



ELECTRICAL

- 

CEILING LIGHT POINT 60W
- 

WATER LIGHT EXTRERMAL
- 

15amps DOUBLE WALL PLUG
- 

INTERNAL WALL MOUNTED LIGHTS
- 

DISTRIBUTION BOARD
- 

TWO WAY SWITCH
- 

THREE MODOL SWITCH
- 

ONE WAY SWITCH
- 

SOLAR GEYSER

CONSTRUCTION NOTES IN COMPLIANCE WITH SA

- B- STRUCTURAL DESIGN - To be completed by a registered professional engineer with relevant experience in the structural and civil engineering field. Proof of registration must be supplied when required to do so
- C - DIMENSIONS - All rooms and spaces to be constructed in accordance with SANS 10400-C
- D - PUBLIC SAFETY - Any change in level, design of ramps and driveways and access to swimming pools to be in accordance with SANS 10400-DB

GENERAL NOTES:

- *ALL WORK TO COMPLY WITH THE NATIONAL BUILDING REGULATION.
- *ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
- *ALL MATERIAL TO MANUFACTURE'S SPECIFICATION.
- *ALL EXTERNAL TO BE 230mm & INTERNAL WALLS TO BE 115mm WIDE BRICKWORK & 10mm PLASTER.

BRICKWORK

- *EXT.& INT.WALLS 230 X 115 X STOCKBRICKS.375 MICRON DAMP PROOF COURSE UNDER ALL WALLS & WINDOWS CILLS.

WINDOWS & DOORS

- *EXT.DOORS OPEN BACK IN STEEL & WOODEN FRAMES WITH 3 LEVER MORTICE LOCKS.INT.DOOR NASONITE HOLLOW CORE IN STEEL FRAME 2 LEVER MORTICE LOCKS.STANDARD STEEL WINDOOS AS INDICATED.

GLAZING & TILING

- *PANES NOT TO EXCEED 0.75sqm. = 3mm, NOT TO EXCEED 1.5sqm = 6mm.SAFETLY GLASS ALL WINDOWS LOWER THAN 0.3m FROM FFL.OBSURE GLASS TO ALL BATHROOM. & WC's.

DRAINAGE NOTES

- *REGISTERED PLUMBER & DRAINLAYER TO WORK TO STRICT CODES AND REGULATIONS OF LOCAL AUTHORITY.NO DRAINAGE BENDS OR JUNCTIONS BELOW FLOORS.BENDS & JUNCTGIONS IN DRAINS TO BE FITTED WITH IES & CE'S WITH MARKED COVERS AT GROWNND LEVEL.DRAINS UNDER BUILDING TO BE WELL PROTECTED AGAINS LOAD.WASTE FITTING TO HAVE RE-SEAL TRAPS AND TO BE FULLY ACCESIBLE AT GROUND LEVEL.

FOUNDATION

- *ALL TO ENGINEER'S SPECIFICATION ON COMPACTED EXCAVATED TRENCH TO DIMENSIONS AND ENGINEER SPECIFIED CONCRETE
- *25mm SMOOTH SCREED ON 76mm CONCRETE SURFACE BED MINIMUM 200mm ABOVE NATURAL GROUND LEVEL ON WELL COMPACTED HARD CORE FILLING.

ROOF & TRUSSES

- * ROOF PITCH = 20 deg MARLEY CEMENT TILES ON 38 X 38 BATTENS APPROVED BY S.A.B.S UNDERLAYING ON PREFABRICATED ENGINEER DESIGN ROOF TRUSSES S.A.B.S CODE 0161 SPECIFIDE ON 600 c/c ON 114 X 38 mm WALL PLATE. FIBER CEMENT FACIAS, FIBER CEMENT CEILING

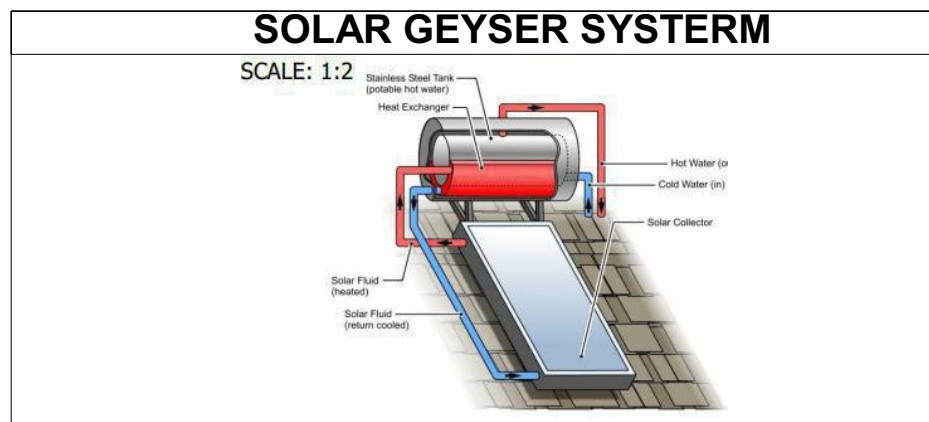
PRELIMINARY DESIGN	
--------------------	--

