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WOLKITE UNIVERSITY

COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ARCHITECTURE

PROBING PUBLIC SPACES AND PROVIDING A PLACE FOR LEISURE

In case of Wolkite town-Geraba neighborhood

BY

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A BACHELOR THESIS SUBMITTED TO WOLKITE UNIVERSITY, COLLEGE OF ENGINEERING AND TECHNOLOGY, DEPARTMENT OF ARCHITECTURE FOR PARTIAL FULFILLMENT OF BACHELOR DEGREE

ADVISOR MINTESINOT A.

Declaration

This proposal/thesis is my original work and has not been presented for a degree in any other university

……. …….

Signature Date

This proposal/thesis has been submitted for examination with my approval as university advisor

……. …….

Signature Date

This proposal/thesis has been submitted for examination with my approval as university Examiner

……. …….

Signature Date

This proposal/thesis has been submitted for examination with my approval as university Chair Person

……. …….

Signature Date

ACKNOWLEDGMENT

I am deeply grateful to my advisor, Architect - Mintesinot A. for his detailed assessments and support on my work as mate, I would like to extend my appreciation to all Wolkite town residents for their welcoming behavior on my site visit and analysis work. In addition, I would like to thank my family for their help and generous financial support.

ABSTRACT

Leisure is an activity of leisure, leisure being discretionary time. The "need to do something for leisure " is an essential element of human biology and psychology. “Selam Ber” , which makes part of the Central Business District (CBD) of Wolkite, is formed by 5 or 7 blocks deep in both sides of the Addis Ababa – Jimma Highway The town lacks open spaces, green areas and leisure areas (plays ground).

City green space and leisure is also vital for the inhabitants since it provides such benefits as leisure and educational opportunities, aesthetic experiences, and provides psychological satisfaction and social interaction as well as maintains environmental balance.

The general objective of the research is investigating for impact of the possible presence, activities, place of expression of the people, identify the relationship between neighborhood and leisure space, then providing place for Leisure.

In order for a complete feeling of well-being we must be able to escape, to connect with nature, to get in touch with the nerve of Mother Earth. people suffering some stress do seem to become more relaxed and to feel more positive about themselves and their lives when they have seen or visited natural areas. The knowledge that we can escape appears to have some benefit, and there are obvious benefits in being able to visit a more natural area, close to home, whenever we want. The leisure space is an all-embracing term that covers all those places where people feel they can achieve that special feeling of being ‘away from it all’.

Before now, there is no leisure space intentionally studied and designed in Wolkite town nevertheless there is a proposed space for leisure space on the NDP. The reason for lack of the leisure space in Wolkite town which people need many have different reason and problems, more over since I’m architect I can only perform to tackle the problem in the architectural area.

In this paper I included researches which made internationally and nationally about how the leisure space and design is a huge requirement of a certain society. After that I have collected and analyzed data.

Then I gave a recommendation about it and then the design process proceeded which I have done based on the research site context on the design.

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CHAPTER ONE
INTRODUCTION

1.1. Background

Leisure is an activity of leisure, leisure being discretionary time. The "need to do something for leisure " is an essential element of human biology and psychology. leisure activities are often done for enjoyment, amusement, or pleasure and are considered to be "fun".

The town lacks open spaces, green areas and leisure areas (plays ground). The number of open spaces, leisure spaces and play grounds are very small. During the researchers site visit, he observed children and youth use the open field and road side for playing football. This is due to the fact that almost every part of the action area is covered with structures (buildings). Open space and green areas are major element of neighborhood. In any residential development these elements are crucial, even on the structure plan of the town indicates not only to have green and open space at neighborhood level but also at plot level. Green space is a vital part of the public realm.

Attractive, safe and accessible green spaces contribute positive social, economic and environmental benefits, improving public health, well-being and quality of life. City green space is also vital for the inhabitants since it provides such benefits as leisure and educational opportunities, aesthetic experiences, and provides psychological satisfaction and social interaction as well as maintains environmental balance. Greens in a city are necessary not only to cool down the stressed human brain, but also the temperature peaks of build areas.

In the town, open space was not observed. It means there are no leisure facilities or open and green spaces in the area. Lack of open spaces can oblige teenagers to frequent places of adults. The probability of adults to be obliged or affected by drug abuse is relatively high areas where open spaces and leisure spaces are rare. Therefore, green areas and open spaces should have to be considered as important issue for a future due attention.

Wolkitie Town is a capital of Gurage Zone of the Southern Nations, Nationalities and Peoples Regional State (SNNPRS). It is an administration and trading center of Gurage Zone. It is located at about 153 kilometers from Addis Ababa, on the main highway to Jimma at a geographic reference of 7°37' – 8° 54′ North Latitude and 37°16 – 38°40' East Longitude. Wolkitie has road access that links the town with Addis Ababa, Jimma, Wolisso and Hossana; a good opportunity for the future socio-economic development of the town. Administratively, it is having three Sub-cities; namely Bekur, Addis and Gubre. Addis Sub-city is again divided into three Kebeles called Selam Ber, Menehariya and Edget Chora. The NDP site, which covers about 54ha, is situated in this Sub-city under mainly Selam Ber Kebele and partly in Menehariya Kebeles.

"Selam Ber" , which makes part of the Central Business District (CBD) of Wolkite, is formed by 5 or 7 blocks deep in both sides of the Addis Ababa – Jimma Highway the site is bounded by local streets, which in the east they are crossing residential neighborhoods, and in the west mixed use developments (administrative, services, business and residences). Open market, Zonal Administration, Town Hall (Municipality) and the Regional Bus Station are important physical features located within the boundary. Yet again there is lack of leisure space to breath into from all the urbanism expansion.

1.3. Statement of The Problem

Absence Green space and leisure space which is a vital part of the public realm. Attractive, safe and accessible green spaces contribute positive social, economic and environmental benefits, improving public health, well-being and quality of life. City green space and leisure is also vital for the inhabitants since it provides such benefits as leisure and educational opportunities, aesthetic experiences, and provides psychological satisfaction and social interaction as well as maintains environmental balance.

1.4. Research Question

1) What are the possible relationship between the neighborhood and leisure space as place of expression.

2) What are impact of the presence and activities of people in the leisure space, nature and organic architecture and vice.

3)What are the most efficient and acceptable ways of providing a leisure space with a conscious consideration of sustainability, need, and architecture.

1.5. Research Objective

1.5.1. General Objective

- ✓ Investigating for impact of the possible presence, activities, place of expression of the people, identify the relationship between neighborhood and leisure space, then providing place for Leisure.

1.5.2. Specific Objective

1) To find possible relationship between the neighborhood and leisure space as place of expression.

2) To examine the impact of the presence and activities of people in the leisure space nature and organic architecture and vice.

3)To investigate the most efficient and acceptable ways of providing a leisure space with a conscious consideration of sustainability, need, and architecture.

1.6. Justification

In order for a complete feeling of well-being we must be able to escape, to connect with nature, to get in touch with the nerve of Mother Earth. people suffering some stress do seem to become more relaxed and to feel more positive about themselves and their lives when they have seen or visited natural areas. Indeed, it has been suggested that we become too stimulated by the almost constant need to concentrate on our activities when living in cities, so that the sight of nature provides stimulation where no effort is required. Even the color of trees, water and sky, their greens and blues, can have a calming effect.

The trappings of cities—noise, life regulated by the time clock and transport timetables, as well as the many ugly landscapes of industry and decay—all seem to make us tense, fatigued and depressed or sad. The knowledge that we can escape appears to have some benefit, and there are obvious benefits in being able to visit a more natural area, close to home, whenever we want.

However, to many people wild landscapes—especially forested ones—can have frightening aspects. Women especially are afraid of being attacked. This may be the result of exaggerated assessments of risk; or it may go deeper, to feelings arising from long-established cultural associations with forests. Perhaps we have had some of our natural instincts for survival bred or tamed out of us, and like pet rabbits let loose, we are unable to cope with freedom.

The outdoor leisure space is an all-embracing term that covers all those places where people feel they can achieve that special feeling of being ‘away from it all’. In most of wild remote landscapes people can make their presence felt: creating paths and trails, leaving rubbish behind, lighting fires, disturbing wildlife, and damaging crops. Some areas are so fragile that it takes only a few visitors to damage plant life and cause erosion that takes decades to heal. Other areas are more robust, but are so attractive to visitors that they start to wear out under the sheer weight of numbers. Users need managing if landscapes, habitats and wildlife are to survive, and if the enjoyment and purpose of the visit are to be fulfilled. The places that we visit generally need some help in order to cope with the pressure that we place on them, and we need facilities to help our enjoyment.

1.7. Hypothesis

The trappings of cities—noise, life regulated by the time clock and transport timetables, as well as the many ugly landscapes of industry and decay—all seem to make us tense, fatigued and depressed or sad. The knowledge that we can escape appears to have some benefit, and there are obvious benefits in being able to visit a more natural area, close to home, whenever we want. Can have a potential which could promote short term and long term advantages physical, social, mental wellbeing.

1.8. Scope and Limitations

- ✓ scope

The study is conducted on the open space which have the potential to be efficient leisure space site in Selam Ber district of Wolkite town. Especially around Geraba site.

- ✓ Limitations

Time.

CHAPTER TWO

LITERATURE REVIEW

leisure is an activity of leisure, leisure being discretionary time. The "need to do something for leisure " is an essential element of human biology and psychology. leisure activities are often done for enjoyment, amusement, or pleasure and are considered to be "fun".

✓ Play, leisure and work

leisure is difficult to separate from the general concept of play, which is usually the term for children's leisure activity. Children may playfully imitate activities that reflect the realities of adult life. It has been proposed that play or leisure activities are outlets of or expression of excess energy, channeling it into socially acceptable activities that fulfill individual as well as societal needs, without need for compulsion, and providing satisfaction and pleasure for the participant.

Site planning is essential if conflicts between different users, and between users and the landscape setting and wildlife, are to be minimized. leisure planning is about assessing the demand, both actual and potential; about assessing the capacity of the land base to meet that demand in a sustainable way; and about using available resources wisely to optimize the potential

- Pre-Planning-Defining the planning context and process and establishing goals, objectives and principles. This is often referred to as scoping, scene-setting or pre-planning.
- leisure planning research- Undertaking research into a wide range of leisure -related issues e.g. demographics, existing leisure opportunities, community activities, community needs, and leisure trends.
- Preparing the Plan-Evaluating the findings of the first two components, determining the implications to the future provision of leisure opportunities and preparing a set of recommendations for action.

2.1.1. leisure space standard

A. Stream restoration or river restoration

Sometimes called **river reclamation** , is set of activities that help improve the environmental health of a river or stream. These activities aim to restore the natural state and functioning of the river system in support of biodiversity, leisure, flood management and landscape development.

Improved health may be indicated by expanded habitat for diverse species (e.g. fish, aquatic insects, other wildlife) and reduced stream bank erosion. Enhancements may also include improved water quality (i.e. reduction of pollutant levels and increase of dissolved oxygen levels) and achieving a self-sustaining, functional flow regime in the stream system that does not require periodic human intervention, such as dredging or construction of flood control structures. Stream restoration projects can also yield increased property values in adjacent areas

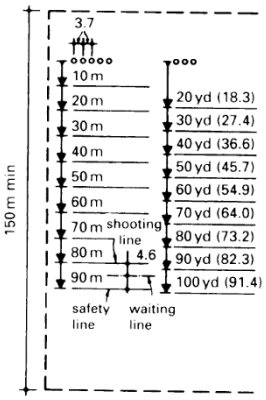
Stream restoration differs from: river, a term which typically refers to alteration of a water body for a non-environmental benefit such as navigation, flood control or water supply diversion; waterway, a term used in the United Kingdom describing alterations to a canal or river to improve navigability and related leisure amenities.

B. Restoration techniques

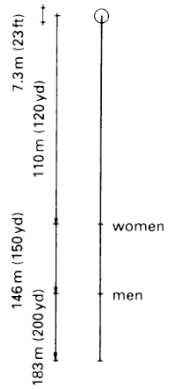
Restoration activities may range from a simple removal of a disturbance which inhibits natural stream function (e.g. repairing or replacing a culvert, or removing barriers to fish such as weirs), to stabilization of stream banks, to more active intervention such as installation of storm water management facilities, such as riparian zone restoration and constructed wetlands. The use of recycled water to augment stream flows that have been depleted as a result of human activities can also be considered a form of stream restoration

- Channel modification
- Cross-vanes and related structures
- Engineered log jams
- Off-line techniques

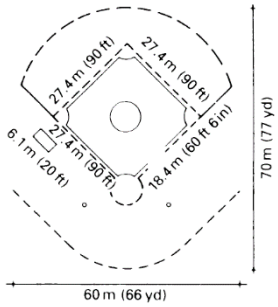
C. Sport fields standards



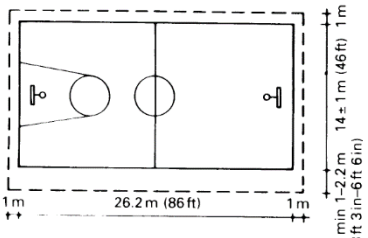
Archery, target



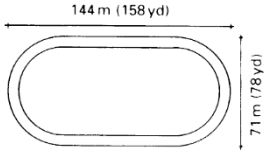
:hery, clout



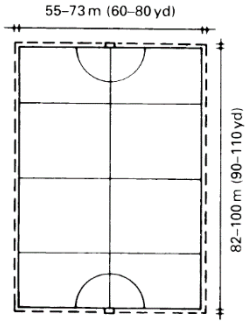
Baseball (little league two-thirds size)



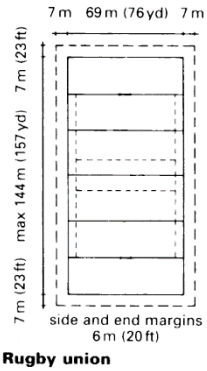
Basketball: minimum height 7.0 m (see also previous page)



Cycling track

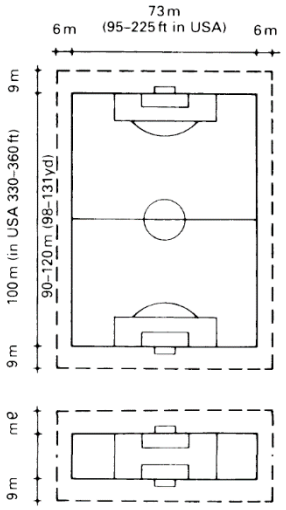


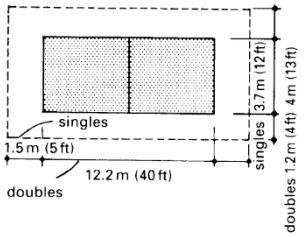
Bicycle polo



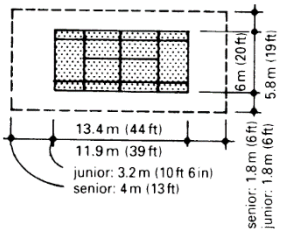
Rugby union

Association football; senior pitches 96-100*60-64m; junior pitches 90*46-55 international 100-110*64-75m.

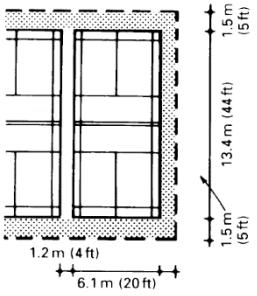




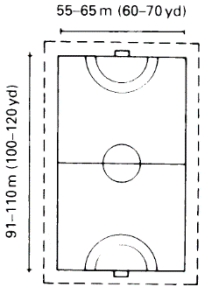
Deck tennis



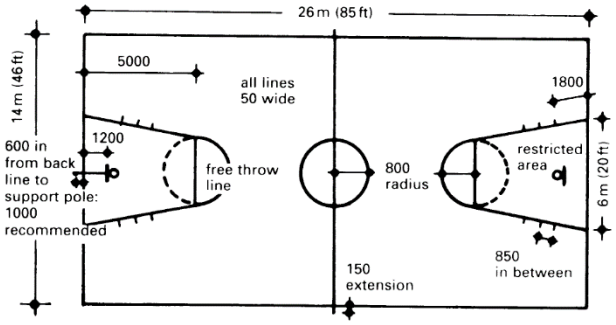
Paddle tennis



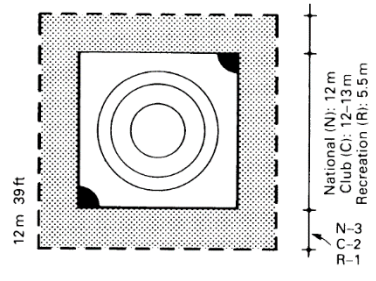
Badminton: minimum height 7.6 m



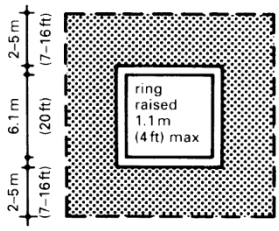
Handball



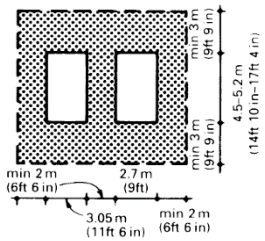
Basketball



Wrestling



Boxing



Trampoline

Karate

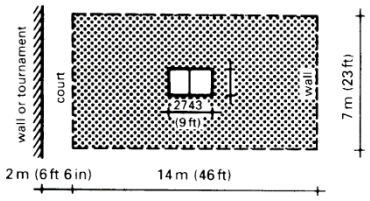
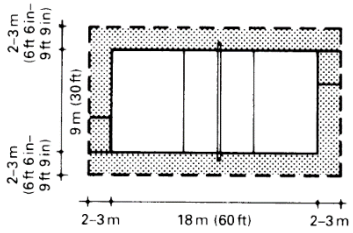
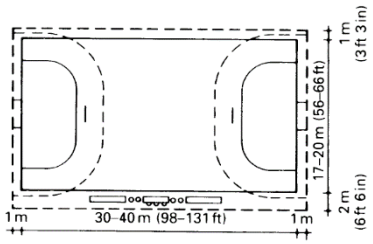


Table tennis: minimum height 4.2 m



Volleyball



Handball (seven-a-side)

Fig 2.1 Sport field standards

D. Riding Facilities

Riding facilities /stables should, if possible, be in the immediate vicinity of land suitable for riding. Areas with high ground and air humidity, as are often found in valleys, should be avoided, as should be avoided, as should windless locations, where providing the desired ventilation may be difficult. Ideal sites are in hilly and windy areas. However, slope gradients for buildings and riding arenas should be less than 10%.

