

CONSTRUCTION GUIDELINES FOR HEALTH FACILITIES

SOMALIA



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Annex (diskette) Bill of Quantities and detailed drawings

Acronyms

ANC	Ante Natal Care
BoQ	Bill of Quantities
EPHS	Essential Package of Health Services
HC	Health Centre
HP	Health Post
IPD	In-Patient Department
JNA	Joint Needs Assessment
MCH	Maternal and Child Health Clinic
MoH	Ministry of Health
NEZ	North East Zone
NGO	Non Governmental Organization
NWZ	North West Zone
OPD	Out-Patient Department
PHU	Primary Health Unit
RHC	Referral Health Centre
SCZ	South Central Zone
UN	United Nations
UNICEF	United Nations Children's Fund
UNOPs	United Nations Organization for Project Services

1

Introduction

The Somali health sector has been characterized as under-funded, fragmented and ineffective. Government, UN, NGO and community providers struggle to provide services with limited and unpredictable inputs and a lack of centralized and strategically directed financing or direction/policy.

In the South Central zone, NGOs and local community organizations typically run health facilities broadly in line with three tiers of service provision. In the 2 Northern zones government is also a main provider of primary health care services.

Health posts (HPs) are the lowest tier of service provider: They typically consist of one or two semi-trained staff without formal salaries or supervision – operating out of a 1-2 room facility or a local house or shop (no formal facility).

Maternal and Child Health Centers (MCHs) are the inter-mediate tier of service provider: they are highly variable. They have from 1 – 12 staff some with professional nurses and midwives, others with no professional higher than an auxiliary (especially in rural areas). The range and quality of services varies enormously with some MCHs seeing 3,000 patients a month and others seeing less than 50!

Hospitals are the highest tier of service provision: they are also highly variable with 10 – hundreds of staff – and most with a medical doctor and some professional nurses or midwives. However, even hospitals lack

professional staff and especially the diversity of technical staff necessary to run a full hospital service.

With the extreme diversity of facilities and the variability in range of services – extent of support and type of support offered (UN agency, NGO, government) it is no wonder there is little uniformity in the quality and range of services offered between facilities and within a tier of service level.

Recognizing the extremely dilapidated state of much of the Somali health infrastructure, The Joint Needs Assessment (JNA) for Somalia determined the need for the development of standardized blueprints for health facilities as an important technical task to allow a move towards the standardization of services offered within a particular tier of service delivery. Standard building guidelines also offer the potential for costing construction and infrastructure elements of health system development and therefore are an important component of planning for a future health system.

In a workshop in 2007, representatives from the health sector came together and agreed to try and establish operating norms and standards for what levels of care each tier should follow. The UNICEF health systems strengthening programme developed a process of extensive consultation and review and eventually produced an Essential Package of Health Services (EPHS).

The EPHS defines the range of services (and therefore supplies and staff competencies) necessary to offer at each tier level. Projecting from the range of services and staff required, it is possible to define the level of facility needed to house each tier of service provision.

This also means we can develop standard blueprints for health facilities at each level. The EPHS defines a standard:

Previous Tiers of Service	Standardized EPHS Tiers of Service
Health Post (HP)	Primary Health Unit (PHU)
Maternal and Child Health Centre (MCH)	Health centre (HC)
District Hospital	Referral Health Centre
Regional Hospital	Hospital
Referral Hospital	

The “new” names of EPHS facilities have been changed to disconnect levels of service provision from political administrative boundaries/unit names (districts/regions) so that facilities can be planned for according to need and not political calculus. And to highlight the need for real change as in each case, significant changes in focus are prescribed for each tier of service. This cannot be created piecemeal and is essential to start generating real performance and returns on investment | the health sector.

This report presents concepts for standard health facility design at each tier of service. The design concept is modular. In consultation with health authorities we agreed a basic PHU/HP. The PHU building is used as part of the MCH/Health Centre and this HC facility is used as part of a referral centre etc. so that any building can be upgraded to a higher tier of service and to keep overall construction costs and the types of buildings required as simple (and cheap) as possible.

All buildings have been designed to use simple but high quality building techniques with simple roof structures and external corridors etc.

While all designs are simple – relatively cheap and locally appropriate, it is not expected that all facilities

will follow specifications to the letter. All facility blueprints need to be adapted to the site and conditions of the site at hand – rural MCHs may have to be constructed on relatively small sites. Rural facilities will need to take into consideration soils, water supply, drainage and ventilation. However basic designs, floor layout plans and indicative Bills of Quantities are developed for each structure and these BoQs can be modified to allow adaptation to the local site and needs.

Furthermore, innovations are encouraged (for example in areas where there is more regular rainfall throughout the year, constructors may wish to include submerged tanks to collect roof run-off). Lastly these plans can be developed over time as experience grows with construction and planning.

This report presents basic floor plans and elevations – however there are a large range of detailed drawings to guide constructors that should be printed out on A3. In addition there are BoQs that can easily be adapted to promote professional construction in any setting adapted to the local constructions challenges (soil type, drainage, water availability, ventilation, coastal/in-land). The detailed booklets for each building type are available on diskette or through the health coordination bodies and at MoH offices.

