

EPsni 342

*AMERICAN UNIVERSITY OF BEIRUT*  
FACULTY OF ENGINEERING AND ARCHITECTURE

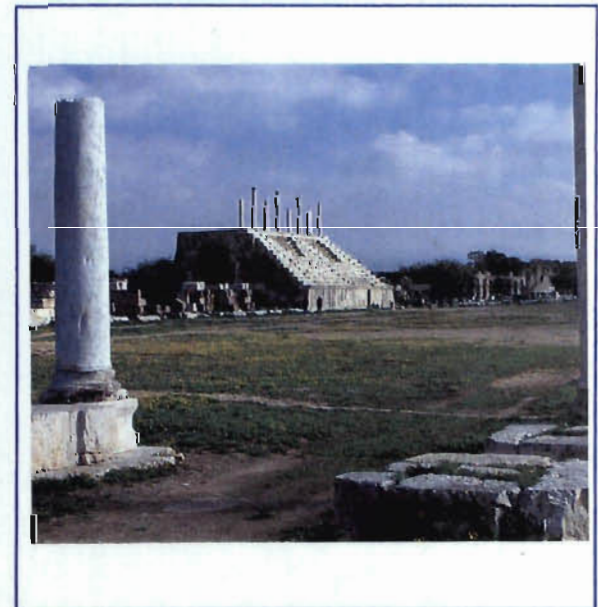
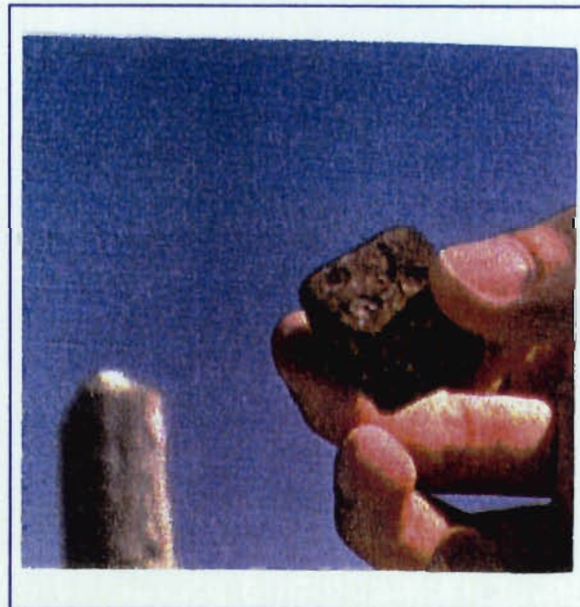
# CASINO

Tyr, South of Lebanon

**By : Ziad A. HAMZEH**

ARCHITECTURE

Class of 1997



**AMERICAN UNIVERSITY OF BEIRUT**

Faculty Of Engineering and Architecture

Department of Architecture & Design

A535 Final Project Program and Research

Class of 1997-ARCHITECTURE

Fall 1996-97

Advisor : Professor Ole Moysted

***CASINO***

Tyr, South of Lebanon

By: ***Ziad A. Hamzeh***

**Table of Contents :** pages

---

**I. Introduction:**..... 7

    A. Gambling..... 7

    B. History of Gambling..... 9

**II. Casino Psychology**..... 12

    A. Casino Culture..... 15

    B. Casino Connection..... 19

**III. Objectives/Purpose/Scope**..... 22

    A. Socio-Economical Need..... 22

        1. Tourism..... 22

        2. Culture..... 24

        3. Gambling..... 27

        4. Community Benefits..... 29

        5. Government Revenues..... 30

	<u>Page</u>
B. Architecturally.....	31
1. Cultural Entertainment.....	31
2. Volumetric.....	32
3. Interiors.....	33
C. Program.....	35
1. Lyric Theater.....	36
2. Show theater.....	36
3. Traffic / Parking.....	36
4. Outstanding Facilities.....	37
5. Service Facilities.....	38
<b>IV. Site Documentation and Analysis.....</b>	<b>39</b>
A. Location.....	39
B. Surrounding Buildings.....	39
C. Circulation.....	43
D. Geology and Soil.....	43
E. Hydrology.....	43
F. Topography.....	45

	<u>Page</u>
G. Climate.....	45
H. Ecology.....	45
I. Building Law.....	47
J. Summary.....	47
K. Photographic Analysis.....	50
1. Camera position.....	50
2. Pictures.....	51
<b>V. Spatial Analysis.....</b>	<b>56</b>
A. Casino Layout.....	56
B. Layout Plan.....	58
C. Gaming Areas.....	59
<b>VI. Space Requirements.....</b>	<b>60</b>
A. Tabulation.....	60
<b>VII. Project Concept.....</b>	<b>64</b>
A. Design Concept.....	64
B. Planning Concept.....	65

	<u>Page</u>
C. Technological Concept.....	65
D. Coceptual Diagrams.....	66
<b>VIII. Schematics.....</b>	<b>71</b>
<b>IX. Similar Examples .....</b>	<b>74</b>
A. Casinos.....	74
1. Casino De Liban.....	74
2. Casino at Pampuhla, Brazil.....	81
B. Theaters.....	86
C. Marinas.....	92
D. Car Parks.....	94
E. Restaurants.....	95
F. Control Room.....	97
<b>X. Bibliography.....</b>	<b>98</b>

# *I. INTRODUCTION*

# I. INTRODUCTION

## A. Gambling

Casino's have become an important element in cities, where the development in Casino gambling and its gradual social acceptance turned cities like Atlanta and Las Vegas into a family tourist attraction. This shows that casino's have emerged as an irreplaceable part of the spirit of the age. In the film Casino, based on a true story, the manager describes his Casino: "*as Paradise on Earth, where they sell people dreams for cash*"<sup>1</sup>.

What is that makes gambling so pervasive in human nature? Every choice you make in life is a gamble. When you are old enough to make your own choices, you gamble with your future with every decision you make. What college should you attend? What profession should you enter? Should you get married and who? All these questions form the spice of which life is made. And they are all gambles. This shows that gambling and life have many similarities, and that's why people enjoy casinos so much<sup>2</sup>. The choices you make in real life are easily translated into the choices you make in the casino. You use many of the same strategies to make choices in real life as you do when you're gambling in a casino. Some of the assumptions you make in the casino cannot be translated into real life, however. And that's where gambling and real life diverge.

---

<sup>1</sup> CASINO Film, Quotation said by Robert de Niro.

<sup>2</sup> Gros, p.6.



Luck is, of course, the essential element in casino gambling. sure, you can mitigate that factor by understanding the odds and the most favorable ways to play the games, but you can't eliminate it. Furthermore, it is illegal to play games in a casino that are not based totally on Luck .

Luck plays an enormous role in how your life is played out. You can get good education and be totally prepared for your career, but if you don't meet the one key person in your professional life, or you don't get an unexpected break, you may only be moderately successful, rather than soar in the rarefied heights of your chosen profession.

Gambling is the great leveller. All men are equal – at cards.

NIKOLAI GOGOL

*The Gamblers*

1842

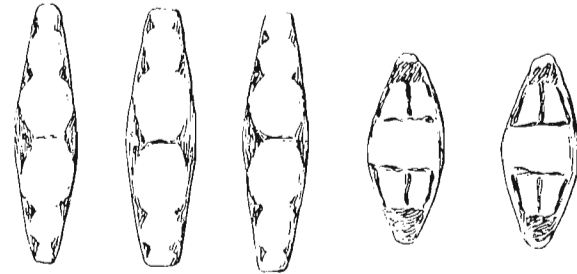
## B. History of Gambling

People have played games of chance and drawn lots since the very beginning of history. Archeologists have found games of chance dating back to the time of the earliest known settlements. On the scale of human priorities, games of chance came very high up. The legend that Palamedes invented dice games during the siege of Troy certainly underestimates their age. The first known crafted six-sided dice date from around 3,000 BC in Egypt. About 5,500 years ago the Babylonians played the game of



Dice have been developed independently in virtually all cultures. This is an illustration from *Rubaiyat of Omar Khayyam*.

A set of early bone dice used by the Arapaho Indians of North America. (Photo: N.Y. Public Library)



Prostitution may be the oldest profession but I bet there was someone laying odds about whether she would or whether she wouldn't.

RON POLLARD  
former Ladbrokes Director

hounds and jackals with astragals (knuckle bones from sheep or cattle). Chinese and Indian racing games employed a teetotum, a form of spinning die, while Koreans used carved, notched sticks<sup>3</sup>.

By their appeal to fortune, such games touched on an important philosophical issue: who or what controlled human destiny? In an often hostile world in which humans could seem powerless in the face of unknown natural forces, fate and luck merged indistinguishably.

It has been suggested that the word “die” derives from *dei*, the Latin word for gods. All manner of devices were thrown to discover the gods’ plans, to divine the future from patterns they made. Diviners in different cultures cast sticks, arrows, pebbles, astragals, dice or lots. In India, for example, the future was foretold by means of four dice that spun on a stick. Tibetan priests used lots to forecast the next stage of a person’s reincarnation. The *Mahabharata* (written around 300 BC) describes the whole world in terms of a game of dice that Shiva and his queen play out together. In Greek mythology, Hermes won five days in a game of dice with Selene, the moon goddess, thereby unifying the solar and lunar calendars and settling the length of the modern 365-day year.

Important decisions could be determined by lot. The Bible provides a number of Judaic examples, including the election of king by lot ( 1 Samuel 10), and the New Testament describes how Zechariah’s duties as a priest were assigned to him by lot ‘according to the custom of priesthood’ (Luke 1). Furthermore, lot-casting to establish the guilt or innocence of an accused person occurred in ancient Arabia, even after the introduction of Islam, that clearly condemned gambling and games of

---

<sup>3</sup> Turner, p.9.

chance<sup>4</sup>. However, these theories were denied by Einstein in his search to know how God created the world; he believed that God is subtle and not malicious and Einstein said :” God does not play dice with the world.”<sup>5</sup>

It is ironic that playing- cards, and the new range of games that were brought to medieval Europe, arrived in Europe from the crusaders , who learned the latest gambling games from the anti gambling Muslim Arabs, who played cards to alleviate the boredom of the long sieges that punctuated each campaign.

Playing cards that originate from the Koreans, who used flat sticks carved with different symbols based on their divining arrows; and paper versions appeared in China about the first century AD. Modern packs derive from a 12 century Chinese design brought to Europe from the Middle East. In this modern pack you have four suits representing the seasons or the four ancient basic elements: earth, air, fire and water; which also form the four basic categories of the Horoscope ; and 52 cards representing the weeks of the year in addition to the Joker which completes the 365 days of the year <sup>6</sup>.

In the Roman Empire the Hippodrome was an essential socio-cultural element of the city. Activities such as Horse Racing, Gladiator Fights and other types of sports; took place at the Hippodrome , where the Emperor and most of the city population attended these festive activities. Tyr Hippodrome, being the largest outside Rome, witnessed this sort of cultural activities giving this site an important entertainment cultural historic role ; which I will be reviving in my casino and cultural resort just across the street.

---

<sup>4</sup> Turner, p.10.

<sup>5</sup> Clarke, p.19.

# *II. CASINO PSYCHOLOGY*

## II. Casino Psychology

“ I think , therefore I gamble “

To understand the casino’s point of view, think of casino executives as skilled psychologists who understand how to motivate gamblers.

Gambling is the great equalizer , where casino’s around the world have a definite system that makes winning and losing to affect everyone equally. While the levels of gains or losses vary between the nickel slot machine and the private Baccarat, the impact is usually similar. Winning brings excitement and exhilaration, losing brings disappointment and despair; and both play with the adrenaline level in the human body, forming the enjoyment in the act of gambling itself.

Casino’s are the temples of gambling. From the small closets and back rooms of illegal gambling rooms to today’s glittering entertainment palaces, casinos are generally where gamblers go to experience the thrill of placing their hard-earned money on the line.

---

<sup>6</sup> Toukhi, p.12.

Gambling is a game for losers, for there is no way to beat the casino. The built-in house advantage at every casino game will grind down even the most experienced player *in the long run*. Those who discovered a winning “system” are generally experiencing short-term deviations from the long-term law of averages<sup>7</sup>.

The main rule for a casino is to keep people playing and keep them coming back; because the longer they play the more they lose. In the end usually most of the money goes to the casino. That is why casino operators do not design their casinos so that customers are moved swiftly in and out, as in an overcrowded restaurant. They fix the In-built advantage they enjoy to just a few per cent in order to fleece you slowly, gently, pleurably and therefore frequently; providing a constant flow of gambling action. The climax arrives with the thrill of the final few nerve-tingling seconds before the resolution of the bet and, at last, win or loss, relief or disappointment, joy or regret, before the next cycle begins.

This is the action that gamblers look for. It is the moment when anxiety and anticipation jostle in the stomach and adrenaline adds a chemical edge to the tension that gambling most resembles drug-taking. For some gamblers, that thrill becomes the sole purpose, which can be both unhealthy and expensive. It also misses the point of the wide range of pleasures and stimuli that gambling entertainment provide. The sensations of suspense and risk within a safe environment are not so much different from those experienced watching a horror film or on one of the more lunch-defying theme park rides. As we choose to take our entertainment in more powerful and concentrated forms, gambling fits easily into the mold of modern leisure.<sup>8</sup>

---

<sup>7</sup> Gros. p.8.

<sup>8</sup> Turner, p.21.

# GAMBLER

The gambler is apparently the last optimist; he is a creature totally unmoved by experience. His belief in ultimate success cannot be shattered by financial loss, however great. He did not win today? So what? Tomorrow will be lucky. He's lost again? It doesn't prove a thing; someday he's bound to win.



*Psychology of Gambling*  
1957



Gambling is a way of buying hope on credit.

ALAN WYKES

*Gambling*

1964



## **A. CASINO CULTURE**

Casinos of the past were rather modest affairs with just a few table games in small rooms. Their legal status varied wildly throughout the years, but today, some form of a legal casino is offered in 28 of the 50 United States.

The major casino activity in the US today is centered in Nevada and Atlantic city. Spectacular casino hotels are the current preferred choice in adult entertainment. While the resorts offer everything from theme parks, spas and luxurious suites to superstar entertainment, championship sporting events and shopping, the main focus remains on gambling in the casino.

European resorts like Monaco in France, Spain's Gold Coast and Germany's Baden-Baden offer different kinds of casino experiences, but they all rely on one thing: the ability of their clients to play ... and lose.

The American-style casino [Disney Land Style] is different from the European casino. In most cases, the European casinos are reserved for the middle and upper classes, with entry fees, memberships or location serving as an effective barrier to those who either can't afford to join or aren't acceptable as members.

In the US, most casinos are open to everyone, with few restrictions on participation except for age or criminal record. American casinos like many aspects of the American culture, are aimed at masses. However, the more you look at the history

of Anti-Gambling, the more it becomes clear that people have objected most strongly not so much to gambling itself as to gambling among masses.<sup>9</sup>

In the Casino at Tyr and for social purposes, I aim to follow the European casinos style, leaving the other supporting entertainment activities to be enjoyed by the masses, while gambling would be somewhat restricted.

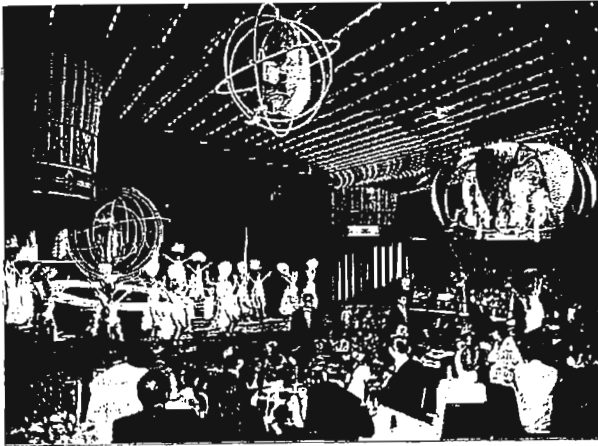
All gaming resorts make the lion's share of their money from the casino, so it is important to them that customers play in their casino as long as possible. Casino executives understand that the longer people play, the more likely they are to lose. To get you into the casino in a gaming resort that features other entertainment amenities, the house employs a variety of tools. Talking to an architect who worked on the design of Casino De Liban , he told me that the owners have put more money on the construction of the theater than they had put for the casino itself. Because the theater is nothing but an attraction device aimed to bring people to set their foot on the casino premises, and from there on the house will , in a variety of ways, get the customer into the casino and keep them as long as possible. Gaming administrator at the Casino de Liban<sup>10</sup> admitted that the initial purpose behind theaters and shows was to attract gamblers; however, she said that this notion is no longer applicable at the Casino de Liban since due to the history of the casino , the cultural role of the casino has at a certain point succeed over the gaming ; whereby Casino de Liban became a cultural center of the middle east, hosting the best international plays musicals and dance shows from all over the world [ fig.1 ]. This cultural image is clearly evident when we hear the chairman of the

---

<sup>9</sup> Turner,p.23.

<sup>10</sup> According to interview with Miss Lara Khoury, assistant vice president gaming, London Club Beirut.

casino saying that the casino will be back only after the reopening of the theaters, which will reflect the right image of the casino.



In Nevada, you can't walk anywhere in a hotel without walking through the casino. Even when you are checking in, you usually have to walk through the slot machines to get to the front desk. The friendly din of the slot machines is audible whenever you leave your room, encouraging you to slip a few coins into the machine and yank the arm just in case it is your lucky day.

In the past many casinos decorated their sleeping rooms in garish colors and busy designs. This was supposed to make the guest restless and encourage them to return to the casino. Televisions in a casino don't sport a wide variety of channels and in

most cases, there are no “mini bars “, so people are forced to leave their rooms in search for a drink, which is usually given free of charge in the gaming halls.

Alcohol plays a large role in keeping you in the casino. Cocktail waitresses circulate frequently through the tables and slots to serve the players free drinks. Even when you want to take a break, casino taverns have ” bar-top” video poker machines embedded in the bar, that constantly flash their appealing message , which make it difficult to resist the temptation to try your luck.

Many casinos pump extra levels of oxygen into their ventilation systems, which gives players a feeling of well-being, making them feel “ lucky “ and perhaps and perhaps increase their wagers. However, casino executives say that they are just increasing the fresh air flow.<sup>11</sup>

Don’t expect to see any clocks in a casino. The executives want you to lose track of time and not know -or care- whether it’s night or day. Windows were never originally included in casino design, but that concept is beginning to change now that most casinos are located in resort areas that have spectacular vistas.

Conversely, today’s casinos take advantage of those great views so that when you sit at a gaming table or slot machine, you can partake in the surroundings. You can then truly return home with tales of the beautiful scenery, even if you never left the casino.

---

<sup>11</sup> Gros, p.21.

## **B. CASINO CONNECTION**

Let's take a trip through a mythical casino. As we drive up to the building, enter the porte-cochere, where a valet hustles up to the car and welcomes us to the resort. We approach the doors as they swing open, they reveal the colorful, noisy and exciting casino. Lights are flashing, bells are ringing and people are chattering about the action unfolding before them. It's a gateway into a new world.

The bright lights and constant action are meant to draw us into the depth of the casino. Watch the slot machines near the entrance. Many slot experts theorize that casino executives place the higher paying machines at the entrance to give the impression that people are winning throughout the whole establishment; whereby the sound of winning jackpots resulting from the falling coins or the winning sirens, in addition to the red flashing winning light, will give an inviting effect to a person passing by the entrance lobby of the casino.

Conversely, machines near the cashier[the "cage"] are supposedly tighter, and pay out less than other machines throughout the casino. The theory here, is that players heading to the cage will be captured on the way, and since it may be the last chance the casino has to get their money, the house had better make the most of it.

We resist the high-paying entrance slots and proceed to the jaws of the casino. As we plunge further into its depth, we are engulfed by the various wagering options. The machines are everywhere, of course, each beckoning with different themes, colors and payoffs.

Blackjack dealers busily distribute the cards, while welcoming new players with broad smiles. Roulette dealers sweep the layout clean of losing bets and push out a veritable mountain of chips to the winners. Players of the most exciting of all games, craps, bellow their approval when the “shooter” makes his point.

The impersonal slot machines makes its presence most felt. Sounds drift from nearly every machine, whether being played or not. Appealing squeaks, squawks and pleasant voices vie the attention of passers-by. Even the deaf would have a hard time ignoring these machines, for colorful glass, shiny brass and artistic graphics.

Further more , the sports and race book features floor-to-ceiling television screens, private betting areas and rows of seats that enable customers to stay in touch with sporting events around the world.

Show bands in the adjacent lounges add to the general cacophony of the casino, transporting players to yet another level of fantasy.

The premium tables are located in the baccarat pit. Half a dozen blackjack tables cater to the elite of the gaming world. A French roulette wheel waits for the knowledgeable high roller to try his luck.

In a casino , the best-paying slot machines are usually difficult to find. You have to hunt for them. The same tactic apply for the table games. What do you see when you first enter the table-game area? The wheel of fortune, whose odds are terrible. But walk down the aisle toward the back of the casino, and you may find the favorable blackjack table that has rules that almost favor the player.

Casino executives consider themselves successful when they convince players to leave their inhibitions at the door, suspend their perception of time, and create a new and exciting reality- even if it is a fantasy. The notion of chips is one example of

what I said, chips are the currency of the casino; and most casinos require you to exchange money for chips. The casino wants you to treat the chips as play money. That's why they are generally very colorful and fun to play with while you're considering your next move. Thus the executive wants you to leave your cash [ reality] at the door , and walk in the casino with chips [ fantasy][fig.2] .<sup>12</sup>



People have varying reasons for gambling. For most people it is the excitement of the game, the escape from day-to-day reality, and the thrill of a potential cash windfall, and the dreams that could come true. It's called " casino entertainment " these days because many people are willing to accept a reasonable loss in exchange for a few hours of action at the machines or the tables.

