Flanders – Tannery

Introduction

The site is 3957 square metres in size. It is located in the city centre of Leuven, alongside the River Dijle and near the "De Bruul" city park.

The project started in 1998 and was completed in 2005. The construction of 32 houses was proposed.

There is no private funding involved in the project. The regional authorities have funded approximately 10.5% of the total costs with 89.5% having been paid by the local authorities (City Council of Leuven and Interleuven).

The renewal fund granted a subsidy (30% of the price) for the purchase of the land and buildings.

€545,000 have been funded by the Fund for Social Impulses, of which 95% has been used for soil remediation.

History of the Site

The Tannery is a neighbourhood with a historical industrial activity and with many deprived working-class houses.

After industry left the land including the old industrial buildings, it was bought by the City Council in 1977. The buildings were used by the technical services of the City Council to make and store signposts; in 1996 the site was left abandoned.

The site is situated within a greater city renewal project area, near the canal and the River Dijle that crosses the City of Leuven, which accounts for the historical industrial activity and its many degenerated working-class houses. A tannery is one of the many examples of activity within the canal area in the period from 1882 until 1960. It is this part of the overall site which forms the case study.
In 1977 the site, on which the tannery was active, was bought by Leuven City Council for its own use. After being used for several years (until 1996) for the making and providing of signposts by the city's technical services council, the site was left abandoned.
In the 90s Leuven City Council wanted to start several city renewal projects in its urban area, and among these projects was the Tannery site.

Land Use

The site is 3957 square metres in size. It is located in the city centre of Leuven, alongside the River Dijle and near the city park called "De Bruul". The site was previously used for industry, such as a tannery and glass production (from 1882 until 1960). The project is part of a larger renewal project. It is located in a neighbourhood with a historical industrial activity and many deprived working class houses. Now the site has been developed for affordable housing.

Finance

There is no private funding involved in the project. The regional authorities have funded approximately 10.5% of the total costs and 89.5% has been paid by the local authorities (City Council of Leuven and Interleuven). There is no European funding. The Renewing fund granted a subsidy (30% of the price) for the purchase of the land and buildings. Usually a supplementary tax on unoccupied manufacturing space has to be paid by the owner (Interleuven) because of the fact that the site has been left abandoned. To avoid this the new owner had to start the redevelopment almost immediately after assembling the land. Therefore Interleuven did not have to pay the tax.
€545,000 have been funded by the Fund for Social Impulses, of which 95% have been used on soil remediation. The Renewing fund has funded €205,000 for the purchase and the demolition of buildings. There has been a financial loss on the project, since selling the realised dwellings and apartments has not covered the costs accumulated during development. The 1990's saw the beginnings of a renewal project in the centre of Leuven and a zoning plan with stipulated methods of development was created for the tannery site. Leuven City Council commissioned the Intermunicipality of Interleuven to purchase and develop the site. The Renewing Fund has funded €205,000 for the purchase and the demolishing of buildings. From €545,000 of the fund for social impulses, 95% have been used on soil remediation.
The construction of 32 houses was proposed for people with a maximum yearly income of €47 000. Another aspect of redevelopment was the taxes that Leuven City had to pay on unoccupied manufacturing space (Flemish government levies taxes on unoccupied business buildings). The regional authorities have funded approximately 10.5% of the total costs coming from the fund of social impulses SIF (€545,000) and from the renewing fund (€205,000), both "Flemish matter".
There is no European or private funding involved in the project. All other costs (89.5%) has been paid by the local authorities (City of Leuven and Interleuven) In order to promote the use of solar energy (like photovoltaic cells) in Belgium, incentives have been put in place. These include a tax-deduction for 40% with a maximum of €620 at a national level and on a regional level subsidies are being granted. If a solar boiler is used a bonus at the sub-regional level (province) is given. The government hopes that regional and other financial incentives will make the

installation of solar systems much more attractive. The selling of the 32 houses had to generate the majority of the turnover.
Altogether the operation was a loss for Interleuven as the responsible partner for the execution of the project. But because there are more projects of Interleuven in collaboration with the City of Leuven, it was possible to make an arrangement and compensate the loss by making more profit in one of the other projects.

