- and software. For the contemporary city this is a reality that establishes a conflict. Risks can no longer be separated from the hard-, soft- and orgware of the city but are in fact results from the relation between the two. Decisions on an organizational level govern the way the physical environment is planned, which in turn often increases a given city's vulnerability in relation to disaster. Thus it is an open-ended cycle that results in cities continuously forced to change –truly becoming process instead of fixed form. This demands a heightened awareness of the relation between the parts of the system thereby acknowledging – so to speak - the un-built of the city.

Si, Archigram, Cedric Price and Japanese Metabolists all recognized and emphasized the interim city. Their background for doing so was different however; the theme of not distinguishing between temporality and permanence in order to do either or is recurrent. This planning rationale required new methods for dealing with the elements of the city that were not built – were not fixed in permanence and was not supposed too.

Thus temporality and flexibility were key criteria - both within programmatic endeavors and when designing the physical. In terms of the programming of city scapes they were programmed for change and not against, in that both physical elements and uses were to be exhausted and replaced by other emerging needs. In that way the described cases wanted to introduce responsiveness to the demands of society. The Japanese Metabolists fostered an understanding of city as a living organism with the indispensable characteristic of continually changing while SI repositioned power into the hands of inhabitants encouraging them to use (and react too) the city and in that way foster situations in its milieu.

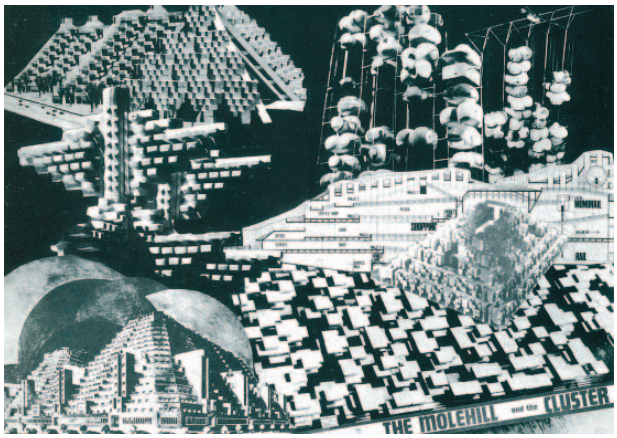
One might argue this leaves the discipline of planning with no certainties. However, the certainties have merely changed character. Instead of planning for the unit it entails planning for the environment that is dictated by time based events instead of being controlled by autonomously dictated uses. This requires new methodologies that do not take a starting point in form but comply with adaptability and mobility.

Risks such as climate related disasters do not confine themselves to act within national borderlines – they are increasingly portraying a world of correlations where choices made one place result in effects another place. These risks demand a planning response that can act with them, instead of rejecting them as factors from a system on the outside of the city. Applying interim reactive solutions to disasters may solve concrete time-confined problems, but does not address disastrous events as a part of the city system. Doing this would involve planning in a proactive fashion - anticipating and changes.

One final comment should be made to the aspect of planning as the re-making of places. Temporality and flexibility are defined by change that re-positions uses and un-do purposes with already built form. Places become sites due to disasters: due to a forced reality. When planners merely repair the given site they try to re-establish what is previously given. However 'NYC Offshore' advocate a discourse of site and place that strives towards bringing site back to a new place, with an inbuilt resilience for adapting to new changes.

Cases
The presented cases all – in one way or another – present an interpretation of the temporary city. This take on the city: as something continually in transit relates well with the idea that the city is NOT a static entity. This view holds a strong position in the further development of the design.

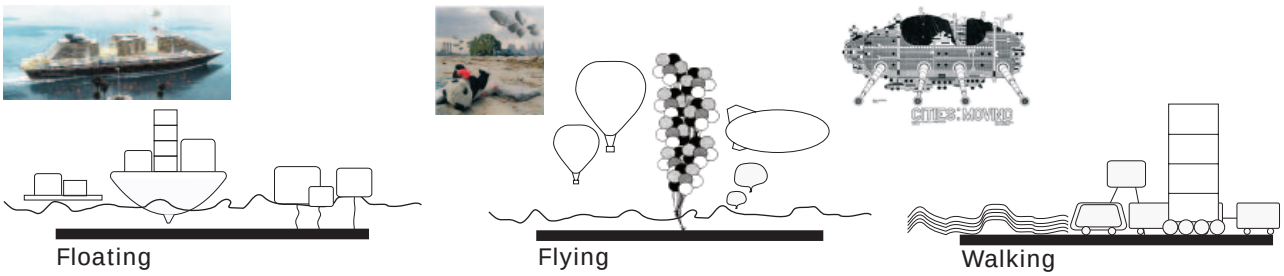
In addition, when moving forward the notion of a 'kit of parts' as well as the attendant recognition of the possible replacement of these parts according to need, will play an important part in the development of the design. In relation to designing for disaster related events the city may be regarded as a system that undergoes change and need to adopt easily to accommodate this change. Thus the 'kit of parts' pose a potential for working actively with elements that constitute a kit – or neighborhood – that can change its manifestation.



Ill. 29: Collage

p36 Learning from....

The relationship between climate change and urbanization will be of vital importance to the future well being of the human population. With over half of the world's population living in urban areas it is important to acknowledge the threat the climate changes impose on cities and inhabitants.



A record number of UN emergency appeals in 2007 were climate related – a sign that cities are only becoming more vulnerable to changes in climate. (Note til UN) The ability of cities to fight both current and future climate changes is essential. In an attempt to put the hypothetical New York disaster scenario into a context this chapter investigates how other cities have dealt with climate related disasters. The motivation is to gain an understanding of how these dynamic situations impact the urban fabric, and some of the questions sought answered are; how the process was handled, how the cities dealt with the situation of relocating and temporary re-settling massive groups of people and which strategies are implemented to create cities adaptive for future disasters.

The initiating section of the chapter outlines a set of rationales relating to urban costal development. These strategies are developed on the basis of 'costal development methods' (Barnett, Hill 2007) and by drawing in case studies testifying to how other cities have integrated sustainable and preventive measurements.

Elevating houses
Development can be raised above flood levels in its current place. In costal regions raising individual houses a storey or more above the ground level is a growing tendency. Elevating houses prevents flooding and enhances the structural integrity.

Elevating ground
In denser areas rising single units is not an ideal strategy. Here it would make more sense to raise the streets and buildings for entire districts. Raising whole urban district is possible although expensive.

Displacing individual houses
Development can be relocated: moved away from the shore, and the coastal edge can be restored to a state that will accept the fluctuations of rising sea levels and storm surges. This strategy may be applied to single houses, neighborhoods or entire cities.

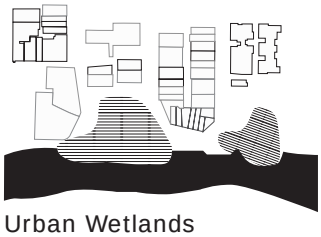
Displacing urban districts
The strategy of displacement may be applied also to neighborhoods or entire cities. Compared to displacing houses these categories may prove challenging, but in a longer perspective effective.

Protective levees
A frequent measure in highly exposed costal neighborhoods or cities is the construction of levees - natural or artificial slopes or walls that serve the purpose of protecting land against flooding by preventing water flow into specific water regions.

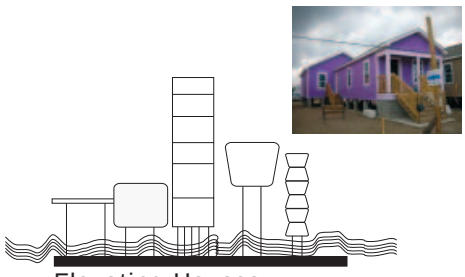
Controlling dams
Dams are barriers that divide waters. They serve the purpose of retaining water and control the water flow.

Constructed urban wetlands
In the shape of artificial marsh or swamp urban wetlands are constructed to discharge wastewater, storm water runoff and habitat for wildlife. In an urban context the wetlands may take on human related values such as contact with nature and opportunities for recreational activities.

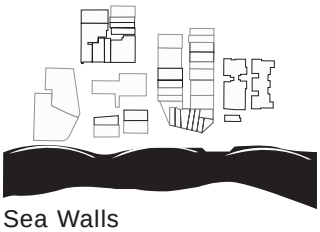
Defensive Sea Walls
As hard costal defense – artificial elements constructed on the inland part of the coast reduce effects of strong waves and serve as defense and boundary for costal edges.



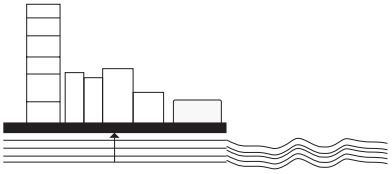
Urban Wetlands



Elevating Houses

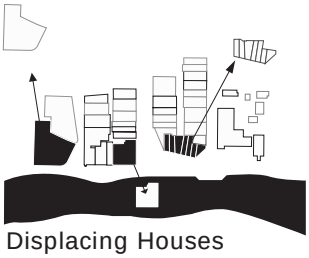


Sea Walls



Elevating grounds

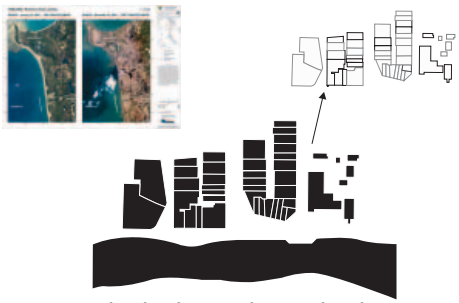
Floating
Floating elements prove useful in that they have the opportunity to easily relocate because they are per definition mobile on water alone. They have the characteristic of being able to change with rising sea levels. Cruise ships and more recently the floating apartment complex 'The World' are examples of floating cities.



Displacing Houses

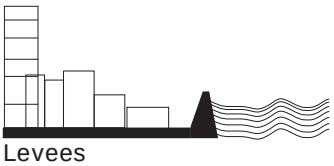
Flying
Airplanes, airships and hot air balloons are detached from the ground thus presenting a strategy of detachment from the city fabric on ground.

Walking
Mobile cities are not unfamiliar – hordes of trailer cities emerge and disappear each year across popular country sites. They depend on existing infrastructural networks.



Displacing Urban Districts

The presented strategies are examples of existing and well known forms of interventions that may be applied when dealing with climate related disasters. They are illustrated as individual strategies though interlinked by similarities such as elevation, displacement and protection. Each category posits potential and disadvantages but when joined in one list they illustrate a span of strategies that serve as inspiration for the design. Furthermore they have an overall objective of application when assessing the robustness of urban areas related to short term/long term climatic variations caused by rising sea levels and hurricane related impacts. In addition they will be drawn in order to explain and elaborate on the proposed design.



Levees

In the following section three cases will be presented that serve as substantiation and exemplification for the outlined strategies. The cases are: The Katrina Hurricane, New Orleans; The Great Hanshin Awaji Earthquake, Kobe and the Tsunami in Asia. The emphasis will be on Hurricane Katrina given that this situation in more ways than the others resembles the hypothetical New York scenario.

Dams

Ill. 30: Strategic tools

6.1 Hurricane Katrina - New Orleans

New Orleans is currently dealing with the effect of a substantial flooding due to Hurricane Katrina, which struck the city in 2005 August 25. The flooding had some obvious and concrete consequences, which the inhabitants was forced to deal with. However, in the aftermath subsequent rationalizations have revealed other consequences that are related to both the org- and hardware of the pre-Katrina city. (See Chapter: 5.0 Resilient Cities)

The intention with this section is to investigate consequences and impacts on the city emphasizing the aspect of post disaster temporary housing. Field registrations as well as conversations with inhabitants and local organizations constitute the basis for a presentation of the aftermath in the wake of Hurricane Katrina. Thus New Orleans and its post-disaster rebuilding process will serve as a case in relation to the development of post-disaster housing for NYC. (See Chapter: 3.0 Methodology)

New Orleans inhabitants are evacuated

29 Aug 2005

Hurricane makes landfall:
levees break, floods 80% of the city – devastating the homes of more than 400.000 people
Airports close

29 Aug 2005

25.000 people in Superdome, 52.000 people in Red Cross Centres

31 Aug 2005

28 Aug 2005

Superdome Opens - 10.000 people arrive

30 Aug 2005

FEMA activates the National Response Plan

50.000-100.000 people remain in the city on roofs, in the Superdome and convention centre

Airports reopen to humanitarian and rescue operations

4 Sep

Superdome fully evacuated, Cruise ships offers temporary housing for 8000 victims

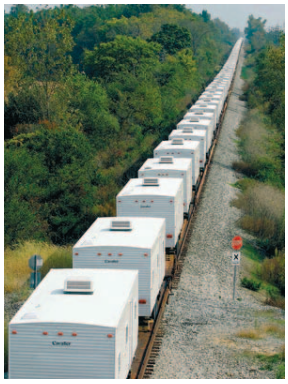
Ill. 31: Hurricane Katrina timeline

6.1.1 Timeline

In the wake of the hurricane The Louisiana Governor Kathleen Babineaux Blanco described Katrina as a "near catastrophic event". Now almost three years later it can be questioned if in fact it was not a catastrophic event, an event for which the city was not prepared. The following timeline of the hurricane scenario attempts to briefly comprehend the actual unfolding of events from pre-hurricane situation to present day.

Emergency Temporary Housing Facility / tent city for disaster victims

4 Oct 2005



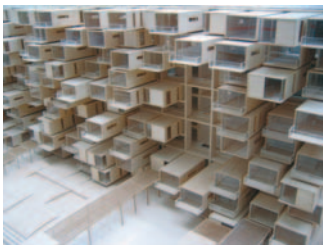
2006

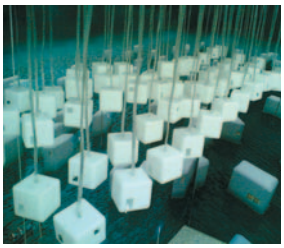
200.000 people are once again living in New Orleans, less than half of the pre/ storm population

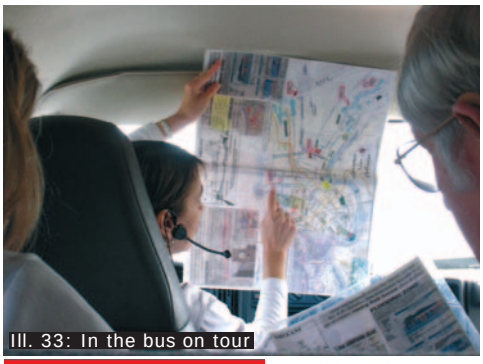
70 pct of the pre storm population has returned

2008

Ill. 32: The american pavilion






Ill. 33: In the bus on tour

TOURS BY Isabelle

Talking to...

Visiting New Orleans in March 2008 provided an understanding of the imprint the hurricane has left on the city both in terms of physical impact and social consequences. Talking to organisations, architects and inhabitants gave an elaborate picture of the scope of the devastation and the struggles of the ongoing rebuilding processes. The following accounts present a condensation of the most important points that were discussed. As such they are a mixture of quotes and summary presenting snapshots of the subjects own experiences, attitudes and impressions.

Jens Holm
Associative Architect, Rockwell group
Co-curator of the American Pavilion, Biennale Exhibition 2006

1: He emphasized the importance of not only thinking in short term solutions: “Climate disasters have long term impacts that call for long term solutions – and what happens when the next hurricane hits?”
2: The existing models do not work: the independent plug-in unit does not arrive, and the existing building structures cannot in a safe and efficient manner take in the refugees in need of shelter. Then what’s left?
3: From an urban planning perspective he stressed how important it is to be tough as a planner, to have a pragmatic approach. Post-Katrina is as much about relocating people in order to prevent another disaster, as it is about building new houses.

Tours by Isabelle
- post Katrina City tour

1: As a New Orleans citizen and experienced guide Isabelle provided an elaborate overview of the current situation in New Orleans. Driving through the affected areas of the city it became clear that both the landscape and the build structures have suffered damage.
2: The levees which were built as preventive measures broke during the storm leaving 80 % of the city under water in several weeks.
3: New Orleans is topographically described as a ‘bowl’ and some areas are situated 1.8m below sea level.
4: Wetlands which are natural buffer zones for hurricanes continuously loose its preventive effects, as they are being destroyed by climate changes.
5: There was a close connection between the areas hit and the racial distribution, but as Isabelle said:”The hurricane does not discriminate – the aftermath does.”
6: “When will things get back to normal? Some says in 10 years – if ever.”
7: “When the first shopping centre re-opened it was like a big party.”

