4 CONTEXT AND SITE ANALYSIS

Fig 4

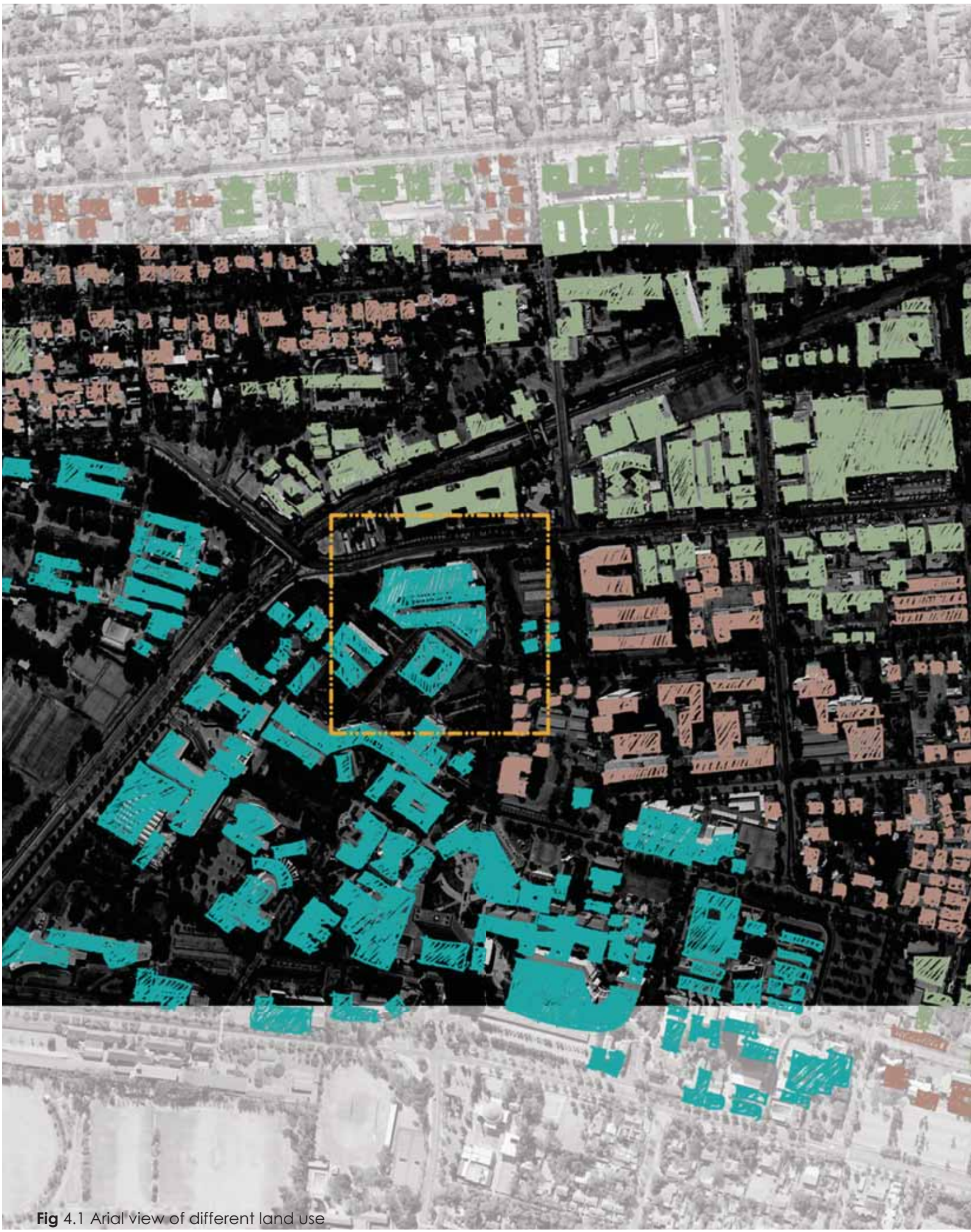

Fig 4.1 Arial view of different land use

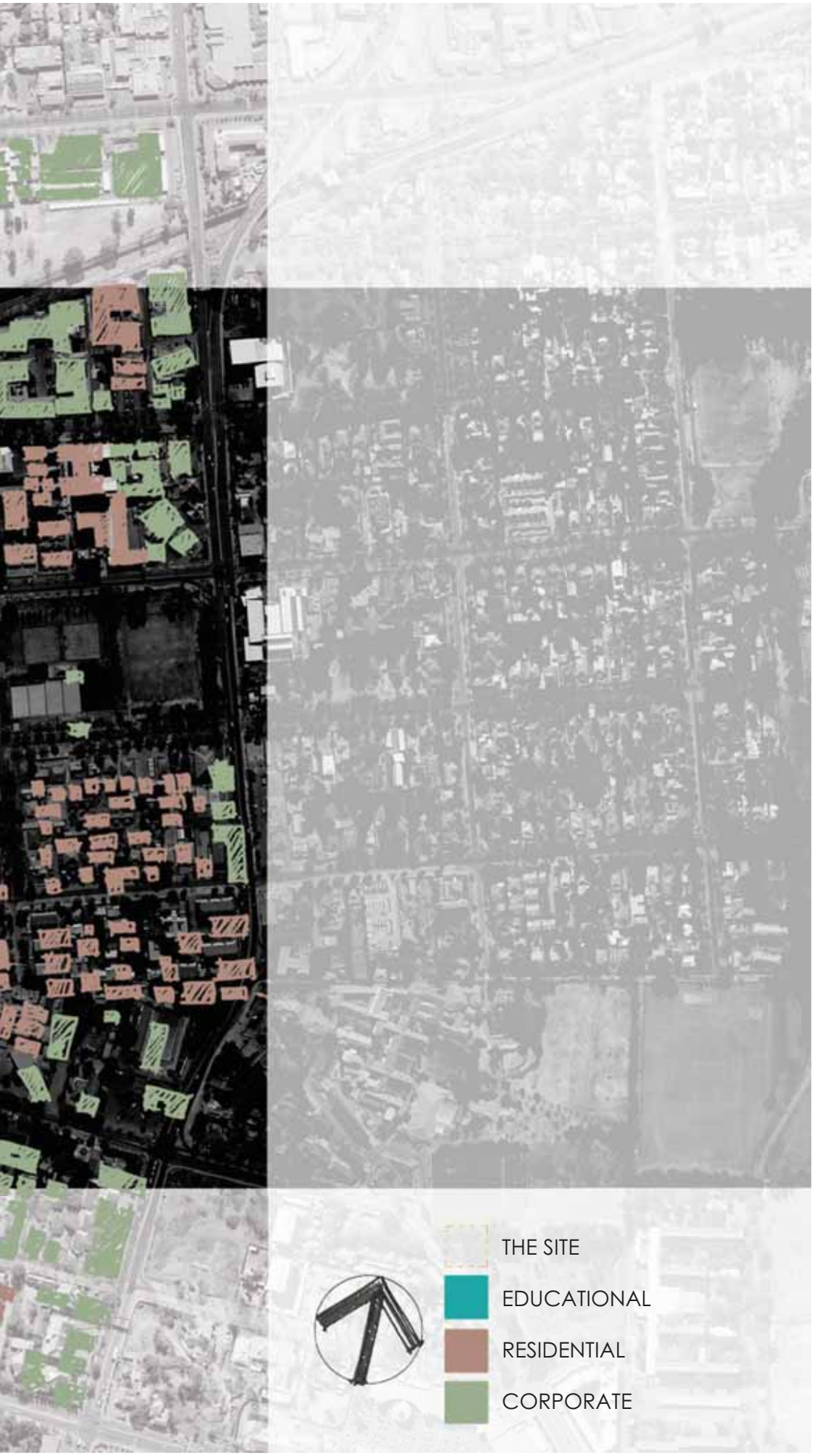
THE SITE
EDUCATIONAL
RESIDENTIAL
CORPORATE