Community

The local community was consulted on the masterplan. Information sessions about several parts of this masterplan with special invitation for the local inhabitants took place (two sessions for each part: one during the planning phase and one at the beginning of the implementation phase). During the realisation a consultation took place on the appointment of the architect. It was executed by Interleuven and the City Council had members on the jury. The public was consulted during the procedure of the spatial plan (BPA) and on the renovation of a street and on the public space.
Concerning the Tannery project two special meetings took place but the engagement was minimal. Information sessions took place and some objections were raised (e.g. about the entrance of the site to the street and about possible future parking problems) during these sessions but they had no influence on the realisation of the project. Resulting from this there are no problems with security and vandalism in the area. It has become an identifiable place in the City. The purpose of the project was to create affordable houses and revitalise the area and surroundings. The City of Leuven adopted a zoning plan which stipulated methods of redevelopment. The aim of the plan was to increase the attractiveness of this area for young families, to prevent urban exodus of this particular part of the population and establish a better mix of population. Therefore, specific housing had to be created for this part of the population.
At the Tannery site, the construction of 32 houses was proposed for people with a maximum yearly income of €47 000. Consequently, young households with a low income have had the opportunity to purchase cheaper houses in a City where house prices are high. Other outputs of the project include the revitalisation of a degenerated area. To get the project acknowledged to gain the subsidies of the Fund for Social impulses, the architectural plans have to fulfil certain conditions. Conditions are for example: a policy plan which describes certain targets to improve living quality in the city or certain areas; participation of and information to the neighbours or target group; participation of the public centre for social facilities (like home of rest for older people, support for low-income group - social houses, apartments, hospitals, helps homeless people - at the Tannery a house of refuge has been built.
The guidelines of the masterplan for this part of the City stipulated that the redevelopment of the site had to create houses for people with low income. Jobs have been created during the construction period, but after completion of building activities no jobs are expected to be created. The ambition has furthermore been the creation of low price housing in a City area where housing prices are otherwise high. An otherwise degenerated neighbourhood has been revitalised. After the local authority has taken this initiative, private investors (architects, developers, private persons etc.) continue to develop the area, and old and degenerated working class dwellings are being renovated and making the area increasingly attractive and alive.

Public Realm

Discussions took place with the Ministry of Environment, Nature and Landscape (Flemish level) about the space between the bank of the river Dijle (public area) and the boundary of the gardens (private area). Normally a

provision of 10m public area between the bank and the boundary of 'private land' is obligatory. But in this case it wasn't realisable, because of missing space.
The gardens were given priority as they would provide:

- Effective pedestrian and cycling shortcuts
- Good balance between public character and privacy
- Appropriation of the public space and social control
- Creating a walking path all along the river
- Integration of the River Dijle in the Tannery project

One of the main objectives in urban area development projects is to create more open space and insert 'green' into the area to improve the living quality in cities and municipalities. The river was used as a natural component in an urban area. Leuven City Council created a walk way along the river Dijle with two pedestrian bridges. A small public area along the riverside has become a children's playground. Another small city park is under refurbishment. The streets are developed in a pedestrian-friendly way and help create a safer neighbourhood. Private gardens add to the recreational aspect of the area.

Architecture

An architectural building plan was developed on the basis of an architectural contest. Interleuven is responsible for this plan but it was designed by an external architect.

Now compact houses around a semi- public pedestrian passage are developed:

- Public square in the turn of the river; pedestrian bridges
- Row-houses: clear relationship public-private
- Own garden or large balcony
- Orientation S S/W
- Underground garages, with daylight and direct connection to the houses

Construction material and techniques:

Criteria:

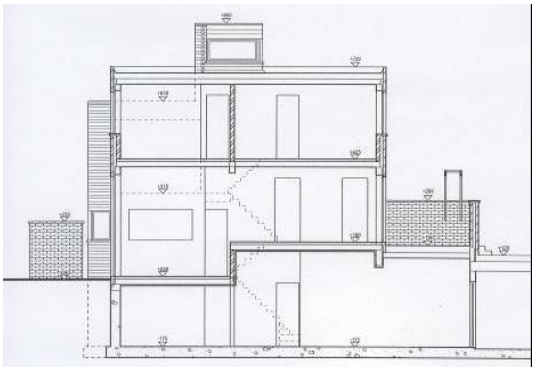
- Affordable & available
- LCA
- Easy in maintenance
- Good insulation (k=35, legislation k<55)
- Construction needs (stability, embankment…)
- Integrated in urban environment

Construction Material:

- Brick
- Concrete (recycled concrete was not yet available in the region)
- Fsc-labelled sapupira (windows), robinia (balconies)
- Super insulating glass (1,1)
- Mineral wool insulation

