IJburg
Blok 125/126i/j
History of IJ Burg
Multicore metropole
Zoning
Area of study 1: Oostelijk Havengebied district
Java Island
KNSM
Oostelijke Handelskade
Borneo + Sporenburg
Crupukas
Area of study 2: IJ Burg district
Steigereiland (Noordbuurt + Waterbuurt)
Steigereiland (Zuidbuurt)
Haveneiland West
Rieteilanden West
Satisfaction survey
Steigereiland functions
Steigereiland typology / plan analysis
Noordbuurt blocks
Waterbuurt dwellings
Zuidbuurt blocks
Sources
Natuureiland IJmeer is one of the three projects to improve the conditions for local flora and fauna. The project covers the entire dam starting at the head of Zeeburgereiland (North of Steigereiland) Zuiderijke IJmeerkust and Polder IJdoorn are the other two. The breakwater is divided in sections for better water conditions. On the south side sand is added to create artificial island for ecological purpose. A second line of stone is added to create calm water in-between and prevent boats from mooring.

The IJmeer is European protected ecological area, as it is essential for water-birds. Part of the deal to allow building IJburg at its location is to invest in improving local ecological conditions as compensation.

IJ simply means water and once connected the Utrecht area with the Northsea. This small stream became disconnected from the Northsea and got wider over time influenced by some floods and the Zuiderzee. Before the completion of the Noordzeekanaal in 1876 ships had to go around the head of Noord Holland to reach Amsterdam. The dykes protecting most of the island are built in the Middle Ages, the Diemerzeedijk south of IJburg is one of them. The typical dyke villages like Durgerdam appeared in the end of the Middle Ages.

Diemerdijk starts East of Amsterdam and stretches even beyond Muiden. The dyke is built in the 13th century and made of clay. It is aligned with the chain of Haarlemmerdijk, Zeebrugerdijk, Zeeburgerdijk. It is one of the characteristic elements of Amsterdam’s surround- ing and was to protect the peatland, that continued to lower over time, from the Zuiderzee. Rembrandt and more painters made etch of the typical landscape close to Amsterdam. As well it was an important connection between Amsterdam and the eastern regions. The dyke has two drainage locks; Diemerdammersluis and the Ipenslotersluis which is next to the Geemlandshuis of Diemel. These locks were to drain water from the Watergraafsmeer and stream the Diem. The Diemerzeedijk got isolated from the mainland by the completion of the Merwedekanaal the now called Amsterdam-Rijnkanaal in 1892.

The Diemerzeedijk starts East of Amsterdam and stretches even beyond Muiden. The dyke is built in the 13th century and made of clay. It is aligned with the chain of Haarlemmerdijk, Zeebrugerdijk, Zeeburgerdijk. It is one of the characteristic elements of Amsterdam’s surround- ing and was to protect the peatland, that continued to lower over time, from the Zuiderzee. Rembrandt and more painters made etch of the typical landscape close to Amsterdam. As well it was an important connection between Amsterdam and the eastern regions. The dyke has two drainage locks; Diemerdammersluis and the Ipenslotersluis which is next to the Geemlandshuis of Die- men. These locks were to drain water from the Watergraafsmeer and stream the Diem. The Diemerzeedijk got isolated from the mainland by the completion of the Merwedekanaal the now called Amsterdam-Rijnkanaal in 1892.

Vuurtoeneiland

Vuurtoreneiland was completed in 1702. As history of the IJ and surrounding dykes show, the Zuiderzee could be rough and pieces of land were lost and dyke breakthroughs did happen. Vuurtoreneiland had to be repaired several times because of these conditions. Now it is an island but very likely it was part of the mainland, over time the soggy land connecting the lighthouse eroded, in 1875 the term Vuurtoreneiland was used for the first time before that the term Lantmon van Lidoom was used. It really became an island by making it part of the Stelling van Amsterdam. The island was raised and military units were built in the end of the 19th century. The iron lighthouse as we do know it now was placed in 1895 and it is still in use. Plans are made to develop ‘something’; it is open for everyone to present a plan.

