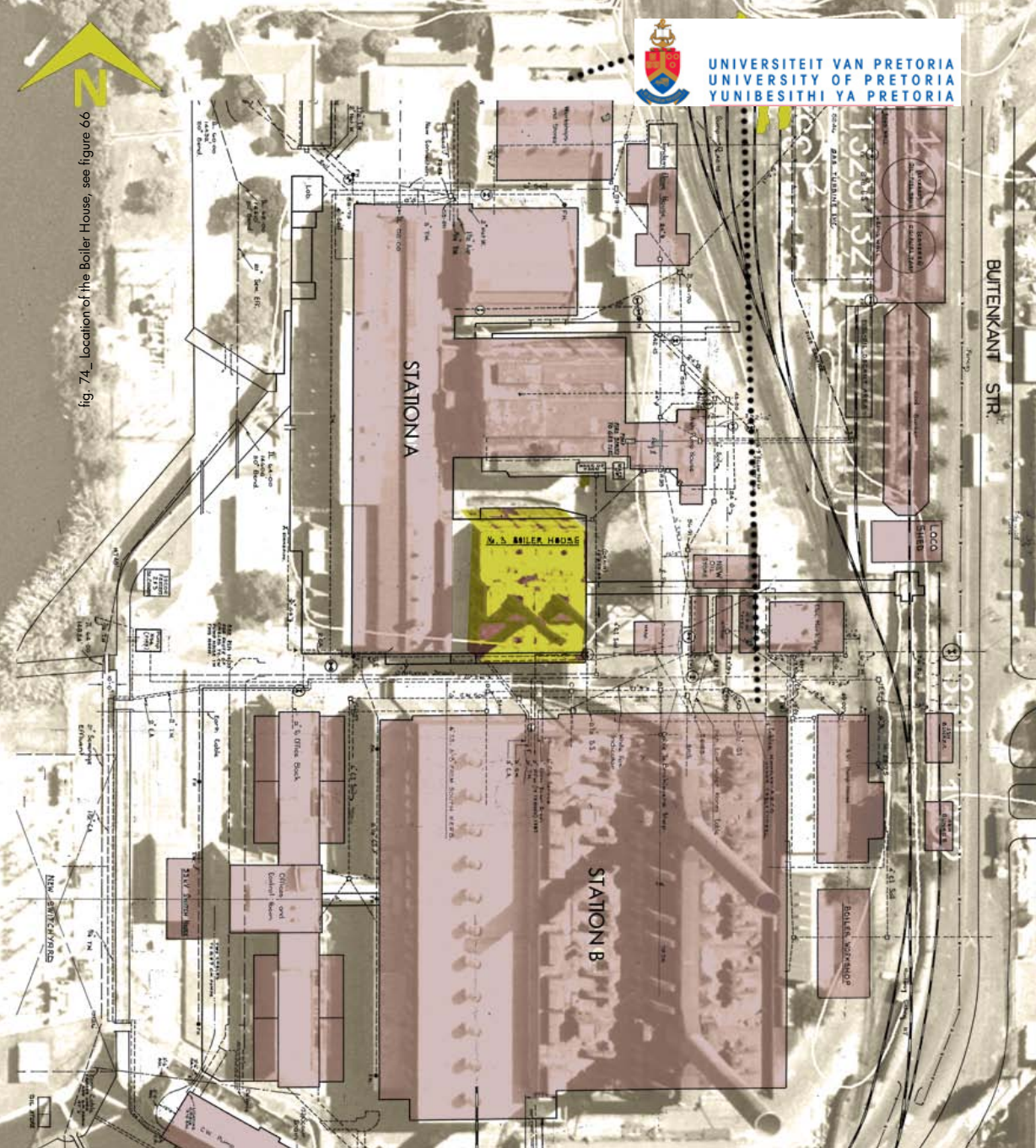


## site analysis

This chapter will illustrate the analysis of the Power Station site and more specifically the area around the 1940 Boiler House. Existing fabric, pedestrian movement and significant views determines the placement of a new intervention.

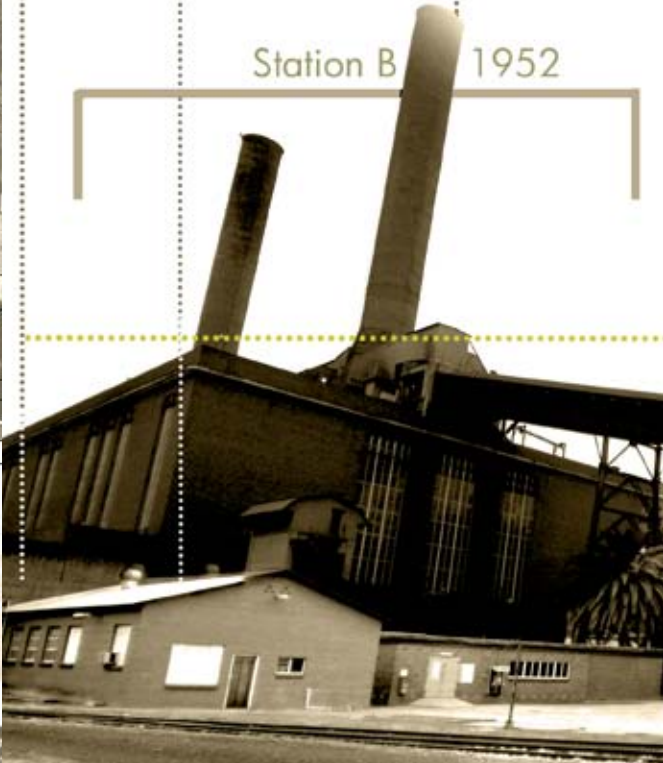
fig. 74. Location of the Boiler House, see figure 66