Ill. 34 Construction site, Habitat for Humanity - Christina Connally

Habitat for humanity
Christina Connally (Real Estate Coordinator)
Casey Adams (Real Estate Coordinator)

Meeting with Christina Connally and Casey Adams gave an elaborate insight into the current situation and the process of rebuilding. Habitat for humanity is the largest 'affordable homebuilder' organisation in New Orleans and since Hurricane Katrina hit they have constructed 101 affordable homes primarily for young women with children.
Their method of rebuilding is taking over empty lots around the city on which they construct in-fill buildings. People in need apply for a house and when making a contract with Habitat for Humanity they agree to participate in the building of their house, thus learning about the construction and maintenance.
Habitat emphasizes the importance of people returning to the city. Only 70 % of the pre-Katrina population has returned, leaving entire neighborhoods deserted like ghost cities. In the neighborhoods where Habitat are constructing houses they experience that it effects the rest of the area – encourages residents to come back to fix and rebuild their houses.

1: "The city is facing a great challenge in rebuilding and re branding the city".
2: "The only way that the city can be brought back to life is if its inhabitants return".

John Gavin Dwyer, AIA
Shelter Architecture
Professor, University of Minnesota

John Dwyer has been working in New Orleans for the past one and a half year. He designs single family houses for people who were affected by the hurricane. Furthermore he also engages in collaboration with the 'municipality' developing strategies for how the business community can be brought back to a state where it helps re-establish the urban public life.

When asked which current initiatives are of most significance to the city he mentioned the construction of a new Trump hotel and business tower as an important beacon for the development and re building of the city. It's considered a first step forward and other projects are on hold waiting for this one to be successfully commenced.

1: The order which things need to happen in: "Shops need to come back, the neighborhood should be rebuilt, and people need to return."
2: "Everything that needs to be done is being done – but it is being done too slowly."

Homeless people
Two homeless characters were willing to testify to their experiences during and after Hurricane Katrina hit New Orleans. One of the subjects has been forced into homelessness while the other has been living on the streets both prior, during and post the hurricane. A tent camp localized under an elevated highway served as their and several others homes.

1: Has been homeless for 19 years and stayed in the city in a warehouse during the storm. Where he was, the water did not go too high, so it was pretty easy for him to find a safe location. Mostly he had to worry about the winds.
2: His neighborhood was flooded 8 feet during the storm. Consequently his wife and daughter moved to another city. Now he lives alone and does not see his family.

Trailerization:
The notion of temporary housing has created a new concept in New Orleans: 'Trailerization'.
The FEMA provided trailers have emerged as a new typology. The insertion of trailers into the New Orleans landscape has created 'moments' of house-to-trailer relationships and in most neighborhoods the placement mimics the traditional shotgun houses of the city. (Barton 2006)

Some residents were able to install the trailer on their property next to their damaged houses as repairs began. Trailer lined streets indicates the residents desire and intent to rebuild their neighborhoods. However, a large amount of the approximately 22.000 requested trailers were never delivered because of inadequate infrastructures and bureaucratic issues. (Blakely 2006)

DURING: Preventive Measures failed


Levees near housing

Ill. 35

AFTER: Trailerization - temporary housing


The last trailerpark

Ill. 36

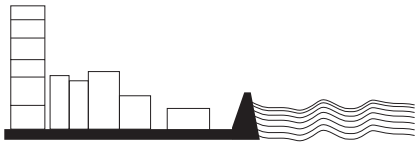
AFTER: Building 'hurricane protected' houses


Re building elevated

Ill. 37

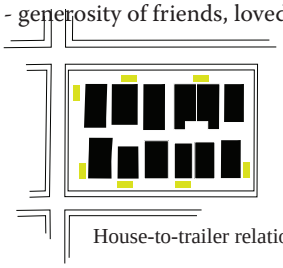
Overview levee

Preventive measures:
Levees:
The flooding of New Orleans was inevitable. Build on land was largely situated below sea level. Protected by inadequate levees and pumps the city was highly exposed to the destructive effects of the hurricane.



Decorated trailer

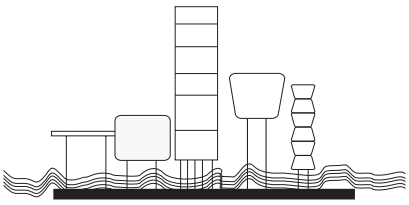
Temporary housing solutions:
FEMA applied different methods of temporary housing:
- deployment of thousands of FEMA emergency trailers homes
- use of cruise ships (3 ships – 8000 residents)
- contracting for hotels and motels
- contracting rentals and other vacant properties;
- assistance from state and local governments and businesses
- generosity of friends, loved ones and other private citizens



House-to-trailer relationship

House by Habitat for Humanity

Elevating houses:
In order to ensure the city angainst future hurricanes and floods restrictions on how to build houses were issued. Although varied according to the placement of each residential area, standards now determine a minimum elevation of houses. In the re-building process people were given contributions to elevate their house - and insurance was denied for those not complying with the rules.

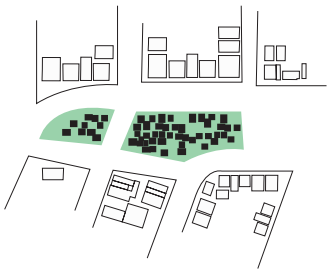


6.2 Other Disasters

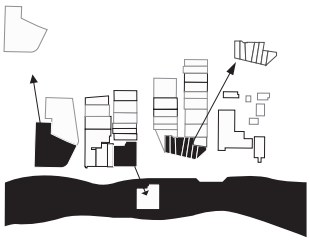
The following present two cases of natural disasters, which have echoed in the international world. Each case emphasizes the provided temporary housing as well as the subsequent rationalization.

Ill. 38: Debris

Ill.39: Damaged Infrastructures



Ill. 40: Temporary housing in Parks



Ill. 41: Displacing Housing

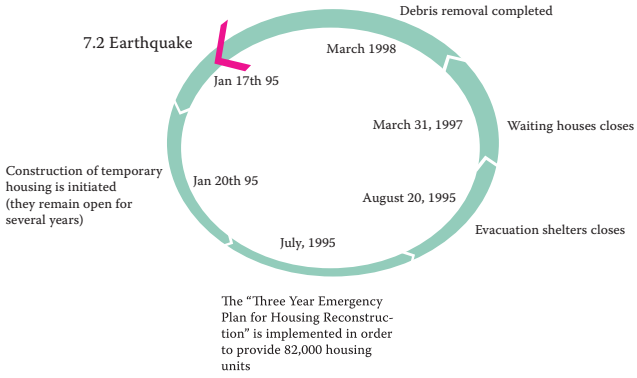
Jan 1995 The great Hanshin Awaji Earthquake, Kobe

Displacement estimates: 300.000 people
Ground motion:
Horizontal and vertical shaking occurred simultaneously
Structural damage:
67.000 fully collapsed , 55.000 partially collapsed

Temporary housing solution:
Citizens lived in tents in parks near their homes or in temporary tent cities.

Future preventive measures:
Building houses that are adaptive to future earthquakes; organised so that the layout of buildings ensure a certain distance between them.

Extensive damage to highways and subways – people took the boat to go shopping in Osaka.



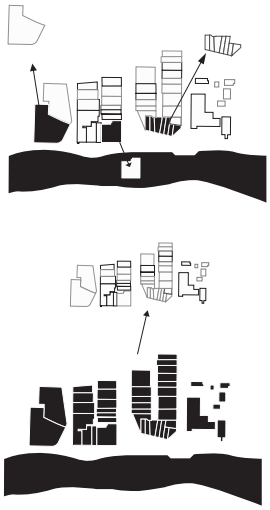
Ill. 42: Cyclus for displaced people

Ill. 43: Debris

Ill. 44: Flood Wave

Ill. 45: Temporary housing

Dec 2004 Tsunami, Thailand



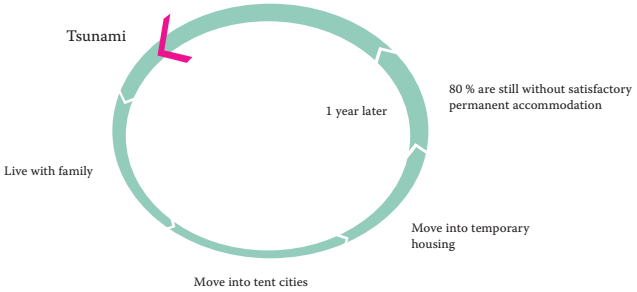
Ill. 46: Displacing Housing and districts

Displacement estimates: 400.000 – 700.000 people

Temporary housing solutions:
Tent cities

Future preventive measures:
The government has set up regulations for how to rebuild the affected costal areas. They have defined a costal buffer zone in which no construction is allowed. (a form of expropriation)

Focus on regaining their livelihood: fishing boats, agriculture
One year after: 80 % of the 1.8 million people left homeless by the disaster are still without satisfactory permanent accommodation.



Ill. 47: Cyclus for displaced people

6.3 Conclusions

Speaking to relevant organisations, architects and inhabitants during the study trip opened the door for a tacit knowledge that is often difficult to gain as a bystander. These people were either living with the consequences of disaster or dealing with it actively in their professional life. Thus these talks were an important stepping stone to gain an understanding of the professional and social context which the project 'NYC Offshore' acts within. The presented cases have revealed a number of aspects that need to be taken into consideration when moving forward.

- There is a connection between topography and social demography: when the poorest groupings of people are hit the hardest it testifies to the expansion of cities outwards onto low-lying land. In New Orleans the extensive damages can be traced back to the historic planning of the city.

- Trailers are not sufficient solutions to temporary housing problems: the trailers can not reach the city and in New Orleans only few trailer parks were located within the city, the rest were placed in the country side.

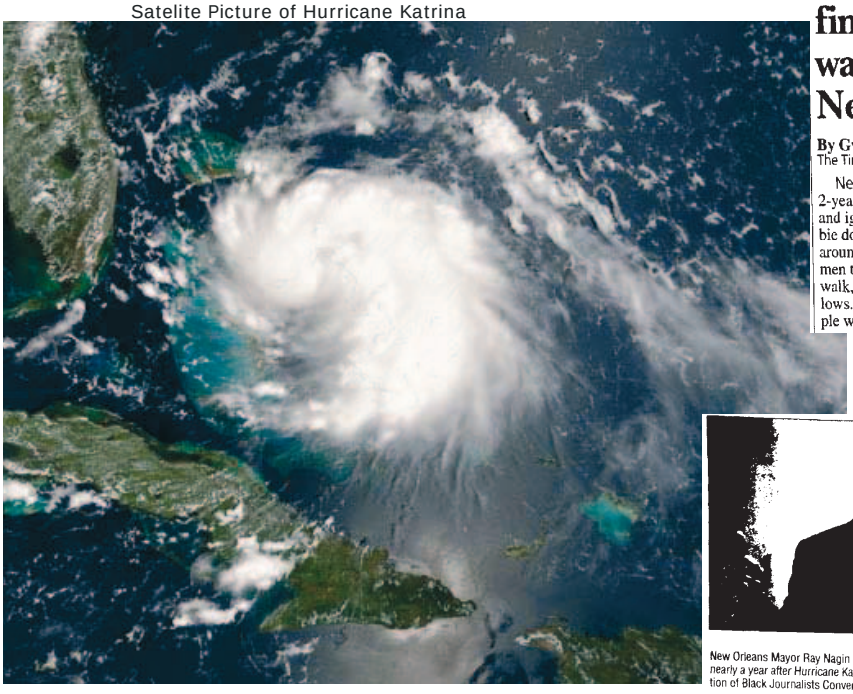
- The essential issue is not only physical planning but also social rehabilitation: in New Orleans it quickly became clear that there is a close connection between peoples return to an area and its functioning public facilities. Thus it is imperative to focus on the neighborhood in its entirety: shops, schools etc. and not one-sidedly focus on providing housing.

- A disaster event changes a city in many ways - or in other words: 'peel the layers of the union', thus revealing existing social processes. As such the event can on some levels be a new beginning. In New Orleans this is exemplified by the initiated reform of the school system. In recognition of its poor condition a full reorganization has been set in motion that will make New Orleans an attractive educational environment for families.

These points give rise to different questions when considering the NYC context. The density of NYC demands a large number of units but how is such a 'plus-city' to be integrated in the city in the aftermath of a hurricane? In response hereto the concept of temporality outlines an approach with promising results.

In general the three cases present examples of building near the water – with the related effects that come with it. Each case shows a different way of handling both architecture and the aftermath of disaster. The listed strategies describe different approaches, be it overall planning tools of expropriation or specific technical reductive initiatives such as levees and dams. Each approach implies certain potential but it is especially in their combination that the potential is fully utilized.

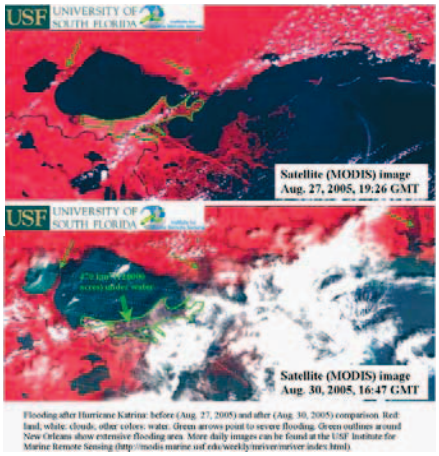
Satelite Picture of Hurricane Katrina



Thousands find no easy way out of New Orleans

By Gwen Filosa
The Times-Picayune

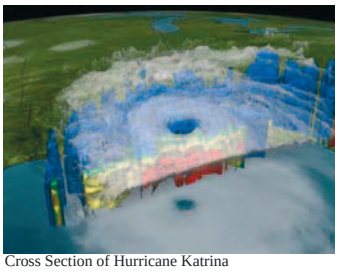
New Orleans — A 2-year-old girl, clutching a bottle and ignoring her knock-off Barbie doll, running in circles around her mother. Homeless men trying to doze on the sidewalk, using backpacks as pillows. People without cars. People with cars but nowhere to go.



Flooding after Hurricane Katrina: before (Aug. 27, 2005) and after (Aug. 30, 2005) comparison. Red: land, white: clouds, other colors: water. Green arrows point to severe flooding. Green outlines around New Orleans show extensive flooding area. More daily images can be found at the USF Institute for Marine Remote Sensing (http://moda.marine.usf.edu/weekly/reriver/reriver_index.html).

The Associated Press
New Orleans Mayor Ray Nagin discusses his city's recovery nearly a year after Hurricane Katrina during the National Association of Black Journalists Convention in Indianapolis.

Nagin blames racism, red tape for slow Katrina recovery



Cross Section of Hurricane Katrina

Days later, Hurricane Katrina leaves a flood of haunting TV images

By Frazier Moore
AP Television Writer

NEW YORK — As the week wore on, TV images were more and more chilling, even numbing, in their intensity.

In the aftermath of Hurricane Katrina, viewers faced scenes of roads turned to rivers, communities to lakes, buildings to rubble. They saw survivors cling to makeshift rafts. A man on crutches slogged through knee-deep water outside New Orleans' Superdome. An almost biblical vision: water seemingly on fire, blazing from a broken gas line on a flooded street.

SUSPECTED LOOTER. *Police arrest a man suspected of looting on Wednesday in New Orleans on a freeway overpass.* **Photograph by Irwin Thompson-Dallas Morning News**

SCOTT 'Q' MARCUS

Katrina puts it all in perspective

This column was not supposed to happen; instead, I was scheduled to be a keynote speaker at a conference in Louisiana this day. Mother Nature had other ideas delivered as Hurricane Katrina.

With indescribable sorrow and mouth agape at the sight of such awfulness, I cannot pull myself away from the plight of the Gulf Coast. Robotically, I shake my head and repeat numbly, "There but for the grace of God, go I." It could just as easily have been an earthquake or tsunami bringing national cameras to scrutinize my family in our most intimate, broken moments struggling to hold together, adrift, frightened, and cold in the worst of all worlds.

Due to the unsympathetic force of nature and the rearrangements being made, I have lost income. Yet compared to my friend and associate, Myra, my costs pale. Where she lived has no roof and is full of water. In spite of that, she describes herself as "fortunate." She spent today helping families with less. I am privileged to know her.