2

The Modular Health Centre

The modular Health Centre is depicted in the 2 drawings that follow

PINK = HEALTH POST/PRIMARY HEALTH UNIT

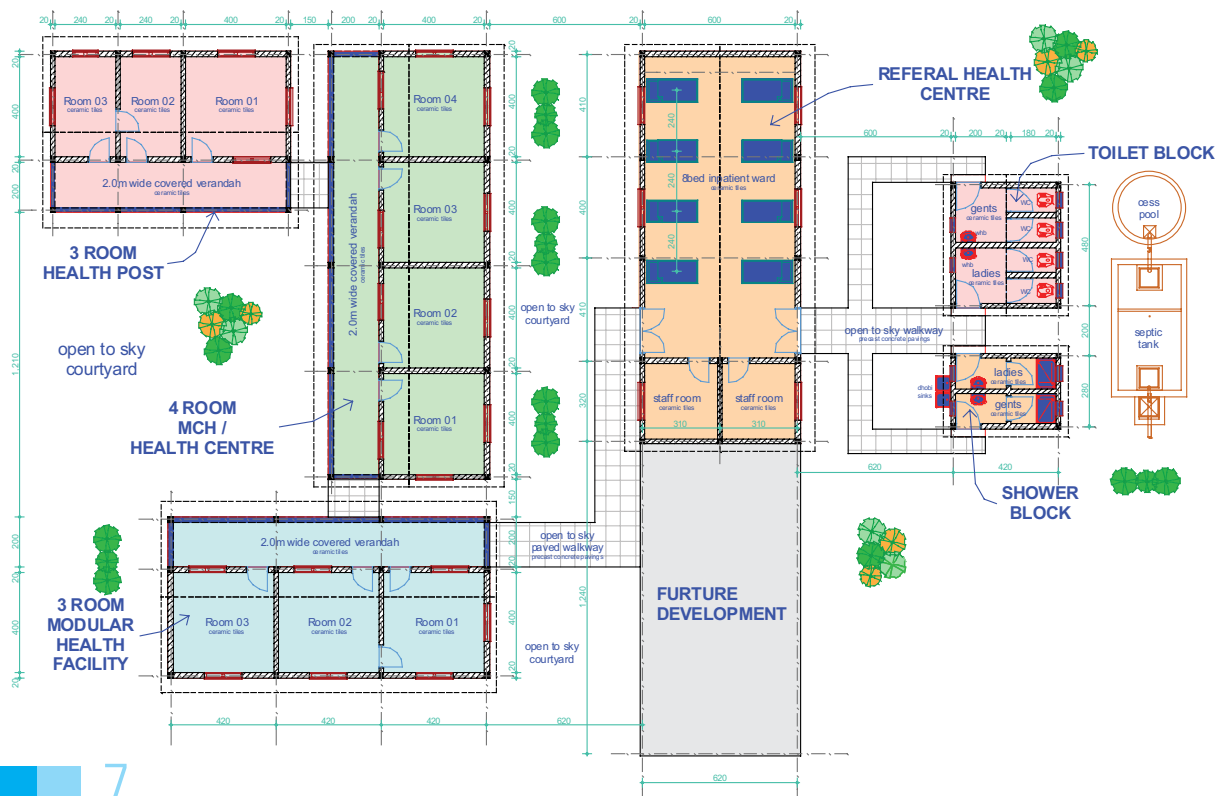
PINK + GREEN = BASIC OPD

PINK + GREEN + BLUE = OPD + maternity services

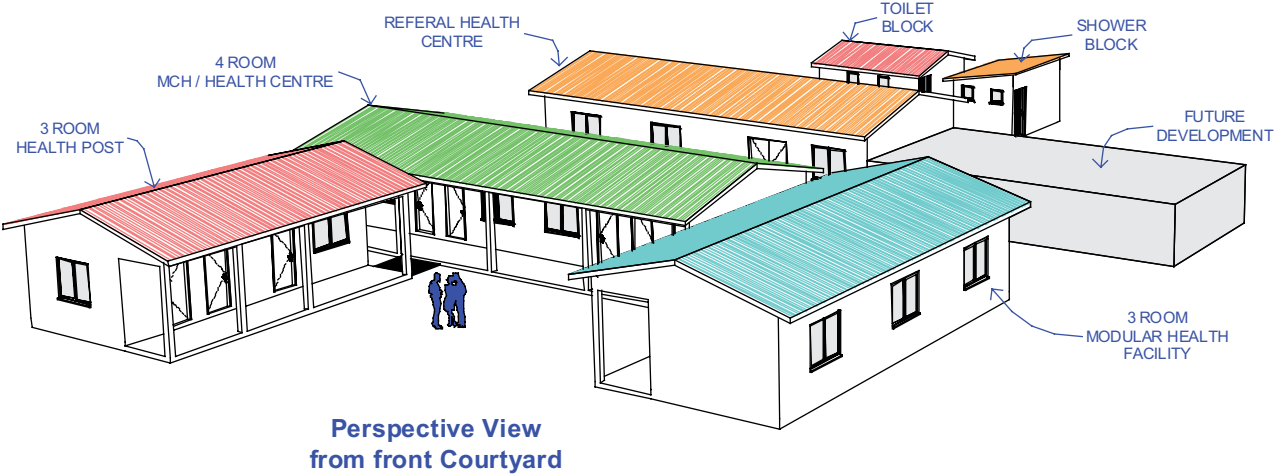
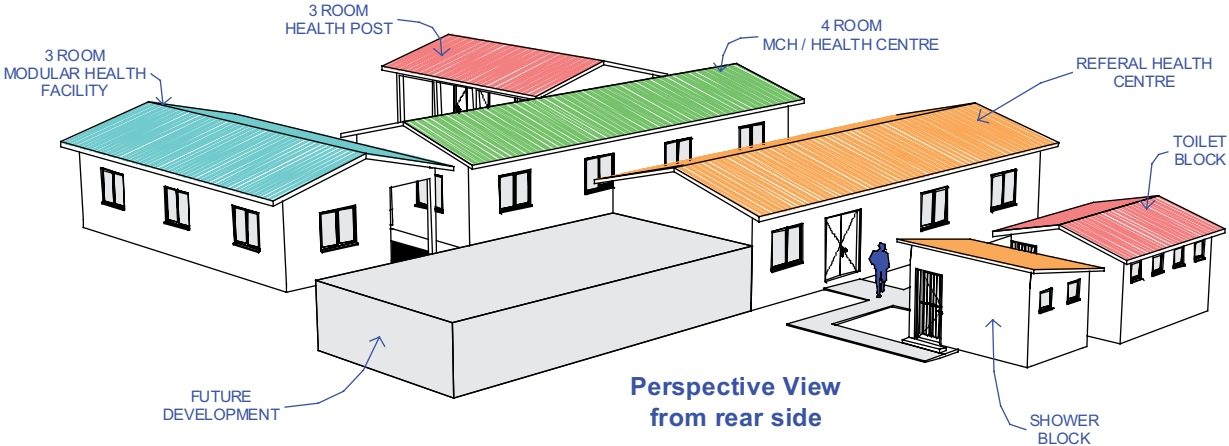
PINK + GREEN + BLUE + YELLOW = FULL HC OPD/IPD

2.1 Health Centre: Floor Plan

Proposed sketch layout for a full scale MCH master plan with 8 bed Inpatient ward



2.2 Health Centre: Elevation



3

The Primary Health Unit (PHU) or Health Post

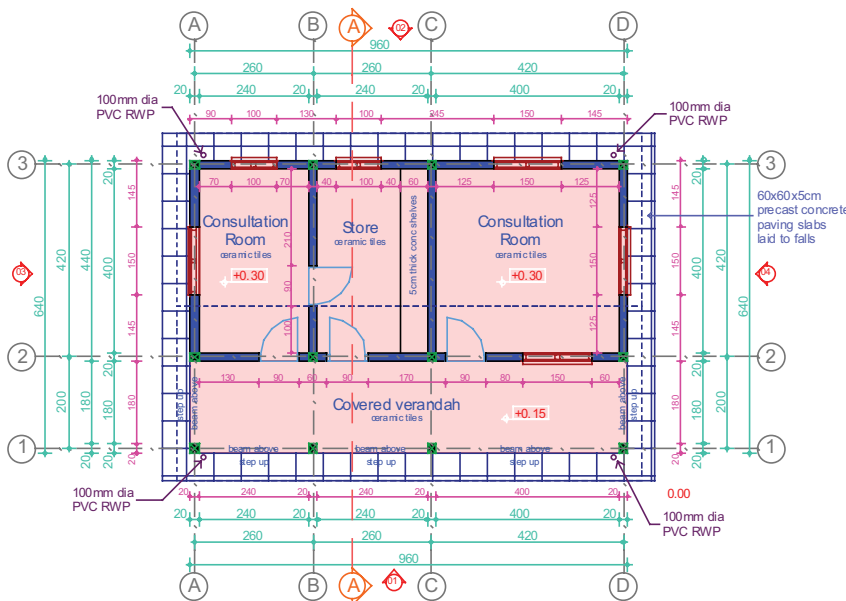
Indicative Construction Cost (see BoQs): 14,500 USD

The PHU is the lowest tier of service provision. The building is produced as a single block with a simple A-frame roof and covered external passage. The block has 3 rooms which can be used inter-changeably. One room is designed to serve as a store and will have no windows (most likely the middle room with less external walls for lighting). This building is to be incorporated into a full health

Centre and will then serve as one wing of the U-shaped compound. The building is envisaged to have the central room as main stores and the end room (left) as another temporary store with dispensing window to serve as a dispensary. The end room to the right would be the lab and is well lit with maximum number of windows.