electric workshops will be demolished to make way for new furniture showroom and train station platform

proposed new bio - oil plant

proposed new train station (freight and passenger) and convention centre

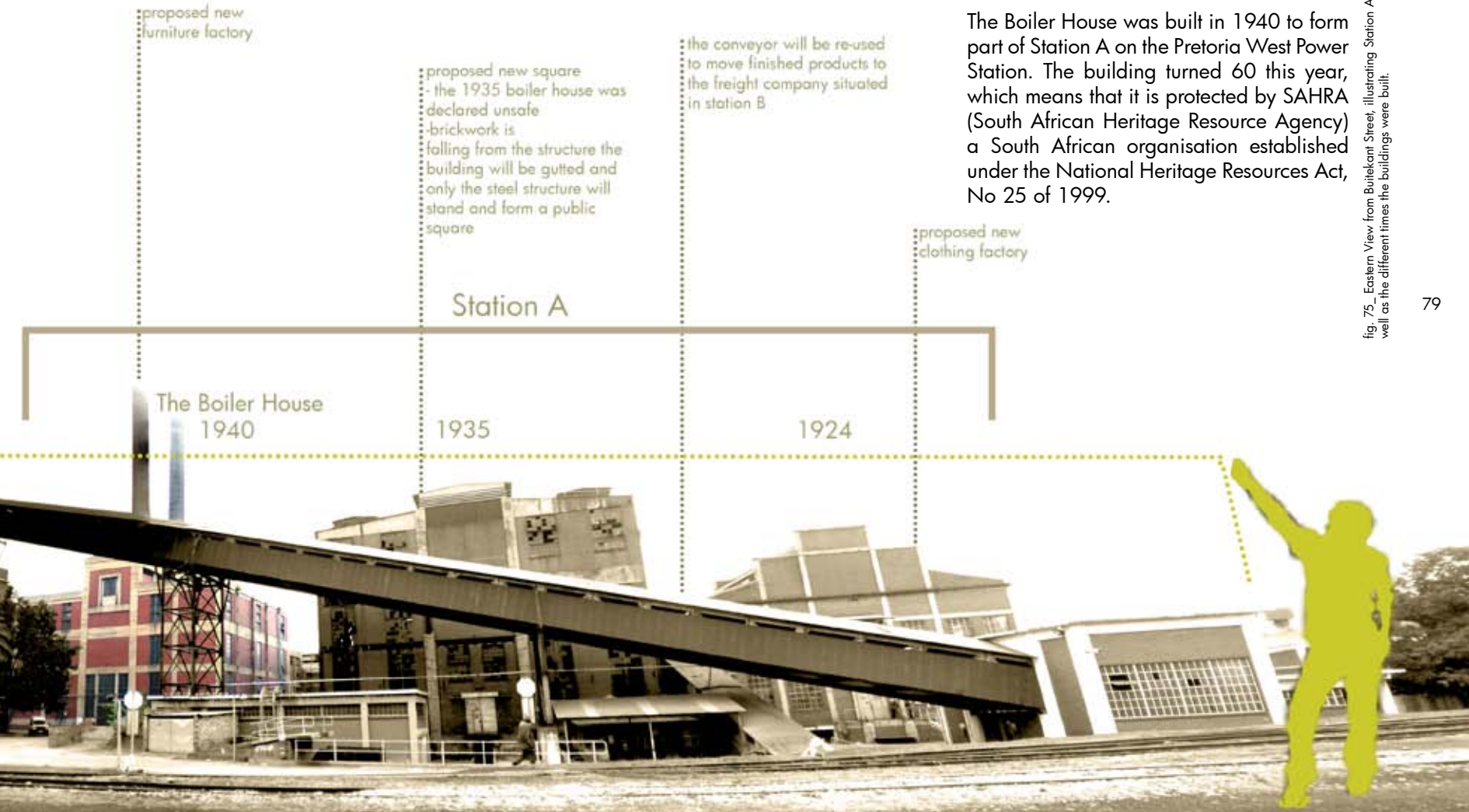




## 6.1. Introducing the existing structure

The Boiler House was built in 1940 to form part of Station A on the Pretoria West Power Station. The building turned 60 this year, which means that it is protected by SAHRA (South African Heritage Resource Agency) a South African organisation established under the National Heritage Resources Act, No 25 of 1999.

fig. 75\_Eastern View from Buitsekant Street, illustrating Station A and B as well as the different times the buildings were built.





