

As you approach the building, you slowly observe these details, first the building's overall structure in the distance, then things like construction material and other details.

Jeffries 2010



CHAPTER 6

design intervention



Figure 6-1. Rendering from south east at night

6-1 Summary of Design Principles and Functions

The design principals incorporated through the building was defined by the programme and the theoretical investigations.

The users (Children) of the building defined the programme of the building. The needs children impose on a building are very broad and change constantly. Their requirements will continue to evolve over time. Therefore, the building needs to be adaptable in order to respond to the current and future needs children may pose.

When the design principals of video games are analyzed it is clear that spaces are designed to be explored. Furthermore building elements are designed using square or flat surfaces rather than curves. In designing video game spaces curves are considered difficult and expensive.

The physical context of the centre imposes certain restrictions and requirements on the design. The view of the Colosseum Hotel down Schoeman street needs to remain while the density has to increase in order for the skyline to form a continuous height through from the Louis Pasteur Hospital to the Hotel.

The hierarchal spacial layout of the building is based on the levels found in video games. Game play levels start out as easy and become harder by offering resistance to movement and abilities.

The ground floor commercial offers little resistance to the visitor and is therefore level 1. The second level would be the outdoor activity spaces. These spaces may be used by all, and offer direct connections with the next level of interior spaces. The locker rooms and multi-purpose hall form the third level, where security offer some resistance to use of the spaces. The fourth and most prominent level would be the indoor entertainment centre spanning across the site. The building forms the focus of attention for the passerby and the backdrop for activities happening in the outdoor spaces.

The Youth Centre will house the following spaces and Activities:

Parking / Transportation Node:

- Basement for cars
- Wider on street parking for Taxi's
- Bus Stop

Commercial on ground floor:

- Retail shops
- Restaurants

Day-Care Facility:

- Creche
- Class Rooms
- Sleeping Hall
- Indoor and Outdoor play area

Multi-Purpose Hall:

- Cafeteria / restaurant for the children
- After school study aid centre

Outdoor Activity Area:

- Basketball Court
- Landscape
- Skate Park
- Climbing Wall

Indoor Entertainment Areas

- Lounges
- Pool Tables
- Video Game facilities
- Bars / restaurant
- Clubs

Locker rooms

- Changing Rooms
- Bath Rooms
- Lounges

6-2 Scale of building

The scale of the building guided the form of the proposed building. Currently the site consist of low scale industrial type buildings. This low scale was determined to be inappropriate and needed to be increased.

An unrestricted increase of the density and scale displayed several problems as investigated with the conceptual models.

By creating a continuous facade on the street edge the street becomes dark and the southern sidewalk becomes an unpleasant place to be. Currently the sidewalk is on a pedestrian scale with the low building forming a backdrop without infringing.

Furthermore, if the scale is increased on the street facade emphasis is detracted from the landmark building down the road (Colosseum Hotel).

To prevent the new building from infringing the perceived scale had to be lowered. This was achieved by stepping the facade further back from the street than is legally required. By doing this the sidewalk becomes wider allowing more pedestrian scale activities to fill the space in front of the building. The height of the building was also reduced to 3 stories in order to create a visual link between the new building and the existing 3 story building on the western side.

On the northern side the Day-care Centre is also lower consisting of 3 stories in general. This is done to lower the scale next to the courtyard north of the building. The lower scale is also more appropriate along the pedestrian corridor located south of the Day-care centre.

The Hall is a larger building, but it is stepped back from the street edge on the eastern side. This creates a larger sidewalk were people may wait or gather before the use the taxi's. The space may also be used for unprogrammed informal activities.

The hall itself is placed on a commercial plinth of glass. The result is a building that appears to be a box, reducing the scale of the 9m high building.

The indoor entertainment centre is of the largest scale. The building is raised to tower over the rest. The building is always visible from the site. It is also the first building the observer will notice when viewing the development. The building frames the space below it, consisting of the landscaped ramp. The building forms a backdrop for activities to occur in the central courtyard.

From a distance the building will appear to be one continuous form, but the facades are broken up into smaller ribbons and larger blocks to reduce the scale close up.

The landscape and pedestrian corridors are all large open spaces. The generous dimensions will allow a variety of informal activities to be possible in the spaces.



Figure 6-2. Rendering from south west

6-3 Site Plan

The site plan is orientated with north at the top.

The building on the northern edge is the Day-care centre. The location was chosen because the pedestrian corridor and basement entrance separated the portion of the site.

The eastern edge is framed by the commercial space on ground floor and the multi-purpose hall above it. The foyer for the hall is located just south of the pedestrian corridor.

The south western building consists of locker rooms, lounges and commercial enterprises on ground floor. The first floor is an open basketball court.

The circulation towers on either side of the site is the support structure for the tower building spanning across the site.

