

PREPARATIONS FOR TIME PROBLEMS



OIKOPOLIS II
ATTACK OF THE CLONES

CHECKLIST

1. Security cabin
2. Waste collection area
3. Recharge well
4. Rain water harvesting tank
5. Emergency water storage tank
6. Electrical substation
7. Vegetable garden
8. Club house
9. Store room
10. Public toilets on ground floor
11. Seating spaces on ground floor
12. Playground
13. Public park
14. gazebo
15. Jogging track
16. Swimming pool
17. Gym
18. Multipurpose \ Common hall
19. Separate pedestrian entry
20. Covered pedestrian path till lift
21. Trees
22. Compound wall
23. Entrance gate
24. Separate entry and exit gate
25. Car parking
26. Two wheeler parking
27. Cycle stands
28. Washing area for vehicles
29. Servant's quarter
30. Lighting of common spaces
31. Space to pray
32. Common Drinking water facility
33. Post boxes
34. Generator room
35. Type of ground surfaces

site level

- security room
- electric room
- garbage collection space
- water tank
- common site level storage
- letterbox
- driver's space
- servant's space
- car washing spaces
- fire fighting
- space for vendors
- common toilet
- water cooler
- common lockers
- cctv room
- pool
- play area
- swings,slides,see saw
- sandpit
- jogging park
- garden
- benches
- yoga space
- open air gym
- satsang space
- cricket/sports
- indian games (hide n seek)
- badminton court (specific courts)
- gym
- common hall (rent for marriage)
- separate pedestrian path
- vehicular access
- path for fire vehicles
- dropping points (if entry for vehicles is restricted)
- bicycle path (as a sport)

lobby level

- lift landing
- staircase landing
- ventilation
- natural light
- fire staircase
- storage
- shoe rack
- sitting for shoe wearing process
- benches
- small gathering
- rangoli spaces
- bicycle storage
- washing feet/face. (after holi or sports)
- diya spaces/niches
- name plate
- door arrangements
- wind chime
- spill-over space during functions (puja space)
- small lunch /dinner
- parapet
- pigeon friendly?
- pet space
- service entry
- garbage collection space
- windows opening into lobby

Unit level (to be added)

- dimensions of spaces
- dimensions of furniture
- kitchen configurations options
- living room configurations
- bathroom confi
- dining space confi
- bedroom confi
- store size required
- puja
- interconnection of rooms
- windows (texture,size, width, height)

Car, Two-wheeler parking guidelines.

Cycle parking Provision and guideline.

Pedestrian and vehicular pathways (separate)

Pathway material: Tar/ Cobbled/ Cement

Gate type: Hinged, sliding etc

Boundary wall type: planters, material and texture (Part plan and section)

Garbage Storage

Electricity Substation

Meter Room

Rainwater Harvesting System

Wash Area for Vehicles

Common Toilets and area for refreshment : Water Cooler, Hand washing etc.

Texture of flooring Material: pathways, Lobby area

Garden, Play area, Common Plot

Amenities: Club House, Sports room, storage for sports equipment, Gym

Benches, Jogging area

Swimming pool or Water Pond and Maintenance room for the same

Storage: Gardening tools, Basic Mechanic Kit

Security Cabin: Place for them to eat, take rest, have lunch/dinner

Letter boxes

Lockers

Tree Plantation: Flowering/ Fragrant, Deciduous/ Evergreen, Slow growing/ Fast growing

Street Lights

Light Quality in Basement parking

Journey of a person who owns a Car and uses Basement for entry and exit: What about experiencing the ground?

Some space for drivers?

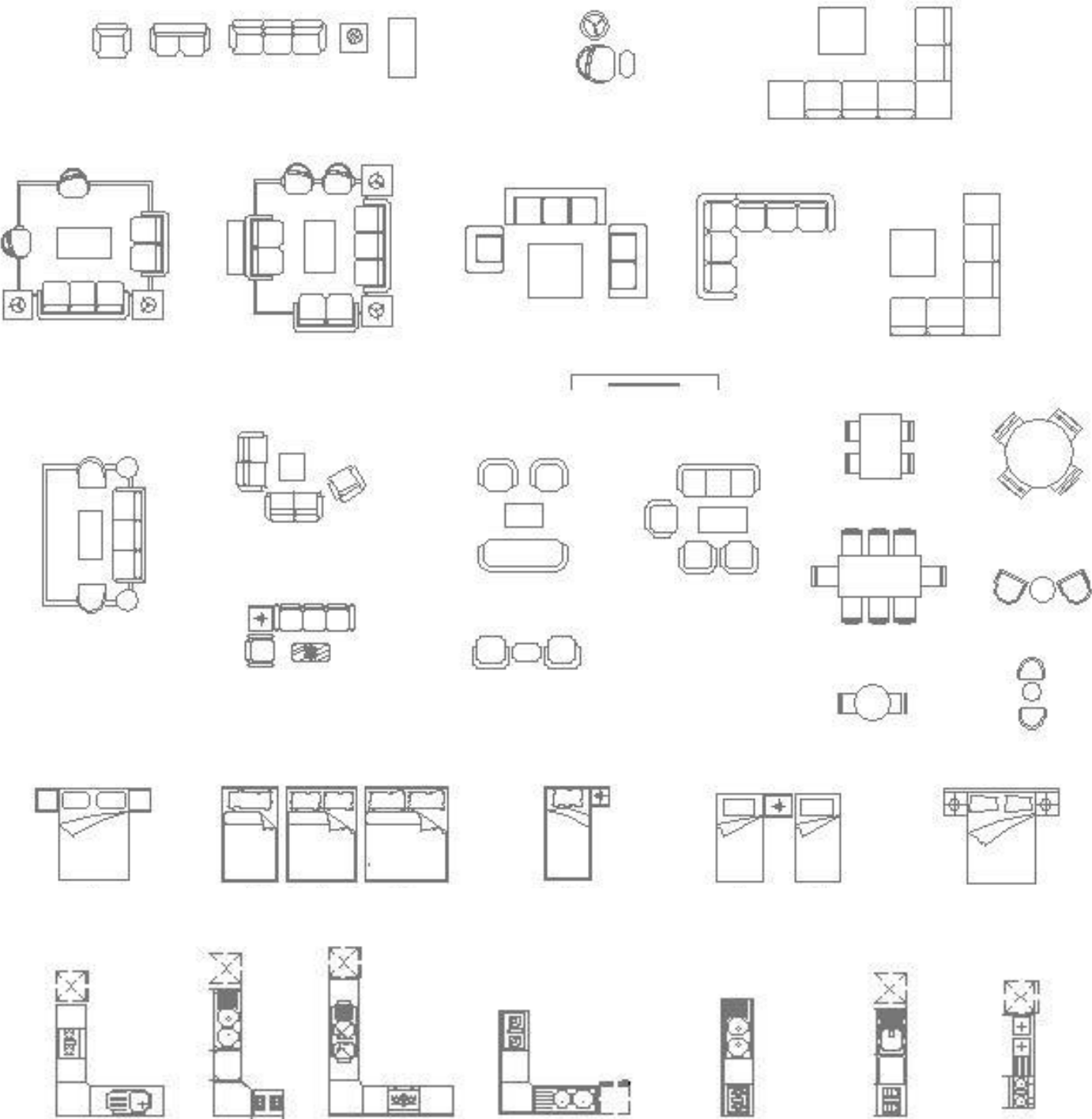
Facades: Pipelines, Ac

Lobby Area: Shoe racks, Key Box, Sitting area

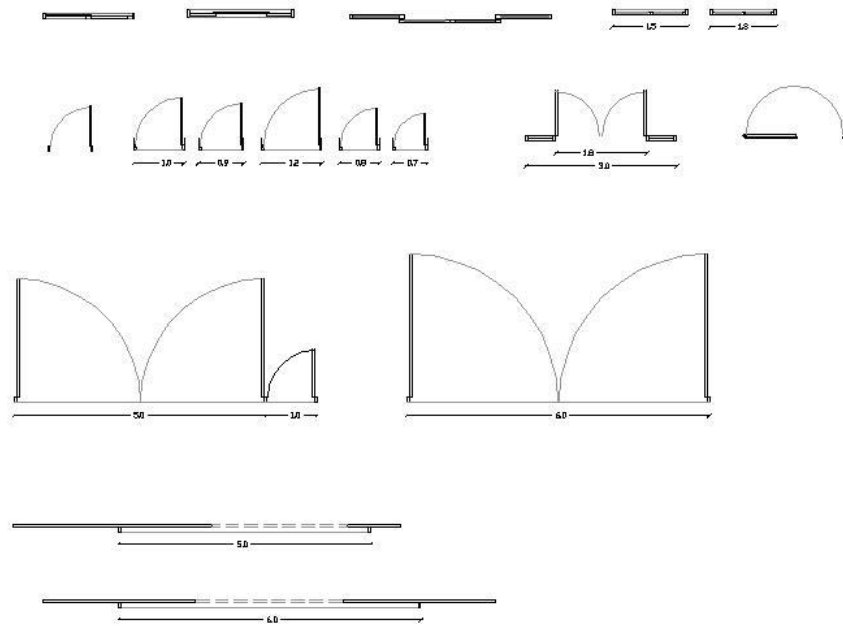
Water Tank: Underground, Overhead

Possible Shaft sizes Alternatives

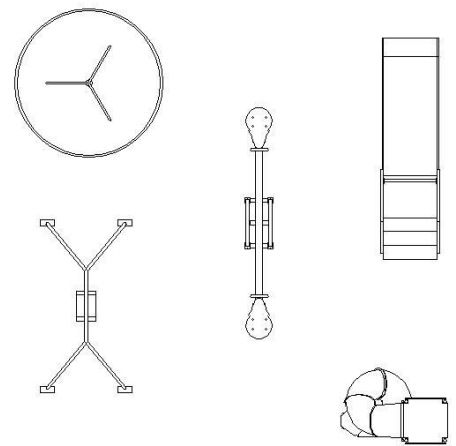
BLOCK LIBRARY



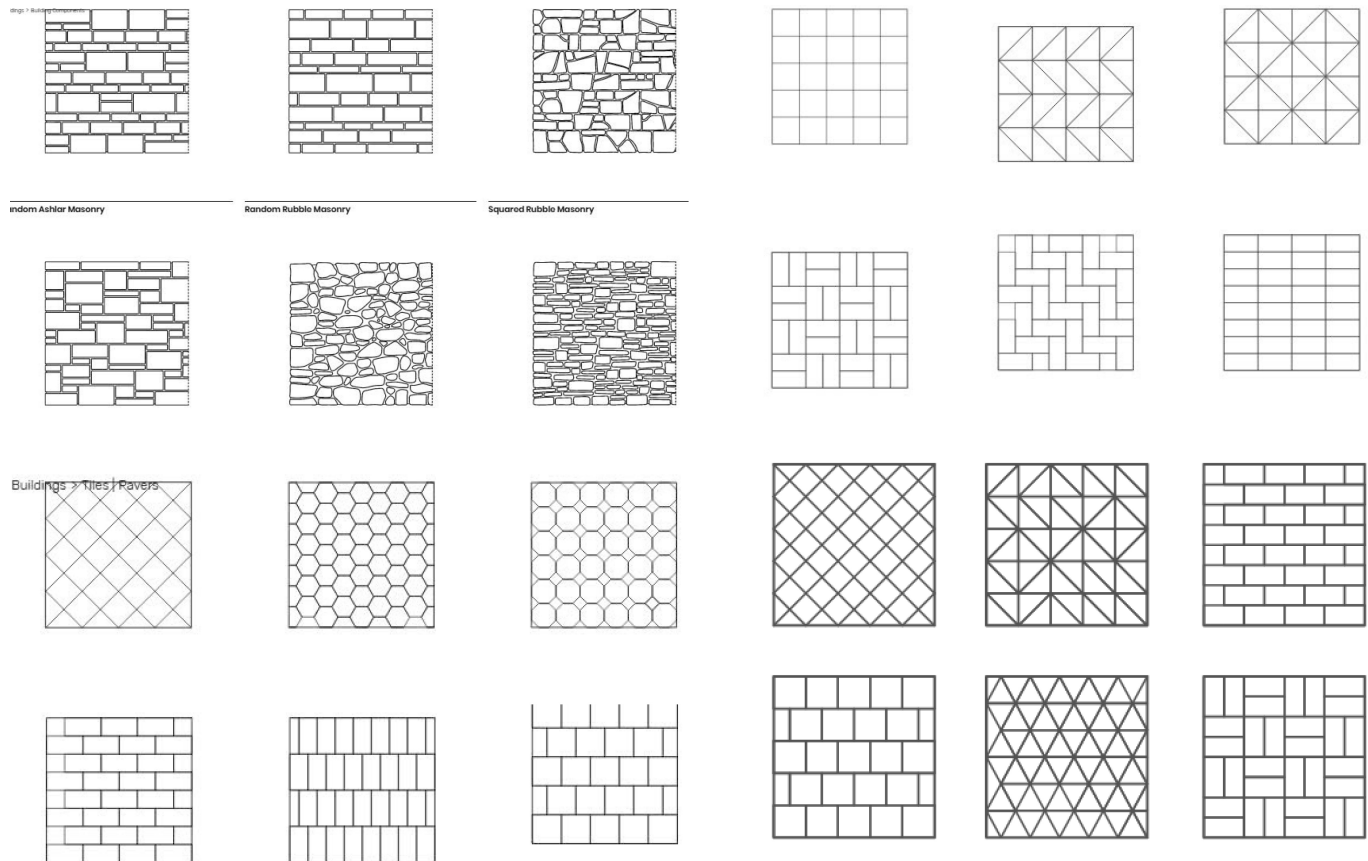
Openings



Play area



Ground cover

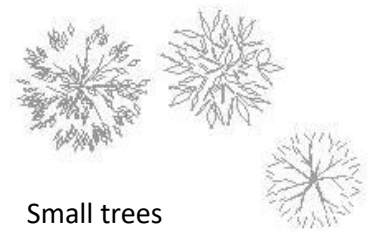
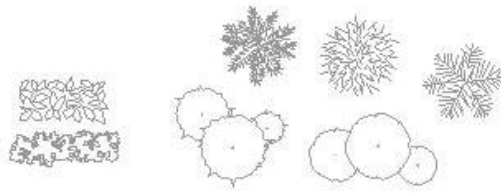


Trees

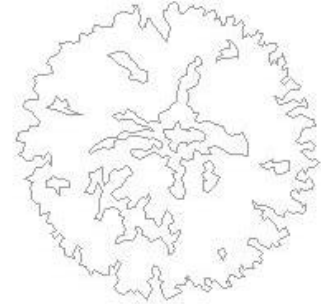
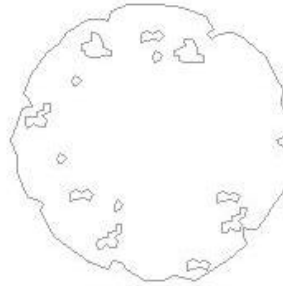
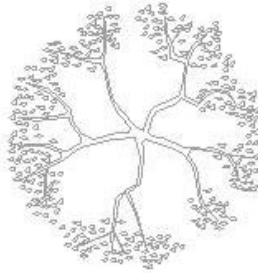
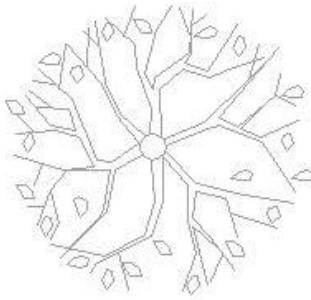
Home-plants



Bushes/plants

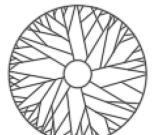
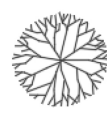
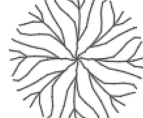
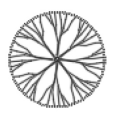
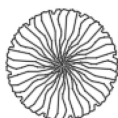
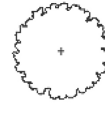
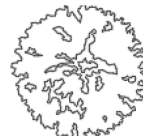
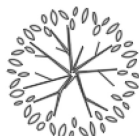


