

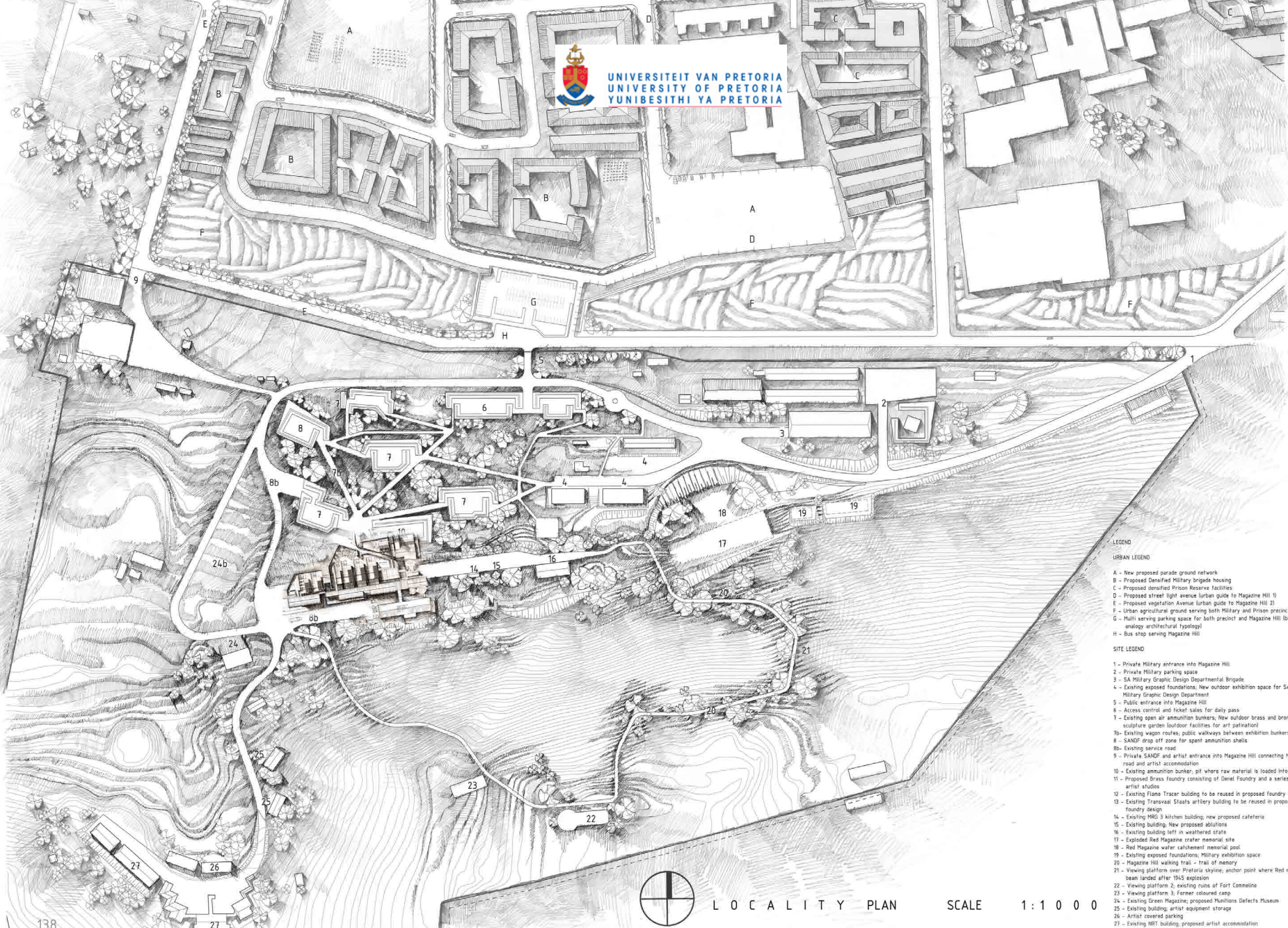


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The conclusion includes the final drawings that was presented on 9 November, 2011 during the final examination



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LEGEND

URBAN LEGEND

- A - New proposed parade ground network
- B - Proposed Detached Military brigade housing
- C - Proposed Detached Prison Reserve housing facilities
- D - Proposed three light avenue urban guide to Magazine Hill 1)
- E - Proposed vegetation Avenue urban guide to Magazine Hill 2)
- F - Urban agricultural ground serving both Military and Prison precincts
- G - Multi serving parking space for both precinct and Magazine Hill (banking architectural typology)
- H - Bus stop serving Magazine Hill

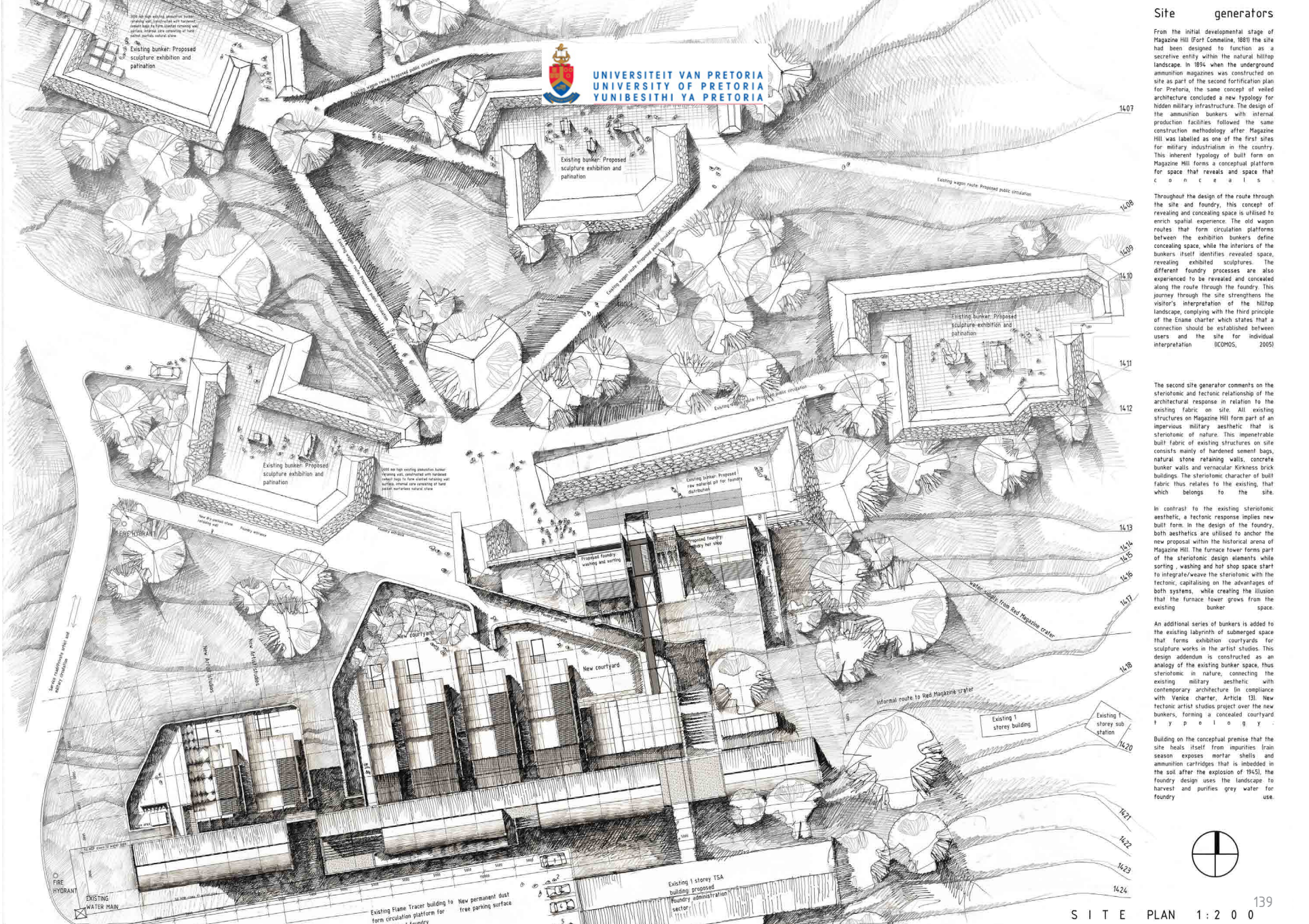
SITE LEGEND

- 1 - Private Military entrance into Magazine Hill
- 2 - Private Military parking space
- 3 - SA Military Graphic Design Departmental Brigade
- 4 - Existing exposed foundations, New outdoor exhibition space for SA Military Graphic Design Department
- 5 - Public entrance into Magazine Hill
- 6 - Access control and ticket sales for daily pass
- 7 - Existing open air ammunition bunkers; New outdoor brass and bronze sculpture garden (outdoor facilities for art patronage)
- 7b - Existing wagon routes, public walkways between exhibition bunkers
- 8 - SANDF drop off zone for spent ammunition shells
- 8b - Existing service road
- 9 - Private SANDF and artist entrance into Magazine Hill connecting to service road and artist accommodation
- 10 - Existing ammunition bunker, all where raw material is loaded into foundry
- 11 - Proposed Brass foundry consisting of Daniel Foundry and a series of artist studios
- 12 - Existing Flame Tracer building to be reused in proposed foundry design
- 13 - Existing Transvaal Stacks artillery building to be reused in proposed foundry design
- 14 - Existing HRG 3 kitchen building, new proposed cafeteria
- 15 - Existing building, New proposed studios
- 16 - Existing building left in weathered state
- 17 - Exploded Red Magazine crater memorial site
- 18 - Red Magazine water caskment memorial pool
- 19 - Existing exposed foundations, Military exhibition space
- 20 - Magazine Hill walking trail - trail of memory
- 21 - Viewing platform over Pretoria skyline; anchor point where Red Magazine Roof beam landed after 1945 explosion
- 22 - Viewing platform 2; existing ruins of Fort Connelie
- 23 - Viewing platform 3; Former outdoor camp
- 24 - Existing Green Magazine; proposed Panfliers Defaers Museum
- 25 - Existing building, artist equipment storage
- 26 - Artist covered parking
- 27 - Existing MFI building; proposed artist accommodation



LOCALITY PLAN

SCALE 1:1000



From the initial developmental stage of Magazine Hill (Fort Connelina, 1881) the site had been designed to function as a secretive entity within the natural hilltop landscape. In 1954 when the underground ammunition magazines was constructed on site as part of the second fortification plan for Pretoria, the same concept of veiled architecture concluded a new typology for hidden military infrastructure. The design of the ammunition bunkers with internal production facilities followed the same construction methodology after Magazine Hill was labelled as one of the first sites for military industrialisation in the country. This inherent typology of built form on Magazine Hill forms a conceptual platform for space that reveals and space that conceals.

Throughout the design of the route through the site and foundry, this concept of revealing and concealing space is utilised to enrich spatial experience. The old wagon routes that form circulation platforms between the exhibition bunkers define concealing space, while the interiors of the bunkers itself identifies revealed space, revealing exhibited sculptures. The different foundry processes are also experienced to be revealed and concealed along the route through the foundry. This journey through the site strengthens the visitor's interpretation of the hilltop landscape, complying with the third principle of the Enne charter which states that a connection should be established between users and the site for individual interpretation (ICOMOS, 2005)

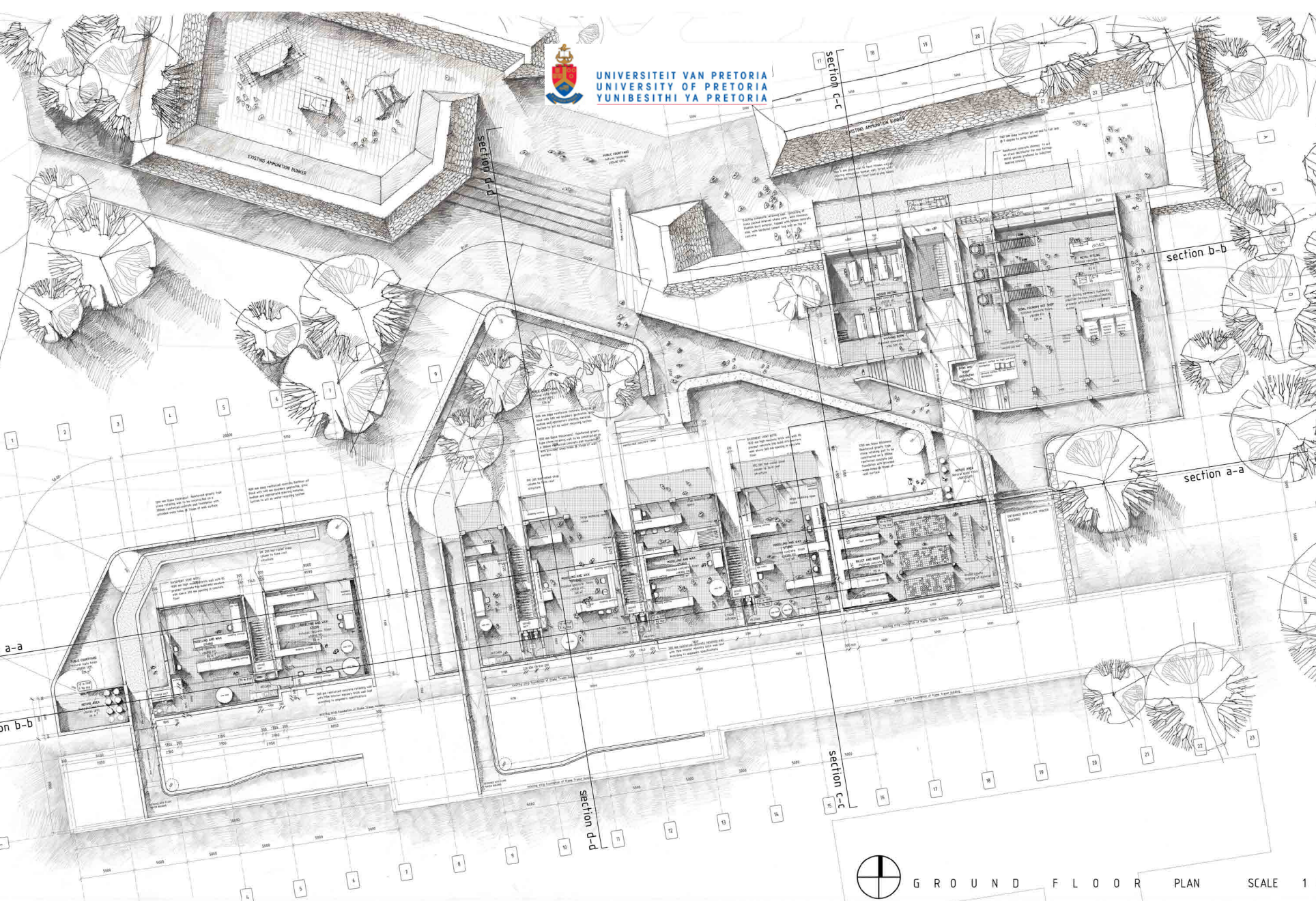
The second site generator comments on the stereiotic and tectonic relationship of the architectural response in relation to the existing fabric on site. All existing structures on Magazine Hill form part of an imperious military aesthetic that is stereiotic of nature. This impenetrable built fabric of existing structures on site consists mostly of handcast cement bags, natural stone retaining walls, concrete bunker walls and vernacular Kirkness brick buildings. The stereiotic character of built fabric thus relates to the existing, that which belongs to the site.

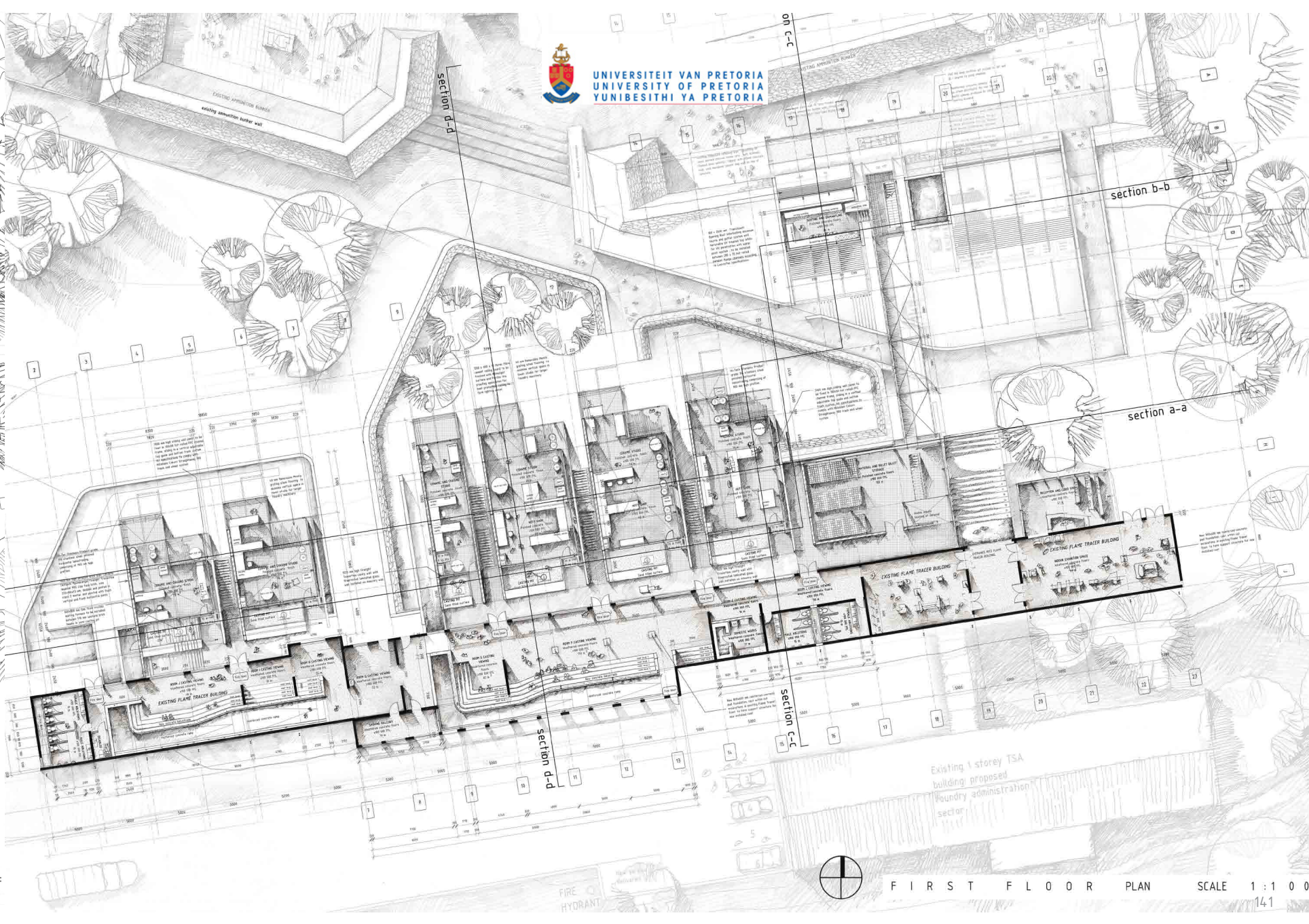
In contrast to the existing stereiotic aesthetic, a tectonic response implies new built form. In the design of the foundry, both aesthetics are utilised to anchor the new proposal within the historical arena of Magazine Hill. The furnace lower forms part of the stereiotic design elements while sorting, washing and hot shop space start to integrate/weave the stereiotic with the tectonic, capitalising on the advantages of both systems while creating the illusion that the furnace tower grows from the existing bunker space.

An additional series of bunkers is added to the existing labyrinth of submerged space that forms exhibition courtyards for sculpture works in the artist studios. This design addendum is constructed as an analogy of the existing bunker space, thus stereiotic in nature, connecting the existing military aesthetic with contemporary architecture. In compliance with Venice charter, Article 121, new tectonic artist studios project over the new bunkers, forming a concealed courtyard typology.