Diemerpark

Between 1960 and 1980 the now called Diemerpark was used as a landfill and burn site of chemical waste, in between the rough untouched nature on a dune-like terrain. The other side of the dike has reed lands till the canal. The sanitation of the waste is done by remov- ing the entire top of Diemerpark in 2001 which gives it the actual form it has now. On the sides a screen wall is constructed that should prevent the waste to mingle with surrounding groundwater and soil. To lock off the bottom of the ‘box’ a cheaper solution as was planned in used, by lowering the groundwater the waste cannot mingle with the groundwater, preventing spread. Tests in 2010 show that this method is failing in keeping the groundwa- ter on a low level.

Natuureiland IJmeer

Natuureiland IJmeer is one of the three projects to improve the conditions for local flora and fauna. The project covers the entire dam starting at the head of Zeeburgereiland. (North of Steigereiland) Zuiderijke IJmeerkust and Polder IJdoorn are the other two. The breakwater is divided in sections for better water conditions. On the south side sand is added to create artificial island for ecological purpose. A second line of stone is added to create calm water in-between and prevent boats from mooring.

The IJmeer is European protected ecological area, as it is essential for water-birds. Part of the deal to allow building IJburg at its location is to invest in improving local ecological conditions as compensation.
The surrounding of IJburg didn’t change much over time until the Second World War. Before that it was mostly agriculture land with east-west trading routes both over land and water that influenced the site. Only the Diemerzeedijk remained as an unchanged structuring element on land. The land behind the dike is characterized by the infrastructural veins connecting Amsterdam to its surrounding. Inbetween the infrastructure we find clusters of Amsterdam’s city extensions.
Amsterdam is part of a bigger urban structure: together with Utrecht, Rotterdam and The Hague it forms a multicore metropole. Instead of a single urban core, an urban ring is formed. With smaller cities in between the big 4, they as well make good use of the extensive infrastructural network. This urban morphology makes this multicore metropole clearly different from metropoles like London or Paris. They consist of a single core surrounded by a green zone. The Randstad is an inverse of this with a central green core. For Amsterdam it means that extending possibilities are limited. IJburg is in such a perspective a further enclosure of the circle between the different cores.
**Groene hart**

The border between ‘het Groene hart forms a clear distinction between build and unbuilt. By making artificial islands, Amsterdam is still able to extend and as well improve connections in the future with Almere without cutting through het Groene hart. This as well means that IJburg is both close to the city centre of Amsterdam, extensive green landscape and open water.

**The art of creating**
Zoning

Design principles for Steigereiland

- Backbone of IJburg is running through Steigereiland and separates the north and south islands.
- Power lines run through the north island.
- Crossing between Steigerdam en Dwarslaan form the centerpoint of Steigereiland. Not only is this the main connection between the islands and main road. The tramline is situated here as well. This crossing provides space for businesses and other facilities.
- In the water near the north island a harbourbuilding was planned but will not be elaborated. This building was planned to function bars/restaurants, an auditorium and other public functions.
- Dwellings on land.
- Dwellings on water.

The north island is designed as a small enclave surrounded by water. On the water side dike dwellings are situated. These dwellings provide a wall for the, more introvert, "city" with small narrow streets on the inside of this island. Because the south island is already protected from the hard water conditions this neighbourhood has a more open character and is less urban. On the west side of this island a industry side is created.

The big harbour on the outside of the island was planned to be 12 stories high and would be a floating city. The southisland has a small area reserved for water housing.
The north island needs hard banks where the south island can be provided with more accessible areas. The inner ring is facilitated with houseboats, and docks are public space two different areas are created. The inner and outer ring is divided between two green areas: the Steigereiland and the Proefeiland.

14 15

The north island gives a lot of opportunities for self build housing. On the south island this area is on the land. The north island gives residents of houseboats the opportunity for self designing their house.

The project site is situated in the area where self build houseboats are planned. Because the masterplan makes suggestions about houses on land as well this probably can be an option as well. At this moment there is no clear plan for an infill of this specific site.
Oostelijk Havengebied district

- experimental area
- 1990s - Sjoerd Soeters
- urban fabric renewal
- industrial building conversion
- housing + offices + art/culture
- applicable to VINEX districts

Oostelijk Havengebied demographics

Age groups 2012

- 0-22 years: 27%
- 23-39 years: 43%
- 40-64 years: 15%
- 65+ years: 5%

Age groups 2015 (prognosis)

- 0-22 years: 23%
- 23-39 years: 23%
- 40-64 years: 25%
- 65+ years: 9%

Average net income

- 2010: 40937
- 2012: 43487
- 2015: 44366

Dwellings/km²

- 2010: 3276.5
- 2011: 3300
- 2012: 3350

Data retrieved from: http://stadsdeeloost.buurtmonitor.nl
Java eiland

This island was planned in the 90s by Jo Coenen. With mainly slab and communal blocks on the edges and infill housing along the canals, this masterplan is all about community. The neighbour-hood is composed of very density-appropriate typologies emulating the traditional Amsterdam style. Although, the island has been developed quite recently, it still evokes the feeling of tradi-tional dutch architectural scale and language. This area is now a residential quarter for young professionals.