AREA SCHEDULE		COVERAGE	
LOCATION	AREA		
GROUND FLOOR			
FIRST FLOOR		Stand Size	
TOTAL		NEW COVERED AREA Coverage	

F.A.R	
Stand area	
Actual F.A.R	0.3

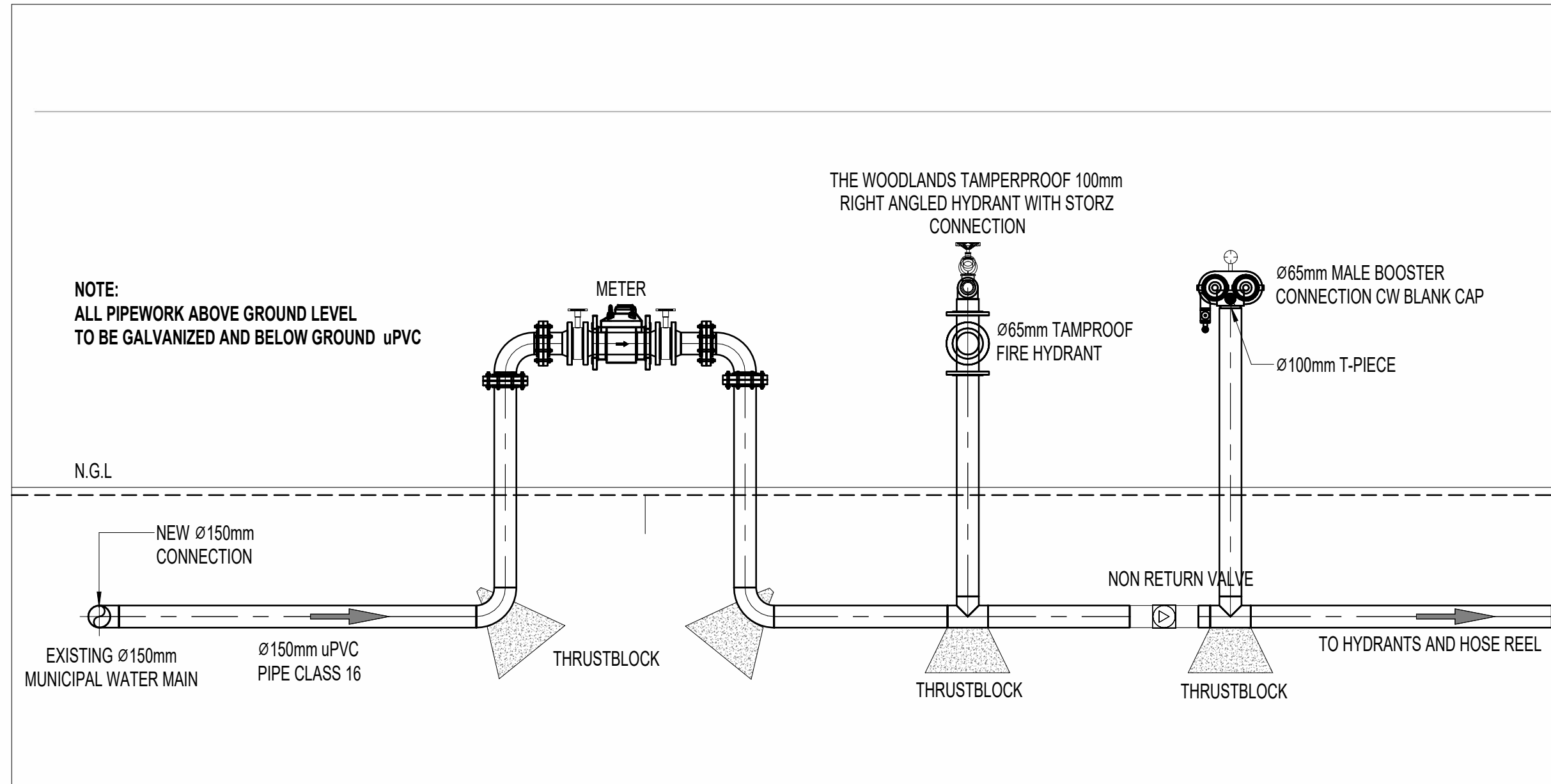
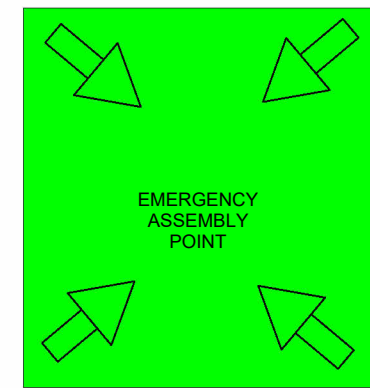


Proposed New Dwelling	
Address	Owner
WATERBEG TVET CULINARY SCHOO TRADE TEST CENTER	NZUMBU-DIVHI BUILDING AND CIVIL CONSTRUCTION CC
7/15/2026	Drawn by:NGOBENI L.G
Scale: As indicated	Checked by: NGOBENI L.G
Owner's Signature	Engineer's Signature





FIRE - WATERBEG TVET -CULINARY SCHOOL TRADE TEST CENTER
1 : 50



OCCUPANCY:
A3 - PLACES OF INSTRUCTION

POPULATIONS:
STANDARD POPULATIONS APPLY AS PER SANS10400: PART A TABLE 2 UNLESS OTHERWISE INDICATED ON DRAWINGS.

STABILITY OF STRUCTURAL:
PLACES OF INSTRUCTION: - 90 MIN (TABLE 6)

SAFETY DISTANCE (4.2):
NO UNPROTECTED OPENINGS IS ALLOWED IN FIRE WALL. UNPROTECTED OPENINGS TO BE COVERED UP BY SAME FIRE RATING AS WALL TO THE MINIMUM REQUIRED AREA AS INDICATED BY TABLE 2, SANS 10400-T.2024.

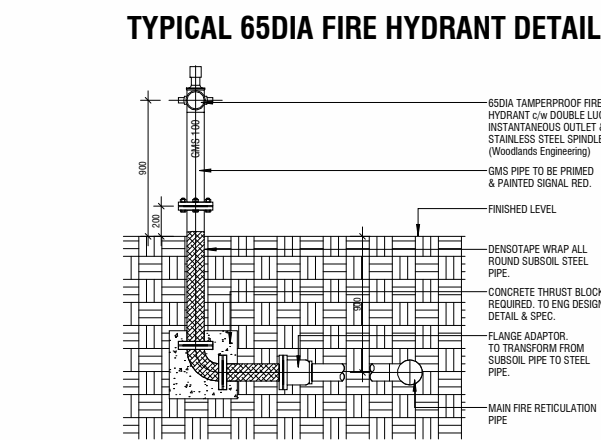
PARTITION WALLS AND PARTITIONS (4.9)
ALL PARTITION WALL SHALL BE 30 MIN FIRE RATED AND NON-COMBUSTIBLE, OR CONTRIBUTE LESS THAN 5kg/m² OF FLOOR AREA IN EACH DIVISION. 150mm AAC BRICK TO BE USED ON THE PROJECT WHICH HAS A FIRE RATING ON 2HRS. CONFIRMATION OF SPECIFICATION TO BE SUBMITTED PRIOR ANY CONSTRUCTION WORK COMMENCE.

CEILINGS (4.13)
NO COMBUSTIBLE MATERIAL WILL BE INSTALLED IN ANY CEILING VOID. COMBUSTIBILITY OF CEILINGS NEED TO BE IN ACCORDANCE WITH SANS 10177-5. CEILING VOIDS SHALL BE DIVIDED INTO AREAS NO LARGER THAN 250m² WITH NON-COMBUSTIBLE FIRE STOPS OF STABILITY AND INTEGRITY OF AT LEAST 20MINS. FIRE RATED CEILINGS TO BE INSTALLED AS INDICATED TO PROVIDE FIRE RATING BETWEEN DIFFERENT OCCUPANCIES AND COVER EXISTING COMBUSTIBLE FLOORS

FLOOR COVERINGS (4.14)
THE CLASSIFICATION OF ANY NEW FLOOR COVERINGS SHALL BE EQUAL TO OR EXCEED THE FOLLOWING IN TERMS OF SANS10400 PART T: TABLE 8

INTERNAL FINISHES (4.15)
THE CLASSIFICATION OF ANY NEW INTERNAL FINISHES SHALL BE EQUAL TO OR EXCEED THE FOLLOWING IN TERMS OF SANS10400 PART T: TABLE 9

ESCAPE ROUTES (4.16)
DISTANCES TO THE NEAREST ESCAPE DOOR DO NOT EXCEED 45 m. THE MAXIMUM SINGLE DIRECTION TRAVEL IS LESS THAN 30m. NO DEAD-END CORRIDOR EXCEEDING 10m. STAIRS AND PASSAGES (4.27) THE RISE AND TREAD OF ANY STEP AND SLOP OF RAMP FORMING PART OF AN ESCAPE ROUTE SHALL COMPLY WITH THE REQUIREMENTS OF SANS 10400 PART M AND S.