Small trees

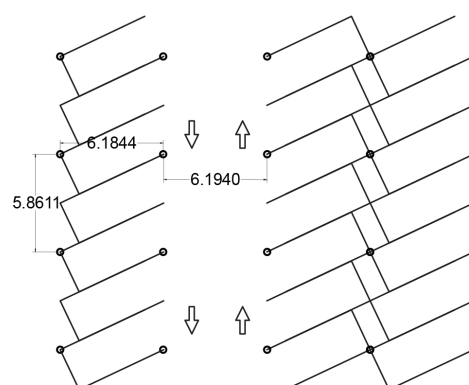
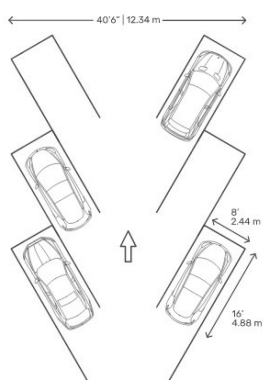
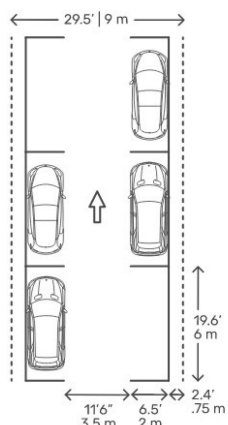
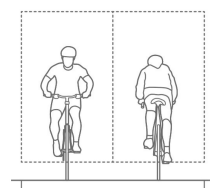
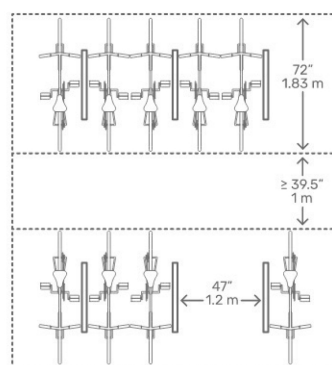
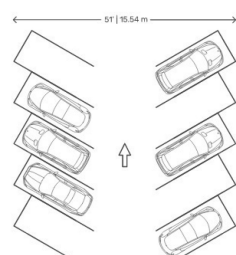
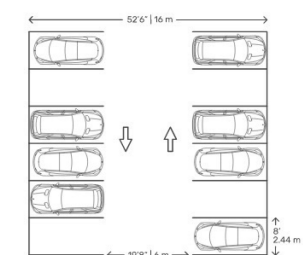
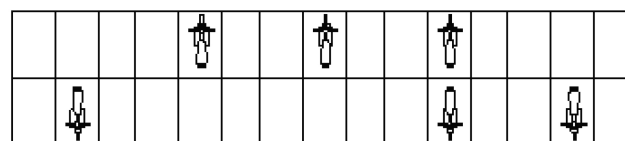
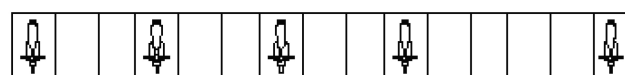
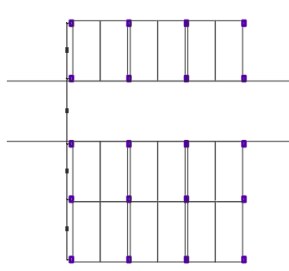
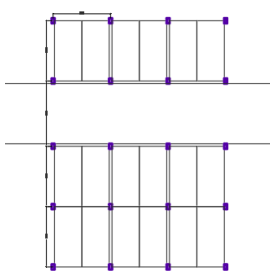
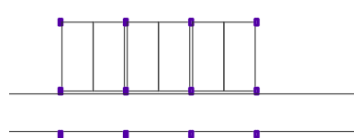
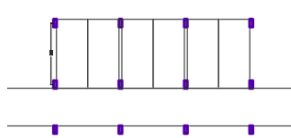
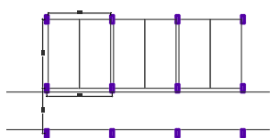
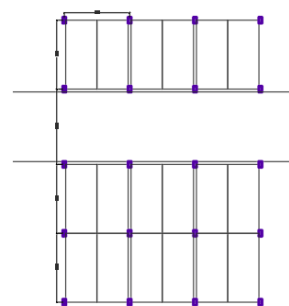
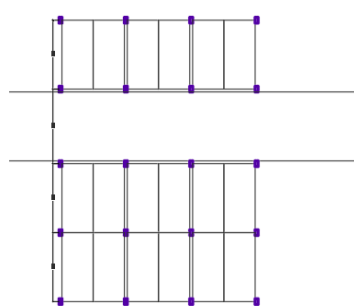
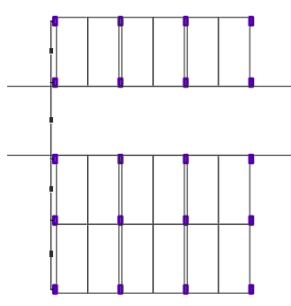
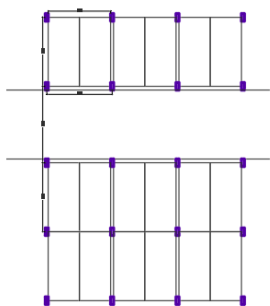


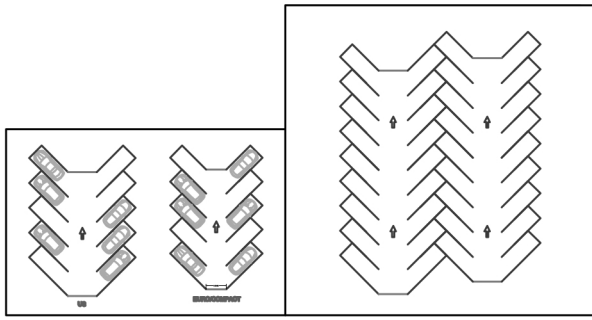
Deciduous trees

Evergreen trees

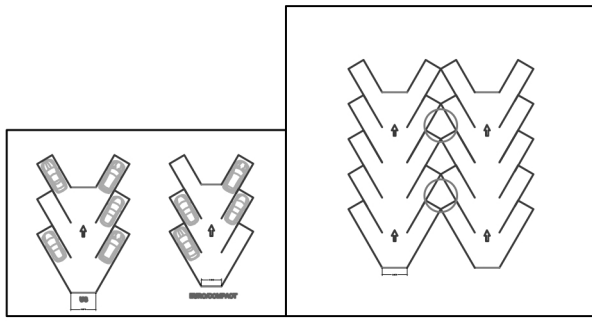
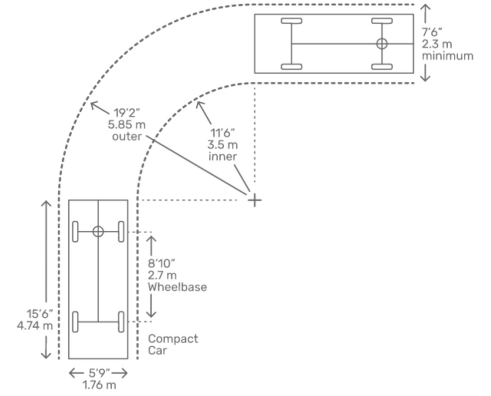


PARKING

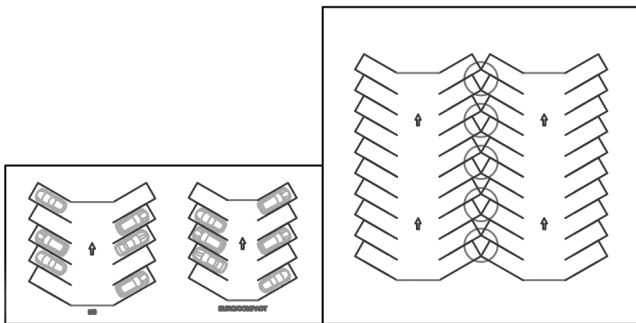
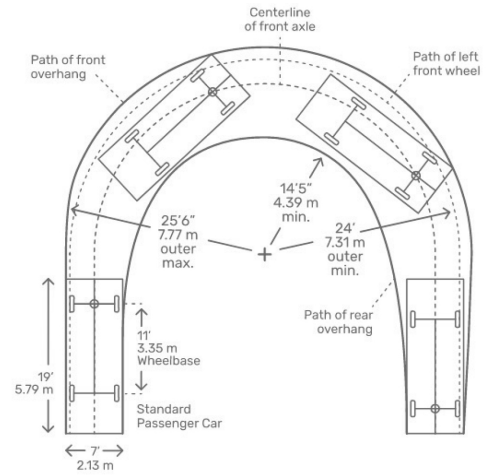




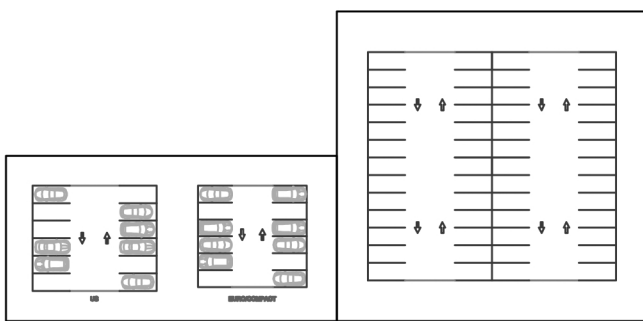
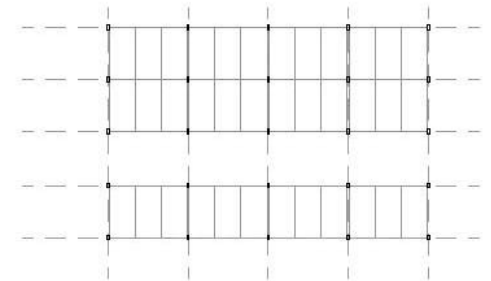
45 degree



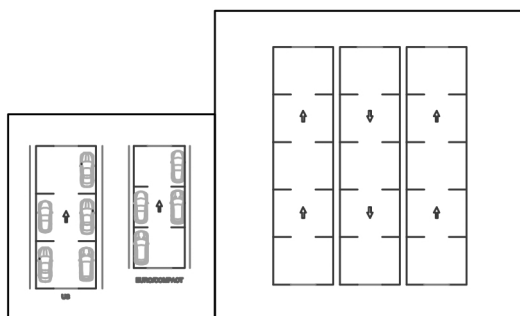
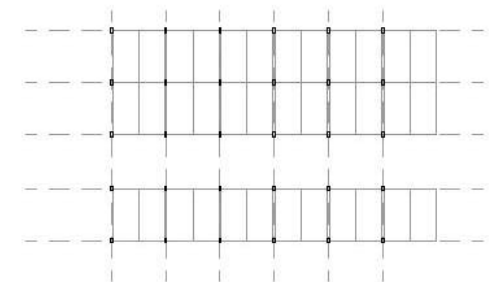
30 degree



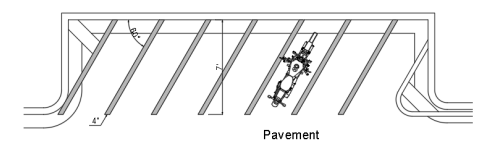
60 degree

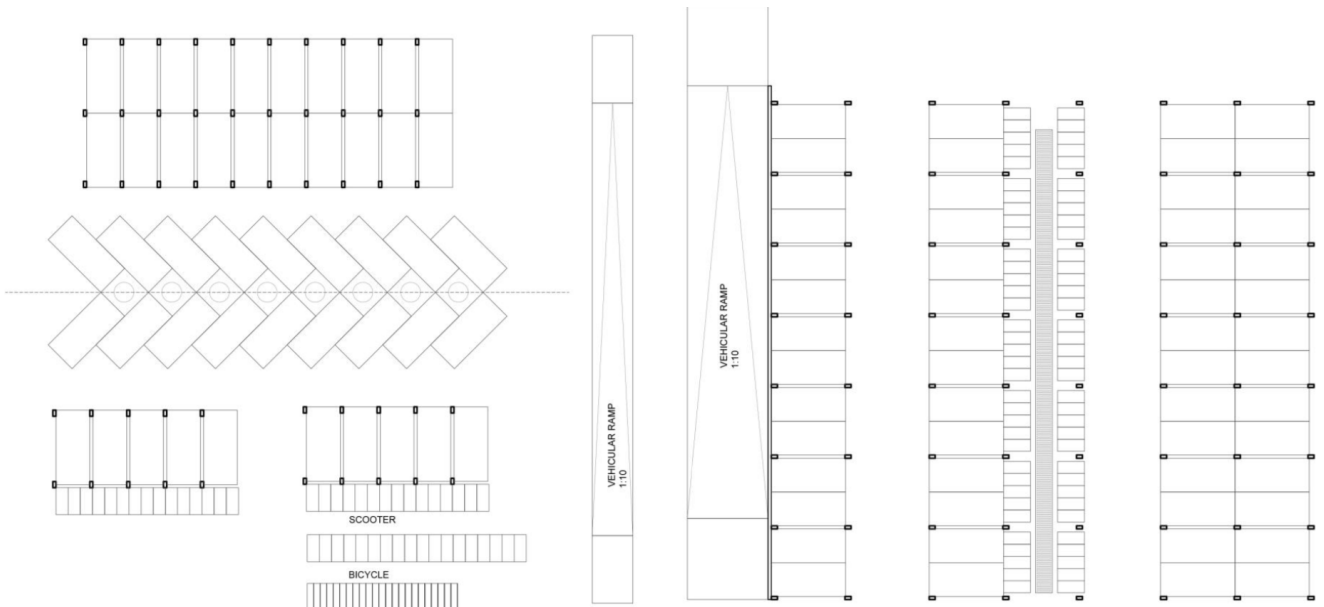
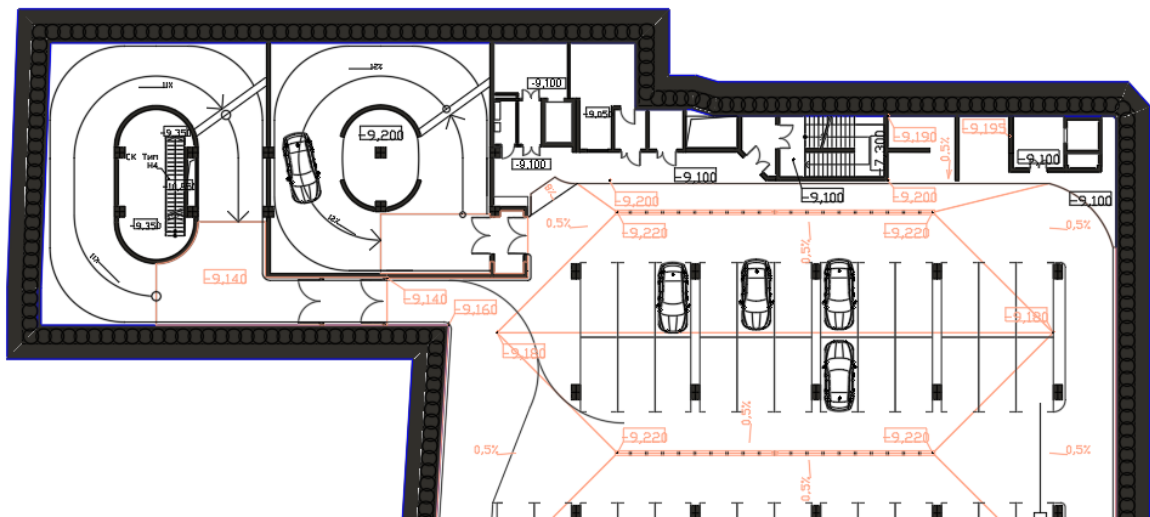
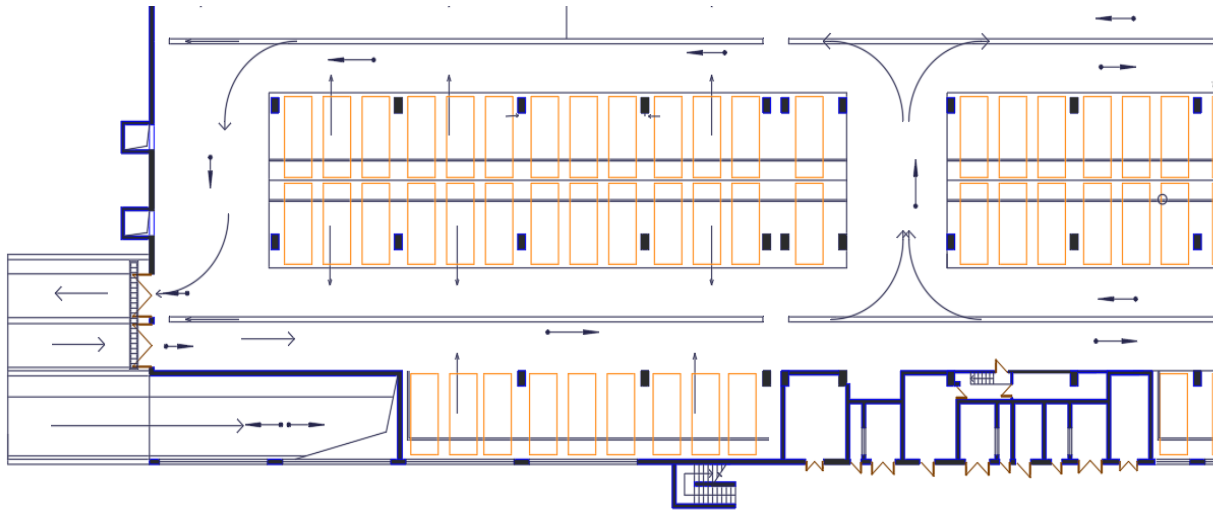