Fig 4.2 Transport Nodes

The main campus of the University of Pretoria is situated in the Hatfield area. The adjacent land use includes corporate, residential, educational and recreational facilities. A number of factors were taken into consideration when the site for the specific project was chosen. The project necessitates a site which is accessible to the public and close to public transport access points on order to overcome the physical boundaries and barriers experienced.

The site should also reveal the opportunity to transform an existing dilapidated building into a representation of educational growth. The site should not be restricted to its existing footprint and must have the qualities of an adaptable building. According to Stewart Brand in his book 'How Buildings Learn' the adaptability of a building's change is between the sharing of the different building layers (Brand, 1994:13).

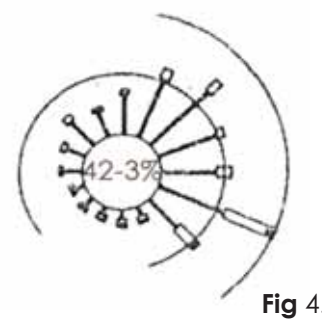

Fig 4.3 Windrose Pretoria January

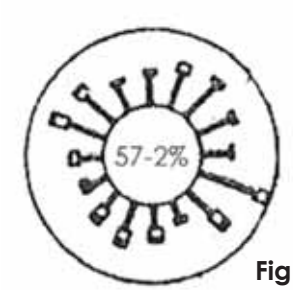

Fig 4.4 Windrose Pretoria June

The layers include:

_ site [geographical setting, eternal]
_ structure [foundation and load bearing elements, 30-300 years]
_ skin [+/- 20 years]
_ services [7-15 years]
_ space plan [layout, from three (commercial) to 30 (domestic) years]
_ stuff [furniture and belongings]
(Brand, 1994:13)

The greater the independence the better the building can adapt or change. When considering these aspects to the specific site it is evident that physical boundaries exist among these layers.

