



# uMngeni Water Entrances

## Design of New Entrances at Umngeni Water Head Office

310 & 346 Burger Street, Pietermaritzburg

# Visual Impact Assessment report

**REVISION 0**

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November 2021

Our ref.: s499/01

SAKHISIZWE ARCHITECTS

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# 1 Introduction

## 1.1 Purpose of the study

The purpose of the study is to analyse & assess the existing street scape character; and an assessment of the possible change in street scape character; and an assessment of the implications of possible street scape change.

The study provides Illustrations of likely impact in the form of 3d images either superimposed or presented alongside existing views.

The study further proposes mitigation measures, whilst allowing for further input or engagement with the heritage authorities assessing this proposal.

## 1.2 Scope of the study & Delimitation

The study analyses the existing street scape of the affected sites and stretches between Straap street and Boshoff street. The study does not cover the whole of Burger street and its heritage structures nor does it go into the historical elements of such heritage structures. The study does hower analyse existing structures in terms of materials & heights and general character and assess when superimposed with the proposal and the impact therof.

## 1.3 Limitations & Assumptions

Sketches and 3D modelling were used as tools to help define the extent and nature of possible impact. Photos have been obtained from Google maps street view and Image capture date is Nov 2017. The study used these images with an impression that they are a reflection of what is currently on site.

# 2 Description of Project (310 & 346 Burger street)

## 2.1 310 Burger Street:

The proposed project is an entrance gatehouse at no. 310 Burger street. The accomodation schedule includes ablutions, safe, surveilance room, storage and kitchen area. The current guard house, which is much too small and does not meet the clients requirements is to be demolished to make way for the proposed. The existing guard house is to be demolished and in its place a staff only exit driveway created which also acts as a buffer space between the existing heritage building (Voortreker house) and the proposed entrance building.

The proposal also includes installation of 'clear-vu' fence the whole length of the front boundary (please see drawing no. – 00014/5301_boundary elevation). This type of fence allows for visibility whilst providing necessary security.

## 2.2 346 Burger Street:

The project is a proposed entrance guard house at no. 346 Burger street. The clients brief required the need for roof cover that spans both entrance & exit driveways, and also provide cover for pedestrian access. The roof structure was to be high enough to accommodate a medium truck (3 ton truck). The sides of the structure are cladded with timber screens for both security and solar shading. Pedestrian access needed to be secured with access controlled turnstile & gate for paraplegic access. The existing front boundary wall & light poles are to be maintained and gates re-used.

# 3 Location of the Site (310 & 346 Burger street)

## 3.1 310 Burger Street

5.1.1 Footprint of Existing structures – Areal View

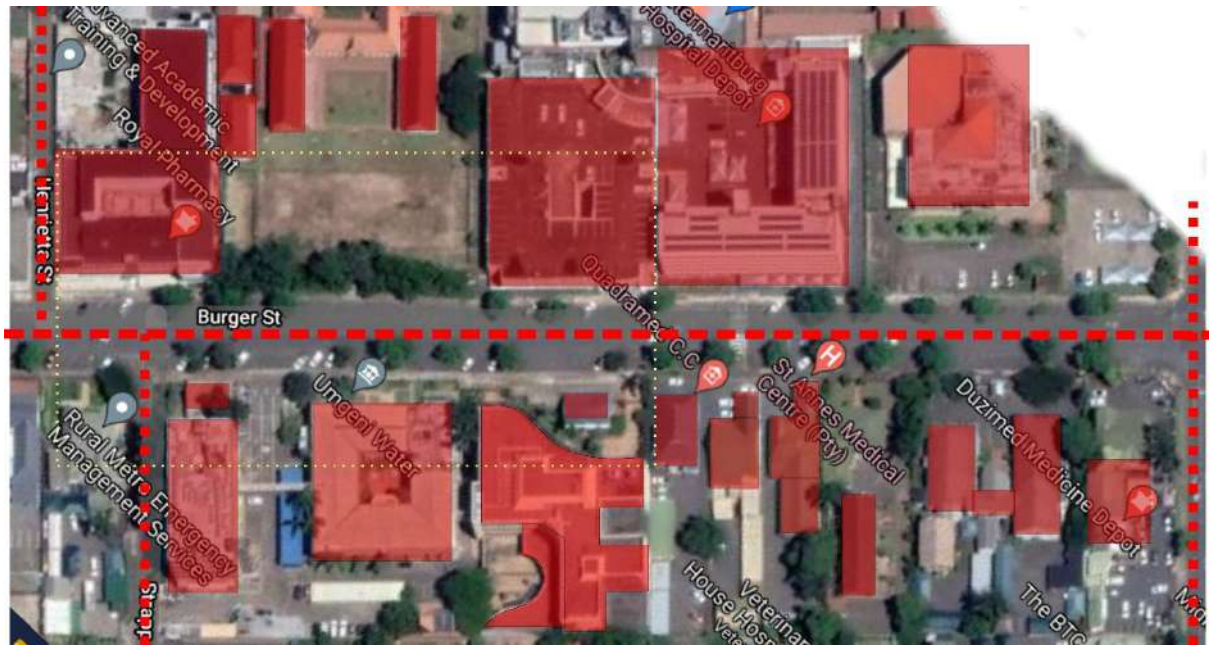


Fig. 1

- Existing buildings along the South side of Burger street are recessed & more sparsely located.
- There is a mix of both modern strucures and refurbished heritage buildings. The heights of modern structures vary from 2 stories to 7 stories high (see figure 3)
- Footprint on the opposite end (North) of the street indicate large structures of multiple storeys. These structures are on the edge of the property line and are not recessed. There is however voids of open space between some properties and at least one recessed property at the corner of Burger & Boshof street.


Fig. 2 – Pavements & Green spaces

## 3.2 Street Elevations / Heights of ex. Structures

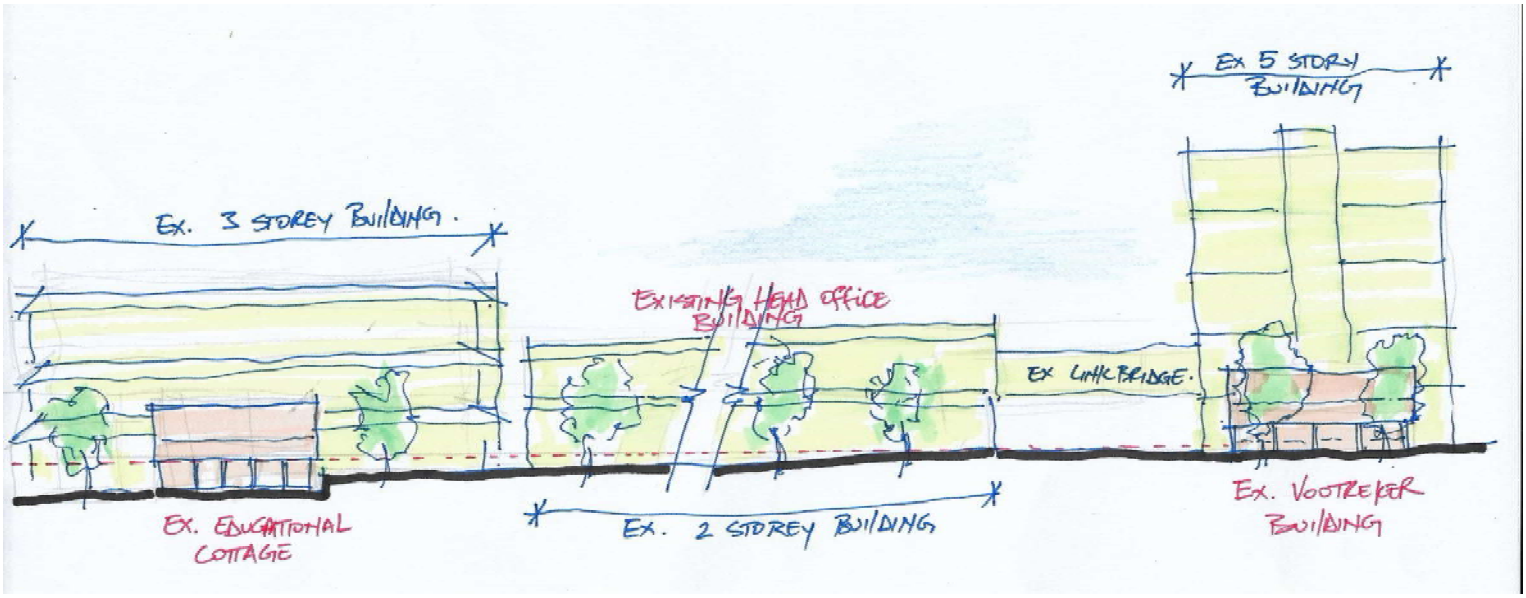


Fig. 3 – Street Elevation Sketch A

### *3.2.1 Burger Street_South side*

- South side of Burger street constists of both low rise heritage structures as well as high rise structures.
- High rise structures vary from 2 storeys to 5 storeys in height. The heritage structures are single storey and are set forward on the boundary line, whilst the high rise structures are slightly set back.