Saddle rooms, as far as possible, should be long and rectangular, with a large wall space and a width of 4.0-4,5m. Saddles can be hung in rows staggered above each other saddle rooms and grooming rooms should have heating and be well ventilated. [1]

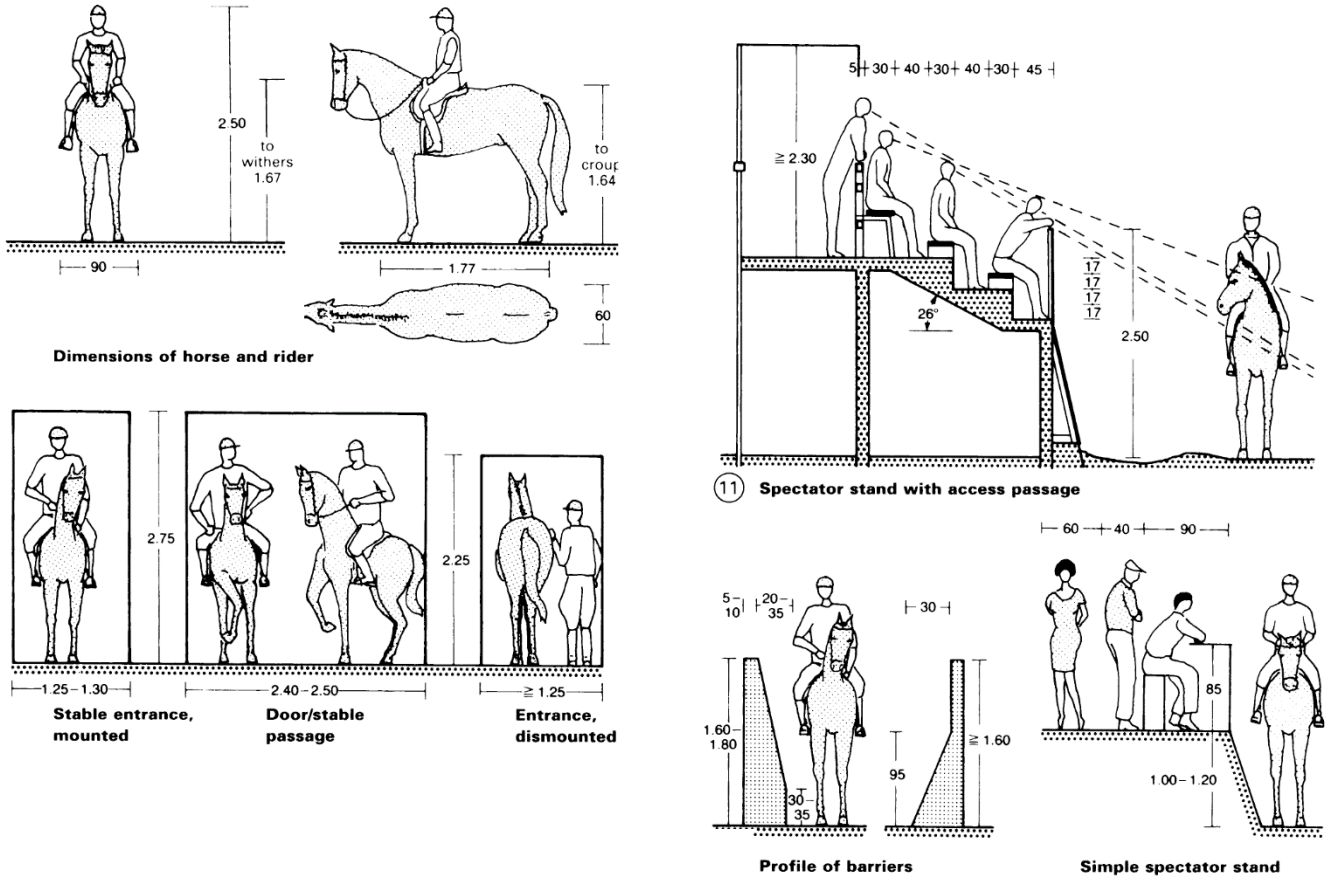
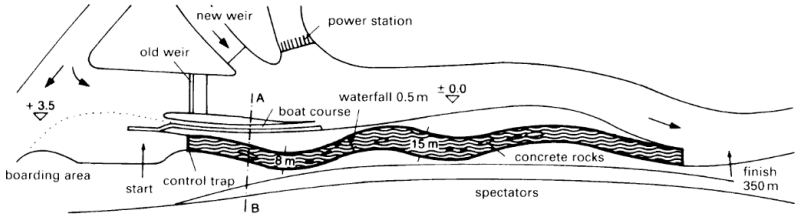


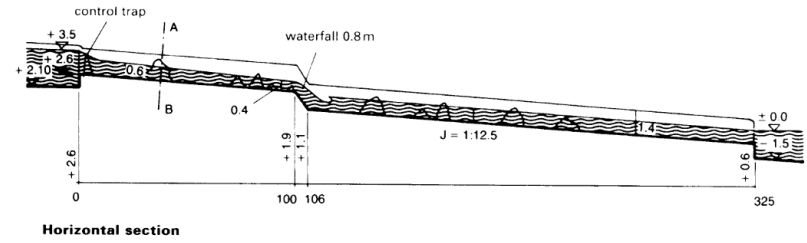
Fig 2.2 Riding Facilities Standard

E. Water Sports

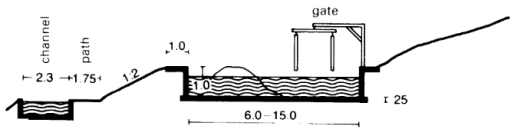
Slalom courses can be established in natural settings or in artificial purpose-built facilities (e.g. the international regatta course in Munich. Natural courses require traffic-free stretches of river with sustainable gradient (1:100 or more) and flow rate, which may be natural or controlled by a weir upstream. If they are free of obstacles and at least 8m wide, mill or power station outflows can also be suitable. Artificial facilities are constructed from suitably inclined reinforced concrete channels with concrete stone obstacles. Considerations must be given to the installation of up to 32 gates for regattas. [1]

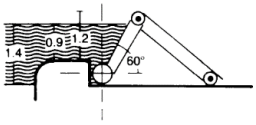


① **Regatta course for canoe slalom**



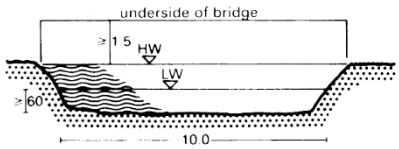
Horizontal section



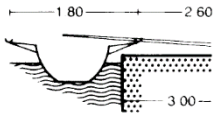


Control trap with draining base

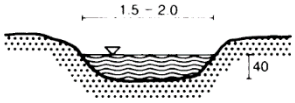
Double sided sculling pool



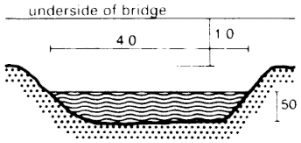
Navigable water



Jetty:
minimum length 7.00 m



Navigable water for touring: minimum



Navigable water for touring: standard

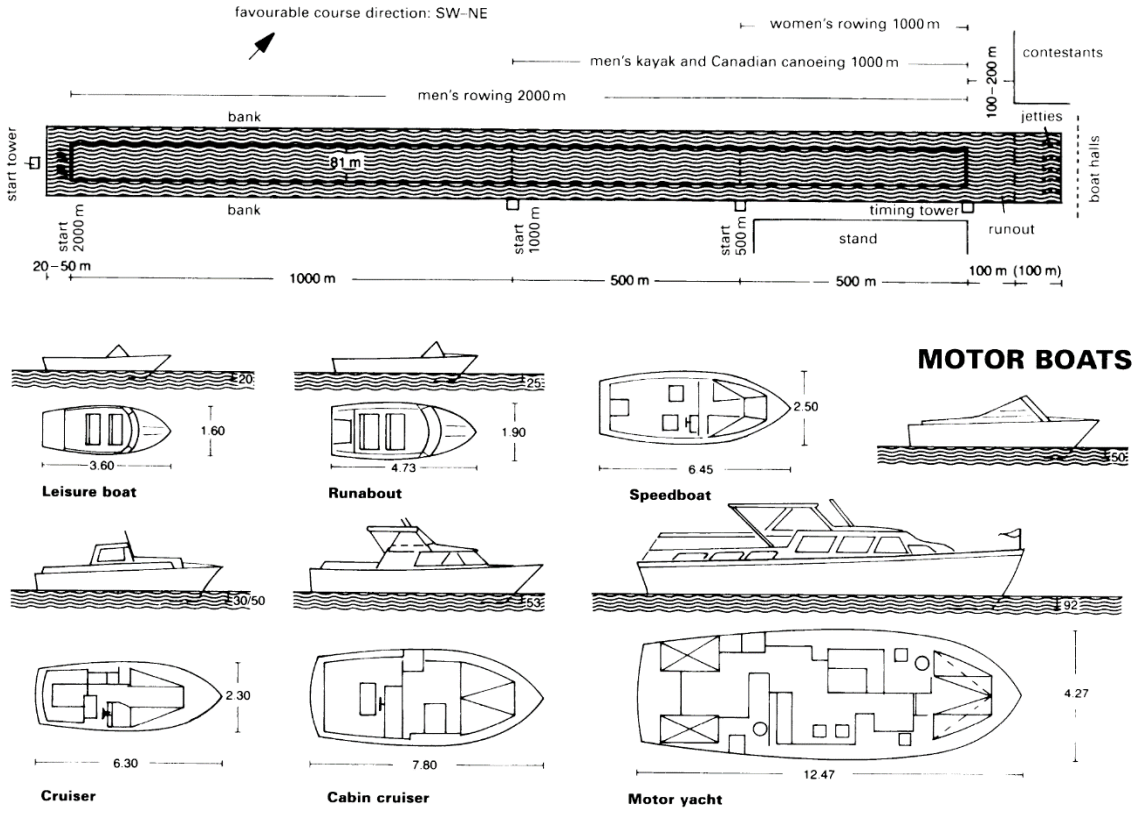


Fig 2.3 Water Sports Standard

F. Shooting Ranges

A shooting range has to be arranged in such a way that it eliminates danger to people on the inside, i.e. those people who are shooting, as well as those in the surrounding area. Safety barriers are constructed to protect all directions within the overall potential firing spread. It has been found that for air and CO2 guns, barriers must offer protection up to an angle of 20 degrees upward from the firing point. For rifles and hand guns this angle is 30 degrees. Demands made by local regulations concerning the effects of air pollutions, noise noxious substances, radiation etc. Also have to be fully satisfied.

For crossbow and archery ranges different regulations are in force. Areas adjacent to the line of fire need to be shielded through suitable safety constructions such as high baffle, walls or earth embankments along the sides and at the end of the range.

An assessment of the suitability of the chosen plot for the building of a shooting range is fundamental to the calculation of the projects coasts. A Shooting range specialties should always be consulted to provide the planner with the necessary specialist knowledge. Specific considerations are: distance to the existing or planned shooting directions; soil conditions; supply arrangements and waste disposal facilities; situation

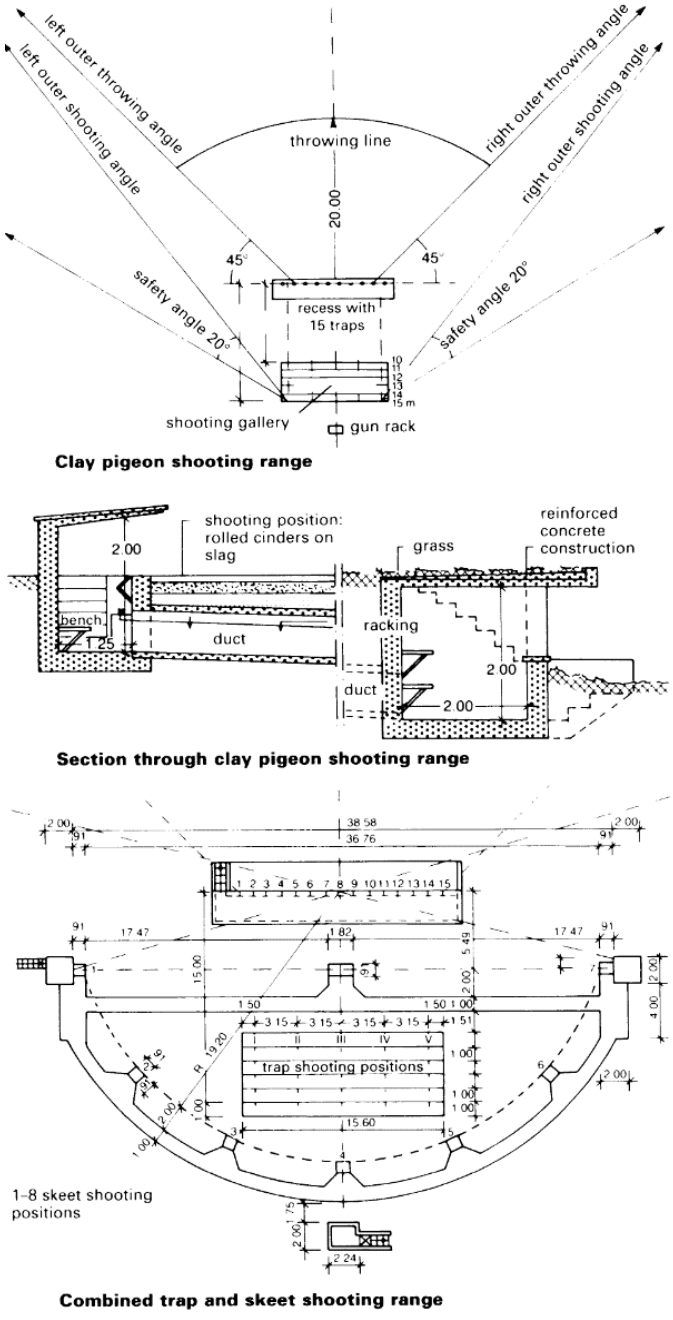


Fig 2.4 Shooting Ranges Standards

in relation to road and rail links (including future

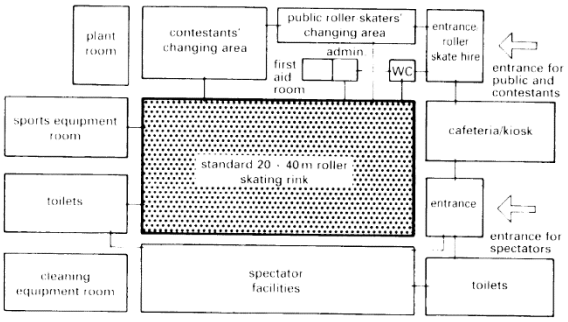
developments), and parking spaces. It is also important to assess whether it is possible or necessary to deviate from the beginning. For open ranges, in particular, allowance should be made for additional noise reduction measures. These can be built-in in separate building phases. Approval and permission procedures are determined by national and local regulations. The design and size of a shooting range should facilitate the economic construction of any necessary future additions and extension. [1]

G. Roller-Skate Racing

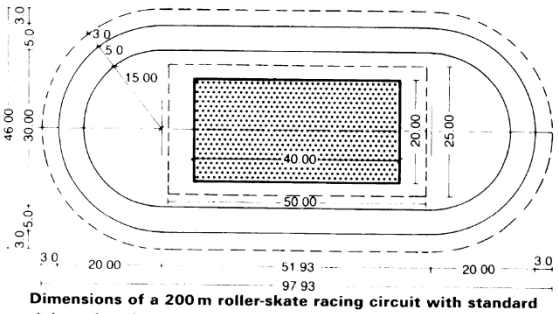
For standard racing circuit with an enclosed 20\ 40m rink the following room schedule gives guidance on the requirements.

*For competition use; four changing rooms, each with 8m of benches, clothes hook and lockers; additional lockers of 3m² for roller hockey equipment; two shower rooms with four showers, two wash basins and separate toilets; and one referee/trainers' room of approximately 9m².

*For public use: changing and equipment-fitting area with lockers and benches (20 m minimum length); ladies and gent's toilets, with showers and hand basins, connected to the changing area.



Function diagram of a roller-skate racing rink

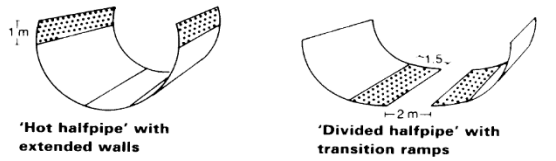


Dimensions of a 200 m roller-skate racing circuit with standard rink enclosed

*General: entrance area with ticket machines and turnstile or staffed ticket office, approximately 40m² skate; a 12 m² skate hire room (connected to the ticket office); an 8m² supervision and management room (doubles as a control room for light and should systems); staff changing rooms with shower, hand basins, toilet and lockers; a first aid room of 9m²; equipment stores, 15 m² and 6m²; cleaners room ,12m²; boiler room, 10 m²; services room, 4 m²; and a meter room, 3 m²; [1]

possible uses	necessary skating area (m)	remarks
public roller skating rink, figure skating, roller dancing, roller hockey	20 × 40 m	**standard area** for roller hockey 17 × 34 m (min)
public roller skating rink, figure skating, roller dancing, and roller hockey	20 × 50 m	in special situations
public roller skating rink, figure skating, roller dancing, roller hockey, roller-skate racing and ice sports	30 × 60 m	generally only when used also as an ice rink; 110 m sprint track for roller-skate races possible on a rink area 30 × 60 m
roller-skate racing track length track width	200 m 333 1/2 m 400 m 5 m	**standard track** only when also used for cycle sports and/or ice-skate racing tracks

Types of use and sizes of rinks



'Hot halfpipe' with extended walls

'Divided halfpipe' with transition ramps

Movable skateboard 'halfpipe'

'Long halfpipe'

Fig 2.5 Roller-Skate Racing Standard

H. Cycle cross/BMX

The minimum size of plot that can be used for BMX riding is 50*60 m whereas a large-scale competition track with ample space for spectators requires roughly 100*200m. Depending on local conditions four varieties of BMX tracks are possible:

(1) C-track: length 200m; 5m wide starting hill with four start positions.

(2) B-Track: length 250m; 7m wide starting hill with six start positions; minimum completion time 30 sec.

(3) A-track national; minimum length between 270m and 320 m; 9m wide starting hill with eight start positions; minimum completion time 35 sec.

(4) A- track/international: minimum length 300 m; 9m wide starting hill with eight start positions; minimum completion time 35 sec.