Fig 4.5 Public and Private Space to site

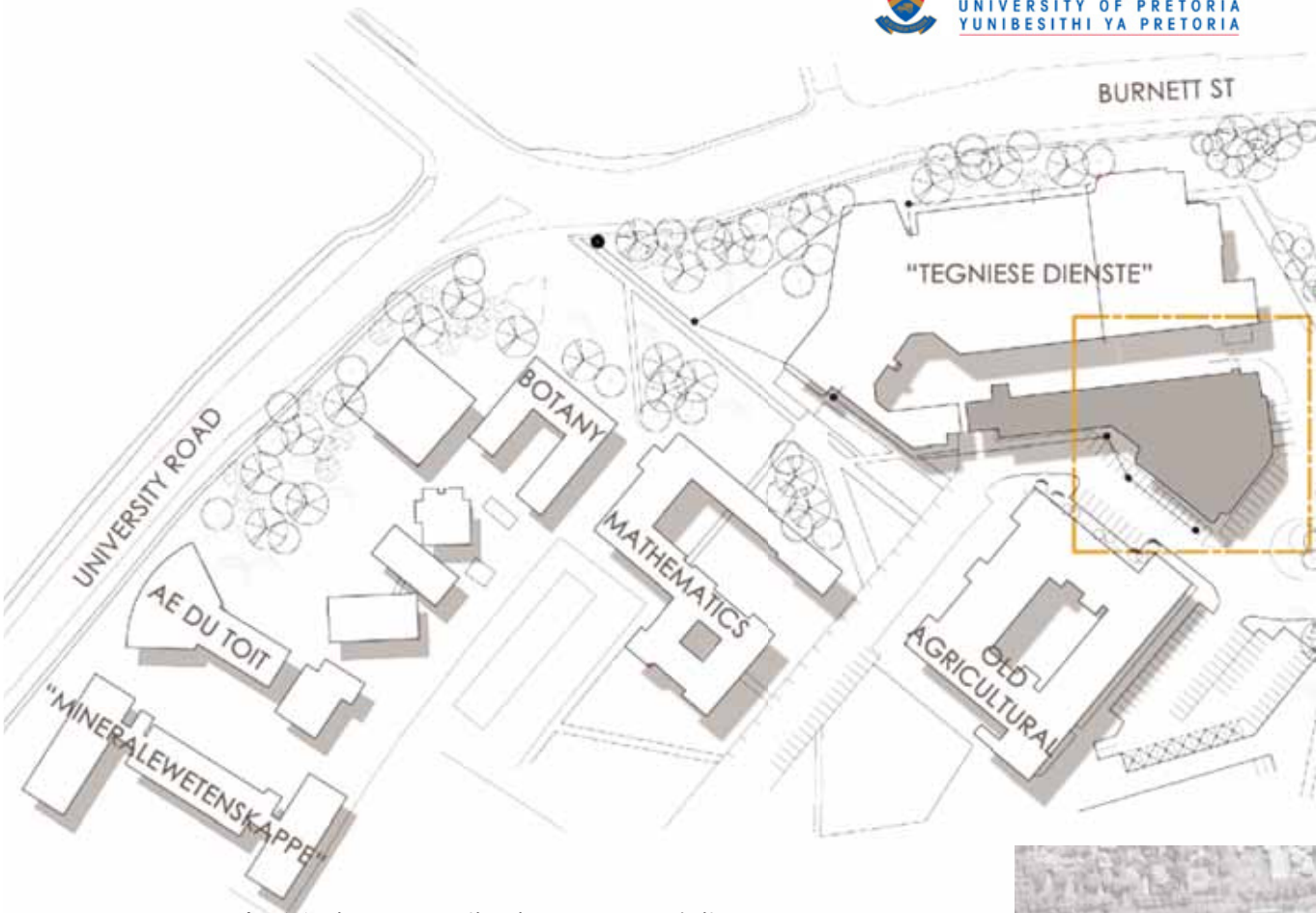

Fig 4.6 Diagrammatic view Proposed site

The site for the specific project is situated on the main campus at the northern end. The site is accessible at the main entrance on Roper Street or at the nearest entrance on Prospect Street. The ring road borders the site at the south facade. The site is ideally situated on the edge of the northern boundary of the university within walking distance to public transport nodes including the Hatfield Station, the Loftus Station and the future Gautrain Station. The building named "Tegniese Dienste" was erected in 1975 with its dominant white concrete structure and significant boxed windows. The site offers opportunities for expansion only to the immediate surroundings of the building. The site and building analysis is based on the six layers according to Brand.

_ SITE: Barriers

The courtyard to the north of the Tegniese Dienste building and the Administration Building limits expansion to the north, but creates sufficient space for services and deliveries. The generous pathway to the south of the building offers the opportunity of extension up to the ring road and the Old Agricultural Building to the south.

_ SITE: Accessibility

The site is easily accessible for pedestrians walking past, scheduled visitors transported with tour buses and local visitors driving past. The existing parking

bays to the east of the building have adequate parking for disabled visitors and buses. Students and visitors on their way to the Administration Building may pass the site on the southern and eastern side. Traffic moving on the ring road in both directions creates a movement at the south eastern corner of the building and this must be taken into consideration together with the location of the existing entrance. Generally high levels of pedestrian movement take place to the south and eastern facades of the building making these importance facades due to the level of exposure.

_ SITE: Edge

Different edges appear at the site which represents the break between two phases or spaces. The first is a clearly defined hard edge that is the boundary of the university to the north of the building along Burnette Street and University Road. The second falls within the university grounds and is not as clearly defined; the tall trees to the north and west of the building form a green edge alongside Burnette Street.

