

# **REHABILITATION CENTER FOR SUBSTANCE ABUSE**

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**ABSTRACT**

**APON asokti punorbation kendro** was founded October 1st, 1994 by Brother Ronald Drahozal, CSC (conspicuous service cross ). APON was established his rehabilitation center at Manikganj where it was named as Apon Ga. A village with in a village.

There are a large number of rehabilitation centers in our country. These center are not well equipped and do not provide the main services required for rehabilitation. Most of them are dedox and operate outside the concept of a proper rehabilitation program. This paper describes the reason to being to use /abuse drugs, some of there effects and different modes of taking drugs to found out the proper rehabilitation process that can help drug addicts recover in a healthy environment.

APON needed a site out side from the urban life, detouch from the urban noise because a proper rehabilitation process was depended on natural environment far from the society. A proper treatment center should provide well and healthy environment. So, site at Manikganj is appropriate for an rehabilitation center. The site is surrounded by cultivating land.

Over the years, the problem of drug addiction is increasing day by day. Now a day it is a mental disease. Because the substance taken by the body directly or indirectly effects our CNS (Central Nerves System). It is a disease like Diabetics, which we cannot cure but it will be possible to control to stay off from drug by the proper treatment program. In our country there are only 6% to 8% addicted can be taken the opportunely to get the proper treatment support. This paper deals with the drug addiction treatment program. The main objective is to find out the rehabilitation process for drug addict.

In medical terminology, **addiction** is a state in which the body relies on a substance for normal functioning and develops physical dependence. When this substance is suddenly removed, it ill cause withdrawal, a characteristic set of signs and symptoms. Addiction is generally associated with increased drug tolerance. In medical terms, addiction is not necessarily associated with substance abuse since addiction can result from using medicine as prescribed by a doctor. Drug addiction is a complex brain disease. It is characterized by compulsive, at times uncontrollable, drug craving, seeking, and use that persist even in the face of extremely egative consequences.<sup>[1]</sup>

## ACKNOWLEDGEMENT

[1]\_\_\_drug addiction treatment

[http://en.wikipedia.org/wiki/Drug\\_addiction#Treatment](http://en.wikipedia.org/wiki/Drug_addiction#Treatment) , accessed on 01.07.2008

[2]\_\_\_Barbara Milbauer. Drug abuse and addiction: a fact book for parents, teenagers, and young adults. Published by Crown Publishers, 1970

[3]\_\_\_Department of Narcotic Control, Ministry of Home Affairs, 71-72, O.d. Elephant Road,[Eskaton Garden], Ramna, Dhaka

<http://www.dnc.gov.bd/>, accessed on 03.7.2008

[4]\_\_\_H. Westley Clark, M.D., J.D., M.P.H., CAS, FASAM, 1998: National Conference on Drug Addiction Treatment: From Research To Practice  
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[6]\_\_\_NIDA [National Institute on Drug Abuse], the Science of Drug Abuse and Addiction

<http://www.nida.nih.gov/PODAT/PODAT1.html>, accessed on 25.06.2008

[7]\_\_\_Ashokti Punorbason Nibash [APON], prospectus

<http://www.aponbd.org/>, accessed on 02.07.2008, Site visit at 02.07.2008

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## **LIST OF ABROVIATION**

APON asokti punorbation kendro

CSC Conspicuous Service Cross

NA Narcotic Anonymous

TC Theraputical Community

SB Sober Living

AA Alcoholic Anonymous

IDU Injecting Drug User

HIV Human immunodeficiency Virus

OT Occupational Therapy

PT Physical Therapy

VOC Vocational

SA Social Adjustment

# REHABILITATION CENTER FOR SUBSTANCE ABUSE

## CHAPTER 01

### 1. BACKGROUND OF THE PROJECT:

**APON asokti punorbation kendro** was founded October 1st, 1994 by Brother Ronald Drahozal, CSC (conspicuous service cross). Then he was still the Director of the first Drug Rehabilitation Center started in Bangladesh. He was the Founding Director of that Center, July 1988-95. Brother Ronald came to Dhaka from America in 1962 as a teacher, and has remained ever since. Over the subsequent 38 years he increasingly became involved in more youth work and its associated issues/activities leading to drug rehabilitation in the 1980's.

APON was started with one recovered addict as a Halfway House for aftercare services for those addicts who had finished basic treatment at the first center (mentioned above), but still felt the need for a supportive safe residence while they continued their education or began to work outside. Because of the increasing demand for basic addiction treatment in Bangladesh at the time and the reputation and experience of APON's director, many people started coming to APON for admission into a basic treatment and rehabilitation program. As the need increased, more and more of the residents were admitted for primary treatment. In time this became the main service provided by APON.

### 1.1 KEY ASPECT OF THE PROJECT:

Designed a complex for the recovering addict in the surrounded area of the center. The main focus of project is the development of better standards of living, both material and eternal. The main key aspect of the project is the internal clinical environment has been transformed into a fresh, inviting space which will contribute to the patients' rehabilitation and recovery. To provide a better rehabilitation process Apon focus on the following objectives.

- To provide drug dependency treatment and rehabilitation services and make it readily available and accessible for the users.
- To disseminate information on drug addiction, treatment and rehabilitation, STI, HIV/AIDS, Hepatitis B, C and other drug related harms through
  - IEC material and awareness program.
  - Outreach Activities and Peer Led Intervention.



- To provide basic education, skill training and other relevant knowledge for employment of the recovering drug users.
- To provide aftercare and follow up services for the recovering drug users.
- To advocate in the National Level to establish the legal rights of the drug addicts for treatment services as mentioned in the Narcotics Control Act – 1990.

## **1.2 REASONS FOR CHOOSING SITE:**

APON was established his rehabilitation center at Manikganj where it was named as Apon Ga. A village with in a village. The site is surrounded by cultivating land. APON needed a site out side from the urban life, detouch from the urban noise because a proper rehabilitation process was depended on natural environment far from the society. A proper treatment center should provide well and healthy environment. So, site at Manikganj is appropriate for an rehabilitation center.

## **1.3 REASON FOR CHOOSING PROGRAM:**

APON believes that treatment must be readily available what ever the addict's means. No addict has ever been away from APON's door due to financial problems. The duration of the treatment and rehabilitation program is six and half months. APON continues the program in a combined approach of the Therapeutic Community (TC) and 12 Step Narcotics Anonymous Program. APON's are worked through the following major programs and activities.

### **Demand Reduction<sup>[7]</sup>**

- Residential Treatment and Rehabilitation for male and female
- Awareness program on drug related harm, STI and HIV
- Aftercare and Relapse Prevention

### **Risk Reduction<sup>[7]</sup>**

- Primary Health Care
- Community Based Detoxification Camp
- STI and HIV Testing

### **Outreach Program<sup>[7]</sup>**

- Outreach for Female Drug Users
- Outreach for Male Drug Users
- Outreach for Children

**Children Program<sup>[7]</sup>****Research and Advocacy<sup>[7]</sup>**

<b>programs</b>	<b>activity</b>
Services at the treatment center for male	<p>Detoxification by using non prescription medicine.</p> <p>Client assessment</p> <p>Treatment services for dependents and regular users.</p> <p>Basic education.</p> <p>Skill training.</p> <p>Peer counseling and group therapy.</p> <p>Behavior change program to stay off drugs.</p> <p>Behavior change program to prevent STI, HIV and Hepatitis B,C.</p> <p>Spiritual development.</p> <p>Skill training.</p>
Services at the treatment center for female	<p>Home based detoxification.</p> <p>Community based detoxification .</p> <p>Short term(in-patient) detoxification.</p> <p>Long term treatment and rehabilitation.</p> <p>Group sessions on addiction and staying sober.</p> <p>Individual and group counseling.</p> <p>Family counseling.</p> <p>Relapse prevention.</p> <p>Adult literacy.</p> <p>Support for family reintegration.</p> <p>Skill training.</p>
Services at the treatment center for children	<p>Treatment services for dependents and regular users.</p> <p>Basic education.</p> <p>Skill training.</p> <p>Peer counseling and group therapy.</p> <p>Behavior change program to stay off drugs.</p>

	<p>Behavior change program to prevent STI, HIV and Hepatitis B,C.</p> <p>Spiritual development.</p> <p>Skill training.</p>
Services at the medical center	<p>General medical treatment for the villagers.</p> <p>Medical care.</p> <p>Mental health care.</p> <p>Information for family planning services.</p> <p>Maternal and child health.</p> <p>Parenting skills.</p>
Services at the vocational training center	<p>Wooden work</p> <p>Electrical work</p> <p>Sewing</p>

Table 01: Program and activity

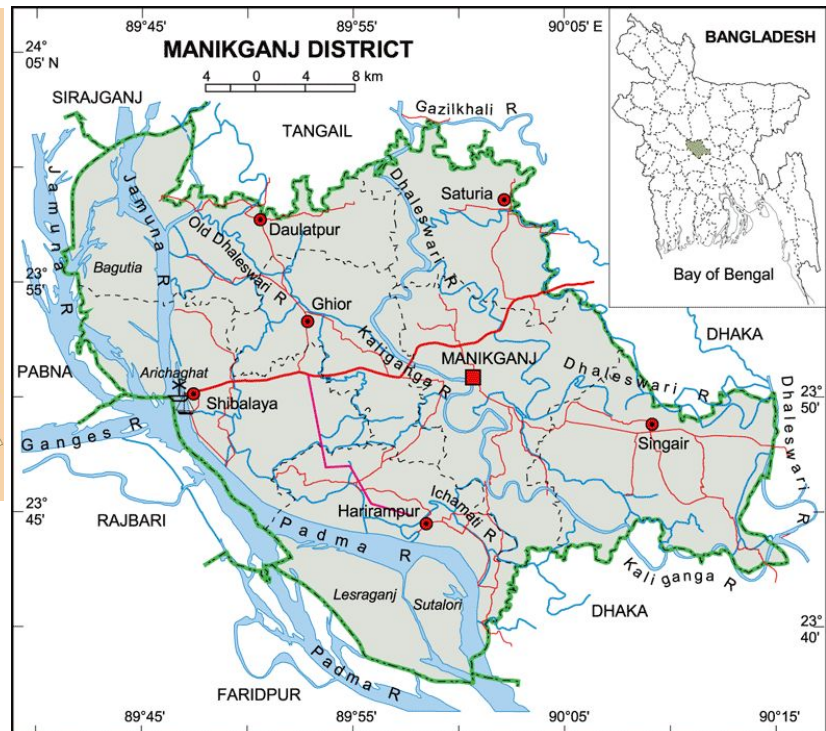
## CHAPTER 02

### 2. SITE APPRAISAL:

#### 2.1 LOCATION MAP:



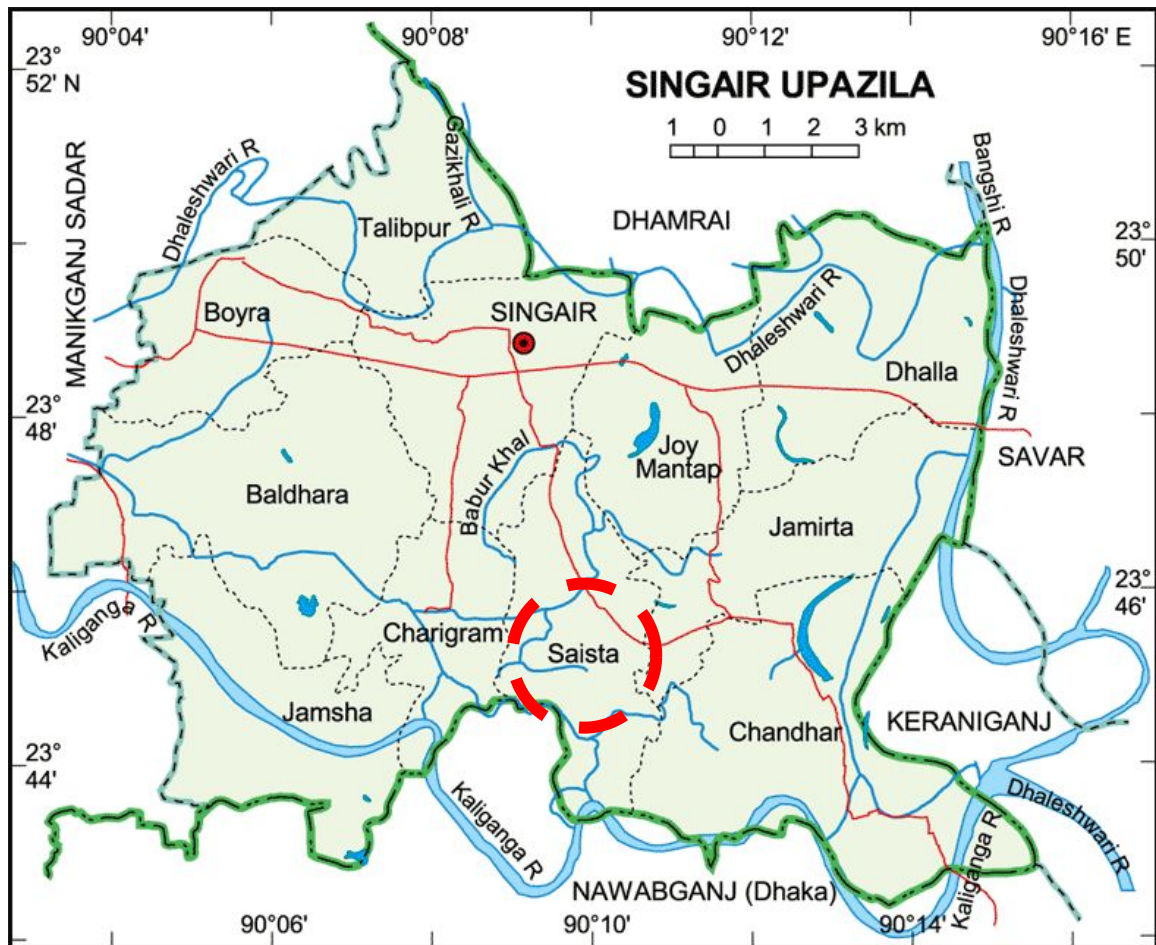
Map 01: location of Manikganj district at Bangladesh.



Map 02: Manikganj district map locating Singair district

#### Geography:

Manikganj is a district in Dhaka Division. It comprises an area of 1,378.99 km<sup>2</sup> (532.43 sq mi), bounded by Tangail District on the north, Dhaka District on the east, Faridpur and Dhaka districts on the south, the Padma, Jamuna and the districts of Pabna and Rajbari on the west. Annual temperature is a maximum up to 36°C and minimum to 12.7°C and the annual rainfall is 2,376 mm (93.5 in). Main rivers are the Padma, Jamuna, Dhaleshwari, Ichamati and Kaliganga. An extensive area of the district especially riverine area of the upazilas of Harirampur, Shivalaya and Daulatpur becomes victim to riverbank erosion every year.



Map 03: Singair upazila locating the site.

**APON asokti punorbashon kendro**

**Location:** Saista, Singair, Manikganj

**Organization/Client:** APON

**Site area:** 4.25 Acres

**Built area:** 185141.25 sft

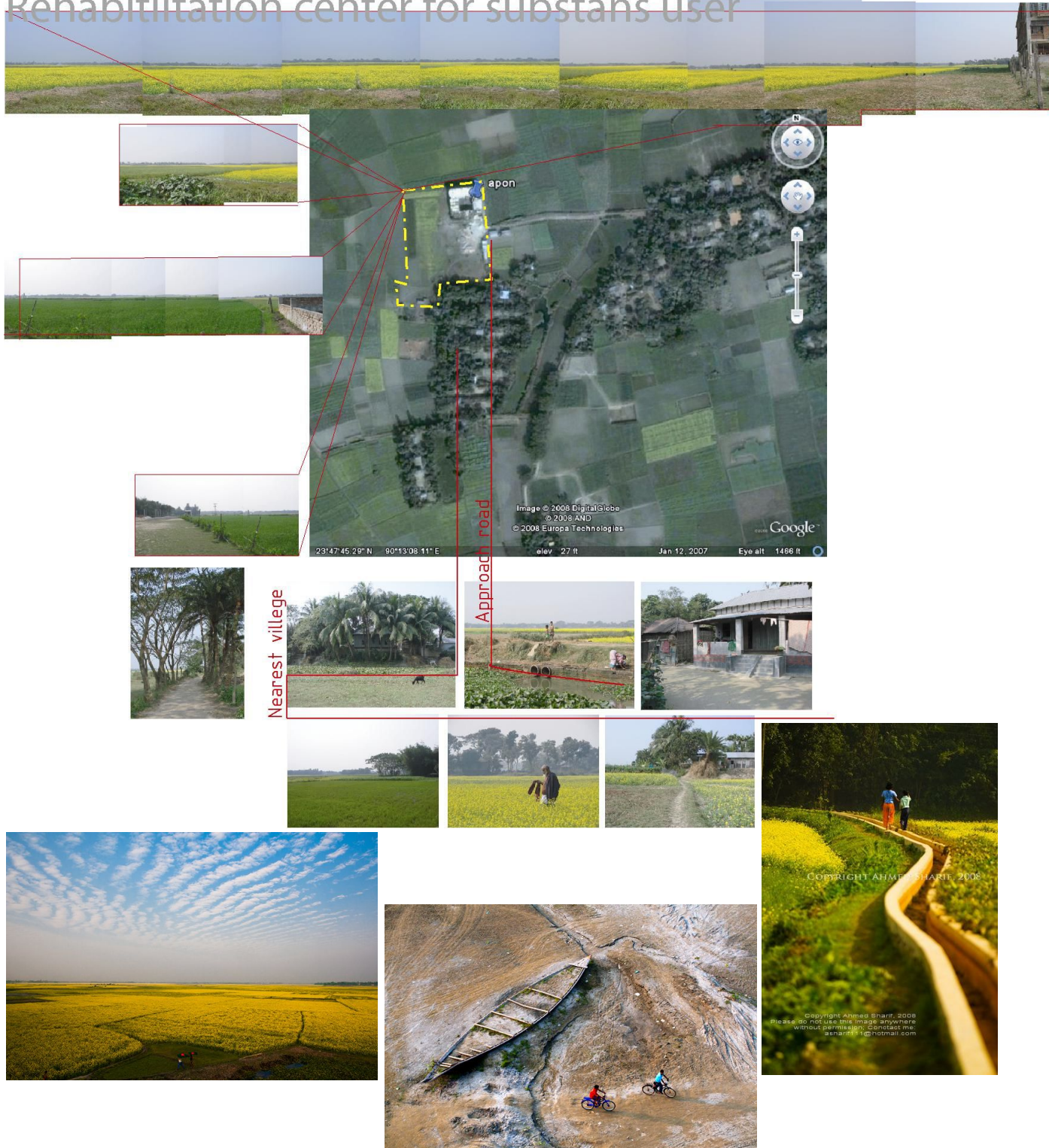
**Land Ownership:** APON

**Building Type:** Rehabilitation center

## 2.2 EXISTING SITE AND SURROUNDINGS:

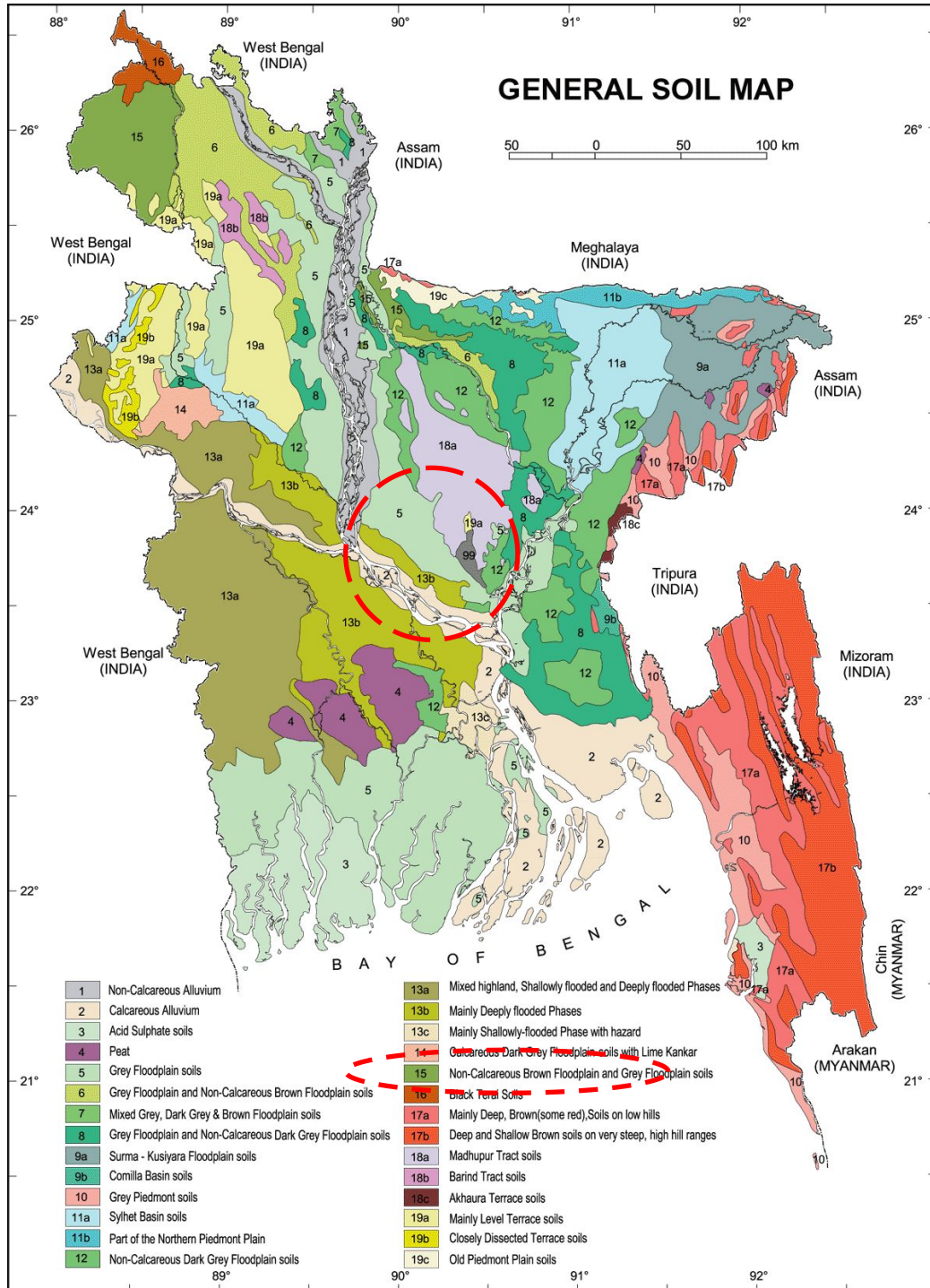
Existing site is surrounded by cultivated land.