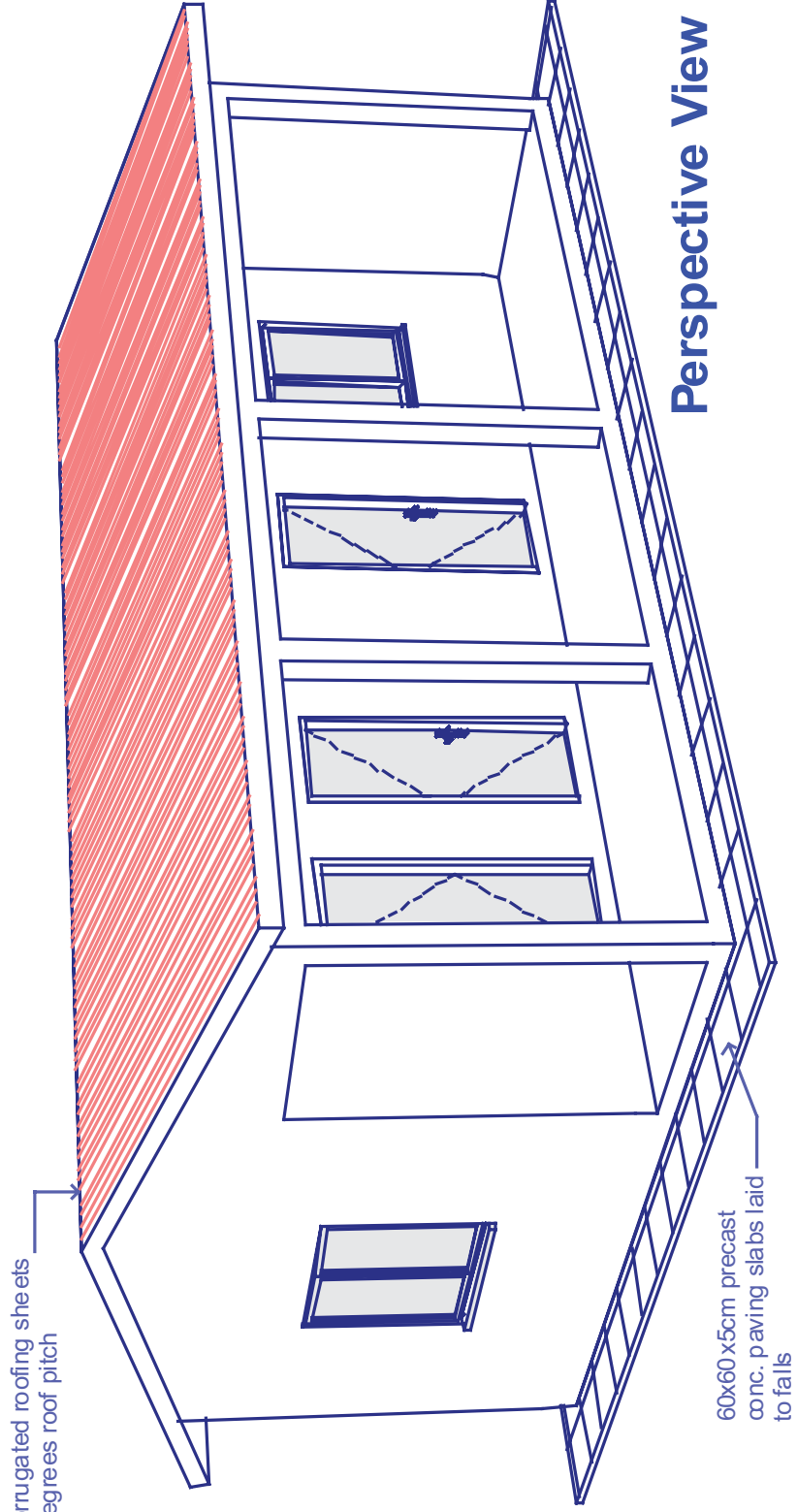
PINK = HEALTH POST/PRIMARY HEALTH UNIT

3.1 The PHU: Floor Plan



Ground Floor Plan scale 1:100

3.2 The PHU: Elevation



4

The Health Centre - OPD

Indicative Construction Cost (see BoQs): 22,000 USD

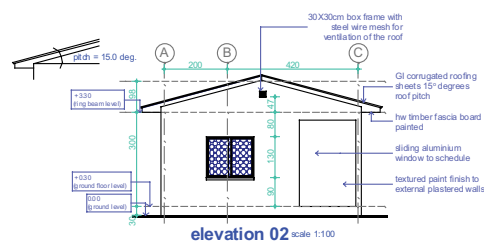
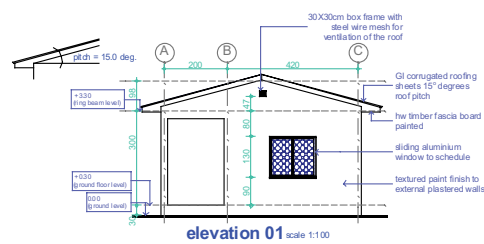
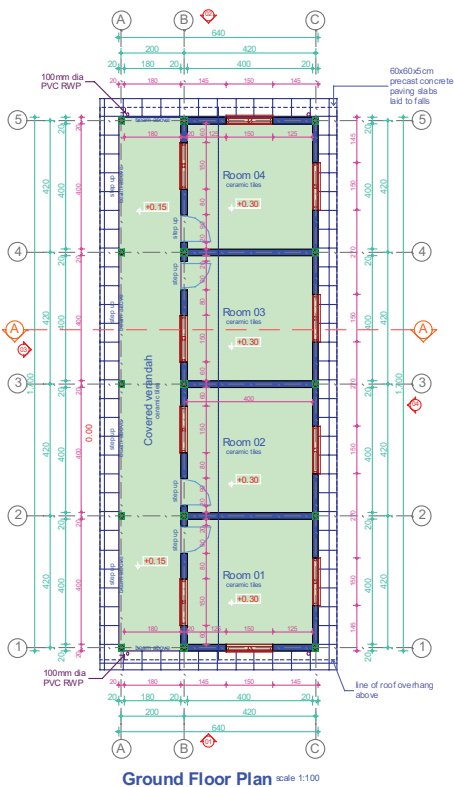
In upgrading a PHU to an MCH – OPD it is envisaged there is a need to add 2 blocks