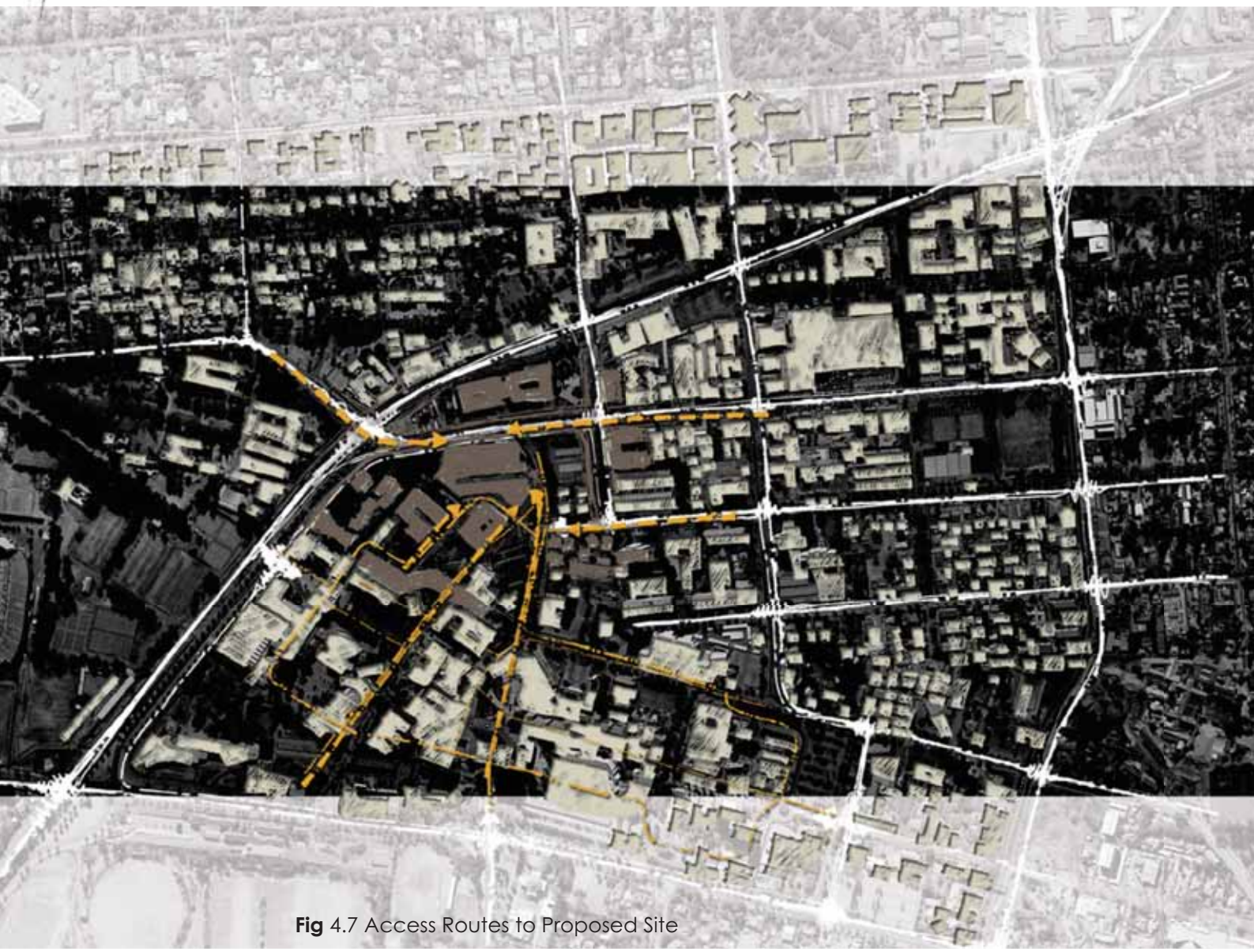

Fig 4.7 Access Routes to Proposed Site

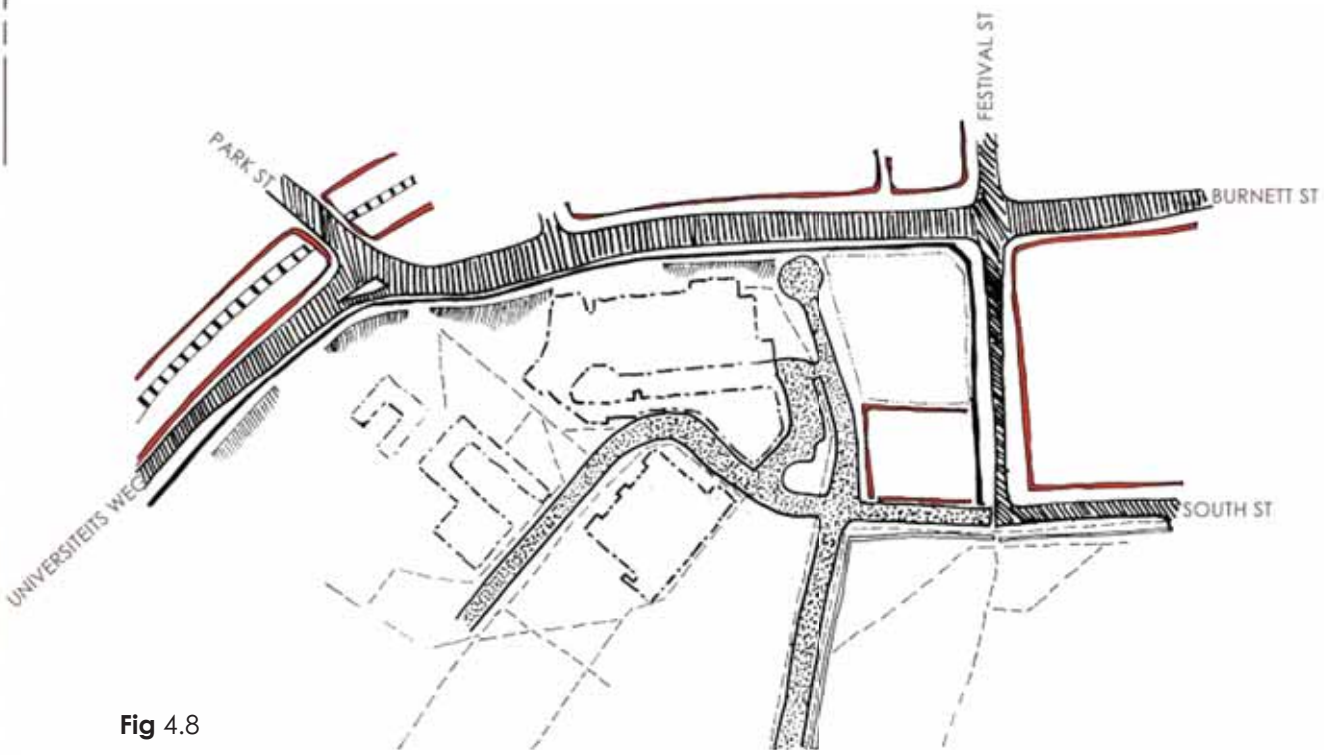
FESTIVAL ST
PARK ST
BURNETT ST
UNIVERSITEITS WEG
SOUTH ST

Fig 4.8

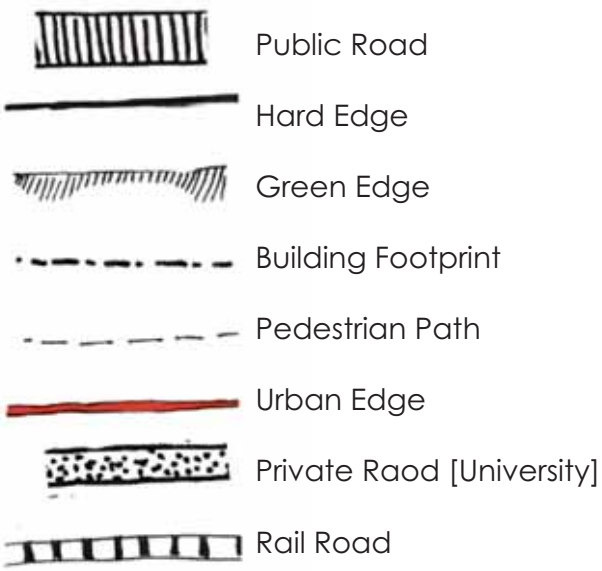
Public Road
Hard Edge
Green Edge
Building Footprint
Pedestrian Path
Urban Edge
Private Raod [University]
Rail Road