Java island has successfully flourished over time. It could well be used as a case study for new ‘suburban’ developments, such as IJ Burg.
The island is composed of experimental super blocks by various architects. KNSM is a large residential area containing modern architecture with a mostly well-off population. In the 1990s the entire area was reshaped into a housing area, based on a 1988 blueprint by Jo Coenen, his first big project. He envisioned a mixed use of the space, and planned “super blocks,” big buildings containing lots of individual homes and apartments, along a central avenue, mimicking the organization of the island’s former warehouses and storage buildings. The redevelopment of the island was part of a masterplan that would turn the entire Eastern Docklands into modern residential areas to allow the city to expand.

The island is known for some of its preserved buildings (rehabilitation projects, conversions). Many old factories converted to artist studios, galleries, office uses.

The typology of KNSM varies than that of Java because of its lack of single homes, which have been fully replaced by the block, tower and slab typologies.
Known to be a ‘harbour-oriented’ area, Oostelijke Handelskade has very little residential use. Many offices and commercial programmes flourish within a mixture of new and re-used buildings. This recently developed strip of activity is situated alongside the tram line and is of a very convenient and walkable distance to Amsterdam Central Station.

The architectural fabric of this area is quite dense, with higher developments than those of Java, KNSM, Borneo, etc. This area is connected to Java island by the Jan Schaefer Bridge. The two contrasting neighbourhoods work very well at the urban scale.
A masterplan of a large-scale low-rise residential development on two peninsulas. There are 2500 low-rise dwelling units, with a density of 100 units per hectare. In their plan, West 8 (the urban planners for this project) reinterpreted the traditional Dutch canal house: a 3-storey, ground-accessed home. This dwelling type is repeated in an assortment of varieties, showcased through the changing facades and emphasizing the individual dwelling within the whole complex.

The density of Borneo and Sporenburg are quite similar to that of IJ Burg neighbourhood. Similarly, there aren’t any other programmes than residential, but dwellings are designed in such a way that expansion is possible over time. For example, ground floor rooms are constructed much higher than the standard size, so that it may later accompany other uses. So far, after about two decades, no new activities have flourished.
The island of Cruquius is actually a peninsula, surrounded by water and bounded on the west by the railway. Just like Java Island, the area has been developed in the 90s into a prominent residential area with warehouses, as well as both private and social housing.

Cruquius maintains its historical industry programme with its industrial building rehabilitation projects and also with business centers where creative entrepreneurs work. The number of inhabitants in 2011 was 3586, the number of companies 620.

http://www.oost.amsterdam.nl/buurten-0/oostelijk/cruquiseiland/
Steigereiland (Nordbuurt + Waterbuurt)

Noordbuurt is one of 3 neighbourhoods forming Steigereiland, where experimental dwelling styles exist: such as floating dwellings, collective initiatives, and individual commissioning.

Amsterdam's Department of Spatial Planning has formulated an urban plan with strict criteria in which the various parts of Steigereiland are allocated their own particular character. Besides the green Zuidbuurt (south quarter) and the floating Waterbuurt (water quarter), the Noordbuurt (north quarter) will present itself as a stony enclave, surrounded by a dike, which evokes memories of the former villages along the Zuider Zee coast. It seems to be one massive monolith, into which narrow streets have been hewn. The quarter is densely constructed and contains a programme of council houses, free-market houses in both the middle and luxury sectors, and new, collective dwelling styles.
Steigereiland demographics

Since 2010 the number of inhabitants of Steigereiland is still growing. Expectation is that in the year 2015 the 4,000th inhabitant is welcomed. In 2020 this number is probably already grown towards 5,000 inhabitants, with over 4,800 inhabitants expected.