The loss is the price of that excitement, not unlike the price you'd pay for a ticket at a sporting event. The thing that makes casino entertainment different is that you always have the chance to get that excitement and still come out a winner.

---

<sup>12</sup> Gros, p.16.

# *III. OBJECTIVES / PURPOSE / SCOPE*



### **III. OBJECTIVES/ PURPOSE/SCOPE**

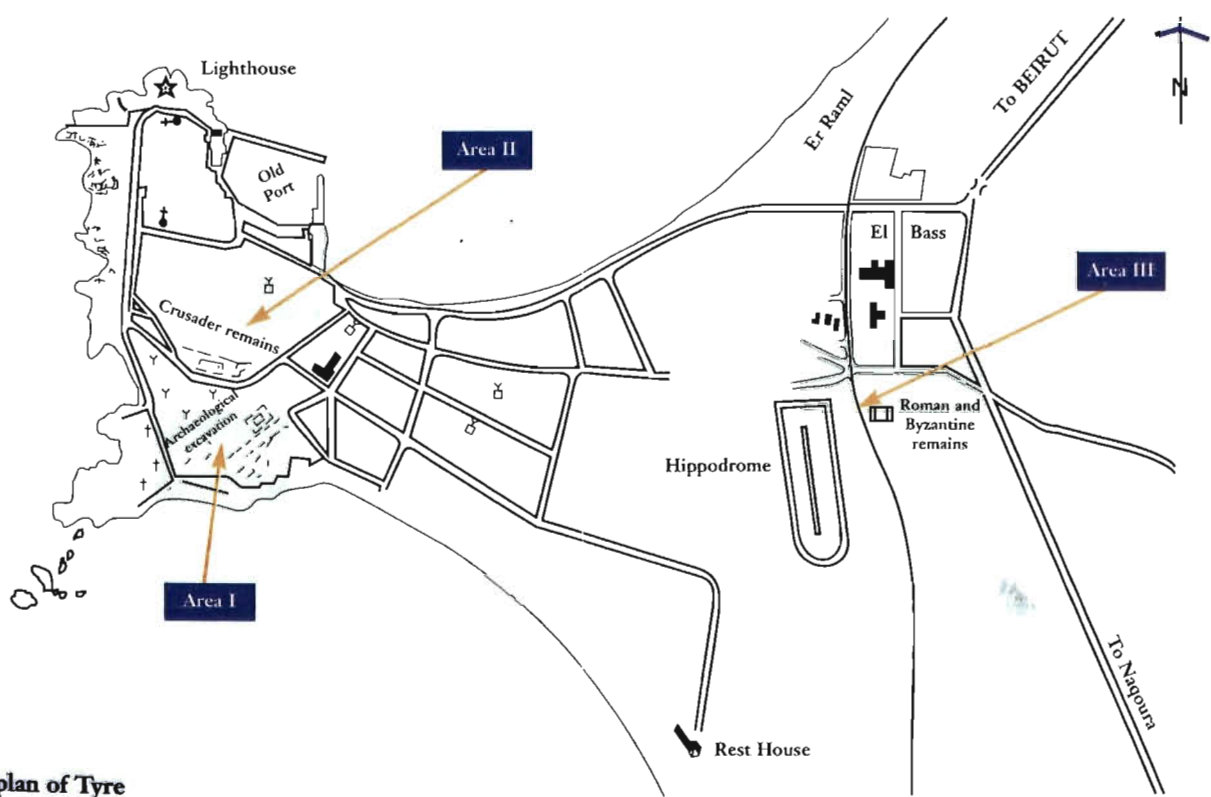
#### **A. SOCIO-ECONOMICAL NEED:**

##### **1. Tourism**

To add a new entertainment tourist facility in the heart of the south, thus creating new job opportunities for the people living there, who are known to have tourist serving skills. This casino will enforce Lebanon's tourist role in the region, and Tyr's [Sour] role specifically; which is speculated to depend economically on tourism due to the decline of the agriculture in that area as a result of imported products competition.

My choice of the south of Lebanon is mainly due to the fact that this area needs a lot of development and it has a lot of tourism potentials in a city 5000 years old.

Archeological sites such as; the Roman victory arch , 200 sarcophaguses on which were engraved the legend of Homerus, the Roman aqueduct, bath and hippodrome; form part of the attraction to a city located on the Holy Christian pilgrimage road leading to Quana El-Jalil, which witnessed Jesus' first miracle of transforming water into wine at a wedding ceremony. In addition to these, you can see in Tyr beautiful panoramic scenery of a seaside landscape, best sand beach in Lebanon in an environmentally preserved part of the country [fig.3].



Site plan of Tyre

Hiram's Tomb Near Tyr.

## 2. Culture

The construction of a casino project in Tyr will be dealing with a cultural aspect of that area..

First of all, it will be reviving a gaming heritage of more than 2000 years old ; clearly evident in the Roman Hippodrome , which is the biggest one built outside Rome<sup>13</sup>. The cultural aspect of the hippodrome is historically known. Since the people during the Roman age used to gather in the Hippodrome accommodating thousands of residents , who had their cultural entertainment at the Hippodrome , where they watch theatrical scenes, gladiator fights and horse chariot races upon which they bet their money against each other. the archeological dice [fig.4] found next to the site and dating back to the Persian period ,who used to gamble using such Dice; and who also used the biased Dice in cheating. Furthermore, we can see various motifs on mosaics about 2000 years old , reflecting the images of the four suites used in contemporary deck of playing cards[fig.5].

By talking to the people living in that part of Lebanon, you will notice that most of them have tried some sort of a gamble. For example; the majority of the people, if not all, have tried their luck in the usual serial number National Lottery, the 6\42 number pick lottery, and the scratch direct pay Tic-O-Tac, which reflects the acceptance of gambling among people.

In addition , a major number of people , who are in a good economical status, spend their afternoons and evenings playing various traditional card games, that they developed tens of years ago into a form of a limited loss gambling, using side bets or the “Sahn”= Plate ; in which they put a certain amount of money that accumulates to become the prize of the winner. Some of

---

<sup>13</sup> Sarkis p.2.

these games are the Likha, Tarneib, 400 and Sahn which is a gambling form of the 14 card game the people play in other areas; in addition to these you can find the Poker game with a huge number of variations.

The Backgammon and many card games became a cultural significance of many people living in the south, similar to other villages in Lebanon; since before the introduction of TV they were one of the few entertainment that people had after a long days' work. Such games became a social event, where people get to meet talk and play; however others enjoyed reading and writing, but still you can find hundreds of examples relating to gaming in their literature, such as the book of Rubaiyat of Omar Khayyam containing visual illustrations of a Dice game[fig.6].

The Casino to be located in Tyr will not focus only on gaming; since if you look at the program you will notice the introduction of various cultural activities ; such as the theater, the show stage , the marina and the various restaurants; giving the casino a cultural significance, and bringing it back to its original definition which is ” a public room or building for entertainment, dancing etc...”. This form of a Casino is not new to Lebanon since Casino du Liban at some point in the 1970's was more famous in its cultural activities. However, casino gambling will form the contemporary cultural replacement for home based gaming; in an area planned to be developed to fit the 20th century status in terms of tourist developments.<sup>14</sup>

---

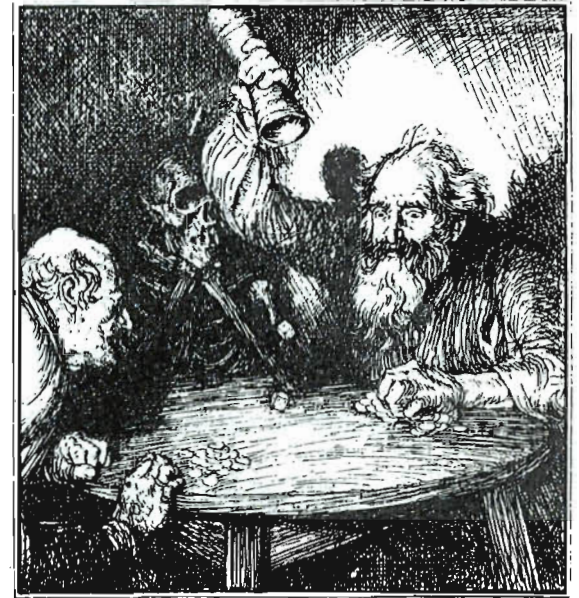
<sup>14</sup> Reference the 1991 land use and city planning for the area of Tyr and Surrounding.



FIG. 5



FIG. 4



Dice have been developed independently in virtually all cultures. This is an illustration from *Rubaiyat of Omar Khayyam*.

FIG. 6

### 3. Gambling

Due to political and religious reasons gambling is not allowed in the countries neighboring Lebanon. Moreover, you can't find any casino in the rich gulf countries; thus another casino in Lebanon will attract many of the gamblers, who would like to try their luck in various casinos. Thus this Tyr casino will be serving the rich Lebanese Southerners, Syrians, Arab Sheiks and Israelis'-in the case of a peace agreement. This casino will be more appropriate for these people in terms of location, language, and mentality.

Supporting this argument I will quote the encyclopedia of gambling :”Lebanon offered the best, most lavish gambling center in the Middle-East, proudly claiming the crown jewel of the area’s casinos, the fabulous Lido”.

“Elegantly appointed in the Arab manner to complement its French heritage, the casino lured the jet-setters, Greek shipping tycoons, oil sheiks, and others eager to try their luck. The gambling volume often surpassed the action at Monte Carlo, Cannes, or Deauville. The casino gamblers were noted for their flamboyance, and their capacity for being either good losers or generous winners.... Yet if peace ever comes to Lebanon, gambling on a grand scale will return to it”<sup>15</sup>. This has proven to be true after the re-opening of Casino Du Liban on the 3rd of December 1996, only two months ago, since the casino attendance charts<sup>16</sup> show that about 6,000 persons visit the casino each day and more than 360,000 persons have visited the casino until January 25th 1997. The breakdown of casino attendance by nationality show that 79% are Lebanese 9% Pan Arab and 12%

---

<sup>15</sup> Sifakis, p.184.

<sup>16</sup> Charts obtained from Miss Lara Khoury, assistant vice president gaming.

International; however the assistant vice president gaming predicts that these numbers and percentages would change considerably and more accurate statistics can be obtained next October after the Tourist season ends .Rumors say that they have gained about \$5 million in the first 4 days of work, which I believe to be true, after what I saw during my visit to the casino .

Tyr is like most cities on the Lebanese coast that are usually inhabited by a population of various religions and sects; originating from various cultural backgrounds that merged to form a Tyrian society. According to an architect from Tyr<sup>17</sup> and to other religious and political figures from that area , there is no social problem against the building of a Casino in Tyr , as long as they abide to rules similar to the one's applied on Casino de Liban; regarding admission restrictions for Lebanese nationals and residents, who ought to be above 21 years of age , and earning one hundred times the minimum monthly wage in order to be admitted to the Casino. However , all foreigners over the age of 21 years are welcome. On the contrary , they believe that such a project will be welcomed due to the various community benefits, which will be discussed in the next page. Moreover, the inhabitants will be overjoyed by the various cultural and entertainment activities that has been missing in that area since decades; where they had to go to Beirut in order to enjoy a play or eat an exotic meal.

---

<sup>17</sup> Interview with Mr. Sharafeddein, who is an architect and from a Known Shii religious family in Tyr.

#### **4. COMMUNITY BENEFITS**

In developing the casino, we will create 1,000 on-site construction jobs, employ and train 1,500 people, purchase millions of dollars worth of building and construction materials, and expend close to \$2 million on training.

To the extent allowed by law, The Casino will be giving hiring preferences to South residents. In addition it will adopt a policy of buying 90% of its purchases from local goods and services.

A diverse range of staff will be required including dealers, cashiers, chefs, entertainers, administrative staff, waiters, kitchen staff, parking attendants and cleaners. Many of these jobs will present employment opportunities for young people.

On top of the large commitment to hiring such a large number of staff Tyr Casino is committed to providing an extensive on-going training program for all new employees.



## 5. Government Revenue

Assuming similar conditions to Casino du Liban will apply:

- \* \$100 million will be spent in the construction and land rental, using the BOT system [build, operate and transfer]; which means that 100 % of the casino will belong to the government after 30 years, while 51% will belong to the government from the start.

- \* Estimating a \$100 million revenue in one year<sup>18</sup>, which implies about \$65 millions goes to the government through taxes and revenues.<sup>19</sup>

- \* Over \$10 million paid as a Community Benefit Levy.<sup>20</sup>

- \* Increased economic activity generated by tourists will result in \$50 million in additional revenues.<sup>21</sup>

---

<sup>18</sup> Reference estimated revenue for Sydney Casino about \$150 million according to my research on the Internet.

<sup>19</sup> Tax law states that the casino should pay tax 30% 1st decade, 40% 2nd decade, & 50% 3rd decade; added to this amount 50% of the remaining profit will go to the government .

<sup>20</sup> Municipal laws state that 20% of the tax money should go to the area municipality, to be used in community developments.

<sup>21</sup> Reference Sydney casino study, and doing rough calculations according to tourist speculations; estimating at least one million tourists to visit the area and gaining \$50/tourist.

## **B. ARCHITECTURALLY:**

### **1. Cultural Entertainment**

My objective is to design a casino as a cultural meeting point of the various cultures that once met in the same area; where archeological findings show a mixture of most of the ancient cultures in that context, where they enjoyed similar entertainment activities. Some of these civilizations are the Hellenistic, Roman, Egyptian, Phoenician, Babylonian. etc...

The Casino will stand somewhere between the American and the European casino style.

From the American style I will only take the notion of the casino as a resort, which means the presence of various entertainment activities aside to the gambling activity.

From European style I will take the notion of being directed towards selective clients [for gambling], whereby the masses can enjoy other entertainment activities; such as the restaurants, shows etc...

In addition to the above I will benefit from Casino de Liban experience in the 1970's, where the cultural aspect of the casino superseded gambling.

Unlike anything previously available in Tyr, the scale of this development covering more than 100,000 m<sup>2</sup> of land, will make The Casino as a landmark in its own right.

The Casino will complement Tyr's heritage of rich architectural icons joining the Roman Hippodrome, Roman Bath, temples and Tyr Shoreline in a unique setting. By heritage I mean the historical entertainment center that Tyr possessed during the Roman Empire. Evidence of that history can be seen in the archeological Dice found next to the Roman Baths, the racing and

betting activities going in the hippodrome , and the various entertainment's that used to take place in the Tyr's Roman Bath, that is considered to be one of the biggest Roman Baths found in the world.

## 2. Volumetric

The volumetric and site will emphasize the elements found in Tyr [on a big scale], such as the relation of the project to the Hippodrome , the Bath and the sea .I will also relate to the flatness and emptiness of the site ; in addition to the bay, the sandy beach and the mountains seen from the back and side.



### 3. Interior

On a smaller scale , concerning the program and the interior spaces, the project will be concerned with the characteristics of gambling and all the psychological and historical aspects discussed earlier .

Casino security will be also one of my major architectural objectives. Since cheating is the only way to beat the casino, any casino has to have a perfect security system.

To understand such a system I will refer to the film CASINO, where the executive will explain the cheating security, where everybody is being watched in a certain order:

Dealers Watch Players

Box men Watch Dealers

Floor men Watch Box men

Pit Bosses Watch Floor men

Shift Bosses Watch Pit Bosses

Casino Manager Watch Shift Bosses

Casino Executive Watch Casino Manager

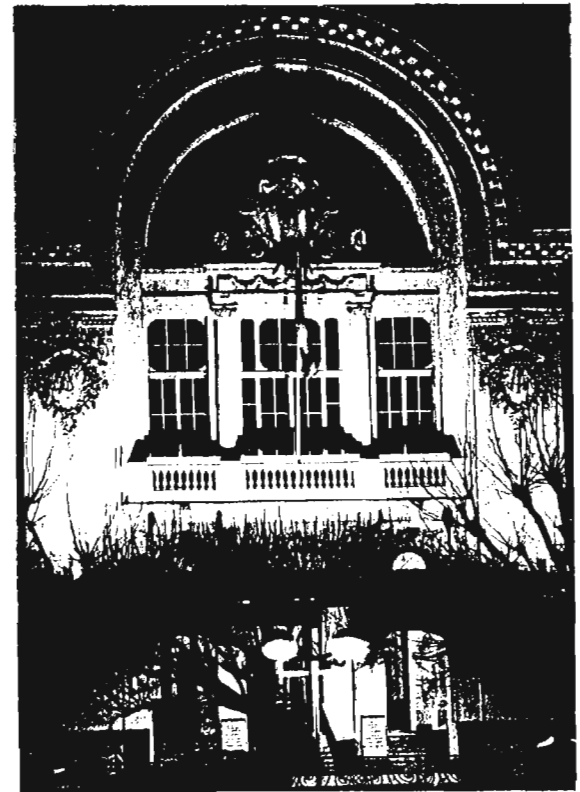
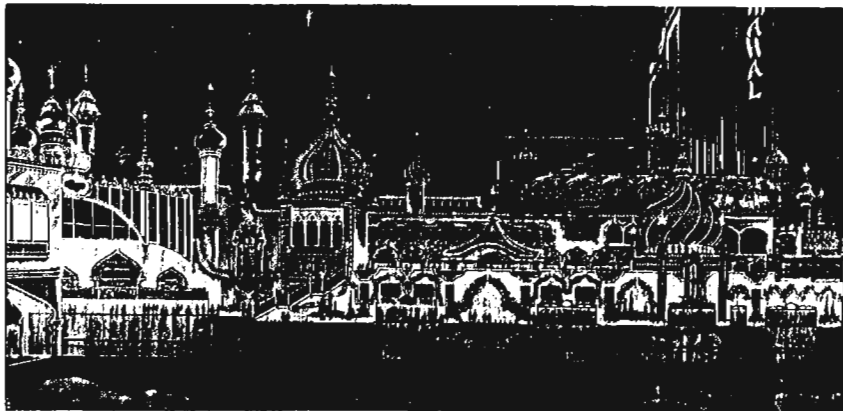
Eye in the sky [cameras] Watching and recording all

[with the eye in the sky you have a dozen of ex-cheats, who know all the tricks in the house; watching from the control room].

In addition to these you have visible and undercover gaming agents watching everything.

For theft security you have police and security personnel watching the money and chips going from: people - tables - boxes- cage-account room [the most sacred room in the casino]-armored truck-bank.<sup>22</sup>

This surveillance and security system can be seen at Casino de Liban , where high -tech cameras, microphones, computer recording, personal magnetic keys and a two key coded safe [ similar to Nuclear Missile Launching Keys] have been installed at the Casino.



<sup>22</sup> Casino Film: Quoting Robert De Niro.

### **C. PROGRAM**

Tyr Casino will offer something to everyone, adopting the US model for all of the activities except for the table gambling halls, adopting the European casino model . The main casino will accommodate the requirements of gamblers while the Private Gaming Room will serve the most discerning premium players.

The entertainment is made complete by offering patrons a choice of several theme restaurants, and theaters housing internationally acclaimed productions.

Located on an empty site with a great view the Casino will be one of the Middle East's casinos- providing main gaming area housing 60 tables and 350 slots- in addition to a private gaming room for high rollers .Taking Casino Du Liban as a case study, my program will- to a certain extent-benefit from the Casino Du Liban experience; where I will combine what they already have and going well , and the things they miss and want to get in the future.<sup>23</sup>

---

<sup>23</sup> Reference Joseph Hajjar and Maha Estephan, architects [from Dar Al Handasah] who worked on the renovation of Casino du Liban.

### **1. Lyric Theater**

- The centerpiece of the entertainment venues of Tyr Casino.
- Designed to be a world standard theater and the equal of any other theater in the Middle East the Lyric Theater will be capable of hosting musicals, opera, ballet and special events.
- The theater will seat 1,000 people with additional capacity for an orchestra pit, stage and backstage areas.

### **2. Show Theater**

- The Show Theater will stage productions specially designed or adapted for Tyr Casino.
- Productions primarily will be cabaret acts, featuring dance ensembles and individual performers.

### **3. Traffic/Parking**

There are two principle entries to the casino: one accessible from Street and the second via the sea shore, in addition to a separate service entrance.

Parking for 1,000 cars will have to be located under ground but next to the casino not underneath [for additional security]

#### **4. Outstanding Facilities**

- The main casino gaming floor has 350 slot machines and 60 gaming tables[divided into two main halls].
- Premium Player's[\$ 10,000 minimum bet] area has 8 tables.
- Super Private room [\$ 50,000 minimum bet] 3 tables.
- Super-Super [or Super +] Private room 3 tables reserved for special VIP guests.
- There will be bars and restaurants, ranging from casual coffee shops to fine dining (Lebanese, French, Japanese, etc..).[a bar and a restaurant for each gambling hall].
- Banquet and meeting room facilities for 1,000 people.
- 1000 seat Lyric Theater for musicals, ballet and opera.
- 750 seat Showroom Theater for cabaret style shows[seated dinner].
- Underground parking for 1000 cars.
- Night Club 300 person .
- Piano Bar connected to gambling halls.
- Yacht and speed boats marina.
- Landscaping will cover the whole site.



## **5. Service Facilities**

- Formal staff , men and women with their own dressing rooms and bathrooms; having a direct access to gambling halls.
- Service staff , with their own changing and toilets in addition to direct access to kitchen and service entrance.
- Control system and control room ( tapping all the activities in the casino).
- Offices, technicians, administration, laundry, power plant and 1000m<sup>3</sup> of water.
- Administrative wing for about 100 employees, who will be responsible of the Casino's management and divided into the following departments: Management, Gaming, Surveillance, Security, Finance, Purchasing , Food and Beverages, Entertainment, Marketing and Public relations. Some of these departments will be divided into sub departments; such as the Gaming that consists of Table Games, Slots, Cashiers, Reception, Training School and information system .
- Accommodation or Hotel facilities will not be part of my project , since according to the building law all of the surrounding lots are reserved for tourists developments consisting mainly of Hotels and Beach Resorts; therefore, there will be plenty of bed- rooms available in that area.