BUILDING OCCUPANCY CLASS F2	
POPULATION	1 PERSON PER 15 m ²
BUILDING TOTAL m ²	353
TOTAL POPULATION FOR BUILDING AREA	281 / 15 = 18 PAX

SANS 10400-T.4.20.3 The exit door of a room which has a population of less than 25 persons shall not be required to be so marked. Where a room has more than one exit door, any door used for normal exit from such room shall not be required to be so marked

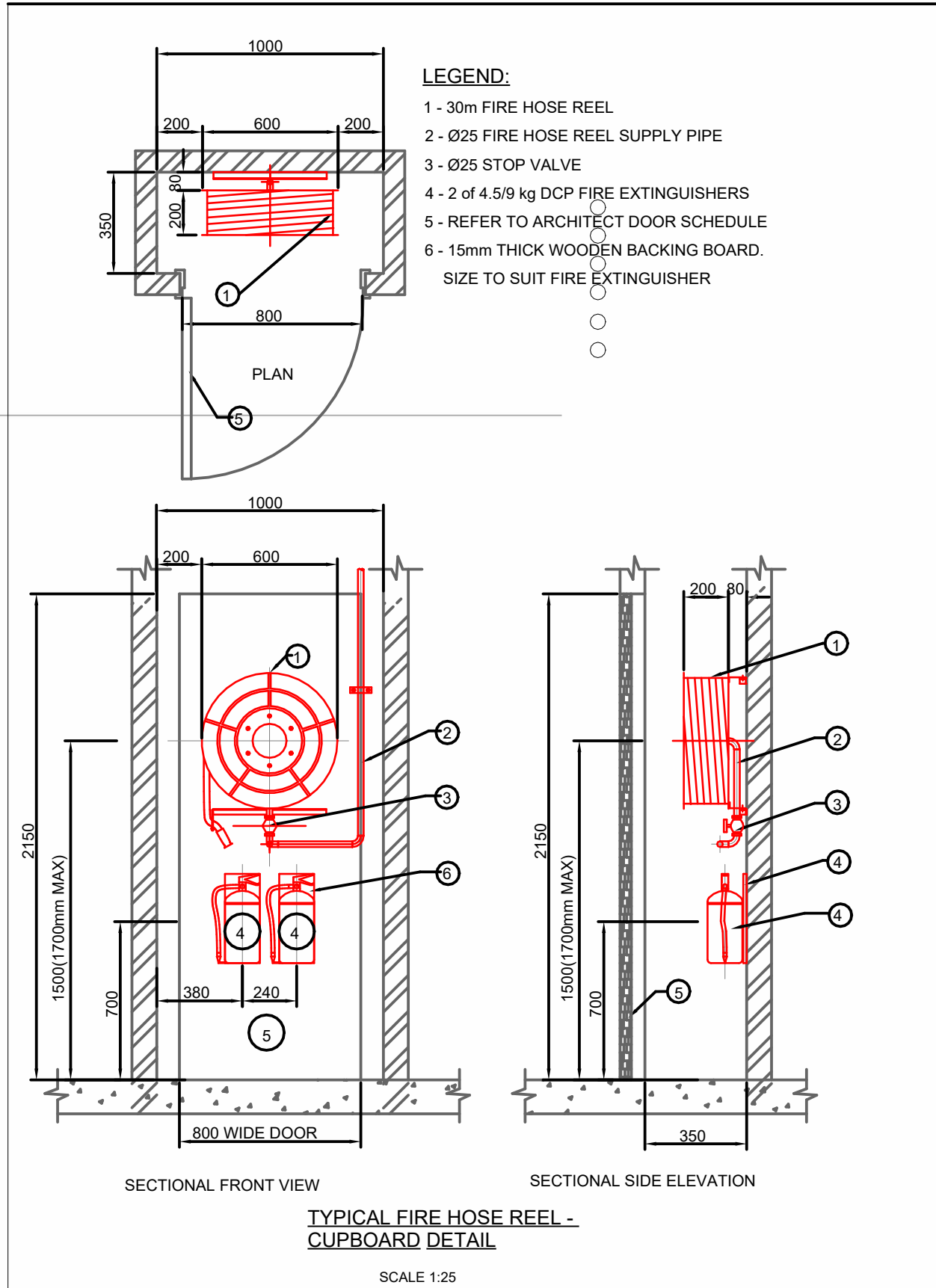
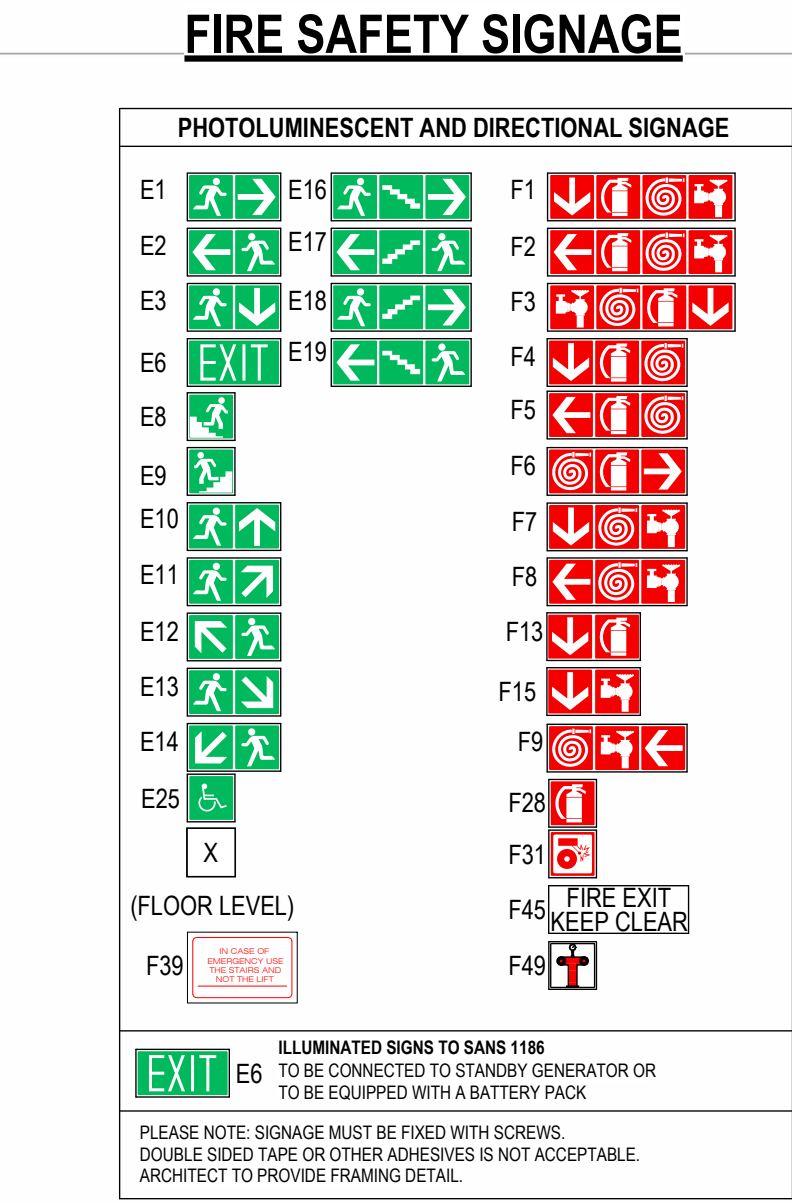
MARKING AND SIGNPOSTING (4.28)
PHOTOLUMINESCENT EMERGENCY SIGNPOSTING IN ACCORDANCE WITH SANS 1186 WILL BE PROVIDED TO INSTRUCT AND INDICATE THE LOCATION OF ALL ESCAPE ROUTES AND FIRE FIGHTING EQUIPMENT. ALL SIGNAGE SHALL BE ALUMINUM FRAMED AND MECHANICALLY FIXED TO WALLS, OR SUSPENDED VIA METAL CHAINS OR CABLE FROM CEILINGS. FIXING BY GLUE OR SILICONE SHALL NOT BE PERMITTED. ALL SIGNAGE SHALL BE MINIMUM 190 X 190mm IN SIZE.