Fig 4.9

Fig 4. 8 Proposed Site indicating different edges and paths

Fig 4. 9 Extended Exterior View of Site

Fig 4.10 Site indicating existing boundaries

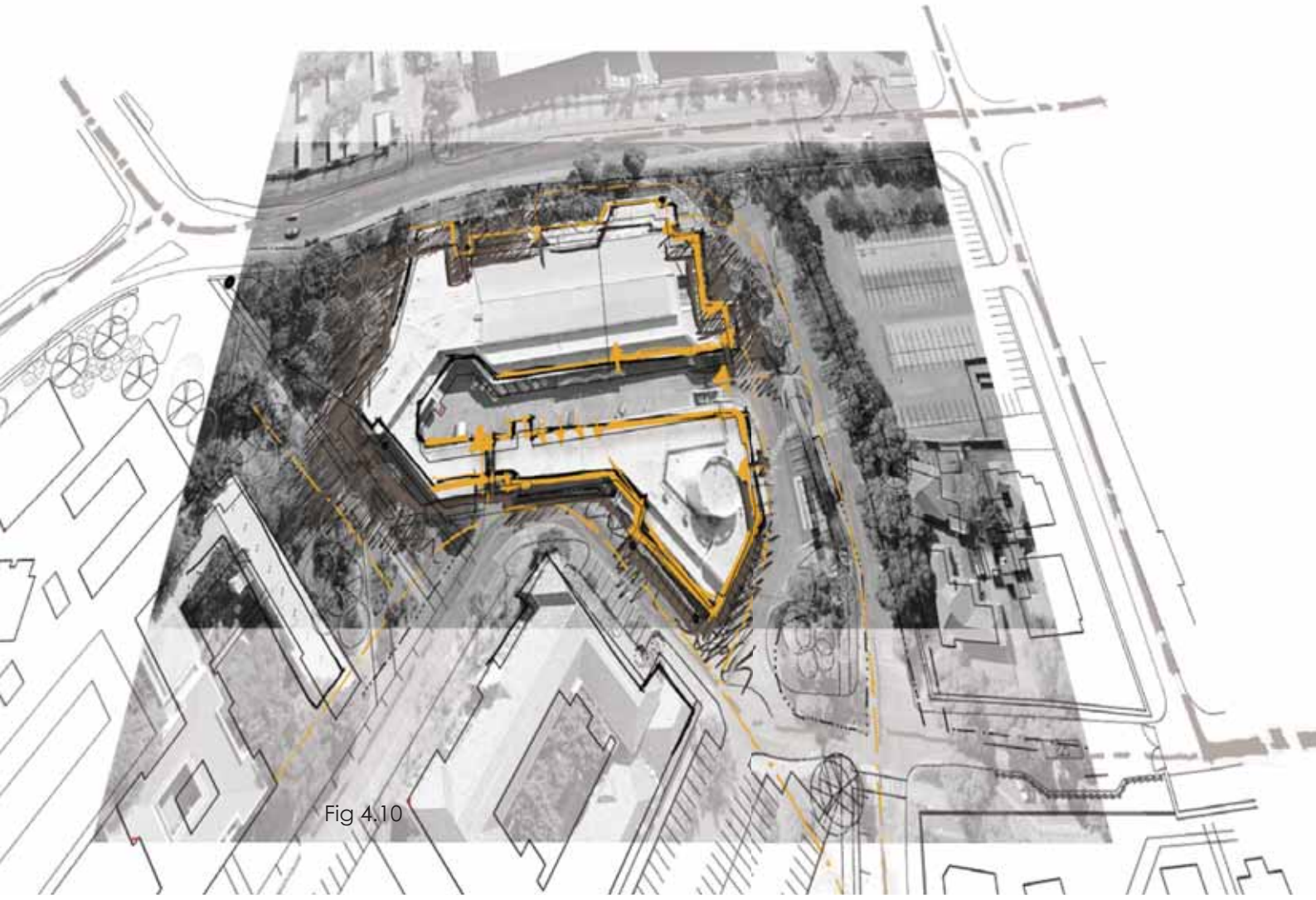

Fig 4.10

_Structure

The building's physical boundaries are apparent in the structure of the building that divides exterior space from interior space. The building consists of a two column grid structure that intersects on the south eastern end of the building. The design language of the structure relates to the building to the north, establishing a specific architectural language. The grid formation is dominantly visible on both plan and external elevation to the north. The interior use of structural columns was added over the years and is not at all a necessity for the overall structure.