### Rehabilitation center for substans user



### 2.3 PHYSICAL CONDITION:

Soil condition\_ flat land and good soil condition



Map 04: soil condition all over the Bangladesh

## Land

Cultivated fertiled land

This kinds of soil are made some upper UP, lower L, medium lower ML, settlements in this land. Settlements are mostly flat land. The site is situated in this kind of upper settlement.

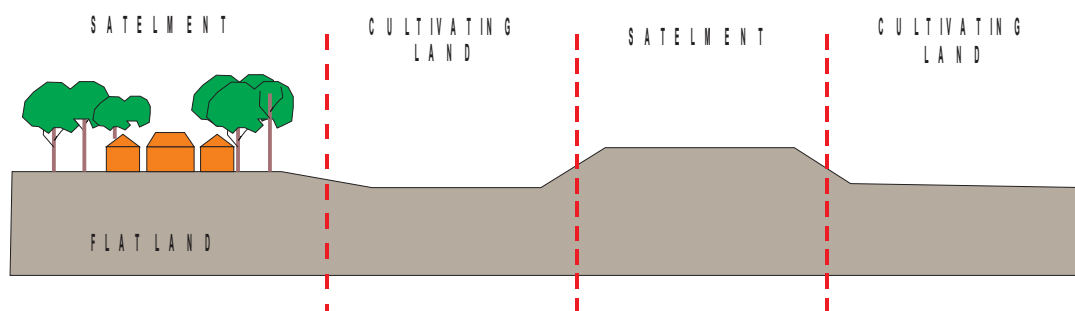


Fig 01: site section\_land use and topography



Image 01: topography of the surrounding sites



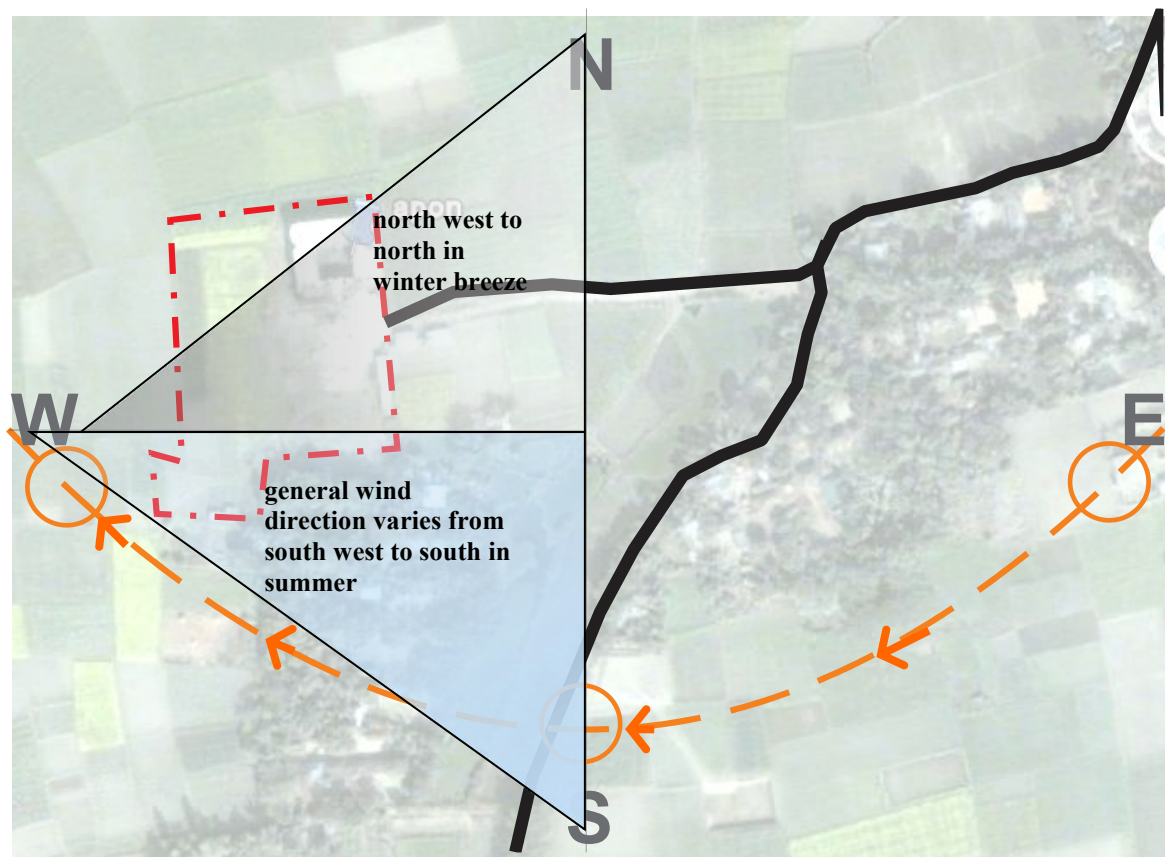


Fig 02: Noise, Wind Flow and Access  
Surround by rural area, there is no noise

**Services\_** “Polli Bidduth” for electricity and also generator

Tube well, pond for water

Wood is mainly used, other fuel for cooking

Drainage sewerage line runs within the site

**Tress**

Supari, Coconut, Tal, Koroi, Mango, Jam, Jackfruit , Banana, Bamboo, Radhachura, Paypay, Shajna, Joba, Mudhumonjury, Banganbilash, Rongon, Nontara, Krishnochura, Shal.

**Vegetation**

ample vegetation throughout the site

**2.4 PHOTOGRAPHS:**



Image01: Dalashowri river



Image02: kaligonga river



Image03: cultivating land



Image04: approach road



Image05: approach road



Image06: roadside cultivating land



Image07: settlement



image08:through the settlement



Image09: through settlement



Image10:through settlement

Image11: settlement

Image12: settlement

Image13: site surrounding

Image14: site surrounding



Image15: site surrounding



Image16: site surrounding



Image17: building material\_R.C.C



Image18: high plinth level



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Image19: building



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Image21: space for work courtyard

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Image24: nearest villege



Image25:kacha pathway through the villege



Image26,27:use local mud for building work



Image28:use local mud for building work Image29:local material using for construction



Image30: entrance road to the site



Image31: Manikganj

## 2.5 FUNCTIONAL DEVELOPMENT:

development 01.

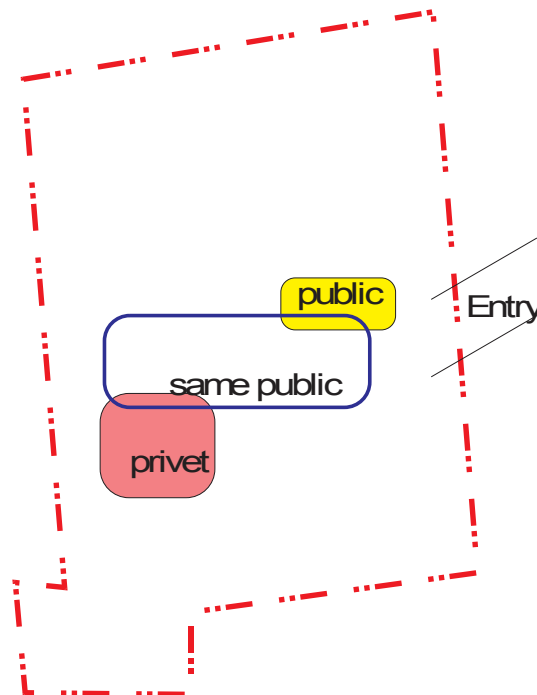


Fig 03: zoning of space

development 02.

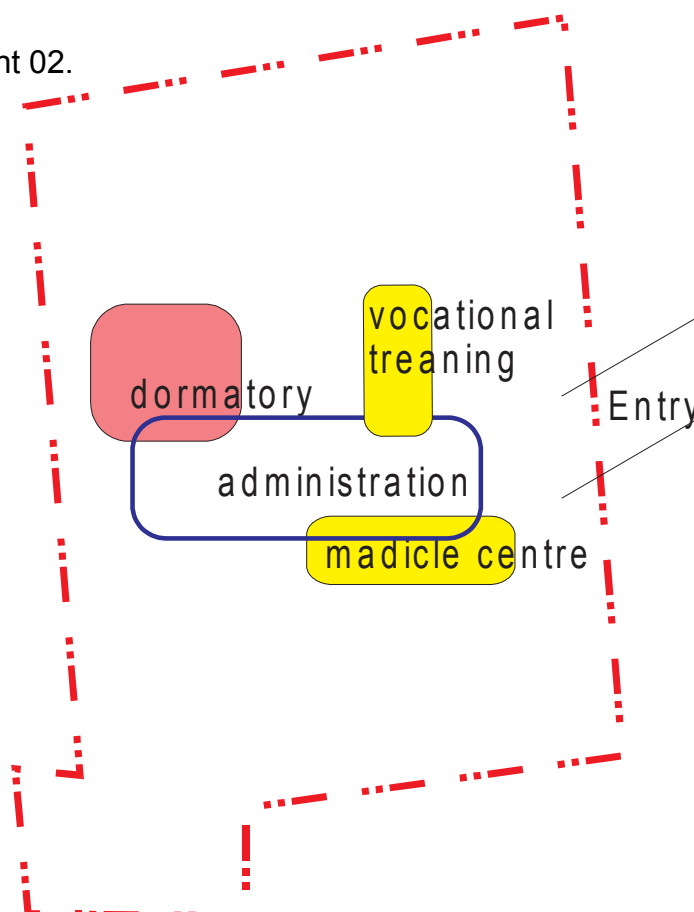
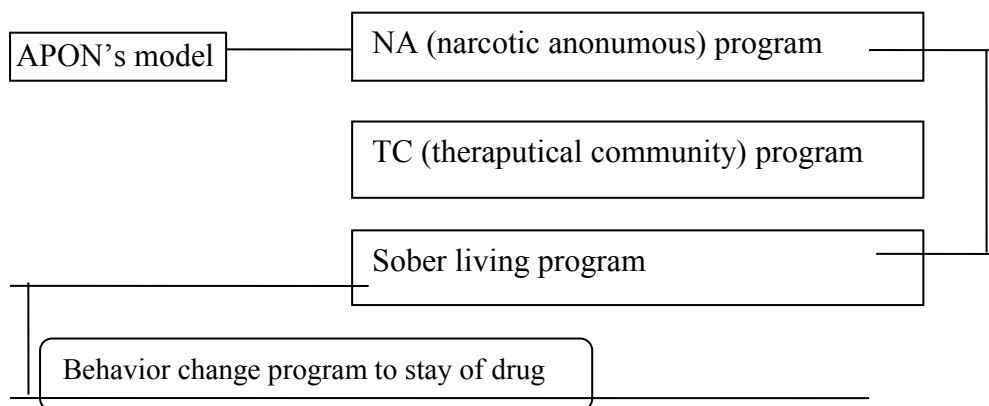


Fig 04: functional space zoning

## CHAPTER 03

### 3. LITERATURE REVIEW:

APON is a rehabilitation treatment center in Bangladesh. Its well serve treatment program is mainly biased on a multi disciplinary model. In multi disciplinary model many types of treatment process for the drug/substance addict are served together.



NA program: is mainly a philosophical program, which gaited an addict to improved their spiritual development.

TC program: is mainly a program which help an addict to improved their physical development.

Sober living program: in this program an addict learn about a better living with their society and their family. It helps an addict to improved their communication skill.

#### 3.1 PRINCIPLE OF EFFECTIVE TREATMENT: <sup>[5]</sup>

- **No single treatment is appropriate for all individuals.** Matching treatment settings, interventions, and services to each individual's particular problems and needs is critical to his or her ultimate success in returning to productive functioning in the family, workplace, and society.
- **Treatment needs to be readily available.** Because individuals who are addicted to drugs may be uncertain about entering treatment, taking advantage of opportunities when they are ready for treatment is crucial. Potential treatment applicants can be lost if treatment is not immediately available or is not readily accessible.
- **Effective treatment attends to multiple needs of the individual, not just his or her drug use.** To be effective, treatment must address the individual's

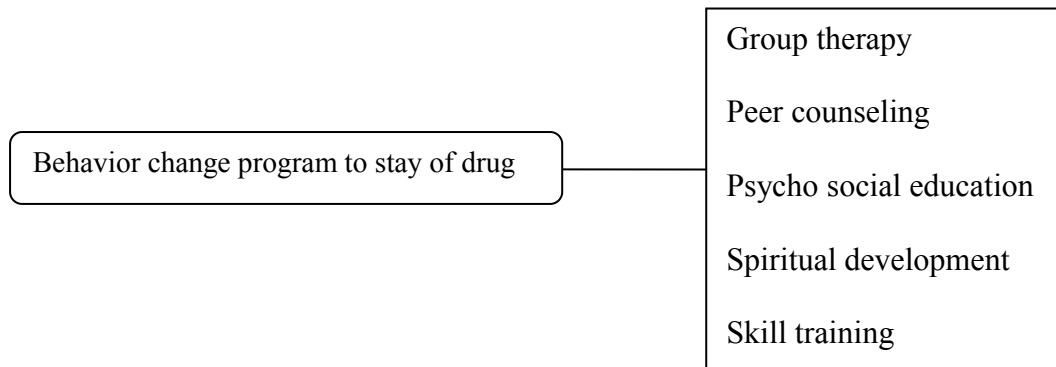
drug use and any associated medical, psychological, social, vocational, and legal problems.

- **An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person's changing needs.** A patient may require varying combinations of services and treatment components during the course of treatment and recovery. In addition to counseling or psychotherapy, a patient at times may require medication, other medical services, family therapy, parenting instruction, vocational rehabilitation, and social and legal services. It is critical that the treatment approach be appropriate to the individual's age, gender, ethnicity, and culture.
- **Remaining in treatment for an adequate period of time is critical for treatment effectiveness.** The appropriate duration for an individual depends on his or her problems and needs (see pages 11-49). Research indicates that for most patients, the threshold of significant improvement is reached at about 3 months in treatment. After this threshold is reached, additional treatment can produce further progress toward recovery. Because people often leave treatment prematurely, programs should include strategies to engage and keep patients in treatment.
- **Counseling (individual and/or group) and other behavioral therapies are critical components of effective treatment for addiction.** In therapy, patients address issues of motivation, build skills to resist drug use, replace drug-using activities with constructive and rewarding nondrug-using activities, and improve problem-solving abilities. Behavioral therapy also facilitates interpersonal relationships and the individual's ability to function in the family and community.
- **Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.** Methadone and levo-alpha-acetylmethadol (LAAM) are very effective in helping individuals addicted to heroin or other opiates stabilize their lives and reduce their illicit drug use. Naltrexone is also an effective medication for some opiate addicts and some patients with co-occurring alcohol dependence. For persons addicted to nicotine, a nicotine replacement product (such as patches or gum) or an oral medication (such as bupropion) can be an effective component of treatment. For patients with mental disorders, both behavioral treatments and medications can be critically important.



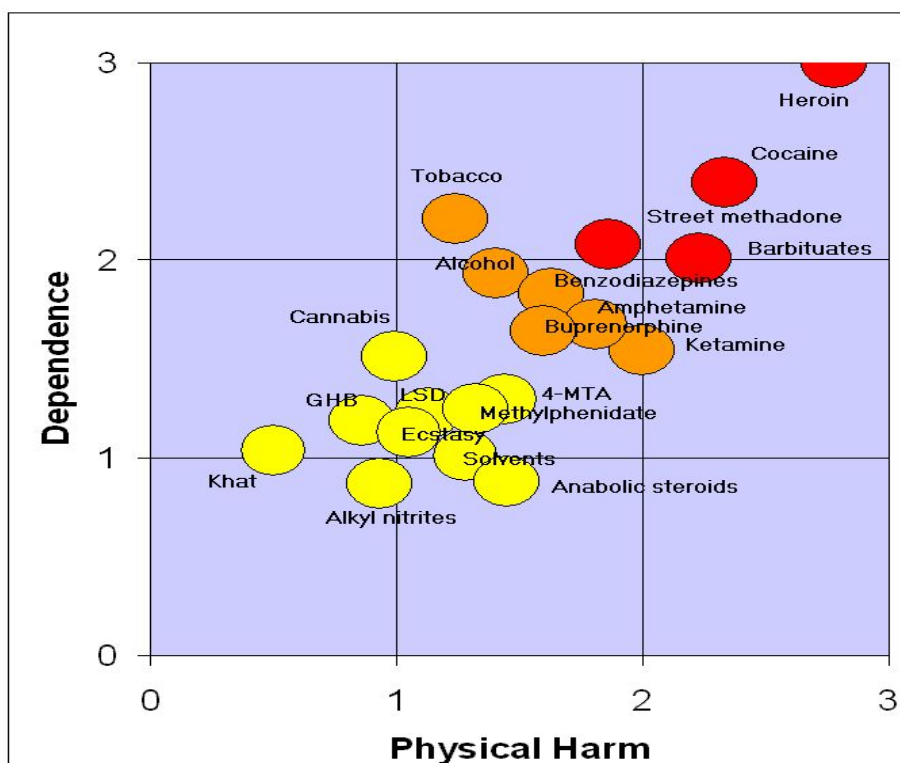
- **Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way.** Because addictive disorders and mental disorders often occur in the same individual, patients presenting for either condition should be assessed and treated for the co-occurrence of the other type of disorder.
- **Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use.** Medical detoxification safely manages the acute physical symptoms of withdrawal associated with stopping drug use. While detoxification alone is rarely sufficient to help addicts achieve long-term abstinence, for some individuals it is a strongly indicated precursor to effective drug addiction treatment .
- **Treatment does not need to be voluntary to be effective.** Strong motivation can facilitate the treatment process. Sanctions or enticements in the family, employment setting, or criminal justice system can increase significantly both treatment entry and retention rates and the success of drug treatment interventions.
- **Possible drug use during treatment must be monitored continuously.** Lapses to drug use can occur during treatment. The objective monitoring of a patient's drug and alcohol use during treatment, such as through urinalysis or other tests, can help the patient withstand urges to use drugs. Such monitoring also can provide early evidence of drug use so that the individual's treatment plan can be adjusted. Feedback to patients who test positive for illicit drug use is an important element of monitoring.
- **Treatment programs should provide assessment for HIV/AIDS, hepatitis B and C, tuberculosis and other infectious diseases, and counseling to help patients modify or change behaviors that place themselves or others at risk of infection.** Counseling can help patients avoid high-risk behavior. Counseling also can help people who are already infected manage their illness.
- **Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment.** As with other chronic illnesses, relapses to drug use can occur during or after successful treatment episodes. Addicted individuals may require prolonged treatment and multiple episodes of treatment to achieve long-term abstinence and fully restored functioning. Participation in self-help support programs during and following treatment often is helpful in maintaining abstinence.