The track can contain any types of curves and jumps, and in any order. For safety solid materials (i.e. stone, concrete or wood) should not be used to mark the edge of the track; car tiers or straw bales are sufficient. Solid borders and barriers for the spectator areas should be a minimum of 1m from the track. The length and gradients of the downhill sections of the track should be such that the maximum attainable speed is 40km/h and the overall completion time has to be within capabilities of an average rider of 15 years of age. [1]

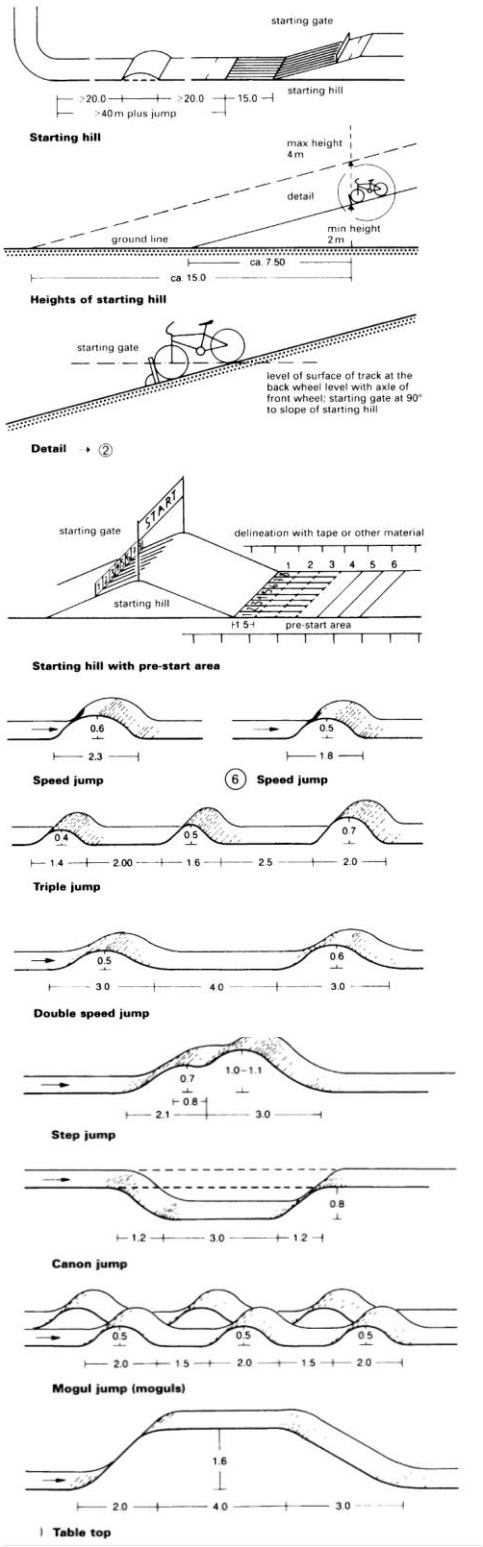


Fig2.6 Cycle cross/BMX Standards

I. Miniature Golf

A lane- golf course consists of 18 clearly separate lanes (with the exception of ‘long shots’) which have to be numbered and to accord with the relevant regulations. [1]

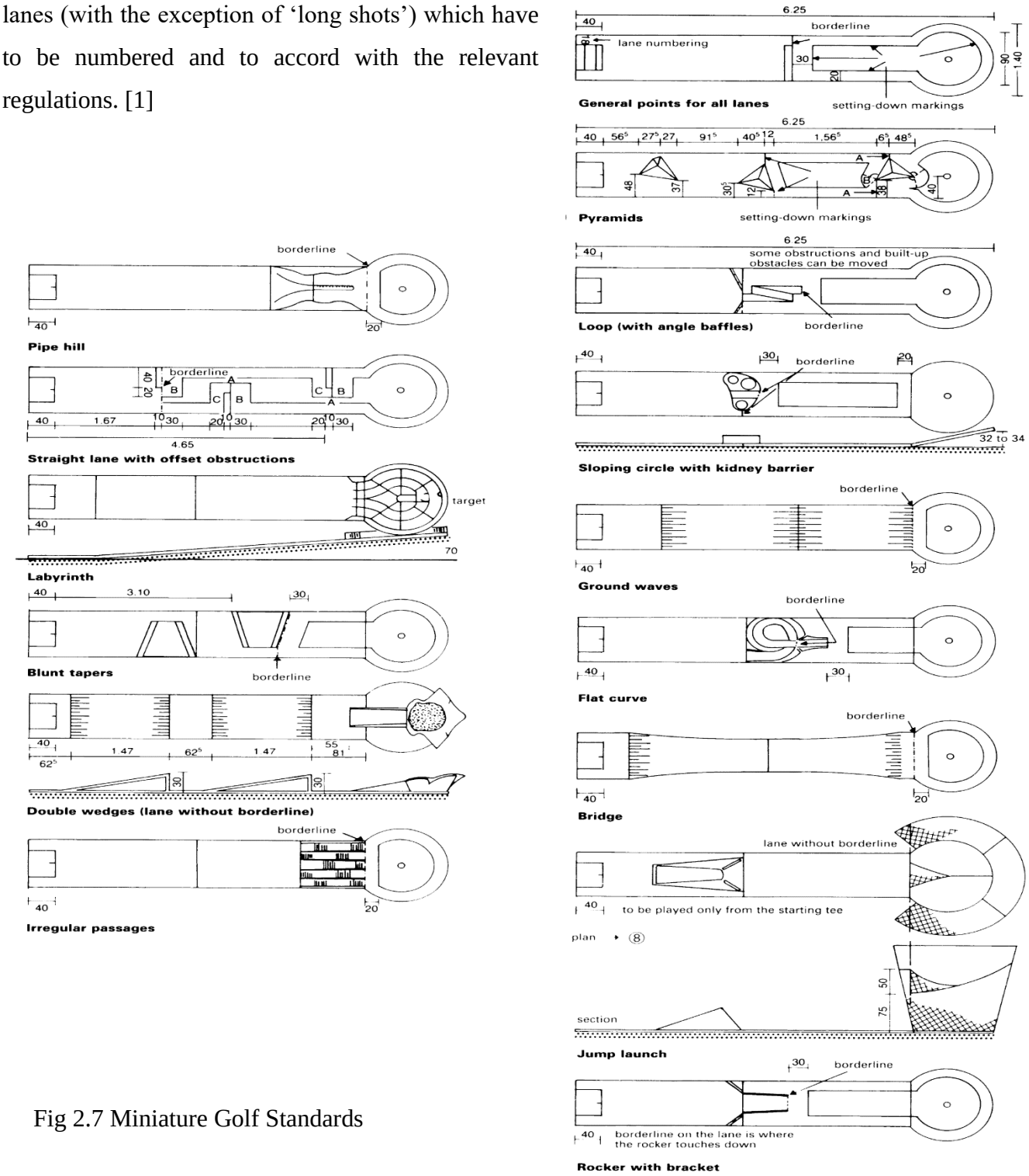


Fig 2.7 Miniature Golf Standards

J. Important principles in planning leisure space

1.Access for all-Action to ensure equitable access to sport, leisure and leisure opportunities

2. Fairness, equality and Balance-Council will seek to ensure that there is fairness, equality and balance in the provision of leisure facilities, programs and services.

3. Beneficial Outcomes-Preference to supporting the facilities, programs and services which deliver the widest range of beneficial outcomes to the widest cross-section of the community.

4. Quality and Safety-Ensure that the Balart community has access to a high standard of leisure opportunities.

5. Continual Improvement- Commit the resources needed to continually upgrade its provision of leisure facilities, programs and services.

6. Sustainability-work to ensure the sustainability of leisure opportunities.

7. Multi-use and Efficiency-Efficiency is measured in terms of the costs incurred in the running of programs,

8. Community building and social capital

9. Community health- pro-actively pursue opportunities which support the objectives of the Municipal Health Plan and which enhance the health and well-being of residents and visitors to the city.

10. Partnerships and shared responsibility pursue opportunities for the joint development of facilities, programs and services with other providers.

11. Organizational capacity- Organizational and financial capacities to actively plan, manage and assist with the delivery of facilities, programs and services.

K. Important factors for designing leisure

- Demography- The population structure of countries.
- Households- Type of family variety.
- Polarization- Available leisure time and spending power have both increased, but indifferent sectors of the population.
- Specialized tastes- With increased experience and more activities to pursue, leisure consumers are becoming more sophisticated.
- Commercialization
- Environmental concerns
- The landscape as a setting for leisure
- Land base
- The extent of the land base will determine how many visitors can be spread out so that some can find true solitude while others can enjoy more gregarious situations.
- Landscape variety-The variety of the landscape and its components can suggest what might be provided.
- Carrying capacity-The robustness or fragility of the landscape, and of the habitats and wildlife it contains, is termed its carrying capacity.
- Constructed facilities-A major opportunity for managers to increase the physical carrying capacity of an area is to construct various facilities.
- Climate-The climate is often a vital factor in the capacity of an area to supply a particular range of leisure opportunities.
- Alternative opportunities in the area.
- Appraisal of opportunities-As part of the initial leisure planning, a survey or inventory of the landscape should be carried out.
- SWOT analysis
- Zoning-As already mentioned, zoning is one of the major ways in which to resolve conflicts between different users and between users and the landscape.

- The leisure Opportunity Spectrum-The ROS takes as its major premise the fact that leisure is more than just the activity, such as hiking, fishing and camping, in which people participate. It also includes the quality of the specific setting in which that activity takes place.
- leisure planning.

L. Parking Spaces

In the loop and linear layouts, where parking bays adjoin the sides of the road, the best arrangement is to make bays that can accommodate anything from three to seven vehicles parked at right angles. Because of the importance of the setting in the more natural landscapes, and the need for more space around each vehicle, it is better to give a generous space allowance per car.

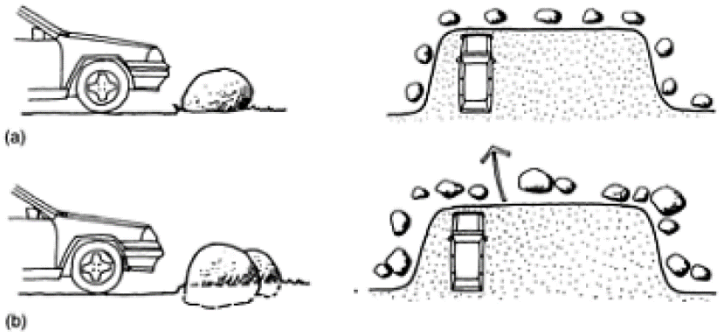
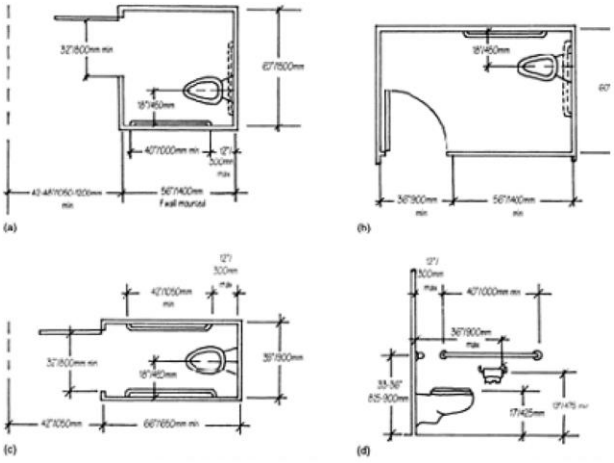


Fig 2.8 Parking Spaces

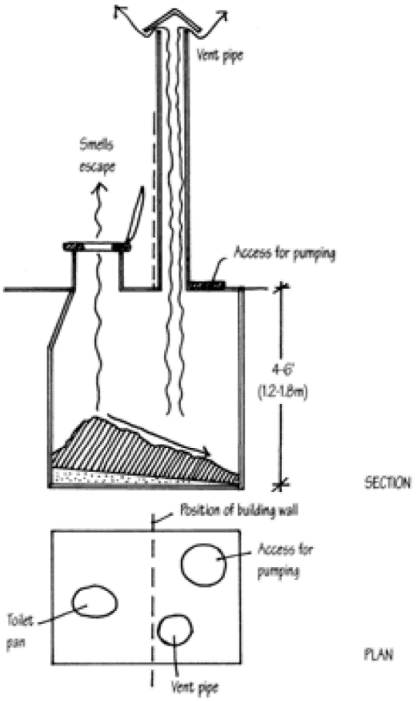
M. Should a toilet be provided?

The decision on whether to provide a toilet depends on several factors, as follows.

- Location and character of the area.
- Numbers of visitors, especially at weekends
- Duration of the visit
- Distance travelled to the site.
- Presence of water-based leisure at the area.
- Presence of food outlets at the site.
- Winter use of a site



Diagrams showing the maximum/minimum dimensions relevant to toilet facilities for people with disabilities: (a) A basic single cubicle for wheelchair access. (b) A cubicle with more manoeuvrability for wheelchairs. (c) A cubicle for ambulant disabled or elderly people. (d) Height dimensions for wheelchair users.

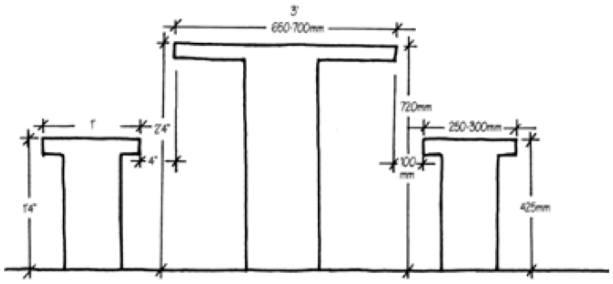


The vault, pit or 'big drop' toilet unit commonly used in North America. It has to be pumped out. The build-up of liquid in the vault can cause powerful smells, which the ventilation system cannot always remove.

Fig 2.9 Toilet Standards

N. Picnicking

Having completed the preliminary requirements on arrival, visitors are now ready to enjoy themselves. While they are free to hike, fish, sail or whatever, many people will wish to have something to eat. This usually means a picnic of some sort, perhaps with a fire or stove to boil water for coffee or tea, cook freshly caught fish or grill some steak. To many people it also means finding a picnic table and establishing a base from which other activities may begin.

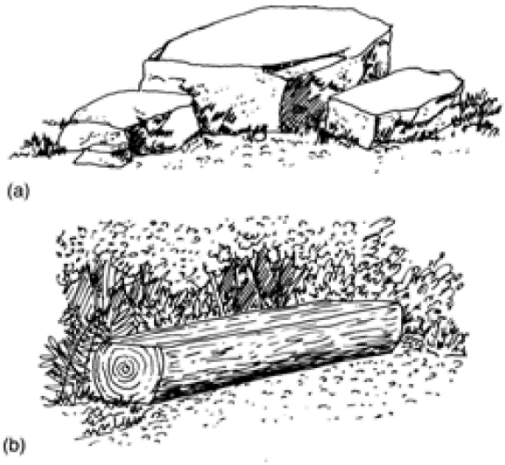


General dimensions for picnic table and bench design (metric and imperial).

Fig 2.10 picnicking table

This design incorporates a fixed grill and a lower table on which to place plates, utensils etc.

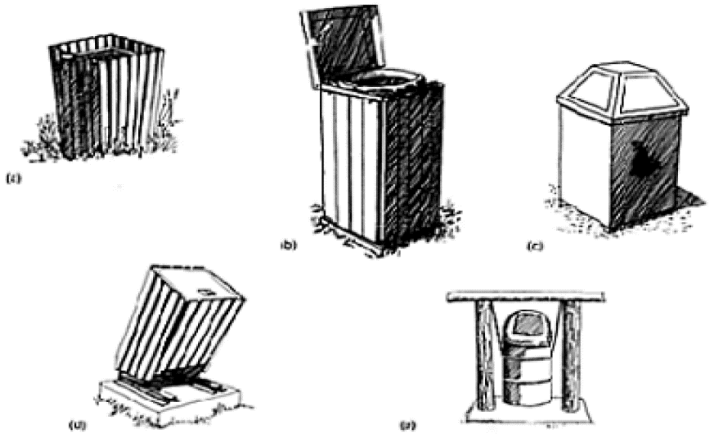
Fig 2.11 Fixed Grill and Lower Table …



Some furniture made from more natural materials: (a) Rocks placed in such a way as to offer themselves as a picnic table and seats. (b) A log sliced across to give a level surface becomes a bench.

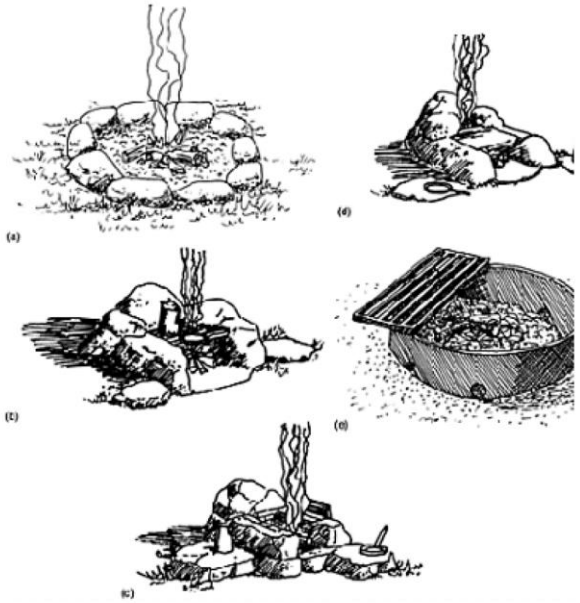
Fig. 2.12 Some Furniture made from natural materials

This is a range of excellent campfire designs to suit many places: (a) A simple circle of large stones to contain the fire. This is the most primitive, least developed variety, and is suitable for the wildest areas. (b) This example from a 1930s us Forest Service design is made of several rocks placed together. Steel rods set into the side sections from a grill, which cannot be moved or stolen. (c)This version, also from cracking. A grill secured by a chain can be placed across the firebricks. (d) This 1930s design has the fire draw. A specially shaped hotplate can be laid across, fixed to a chain to prevent theft. (e) More recent example



Some litter bin designs: (a) A single wooden slat design to hold a wire basket or polythene sack. Unfortunately, the lack of a lid can mean that litter blows away or is attractive to birds and animals. (b) A well-designed bin. The frame and lid are made from galvanized steel clad in timber slats. Litter is collected in a paper sack. The bin is fixed to a firm base such as a concrete slab. Aarhus

Fig. 2.13 Some litter bin designs



The campfire circle: a large fire area surrounded at a safe distance by log seats. Ideal for summer evening singsongs!

