

## MAKKAH DISTRICT YOUTH DETENTION CENTER

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### Abstract

A youth detention center aims to provide troubled youth of a chance to rehabilitation. In a community where there is a lack of facilities for youth, it is guaranteed that some youngsters will misbehave and need a place for discipline. A youth detention center will provide them with temporary accommodation and the required services and facilities. The designed service is effectively allows them to be better fit in the society. Few related case studies were conducted in terms of their program and zoning in order to develop a conclusive space distribution diagram. A site analysis is carried out to allocate an ideal land for the project. The site is analysed in terms of its criteria, accessibility, and location to find the right site fit for the project. The center is introduced in a society to guarantee that troubled children and adolescences are cared for and provided with different sorts of facilities that would strive to make them better to themselves and the society. Unlike a jail facility, the detention center is a small community where the goal is completely in the benefits of the young offenders.

**Keywords** -- Youth Detention Center, Rehabilitation, Discipline, Misbehave, Services, Facilities

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### INTRODUCTION

The society of Jeddah faces the problem of crimes and misconduct committed by more and more youth groups and individuals. These problems are mainly unsolvable and neglected [1, 2]. It is necessary to recognize the importance of "juvenile detention centers" in order to properly solve social problems and hope that young people and the general public have a better future.

In 1988, the murder rate in Saudi Arabia was 1.1 per 100,000 populations, and the incidence of sexual crimes was 21.9 per 100,000 populations [3]. The incidence of theft was 70.5 per 100,000 people. In 2002, Saudi Arabia reported a total of 84,599 crimes, which makes it a total of 387 crimes for every 100,000 of the people in the population [3]. With this in mind, it is important to recognize that the crime rate in Saudi Arabia is increasing due to many factors that affect modern life. By linking crime rate figures to juvenile offenders, it can be found that the problems of troubled young people have been gradually increase, and still no proper disciplinary procedure or action to keep them away from crime [4, 5].

Therefore, it is essential to develop appropriate plans for minor offenders so that they can rehabilitate themselves. A "Youth Detention Center", also known as a "Juvenile Detention Center" or "Juvie" is a residential shelter or prison for underage criminals, of 18 years and younger [6]. These centers provide long-term services and programs to accommodate young criminals and guarantee the safety of the general public as well as "enlighten" the children. Some of the amenities provided in a youth detention center include rehabilitation, correctional, educational, health and medical, religious, and recreational facilities [7, 8]. These centers aim to provide intervention and rehabilitation services for children and hope to provide them with the necessary skills to become good citizens.

### CASE STUDIES

An intensive analysis of the project guide for designing a juvenile facility will be observed to gain a strong overview of how to develop a proper and complete youth detention center all the necessary facilities and services will. The first case study is

Sonoma County Juvenile Center located in Santa Rosa, California, which will provide sufficient information to assist in the information gathering about the youth detention center. The second case study, Boone County Juvenile Justice Center located in Boone County, Missouri will also assist in providing information regarding the designing of the center. A new technique of using monolithic domes in the design of jail, prisons, and juvenile centers, is observed to consider while designing.

#### Sonoma County Juvenile Center (Santa Rosa, California)

The Sierra Leone Center was designed by The Design Partnership Firm (Architects and Planners) and it was conducted the Sonoma Country Adolescent Program in 1970 (Figure 1). This unique center is a ranch / camp site program that specifically targets young female offenders aged 12-18. Due to the great success of the center, it is recommended that they also accommodate male criminals, mainly because the number of female criminals in the area is the smallest. Since then, the Sierra Center opened to male and female criminals in 1981. [9, 10].

The purpose of the center is to encourage interaction between minors and community residents to provide a unique interaction between them. This interaction was very successful and therefore encouraged the development of the aftercare plan. The aftercare service plan provides support, structure and sense of responsibility for young people and their families to inspire them to have a better future and ensure an easy transition to the family [9].

#### Boone County Juvenile Justice Center (Boone County, Missouri)

Simon Associates Incorporation designed the Boone County Juvenile Justice Center, whose project architect was John Simon (Figure 2). Initially, the expansion and renovation of the Juvenile Justice Center facility at 1900 Prathersville Road, Columbia, Missouri was planned. However, after analyzing the feasibility of refurbishing existing facilities and taking into account potential construction disruptions, the project plan was changed. The cost analysis determined that the new facility can be developed within the construction budget established to renovate the existing facility, where the new building will be better organized

and fully meet the requirements of the ADA, and the existing center will meet other needs of the county [11, 12].

The Boone County Youth Justice Center is the detention facility designated by the 13th Judicial Circuit Court. According to the order of the court, the juvenile assessment service and temporary care needed were found. The architectural plan is designed to provide maximum visibility to minimize the staffing requirements of the facility [12].