Fig. 4 – Photomontage 1_310 Burger Street

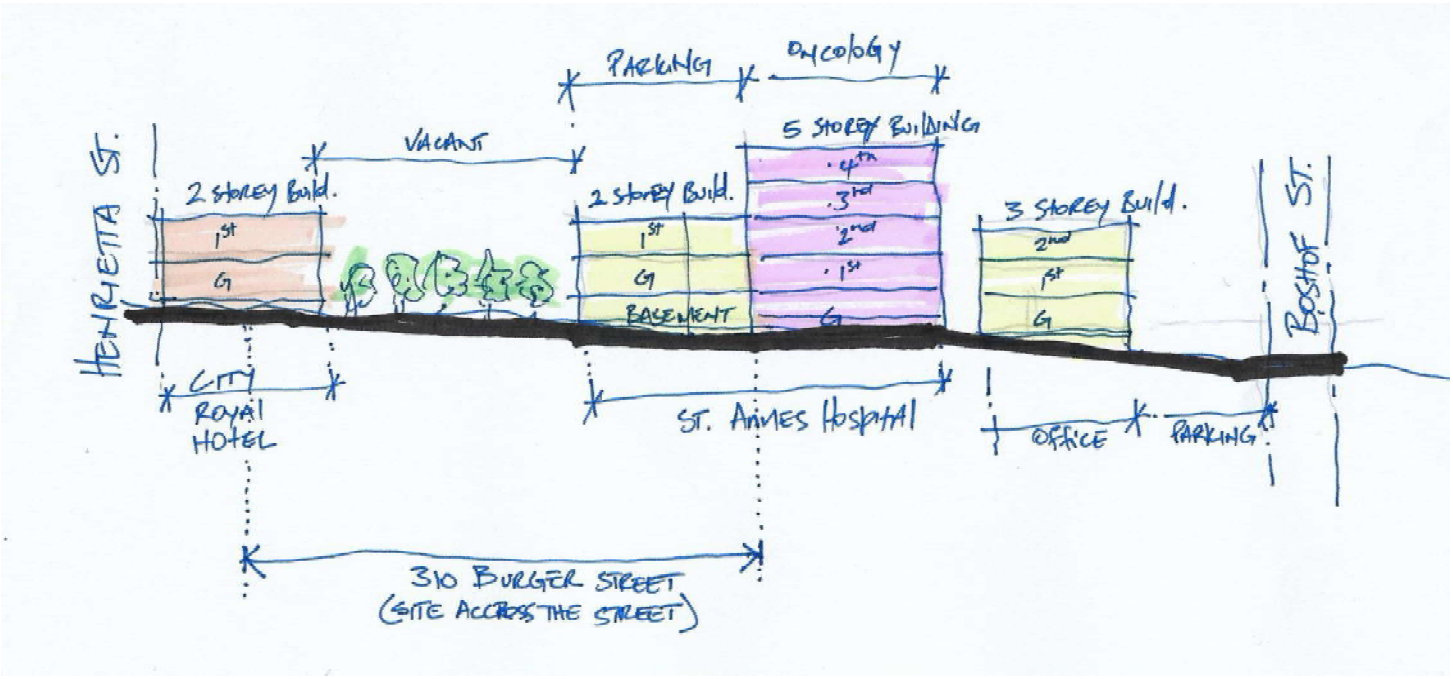


Fig. 5 - Street Elevation Sketch b

### *3.2.2 Burger Street_North Side*

- The opossite side of the street (North side) consists of mostly high rise structures, there is however a low rise building which is set back from the boundary creating a green open space opposite no. 310 Burger street (between City Royal Hospital & St. Annes Hospital parking) framed by the two 2 storey buildings and a tree line on the front boundary.
- The St. Annes Hospital main building is the tallest structure (5 storeys high).

Fig. 6 - Photomontage 2

# 4 Ex. Building types & materials

## 4.1 Burger Street_South side

### *4.1.1 Existing Heritage structures:*

- Existing Voortreker building (48 sqm) – wall finish is plaster & paint (white), use of timber on the verandah (balustrades & posts). Roof is Brosley clay tiles with timber sustructure.
- Existing Educational cottage (75sqm) – Ex. Wall finish - Shale, use of timber on the verandah (verandah posts). Roof is Brosley clay tiles with timber sustructure.

### *4.1.2 Other adjacent structures:*

- Five storey building (behind voortreker building) is a modern building with pre-cast concrete panels.
- Adjacent, is a two storey building (Head office) is also modern structure with concrete pre-cast panels as cladding. Feature elements on the entrance are cladded with stone cladding.
- Next to the head office is a three storey building (behind Educational cottage), a modern structure framed with a timber & slate cladding on all three levels.

## 4.2 Burger Street_North side

- Buildings on the oposite side of the street (North side) are modern and have a minimun height of two storeys. At the corner of Henrietta street & Burger street sits what used to be the City Royal Hotel, which has been refurbished and is now the Royal hospital.

Fig. 7


Fig. 7a

- St. Annes Hospital is a modern structure with some aluminium cladding and the adjacent hospital parking being a recent addition.


Fig. 8

Fig. 8a

# 5 Proposed Visual Impact of New Buildings (310 Burger street)

## 5.1 Site Plan (part) / Massing - 310 Burger Street

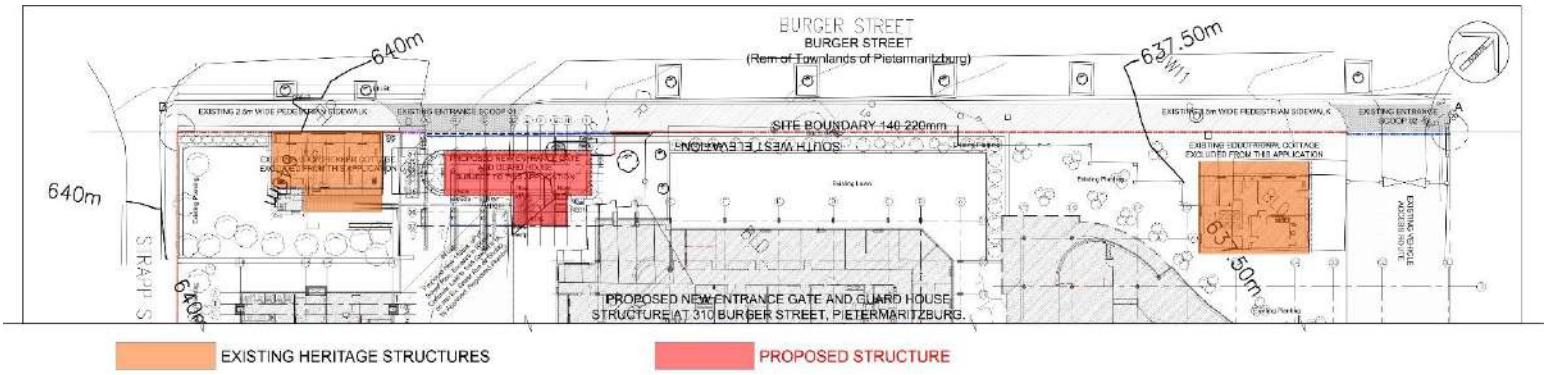


Fig. 9 – Existing & Proposed structures

- Fig. 3 indicates existing heritage buildings, existing multistorey buildings & the proposed 2 storey guard house.
- The existing guard house is to be demolished & a new gate house proposed in it's place. This should create a 4.1m buffer between the Existing Voortreker cottage and the proposed gatehouse.