FIRE DETECTION (4.31)
ANY OCCUPANCY CLASSIFIED AS F1 SHALL HAVE A MANUALLY ACTIVATED VISUAL AND AUDIBLE ALARM SYSTEM, THAT SHALL COMPLY WITH SANS 10139. (All installations to be done by an SAQCC Cert. Installer)

FIRE WATER:
WATER RETICULATION FOR FIRE FIGHTING (4.33) THE WATER DUTY TO THE SITE MUST BE VERIFIED TO PROVIDE NOT LESS THAN 300kPa, 0.5/s FOR HOSE REELS AND 20/s FOR HYDRANTS. PROVISION FOR PRESSURE BOOSTER PUMPS AND STORAGE TANKS AS PER SANS 10400-W IN CONSULTATION WITH LOCAL AUTHORITY.

FIRE HOSE REELS (4.34)
FIRE HOSE REELS SHALL BE PROVIDED TO ACHIEVE RATE OF 1 HOSE REEL PER 500m² OF BUILDING AREA WHICH FORMS PART OF THIS SCOPE AND SO THAT 30m HOSES CAN REACH ALL AREAS.

FIRE HYDRANTS (4.35)
1 x 150mm FIRE HYDRANT PER 1000m² SHALL BE PROVIDED. THE FIRE HYDRANT WILL BE LESS THAN 90M FROM ALL AREAS.



ADDITIONAL FIRE PROTECTION NOTES IN TERMS OF SANS 10400:2024 PART T & PART W (5TH EDITION):

ADDITIONAL NOTES:
1. SUPPLY AND INSTALLATION OF FIRE RATED DOORS AND FRAMES:
THE CONTRACTOR(S) SHALL ENSURE THAT ALL FIRE DOORS AND FRAMES ARE SUPPLIED, ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE SUPPLIER/MANUFACTURER'S SPECIFICATIONS IN ORDER TO ACHIEVE THE FIRE STABILITY AND INTEGRITY RATINGS QUOTED FOR SUCH DOORS AND FRAMES.

2. FIRE SEALING OF PENETRATIONS, OPENINGS AND DIVISION (FIRE RATED) WALLS:
ALL PENETRATIONS AND OPENINGS IN WALLS INDICATED ON THE FIRE PLAN DRAWINGS TO BE FIRE RATED WALLS ARE TO BE CLOSED UP AND FIRE SEALED TO THE SAME RATING REQUIRED FOR SAID WALLS, USING SABS APPROVED PRODUCTS.

3. SURFACE FIRE INDEX OR MATERIALS OTHER THAN FLOORS:
SURFACE FIRE INDEXES OF SUCH MATERIALS, INCL. ROOF INSULATION, SHALL COMPLY WITH THE REQUIREMENTS OF SANS 10400: T TABLE 17

PORTABLE FIRE EXTINGUISHERS (4.37)
PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED TO ACHIEVE RATE OF 1 EXTINGUISHERS PER 200m². TYPES AND SIZES AS PER SANS 10400: PART T, TABLE 11 SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS. ALL EXTINGUISHERS SHALL BE MOUNTED ON TIMBER BACKING BOARDS, PAINTED WITH PRIMER AND 2 X COATS SIGNAL RED ENAMEL PAINT.

EMERGENCY LIGHTING (4.30)
EMERGENCY LIGHT TO COMPLY WITH SANS 10400 PART T SECTION 4.30. TEST AFTER INSTALLATION.