Designing the new part of Steigereiland on the Proefskeiland area, the architect must take this growth of inhabitants in account. Not only creating dwellings for the expected number, but also anticipating on the continuous growth.

The Steigereiland area is known as an area suitable for young families. The pie charts show that this family type is most common on the island. Around 40% of the households is a couple with one or more children; a little bit more than 10% is a single parent with one or more children. This means that half of the households are families with children.

Almost a third of the household are singles without kids. The pie charts show that this ratio is almost unchanged and are unlikely to change in the coming years.

The charts show that of the families which exist out of more than 2 persons, most households are with 1 to 3 children.

This means that there are in ratio relatively many children on the island, which ask for functions and dwellings that take these continuous statistics into account.

data retrieved from: http://stadsdeeloost.buurtmonitor.nl
Steigereiland demographics

Steigereiland is a mix of different nationalities. More than 50% of the inhabitants is native (similar to entire Amsterdam), but the other half is a combination of western and non-western immigrants from Suriname, the Antilles and other. From the immigrants on the island, the highest percentage comes from Suriname. With these numbers, the architect of the Proefeiland area can decide to create a ‘social meeting point’ where this multi-national society is a central part, instead of creating separate smaller communities.

In 2011 the age groups 0-22 and 40-64 were most common. For both 2015 and 2020 it is not expected to change, and (combined with the charts of the family types) that most families will exist out of parents with children. Looking at the percentage of the agegroup 23-39, it is likely to say that students will leave the island, and that most ‘new’ families on the island are young couples and families with young children.

This characterizes the island, as a suburban (yuppies) area of Amsterdam.

The density of the Steigereiland area is still growing. This has to do with the unfinished built in 2010. Right now, most projects have finished, and lead to an average density of 3.844 dwellings per square kilometer. When finishing the blocks 125 (proefeiland) and 126, the density will increase.

Compared to an average density of 2,391 dwellings/km² in entire Amsterdam, Steigereiland is a dense area. This has to do with the open water in the middle (which probably is not included in the calculated floor area) and the apartment buildings spread over the building blocks.

The dwellings on Lützow exist of a combination of social and private housing. The building blocks on the edges of the island, and the water dwellings, are private properties, where the closed building blocks in the middle of the Steigereiland are social housing projects. The difference between the dwellings are quite big: the social rental dwellings are on a smaller scale, while the private (bought) properties are dwellings with a big acreage. The private and social dwellings are connected through the backfacades, share a communal outside space and are accessed through mainly car-free roads and squares.

The density of the Steigereiland area is still growing. This has to do with the unfinished built in 2010. Right now, most projects have finished, and lead to an average density of 3.844 dwellings per square kilometer. When finishing the blocks 125 (proefeiland) and 126, the density will increase.
Stevegreiland (Zuidbuurt)

row houses
free-standing
infill (plot)
housing

block

free-standing

new houses
Haveniiland West

typology:

- block
- tower
- slab
- urban villa
The space, water and housing are most appreciated on IJburg. The limited number of facilities, the construction nuisance and parking problems and the lack of greenery are the most frequently mentioned negative aspects of IJburg. The shortage of parking is caused by the idea of one car per household but in reality this turned out to be often two. Most residents (81%) experience to live in a neighborhood that is built on the water. One in five households (20%) has a boat. A third of the boat owners have a berth at IJburg. Almost all other boat owners would like to have a berth at IJburg. 

‘Satisfaction’ survey - project IJburg

Steigereiland

- low rise buildings
- small neighborhoods
- self build houses
- mix of self build and developer housing

Two parks are planned on steigereiland

- 47% thinks this is not enough
- 43% thinks this is enough

Steiger eiland consist of several smaller low rise neighborhoods, partially self-build houses and short streets. Inhabitants or positive about these features but most positive about the self-build houses and less positive about the mix of self-build and developer houses. The experimental architecture on Steiger eiland played for 43% no role in the choice for the island and for 29% an important role. On Steiger are two parks. According to 47% of the residents this is too little and 43% thinks this is the correct number. 63% agrees with the idea to make a natural sport and play park at the island. *

Haveneiland

- parks
- squares
- views at the water
- underground parking
- communal gardens
- flat roofs
- parking in the courtyard