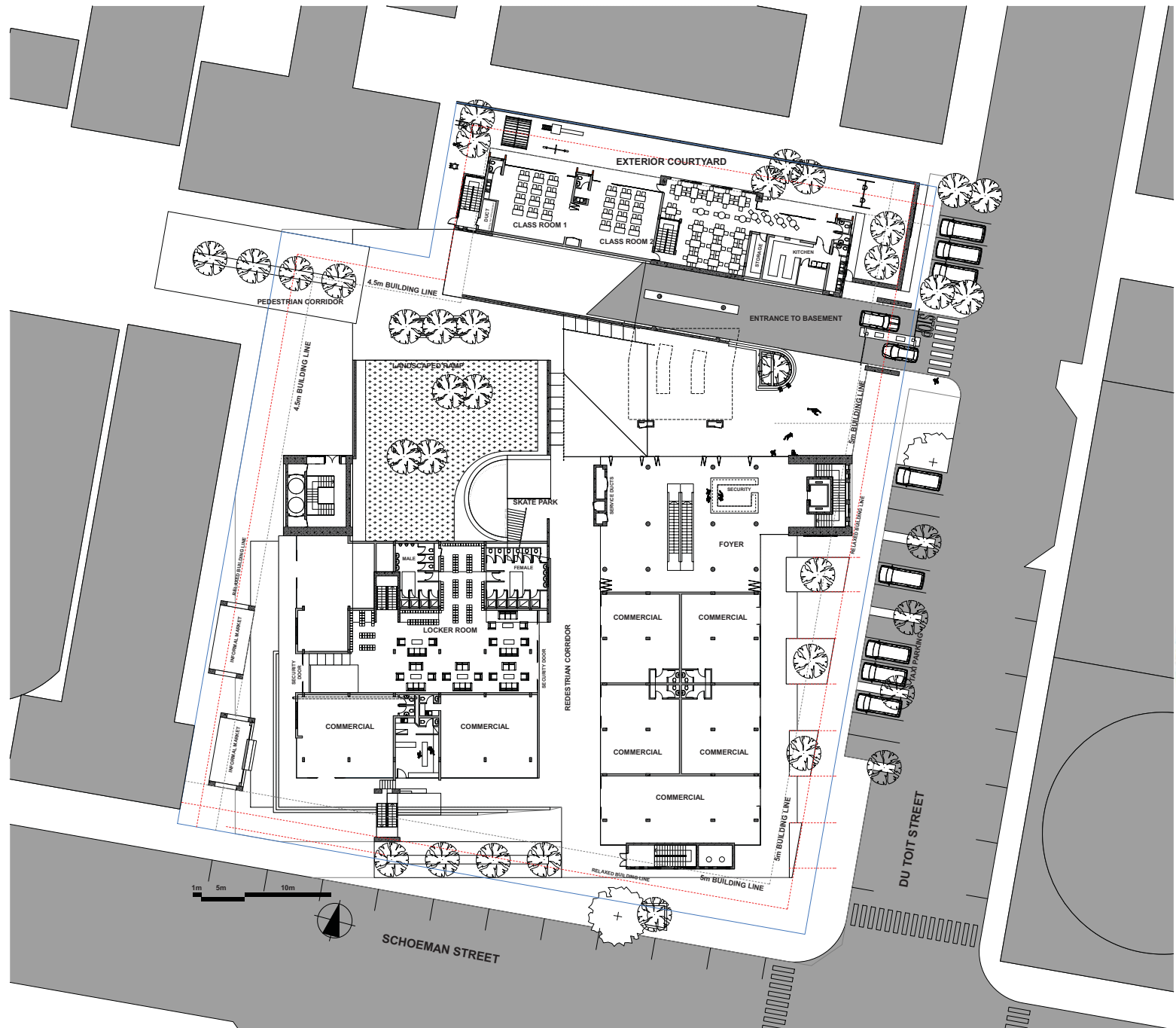


Figure 6-3. Site Plan

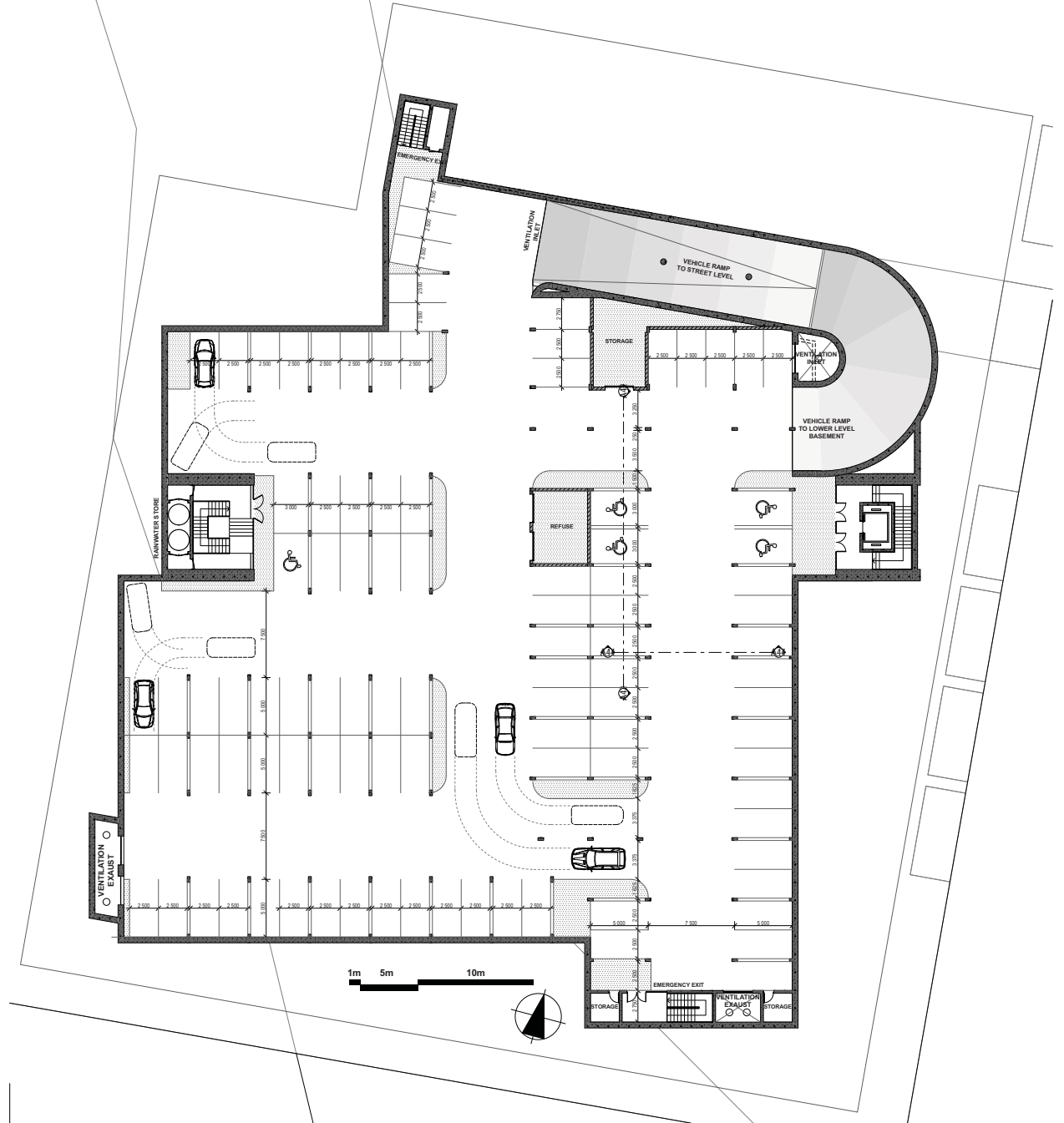


Figure 6-4. Basement Plan

6-4 Basement

Due to the Parking requirements posed by the Tshwane town planning scheme on the functions housed in the building a large basement would be required. The Basement is arranged over 2 floor making it a super basement. The basement provide both public and private parking with a total of 200 parking bays. The structure also houses storage facilities and a refuse collection area. Mechanical ventilation plant rooms and water storage areas are also located in the basement.

Vehicular access is gained from Du Toit street. Schoeman street is subject to heavy traffic flow and it is not ideal to slow down traffic for access to the basement. Therefore, Du Toit street was chosen because of the lower traffic volume passing the site and the fact that the street provide two way traffic flow allowing access from either side.