Building on the conceptual premise that the site heals itself from impurities (rain season exposes mortar shells and ammunition cartridges that is imbedded in the soil after the explosion of 1945), the foundry design uses the landscape to harvest and purifies grey water for foundry use.







section d-d

section b-b

section a-a

section c-c

section d-d

EXISTING ASSOCIATION GARDEN
existing association locker wall

EXISTING PLANE TRACER BUILDING

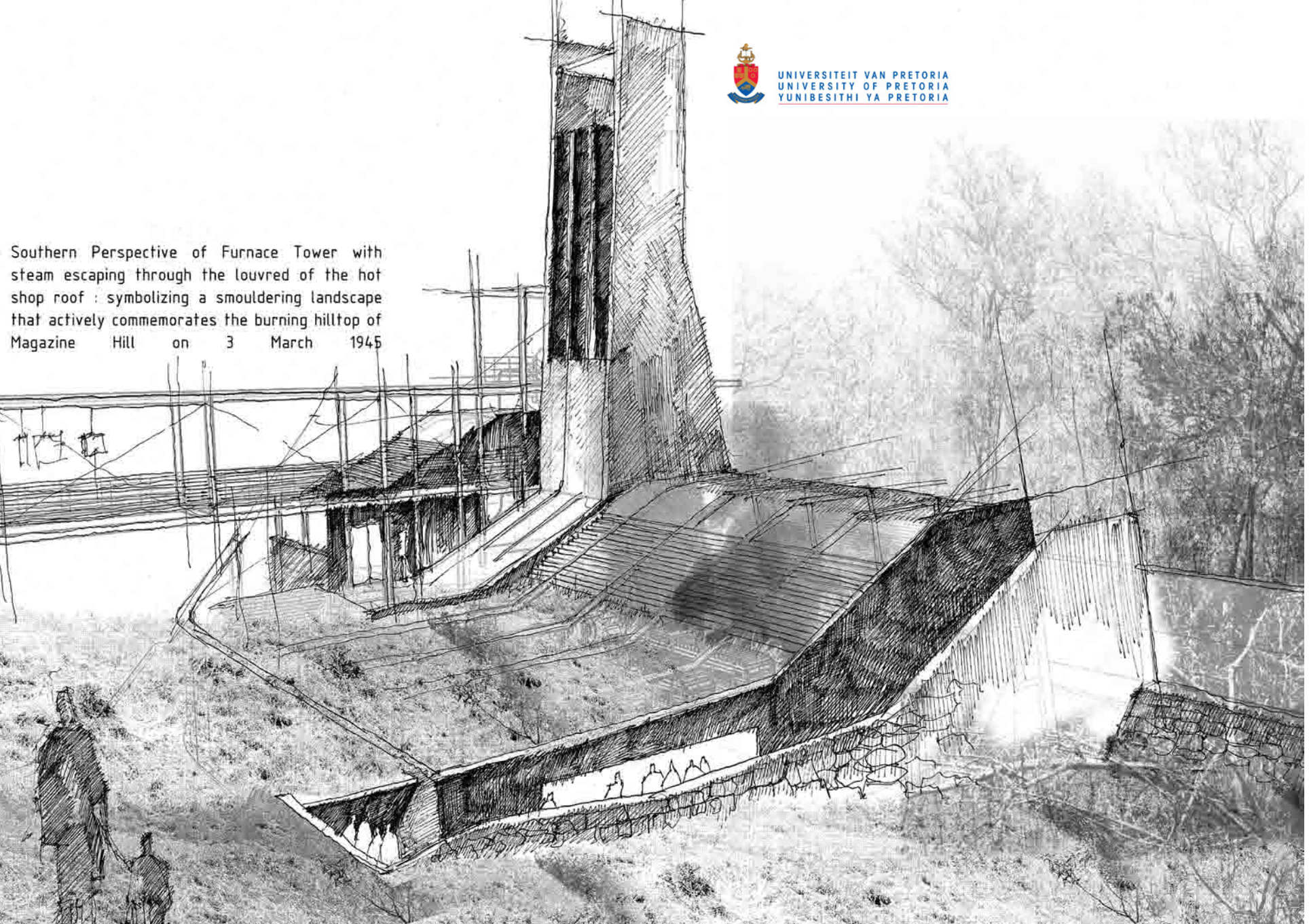
Existing 1 storey TSA building proposed
laundry administration sector

FIRE HYDRANT



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Southern Perspective of Furnace Tower with
steam escaping through the louvred of the hot
shop roof : symbolizing a smouldering landscape
that actively commemorates the burning hilltop of
Magazine Hill on 3 March 1945



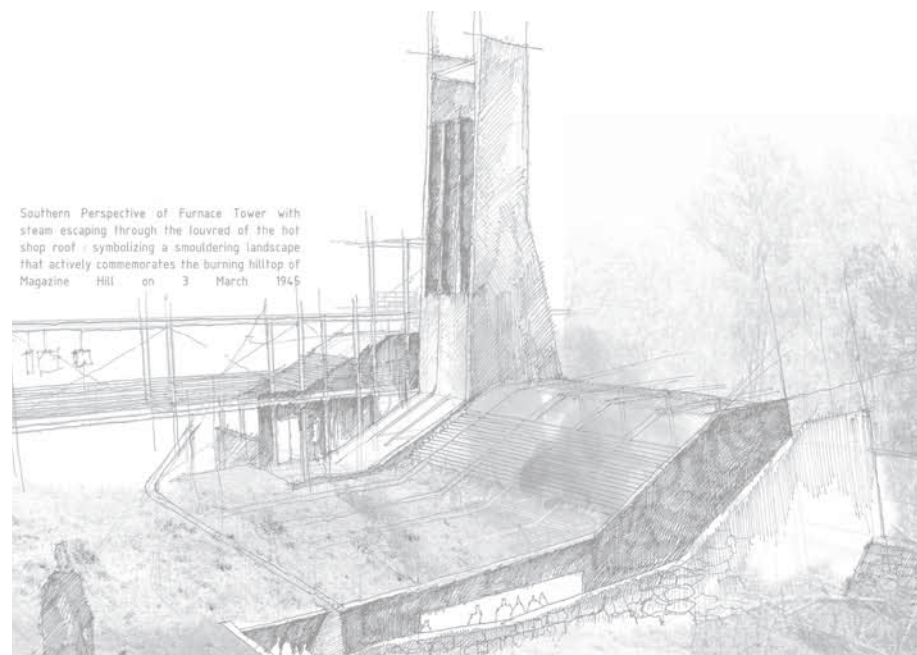
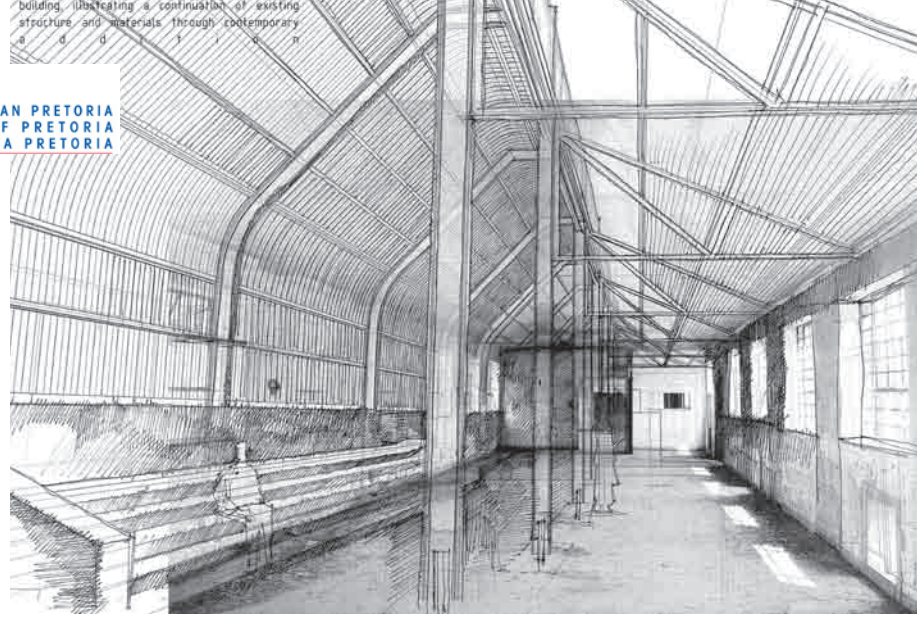
building illustrating a continuation of existing structure and materials through contemporary a d d t i c n



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conceptual Perspective of northern view of furnace tower, projecting over the ammunition bunkers hoisting ammunition boxes into the sorting facilities



Southern Perspective of Furnace Tower with steam escaping through the louvred of the hot shop roof : symbolizing a smouldering landscape that actively commemorates the burning hilltop of Magazine Hill on 3 March 1945



23
New 6 mm Laminated glass clerestory window to be installed in aluminum window frames in existing Flame Tracer building to house for natural day lighting.

24
EXISTING ROOF NOTE:
Existing roof for corrugated iron roof sheeting of existing Flame Tracer building to be removed. New roof to be installed on new steel frame. The roof to be 1000 mm deep, with existing weathered finish to be replaced with new roof to be installed on 125x50x203 cold formed flange channels @ 1000 c/c fixed to existing steel frame.

25
ROOF NOTE:
1000 x 2500 x 3 SA 588 Grade 4 galvanized steel plate to be laid on plywood sub-layer and fixed with flush joint to 200 x 75 x 7.5 hot rolled parallel flange channels. Corrosion treatment to be supplied by Electonac Industries, South Africa.

26
Existing 220 masonry Kirkness Red brick wall of existing Flame Tracer building, with wall window openings @ 2000 mm intervals, no steel props in upper floors.

27
EXISTING STEEL NOTE:
Existing roof truss members to be 40 x 40 x 5 hot rolled steel angle iron, bolted to 4 mm structural gusset plate, allowing for 4 member joints on each plate. Approx gusset plate to be cut on centerline to separate existing roof truss from new existing roof truss. Existing cut gusset plates to be fixed to new IPE 200 hot rolled steel columns with structural bolts to allow for removal structural support of one end of roof system.

28
IPE 200 hot rolled steel beam to form primary structure for existing system.
New reinforced concrete foundation as per engineer's specification.

20
ROOF NOTE:
1000 x 2500 x 3 SA 588 Grade 4 CorTen roof plate to be laid on plywood sub-layer and fixed with flush joint to 200 x 75 x 7.5 hot rolled parallel flange channels. Corrosion treatment to be supplied by Electonac Industries, South Africa.

21
2500 x 1200 x 12 mm plywood to form concrete sub-surface for the separation of waterproofing, fire proofing and roofing material. Fixed to 200 x 75 x 7.5 hot rolled parallel flange channels.

22
125x50x203 Cold formed lipped channel, fixed to IPE 200 structural columns @ 840 c/c.

23
40 mm SAGEX NULITE Expanded polystyrene (EPS) insulation with a density of min 100 kg/m³ to be placed between 125x50x203 cold formed lipped channels with 83 degree slope of roof. Block and tie-in vertical beam system to be suspended from IPE 200 hot rolled steel, been for vertical distribution of raw material.

24
Entrance into existing Flame Tracer building
Basement ventilator clerestory window with slatted precast concrete coping for water diversion.
140 mm (max thickness) Reinforced gravelly type stone retaining wall to be constructed on a 300mm reinforced concrete pad foundation with provided weep holes @ 1/3rd of wall surface.
100 mm Precast concrete steps lead on 1000 mm loose packed gravel bed on compacted soil.

19
2500 x 1200 x 12 mm plywood to form concrete sub-surface for the separation of waterproofing, fire proofing and roofing material. Fixed to 200 x 75 x 7.5 hot rolled parallel flange channels.

18
125x50x203 Cold formed lipped channel, fixed to IPE 200 structural columns @ 840 c/c.

17
40 mm SAGEX NULITE Expanded polystyrene (EPS) insulation with a density of min 100 kg/m³ to be placed between 125x50x203 cold formed lipped channels with 83 degree slope of roof. Block and tie-in vertical beam system to be suspended from IPE 200 hot rolled steel, been for vertical distribution of raw material.

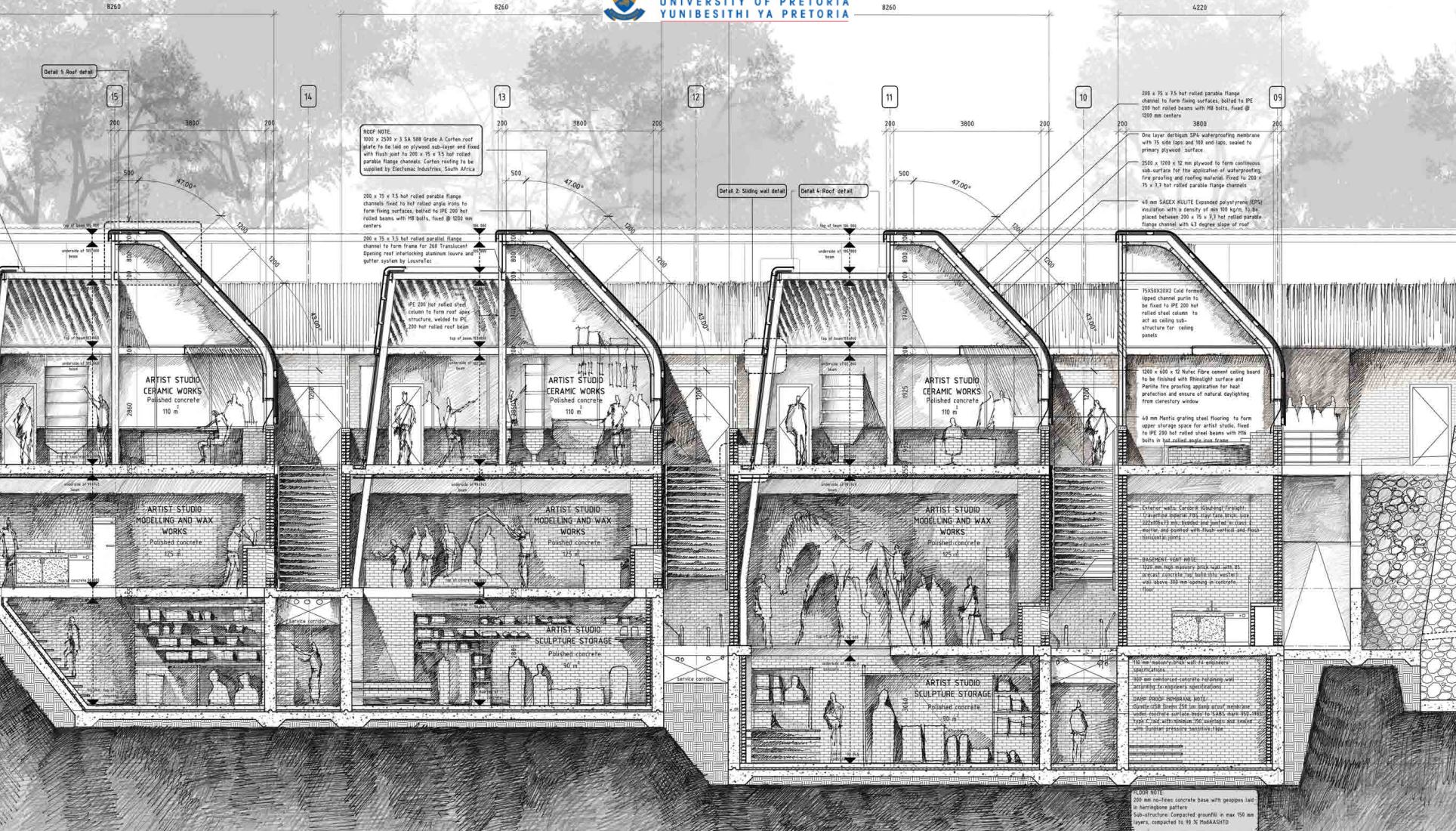
16
Entrance into existing Flame Tracer building
Basement ventilator clerestory window with slatted precast concrete coping for water diversion.
140 mm (max thickness) Reinforced gravelly type stone retaining wall to be constructed on a 300mm reinforced concrete pad foundation with provided weep holes @ 1/3rd of wall surface.
100 mm Precast concrete steps lead on 1000 mm loose packed gravel bed on compacted soil.

16 x 2500 mm Translucent Opening Roof
interlocking aluminum louvre and gutter system with Havelite UV treated top panels for UV penetration with spiral pivot system. To be installed between 200 x 75 hot rolled parallel flange channels according to Louvretec specifications.

17
125x50x203 Cold formed lipped channel fixed to IPE 200 structural columns @ 840 c/c.
3360 mm high composite sliding wall panel to be fixed on 100x50 hot rolled PPC channel frame, sliding in a vertical adjustable top guide and bottom track system. All specifications to comply with Initiatem Colours Straightaway 900 track and wheel system.

18
Exterior walls: Corobal (Basalt) Firelight 11 (perforated) 100mm FBS (day face brick) size 212x104x73 mm, bedded and jointed in thick 2 mortar and pointed with flush vertical and flush horizontal joints.
100 mm precast concrete retaining wall.
100 mm loose packed gravel bed on compacted soil.

19
DOOR NOTE:
200 mm fire rated concrete doors with 200mm URM interlocking gaskets.
Sub-structure: composite glazing in max 100 mm levels, supported by 70 x 70 ALKALOID.



ROOF NOTE:
1000 x 2500 x 3 SA 588 Grade A Corfen roof plate to be laid on plywood sub-layer and fixed with flush joint to 200 x 75 x 3.5 hot rolled parallel flange channels. Corfen roofing to be supplied by Electrosteel Industries, South Africa

200 x 75 x 3.5 hot rolled parallel flange channels fixed to hot rolled angle irons for form fixing surfaces, bolted to IPE 200 hot rolled beams with M8 bolts, fixed @ 1200 mm centers

200 x 75 x 3.5 hot rolled parallel flange channel to form frame for 200 Translucan® spanning roof waterproofing aluminum covers and gutter system by Louvetec

IPE 200 hot rolled steel column to form roof steel structure, welded to IPE 200 hot rolled roof beam

200 x 75 x 3.5 hot rolled parallel flange channel to form fixing surfaces, bolted to IPE 200 hot rolled beams with M8 bolts, fixed @ 1200 mm centers

One layer deribam® DPA waterproofing membrane with 35 side laps and 190 side laps, sealed to primary plywood surface

2500 x 1200 x 12 mm plywood to form continuous sub-surface for the application of waterproofing, fire proofing and roofing materials, fixed to 200 x 75 x 3.5 hot rolled parallel flange channels

40 mm SAGEX KULT® Expanded polystyrene (EPS) insulation with a density of min 100 kg/m³, to be placed between 200 x 75 x 3.5 hot rolled parallel flange channel with 0.3 degree slope of roof

TX50X20X2 Cold formed tapered channel section to be fixed to IPE 200 hot rolled steel column to act as ceiling sub-structure for ceiling panels

1200 x 600 x 12 Hvac Fibre cement ceiling board to be finished with thinlight surface and Perma fire proofing application for heat protection and ensure all material complying from fire safety window

40 mm Plastic grating steel flooring to form upper storage space for artist studio, fixed to IPE 200 hot rolled steel beams with M8 bolts in hot rolled angle iron frame

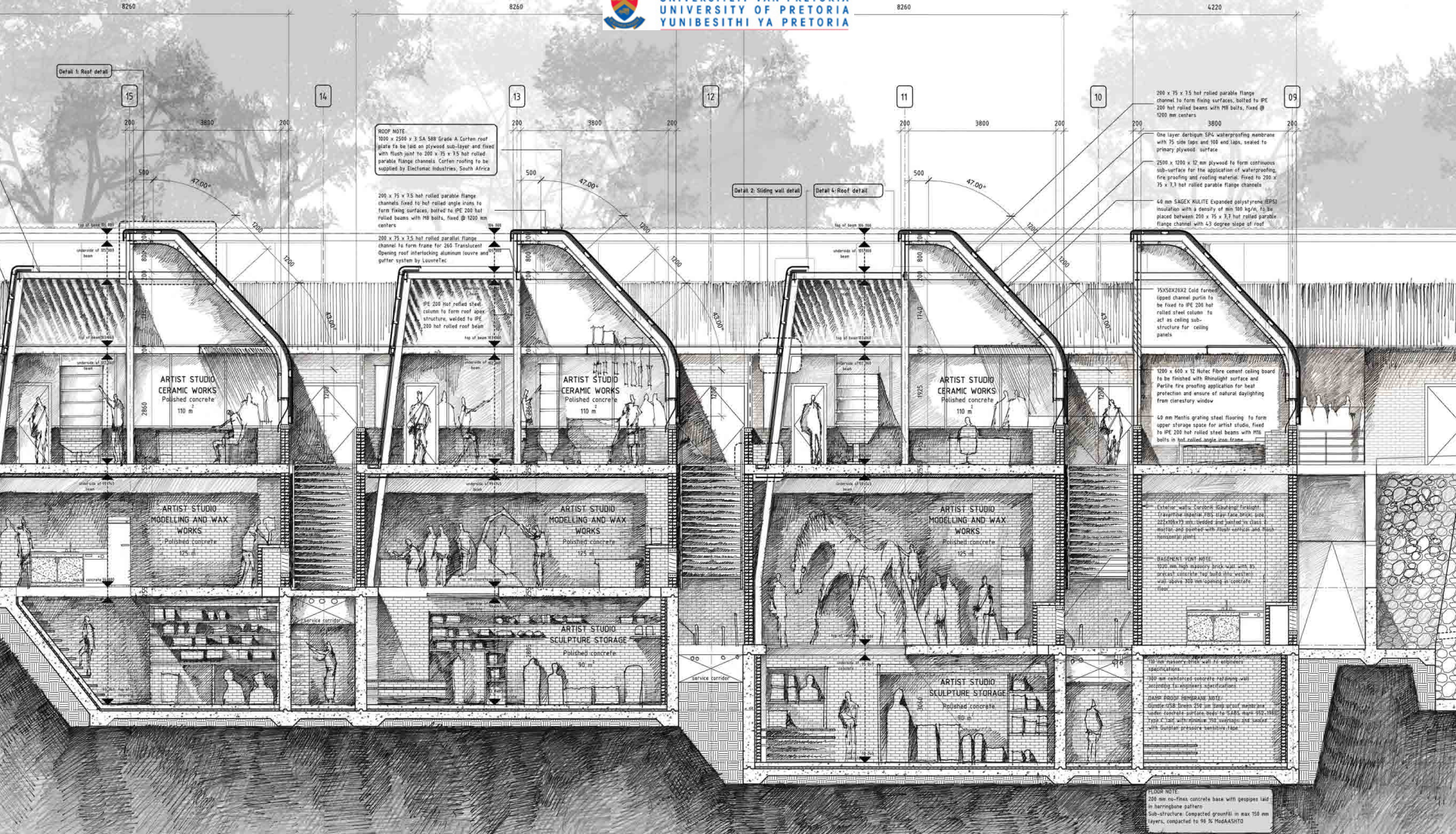
Exterior walls: Corfen® lightweight, lightweight concrete, 100 mm thick, wall @ 1000mm x 1000mm and finished in white and painted with flush wall and flush channel joints

BASINMENT 1000 mm:
1000 mm high masonry brick wall with 100 mm cast concrete top and base, wall @ 100 mm spacing in concrete floor

100 mm masonry brick wall @ 1000 mm spacing for structural specifications

BASEMENT 2000 mm:
2000 mm high masonry brick wall with 100 mm cast concrete top and base, wall @ 100 mm spacing in concrete floor

FLOOR NOTE:
200 mm no-fines concrete base with pebbles laid in herringbone pattern
Sub-structure: Compressed gravel in max 150 mm layers, compacted to 10 % Proctor



Detail 1: Roof detail

ROOF NOTE:
900 x 200 x 3 SA 588 Grade A Corten roof plate to be set on plywood sub-layer and fixed with flush joints to 200 x 75 x 75 hot rolled parallel flange channels. Corten roofing to be supplied by Emfamec Industries, South Africa

200 x 75 x 75 hot rolled parallel flange channels fixed to hot rolled angle irons to form fixing surfaces, bolted to PE 200 hot rolled beams with M8 bolts, fixed @ 1200 mm centres