So very fortunate am I that I take blessings as common-day events. When involved in the confines of day-to-day existence, I have been known to whine bitterly about sluggish traffic, jammed faxes, or misplaced keys. Broken shoelaces, missing shirt buttons, or ants on my sink irk me endlessly.

I presume my daily misadventures can indeed be labeled "problems," and yes, they are frustrating. At the same time, reality is they are so insignificant. Too often, I become too self-centered to remember that. The dropped cellular call or the unexpected invoice becomes the world's prime catastrophe. I puff up and spout off, grumbling to my friends, who nod in agreement. We are bonded by our miseries. When we rule the world, things will change.

In a world that can shatter instantly, where unfathomable countless thousands lack shelter, shed tears for loved ones, or cannot find food, I bemoan that I have to count fat grams or cut back on dessert. Can I even know how many pray to be in my shoes?

Peace of mind requires that I remind myself that my tribulations and troubles are usually minuscule. Put it in perspective. Life is rich. Keep it that way; shut the refrigerator door.

Scott "Q" Marcus, THINspirational presentations on goal setting, attitude, and health throughout the country. He can be reached at 4424243 or scottq@THINspiration.com.

President Bush admninstrates leadership

What will Katrina do to oil prices?

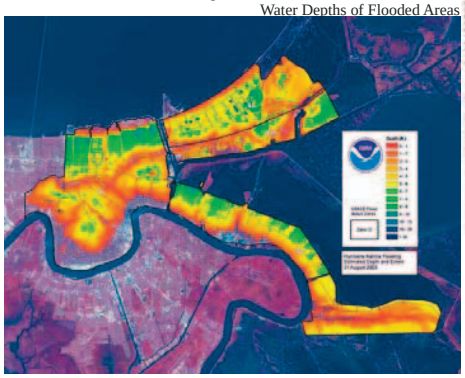
By Ben Raines
Mobile Register

Oil traders closed business Friday confident that Hurricane Katrina would hit too far to the east to affect the price of oil and natural gas.

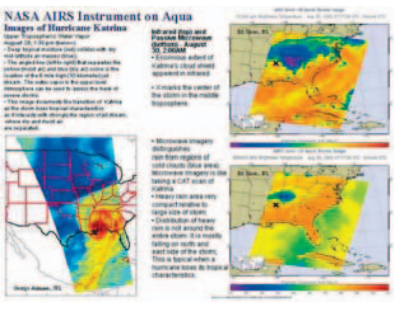
That was before the National Hurricane Center shifted the storm's path to a more westerly track that slices through the nation's main oil artery and could result in record prices for a barrel of gasoline. The matter of

STRANDED: Louisiana woman suspects home is under water

~~Learning~~ from Katrina?



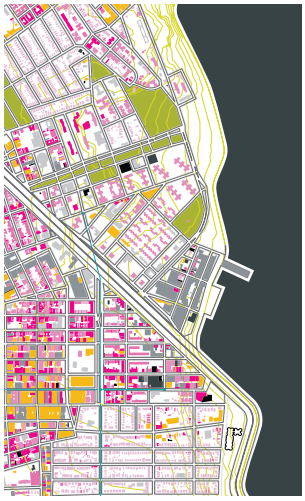
Water Depths of Flooded Areas



Ill. 48: Collage of Katrina aftermath

p48 Hypothetical Site

The following chapter presents the site: Prospect Shore. Diagrams and mappings will testify to the nature of the place and a timeline representation on both city- and neighborhood level will account for the consequences of a hurricane attack.



Prospect Shore as suggested

Prospect Shore overlay NYC

Ill. 49: NYC - Prospect Shore

The presented maps have been made on the basis of the material provided by the competition – both statistics and cad information - but have been graphically modified by the authors. The analysis of typologies and the mapping of zone distribution have been freely constructed on the basis of the given information.

7.1 Prospect Shore

Prospect Shore has been made up like a collage: "drawn from parts of the city that are most vulnerable to storms while maintaining the diversity of land and building typologies found across New York City neighborhoods."(Design Competition Program, p. 34) Thus Prospect Shore represents a typical NYC neighborhood in different ways: its demographic profile reflects ethnic diversity and its morphology testify to those building typologies that are scattered around NYC: the closed block, townhouses, condominium- and cooperative buildings as well as apartments towers, old warehouse buildings and walk-ups. As such the area mediates both physical layouts (typologies, grid structure and types of public spaces) as well as the social structure of a heterogeneous neighborhood with smaller homogenous enclaves determined by typology and use.

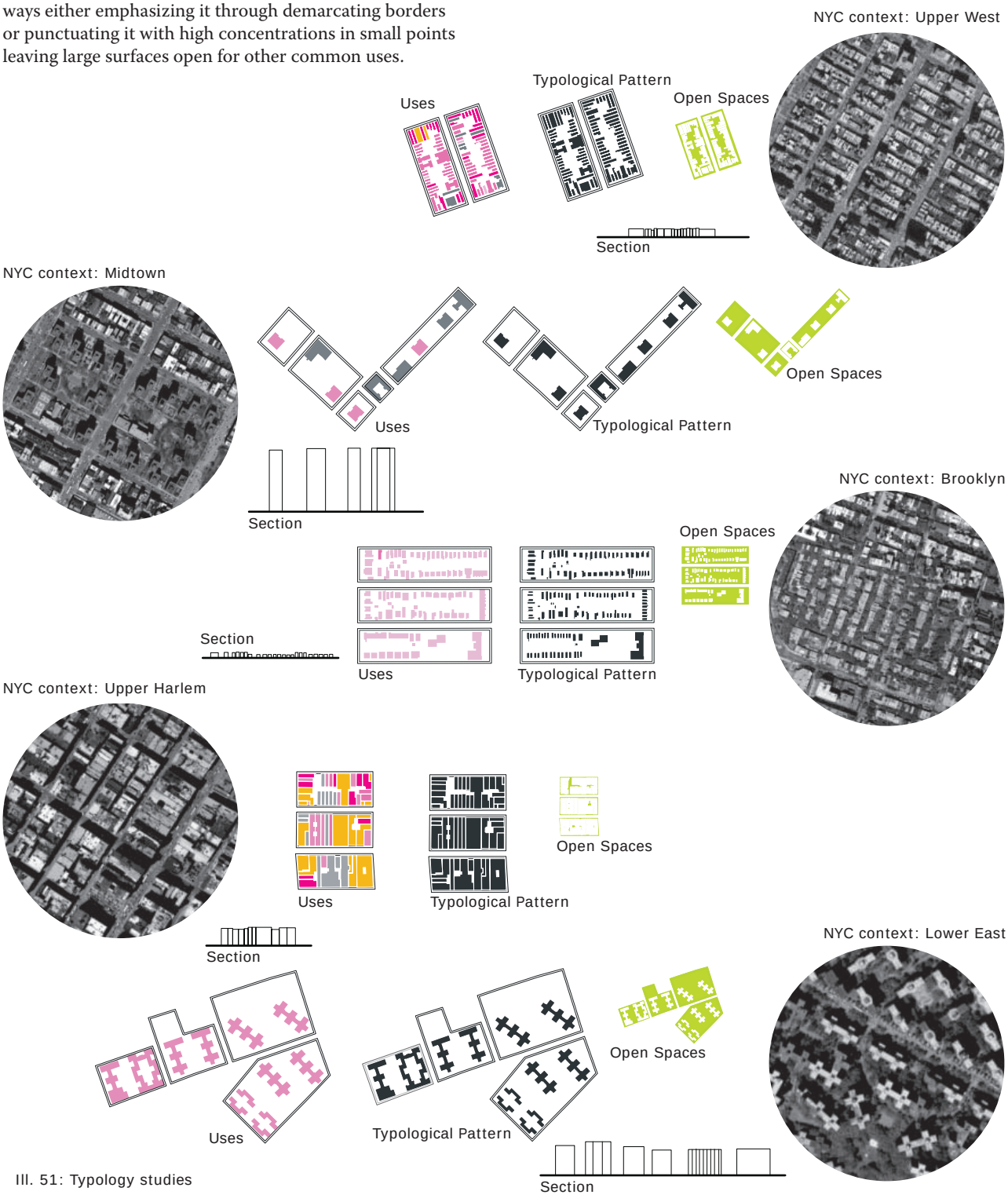
Uses
The area is comprised by residential, commercial and business areas. All in all the area is heterogenic but some sub-areas are mostly homogenous in their use, testifying to people's tendency to cluster with similarly disposed. The area contains several schools, health care clinics and 3 subway stations. Green parks are scattered around the neighborhood and along the water edge a large non-programmed area extends a zone between water and neighborhood. In general the area is divided in a central commercial zone of mixed use along the elevated highway. Different residential areas are scattered around the fringes with the exception of those high-density blocks that rise along the edges of the infrastructure cutting through the site.

The people

115.000 people
52.000 foreign born citizens from 21 different nations, speaking 9 different languages.
26.000 families
18.000 children of school age
5.800 under five
8.600 elderly people living alone
7.800 mobility impaired
8% unemployed
28% lives below the federal poverty line.

Ill. 50: Prospect Shore 1:10000

Typologies
As stated the area comprises of closed blocks, townhouses, condominium- and cooperative buildings as well as apartments towers, old warehouse buildings and walk-ups with varying heights from 2 to 21 m.
The typologies relate to the grid structure in different ways either emphasizing it through demarcating borders or punctuating it with high concentrations in small points leaving large surfaces open for other common uses.



Ill. 51: Typology studies

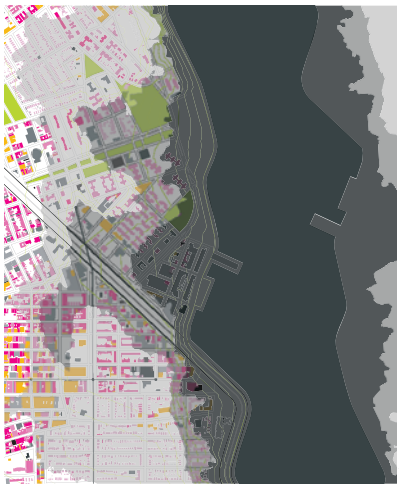
7.2 Disaster Scenario

The competition presented the flow of events as a category 3 hurricane strikes a New York City neighborhood. The following maps and timelines present the most important consequences of the disaster and milestones as the event unfold. For a more comprehensive image of the impact on the city in general two series of diagrams represent two layers of importance: the city level and the neighborhood level.

Hurricanes are characterized by their peak influence on cities. Their effects are heavy rainfall, heavy winds and storm surge leaving physical structures damaged and depending on geographic characteristic entire neighborhoods and underground infrastructural systems flooded. (See Chapter: 6.0 Learning from...)

In the case of New York the flood of water will cause physical damages to buildings, infrastructure and coastline within the timeframe of the hurricane. During the hurricane waters will rise continuously to an extreme level but since NYC is far from the open sea (See Chapter: 4.0 City Context)the wave impact will be relative small and afterwards the water will pull back. As a consequence large amount of debris will settle in the neighborhood, leaving a comprehensive task of removal. Some buildings will be left totally un-inhabitable needing destruction while others will be needing repair in order for them to become functional.

Storm

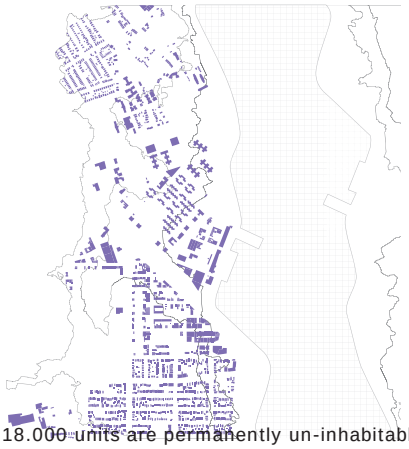


Ill. 52: Prospect Shore Hurricane

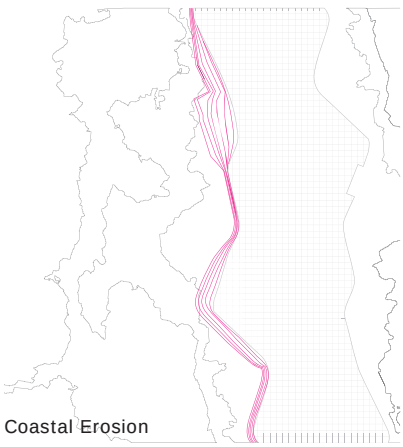
Post Storm

12.000 units are habitable

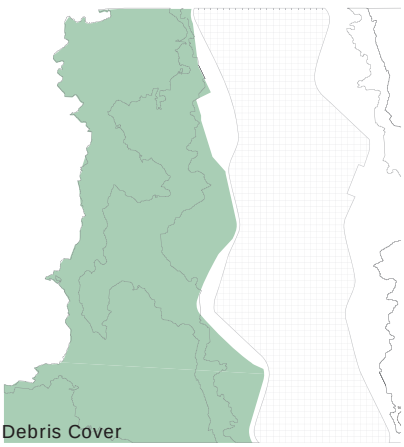
20.000 units need repair



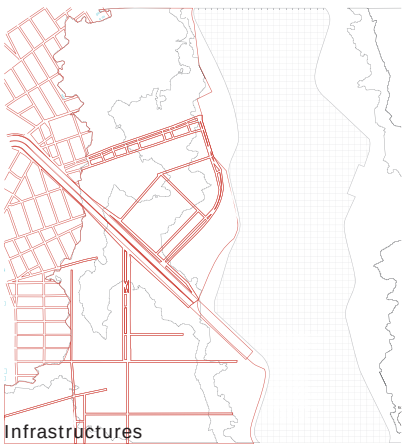
18.000 units are permanently un-inhabitable



Coastal Erosion



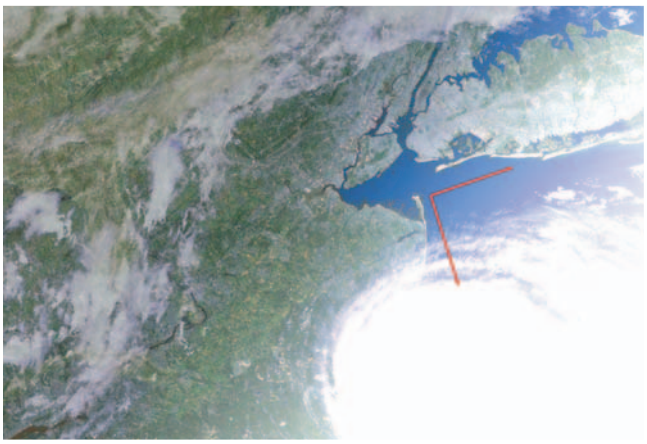
Debris Cover

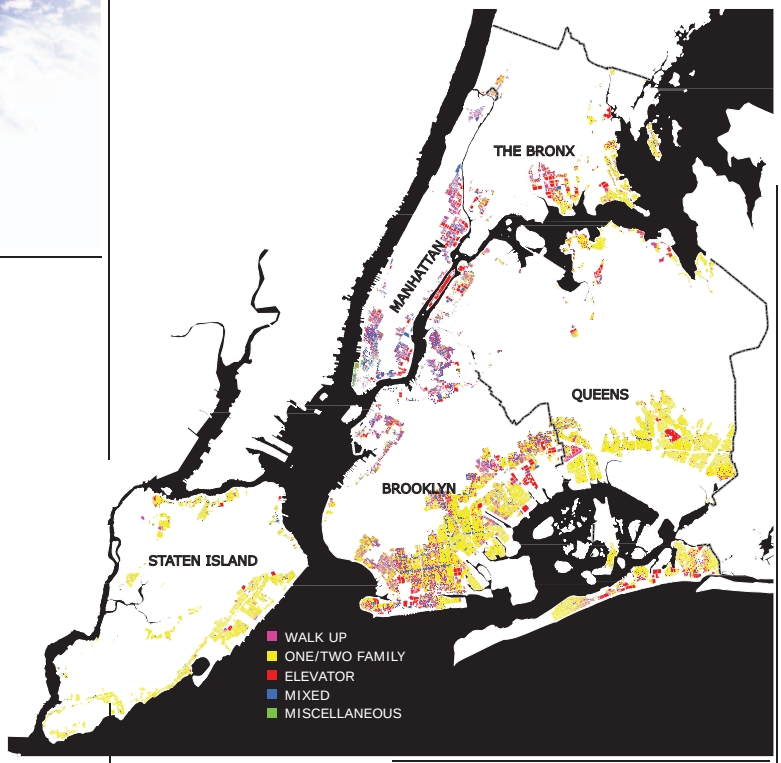


Infrastructures

Ill. 53: Prospect Shore diagrams

Neighborhood level
The timeline consists of different maps each illustrating an important step in the re-establishing of the neighborhood. The timeline represents the period from identifying the hurricane to the actual flooding of Manhattan.