90 degree

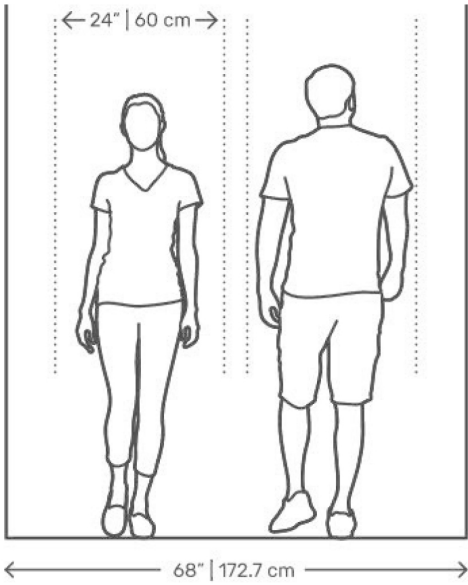
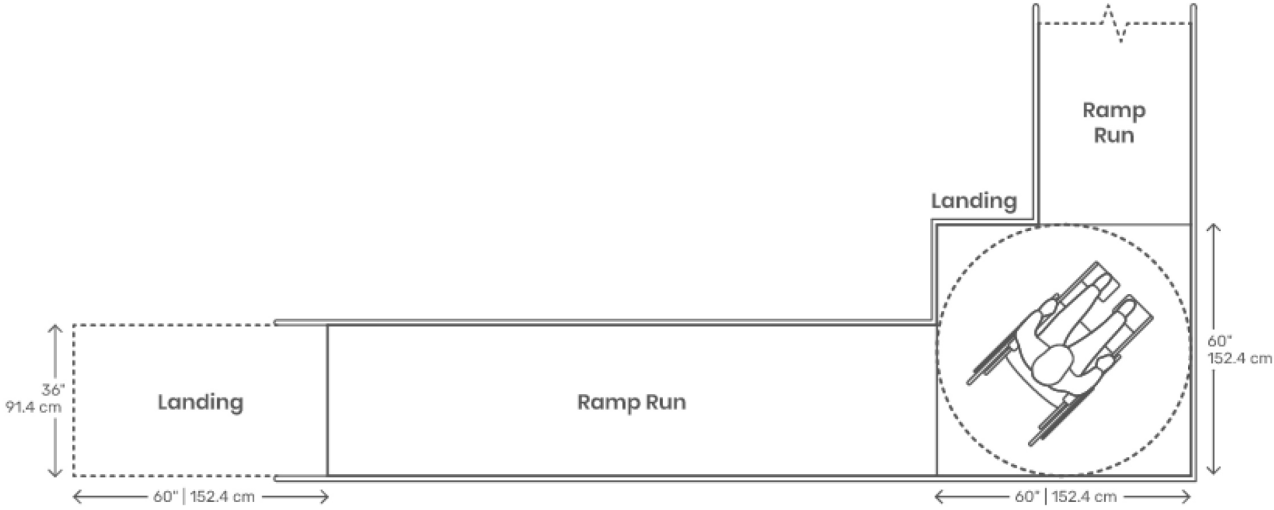
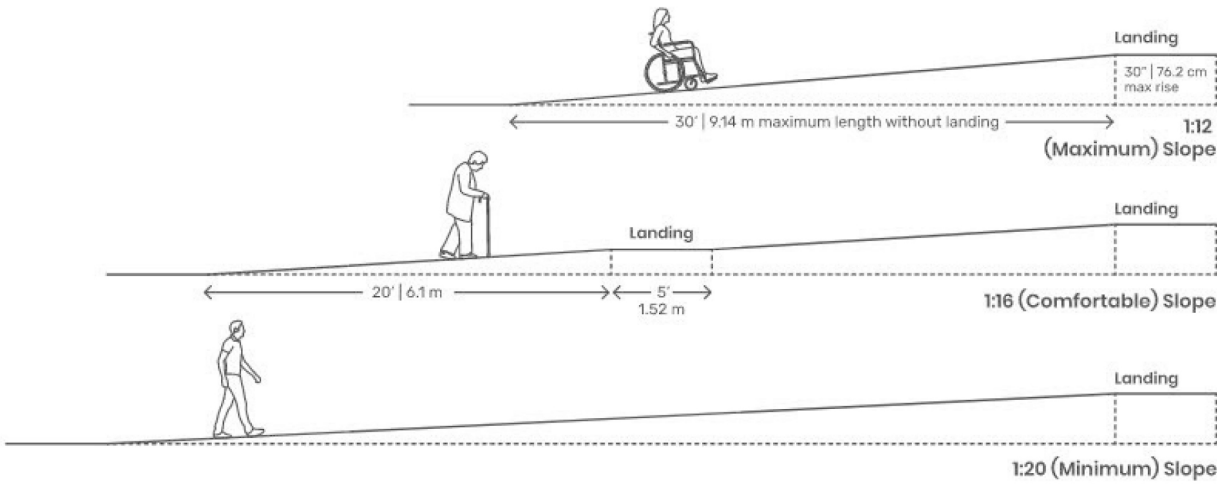


parallel parking



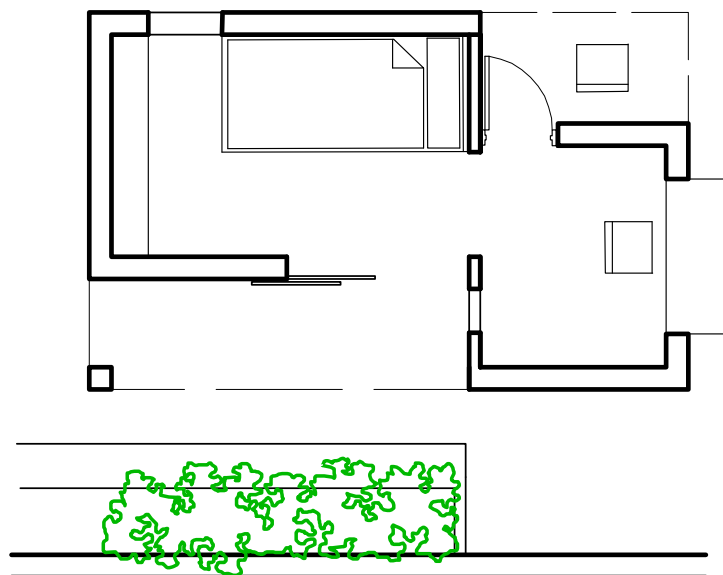
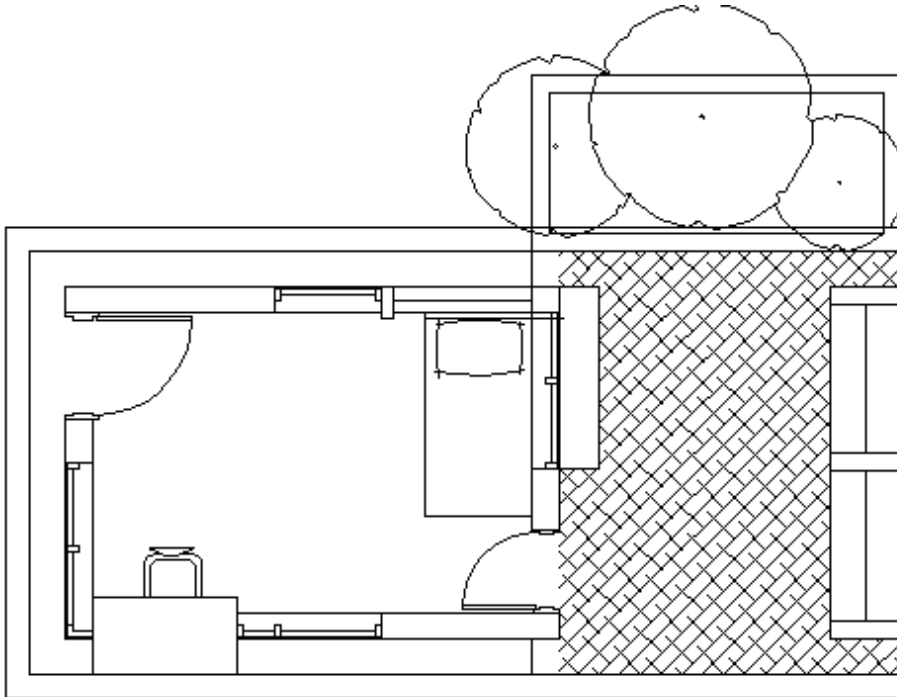


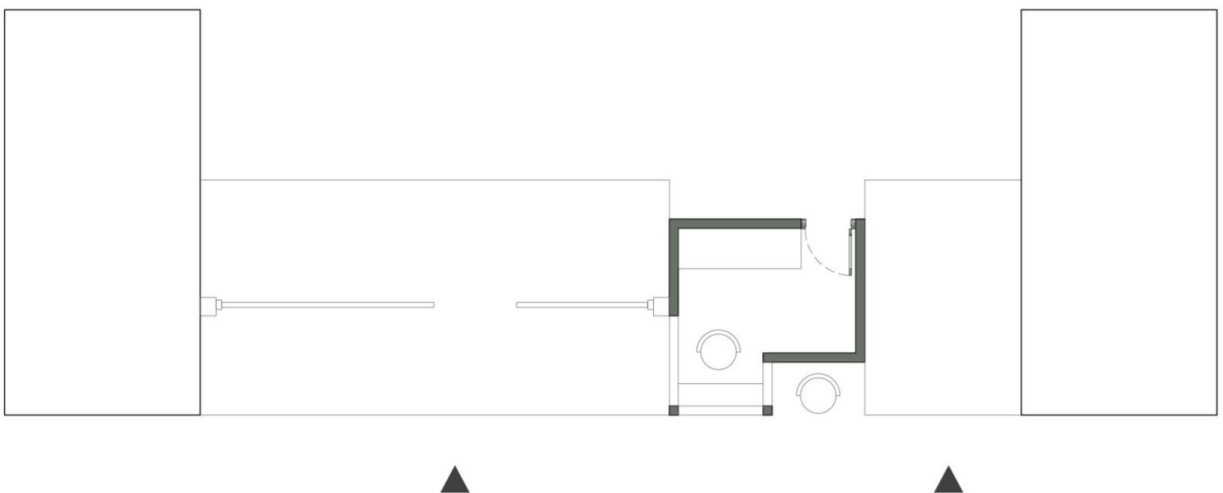
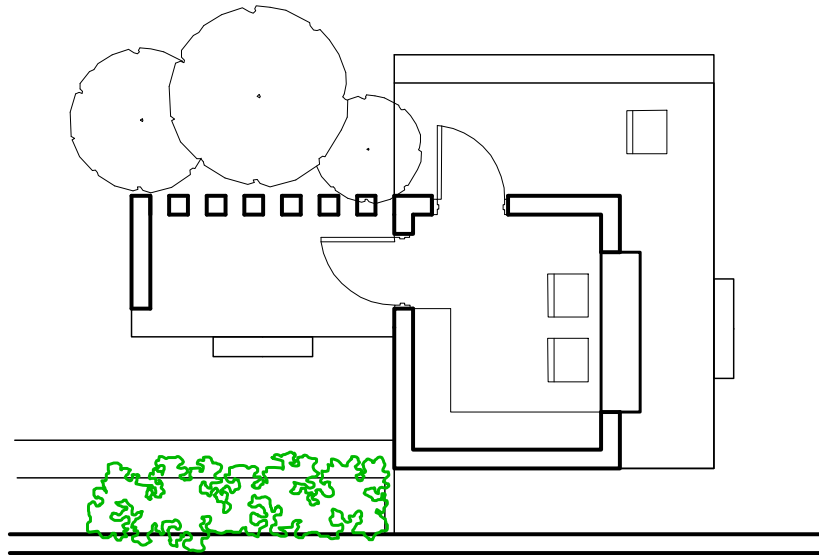
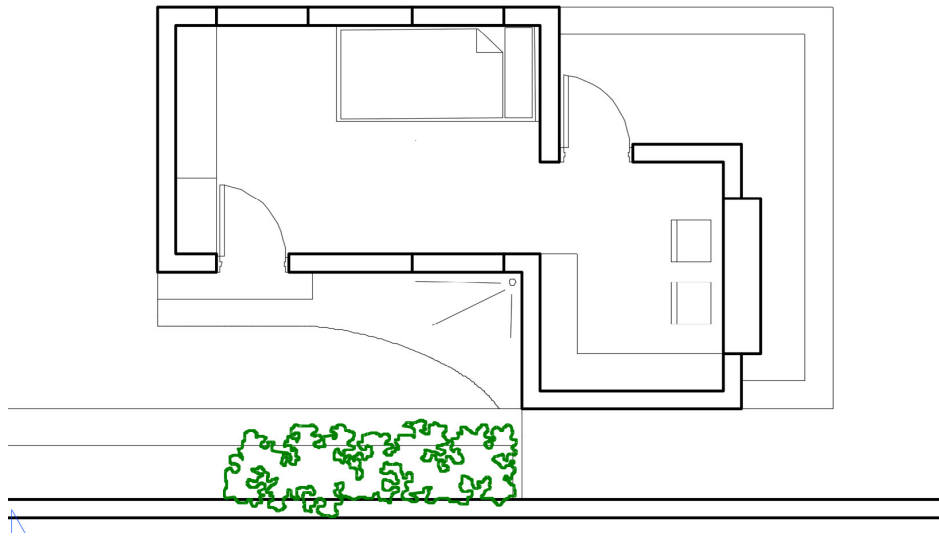
PEDESTRAIN ACCESS

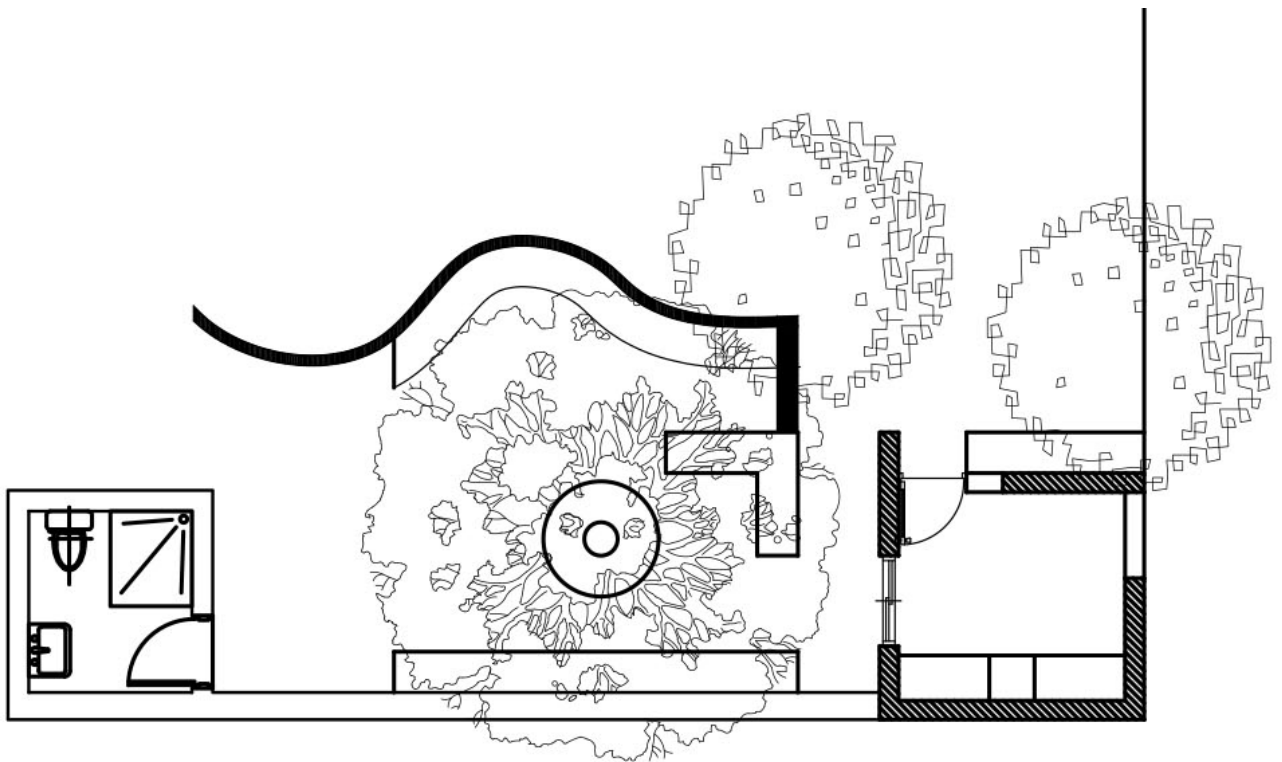
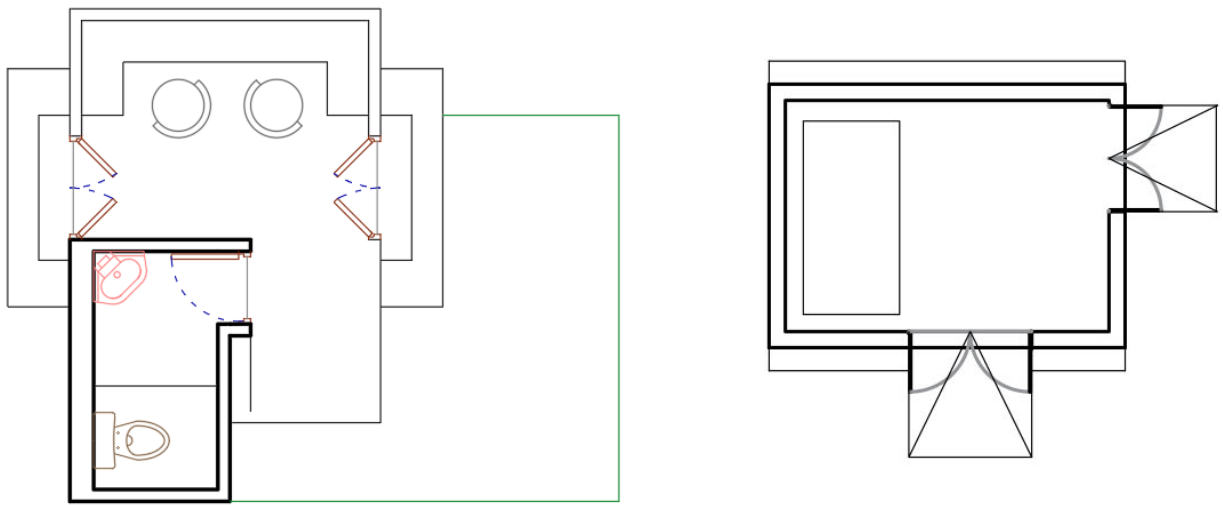
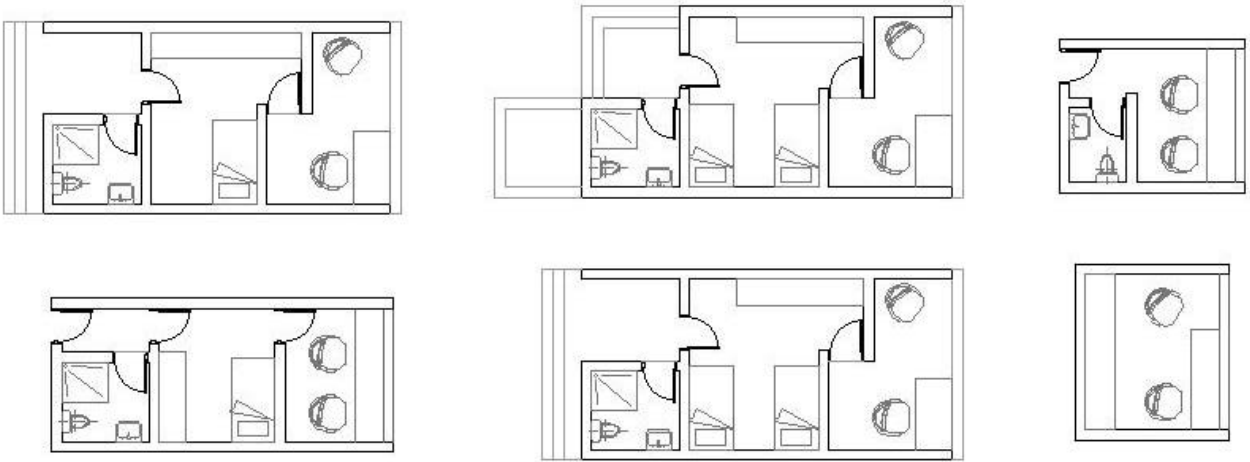