### 3.2. OBSERVATION/FINDINGS:



### 3.2.1 COMPONENTS OF DRUG ADDICTION/ DEPENDENCY TREATMENT<sup>[7]</sup>

- Readiness and willingness of the clients and their families
- Withdrawal Management
- Psychosocial Education for behaviour change
- Treatment for other illness
- Relapse Prevention Planning
- Reintegration with the Family and the Society
- Skills for life
- Opportunities for Economic Rehabilitation
- Aftercare and Follow up



Graf 01: Rational scale to assess the harm of drugs (mean physical harm and mean dependence). <sup>[1]</sup>

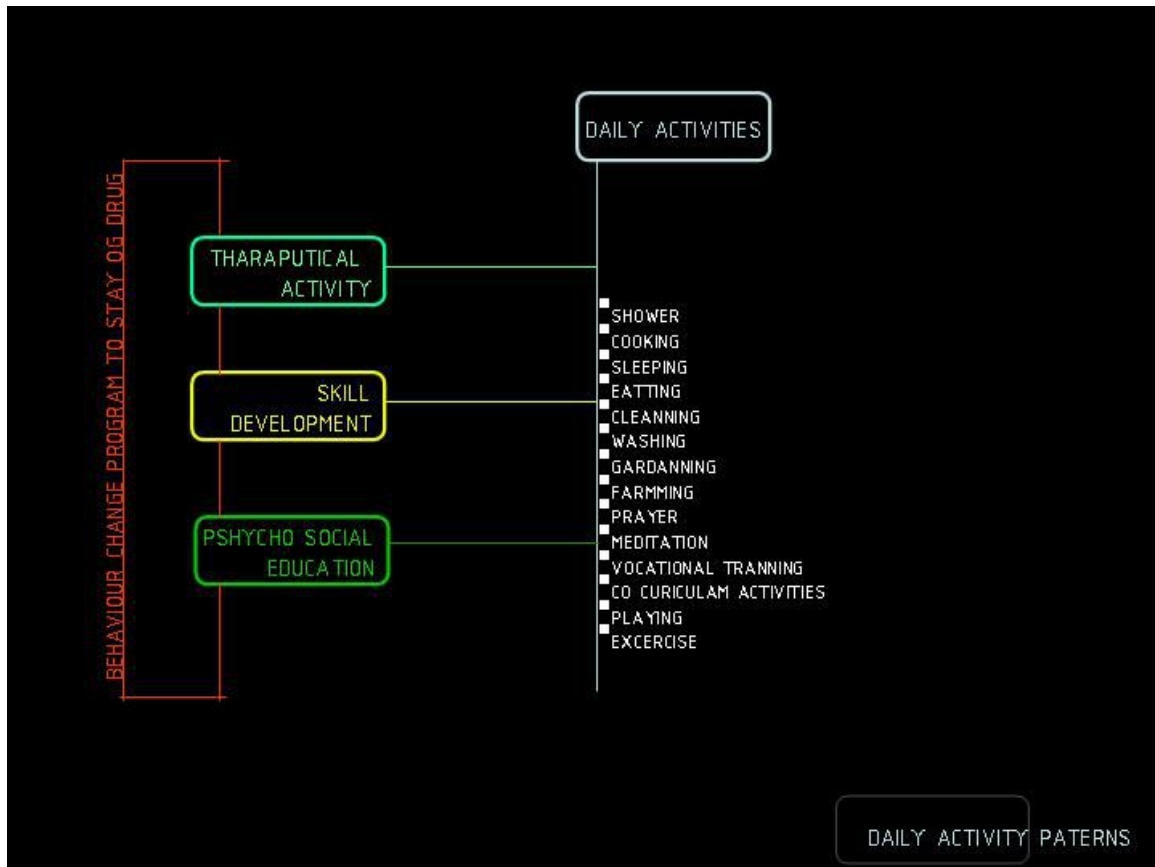


Fig 05: drug dependency treatment program

### 3.2.2 APON'S HOUR DISTRIBUTION (WEEKLY) OF DIFFERENT RESIDENTIAL PROGRAMS<sup>[7]</sup>

Meeting /Classes/ Works	Time
Morning Prayer	5.25 hrs
House Meeting	7 hrs
Group Meeting	5.25 hrs
Group Discussion	2.25 hrs
Group Evaluation	3 hrs
Exercise and House Keeping	7 hrs
Crafts Work	10.5 hrs
Positive Peer Culture	1.5 hrs
Face to Face Class	0.75 hrs
Addiction and Step Working Class	4.5 hrs
Staying Sober Class	5.5 hrs
Skill Training/Life Skill Training	1 hr
Quite Time (Reflection Time)	7.50 hrs
Free Time/Recreation Time	5.25 hrs
Night Sharing	2.90 hrs

Table 02: hour distribution of different residential program

### 3.2.3 DURATION OF EFFECTIVE TREATMENT AND REHABILITATION:

There is no standard time for effective drug addiction treatment and rehabilitation. The following data are from the experience of different countries and it is widely accepted---

- Detoxification is the first step of treatment
- Less than 90 days is of limited/no effectiveness for outpatient setting
- Longer treatment is often indicated

-6 Months             35 -40 % success

-1 year and more  70 – 80 % success

-2 years and more  90% success

### 3.2.4 MAJOR STAGES IN THE RECOVERING PROCESS:

Recovery from drug addiction is a long term process of frequently requires multiple episodes of treatment.

#### **In house**

This is the first stage of rehabilitation process. Where the addict first attempt to stay of from drug and the recovery journey has been started. This is the period of motivation, stabilization.

. withdrawal

. surrender

. growth

. going home

in this episode patient are evolved many kinds of activity. They learn many vocational training for skill development, psychosocial education for sober leaving and the daily activity like cooking, washing, gardening, take care of pet animals, prayer. Because in the addiction period their spirituality become below. So, meditation is one of the successful activity.

The placement of in house or the rehab is also important. The place should be close to the nature were no outer noise can be disturb.

The activities are mainly to concentrated them to rise up their spirituality, and the skill. It is very much important that in this treatment process the can't take any drug/medicine.

#### **Early recovery**

After successfully finished the in house treatment they are enter the early recovery sage. In this stage they have to meet with their family, society but must be keep in

touch with their mother center[rehab].this is a development process. In this episode their mental and physical structure are developing with the society.

### Mid recovery

This is the stage of professionalism. In this recovering journey they involved with a job. But must be keep in touch with their mother center and their councilor.

### Lat recovery

This is the final stage of rehabilitation process. In this stage recoveries are more stabilized.

All these stage are necessary for a proper rehabilitation.

### 3.3 ENVIRONMENT:

- The rehabilitation center is a health related function. Many kinds of indoor outdoor behavioral change therapies are evolved boldly in this rehabilitation center. Residential Treatment and Rehabilitation for male and female is the main program of this center. The environments of this area should be well ventilated. Indoor outdoor relationship is one of the major parts of this space. Internal and external visual connection is also important in the environmental consideration.

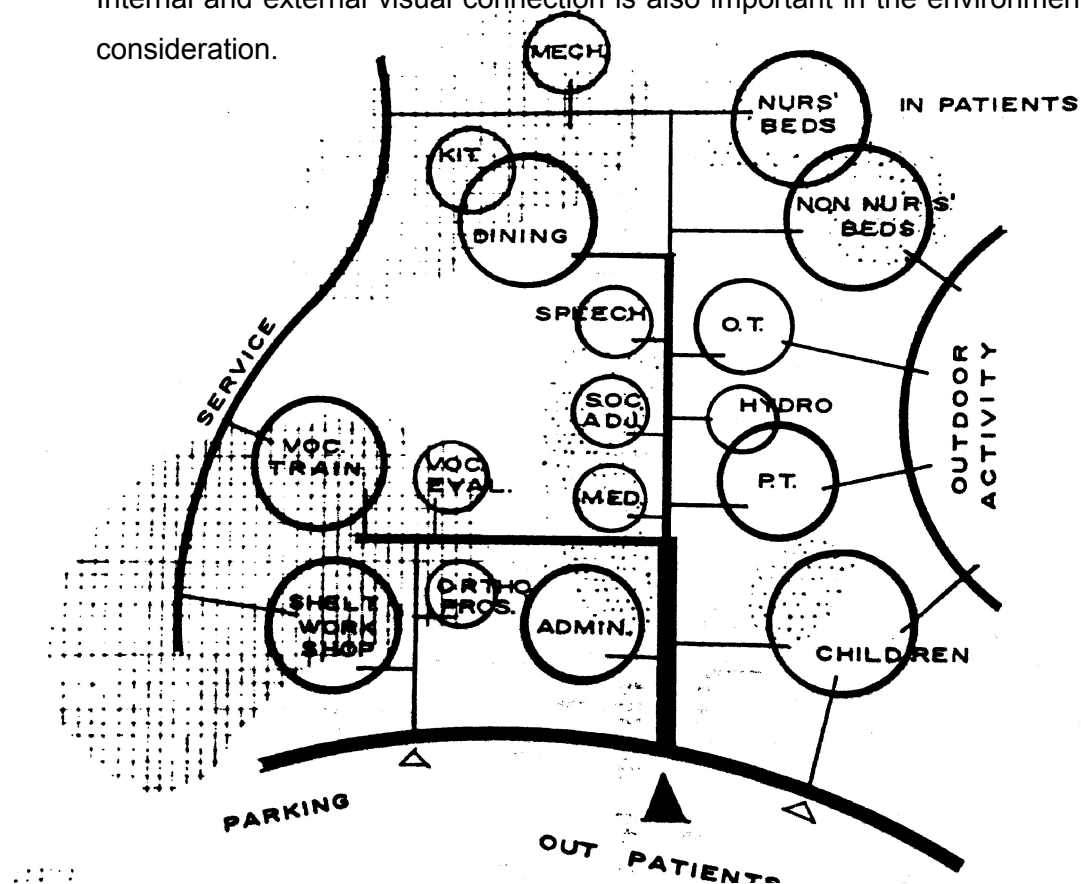


Fig 06: interrelations of main elements of space of rehabilitation center. Activities may be grouped according to relative noise levels.

### **3.3.1. PHYSICAL THERAPY:**

physical therapy is administered under medical supervision and performed by graduates of a school or course approved by the Council of Medical Education and Hospitals of the BMA (Bangladesh Medical Association).

The objectives of physical therapy are to correct or alleviate bone and joint or neuromuscular disabilities. This entails a concern with all types of physical disabilities, such as neurological diseases, arthritides, amputation, paralysis, spasticity, structural and postural alignments, crippling accidents, post-surgical conditions etc. Measures are used to retain or reestablish circulation, muscle tone, coordination, joint motion leading to mobility, ambulation and activity of daily living. It depends on their drug history and use and dependency on particular substances/drugs/comical. In carrying out his aim, the therapist will make use of heat, cold, water, light and electricity as well as the training effects of active, passive, resistive and reeducation exercises. It is necessary to follow the drug history because particular calicles are cause for particular diseases.

Physical therapy is the first priority in rehabilitation treatment. An addict should be physically fit at first to full fill his recovering journey.

### **3.3.2. OCCUPATIONAL THERAPY:**

Occupational therapy is administered under medical supervision and graduates of school of occupational therapy approved by the Council on Medical Education and Hospitals of the BMA (Bangladesh Medical Association).

The objectives of occupational therapies are to assist in the mental and physical restoration of the disabled person, enabling him to adjust to his disability, increase his work capacity, and to want to become a productive member of his community.

In addition, the occupational therapist is concerned with the training of patients in the activities of daily living.

To achieve these goals, occupational therapy utilizes, on an individual basis, remedial activities which are found in creative skills and manual arts.

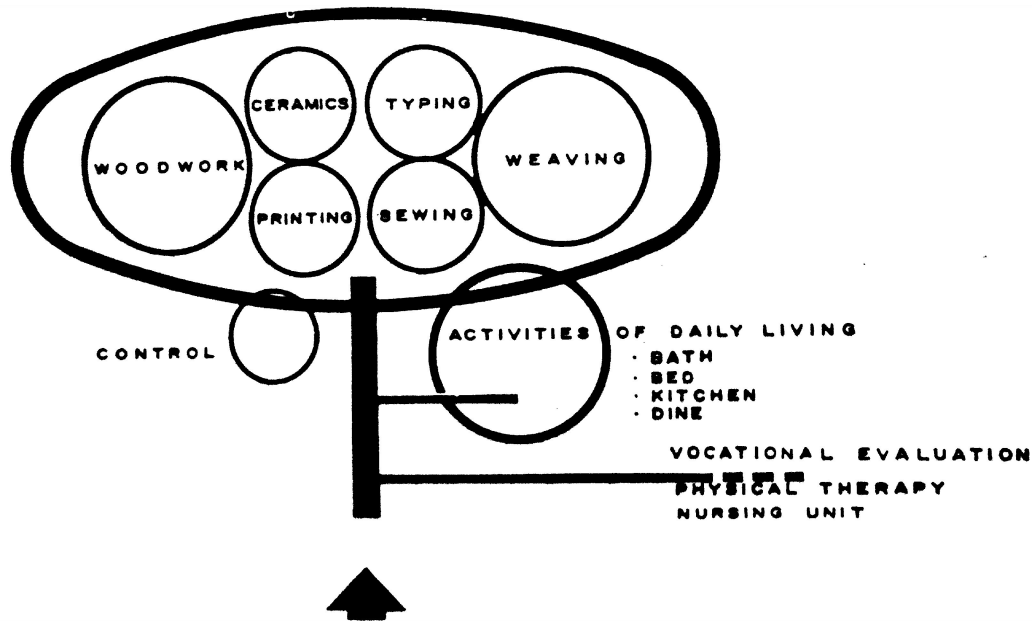


Fig 07: major functions of occupational therapy.

**Location Within Building** occupational therapy should be adjacent to the physical therapy department, since many patient will use both area. Locate the area so that scheduled patients may proceed directly to occupational therapy without interfering with the circulation of other departments. As some phases occupational therapy involve noisy activity, this area should be removed from quiet zones in the building, or provision should be made for acoustic control. Certain occupational therapy activities, such as those characteristics of daily living, may be conducted out of doors in favorable weather. It recommended that, if possible, access to an outdoor area be provided.

### 3.3.3. SOCIAL ADJUSTMENT:

Social adjustment requires psychiatric and social services for the treatment of social and emotional problem.

Psychiatric service: Frequently the psychiatrist is employed on a part time basis and is primarily called upon to provide the following facilities.

- Psychiatric screening to diagnose emotional problem.
- Staff consultations on how these problems should be managed in relation to the patient's total rehabilitation treatment process.
- In service staff tanning for the purpose of developing greater understanding of the psychological factors in dependency of the patient.

Physiological services include:

- Psychological evaluation, accomplished by means of various psychological testing procedures and interviews which evaluate the patient's intelligence and personality.
- Interpretation of clinical findings to members of staff.
- Counseling (therapy) o either an individual or a group basis, usually carried out with the psychiatrist and social service staff.
- In-service training of psychologists and participation in psychological research.

Social services include following:

- Social study and evaluation, including the collection of relevant information from the patient, his family and other agencies, and the appraisal of such information with respect to the patient's rehabilitation potential.
- Social case work, where the medical social worker or psychiatric social worker with the patient to improve attitudes toward self-support and motivation toward treatment and work.
- Social group work including the correction of abnormal living patterns by using planned group activities, recreational in nature but therapeutic in value. It may include hobby activities, group discussions, and activities of an adult education nature.

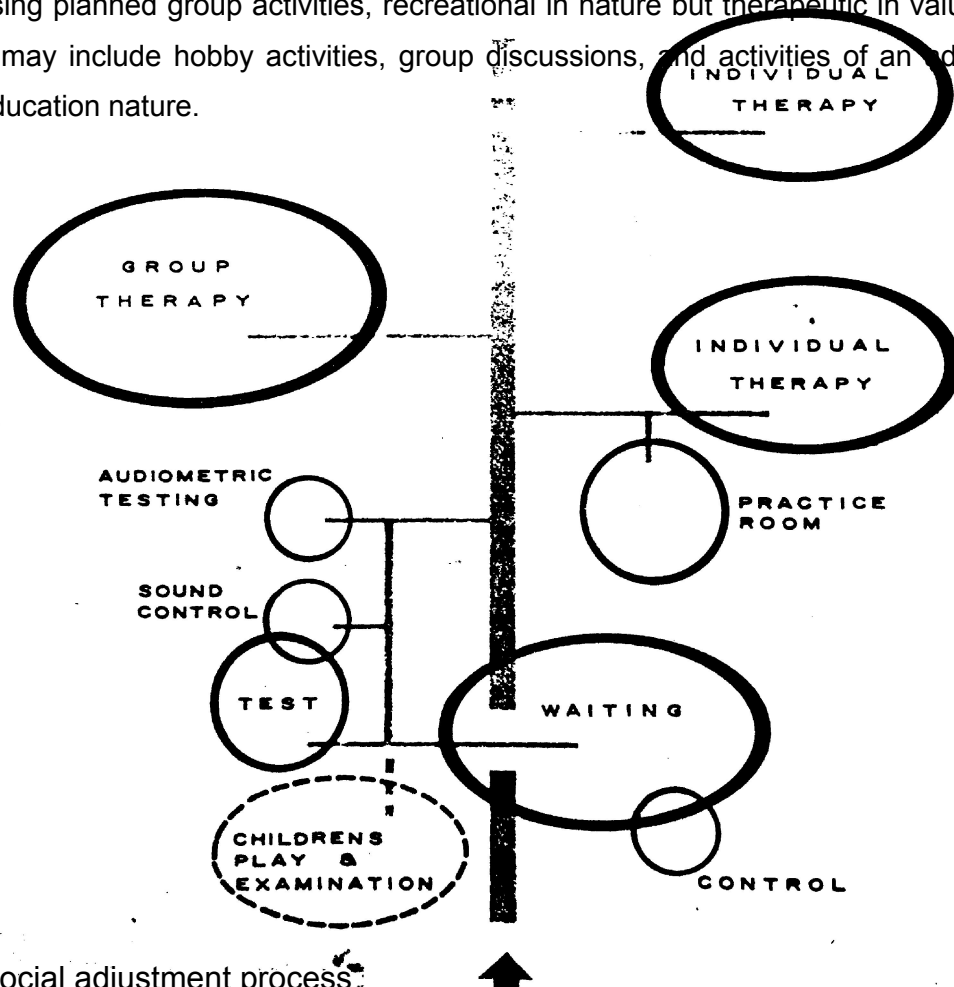


Fig 08: social adjustment process

**SOCIAL ADJUSTMENT**



**Location Within Building** the services should be administered in a quite area of the building. As most incoming patients will receive some services in this area, it should be readily accessible from the main entrance of the building. If the program involved large number of children the psychological therapy room for children should be in the children's treatment-training unit.