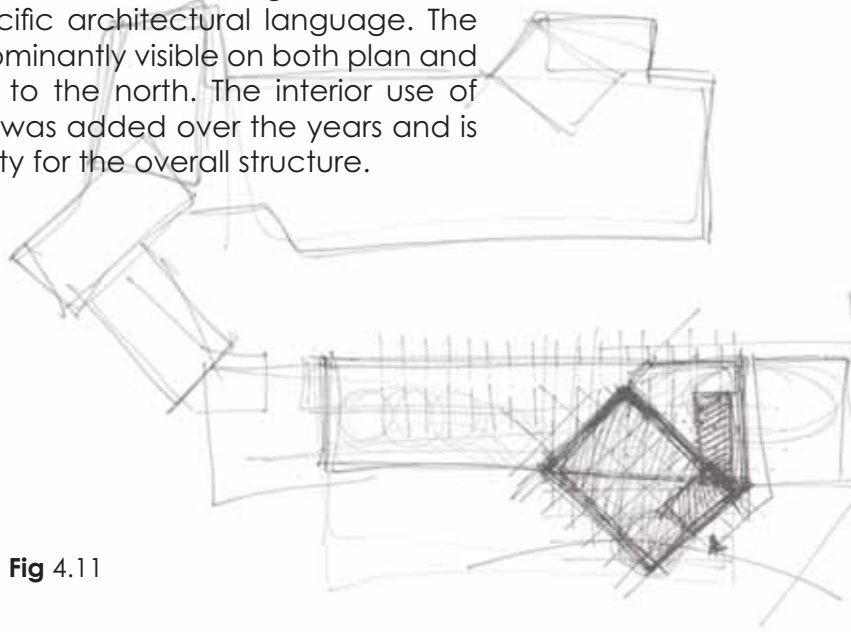

Fig 4.11

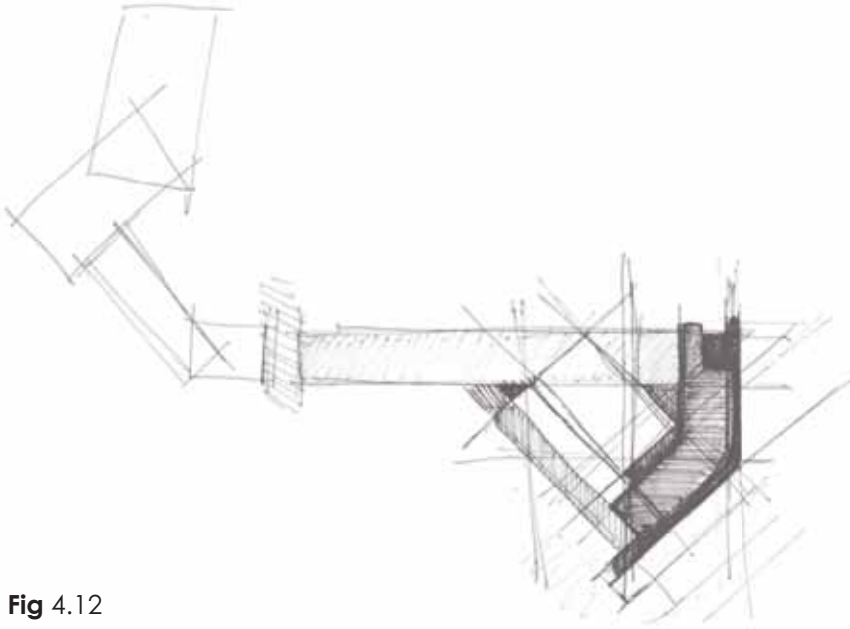

Fig 4.12

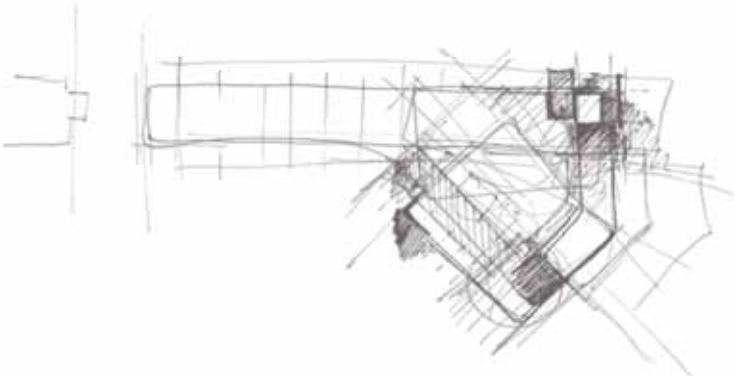

Fig 4.13

Fig 4.11 Existing building

Fig 4.12 Volume differences in existing building

Fig 4.13 Analysis of 2 axis and activity nodes

Fig 4.14 Existing dominant axis

Fig 4.15 Wire frame columns structure

Fig 4.16 Block illustration of existing volumes

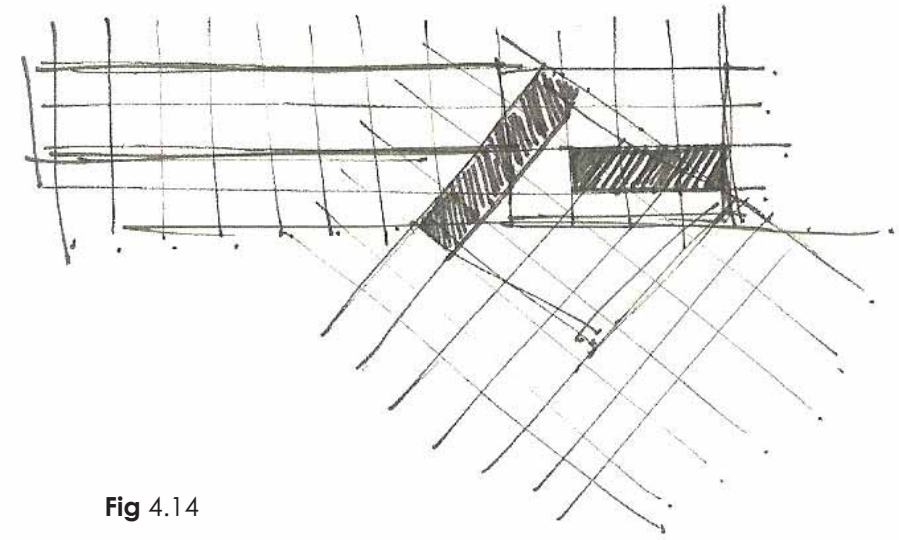

Fig 4.14

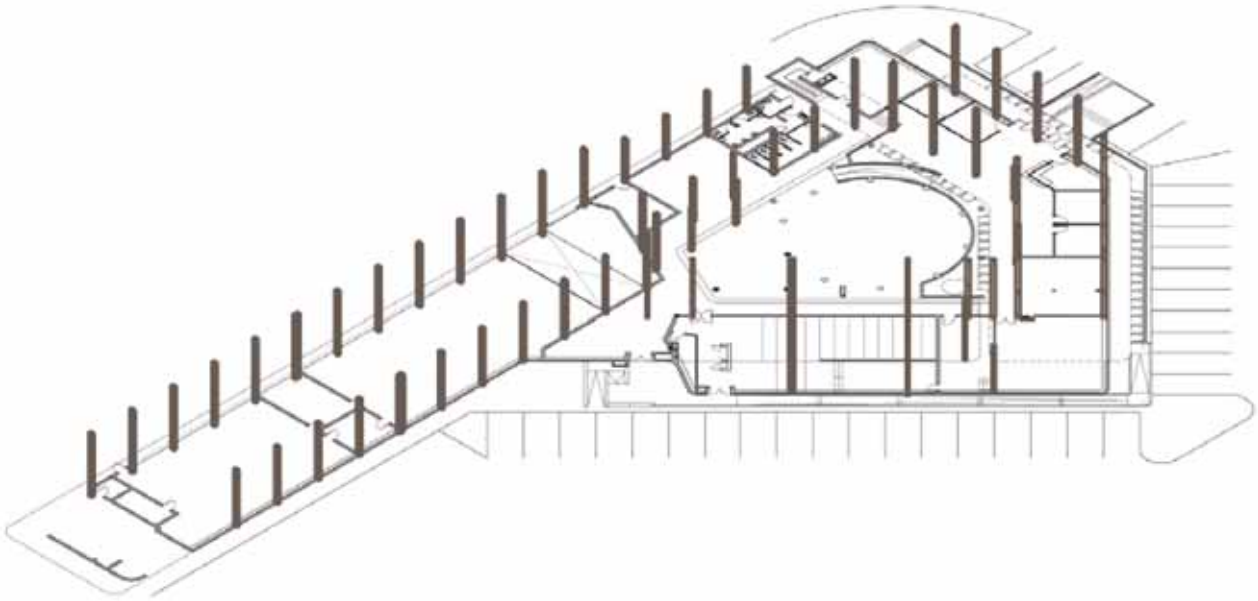

Fig 4.15

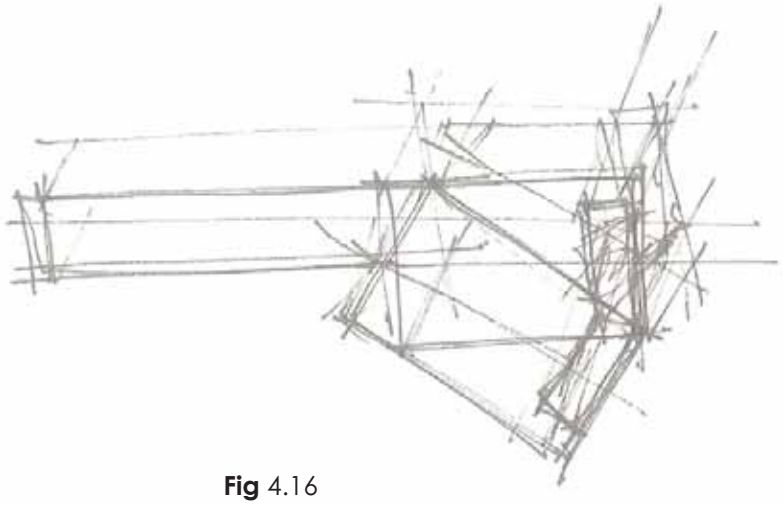

Fig 4.16

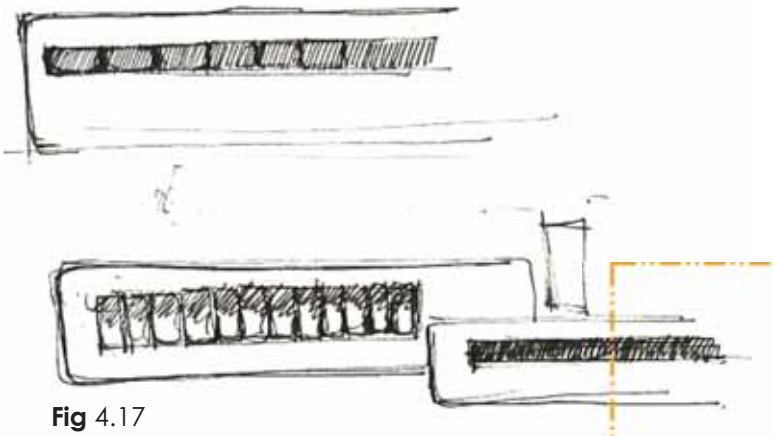

Fig 4.17

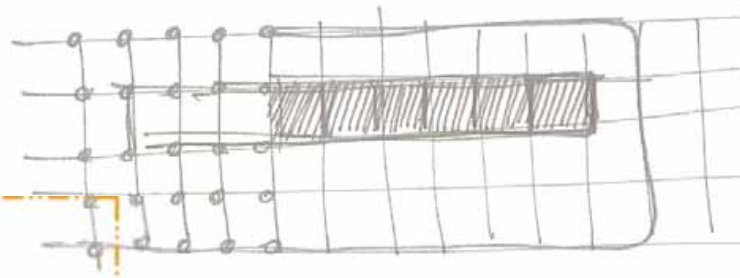

Fig 4.18

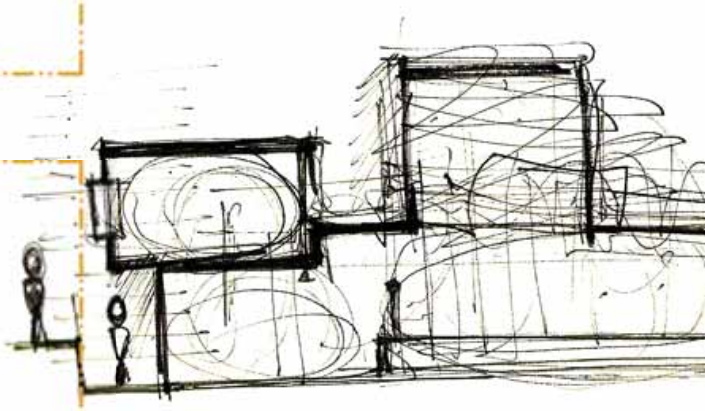

Fig 4.19

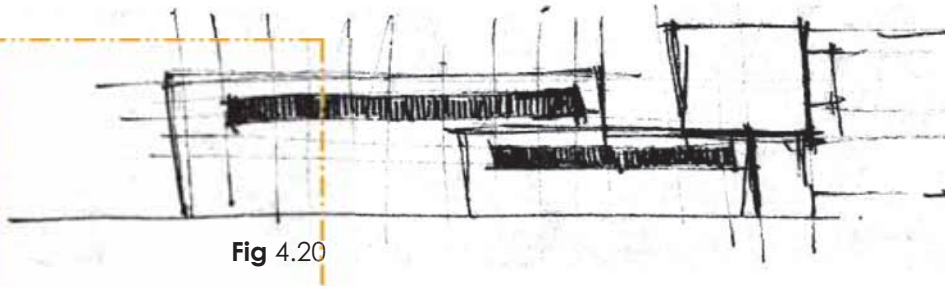

Fig 4.20

Fig 4.17 Exterior Skin, two main window patterns

Fig 4.18 Exterior Skin

Fig 4.19 Exterior Skin and the need to expand the interior through existing skin

Fig 4.20 South Elevation

Fig 4.21 Language for exterior skin

Fig 4.22 East Elevation

Fig 4.23 Extended Exterior View of building

_ Skin

The skin defines the definite boundary between the exterior and the interior and at present keeps the activities of both exterior and interior separate with no opportunity for interaction. The materials used for the skin consist of concrete and brickwork, plastered and painted white, with limited openings for windows and entrances. The concrete window details