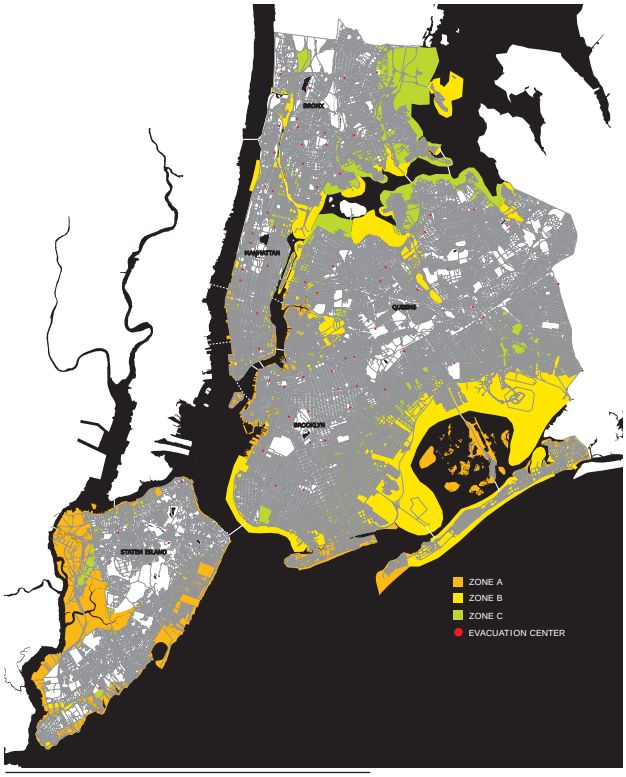
Day -3

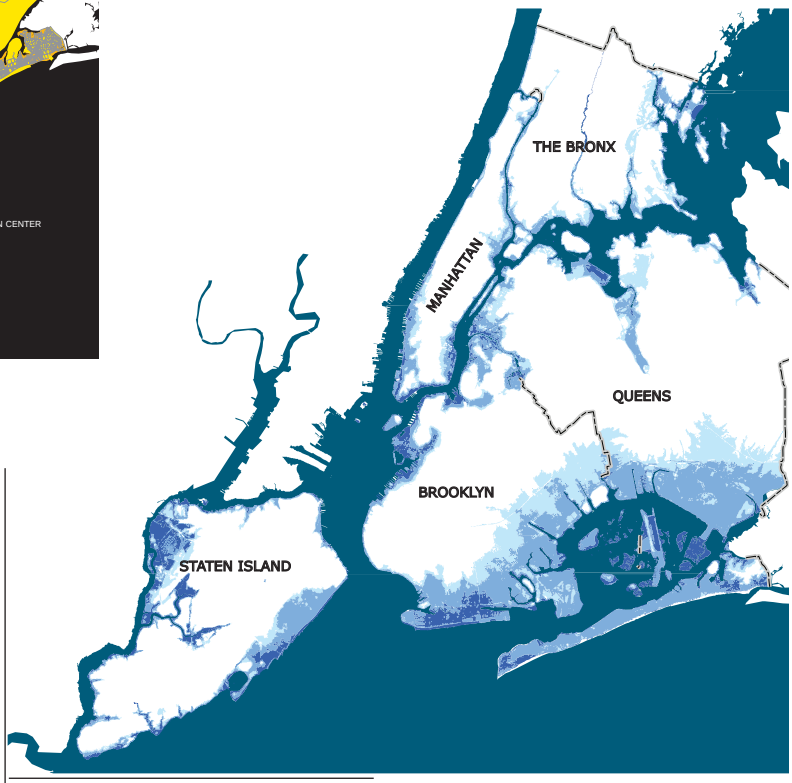
Hurricane Warning
The national weather service reports a category 5 hurricane sweeping up the north atlantic.
If storm speed and bearing hold out - it is due to make landfall near NYC as a category 2, 3 or 4 hurricane

Day -2

Before the Storm
The major recommend the evacuation of 2.3 million people living in the evacuation zones.
OEM publishes its web site which allow people to access information and access their options.

Ill. 54: City timeline





Day -1

Before the Storm

Over 500 hurricane shelter open in public schools to accomodate 600.000 evacuees. Shelters are organized in `solar systems´ that consist of on eevacuation center and several smaller hurricane shelters.

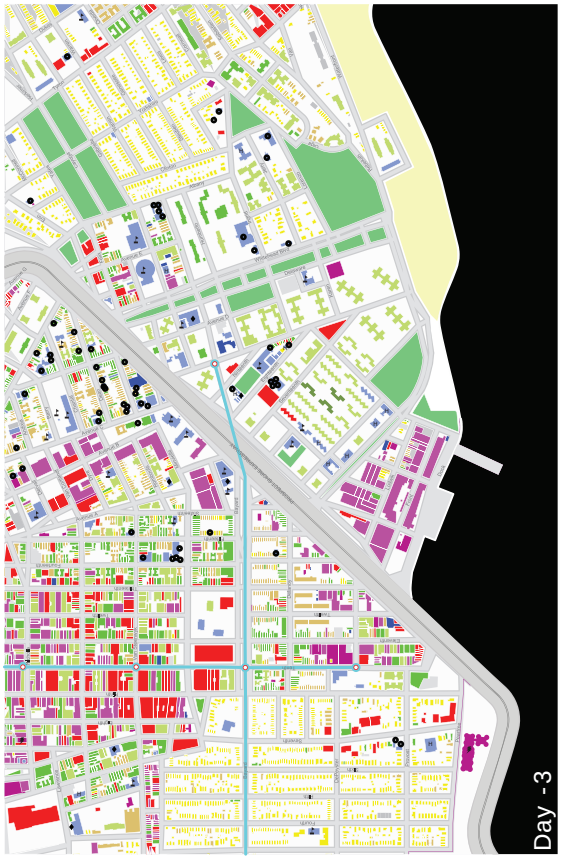
Day 0

During the Storm

The eye of the hurricane, now caegory 3, makes landfall near Atlanta City, New Jersey. Powerful winds batter New York with a speed of 130MPH.
The storm surge travles up to three miles inland - the airports are completely submerged.

City Level
The timeline represents the period from identifying the hurricane to the actual flooding of Manhattan.

Ill. 55: Neighborhood timeline

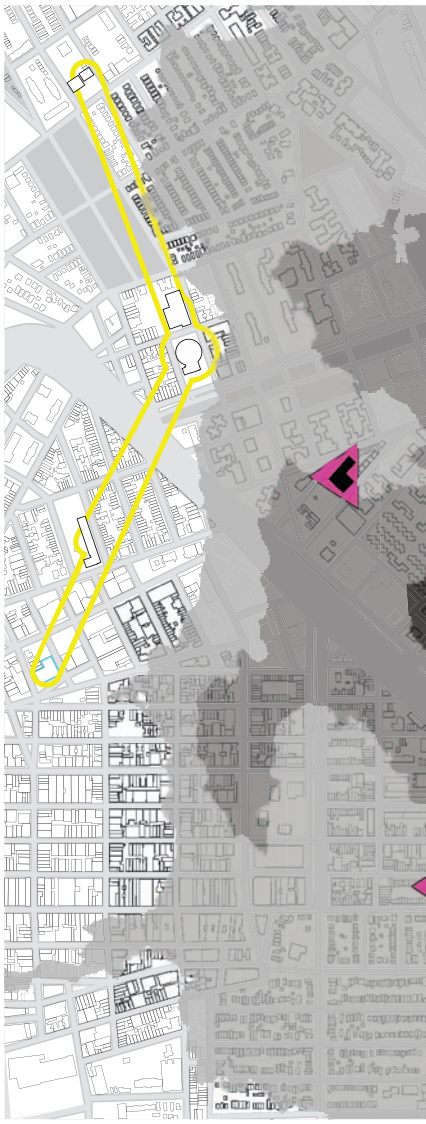


'Solar System'
Evacuation Center
Hurricane Shelter

Zones
Zone A
Zone B
Zone C

Other Buildings
Commercial
Industrial
Mixed Res/Commercial
Multi/Family Elevator
Multi/Family Walk/up
One & two Family
Open Space
Parking
Public Facilities
Tranportation/Utility
Vacant

Subway
Religious
Government
Health Care
Schools
Utilities



Day -3

Land Use
News Channels report the likelihood of a direct hit with a category 3 hurricane.
Residents hastily pack and make plans to stay with friends or family either out of town or in other neighborhoods.

Day -2

Orientation
Residents are walking, cycling, driving, or riding buses and subways out of the areas that are expected to be flooded tomorrow. Tow trucks preposition along the Prospect Shore Expressway.

Day -1

Evacuation+Sheltering
10.000 people arrive at evacuation center in Whitehead school and are transported to one of the four hurricane shelters.
4.400 pallets of food and medical supplies arrive at shelters.

Day 0

Storm
Water climbs to the third floor of homes and apartment buildings. Industrial buildings on the coast are completely submerged. Cars, trees, fences and bits of buildings are swept up. Subway tunnels flood. Wind borne debris knocks down overhead utility debris.

Day 4

Building Assessment

The Department of Buldings assessment in the neighborhood is complete.
18.000 housing units are rated with a red tag, meaning permanently uninhabitable. Many large apartment buildings may never be able to be reoccupied.

Day 10

Building Status

Property owners begin to make arrangements to demolish severely damaged buildings. Others begin repairs.

Day 60

Debris Management

Earth-movers clear flat patches of land near the coastline for use as a debris management site. Over 330 acres of land has been cleared of debris, but another 130 acres remain covered, mostly private lots.

Day 200

Recovery

With all salvageable housing units stock now repaired, about 18.000 households remain displaced, unable
to live in their pre-storm homes. How many of these displaced households will be living in provisional housing in this neighborhood?

Displacement of People
During the disaster people leave their homes and relocate. Different factors play a role in the movement of these displaced people: family relations, access to existing shelter system, own evaluation of hazards plus social status and capacity. However, this diagram outlines the different ways people relocate and this in relation to time. The largest number of people occupies some sort of provided temporary facilities, either right away or at a later point.

7.3 In conclusion

Worth noticing is the distinct grid structure and the heterogeneity of the area, both in terms of people and in terms of typologies. Furthermore the described displacement of people testifies to a movement pattern where people will relocate and move away from their neighborhood – away from their everyday life and social network. In order to design for this situation one needs to recognize the multiple ways people live in Prospect Shore: each building typology has a specific target group although not exclusively.

Furthermore it is clear that the damages to the area comprising damaged buildings, large amounts of debris and an eroded coastline will have distinct consequences for the ways the area can be used in the period after the hurricane. A large blank space centrally placed running in the full duration of Prospect Shore separates the still functioning parts of the neighborhood from the river. This blank space will remain un-operational during repairs and removal of debris.

Large parts of the infrastructural system are also affected leaving only the main roads open and they will be strained in the re-building process. When introducing new structures it makes sense to latch on to those roads not destroyed. Thus in order to be able to integrate provisional housing solutions the water surface could be an important infrastructural element. And as the edge has eroded and a large area is left non approachable the river's water surface present a potential building 'ground' that can be instantly integrated in the re-building process.

Thus when working with provisional housing in the aftermath of a hurricane in the setting of Prospect Shore some aspects are key issues. It is central to find a way of offering people a place to come back to that in some way resembles their pre-disaster way of living. Otherwise they might not come back leaving the area empty and unsafe. Furthermore the water surface and the edge of the neighborhood present an entry point to the neighborhood. Re-placing the destroyed homes onto the water thus taking advantage of its quality and keeping clear of the debris removal, re-building and destruction process poses an interesting scenario that would include expanding the site with an additional neighborhood edge – offshore.

Ill. 56: Potential mappings Prospect Shore

p57 WhatWhyHow

What
'NYC offshore' proposes a resilient approach to planning in vulnerable coastal cities. Utilizing the flooded landscape and creating a water based urbanity of offshore neighborhoods the projects acknowledges the need for an immediate design response to the long term impacts climate changes pose on cities.

Why
New York is a mega city facing a mega disaster. A hurricane will impact both the physical urban condition and the social pattern of habitation. Erasing whole neighborhoods and displacing its inhabitants calls for alternative design solutions. The existing post disaster planning provides only low density responses – they are short term solutions to a long term problem needing an anticipatory approach.

How
The design response is manifested through a scenario based master plan that operates in different timeframes comprising both temporary and permanent elements thus designing a system that is resilient adapting to changes in climate and the following displacement of populations: a transitional city as an offshore neighborhood addressing issues of temporality, density and social diversity.

p58 Design process

The following images present the different iterations which the project has gone through. In its entirety the presented reflects the design tools which have been used - but also the focus of the project in each phase can be deduced. As such this chapter serves as documentation for the development.

A Working with the water - creating a buffer zone

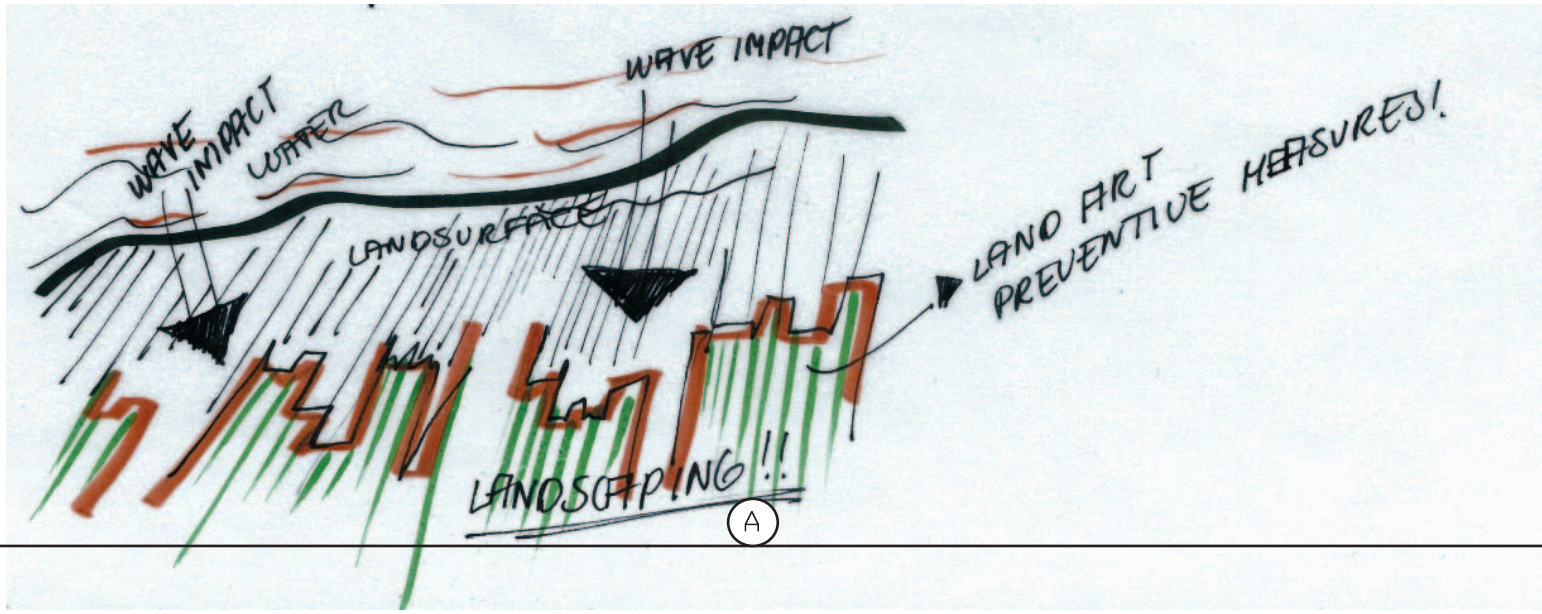
B Re-drawing the edge, establishing a connection between land and water