Detail 2: Sliding wall detail

Detail 4: Roof detail

200 x 75 x 15 hot rolled parallel flange channel to form fixing surfaces, bolted to PE 200 hot rolled beams with M8 bolts, fixed @ 1200 mm centres

One layer fibreglass GFC waterproofing membrane with 75 mm side laps and 100 mm end laps, sealed to primary plywood surface

2500 x 1200 x 12 mm plywood to form continuous sub-surface for the application of waterproofing, fire proofing and insulating materials, fixed to 200 x 75 x 75 hot rolled parallel flange channels

48 mm SAKEN KALITE Expanded polystyrene (EPS) insulation with a density of min 50 kg/m³, to be placed between 200 x 75 x 75 hot rolled parallel flange channel with 45 degree slope of roof

15X5X20X2 Cold formed square channel section to be fixed to PE 200 hot rolled steel column to act as ceiling sub-structure for ceiling panels

1500 x 600 x 12 Hotset fibre cement ceiling board to be finished with fibreglass surface and Pericrete fire proofing application for heat protection and ensure of natural daylighting from clerestory windows

48 mm flexible grating steel flooring to form upper storage space for artist studio, fixed to PE 200 hot rolled steel beams with M8 bolts in hot rolled angle iron frame

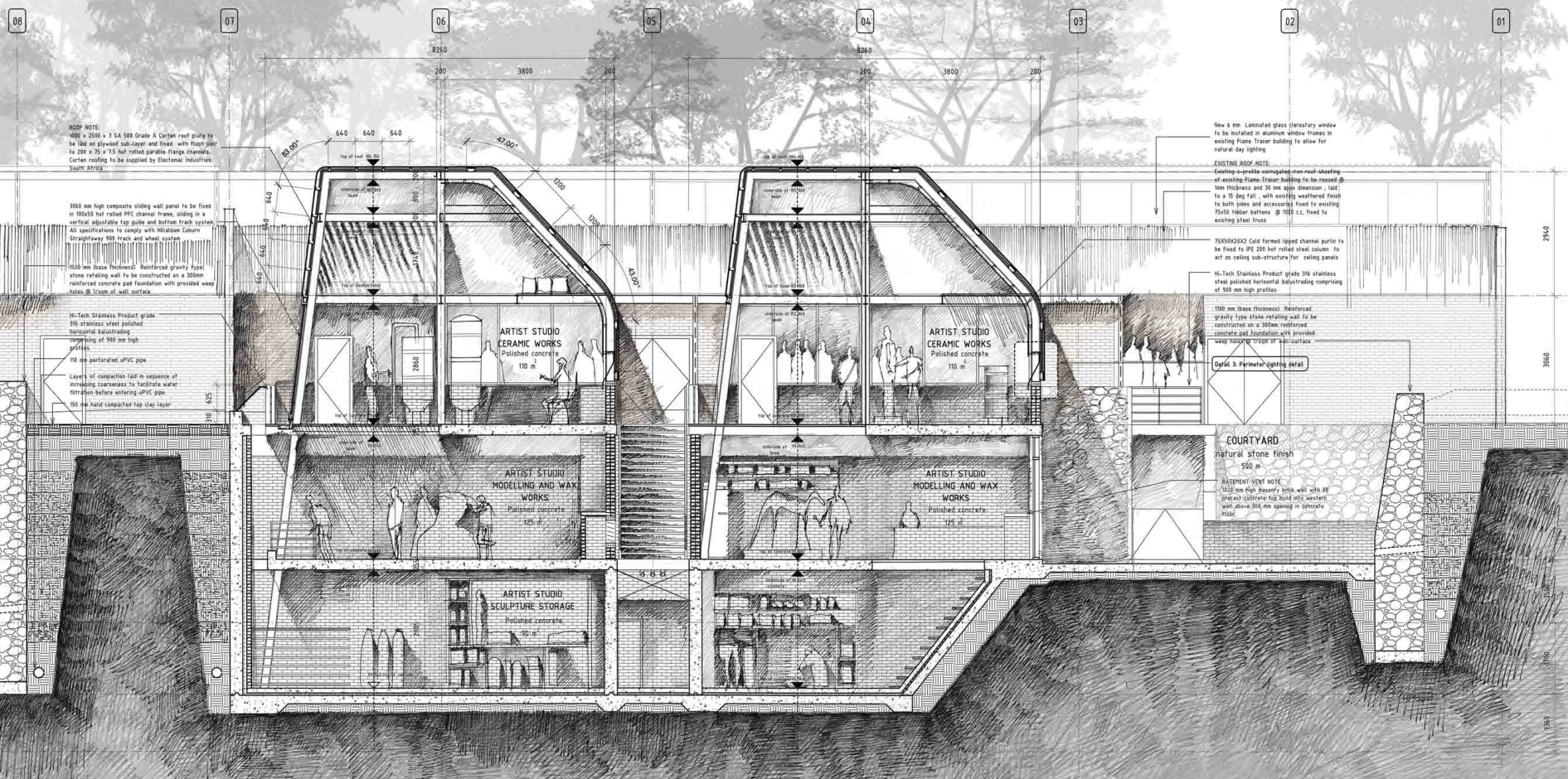
External walls: Corobroc Aquaplast 100mm 12 layer the master 7000 grey face brick, 1000 x 225mm (7.5 mm rounded top) with 10 mm thick mortar and plaster with Akshir acrylic and Akshir decorative paint

BRICKWORK: 1000 x 225 mm high quality brick with 10 mm mortar and plaster with Akshir acrylic and Akshir decorative paint

30 mm masonry brick wall with stainless steel reinforcement concrete slab using wall ties for slip-resistance identification

DAMP PROOF MEMBRANE NOTE:
Concrete: 100 mm 24 mm damp proof membrane water concrete surface with 100 mm mass 200 mm Type C sand with 100 mm Akshir and sand with 100 mm Akshir pressure sensitive paper

FLOOR NOTE:
200 mm re-finish concrete base with peepoles laid in homogeneous gaffers
Sub-structure: Compacted granular in max 150 mm layers, compacted to 95 % MODAS/D10



ROOF NOTE
400 x 250 x 3 GA S80 Grade A Corrugated steel plate to be laid on plywood sub-layer and fixed with flush joint to 200 x 75 x 75 hot rolled galvalume flange channels. Corrug profile to be supplied by Electrical Industries, South Africa.

3500 mm high composite sliding wall panel to be fixed in 100x50 hot rolled PVC channel frame, sliding in a vertical adjustable top guide and bottom track system. All specifications to comply with Millstream Column Straightaway 900 track and wheel system.

100 mm (base thickness) Reinforced gravelly light stone retaining wall to be constructed on a 300mm reinforced concrete pad foundation with provided weep holes @ 1/3m of wall surface.

Hi-Tech Stainless Product grade 316 stainless steel polished horizontal balustrading consisting of 900 mm high profiles.

100 mm perforated uPVC pipe
Layers of compaction laid in sequence of mechanical compact to facilitate water infiltration before entering uPVC pipe.
150 mm hand compacted top clay layer.

ARTIST STUDIO CERAMIC WORKS
Polished concrete
110 m²

ARTIST STUDIO MODELLING AND WAX WORKS
Polished concrete
125 m²

ARTIST STUDIO SCULPTURE STORAGE
Polished concrete
90 m²

ARTIST STUDIO CERAMIC WORKS
Polished concrete
110 m²

ARTIST STUDIO MODELLING AND WAX WORKS
Polished concrete
125 m²

New 6 mm Laminated glass glazing window to be installed in aluminum window frames on existing Flame Tracer Building to allow for natural day lighting.

EXISTING ROOF NOTE:
Existing corrugated metal roof-shedding of existing Flame Tracer Building to be raised 20 mm thickness and 20 mm slope dimension, laid to a 15 deg fall, with certified weathered finish to both sides and accessories fixed to existing 100x50 timber rafters @ 1000 c/c fixed to existing steel truss.

75X55X252 Cold formed light gauge channel purlin to be fixed to PVE 200 hot rolled steel column to act as ceiling sub-structure for ceiling panels.

Hi-Tech Stainless Product grade 316 stainless steel polished horizontal balustrading comprising of 900 mm high profiles.

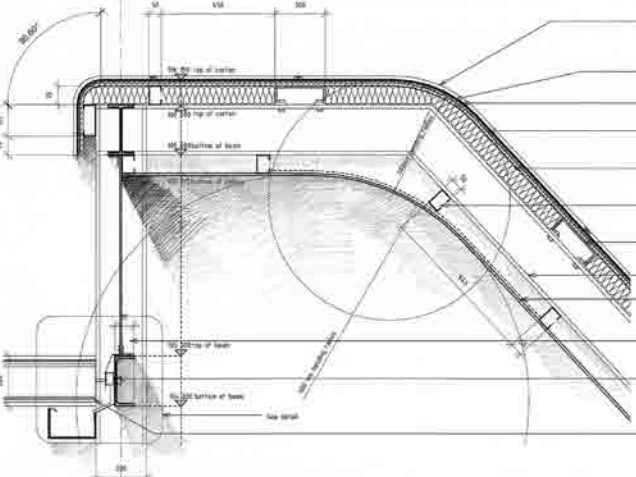
100 mm (base thickness) Reinforced gravelly light stone retaining wall to be constructed on a 300mm reinforced concrete pad foundation with provided weep holes @ 1/3m of wall surface.

Dural 3 Perimeter lighting detail

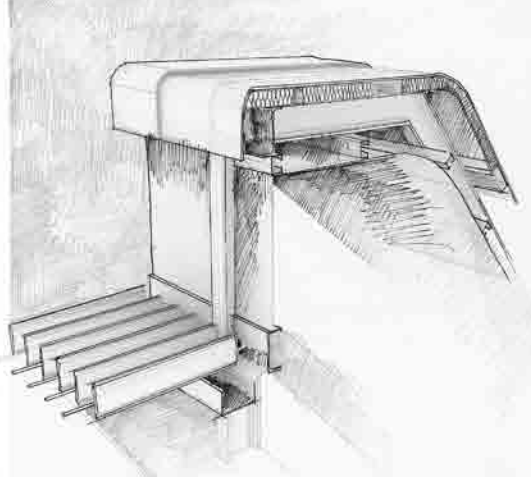
COURTYARD
natural stone finish
550 m²

RAISEMENT VENT NOTE:
1000 mm high masonry brick wall with 50 mm raised concrete top band into masonry wall above 200 mm opening in concrete floor.

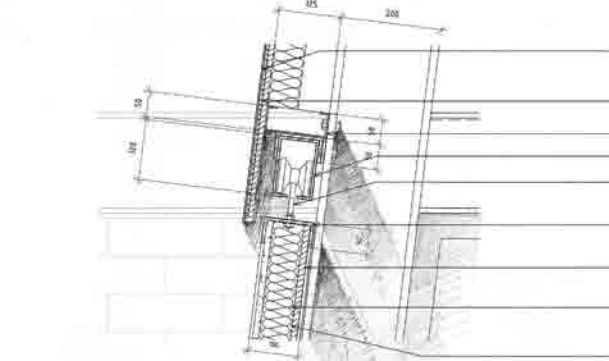
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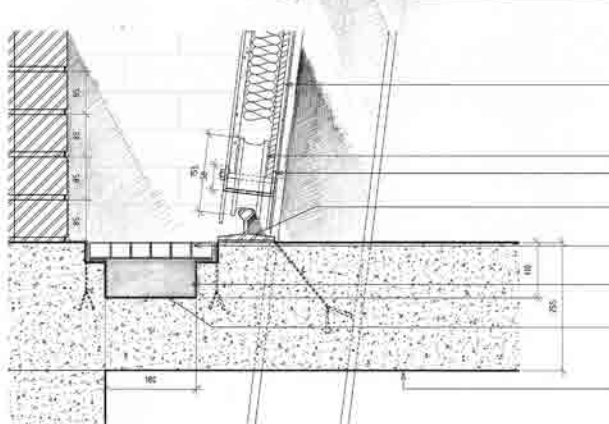
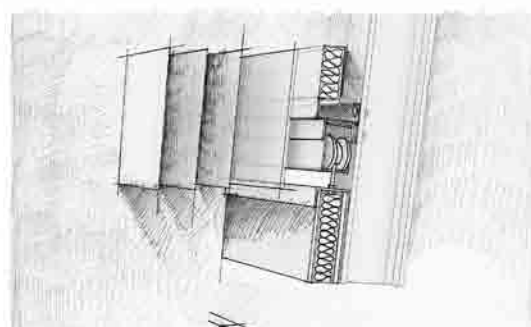
- 000 x 200 x 0.9 EA 100 Grade A Corten roof plate to be laid on plywood sub-deck with seam with overlapping horizontal joints to 200 x 75 x 1.5 hot rolled parallel flange channel. Corrosion coating to be applied by Earthmate Insurance, South Africa.
- One layer strapping 3% waterproofing membrane with 75 mm lap and 50 mm lap, sealed to primary plywood surface
- 0.3 mm fire proofing membrane to be laid on 20 mm plywood surface
- 050 x 050 x 12 mm gypsum to form continuous sub-surface for the application of waterproofing fire proofing and insulating materials. Fixed to 100 x 75 x 1.5 hot rolled parallel flange channel
- 1.0 mm SAEK R A301E Expanded polystyrene EPS insulation with a density of min 30 kg/m³ to be placed between 200 x 75 x 1.5 hot rolled parallel flange channels with 15 mm gap space at roof
- 100x100x30 Cold Rolled Galvalume channel to be fixed to 100 x 200 hot rolled steel channel to act as ceiling infrastructure for lighting system
- 200 x 75 x 1.5 hot rolled parallel flange channel with vector channels to form ceiling surface, fixed to 100 x 200 hot rolled beam with 90 mm lap, fixed @ 1000 mm centers
- 100 x 200 hot rolled steel beam to form primary structure for lighting system
- 200 x 600 x 0.6 mm Glass fibre cement ceiling board to be fixed onto structural surface and provide fire proofing protection for heat protection and electrical of ceiling (weighting 120 kg/m²) ceiling surface. Ceiling can be be adjusted with 20 mm channel leading track
- 100 x 100 mm Glass fibre window frame with a 10 mm clear and heat glass with A3017 self-insulating treatment from PG Glass
- 200 x 75 x 1.5 hot rolled parallel flange channel to be sealed to 100 x 200 hot rolled channel of 200 mmers. Seals to form drainage channel for humidity retaining lower and gutter system
- 100 x 200 mm Insulated opening from insulating membrane frame and gutter system with 200x75x1.5 hot rolled parallel flange channel with 90 mm lap and 50 mm lap, sealed to primary concrete surface by Earthmate Insurance, South Africa



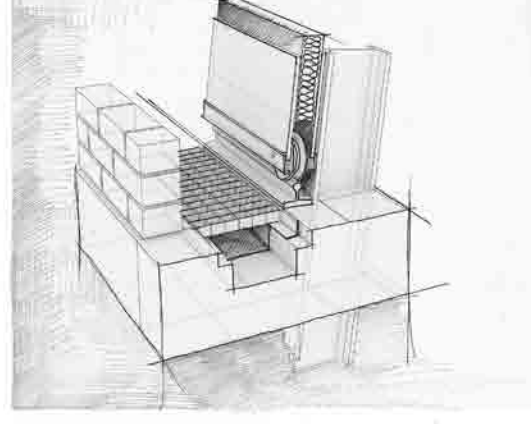
DETAIL 1: ROOF DETAIL SCALE: 1:10



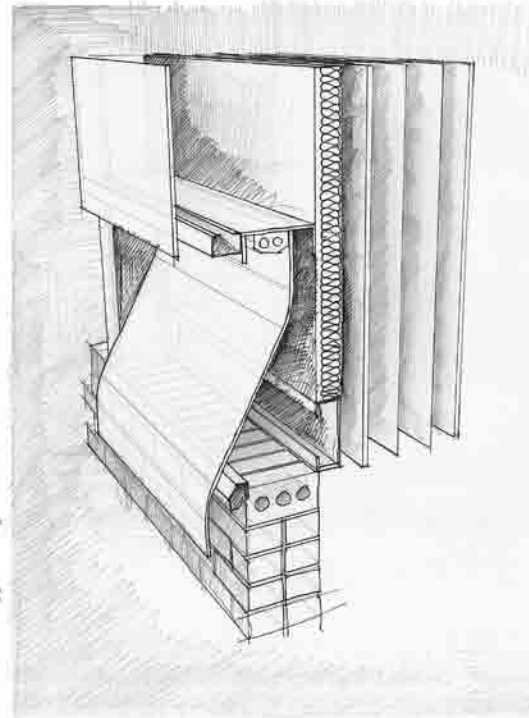
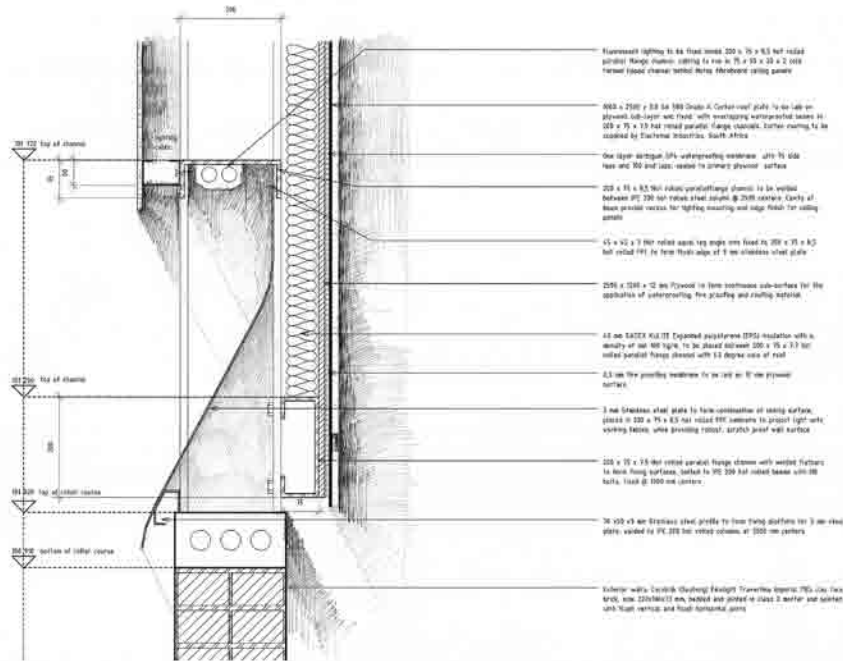
- 000 x 200 x 0.9 EA 100 Grade A Corten roof plate to be laid on plywood sub-deck with seam with overlapping joints to 100 x 200 x 1.5 hot rolled parallel flange channel. Corrosion coating to be applied by Earthmate Insurance, South Africa
- One layer strapping 3% waterproofing membrane with 75 mm lap and 50 mm lap, sealed to primary plywood surface
- 050x050x12 Cold Rolled Galvalume to be fixed to 100 x 200 structural channel @ 800 mm
- 100 x 100 x 1.5 hot rolled parallel flange channel to form ceiling and gutter surface for the application of waterproofing and fire proofing. Fixed to 100 x 200 hot rolled parallel flange channel
- Two gable adjustable vertical ball as per Master Eckert, provided @ 800 mm centers
- 800 mm high composite sliding wall panel to be fixed to 100x100 hot rolled PVC channel frame sliding in a vertical adjustable top guide and bottom track system. All applications to comply with Hilti/Deuba Straightway 100 track and wheel system
- 100mm glassed surface to form continuous sub-surface for the application of waterproofing and fire proofing. Fixed to 100 x 50 hot rolled parallel flange channel
- 1.0 mm fire proofing membrane to be laid on 20 mm plywood surface



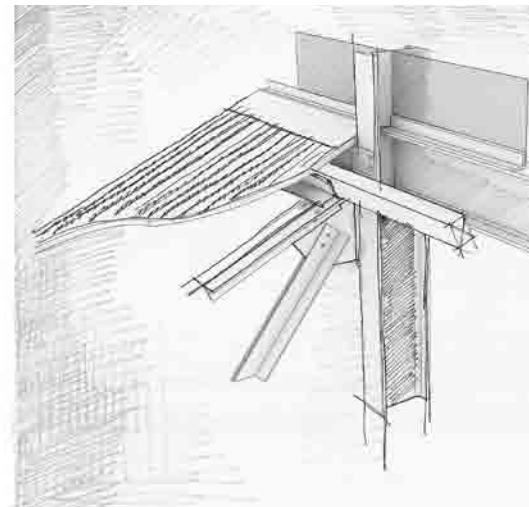
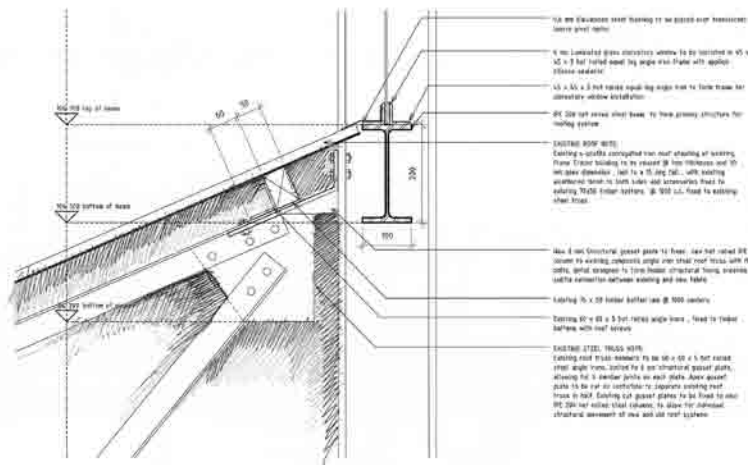
- 100 mm high composite sliding wall panel to be fixed to 100x100 hot rolled PVC channel frame sliding in a vertical adjustable top guide and bottom track system. All applications to comply with Hilti/Deuba Straightway 100 track and wheel system
- 75 dimpled ABS bottom roller as per Hilti/Deuba
- 100 x 50 x 2 hot rolled parallel flange channel to form frame and bottom guide of composite wall
- 10 x 12 mm bottom track to be placed at 200 mm from fixed with 20 mm gap bracket in concrete surface. Bottom track as per Hilti/Deuba Straightway 100 bottom roller sliding with system
- 10 mm-reversible flexible draftstop to be placed in concrete installation to 10 x 10 x 1.5 rectangular hollow section
- 100 x 100 mm aluminium extrusion gutter used to gutter outlet level
- One layer strapping 3% waterproofing membrane with 75 mm lap and 50 mm lap, sealed to primary concrete surface by Earthmate
- 100 mm-thick concrete floor as per engineer's specification