GREEN – Main Consultation Block

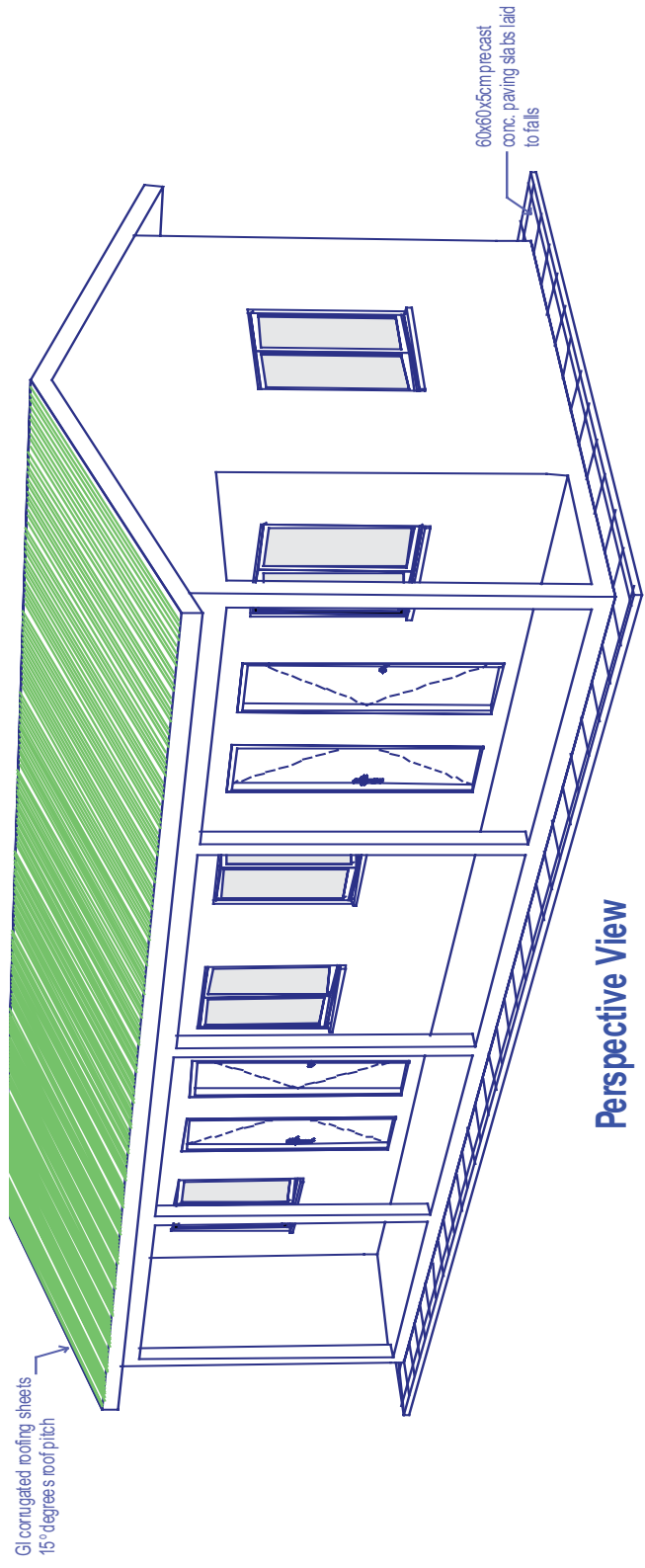
BLUE – Maternal and Reproductive Health Block

4.1 The OPD Block: Floor Plan

The OPD block has 4 standard rooms and a covered external passage. All rooms are designed to be used for consultation. The PHU building is now converted for use as a laboratory and medical store with dispensary.