80

As mentioned in chapter 4, the 1940 Boiler House was stripped from all metal components- this included all floors and machinery. Today this building stands as an envelope to a massive void. The structure represents honest, industrial architecture: form follows function. The elevated window strips to the north, east and west allows adequate light into the spacious interior.

*“South Africa and many other developing countries have fallen behind the rest of the world in recognizing, declaring and protecting their industrial heritage. It is this understanding that made us realize that the lack of attention and awareness of old industrial structures would in the future lead to their extinction.*

*(Läuferts & Mavunganidze, 2006)*

The Boiler House stands as a fort in the landscape overlooking the city. The southern and northern facades are extended into the ground and the basement level is opened up by 2 meter wide trenches. The entrance to the building is located on the eastern facade. It is this facade that represents the form of the structure, it is therefore evident that the Eastern facade should be acknowledged, at all times, during the design.



The void will be retained in the adaptation process

The east elevation will be retained and the new showroom will become a display window.

The trenches around the building will become green spaces for the furniture workshop.



fig. 76\_ Interior view of The Boiler House, photograph taken from the entrance of the building



fig. 77\_ East Elevation showing entrance and the buildings form



fig. 78\_ The Northern facade of the Boiler House extends into the ground, and stand as a fort in the landscape

## 6.2. Statement of significance\_

### 6.2.1. THE BOILER HOUSE AS A LANDMARK\_

The Boiler House stands as an icon of industrial architecture. It represents mans' ability to create and destroy. The chimneys that historically represented pollution, now add to the abandoned atmosphere of the site.

The chimneys will be used to ventilate the Boiler House through the stack effect.

82



fig. 79\_ View of Pretoria West Power Station from Proclamation hill

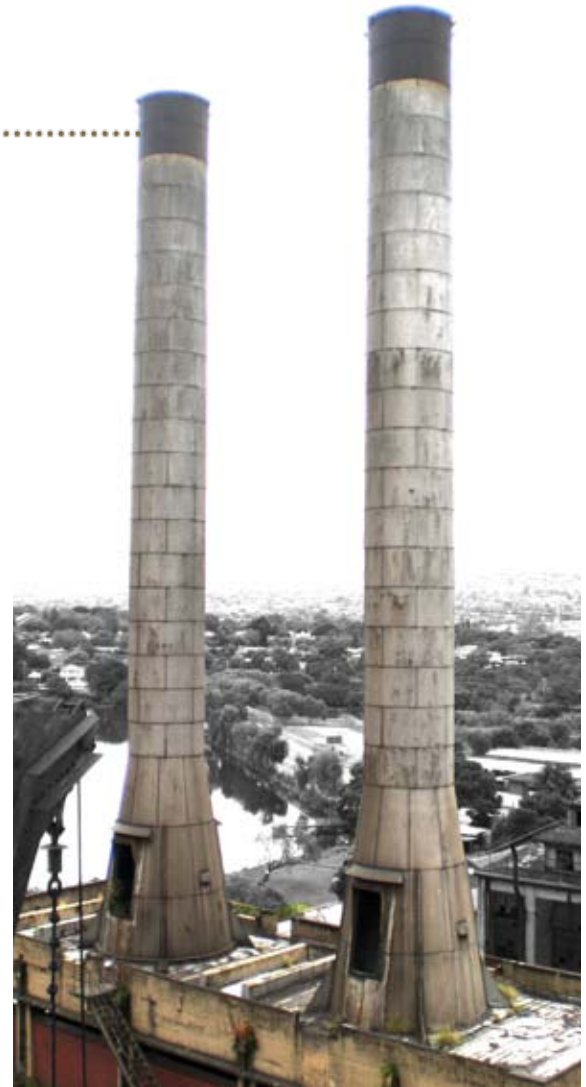


fig. 80\_ The chimneys of The Boiler House



### 6.2.2. PROCESS\_

The previous program of the building was industrial in nature. In essence this means that an element or material enters the building, goes through a process and exits in a different form. Because the building has been stripped it creates endless possibilities for future industrial programs.