DISCLAIMER		
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE VHUSANI ENGINEERING OFFICE OF THE APPROVER		
GENERAL FIRE PROTECTION NOTES:		
1.	All work to comply with Act 103 of 1977 and SANS 10400 - 2024.	
2.	All installation work to comply with Occupational Health & Safety Act (Act 85 of 1993).	
3.	All uncertainties to be verified with the Fire Engineer.	
4.	Occupancy Classification A3	
5.	Fire Extinguishers to be installed according to SANS 10105 and quantity according to Table 11 in SANS 10400 Part T.	
6.	Fire Hose Reels to be installed in accordance with SANS 10543 at a height of 1500mm above floor finish level.	
7.	Hydrants to be installed in accordance with SANS 1128: Part 1 at a height of 1000mm above ground level.	
8.	All services, pipes or ducts which penetrates fire walls or floor slabs between floor levels must be fire stopped and installation should be approved by Fire Engineer.	
9.	Water supply to the fire fighting equipment to comply with the Rational Design or SANS 10400- 2024 Part W - and with Water By-Laws.	
10.	Portable fire extinguishers to be hung inside on purpose made boards, or installed in translucent poly-carbon cabinets, as indicated on plan.	
11.	Floor coverings according to SANS 10400 Part T, Table 8:	
12.	Wall finishes according to SANS 10400 Part T, Table 9:	
13.	Photoluminescence escape signs be provided and to comply with SANS 1186. Photoluminescence pictorial signs, indicating fire equipment, to be provided and to comply with SANS 1186.	
14.	Suspended ceilings and its supporting members, shall be of non-combustible non fire propagating material complying with SANS 53501-1.	
15.	Structural elements and components shall comply with SANS 10400 Part T, Table 6	
16.	Suspended ceilings and the supporting members, shall be of non-combustible materials.	
17.	Insulation material to comply with SANS 53501-1.	
18.	All fire water reticulation pipes should be pressure tested at 1.5 times the working pressure.	
19.	Green directional arrows indicate path of primary escape.	
20.	All installations to be done by a SAQCC Cert. Installer.	
LEGEND		
SYMBOL	DESCRIPTION	QTY
(P)	Emergency Panic Bar	
(B)	Self-Closing CLASS "B" Fire Door with Approved Locking-Device	
(F)	40mm Self-Closing Solid Timber Door	
(S)	Self-Closing Smoke & Draught Door	
(M)	Manual Override Switch Approved Locking-Device on inside	
(A)	Approved Locking-Device	
[Red Line]	Full height 120 min rated Fire Wall	
[Blue Line]	Full height 60 min rated Fire Wall	
(FH)	Fire Hydrant & Booster Connection	
(H)	FH-Fire Hydrant	
[Red Box]	30m FHR-Fire Hose Reel In Steel Cabinet	
(4.5)	4.5kg DCP F.E.	
(5)	5kg CO ₂ F.E.	
(10)	10kg CO ₂ F.E.	

COPYRIGHT AND RIGHT OF REPRODUCTION OF THIS DRAWING OR ANY PORTION THEREOF IS RESERVED BY THE FIRE ENGINEER

KEYPLAN:

VHUSANI'S
ENGINEERING WORKS

VHUSANI ENGINEERING WORKS, 89 HANS VAN RENSBURG STREET POLOKWANE
MOBILE - 076 460 3922
vhusani.mukwevho@gmail.com

CLIENT

WATERBERG TVET COLLAGE

REV	DATE	REVISION DETAILS	APPROVED
A	2026-07-22	ISSUED FOR INFORMATION	M.NYALUNGA

SCALE	SIZE	COUNCIL APPROVAL NOT FOR CONSTRUCTION
	A0	

DRAWN S.DZIVHANI	APPROVED	DATE 2025-06-28
DESIGNED S.DZIVHANI		
REVIEWED T.T.MOSEA	M.NYALUNGA	REG. NO. 202504155
PROJECT		

**WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER**

TITLE

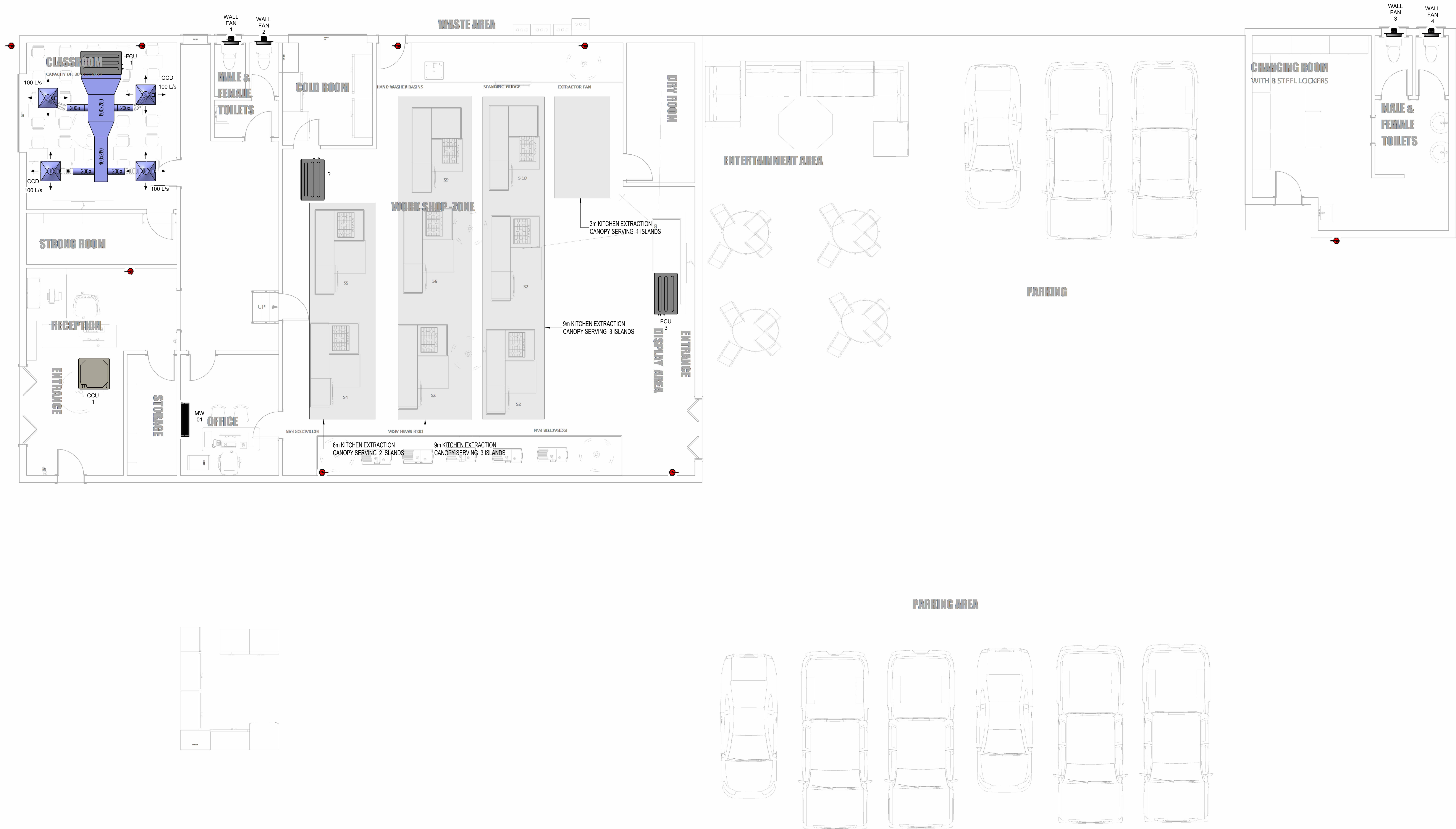
**WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER
FIRE PROTECTION
LAYOUT**