COMMON AMENITIES

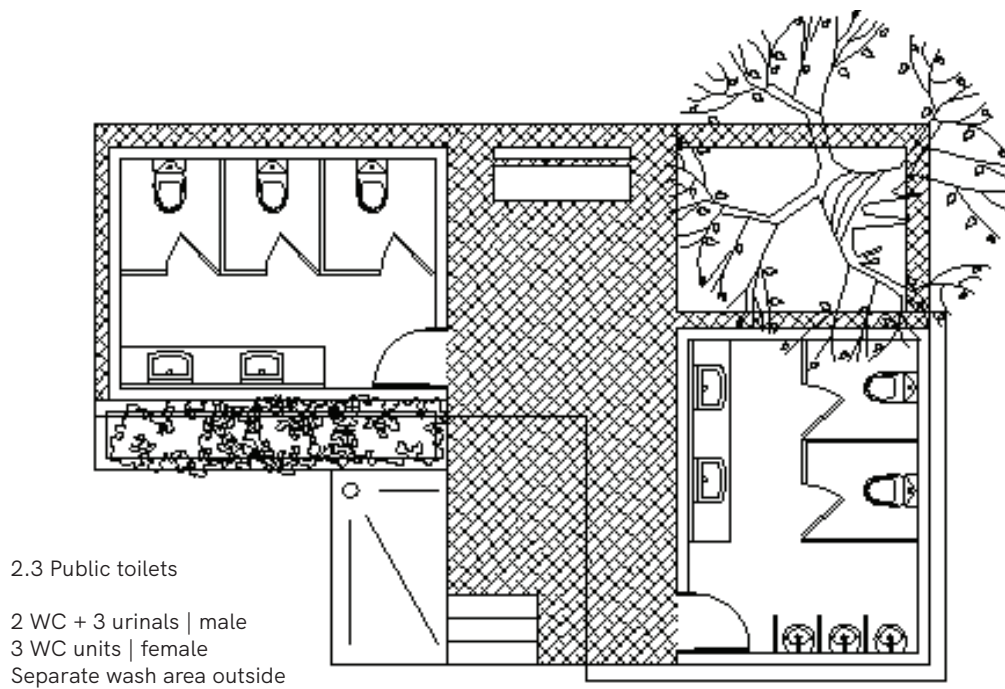
Security cabin





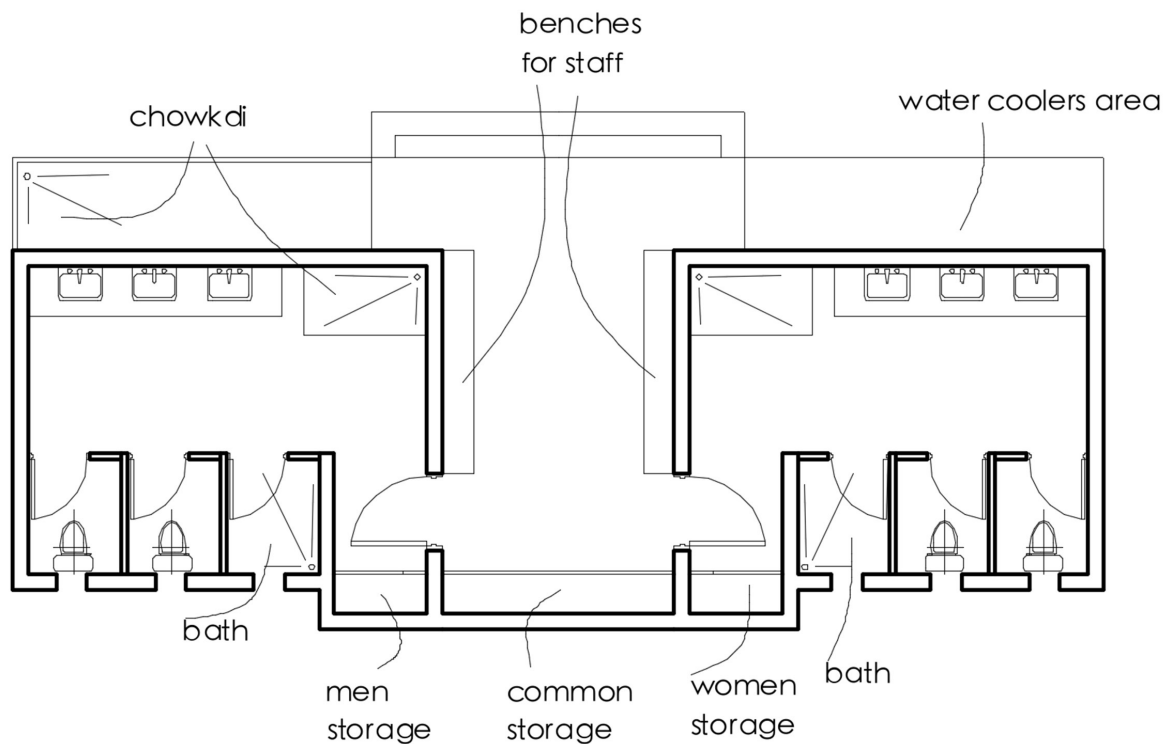


Common toilets



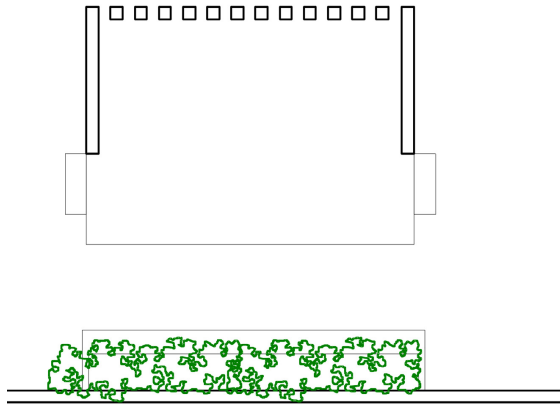
common toilet:

- Mostly used by staff members of housing. (but open for all)
- Provisions for cleaning the tools and storing them.
- Common functions like water cooler and chowkdi placed outside. (For residents as well as staff).

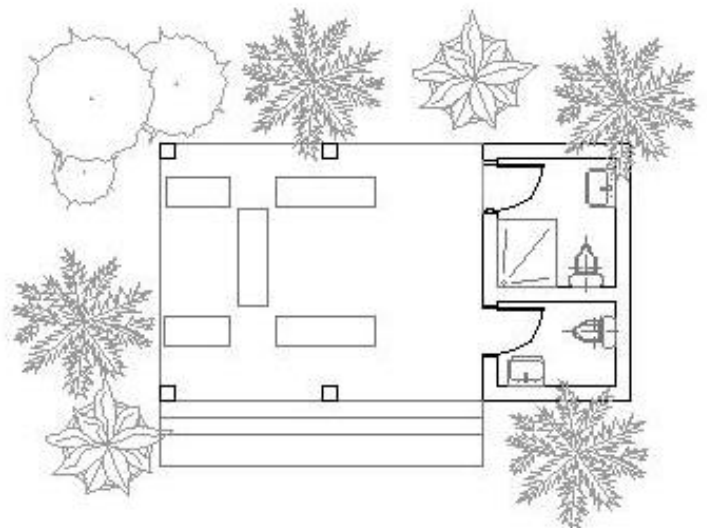
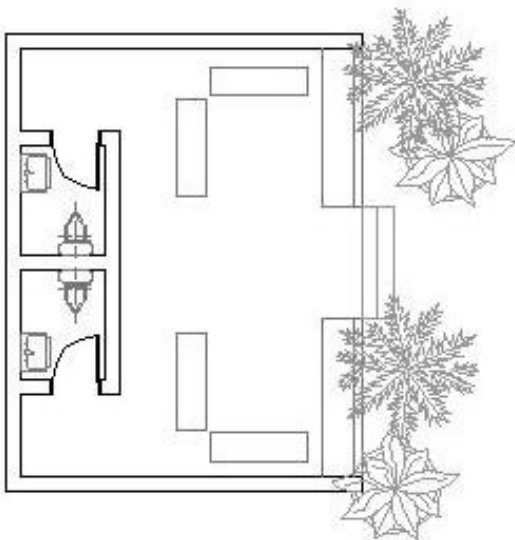
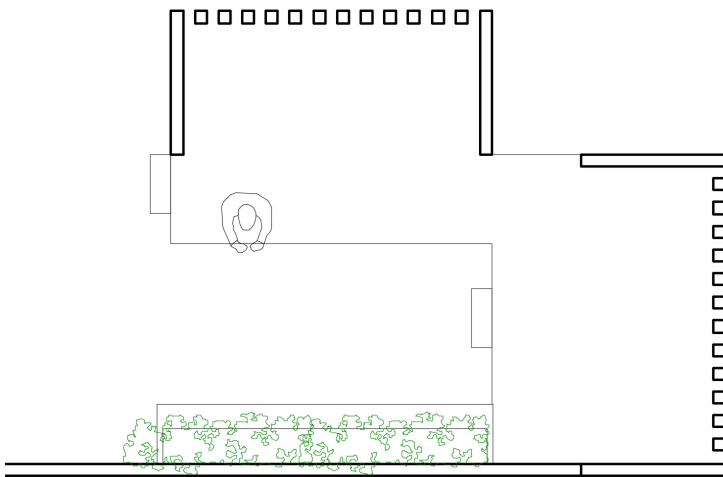


Staff waiting area

- A pavilion separated by a jali wall from the common grounds.
- Visual privacy from owners but staff can see them approaching.
- combination of open, semi open, and open plinth facing the compound wall with a bench.



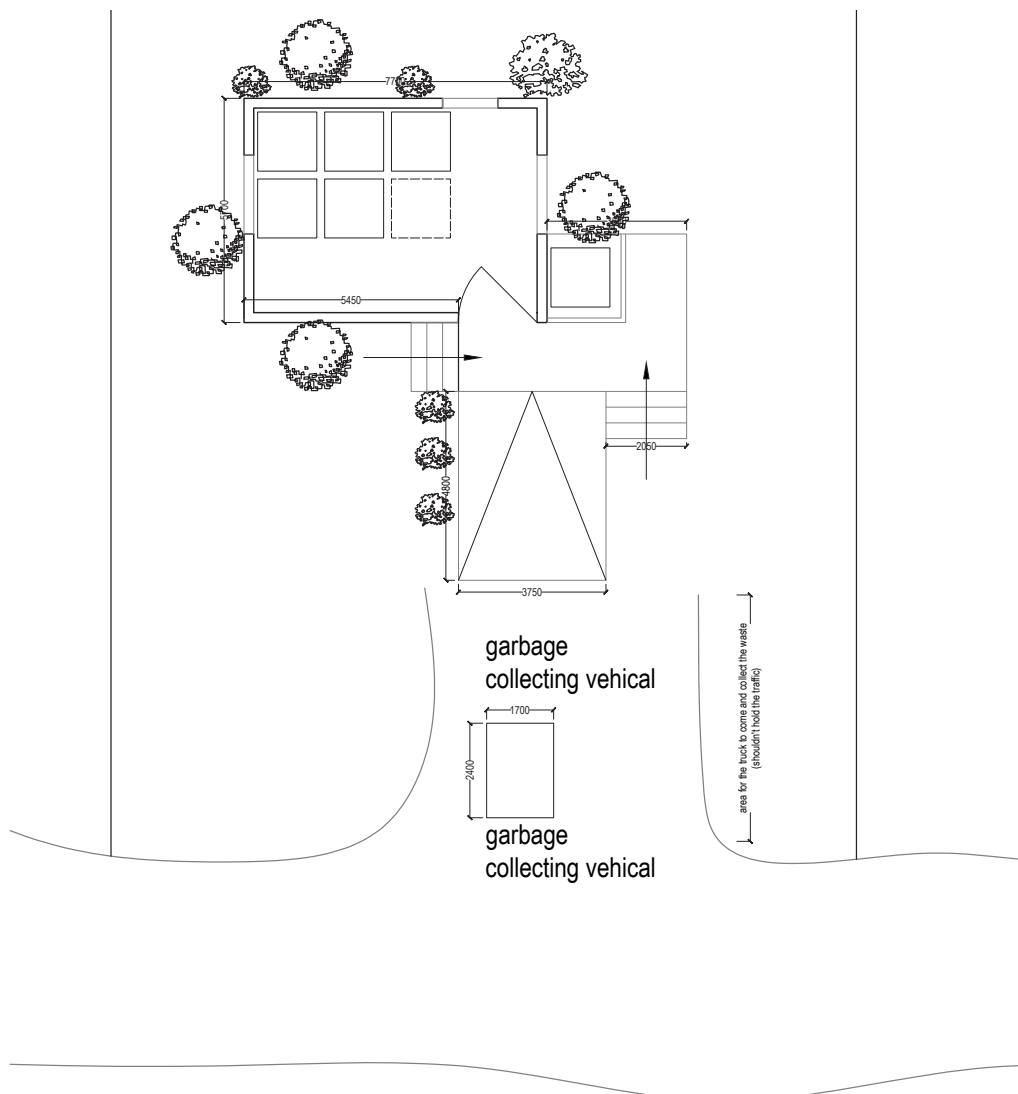
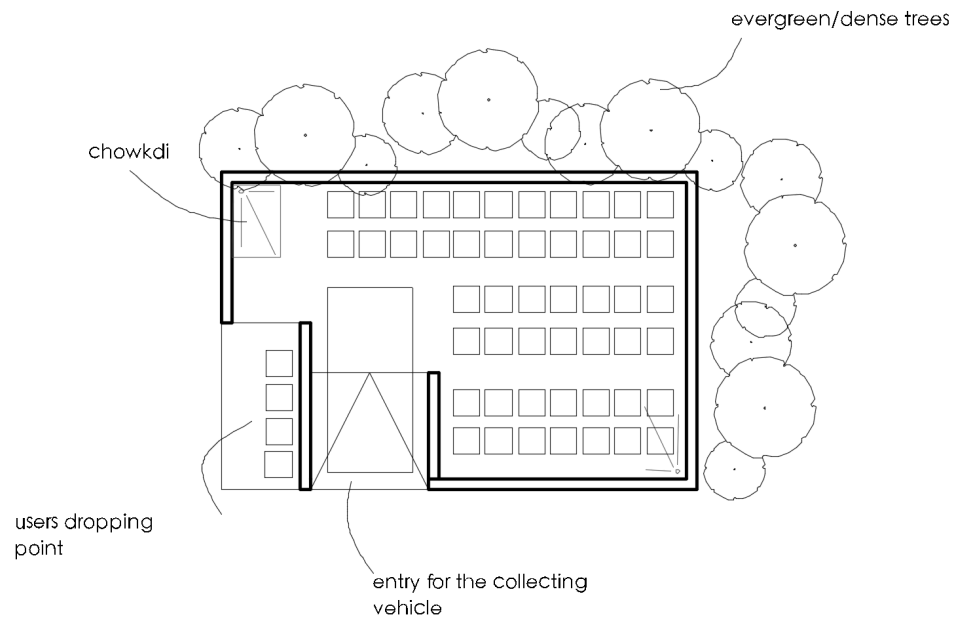
- option 2:
combination of two pavilions for more accomodation.

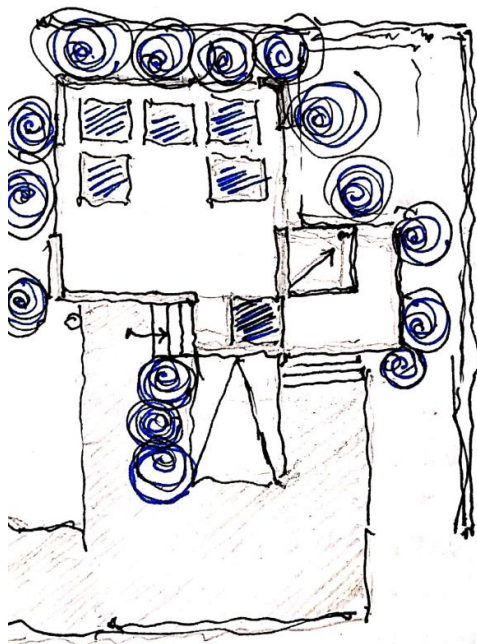
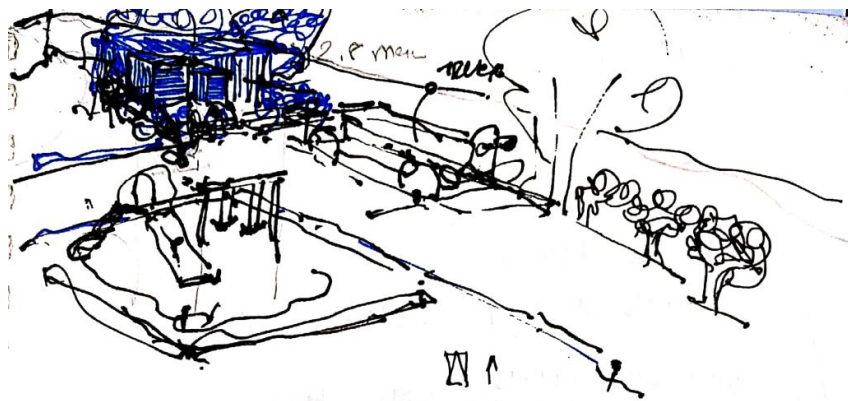


Waste disposal area

Garbage area:

- Provision for entry of collecting vehicle.
- 1 unit= 10l waste/day (according to GDCR)
- Capacity of 50 bins (80l) which caters to 400 units)





2x 240 litre
bins / House-hold.