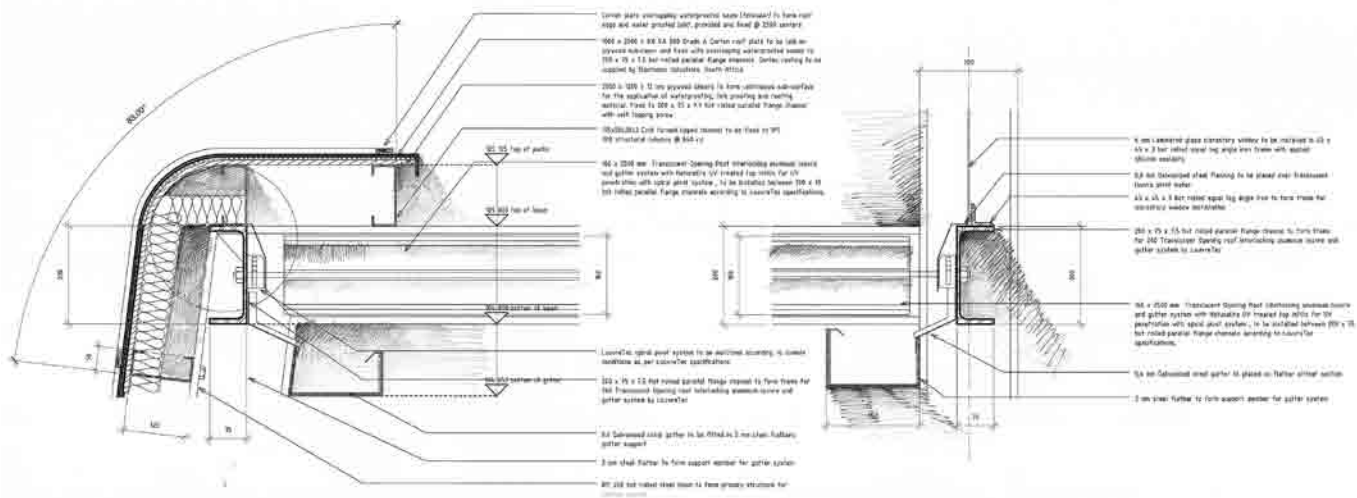


DETAIL 2: SLIDING WALL DETAIL SCALE: 1:5

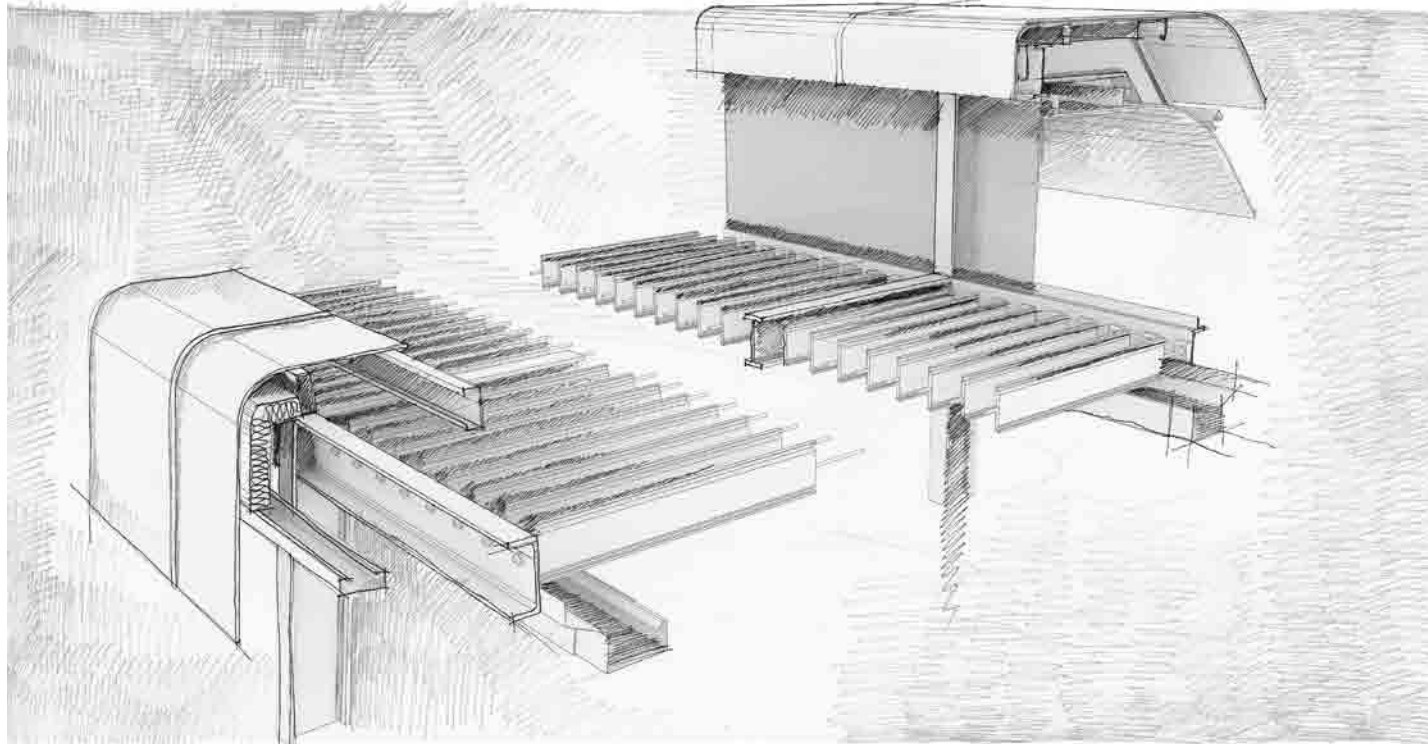


DETAILED 3: PERIMETER LIGHTING DETAIL SCALE: 1:5





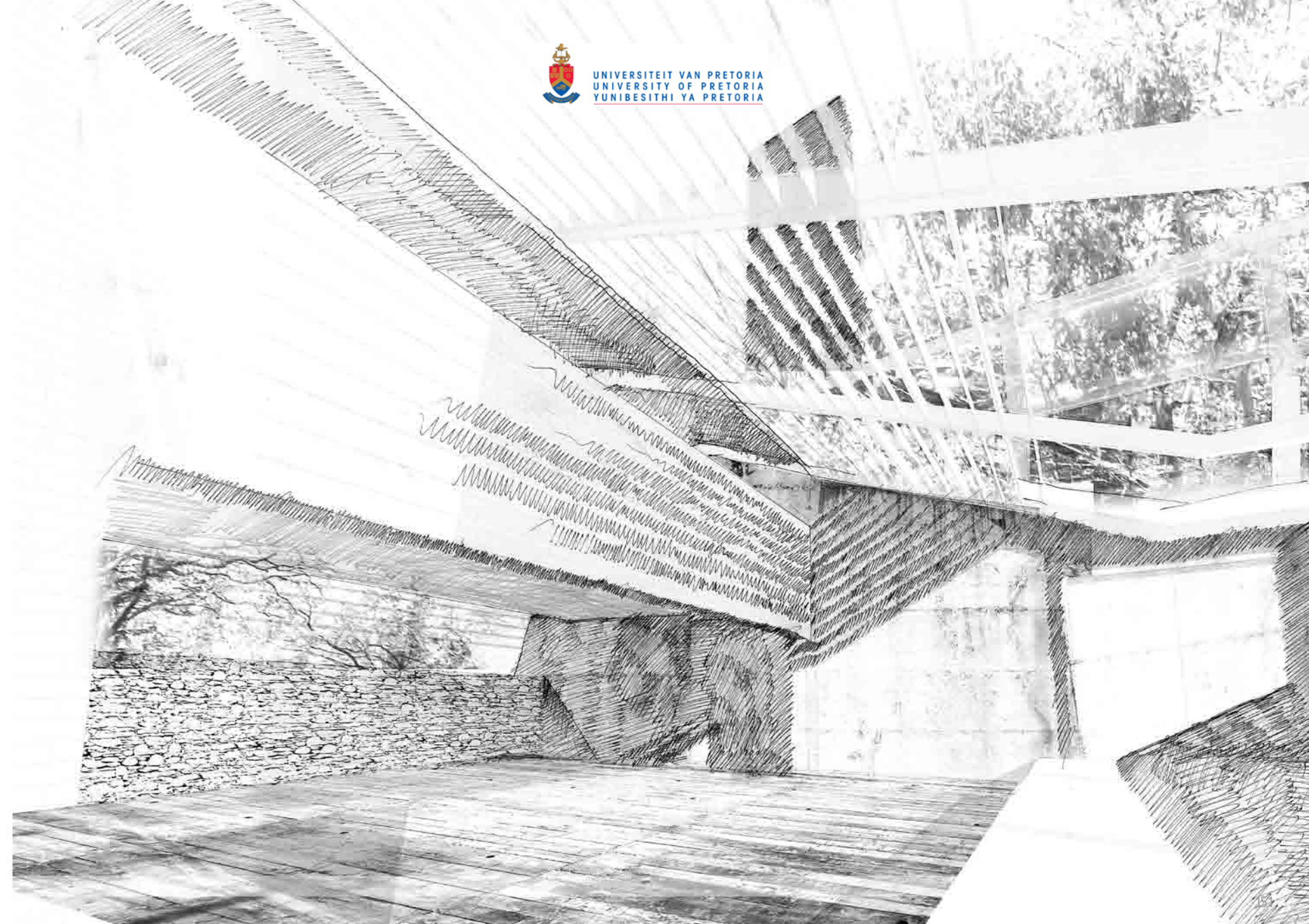
DETAIL 4 : ROOF DETAIL SCALE: 1 : 5

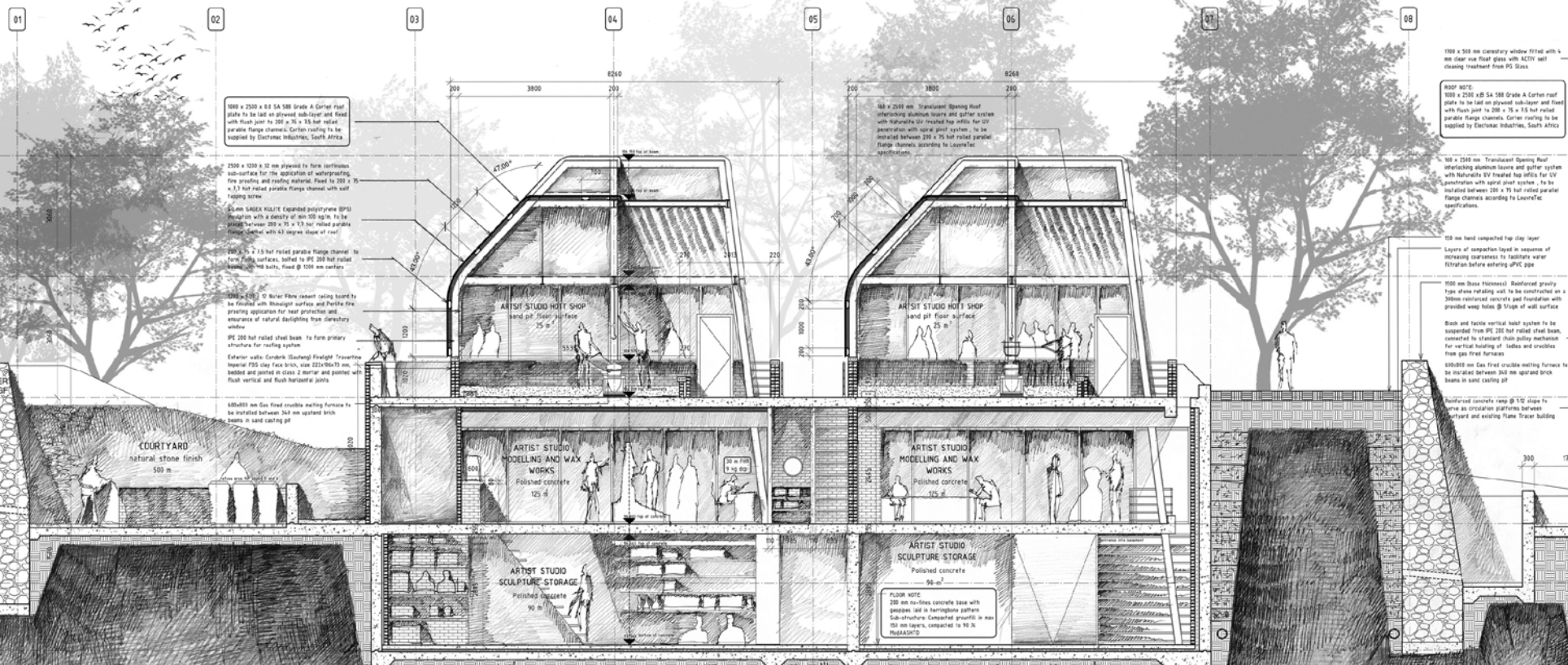


150 DETAIL 4 : ROOF AXONOMETRIC DETAIL



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1000 x 2000 x 0.5 SA 588 Grade A Corrugated steel plate to be laid on sloped sub-floor and fixed with flush joint to 200 x 75 x 15 hot rolled parallel flange channels. Corrugated roofing to be supplied by Electracor Industries, South Africa.

2500 x 1200 x 12 mm plywood to form waterproof sub-surface for the application of waterproofing. Fine graining and modified substrate. Fixed to 200 x 75 x 15 hot rolled parallel flange channels with self tapping screws.

45 mm SANDER KULITE expanded polystyrene (EPS) insulation with a density of min 50 kg/m³. To be placed between 200 x 75 x 15 hot rolled parallel flange channels with 45 degree slope of roof.

200 x 75 x 15 hot rolled parallel flange channel to Corrugated roofing, bolted to PE 200 hot rolled beam with 40 bolts, fixed @ 1500 mm centres.

1000 x 2000 x 12 mm barrier fibre cement roofing board to be finished with fibreglass surface and Particle fire graining application for heat protection and assurance of natural daylighting from clerestory window.

PE 200 hot rolled steel beam to form primary structure for roofing system.

Exterior walls: Corabrick (South) Firelight Taperstone Imperial F55 clay face brick, size 220x76x76 mm, bedded and pointed in class 2 mortar and pointed with flush vertical and flush horizontal joints.

400x800 mm Gas fired crucible melting furnace to be installed between 100 mm spaced brick beams in sand casting pit.

COURTYARD
natural stone finish
500 m

3500 200 8240

200 3800 8268 240

ARTIST STUDIO HOT SHOP
sand pit floor surface
75 m²

ARTIST STUDIO HOT SHOP
sand pit floor surface
25 m²

ARTIST STUDIO
MODELLING AND WAX
WORKS
Polished concrete
120 m²

ARTIST STUDIO
MODELLING AND WAX
WORKS
Polished concrete
125 m²

ARTIST STUDIO
SCULPTURE STORAGE
Polished concrete
90 m²

ARTIST STUDIO
SCULPTURE STORAGE
Polished concrete
90 m²

FLOOR NOTE
200 mm no-fines concrete base with geogrids laid in herringbone pattern.
Sub-structure: Compacted gravel to max 150 mm layers, compacted to 90 % ModAKIND.

100 x 500 mm clerestory window fitted with 6 mm clear view float glass with ACTIV self-cleaning treatment from 95 Glass.

ROOF NOTE:
1000 x 2000 x 0.5 SA 588 Grade A Corrugated steel plate to be laid on sloped sub-floor and fixed with flush joint to 200 x 75 x 15 hot rolled parallel flange channels. Corrugated roofing to be supplied by Electracor Industries, South Africa.

160 x 2500 mm Translucent Opening Roof sandwiching aluminium louvre and gutter system with Naturalite UV treated top pellicle for UV penetration with spray paint system. To be installed between 200 x 75 hot rolled parallel flange channels according to Louvretec specifications.

150 mm hand compacted top clay layer.
Layers of compaction laid in sequence of increasing compaction to facilitate water filtration before entering uPVC pipe.

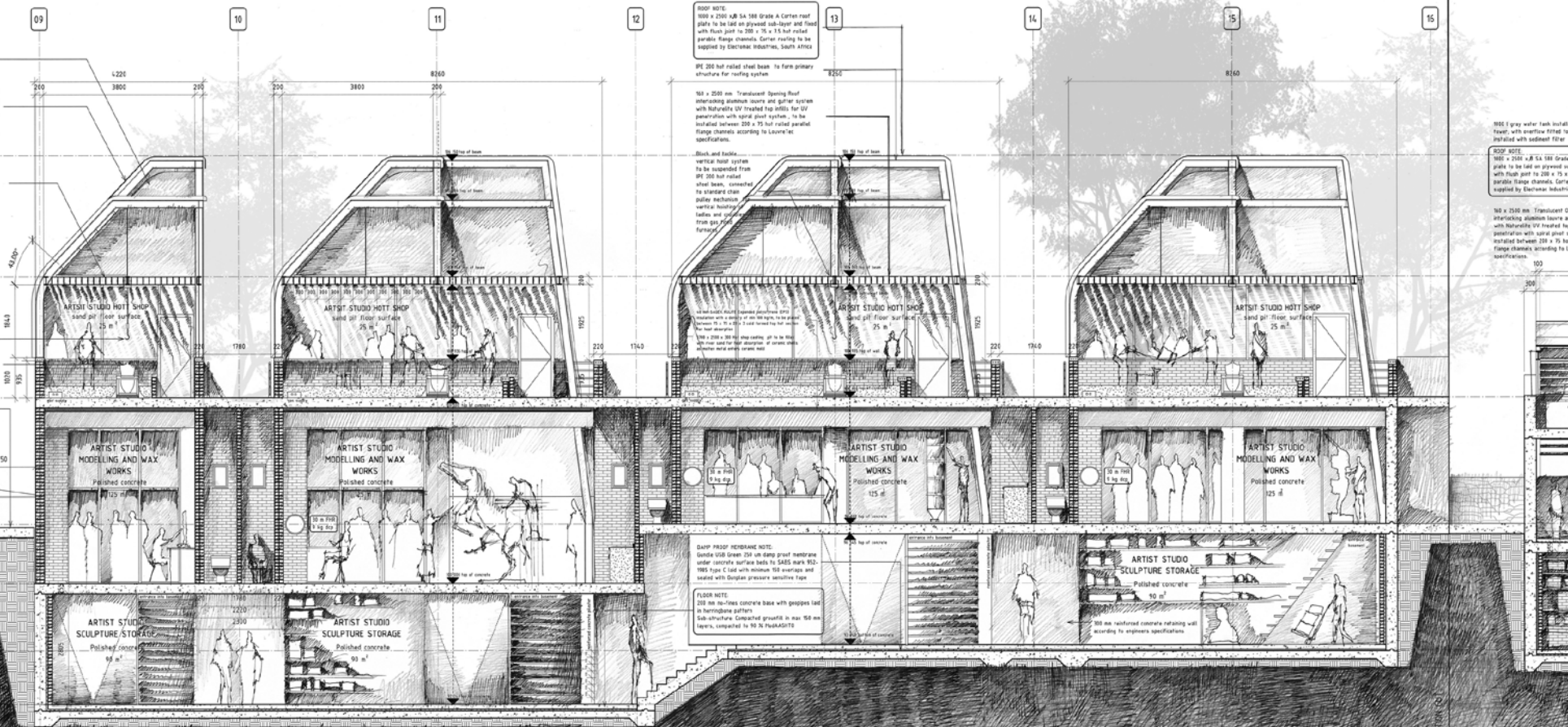
1000 mm Stone Horizontal Reinforced gravity type of stone retaining wall to be constructed on a 300mm reinforced concrete and foundation with provided wing holes @ 1/3rds of wall surface.