The entrance to the basement is located in the northern portion of the site to allow sufficient space between it and the traffic intersection at Schoeman street. Access will be monitored and controlled with a security boom gate.

All parking bays are a minimum with of 2500mm with no intrusions of columns. Bays are 5000mm deep with a 7500mm driveway between perpendicular parking bays. There are a total of 15 parking bays for the disabled. These bays are a minimum width of 3000mm and are located close to the circulation towers.



Figure 6-5. Basement Entrance



Figure 6-6. Basement Internal

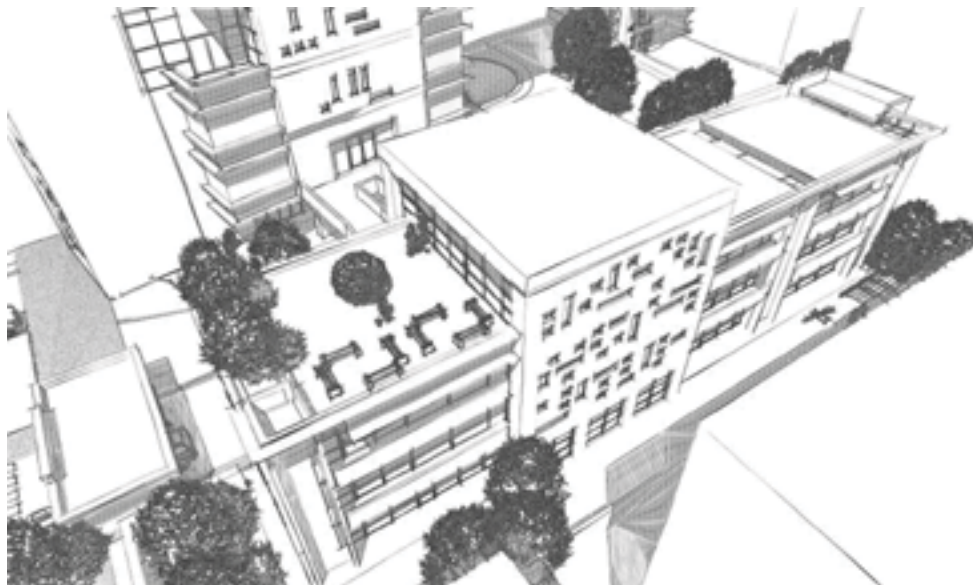


Figure 6-7. Sketch rendering of Day-Care Centre

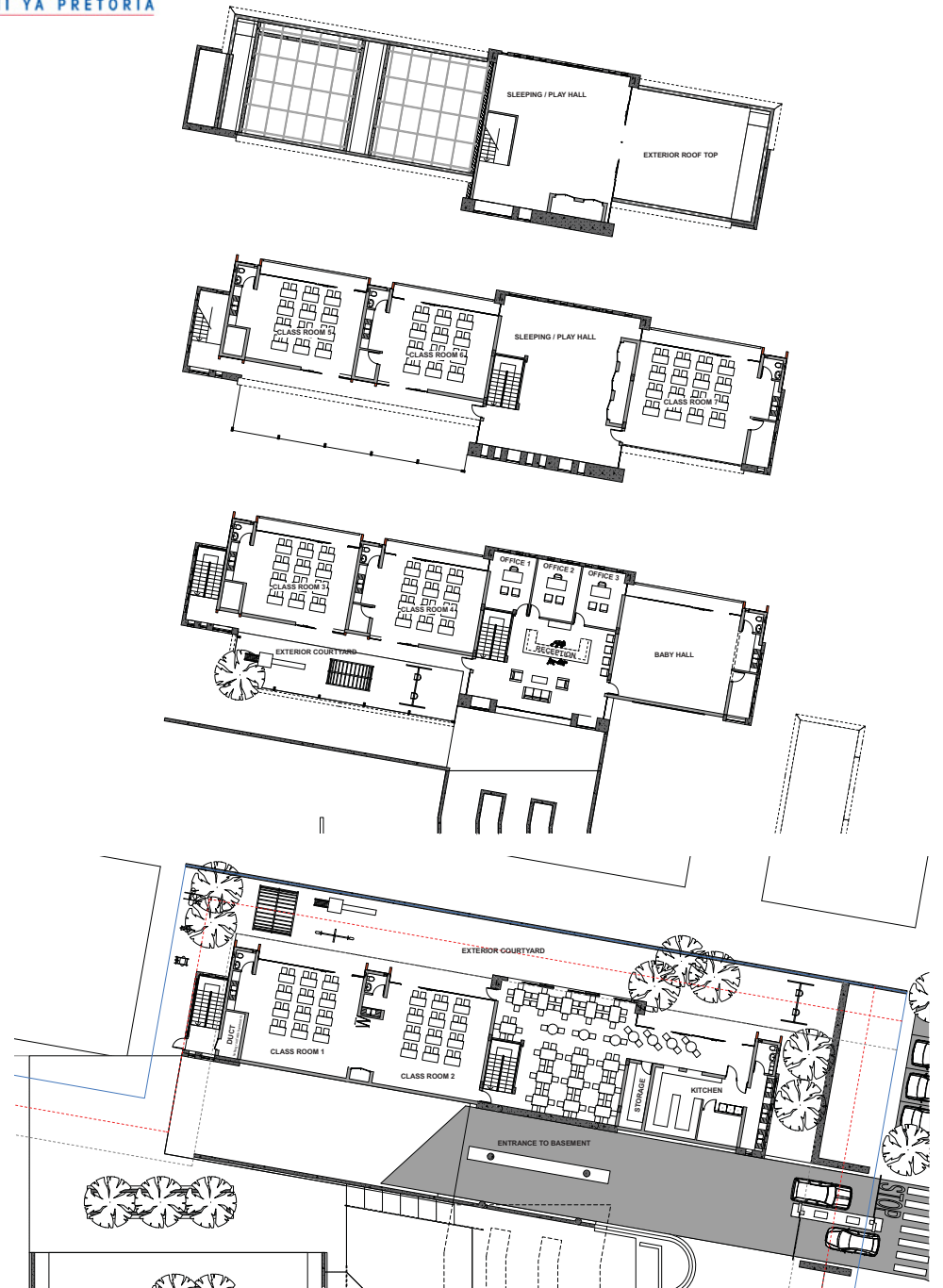
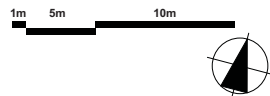


Figure 6-8. Floor Plans of Day-Care Centre

6-5 Day-Care Centre

The Day-Care centre is located along the northern edge of the site. The building is stepped away from the boundary by 5,5m to create a courtyard play space north of the building.