***IV. SITE  
DOCUMENTATION  
AND ANALYSIS***

## **IV. Site Documentation and Analysis**

### **A. Location**

The Casino will be located on a site to the southern part of the city of Tyr replacing the existing rest house and extending east towards the hippodrome. It is within one hour from Beirut, about 75 kilometers. It is surrounded by the Roman Hippodrome and the sea ; and only 2 minutes away from the Roman Baths and the Biblical route to Qana.[refer to map and pictures showing the site and its immediate surrounding]. The site is connected to the Mediterranean sea at the bay of Saliyeb [ a great panoramic view].<sup>24</sup>

### **B. Surrounding Buildings**

To the north it has a road that separates it from the Roman Hippodrome and empty lots owned by the department of Archeology for future excavations, beyond which we have residential apartment buildings. To the south it has a vast area of the beach and empty lots owned by the government and dedicated for future one level high tourist developments of beach resorts and hotels. To the east we have a huge lot of more land owned by the Archeology department for future excavation, beyond which we have a one level army location. To the west we have the sea.<sup>25</sup>

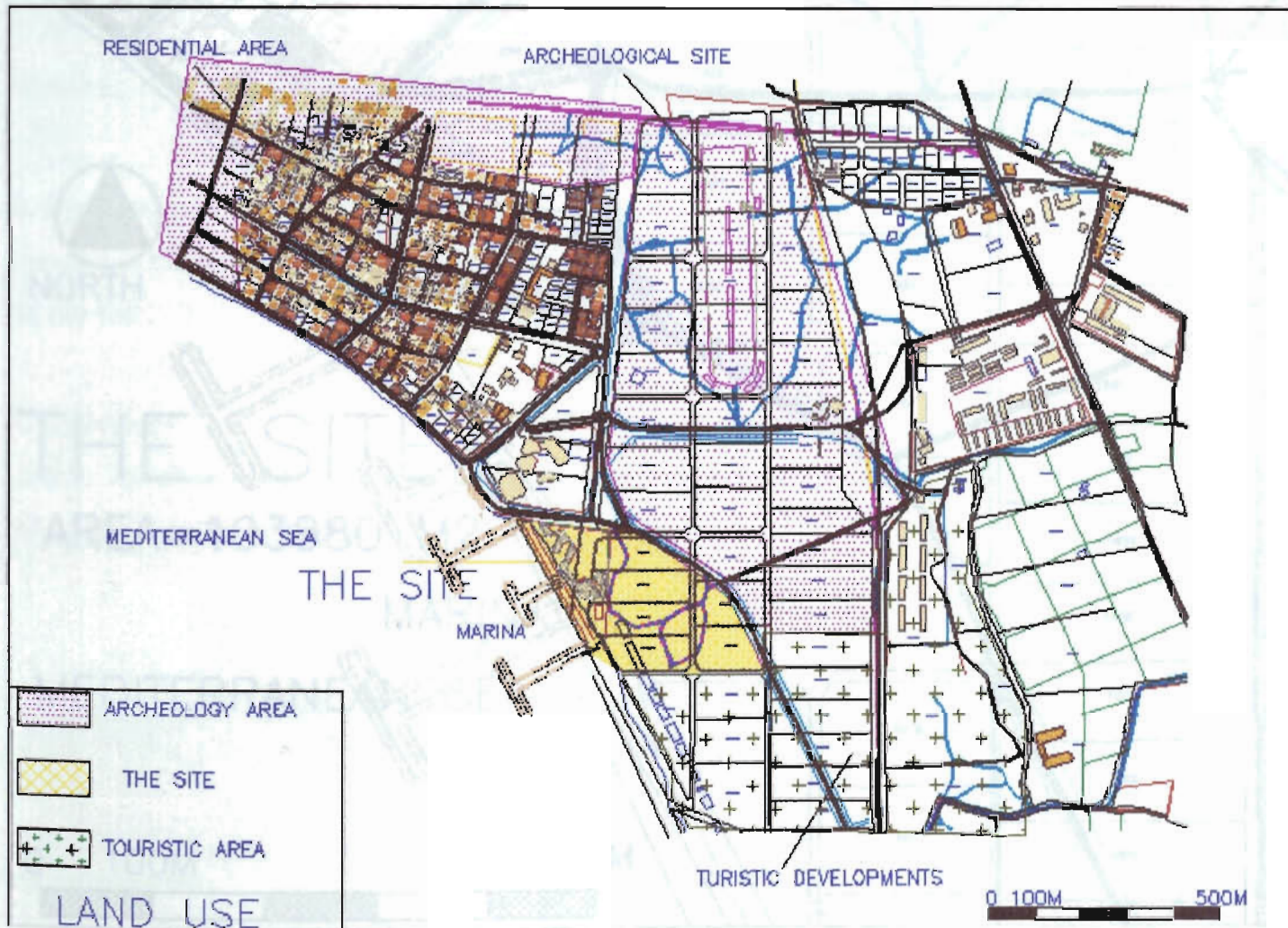
---

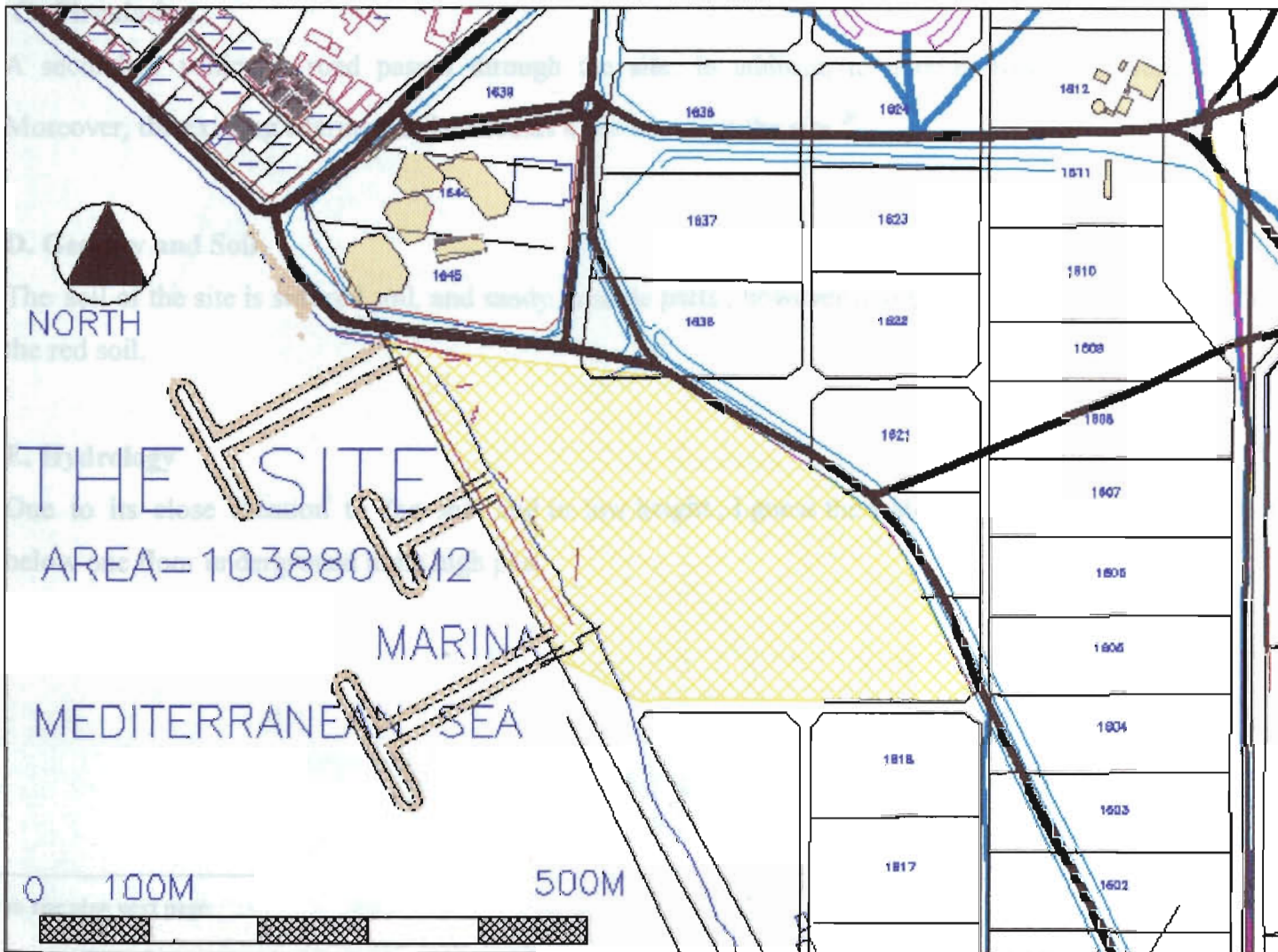
<sup>24</sup> Refer to site plan next page.

<sup>25</sup> Refer to site plan next page.

# MAP OF TYR







### **C. Circulation**

A secondary vehicular road passes through the site, in addition to another road that separates it from the Hippodrome. Moreover, the existing Marina can be used as a sea access to the site.<sup>26</sup>

### **D. Geology and Soil**

The soil of the site is soft red soil, and sandy in some parts, however if you dig a few meters you reach a calcareous soil under the red soil.

### **E. Hydrology**

Due to its close location to the sea and its low height, I guess the water level is not deep and that it is not advisable to go below one floor underground at its high part.

---

<sup>26</sup> Refer to site plan next page.

## F. Topography

The site is mostly flat, however, we have two levels one which is 3-4

meters above sea level.

## G. Climate

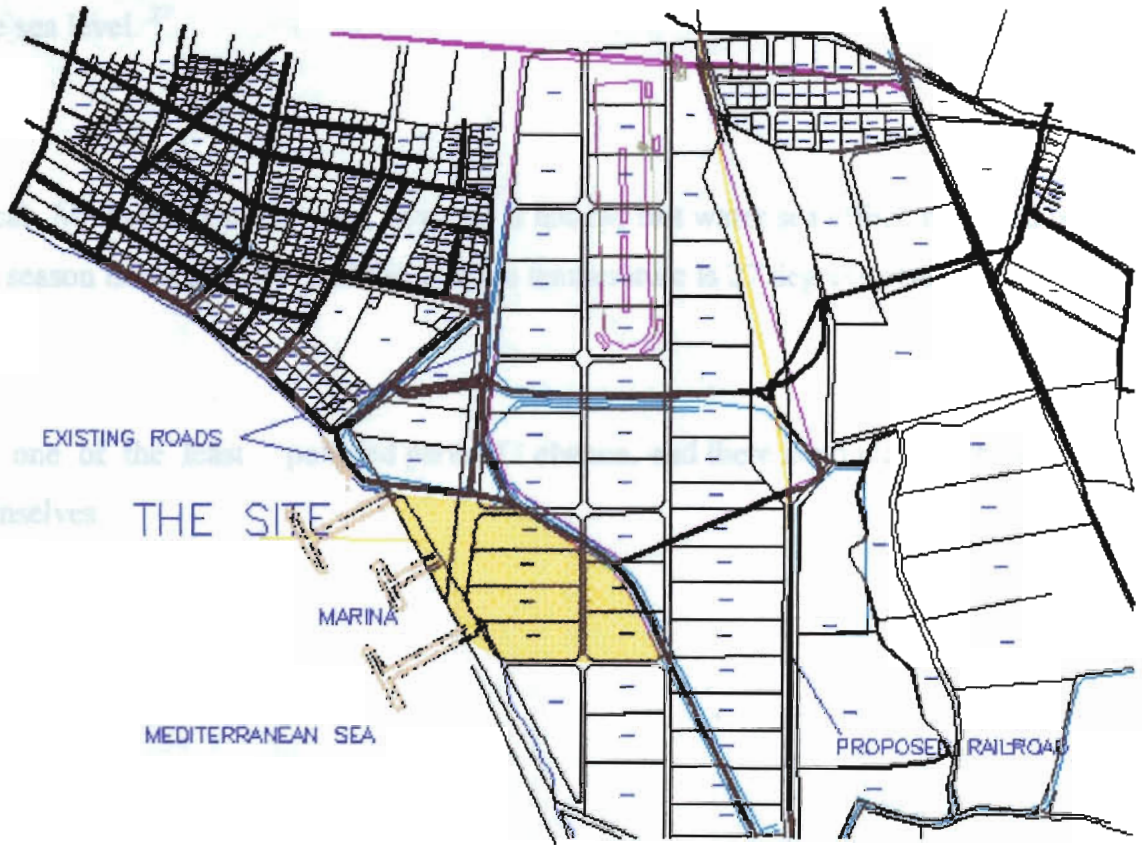
This is a typical

The summer season

## H. Ecology

The area is one of the best

grow by themselves



CIRCULATION PLAN

0 100M 500M



## **F. Topography**

The site is mostly flat , however we have two levels one which is directly to the sea level and the other part that is about 3-4 meters above sea level. <sup>27</sup>

## **G. Climate**

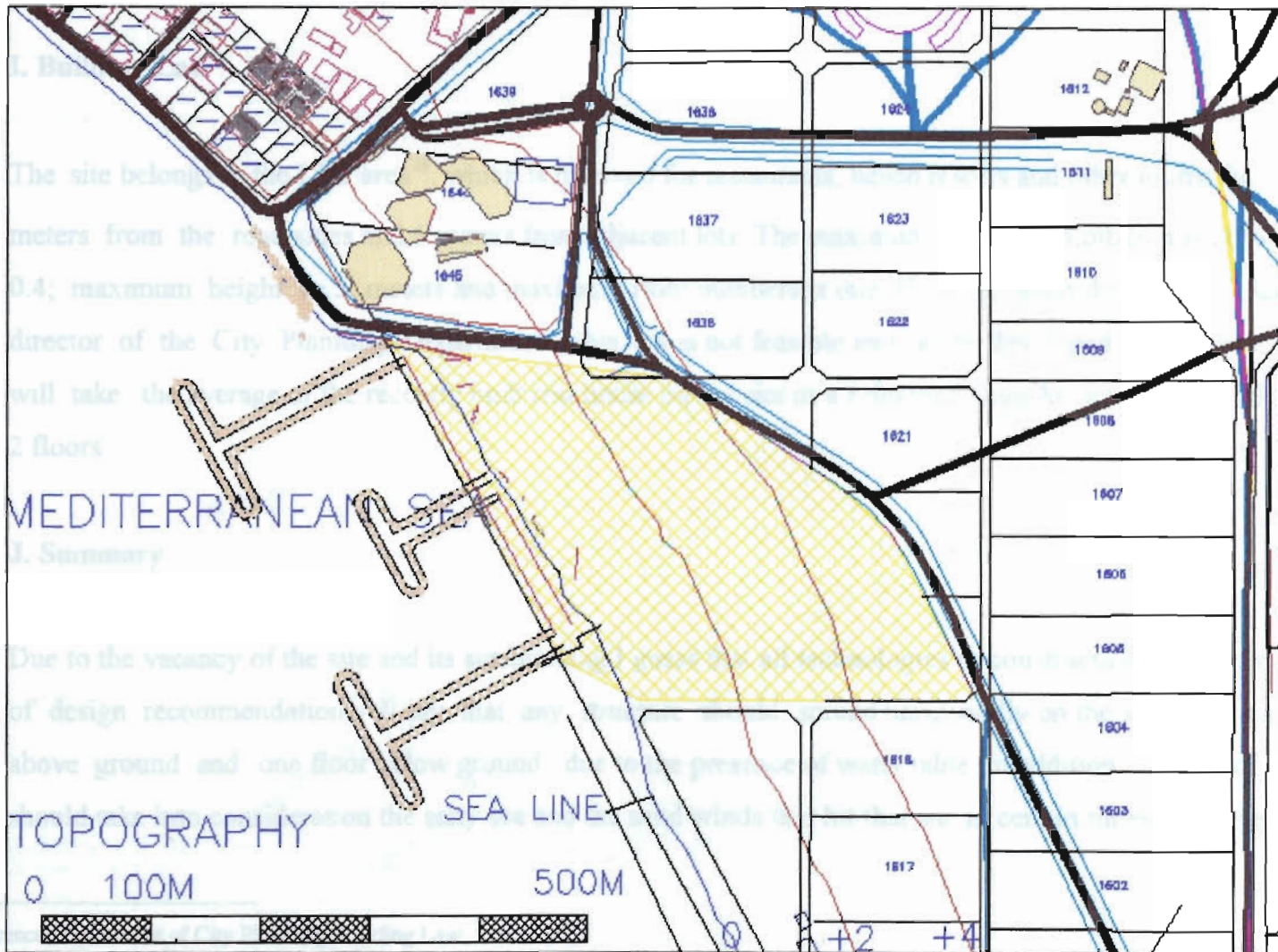
It is a typical Mediterranean climate , however it has the salt water sea effect, the wind is strong because there is no barriers. The summer season is hot and dry; and the average temperature is 27 degrees centigrade.

## **H. Ecology**

The area is one of the least polluted parts of Lebanon, and there is no plantation , except some wild grass and bushes that grow by themselves.

---

<sup>27</sup> Refer to site plan next page.



## **I. Building Law**

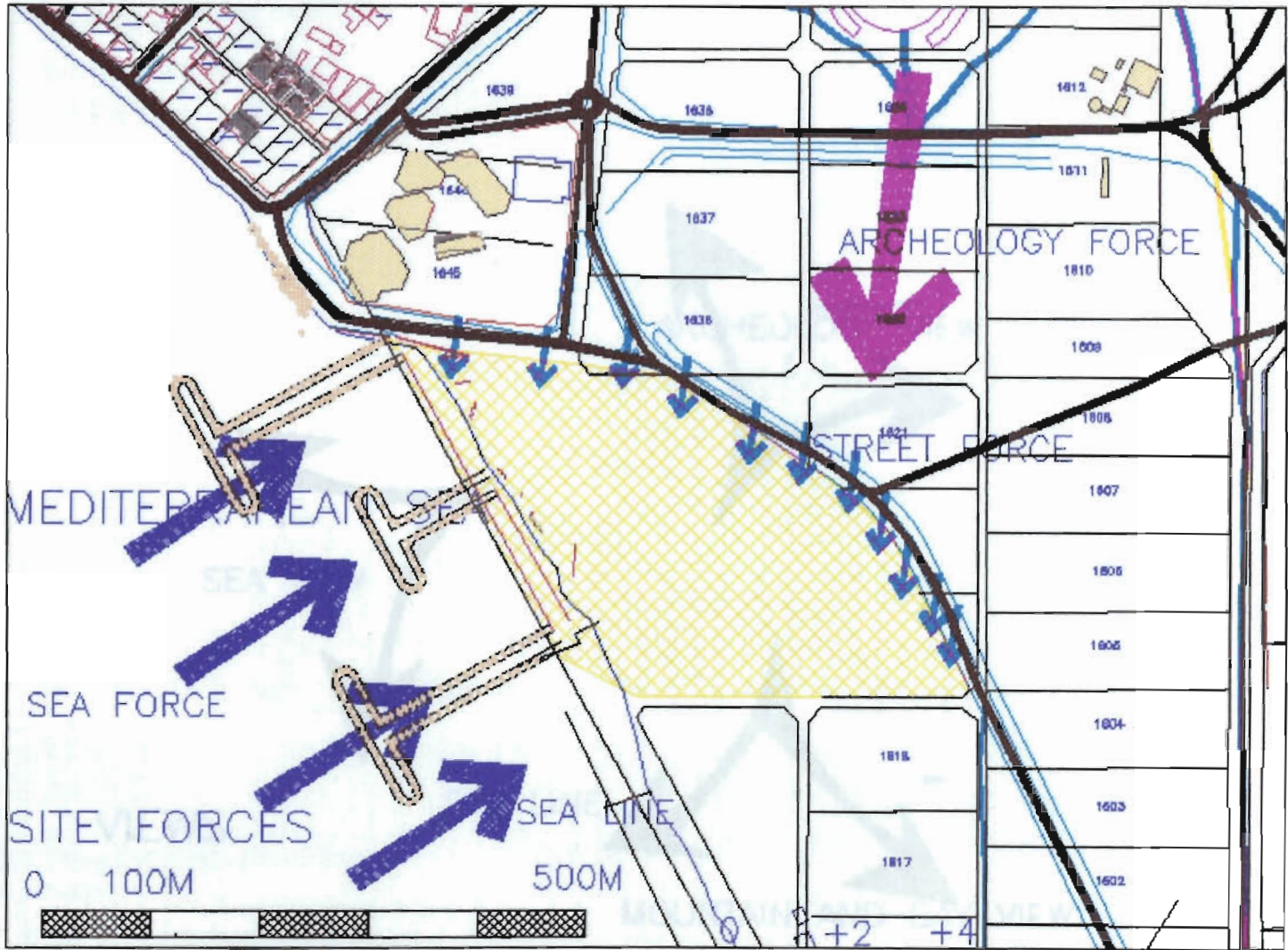
The site belongs to the UT2 area<sup>28</sup>, which is reserved for restaurants, beach resorts and other tourist facilities. The set back is 3 meters from the road sides and 6 meters from adjacent lots. The maximum surface exploitation is 20%; total built up area is  $x \times 0.4$ ; maximum height is 5 meters and maximum floor numbers is one. However, according to Prof. Saad Khaled , who is the director of the City Planning Department , this law is not feasible and can be developed under some conditions. Therefore I will take the average of the recently built rest house on my site as a reference, thus the maximum height is about 8 meters and 2 floors.