Communal wheels

- 60, 1200

- 2600 kg
RECYCLING BINS.

- 40-40-20 RULE
+ + +

6 TRASH, RECYCLING,
ORGANICS.

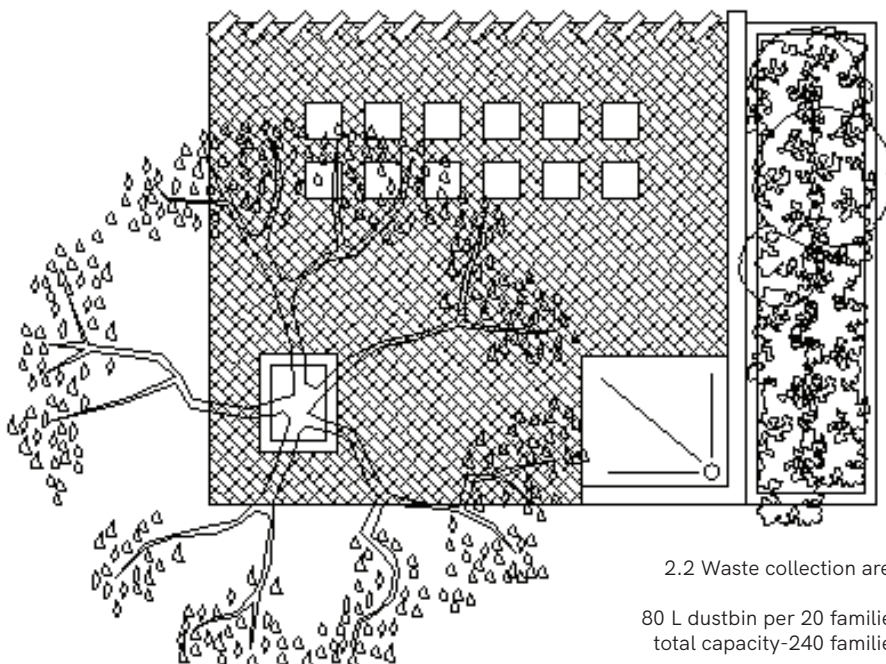
→ ESTIMATE THE
NUMBER OF OCCUPANTS

By MULTIPLYING
the number of
BEDROOMS by 2,

1 9 15-18 GALLONS
per occupant,

• WHERE TO PLACE IT.
ON SITE:

$(1.6 \times 1.8 \times 2.3) m.$



2.2 Waste collection area

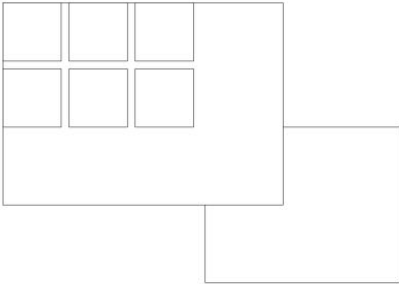
80 L dustbin per 20 families
total capacity-240 families

Size of a **600 liters ~ 600kg** dustbin: {l x w x d} m = (1.5x1.5x1.1) m

Waste Generated by 1 person **per day** for community waste: 700gm ~ 1 kg (max.)

(Take 2 persons/1 bedroom)

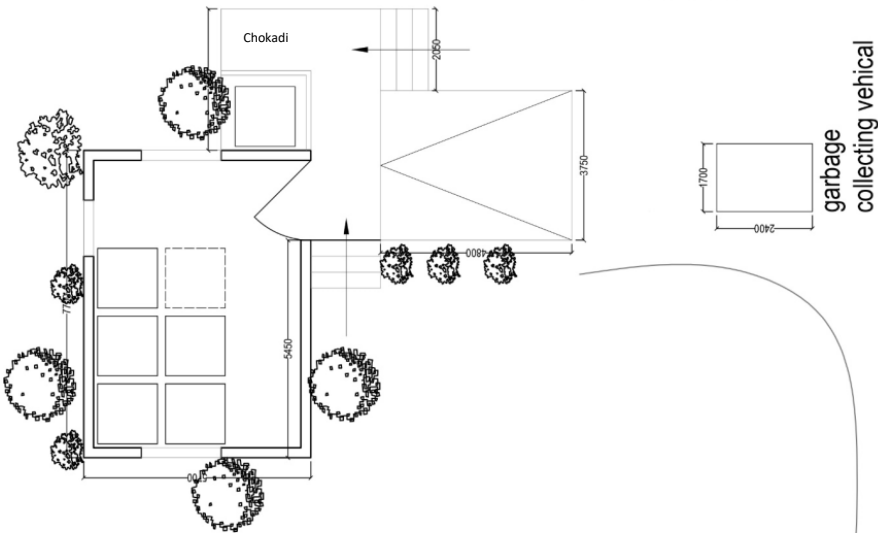
Bin area : 40 sqm (design and allocate accordingly)



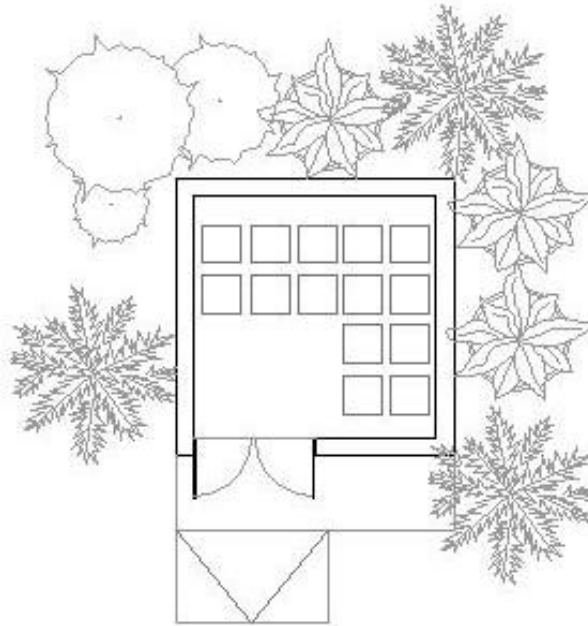
Wash area: 16 sqm (according to number of dustbins)



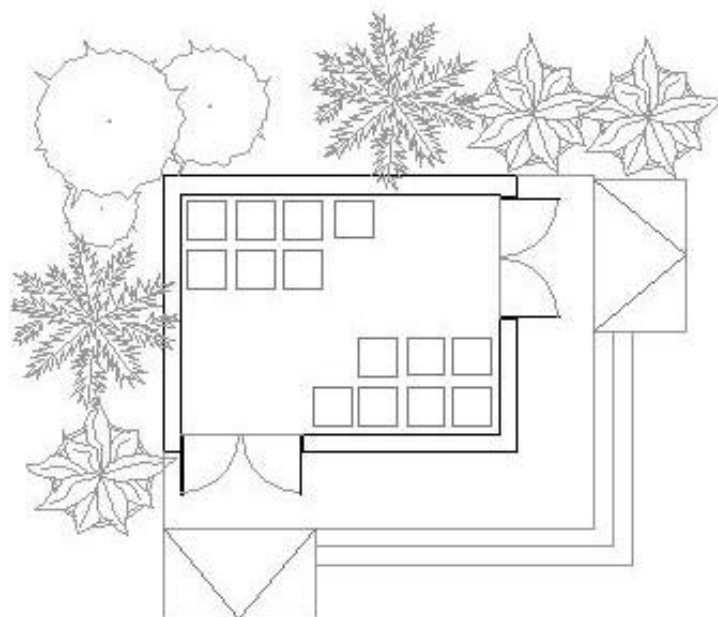
area for the truck to come and collect the waste
(shouldn't hold the traffic)

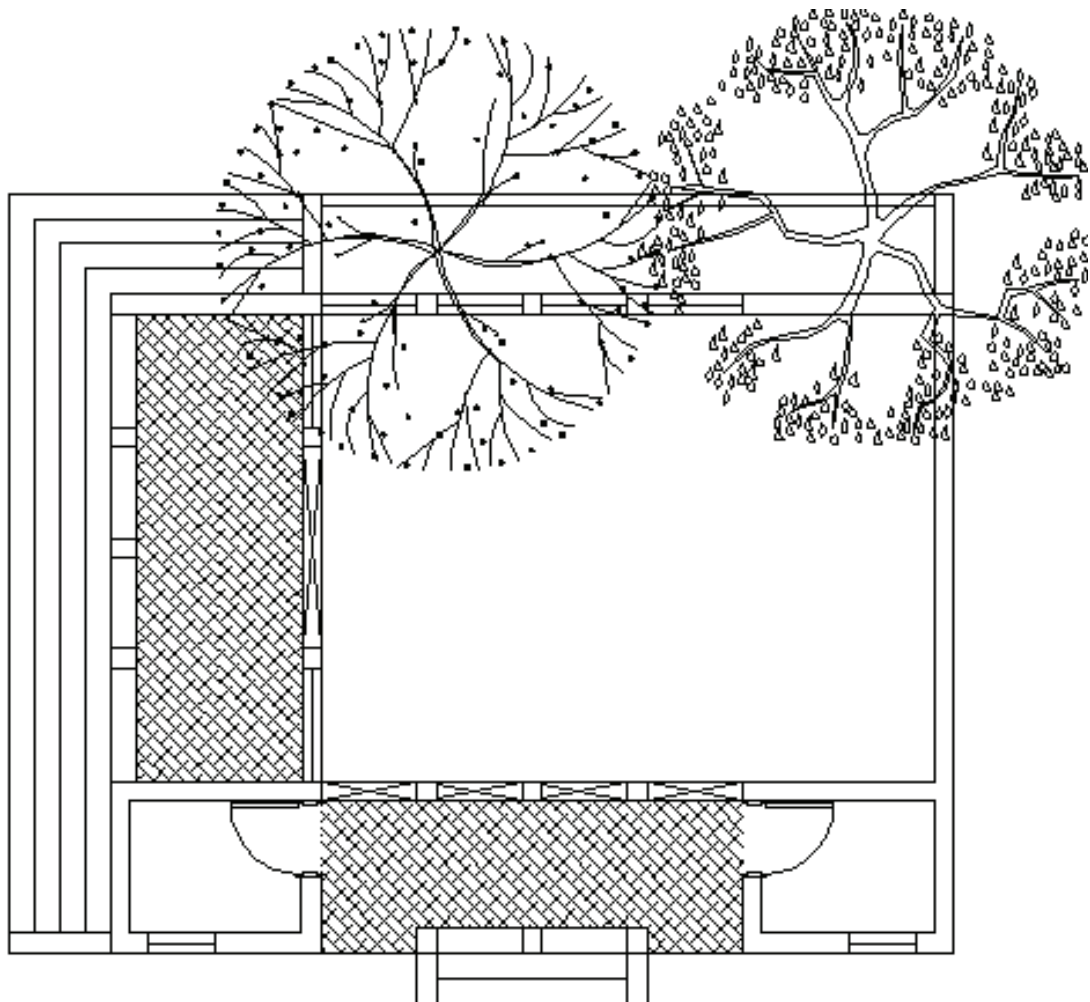
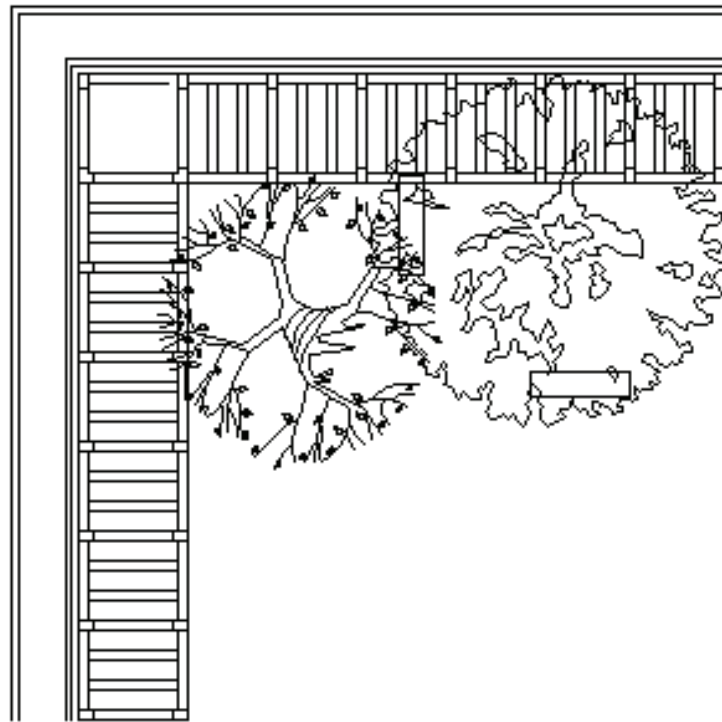


Garbage Collection area
For 100 houses



Waste for 8 houses= 80litre dustbin= 0.5m x 0.5m
14-15 bins required for 100 houses





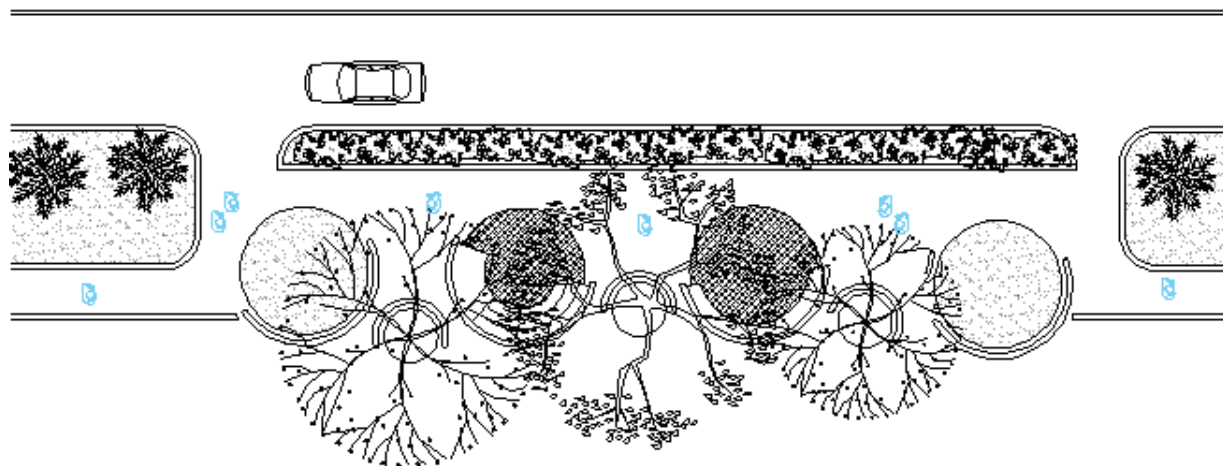
Edge conditions

Design of compound Wall

Development of a module in the compound wall, which can be modified and adopted to function as various amenities on the ground floor. Exploring the idea of **personalisation** on ground floor in community resources and spaces, by means of flexibility.

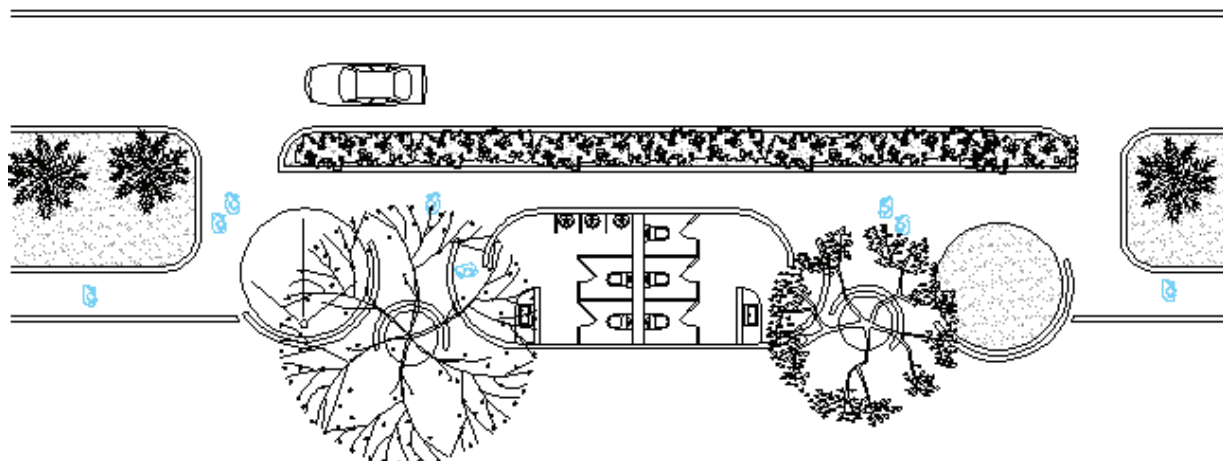
1.1 Seating spaces and pause points along the stretch of the pedestrian path

This space can be used by either the residents of the housing society or by the employees such as drivers, gardeners, maids working in the society, security guard of the society. This will be repeated on a regular interval along the path.