The building forms part of the pedestrian corridor running east-west through the site. The pedestrians are led up a ramp that is placed on top of the vehicular ramp leading down to the basement. The pedestrian ramp moves toward the entrance of the Day care centre on the first floor and continues upward toward the entrance of the Hall.

The centre consist of 7 classroom each capable of accommodating between 25 and 30 children. On ground floor is a Dining hall and kitchen with storage facilities if the children's parents prefer to supply their own food. The dining hall opens up the exterior courtyard.

The first floor houses the reception area and administrative offices. Easy access to the Baby Hall makes it easy for parents to drop off or collect their children. The Baby hall is isolated from the other class rooms to avoid crying babies from disturbing class, or playing children from waking sleeping babies.

The two classrooms on the first floor open up to the southern side of the building into a open play space that is fenced off. The play spaces on first and ground floor are separated to avoid conflict between different age groups.

The second floor has three classrooms. The central circulation opens to an indoor play/sleeping hall with storage cupboards. The play/sleeping hall continues on the third floor. The third floor opens up on the eastern side to a rooftop garden.

Each classroom is equipped with a toilet and kitchen sink located in a service core between the class rooms.

Figure 6-9. Rendering of Day-Care from south west



Figure 6-10. Rendering of Day-Care from north east

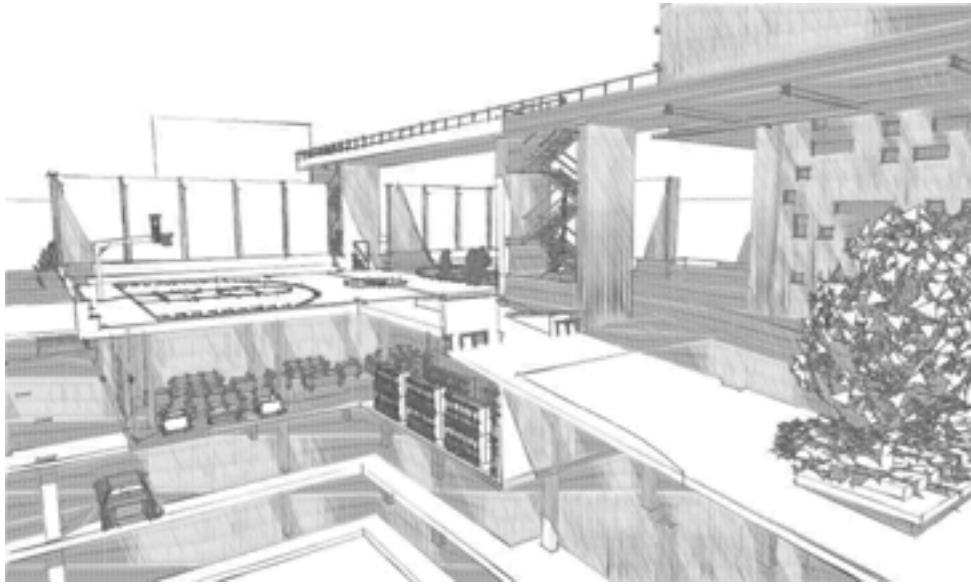


Figure 6-11. Rendering of Basketball court

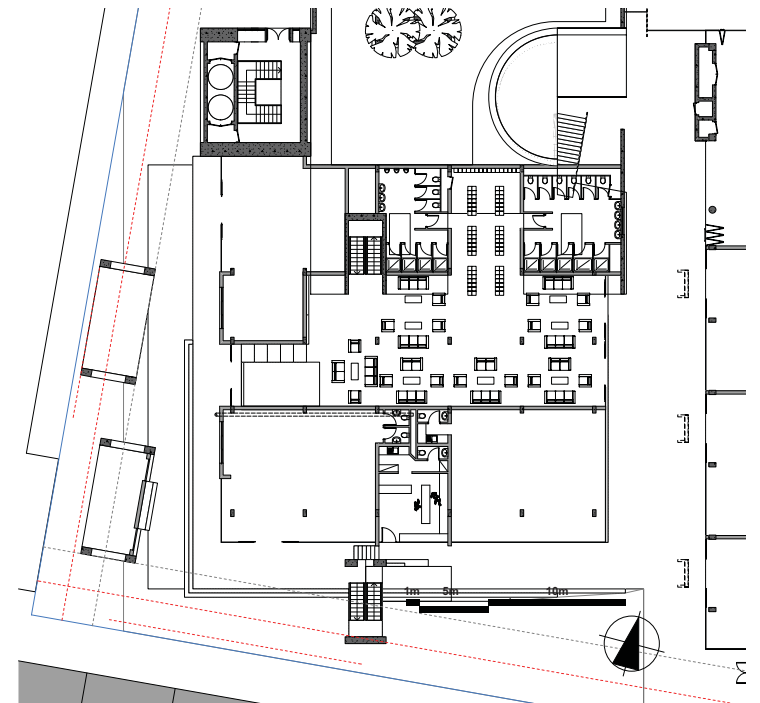
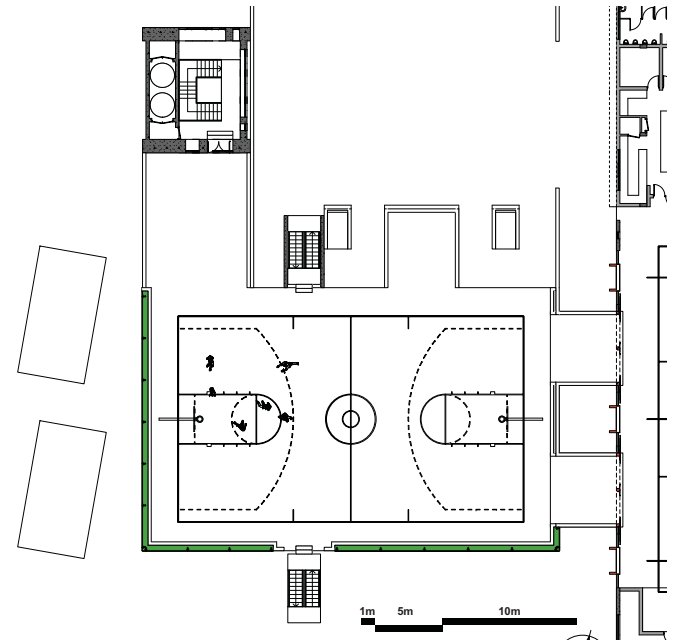


Figure 6-12. Floor plans of Locker room

6-6 Locker Rooms & Basketball Court

The current buildings on site consist of commercial enterprises on the street facade. This street interface is to remain and therefore the ground floor consists of commercial enterprises.