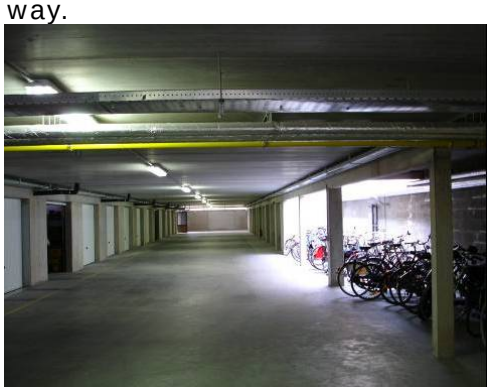
Ventilation:

- Individual installation in each house
- Mechanical extraction in kitchen, WC, bathroom
- Without heat recuperation
- Airsupply through adjustable window grills in living room and bedrooms



Infrastructure

The site is served by roads and buses with gas, electricity, sewages, telecoms etc. also in place at the site. The location of the area to the city centre and the provision of public transport ensure a good accessibility. The streets are developed in a pedestrian-friendly way.



Environment

The area contained a concentration of industries such as the headquarters of the Interbrew brewery. Whilst such buildings were abandoned, a number of regeneration activities are now in place. During an explorative soil survey carried out on the orders of Leuven City Council, severe soil and groundwater contamination was identified, partially caused by the Tannery activities and by the activities of the technical services of the City Council. Furthermore a descriptive soil survey and a soil remediation survey were undertaken. Remediation has been carried out, but the costs are higher than previously estimated. For example, the soil was lead and PAH contaminated one metre deep and soil polluted with TPH was also found and removed.

The major groundwater pollutants included BTEX at 3 metres deep and VOCL found 4 metres from the surface. Digging without draining and the removal of an underground petrol tank were carried out. 490 tonnes of soil were removed in total throughout this process. Structures situated above ground were demolished and as the underground structures (2400 tonnes) were polluted with mercury, copper and PAH they were removed to a category 1 landfill for dangerous waste. The soil was not polluted. Another underground oil fuel tank was removed with a little amount of polluted soil. Such soil remediation and the redevelopment of Brownfields (instead of developing Greenfields) form part of sustainable development or sustainable use of space.

Sustainable development includes the use of renewable energy, insulation, use of rainwater and being economical with (raw) materials. Recent European directives focus on the need to save energy by appropriately insulating buildings. In order to promote the use of solar energy (like photovoltaic cells) in Belgium, incentives have been put in place. These include a tax-deduction of 40% and a maximum provision of €620 for installation at a national level and on a regional level subsidies are being granted. If a solar boiler is used a bonus from the sub-

regional level (province) is given. Various methods of saving energy at the Tannery site such as using solar energy for hot water, reusing of rainwater, effectively insulating the buildings and controlling ventilation to minimise the loss of warmth were considered.

Consequently, two solar boilers have been provided to produce warm sanitary water for the whole site and super insulating glass fibre (1.3 W/m²C°) was used. A Life Cycle Assessment/analysis of different building materials was implemented and so those with positive environmental effects were used on the site. The City of Leuven had a liability and duty for the remediation of the polluted soil. Soil surveys were conducted to establish the pollution of the soil and the groundwater. These surveys were conducted by external experts. In order to be able to redevelop the site soil remediation has to be carried out first. So, to have reliable and effective soil remediation, the Soil Remediation Act obligates the making of an inventory (survey) of all possible remediation techniques for this kind of pollution and to describe how the remediation needs to be carried out, not forgetting BATNEEC .

This report is called 'soil remediation project or BSP'. BSP can also refer to the soil remediation adapted to the planned development and vice versa. The site is polluted with lead, benzo(a)pyreen, and fenatreen (PAH) in hot spots. Groundwater polluted with benzeen, ethylbenzeen, xyleen (BTEX) and benzine (total area 65 m²), which has to become remediated. Also pollution with trichlooretheen and vinylchloride with a volume of 300 m³ is present, but not so bad that remediation is necessary (BATNEEC: the cost to remove this minor pollution is too high in comparison with the result that can be achieved, also the pollution doesn't cause any human toxicology) Due to the human and ecological risks posed by the soil pollution (as stipulated in the soil survey), remediation was necessary by removing contaminated soil.