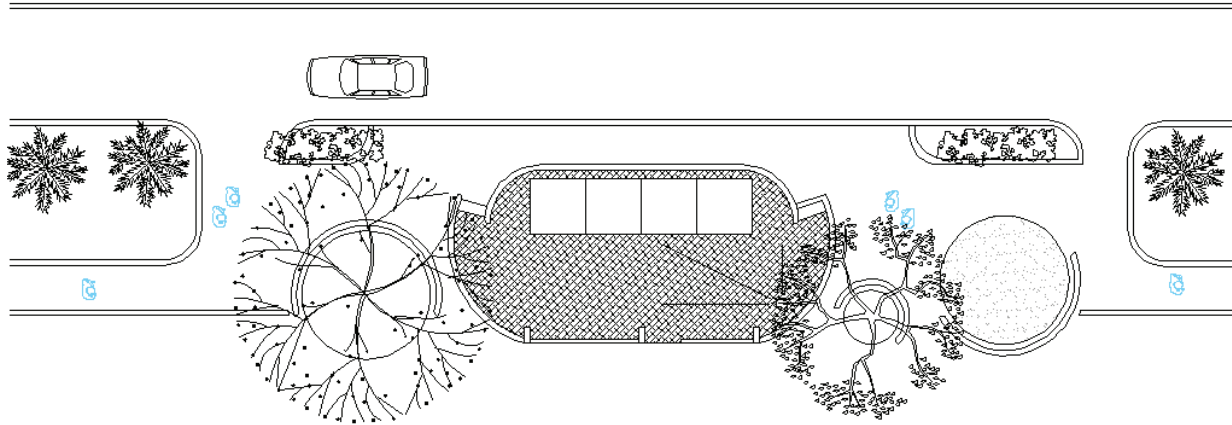
1.2 Public toilets along the edge

These toilets can be used by either the residents of the housing society when they are on the ground floor, or by kids while playing, or by the employees such as drivers, gardeners, maids working in the society, security guard of the society.



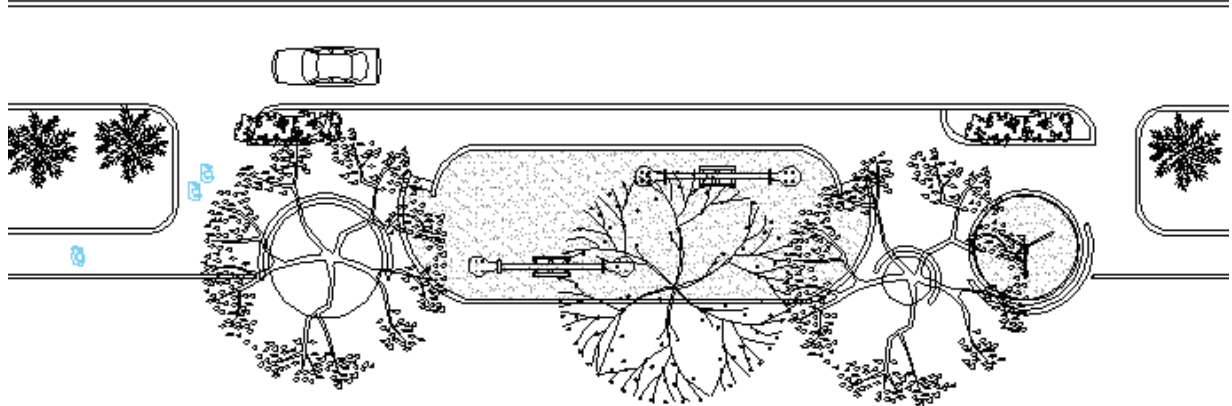
1.3 Garbage collection area

This is designed along the edge facing the road, as per GDCR rules. It is an enclosed space so as to avoid a mess during rains, but also kept open from the side facing road, so as to give access to the waste truck, and also to provide ventilation.



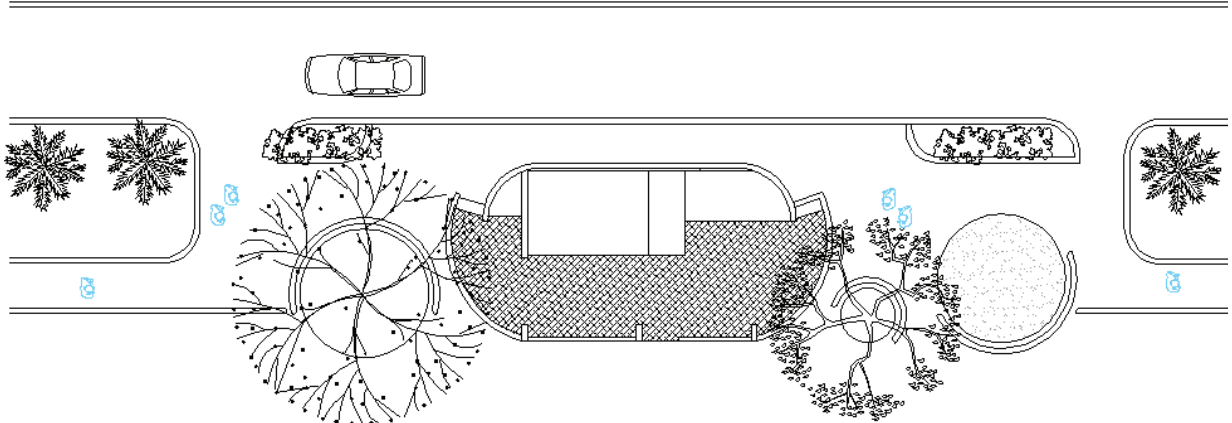
1.4 Play nodes

This is designed along the pedestrian path as small pockets of play area with some see-saw, swings, merry go rounds and sand pits.



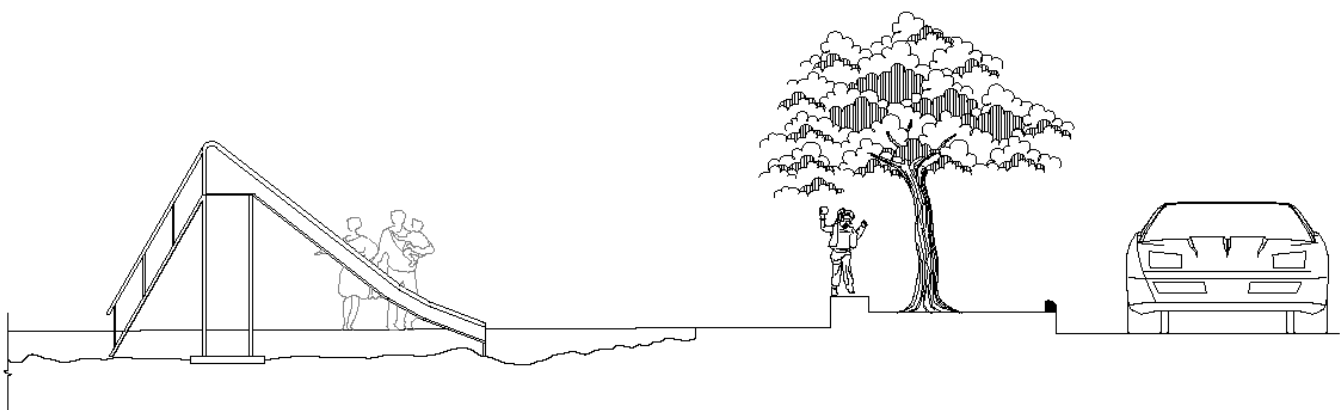
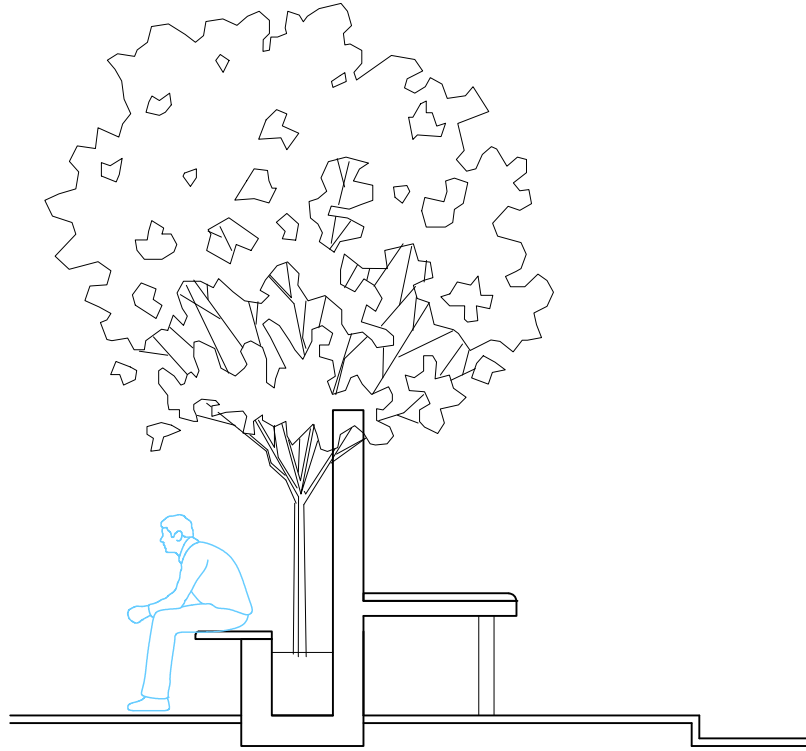
1.5 Electric substation

This is designed along the edge facing the road, as per GDCR rules. It has space for one 500 KV transformer, required for 250 units of 100 m² each with 2 A.C. units.



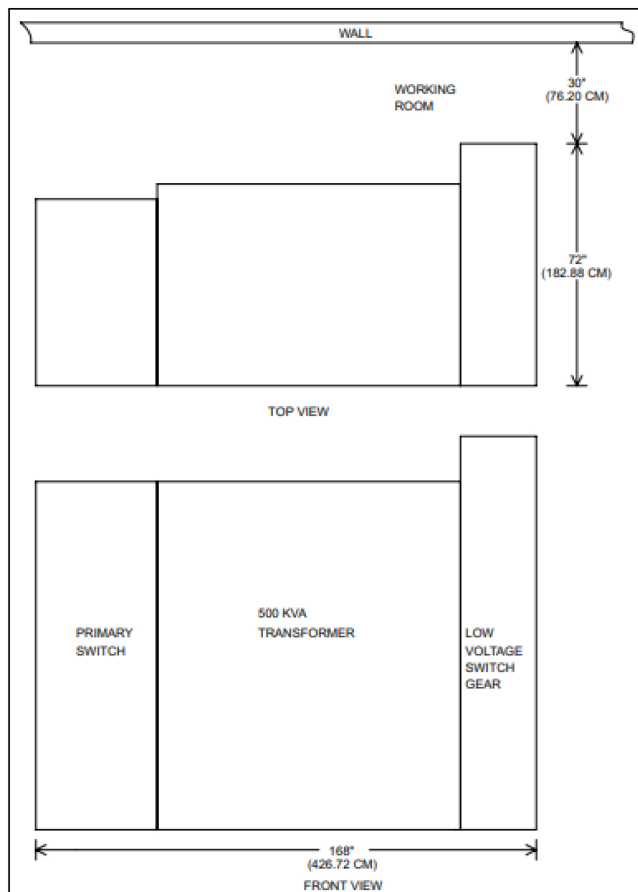
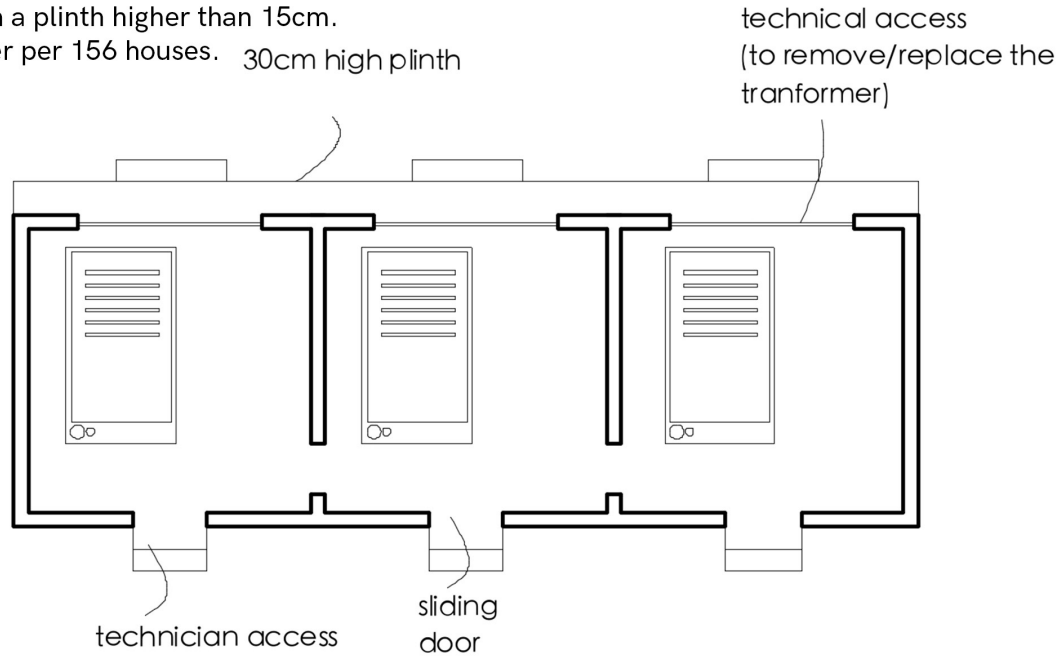
Compound wall section

- inbuilt bench on the inside.
- Inbuilt platform for selling/vendors on the outside.



Electric substation

- Only for technical use.
- No users allowed.
- Should be on a plinth higher than 15cm.
- 1 transformer per 156 houses. 30cm high plinth



Rules for electrical room

The minimum height of high voltage switchgear room shall be 3.6 m below the soffit of the beam.

In order to prevent storm water entering the transformer and switch rooms through the soak-pits, the floor level, the substation shall be at least 15 cm above the highest flood water level that may be anticipated in the locality. Also, facility shall be provided for automatic removal of water.

All door openings from substation, electrical rooms, etc should open towards outside. The substations enclosure, that is, walls, floor, ceiling, openings, doors, etc shall have 2-hour fire rating

Additional ventilation or air conditioning may be needed.

Electrical room

A 100 sqm house with 2 A.C.s will have approx. 2 kVA as their electricity requirement.

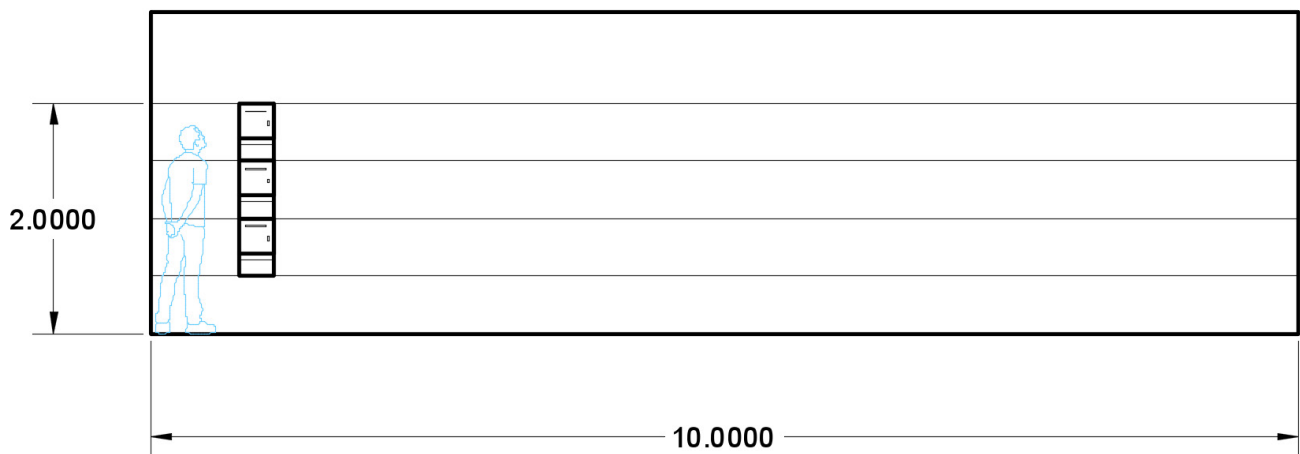
Layout for an electrical room of capacity 500 kVA is shown below.

Area required for one transformer – 12 sqm.