Behind the commercial enterprises are the locker rooms. This facility consist of male and female bathrooms with showers, toilets and basins. The communal space contain several lockers that can be rented. As well as several couches for relaxation and social interaction.

The locker rooms would be the first place most of the school children would visit on a daily basis. Therefore the space needs to allow for personalization. The furniture may be moved around and the amount of locker increased if the need arises.

The communal space has a generous ceiling height and is accessible from the eastern and western sides. A staircase connects the basketball court on top with the space below.

The locker room is lit and ventilated with a skylight placed in the slope of the landscaped ramp. Windows providing light to bathrooms are to be frosted to prevent spying.

The basketball court consist of a flat hard surface covered with tartan. A planted screen, constructed of steel columns and wire fence in between, surrounds the court to prevent players from disrupting traffic flow of Schoeman street.

A walkway over the court provides a viewing platform and connects the indoor entertainment centre directly with the basketball court and the sidewalk on Schoeman street.



Figure 6-13. Rendering of Locker room



Figure 6-14 . Rendering of Locker room



Figure 6-15. Rendering of Hall

6-7 Multi-Purpose Hall

The Multi-Purpose hall was conceived a large indoor area that may be sub divided as is necessary.

The building is placed along the eastern edge of the site to minimise the exposure to the noise from Schoeman street. The southern facade of the building is constructed of a concrete wall to reduce noise penetration into the space.

This concrete structure is a service duct that runs into the basement. It houses the emergency exit from the basement and the upper floors of the hall. It also contains the vent pipes of the basement's ventilation system.

The ground floor commercial spaces are arranged to service either side of the building. The internal wall layout may be altered since that are not load bearing.

The northern part of the ground floor commercial houses the reception and foyer space for the hall and indoor entertainment centre above. The space opens up to the outside allowing the free flow of pedestrian through the building. The hall above is accessed via the escalators or the lift and stair case located next to it.

First floor foyer space of the hall consist of a large open are that connects with a door to the ramp on the northern side of the building. The ramp leads directly to the Day-care centre and continues down towards the pedestrian corridor behind the Louis Pasteur hospital.

The first floor also houses a kitchen and the male toilets. The kitchen is large enough to cater for at least 200 people.

The hall space itself is a large double volume space that is able to house a full size basketball court. The floor surface needs to be a smooth continuous material. Laminated timber decking was chosen.

On the eastern side are recesses in wall containing moveable partition walls. These

walls are constructed of a hollow honeycomb timber product filled with sound absorbing insulation to reduce reverberation in the space.

The partitions are suspended from rails mounted to the bottom of the concrete gutters spanning across the hall space. The walls divide the space into four smaller zones. Each zone can accommodate a different activity, for example the hall my be divided into to portion to accommodate two table tennis courts if a tournament is staged. The space can also accommodate temporary class rooms for after school tutoring. Each class would be separated from the other reducing disturbance.

The second floor of the hall consists of built-in seating that is stepped down to the lower floor. The foyer space is occupied with a library that will house reading and research material for the children to use. The books are not allowed to leave the premises, therefore the additional space will accommodate working stations where the books may be used.

The female toilets are also housed on this level, together with a large storage facility to store among other things tables and chairs used in the hall space.

The roof space consist of concrete gutters that span the width of the hall. Along side these are usable concrete roofs that are linked to the indoor entertainment centre with a lounge and staircase on the northern part of the building. The roof has a 1,2m high parapet wall to prevent children form climbing over and falling.