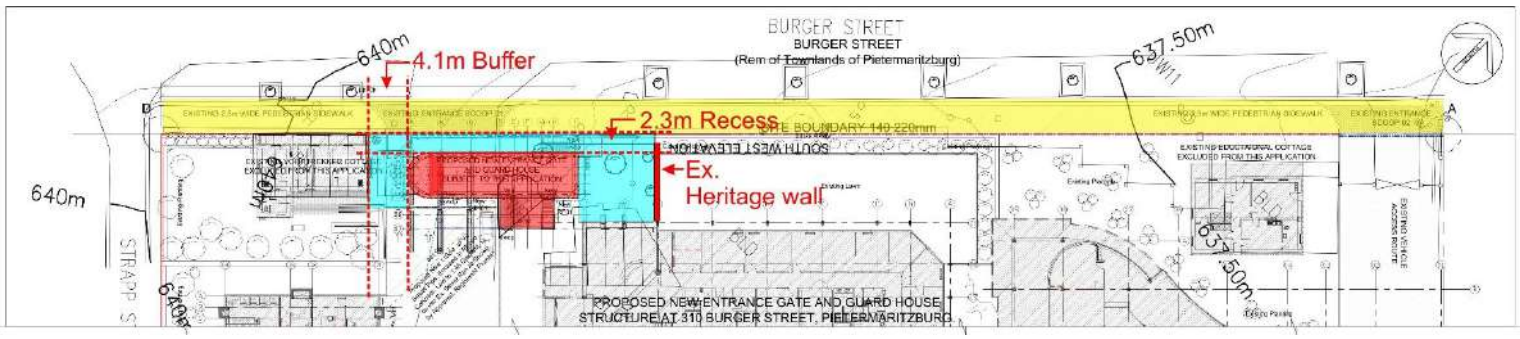


Fig. 10 – Existing & Proposed structures

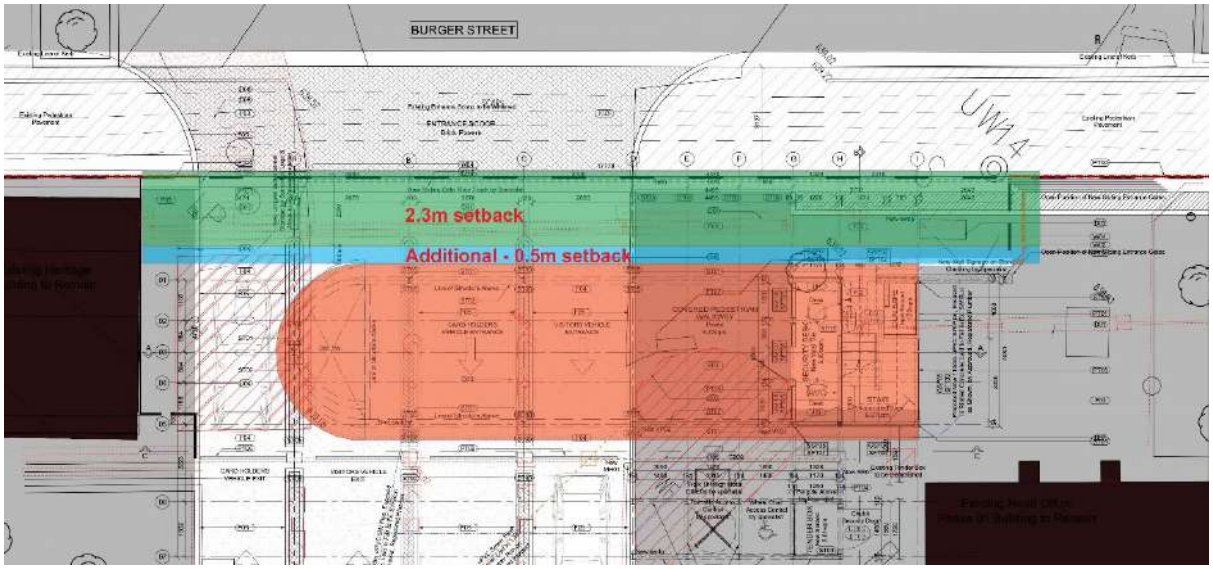


Fig. 10a – Existing & Proposed structures – Additional setback

- The proposed structure is set back by 2.3m from the boundary line. This setback allows the proposed structure to rescind into the background and not be dominant. If required, this recess can be increased even further by another 1.5 meter if required.

## 5.2 Massing

- Massing consists of a composition of two volumes i.e. mainly a floating dominant element & a smaller element (base) which acts as a connection to the Ground.
- The solid boxes are then further defined by materials in order to achieve the main objective, wich is to complement the existing structures & mainly the adjacent Heritage building (Voortreker building) by not becoming a more dominant structure but more opposite, by becoming a backdrop to the adjacent heritage structure.
- Use of materials & minimalistic details further serve to reduce or minimise massing of the structure.

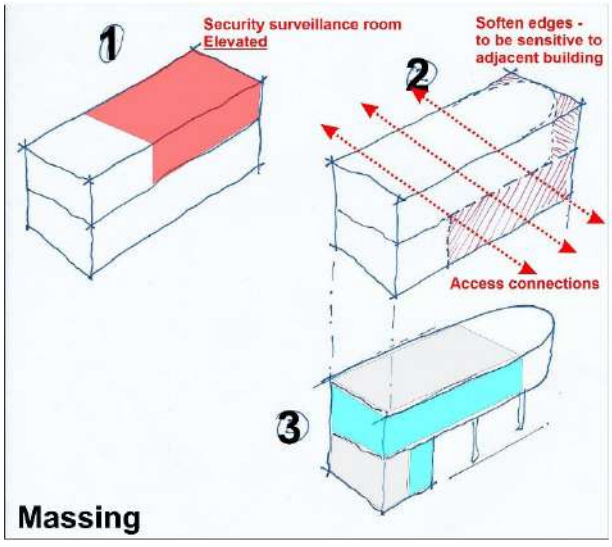


Fig. 11

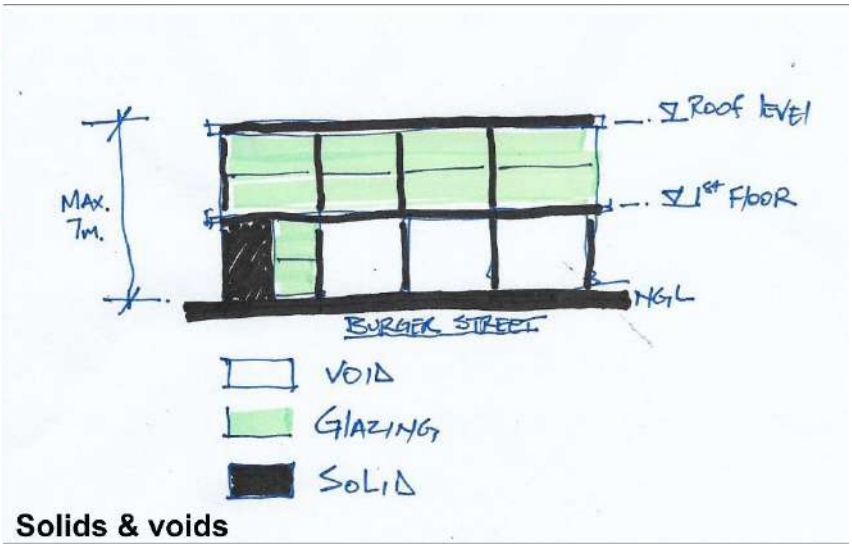


Fig. 12

## 5.3 Existing Structures & Demolitions


Fig. 13 – Existing domolitions

- Existing guardhous, water feature, bollards & signage are to be removed.
- Removal of the existing guardhouse makes way for staff driveway which also acts as a buffer between the Voortreker cottage.


Fig. 14

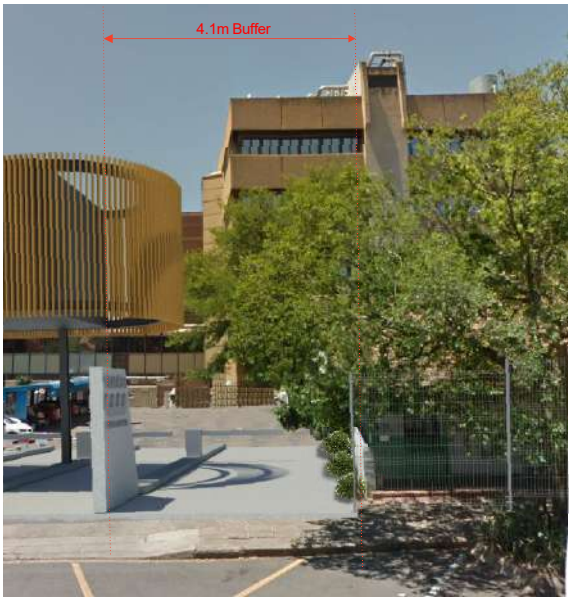


Fig. 15

## 5.4 Spatial layouts

- There is ample space between the existing Heritage wall & the proposed building. This wall is to be preserved as it forms part of the Heritage element.

