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Degree Project in Architecture, Second Level 30 credits
23 maj 2013

”Titel – I väntan på 2020”
”Title – Anticipating 2020”

[Image of a table with small objects on it]
What can the role of the architect and urban planner be when working within spatially segregated areas?

**ANTICIPATING 2020** is a project for a diploma program at Hovsjö. The task is to build a structure or an event, temporary or not, that can reflect, spark, fantasy, desire and in other ways be a part of a planning process as well as artistic and future change in Hovsjö. Specifically, the purpose is to discuss the existing and possible urban life in relation to planning and upgrading spatially segregated areas in general, and the area Hovsjö in particular. Furthermore, the architect is to talk about the politics of planning space as well as planning and building within an existing area.

Telge Hovsjö is the municipal company that manages the area. With the appointment of new CEO in 2008 they changed their way of working. Their focus has since then been on working with social mobilization and creating the best possible conditions for the local public life, by unifying planning and action.

They are also working on a project for Hovsjö called a “Hovsjö 2020”, hence the name of this project. How can you work, while waiting for the future to come? While waiting for the area to become something different? How will the new shopping mall, restaurants and apartments be constructed? How can a city exist again creating new life and planning for years ahead? It simply may be a way of stressing the importance of action.

**FRAMEWORK FOR THE PROGRAM AND PROJECTS**

<table>
<thead>
<tr>
<th>Focus points in the program</th>
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<tr>
<td>1. The architects and the architectural process</td>
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Hovsjö is one of Sweden’s most densified areas, and the vision is to densify it even more. Which means the quality and diversity of public spaces becomes even more important. Hovsjö has a large open space called Hovsjö’s “central park” in the municipal vision document, a meeting point. This area has a lot of bigger open spaces, and it is appreciated by the residents because it is possible to be seen and to have an overview of the big open space at the same time. But the configuration also means that there are no smaller public rooms. Everything is governed by function and use, control and safety.

My design proposal is an installation that creates a diversity of public room types and spaces in Hovsjö. The intention is to keep a big open space open, but at the same time being able to have smaller, still public, rooms within the big area: the “central park” of Hovsjö.

I propose an installation with spherical objects; 57 ligustrum atrovirens plants (1x1x1 m), 11 wooden globes (1x1x1 m) and 1 stainless steel globe (3x3x3 m). I wanted an element that could grab hold of a big piece of land and create rooms and spaces, but without enclosing them and the sphere and chosen sizes of the objects does that. The installation gives the public space of Hovsjö’s “central park” a diversity in scale. It could be said to be vague in its programme. But at the same time - by occupying a space you ascribe it a certain value. And by dividing it into smaller rooms and spaces you decide what can not be there. There can not be big football games etc. It is up to the user to define what and how to use it. The installation reserves the space, but for exactly what is not decided and not programmed.

The plants biggest quality lies in it being a living material, which requires maintenance. That is a positive aspect. The planting procedure would be with professionals but mostly with the youth organization Hovsjö Summer, where young people in the area get summer jobs and work with taking care of the local environment. A discussion about rooms and space would hopefully be triggered. And what you are a part of creating, you don’t destroy as easily. The wooden spheres are deviating from the grid and can be used for sitting or standing.

The stainless steel globe works with the notion of perspective and ones own view of the local space. The distorted perspective at a distance that changes when approaching the globe. The steel globe is like a crystal ball - you can look inside through small holes in the structure and view what is happening and film produced by the children/youth in the area as well as by you.

The site is next to Hovsjö Hub (the future culture and business center). The grid and use of trimmed plants flirts with old castle gardens, but the purpose here is not to show of a kings power but to use this notion symbolically. It gives a certain solemn touch to the installation. To say that this space is important. To propose something that is unexpected in this context could also trigger imagination and a discussion of what ones space and local area could or should be like. The focus is on creating something fun, something that is about function, but also an experience of something new.