**3.3.4. VOCATIONAL:**

The vocational are of the rehabilitation center provides counseling, evaluation, training, and placement; the sheltered workshop (or rehabilitation workshop) is part of the area and in some cases, certain aspects of special education will be include. The vocational program is determined by the needs of the patient and the need and opportunities of business and industry in the community served by the center. This program is a most important part of the patient's total rehabilitation process. Vocational training is prescribed after evaluation of the patient's abilities, interests. During this period of training patient may continue to receive services from the medical unit, the social adjustment unit, or any other part of the rehabilitation center.

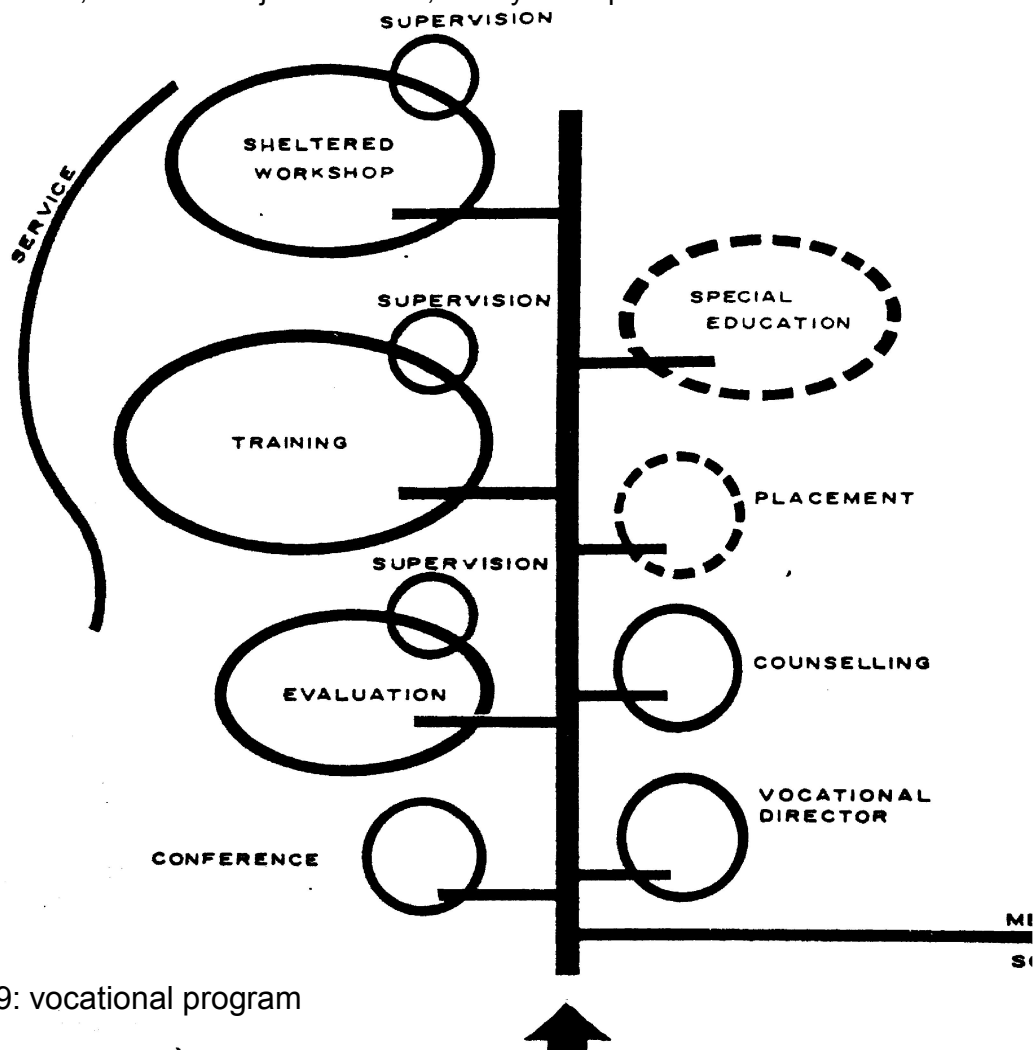


Fig 09: vocational program

**Location Within Building** the sheltered workshop should be conveniently related the other areas of the vocational services. It may be a detached or semidetached unit with a separate patient entries, as patients engaged in the shop usually work an eight hour day program and no longer require the intensive services of the medical department. Depending upon its closeness to the medical department of the center the sheltered workshop may require a first-aid room. In the larger workshop a full time nurse may be required.

As work within the shop may be noisy, separation from the quiet areas in the center is recommended.

For the delivery and shipment of goods, it is essential that the unit be adjacent to a loading area.

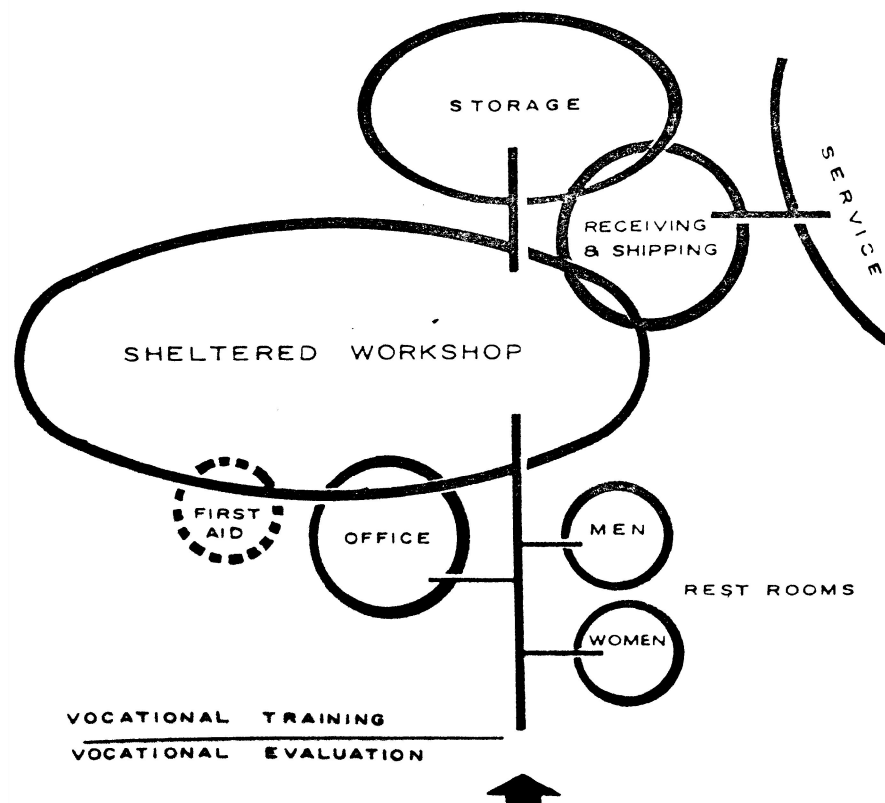


Fig 10: vocational training.

**Organization of the space** this area will closely resemble industrial space and will house industrial operations. The heating, ventilation, and dust collection systems will need to be planned accordingly, with floors designed for adequate loads and an electrical system to meet many different kinds of demands.

The type of work carried out in the shop will be subject to frequent change. Flexibility in organizing the space is therefore, essential: the area should have high ceiling and be free of columns. Floor should be designed to take heavy loads of equipments and

stacked materials. Much of the work under contract in the shop will be of an assembly line nature. However the products may merely require work surface for their assembly or they may require special equipments.

### **3.3.5 HALF WAY HOUSE:**

The residential treatment concept has its foundation in the halfway house program originally developed for the men returning from prison to the outside world. Residence in the halfway house, as its name implies, was an intermediate stage between prison and freedom, during which the ex-convict could readjust to normal responsibilities, look for a job and resume an independent life, all within the security of the house. It was a temporary situation providing bed, board, advice and company. From the halfway house the newly free man was expected to begin an independent, constructive life.

The basic attribute of the half way house was that it provided independence within a framework of emotional and financial security. The house was used for the adults as well as the juvenile ex-offenders. Perhaps the most famous house for adolescents is the Highfields House, established in New Jersey in 1948. Highfields was the model for virtually all the initial juvenile halfway house. The concept has spread widely because of its humane approach and its recorded success, until presently the residential treatment concept is being used for narcotic treatment, youth offenders, probation cases and social service shelters. In the treatment of residents rather than their punishment or neglect.

Whatever the program, the target population includes those young people who express a desire to improve their life; those who can relate to people – adults, peers – either negatively or positively, but willing to deal with others; those who can recall their past and are willing to discuss it; those first offenders who would be brutalized in a large institution or even those who are convicted of crime but need a release pressure in the home environment.

**Goals** the basic goal of this type of program is treatment rather than punishment for antisocial behavior. Other goals usually are control of activity within the facilities and in the immediate neighborhood, services for the residents.

Treatment in these centers is currently focused on peer group interaction. Through the use of pressure from peers in group therapy sessions, individuals are forced to deal with their behavior, its motives, and its consequences. These therapy groups with no more than 10 to 20 members, are led by staff members. Ideally, members of the

group should share living and sleeping areas in the program. Individual counseling is also done by various staffs members from ex-residents through psychiatrists. An important aspect of treatment comes through coping with the simple routine of daily living with peers, neighbors, employers, teachers, and staff.

Control in the half way house is not applied as it is in the in house life. It is impled through behavior standards set by the staff and peer group. In this way self-control will hopefully become internalize and remain active while the resident is out of the facility and especially he has left the program. Of course audio, visual control for general security. Ease of supervision should be built into the building so that staff can generally see and hear what is happening deliberate snooping. Access is usually through only one door, and this will have to be controlled in order to keep track of who comes and goes.

## CHAPTER 05

### 5. CASE STUDIES OF SIMILAR PROJECT

#### 5.1 St. Johns Rehab Hospital

Architects: [Montgomery Sisam Architects](#) + [Farrow Partnership Architects](#)

Location: [Toronto](#), ON, Canada

Structural Engineers: **Halcrow Yolles**

Landscape Engineers: **Vertech Design Inc.**

Site Area: **23 acres**

Total Gross Floor Area: **48,300 sf**



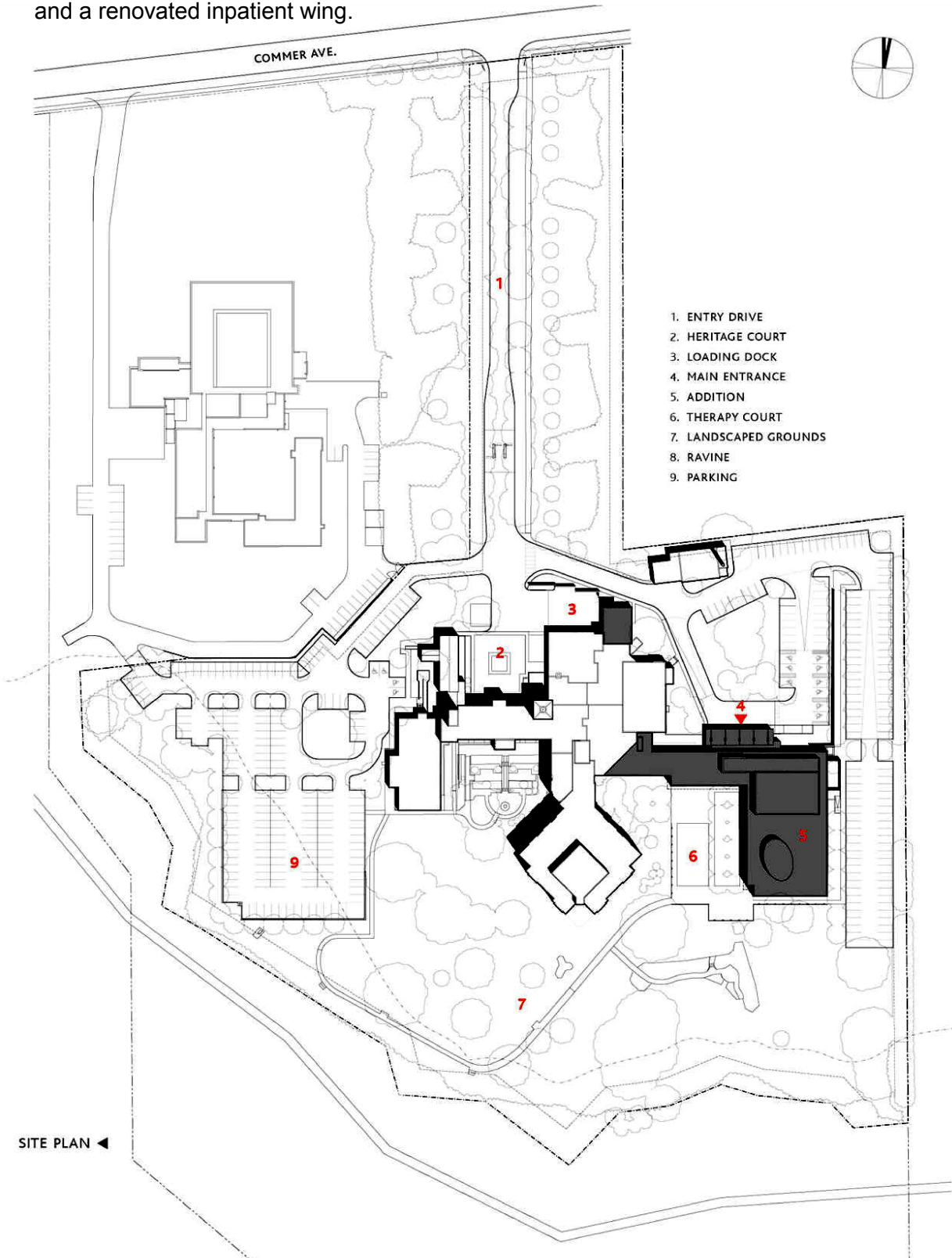
#### Image : entrance and drop-off

This major addition and renovation to St. John's Rehab Hospital takes full advantage of a remarkable site by reconnecting the major public spaces within the building to the surrounding natural landscape, which is part of the Toronto ravine system. The internal clinical environment has been transformed into a fresh, inviting space which will contribute to the patients' rehabilitation and recovery.

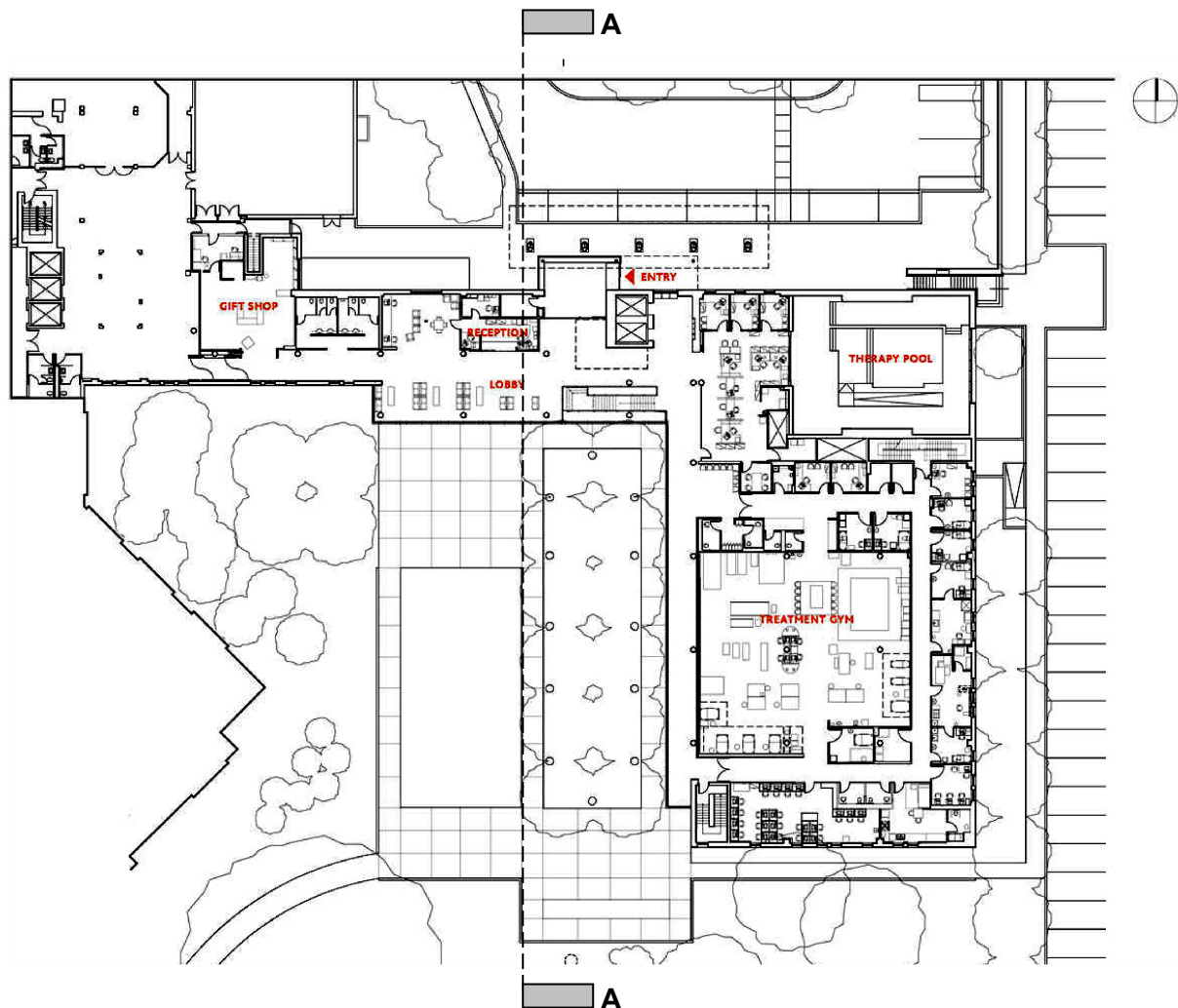


#### Image: indoor outdoor relationship and the calorificity of the rehab hospital

The goal of the project is to address critical program needs as well as creating a new image for St. John's that reflects its status as a forward-looking regional rehabilitation centre. The project is comprised of 35,000 square feet of renovation and 40,000 square feet of new construction including an innovative therapy pool, a new ambulatory care wing, a wellness centre, an expanded education and research wing and a renovated inpatient wing.



This renovation and addition to the existing rehabilitation hospital in North Toronto began as a Master Plan that included an assessment of the hospital's existing facilities as well as its capabilities for future expansion.



**Image : Ground floor plan of the extension area of the rehab hospital**

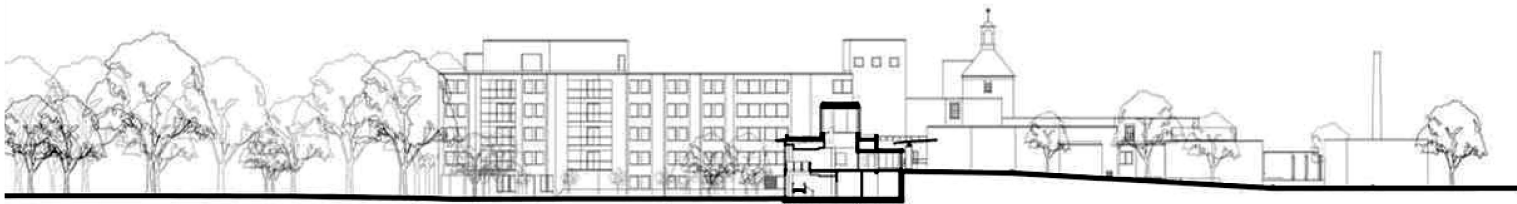
As well as trees, grass and indigenous plants, a therapy garden consists of a concrete terrace and looped walkway system. "A physiotherapist could take patients outside for walks around the loop and monitor how far they go each day," says Lovering, noting that the concrete surface offers a smoother ride than unit pavers for wheelchairs.

The loop connects with walkways leading to the building's entrance. "It allows people to go for short, medium and long walks," Lovering explains. She adds that grades were developed to minimize slopes, allowing people to be as independent as possible.

There is a large window on the east side of the space that provides sightlines from within the pool directly up to the sky," Farrow says. "You feel as if you're outside, under the clouds, not in an enclosed space."



