- THE EQUITABLE CITY -

BETWEEN STANDARDS AND IDEALS
The future of housing in the Netherlands

DRAWINGS
MSc - 3 Dwelling graduation studio

DUTCH HOUSING

Christine Lie

Tutors:
T.W. Kupers
F. Adema
P.S. van der Putt

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## TARGET GROUPS

**he new urbanite**

<table>
<thead>
<tr>
<th>Type of household</th>
<th>Apartment type</th>
<th>Spatial need</th>
<th>Budget</th>
<th>Need for social contact</th>
<th>Additional amenities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 person</td>
<td>Studio / One bedroom</td>
<td>~30 m²</td>
<td>€</td>
<td>●●</td>
<td>Storage (Shared) outdoor space, Laundromat, Guest room, Multipurpose collective space, Shared car/scooter</td>
</tr>
<tr>
<td>2 people</td>
<td>Studio / One bedroom</td>
<td>~30 - 50 m²</td>
<td>€ - €€</td>
<td>●</td>
<td>Storage (Shared) outdoor space, Laundromat, Guest room, Multipurpose collective space, Shared car/scooter</td>
</tr>
<tr>
<td>4 people</td>
<td>Two bedrooms</td>
<td>~50 - 75 m²</td>
<td>€ - €€</td>
<td>●●</td>
<td>Storage (Shared) outdoor space, Guest room, Shared car/scooter</td>
</tr>
<tr>
<td>5 people</td>
<td>Three bedrooms</td>
<td>&gt; 75 m²</td>
<td>€€ - €€€</td>
<td>●●●</td>
<td>Storage (Private) outdoor space</td>
</tr>
</tbody>
</table>
BUILDING LOCATION
BUILDING CONCEPT

1. Two separate residential towers
2. Connecting towers by adding a podium
3. Distinguish top part with views overlooking surroundings and base part with copious outdoor space
4. The distinction between the top and base part is based on the surrounding buildings. The adjacent residential building has a maximum height of 30 meters, so the floors above this height will have views overlooking the surrounding, whilst the floors underneath this point will have the quality of large outdoor space.
The sustainability concept is based on the decrease of energy usage which can be achieved on different levels in the residential building. The dwellings are compacter in size, ensuring less energy use to make the dwelling and to heat and cool the dwelling when necessary. Because of the prime location of the residential building, travel distances to and from amenities become less, making car usage less appealing. Therefore, individual car ownership becomes a thing of the past and different transportation modes are shared collectively, just like tools and spaces which are not used on a daily basis.
**Green roof** on the uppermost floor and on the deck retains rainwater during heavy raining seasons. In addition, it can act as a water filter so the excess water can be used as a grey water system within the residential building. For instance, toilets can be flushed using this grey water as well as watering the plants in the communal outdoor space. In addition, there is a grey water storage located in the basement.

**PV-cells** on the roof help generate electricity to use for building systems.

**Floor heating and cooling** ensures a comfortable climate in each dwelling during the entire year. This system is connected to a **heat pump** which uses water from the IJ - lake.

**Natural ventilation with mechanical extraction and a heat recovery system** (unit on 21st floor) is implemented for all dwellings. The heat recovered from the air can be used to preheat tap water. Due to extracted heat, the difference in temperature is much lower, ensuring less energy to get tap water to a comfortable temperature.
CONSTRUCTION
load bearing structure
BUILDING CIRCULATION

corridor and gallery access
CROSS SECTION
scale 1:500
GROUND FLOOR PLAN
scale 1:200
Dwelling types > 50 m² are placed up until the 15th floor to warrant an enjoyable outdoor space without excessive wind. Balconies facing the podium ensure social control of residents.
Balconies facing the surroundings are placed flush with the building outline as to not obstruct views to the surrounding area.
Dwelling types < 50 m² are predominantly from the 15th floor and up as these dwellings do not require a private outdoor space.
DWELLING CONFIGURATION

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studios</td>
<td>31%</td>
<td>116</td>
</tr>
<tr>
<td>One bedroom apartments</td>
<td>48%</td>
<td>180</td>
</tr>
<tr>
<td>Two bedroom apartments</td>
<td>11%</td>
<td>40</td>
</tr>
<tr>
<td>Three bedroom apartments</td>
<td>10%</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>374</td>
</tr>
</tbody>
</table>
DWELLING TYPES
116 studio / loft apartments

Type of household

Apartment type
Studio

Budget
€ - €€
TYPE A1 - 23,3 m²
scale 1:100
TYPE A2 - 61.9 m²
scale 1:100
Dwelling Types
180 one bedroom apartments

Type of household

Apartment type
One bedroom

Budget
€ - €€
TYPE B3 - 43.6 m²
scale 1:100
TYPE B4 - 43.2 m²

scale 1:100
TYPE B5 - 39.2 m²
scale 1:100
40 two bedroom apartments
TYPE C3 - 46,4 m²
scale 1:100
TYPE C4 - 53,3 m²
scale 1:100
TYPE C5 - 55,2 m²
scale 1:100
DWELLING TYPES
38 three bedroom apartments

Type of household

Apartment type
Three bedroom

Budget
€€ - €€€
BUILDING SEQUENCE

1. LOAD BEARING STRUCTURE
- walls and floors with prefab slots for attachment of prefab panels

2. PREFAB PANELS
- timber frame construction including insulation
- window frames with glass
- slots for the attachment of facade panels and railings

3. FACADE CLADDING
- facade panels
VERTICAL DETAIL SEQUENCE
scale 1:10

1. LOAD BEARING STRUCTURE
   - walls and floors with prefab slots for attachment of prefab panels

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   - timber frame construction including insulation
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VERTICAL DETAIL SEQUENCE
scale 1:10

3. FACADE CLADDING
- facade panels

4. WALL AND FLOOR FINISHES
1. LOAD BEARING STRUCTURE
- walls and floors with prefab slots for attachment of prefab panels

2. PREFAB PANELS
- timber frame construction including insulation
  - window frames with glass
  - slots for the attachment of facade panels and railings
3. FACADE CLADDING
   - facade panels

4. WALL AND FLOOR FINISHES