4.2 The OPD Block: Elevation

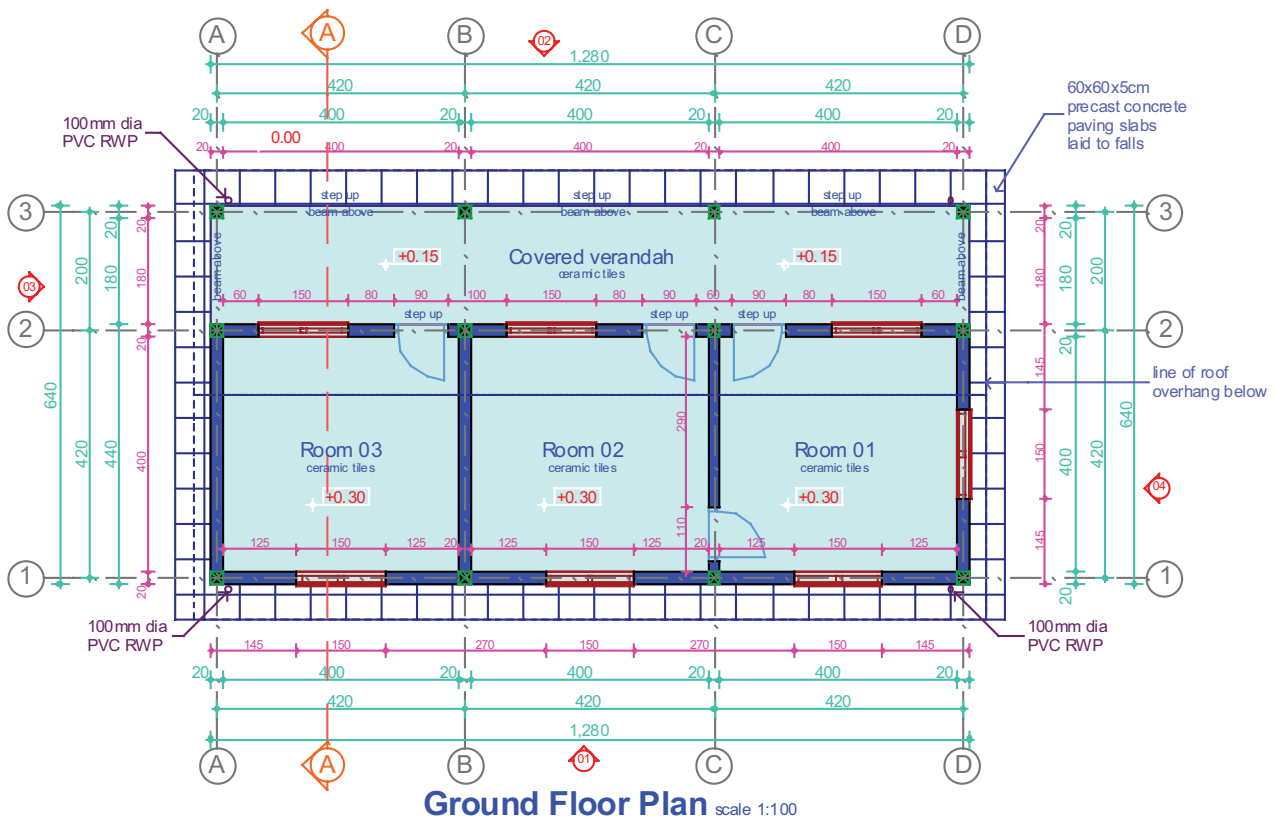


4.3 The Maternity: Floor Plan

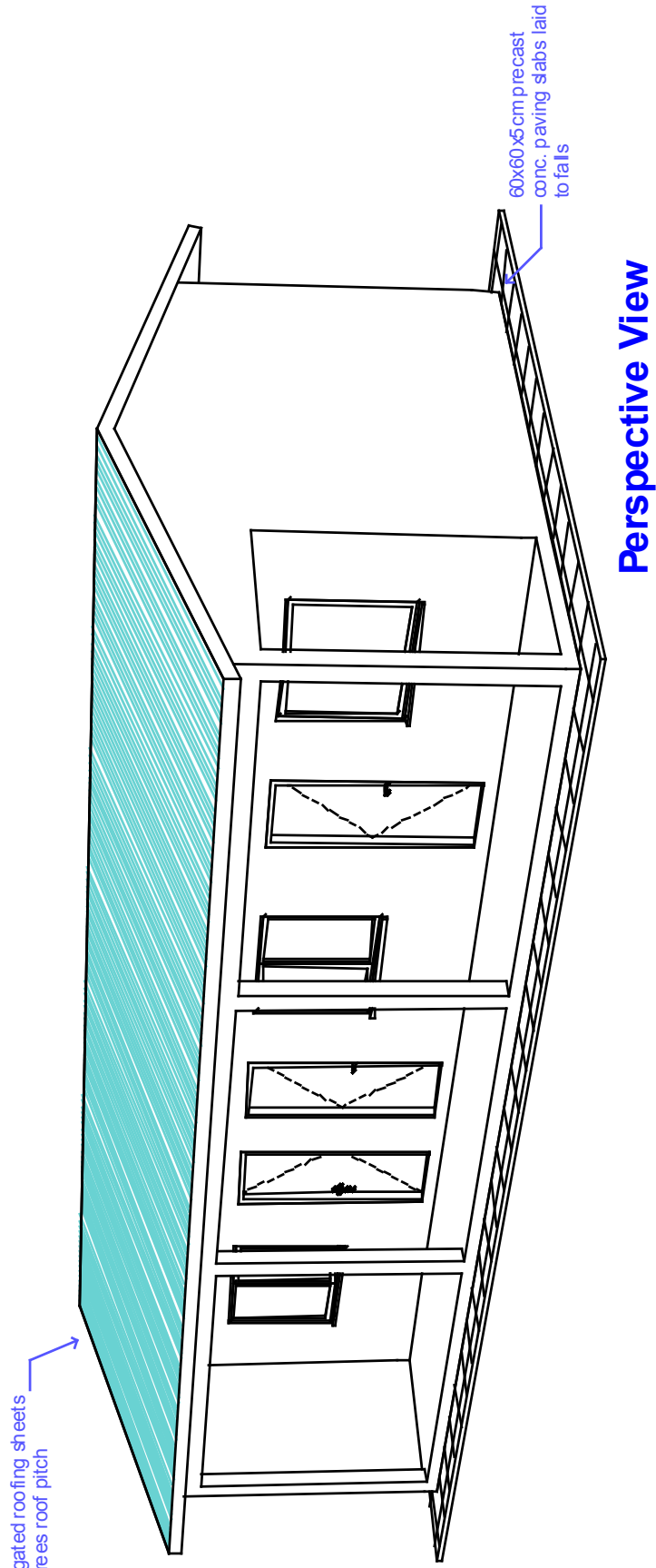
Indicative Construction Cost (see BoQs): 18,000 USD

The maternity block is designed to house an observation room and a delivery room. The third room (not inter-connecting) can be used inter-changeably (i.e. for ANC services).

This block can also be used to house a surgical theatre.



4.4 The Maternity: Elevation.



5

The Health Centre – IPD

Indicative Construction Cost (see BoQs): 21,000 USD

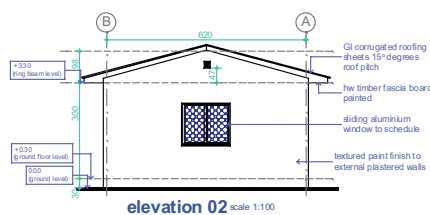
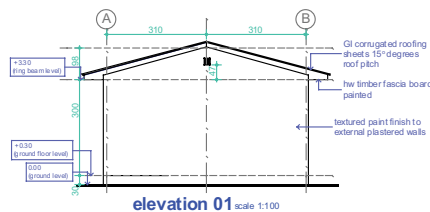
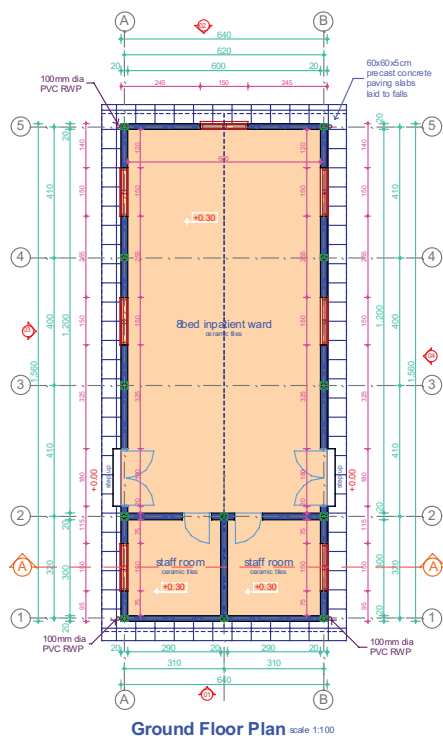
The ward is to be added to all Health Centres or MCHs to allow them to offer Basic Emergency Obstetric Care and minimal in-patient services (depending on a full compliment of professional staff).

More wards can be added to the HC as it grows or as it is upgraded to a Referral Health Centre (RHC) (see expansion plans 2.1, 2.2).

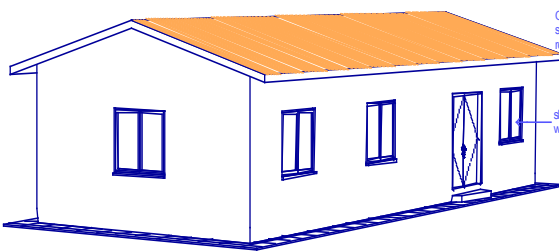
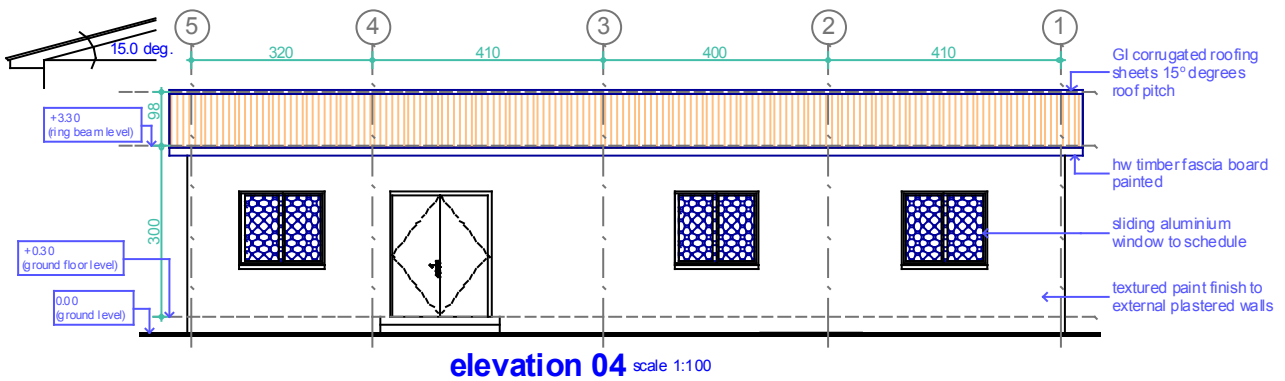
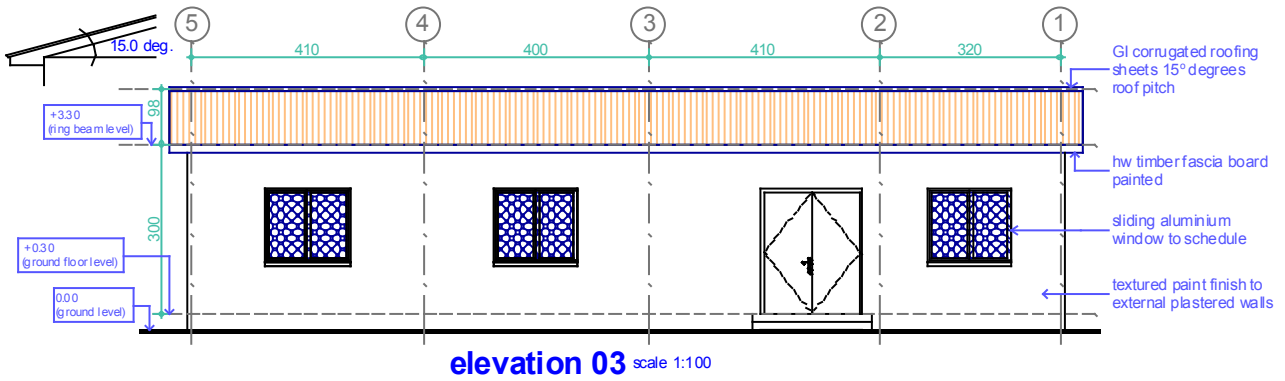
YELLOW = HEALTH CENTRE/IPD