DRAWING NUMBER

BA138-VEW-DR-GF-FR-001-A

Project: Culinary and Catering Training TVET Waterberg TVET Culinary School Trade Test Center-4
Rev: 000
Pld Date: 2026/07/22 11:59:53

HVAC - WATERBEG TVET -CULINARY SCHOOL TRADE TEST CENTER
1 : 50



DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE VHUSANI ENGINEERING OFFICE OF THE APPROVER

COPYRIGHT AND RIGHT OF REPRODUCTION OF THIS DRAWING OR ANY PORTION THEREOF IS RESERVED BY THE FIRE ENGINEER

KEYPLAN:



VHUSANI ENGINEERING WORKS, 89 HANS VAN
RENSBURG STREET POLOKWANE
MOBILE - 076 460 3922
vhusani.mukwevho@gmail.com

CLIENT

WATERBERG TVET
COLLAGE

REV	DATE	REVISION DETAILS	APPROVED
A	2026-07-22	ISSUED FOR INFORMATION	M.NYALUNGA

SCALE	SIZE	PRELIMINARY
	A0	NOT FOR CONSTRUCTION
DRAWN	S.DZIVHANI	APPROVED
DESIGNED	S.DZIVHANI	DATE
REVIEWED	M.NYALUNGA	REG. No
		202504155

PROJECT
WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER

TITLE
WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER
HVAC LAYOUT

DRAWING NUMBER
HVAC-002-A



PRINT IN B&W

Project: C:\Users\m\Documents\Drawing\TVET\WATERBERG TVET -CULINARY SCHOOL- TRADE TEST CENTER-44
Rev: 006
Pld Date: 2026/07/22 11:59:15

LIGHTING - WATERBEG TVET -CULINARY SCHOOL TRADE TEST CENTER
1 : 50



DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER
WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT
THE VHUSANI ENGINEERING OFFICE OF THE APPROVER

COPYRIGHT AND RIGHT OF REPRODUCTION OF THIS DRAWING OR ANY PORTION
THEREOF IS RESERVED BY THE FIRE ENGINEER

KEYPLAN:



VHUSANI ENGINEERING WORKS, 89 HANS VAN
RENSBURG STREET POLOKWANE
MOBILE - 076 460 3922
vhusani.mukwevho@gmail.com

CLIENT

WATERBERG TVET
COLLAGE

REV	DATE	REVISION DETAILS	APPROVED
A	2026-07-22	ISSUED FOR INFORMATION	M.NYALUNGA

SCALE	SIZE	PRELIMINARY NOT FOR CONSTRUCTION
	A0	
DRAWN S.DZIVHANI	APPROVED	DATE
DESIGNED S.DZIVHANI		
REVIEWED M.NYALUNGA		REG. No 202504155

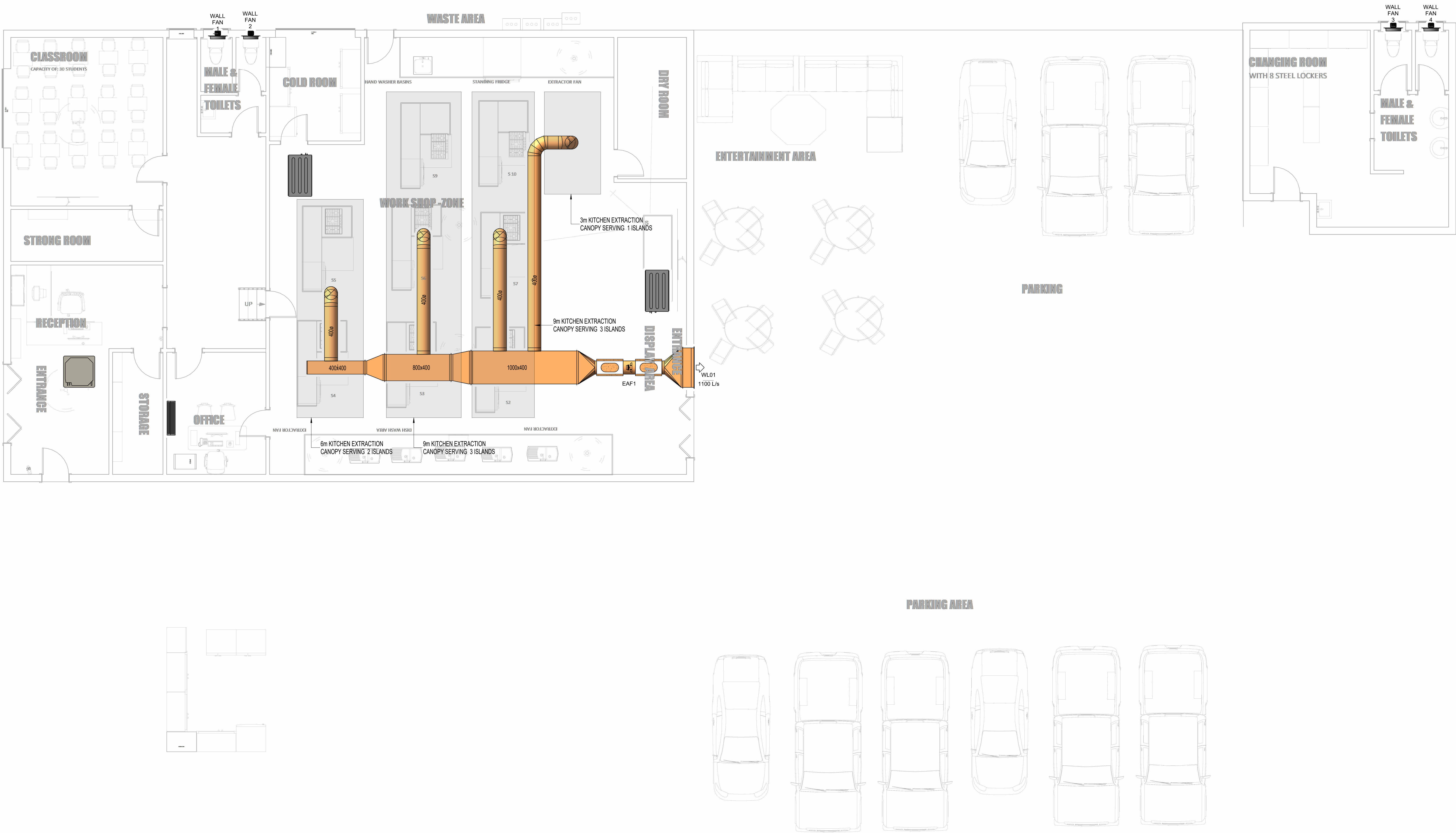
PROJECT
WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER