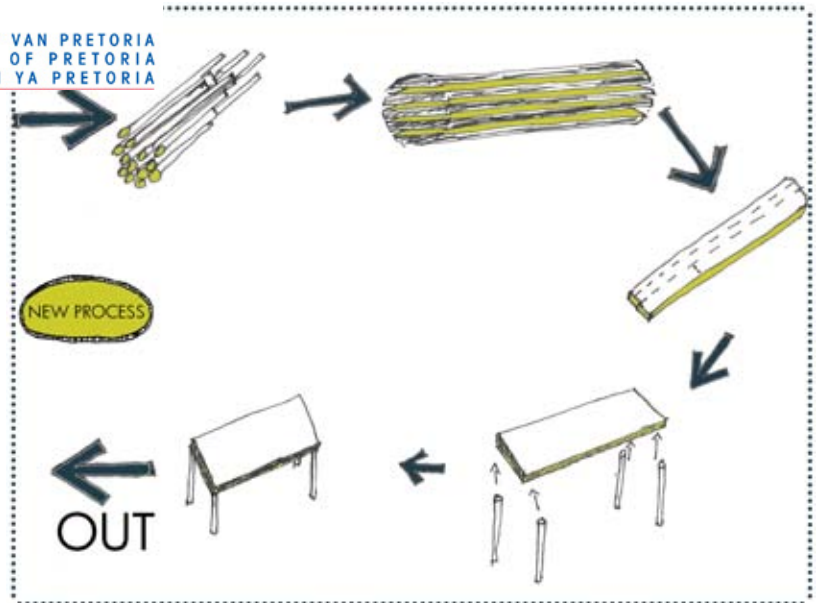


fig. 81\_ Production process diagram, raw material enters, it goes through a process and exits in another form.

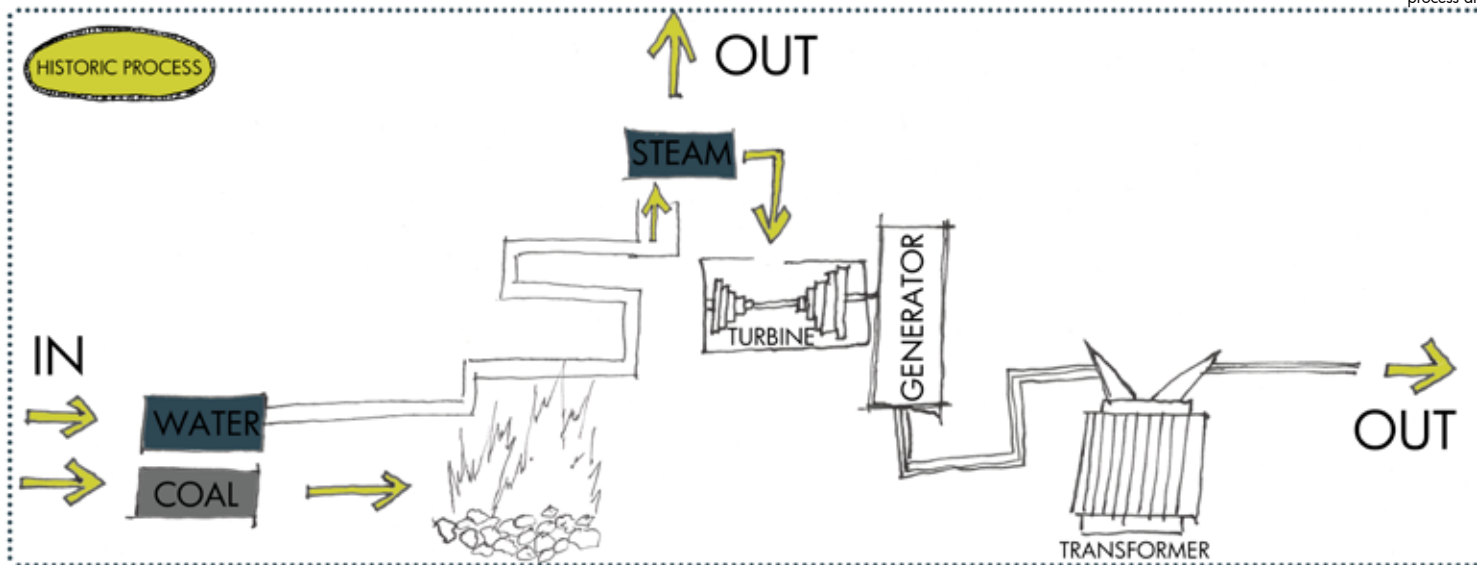
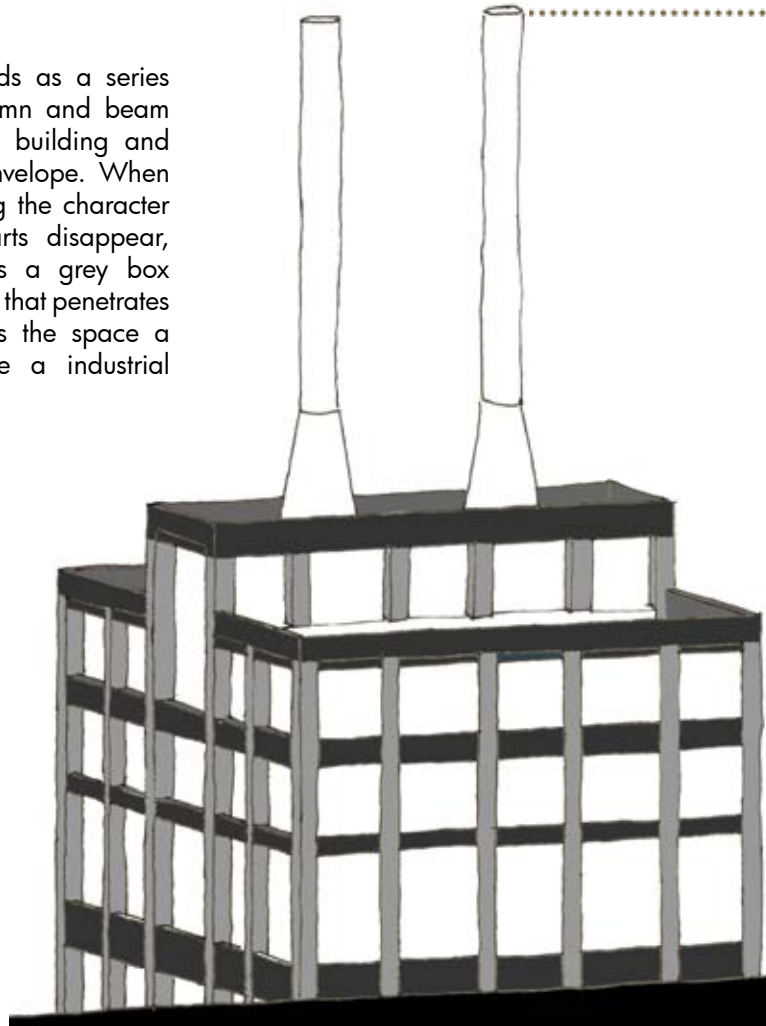