**Monolithic Domes for the Design of Jails, Prisons, and Juveniles**

A Monolithic dome is a large structural dome that is well designed for prisons and jails (Figure 3) [13]. Moreover it especially fulfils the design requirements for such correctional facilities. The interior plan of the dome is united by a common central space that is surrounded by the cells. A prison or jail that is built in a circular form is more functional in the sense that it is an incarcerating facility. The line of vision is direct and there is a better view of what is going around. It is commonly known that sprayed concrete is much stronger than conventional concrete, which makes the whole concept of the monolithic dome suitable for the design of a jail or prison. It also contributes to the minimization of the amount of heating and cooling required in the building. Thus, the speed of the construction is greatly increased, resulting in a rapid speed of the complete development of the monolithic dome, from plan to finish [13].



Figure 1. Sonoma County Juvenile Center (Santa Rosa, California) [10]



Figure 2. Boone County Juvenile Justice Center (Boone County, Missouri) [11]



Figure 3. Monolithic Domes for the Design of Jails, Prisons, and Juveniles [13]

**SPACE PROGRAM**

The proposed space program of the project is tabulated in Table 1. The space program consists of administration building, manager head office, housing, education zone, health zone,

recreation, dining hall, religious services, control unit, and parking zone. The biggest zones of the project are parking and education zone about 24.74% and 15.77% respectively. The total approximate area of the calculated spaces equals to be 30,320.20m<sup>2</sup>.

**Table 1. Space Program of main zones**

Space	Percentage (%)	Approximate Area (m <sup>2</sup> )
Entrance/ Administration Building	1.54	467.5
Manager Head Office and Assistance	0.42	129
Housing (Maximum Security)	12.11	3671
Housing (Medium Security)	14	4243.5
Housing (Minimum Security)	11.67	3540
Academic/ Vocational Education	15.77	4780.5
Health/ Medical and Psychological Treatment	2.12	643.2
Indoor and Outdoor Recreation	9.35	2834.5
Dining Hall and Food Preparation	1.86	564
Religious Services	5.16	1566
Control Unit	1.26	381
Parking Services	24.74	7500
<b>Total Approximate Area of Spaces (m<sup>2</sup>)</b>	<b>100</b>	<b>30320.2</b>

Other essential services that are calculated into the total approximate area of spaces in the center are constructor, circulation, and HVAC, which shown in Table 2. The total approximate area for the Makkah District Youth Detention Center is calculated to be approximately 44,267.4 m<sup>2</sup>.

**Table 2. Space Program of other services**

Service	Percentage (%)	Approximate Area (m <sup>2</sup> )
Constructor	6	1819.2
Circulation	30	9096
HVAC	10	3032
<b>Total Approximate Area (m2)</b>		<b>13947.2</b>

**SITE SELECTION AND ANALYSIS**

The correctional facility itself is a unique function because it provides various rehabilitation opportunities for prisoners. Therefore, it is important to choose the location of such buildings in order to bring the greatest benefits to the youth and the community. The two main aspects to consider when choosing the location of correctional facilities are the available space and the quality of accessibility. It is also important to consider areas that can actively benefit from facilities, where new job opportunities can be created, and at the same time do not exclude facilities services where needed.

Although it is often refused to install such facilities near residential and commercial areas, these concepts have recently changed as the youth community understands. Due to the various needs of correctional facilities (such as government, medical, housing, education, infrastructure and other services), this may benefit the surrounding communities. It is generally believed that certain factors should be considered when choosing a new prison or federal agency location. These factors include:

- a) There is enough free space to build passages, roads and parking lots
- b) Accessibility of major highways
- c) Local public and private support for the project
- d) Supply of basic utilities such as water and electricity
- e) Total cost of site development
- f) Economic and climatic conditions in the area
- g) The ability to provide infrastructure for new projects, such as; schools, housing, and businesses

The importance and needs of youth detention facilities in the area must be recognized, rather than choosing a location for the project, but placing it where it is needed, convenient and easily accessible. The location for the youth detention center will be in Jeddah, Saudi Arabia. Jeddah is located on the coast of the Red Sea and is considered to be a main urban center of western Saudi Arabia. It is the largest city in Mecca province and the largest port in the Red Sea. Jeddah is the second largest city in Saudi Arabia, second only to the capital Riyadh. The importance of the city's location is that it stands as a gateway to Muslim's holiest cities, Makkah and Madinah. Jeddah is unique in its location because it links many cities in the Makkah Province together and acts as a core for its surrounding area. Jeddah is surrounded by many other smaller cities, and towns that do not have major services or facilities. Therefore, locating the site in the northern side of Jeddah will be beneficial for other areas as well.

The smaller towns that are around Jeddah include, Khumrah, Umm as Salam, Hadda, Buraiman, Al Kura, Usfan, and Umm Sidrah. Jeddah is divided into many different areas. The northern part is the main link between the city of Jeddah and the surrounding areas. Therefore an ideal location for the youth detention center would be in the north area to provide the other cities with this unique facility.