**Image:** hydro therapy pool area.



**Image : Section AA**

"You begin to really look and see how the building can actively cause health," he says. "The environment has a massive impact on what makes you feel good or not. What can we as a design team do to enhance the ability of people to perform better than what they might do otherwise?" In the case of St. John's, it's in the details: moving the staircase into a conspicuous spot, developing ample green space for people to spill outdoors, and flooding the indoors with natural light. This approach to health-care architecture is still in its earliest phases--evidence-based design that focuses on more traditional notions of healing is far more prevalent at the moment--but projects like St John's are starting to generate irrefutable proof of the impact architecture can have on a patient's recovery. And it doesn't take much, says Montgomery: the wing was completed on time and under budget.





**Image : lobby ,Physical therapy  
and drop off**

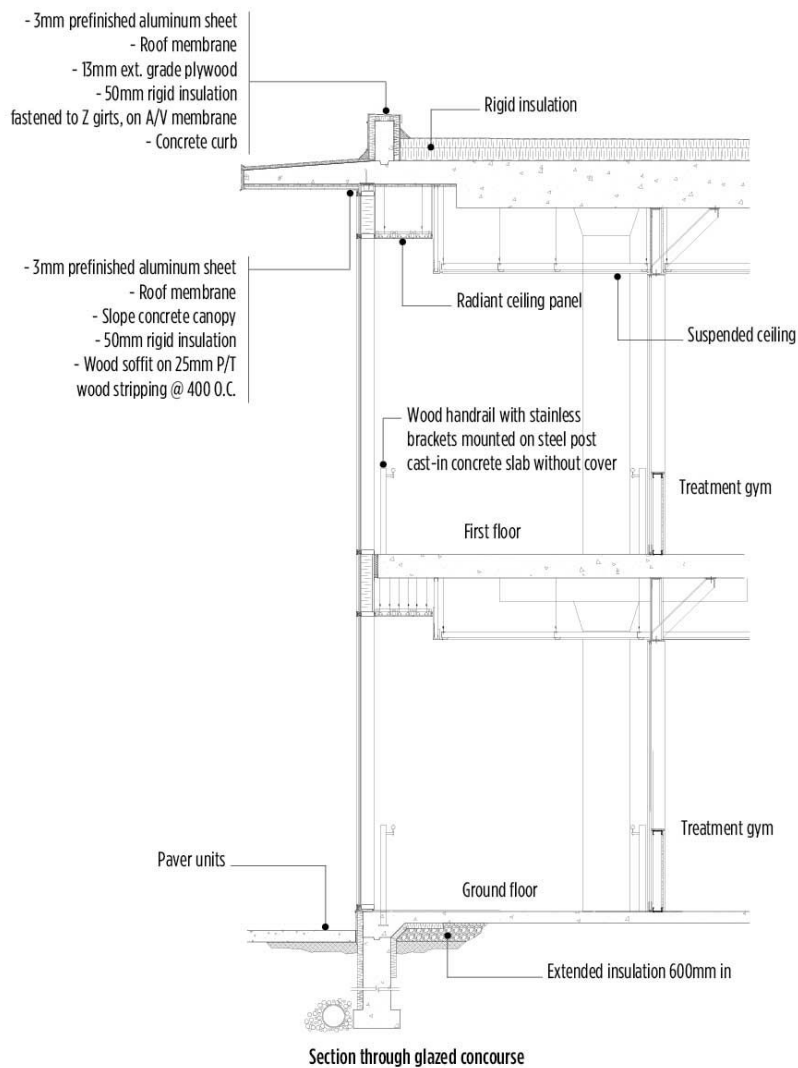
"Innovative design that creates a new face for St. John's Rehab Hospital."

**"Every patient treatment area within the building has a** significant connection out to either the courtyard or the landscape beyond," says Tye Farrow, founding partner with Farrow Partnership Architects Inc. "This connection to nature creates a spirit of optimism throughout the building that is transferred to both to staff and patients."

The main entrance is on the upper floor. As people walk in, they face the courtyard and landscape beyond. Elevators are found to one side. While they're fully accessible, Farrow notes the importance of putting stairs directly in people's line of sight rather than hiding them away. "The steps and landings are generous, on a glass line facing south, very light, very inviting," he says, adding that this stair design decision flowed from the idea that a building should enhance people's health.

The design helps to transform the hospital from an internal clinical environment to one that is fresh and inviting. This will serve to enhance the hospital's reputation for providing excellent care and rehabilitation. It will also serve to transform the hospital into an inviting setting for patients, and also for staff and families who play such a key role in patients' rehabilitation. Careful placement of the addition on the site minimized

impact on the existing vegetation and natural embankment landform of the ravine to the south of the property.



### Image : wall section

In addition, the project incorporates concrete, steel, carpet, drywall and linoleum, all of which contain recycled content. While these strategies contribute to quantitative improvements in building performance, it is the qualitative aspects of the design that will have the most lasting impact, illustrating the potential for the hospital to be more than just a clinical setting.

## 5.2 Beit-Halochem Rehabilitation Center / Kimmel-Eshkolot Architects

**Architects:** Kimmel-Eshkolot Architects

**Location:** Be'er Sheva, [Israel](#)

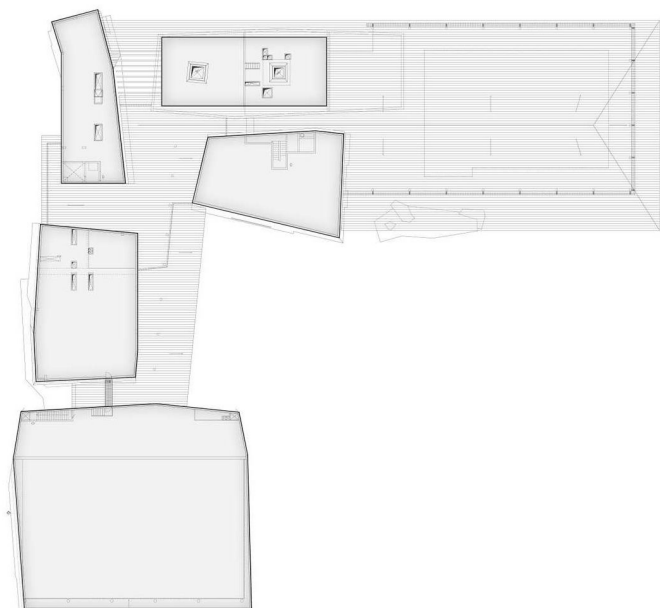
**Project Team:** Etan Kimmel, Michal Kimmel-Eshkolot, Ilan Carmi, Shachaf Zait

**Client:** INZ foundation

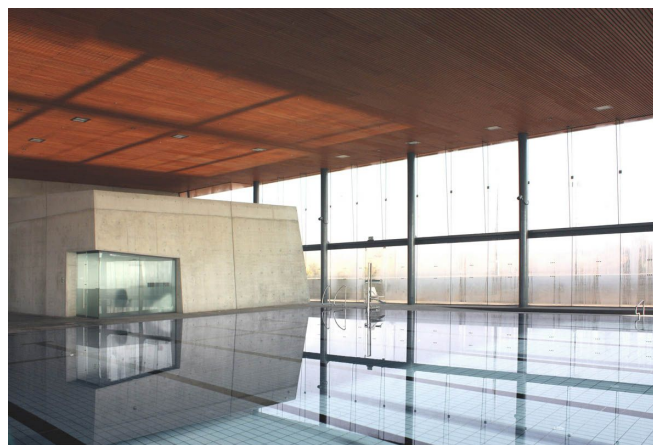
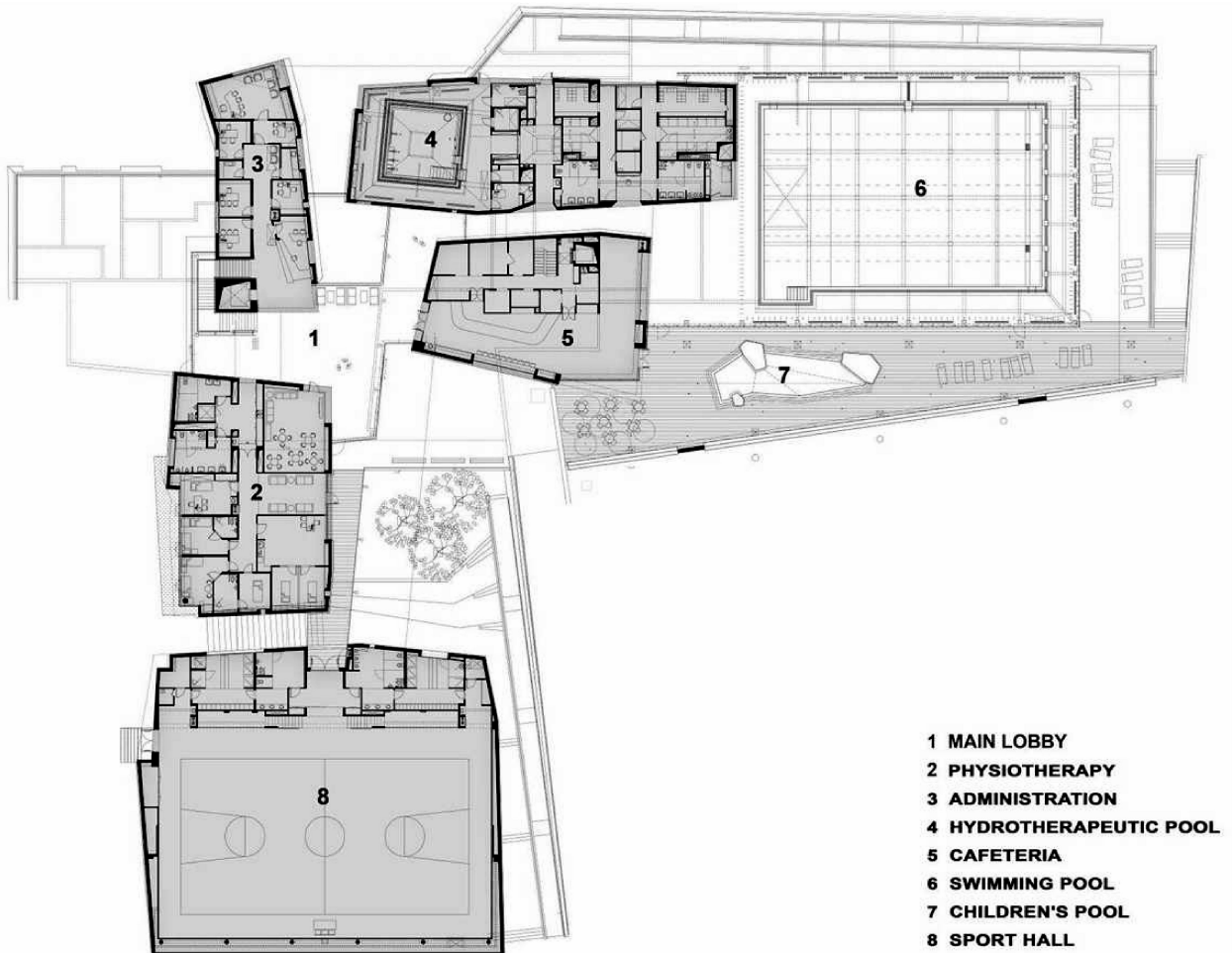
**Project area:** 6,000 sqm

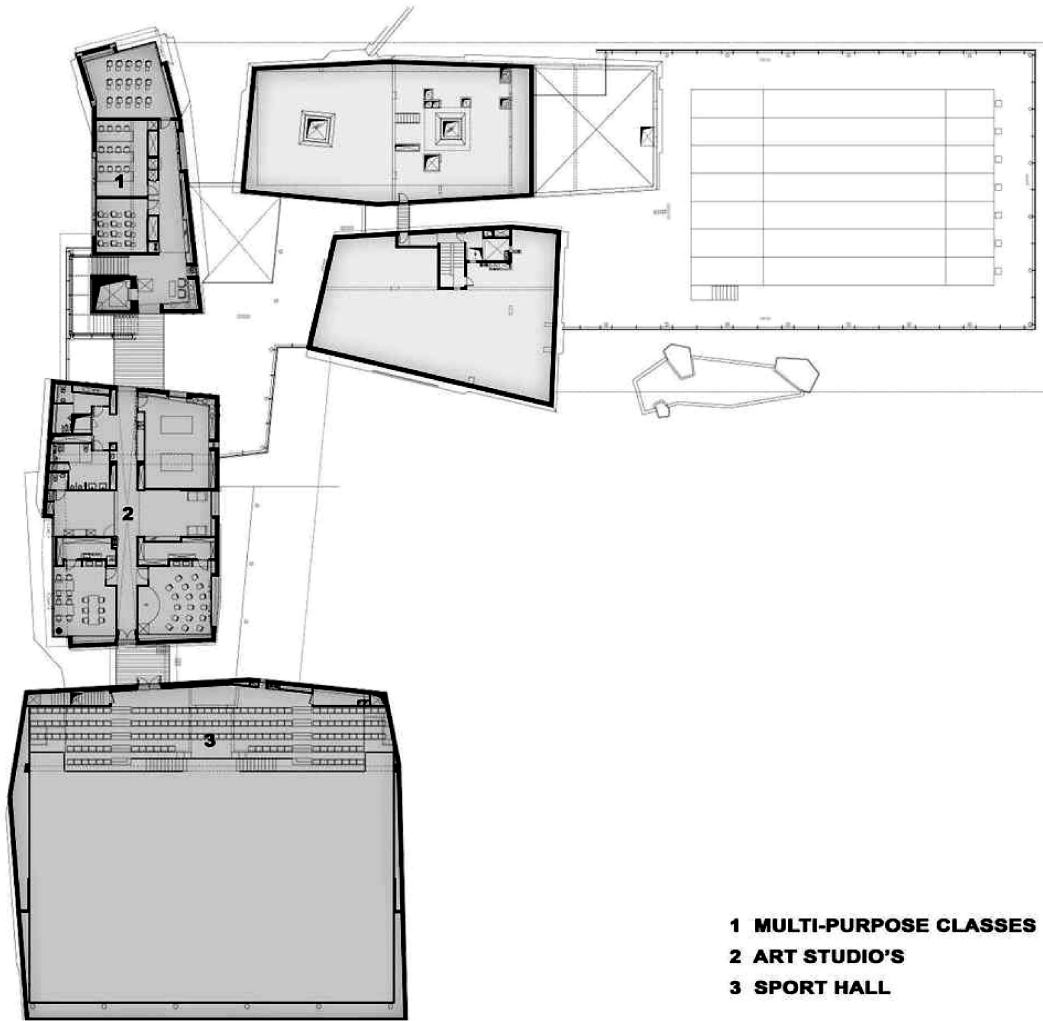


On the outskirts of Beer Sheva, where the city ends and the desert begins, is the site of the new building: Beth Halochem (Veterans' Home). The scorching desert sun and the parched scenery served as inspiration. The structure was designed as an arrangement of “rock” like units grouped together. Between them a thin horizontal roof forms a courtyard – intimate, inviting and protected, to serve the functions of the building – a home for disabled veterans and their families.

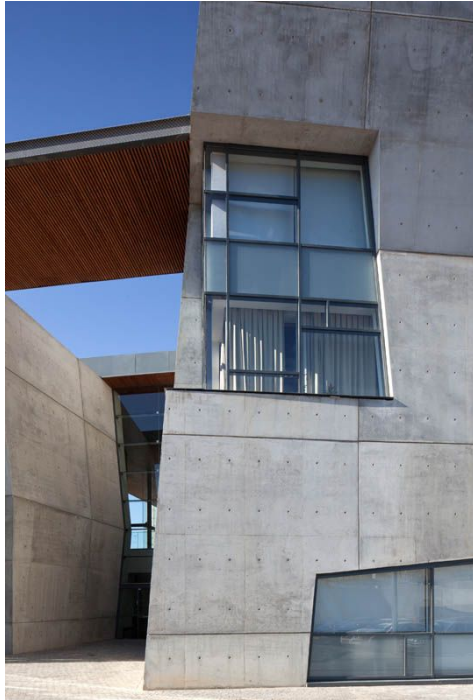


The “rocks” accommodate intimate and quiet functions, whereas the negative space between them creates gathering areas, and defines the circulation in the building. The alignment of these rocks, combined with the thin horizontal roof which hovers between them, creates an inviting and protected courtyard .

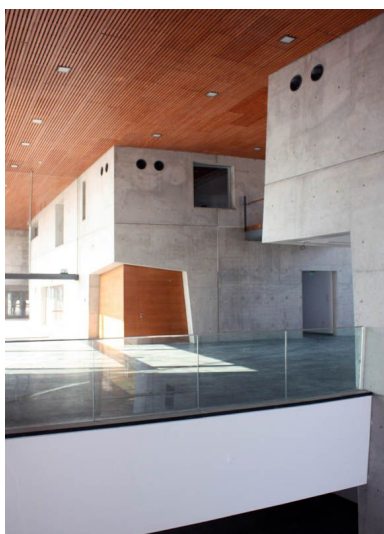




The fierce desert sun-light, which bounces off minor dents on the surface of the rock, creates an ever-changing appearance for the new IDF veterans' home.

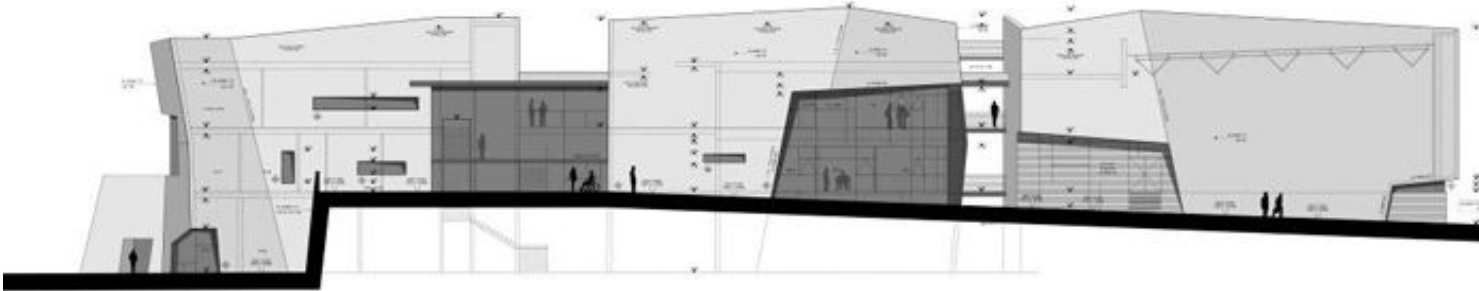


While studying the various three-dimensional expanses, a unique relationship with the project emerged, based on relations between light and shadow, closed versus open, positive and negative. The bright sunlight makes it possible to achieve a three-dimensional richness by reflections from the rough frontal surfaces.

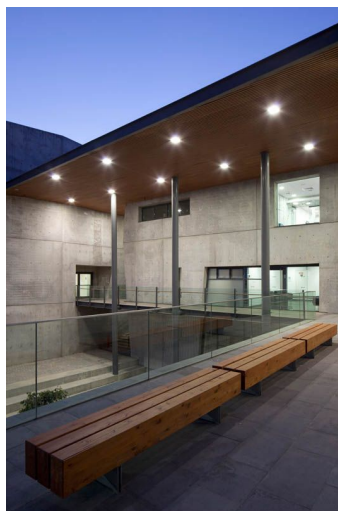


The building divides the site into new topographies. This allowed the design of two ground floors on two different levels, interlocking with each other, as an integral part of the building architecture. By gentle ramps the inner shaded patio of the lower ground floor is connected to the Entrance in the upper ground floor, Thus achieving maximum accessibility as is appropriate for the special needs of users of the building.

By gentle ramps the inner shaded patio of the lower ground floor is connected to the Entrance in the upper ground floor, Thus achieving maximum accessibility as is appropriate for the special needs of users of the building.



In the private areas, thick walls provide climate protection, which is so essential in the Negev desert. In contrast, in the public areas the light roof that caps the building provides shade and protection of the interior regions, and also creates a variety of external spaces where it is pleasant to relax.



The "rocks" enclose rooms for private and more intimate functions, while in-between spaces serve as public areas in the building. Light bridges spanned over those areas enable passage between public spaces, which reinforces the 'experience' of the building for the users.