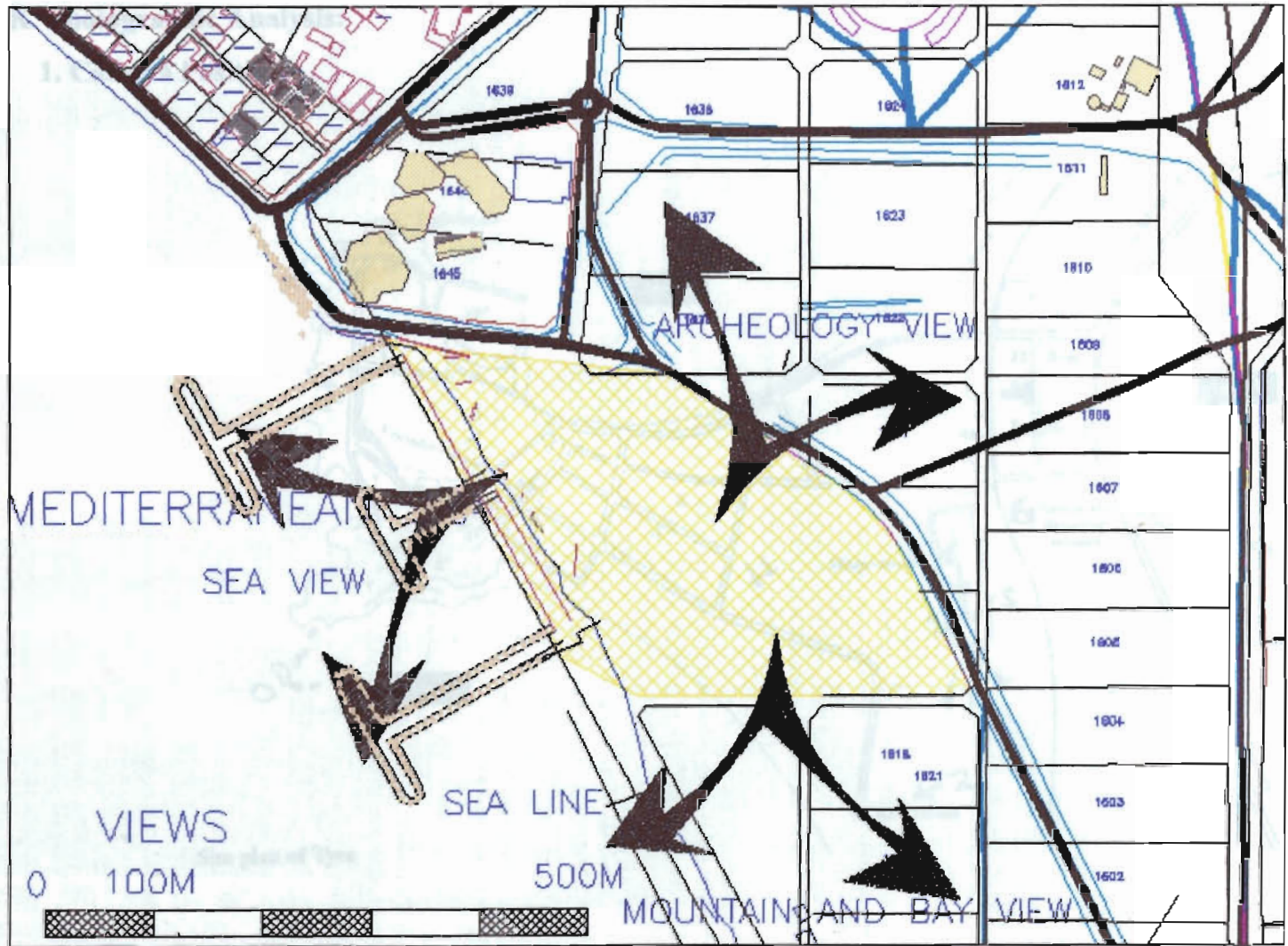
## **J. Summary**

Due to the vacancy of the site and its surrounding I guess that all technologies or construction methods can be applied. In terms of design recommendations, I say that any structure should spread horizontally on the site ,with a maximum of two floors above ground and one floor below ground , due to the presence of water table. In addition , the use of materials in any design should take into consideration the salty sea and the sand winds that hit that site in certain times of the year.

---

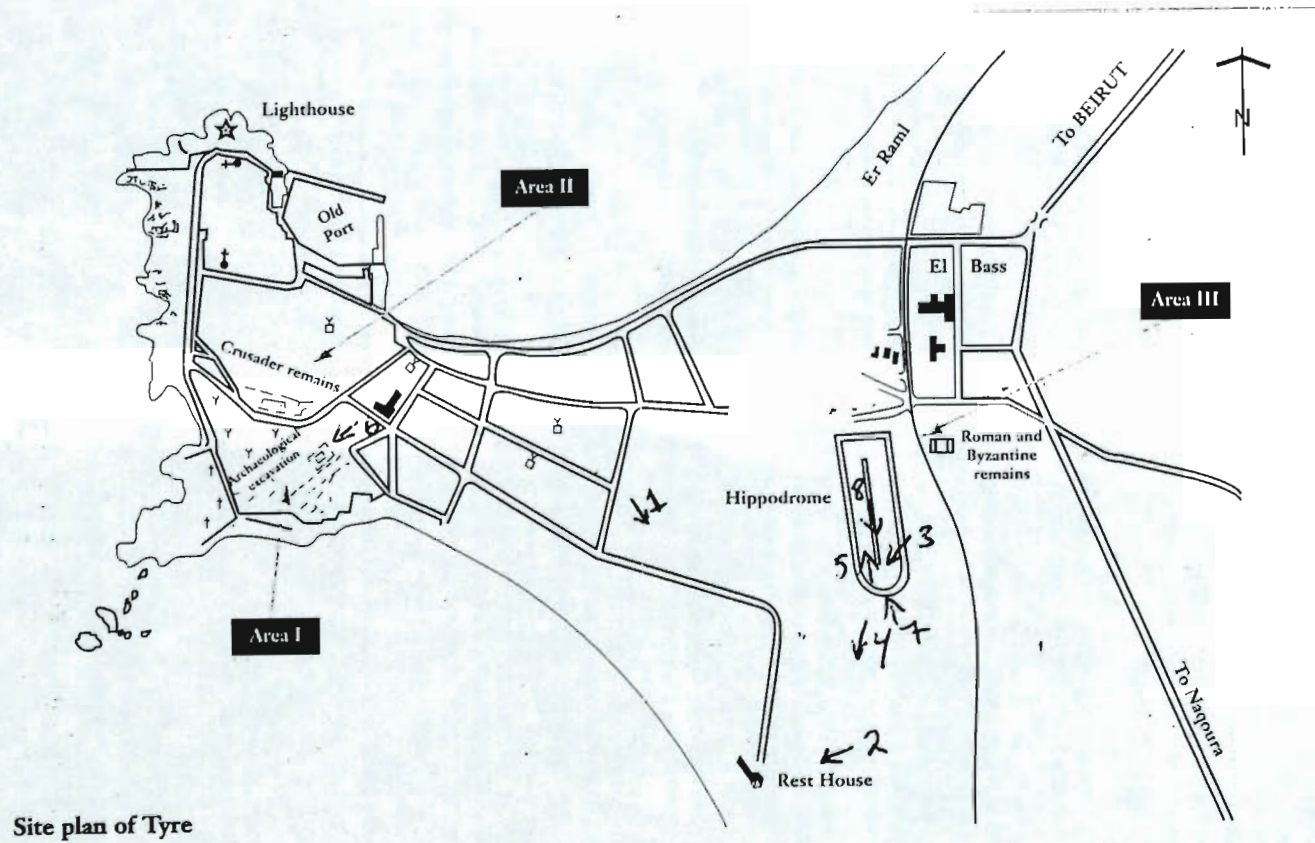
<sup>28</sup> Reference Department of City Planning Building Law.





## K. Photographic Analysis:

### 1. Camera Position :



2. Site Pictures:



LOOKING TO SOUTH OF SITE

①

2



SITE FROM THE HIPPODROME

SITE FROM THE STREET →

3



4





BUILDINGS AND ROMAN HIPPODROME NEXT TO THE SITE / ROMAN BATH

5



6

53

ROAD FROM HIPPODROME TO SITE 8



AXIS FROM SITE TO HIPPODROME

7



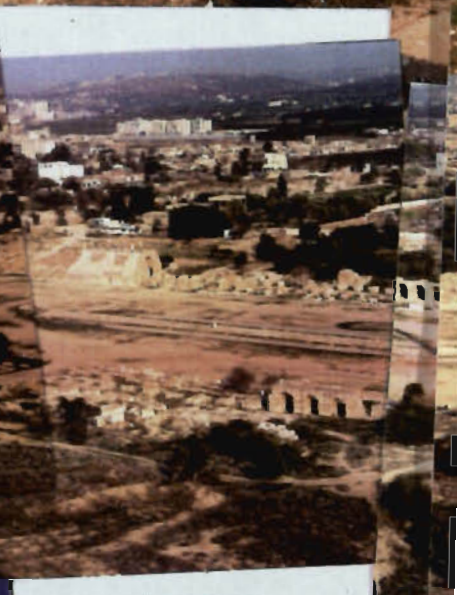
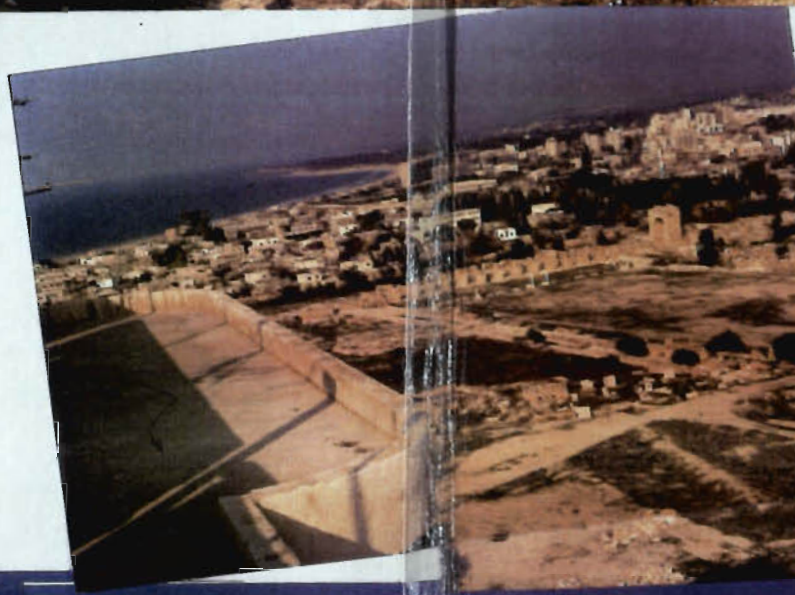
AXIS FROM HIPPODROME TO SITE

8



SITE & SURROUNDING

Relation to  
HIPPODROME



SEA TO SITE





REST HOUSE TO BE DEMOLISHED  
EXCEPT FOR MARINA.

***V. SPATIAL  
ANALYSIS***

# *V. SPATIAL ANALYSIS*

## **V. Spatial Analysis:**

### **A. Casino Layout<sup>29</sup>:**

1. Upon entering the casino, patrons will be faced with a wall of slot machines. Since the slots will be visible from outside the casino. The higher paying slots are to be placed next to the door so that resort guests will see players winning and collecting Jackpots. A linked progressive slot carousel will include a high Jackpot, with flashing lights and a digital display with spinning numbers showing the Jackpot progressing upward<sup>30</sup>.

2. The blackjack tables will be the first to open, and will have the most unfavorable rules in the casino because they are the most convenient.

3. The roulette tables may be hard to find because they are not very popular and do not contribute a major portion to the casino's bottom line.

4. The same is also true for Craps tables so you'll have to search those out as well.

---

<sup>29</sup> Gros, pp.12-13.

<sup>30</sup> Refer to layout plan after next page.

5. The blackjack tables at the back of the casino; they're either a low denomination that does not contribute a great deal to the casino revenue or give a favorable pay back.

6. Most casino's will scatter their favorable machines throughout the casino, so your just as apt to find a high paying machine in the back as in the front. The lower denomination machines are often the most difficult to find.

7. You should expect to search the casino floor for the nickel machines.

8. The video poker machines are gathered in a central location. A variety of these machines should be available, because gamblers tend to search for certain types of machines they prefer.

9. The machines by the cashiers are most likely the "tightest" machines in the house. The theory is that players are taking their winning to the cashier and those machines are the last chance to get their money back. Players with weak wills may decide to try their luck before cashing out<sup>31</sup>.

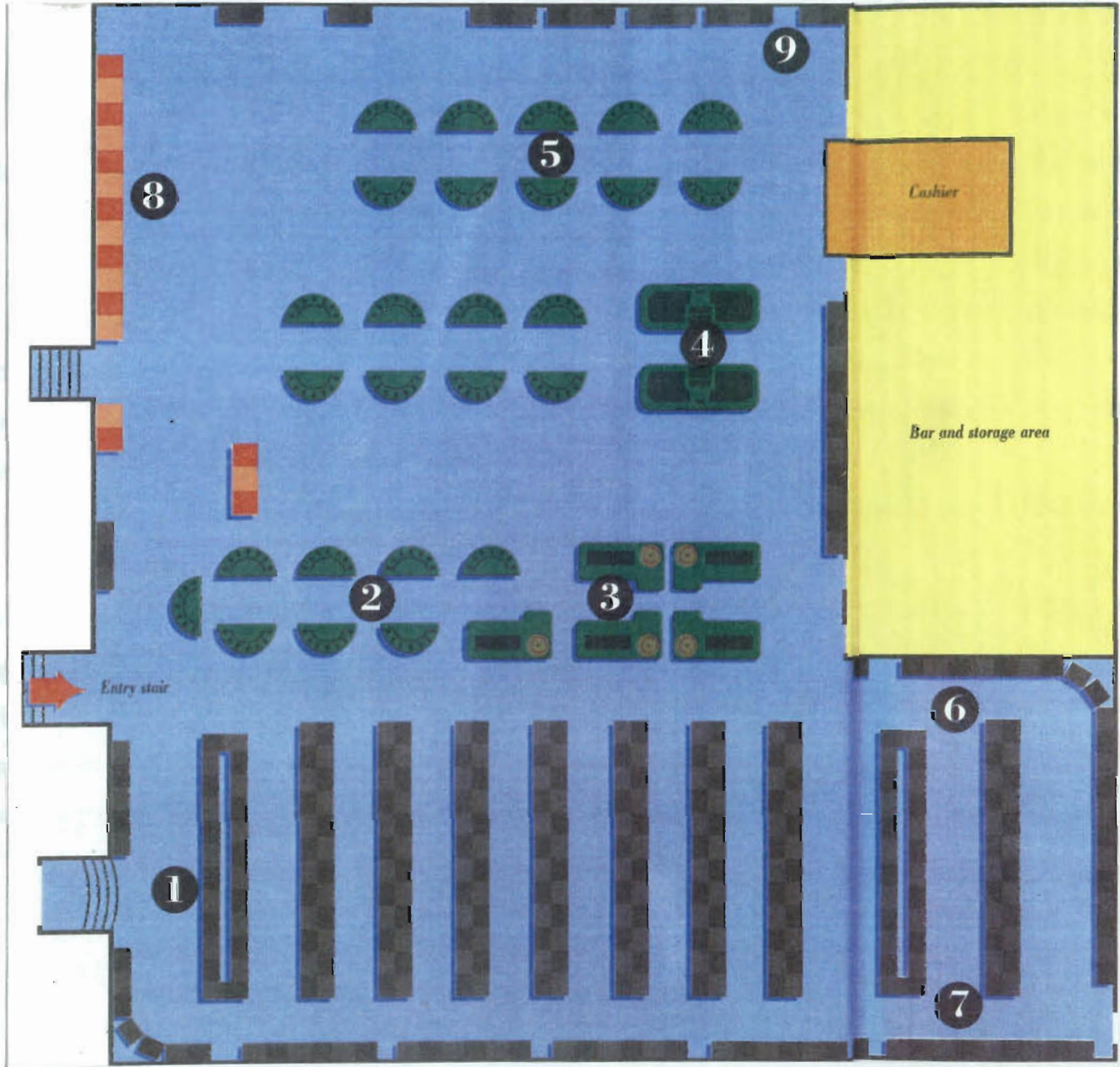
---

<sup>31</sup> Refer to layout plan next page.



## B. Layout Plan

The gaming hall's main volume, containing the main gaming area, has to contain a bar and storage area, thus creating their own circulation. Similarly a lounge and sleeping area. On a higher level we have main gambling halls, for example. With respect to access, we should have a separate entrance serving the parking lot. The parking lot is to be located near the main entrance of the casino, since the



## **B. Gaming Area**

The gaming halls made out of two major halls and three smaller private halls, are to be linked to each other through a double volume containing the piano bar and spreading the music to all of the halls. Each gambling hall, except for the super private ones, has to contain a restaurant and a bar to be located in the back of the hall and elevated slightly from the gaming tables, thus creating their own space. This space is to be linked to the kitchen and services area in the back. The services area is to be linked to a service entrance from the lower floor, containing the workers toilets, changing rooms, storage, and offices.

Similarly a different space is to be allocated for the formal workers, the dealers [croupier]; containing toilets, changing rooms and sleeping or resting areas; to be linked directly to the gaming halls.

On a higher level we should have the administration offices, in addition to the control room the should be over looking the main gambling halls, for security purposes.

With respect to access roads, we should have a clear separation between the formal and the services entrance; in addition to a separate entrance serving the other entertainment facilities [ theater, ball room etc.].

The parking lot is to be located aside of the casino and not under the gambling space, for security reasons. With the parking we should have a heliport to be located in the landscaped area of the parking, which ought to be located to wards the east side of the casino; since the west side[sea side] is to be reserved for the Marina, that would be linked to the casino.

# ***VI. SPACE REQUIREMENTS***

## VI. Space Requirements

### A. Tabulation

<u>SPACE NAME</u>	<u># OF OCCUPANTS</u>	<u>NET AREA M2</u>	<u>GROSS AREA M2</u>
I. GAMING			
a. CLASSICAL HALL			
20 GAMING TABLES	250	500	
RESTAURANT/BAR	100	200	
TOILETS		40	
CASHIER	4	20	
b. INTERNATIONAL HALL			
20 GAMING TABLES	250	500	
RESTAURANT/BAR	100	200	
TOILETS		40	
CASHIER	4	20	
c. PRIVATE HALL			
10 GAMING TABLES	100	300	
RESTAURANT/BAR	70	150	
TOILETS		25	
CASHIER	4	20	
d. SUPER PRIVATE HALL			
6 GAMING TABLES	50	150	
TOILETS		20	
CASHIER	2	10	
e. SUPER + PRIVATE HALL			
3 GAMING TABLES	25	80	
TOILETS		15	
<b><u>TOTAL</u></b>	<b><u>950</u></b>	<b><u>2300 + 20% CIRCULATION</u></b>	<b><u>2760</u></b>

<u>SPACE NAME</u>	<u># OF OCCUPANTS</u>	<u>NET AREA M2</u>	<u>GROSS AREA M2</u>
9. LYRIC THEATER	1000		
a. RECEPTION			
ENTRANCE			
BOOKING HALL			
FOYER			
CLOAKS			
b. AUDITORIUM			
c. STAGE			
MAIN STAGE			
WINGS			
BACK OF STAGE			
SCENERY STORAGE			
WORKSHOPS			
DRESSING ROOM			
REHEARSAL ROOM			
<b><u>TOTAL</u></b>	<b><u>1000</u></b>	<b><u>2500 +20% CIRCULATION</u></b>	<b><u>3000</u></b>
10. SHOW THEATER	750		
a. RECEPTION			
ENTRANCE			
FOYER			
CLOAKS			
b. SHOW SEATING / TABLES			
c. STAGE			
MAIN STAGE			
BACK STAGE			

WINGS			
SCENERY STORAGE			
WORKSHOPS			
DRESSING ROOM			
REHEARSAL ROOM			
<b><u>TOTAL</u></b>	<b><u>750</u></b>	<b><u>2500 +20% CIRCULATION</u></b>	<b><u>3000</u></b>
<b><u>GROSS TOTAL</u></b>	<b><u>3850</u></b>		<b><u>15,000 M2</u></b>
11. PARKING	1000 CARS		<b><u>20,000</u></b>
<b><u>GROSS TOTAL 2</u></b>			<b><u>35,000 M2</u></b>

***VII. PROJECT  
CONCEPT***

## VII. Project Concept

### A. Design Concept:

The design concept will be based on the idea of making an international style building, which reflects the notion of a cultural meeting point between the east and the west. Moreover, the concept will be dealing with the nearby archeology of the Hippodrome , Necropolis and Bath, in addition to the contextual architecture; but in a contemporary architectural concept . Thus taking the logic and not the form of the surrounding architecture, but at the same time affected by their forces. To achieve this I will use several concepts related to gaming and casino's to be reflected in the architecture of the buildings . Example of these concepts is the use of the play metaphor, and the idea of a casino and a theater as fantasy places that are not meant to bring pleasure or sadness; but they express a shift in reality . A shift from the outside reality of life to the indoor reality of play in the casino and theaters.<sup>32</sup>

---

<sup>32</sup> Refer to graphical and conceptual studies after 2 pages.