fig. 82\_ Boiler House process: diagram showing how water and coal through a process creates steam and electricity

### 6.2.3. STRUCTURE\_

The building's exterior reads as a series of parts: the concrete column and beam structure gives form to the building and the brick infill forms the envelope. When one moves into the building the character suddenly changes, the parts disappear, and the building becomes a grey box illuminated by light. The light that penetrates through the openings gives the space a sacred quality, almost like a industrial cathedral.

84



The structure needs to be retained to keep the building form in place, the new structure can subtly punch through the existing.



fig. 83\_ The buildings column and beam structure represents honest 20th century industrial architecture.

fig. 84\_ The grey " box" illuminated by light





fig. 85\_ Perspective view of the Southern facade of the Boiler House.  
Note the column and beam structure, as well as the brick infill



fig. 86\_ Industrial cathedral



The existing concrete roof has extraordinary views, to the east (Pretoria CBD) and the west (Proclamation Hill, nature and the Power Station dam). The majestic nature of the building lies in the internal void. It is here where one experiences the scale of the building.



fig. 87\_ The view to the West, with Proclamation Hill in the background



fig. 88\_ The Boiler House's roof, lends itself to beautiful views to the East and the West, the flat roof has the potential of becoming a roof garden or event space for the new furniture production workshop.



fig. 89\_ The view to the East: Pretoria West Industrial in the foreground and the city's high rise buildings to the back.