***Beit Halochem Rehabilitation Centre Beer Sheva - Building Information***

Area of site: 18,000 sqm

Built area: 6,000 sqm

Main functions:

society and community - auditorium, classrooms, workshops, club

rehabilitation - physiotherapy, pool therapy, massage, clinic

sports - basketball court, swimming pool, gym, billiards, table tennis, gymnastics

support and services - cafeteria, changing rooms, management and maintenance

Construction Costs: 1,500 Euro per sqm

*Beit Halochem Rehabilitation Centre information from Kimmel Eshkolot Architects*



Desert sun and arid scenery served as a source of inspiration to design a composition of rock-like volumes that are grouped together.



## 5.3 Rehabilitation Centre Groot Klimmendaal / Koen van Velsen

Architects: [Architectenbureau Koen van Velsen BV](#)

Location: [The Netherlands](#)

Project Area: 14,000 sqm



A Hospital Where Nature Helps Heal .

From a small footprint, the Rehabilitation Centre Groot Klimmendaal designed by [Koen van Velsen](#) gradually fans out towards the top and cantilevers out over the surrounding terrain. Despite its size, the brown-golden

anodised aluminium facade allows the nearly 14,000 sqm building to blend in with its natural surroundings.

This project was chosen as a finalist for the [2011 Mies van der Rohe Award](#).

Rehabilitation Centre Groot Klimmendaal was awarded Building of the Year 2010 by the Dutch Association of Architects, winner of the first Hedy d'Ancona Award 2010 for excellent healthcare architecture, winner of the Arnhem Heuvelink Award 2010 and winner of the Dutch Design Award 2010 public award and category commercial interior.



### Park

Full height glazing along the central space connecting the various different internal elements of the building ensures an almost seamless continuity between interior and exterior. The meandering facade in the restaurant results in a building in

between trees and invites the forest inside the building. The surrounding nature has a

strong visual and tangible presence everywhere in the building; it allows the user to revalidate whilst walking.

Groot Klimmendaal' is part of a masterplan also designed by [Koen van Velsen](#). The masterplan envisages the area, largely built upon by one and two-storey buildings, to be gradually transformed into a public park landscape.



### Diversity

The arrangement of the programme is clear. Below are offices, above are the clinical area's and on the roof a Ronald McDonald House with its own identity. The double-height ground floor at entrance level facilitates the special elements of the programme such as a sports facility, fitness, swimming pool, restaurant and theatre. Not only patients but also family members and members of the local community (schools, theatre groups etc) use these facilities on a regular basis. As a result, both patient and building are placed at the centre of the community.



## Healthcare

The care concept is based on the idea that a positive and stimulating environment increases the well-being of patients and has a beneficial effect on their revalidation process. The design ambition was not to create a centre with the appearance of a health building but a building as a part of its surroundings and the community.



Revalidation centre 'Groot Klimmendaal' radiates self-confidence and self-control. The welcoming and open environment offers a natural habitat for care but at the same time allows plenty of opportunity for other activities. The building is

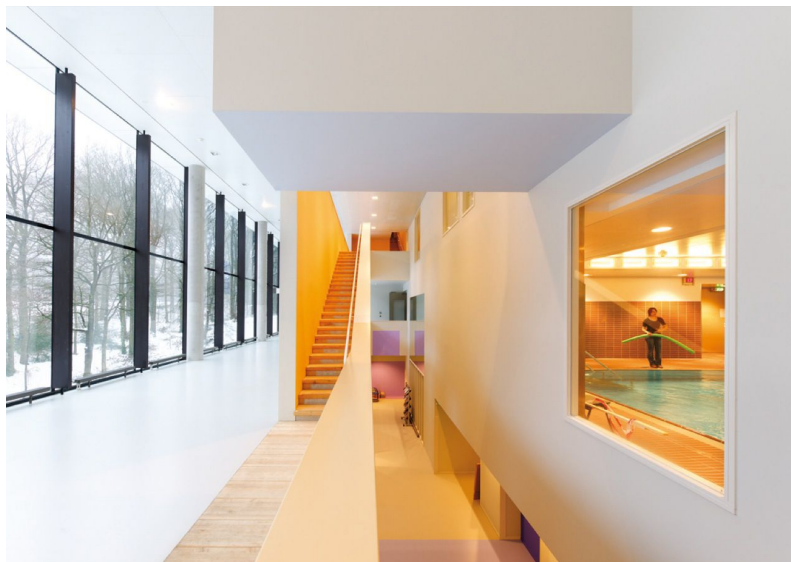
the result of an intensive collaboration between architect Koen van Velsen and the users of the building. For example, a shallow timber staircase runs the full internal height of the building and is typical for the new integral way of working. It facilitates a direct route between the different floors but also enables a variety of alternative routes roaming the building and thus forms an invitation to undertake physical exercise.



A combination of large and small voids and light wells ensure a spatial connection between different levels and allow natural daylight deep in the heart of the 30metres wide building. Interplay of striking but subtle colours and direct and indirect (artificial) lighting enlivens the interior.

## Sustainable

The use of energy is amongst others reduced by the compact design of the building and the design of the mechanical and electrical installations. Most notably the thermal storage (heat and cold storage) contributes to the reduction of energy consumption. The choice of selecting sustainable building materials and materials requiring little maintenance for floor finishes, ceilings and facade cladding result in a building which can be easily maintained and with a long lifespan. The building has been custom made for its users but the design offers at the same time opportunities for different ways of using the building and the inevitable transformations of different departments within the client's organization.



Revalidation centre “Groot Klimmendaal” is a coming together of both complexity and simplicity with attention for physical, practical and social details. Transparency, continuity, layering, diversity, the play of light and shadow and the experience of

nature are all ingredients of this stimulating environment.



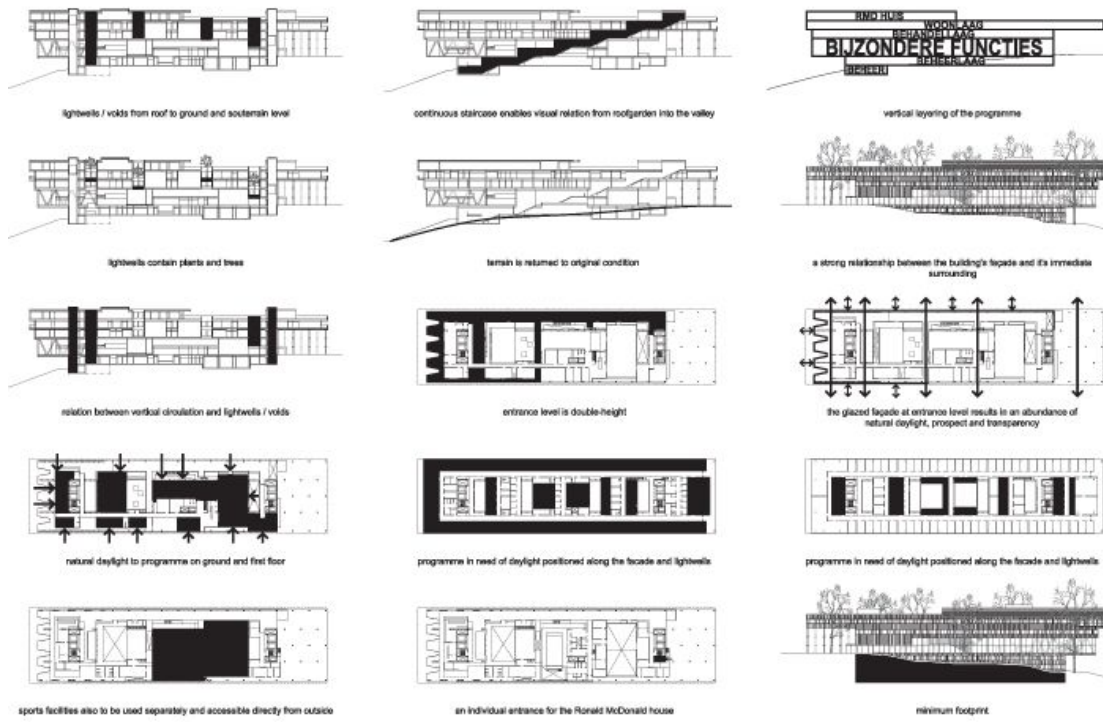


Image : explanation.



Image : east elevation.

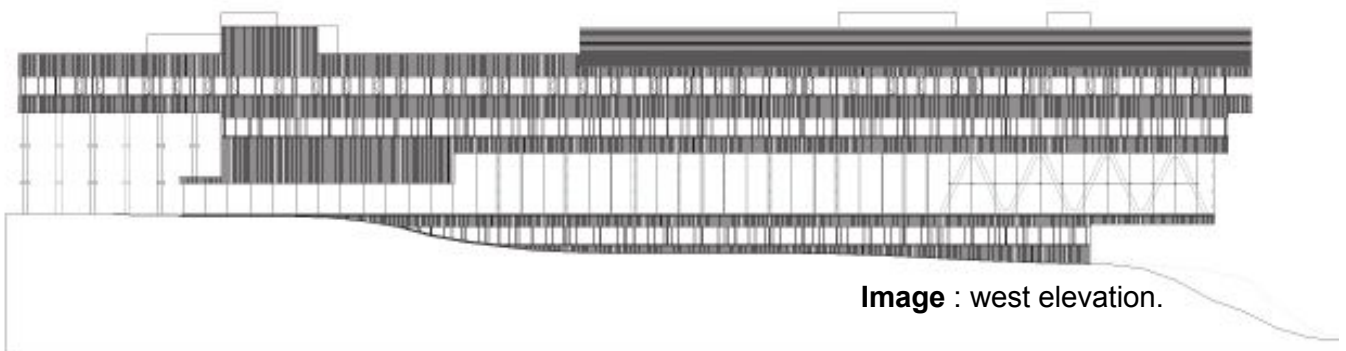
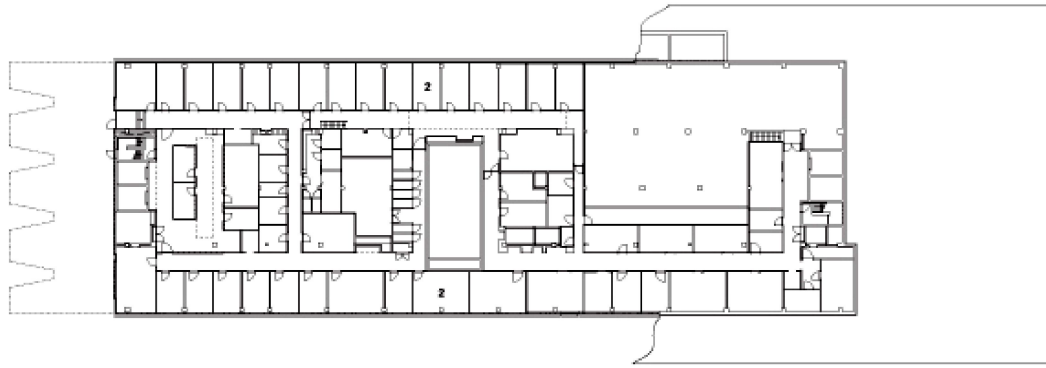


Image : west elevation.

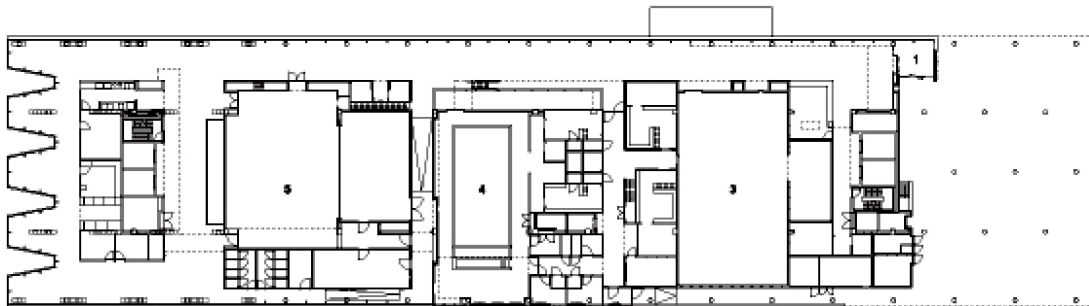


0 20 m

level -1

- 1 entrance
- 2 office
- 3 gymnasium
- 4 swimming pool
- 5 theatre
- 6 restaurant
- 7 fitness centre
- 8 room for patient
- 9 living room
- 10 rosalid mcdonald house
- 11 void
- 12 patio

Image : plan level: -1

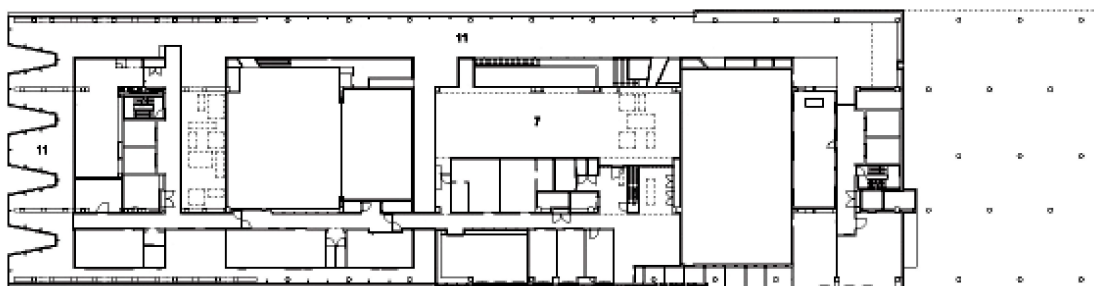


0 20 m

level 0

- 1 entrance
- 2 office
- 3 gymnasium
- 4 swimming pool
- 5 theatre
- 6 restaurant
- 7 fitness centre
- 8 room for patient
- 9 living room
- 10 rosalid mcdonald house
- 11 void
- 12 patio

Image : plan level: 0

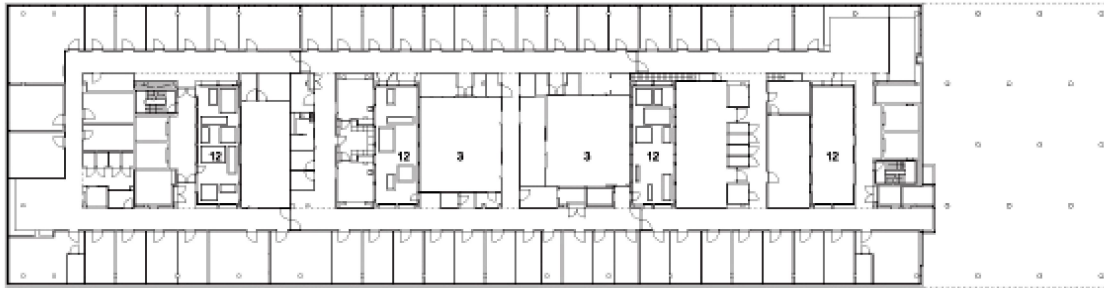


0 20 m

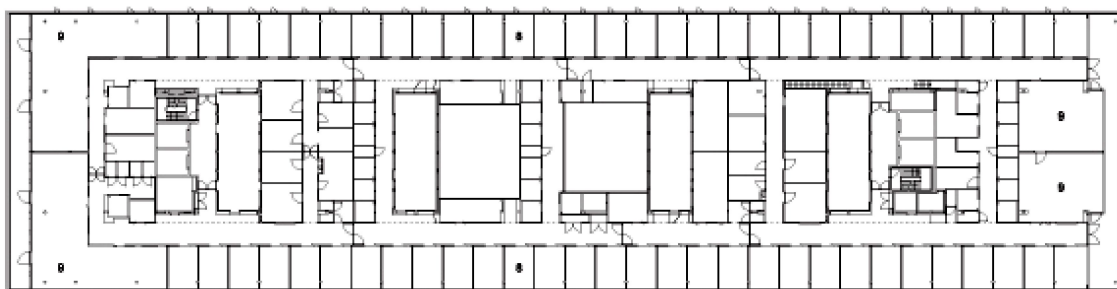
level 1

- 1 entrance
- 2 office
- 3 gymnasium
- 4 swimming pool
- 5 theatre
- 6 restaurant
- 7 fitness centre
- 8 room for patient
- 9 living room
- 10 rosalid mcdonald house
- 11 void
- 12 patio

**Image** : plan level: 1



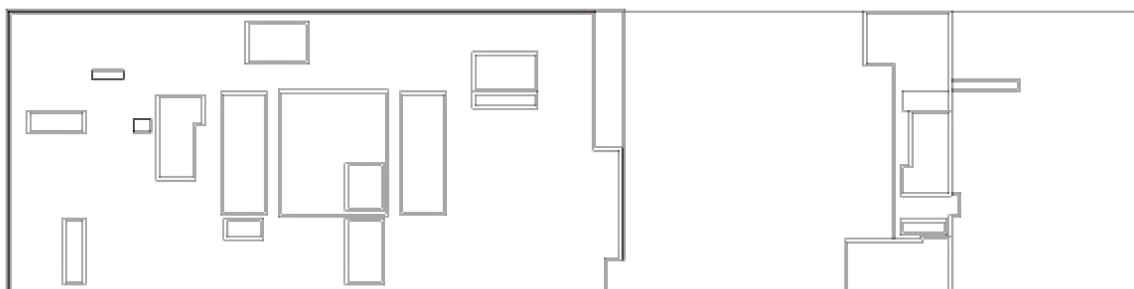
**Image** : plan level: 2



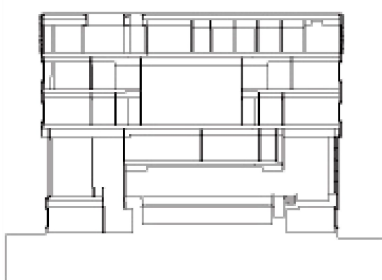
**Image** : plan level: 3



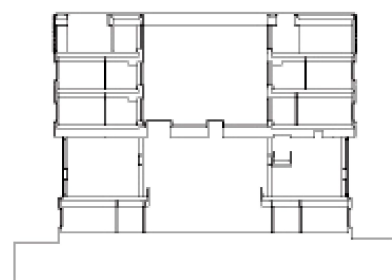
**Image** : plan level: 4

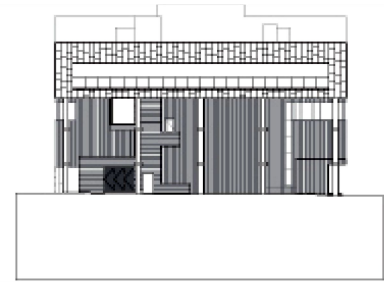
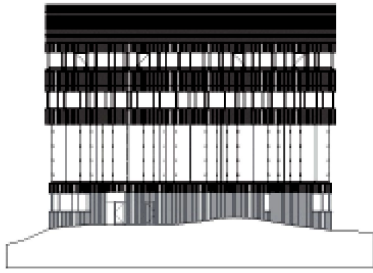


**Image** : roof plan

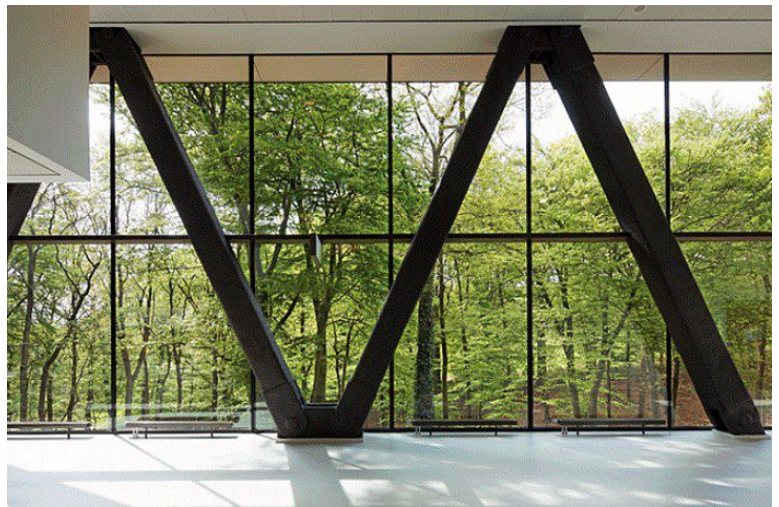


**Image** : cross sections.





**Image** : south and north elevations.



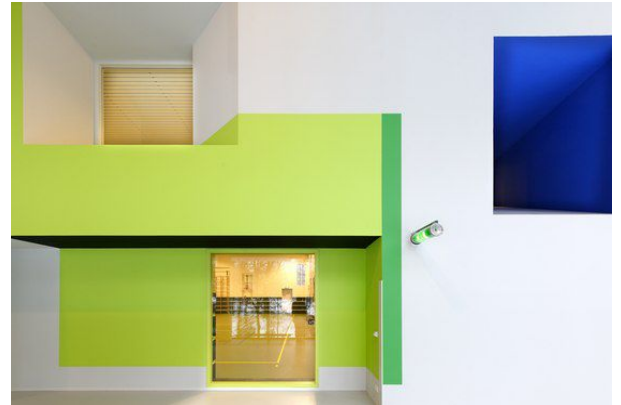
The Rehabilitation Centre Groot Klimmendaal is a gorgeous glass-clad building that sits tucked amongst a groves of trees in the Dutch forest. A smaller footprint combined with natural daylighting and an interior circulation plan that encourages exercise are some of the interesting features included in the rehab and [community centre](#).