establish a specific language reading to the aestheticism of the building and reveal the structural quality of concrete. The possibility to break through the skin is supported by the fact that the skin carries little structural load. The southern and eastern facades have sufficient exterior space for expansion. The northern facade consists of columns with roller shutter doors in between and is currently used as storage space. The threshold between interior to exterior exposes unused opportunities and should rather enhance the spatial activities.

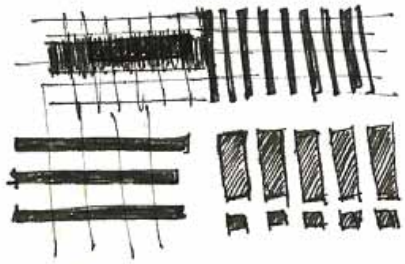

Fig 4.21

Fig 4.22

Fig 4.23

_ Services

Many of the services is surface mounted but have changed drastically over the lifetime of the building. The sewer system with existing duct is situated to the northern end of the building; it is easily accessible for all visitors including a wheelchair accessible toilet. The existing facilities must be inspected and upgraded to include added facilities.

_ Space Plan

The interior layout of the building changed immensely with changes to office layout and lecture halls. Some brickwork is visible to the interior but can be removed at areas due to sufficient structural stability of the columns. The many changes and grid layout of the building caused for some awkward interior spaces and it would be advisable to limit the interior walls to a few important walls in specific areas.