Four parks are planned on haven eiland

- 2/3 thinks the courtyard should be public
- 1/3 thinks it should be private

At Haven eiland is chosen for a straight structure of blocks, long streets, parks, plazas and water views. The residents are the most positive about the vistas to the water (87%) and about the flat roofs the least (44%). The courtyards of the blocks have different functions. The most satisfied residents are the ones with a communal garden or houses in their courtyard. Residents with an aboveground parking within their courtyard are the least satisfied. One Third of the residents have the opinion that the inner areas should only be accessible to the residents. At Haven eiland four parks. This is according to 67% a correct number and 26% thinks this is too little. *

Steigereiland - access

functions other than residential

Legend
- businesses
- retail
- catering firms
- offices
- social functions
- school
- nursery
- leisure
Known to be designed as a ‘Collage City’ and as a ‘stony enclave’, the area is comprised of 9 residential blocks on the island. 450 homes are provided and 144 of them are intended for sale (6 blocks). Properties are divided into 80 houses and 64 apartments. Numerous experimental dwelling styles are dispersed throughout such as: floating homes, collective initiatives, and individual commissioning.

These blocks are densely constructed with informal squares as well as greenery. There are council-houses, free-market houses (for the middle and luxury sectors), as well as new collective dwelling styles.

The master plan for this part of IJburg is characterised by its high density, large perimeter blocks and a narrow street pattern. Three architect firms (Marx & Steketee, VMX, and DKV) have been commissioned to design three blocks each with strict guidelines regarding materials, typologies, and heights. Short sightlines was one of many rules. In most cases there is an ongoing 2-storey substructure with higher accents (towers) all creating an ‘intimate village’.
Block A - Tjalk

Start date construction: July 2007
# of dwellings: 37
other programs: 600m² for commercial space & nursery
m²: 96-182

Block D - Botter

Start date construction: Jan 2007
# of dwellings: 139
other programs: nursery (for 50 children), catering
m²: 92-165
The dike houses which are located on the quay are with a unique layout. Residents also have a spacious (roof) terrace and a carport with space for 2 cars. There are 3 different types of units ranging in living area of approximately 142 to appx 167 m².

The other apartments are cleverly laid out. The outdoor spaces are facing southwest, allowing for plenty of sunshine. There are different types, ranging in living area of approx 83 to ca.92 m².
This block mainly consists of living/working apartments, single-family homes with private gardens, and collective play facilities on the inner courtyard.

On the upper floors, the block is set back a little so that patios are created behind the street façade, functioning as green enclaves in the stony streets. The entrances to the houses have been situated in alcoves in which a flower bed generates a natural separation between the public and private domains. The inner yards have been realized as green courts whose façades are materialized in wood.

The layout of this block is special because of its orientation to the IJmeer. Thus, the large kitchens on the embankment side have a magnificent panoramic window. Furthermore there is a garage with space for 2 cars. Living areas range from about 142 to about 191 m².

Start date construction: july 2007
# of dwellings: 60
m²: 56-191
other program: communal room
As a starting point, the obligatory use of the perimeter block is combined with the spatial qualities of the ‘slab’. By doing this, nearly every individual house is offered a private outdoor space facing south. In this system, half of the houses (those on the North side) are given their entrances on the street. The remaining houses are opened up with the inside part of the block. This mix of private outdoor spaces and entrances within the block results in a ‘collective atmosphere’.

In offering sufficient privacy in the narrow streets, the ground floor has been raised slightly above street level. Furthermore, multipurpose spaces have been introduced between the street and living room. These spaces allow a highly flexible use - for example as study rooms on the north side and as ‘garden rooms’ on the south side of the block. The idea of maximising the amount of privacy also leads to the specific composition of the facades.
Dwelling along the dike with a magnificent panoramic window. Really outdoor living: on the water, with beautiful views of the IJmeer. The house has lovely outdoor spaces, large glass windows and private parking for 2 cars. The dike house bnr. 1 has a living area of about 208 m².

Start date construction: jan 2007
# of dwellings: 76
m²: 57, 83, 93, 108, 109, 138, 171, 213

Dok Architekten
# of dwellings: 83
m²: 56-126

other programs: offices, shops, (bedrijfsruimten)

A 200m long and 5 storey building on the quay. The narrow building is sandwiched between the IJburglaan and water. Standing on a sturdy base of dark concrete buttresses, it refers to the port atmosphere. A connecting ‘bridge’ to the water dwellings and the south part of Steigereiland.