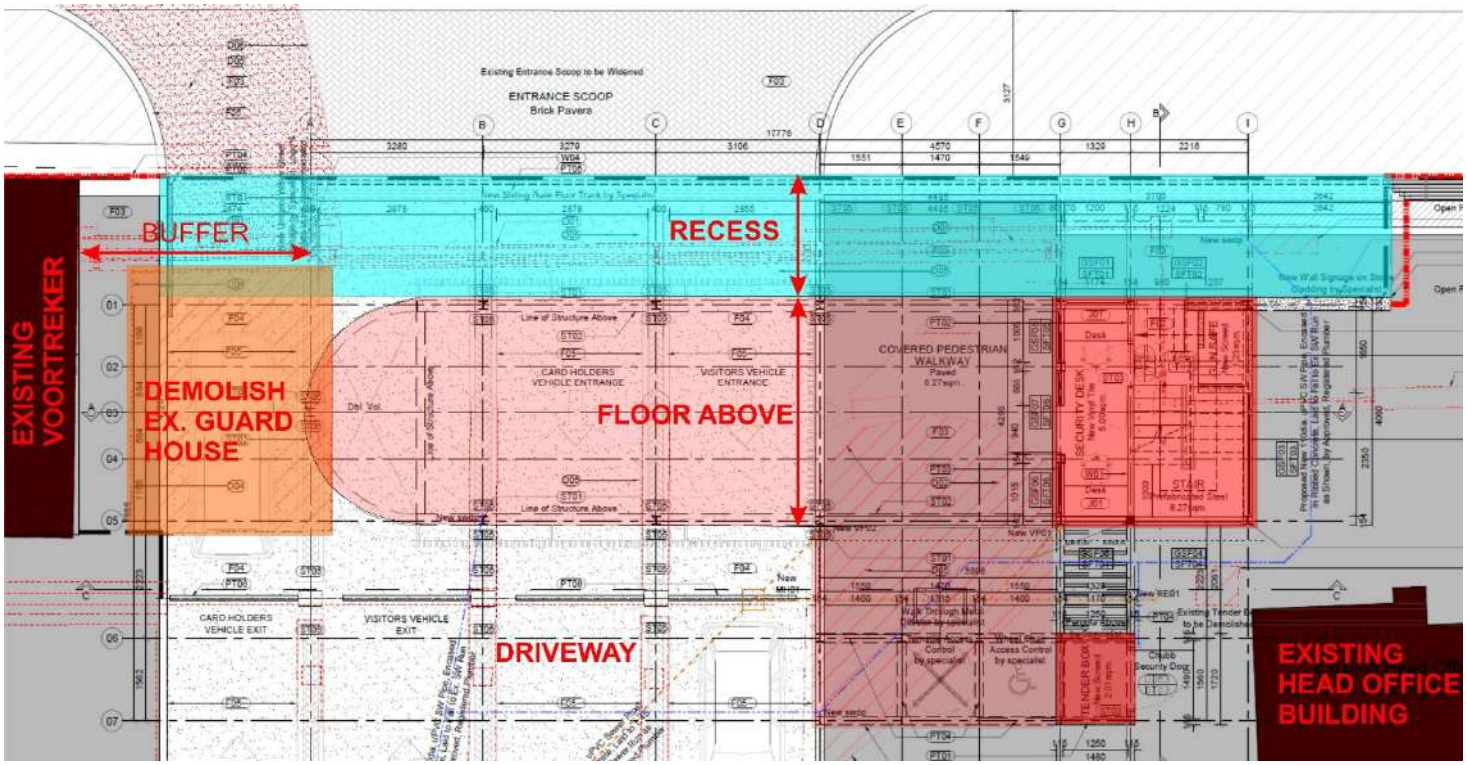


Fig. 16 – Floor plan

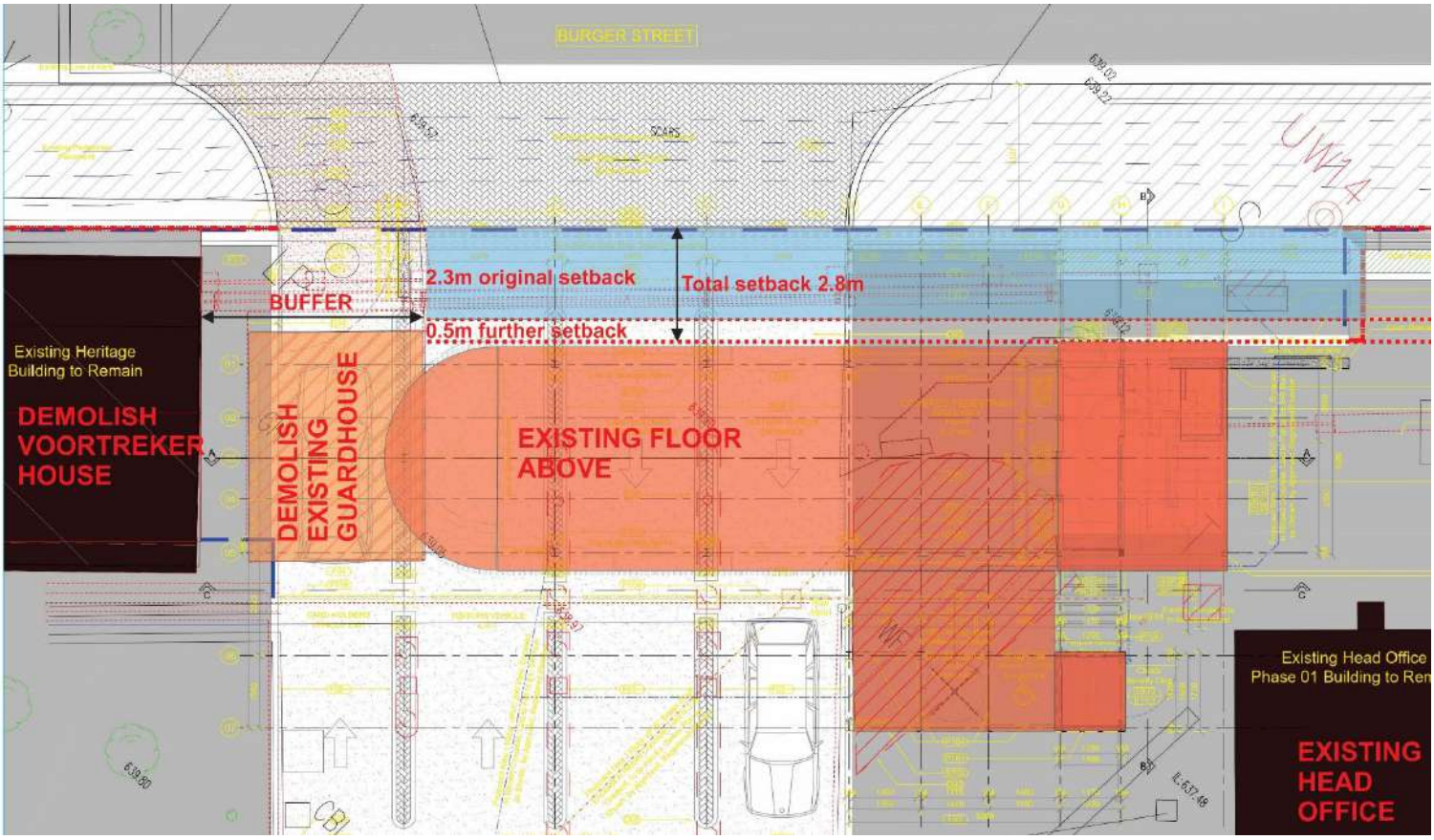


Fig. 16a – Floor plan

- Floor plan above indicates a furthe setback of 0.5m as part of mitigation suggestions

- The proposed building floats above the driveway and sits on thin columns, it is only a small portion of the building that is on the ground floor (i.e. security room & gun safe & stair). The fist floor façade is mostly shopfront (floor to underside roof) and is framed by the first floor & roof slabs with columns from the ground.