## **B. Planning Concept:**

The planning concept will be reflecting the earlier mentioned casino psychology , in addition to the casino security requirements. Moreover, planning will have to deal with the building law restrictions , leading to a low 2 floor wide spread building. Planning will also reflect a layering concept between the different activities [ layers ] linked together by a playful circulation system.<sup>33</sup>

## **C. Technological Concept:**

The construction methods and materials to be used are to reflect the worldwide technological advancement achieved in this contemporary period, which in turn reflects the history of Tyr ,when the advanced construction techniques were used with respect to their period. Moreover, the introduction of the latest construction technologies is essentials due to a certain attitude towards technology , declaring it as a miracle ; reflecting the playfulness behind the concept of reality achieved in the computer world through Virtual Reality.<sup>34</sup>

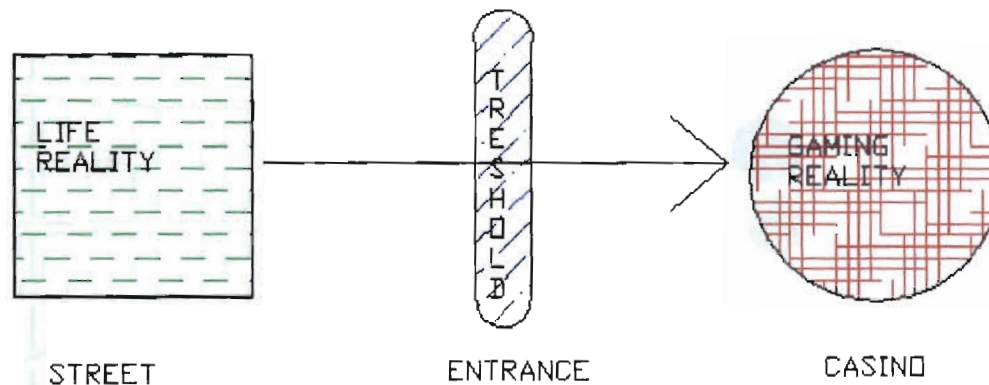
---

<sup>33</sup> Refer to next pages for illustrations.

<sup>34</sup> Refer to next pages for illustrations.

## PLAY CONCEPT 1

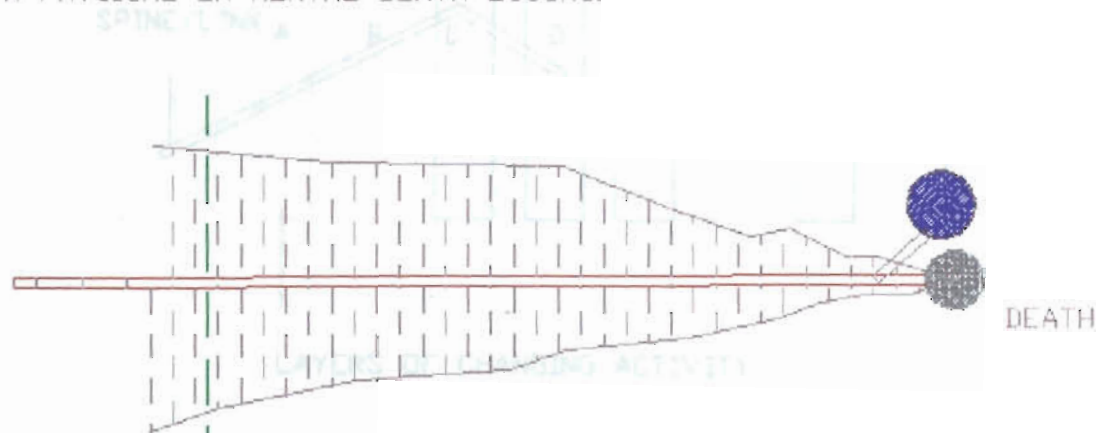
PLAY IS NOT SOMETHING THAT BRINGS PLEASURE; ON THE CONTRARY, IT EXPRESSES A SHIFT IN REALITY, AN UNACCUSTOMED MOBILITY WITH RESPECT TO REALITY. GAMBLERS CAN'T DO WITHOUT CHANCE, THEY ARE ADDICTED TO IT AND CAN'T BREAK THE HABIT. ALONGSIDE THOSE ADDICTED TO CHANCE, TO ROULETTE, TO CARDS OR TO ANY GAME, ARE THOSE ADDICTED TO VIRTUAL. PEOPLE HOOKED TO VIRTUALITY WILL FIND THEMSELVES TORN BETWEEN TWO REALITIES.



**THE CASINO EXECUTIVE WANTS YOU TO LEAVE YOUR CASH [LIFE REALITY] AT THE DOOR, AND WALK IN THE CASINO WITH CHIPS [FANTASY] OR [GAMING REALITY] THE SAME IS TRUE FOR A THEATER.**

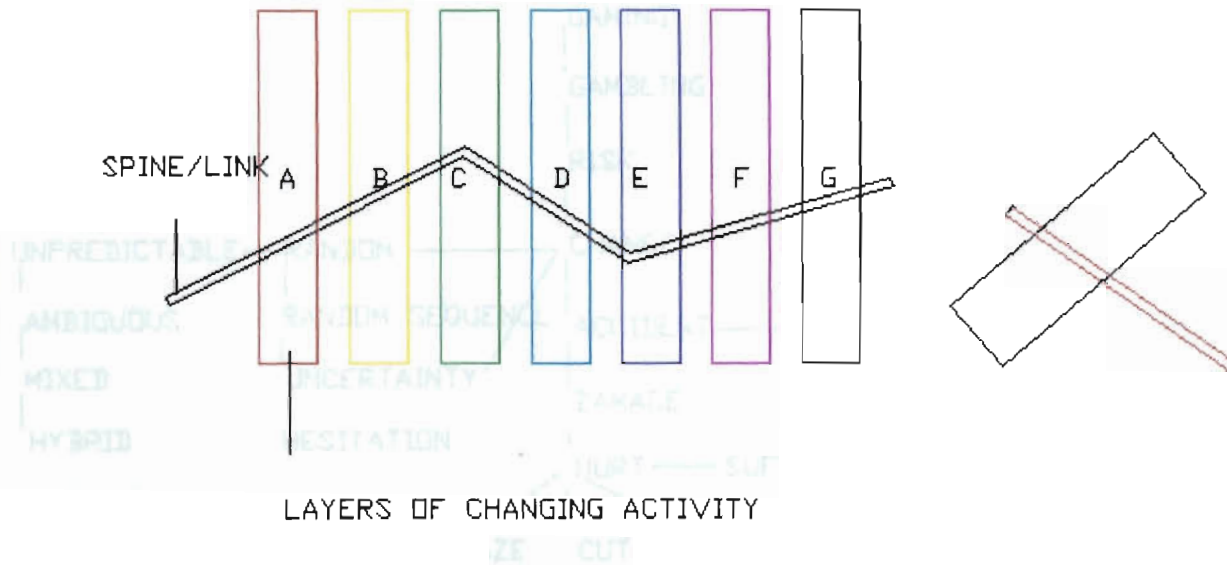
## PLAY CONCEPT 2

YOU COULD SAY THAT DRUGS ARE A GAME PEOPLE GET HOOKED ON. THOSE WHO ARE ADDICTED TO CARD GAMES OR THE ROULETTE TABLE ALWAYS END UP PLAYING WITH RUSSIAN ROULETTE. GAMES AND DEATH, GAMES AND ACCIDENTS, ARE RELATED. WHEN YOU PLAY AT CHANCE, YOU ARE COMPELLED TO PLAY AND THUS NO LONGER FREE TO PLAY, A PHYSICAL OR MENTAL DEATH OCCURS.



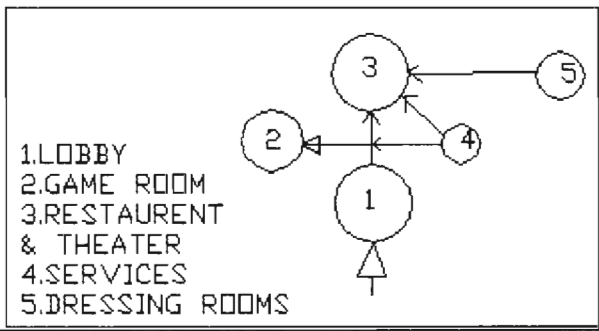
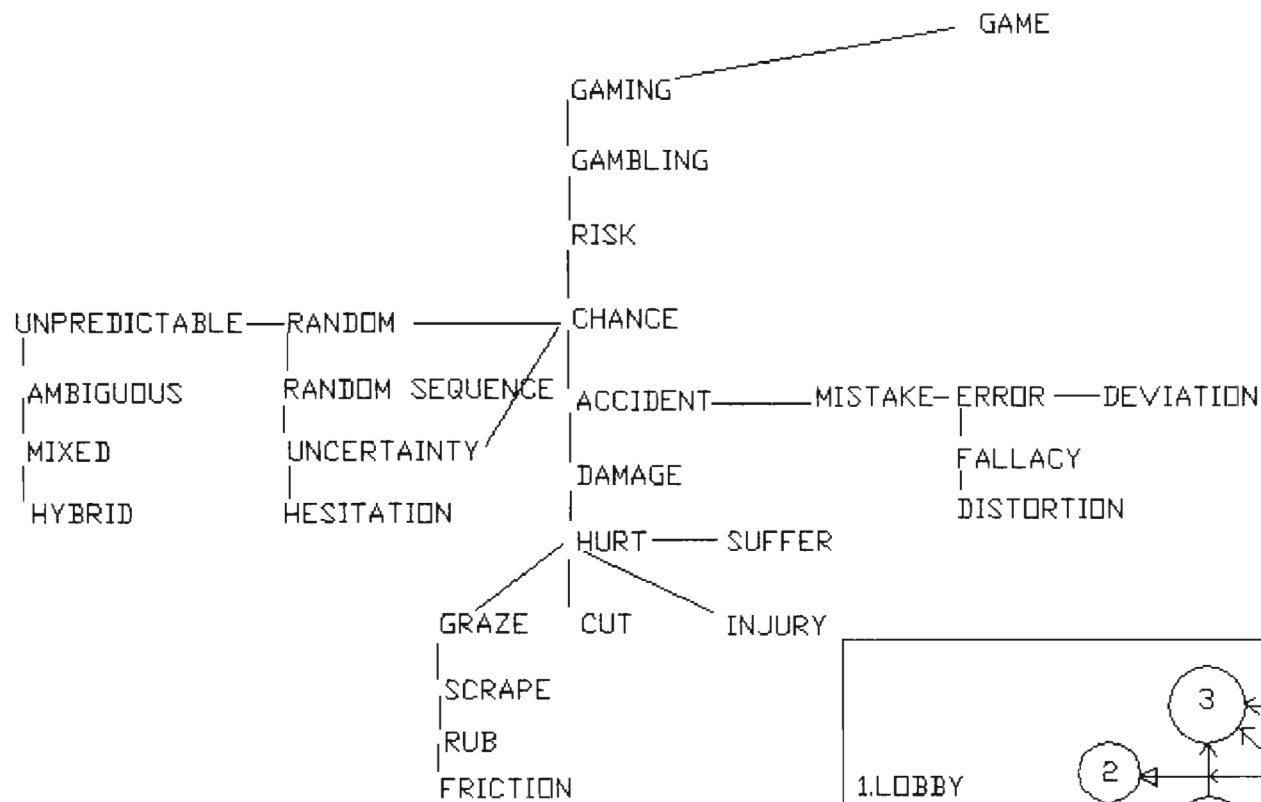
THROUGH THE LAYERING CONCEPT I INTEND TO REFLECT THE FOUND IN CASINO SURVEILLANCE, SECURITY AND LAZARUS, THE PROCESSION FOUND WHILE GOING TO A THEATRE CLUB

# LAYERING CONCEPT 3

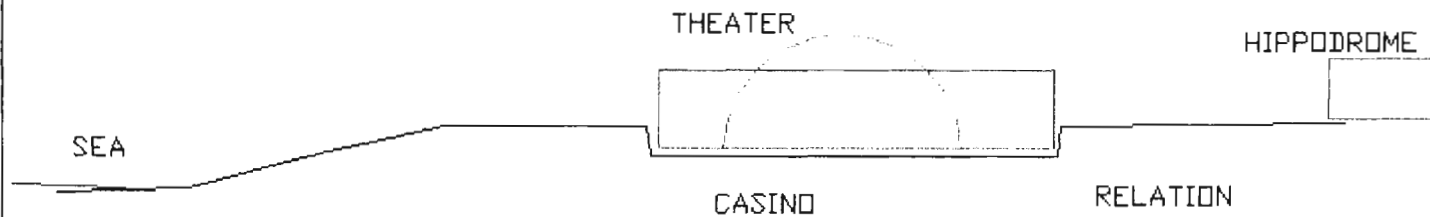


THROUGH THE LAYERING CONCEPT I INTEND TO REFLECT THE LINEAR PROGRESSION FOUND IN CASINO SURVEILLANCE, SECURITY AND LAYOUT PLANNING; IN ADDITION TO THE PROCESSION FOUND WHILE GOING TO A THEATRICAL PLAY.

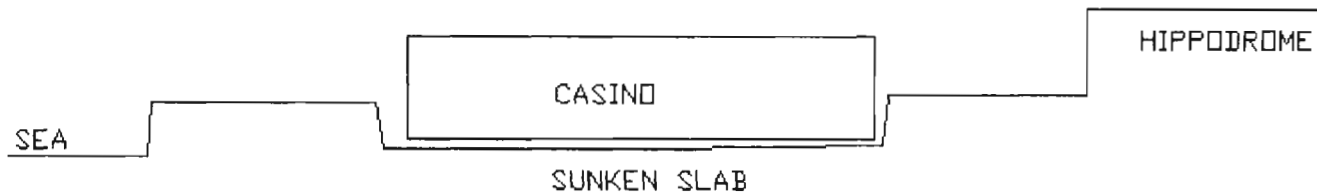
# GAME CONCEPT 4



# SITE CONCEPT 5



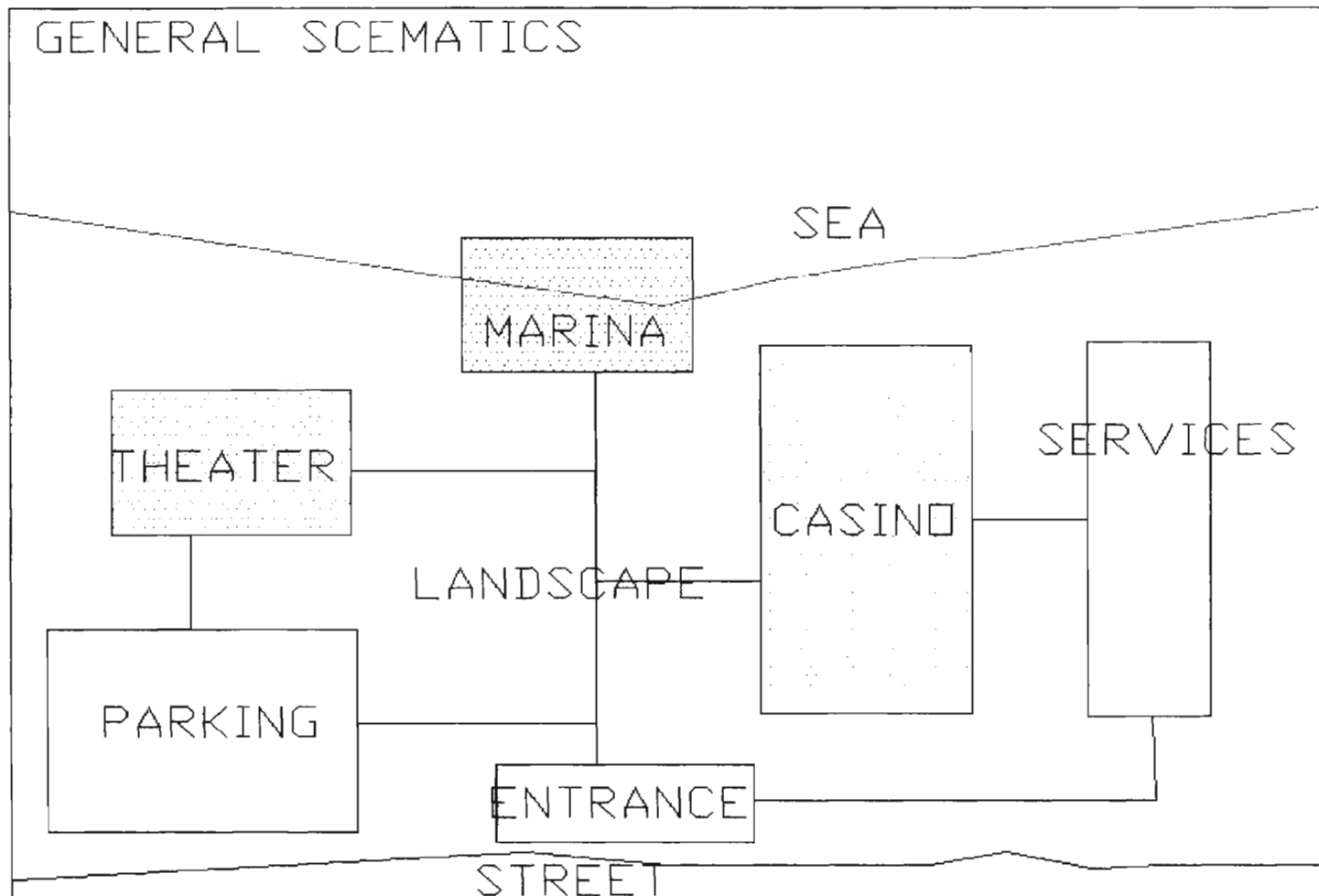
## VOLUMETRICS



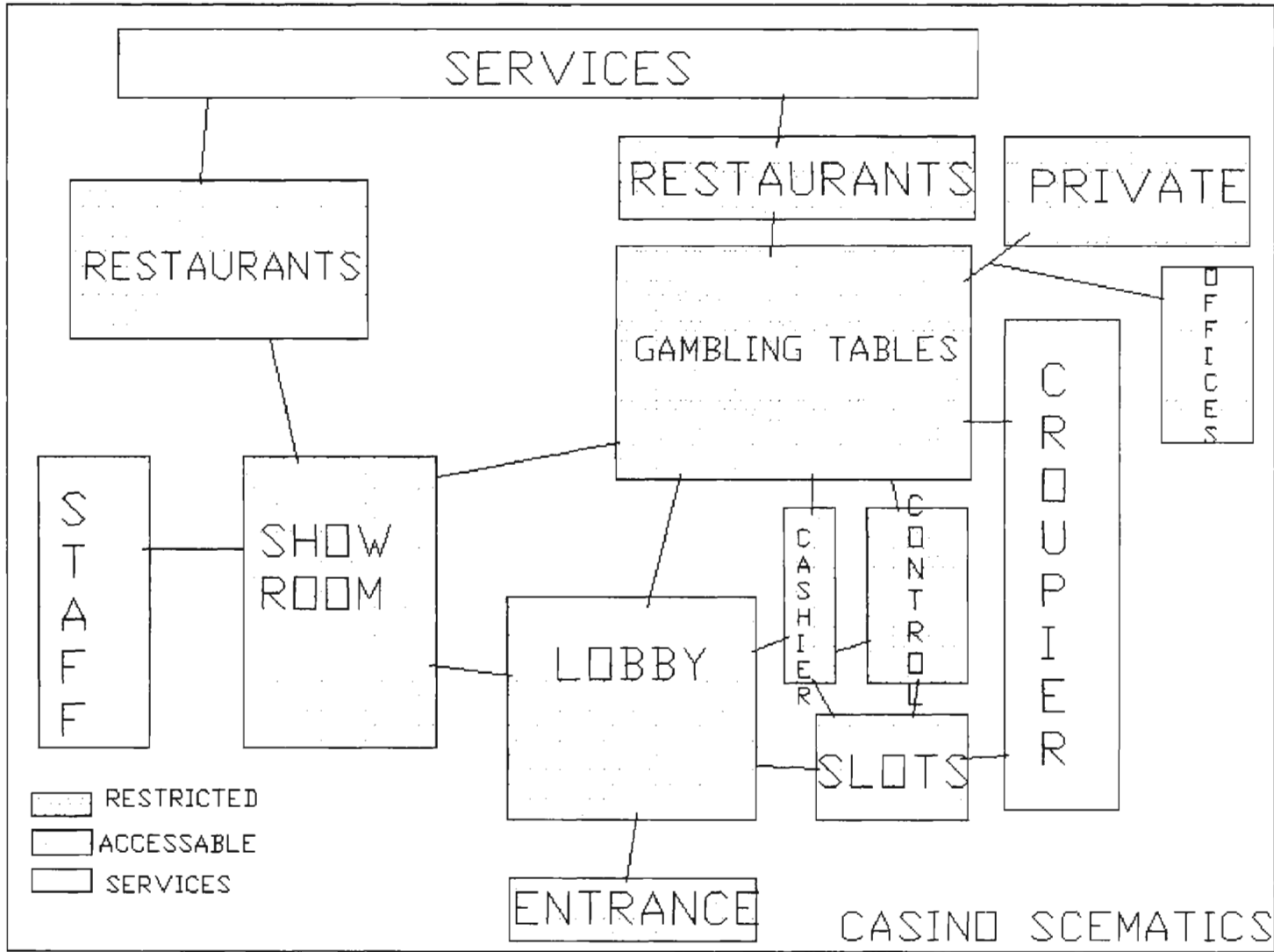
WITH RESPECT TO SITE AND VOLUMETRICS ; THE CONCEPT IS TO CREATE A SUNKEN SLAB IN WHICH MOST OF THE ARCHITECTURAL DESIGN WILL TAKE PLACE , SO NOT TO GO BELOW SEA LEVEL AND NOT ABOVE THE HIPPODROME SEATING.