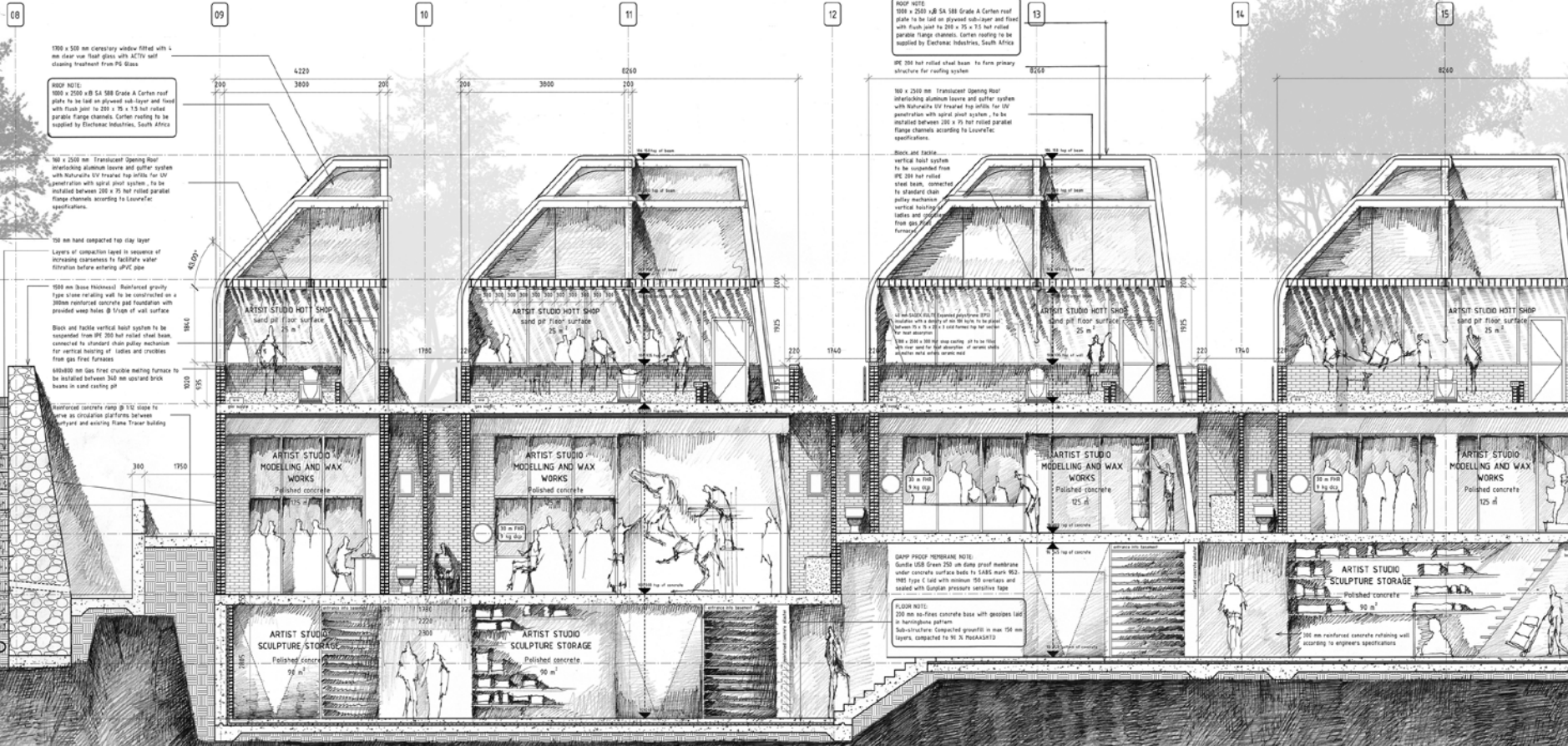
Block and tactile vertical hand system to be suspended from PE 200 hot rolled steel beam, connected to standard chain pulley mechanism for vertical loading of beds and crucibles from gas fired furnaces.

400x800 mm Gas fired crucible melting furnace to be installed between 100 mm spaced brick beams in sand casting pit.

Reinforced concrete ramp @ 1% slope to serve as circulation platforms between courtyard and existing Flame Tracer building.

300 17







SECTION CUT

16

17

18

304

3200

300

21

22

23

100 l gray water tank installed on PE 100 frame
Trawl, with overflow fitted to washing tables,
installed with sediment filter

ROOF NOTE
100 x 200 x 8 SA 500 Grade A Corrug roof
pans to be laid on dywided sub-layer and fixed
with Flush joint to 200 x 75 x 15 hot rolled
parallel flange channels. Corrug roofing to be
supplied by Electracon Industries, South Africa

100 x 250 mm Translucent Opening Roof
interlocking sunshade louvre and gutter system
with Marulanda UV treated top profiles for UV
penetration with solar panel system. To be
installed between 100 x 75 hot rolled parallel
flange channels according to LouvreTec
specifications

STORAGE AND SORT
Disinfectant concrete floor
Sorting bins

WASHING AND CLEANING
Suction to fall trough
60 m

EXPANDABLE STORAGE
Polished concrete floors
4000 000 PA
10 x 10

Vertical Circulation

Vertical Circulation

Material Distributor

Chimney tower

Diesel foundry hot shop
Polished concrete floor
50 m

Induction crucible

Induction furnace

Reinforced concrete chimney to act as
stack distributor for clean furnace metal
gases produced by multiple heating
process. Reinforced concrete wall and
chairs with joints north and south ends

1000 mm steel sliding fire safety door
100 x 2000 mm Translucent Opening Roof
interlocking sunshade louvre and gutter system
with Marulanda UV treated top profiles for UV
penetration with solar panel system. To be
installed between 100 x 75 hot rolled parallel
flange channels according to LouvreTec
specifications

Coating composite raftering wall consisting of
steel purlin internal steel core, with Knauf
Fleisch band exterior, topped with 100mm
concrete slab, with laminated cement fibre wall
on top of concrete. To form interior wall of
new foundry hot shop

High speed steel cutting machinery fitted
by specialist furnace crucibles machine
contractor to produce in-line metal

PE 200 hot rolled steel beam to form
primary structure for roofing system

120 mm masonry brick wall to act as
thermal mass protecting reinforced concrete
structure from heat gain

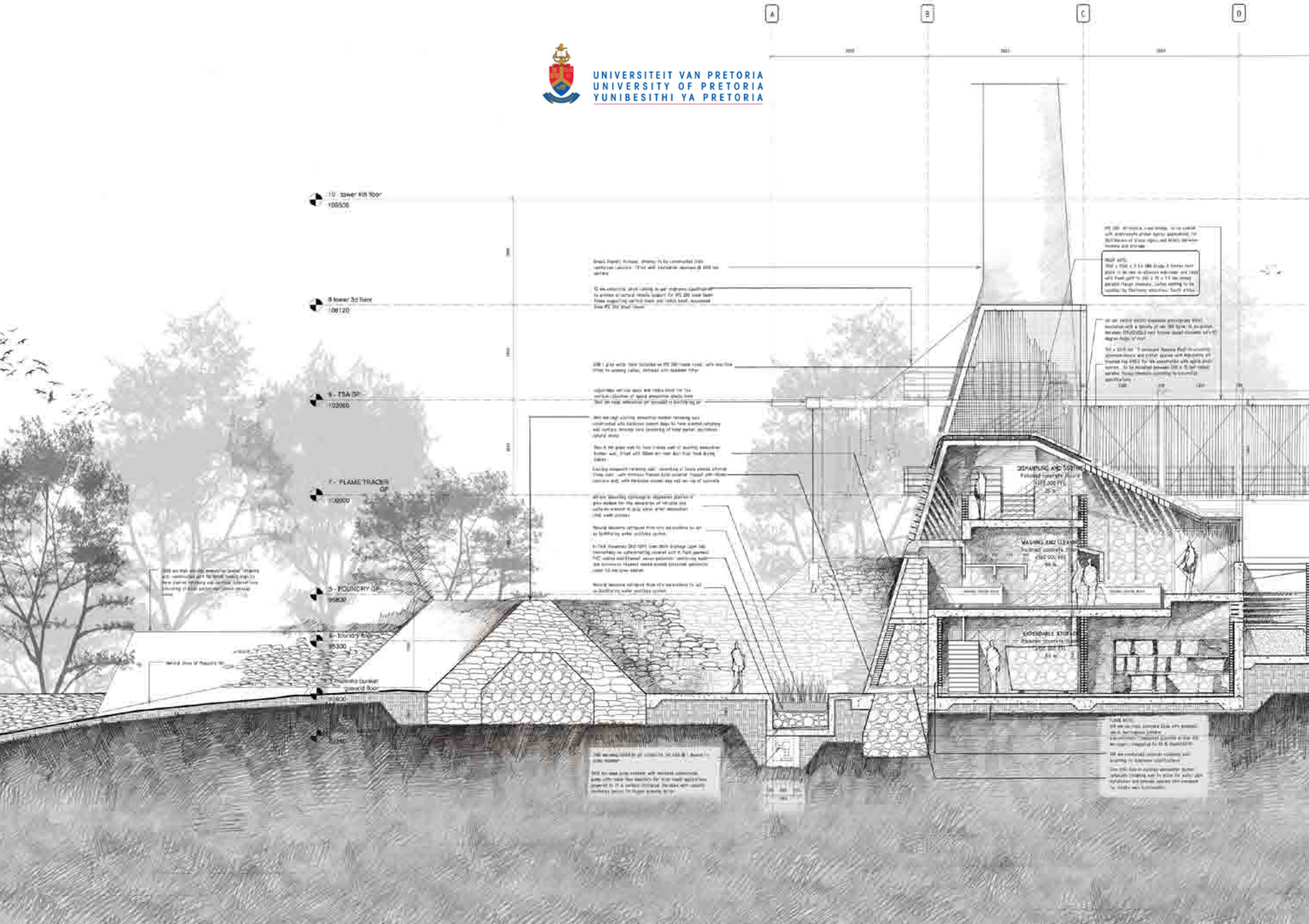
120 mm masonry brick wall to act as
thermal mass protecting reinforced concrete
structure from heat gain

Diesel foundry hot shop
Laying and felling metal works
Polished concrete floor
40 m

120 mm masonry brick wall to act as
thermal mass protecting reinforced concrete
structure from heat gain

1200 mm deep sand carotment pit to filled
with river sand. Sand filled between 220
masonry brick walls under 40 mm marks
grading flooring

SECTION CUT



10 - lower 4th floor
106536

9 - lower 3rd floor
106120

8 - TSA GP
103980

7 - FLAME TRACER GP
106000

6 - FOUNDRY GP
99800

5 - Foundry level
99300

Foundry tank
99300

Steel Profile Column, shown to be constructed from
concrete columns. It will include access to all the
levels.

12 - An existing steel column in the structure (shown to
be a steel column) will be replaced by a steel column
to provide lateral stability for the 2nd floor beam
frame supporting the roof. The steel column will be
located in the roof space.

2nd floor will be replaced by 2nd floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

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will be replaced by steel, attached with a steel plate.

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will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.

DEPARTING AND SORTING
PULPED COARSE FIBRE
100000

WASHING AND CLEANING
100000

SPINNING AND FINISHING
100000

1st floor will be replaced by 1st floor roof. The structure
will be replaced by steel, attached with a steel plate.



SECTION 001

SECTION 001

ROOF R011
This is a 100mm thick concrete slab with a 100mm thick layer of insulation on top. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

This is a 100mm thick concrete slab with a 100mm thick layer of insulation on top. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

This is a 100mm thick concrete slab with a 100mm thick layer of insulation on top. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

ARTIST STUDIO CERAMIC WORKS
Finished ceramic floor
100mm

ARTIST STUDIO MODELING AND SLAB WORKS
Weathered concrete floor
100mm

ARTIST STUDIO KITCHEN
Weathered concrete floor
100mm

ARTIST STUDIO KITCHEN
Weathered concrete floor
100mm

Detail 1: Perforation detail
This detail shows the connection between the perforated metal sheet and the concrete slab. The metal sheet is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 2: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 3: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 4: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 5: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 6: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 7: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 8: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 9: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 10: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

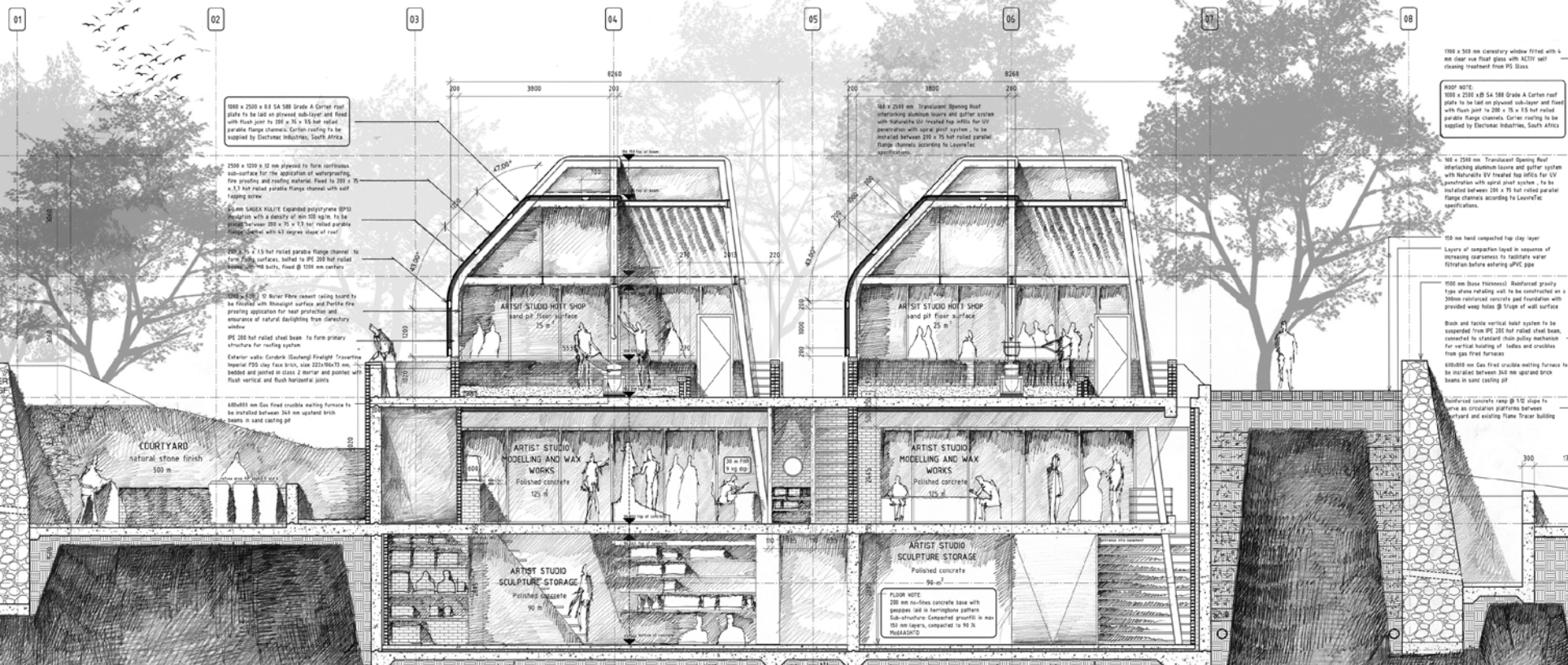
DETAIL 11: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 12: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 13: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 14: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.

DETAIL 15: ROOF R011
This detail shows the connection between the roof slab and the concrete column. The slab is supported by a 200mm x 200mm concrete column. The slab is finished with a 20mm thick layer of screed and a 20mm thick layer of tiles.



1000 x 2000 x 0.5 SA 588 Grade A Corrugated steel plate to be laid on sloped sub-deck and fixed with flush joint to 200 x 75 x 15 hot rolled parallel flange channels. Corrugated roofing to be supplied by Electracor Industries, South Africa.

2500 x 1200 x 12 mm plywood to form waterproof sub-surface for the application of waterproofing. Fine graining and modified substrate. Fixed to 200 x 75 x 15 hot rolled parallel flange channels with self tapping screws.

45 mm SANDER KALITE expanded polystyrene (EPS) insulation with a density of min 50 kg/m³. To be placed between 200 x 75 x 15 hot rolled parallel flange channels with 45 degree slope of roof.

200 x 75 x 15 hot rolled parallel flange channel to Corrugated steel plate, bolted to PE 200 hot rolled beam with 40 bolts, fixed @ 1500 mm centres.

1000 x 400 x 10 mm barrier fibre cement roofing board to be finished with fibreglass surface and Particle fire graining application for heat protection and assurance of natural daylighting from clerestory window.

PE 200 hot rolled steel beam to form primary structure for roofing system.

Exterior walls Corabrick (South) Firelight Taperstone Imperial F50 clay face brick, size 220x76x76 mm, bedded and pointed in class 2 mortar and pointed with flush vertical and flush horizontal joints.

400x800 mm Gas fired crucible melting furnace to be installed between 100 mm spaced brick beams in sand casting pit.

COURTYARD
natural stone finish
500 m

3500 200 8240

200 3800 8268 240

180 x 2000 mm Translucent Sliding Roof introduces skylight hours and gutter system with Naturalite UV treated top profile for UV penetration with spray paint system. To be installed between 200 x 75 hot rolled parallel flange channels according to Louvetec specifications.

100 x 500 mm Clerestory window fitted with 6 mm clear view float glass with ACTIV self-cleaning treatment from 3S Glass.

ROOF NOTE:
1000 x 2000 x 0.5 SA 588 Grade A Corrugated steel plate to be laid on sloped sub-deck and fixed with flush joint to 200 x 75 x 15 hot rolled parallel flange channels. Corrugated roofing to be supplied by Electracor Industries, South Africa.

160 x 2000 mm Translucent Sliding Roof introducing skylight hours and gutter system with Naturalite UV treated top profile for UV penetration with spray paint system. To be installed between 200 x 75 hot rolled parallel flange channels according to Louvetec specifications.

150 mm hand compacted top clay layer. Layers of compaction laid in sequence of increasing compaction to facilitate water filtration before entering uPVC pipe.

1000 mm Stone Tiles (Natural) Randomised gravity type of stone raftering wall to be constructed on a 300mm reinforced concrete and foundation with provided weep holes @ 500mm of wall surface.

Block and tactile vertical hand system to be suspended from PE 200 hot rolled steel beam, connected to standard chain pulley mechanism for vertical loading of beds and crucibles from gas fired furnace.

400x800 mm Gas fired crucible melting furnace to be installed between 100 mm spaced brick beams in sand casting pit.

Reinforced concrete ramp @ 1% slope to serve as circulation platform between courtyard and existing Flame Tracer building.

ARTIST STUDIO HOT SHOP
sand pit floor surface
75 m²

ARTIST STUDIO HOT SHOP
sand pit floor surface
25 m²

ARTIST STUDIO MODELLING AND WAX WORKS
Polished concrete
120 m²

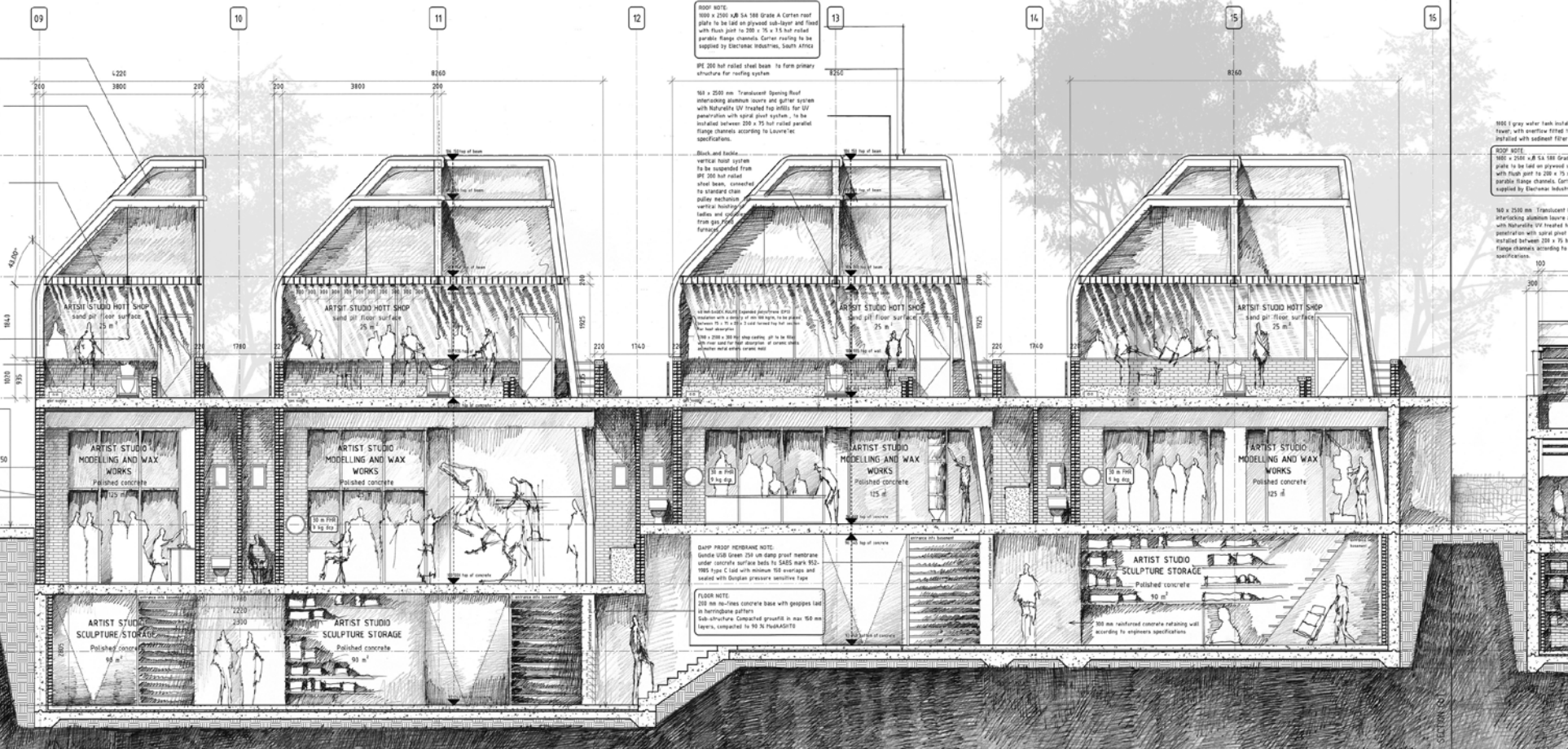
ARTIST STUDIO MODELLING AND WAX WORKS
Polished concrete
125 m²

ARTIST STUDIO SCULPTURE STORAGE
Polished concrete
90 m²

ARTIST STUDIO SCULPTURE STORAGE
Polished concrete
90 m²

FLOOR NOTE:
200 mm no-fines concrete base with geogrids laid in herringbone pattern. Sub-structure. Compacted gravel to max 150 mm layers, compacted to 90 % ModAKIND.

300 17





08

09

10

11

12

13

14

15

1800 x 500 mm casework window fitted with a
one clear view float glass with ACTIV self
cleaning treatment from PPG Glass

ROOF NOTE:
5000 x 2000 x 40 SA 588 Grade A Corten roof
panels to be laid on ground sub-layer and fixed
with flush joint to 200 x 75 x 13 hot rolled
parallel flange channels. Corten coating to be
supplied by Electroch Industries, South Africa

160 x 2300 mm Translucent Opening Roof
interlocking aluminum frame and gutter system
with Naturite UV treated top infills for UV
protection with spiral joint system. To be
installed between 200 x 75 hot rolled parallel
flange channels according to Louvertec
specifications.