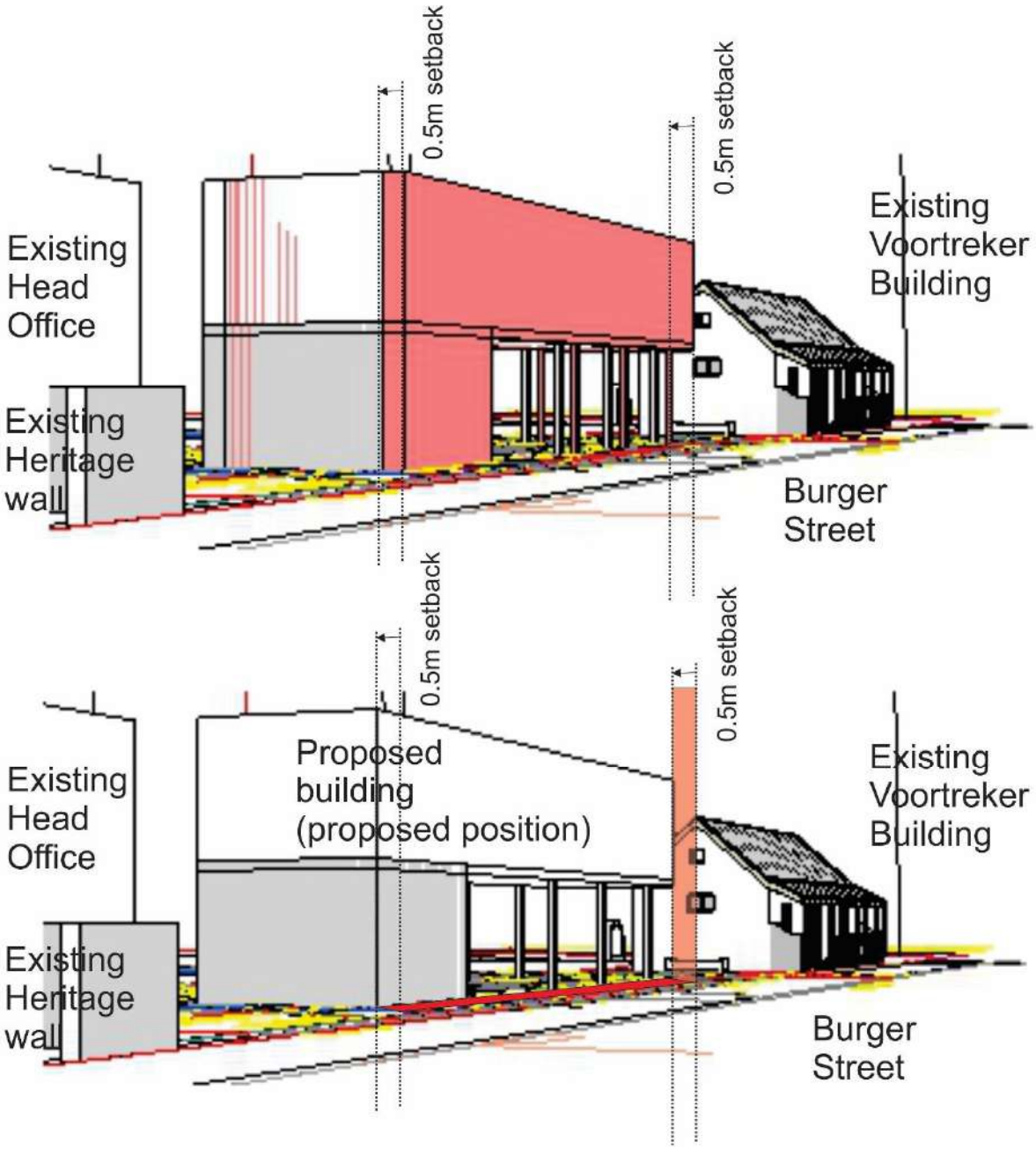


Fig. 16b – Proposed revit 3d perpective setback proposal (0.5m setback impact)