# *VIII. SCHEMATICS*

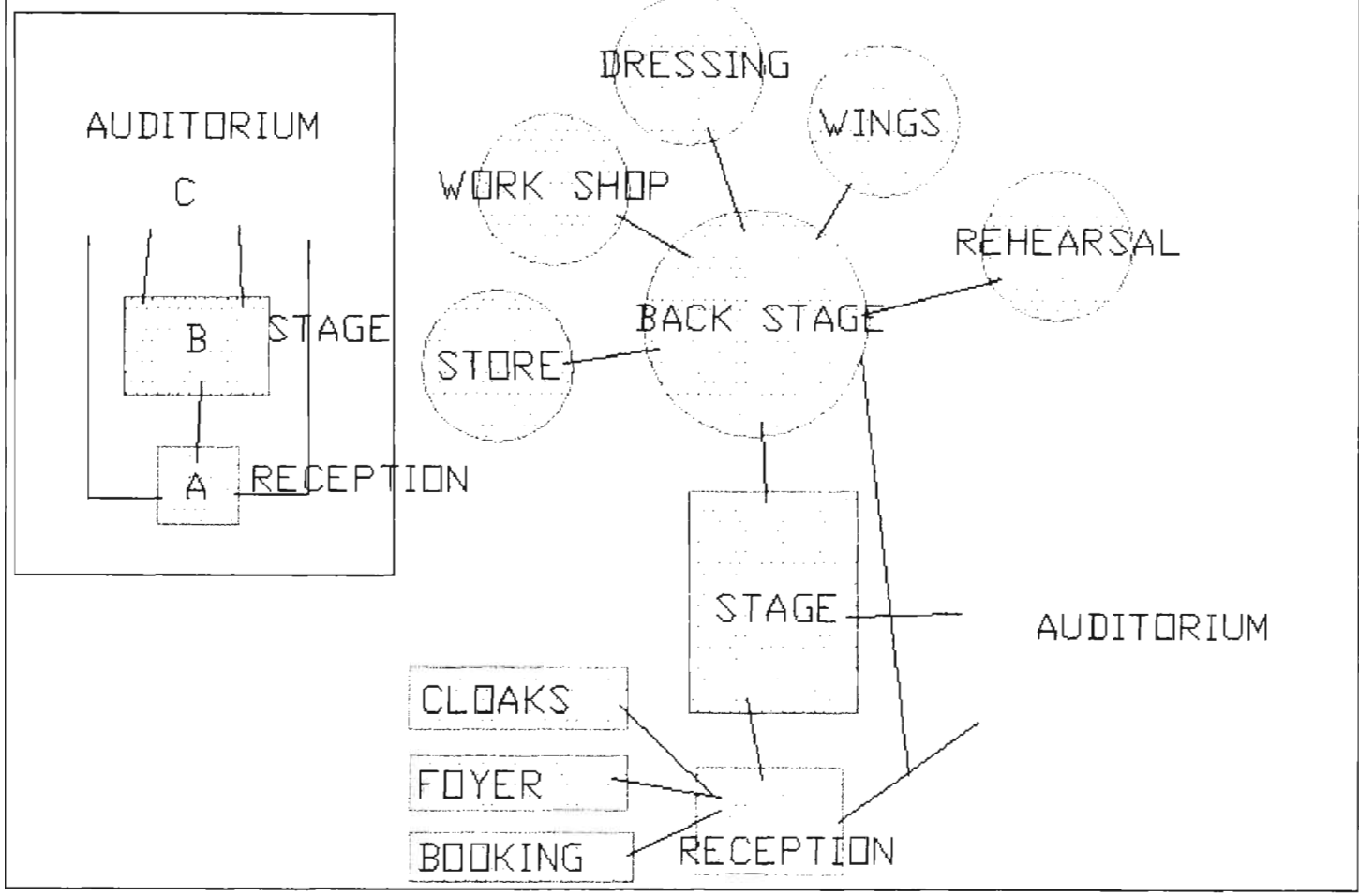
## VIII. SCHEMATICS







# THEATER SCHEMATICS



***IX. SIMILAR  
EXAMPLES***

## **IX. Similar Examples:**

### **A. Casino:**

#### **1. Casino De Liban:**

Gaming Rooms: [ Restricted area according to Law , and a Formal Dress code ]

\* Mediterranean Room<sup>35</sup>:            American Roulette [ 8 tables ]

French Roulette [ 5 tables ]

Black Jack [ 6 tables ]

Punto Banco [ 1 table ]

Stud Poker [ 2 tables ]

Betting in that room starts at a minimum of 25,000 LL to maximum of 4,000,000 LL / bet.

Includes a 100 persons French bistro style restaurant with seafood as a specialty; and a Bar.

\* International Room :            American Roulette [ 9 tables ]

Black Jack [ 7 tables ]

Punto Banco [ 1 table ]

Stud Poker [ 5 tables ]

Betting in that room starts at a minimum of 10,000 LL to a maximum of 10,000,000 LL / bet

---

<sup>35</sup> Refer to plans.

Includes a 100 persons Informal dining restaurant serving hamburgers, sandwiches, grills and pasta; and a Bar.

\* Le Cercle d'Or <sup>36</sup>:

- i. Private gaming hall :
  - American Roulette [ 3 tables ]
  - French Roulette [ 1 table ]
  - Black Jack [ 2 tables ]
  - Stud Poker [ 2 tables ]
  - Punto Banco [ 1 table ]

Betting in that room starts at a minimum of 250,000 LL and reaches a maximum of 25,000,000 LL / bet.

Includes a 65 persons finest French Cuisine restaurant, including caviar and foie gras with an extensive range of wines and champagne.

- ii. Super Private hall :
  - American Roulette [ 2 tables ]
  - Black Jack [ 2 tables ]
  - Mini Punto Banco [ 2 tables ]

Minimum and Maximum bets not available .<sup>37</sup>

---

<sup>36</sup> Refer to plans.

<sup>37</sup> According to the architect Mr. Hajjar the minimum bet is 10,000 \$ and there is no Limit to Maximum.

- iii. Super Private hall + : American Roulette [ 1 table ]  
Black Jack [ 1 table ]  
Mini Punto Banco [ 1 table ]

This room is considered as a private gaming facility and is only available to VIP and selective clients , who reserve this room in advance. This room is directly accessible from the Casino's president office.

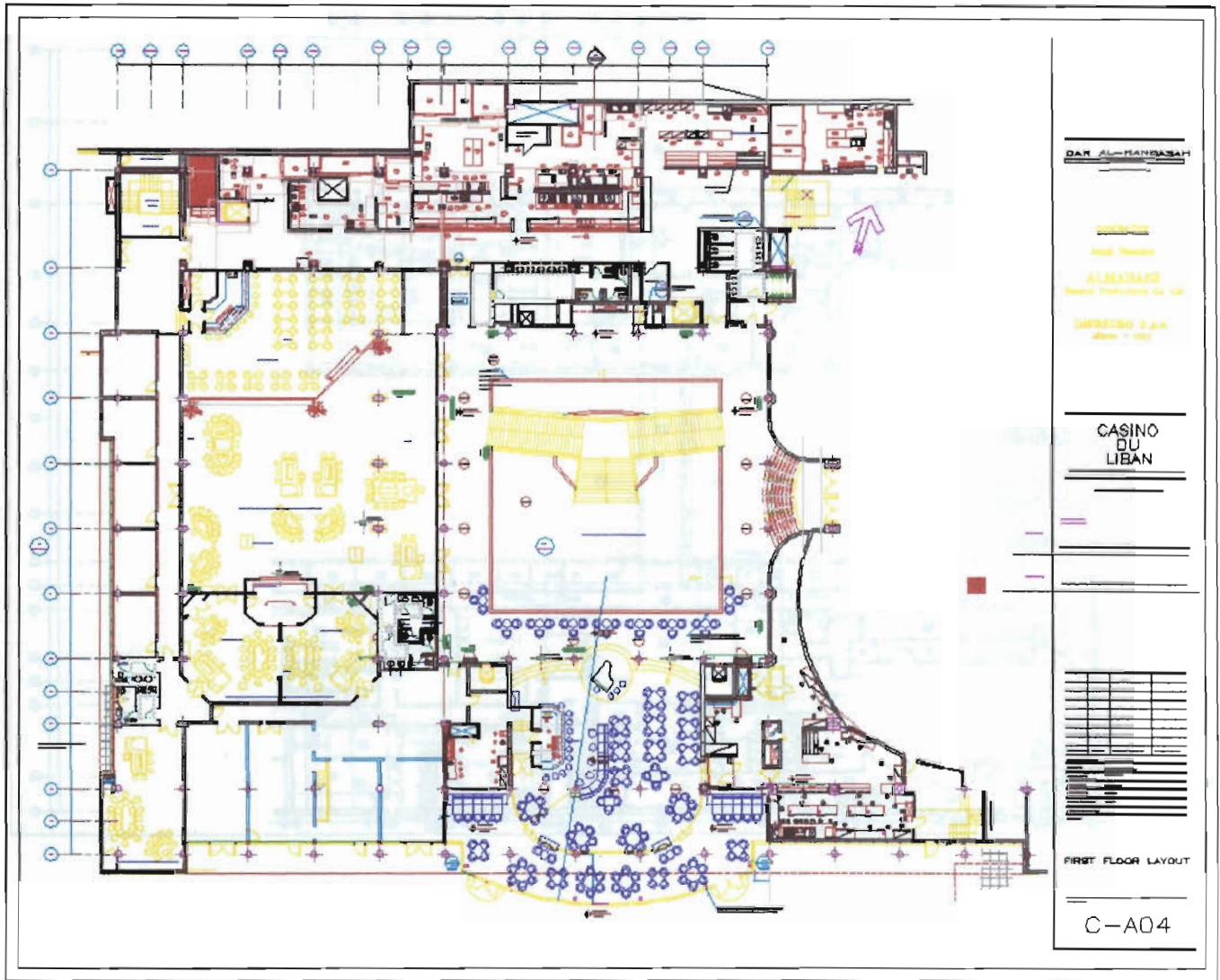
All of the private gaming halls are directly linked to the La Martingale restaurant serving Mediterranean cuisine and overlooking the bay of Jounieh; and seating about 125 persons. This restaurant includes a Piano Bar that is supposed to give a musical atmosphere to all of the gaming halls.

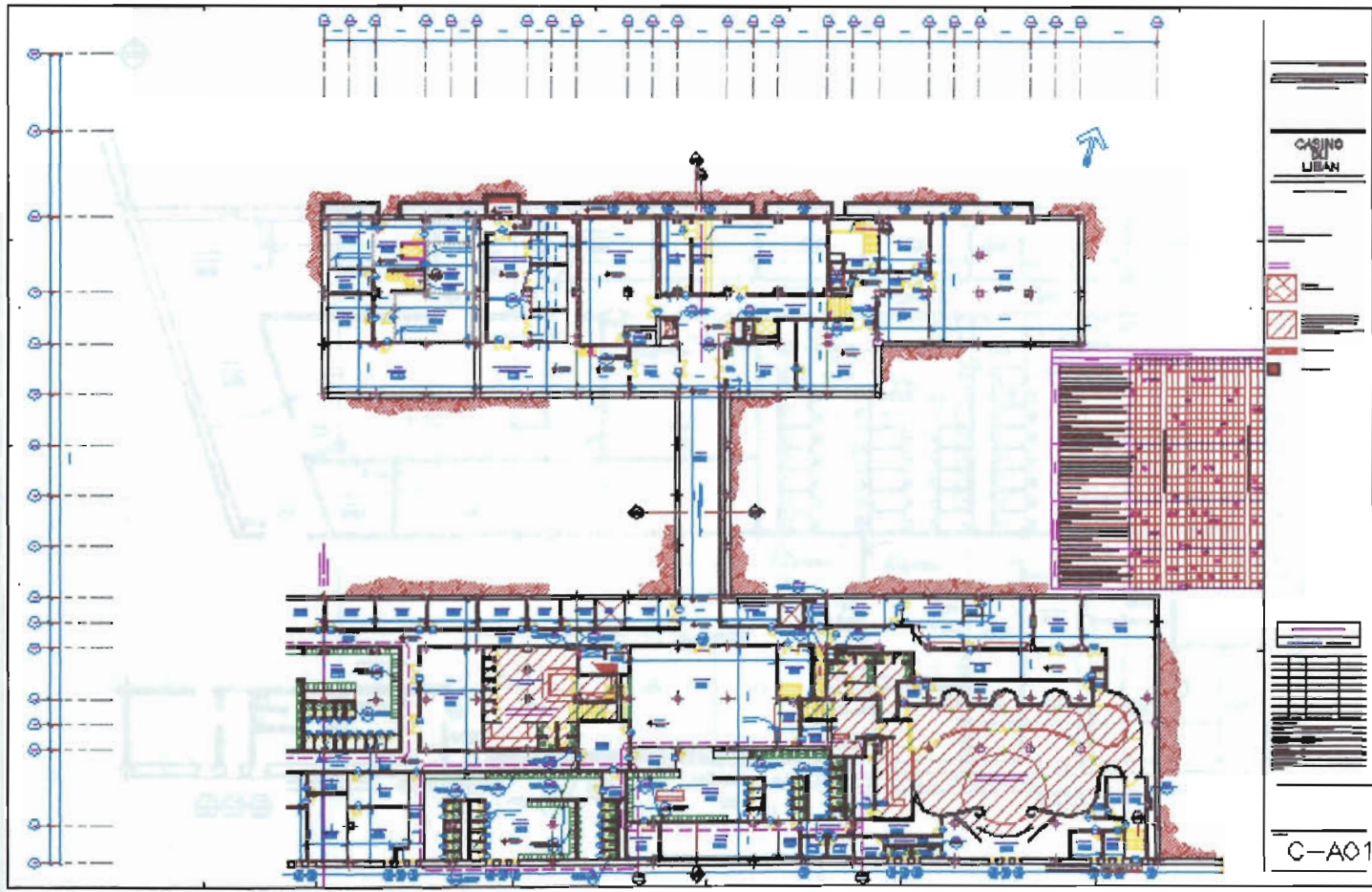
- \* Slot Machine Area : with over 318 slot machines divided between the latest Jackpots, Roulettes, Poker games and Horse Racing.

The betting coins range from 500 LL, 1,000 LL To 5,000 LL.

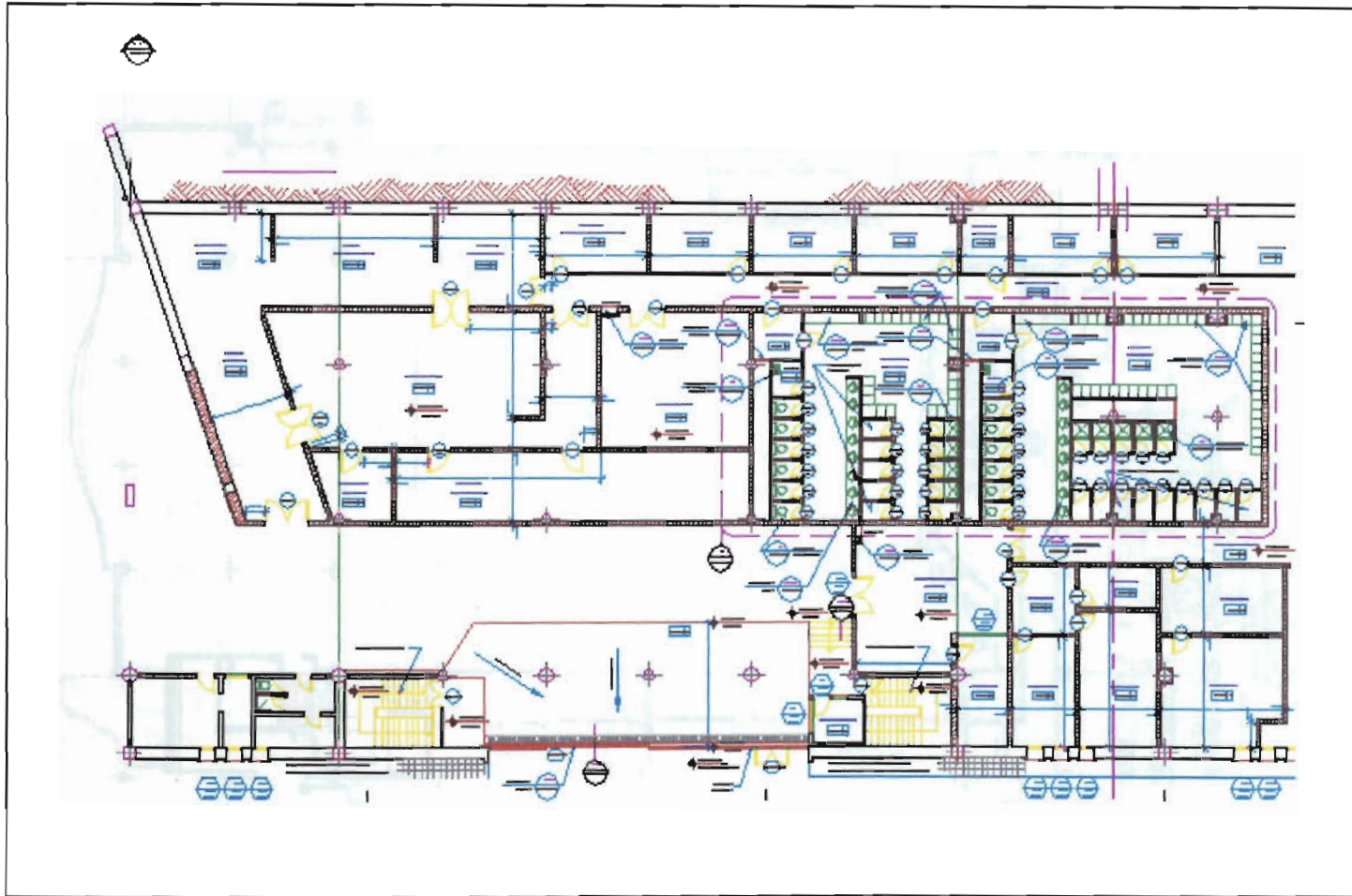
A bar is also included in the Slots Area.

This area can be accessed by anyone above 21 of age , and there is no restricted dressing code.

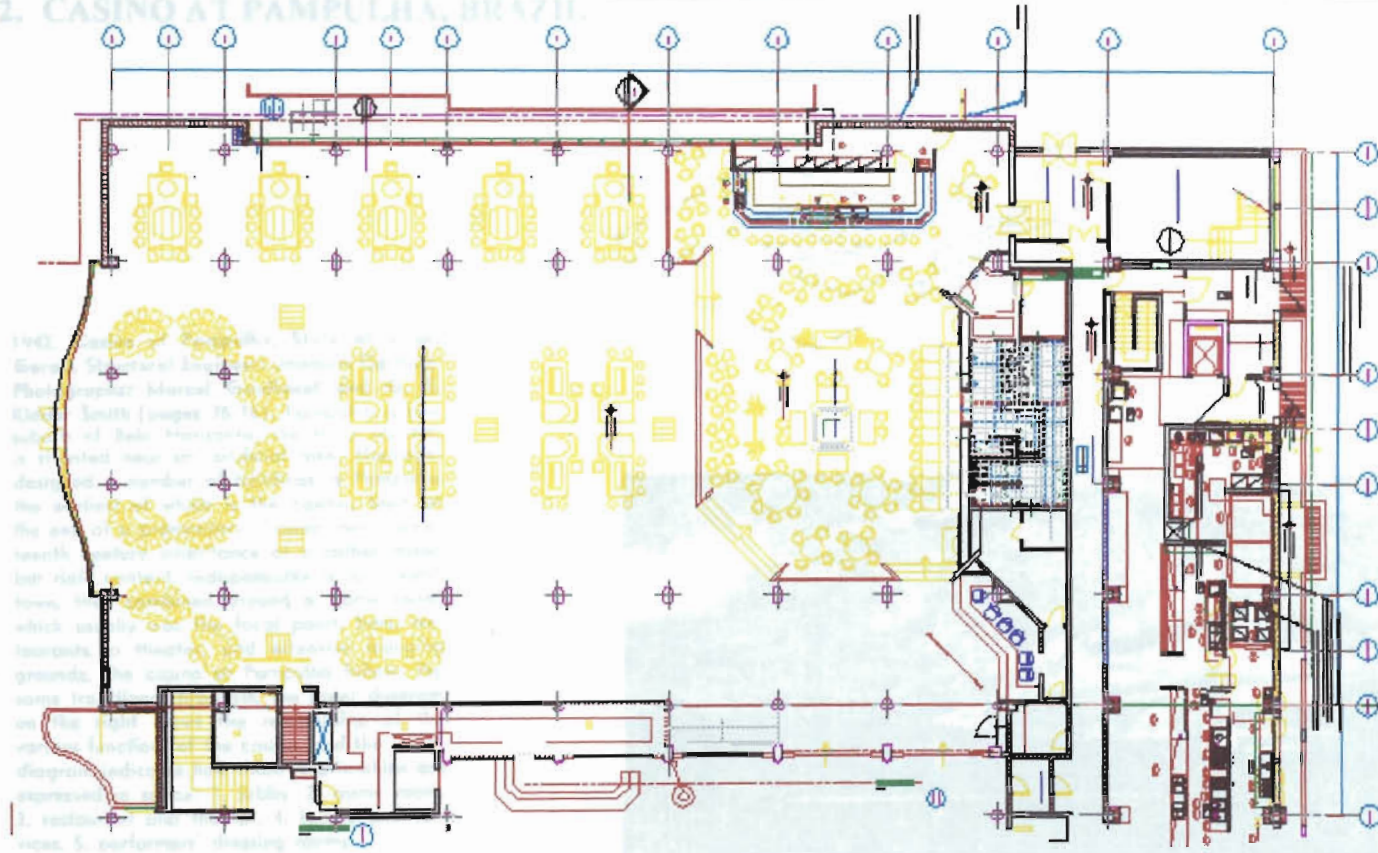






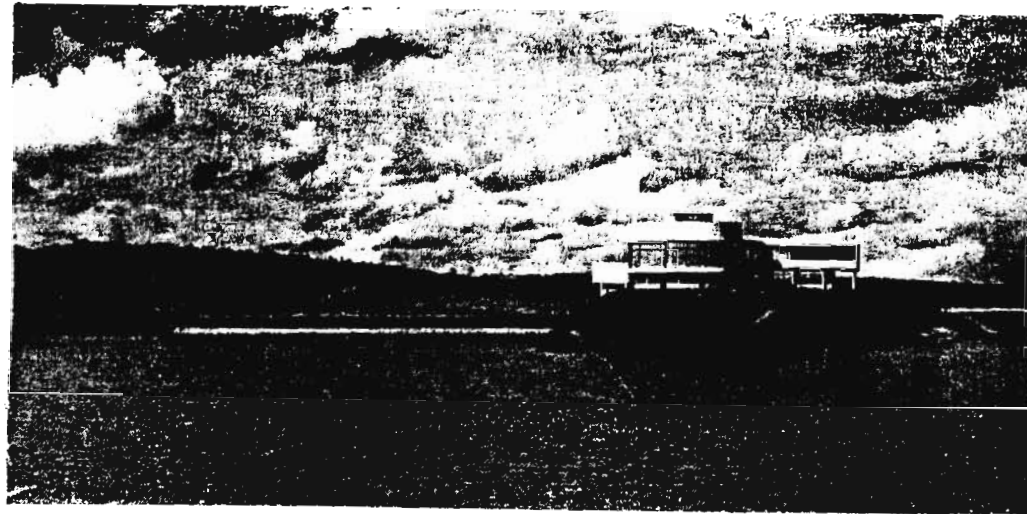
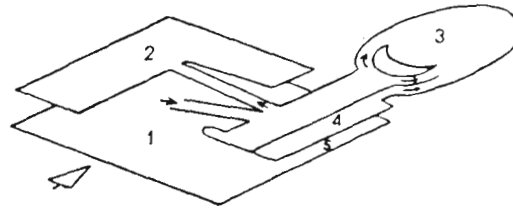