To have a budget was important since the goal is to realize the project, and the budget has governed a lot in the project. Presentations for Telge Hovsjö has been made with positive response and talk about further development. So what can you get for 1 million Swedish Kronor? A lot at it seems; the whole park installation with plants, wooden globes, planting, lighting, architect fee, developer fee etcetera. Everything except the steel globe, which is not in the budget. At the moment...
Tower blocks, 150 apartments
Multistorey houses, 550 apartments
Tower blocks, 250 apartments
Housing on existing parking structures, 125 apartments
Row houses, 75 pcs
Townhouses, 50 pcs
Tower blocks, 150 apartments
Row houses/villas, 35 pcs
Town villas, 125 apartments
Center with markets, stores, apartments
Center with restaurant, food store, pharmacy, pizzeria, kiosk, hairdresser, clothes store
Hovsjö Hub
Future business center, culture house (old high school)
New school, ages 6-15
Pre school/Kindergarten
School playground, open for everyone
Football field
Rehab center
Multistorey houses (3&8 floors)
Row houses
Parking garages
Green open park area with fountain

City center
P
P
P
P
E20

J
P
227x473
J
232x482
P
158x659
mälaren
E4
E20
E4/mälaren
måsnaren

THE EXISTING BUILDINGS AND FUNCTIONS IN HOVSJÖ

TELGE HOVSJÖ’S VISION ‘HOVSJÖ 2020’

landscaped and partly programmed areas, some green, small undulating elevations, but mainly flat green area, sloping towards the main road
hilly forest terrain, sloping down away from the estate area in all directions

SITE FOR THE FIRST PROJECT, INSTALLATION 2014

HOVSJÖ
Dwellings, Typologies, Courtyards and Configuration

In every unit, throughout the estate the lower building is to the west to make the courtyards light.

To the right: 2 courtyards
An example of buildings dimensions, somewhat average in the two north of the green middle area.

There are 2200 dwellings in Hovsjö, 2259 of these are in apartment blocks 243 in row houses

61 row houses
24 three storey high apartment blocks
24 eight storey high apartment blocks

Pedestrian access and service vehicles

Pedestrian access and service vehicles

Entrances are towards the courtyard

Service buildings between the courtyards

There are 11 courtyards in the area:
1 private - 10 public (semi-public)
Each courtyard has a playground, the size and state varies

There are 2200 dwellings in Hovsjö, 2259 of these are in apartment blocks 243 in row houses

3 storey apartment building
8 storey apartment building
Courtyard

3 unit =
2 courtyards and 8 buildings

3 courtyard =
1 courtyard and 4 buildings

11 courtyards
1 private - 10 public (semi-public)

Each courtyard has a playground, the size and state varies.
The basic grid consists of straight lines with a distance of 4000 mm between each Ligustrum plant that are on the same horizontal row. The rows of the plants are shifted, with 2000 mm, so every other row has the same position.

The distance between the Ligustrum plants is growing with 200 mm in a vertical direction. It goes from 2400 mm to 4000 mm. With each row the distance grows with 200 mm until it reaches 4000 mm. The distance are closer towards the commercial center of Hovsjö and where most people walk.

This type of grid gives an undisrupted view from the Hovsjö Hub building towards the big green area and vice versa. By shifting the rows in a horizontal direction the views from the other angles change. Diagonals are created, you have long views at some points and short from others. It creates a variety in directions, room types and views. By letting the vertical distance between the rows grow with an even number an effect where you think the Ligustrum plants are placed on a curved line occurs, which is most visible in the 1:50 physical model.

Some plants and all the wooden spheres deviates from the grid to create some tension and disturb the strictness.

The number of spheres are decided by the effects wanted - a diversity in spaces and rooms, diagonals through the whole installation from the commercial center to the green area and to the youth center and furthermore views and perspectives from and to Hovsjö Hub. Many tries of grid types and number of spheres have been tested in order to create an installation that is big enough to be perceived as one big whole but that at the same time can offer many different smaller scaled spaces within it. The placement of the steel globe is important, it is a part of the bigger installation, but it can be viewed from the three pathways crossing just at the point where it is placed.
The steel globe is welded together out of stainless steel plates and polished to achieve a high gloss finish and to minimize the appearance of the welded connections. The globe is constructed out of 5 zone parts and 2 canopy parts.

The correct sizes are cut out from rectangular steel plates, the manufacturer uses fixed radius tools and moves the plates in a pre-determined pattern so the entire plates area covered by the radius tools and will have the correct curvature, radius and shape. The process is repeated a number of times, they go from a larger radius to a smaller. The manufacturer uses a digital software to calculate the precise size of the steel sheet in order to minimize the number of welded points and rework material. An inner curved reinforcement shell (r=700 mm, thickness 25 mm) is welded to the bottom of the globe, this is then anchored in a flange and the globe can be attached to the concrete foundation. No internal stabilizing structure is therefore needed. The total weight of the steel sphere installation is 2.5 tons.