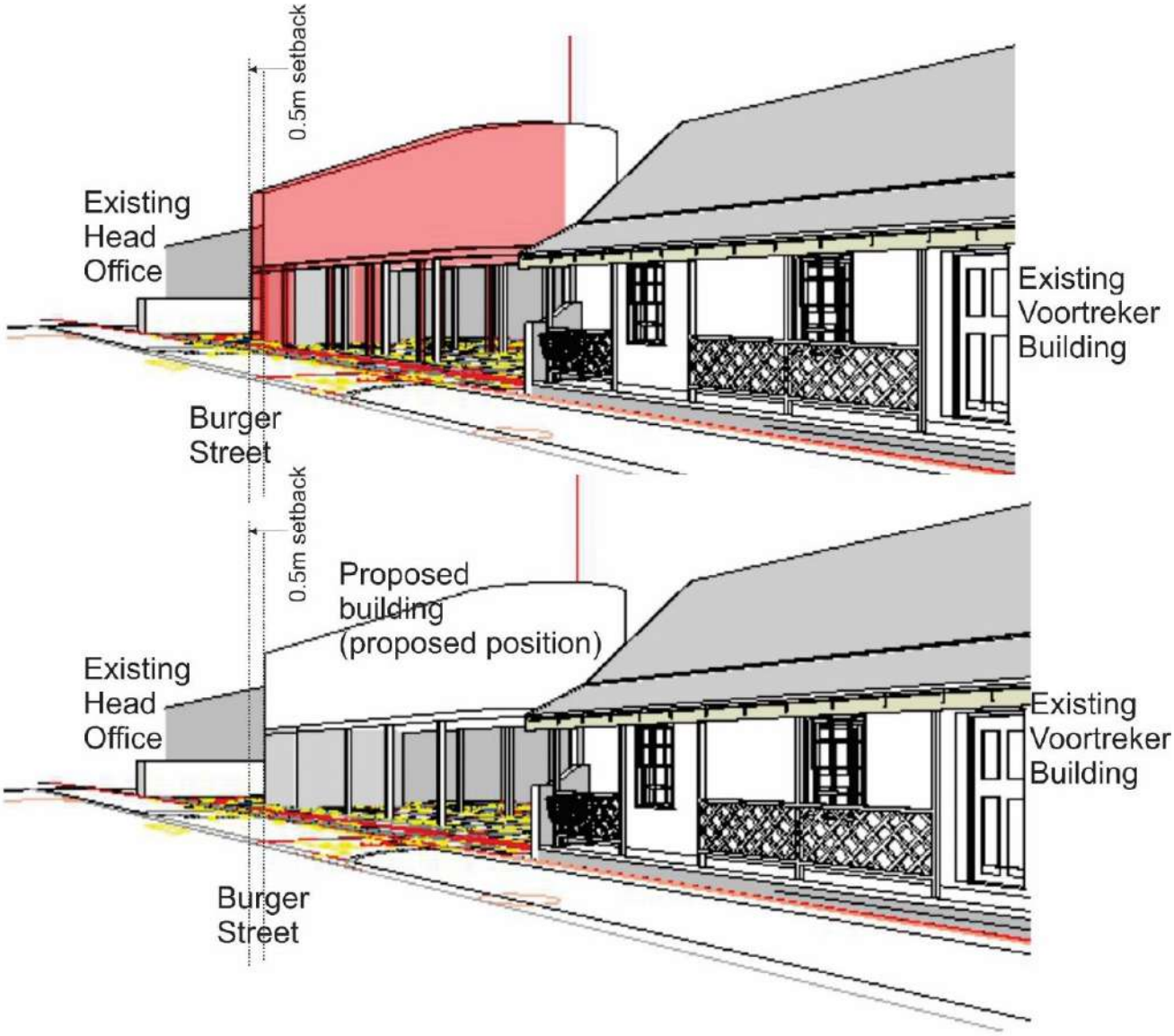


Fig. 16c – Proposed revit 3d perpe ctive seack proposal (0.5m setback impact

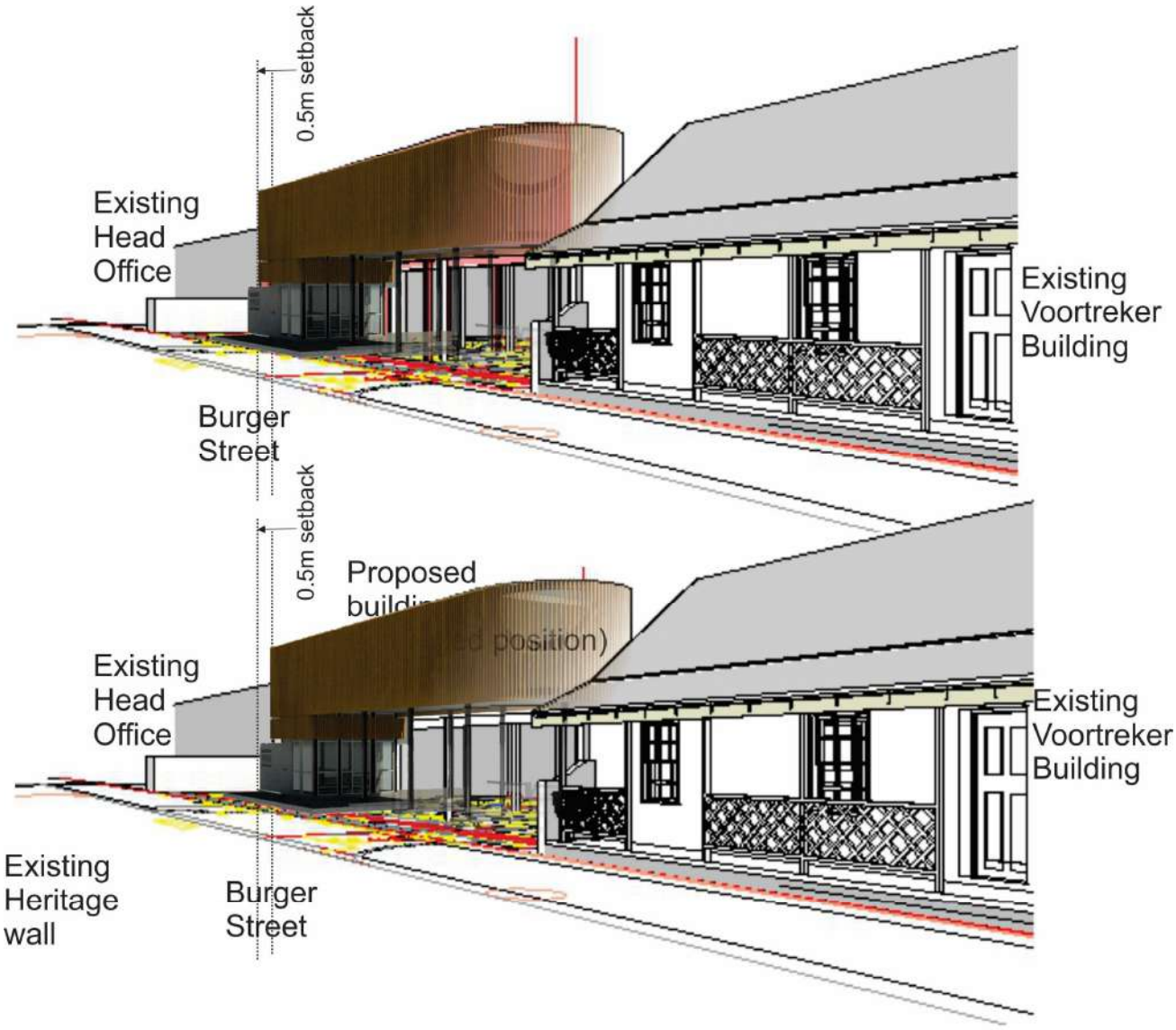


Fig. 16d – Proposed revit 3d perpe ctive seack proposal (0.5m setback impact)

## 5.5 Proposed Elevations


Fig. 17

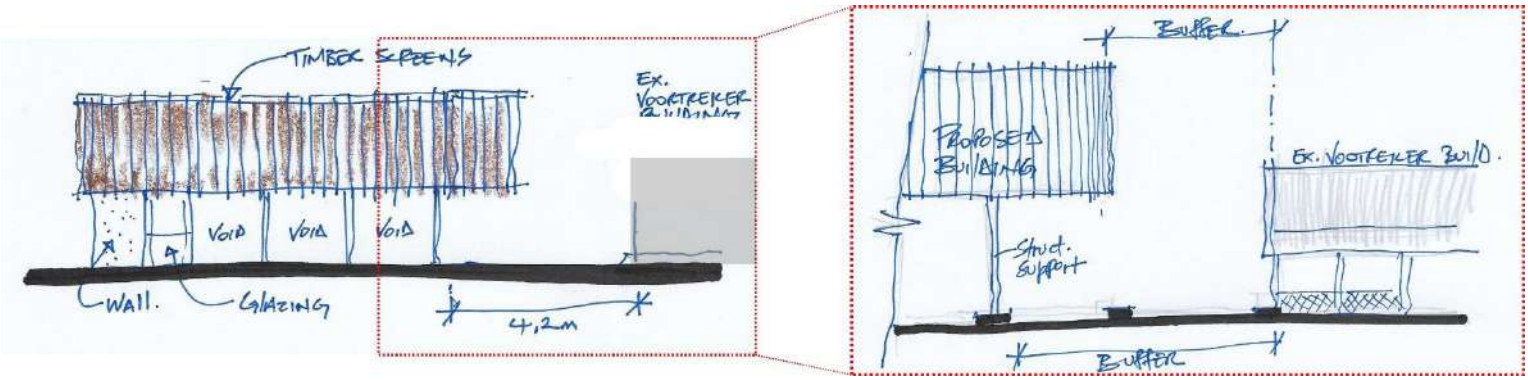


Fig. 18 – Prop. Sketch

Fig. 19 – Proposed sketch

## 5.6 Materials – Proposed structure – 310 Burger street

- The Guard house is cladded with light materials i.e. timber screens. Natural timber materials, which make the building lighter so it rescinds and not become a dominant solid structure, but rather a light floating structure.

- Behind the timber screens are shopfronts (glazing) for most of the first floor and some portions on the Ground floor. As glazing is a light transparent material that transmits or allow natural lighting, this results in a composition of two volumes i.e. a light floating glass box & a smaller semi solid base which acts as a connecting element to the Ground.

## 5.7 Visual Mitigation Measures:

310 Burger Street:

- Proposed structure set back by 2.3m from the front boundary line & adjacent Voortreker building so it rescinds to the background.
  If required, this recess/setback can be increased even further by another 1 to 1.5m as a possible mitigation proposal.

- Demolition of existing guard house which currently sits right up against Voortreker building to create a 4.2m gap / buffer between the existing Voortreker building and the proposed building. This gap & the recess provides relief between the two structures.

- Use of light natural materials as cladding on the proposed building (timber screens) to make it less heavy and thus less dominant.

- The building floats above the driveway and sits on thin columns, it is only a small portion of the building that is on the ground floor. The fist floor façade is mostly shopfront (floor to underside roof) and is framed by the first floor & roof slabs with columns from the ground.

- The combination of materials used are not of heavy nature, and are purposely intending to rescind and almost reduce the presence or dominance of the new structure against the existing adjacent heritage structure.


Fig. 20 – Streetscape (voortreker build)

# 6 Proposed Visual Impact of New Buildings (346 Burger street)

## 6.1 Site Plan (part) / Massing - 346 Burger Street

- The proposed site (fig. 21) is a few blocks away from no. 310 and therefore the existing streetscape is the same as discribed for no. 310. However, there is a transision in existing structures from modern tall structures to low rise (single storey) heritage buildings that have been refurbished from no. 310 Burger street to Boshoff street (see fig. 20a).

Fig. 20a

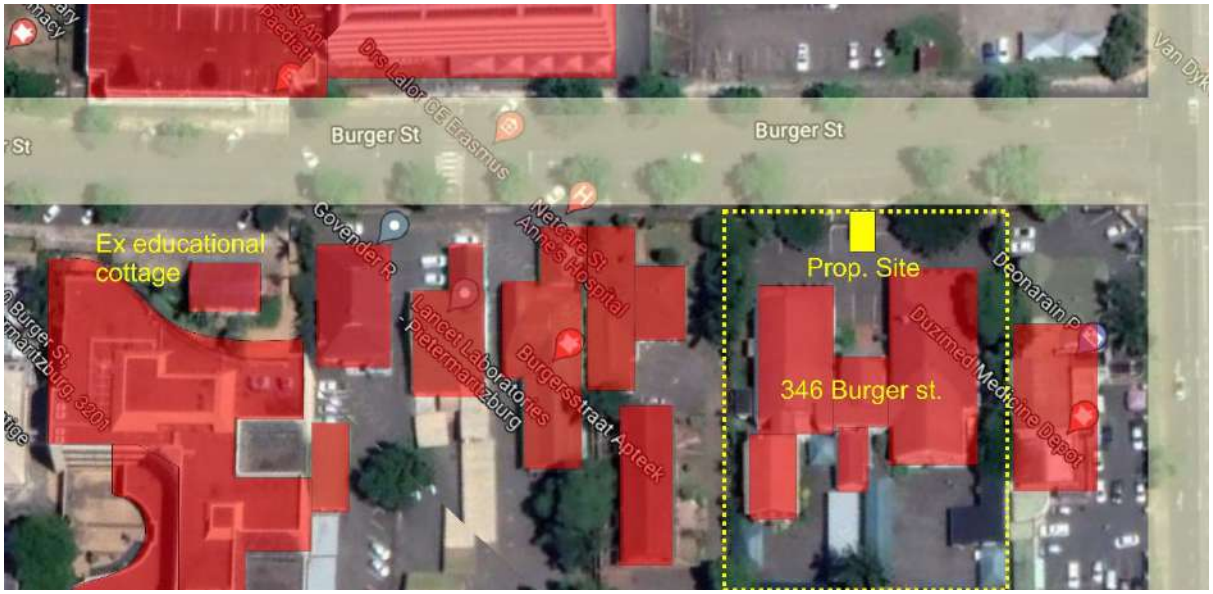


Fig. 21 – Site Plan (no. 346 Burger Street)

## 6.2 Massing

Massing in this case is a solid horizontal roof line with a base, which is a simple block element. The structure (base) rises to underside roof strucure. Due to the roof element having enclosed eaves, this has increased its thickness and density and therefore its mass. The mass of the proposed structure (base element) is broken by use of light material i.e. glazing in front. The study, however concieds that there could be further measures to that could assist in reducing its mass i.e. by detaching the proposed structure from the roof and reducing its height down to ceiling level.