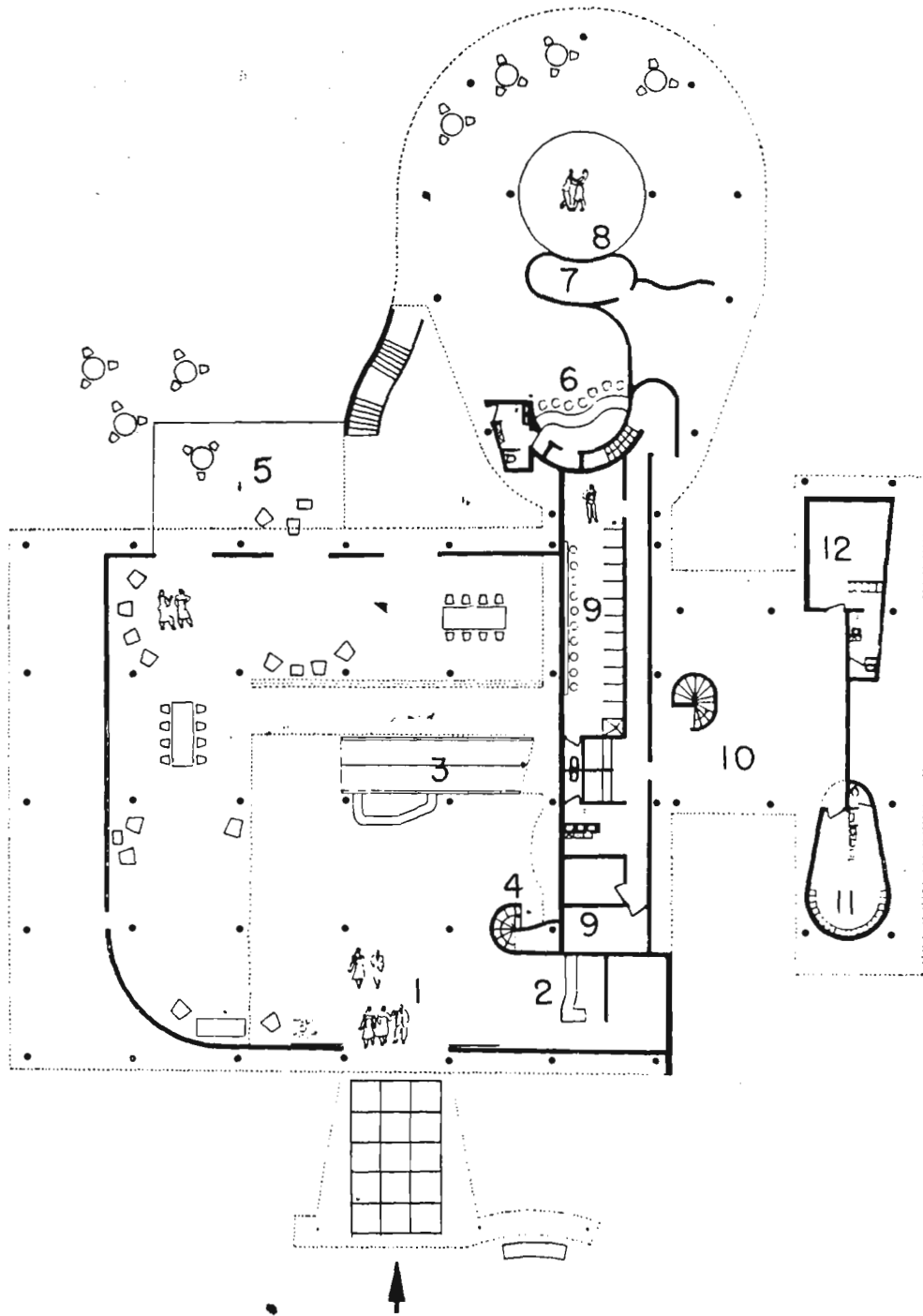
## 2. CASINO AT PAMPULHA, BRAZIL



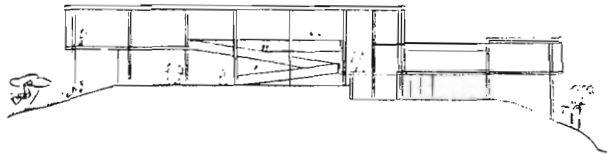
## 2. CASINO AT PAMPULHA, BRAZIL

1942. Casino at Pampulha, State of Minas Gerais. Structural Engineer: Joaquim Cardozo. Photographs: Marcel Gautherot and G. E. Kidder Smith (pages 75-76). Pampulha, a new suburb of Belo Horizonte, the state capital, is situated near an artificial lake. Niemeyer designed a number of buildings in Pampulha the earliest of which is the casino, built at the end of a promontory. Casinos are a nineteenth century inheritance of a rather mixed but rigid content. Indispensable to any resort town, they combined around a game room, which usually was the focal point, bars, restaurants, a theater, and extensive lounging grounds. The casino at Pampulha follows the same traditional program. The lower diagram on the right shows the relationship of the various functions of the casino, and the upper diagram indicates how those relationships are expressed in space: 1, lobby; 2, game room; 3, restaurant and theater; 4, toilets and services; 5, performers' dressing rooms.

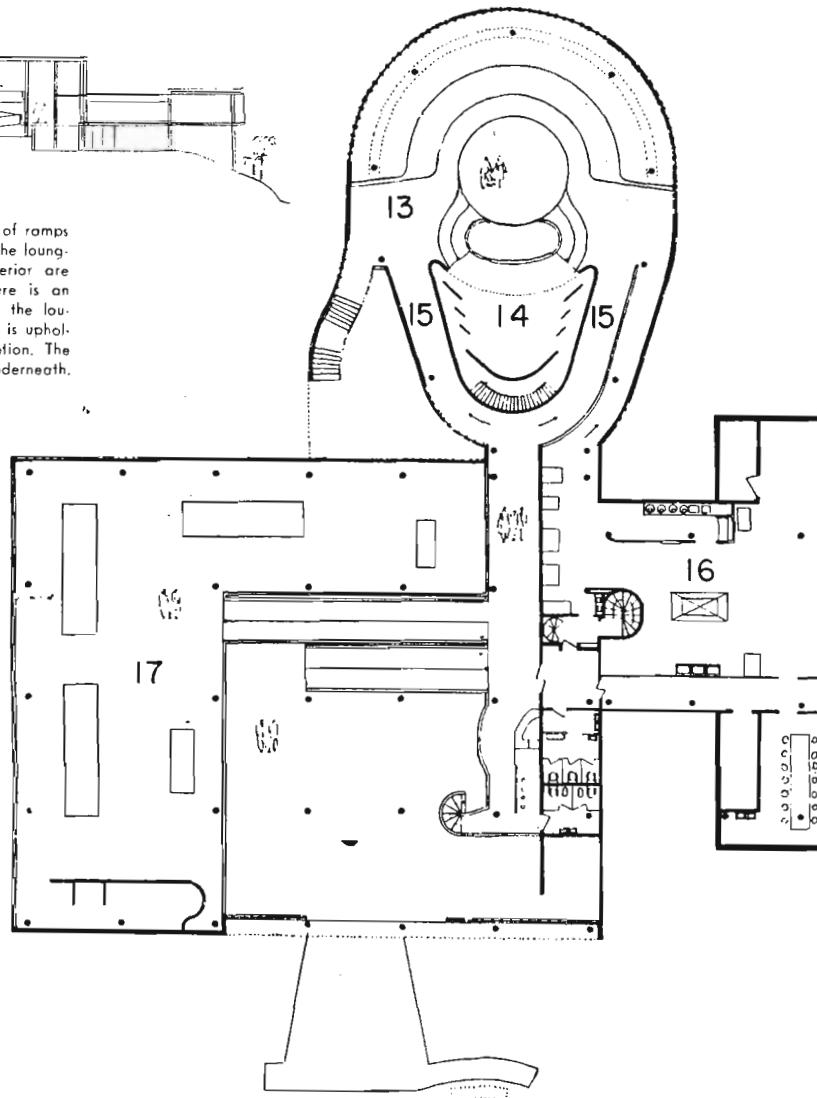




- ground floor
- 1 lobby
  - 2 check room
  - 3 ramps
  - 4 stairs to powder room
  - 5 terrace
  - 6 bar
  - 7 dance floor
  - 8 orchestra elevator
  - 9 dressing rooms
  - 10 service yard
  - 11 toilets
  - 12 office

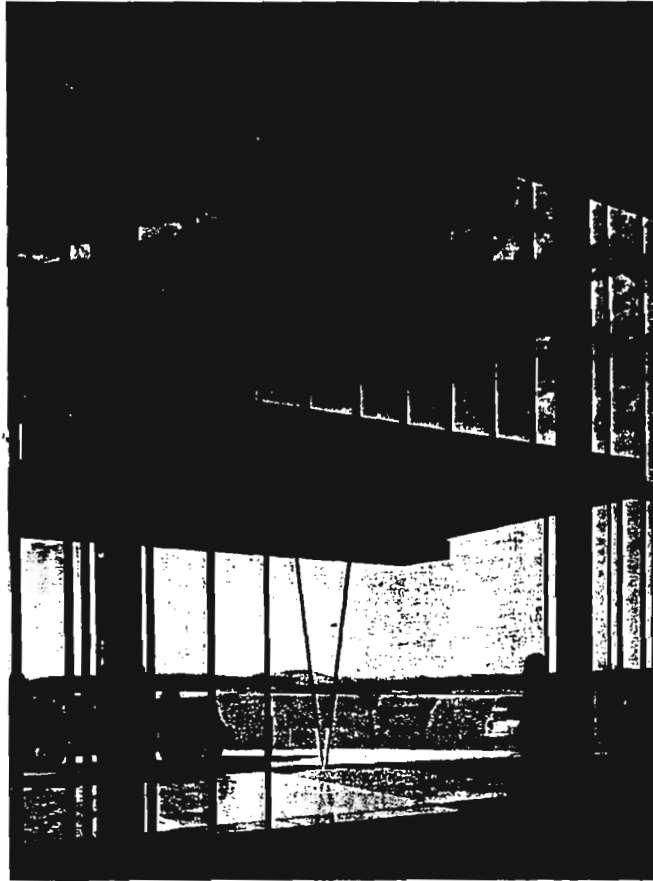


The section above shows the system of ramps which are a legitimate extension of the lounging space. The columns in the interior are covered with chromium metal; there is an expanse of pink tinted mirrors and the louvered circular wall of the restaurant is upholstered with satin for sound absorption. The glass dance floor is lighted from underneath.



second floor  
 restaurant 13  
 stage 14  
 kitchen 16  
 game room 17  
 ramps 15

Views of the entrance of the casino. The large canopy adds a festival note while it creates a frame for the bronze reclining figure, the work of sculptor Zamoiski. The columns are covered with travertine and the curtain walls with juparana stone. Tiles with a vernacular pattern are used at the base of the building.



On opposite page: the lounge (bottom) and the game room (top) viewed from the ramp. The latter is sheathed with Argentino onyx of a yellow-green color. On this page: view of the casino as it is seen from its approaches



## B. THEATERS

### REGULATIONS

Reg concerning theatre and cinema bldg and schemes not rigid in UK or USA: concern public safety; must be complied with to obtain necessary licence; should be discussed with licensing authority at earliest stage. Principles applicable world wide; main task of architect achieve balance between commercial, artistic and spectator requirements, and design scheme which complies with 'means of escape' and differential detail safety reg.

For consents required in UK in addition to theatre or cinematograph licence —Bib 300 301 328 329 346 347 361 363 591 598 599

For USA → local bldg codes

### Organisation

Theatres may be divided into 3 parts →(4):

reception: entrance, booking hall, foyer, cloaks etc  
auditorium

stage: main stage, wings, back of stage, scenery sto, workshops, dressing rm, rehearsal rm etc

Parts vary in content and size depending on type of theatre: opera, drama, review or cinema.

**Situation:** Bldg for public entertainment must be sited allow audience leave area more rapidly than required leave premises. Check requirements at earliest stage.

→(1)(2)(3) for typical dimensions

**Audience arrival times** →(5) extend from 15–30 minutes, departures 5–20 minutes.

**Car parks** →p248–50. Capacities usually determined by planning authority. Site vehicle entrance away from theatre entrance. Include covered area for setting down passengers.

**Exits** must all open outwards and comply with requirements for numbers and travel distance. General rule for numbers (UK) 1600 width for 250 visitors or part thereof with min of 2 exits →(6)(7). Ramps not to exceed 10% in UK, can be limited to 5% in continental Europe.

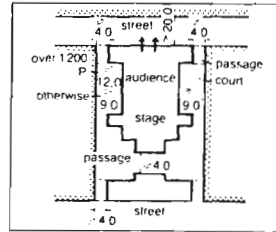
**Cloakrooms** →(7) Modern systems include self-service lockable coat-hangers or limited length counters with min number attendants.

**Stairs** →(8) →p408 Must comply with exit widths requirements. If width more than 1800 should be designed as double stairs with central handrail, 2 × 1100 ie 2200 wide. Risers not exceed 150, treads min 280.

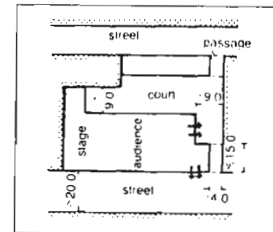
**Foyers** for theatres can be 100–500 m<sup>2</sup>/P; for cinemas space required for circulation and exit only, unlikely be more than 100 m<sup>2</sup>/P.

**Toilets** in accordance with licensing requirements; also —Bib092.

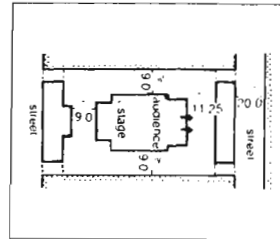
USA reg for exits, stairs etc vary: example →(10).



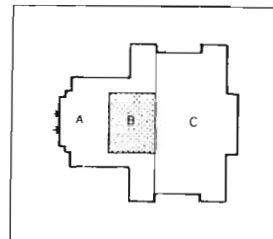
1 Distance to adjoining bldg if theatre 1 to street



2 Distance if theatre parallel to street



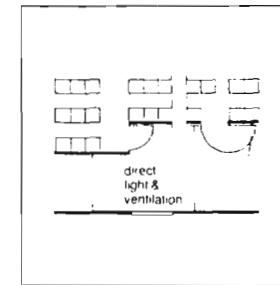
3 Distance if theatre lies between blocks



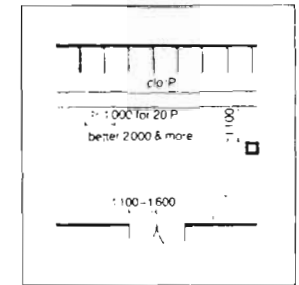
4 Layout of Vienna State Opera

	concert opera	review	cinema
P waiting in booking ha	6%	10%	—
P booking within 20 min before performance	8%	20%	100%
queuing for advance booking	2–15 min	2–15 min	—
ticket control	1 min	1 min	1 min
time, if arriving by car	4–12 min	6–9 min	2–5 min
seating	4 min	—	—
% of P leaving seats at interval	75	50	—
time required for leaving seat to foyer	4 min	4 min	—
time in toilet	1 min	6 min	—
time from seat to drive, excluding clo	5 min	6 min	—
waiting for taxis or transport	1–15 min	1–15 min	—

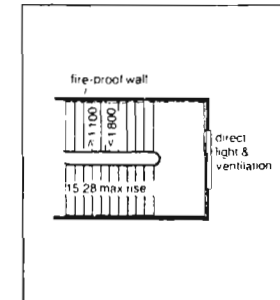
5 Table after Burnis-Meyer & Cole (→Bib152) giving % of P & time in min needed reach or leave seats, as measured in USA



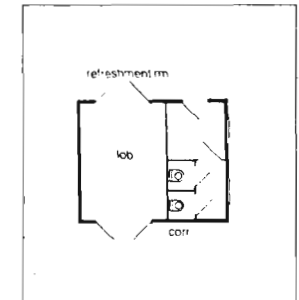
6 Corr w: 1100 for up to 100 P, 1600 for up to 250 P



7 Exit & clo

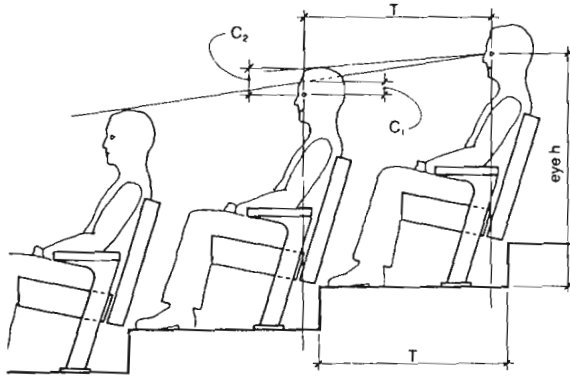


8 Stairs: 1100 for up to 100 P; 1600 for up to 250 P; centre handrail required over 1800 w

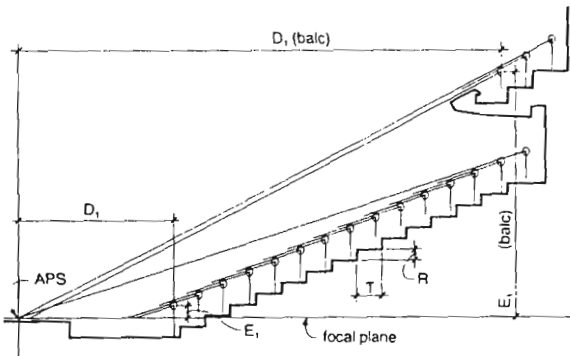


9 Provide lob between smoking & non-smoking ar: doors to open in direction of exit

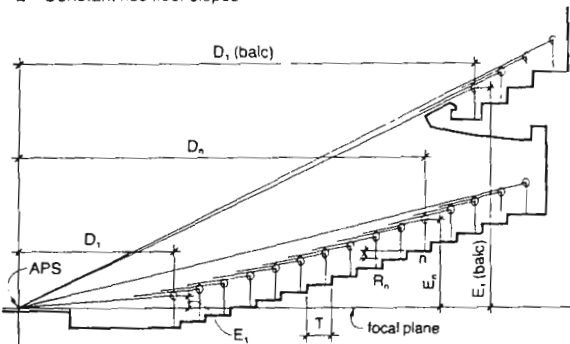




1 Typical seated spectator



2 Constant rise floor slopes



3 Iscidomal floor slopes

## SIGHT LINES

Typical seated spectator →(1)

Eye height:  $1120 \pm 100$

Tread of seating tier (row spacing)  $T: 800-1150$

Head clearance  $C:$

$C_1 = 65$ : min clearance/row, assuming spectator will see between heads row in front (every-other-row vision)

$C_2 = 130$  allows av spectator see over head av spectator in front (every-row vision)

Rise  $R \rightarrow (2)$ : difference in height between adjacent seating platforms

Floor slope:

Arrival point of sight (APS) →(2)(3): intersection of highest sightline at focal plane positioned 50 above stage platform

Distance: horizontal distance from eye of seated spectator to APS

$D_1$  = distance from eye of first row to APS

$D_n$  = distance from eye of given row  $n$  to APS

Elevation: vertical height of eye of seated spectator above focal plane

$E_1$  = vertical height of eye of first row above focal plane

$E_n$  = vertical height of eye of given row  $n$  above focal plane

$E_1 = 0$  establishes max stage height allowable, ie 1060

Constant rise floor slope →(2): sight lines from rows parallel; APS determined by intersection of sight line from last or highest row at focal plane:

$$R = \frac{T}{D_1} \left[ E_1 + (N-1)C \right] \quad D_1 = \frac{T}{R-C} \left[ E_1 + (N-1)C \right]$$

$$E_n = \frac{D_1}{T} (R-C) - C(N-1)$$

$N$  = number of rows in seat bank.