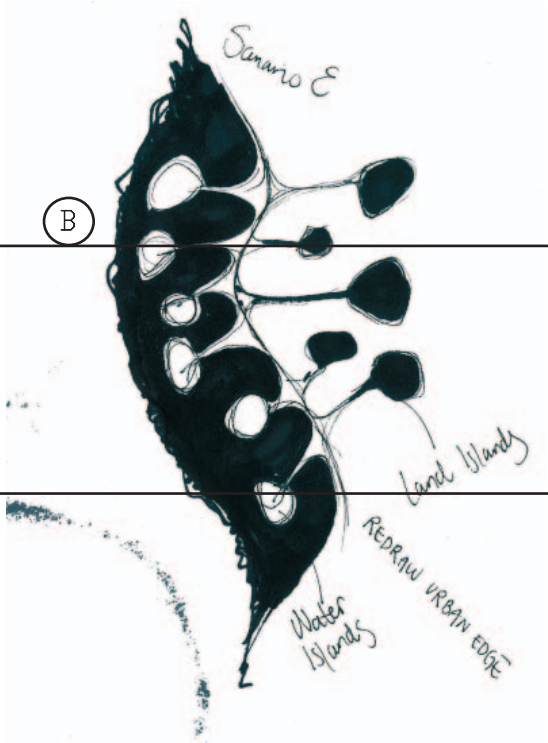
C Working with the damaged structures as they are rebuild

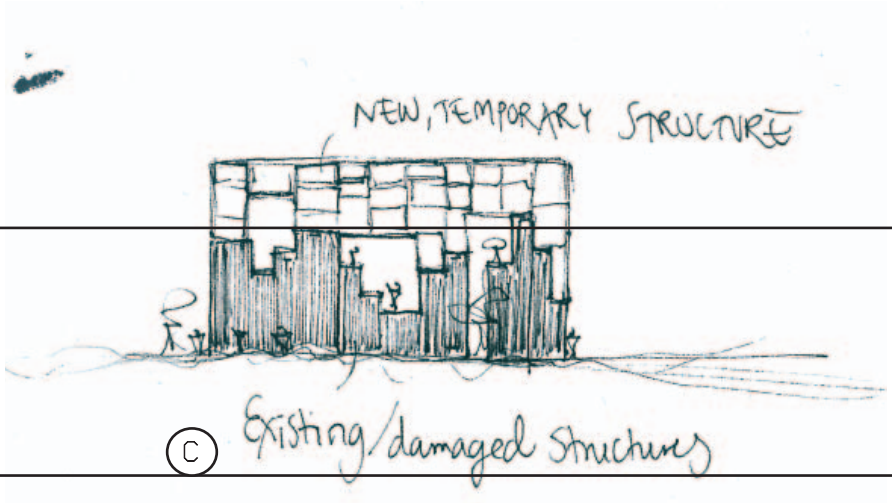
#1 Design Competition
Towards the program

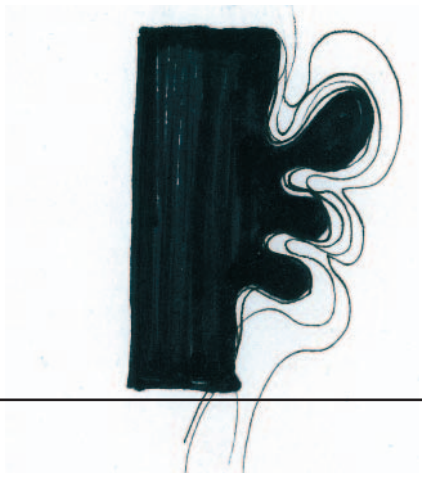
In the initiating phase towards the hand in of the program the focus of the design competition functioned as a guiding thread. This included working with the set timeframe of max 3 years after the hurricane while focusing on new ways of offering provisional housing. In addition a number of scenarios were listed, and the intention was to go deeper into one scenario and design this at a smaller scale.
Scenario A: Re-building in areas where the physical structures have been totally destroyed.
Scenario B: Re-adding to areas already in use – a densification of existing structures.
Scenario C: Re-pairing damaged structures introducing temporary uses.
Scenario D: Re-claiming surfaces – adding extra land eg the water surface.
Scenario E: Re-drawing the water edge creating transitional spaces.
Scenario F: Re-structuring the existing utility laden spaces eg roads and elevated express highways.

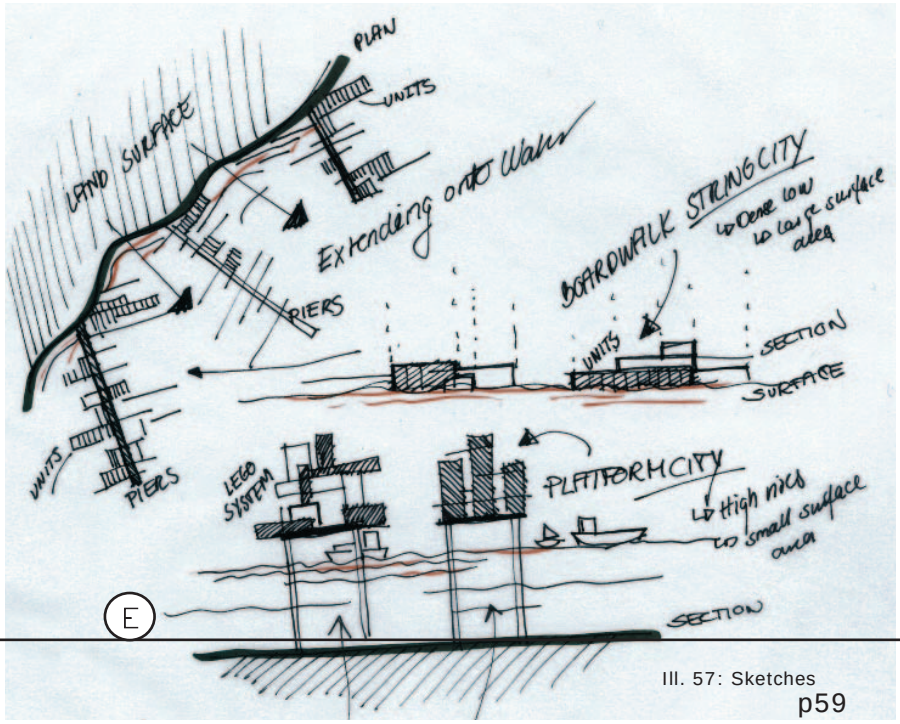
D Structures in the water











Ill. 57: Sketches

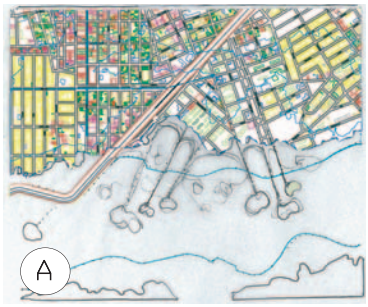
Manhattan in relation to New Orleans

III. 58: Process

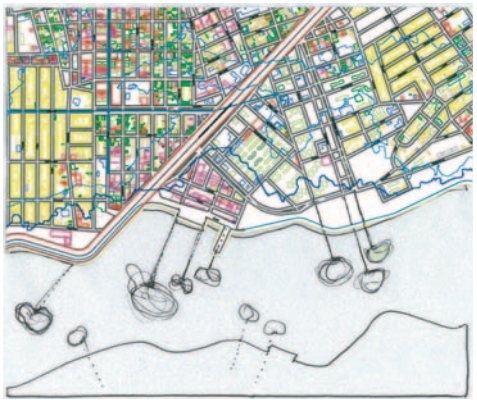
#2 Elaborating Study Trip

The study trip to New York City and New Orleans entailed visiting sites and talking to different organizations (See Chapter: 3.0 Methodology) which resulted in a shift in focus: a re-evaluation of the design task as set up in the design competition brief. The findings from the study trip were subsequently presented on card boards in the group room.

Ill. 59: Concept development



Sketchings on the Prospect Shore Map



Concept Collage

Concept Collage

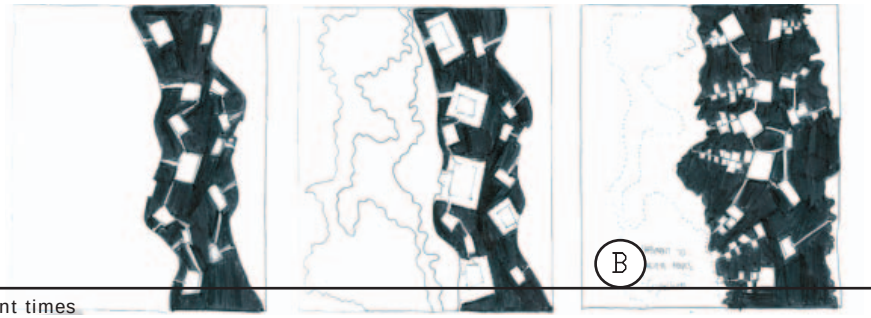
#3 Concept
1st Workshop

Mid March a joined workshop was scheduled that focused on the formulation of concepts. In order to imagine the finished project the task was to make a collage representing how the end-project might look like – what could it be? Furthermore it dealt with the formulation of the main issues in the project through an elevator speech: a pitch of ones project in a short time frame in order to make an out stander interested and engaged.

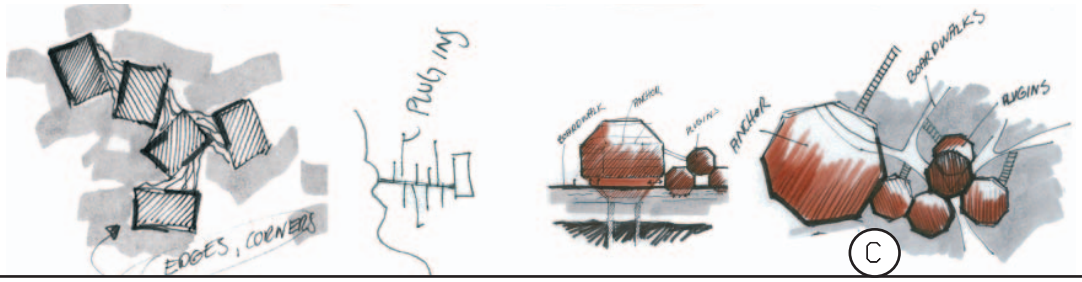
The outcome of the workshop was an expansion of the known disaster management timeline with an emphasis on the relevance of pre-disaster interventions in order to better post disaster conditions. The idea of double programming and coastal preparations were initiated here and in addition also issues of preparing the citizens and ensuring them a certain neighborhood quality, thus encouraging them for a fast return.

In general the workshop supported this phase of the project in that it served as a good exercise presenting a possibility of summing up experiences from the study trip. The study trip helped strengthen the focus of the project but the scenario described in the competition brief, including the potential disaster and Prospect Shore as site, was maintained thus providing us with essential information in order to move forward with the design.