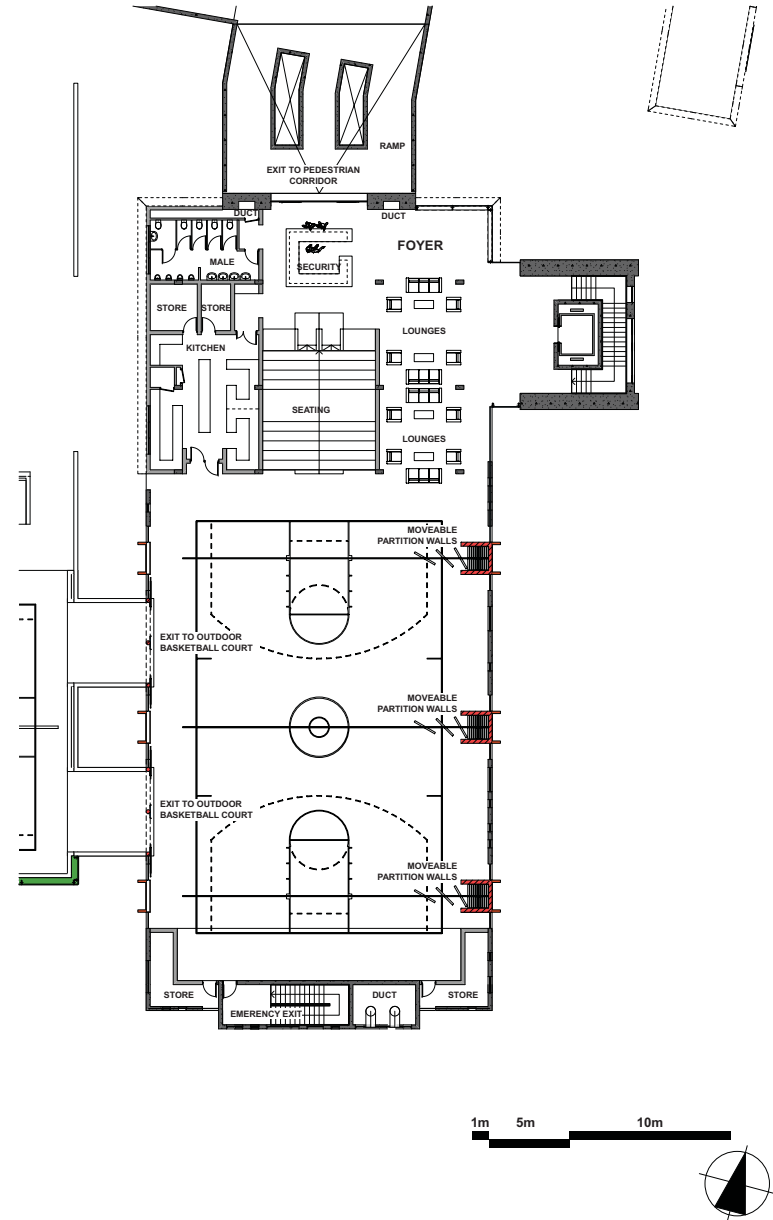
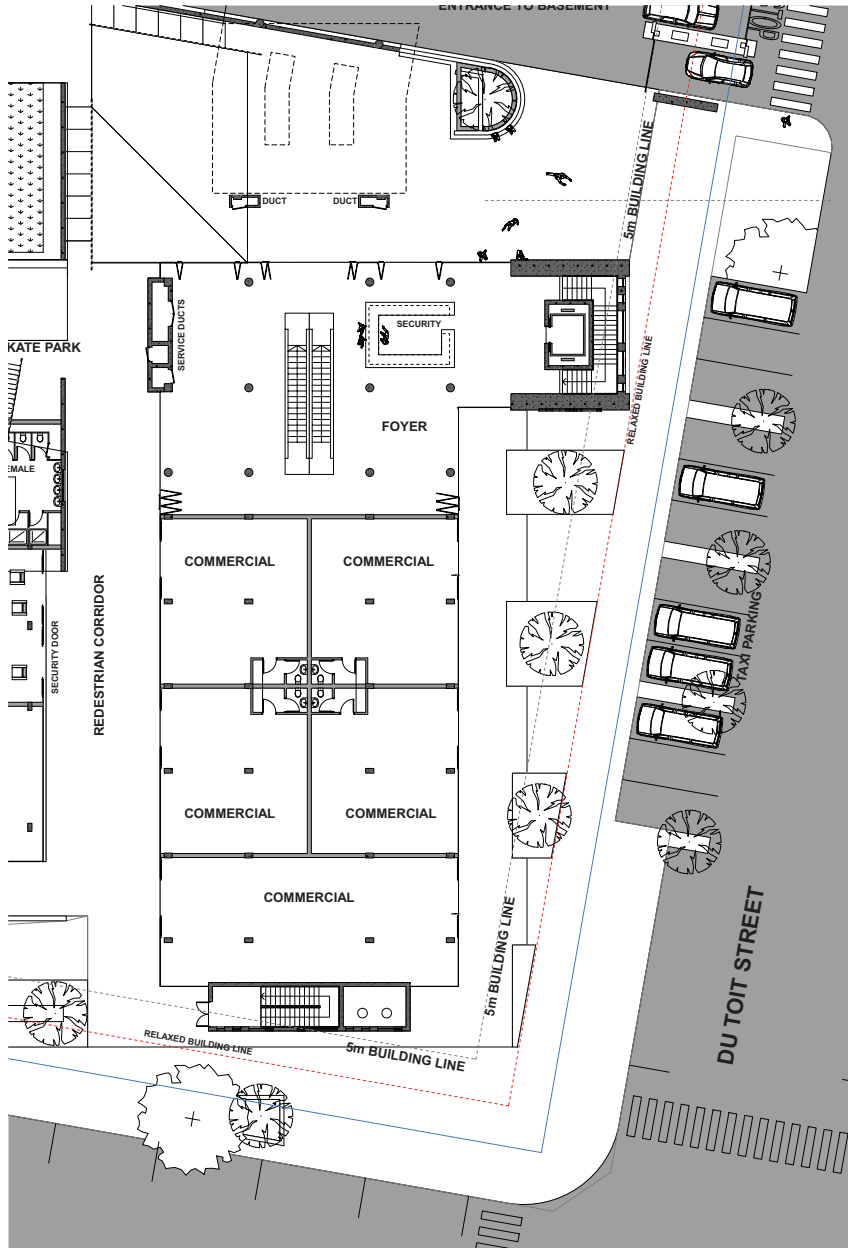