The ward is generic it has room for 6 beds, a staff room and a storage room or isolation room.

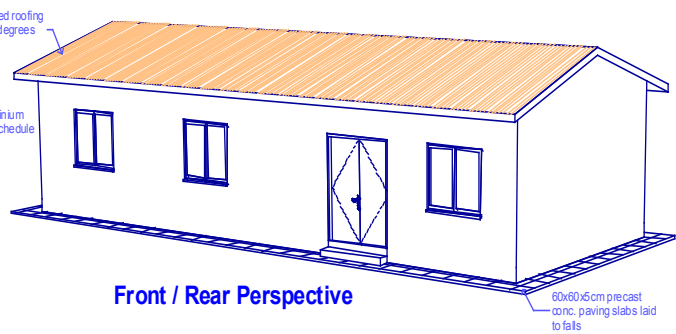
5.1 The IPD: Floor Plan



5.2 The IPD: Elevation



Side / Front Perspective



Front / Rear Perspective

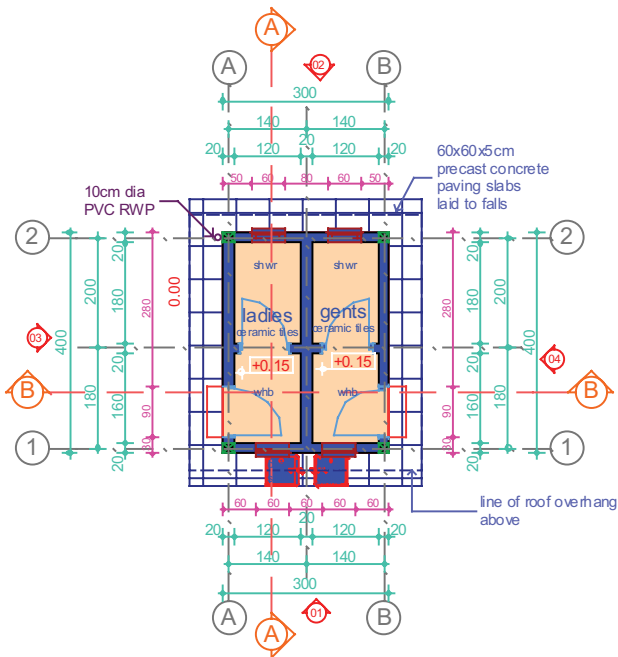
6

Shower Block

Indicative Construction Cost (see BoQs): 7,000 USD

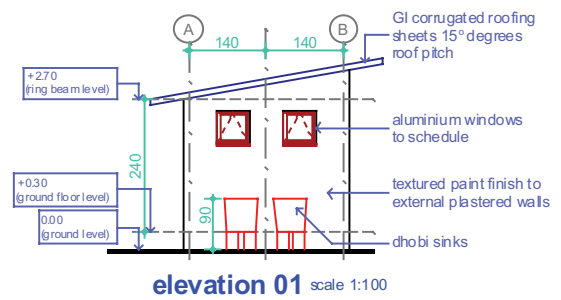
The shower block is a wash place for people, clothes etc intended for all facilities with an in-patient capacity.

6.1 Shower Block: Floor Plan

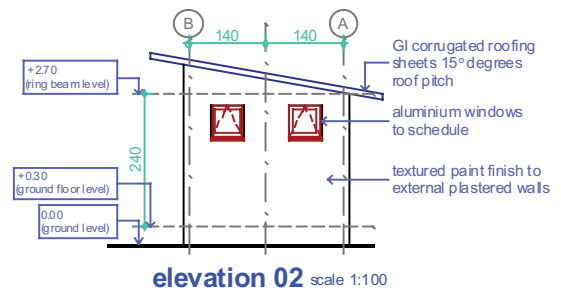


Ground Floor Plan (Shower Block)