The selected site for this specific project should be easily accessible to people on one hand, and far away from the hustle and bustle of the city on another hand. Therefore, an ideal location for this type of correctional facility in Jeddah would be placing it in the northern area of the city where it is easily accessible by people, distant from the dynamism of the core, and closer to other cities that are close to Jeddah.

The selected site is located at the north of Jeddah (Figure 4), where major roads, such as Malek Road, Corniche Road, Al-Madinah Al-Monawarah Road, and Al-Haramain Espress way all lead to the site (Figure 5). The land takes a square form of 210 by 210 meters squared (Figure 4). The site is not located in the city center of Jeddah, yet it is still easily accessible by residents of the city. It is also ideal because it is easily reached by other towns close to Jeddah and is located at the gate, before entering the core of the city. The site is surrounded by some residential areas and is close to commercial services. One notable landmark that is close to the site is the airport. The airport is located to the south of the site and is a significant landmark that cannot be overlooked.



Figure 4. Site boundaries [14]



Figure 5. Major roads leading to the site

The climate in Jeddah is classified as being an arid climate. During wintertime, the temperature in Jeddah remains warm ranging between 25 °C during the daytime and dropping to 15 °C at midnight. At summertime, the temperatures are extremely hot and can easily reach 40 °C during the afternoon and dropping to 30 °C in the evening.

Rainfall is uncommon to the city of Jeddah, where it usually occurs in small amounts during winter. Regardless, it is common to see several heavy thunderstorms in the winter, which could lead to sudden heavy rainfall. In summer and winter, sandstorms may occur from the Arabian Peninsula desert or North Africa.

Although it has been commonly believed that the temperatures in Jeddah are extremely hot all year round, and this could have been true to some extent in the past years, this trend has been changing lately. The weather in Jeddah has been getting cooler which could be a linked to global warming that has been dramatically affecting the temperatures and climatic conditions worldwide. In the past 4 years, there has been a notable improve in the weather, where it has been staying cooler for more seasons. Fall, winter, and even spring have become seasons of cooler and bearable weather, where the temperature is pleasant and could positively encourage and increase outdoor activities.

The microclimate of the chosen site is reflected by Jeddah's climate but could possibly be less humid in that area. Because it is slightly distant from the sea, the temperatures in the area remain pleasant with less humidity.

There are no specific problems that are associated with the selected site. Some of the general problems that close areas might be facing includes, noise, pollution, traffic, and floods. These problems can be easily avoided by providing the sufficient protection and precautions. Noise level at the selected site is low because of the highway. Because the selected site is out of the city boundaries, pollution level tends to be low.

**ZONING AND PROJECT DESIGN**

Designing for a youth detention center should encourage the development of an inner-space that is self-soothing and encourages interaction and change to one's self and society. And at the same time, the project provides architectural designs that comprehends with the needs of the young youth and encourages indoor and outdoor activities. The concept behind the development of the youth detention center is to present the juveniles with all the necessary aspects and activities of a normal daily life. Through design, the interaction between juveniles and the staff, and the juveniles with one another should be supported to make the youth feel comfortable with each other and their environment. Provide spaces that present a unique environmental characteristic and minimize the feeling of imprisonment and the sense of being in a crowd.



Figure 6 demonstrates the conclusive space distribution (zoning) on site is developed to determine the different areas and their location on the site. The parking zone is distributed to two corners of the site location. The outdoor and indoor recreation zone is located at the middle of the site, where it's sandwiched by all others components. Three difference types of housing are situated in array at one side of the site location. The entrance/administration zone is integrated with manager head office and unit control to become one element, which located at the main entrance of the project. The main perspective of the project is shown in Figure 7.



Figure 6. Final zoning of site

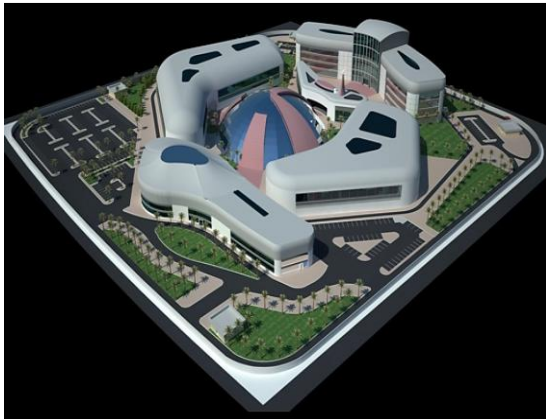


Figure 7. Main perspective of the project

**CONCLUSION**

The proposed youth detention center project aims to care for, educate and train children and adolescents while providing them with a safe space to enable them to make constructive changes. The space program that considered in the project are administration building, manager head office, housing, education zone, health zone, recreation, dining hall, religious services, control unit, and parking zone. The selected site is at the north of Jeddah based on the site evaluation and analysis of site location, site accessibility, site landmark, site climate and site problems such as pollution and noise. In addition, the purpose of the center is to provide the maximum information, education, and medical care for the juveniles to allow them to establish a mentality that is 'free of mistakes'.

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