Figure 6-16. Floor Plan of Multi-purpose Hall

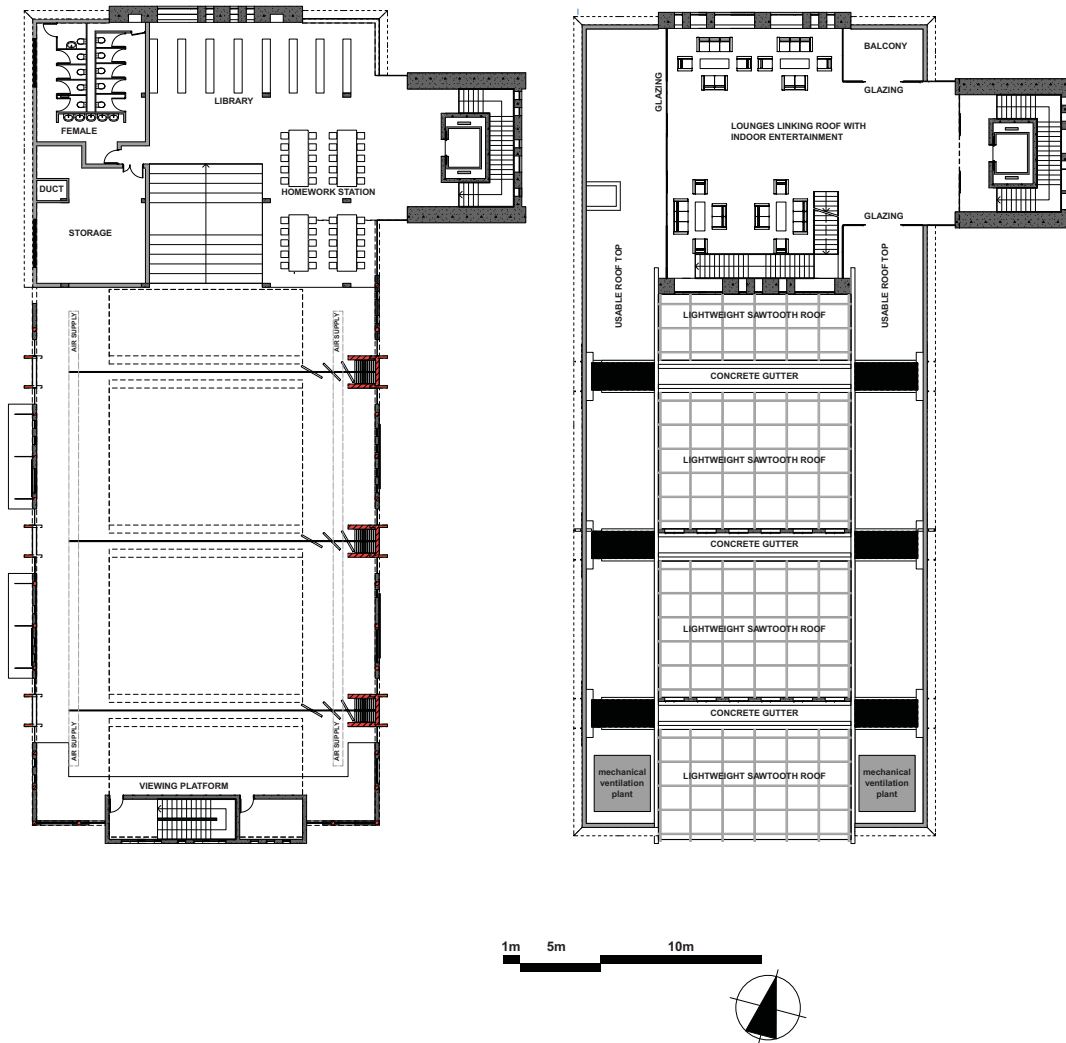


Figure 6-17. Floor Plan of Multi-purpose Hall

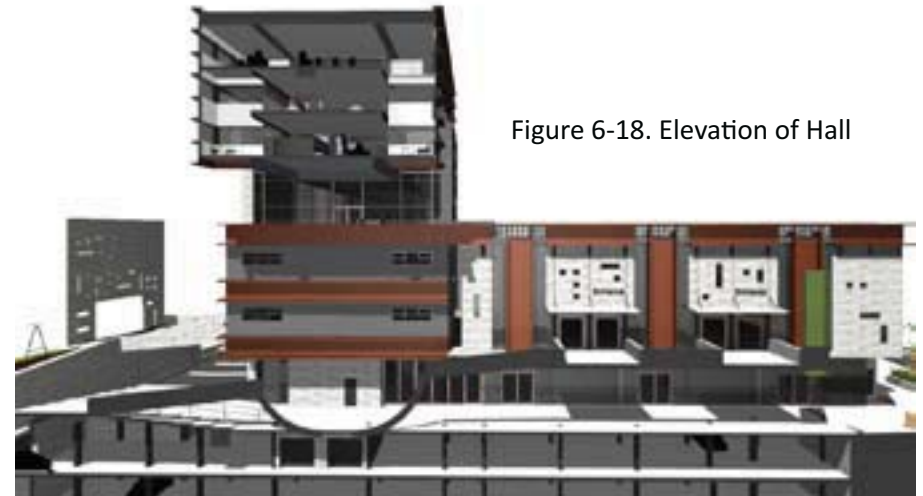


Figure 6-18. Elevation of Hall



Figure 6-19. Internal rendering of hall



Figure 6-20. South Elevation of Indoor Entertainment

6-8 Indoor Entertainment Centre

The building was conceived as a structure on its own. It forms the focal point of the Entire youth centre. The building form consists of a concrete circulation tower on the eastern edge. The building itself wraps around the internal steel structure and continues to wrap around the secondary circulation tower on the western edge. The building is constructed of lightweight materials as far as possible.

The internal spaces are arranged according to function and the need for services. The services run up and down the western circulation core.

The lowest floor that is wrapped around the western tower houses facilities for the staff in the center. It consists of toilets with lockers and administrative offices.

The staff rooms continue through on the next level with more offices arranged around the central stair case. The offices may be converted to private rooms for use by the children. For example, sound proof music practice rooms.

The third level is the first level that runs through the entire length of the building. Around the service core on the western side is the public toilets. These do not have showers.

This can be seen as the base level for the indoor entertainment centre. The functions on this level include Table tennis, Pool tables and lounges for socializing and recreation. There are also several video game consoles distributed throughout. These consist mainly of arcade games.

The area directly above the Hall has a stair case leading down to the roof of the hall. The floor space itself is the central entertainment space. This is where tournaments or special events will be hosted.

Directly adjacent to the eastern circulation tower is the reception/help desk. Manned by technical staff and security.

Moving up one level the space is confined to the width of the steel bridge structure. A thick wall is placed across from the big opening in the northern facade. This wall is to absorb solar radiation and radiate it in the space.

The wall forms a backdrop for a bar. The rest of the floor is occupied with tables and chairs to form a restaurant. The occupants will be able to view the activities happening in the courtyard below through large openings on the south side.

The eastern circulation tower is surrounded by a kitchen that will serve the restaurant. The kitchen is split into 3 portions: Storage and cleaning; Reception; and preparation.

The highest level will be connected with the lower floors by an extra staircase on the southern side of the building. The top floor will contain lounges with Television sets for the purpose of playing Video games. The floor will also have several computer stations. These are to facilitate the need young people have to complete projects on computers. They will also be able to connect to the internet and play games on these computers.

Again there are more private rooms surrounding the eastern circulation.



Figure 6-21. North Elevation of Indoor Entertainment



Figure 6-22. Interior rendering of Indoor Entertainment

Figure 6-23. Interior rendering of Indoor Entertainment



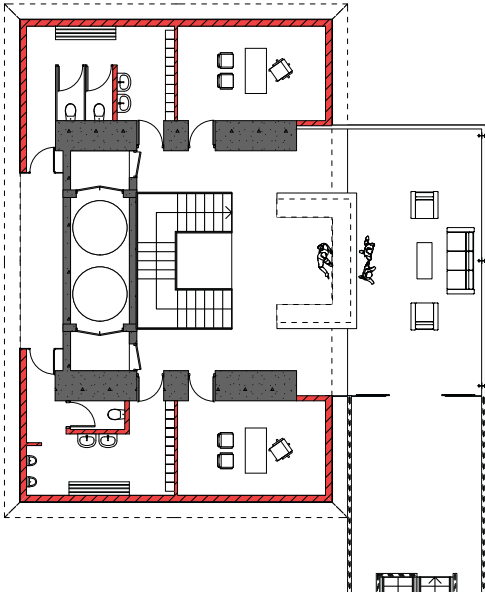


Figure 6-24. Lowest floor plan of Indoor entertainment.
Foyer links directly with walkway across the basketball court