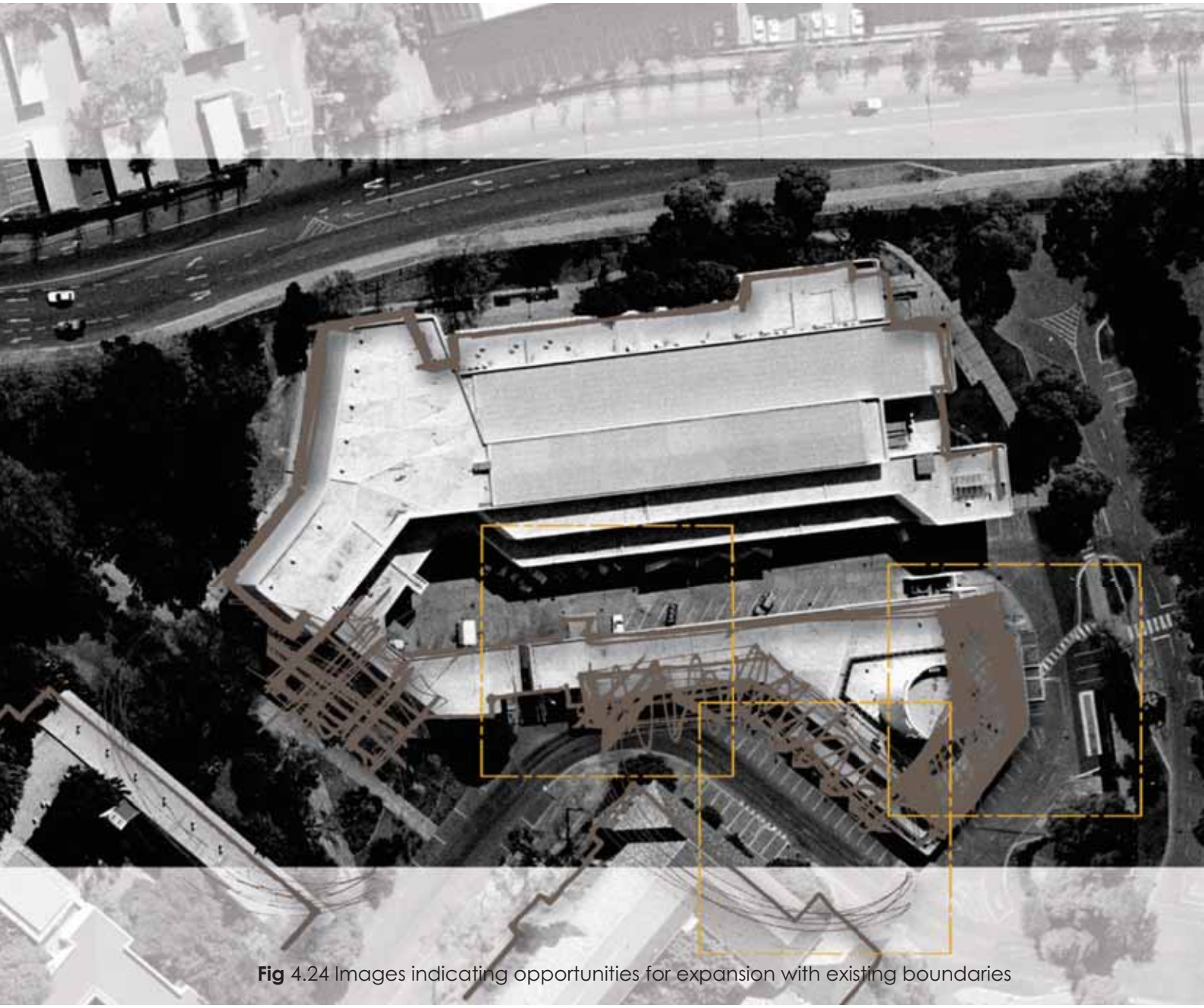

Fig 4.24 Images indicating opportunities for expansion with existing boundaries

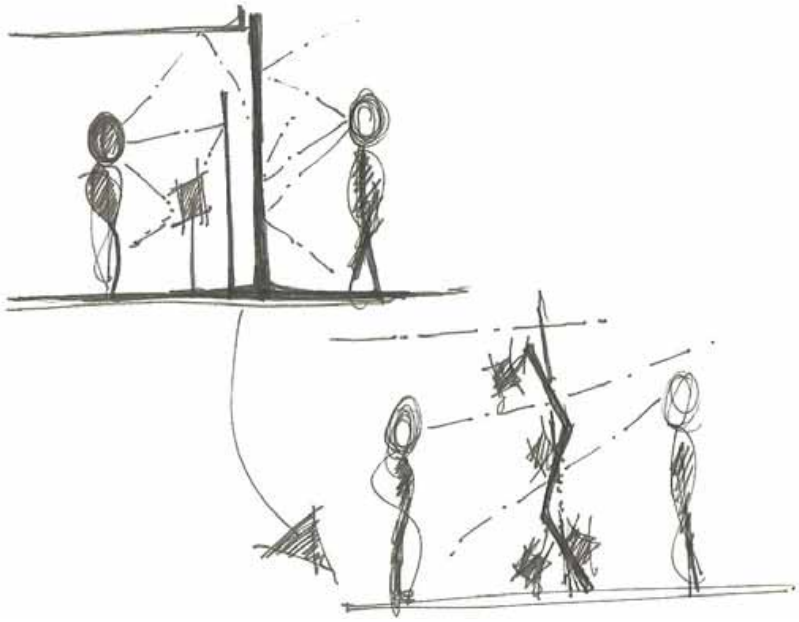

Fig 4.25 Illustrating changed boundaries

_ Stuff

The existing Science Exhibitions are out dated with little consideration to the interior language. The spatial experience is limited to a few interactive exhibitions. The furniture and equipment in the building are not up to standard and must be reworked together with the new design.

To conclude, in the building its current state variations of boundaries exist both physically and hypothetically. These boundaries need to be broken down or adapted in order for the building to be optimised to its full potential. Many of these boundaries are visible on site as well as in the poor use of interior spaces. Opportunities arise to improve the existing interior and exterior dilapidated spaces. The building is already associated with an exhibitions information node and is clearly visible from the entrance on Roper Street. The building would be an ideal space to explore the spatial qualities where inside meets outside. The building has the POTENTIAL to become an icon on campus TO PROMOTE the existing educational IDEALS that the university embraces.

Fig 4.26 Sketch of view on site towards new entrance

_ isolated entities

_ fragmented information

_ physical boundaries

_ bring information together

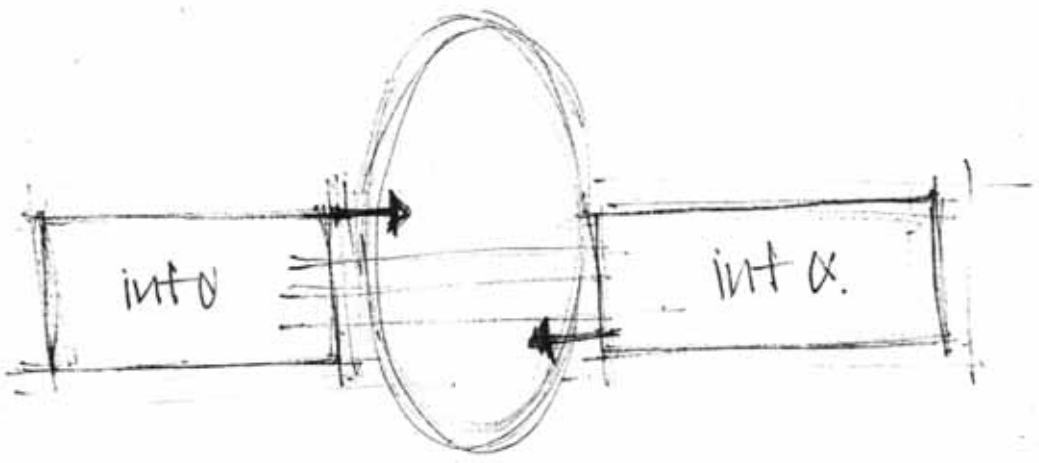

Fig 4.27 Betweeness in information

Fig 4.28 Arial view of University with its segregated information nodes