Fig. 2.14 Some campfires…

O. Children's play

- *Motor play* is physical activity, such as running, jumping, swinging and climbing
- *Social play* occurs as children learn to interact with one another in social situations
- *Cognitive play* occurs when the child begins to learn about his or her relationship with the environment and various cause and effect relationships. This may involve physical effects that can be repeated, or ones where there is some uncertainty and unpredictability involved.
- *Functional play* dominates play from 0 to 2 years, and generally starts with simple, repeated actions.
- *Constructive* play develops from functional play. Instead of merely repeating actions, the child begins to use materials in a more creative way: for example, building rudimentary sandcastles rather than just filling and emptying buckets of sand.
- *Symbolic play*. Once children begin to talk they can use words and images in play.
- *Role play.* This is believed to contribute to social, creative and cognitive skills
- *Rule games.* Children eventually become able to organize their experiences into logical concepts
- *Co-operative play* is the most fully developed type of play (see above). This play needs opportunities and facilities such as open areas or structures that will accommodate several children at a time. [2]

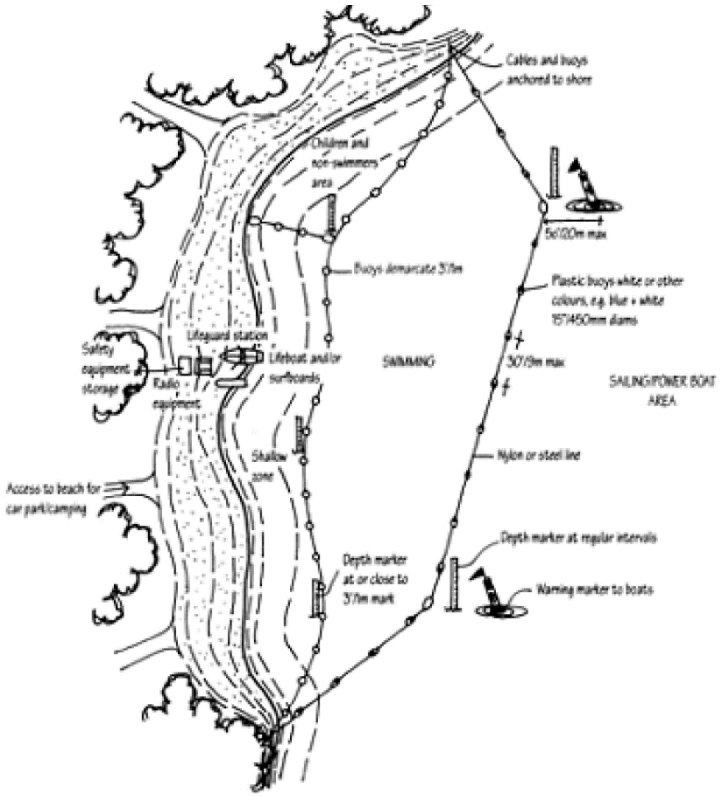
P. Trails

- General exercise and relaxation by the family with an emphasis on multi-accessibility;
- Scenic viewing leading to a viewpoint;
- Wildlife viewing;
- Visiting archaeological sites or other cultural features;
- Educational visits to explore geology, geography or natural history;
- Physically demanding routes for serious exercise.

Trails

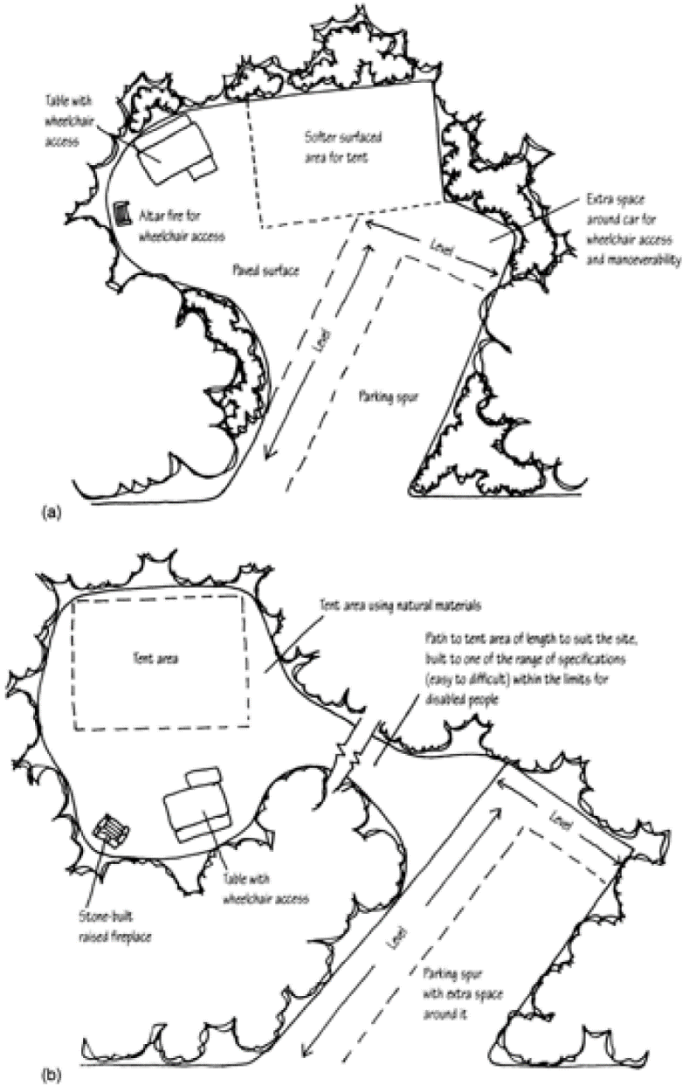
This set of sketches suggests how a sequence of features can be linked together to give an exciting experience when following a trail: (a) The threshold to the trail should be well marked and inviting, the path leading the walker and giving a sense of direction. (b) A slot view out of the foreground, here sited on a curve for maximum impact and effect. (c) The trail emerges from a dark, tunnel-like space, revealing a sunny open area beyond, increasing the feeling of

Fig 2.15 Trails



A diagram showing all the requirements for a lake bathing beach to be used by many people. .

Fig2.12 lake bathing beach



Some spur layouts to permit camping by people with disabilities: (a) A design for a campsite in a highly developed area. (b) A design for a wilder, remoter area with vehicle access.

Fig 2.13 camping with people with disabilities

Q. Sustainable architecture

Sustainable architecture is architecture that seeks to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space. Sustainable architecture uses a conscious approach to energy and ecological conservation in the design of the built environment. [2]

The idea of sustainability, or ecological design, is to ensure that our actions and decisions today do not inhibit the opportunities of future generations.[10]

R. Organic architecture

Philosophy of architecture which promotes harmony between human habitation and the natural world through design approaches so sympathetic and well integrated with its site, that buildings, furnishings, and surroundings become part of a unified, interrelated composition.

"So here I stand before you preaching organic architecture: declaring organic architecture to be the modern ideal and the teaching so much needed if we are to see the whole of life, and to now serve the whole of life, holding no traditions essential to the great TRADITION. Nor cherishing any preconceived form fixing upon us either past, present or future, but instead exalting the simple laws of common sense or of super-sense if you prefer determining form by way of the nature of materials ... [7]

"Let the design:

- be inspired by nature and be sustainable, healthy, conserving, and diverse.
- unfold, like an organism, from the seed within.
- exist in the "continuous present" and "begin again and again".
- follow the flows and be flexible and adaptable.
- satisfy social, physical, and spiritual needs.
- "grow out of the site" and be unique.
- celebrate the spirit of youth, play and surprise.

- express the rhythm of music and the power of dance." [8]

Eric Corey Freed takes a more seminal approach in making his description:

"Using Nature as our basis for design, a building or design must grow, as Nature grows, from the inside out. Most architects design their buildings as a shell and force their way inside. Nature grows from the idea of a seed and reaches out to its surroundings. A building thus, is akin to an organism and mirrors the beauty and complexity of Nature." [9]

2.2. Case studies

2.2.1. Case Study 1

- ✓ Massive River Development Plan Hopes to Rejuvenate India's Relationship to the Ganges

Fig A View of the Ghats

Delhi-based firm Morphogenesis has recently unveiled a proposal for a project that will rehabilitate and develop the Ghats (a flight of steps leading down to a river) and crematoriums along a 210-kilometer stretch of the Ganges, India's longest river. The project, titled "A River in Need," is part of the larger National Mission of Clean Ganga (NMCG), an undertaking of the Indian Government's Ministry of Water Resources which was formed in 2011 with twin objectives: to ensure effective abatement of the river's pollution and to conserve and rejuvenate it.

Fig B View of the Ghats

The Ganges is venerated as a living goddess by India's 966 million Hindus who strongly believe in the river's self-healing properties; to have one's ashes scattered in the river is symbolic of achieving eternal liberation from the cycle of reincarnation. But the hard reality of dumping tons of incompletely cremated bodies, not to mention gallons of industrial effluents and raw sewage, has caused India's national river to become the world's most polluted. While the Ganges sustains a tenth of the world's population, it also causes an estimated 600,000 deaths annually on account of water-borne diseases. With increasing densification of Indian cities—two cities from the country already feature in the top eight of UN Habitat's recent list of world's densest cities—there also exists an urgent need to provide spaces for community building and public engagement.

Fig C Typical Ghats on Low Water Level

Morphogenesis' urban intervention, in an effort to address these pressing issues, aims to sustainably redesign India's historic interface between the river and human habitation, while simultaneously turning the city inside out to provide riverside civic spaces.

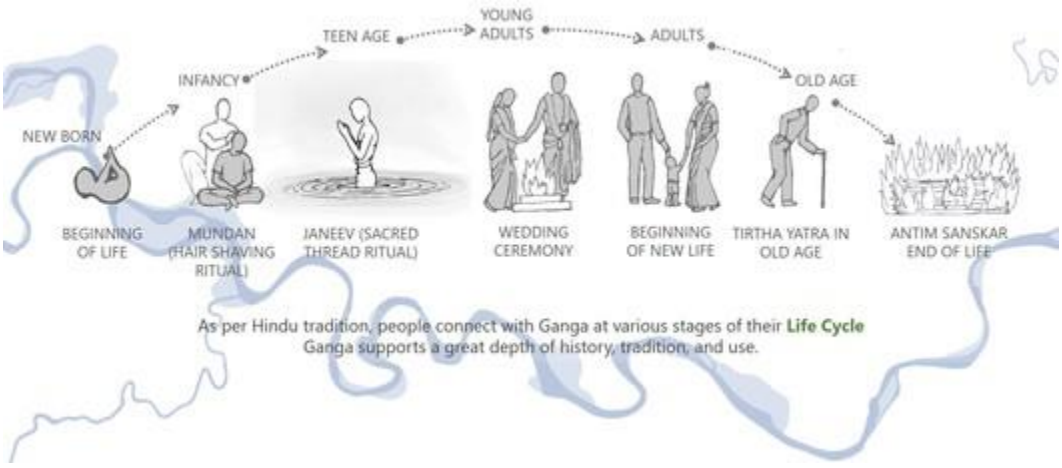


Fig D Ganges and the Hindu Tradition.

Hindu tradition dictates that its followers connect with the Ganges at several significant stages of their life, whether it's the anointment of a newborn with the river's holy water, the initiation into the faith through the Janeu (sacred thread) ritual, an individual's wedding ceremony, or their eventual cremation at its banks. Morphogenesis recognized that in order to deliver a culturally contextual solution, they would first need to study and understand this ritualistic cycle: "where people will gather, where they will wait, where they will be mourning, where there will be celebration." The firm developed their design with the ultimate goal of becoming one with the river—closing the circle of life around the Ganges through the sensitive coexistence of a varied program.

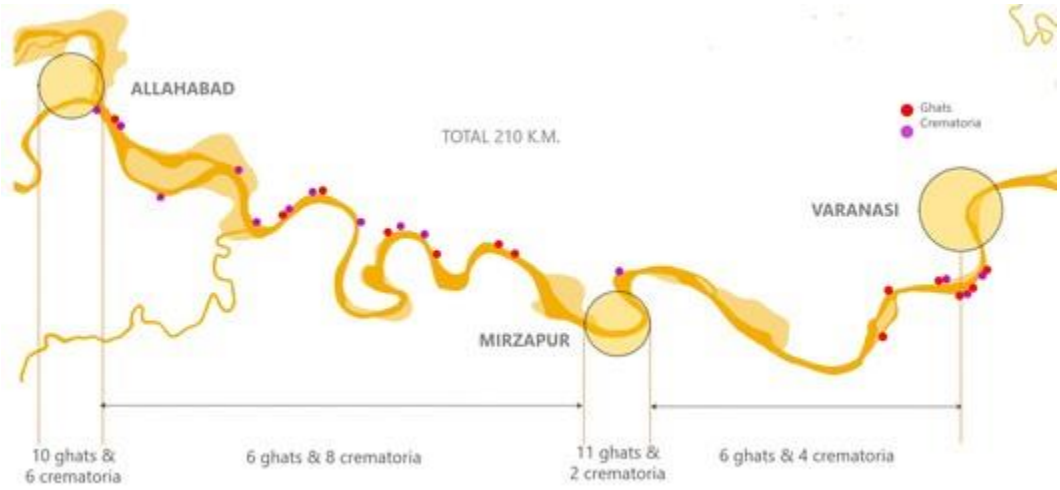


Fig E. Intervention Zones

Morphogenesis worked on a total of 33 Ghats and 20 crematoria along the stretch of the river between the holy cities of Allahabad and Varanasi. While looking at the rejuvenation of the river, prime design concerns included the erosion of the river bank and flooding. The firm noted how deforestation along the river-bank, resulting from the need for wood for traditional pyre cremations, had scoured the land-water edge and reduced it to a "silted quagmire."

This directed Morphogenesis to propose Hume pipes to stabilize the bank, while they redesigned the crematoria—and the pyres themselves—to reduce the amount of wood needed to just thirty percent of the traditional requirement. This provided the added social benefit of lowering

the cost of cremation, which the firm found was often higher than the annual income of a household.

Fig F View of the Crematorium

The firm turned to a study of the vernacular in an effort to find ways to treat the riverfront: Ghats were the natural answer since they lend themselves to stabilizing the river-edge while providing an interface for human engagement with the river. Morphogenesis' design of the Ghats combined the use of several typologies of platform to account for diverse functions: extended ones to access water-transport at all levels, smaller ones for daily rituals, and large performance stages for events.

Fig G Typical Ghats on Normal Water Level

The provision is such that all activities use water in a controlled way, hence leading to reduced pollution: Platforms were designed to be supported by colonnades to make sure that the river flow remains uninterrupted. In addition, changing quarters were provided close to the ritual bathing pond.

Fig H View the Gath's

The Ghats' varied program is organized sectional—different levels cater to different activities. This segregation is based on flood-levels: While bathing spaces occupy the lowest rung, public gathering spaces and amenities are conceptualized at safe higher levels, with ritual spaces sandwiched in between. The firm reintroduced the historic Chau pal seating structure—gurus would deliver lectures to their pupils under the shade of a tree—to provide for places of community interaction; reforestation employed resilient plants that worked with the varying levels.

Fig I View the Gath's 3D

The design also incorporates informal and pop-up temporary retail to make sure that Ghats remain active through the day and the year. In an attempt to add to the Ghats' traditional religious function, Morphogenesis designed the new developments to be Wi-Fi-enabled; the firm envisions the Ghats as important urban spaces for discourse and dissemination of knowledge. The Ghats will also run almost entirely on solar power: Solar panels are installed atop "Smart Columns," which act as shading devices while simultaneously fulfilling the essential functions of providing drinking water and internet connectivity. Furthermore, locally-available and low-maintenance materials were used to reduce ecological impact: the flooring will utilize porous stone to enable water to percolate through, while the structures will be predominantly built in brick.

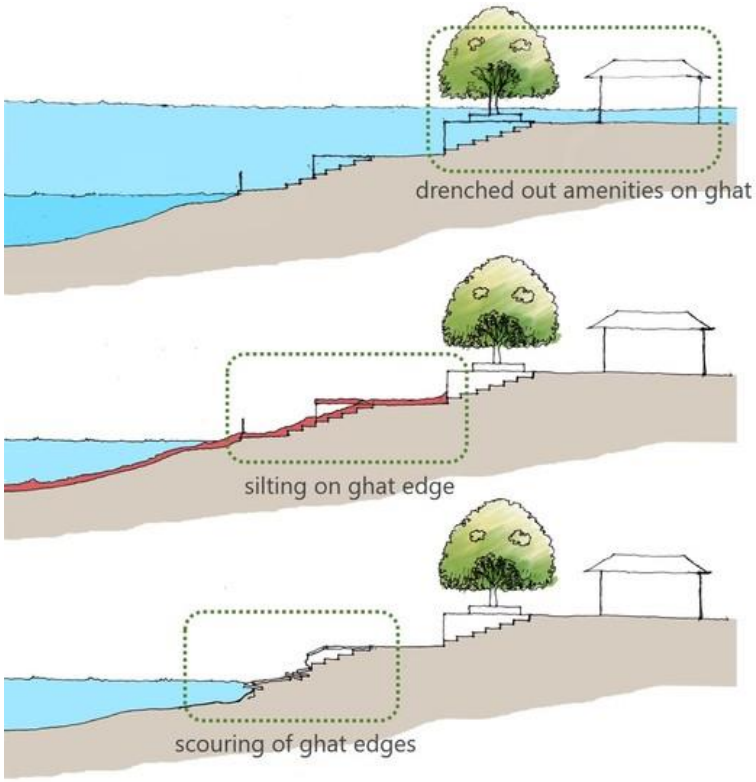


Fig J View the Gath's- Section

2.2.2. Case study 2

- ✓ Office for Peripheral Architecture Design Modular Floating Pool for Urban Waterfronts

Fig A. Visualization. Image Courtesy of Office for Peripheral Architecture

Office for Peripheral Architecture has won an invited competition for the design of the Alas Sea Pool Family in Helsinki, Finland. Constructed on floating platforms, and designed as a modular, flexible, adjustable system, the Alas Sea Pool Family is intended to be a new global typology for coastal sites, where building on land is not feasible.

The invited competition asked entrants to submit proposals which responded to varying environmental and seasonal conditions, with Office for Peripheral Architecture ultimately chosen for their "strong concept that places the floating spa in a central location in the city."

The Office for Peripheral Architecture proposal centers on "New Nordic Urban," a concept which brings together Nordic sensibility and contemplation of nature with a proactive attitude to physical activity and social interaction. The Sea Pool Family captures this notion through the choreography of movement, with visitors transitioning from open to closed spaces, from the relaxation of the spa and sauna to an engagement with sports and physical activity.

Fig B- Visualization. Image Courtesy of Office for Peripheral Architecture- 2

The scheme seeks to integrate seamlessly with varying global urban conditions by offering a flexible, mixed-use program. Activities are arranged in two separate structures, connected by an open space. One structure contains activities relating to the spa and sauna, and areas rentable for private events, while the other contains a restaurant and café.

Fig C Visualization. Image Courtesy of Office for Peripheral Architecture-3

Public spaces included in both structures include a large open stair for informal gathering, and sheltered spaces to enjoy open views and surrounding scenery. Meanwhile, outdoor swimming pools with warm water sit at a crossroads between the scheme's relaxation and physical activity programs.

The Alas Sea Pool Family is intended as a scalable and applicable typology for any coastal site. Indoor spaces can vary between 8500 to 37,500 square feet (800 and 3500 square meters), constructed on floating platforms varying between 20,000 and 100,000 square feet (2000 and 10,000 square meters).