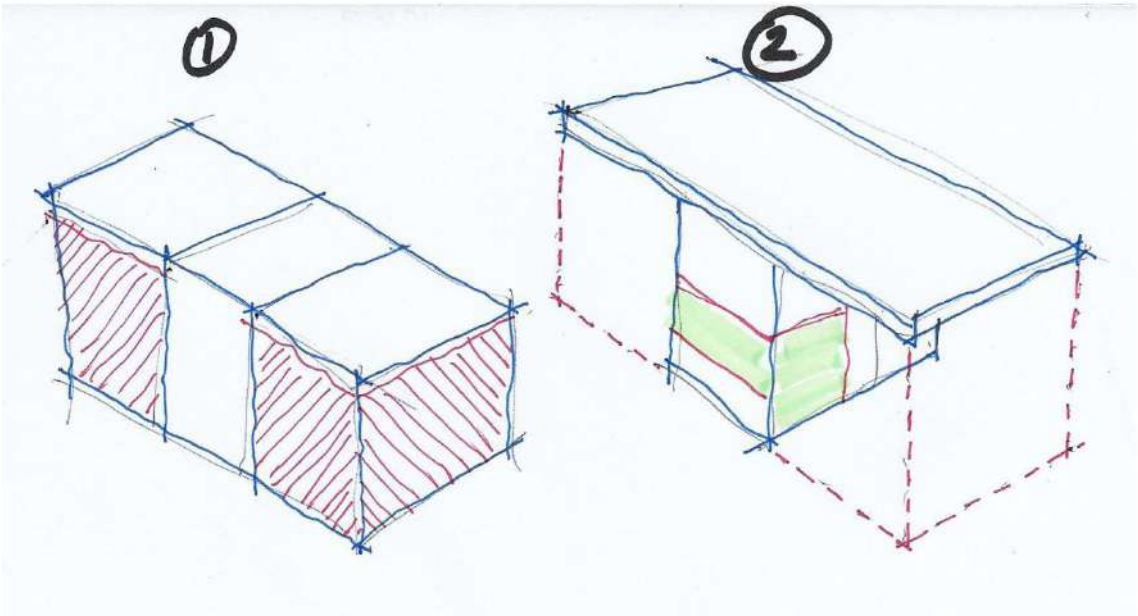


Fig. 22 – Massing Diagram

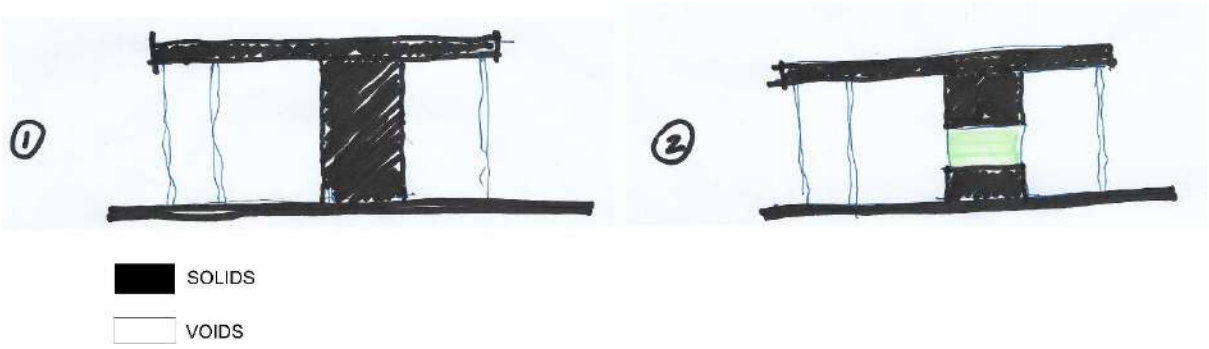


Fig. 23 – Solids & Voids diagram

## 6.3 Existing Structures & Demolitions

- Fig. below indicates existing timber structure currently on site which previously served as a guard house. It does not meet the clients requirement of a formal structure and certanly is not aesthaticaly pleasing.

Fig. 24 – Street Elevation_Existing


Fig. 25 – Street Elevation_Demo

- The proposed structure sits on the boundary line and the existing boundary wall and gates will remain unaltered.

## 6.4 Spatial layouts

- The proposed layout is small, simple and functional and provides what was required in the accomodation schedule. The previous informal structure lacked ablution facilities and proper visual requirements of a gatehouse.

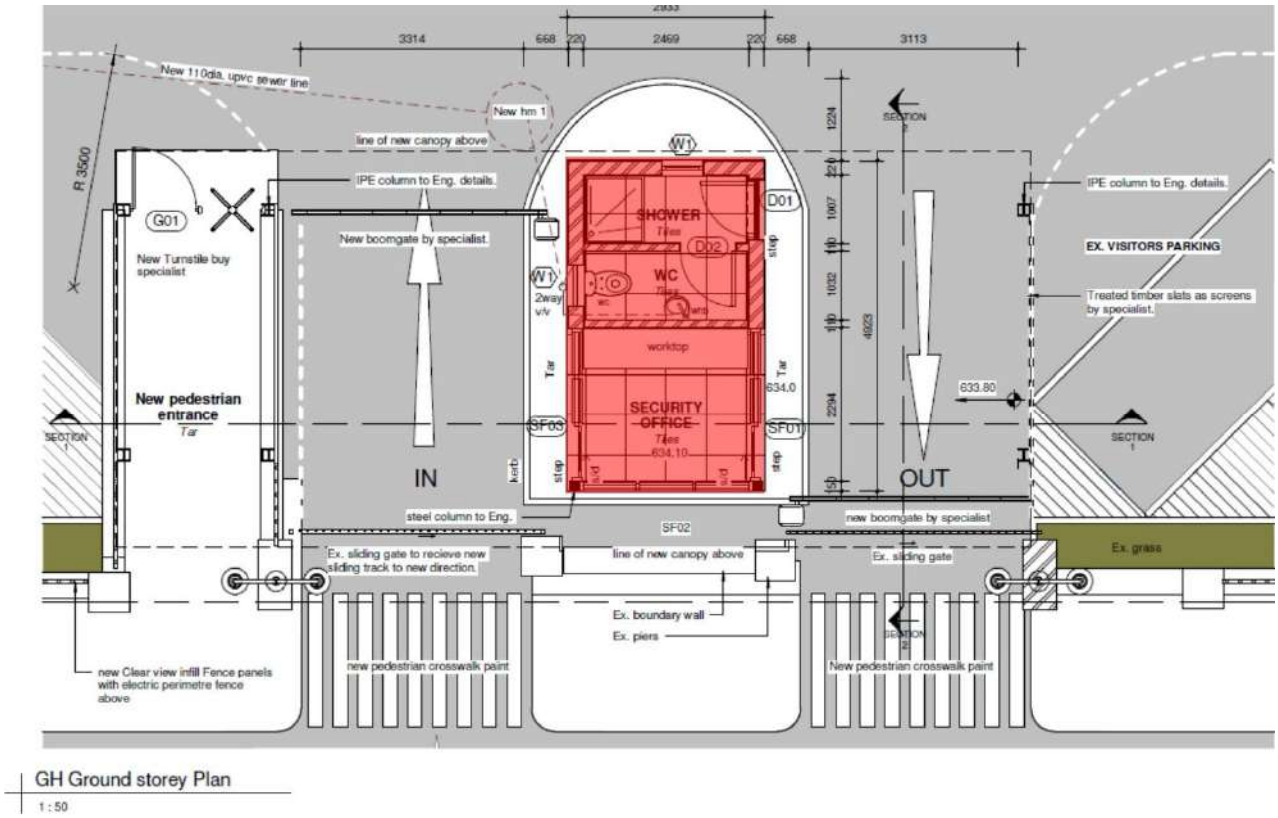


Fig. 26 – Floor Plan_Proposed

## 6.5 Proposed Elevations


Fig. 27 – Street Elevation_Proposed


Fig. 27a – Revised Street Elevation (Remedials)

Fig. 28 – View from inside property

Fig. 28a – Revised view from inside property (Remedials)

## 6.6 Materials – Proposed structure – 346 Burger street

- Materials for the proposed structure are to match the existing main house, plaster & paint.
- The roof is IBR sheeting at a minimum slope of 3degrees (colour to possibly match the roof of the existing main house).
- Windows are to be white aluminium windows to match the existing main building.
- Proposed timber screens to the sides of the proposed structure. Timber is a light material but provides the security required.

## 6.7 Visual Mitigation Measures:

- Although it is the client request to have an awning, and one that is high enough to accommodate a 3 tone truck, it is conceaded that the proposed roof structure may seem heavy due to enclosed eaves. It can then be suggested as a mitigation strategy to remove the eaves enclosure in order to minimise the mass of the roof structure.