A Transformation of edge neighborhoods

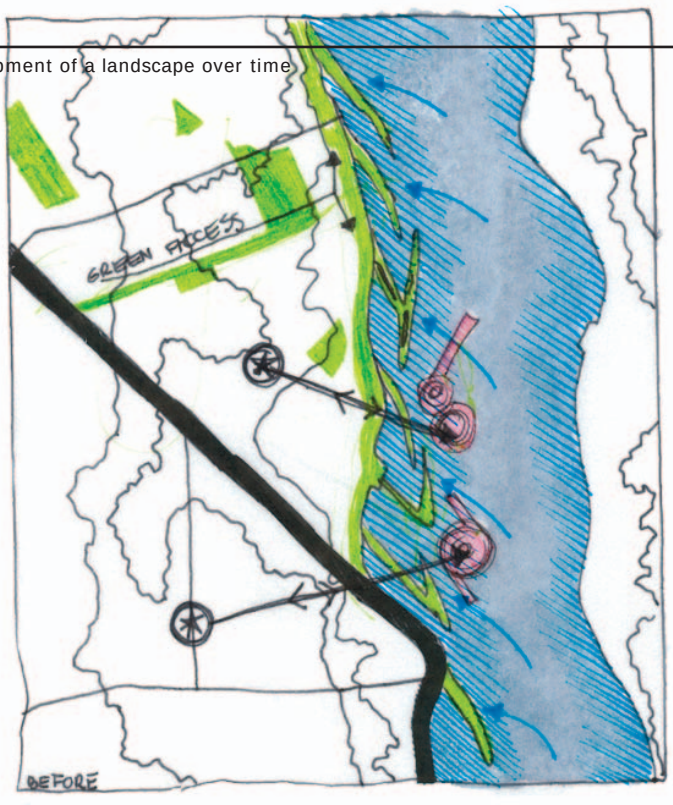


B Imagining interventions at different times



C Different units for accomodation

D Development of a landscape over time

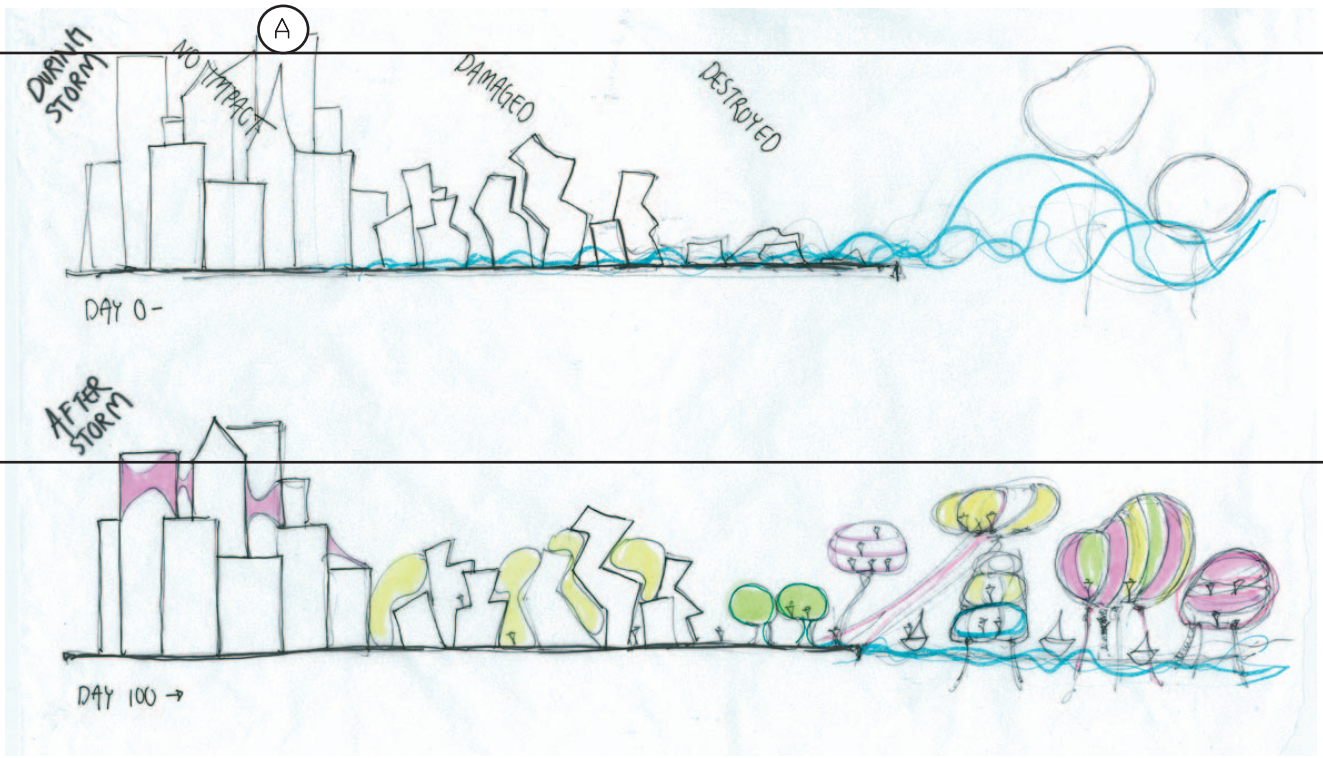


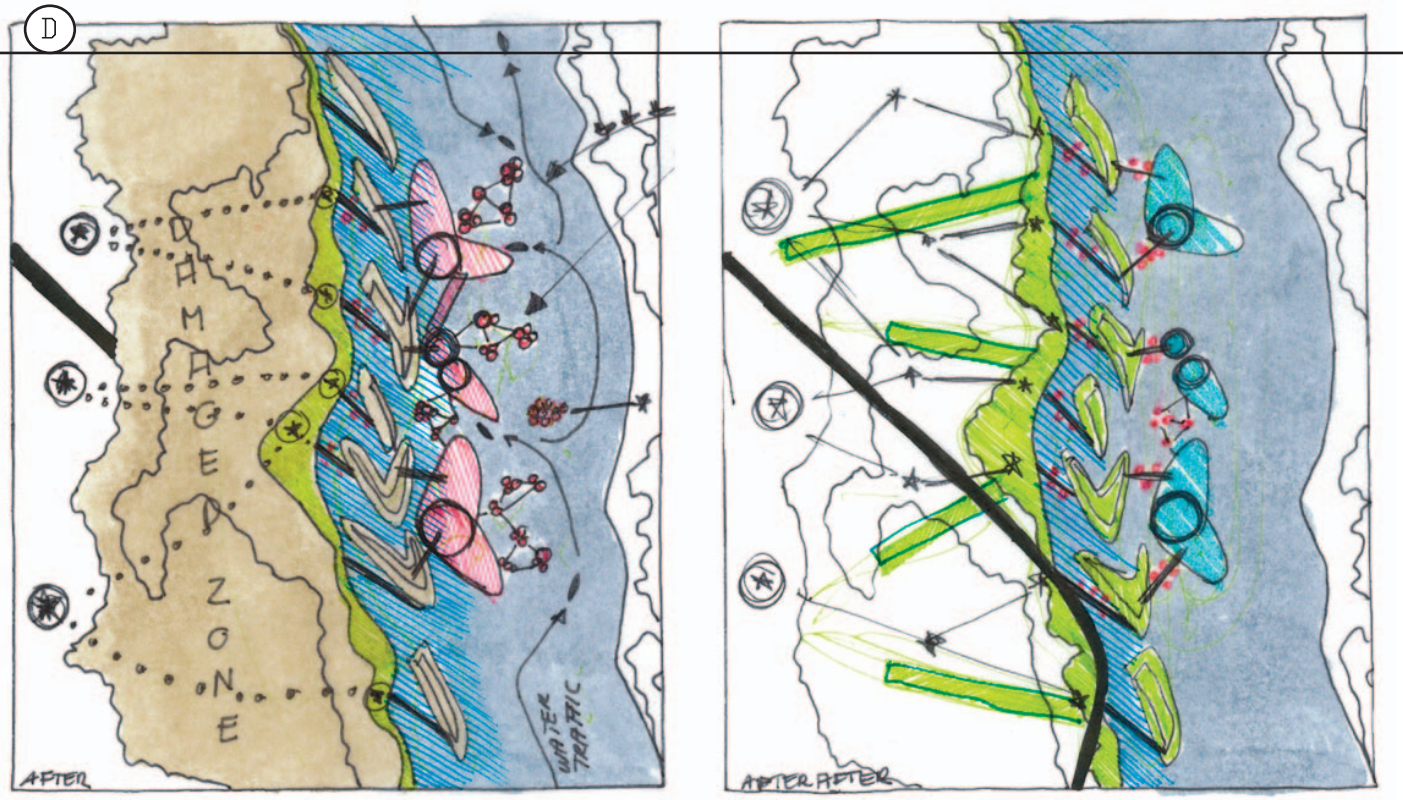
#4 Telling the story
Towards the status seminar

Presenting the project for others for the first time demanded a focus on telling the story, which entailed arranging the argument as strongly as possible. The presentation focused on pre-disaster interventions through a narrative of pre-, during and after situations in which the design would grow and change functions.

The conceptual move of re-formulating and changing the edge was refined in this period. The working methods were primarily sketching in order to generate and formulate ideas. Furthermore case studies provided a common ground from which the beginning design could be discussed.

The initiating design ideas spiraled around a structurally stabilizing net of infrastructures to which the living units should attach.



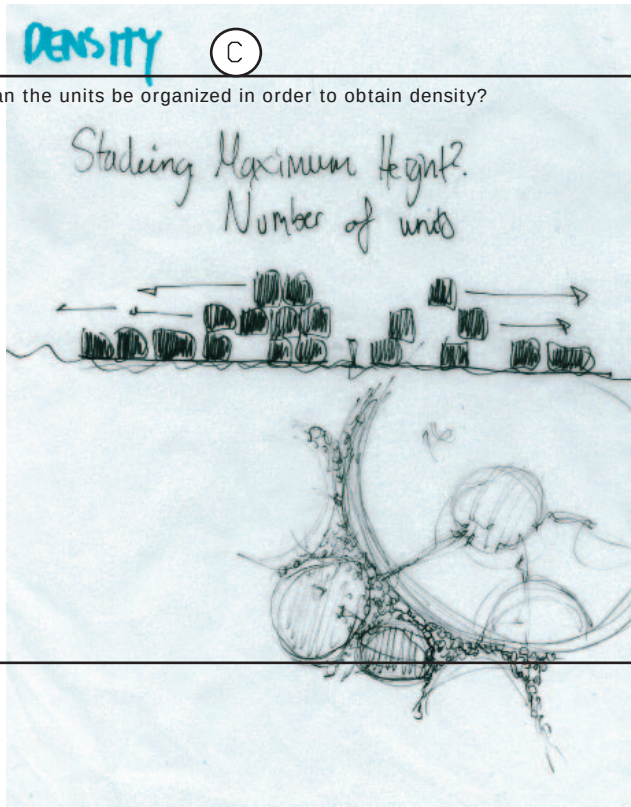


Ill. 60: Sketches

A Circular shaped nets of infrastructure meshing the surface

B Sectional considerations about connections

C How can the units be organized in order to obtain density?



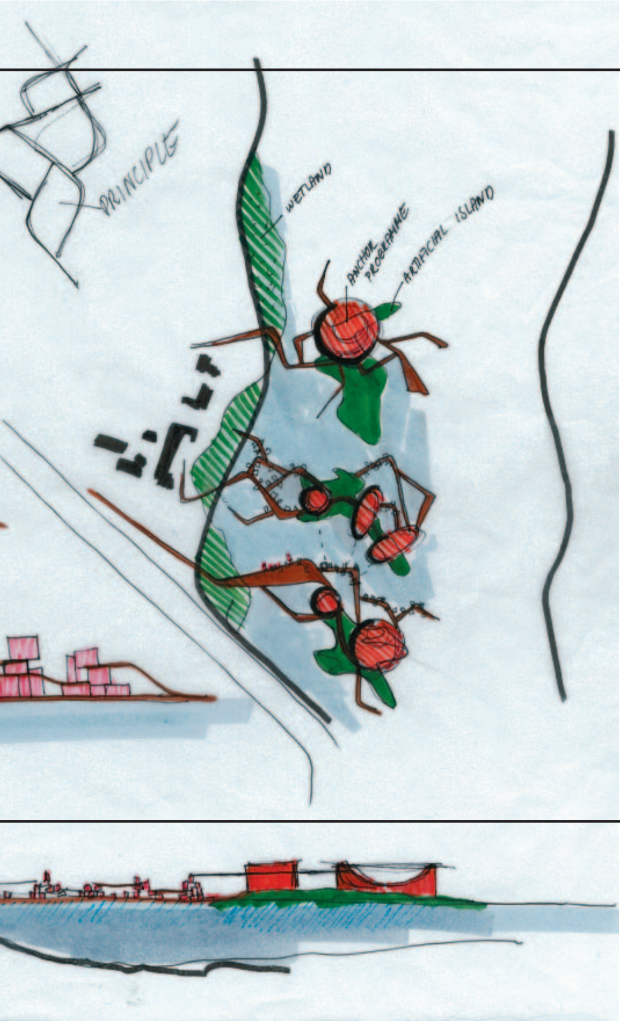
D

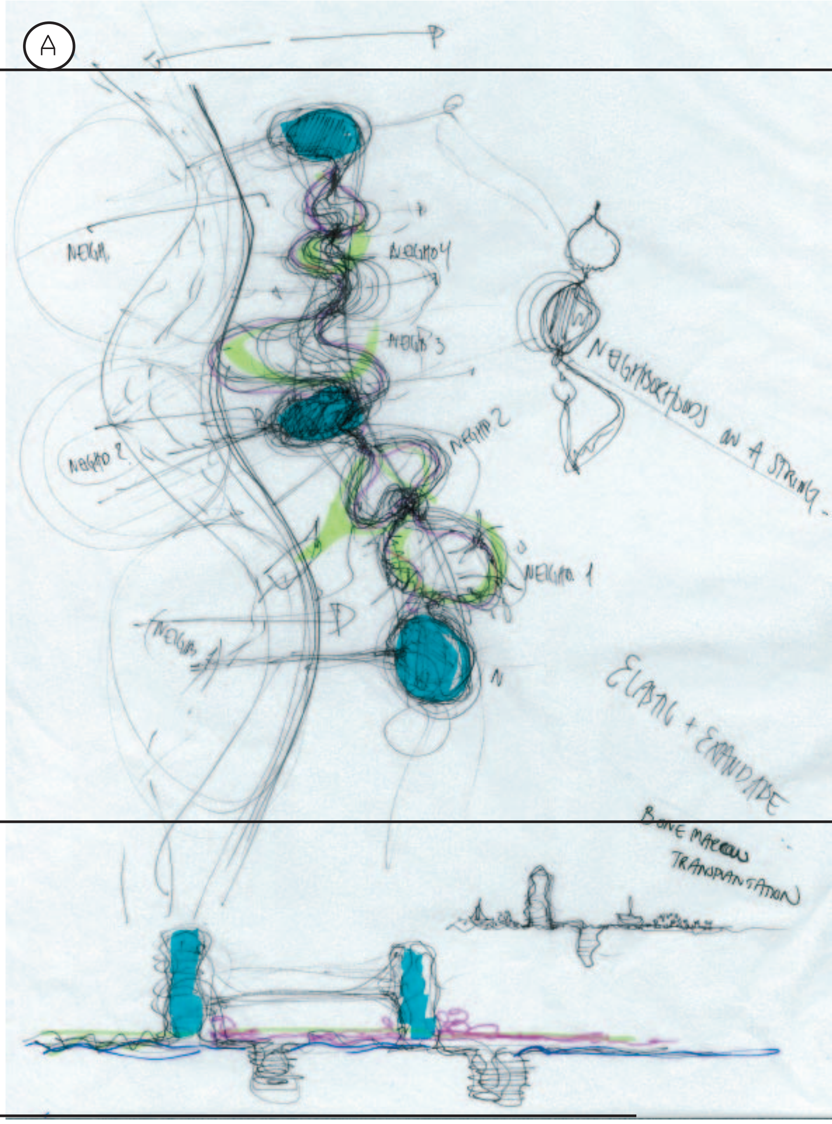
#5 Imagining the design
2nd Workshop

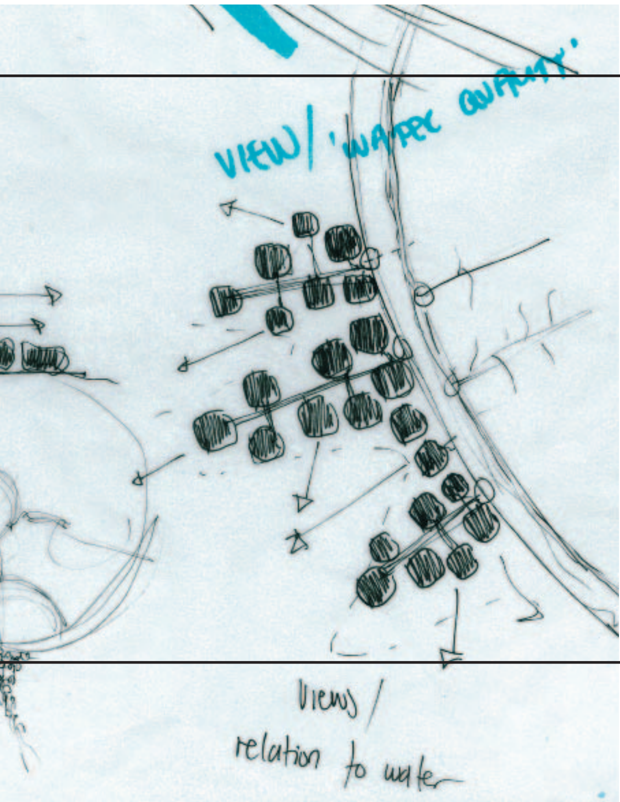
Through a second joint workshop each group had to work with the design in iterations – continuously zooming in - in order to answer a posed question. Ours was one about the relation between public and private spaces in the water based neighborhoods. As it came down to sketching in 1:200 in order to answer the demands of the posed question it became difficult to keep the overall objectives in mind. Different criteria were controlling for the design: a kit of parts (system idea), infrastructure as connector and stabilizer, each unit facing water and obtaining density.

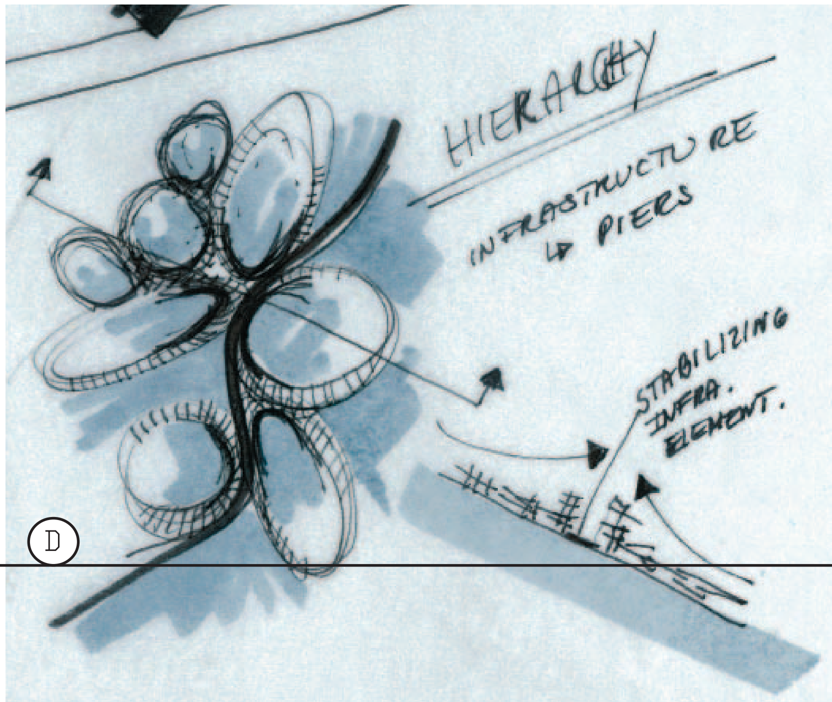
The sketches focus mainly on the appearance and layout of the units on the water and did not consider the double programming, green recreational spaces or preventing structures of green character.

Following the workshop it became clear that our ideas did not relate to the criteria of density in that the sketches portrayed mostly low dense layouts of units organized around a complex infrastructural network.