Letter box

- Box per unit which can collect small parcels or milk pouches, new paper etc.
- Letter box
- Dimension of the box= 50cm X 30cm

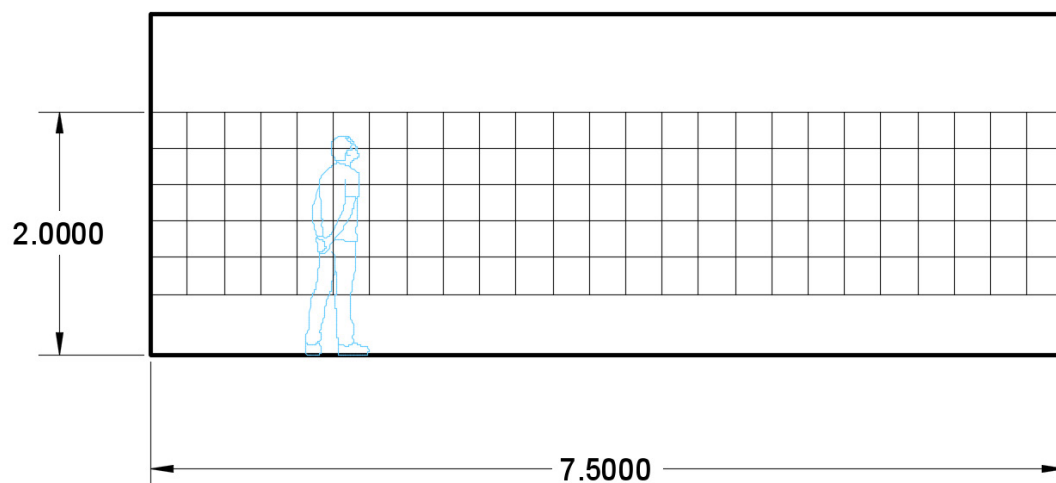
running length of the wall per 100 units= 10m



Electric meter room

- Common wall on the ground floor so that it is easy for the technician.
- Meter size= 30cm X 30cm

running length of wall per 100 units:



Water tank requirements

Water requirements *per person per day*:

Average= **135 l/day**;

drinking= 5 l/day

cooking= 5 l/day

bathing and toilet= 85 l/day

washing clothes and utensils= 30 l/day

cleaning house: 10 l/day

Calculations based on a housing scheme with **100 units** and a **common** garden, hall, etc :

per house per day: $135 \times 4 = \mathbf{540 \text{ l/day/unit}}$

For 100 units: $540 \times 100 = \mathbf{54000 \text{ l/day}}$

For common facilities: **50%** of residential requirements
= **27,000 l/day**

Under ground tank

capacity: 2 days requirement
(residential+common)

Requirement: $(54,000 + 27,000) \times 2$
= **1,62,000 l**

water density: $1\text{m}^3 = 1000 \text{ l}$

Dimensions:

volume: $1,62,000 / 1000$
= **162 m³**

$l \times b \times h = \mathbf{7.6m \times 7.6m \times 2.8m}$

Over head tank

capacity: 1 days requirement
(residential only)

Requirement: **54,000 l**

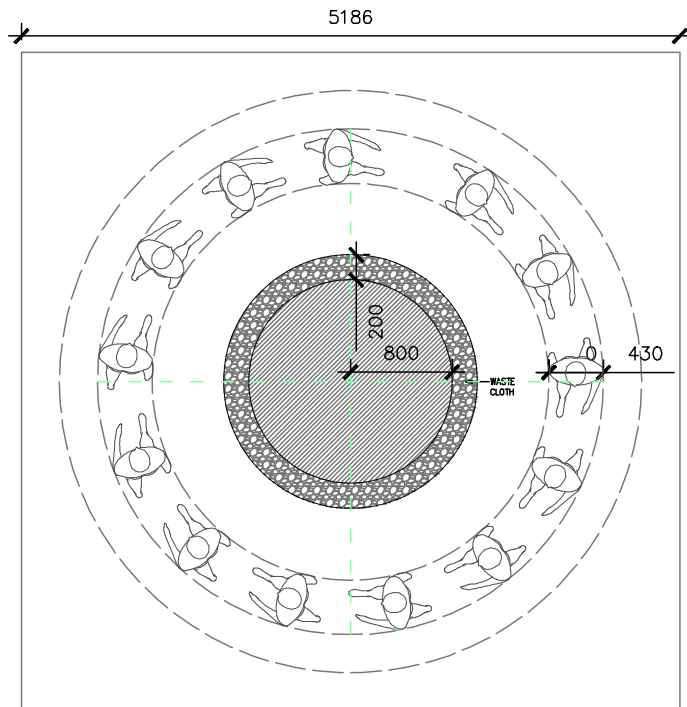
water density: $1\text{m}^3 = 1000 \text{ l}$

Dimensions:

volume: $54,000 / 1000$
= **54 m³**

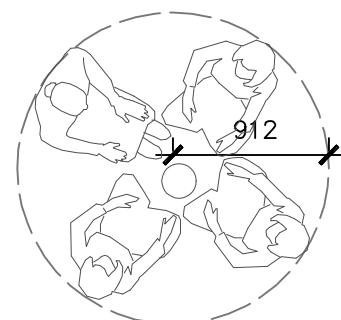
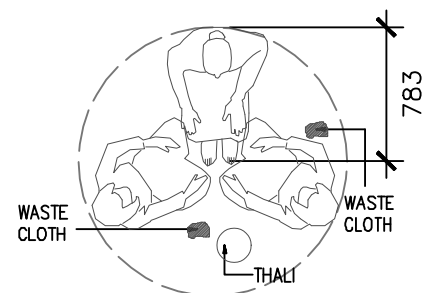
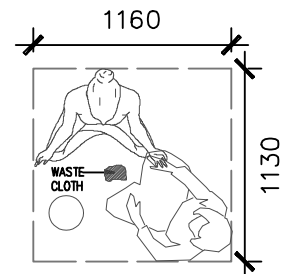
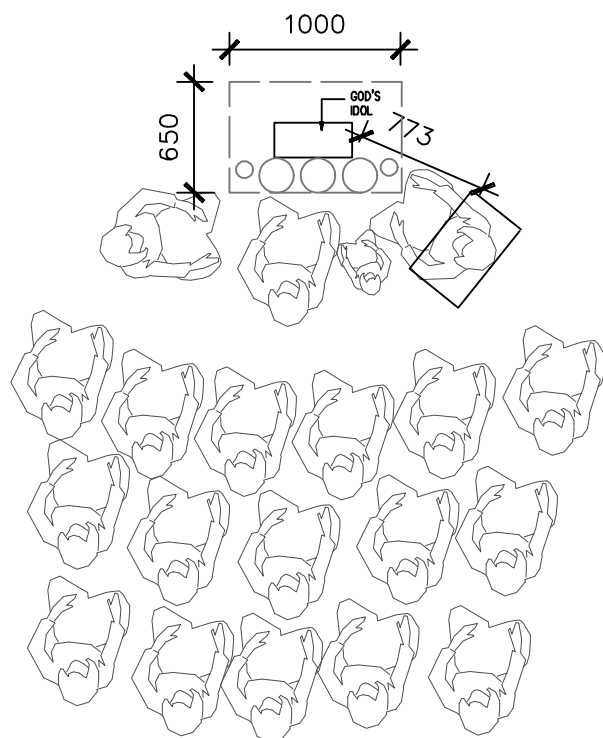
$l \times b \times h = \mathbf{4.5m \times 4.5m \times 2.8m}$

ANTHROPOMETRICS



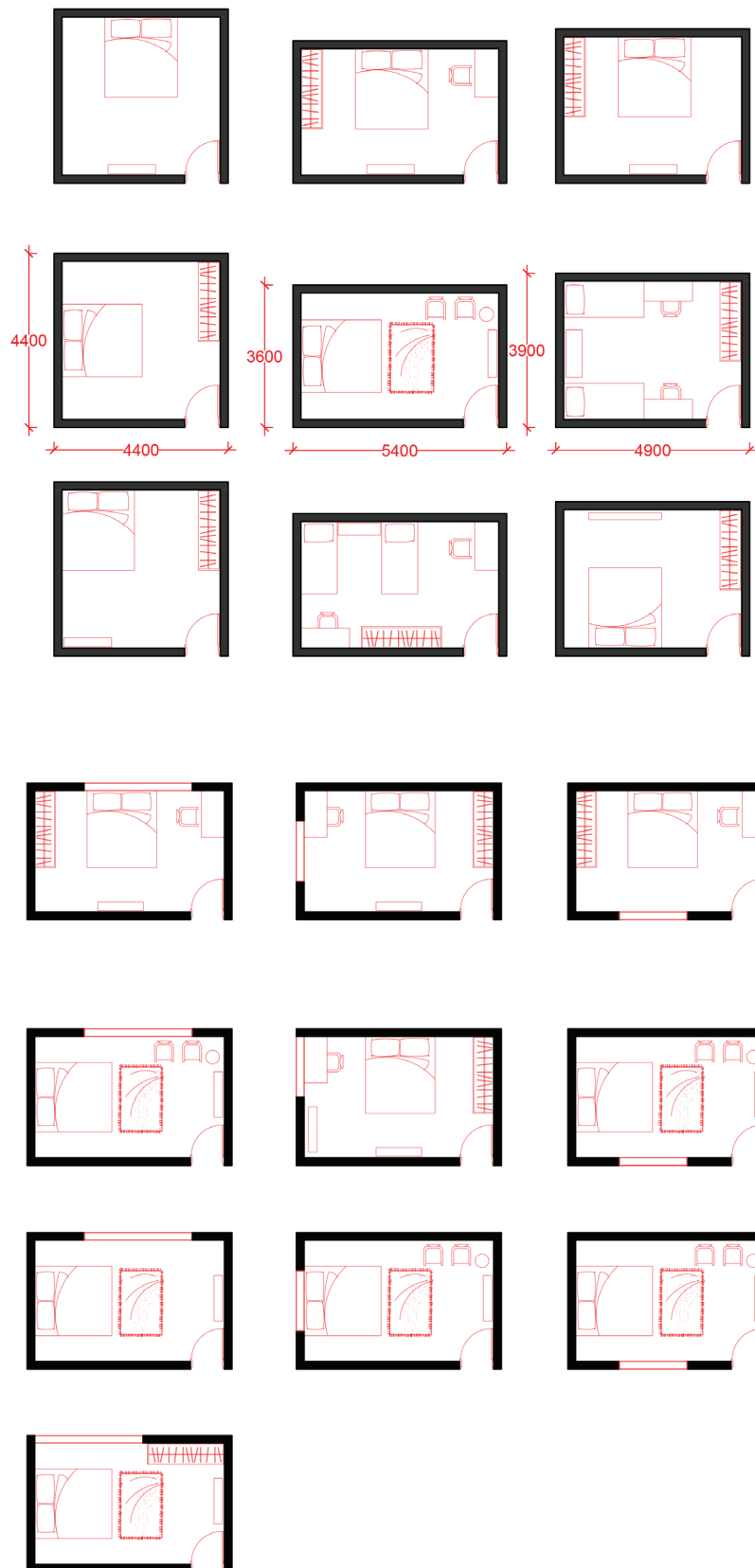
(TIGHTLY
SETTING AREA
PER STANDING
PERSON IS 0.42
SQ.MT)

(GARBA AREA
PER PERSON IS
0.92 SQ.MT)



LAYOUT CONFIGURATIONS

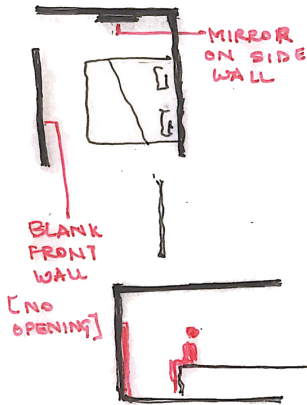
BEDROOM



INDIVIDUAL SPACES

Nature, Light quality, Detail etc,

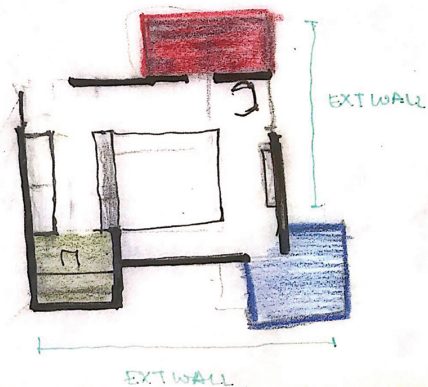
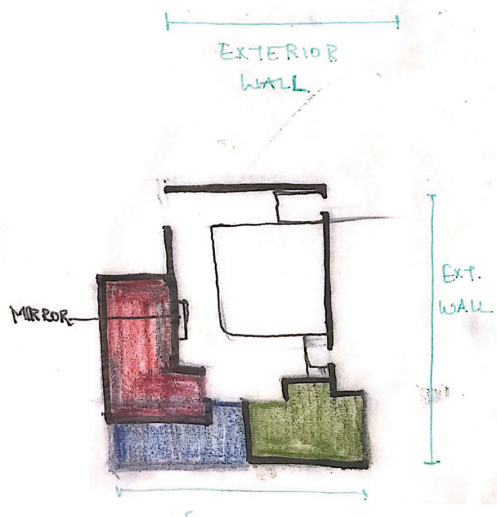
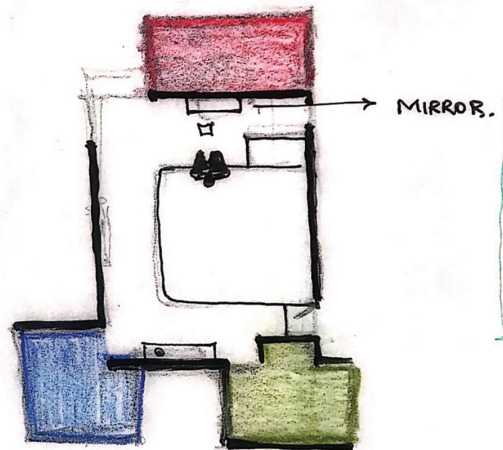
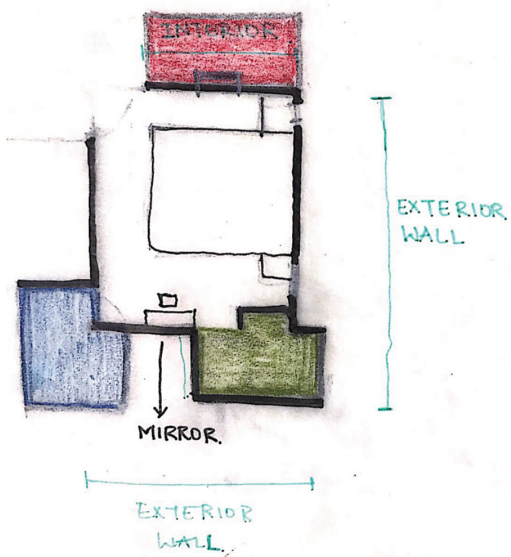
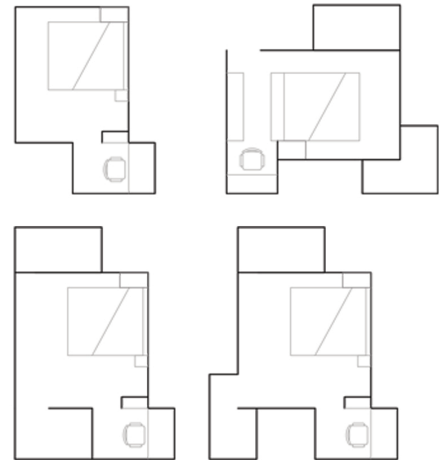
BEDROOM RELATIONSHIP



SIT COMFORTABLY ON BED, (SPREADING EVERYTHING & GET READY.

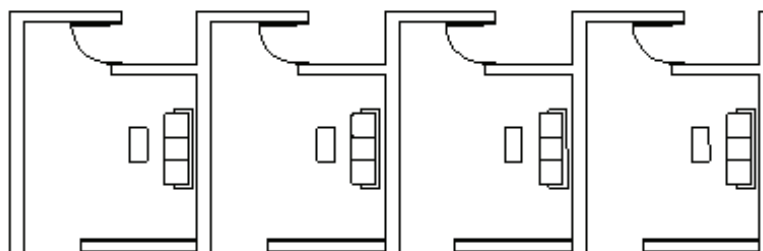
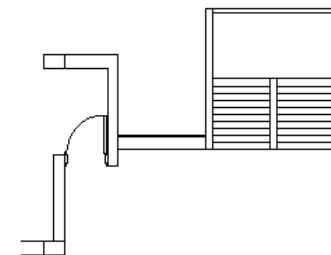
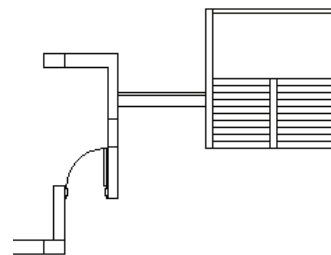
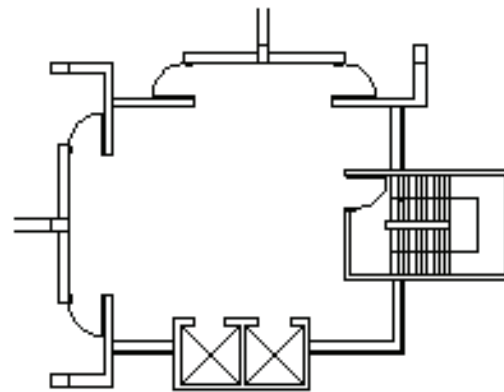
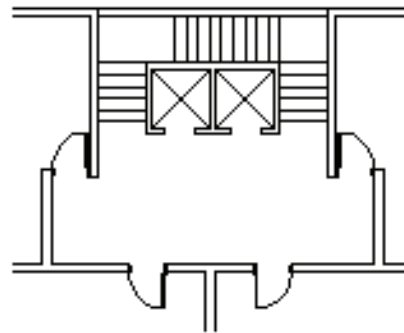
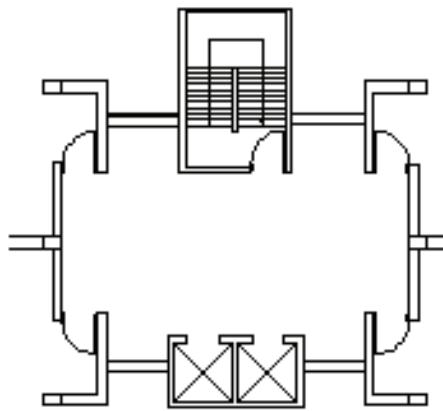
BEDROOM ACTIVITIES

- SLEEPING
- DRESSING UP
- STUDYING / WORKING
- TALKING ON PHONE
- GOING TO WASHROOM
- HOBBIES
 - READ
 - DANCE
 - MUSIC
 - TV.