100 mm hard compacted 100 clay layer
Layers of compaction laid in sequence of
increasing coarseness to facilitate water
filtration before entering uPVC pipe

600 mm (three thickness) Reinforced gravity
type stone retaining wall to be constructed on a
300mm reinforced concrete pad foundation with
precast stone blocks @ 15mm of void surface
Block and tie vertical habit system to be
supported from 200 hot rolled steel beam,
connected to stronger than pulley mechanism
for vertical hoisting of tubes and overhead
flue gas fire furnaces

4000mm Gas fired machine melting furnace to
be installed between 100 mm upward brick
beams in sand casting pit

Reinforced concrete ramp @ 15% slope to
serve as circulation platform between
ramp and existing Flame Tower building

ROOF NOTE:
5000 x 2000 x 40 SA 588 Grade A Corten roof
panels to be laid on ground sub-layer and fixed
with flush joint to 200 x 75 x 13 hot rolled
parallel flange channels. Corten coating to be
supplied by Electroch Industries, South Africa

200 hot rolled steel beam to form primary
structure for roofing system

160 x 2300 mm Translucent Opening Roof
interlocking aluminum frame and gutter system
with Naturite UV treated top infills for UV
protection with spiral joint system. To be
installed between 200 x 75 hot rolled parallel
flange channels according to Louvertec
specifications.

Block and Tie
vertical habit system
To be supported from
200 hot rolled
steel beam, connected
to standard chain
pulley mechanism
vertical hoisting
tubes and overhead
flue gas fire
furnaces

6000mm Gas fired machine melting furnace to
be installed between 100 mm upward brick
beams in sand casting pit

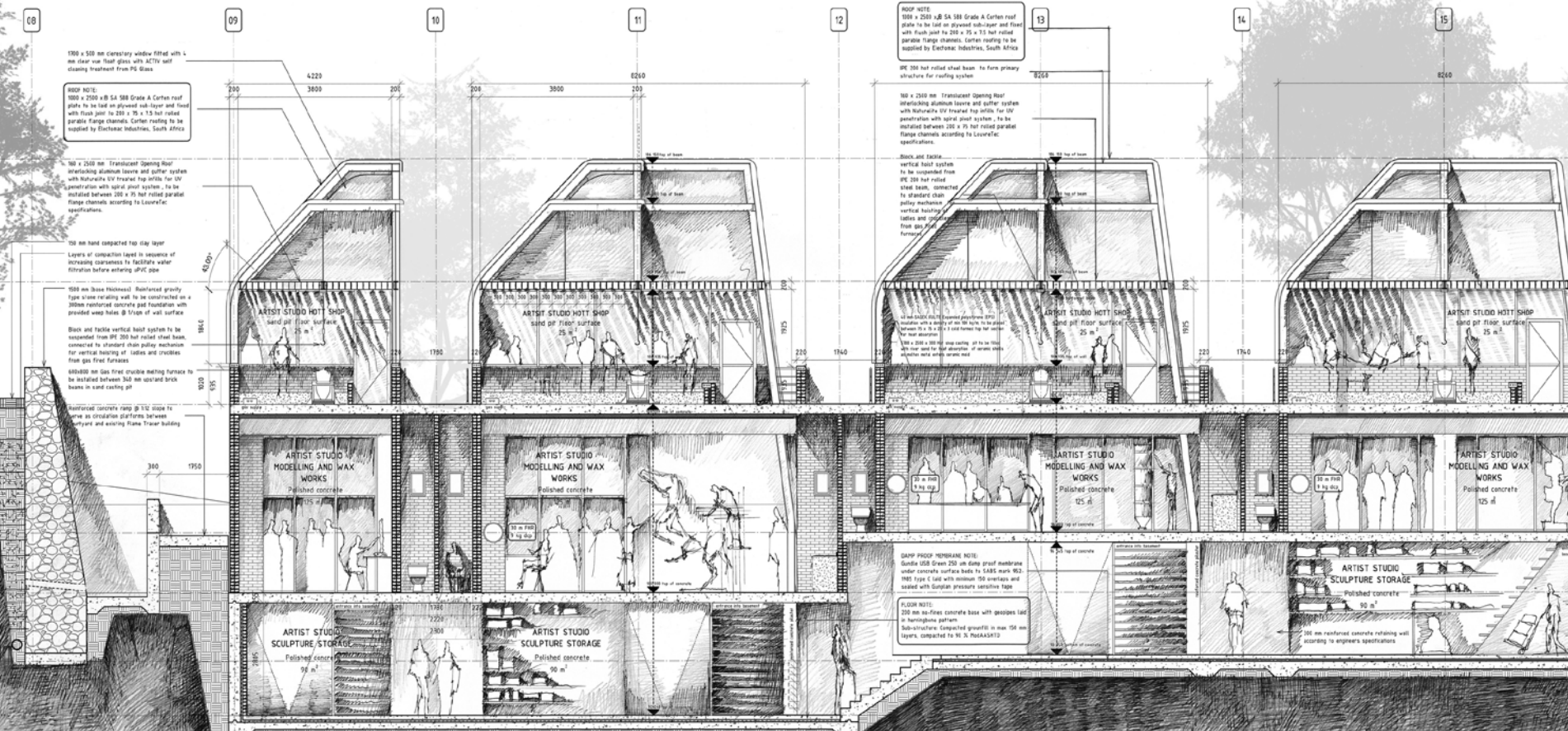
Reinforced concrete ramp @ 15% slope to
serve as circulation platform between
ramp and existing Flame Tower building

GAMP PITCH ROOFING NOTE:
Grade 500 Green 200 mm dense proof membrane
under concrete surface beds to SABS norm 902.
180 Type C laid with minimum 100 overlaps and
sealed with Sanyon pressure sensitive tape

FLOOR NOTE:
200 mm no-fines concrete base with geotextile laid
on herringbone pattern
Substructure compacted granular fill in max 150 mm
layers, compacted to 91.5% Proctor

ARTIST STUDIO SCULPTURE STORAGE
90 m²
Polished concrete

200 mm reinforced concrete retaining wall
according to engineers specifications



SECTION CUT

16

17

18

19

20

21

22

23

100 l gray water tank installed on PE 100 frame
level, with overflow fitted to washing tables,
installed with sediment filter

ROOF NOTE
100 x 2200 x 85 SA 580 Grade A Corrug roof
pans to be laid on dywided sub-layer and fixed
with Flush joint to 200 x 75 x 15 hot rolled
parallel flange channels. Corrug roofing to be
supplied by Deconex Industries, South Africa

100 x 2500 mm Translucent Opening Roof
interlocking sunshade louvre and gutter system
with Multigrade UV treated top profiles for UV
penetration with solar panel system. To be
installed between 100 x 75 hot rolled parallel
flange channels according to LouvreTec
specifications

2000mm AND 3000mm
disinfectant concrete floor
washing table

WASHING AND CLEANING
Sucked to Fall trough
60mm

EXPANDABLE STORAGE
Polished concrete floors
1000 000 PA
100 x 100

Vertical Circulation

Material Distributor

Chimney tower

Diesel foundry hot shop
Heatng work
Polished concrete floor
60 mm

induction
stove
induction
furnace

Reinforced concrete chimney to act as
stack distributor for clean-burned metal
gases produced by multiple heating
process. Reinforced concrete wall and
chimney with joints north and south ends

2000 mm steel sliding fire safety door
100 x 2200 mm Translucent Opening Roof
interlocking sunshade louvre and gutter system
with Multigrade UV treated top profiles for UV
penetration with solar panel system. To be
installed between 100 x 75 hot rolled parallel
flange channels according to LouvreTec
specifications

Coating composite raftering wall consisting of
steel purlin internal steel core, with Knauf
Fleisch band exterior, topped with 100mm
concrete slab, with laminated cement fibre wall
on top of concrete. To form interior wall of
new foundry hot shop

High speed steel cutting machinery fitted
by specialist furnace crucibles machine
operator. To produce in-furn melt

PE 200 hot rolled steel beam to form
primary structure for roofing system

220 mm masonry brick wall to act as
thermal mass protecting reinforced concrete
structure from heat gain

1000 mm deep sand carthment 200 x 100
masonry brick walls under 40 mm marks
grading flooring

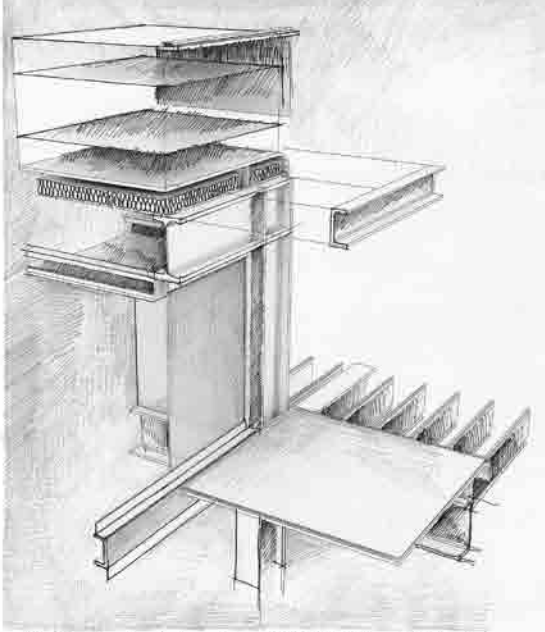
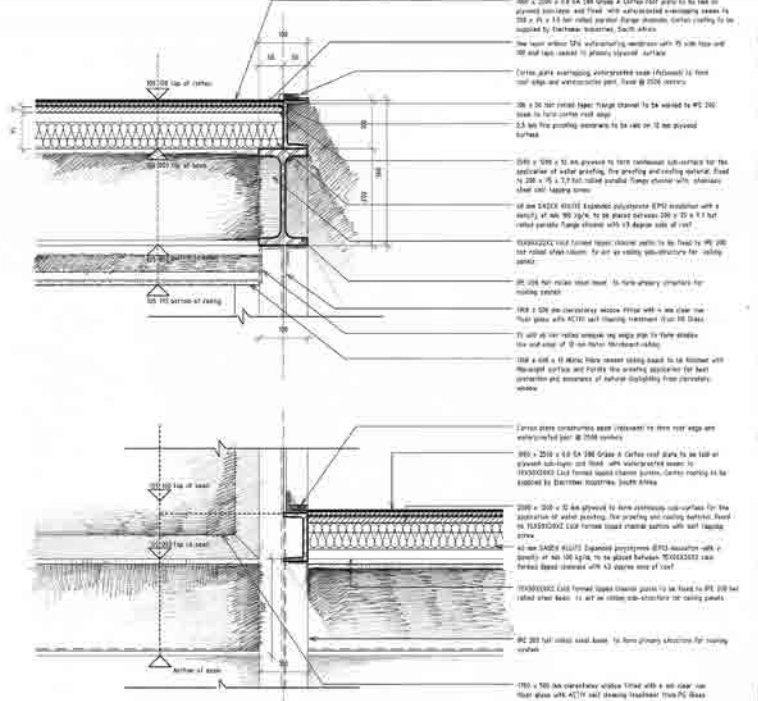
Diesel foundry hot shop
Lasting and Felling metal works
Polished concrete floor
60 mm

induction
stove
induction
furnace

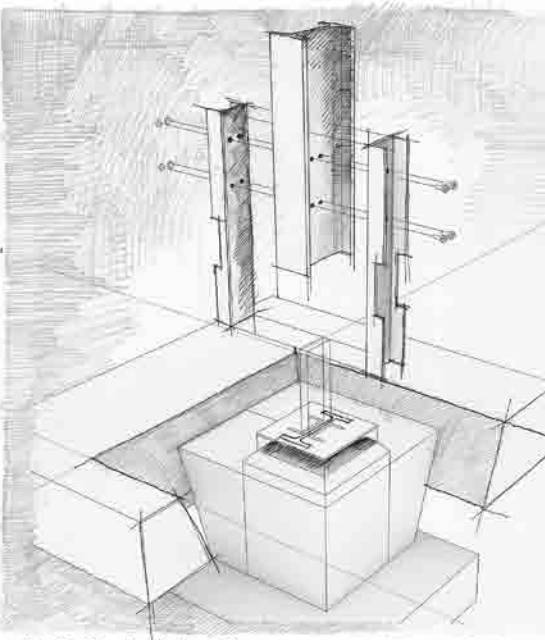
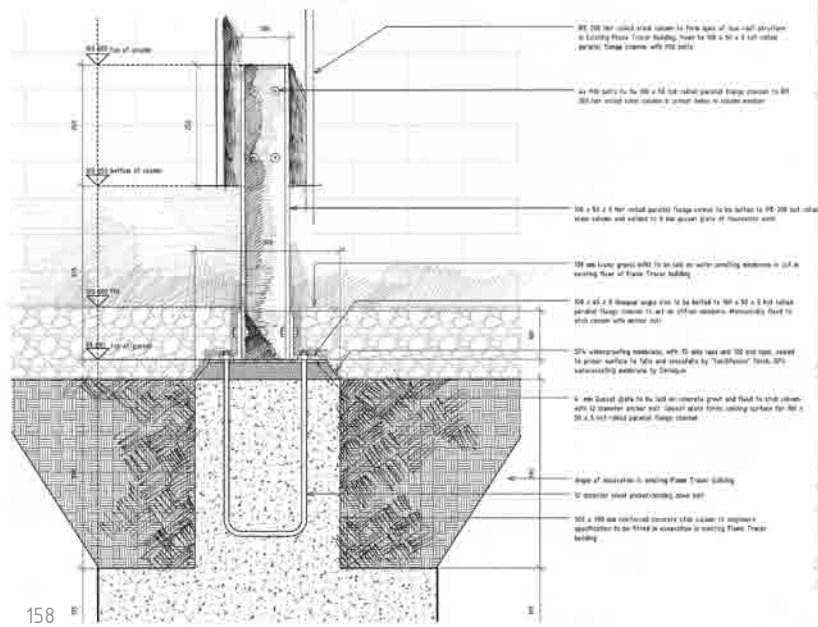
220 mm masonry brick wall to act as
thermal mass protecting reinforced concrete
substructure from heat gain

1000 mm deep sand carthment 200 x 100
masonry brick walls under 40 mm marks
grading flooring

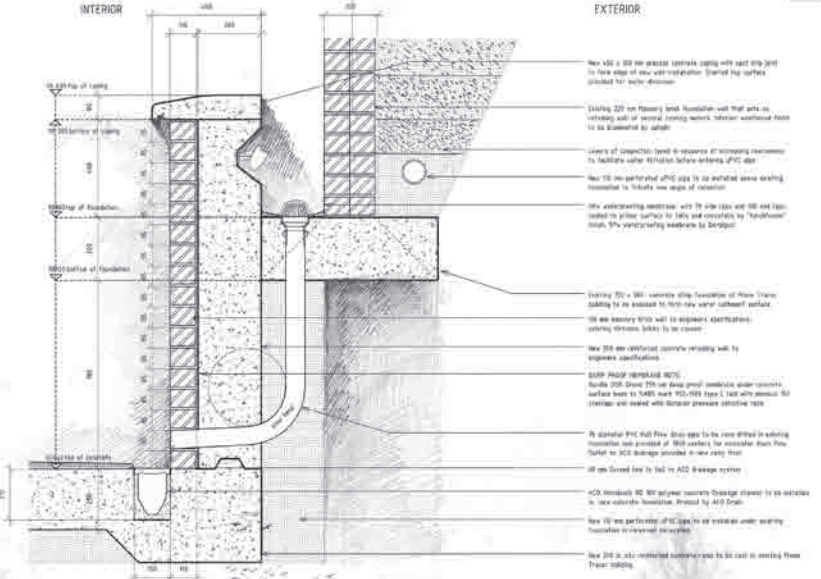
SECTION CUT



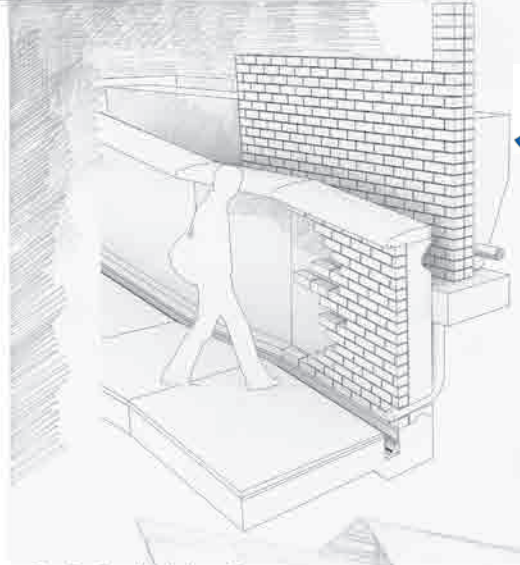
DETAIL 6 : ROOF DETAIL SCALE: 1 : 5



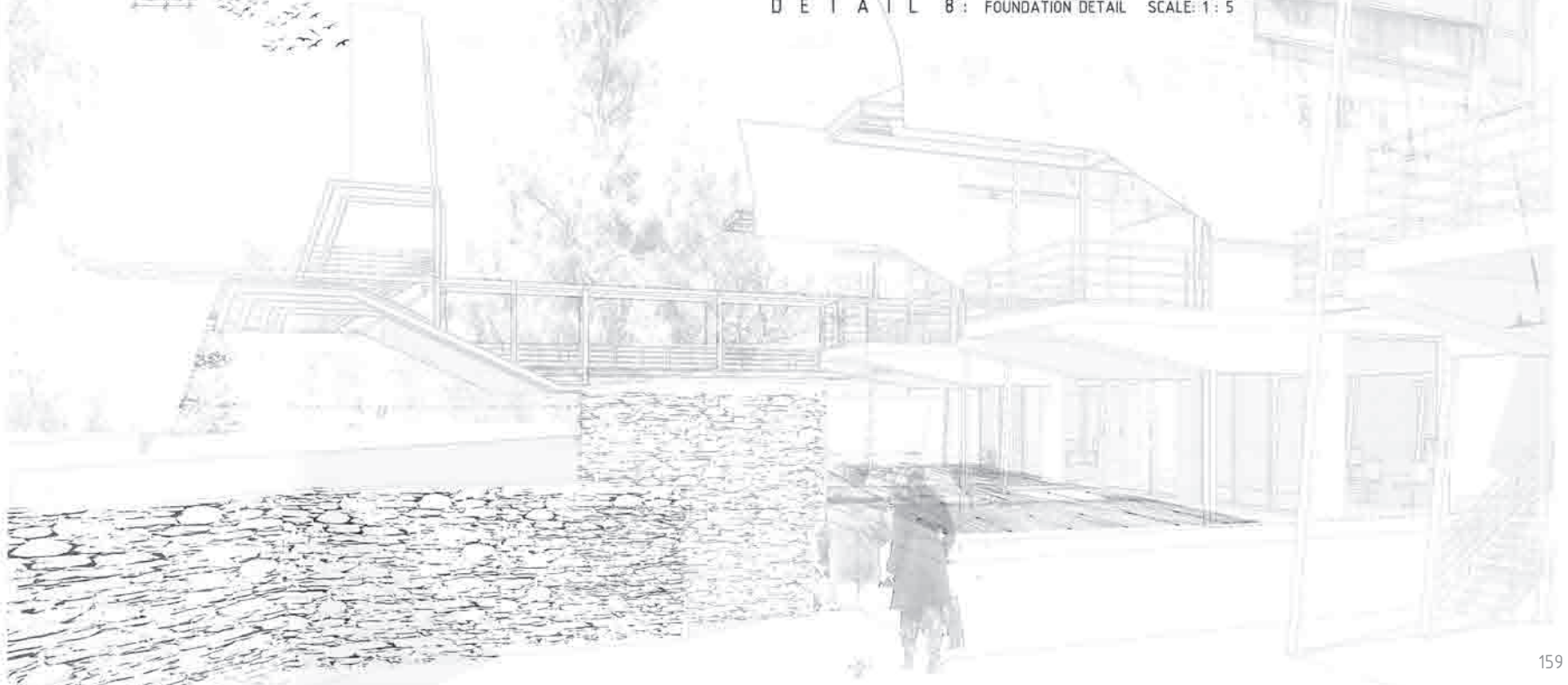
DETAIL 7 : FOUNDATION DETAIL SCALE: 1 : 5



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



DETAIL 8 : FOUNDATION DETAIL SCALE: 1:5





A

B

C

D

5000 5000 5000

10 - tower 4th floor
109506

studio ceiling
106000

8 - TSA GF
103080

7 - FLAME TRACER
GF
100000

5 - FOUNDRY GF
98800

4 - foundry floor
95300

3 - studio bunker
ground floor
93800

2 - basement level
92240

Existing concrete surface and of existing associated bunker
2000 mm high existing ammunition bunker retaining wall, constructed with finished cement bags is fine stippled retaining wall surface, internal core consisting of hard board concrete infill stone
200 mm existing concrete slabs to face vertical edge of ammunition bunker
New inclusive 200 mm precast concrete buffer for water diversion

3000 mm high existing ammunition bunker retaining wall, constructed with finished cement bags is fine stippled retaining wall surface, internal core consisting of hard board concrete infill stone
150 mm precast concrete slabs to be laid on compacted granular on existing concrete bunker floor

STAIR PROOF MEMBRANE NOTE:
Sloping 200 mm deep 200 mm deep proof membrane under concrete surface based on SABS memo 102/2001 type C-1 slab with minimum 100 mm overlap and sealed with Scepter pressure sensitive tape
Sub-structure (concreted) provided to max 100 mm layer, maximum to 95 % RH/AQUICUT

Newly plaster concrete slab, wall to form protective exterior part of foundry bunker

New reinforced concrete retaining wall to form protective exterior wall of foundry bunker

200 mm deep precast concrete gutter with panels to slope of stone, wall with stone provided to slope of wall face

