

Introduction

Located in the center of Leiden in the Netherlands, De Meelfabriek is a major redevelopment project of a 55,000 sqm abandoned industrial site. After it was acquired by a private developer in 1998 and listed as a historic monument, a zoning study was originally developed by Peter Zumthor atelier in 2002. Studio Akkerhuis Architects were hired in 2015-2016 to redevelop the masterplan and present it to the city authorities. Today, the masterplan strives to reconnect the historic site with its surroundings, creating a vibrant new neighborhood of living, working, recreational and retail facilities totalling an estimated 67,000 sqm after renovations & extensions.

The site and its history - De Meelfabriek

De Meelfabriek is a former industrial flour mill complex founded in 1884 and remained active until 1988, the site currently maintains ten historically listed buildings from this period. Grain would be brought in by boat along the adjacent canal, then milled and packaged onsite. At its height in the 1950s, the state of the art facility employed 150 workers producing 420 tonnes of flour daily, enough to make 750,000 loaves of bread. This accounted for 20% of the Dutch population's demand.

De Meelfabriek complex has continuously evolved throughout its history, Various buildings were demolished, adapted, and expanded up into the 1970s. Some of the earlier buildings are considered architecturally significant, leading to their listing and making the complex as a whole a Dutch historic landmark of national importance. This current masterplan is only the latest phase of this ever evolving site.

New Ownership & Vision

The redundant flour mill was bought by property developer Ab van der Wiel in the late 1990s. Inspired by New York's meatpacking district, Ab van de Weil found in his birth town the Meelfabriek a ruin worth saving. An attitude of uncompromising support for historic preservation from the developer has been a key feature of the success of the project.

Atelier Peter Zumthor was originally commissioned in 2002 to complete a zoning plan, his study marked a particular attention to the conservation of structural elements, tearing down the facades to showcase the bones of the buildings. Studio Akkerhuis was hired in 2015 to redevelop the masterplan with a more sensitive approach to the existing buildings. They are in the process of bringing the site to life along with Landscape architects LOLA and Piet Oudolf. Studio Akkerhuis continues today as the lead architects of De Meelfabriek.

The Ground Plane

The masterplan takes the formally imposing monolith and opens up the ground plane. Through proposed public, cultural, and commercial programming a more porous and transparent ground floor allows visitors to inhabit a variety of interior and exterior spaces. Key circulation and visual axes are drawn across the site, these connect the city to the canal and the adjacent Singelpark green spaces across the site. They are formed by the creation of porous channels through the historic buildings, and the decluttering of non protected structures onsite. Internally these axes serve to connect the buildings to one another, creating previously non existent pedestrian throughways as well as allowing the central plaza space to communicate with the canal.



Ground Floor Diagrams by Studio Akkerhuis



Archival Photograph 1950

Treatment of the buildings

De Meelfabriek complex was developed throughout the 20th century, its various buildings differed greatly in structure and materiality, acting as a kind of showcase of 20th century industrial building typologies. The Meelfabriek complex is made up of buildings with diverse architectural features, materials and details that reflect their original industrial functions. The extension or refurbishment of each building focuses on those emblematic features.

As this site is an outlier in the city of Leiden, a medieval city characterized by low lying brick buildings and a central university, variations on the rules of urbanism where necessary in order to address the existing typology of the historic site. Notably this involved extensive negotiations around the treatment of facades, height of the buildings, and placement of new structures with city authorities. The highest existing point of the site was defined as the maximum level for all new construction .

Three key approaches to the architecture onsite:

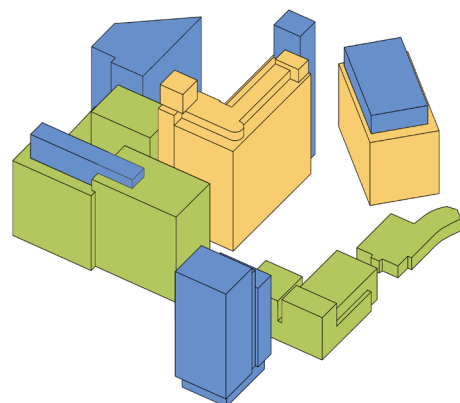
- 5 Historic Brick Facade Buildings - The brick facades are restored, and original steel windows are retrofitted with insulating glass, the existing steel structures are maintained and reinforced.
- 3 Historical Concrete Structures - The steel and concrete interior structures are of primary value and the renovations aim to highlight these elements. This is seen in the loft building along the canal that peels back an unimpressive opaque facade to reveal original mushroom columns. The future hotel in the center of the site's focus is its original concrete silos, long vertical elements that reveal unusual forms hovering above the ground plane.
- New Buildings (4 new buildings, 3 major extensions) - The new interventions and buildings are modern and functionally designed, with a limited palette of materials and modest detailing that is in line with the existing buildings. Prefab concrete, steel structures, and glass. Similar in logic to industrial buildings the principle remains that visible elements (steel and concrete) serve structural as well as aesthetic purposes.