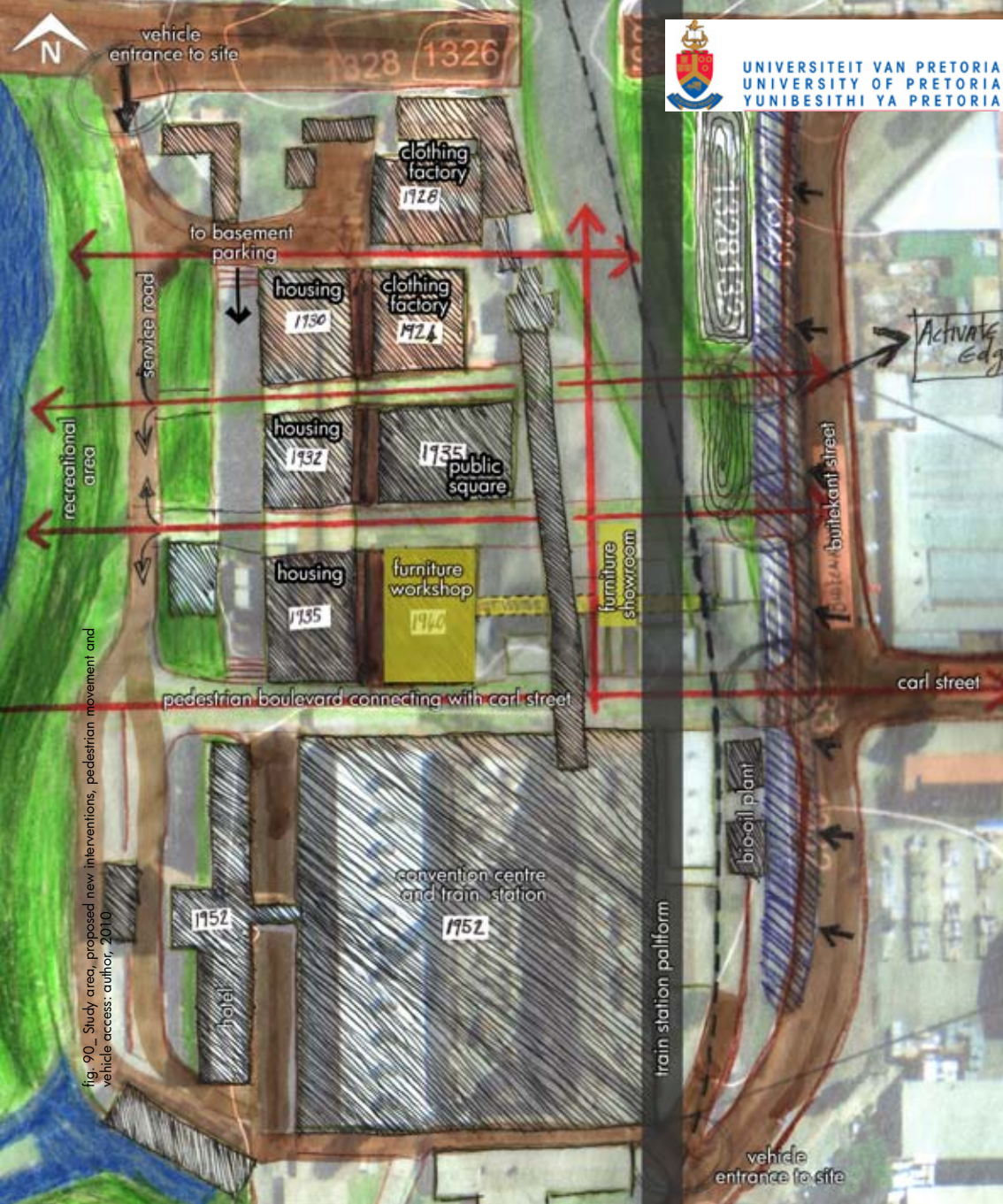


fig. 90\_ Study area, proposed new interventions, pedestrian movement and vehicle access: author, 2010

### 6.3. Site analysis\_

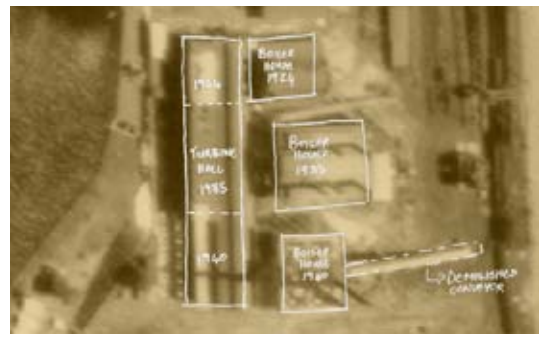


fig. 91\_ Aerial photo dated 1940; illustrates the building stock of the time

The introduction of the 1940 Boiler House concluded the importance of the building's Eastern facade. Studying the site and aerial photographs, the placement of an intervention can be determined. Note the 1940 aerial photograph in comparison to the 2010 aerial, the buildings in front of the Eastern facade of the boiler house is not yet constructed, these buildings are thus not older than 60 years and not protected by the Heritage act.

The space in front of the Eastern facade is consequently the most important and the author will interact accordingly. The ash hoppers, bricklayers workshop, oil tanks and oil storage facility is situated in the intervention area. The ash hopper will be re-used, a bridge that moves products between the furniture workshop and the freight company in Station B, will protrude through the hopper. The bricklayers workshop, oil storage facility and part of the oil tanks will be demolished, their existents will be remembered by keeping their foot prints in place. Part of the oil tanks will be converted in to water storage tanks.