The remediation was conducted by external experts according to the legislation on soil pollution. The existing buildings and (polluted) remains of underground building structures (foundation, basements) had to be removed. In some buildings asbestos was found. This pollution was removed by demolishing the existing buildings. Two underground oil fuel tanks had to be removed together with polluted soil.

- The site has been decontaminated
- The possibility to re-use rain water has been provided
- Industry has left this part of the city, thereby reduction of noise pollution in the city centre

In terms of sustainable development, solar energy has been installed, re-use of rain water for flushing toilets, materials are used with a favourable eco-balance (like appropriate insulation of the buildings, controlled ventilation to reduce loss of warmth, compact building, southern orientation) etc. Energy savings: concept from 1998, but according to recent laws (Jan. 2006) noticeable low energy cost for inhabitants materials and collective techniques: evolution in availability of sustainable materials: recycled concrete, low quality of fsc wood collective techniques have a convincing added value more attention for acoustic isolation

Planning Process

Due to the taxes that Leuven City had to pay on unoccupied manufacturing space, the project had to be started as soon as possible. The 1990's saw the beginnings of a renewal project in the centre of Leuven and a zoning plan which stipulated methods of development was created for the Tannery site. Leuven City Council commissioned the intermunicipality of Interleuven to purchase and develop the site. The redevelopment concept explored the possibility of using renewable energy sources (solar energy) and rainwater and making the river Dijle a feature of the site. The construction of 32 houses was proposed for people with a maximum yearly income of €47 000. Another aspect of redevelopment was the taxes that Leuven City had to pay on unoccupied manufacturing space.

The site is located within a bigger renewal project for this part of the city centre aiming at a revitalisation of this part of the town which was deprived before. The spatial structure plan indicated that the site had to be developed for housing. This concept plan set out the main structure for the future development of the site. Based on these guidelines different projects can be developed by the City Council as well as by other public authorities e.g. Interleuven or private investors. To get permission for the development, it has to fit within these guidelines. There has been a consultation process for the structural plan and the City Council was involved in each step of the Tannery project. An architectural contest took place (the City Council was member of the jury) and a focus was laid on creating modern architecture within this redevelopment project based on the guidelines laid down in the concept plan.

The project is part of a larger renewal project. Interleuven developed a masterplan for the site. A masterplan in Flanders describes the redevelopment of a site in a broader context, namely it takes into account the relation to the surrounding areas; it researches the impact on mobility, transport and provides solutions; it contains a historical research to heritage or status of existing buildings (listed or not, degenerated or not) and adapt the redevelopment concept. A masterplan gives a point of view and redevelopment scenario's taking into account the surrounding area (contains text & sketches). Based on this document architectural plans (= building plan) are made in order to start the construction work.

For the Tannery no masterplan like this has been made before. The guidelines of the masterplan for this part of the city stipulated that the redevelopment of the site had to create houses for people with low income An architectural building plan was developed on the basis of an architectural contest. The redevelopment concept had to meet some conditions:

- It had to explore the possibilities of using renewable energy sources (solar energy) and rainwater and make the River Dijle a feature of the site
- The redevelopment had to be in accordance to the guidelines of the masterplan (residential use): construction of houses for families with lower income
- Urban policy: a sensitive mix of social housing, grouped middle-class dwellings, private houses, public space and some economic activity

A zoning plan as legal framework:

- The landscape of the river
- Green public space
- Pedestrian shortcuts
- Density
- Housing qualities

Heritage

On the site of the Tannery most of the remaining buildings were of no historical value and a lot of them were in such a bad condition that a restoration was impossible.

Only a few buildings/constructions were preserved in the close neighbourhood. One building of industrial heritage is the silo in Fonteinstraat which was converted into offices and housing. A part of the iron structure of a former factory was integrated in a park nearby as a reminder of the industrial past.

Management

The land is owned by the public regional organisation (= Intermunicipality) Interleuven which bought the land at the beginning of the 1990s for development purposes. The project is part of a larger renewal project. Interleuven as owner of the land is responsible for the follow up of the entire project, beginning with the masterplan over soil remediation to end with selling the new dwellings and apartments. At the beginning the City of Leuven created a document setting out the main lines for the future development of the site. Based on these guidelines, a feasibility study was conducted by external experts The follow up and the realisation of the project were conducted by Interleuven and Leuven City (the project developer). According to an agreement between the City Council and Interleuven, a masterplan for the development of the site was made by Interleuven.