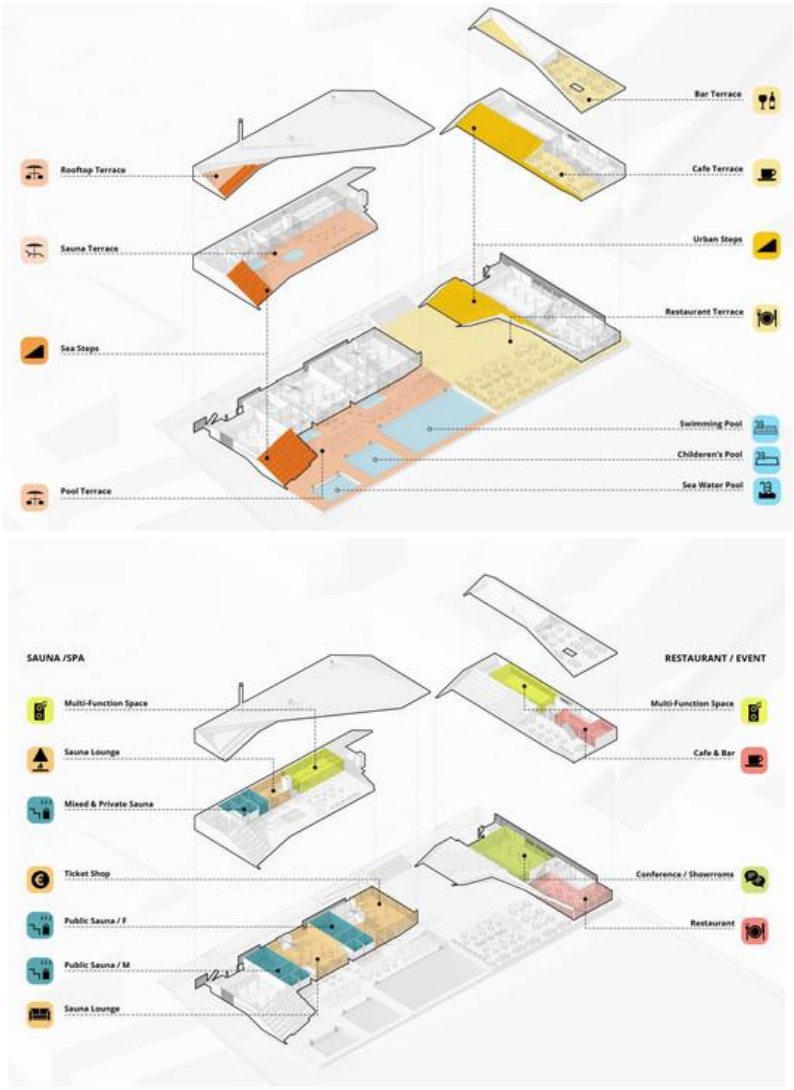


Fig D Programs Layering Diagram

The scheme is constructed of cross-laminated timber, in-keeping with the ecological, sustainable, and adaptable ethos. During the construction process, modular elements for the floating structure can be transported via waterways.

2.2.3. Case Study 3

- ✓ Venecia leisure Park / Jaime Alarcón Fuentes

- ✓ Architects

Jaime Alarcón Fuentes

- ✓ Location

Temuco, Temuco, Araucanía Region, Chile

- ✓ Category

Public Architecture

- ✓ Urban Team

Rodrigo Ibañez, Valeria Constanzo, Franco Gonzalez.

- ✓ Social Team

Rodrigo Ibañez /Valeria Constanzo, Franco Gonzalez.

- ✓ Area

8400.0 m2

- ✓ SECPLA Architect

Fernando Aguilera J.

- ✓ MINVU Architect

Marcelo Marin V.

- ✓ Funding

Program Quire Mi Barrio MINVU + Municipalidad de Temuco

- ✓ Image

Treile Films

Manufacturers

Cave

Fig E Site Plan Diagram

This park supplies the consolidated lack of public urban space of leisure, relaxation and sports which the area did not have, including it in a surrounding river plan of Temuco city. This park, due to its intensity condition of use and scale, within the area, allowed the development of a highly participatory project where a citizen concept was developed in an intermediate level embracing the massive and individual use of neighborhood interest. For example, the integration of typical Chilean games such as greasy pole, troyas and hopscotch, etcetera, as well as the stage of massive performances, urban picnic platform, and others. In conjunction with the community this park was called the “URBAN LOUNGE”

The concept as a main idea was to develop an intermediate level project, which could answer to the lack of space in housing, as a LIVING ROOM is, gathering the family, in which the family integration, the development of the childhood, the intervention of a child in a community space, was not a priority at home. The housing density was dominating; the use of land in building collapsed the territory, and this emptiness in the city was transformed in an opportunity to increase and consolidate the quality of public spaces

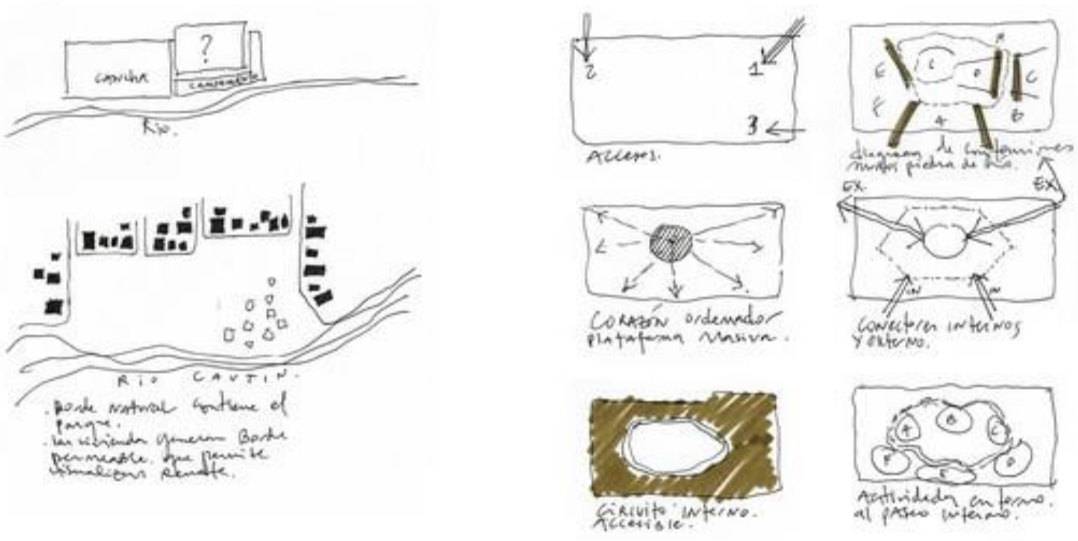


Fig F Analysis Diagram

Fig G 3D visualization

As a consequence, several spaces of regular use were designed. They were connected with an access ring at the inner part of the park, where the dead spaces were transformed into temporary spaces and its use was defined depending on the weather, season and festivity periods. The spaces were defined in a workshop of present-future context, where the image of the park was projected to the city, having in mind that this was a non identity territory

Fig H 3D visualization- 2

The spaces where defined as:

Massive Performances Platform, which is a flat land space and electrical connections to make neighborhood activities of the area.

Picnics and drainage of the park platform, which is a space that looks for breaking the flat spaces of the land placing in a natural lower level with the purpose of making a park drainage. Taking advantage of the slopes produced by digging, generating horizontal plans to encourage the urban picnic.

Typical games zone, the purpose to encourage the culture and traditions by this mean is meant by municipal labor and the government to generate temporary activities which will highlight the Chilean traditions, where different Chilean games where integrated, such as greasy pole, a troya space for throwing the whipping top and an area for playing hopscotch.

Fig I Play ground visualization

The fun zone was defined as an area for board games such as chess and table tennis. Multiuse field made of sand. This space surrounded by small walls of low river rocks and a sand surface was defined with the purpose of eliminating the necessity of local congregations of space for their activities such as scouts, schools for anniversary activities, and others.

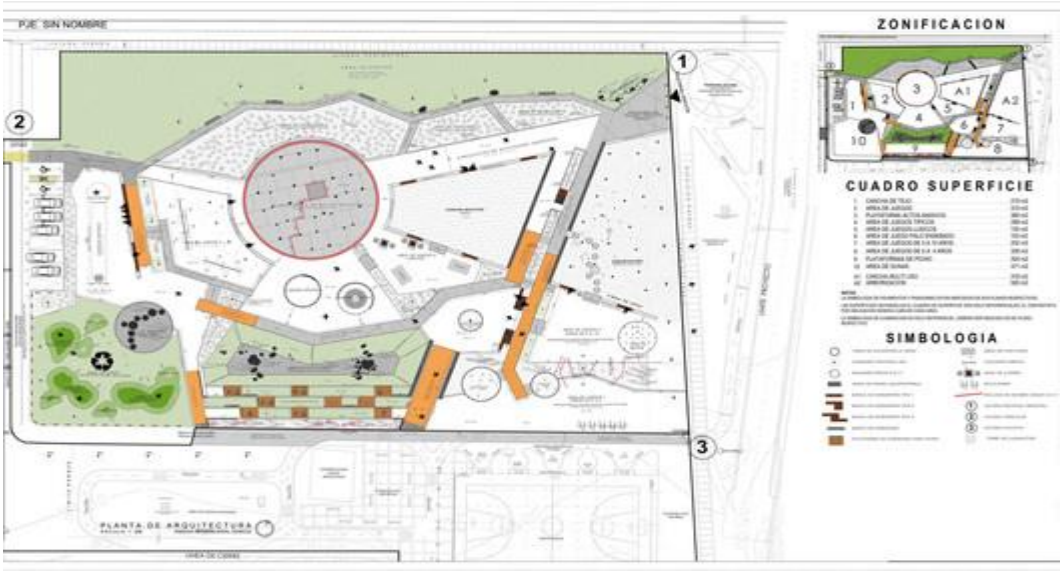


Fig J Site Plan Diagram

Area of leveled games, this game area where made for children in relations with their ages. Dune area, it is a low cost area which land from digging was reused to generate dunes of grass, as an abstract space of spreading. The project was designed in conjunction with neighbors and authorities using a participatory approach, where all was asked. In relation with lightning, LED technology was considered to reduce the energetic use, besides; a synthetic grass field was added, creating a sports area, with only one project

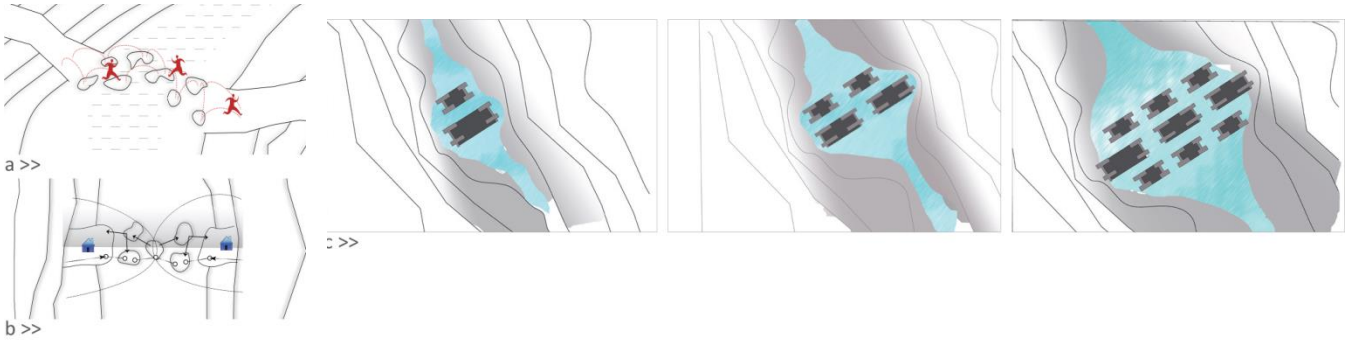
2.2.4. Case Study 4

- ✓ WATER URBANISM

INTRODUCTION

ZEGEYECHERENET| BERHANU GEBREWOLD

Water is one of the most contested resources in North East Africa. Urban water security is rapidly becoming a theme that may dictate the feasibility of some of large and small cities in the very near future. AVAILABILITY OF WATER RESOURCES was THE MAIN measure in order to locate a site for the foundations of many great cities including Addis Ababa. Both surface and underground water is a key for the vitality of a city.



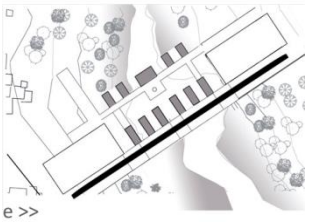
a >> Stepping stones are the easiest method of establishing connection with out blocking the flow of water. Solid,Detached,Integrated&Permabel.
b >> Two housings with scattered program combined connecting the two sides.
c >> Different prototypes of bridge constructions using the ‘‘stepping stones” concept
d >> Areal view rendering

e >> Phase 1, access platform for the public is constructed

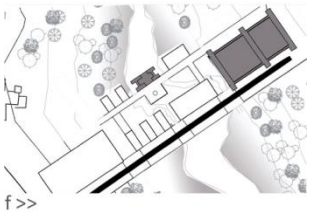
f >> Phase 2, constructing the bridge, with space for living and generating income

g >> Phase 3, a private residence/ tea shop is constructed by one of the migrants, who owns donkeys

h >> Ground Floor Plan. Donkey Shelter



e >>



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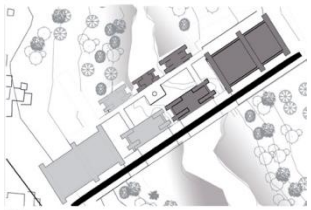

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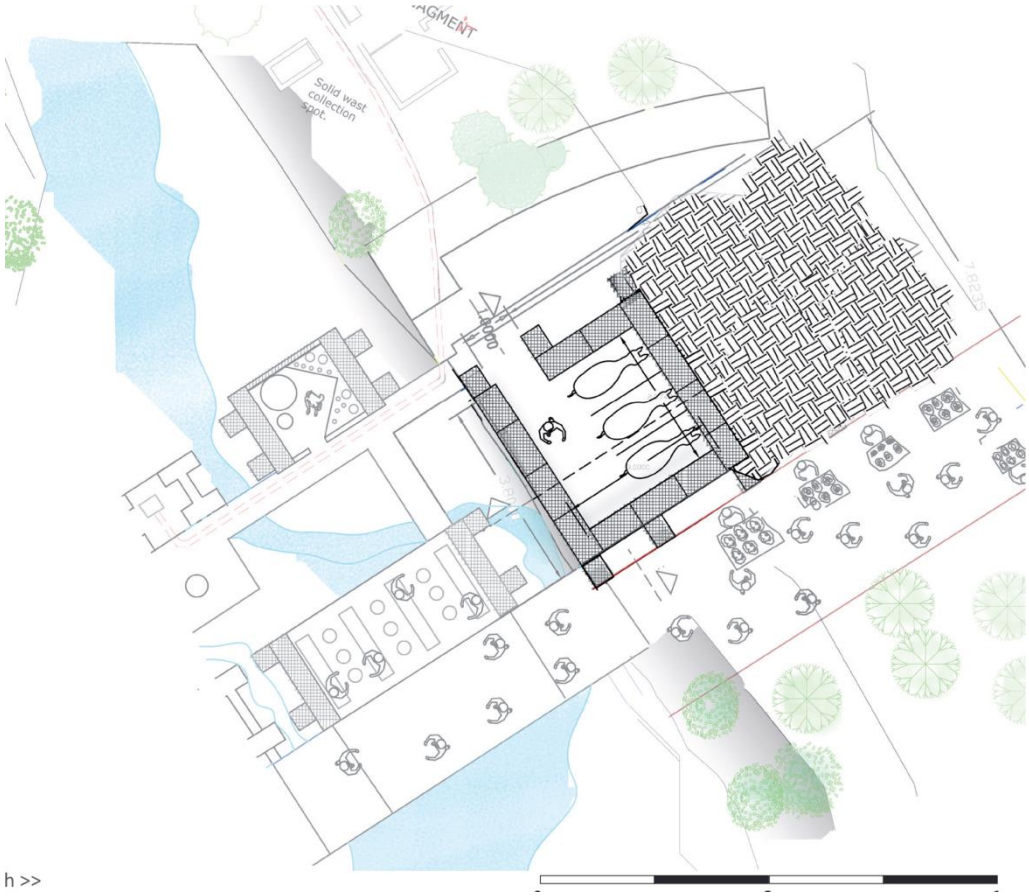
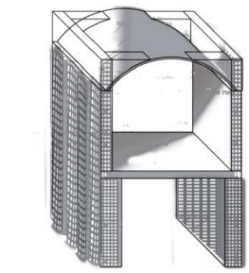


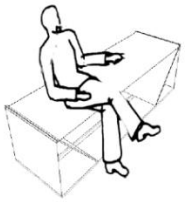
h >>

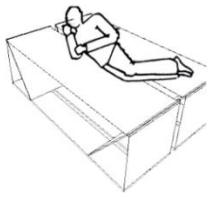
Fig. A Introductory Diagram A

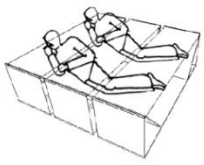
This demand, which is fueled with the ever increasing population, if not sensitively guided, can become a cause for major ecological as well as political challenges. Therefore, the particular frame of the design- research studio, which was under the framework of the rural-urban interface project, focuses on the immediate informal developments around water bodies studying the relationship between the water body, the socio economic and spatial configurations of informal urban proliferations and the changing rural-urban interfaces



i >>

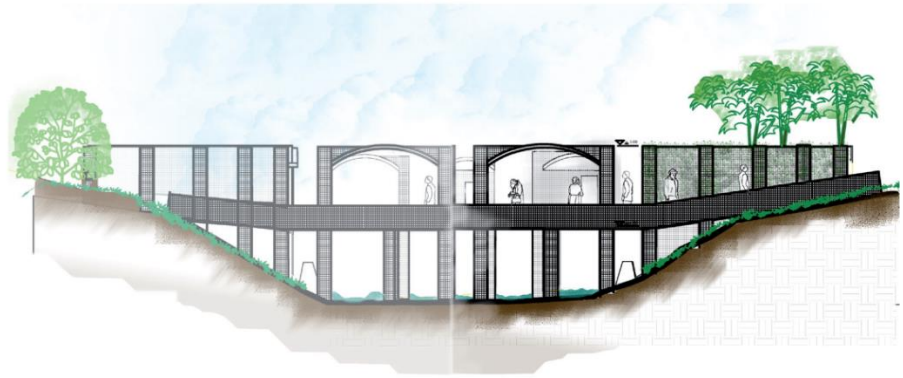






j >>

k >>



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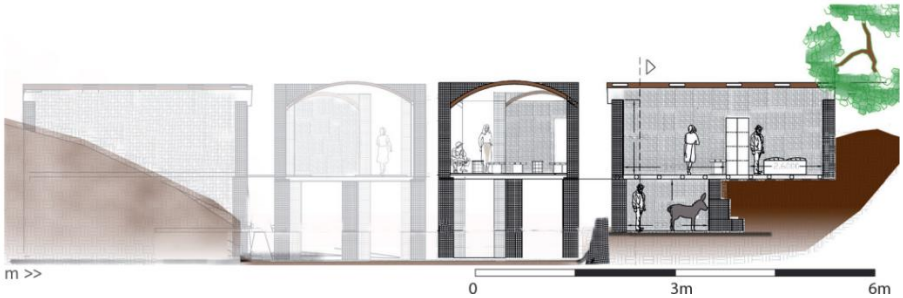


m >>

i >> Skeletal diagram of the 'stepping stone' block unit

j >> Additional to the ordinary furnitures this program needs additional portabel sitting chairs for the served area, which are light, portable, multifunctional and easily constructable.

k >> First floor plan: Sleeping, kitchen and served spaces

l >> Longitudnal section across the river

m >> Front Elevation

Fig. B Introductory Diagram B

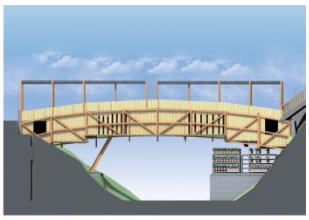
River banks in Addis Ababa and water front's I cities with water bodies are increasingly appropriated by rural migrants for urban agriculture so as to mitigate food and income securities.