The City of Leiden & Green Spaces

De Meelfabriek is located on the edge of Leiden, adjacent to a 6.5-kilometer urban park development, the Singelpark, that surrounds the city center. LOLA Landscape architects worked closely together with acclaimed garden designer Piet Oudolf to develop the landscaping in the masterplan around 2 framed spaces; Meelfabriekplein (plaza) and Meelfabriektuin (garden). The brick pavement links all the buildings together with a rhythmic gutter line. Black steel planters with trees are scattered across the terrain. The garden of De Meelfabriek will be a tranquil place. Carefully framed, it will be a large 'nature painting'. Beneath the garden is located the site's new underground parking structure.



Diagram of Singelpark by LOLA



■ New ■ Transformed ■ Restored

Site Diagram by Studio Akkerhuis

Ecological Philosophy

De Meelfabriek complex’s approach to ecological building solutions is centered around preserving, reusing, and maintaining the historical integrity of the buildings as a sustainable measure. All construction and demolition waste is separated and deposited with processors for maximum reuse, leaving as little residual material as possible.

The masterplan calls for a three pronged approach to ecological building solutions:

- 1) Reducing Energy Consumption- Robust insulation even in the renovated spaces is a priority, led lighting, and smart technology across the site.
- 2) Sustainable sources - thermal storage, solar panels, and recovering heat energy in the buildings. Additionally the site is not gas equipped, purely electrical.
- 3) Sustainable suppliers - For elements that cannot be recycled onsite sustainable sourcing is encouraged.

Economic Impact

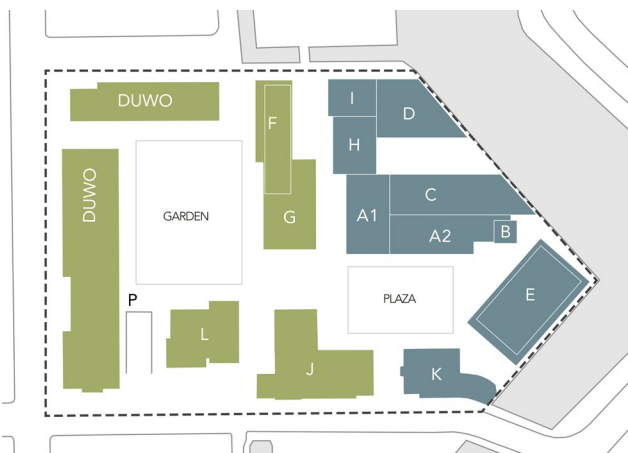
The masterplan conversations with both the client and the city revolved around the two main issues of the program of the site & the treatment of the historic buildings. The ground floor needed to be activated both architecturally and programmatically. The client aspires to create a vibrant neighborhood accessible to the whole city, with activating commercial spaces, local associations, work, and living spaces. Small businesses have been given space in the initial phases free of charge in an effort to create community while the site is still under construction. This in turn creates a more appealing neighborhood for the housing onsite that is the first revenue stream for this commercial development.

The masterplan is divided into two distinct construction phases. The first phase, which corresponds to about half of the site on the western side, started in January 2016, when the masterplan was approved by the Leiden City Council and the Dutch Monuments Commission. This phase contains the most new construction, and is composed of seven buildings, three of which are new. Two new buildings contain student apartments, these were Designed by Splinter Architecten bv BNA and are the only buildings on site not designed by SAA. A new 45 meter high apartment tower, and underground parking with a public garden above are also part of this first phase. Phase one is now completed and inhabited, it is separated from the rest of the site that is currently undergoing the second phase of construction.

The second phase of the project consists of the rehabilitation of the former grain silo into a 120 room hotel, the conversion of a building called Meelpakhuis into housing with commercial space on ground and first level. New spaces for offices, housing, culture, and spa are created in the Schoonmakerij and Ketelhuis, the oldest buildings as well as additional housing.

Conclusion

De Meelfabriek is transformed into an accessible mixed-use complex where visitors and occupants can experience a startling diversity of urban and architectural spaces. The project combines industrial heritage with modern luxury, featuring lofts, apartments, hotel, restaurants, a sport and wellness center, offices, shops, and space for art and culture.



Key Map by Studio Akkerhuis ■ Phase 1 ■ Phase 2

Symbol	Name	Year Constructed	Phase	New Program	SQM
A1	Silogebouw	1937	2	Hotel Restaurant Skybar Event space	12,700
A2	Silogebouw	1938	2		
B	Silogebouw	1955 / NEW	2		
C	Silogebouw	1904	2		
D	Silatoren	1960 / NEW	2	Residential Apartment Spa & wellness	3,200
E	Meelpakhuis	1937	2	Loft apartment Penthouse Retail	6,700
F	Molengebouw	1947	1	Loft Apartment Penthouse	6,700
G	Riffellokaal	1937	1	Retail and restaurant	
H	Schoonmakerij	1937	2	Office Spa & wellness Loft Apartment	2,400
I	Ketelhuis	1896	2	Loft Apartments Artist atelier	1,200
J	Kantoor	1940	1	Office	1,500
K	Fietsenstalling	1940	2	Office	350
L	Singeltoren	NEW	1	Residential Apartment Penthouse Retail	4,100
P	Parkeergarage	NEW	1	Parking	8,500
DUWO	Duwo Gebouwen	NEW	1	Student Housing	7,300