1940  
boiler house  
**site**

ash  
hopper

bricklayers  
workshop

oil  
storage

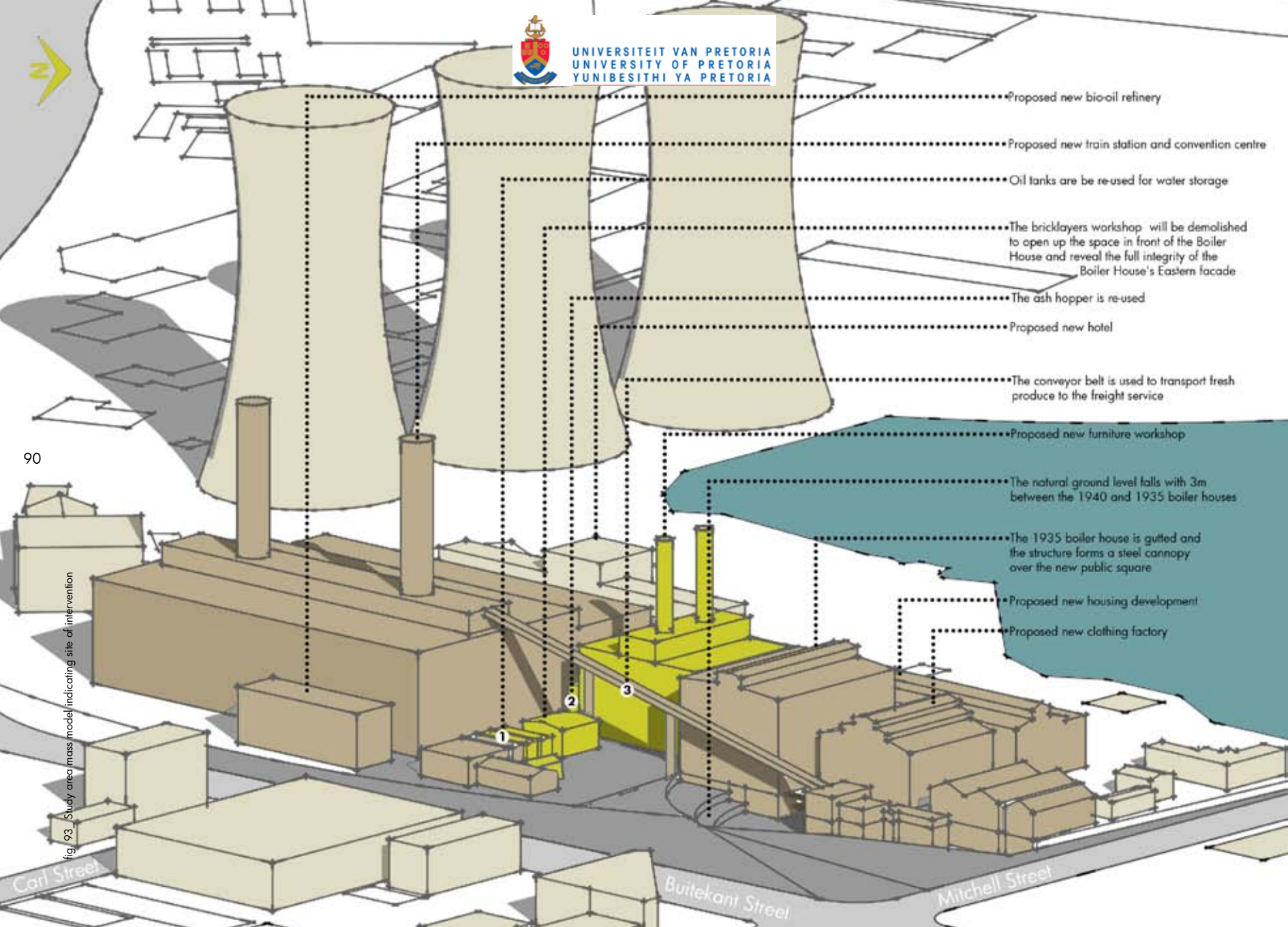
oil tanks

Butekant Street

fig. 92\_A 2010 aerial photo of Pretoria West Power Station:  
Note the buildings that were added between 1940 and 2010



fig. 93. Study area mass model indicating site of intervention



- Proposed new bio-oil refinery
- Proposed new train station and convention centre
- Oil tanks are re-used for water storage
- The bricklayers workshop will be demolished to open up the space in front of the Boiler House and reveal the full integrity of the Boiler House's Eastern facade
- The ash hopper is re-used
- Proposed new hotel
- The conveyor belt is used to transport fresh produce to the freight service
- Proposed new furniture workshop
- The natural ground level falls with 3m between the 1940 and 1935 boiler houses
- The 1935 boiler house is gutted and the structure forms a steel canopy over the new public square
- Proposed new housing development
- Proposed new clothing factory

Carl Street

Buitekant Street

Mitchell Street



fig. 94\_ Part of the steel oil tanks will be converted into water storage tanks



fig. 95\_ A bridge will protrude through the ash hopper between Station A and Station B



fig. 96\_ The conveyor belt will play a crucial role in determining the shape of the furniture showroom