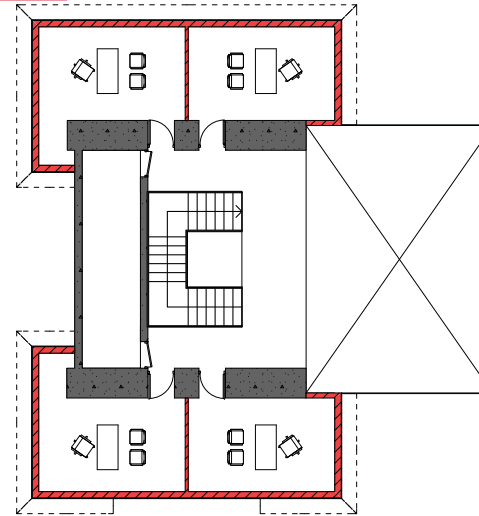


Figure 6-25. Second floor plan of Indoor entertainment.
Private Offices

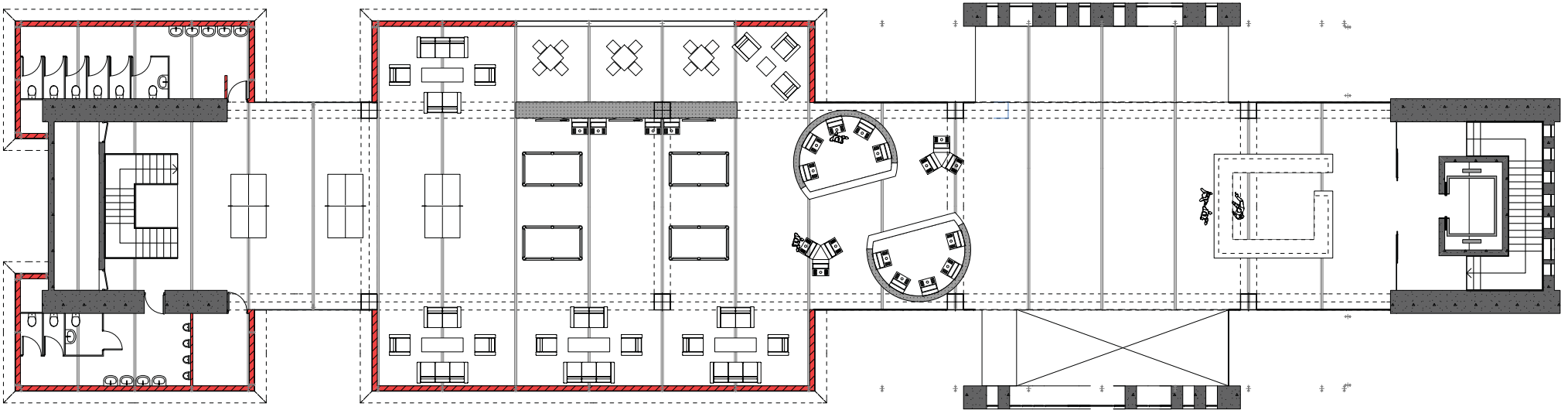


Figure 6-26. Main Activity Floor.
Lounges, Pool tables, Table tennis and arcade games

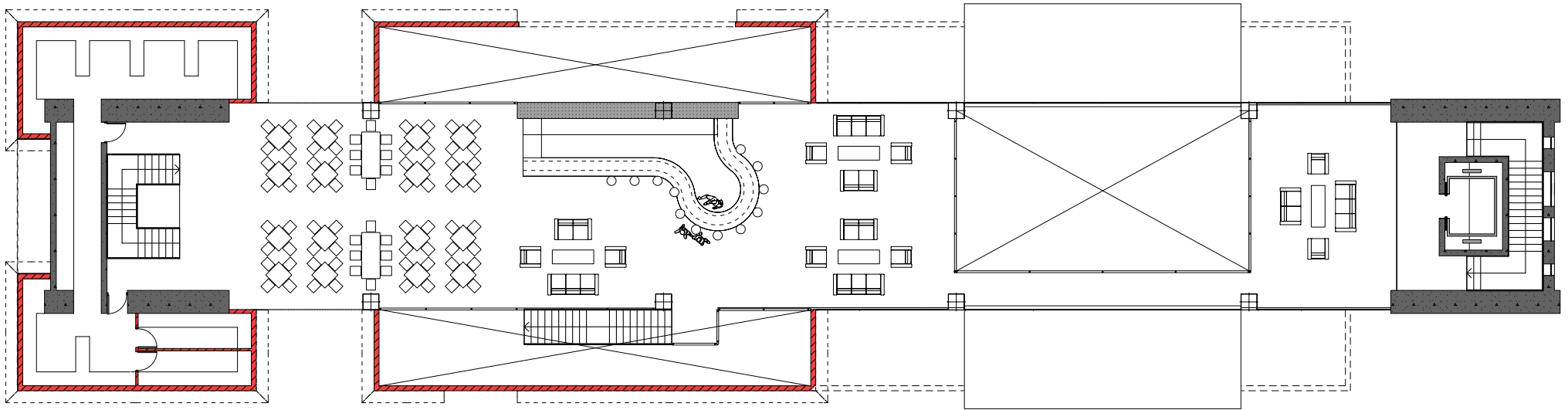


Figure 6-27. Restaurant Floor.
Kitchen, Restaurant and bar with a few informal couches for socializing

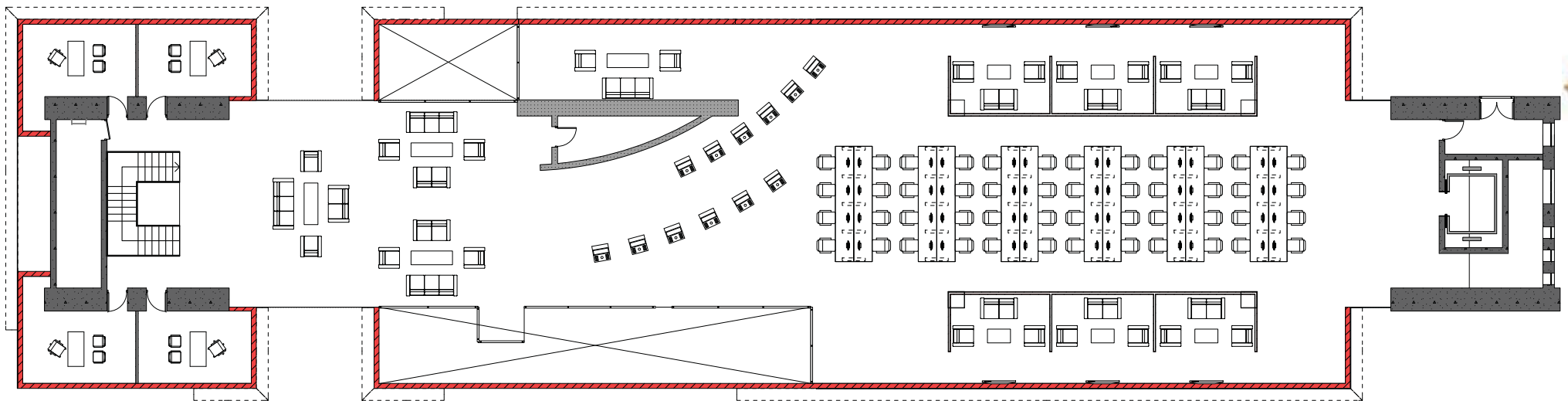


Figure 6-28. Highest Floor.
Open Floor plan with lounges and computer work stations



6-9 Elevations



Figure 6-29. East Elevation



Figure 6-30. North Elevation



Figure 6-31. West Elevation



Figure 6-32. South Elevation



6-10 Renderings