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

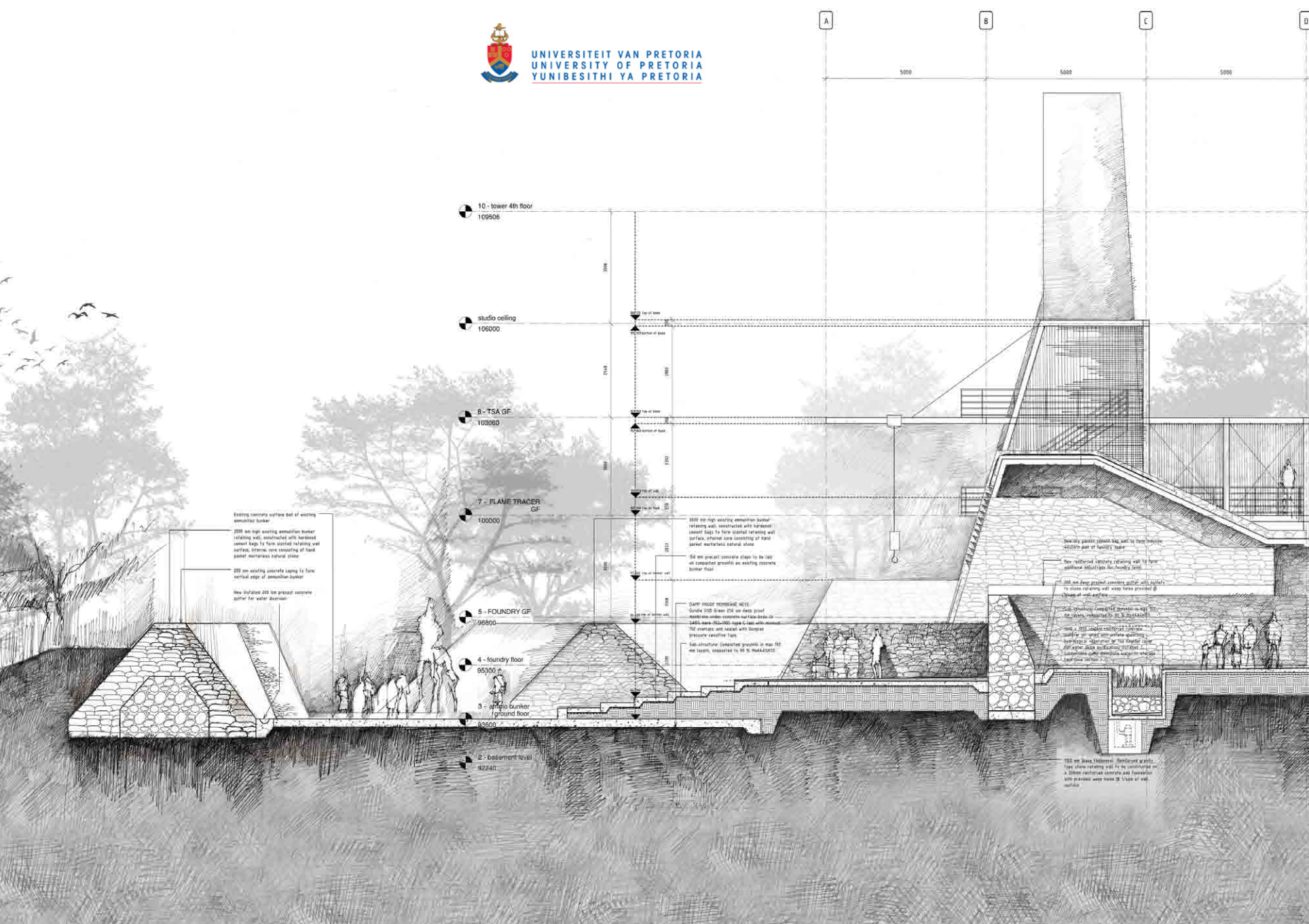
200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete

200 mm deep precast concrete drainage in wall to be stone, supported by 100 mm concrete



E

F

G

H

I

J

5000 5000 5000 5000 5000 7000



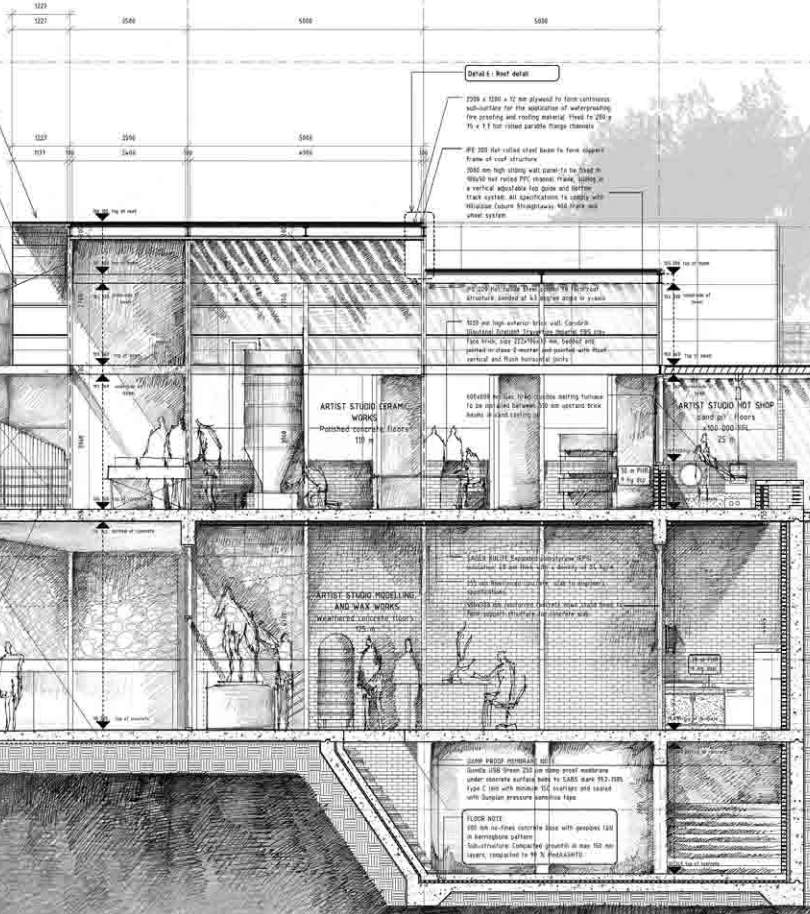
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

ROOF NOTE:
1000 x 2000 x 8 EA S&B Crane A Corrugated steel plate to be laid on plywood sub-layer and fixed with 10mm gaps to 200 x 75 x 7.5 hot rolled parallel flange channels. Corrugating to be supplied by Freshman Industries, South Africa

125x125x12 EA cold formed light channel. Fixed to PFC 200 structural columns @ 800 c/c

10 mm structural steel decking as per engineers specification to provide structural flexure support for PFC 200 steel beam frame supporting vertical load. Fixed to PFC 200 steel columns with 16 bolts.

PFC 200 structural steel bridge to be detailed with appropriate primer/protective application for protection of steel against rust and moisture ingress and storage.



Detail 1: Roof detail

2700 x 100 x 12 mm spaced for form continuous substrate for the application of waterproofing fire proofing and roofing material. Fixed to 200 x 75 x 7.5 hot rolled parallel flange channels

PFC 200 flat rolled steel beam to form elegant frame of roof structure. 3000 mm high ceiling wall down to be fixed in which hot rolled PFC channel frame sitting in a vertical adjustable top guide and bottom track system. All specifications to comply with relevant Council Regulations. All finish and wheel system

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100 x 2000 mm Extruded Opening Roof waterproofing aluminum floors and gutter system with membrane for trapped top water for 100% waterproofing with cold joint system. To be installed between 200 x 75 hot rolled parallel flange channels according to Isometal specifications.

Existing 200 mm masonry firebrick brick wall with 2000 mm window opening. Existing window frame to be retained for safe viewing.

Existing street roof truss of Flame Tracer building

EXISTING ROOF NOTE:
Existing corrugated composite metal roof sheathing of existing Flame Tracer building to be retained @ 1000 thickness and 20 mm open dimension. Led to a 75 mm gap @ 1000 spacing supported from 200 x 75 hot rolled parallel flange channels. All finish and wheel system

Existing street roof truss of Flame Tracer building

Existing 200 mm masonry firebrick brick wall with 2000 mm window opening. Existing window frame to be retained for safe viewing.

Existing street roof truss of Flame Tracer building

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Existing street roof truss of Flame Tracer building

ROOF NOTE:
1000 x 2000 x 8 EA S&B Crane A Corrugated steel plate to be laid on plywood sub-layer and fixed with 10mm gaps to 200 x 75 x 7.5 hot rolled parallel flange channels. Corrugating to be supplied by Freshman Industries, South Africa

2500 x 100 x 12 mm spaced for form continuous substrate for the application of waterproofing fire proofing and roofing material. Fixed to 200 x 75 x 7.5 hot rolled parallel flange channels

PFC 200 flat rolled steel beam to form elegant frame of roof structure. 3000 mm high ceiling wall down to be fixed in which hot rolled PFC channel frame sitting in a vertical adjustable top guide and bottom track system. All specifications to comply with relevant Council Regulations. All finish and wheel system

1000 x 2000 x 8 EA S&B Crane A Corrugated steel plate to be laid on plywood sub-layer and fixed with 10mm gaps to 200 x 75 x 7.5 hot rolled parallel flange channels

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S E C T

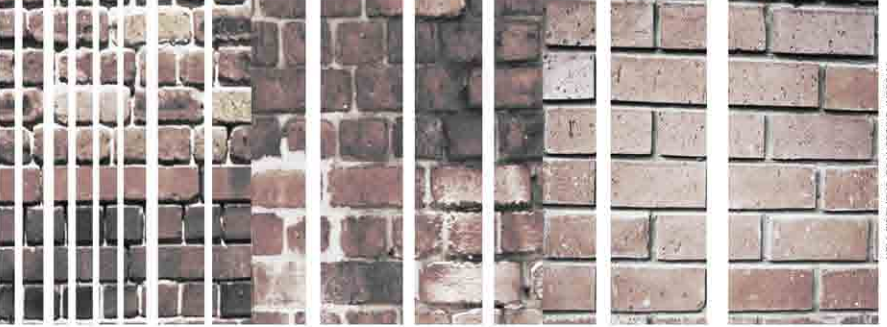


EXISTING HARDENED CEMENT BAG (PETRIFICATION PROCESS) TO FORM SUBMERGED STONE WALLS



NEW LOOSE PACKED NATURAL RECLAIMED STONE RETAINING WALLS

EXISTING MCKNESS AND RED BRICK STRUCTURAL WORKS



NEW FIRELIGHT TRAVERTINE IMPERIAL FBX BRICK BY COROBRIK

ROOF TRUSSES AND MILITARY SHADING DEVICES



NEW TRANSLUCENT OPENING ROOF INTERLOCKING ALUMINIUM LOUVER AND GUTTER SYSTEM WITH 100% URETHANE DV TREATED TOP INFILLS

EXISTING WEATHERED CORRUGATED IRON ROOF SHEETING



NEW 3MM SA 588 GRADE A CORTEN STEEL



IMPLEMENTED BUILDING SYSTEMS

WATER MANAGEMENT



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12 mm structural steel cabling as per engineers specification to provide structural tensile support for IPE 200 steel beam frame supporting vertical block and tackle hoist, suspended from IPE 200 steel beam

New 6 mm glass wall to form trombe wall of existing ammunition bunker wall, fitted with 100mm air riser duct that feed drying tables

Nitrate absorbing hydrological vegetation planted in grow medium for the absorption of nitrates and sulphates present in grey water after ammunition shell wash process

K-Tech flowernet DN3 HDPE 4mm thick drainage layer laid horizontally on waterproofing covered with K-Tech geomesh PVC coated multifilament woven polyester reinforcing mesh and continuous filament needle punched polyester geotextile under 40 mm grow medium

line of water flow

line of water flow

grey water tank installed on IPE 200 frame tower, with overflow fitted to washing tables, installed with sediment filter

ROOF NOTE:

1000 x 2500 x 0.8 SA 588 Grade A Corten roof plate to be laid on plywood sub-layer and fixed with overlapping seams to 200 x 75 x 7.5 hot rolled parallel flange channels. Corten roofing to be supplied by Electomac Industries, South Africa

160 x 2500 mm Translucent Opening Roof interlocking aluminium louvre and gutter system with Naturelite UV treated top infills for UV penetration with spiral pivot system, to be installed between 200 x 75 hot rolled parallel flange channels according to LouvreTec specifications.

Existing composite retaining wall consisting of loose packed internal stone core, with Flemish bond exterior, topped with 100mm concrete slab, with hardened cement bag wall on top of concrete

Sorting and dismantling of raw material

New drying/washing movable washing tables to be alternated between washing and drying processes. Washing trays are fitted with bottom plugs for water drainage

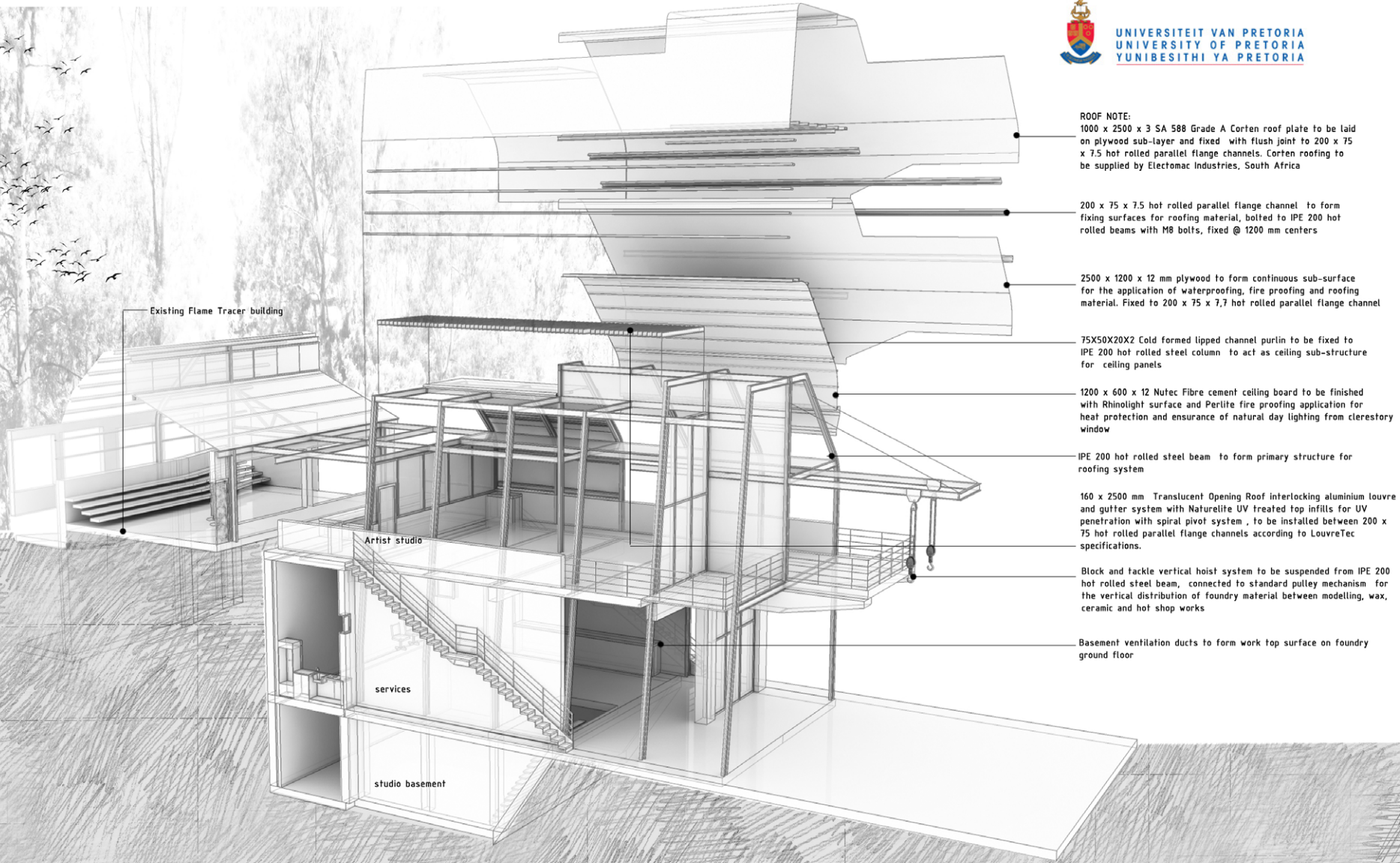
300 mm reinforced concrete retaining wall according to engineers specifications

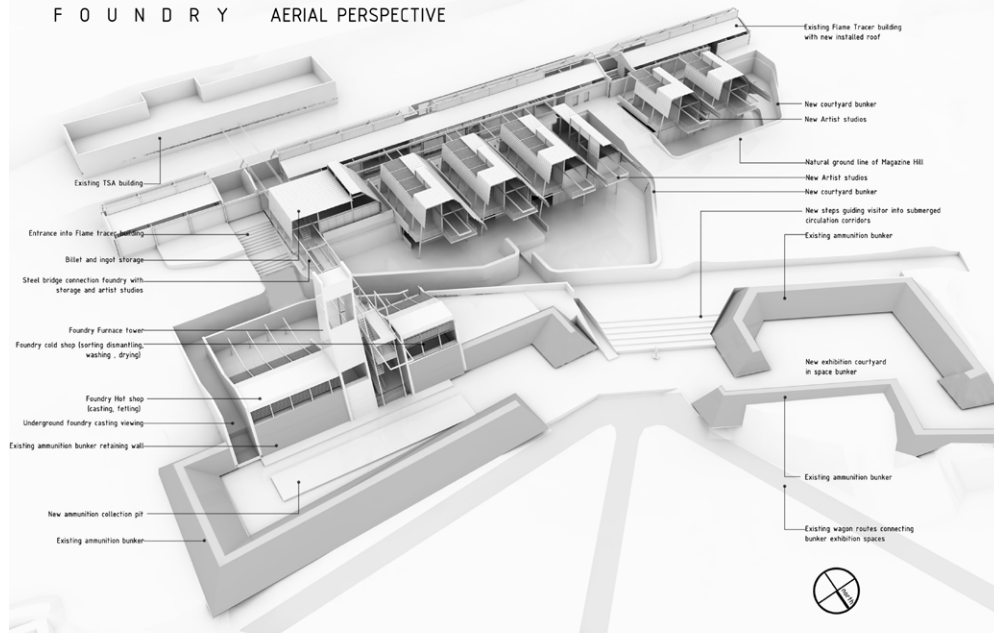
Core drill hole in existing ammunition bunker composite retaining wall to allow for water pipe installation and provide opening into basement for trombe wall functionality

1160 mm deep biofilter pit screed to fall laid @ 1 degree to pump chamber

Natural boulders retrieved from site excavations to act as biofilter for water purifying system

STRUCTURAL EXPLODED VIEW OF ARTIST STUDIO

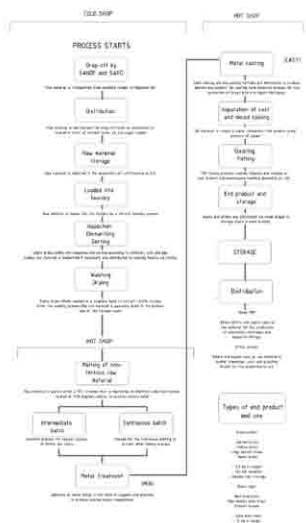




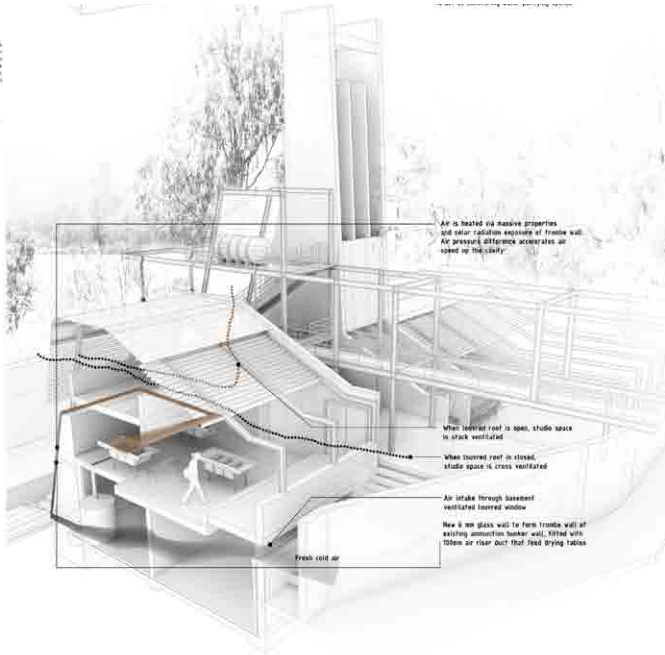
H E A T T R A N S F E R

A heat transfer strategy is developed to address the rising process of new material after casting. The existing complex building wall is relatively porous as it consists of masonry because of the wall's surface porosity because of the masonry and thermal conductivity. It is made out of brick with a thin glass facade where it is exposed to the exterior. The glass will be treated with a coating that allows the heat to pass through the glass but reflects the solar radiation back. The solar radiation will be absorbed by the masonry and the heat will be stored. The heat will be stored in the masonry and the heat will be stored in the masonry. The heat will be stored in the masonry and the heat will be stored in the masonry. The heat will be stored in the masonry and the heat will be stored in the masonry.