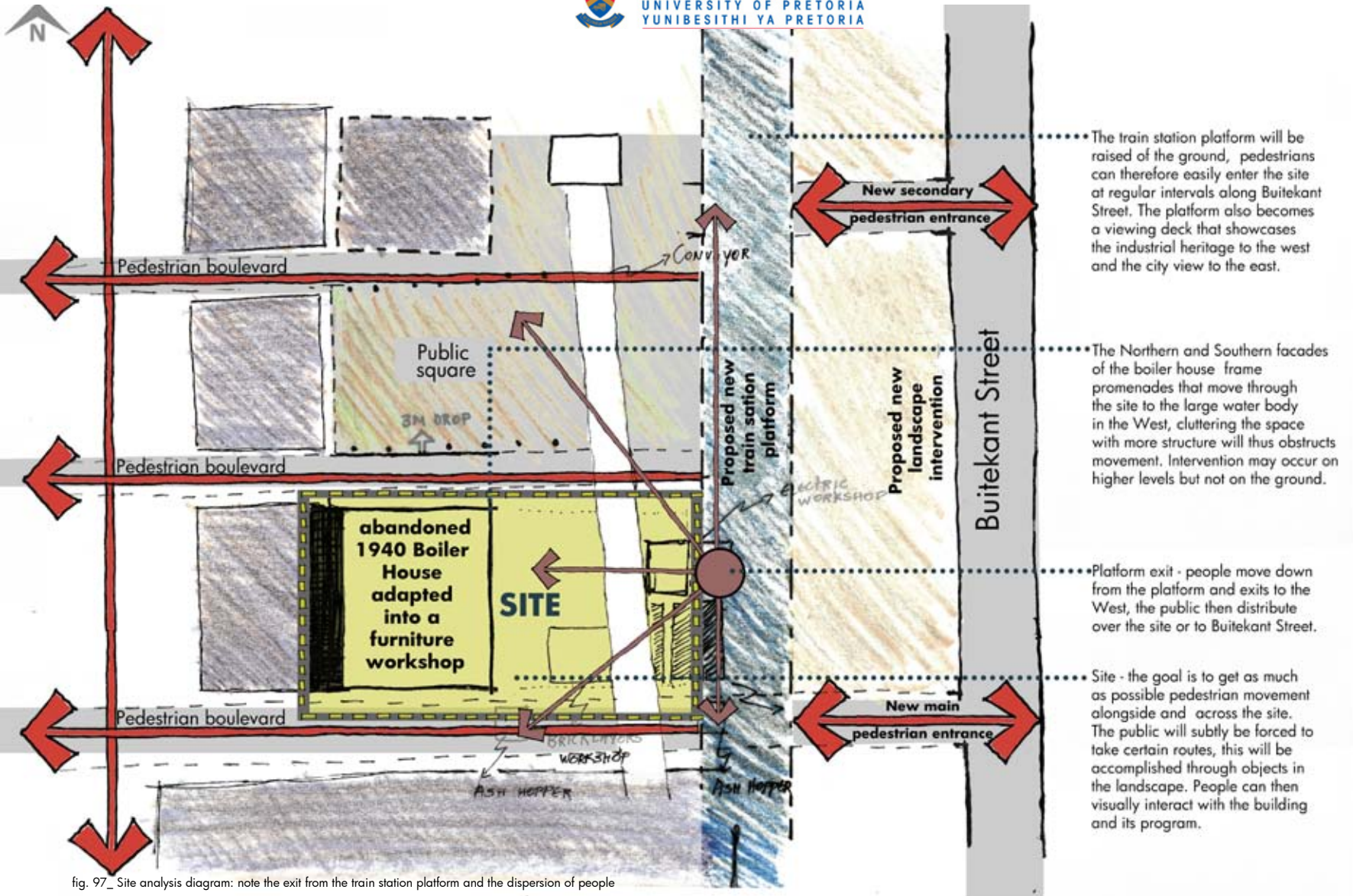


fig. 97\_ Site analysis diagram: note the exit from the train station platform and the dispersion of people



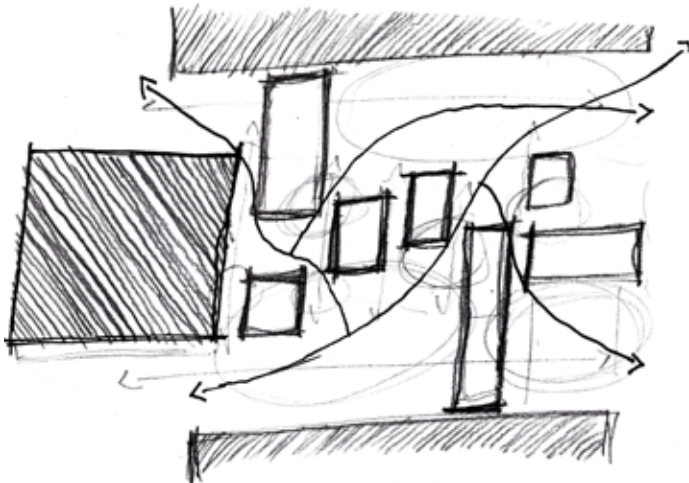


fig. 98\_ Diagram illustrating specific pedestrian movement patterns because of objects in the landscape

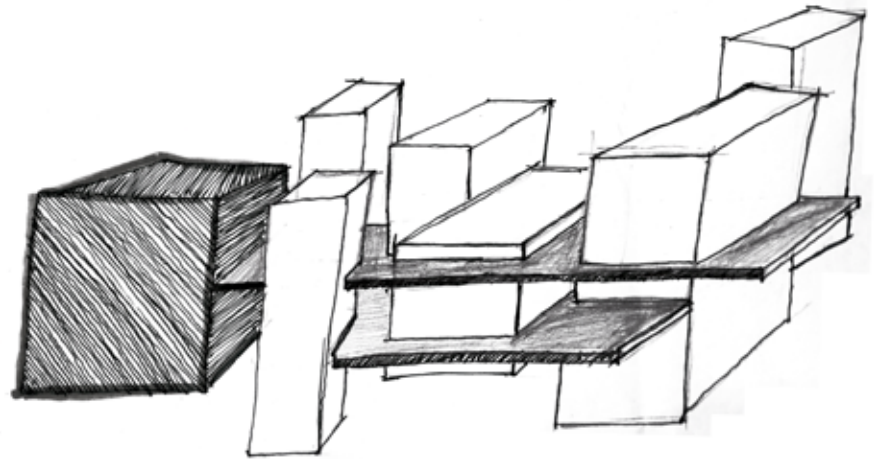


fig. 99\_ Tree dimensional diagram illustrating objects in the landscape in front of the heritage building