scale 1:100

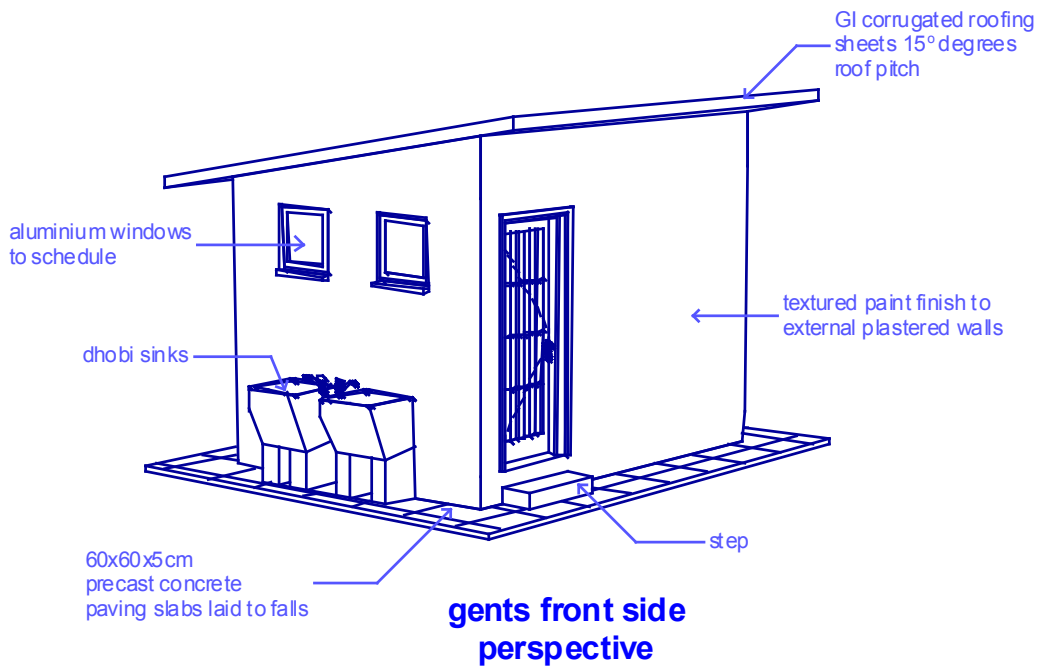


elevation 01 scale 1:100



elevation 02 scale 1:100

6.2 Shower Block: Elevation



7

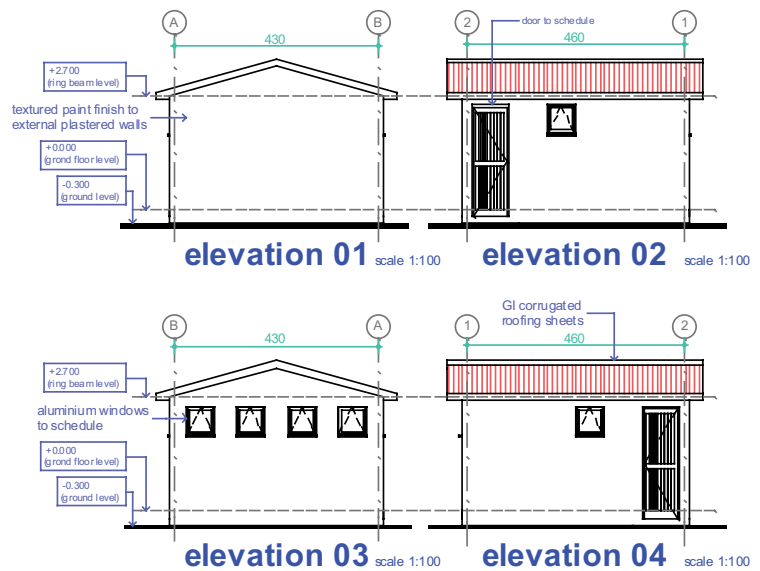
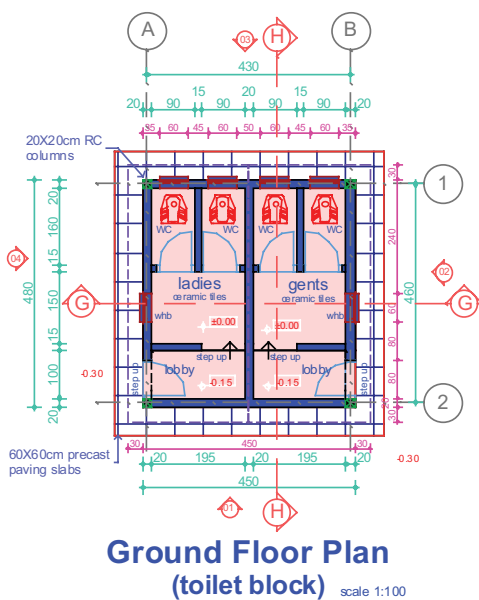
Toilet Block

The toilet block should be seriously considered for all levels of facility (even PHUs). The numbers of toilet blocks will necessarily rise or fall depending on patient volumes and IPD facilities/volumes.

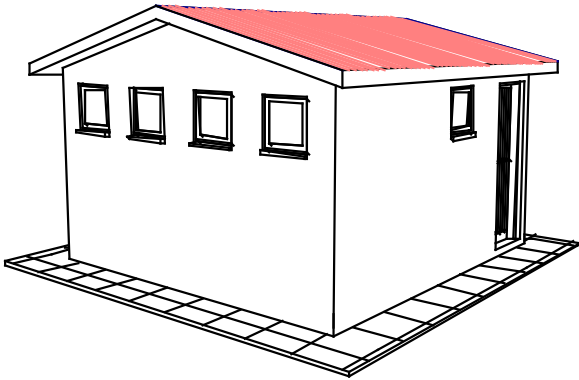
In this report we have detailed a toilet block served by running water and septic tank (toilet block) and a more simple option for pit latrines draining into a pit.

7.1 Toilet Block: Floor Plan

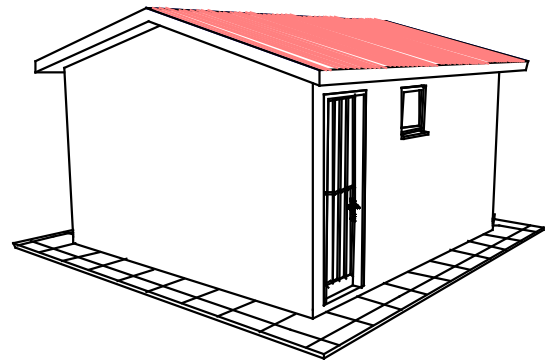
Indicative Construction Cost (see BoQs): 16,500 USD



7.2 Toilet Block: Elevation



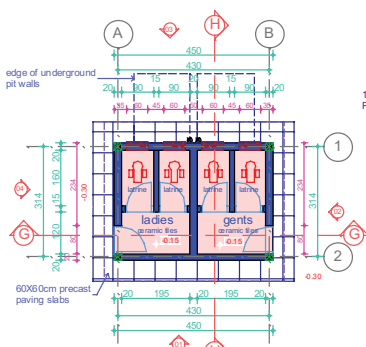
Rear Side Perspective of Toilet Block



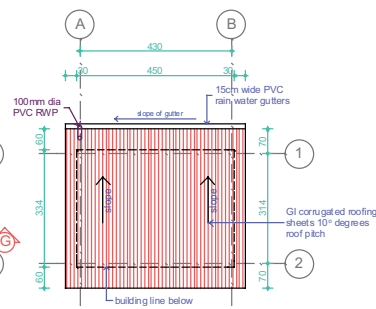
Front Side Perspective of Toilet Block

7.3 Latrine (Pit) Block: Floor Plan

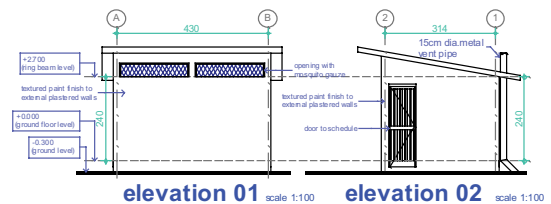
Indicative Construction Cost (see BoQs): 8,000 USD