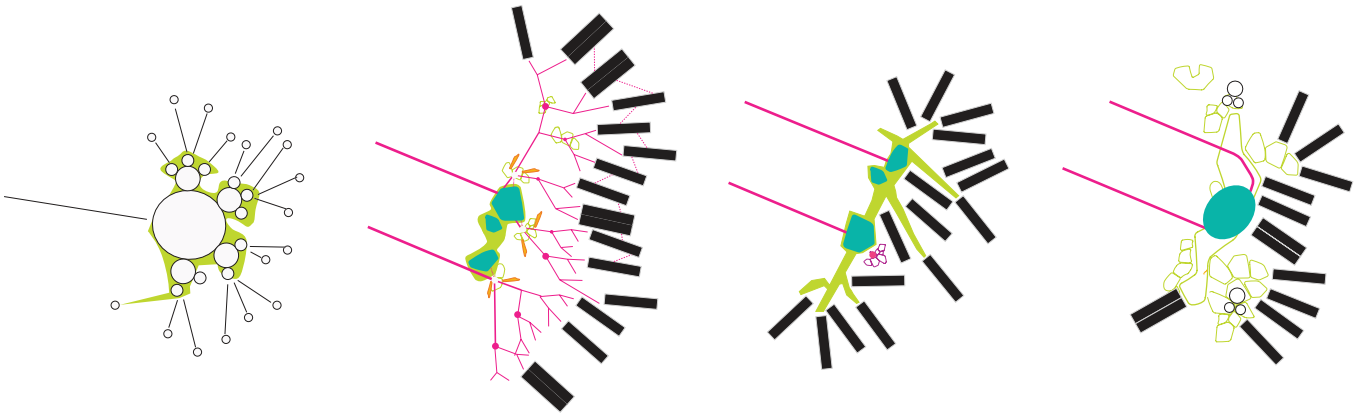






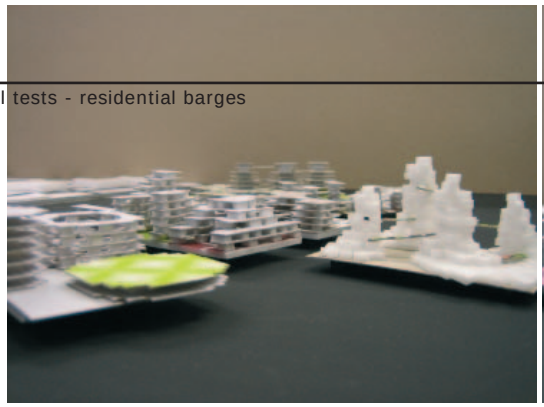
Ill. 61: Sketches

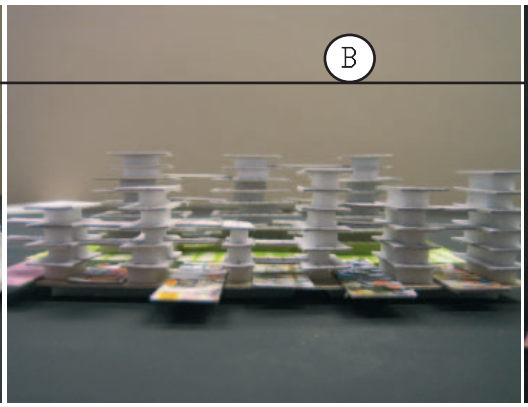
A series of diagrams reflecting the continued deliberations about organization



A Landscaping along the edge - cerating flood mitigating zones

B Model tests - residential barges





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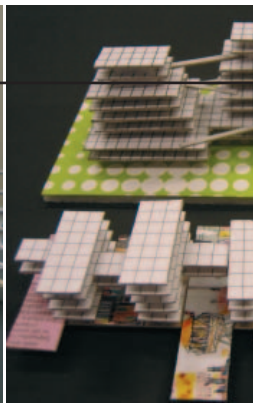
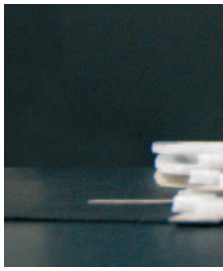


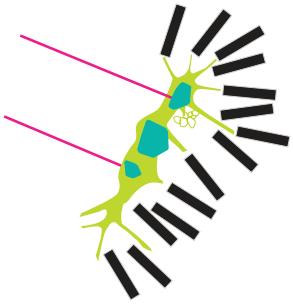
C Model tests focusing on the relation between a fixed island and integration of large volumes

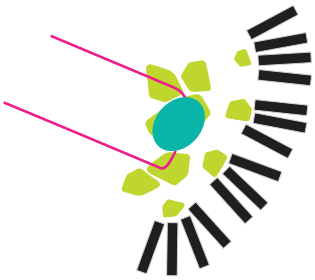


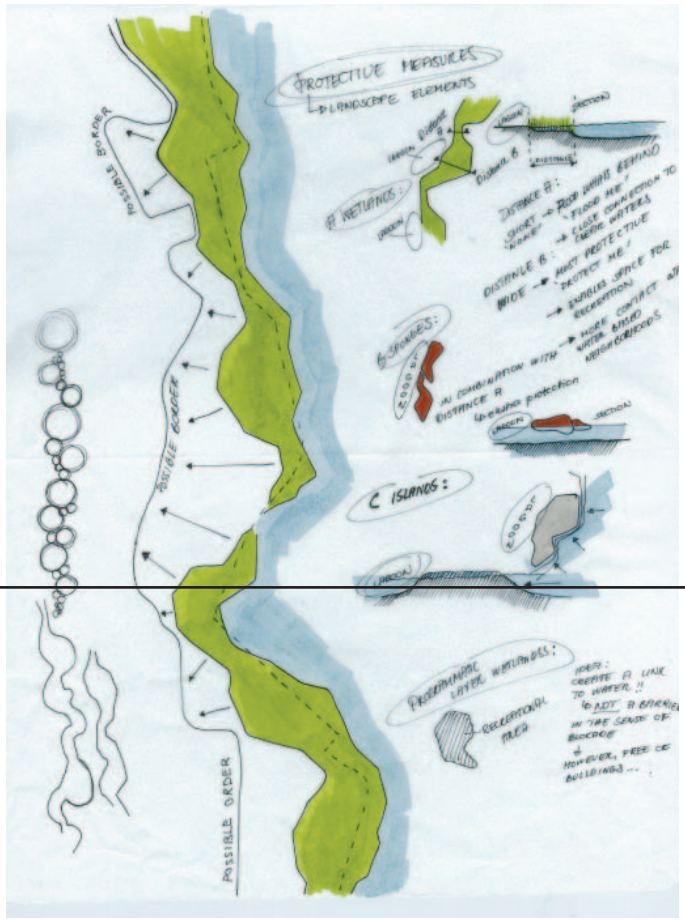
#6 Bigger picture

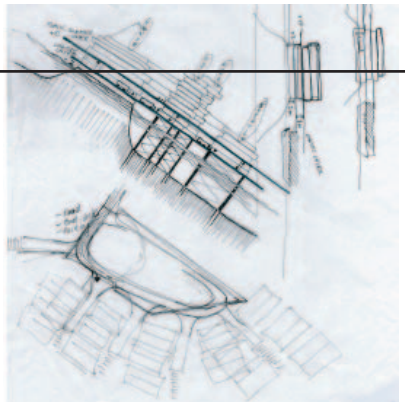
The phase that followed entailed zooming out thus gaining new perspective and re-defining the objectives for the design. This involved working intensely through models and sketches while trying to find a way of obtaining density, variation and flexibility on water without complicating the matter beyond understanding.

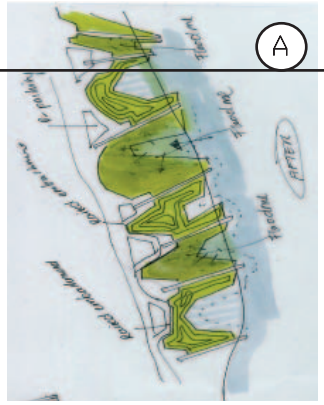
Actively drawing in the typical NYC typologies materialized in this phase and this led to investigations about the different ways of translating them ending out with a series of models interpreting NYC way of living. Furthermore the elements of the kit were continuously re-evaluated and their structural appearance redefined.

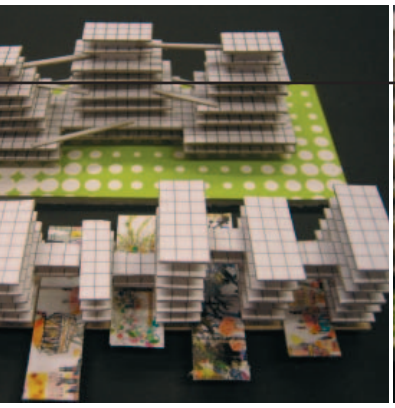


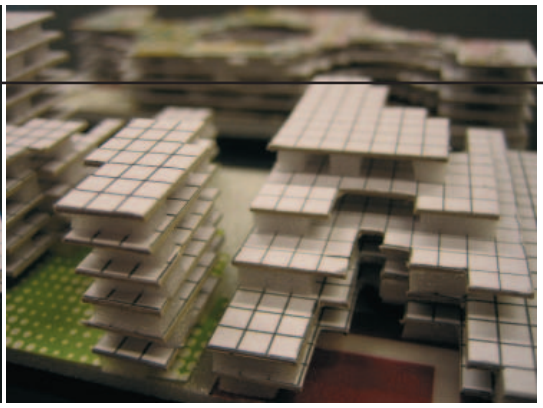


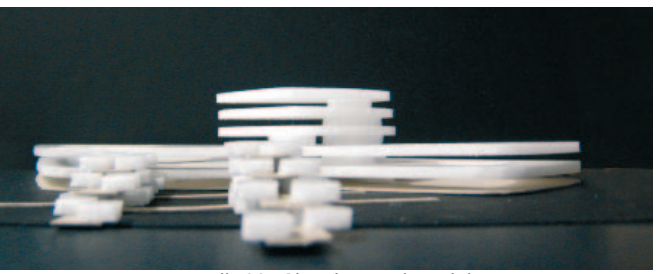


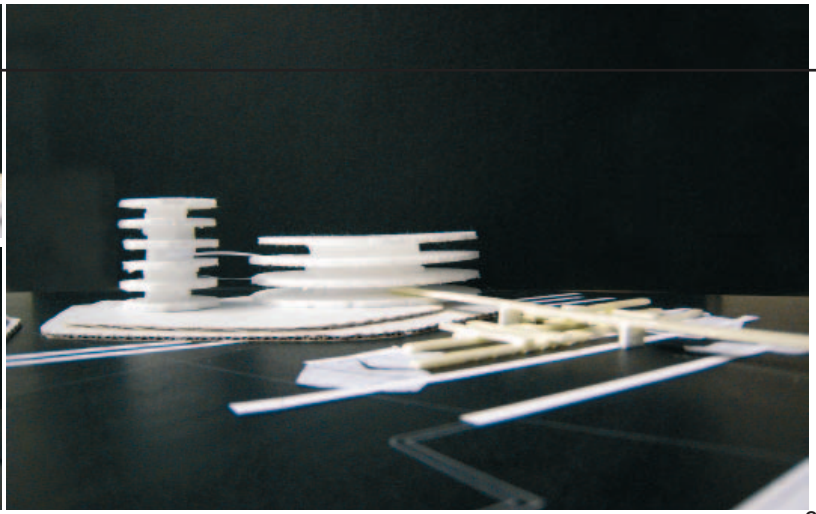










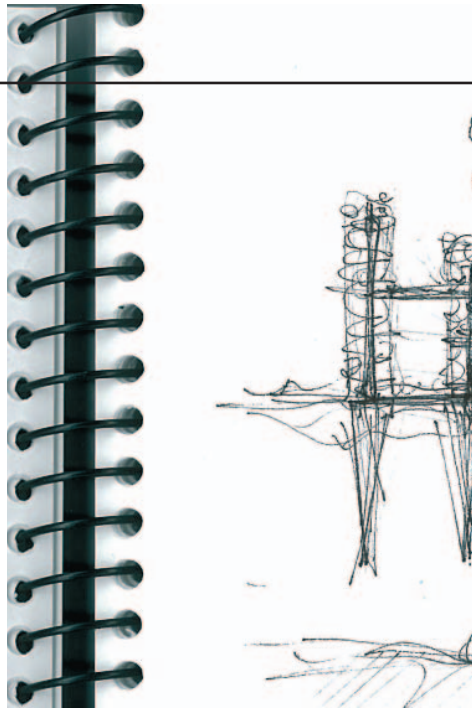


III. 62: Sketches and models

A series of diagrams reflecting the continued deliberations about organization

A Model test: a central island with adjoining barges

B A model collage: representing heights and volume

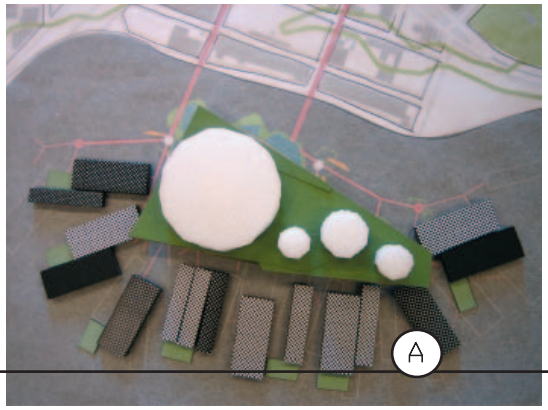


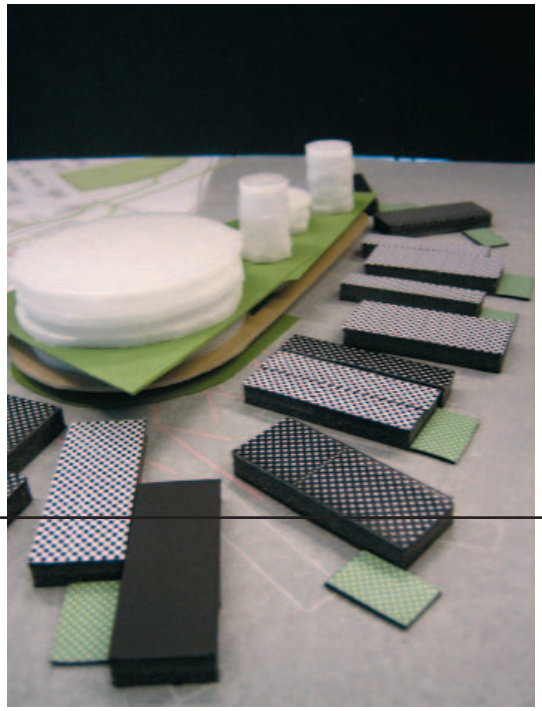
C A model picture: the relation between the barges

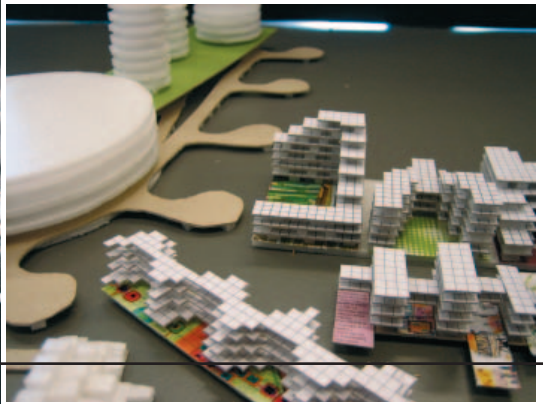
#7 Kit of Parts

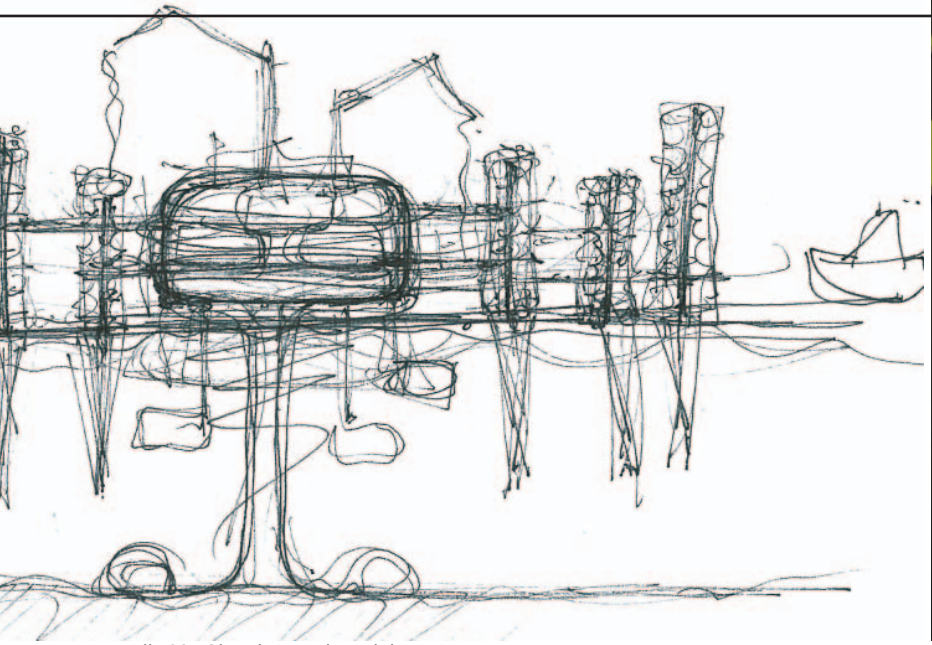
The final stage of the design phase tested the layout of the different parts and the correlation between them. This was tested through sketches, diagrams and models. Mixed media of diagram and collage served as a good working tool for the development of the project – continuously creating clear images of the design.

Sections served as a good illustrator for the system as a whole – especially the with regard to the connection between the parts.









Ill. 63: Sketches and models

10.0

p70 Conclusion

The starting point for this project was the problem presented in the competition brief “What if New York City were hit by a category three hurricane?”. As the project developed the narrative and the scope was unfolded from an (as proposed) negative ‘what if?’ disaster scenario, into a more positive ‘what if we did something now...?´scenario.