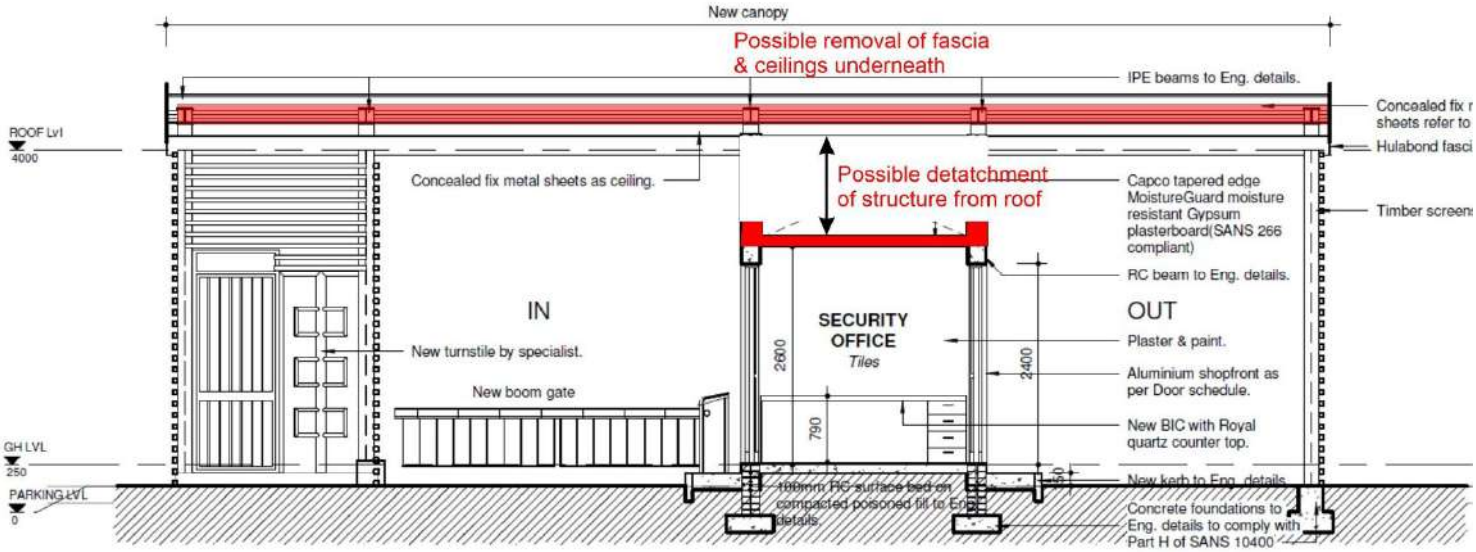


Fig. 29 – Mitigation Section through structure

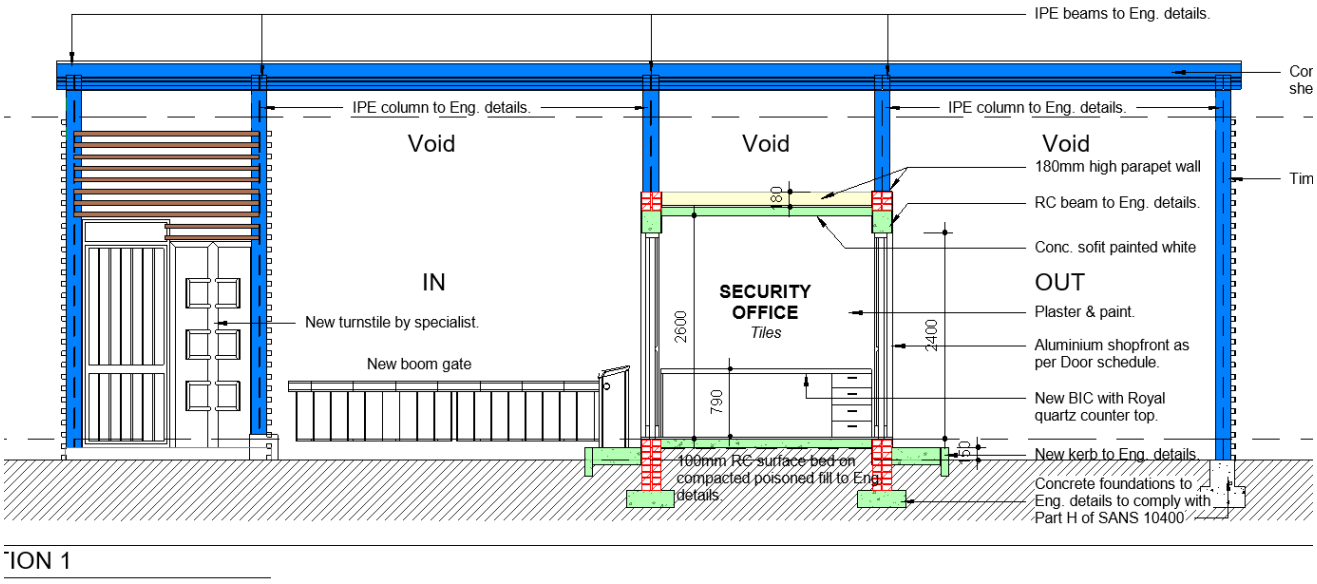


Fig. 29a – Revised Section through structure (Remedials)

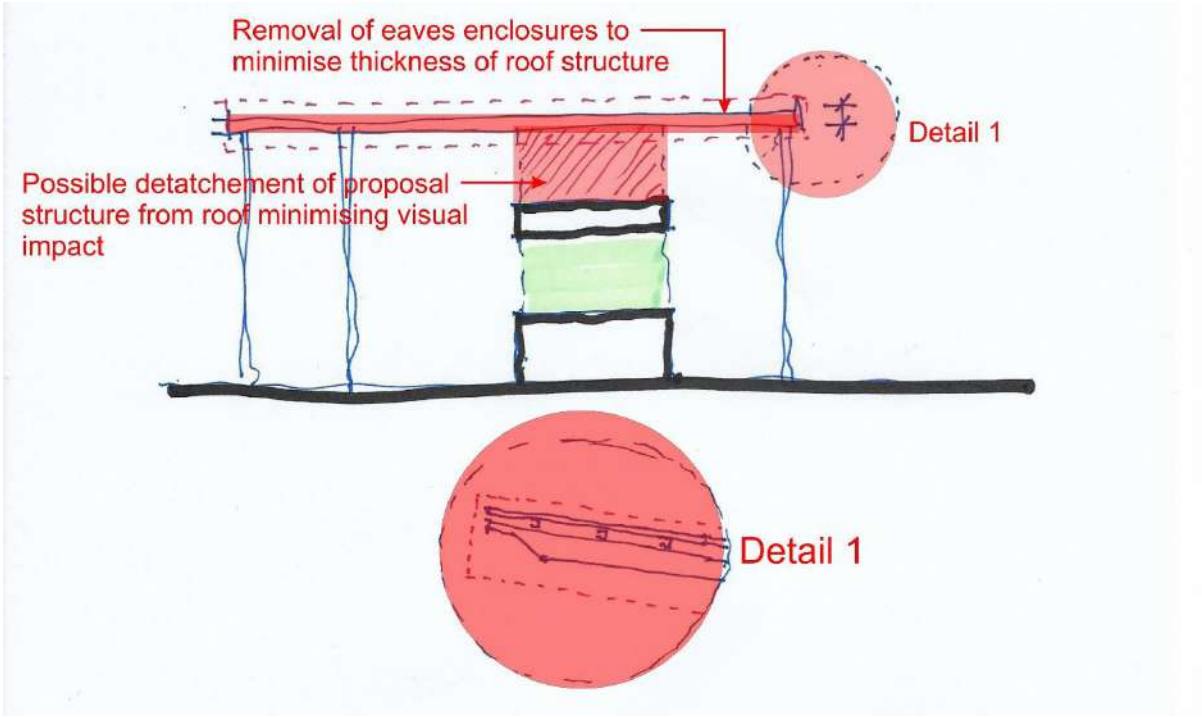


Fig. 30 – Mitigation Elevation structure

- As noted above, the study concedes that there could be further measures that could assist in reducing its mass i.e. by possibly detaching the proposed structure from the roof and reducing its height down to ceiling level.

# 7 Conclusion

## 7.1 310 Burger Street:

- The proposed building sits justifiably within its context whilst respecting & complementing the existing structure. Being 2 storey high, the setback & buffer rescinds the structure so it becomes less dominant. The structure mostly sits on columns and thus seemingly floats above ground level, with most of the ground level being an open void.
- The use of light materials (glazing & timber) makes the floating structure light and thus less dominant.
- Timber is a consistant material from the Heritage structures that has been caried over onto the new build (as cladding)
- The removal of the existing gate house and the open-ness of the ground floor of the gate house allows a better view of the Voortrekker cottage approaching from Boschoff street side.
- Proposed building has been stepped back a further 0.5mm as suggested.
- Views taken approaching from the East and the west showing adjacent heritage building (with the current setback).

## 7.2 346 Burger Street:

- The street scape elevation shows minimum obstruction of the existing heritage structure. The study however notes what could be possible mitigating strategies that could be applied should the current not seem satisfactory.
- Proposals set under mitigation have been applied i.e.
  (i) Eaves removed to reduce the mass of the roof structure. (see Fig. 29).
  (ii) Detatching the building structure from the roof structure (see Fig. 30).
  (iii) Chamfering the front ends of steel beams to minimised their mass. (see Fig. 30).