TITLE
WATERBERG TVET -CULINARY SCHOOL
TRADE TEST CENTER
HVAC LAYOUT

DRAWING NUMBER
HVAC-006-A



PRINT IN B&W



KITCHEN EXTRACTION - WATERBEG TVET -CULINARY SCHOOL TRADE TEST CENTER
1 : 50

DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE VHUSANI ENGINEERING OFFICE OF THE APPROVER

COPYRIGHT AND RIGHT OF REPRODUCTION OF THIS DRAWING OR ANY PORTION THEREOF IS RESERVED BY THE FIRE ENGINEER

KEYPLAN:



VHUSANI ENGINEERING WORKS, 89 HANS VAN RENSBURG STREET POLOKWANE
MOBILE - 076 460 3922
vhusani.mukwevho@gmail.com

CLIENT

WATERBEG TVET COLLAGE

REV	DATE	REVISION DETAILS	APPROVED
A	2026-07-22	ISSUED FOR INFORMATION	M.NYALUNGA

SCALE	SIZE	PRELIMINARY
	A0	NOT FOR CONSTRUCTION
DRAWN	S.DZIVHANI	APPROVED
DESIGNED	S.DZIVHANI	DATE
REVIEWED	M.NYALUNGA	REG. No
		202504155

PROJECT
WATERBEG TVET -CULINARY SCHOOL
TRADE TEST CENTER

TITLE
WATERBEG TVET -CULINARY SCHOOL
TRADE TEST CENTER
KITCHEN EXTRACTION LAYOUT

DRAWING NUMBER
KITCHEN EXTRACTION-009-A



PRINT IN B&W

General Notes

- The installation of a container(s), complete with all associated equipment and appliances and any subsequent repair or modifications to the installation, shall be carried out by a registered installer qualified to the appropriate grade (domestic or commercial grade).
- NOTE: This requirement does not include the replacement of the containers.
- Each container shall be located in an upright position with the valve apparatus, and shall be so placed on a solid non-combustible level base that there can be no danger of the container tilting or falling over. Compacted soil shall not be acceptable.
- Containers shall be so located in an accessible position that a) full and empty containers can be changed easily, b) they can be disconnected and removed quickly in case of an emergency, and c) the container valve can be easily operated.
- In the selection of a location for containers, the following locations shall be avoided:
 - any position in which the containers are likely to cause obstruction, to become damaged or to be exposed to conditions likely to affect their safety;
 - any position that is subject to extreme temperature (excluding natural elements);
 - any position near corrosion or readily combustible substances; and
 - any position adjacent to drains, drains, hollows, etc., where escaping gas might collect.

Containers installed Outdoor

Containers shall be located on a firm, clean, well-drained and level base. The area surrounding a container shall be kept clear of combustible materials, for example, weeds, dry grass, paper and waste. Containers shall be located and protected against tampering by unauthorized persons and also damage and interference by, for example, animals and vehicles.

Containers shall be at least:

- 1 m away from any opening (into a building) that is below the level of the container valve, i.e. doors, windows and airbricks;
- 2 m away from any drain, pit or manhole;
- 3 m away from the property boundary, unless the boundary has a firewall, in which case the containers could be next to the firewall, and where there are only two containers, the boundary distance can be reduced to 1 m; and
- 3 m away from any opening (or window) directly above the containers. The 3 m distance from the top of the cylinder, valve connection or the manifold, whichever is the higher, to the bottom of the window(s) may be reduced to a minimum of 300 mm providing that:

- a non-combustible roof (see SANS 10400) is installed between the containers and the opening. The roof shall extend beyond the cylinders) such that when measured from the valve connection and around the roof to the nearest point of the window, a minimum of 1.5 m safety distance shall be obtained; or
- the window frames shall be steel and the total size of the glazing does not exceed 1 m². Glazing shall be of wire-woven glass not larger than 450 mm x 450 mm per pane. Such windows shall not be operable;
- Cylinders shall not be installed directly under the eaves of thatched roof. Cylinders shall be not less than 3 m away from eaves of the thatched roof behind a firewall. Loose or piled combustible material, weeds and long grass shall not be permitted within 3 m of any container;
- Cylinders shall not be installed directly under the eaves of thatched roof. Cylinders shall be not less than 3 m away from eaves of the thatched roof behind a firewall. Loose or piled combustible material, weeds and long grass shall not be permitted within 3 m of any container;

All copper or steel pipe installation holder bolts shall be of metal. Precautions shall be taken to prevent galvanic corrosion between the holder bolt and the relevant pipe. Where the regulator is affixed to the wall by means of a bracket, the gas supply between the cylinder and the regulator shall be by means of an LPG pigtail with a bull nose fitting at one end, and a threaded connection at the other end to fit the regulator inlet.

In the case of multi-cylinder connections, where cylinders are connected by means of a changeover valve, the regulator and changeover switch shall be wall mounted, with the gas supply from each cylinder being by means of individual pigtails.

Where more than two containers are used in an installation, the containers shall be connected into a manifold system. A changeover device connected to one container on each side shall not be deemed to be a manifold; however, the safety distances shall still apply.

The containers shall be connected to the manifold system by one of the following methods:

- on a single branch, up to ten containers of size up to and including 113 L (48 kg) with a maximum of 20 cylinders per installation; or
- on a single or multiple branch, with containers of size in excess of 113 L, and up to and including 500 L (146 kg) with a maximum of 4 containers per installation.

Pipes in critical locations

Pipes passing through the cavity walls, lift shafts, flues, ceiling voids or floor voids and air ducts shall be sleeved.

Where pipes pass through walls that might or might not be regarded as cavity walls, such pipes shall be sleeved. Pipes shall not be placed vertically or horizontally in the void of a cavity wall.

Where copper tubes are used, they shall have no joints and shall be sleeved.

Gas pipelines should not be installed in any dedicated emergency route. However, where approval from the local authority has been granted for installation in emergency routes,

- the pipe shall be schedule 40 piping, be of welded construction,
- have no joints and shall
- be for vapour use only.

Gas piping shall not be laid in the same service as "Electrical Blue-Run" Gas piping shall be at least 150 mm away from any electrical cables, where they run parallel to each other. Gas piping may cross electric cables or vice versa, provided that these do not come into contact with each other and there are no joints in either line within 150 mm of such crossings.