In the unfolding of the ‘problematic’ from the competition brief the project proposes a critical, resilient approach to contemporary planning practices in potentially flooded areas. Contemplating climate changes as long term significant changes that require not only immediate, short term responses but correspondingly long term and visionary strategies, ‘NYC Offshore’ advocate a proactive approach rather than a reactive response. Thus the positive ‘what if we did something now...?’ scenario reflects a new way of building city in flood prone areas that anticipates change and in fact expects it.

The design response materializes as a scenario based master plan that incorporates a time variable. Instead of isolating one situation it emphasizes the importance of thinking in an overall dynamic coherence of designing for several situations instead of static moments. The design project focuses on describing the timeframe of ‘post’ through plans, sections etc. however; incorporates the full narrative of ‘pre’ and ‘after post’ as well. The following conclusion will primarily present concluding remarks about the proposed design for the timeframe of ‘post’. The subsequent discussion will elaborate more on the aspect of working with anticipatory narrative design.

Design response
As an alternative to building on the vulnerable edges of New York the project proposes an offshore structure that inhabits the water surface through different strategies: elevating surfaces from the water, anchoring structural elements to the river-bed and introducing in-coming floating elements.
As such the proposed hardware in the design response challenges the edge conditions, meaning the relation and/or interchange between the shore and the water surface, by replacing vulnerable land with resilient structures.

The structure of the plan
In its entirety the plan may be regarded as a system that embraces both the permanent and the temporary as inherent qualities. In fact the temporary is considered to be a determining constant - the most permanent characteristic of the plan.

The spine of the system is a structurally static structure that in terms of narrative may be regarded as the spine of the project. The two layers that connect hereto: the urban public layer and the logistic layer are from the starting point programmed in order to establish an increased value for Prospect Shore as a whole. Together the two layers ensure the overall functioning of the structure and the relation between the two is an exchange of people and goods as they move from one layer to the other. Designing in layers creates a physical separation between functions however; in the case of ‘NYC Offshore’ the division ultimately ensures more room for urban life to unfold.

The kit of parts is constituted by the elements: barges, platforms, island and extended layers that placed together constitute three ways of building on water: Platform City, Anchor Venue and Floating City. (See: 1.0 Presentation Rapport) Each part of the kit has a certain lifespan and role to fill out with respect to the functioning of the system in general. These roles relate to the fulfillment of the initiative design objectives listed in 2.4 Design Objectives: density, rapid deployment, site flexibility, re usability and identity. Furthermore they conform to the overall objective of working with an anticipatory design complying to change.

The smallest part of the system is the individual unit. The composition of the units and large barges into residential living barges have been designed with the objectives in mind in that they achieve a certain density while the diversity of unit compositions ensure a diversity of ways of living. Each

residential living barge present a specific way of miming the existing NYC building typologies that ensure a variation that will make it possible for people to feel a sense of belonging to their barge as it is distinct and different from the adjacent barges. Furthermore the fact that the barges constitute the building ground for the living complexes ensure both rapid deployment and site flexibility – and this without compromising the objective of identity that is designed for through the different barge compositions. The apartment sizes are mixed widely across the different barges ensuring both a typological mix and sociological mix of people. This entails supporting an inclusive way of living as traced in the mixed use areas scattered around NYC and also visible some places in Prospect Shore.

The recreational barges introduce areas programmed in order to ensure spaces that can be used across all residential living barges. As such they represent an adjacent value for the residential living barges that make possible a sense of belonging through the use of common recreational spaces.

The platform elements establish a value and use of the structure before the occurrence of any disaster related event, that ensure a everyday and also event based correlation to the hinter-lying land based neighborhood. In their volume alone they can accommodate a large quantity of people thus maximizing the amount of people that the system as a whole can contain. This comply with the objectives of density in terms of people volume, rapid deployment in terms of minimizing the amount of in-coming barges as the system in its layout per definition can accommodate a large amount and identity through already established connections and value ascription.

The layout of design is based on different zones of public and private that ensure everyday functionality of the system. Overall the design introduces both residential areas as well as commercial programs that have a wide target group within a relatively small area. Thus, zoning becomes important in order for the large amount of people to be able to easily navigate within the system. As the residential barges connect to the public spine there is an important transition between public and more private living spaces. The public layer of the system distributes people both to the residential barges as well as the entertainment and shopping facilities that are still available in the 'post' disaster timeframe. As such the public layer ensure a functioning environment in the timeframe of 'pre' while still being able to expand and incorporate elements containing private zones without compromising its distributive role.

The relation to context
NYC Offshore is designed not for a specific site but for a hypothetical neighborhood resulting in the fact that the system has a low contextual dependency but a high contextual adaptability. The constituent parts of the system have the ability to change, both according to programmatic needs and changes in density. The most important relation to site is the programming in the timeframe of 'pre' that need to establish a relation between the water-based and the land-based neighborhood. In that respect and with regard for infrastructural connections the design may be regarded as site specific however; the system is more importantly designed to be situation specific and thus highly generic. In a way it incorporates both context dependent parameters and context independent elements through the conscious mix of permanence and temporality.

Because the design consists of parts that have different life spans, thus mixing both impermanence and permanence, it has a high degree of adaptability according to need. As the most temporary fleeting elements are primarily residential, the system is flexible in a timeframe of 'post' as it can adjust to needs that emerge in a disaster situation. Furthermore the timeframes of 'now' and 'after after' also pose potential for temporary uses that add value to Prospect Shore. Both recreational activities and the settling of permanent apartment structures testify to the systems possibility of adjusting to change – while drawing upon the quality of the water.

In order to sum up the presented points NYC Offshore reflects a resilient city approach in that it incorporates room for change. Different applied strategies ensure an in-built resilience. The design is moved away from the vulnerable edge, the elements are elevated from the water surface consisting of both structurally embedded although still elevated structures and others are floating only brought in according to need. Thus the aspect of resilience is embedded in the way of connecting the elements as well as their structural principles. Furthermore the aspect of using volume able to absorb a change in density through programmatic transitions ensures an instant occupy able space designed for change: ready per definition.

Knowingly applying both temporary elements as well as permanent structures in an offshore neighborhood ensure the best of both worlds: permanent structures establishes use and knowledge of an area ready to be tapped into as well as containing a certain amount of space volume ready for use. In addition temporary in-coming elements can expand the system according to need. And as an underlying premise the water ensures a permanent passable infrastructure.

11.0

p72 Discussion

A pivotal subject when discussing resilient cities is the relationship between the development of urban areas and the impacts of nature. Natures in this case both talks of recurrent, frequent changes in climate (ex rise in sea levels) and infrequent yet intense events such as hurricanes. As cities grow the challenges that cities face grow equivalently and changes in climate is among factors that pose the largest impact on the urban landscapes.

Acknowledging the fact that the growth of cities is the 'future' current tendency indicates that planners accept and work actively with this fact – exemplified through international design competitions as well as numerous conferences. Eg. the IFHP conference – 'future of cities' displayed a series of projects engaged with the issues of planning for changes in climate. The much touched upon subject was the question of where the future of the city is located? - both physically and socially. Do we take for granted that the city expands out in the open land – in the ocean, or do we work with the development of the inherent potentials of the city through densification - in the heights, in the plot ratio?

'NYC Offshore' inhabits the water thus suggesting the expansion of the city onto the water surface - a waterbased urbanism. However; extending cities onto the water surface requires considerations about the possible effects on the water environment: deterioration of natural habitats as well as reflections about the relation between nature and city – a relevant issue within urban design.

'NYC Offshore' suggests a design that is gentle with respect for the water environment. The different structures occupy only little space in the cross section of the river thus reducing its impact on the flow of the stream and sedimentation. Furthermore it reduces the intervention to a near shore zone setting a limitation on its expansion into the water maintaining a zone of no impact for river traffic. In the context of NYC the project propose a continuation of current tendencies, where the edge is being expanded with additional structures. However; in 'NYC Offshore' the water-based structures serve a double purpose of utilizing the water as a permanent surface in a disaster scenario timeframe of 'post' when the land based structures are damaged, while still recognizing its temporal character and dynamic movements.

Another important operation besides relocating parts of neighborhoods onto the water surface is the intention of reformulating the edge condition in general. 'NYC Offshore' acknowledges the edge as a zone with inherent recreational value as well as structurally being able to conform to the movements of the water. Intentionally laying out a recreational zone on land that is extremely attractive entails an alternative and for some extreme approach to the future of water edges in large cities. This would demand strict legal regulations for how and where to build. 'NYC Offshore' presents the most radical implementation of this approach but the presented strategic approaches for designing in a resilient fashion describe a number of possibilities that could be applied when building along flood prone edges in the future. The present project combines a number of them in the design thus utilizing their potential in combination: a solution that holds much space for political maneuvering.

When proposing an inherent characteristic of flexibility in a transitional urbanism several aspects challenge the existing way of planning for and designing cities. Climate changes impact cities and the need for a new urban condition should be acknowledged resulting in the merging of urban forms and typologies. Planning for unstable conditions and unforeseeable futures requires a new set of methods that in turn require a new kind of organization – a joint effort from both government and private companies: a creative way of working with conflicting interests that are determined by being either short termed (often private cooperative companies) or more long termed (eg. government) interests.

The previous paragraph, with the message of new urban condition, new set of methods and new kind of organization anticipates a shift. This shift lies in the acceptance of a transitional urbanism that defines an understanding of the city as something being continuously produced. 'NYC Offshore' ascribe to this view in that it operates with three scenarios determined by events forcing a change. In its mix between

permanent structures containing a programmatic temporality and temporary fleeting structures that can be added the design is prepared for change. This is not a new position (See Chapter: 5.0 Resilient Cities) but in relation to climate related effects on cities it finds new application.

When accepting a city continually being produced the issue of establishing a sense of place in an ever changing and fluid landscape is very important. A given disaster event and even war displaces people out of necessity, but in order for them to regain a sense of home temporary accommodation must not compromise - neglecting to create a base of urban quality and thus attempt to create a sense of identity. Many stories are embedded in old neighborhoods and new provisional housing structures stand the task of having to establish a new narrative – not from scratch but containing the disastrous consequences of a disaster, which the displaced people carry with them. As such the most important mission is to create a value neutral place for people to feel safe. 'NYC Offshore' establishes use and identity in advance of disaster thus defining a narrative which the in-coming residential barges can tap into and become a part of.

Prospect Shore is non-place specific, meaning that is has not been possible to tap into the embedded stories, for example history, everyday uses of its spaces as well as the perhaps more tactic phenomenological feeling of the place. The study trip to NYC including walks in flood prone areas has replaced these site-specific stories and as a result the design may be considered as made up through a cross-sectional analysis between the provided material from the competition as well own experiences of the 'real' city. This method has been challenging but in order to ensure a degree of generic application of the given design also extremely important to apply and be true to.

The project advocates a holistic approach in order to reach solutions for designing resilient cities. In one way the project taps into and to some extent build on already existing contingency planning methods of generalizations and almost military action like interventions in the wake of disaster. However; the project stresses the importance of minimizing these types of interventions through the utilization of already existing structures that may serve as recipients and expand in order to make room for whatever necessary. And this approach extends beyond the narrow hurricane disaster scenario which the design competition presented.

'NYC Offshore' is a project that advocates acting rather than reacting thus questioning prevailing ways of planning and designing. It maintains that there is potential in temporality and that a transitional urbanity is the way of the future. At least in the case of designing for people displaced due to the attack of a category three hurricane in a hypothetical neighborhood in NYC. However; which potential do this positioning hold in a more general discussion?

The question posed in the competition was concerned with, what if a hurricane strikes NYC – how should people live in the period of rebuilding? A counter question to this should be: what if we lived along side nature's premises expecting it to act in dynamic ways? What if we focused on doing something to our ways of building and uses of the city now - taking immediate action.

Inspired by theories and cases that has been labeled as utopian and futuristic this project proposes an approach and a design proposal that places itself in between a rational understanding of a static city designed top-down and the no-plan city constructed fully on the terms of its users. The underlying hypothesis advocates that in order to impact the planning practice and to encourage a change of direction it is important to propose concepts and designs that might seem radical but nevertheless indicates a new approach.

p74 Illustrations

llustrations: 7, 8, 15, 19, 49, 50, 51, 52, 53, 54, 55 and 56 are based on maps provided in the competition material, but have been graphically edited by the authors. When mentioned here, they will not be part of the list below.

Ill. 2, Pp. 6-7: NYC seen from above. (2006 Fainstein)

Ill. 5, Pp 12-13: Design Competition entries. http://www.nyc.gov/html/whatifnyc/html/home/home.shtml

Ill. 6, Pp 14-15: NYC skyline. www.patrickkelsey.com

Ill. 9 p. 17: Edge Uses. Ortographic photographs from Google Earth.

Ill. 14 p. 20: Neighborhood collage. http://strangemaps.wordpress.com

Ill. 20 p. 30: New Babylon. (1998 Sadler)

Ill. 21 p. 31: Plug In City. (1972 Cook)

Ill. 22 p. 32: Plug In City. (1972 Cook)

Ill. 23 p. 33: Fun Palace. (1972 Cook)

Ill. 24 p. 33: Plan for Tokyo. (1978 Franklin Ross)

Ill. 25 p. 33: City in the sky. (1978 Franklin Ross)

Ill. 26 p. 34: City in the sky. (1978 Franklin Ross)

Ill. 27 p. 34: Helix City. (1978 Franklin Ross)

Ill. 28 p. 34: Ocean City. (1978 Franklin Ross)

Ill. 29 p. 35: Collage. (1972 Cook)

Ill. 30 Pp. 36-37: Different strategies for building resilient cities.
http://www.nyc.gov/html/whatifnyc/html/home/home.shtml
(1972 Cook)
www.american.edu/ted/ice/images4/pretsunami.jpg

Ill. 31 Pp. 38-39: Hurricane Katrina timeline.
http://www.katrinadestruction.com/.

Ill. 32 p. 40: The American pavilion, After the Flood
http://archrecord.construction.com/biennale2006/1-main.asp

Ill. 38 p. 44: Debris
www.ce.washington.edu

Ill. 39 p. 44: Damaged infrastructures
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Ill. 43 p. 45: Debris
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Ill. 44 p. 45: Flood Wave
www.awitness.org

Ill. 45 p. 45: Temporary Housing

Ill. 48 p. 47: Collage of Katrina aftermath
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AFHny, Architecture for Humanity: a non-profit organization promoting architectural and design solutions for humanitarian crises.

ARCGNY: The American Red Cross in Greater New York is a humanitarian organization, led by volunteers, that provides relief to victims of disasters and helps people prevent, prepare for, and respond to emergencies.

Calms: In December 2003, the City launched the Citywide Asset and Logistics Management System, a web-based system designed to capture information on resources commonly used in disaster response and recovery.

Cert: NYC CERTs are groups of neighborhood and community-based volunteers that undergo an intensive, 11-week training program in disaster preparedness and basic response skills.

Citizens Corps Council: Citizen Corps is coordinated nationally by the Department of Homeland Security. Citizen Corps Councils helps drive local citizen participation by coordinating Citizen Corps programs, developing community action plans, assessing possible threats and identifying local resources.

DHS, U.S. Department of Homeland Security: serve to mobilize and organize our nation to secure the homeland from terrorist attacks. Provide the unifying core for the vast national network of organizations and institutions involved in efforts to secure our USA.

EOC, Citys Emergency Operations Center: EOC functions as a central clearinghouse for information coordination, resource requests, and decision making.

FEMA, Federal Emergency Management Agency (part of DHS): The primary mission of the Federal Emergency Management Agency is to reduce the loss of life and property and protect the Nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting the Nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

New York City – Department of Planning: The Department of City Planning is responsible for the city's physical and socioeconomic planning, including land use and environmental review; preparation of plans and policies; and provision of technical assistance and planning information to government agencies, public officials, and community boards.

NFIP, National Flood Insurance Program: The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages.

NYDIS, New York Disaster Interfaith Services: a faith-based federation of service providers and charitable organizations who work in partnership to provide disaster services.

OEM, NYC Office for Emergency Management: Established in 1996, the New York City Office of Emergency Management (OEM) plans and prepares for emergencies, educates the public about preparedness, coordinates emergency response and recovery, and collects and disseminates emergency information. When a plan is activated, OEM coordinates the skills of City, State, federal, and non-governmental agencies, to ensure the plan is effectively carried out.

SEMO, New York State Emergency Management Office: prepare State disaster plans; the direction of State disaster operations and coordinate those with local government operations; and the coordinate federal, State and private recovery efforts.