Ground Floor Plan (latrine block) scale 1:100

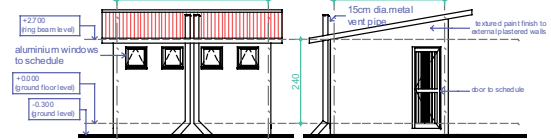


Roof Plan showing slopes (latrine block) scale 1:100



elevation 01 scale 1:100

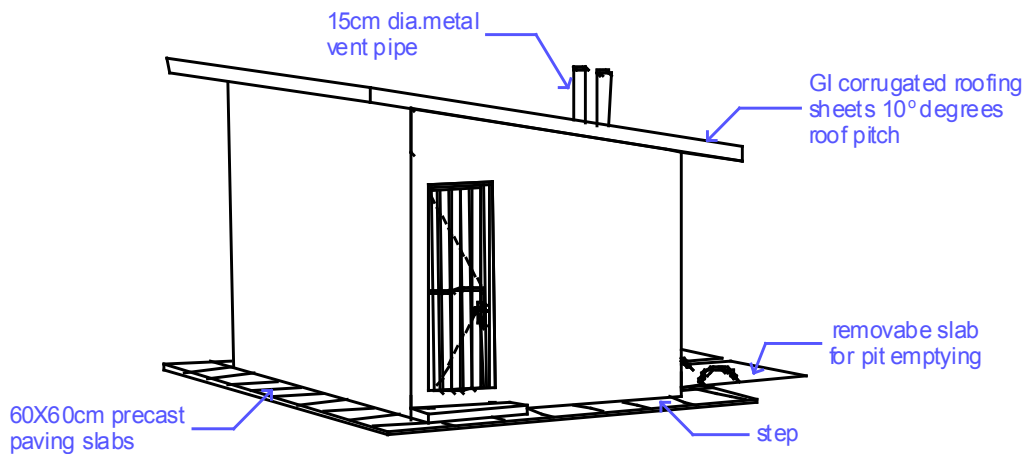
elevation 02 scale 1:100



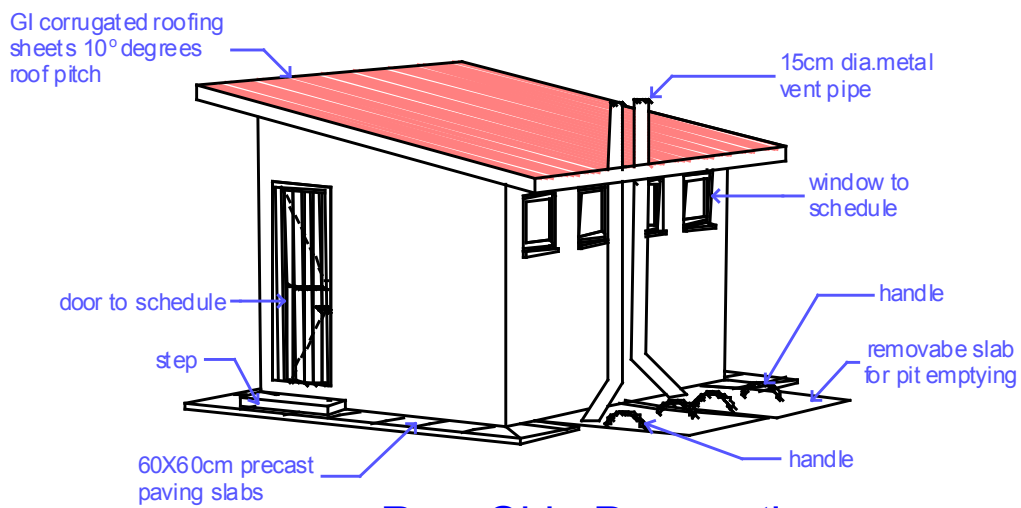
elevation 03 scale 1:100

elevation 04 scale 1:100

7.4 Latrine (Pit) Block: Elevation



Front Side Perspective of Latrine Block



Rear Side Perspective of Latrine Block

8

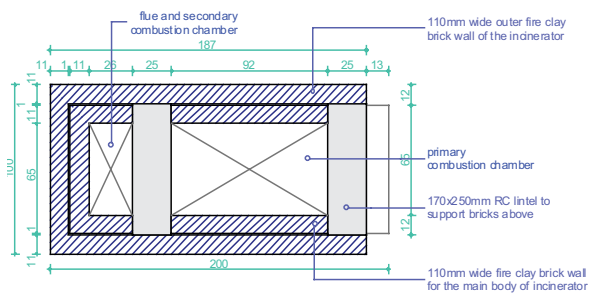
Waste Disposal

Indicative Construction Cost (see BoQs): 700 USD

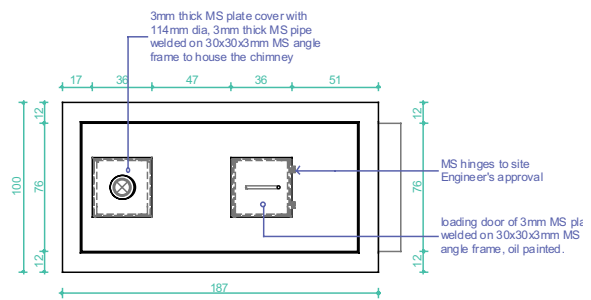
Medical waste is a serious issue. During construction of any level of facility – plans must be made for medical waste disposal. For larger facilities producing large quantities of dangerous medical waste an incinerator is highly recommended despite the additional costs of construction.

All facilities will need a waste pit to bury medical waste and this pit should not be open to the public/playing children.

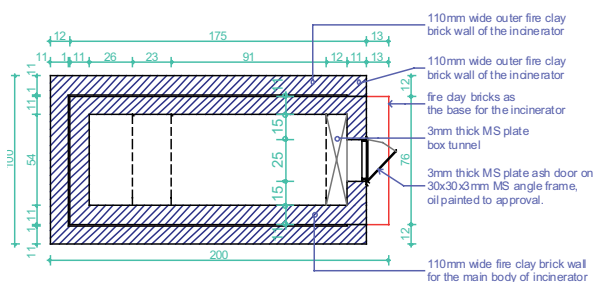
8.1 Incinerator: Floor Plan



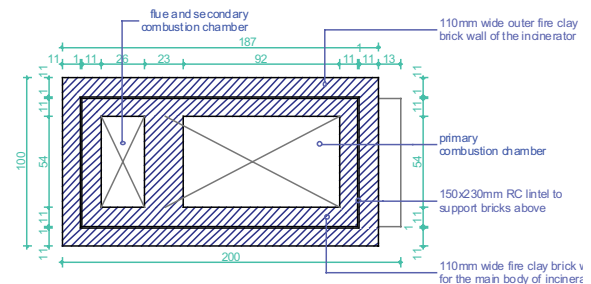
Floor Plan at 02 scale 1:25



Floor Plan at 04 scale 1:25

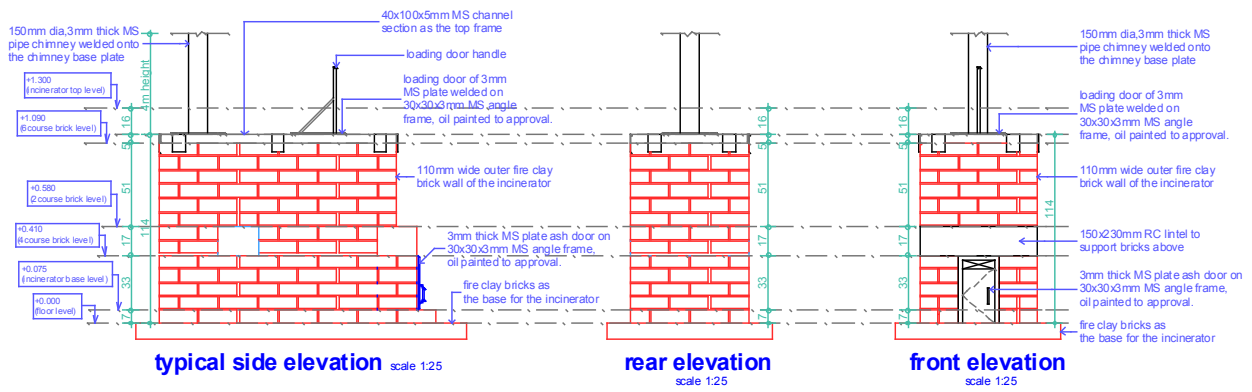


Floor Plan at 01 scale 1:25



Floor Plan at 03 scale 1:25

8.2 Incinerator: Elevation



More detailed and scaled drawings are available with BoQs on the attached diskette. Drawings should be printed on A3 format paper