Gas Pipe Sizing

Assume the installation is High Pressure and the Piping is PE-XAL/PE-X, REAL/PIPE Composite Pipe

Index Length = 3/4AB + BC + CD + DSS
= 3/4(5 MJ) + 6.5 M + 135 M + 153 M
= 269 M

Total Gas Demand:
AB + BC + CD + AD
= 883 MJ/h
= 504 MJ/h

DSS2 = 63 MJ/h
DSS3 = 63 MJ/h
DSS4 = 63 MJ/h
DSS5 = 63 MJ/h
DSS6 = 63 MJ/h
DSS7 = 63 MJ/h
DSS8 = 63 MJ/h
DSS9 = 63 MJ/h
DSS10 = 63 MJ/h

Use High Pressure Composite Pipe Sizing

Index Pipe = 269 M is supplying a maximum of 504 MJ/h
Use 50 mm Pipe Size

For:

- DSS2, 63 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS3, 63 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS4, 116 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS5, 148 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS6, 144 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS7, 110 M Long Pipe is Supplying 42 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS8, 153 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS9, 153 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm
- DSS10, 148 M Long Pipe is Supplying 63 MJ/h of Gas
Demand
Pipe Size = 22 mm

DRAWING NOTES:

- STORM WATER MANAGEMENT SHOULD COMPLY WITH SANS10400-PART R.
- 500mm PIPE TO BE INSTALLED AT 300mm C/C ON THE FRONT OF THE BOUNDARY WALL TO COLLECT STORM-WATER FROM THE OPEN DRAIN TO DISCHARGE OUTSIDE THE BOUNDARY TO THE STREET.
- THE NGL TO BE SLOPED TOWARDS THE OPEN STORM WATER DRAIN.
- 500mm WIDE X 100mm THICK CONCRETE APRON TO BE CONSTRUCTED ALL AROUND THE BUILDING AND SLOPED AT 2% TO DIVERT WATER AWAY FROM THE BUILDING REFER TO DETAIL C.
- OPEN DRAIN TO BE CONSTRUCTED ALONG THE BOUNDARY WALL REFER TO DETAIL A & B.

THIS DRAWING IS TO BE READ IN CONNECTION WITH ALL RELEVANT ARCHITECTURAL, ENGINEER'S AND OTHER SPECIALIST DRAWINGS, DETAILS AND SPECIFICATIONS.

THE ENGINEER'S WRITTEN APPROVAL SHALL BE OBTAINED BEFORE ANY VARIATIONS TO DRAW DETAILS ARE PROPOSED.

THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE LOCAL AUTHORITIES AND/OR STATUTORY BODIES WITH RESPECT TO CONSTRUCTION AND SAFETY REGULATIONS.

FOUNDATION NOTES:
THE FOUNDATION SPECIFICATIONS ARE TO BE CHECKED AND APPROVED BY THE ENGINEER PRIOR TO CASTING FOUNDATION AND/OR BLINDING CONCRETE.

CONCRETE NOTES:
ALL CONCRETE SHALL BE CLASS 25 / 16 AND THE AVAILABLE ALL CEMENT IS TO BE ORDINARY PORTLAND CEMENT (OPC) UNLESS OTHERWISE APPROVED BY ENGINEER OR OIL, GREASE, DIRT OR ANY MATERIAL WHICH MAY IMPAIR BOND WITH THE CONCRETE.

JOINT SEALANT NOTE:
ALL JOINT SEALANTS ARE TO BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REINFORCEMENT NOTES:
THE APPLICABLE STANDARD SPECIFICATION IS SABS 221: 2017 REINFORCED CONCRETE. THE MINIMUM CROSSING STRENGTH OF ALL LOAD BEARING REINFORCED CONCRETE SHALL BE 16 MPa.

PORTLAND SHALL BE CLASS III.

BREKWORK SHALL BE BUILT ACCORDING TO SABS 804.

WHERE CLAY FACEBRICK IS BEING USED THE INNER LEAF TO BE CLAY SLIPS.

BREKWORK TO BE FIXED TO CONCRETE AND STEEL COLUMNS USING HOOP IRONS EVERY FOURTH COURSE.

BREKWORK TO BE PLACED AT EVERY FOURTH COURSE OVER DOORS, OPENINGS AND FOUNDATION WALL.

BREKWORK TO BE PLACED AT EVERY FOURTH COURSE FOR NORMAL WALL.

REINFORCEMENT NOTES:

- REINFORCEMENT CHARACTERISTICS:
REINFORCED CONCRETE AND SURFACE REINFORCED CLASS 25/16
REINFORCED FIBREGLASS CLASS 20/16
BLINDING AND SLEEDS IS MPV CONCRETE OR GAYS
- CONCRETE COVER:
- BEAMS AND SLABS: 25 mm
- COLUMNS: 40 mm
- WALLS: 25 mm
- REINFORCEMENT DETAILING BASED ON SABS 804: 1995
- MINIMUM LAPPING OF REINFORCEMENT TO A SMALLER DIAMETER
- ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY THE ENGINEER PRIOR TO THE CASTING OF ANY CONCRETE.
- FOR BUILDING EARTHING DETAIL PLEASE REFER TO STANDARD EARTHING DETAIL PRIOR TO PLACING CONCRETE.
- REINFORCEMENT ABBREVIATIONS:
T1 - TOP OF TOP LAYERS
T2 - SECOND DEEPEST OF TOP LAYERS
B1 - LAYERS OF BOTTOM LAYERS
B2 - SECOND DEEPEST OF BOTTOM LAYERS
- REINFORCEMENT ABBREVIATIONS:
ALT - ALTERNATE
AD - ALTERNATE BARS REVERSED
OP - BOTH WAYS
OF - EACH FACE
NF - NEAR FACE

REVISION TABLE			
NO.	DATE	ID	DESCRIPTION
00		NG	
01		NG	

VHUSANI'S
ENGINEERING WORKS

VHUSANI ENGINEERING WORKS, 89 HANS VAN
RENSBURG STREET POLOKWANE
MOBILE - 076 460 3922
vhusani.mukwevho@gmail.com

CLIENT:

WATERBERG FET COLLEGE

PROJECT NAME:

NEW ADDITIONS AT 35 HOOGE
STREET, MOKOPANE

DRAWING DESCRIPTION:

GAS LAYOUT

PROJECT NUMBER:

VEW22072026

DRAWING DEVELOPMENT

DESIGNED BY:

NG

DRAWN BY:

NG

CHECKED BY:

MV

DRAWING APPROVAL

NAME: V. MUKWEVHO
ECSA NO: 201730231

SIGNATURE: _____ DATE: _____

DRAWING NO: VEW22072026GSL01

SHEET NO: 1 of 1

REV: 01

NB: Vhusani Engineering Works (Pty) Ltd cannot be held liable for errors related to structural aspects of the work if they are not involved to inspecting key elements of the works during construction. Send request for Inspections to Cell NO: 076 460 3922 , Email : vhusani.mukwevho@gmail.com Refer to terms of payment on the quotation.