The studio was focusing on exploring the potential of water fronts and sites around water bodies which are displaying both the challenges and opportunities of the interface. In these nodes of happenings, water becomes an urban structuring phenomenon, hence an architectural force.

The major objective of the research studio which was held with the 6th and 7th semester architectural design studio was:

1) To understand the house hold and communal socio-economic activities of the rural migrants, which generated the informal appropriations of spatial structures around water bodies so as to learn from cases about general trends of urbanization. 2) To understand the influence of water and water bodies on the socio-spatial characteristics of informal urban and architectural structures. 3) To explore new frontiers of architecture in a rapidly transforming territories dominated by informalities; and 4) To draw key guidelines for designing an accommodative and water sensitive architectural/urban structure for social, economic and ecological sustainability around lakes and rivers in Ethiopia.

b >>



a >> More than the common furnitures this program needs additional portabel sitting chairs for the served area.which are Light,Portabel,Multifunctionaland that easly be constructed.

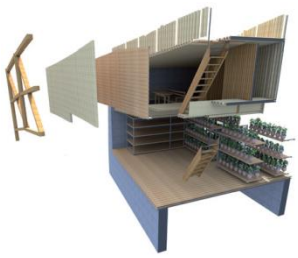
b >> Perspective rendering

Fig. C. Bridge design visualization

Addis is also known for squandering its water resources; by using them for liquid waste disposal. “Kebena”, is one of these rivers, which remove sewage from the city. This makes its water toxic and discourages urban developments around it. Stepping Stone is a design proposal, with the vision of activating part of the “kebena” river and the surrounding neighborhood. Developing the urban agriculture on the river side, enhancing the existing market place and providing a public pedestrian bridge are the major programs proposed on the intervention site. The implementation of the project is based partly on fundraising from voluntary inhabitants and partly from the income generated by the project itself.

Previously, the residents on the site were using stepping stones to cross the river when the water level was low. This was the basis for the architectural concept.

From all the basic human needs, currently in Addis Ababa, providing shelter is one of the greatest challenges. And this challenge is not just an issue of space shortage, but also a question of sustainability, while providing these shelters. When we say sustainable, it refers to the issues of availability of resources and building materials, appropriate construction methods and the adaptation of the structures to their context. Here, also the issue of affordability is crucial. In dealing with these challenges, different governmental and private institutions are trying to come up with innovative solutions.



c >> Exploded sectional perspective of the bridge

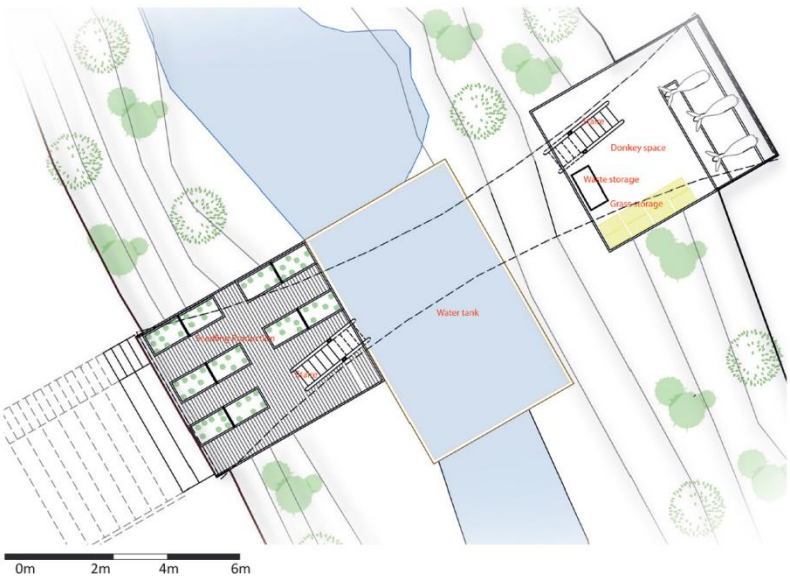
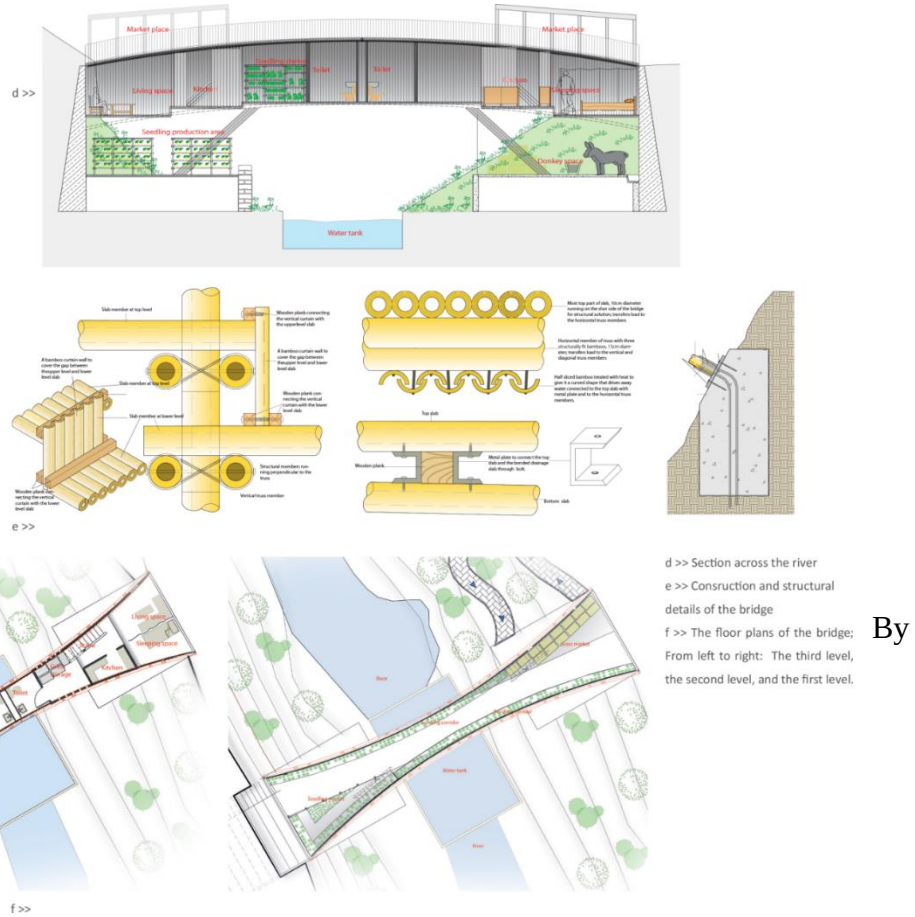


Fig D Site Plan Diagram

On the urban scale, the working site was the “kebena” river and on the specific location of the project, there is no physical connection between the two sides of the river. This was limiting the flow of people, goods and activities within the neighborhood. For this reason, a bridge was proposed; since the theme of the project is using the negative spaces of the city we saw a great potential in the space created under the bridge.

The vision was to create a multi-functional, multi-layered bridge. The bridge is intended to have three layers of functions; a market place, a housing and a working place, from top to bottom respectively. This layering is done considering the nature (function) of the programs in relation to their degree of privacy and publicity. The construction of the project has to be affordable and fast, and the major challenge for implementation, was the span of the bridge - 20 meters. Building this bridge requires a collaborated effort, since the it is intended to serve the public. water source and secondly as a separating boundary between the two sides of the site.



d >> Section across the river
e >> Consruction and structural details of the bridge
f >> The floor plans of the bridge; From left to right: The third level, the second level, and the first level.

By

Fig E Detail Diagram

Connecting these two sites the river would be reactivated. The bridge involves two types of construction; a massive construction using stone masonry for the substructure and retaining walls, and a light construction for the superstructure.

Regarding the form, the ideal shape for building a light weight bridge would be a hyperbolic structure in order to deal with the load and structural demands of the bridge. Since housing is part of the program, it would be a challenge to make the hyperbolic form habitable for human beings. The bridge is intended to have three levels; the first level, which is a public access connecting the two sides of the river houses a market place for the private clients. The second level consists of a living and storage space for the owners of the house; which is highly compact and efficient. The third level is the working and production space which horizontally accesses the river. The whole structure is raised by 1.5m above the river to avoid flood risks.

The construction of this 20m bridge is intended to be fast, affordable, and structurally sound. The bridge is to be supported by two bamboo trusses connected by horizontally running bamboo members. The sectional solution is to give the bridge a hyperbolic shape while still maintaining its habitability, therefore, the curve created is a very slight one and the slabs are stepped slabs following the curve of the hyperbola. This project is intended to be a prototype built wherever there is a river and the need for access and connection.

The proposed architectural structure has qualities of creating an affordable but at the same time favorable spaces for habitation. rivers of Addis Ababa that are wasted and underused, hence this project can be taken as one way of appropriating these spaces in order to make use of the rivers' socio-economic potentials. Exploring ways of utilizing the untapped resources of Addis Ababa, both natural and human, is critical in the creation of a sustainable system of life for the city. We believe that this project provides one alternative and innovative solution besides what is currently being done for housing challenges in the city

- ✓ The researcher has harnessed a variety of knowledge from literature review and case study on chapter 2 which he has studied and implemented it on the design in order to use it as a solution to problems discussed on the research.

CHAPTER THREE

METHODS AND MATERIALS

3.1. Study area

- ✓ This research takes place 'Selam Ber' district especially focusing in 'Geraba' neighborhood which is in Wolkite town.

Fig 3.1. Location Map

3.2. Study period

- ✓ The time period for this research/study is 1 month which is from May 2019 to June 2019.

3.3. Population/Target group

- ✓ The target group of this research is manly the Selam Ber district focusing on ‘Geraba’ neighborhood residents.

3.4. Data collection process

- ✓ Primary ways used are;
  - Observation
  - Studying Case studies

  - On CHAPTER 2

    2.2. case studies

    case study1, case study 2, case study 3

  - Studying literatures

  -On CHAPTER 1

    2.1 Literature Review

  - Using questioner papers

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   ለስፖርታዊ እንቅስቃሴ ☑
   ከቤት ውጪ ለመሆን ☐
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   ከከተማ ውጪ ባለ ቦታ ☐
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7. ከቤት ውጪ ውጪ ያለ እንቅስቃሴ ወይም ተግባር ላይ እንዲሳተፉ ምን መደረግ አለበት?
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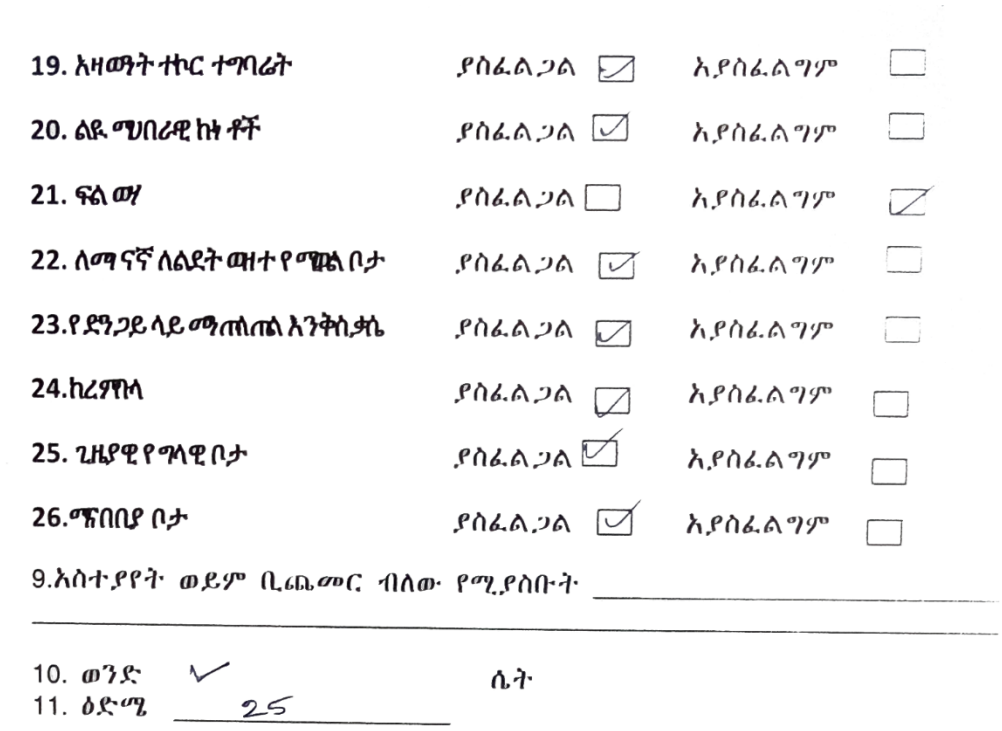
በተለያዩ ተግባራት የሚደረዱ መሳሪያዎች መዘጋጀት አለባቸው
መዝኛ ቦታ ወደ ቤት ይቅረብ
በቤቱና በመዝኛ ቦታው ደህንነቱ የተጠበቀ መንቀሳቀሻ መኖር አለበት
ትራንስፖርት በቤትና በመዝናኛ ቦታ መካከል መኖር አለበት
ማብራሪያዎች መኖር አለባቸው
የመዝናኛ ፓርኮቹ ደህንነት መኖር አለበት
ከትምህርት ወይም ከስራ በኃላ አሳታፊ ፕሮግራም መኖር አለበት
ሌላ ካለ ______________

8. ሊሚሉ ያስፈልጋል ብለው ሚስቧቸው ተግባራት
1. የወጣቶች ኳስ ሜዳ ያስፈልጋል ☐ አያስፈልግም ☑
2. ከቤት ውጪ ቴኒስ ሜዳ ያስፈልጋል ☑ አያስፈልግም ☐
3. የህፃናት መጫወቻ ያስፈልጋል ☑ አያስፈልግም ☐
4. መዋኛ ገንዳ ወይም የውሃ ፓርክ ያስፈልጋል ☑ አያስፈልግም ☐
5. ስኬት ቦርድ መቻወቻ ያስፈልጋል ☐ አያስፈልግም ☑
6. የመራመጃና ሳይክል መንጃ መንገዶች ያስፈልጋል ☑ አያስፈልግም ☐
7. ምግብ እየበሉ መዝናኛ ቦታ ከቤት ውጪ ያስፈልጋል ☑ አያስፈልግም ☐
8. ጎልፍ ጨዋታ ያስፈልጋል ☑ አያስፈልግም ☐
9. የፈርስ ግልቢያ ያስፈልጋል ☐ አያስፈልግም ☑
10. አሳ ማጥመጃ ቦታ ያስፈልጋል ☐ አያስፈልግም ☑
11. የጀልባ ቦታ ያስፈልጋል ☐ አያስፈልግም ☑
12. ከቤት ውጪ እሳት እየሞቁ መዝናኛ ወይም ካፕፋየር ያስፈልጋል ☑ አያስፈልግም ☐
13. ከቤት ውጪ የወጣቶች የካምፕ ተግባራት ያስፈልጋል ☐ አያስፈልግም ☑
14. ማርሻል አርት ያስፈልጋል ☑ አያስፈልግም ☐
15. ሰውነት ማጎልመሻ ያስፈልጋል ☑ አያስፈልግም ☐
16. የሰውነት ማጎልመሻ እንቅስቃሴዎች ያስፈልጋል ☑ አያስፈልግም ☐
17. ውሀ አገዝ እንቅስቃሴዎች ያስፈልጋል ☐ አያስፈልግም ☑
18. ስእል መሳልና የትእይንት ጥበባት ያስፈልጋል ☐ አያስፈልግም ☑



19. አዛውንት ተኮር ተጣሪቱ	ያስፈልጋል ☑	አያስፈልግም ☐
20. ልዩ ማህበራዊ ክዛ ቶች	ያስፈልጋል ☑	አያስፈልግም ☐
21. ፍል ውሃ	ያስፈልጋል ☐	አያስፈልግም ☑
22. ለማናኛ ለልደት ዉዘተ የሚዉል ቦታ	ያስፈልጋል ☑	አያስፈልግም ☐
23.የደንጋይ ላይ ማጠለጠል እንቅስቃሴ	ያስፈልጋል ☑	አያስፈልግም ☐
24.ከረፃሞላ	ያስፈልጋል ☑	አያስፈልግም ☐
25. ጊዜያዊ የግላዊ ቦታ	ያስፈልጋል ☑	አያስፈልግም ☐
26.ሻንበቢያ ቦታ	ያስፈልጋል ☑	አያስፈልግም ☐

9.አስተያየት ወይም ቢጨመር ብለው የሚያስቡት _____

10. ወንድ ✓ ሴት
11. ዕድሜ 25

Fig 3.4 Sample of questionnaire used

- ✓ Secondary ways used are;
  - Informative websites [2]

3.5. Data processing and analyzing

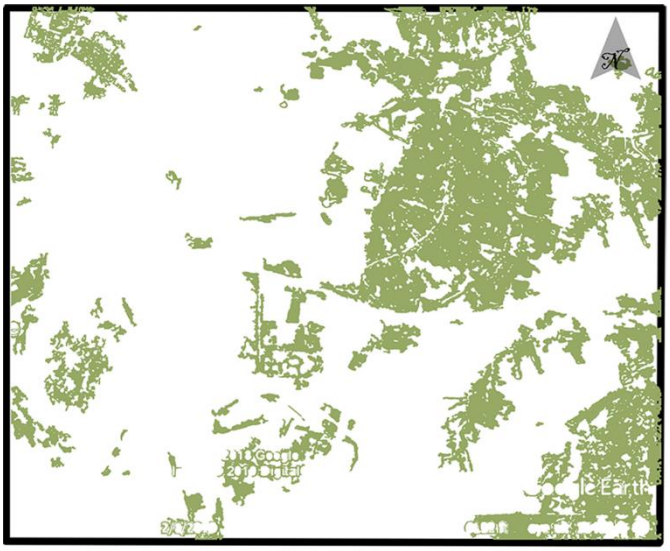
After collecting data's, the researcher used the right research data analyzing method to accurately process and analyze the found data.