LAYOUT CONFIGURATIONS

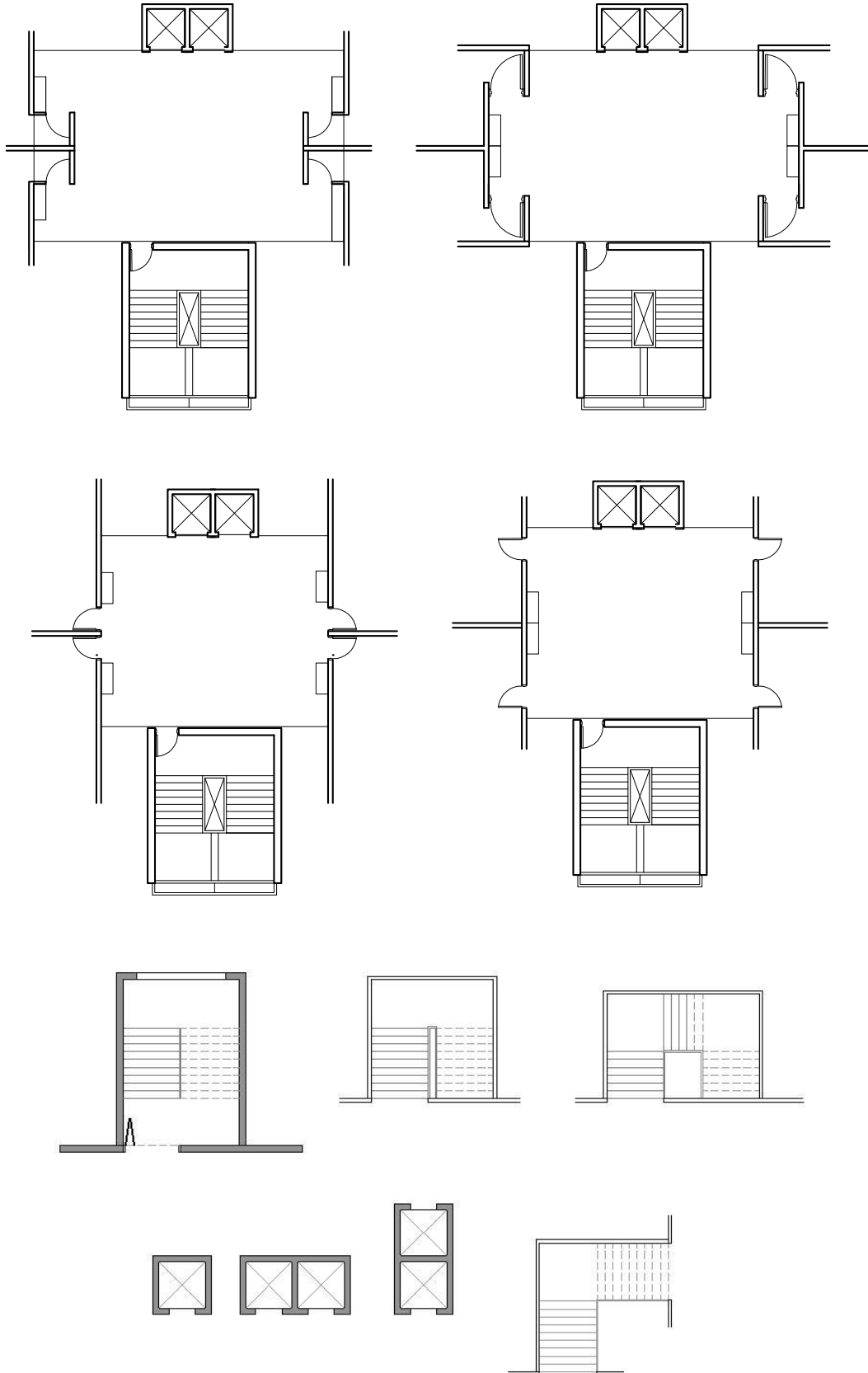
LIFT LOBBY



Corridor layout

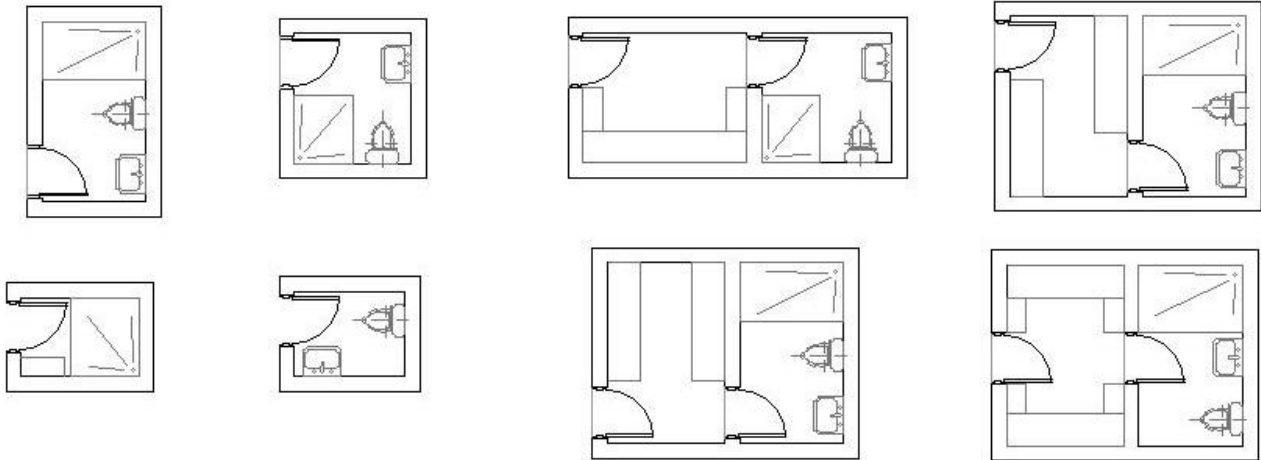
Shared lobby and arrangements of house around it:

- units per floor on maximum free FSI lobby.
- Variations in the way the door opens onto the lobby.



LAYOUT CONFIGURATIONS

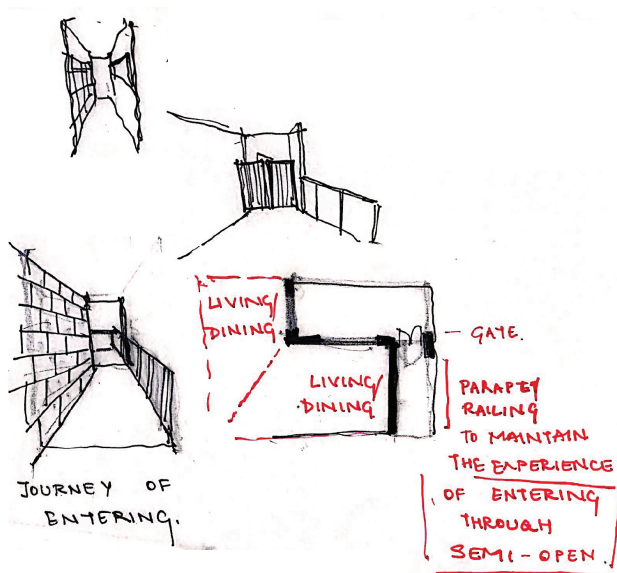
TOILETS



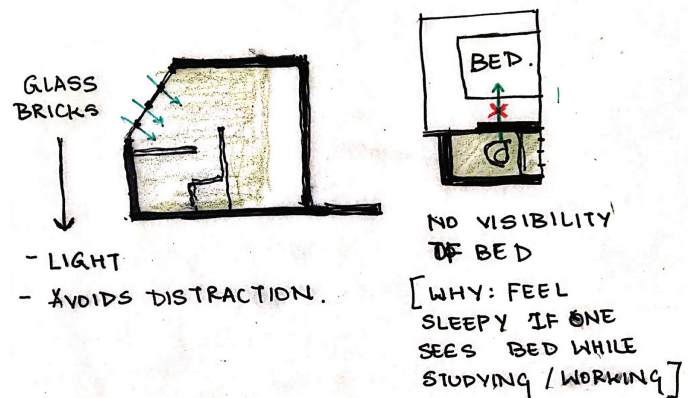
Without Dresser/ wardrobe

With Dresser/ wardrobe

ENTRANCE






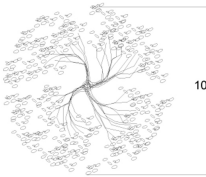

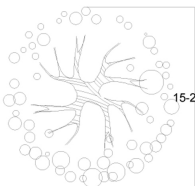

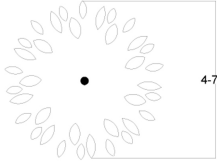





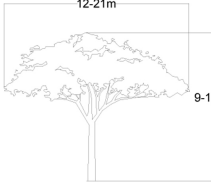



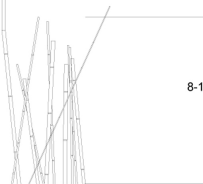


STUDY ROOM



TREES

Trees	Evergreen	Seasonal	Flowers	Fruits	Fragrant	Slow growing	Fast growing	Average Height	Spread	Life Expectancy	Extra Information
Ashoka	yes	no	yes	yes	no	no	yes	6-9 m	1.2-1.8m	-	Tall, good for noise cancellation
Mango	yes	fruits are	seasonal	yes	no	no, 5 years to mature	no	9-12 m	10 m	100-150 years	mango trees are grown in rows at the distance of 4x2 metres from one another. The spacing is 4 metres between rows and 2 metres between plants. Comparatively, traditional mango plantations have a spacing of 10X10 metres, very long life span external roots also
Peepal(sacred fig)	semi evergreen	no	no	yes	no	yes	no	15-20 m	15-20 m	900-1500 years	Require a lot of light, should be not planted near to other trees can grow as fast as 910mm in 24 hours
Banyan	yes	no	inside the fruit	yes	no	yes	no	10-15 m	9-18 m	200 years	
Champa	yes	no	yes	no	yes	no	yes	4-7 m	4-7 m	-	
Gulmahor	no	yes	yes	no	no	no	yes	9-12 m	12-21 m	-	
Palm	yes	no	no	yes	no	no	yes	10-18 m	1-2 m	40-50 years	
Coconut	yes	no	no	yes	yes	no	yes	15-18 m	4-6 m	60-80 years	
Giants Thuja/ Morpankhi	yes	no	yes	yes	no	no	yes	2-12 m	3-5 m	40-150 years	
Bamboo	yes	no	no	no	no	no	yes	8-16 m	2.5-8 cm(trunk)	120 years	
Guava	yes	fruits are	no	yes	no	yes, 10 years to mature	no	10 m	-	30-40 years	
Sitafal	semi evergreen	fruits are	no	yes	no	no	yes	6-10 m	4-9 m	25 years	
Curry	yes	no	no	no	yes	yes	no	3-6 m	1-4 m	150 years	
Neem	yes	no	yes	no	yes	yes	no	15-22 m	15-22 m	150-200 years	

				
10 m 9-12 m	1.2-1.8 m 6-9 m	15-20 m 15-20 m	9-18 m 10-15 m	4-7 m 4-7 m
				
10 m	1.2-1.8 m	15-20 m	9-18 m	4-7 m
Mango Tree	Ashoka Tree	Peepal Tree	Banyan Tree	Champa Tree
				
12-21m 9-12 m	1-2m 10-18 m	4-6m 15-18 m	3-5m 2-12 m	2.5-8cm 8-16 m
				
12-21m	1-2m	4-6 m	3-5 m	2.5-8 m
Gulmahor Tree	Palm Tree	Coconut Tree	Morpankhi Tree	Bamboo Tree

→ આંગણી - 12 મહિના

ચીકું -
કાકુ
ફાંસા
મંબુ
Bottle palm
અસીપાલય

- આમળાં
- અટમડ

લીમડો - 12 મહિના

અકરો - 5/4

ગુંદી
બદમ { રક્ત }

- જમરૂપ = ઝડપી - અંદા ખાન
નાળિયરો
કરેડા - 5/4

જેઝળ - પાનખર
12 મહિના

સાપાપણી - વ.
તજવ

ગુલમરૂદ - ઝડપી.

Summer X

but ફ્રેશ

બહાવળ લીમડો - આંગણી

Apple બીદ - ઝડપી.

જમરૂપી
કેટલાં
LESS કાંટા

GARBAGE.

મરૂદ - અકરો

- લીમડો.

- અમેલી

- રાતરાણી

- પારિખાસ

- અશોકા -

ORANGE FLOWERS.

- OXYGEN.

- જમરૂદ, અંબા, મધુ - માલગી.

→ મુગુંદી
ALSO
જામ
અ.

- LILY -

→ પેલા

BOUNDARY:

- સીતાફળી.

- મીઠી લીમડો.

- જમરૂદ

- જમરૂપ

- નાળિયરો.

- અશોકા પામ.
PALM.

- રાડુ

- આસીપાલય
















- સોપારી, અશોકા

→ 2 types.
ફેલાય.

TEXTURES

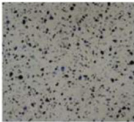
DECORATIVE CONCRETE

Decorative concrete is the method of using concrete, not just in a utilitarian way, but as a cosmetic and aesthetic enhancement to the structure, while still retaining its function as a part of the building such as floors, walls, driveways and walkways. Making the concrete transform into decorative concrete is achieved through various means and materials that may be applied either during the pouring process, or after the concrete is cured. These materials and methods include stamped concrete, acid stains, coloured concrete, dyed concrete, polished concrete and more.

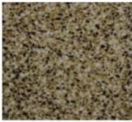
Terra Natura Stamped Concrete  ASHLER STONE  ROADWALK PLANK  BUSH HAMMERED  EUROPEAN FAN  HERRINGBONE  SEAMLESS STONE			IPS  Black IPS  Peach IPS  Crème Italian T4 on Silca  Jaisalmer Yellow IPS		
Micro Cement Flooring  Broom finish or brick finish overlay  Thin finished stamped overlay  Thin IPS finish overlay			Acid Stain  Basic green  Burnt Amber		

TERAZZO

Terrazzo is a composite material either poured in place or precast or hydraulically pressed as tiles. Terrazzo is used for floor and wall decorative finishes. It consists of marble, quartz, granite, glass or other suitable chips, sprinkled or unsprinkled, and poured with a binder that is cementitious, chemical or a combination of both. Terrazzo is cured, ground and polished to a smooth surface or otherwise finished to produce a uniformly textured surface. The obvious advantage to Terrazzo, besides its beauty, is the fact it will last for centuries. However, there are a number of other good reasons to choose Terrazzo floors. Terrazzo is 'green' since it's made from all natural materials, there are no volatile organic compounds (VOC's) in Terrazzo and because it's usually made from stone chips and scraps it also has a high percentage of recycled material. Terrazzo is versatile – You can install Terrazzo inside or outside. It can be used to provide a beautiful patio or pool deck, a clean, elegant and long lasting indoor floor and, with its ability to withstand heavy foot traffic, an ideal floor for malls, offices, building lobbies, landings and steps. Terrazzo is healthy – since it's made primarily from stone, Terrazzo is bacteria resistant. It's easy to clean without using any potentially hazardous chemicals – warm water and a little soap will keep it looking great for years. Terrazzo has unlimited design possibilities – Terrazzo floors can be produced from tiles or can be poured on site and the choice of colours, as well as the actual floor shape and design can be customized to satisfy even the most demanding architect or home owner. Every Terrazzo floor is unique, so there is never a need to worry about another Terrazzo floor looking the same as yours. In-Situ Terrazzo here at Bharat Floorings, we have been installing Terrazzo floors since 1923. Beautiful coloured Terrazzo lobbies and wall claddings were installed by Bharat in the art deco buildings of the 1930s and 40s, and monochromatic floors have been the latest preference. With in situ panel sizes up to 1 x 1 meter, you can get a lovely seamless look at your site. We use the very best materials and jointing is done using glass or metal dividers.


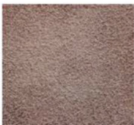




ECOSTONE
Blue and green glass chips



ECOSTONE
Mixed Chips

OUTDOOR RANGE

Bush hammered tiles Bush hammers exist in many forms, from simple hand-held hammers to large electric machines, but the basic functional property of the tool is always the same - a grid of conical or pyramidal points at the end of a large metal slug. The repeated impact of these points into stone or concrete creates a rough, pockmarked texture that resembles naturally weathered rock.  Brown, green and white chips  Deep Red Tile  Unsealed Terracotta Red		
Engraved Tiles Engraved tiles are a new and exciting range from Bharat Floorings. Featuring designs based on popular motifs during the turn of the century, the Engraved range has a subtle texture, combined with timeless design. Engraved designs can be used both indoor as well as outdoors. Due to the engraving on the tiles, they are non-slippery by nature. However, the design is subtle enough to be easily cleaned and will not collect large amounts of dirt. Proper installation of the tiles is of importance to ensure that your contractor does not remove the engraving!  French Beauty		

Stilan Non slip Tiles

It is special range of STILAN® Heavy Duty Non-slip (chequered) tiles for unmatched durability and beauty for pavements, compounds, driveways, car parks, pool sides and terraces. These tiles are available as STILAN® Non-slip Heavy Duty range to withstand heavy vehicular traffic such as trucks, or Regular Non-slip for light vehicular and pedestrian traffic. STILAN® Heavy Duty tiles are made under extra-high pressure, using rust-free ingredients, some of which are next to diamond in hardness. They withstand heavy vehicular traffic.



4 ribbed 25cm x 25 cm



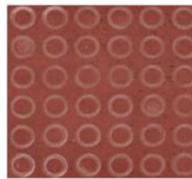
100 checks 25cm x 25cm



Amarson 30x30 in Jaisalmer



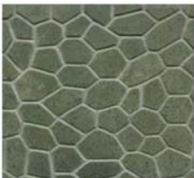
Broad Fluted 30cm x30cm



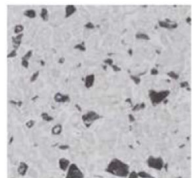
Button pattern 30cm x 30cm



Circular 30cm x 30 cm



Crocodile



Exposed Aggregate



Circular 25cm x 25cm