An alternate construction method would be to produce 2 semi-spheres that are welded together. This could save the number of welded points (and naturally their reduces the cost). But the machine park required in order to be able to use this production method is not common and many companies that have this type of workshop doesn’t produce single sculptural objects. They rather engage in mass production or subcontracting doing larger objects than this sphere.

Small holes are made in the steel sphere's side, and you can look inside this crystal ball and see animations, short films or other filmed material. The sphere has a hatch with a lock so a person can reach inside and change animations and take care of the projections and technology etc. On the inside of this hatch a projector is placed together with a device that holds all the films and animations. On the opposite side from the projector the sphere is painted with a matte gray color in order for the projections to be as accurate as possible since it is very difficult to project visual material on both a curved and reflecting surface.

Wooden MDF plates are CNC cut and mounted together to create a sphere shape. The edges on each board are bevelled in order for the contour to be curved. The spheres are then painted. A steel rod is installed inside the wooden sphere and then attached to a concrete foundation in the grass lawn. The wooden sphere is not solid, this in order to save material as well as reduce the total weight.

A circular welded steel edge with vertical reinforcement bars is placed in the ground around the planting hole's edges to keep grass and weed away from the plant since it will steal the plant’s soil, oxygen and nutrition. If these steel edges wouldn't be used more maintenance would be needed in order to cut the grass edges.

Recessed LED in-ground luminaries are installed in the grass lawn and various lighting distribution methods are used. At the steel sphere angled spotlights are used in order to illuminate the contours of the tree that stands next to the sphere, which will create a reflection on the steel sphere. Among the Ligustrum globes orientation luminaries are placed evenly following a simple grid. This type of light creates an accentuation of the plants as well as they function as ambient lights and highlights a direction.

Installation process:
A hole of about 500 mm is dug in the lawn and then filled solidly with washed shingle to create good drainage around the luminaries. The fixture sits in a box, a so called house for recessed mounting, that has a casted aluminium shell and is corrosion resistant. And this housing is then placed in the hole and soil are filled back up. The light has a screw-fastened cover ring with flush safety glass: corrosion resistant stainless steel. It is suitable for wet locations like a grass lawn and the luminaire with housing weighs around 6 kg and it can be driven over by a car, which makes it quite resistant to vandalism.
Ligustrum Atrovirens, liguster in Swedish or privet in English, is a flowering plant in the genus Ligustrum. It is a perennial shrub and this type is evergreen (i.e. green in the winter even in growing zone II like Södertälje). It can grow up to 9m tall and it has grey bark and branching reddish stems. Ligustrum Atrovirens leaves are opposite, oblong and pointed; it has fruits that grow in spiral clusters and range from purple to black. But when pruned extensively, like when used as topiary elements like spheres it will not have as many. It is widely used as ornamental objects in gardens thanks to its very compact nature and also thanks to the compact with which you can shape it.

**BUDGET**

<table>
<thead>
<tr>
<th>ITEM/SERVICE</th>
<th>COST, PCS</th>
<th>PCS</th>
<th>SEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligustrum Atrovirens/</td>
<td>2295</td>
<td>57</td>
<td>130,915</td>
</tr>
<tr>
<td>1st order</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planting including</td>
<td>1500</td>
<td>57</td>
<td>85,500</td>
</tr>
<tr>
<td>ample irrigation, new</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>soil, labour and initial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>maintenance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developer’s fee</td>
<td>100,000</td>
<td>1</td>
<td>100,000</td>
</tr>
<tr>
<td>Wooden spheres</td>
<td>11,000</td>
<td>11</td>
<td>110,000</td>
</tr>
<tr>
<td>LED lighting including</td>
<td>110,000</td>
<td>12</td>
<td>110,000</td>
</tr>
<tr>
<td>installation</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Steel plates</td>
<td>57</td>
<td>850</td>
<td>48,450</td>
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<tr>
<td>Architect’s fee</td>
<td>700</td>
<td>40</td>
<td>28,000</td>
</tr>
<tr>
<td>Drawing, soil and plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(drawings and plants)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL SUM</td>
<td>682,765</td>
<td></td>
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</tr>
<tr>
<td>REMAINING SUM</td>
<td>327,235</td>
<td></td>
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</tbody>
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Which should cover electrical installations and shipping of wooden spheres and steel plates.