CHAPTER FOUR

RESULT AND DISCUSSION

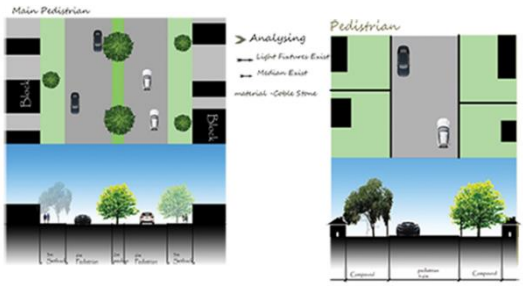
4.1 Collected data findings and analysis

The researcher has collected data from different age groups of ‘Geraba’ neighborhood and surrounding. The researcher has collected the data by being present in ‘Selam Ber’ district moreover in Geraba Neighborhood and observed the existing condition of the life style of people and the site context. Questionaries’ for the residents to have the knowledge of general characteristics of leisure space which would satisfy their needs.



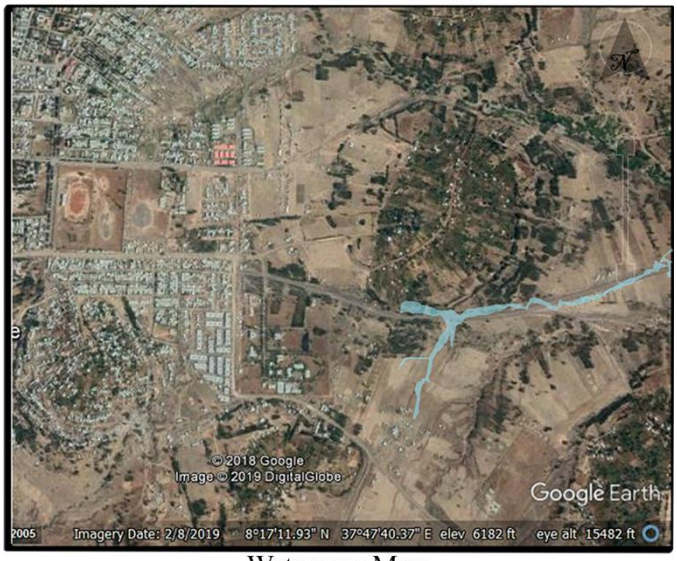
Green Map

Road Network Map



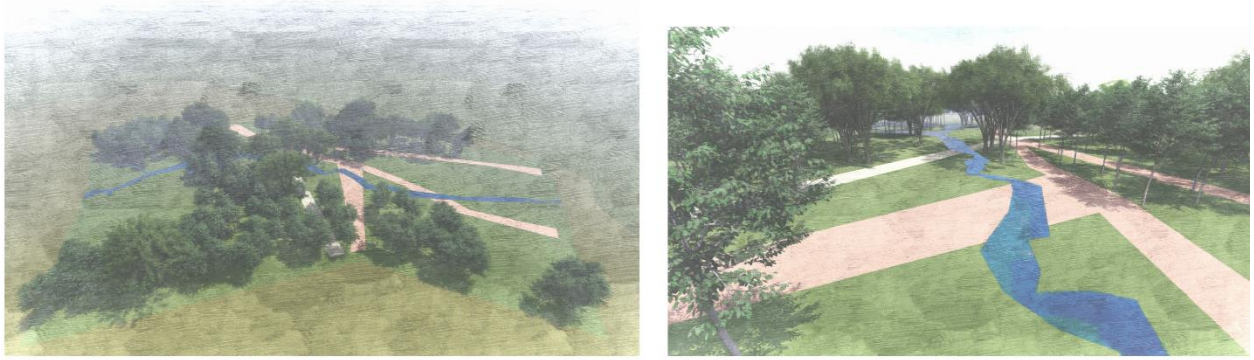
Morphology Map

Landuse Map



Waterway Map

Contour Map

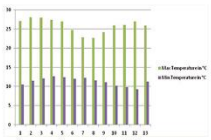


Existing 3D View

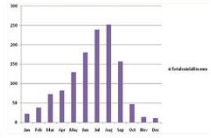
SOIL TYPE

The site has a varity of soil types ranging from red clay soil to dark clayey soil and black cotton soil which is found abundantly in the site.

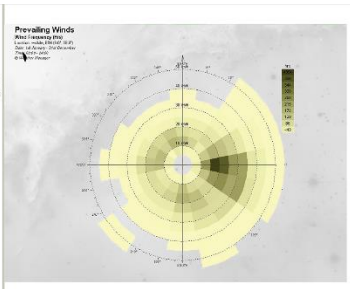
CLIMATE

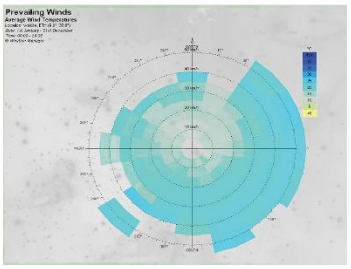


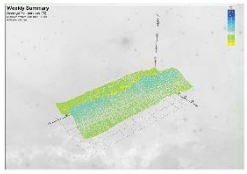
Average Temperature (C)

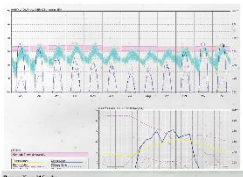


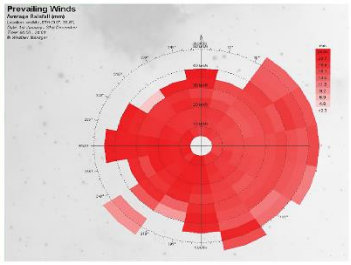
Average Rainfall (mm)

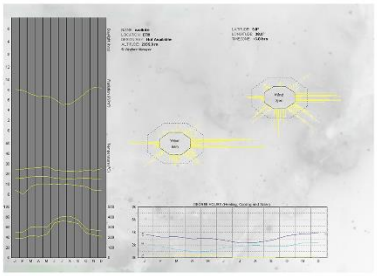


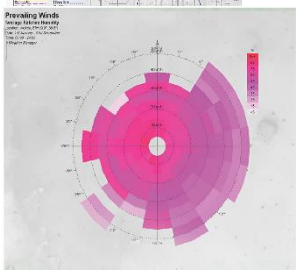


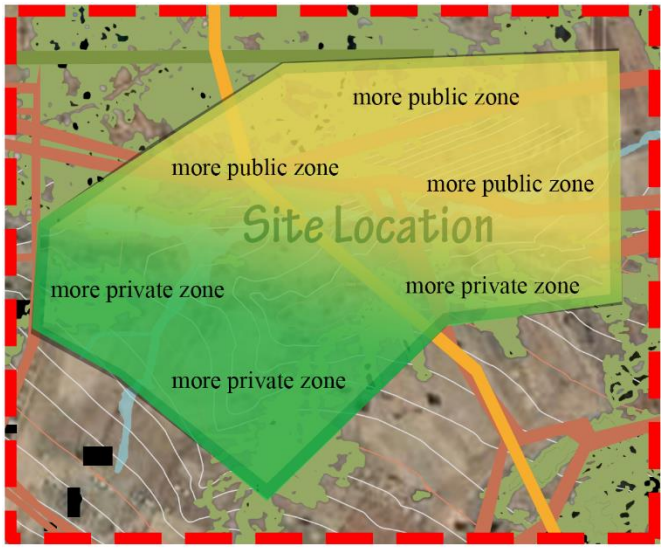




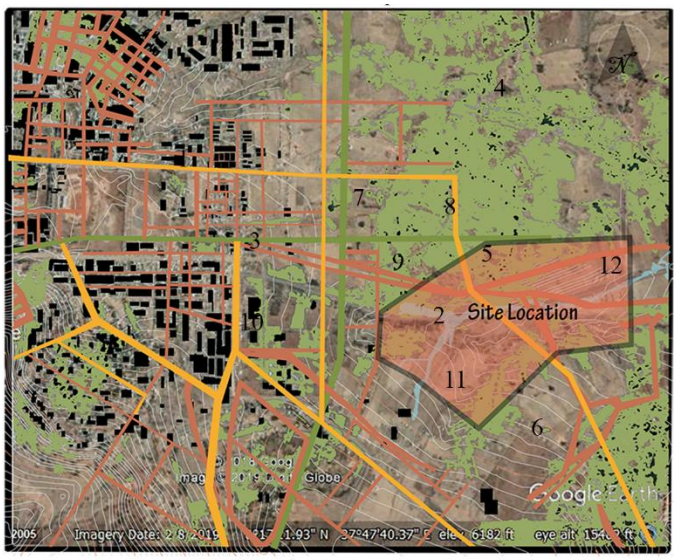








zoning



Overlay map

1

2

3

7

8

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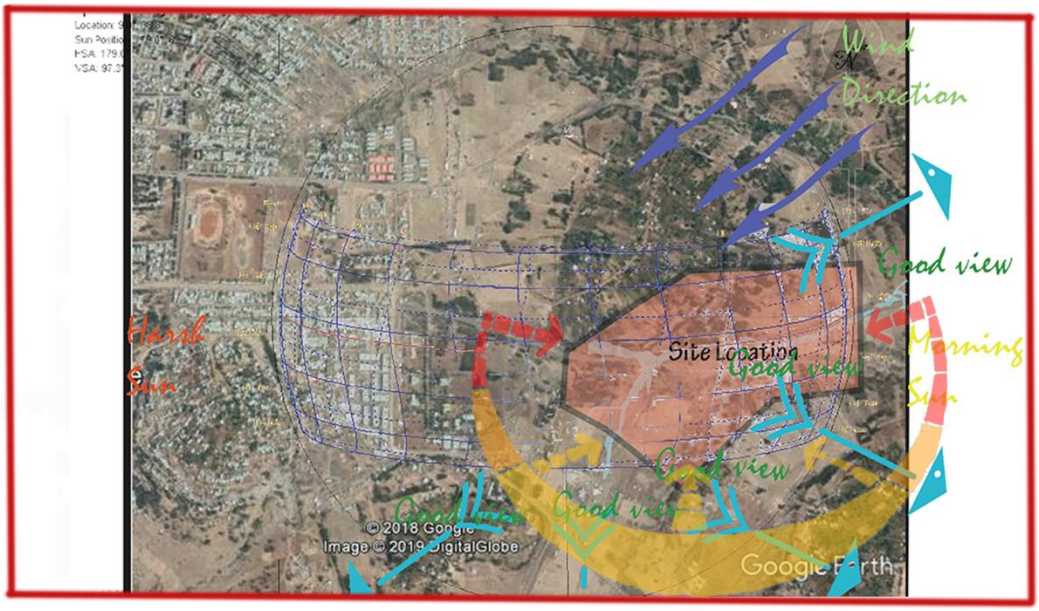


Sun Path Analysis

Fig 4.1. Site Analysis Diagrams

4.2 Socio-political

*The one block radius contains different type of people from all sector of the society students, teachers, residents, farmers, ...

*So the town needs a public realm which all members of society can interact, interchange idea at the same time recreate.

*The site is a strategic location for future leisure area.

4.3. Feasibility Study

*The existing site condition.

-potential of site in different aspect vegetation, road, strategic site for leisure in urban plan

-water and vegetation

4.4 Need Assessment

*As the research is conducted through questionnaires' and case studies the researcher have analyzed the need or requirement of a well-designed leisure space which corresponds to different context Especially to the people identity and site context.

4.5. Major Problems

*Not well planned landscape

*The river is drying up

*Even though the area is a strategic for waterfront leisure place there is lack of any.

4.6. Data collected from questioners

1.What is your favorite outdoor activity?

-Walking-25%

-socializing-30%

-playing and exercise-30%

-Personal activities-15%

2Why is this activity your favorite activity?

○ to do something with my friends or family-30%

○ for fun and enjoyment-30%

○ for exercise or fitness-30%

○ to be outside-9%

○ Other (please write out)-1%

3. Who do you do this activity with?

○ Alone (yourself)-15%

○ Immediate family (parents, brothers, sisters)-30%

○ Extended family (grandparents, aunts, uncles, cousins)-30%

○ Friends-20%

○ Other (write what other people)-5%

4. Where do you most often do this activity? (please fill in only ONE circle)

○ My yard-20%

○ My school-20%

○ Other area in my neighborhood-40%

○ Other area outside of my neighborhood, but within my town/city-15%

○ outside my town/city-5%

5. How do you usually get to your favorite outdoor activity? (Please fill in only ONE circle)

○ I walk-40%

○ I ride a bike-30%

○ I take transportation-30%

○ Other _____

6.Activity: Reasons you did or did not participate:

○ Connect with the past -75%

Reasons you did:

Reasons you did not:

○ Play in safe place -90%

Reasons you did:

Reasons you did not:

○ Camp under the stars -20%

Reasons you did:

Reasons you did not:

○ Explore nature -60%

Reasons you did:

Reasons you did not:

○ Learn to swim -60%

Reasons you did:

Reasons you did not:

○ Follow a trail –95%

Reasons you did:

Reasons you did not:

○ Go fishing -15%

Reasons you did:

Reasons you did not:

○ Go boating -5%

Reasons you did:

Reasons you did not:

○ Ride a bike-90%

Reasons you did:

Reasons you did not:

○ Plant a seed-85%

Reasons you did:

Reasons you did not:

7. What could be done that would help you to participate in outdoor activities more often?

Please select ONE of the following actions:

○ Provide areas for these activities that are just for people of my age-30%

○ Provide equipment (like sports equipment, playground equipment)-20%

○ Provide more leisure areas closer to my home (sports fields, skateboard parks, open space areas, trails)-20%

○ Provide safer ways to get to leisure areas close to my home-10%

○ Provide transportation to leisure areas and activities-5%

○ Provide instruction or lessons-5%

○ Improve the feeling of safety in parks I'd like to use-10%

Other: _____

8.From the following list, please check ALL the potential programming spaces you and members of your household would use.

More of these facilities? Yes, or No

(1) Youth soccer fields .....Yes -30% No -70%

(2) tennis courts .....Yes -70% No -30%

(3) Children's playgrounds .....Yes-80% No -20%

(4) Outdoor swimming pools/water parks….. Yes-90% No -10%

(5) Skateboarding park.....Yes-45% No -55%

(6) Walking and biking trails .....Yes. -90% No -10

(7) Picnic facilities/shelters.....Yes. -80% No -20%

(8) Golf courses.....Yes. -55% No -45%

(9) Equestrian trails (horse Riding) .....Yes-45% No -55%

(10) Fishing areas.....Yes. -30% No -70%

(11) Boating areas .....Yes-.50%No -50%

(12) Overnight camping facilities .....Yes-60% No -40%

(13) Before and after school programs.....Yes. -30% No -70%

(14) Youth outdoor camp programs.....Yes. -60% No -40%

(15) Martial arts programs .....Yes-60% No --40%

(16) Fitness and wellness programs .....Yes-70% No -30%

(17) Water fitness programs.....Yes. -30% No -70%

(18) art, dance, performing arts.....Yes-30% No -70%

(19) Senior adult's programs .....Yes. -55% No -45%

(20) Community special events.....Yes. -60% No -44%

(21) Warm water area for therapeutic purposes ……. Yes.10%No-90%

(22) Space for meetings, birthday parties, etc. .... Yes. -70% No -30%

(23) Rock climbing/bouldering wall .....Yes. -70% No-30%

(24) pool play.....Yes. -90% No-10%

(25) Temporary personal spaces.....Yes. -80% No-20%

(26) Reading Spaces.....Yes. -70% No-30%

9. Comments or Suggestions:

_____

_____

10. Are you? ○ Girl (female) ○ Boy (male)

11. What is your age? _____

4.7. Site selection criteria

*Perimeter = 442m
*860 different trees on the site
*5min from main road by walking
*Existing river water volumetric capacity 2100m3.

*Land use near the site development is Residence services-school.... mixed use commercial
*Existing good vegetation and soil type
*Potential of waterfront leisure
*Topography-comfortable for leisure space
*Overlay map potential and opportunities
*Good weather and climate condition
*primary, secondary, and commuter streets
available 6min walk 2 from city main road.