F O U N D R Y P R O J E C T I V E S I - F o u n d r y T o w e r



E M P L O Y E E W E L L B E I N G A N D A R T I S T S T U D I O





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This appendix
illustrates
photographs
of the final
architectural model

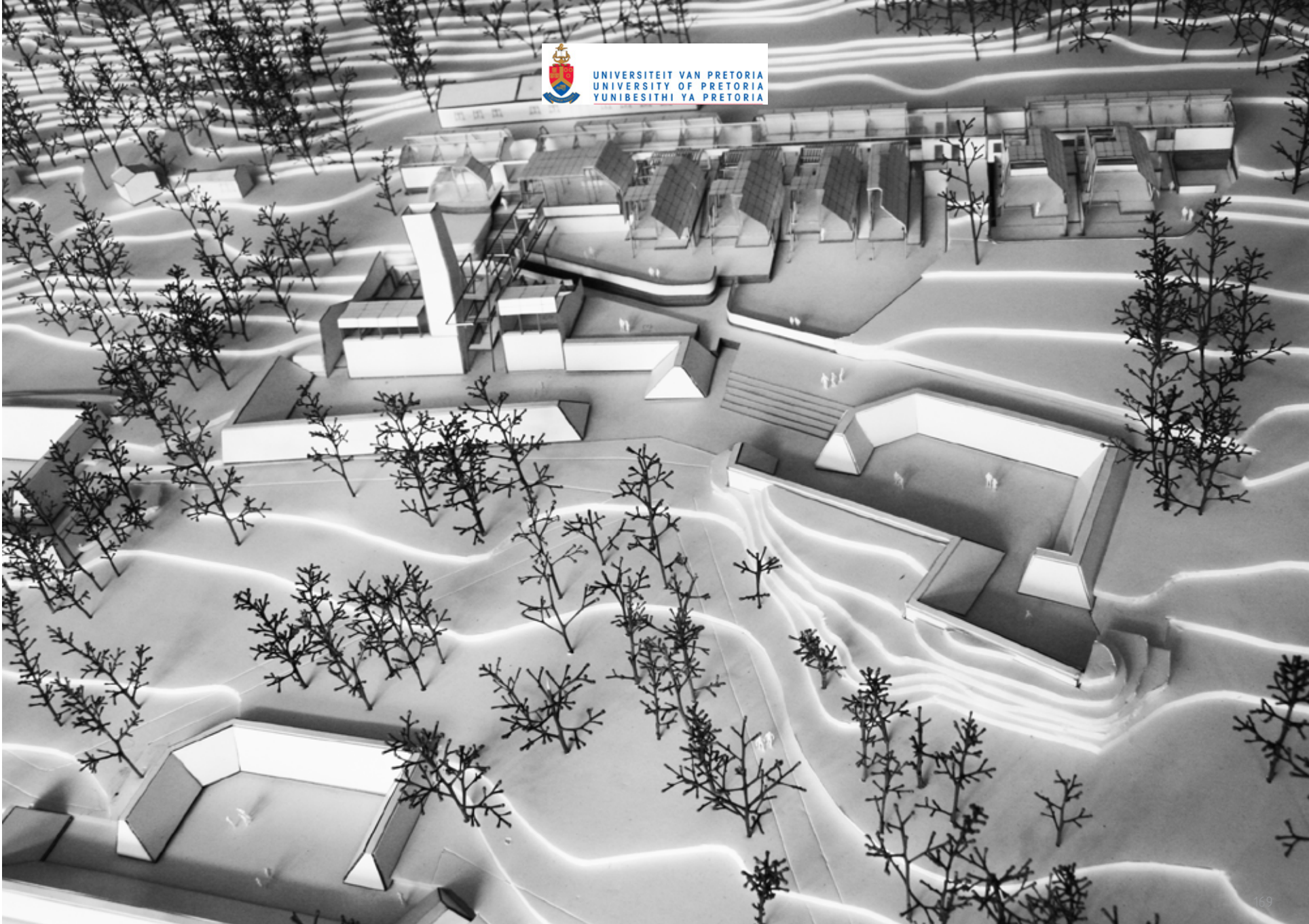


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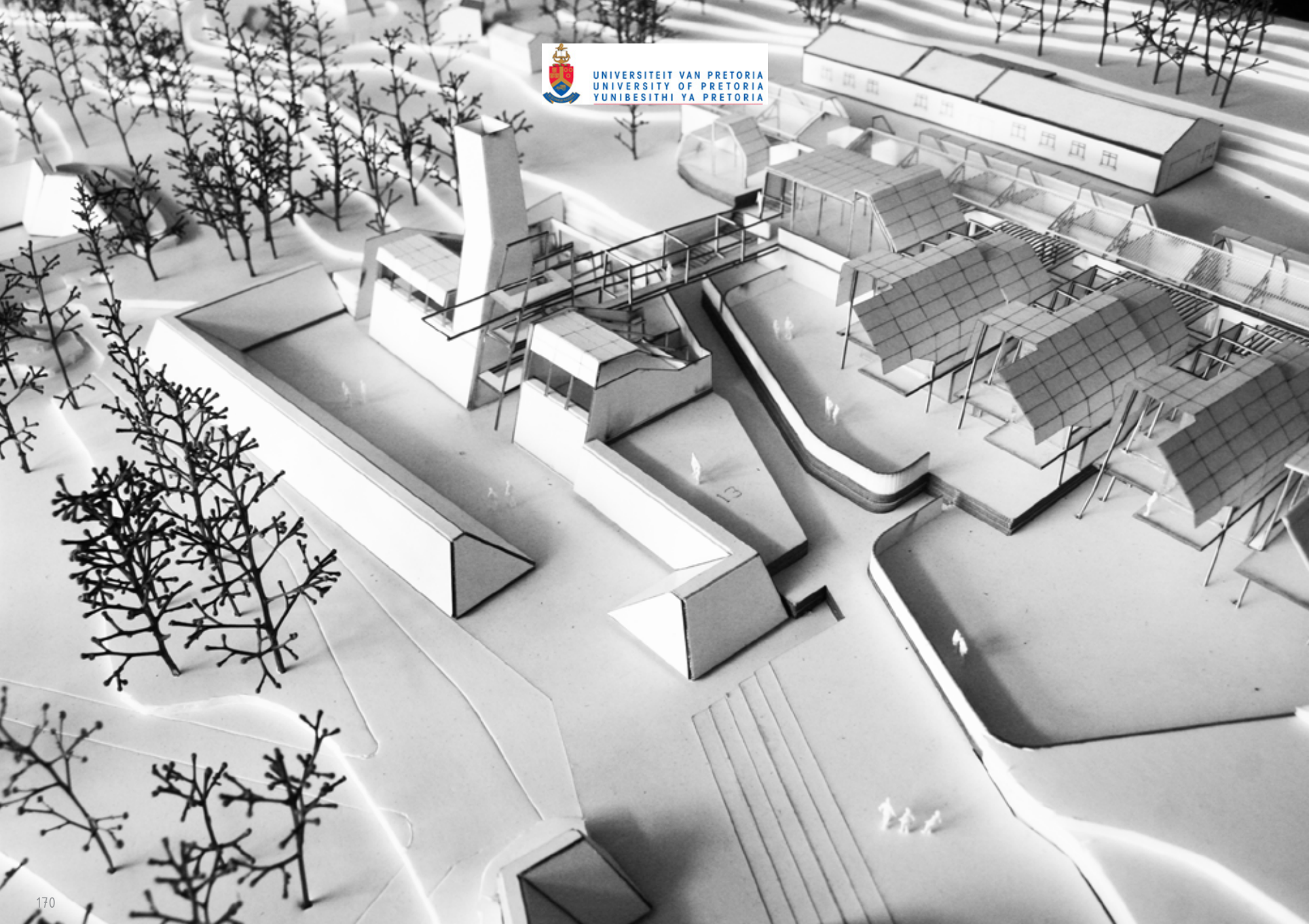


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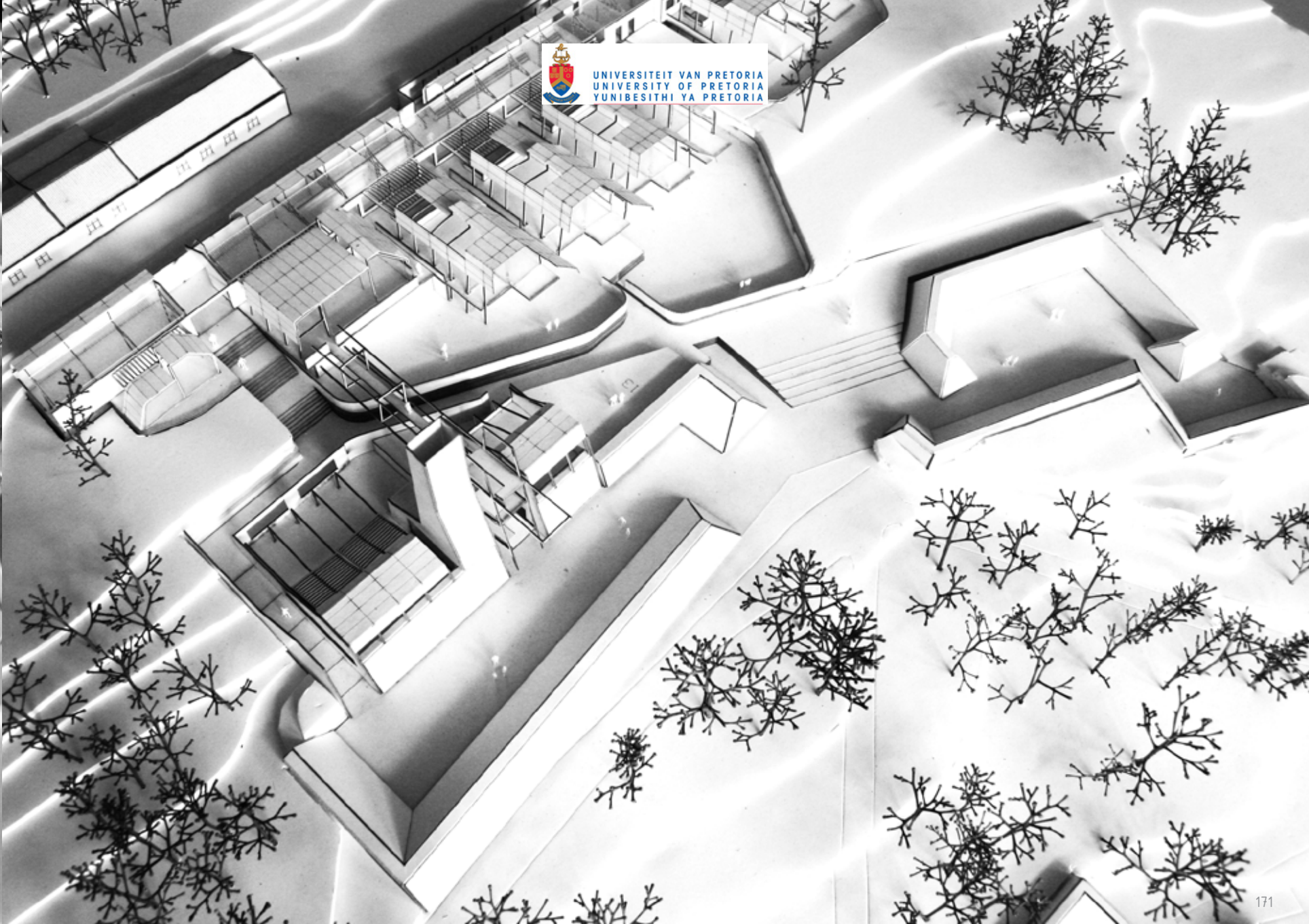


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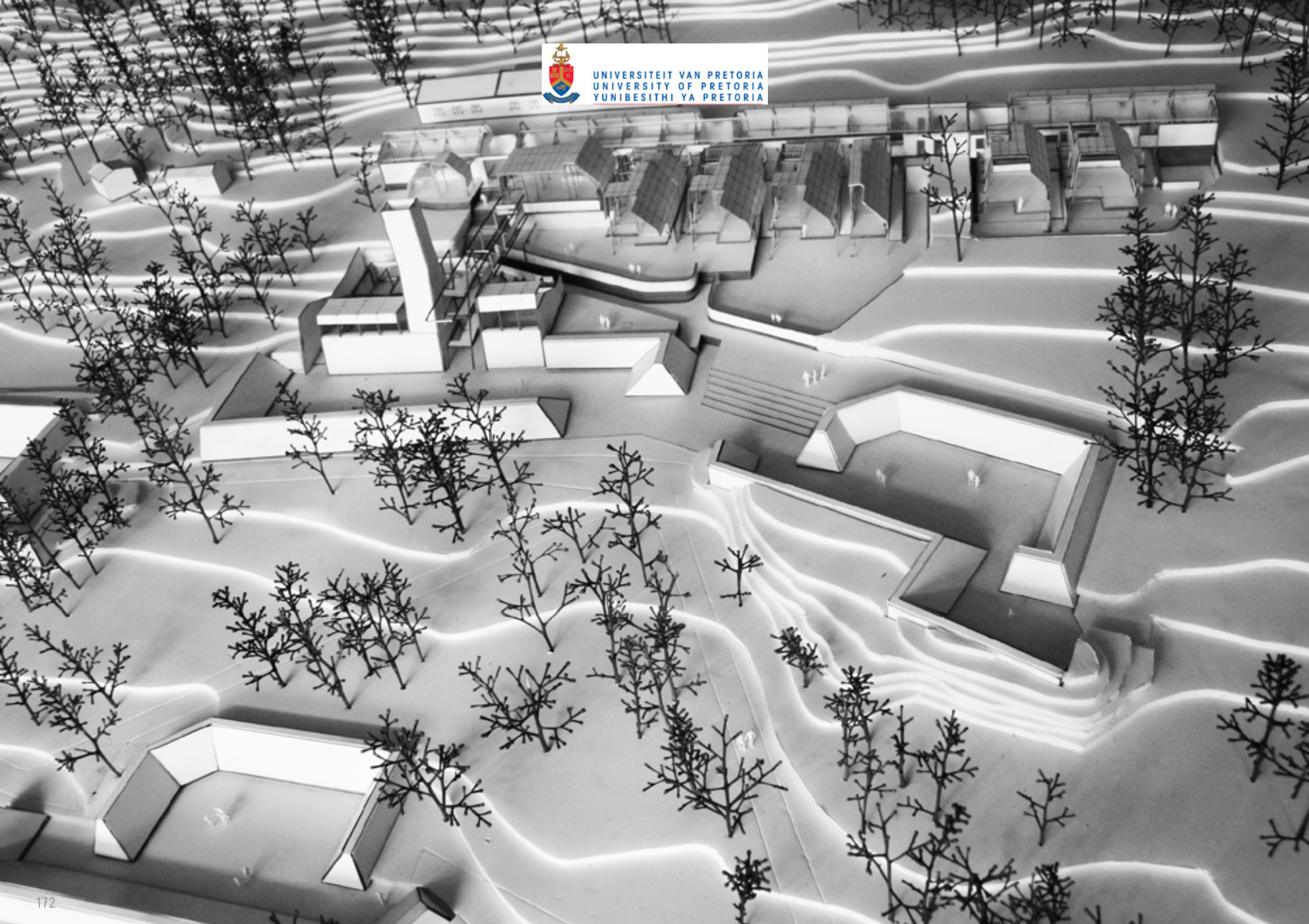


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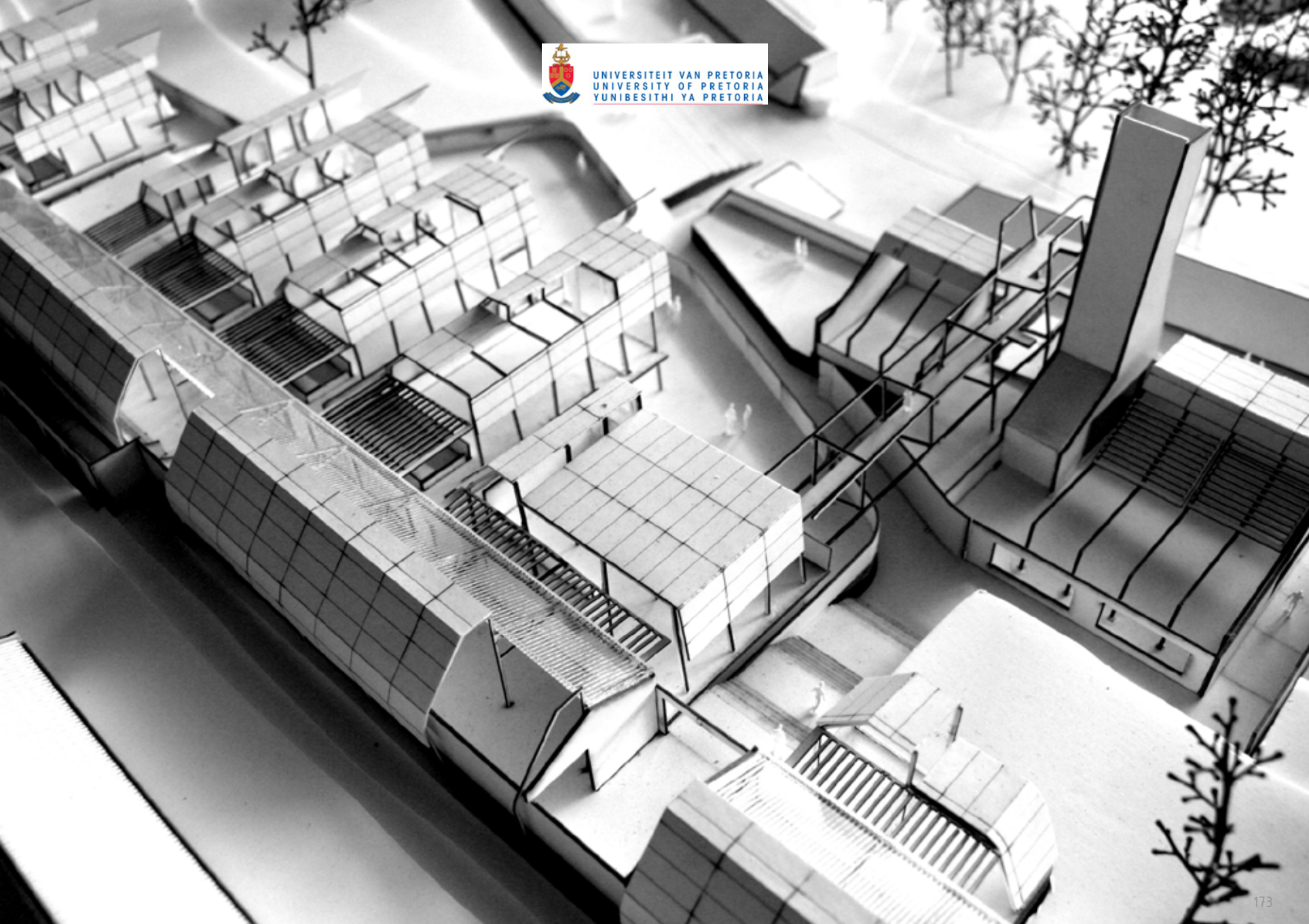


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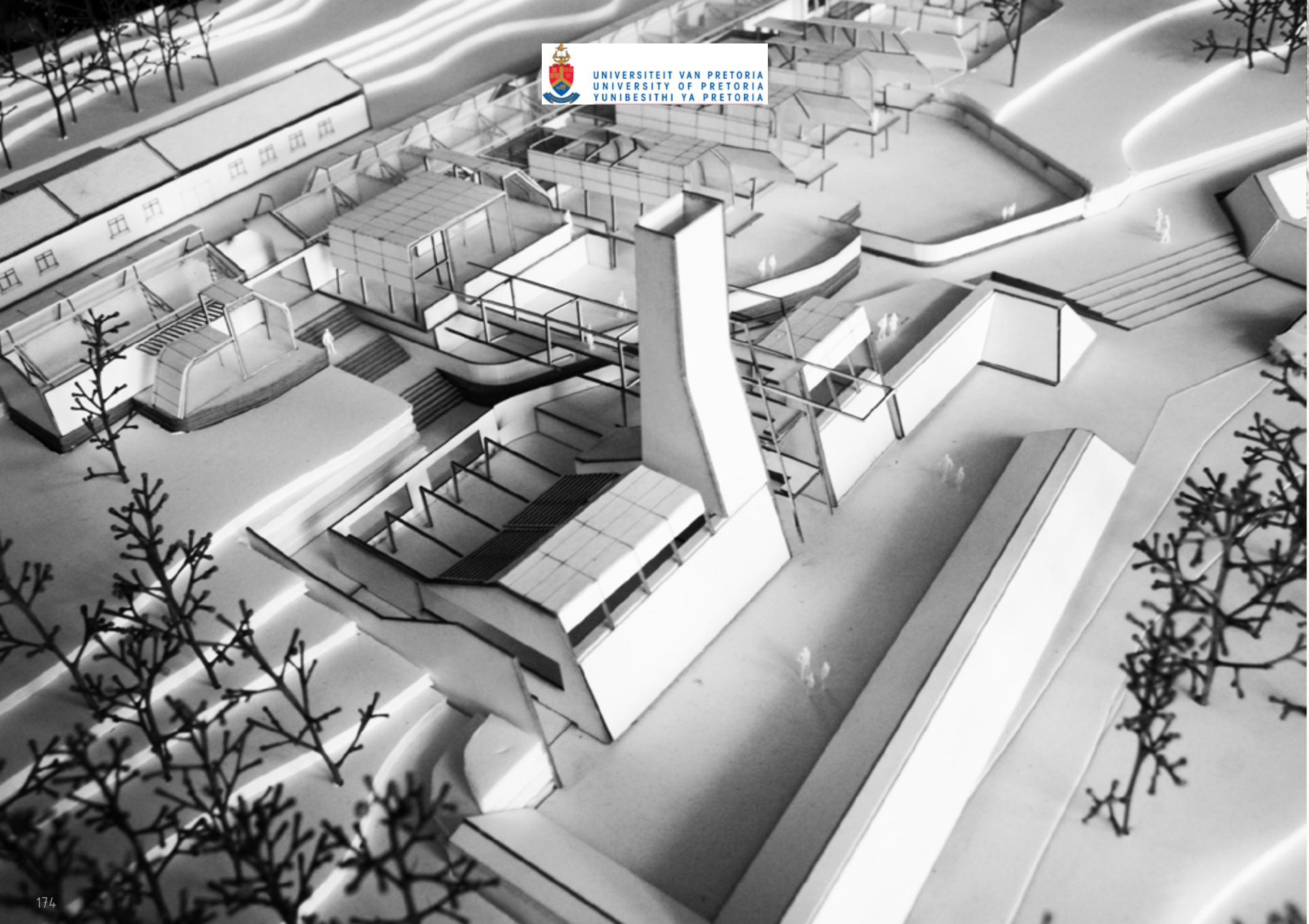


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