The three-story building is clad in anodized, brown aluminum as a way of blending it into its forested surroundings. Described as a deer in the forest, the centre stands quietly amidst the trees. The small footprint nestles into the forest floor and expands up and out in a narrow strip pulling in [natural daylighting](#) through voids and light wells. Both the community and patients use the rehabilitation centre, which is composed of offices, a clinic, sports facilities, a swimming pool, a restaurant and theatre. A shallow wooden staircase connects all floors of the building and creates a varied circulation pattern that encourages physical activity.

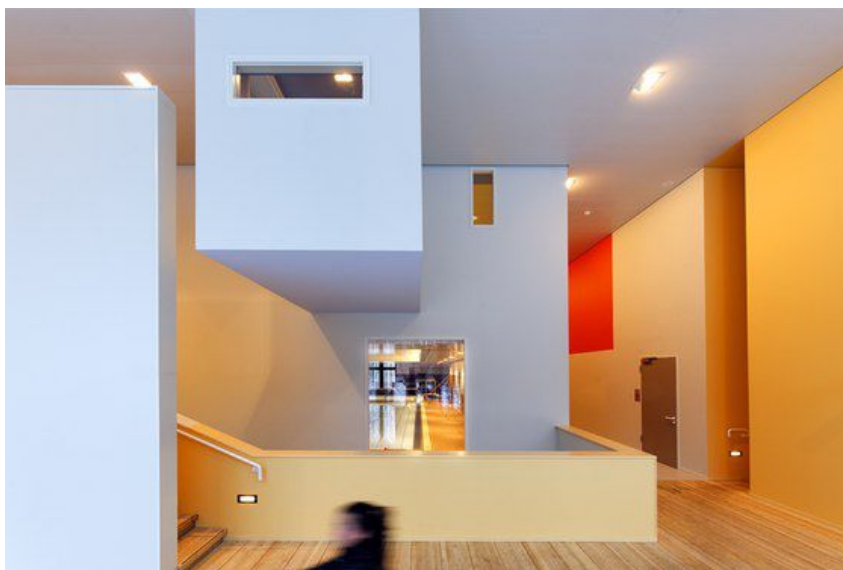
Energy efficiency is employed as a sustainable strategy and is achieved through the use of efficient mechanical and electrical installations as well as the utilization of



thermal mass, which reduces the need for heating and cooling. [Sustainable](#) and low maintenance building materials were also chosen for their long life span and durability. Koen van Velsen worked extensively with the users of the building to design it to be a welcoming and open environment that offers a natural habitat for care. He also developed the masterplan for the area, which includes one and two-story buildings that will be gradually transformed into a public park landscape.

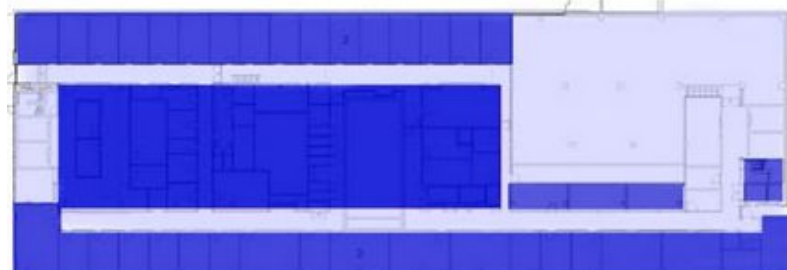
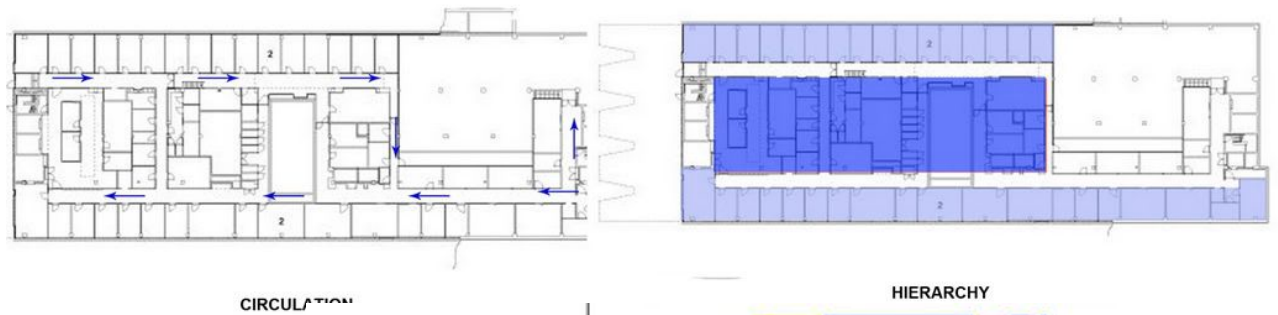
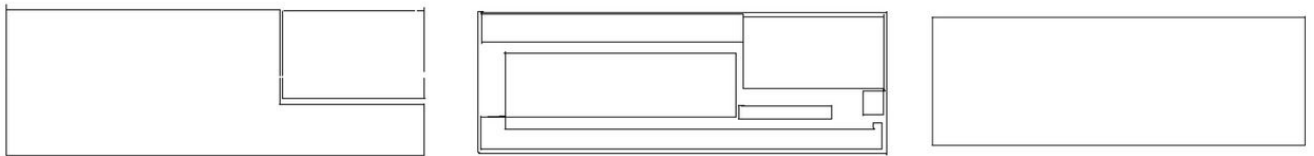
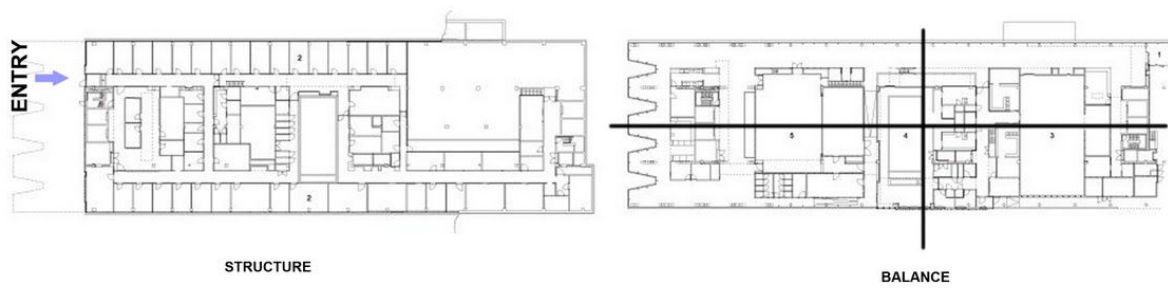


**Image:** compositions in space.



**image :** internal vertical and horizontal circulation.





■ PUBLIC  
■ PRIVATE  
SPACES



- 1 ENTRANCE
- 2 OFFICE
- 3 GYMNASYUM
- 4 SWIMMING POOL
- 5
- 6 RESTAURANT
- 7 FITNESS CENTER
- 8 ROOM FOR PATIENT
- 9
- 10 LIVING ROOM
- 11 VOID
- 12 PATIO



Image : site plan.

**CHAPTER 06**  
**PROGRAM AND DEVELOPMENT**  
**6.1 PROGRAM**

sft

**Dormitory for male**

Withdrawal	01	8 bed	486		
Withdrawal	02	8 bed			
Surrender	01	8 bed			
Surrender	02	8 bed			
Growth01		8 bed			
Going home	01	8 bed			
Early recovery		8 bed			
Mid recovery		8 bed			
Let recovery		8 bed			
					9 X 486 = 4,374
Toilet					600
Dinning hall			1 [for 80 people]		1,800
Kitchen			1		720
Store			1		90
Counseling room			1		64
Classroom			2 [45 seats]	2 X 300 =	600
Library			1 [1000 books and articles]		500
TV room			1		400
			<b>Total</b>		<b>8,284</b>

**Dormitory for female**

Withdrawal	01	8 bed			
Surrender	01	8 bed			
Growth01		8 bed			
Going home	01	8 bed			
Early recovery		8 bed			
Mid recovery		8 bed			
Let recovery		8 bed			
					7 X 486 = 3,360
Toilet					390
Dinning hall			1 [for 60 people]		1,600
Kitchen			1		640
Store			1		90
Counseling room			1		64
Classroom			2 [30 seats]	2 X 250 =	500
			<b>Total</b>		<b>6,640</b>

**Medical center**

			1 [10 beds]		
Doctor			1		
Nurse			1		
Bed			10		
Toilet			1		
Pharmacy			1		
Waiting			1		
			<b>Total</b>		<b>630</b>

**Dormitory for children**

Withdrawal	01	8 bed			
					486

Surrender	01	8 bed		
Growth01	8 bed			
Going home	01	8 bed		
			4 X 486 =	1,944
Toilet			1	300
Common room			1[for 40 people]	300
Store			1	90
			<u>Toilet</u>	<u>2,634</u>

<b><u>Accommodation for stuffs</u></b>		20 staffs [male]		
Programmatic stuffs [10]			5 X 100 =	500
Counselor [5]			3 X 100 =	300
Manager [01]				100
Accountant [01]				100
Doctor [01]				100
Psychiatric [01]				100
Toilet				300
			<u>Total</u>	<u>1,600</u>

<b><u>Accommodation for stuffs</u></b>		12 staffs [female]		
Programmatic stuffs [50]			2 X 100 =	200
Counselor [2]				100
Toilet				70
			<u>Total</u>	<u>370</u>

### **Vocational training center/ Skill training**

Welding, Lathe,				400
Carpentry,				300
Metal Work,				300
Shoe Making,				300
Candle Making,				200
Sewing, Tailoring, Block and Boutique				400
			<u>Total</u>	<u>1,700</u>

Playground				
Administration				1,697

### **Total :**

01. Dormitory for male	8,284sft	with 30% circulation space =	
	10,769sft		
02. Dormitory for female	6,640sft	with 30% circulation space =	
	8,632sft		
03. Dormitory for children	2,634sft	with 30% circulation space =	
	3,424sft		
04. Accommodation for staff	1,600sft	with 30% circulation space =	
	1,600sft		
05. Accommodation for staff	370sft	with 30% circulation space =	
	451sft		

06. Administration 1,305sft with 30% circulation space = 1,697sft

Total =

26,573sft

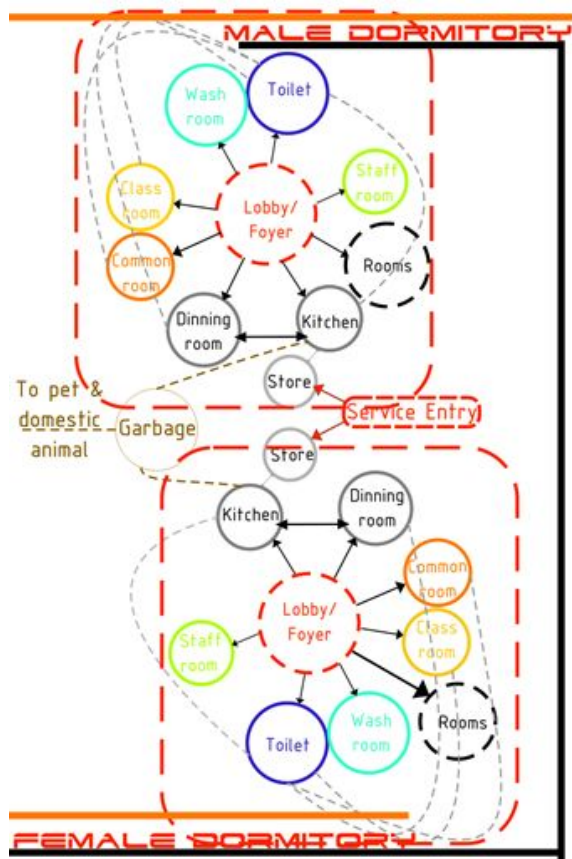
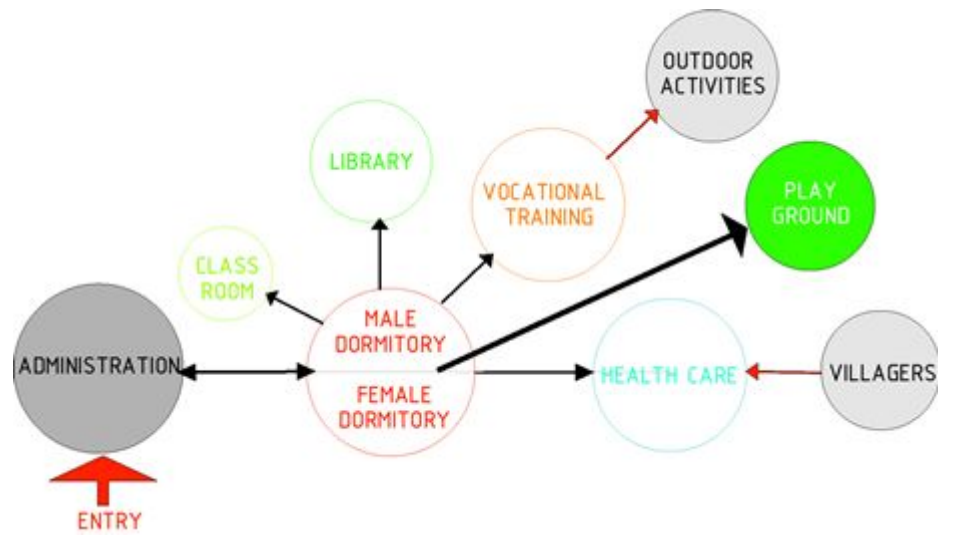
Total area = 172861.9554sft / 3.5acres

Total built area = 26,573sft

Open space without playground = 145000sft

**6.2 PROGRAM development**

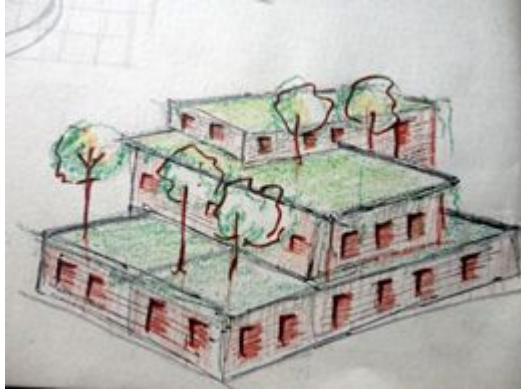




# CHAPTER 07 CONCEPTUAL STAGE AND DESIGN DEVELOPMENT

## 7.1 CONCEPTUAL STAGES

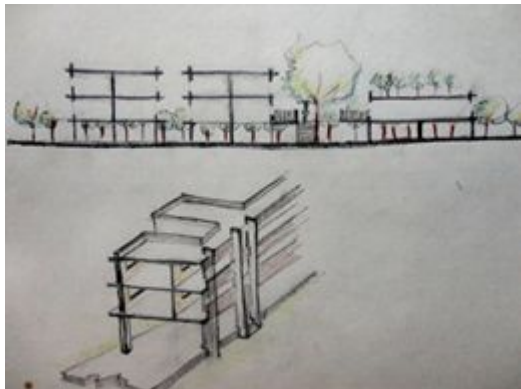
### PHASE 01



Sketch 01: vertically sifted green

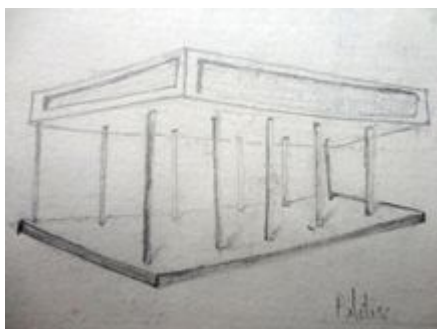
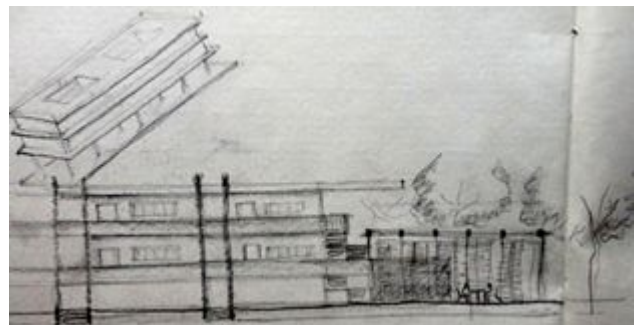


Sketch 02: section showing indoor outdoor relation with nature



Sketch 03: section and sectional perspective

Sketch 04: elevation



Sketch 05: landscaping



Sketch 06: pilotis

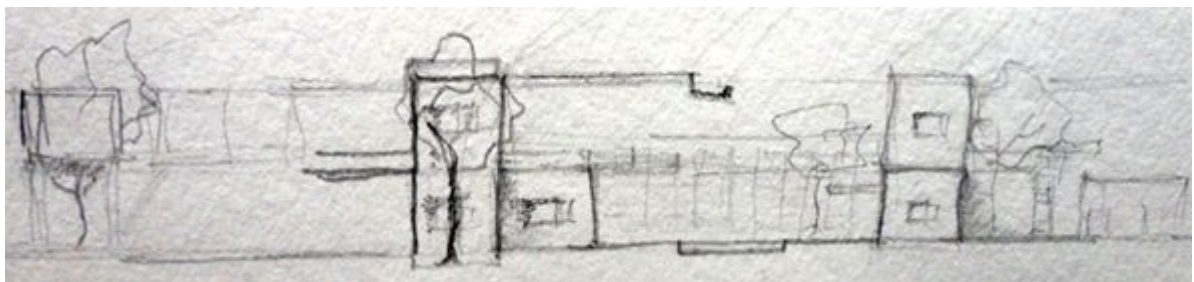
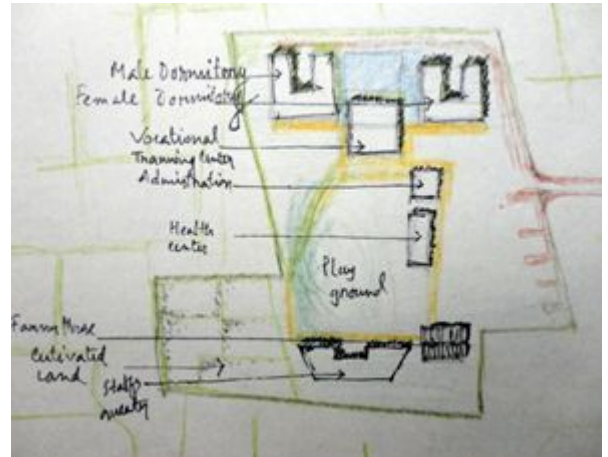




Sketch 07: two mass are connected with open cotyerd

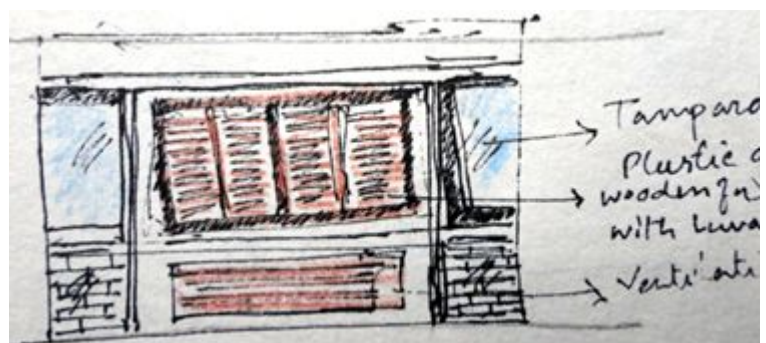


Sketch 08: bedrooms are arranged providing cross ventilation and make pocket green space