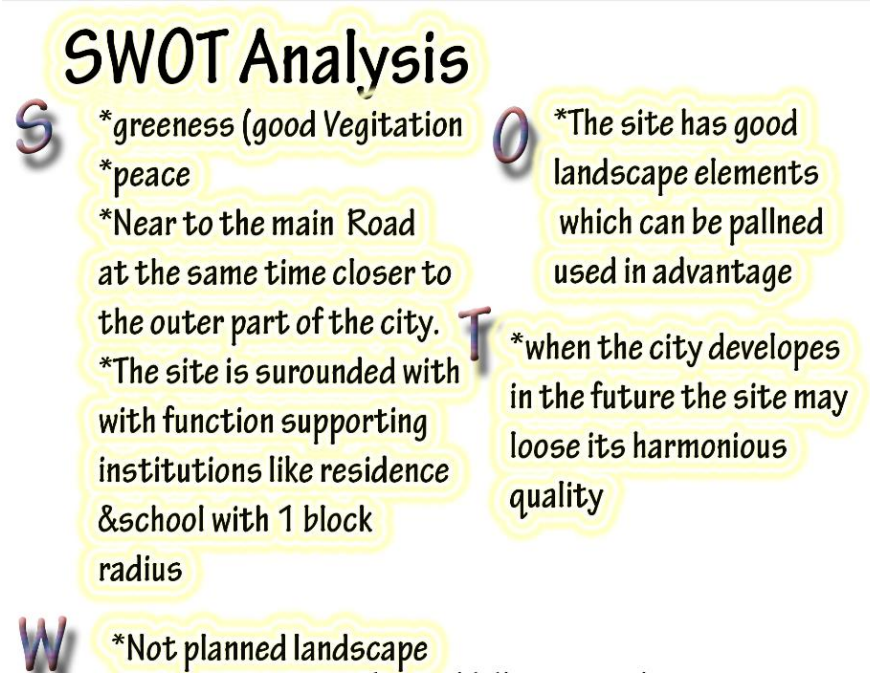


Fig 4.7. SWOT Analysis

4.8. Program Development

- Administrative Offices

•Toilets

•Café and Restaurants

•Tennis courts

• Children's playgrounds

-dinning space

-kitchen

-Storage

• Outdoor swimming pools/water parks

• Walking and biking trails

• Picnic facilities/shelters

• Overnight camping facilities

• Youth outdoor camp programs

• Martial arts programs

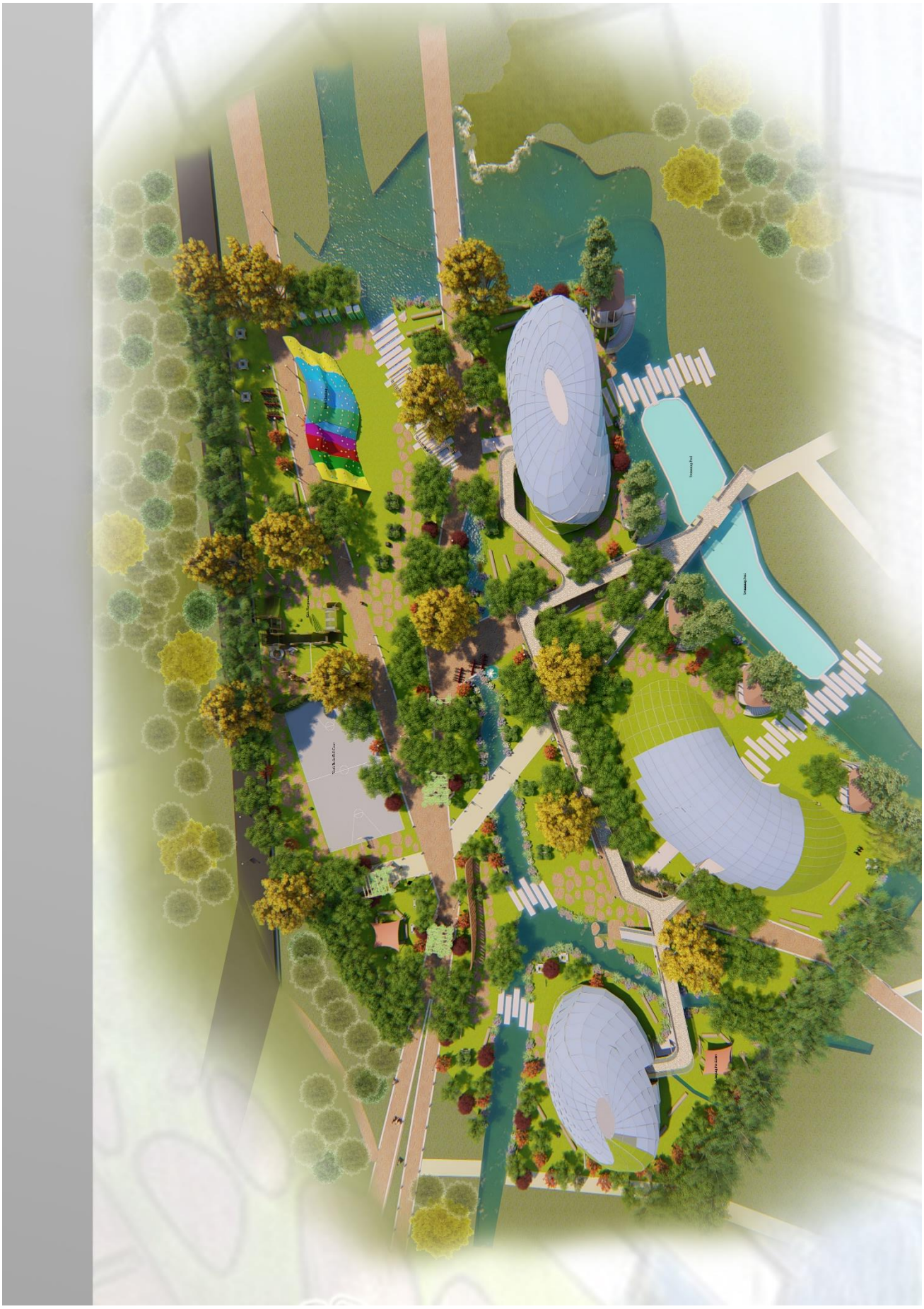
• Fitness and wellness programs

• Senior adults' programs

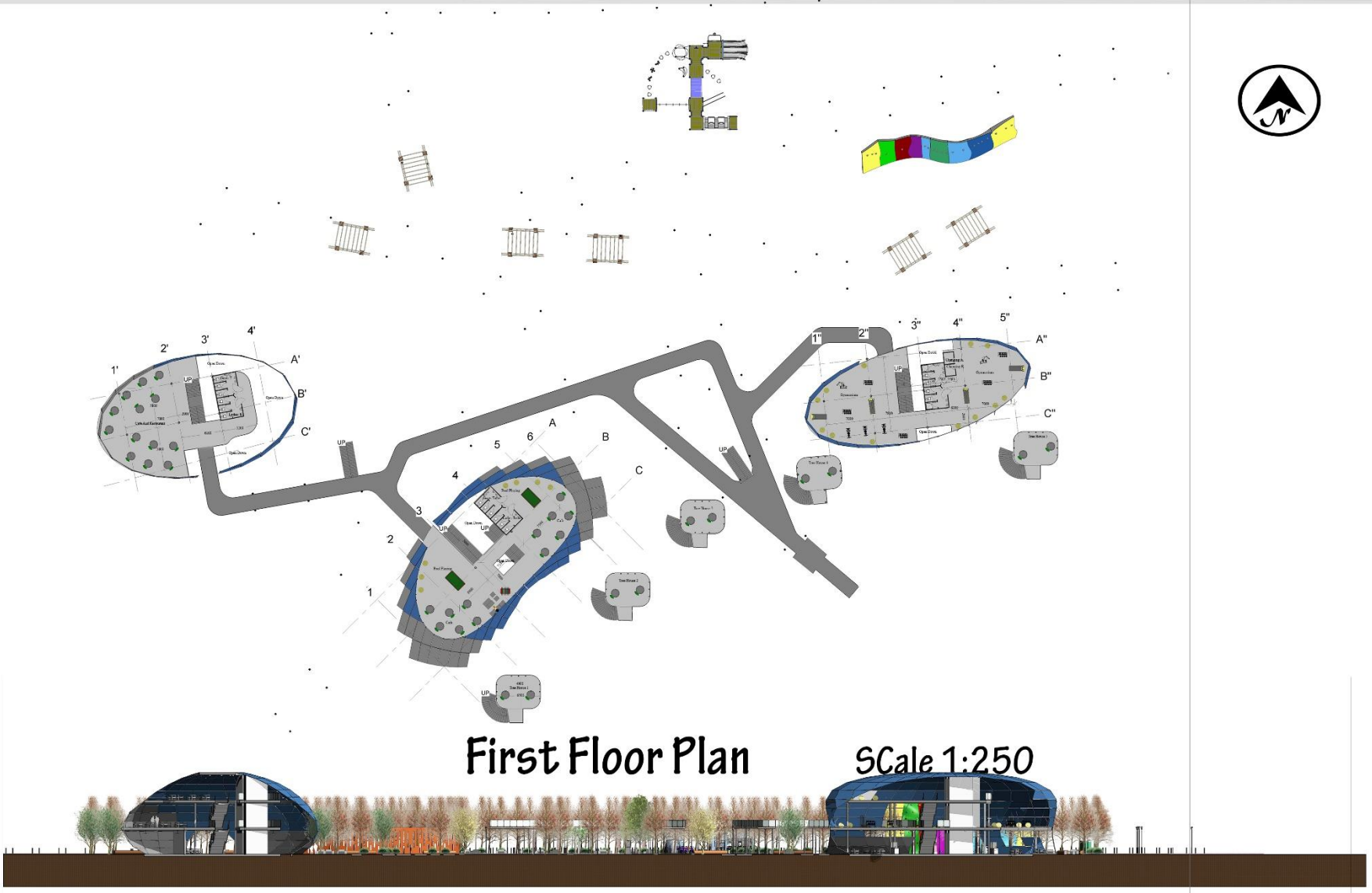
• Community special events

• Space for meetings, birthday parties, etc.

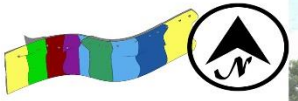
- Rock climbing/bouldering wall
- pool play
- Temporary personal spaces
- Reading Spaces

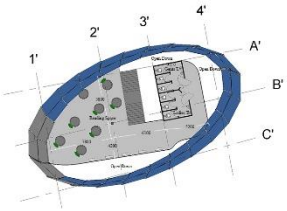


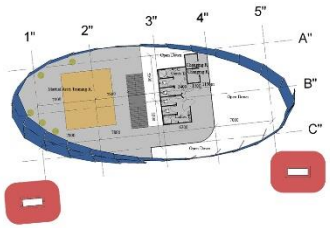

Ground Floor Plan
Scale 1:250

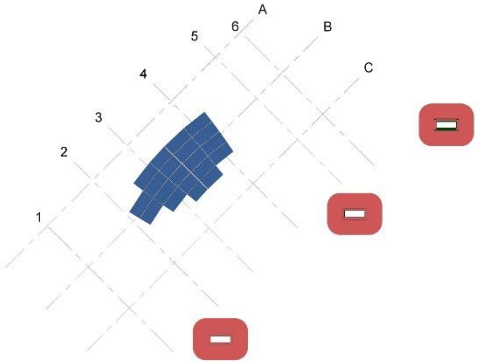


First Floor Plan SCale 1:250

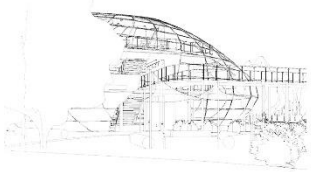


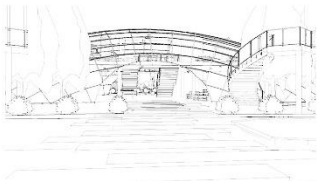


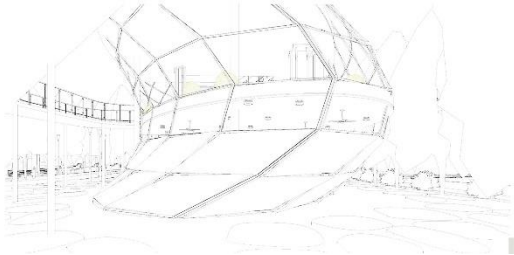




Second Floor Plan Scale 1:250







East Elevation Scale 1:250

North Elevation Scale 1:250

Section 1

Section

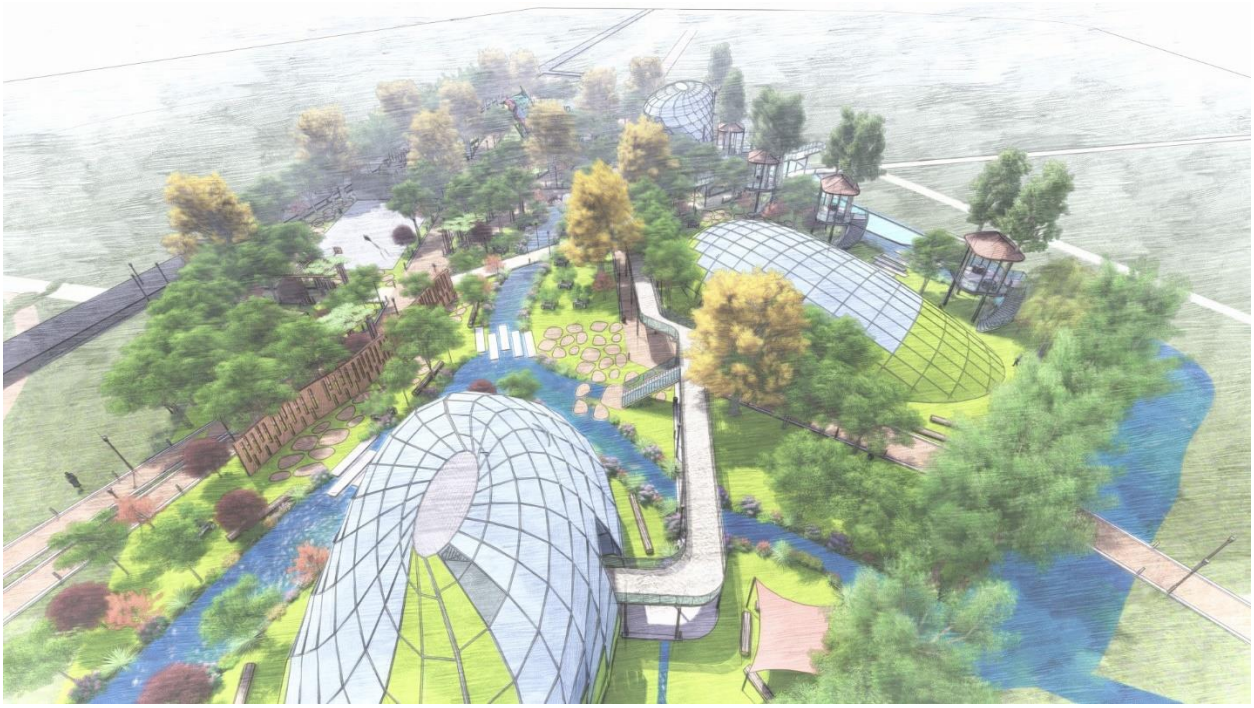
Scale 1:250

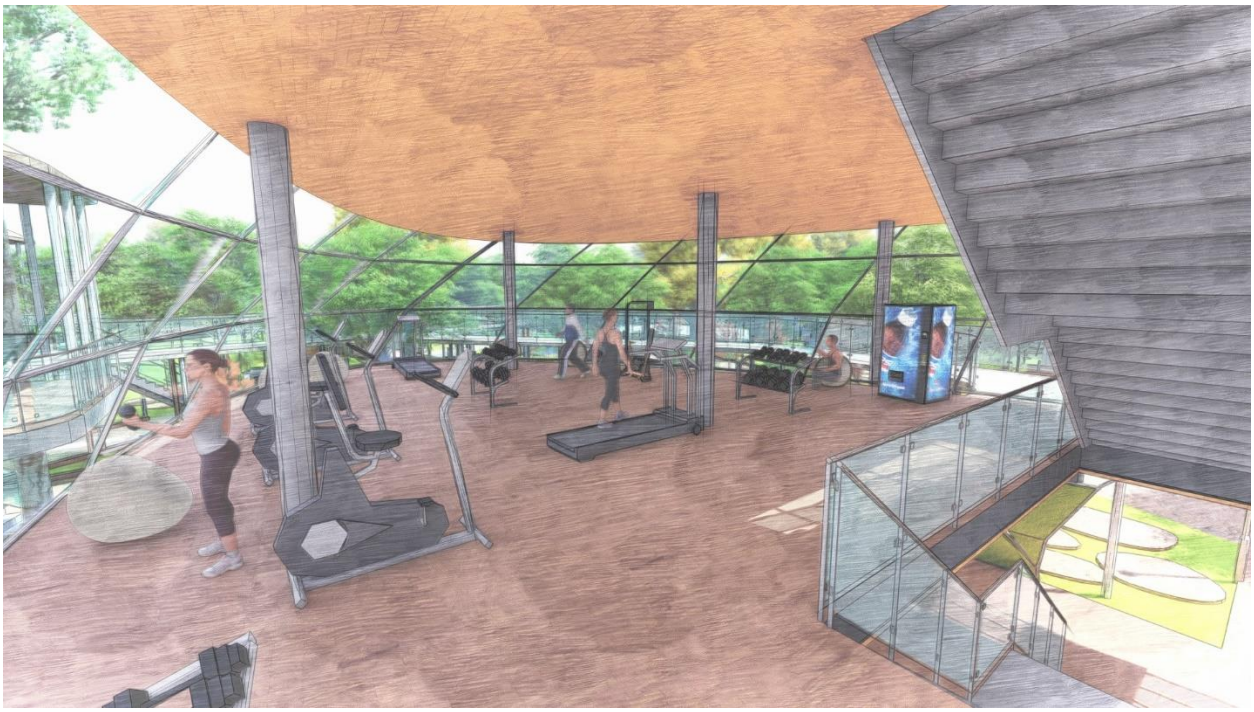
South Elevation

Scale 1:250

West Elevation

Scale 1:250





CHAPTER FIVE

Conclusion and Recommendation

5.1. Conclusion

From the researchers reading on literatures and studying some international case studies on leisure space, the researcher recommended the following points.

- ✓ The existing natural eco-system and environmental balance should be given significant consideration and preservation techniques.
- ✓ For instance, preserving the flora population, existing human trails, Stream restoration or river restoration …
- ✓ Since the design is for the user according to the findings of the research understanding the need of the people architecturally.
- ✓ As in case of 'Geraba' neighborhood even in most of in the country level (Ethiopia), most people review is as a result of lack of pre-provided conditions and spaces; for instance, pupil mostly don't have the experience of camping, hiking, camping under the stars….
- ✓ So a conscious planning and designing of these spaces is crucial for quality of life and for every one's wellbeing.
- ✓ The leisure enclosed spaces and shades should as much as possible connect with the outdoor leisure spaces visually and physically; celebrating both concepts of organic architecture and sustainable architecture.
- ✓ The planning and design should be according to different contexts;
- ✓ For instance, site context, peoples need, concept, literature review, case studies, theories (organic architecture, sustainable architecture), professional touch.
- ✓ In the design the main problems which the researcher found on the data collection time has been addressed
- ✓ Different spatial and place qualities for leisure program have been addressed.
- ✓ Many of of the open space and public realm lack programs for comfort needs; such as toilet, shades … have been given strong consideration.

- ✓ Administration office for controlling of the efficient performance of the architectural space have been considered.
- ✓ The spaces have been considered on different criteria's as indicated on the research paper yet again zoning of site and the need of residents of Geraba according to different age groups have been given emphasis.
- ✓ Different spatial qualities for wellbeing of mental, physical, social, state of the residents has been considered.
- ✓ The solution for urbanism; organic architecture has been given a huge consideration….
- ✓ Economic significance for the neighborhood….
- ✓ In a addition to the attractive outdoor activities indoor activities which highly integrate to the outdoor have been provided; Café and restaurant, indoor games, reading spaces, fast foods….

5.2. Recommendation

The researcher would like to recommend the following point,

- The researcher believe it would be more informative to have an easy access of earlier research document by instructors and earlier students.
- The researcher is highly grateful to his advisor's continuous support which he believes could be a knowledge as an asset in his future works.
- The researcher believe the idea of leisure space is a crucial topic for a certain society especially for developing countries like Ethiopia. And further researching would be important.
- In Wolkite University architecture school one of the most useful ways the research thinks he has obtained knowledge is the continuous and scholastic interactions with his instructors. As a result, the researcher believe it is essential to keep and advance this wonderful culture in the institution.

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