Sketch 09: elevation

Sketch 10: elevation with opening detail



### 7.1.2 CONCEPTUAL STAGES\_PHASE 02

#### PHASE 02

#### Conceptual stage 01

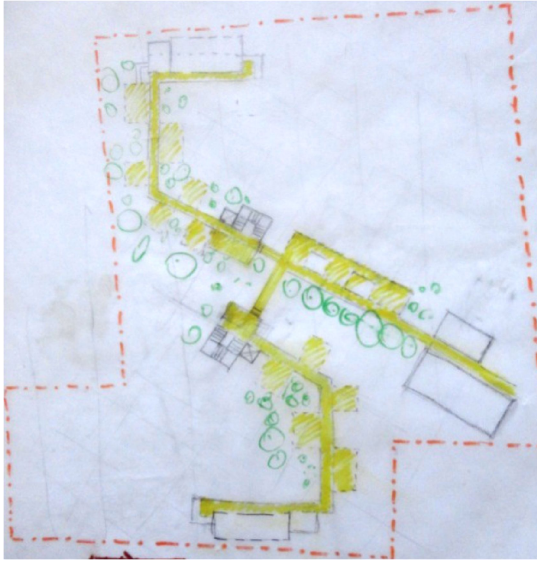


Image 32: conceptual stage\_plan01  
stage\_plan02



Image 33: conceptual

#### Conceptual stage 02

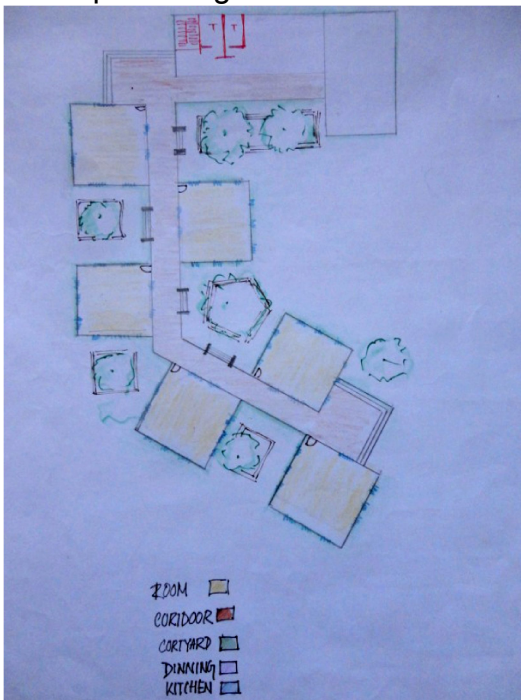


Image 34: Dormitory



Image 35: Dinning Hall  
Cross ventilation, indoor out door  
relationship,  
Courtyard

Conceptual stage 03:

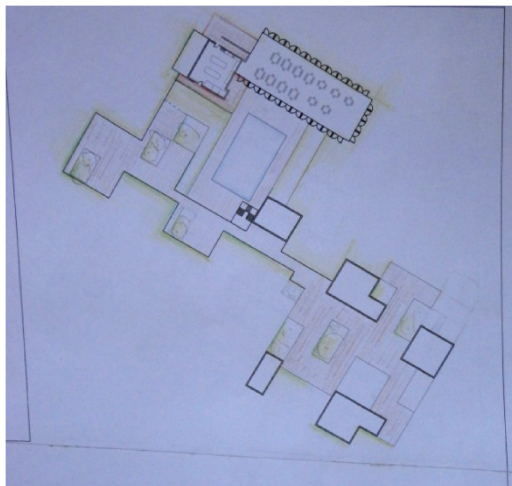


Image 36: ground level plan



Image 37: conceptual plan



Image 38: upper level plan

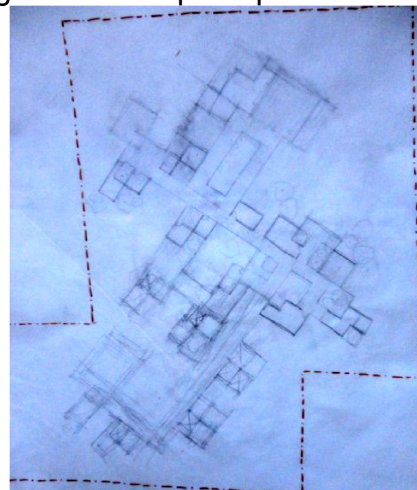


Image 39: conceptual plan upper

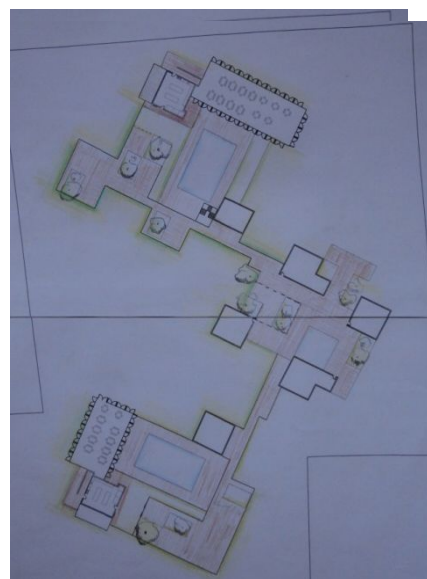


Image 40: ground level plan

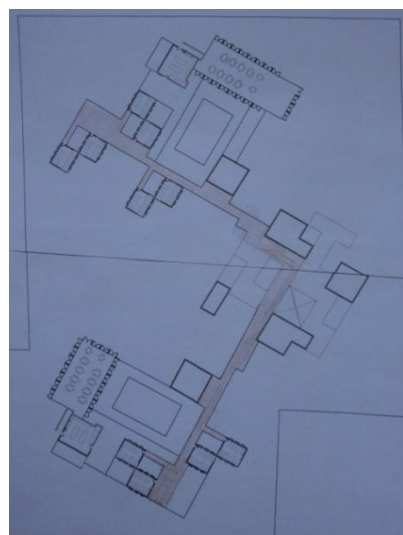


Image 41: upper level plan

## 7.2 DESIGN DEVELOPMENT:

Development 01:

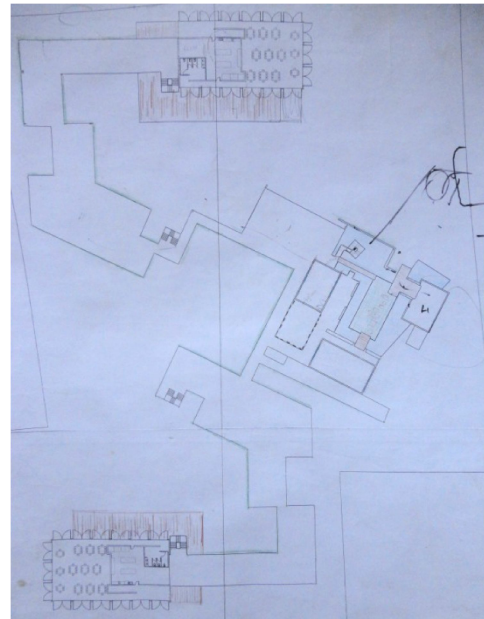


Image 42: design development plan\_1 development plan

Image 43: design

Development 02:

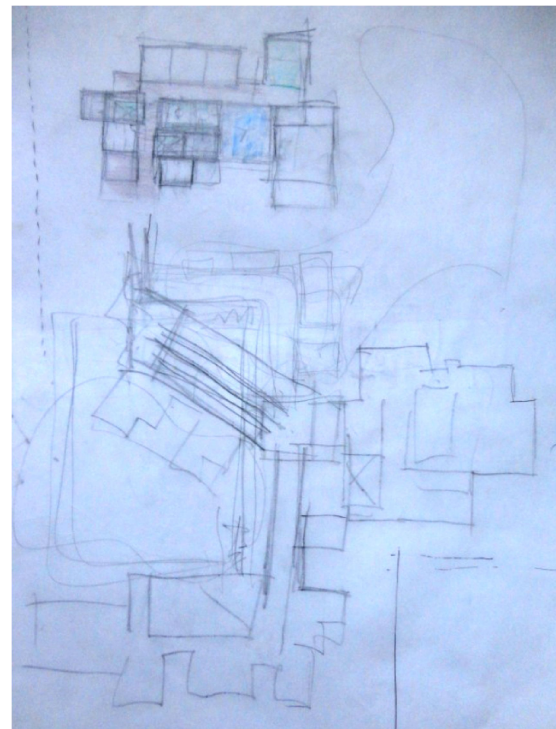
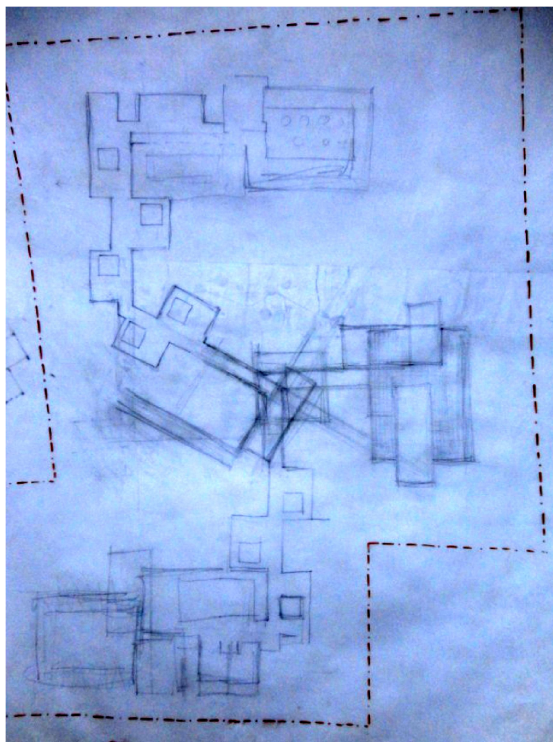


Image 44 : design development plan\_2 plan

Image 45 : design development

Development 02:

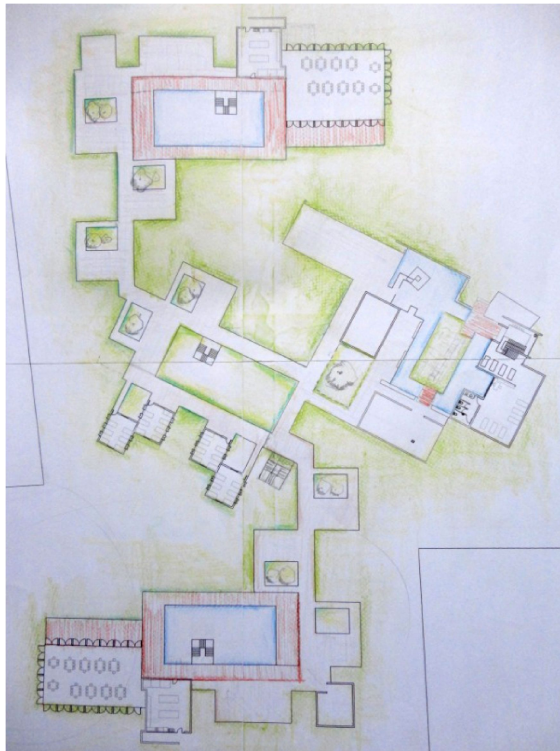


Image 46: design development plan\_3 plan

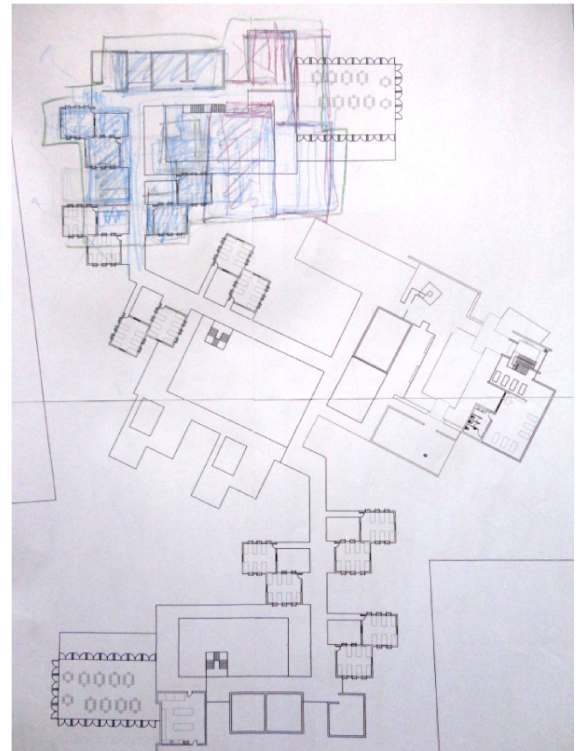


Image 47: design development

Development 03:

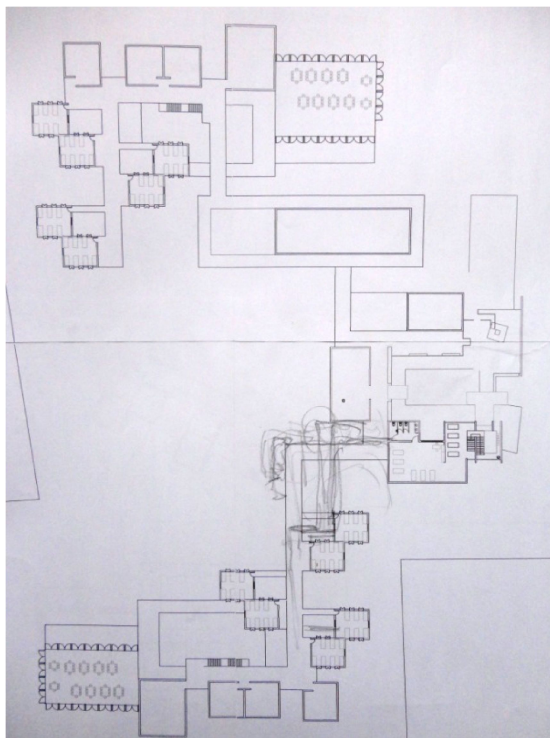


Image 48: design development plan\_4 plan\_5

Development 04:

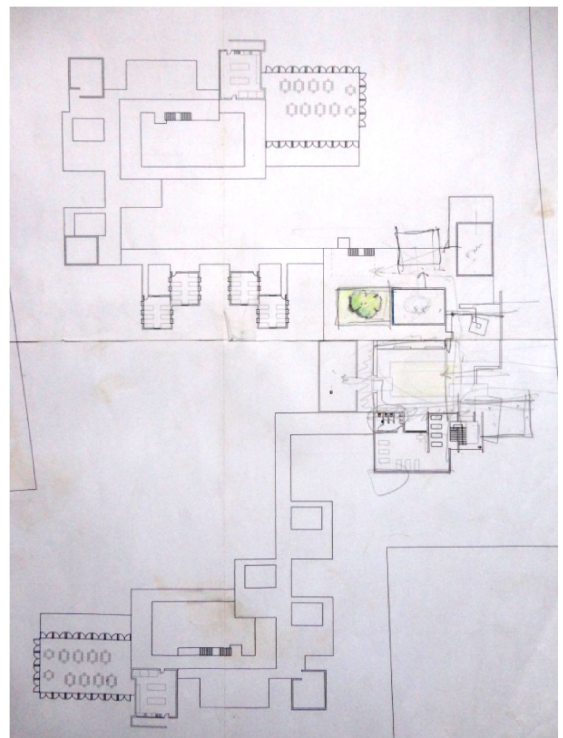


Image 49: design development

Development 04:

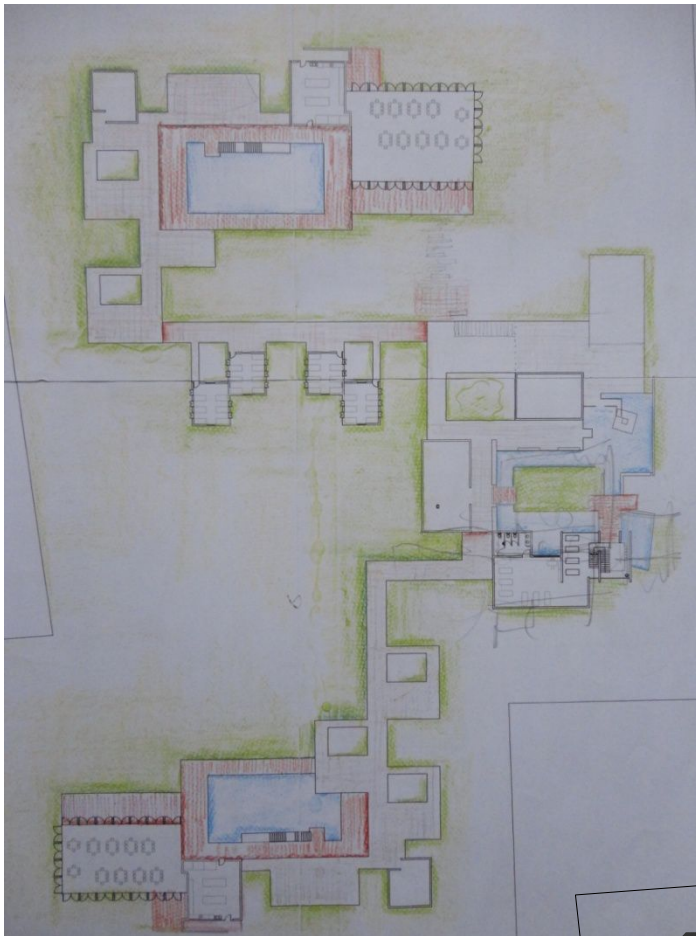


Image 50: design development plan\_5

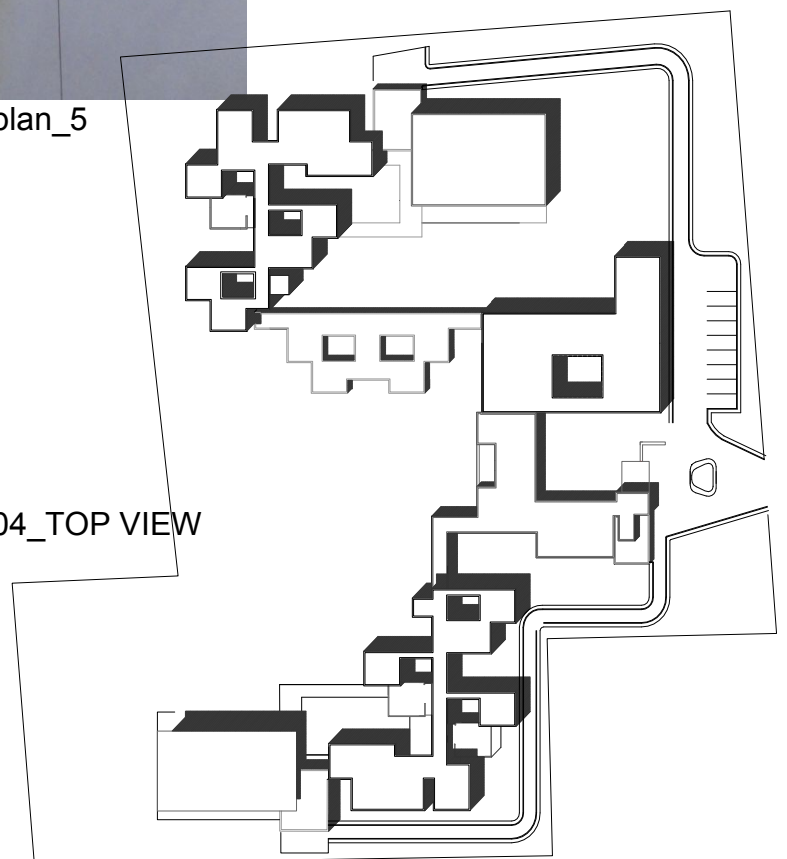


Image 51: design development 04\_TOP VIEW

Mass model analysis.