Isclidomal floor slope →(3): exponential shape of floor slope results from generation of sight lines from single focal point or APS; isclidomal floor slope makes more efficient use of given total rise:

$$E_n = D_n \left[ \frac{E_1}{D_1} + C \left( \frac{1}{D_1} + \frac{1}{D_2} + \frac{1}{D_3} + \dots + \frac{1}{D_{n-1}} \right) \right] \quad R_n = E_n - E_{n-1}$$

Type and scale of performance will dictate range of performing area sizes →(4). May be desirable enable performing space accommodate variety of performing area sizes. Containment of audience within  $130^\circ$  angle peripheral spread of vision from performer at point of command will help promote max visual and aural communication between performer and spectator.

Largest performing area should fall within boundary defined by  $130^\circ$  angle of peripheral spread of vision from seats at ends of front rows →(5). Limit of centre of action defined by  $60^\circ$  angle of normal, accurate, polychromatic vision from seats at ends of front rows. Point of command should logically fall within centre of action.

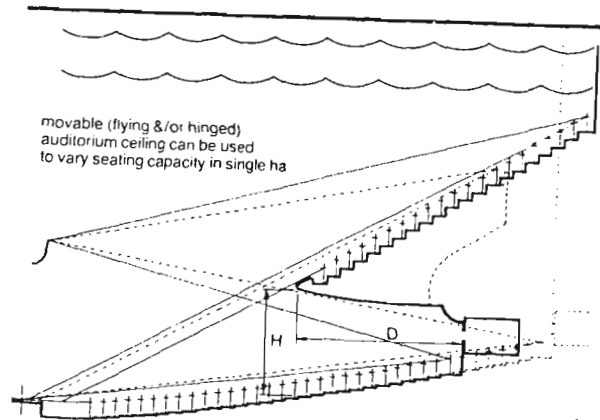
Boundary limit of seating area of auditorium might be defined by given constant angle of peripheral spread of vision to sides of given stage opening. Limits of both  $30^\circ$  and  $60^\circ$  angles of peripheral spread of vision to various openings illustrated →(6).



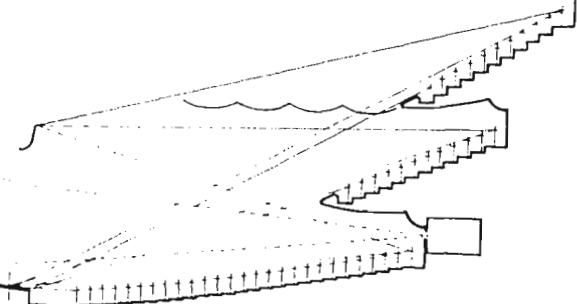
# AUDITORIUM

Auditorium longitudinal sections shown →(1)–(6) have same numbers of rows. Max D : H balcony overhang proportion recommended: 1 : 1 for concerts, 2 : 1 for opera, drama. Flying balcony may allow greater D : H ratio by allowing reverberant energy reach rear seats from behind. Last rows should have clear sight line to central speaker cluster. Balcony overhangs positioned clear of projection beam. Max sight line angle from balcony to stage: 30°.

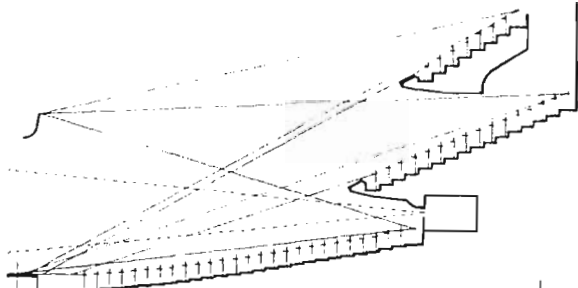
Convex and irregular surfaces aid sound diffusion. Domes, vaults and other large concave surfaces may cause acoustic problems. Higher ceiling for longer reverberation time as required for concerts, typical hall volume: 20.5 m<sup>3</sup>–35 m<sup>3</sup>/audience seat. Lower ceiling for shorter reverberation time as required for drama, speech; typical hall volume: 7.5 m<sup>3</sup>–14 m<sup>3</sup>/audience seat. In halls used for concerts treat stage and audience seating as 1 volume. In multiple-use halls this condition achieved with hard orchestra shell which must be demountable for full use of stage for scenery. Acoustic requirements may dictate that reflective surfaces at ceiling of orchestra enclosure extend out above audience seating.



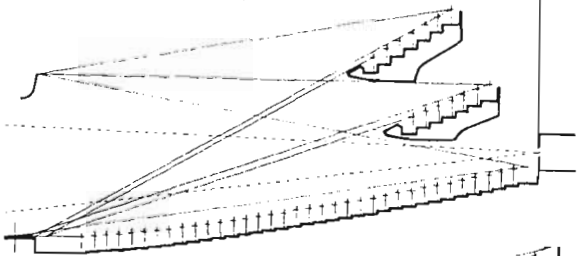
1 Attached balc (solid lines) flying balc (dotted lines)



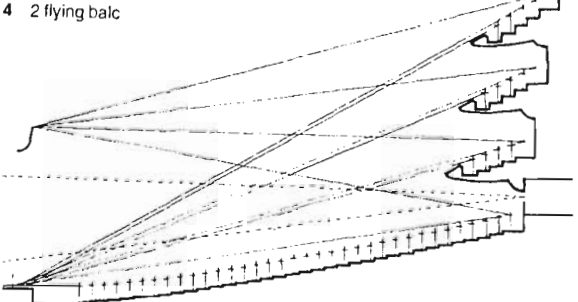
2 2 attached balc



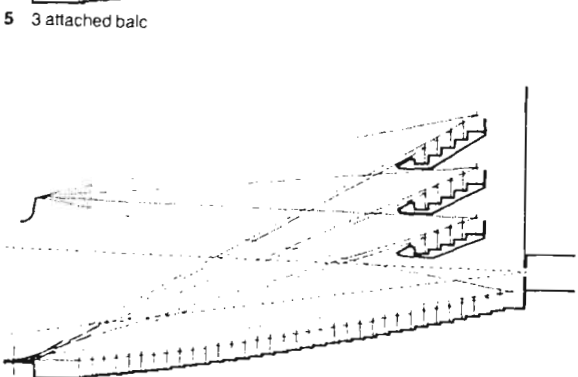
3 Attached lower balc flying upper balc



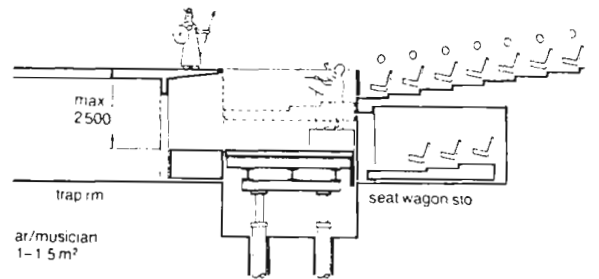
4 2 flying balc



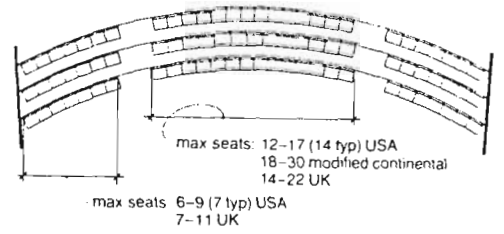
5 3 attached balc



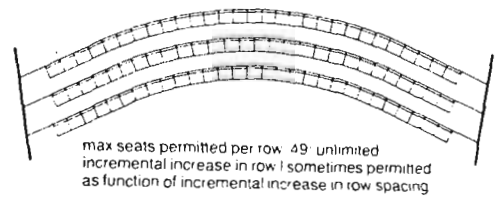
6 3 flying balc



7 Typical orchestra pit lift detail



8 Multiple aisle seating



9 'Continental' seating

## SEATING

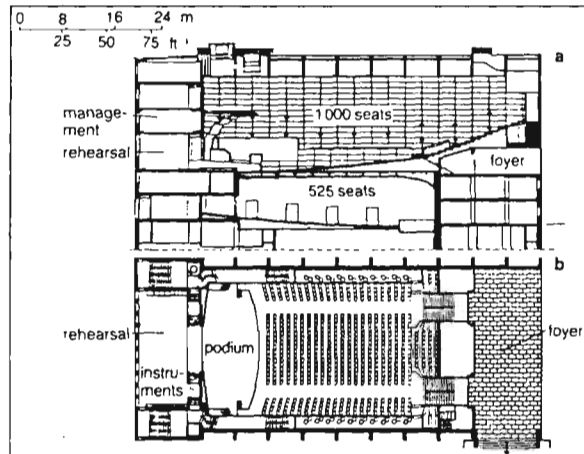
Sizes depend on type of chair and determine chair spacing. Decide on chair style at outset. Traditional chairs require min spacing at 840 and are 500 wide →(1); most common USA dimension 530. Modern chairs vary considerably: can need 1400 spacing and width of 750. Standing space →(2) formerly normal not usual in modern theatres. Seating usually laid out in straight or curved rows; in some theatres angled seating tried →(3). Seating radius centre point best established by trying alternative positions. Short radius enables whole audience face centre of stage but this must be drawn to ensure adequate circulation space at front stalls sides.

## BALCONIES

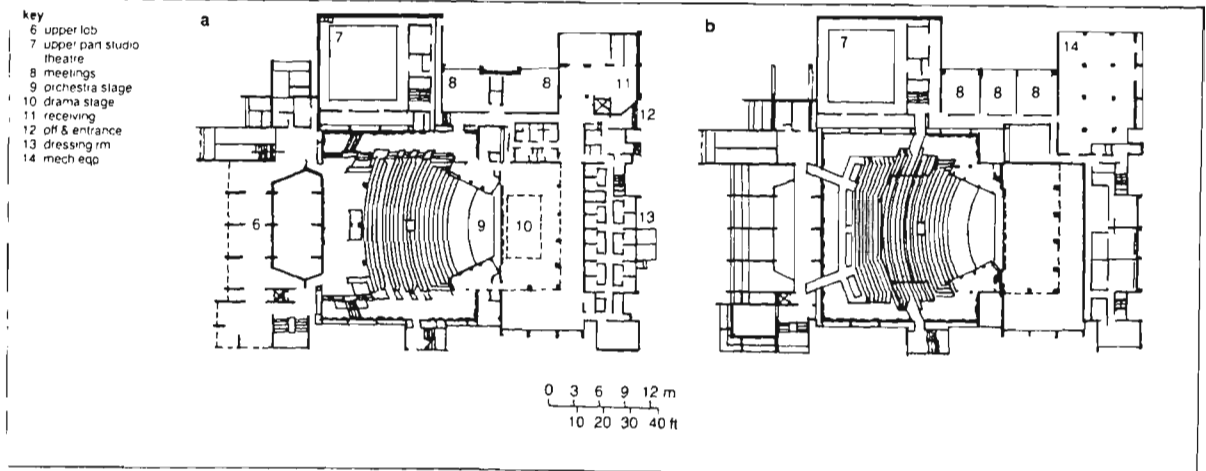
Theatres with 1 balcony (frequent in USA) →(5) can give better sight lines than multiple →p350, reduce staff requirements, simplify exits, increase spectator convenience. Sometimes movable ceiling. Very deep stalls under balcony →(5) tend to limit upward sight line. Multiple auditoria have become common →(7). Containment of sound in each auditorium major problem.

## FLEXIBLE SEATING →also p135

Division of auditoria into smaller rm by sliding folding partitions common in conference centres; more difficult in theatres with stepped floors. Consider closing off areas of seating to provide smaller capacity, to provide full flexibility folding seating areas can slide away to expose level floor →p135(4). Loose seating used on flat floor gives very poor sight lines: must have temporary fixing. Sto accn for loose seating must be provided; 1000 folding chairs need 20–36 m<sup>2</sup> sto space.



7 Concert ha Helsingborg Finland with 2 ha 1 above other a longitudinal section b plan of large ha Arch S Markelius



## STAGE TOWER

Dimensions governed by stage machinery, increasingly complex to speed scenery handling and changes. Small stage without side and backstage →(2a). Shifting scenery by hand with trained staff  $\geq 3$  min; with 'jackknife' trolleys 15 sec →(2b); if side and backstage with traverse trolleys 10 sec →(3).

### Revolving stage

Disc with 2-3 sets →(3)  
 2 discs with contact at stage centre  
 Reciprocating segments →(2c)  
 Ring stage with centre upstage →(2d)  
 Ring stage with centre in house →p353

### Stage tower

Width of stage  $\geq$  twice stage opening →(3).  
 Depth of stage from fire curtain  $\geq 2 \times$  stage width, height to rigging loft underside  $\geq$  medium height of auditorium + height of stage opening →(4).  
 Fireman's rm  $\geq 800$  wide, 2200 high scenery at each side of stage, with view and exit to stage; escape route also required.  
 Width of corridor at stage level  $\geq 2200$ , otherwise  $\geq 1500$ . If stage (without side and backstage) larger than  $350 \text{ m}^2$  width of corridors increases by  $150/50 \text{ m}^2$ .

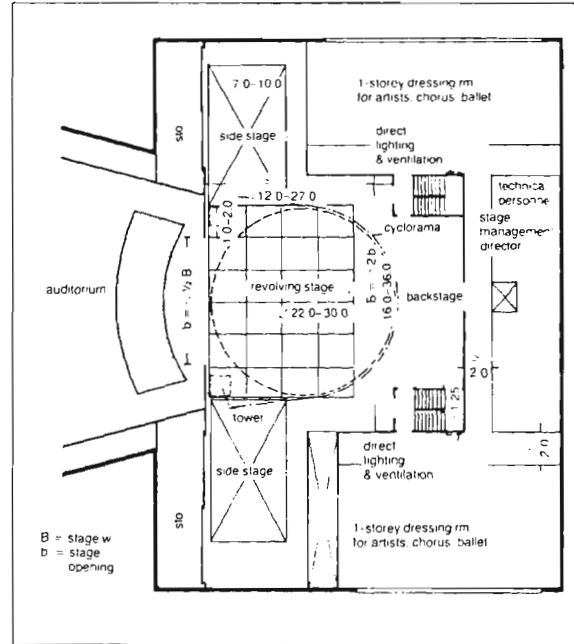
**Exits** from stage areas should be planned provide ready egress from all parts. Include at least 2 exits of which 1 must lead to open air through unventilated lobby. Min widths should comply with reg. Exit requirements from basement and dressing rm areas similar, 1 to be independent of stage area and 1 from dressing rm should also lead direct to open air.

**Workshops** (locksmith, carpenter, paint shop) connected by fire lobbies to corridors.  
 Scenery sto at stage level  $\geq 10\%$  of stage area.  
 Height of scenery sto approx 6000-10000.

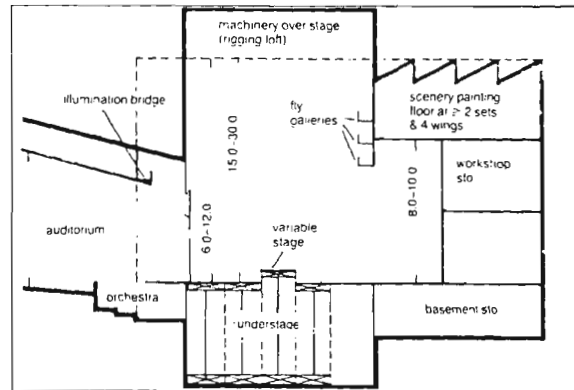
**Rigging loft:** space over stage used for hanging scenery and lighting eqp. Between loft and roof construction allow  $\geq 2100$  head room. Adequate ventilation equal to  $10\%$  stage area to be provided by haystack lantern above loft. Varies from code to code USA.

**Fire curtain:** stage must be separated from auditorium by fire proof curtain of wire-woven asbestos cloth stretched between top and bottom steel pipes, asbestos plates fixed to fire proof steel frame or sheet metal fixed to fire proof steel frame. Hand release to operate fire curtain and drencher system over. Both automatic and hand release usually required in USA.

Curtain must be in 1 piece, should move vertically and should close completely in 30 seconds.



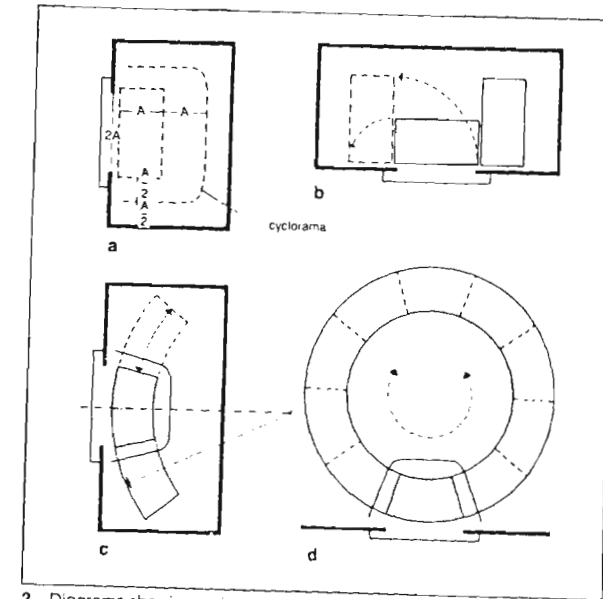
3 Diagrammatic plan of stage tower with typical dimensions



4 Diagrammatic section of stage tower with typical dimensions

	min	normal	max
drama	8	10	12
review	10	11	14
musical	10	12	15
opera	12	18	25

1 Stage w



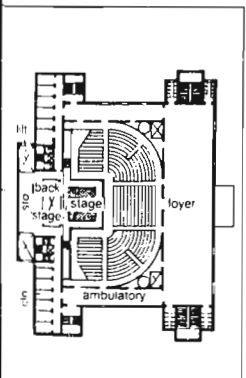
2 Diagrams showing various ways of setting & handling scenery

**MULTI-FORM THEATRE**

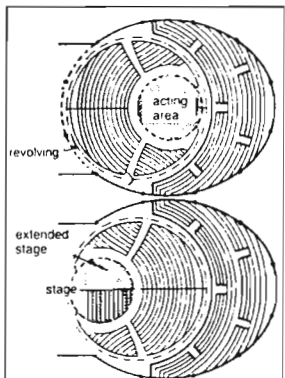
**Ring stage with centre in house** →(1)–(5) Aims at intimate connexion of audience and actor; brings play amongst audience in contrast to 'peep-show' stage. These methods call for modern stagecraft. Actor always surrounded by his audience →(2)(4)(5) without curtain and with little scenery. Auditorium may be round, square or rectangular →(4). Instead of scenery use can be made of film projection. Revolving stages →(2)(3). Revolving auditorium →(2)(3). 'Theatre in the round' (arena type) where common stage omitted →(5).

**Combined 'arena' & 'peep-show' stage** As arena theatre side walls of auditorium have rolling or sliding out panels which line up with cyclorama and thus enclose space. As 'peep-show' theatre proscenium arch put between auditorium and stage.

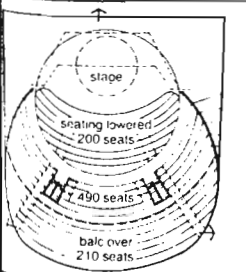
Leisure



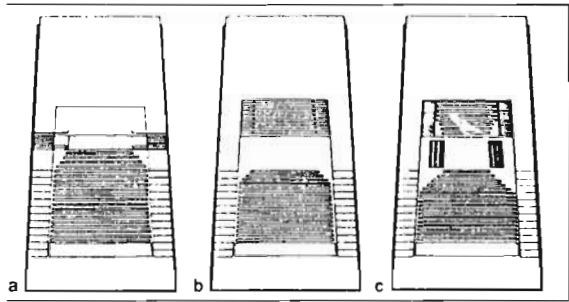
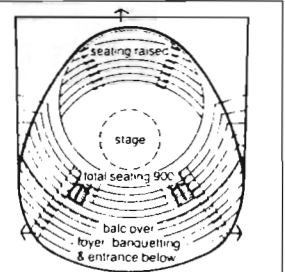
Arena stage: ground floor plan  
Arch Kreislinger & Rosenbaum



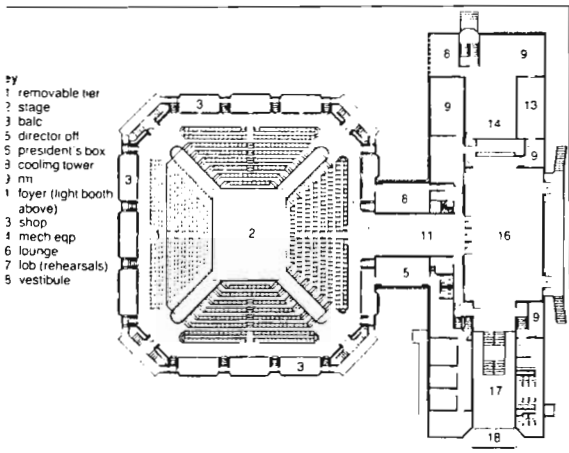
2 'Total theatre' with revolving centre: plan shows both positions: after Gropius



New London Theatre Drury Lane London: revolving stage & front stalls  
Adjustable h seating: can be either in the round or proscenium  
Arch Tvrtkovic & Kenny Chew & Percival



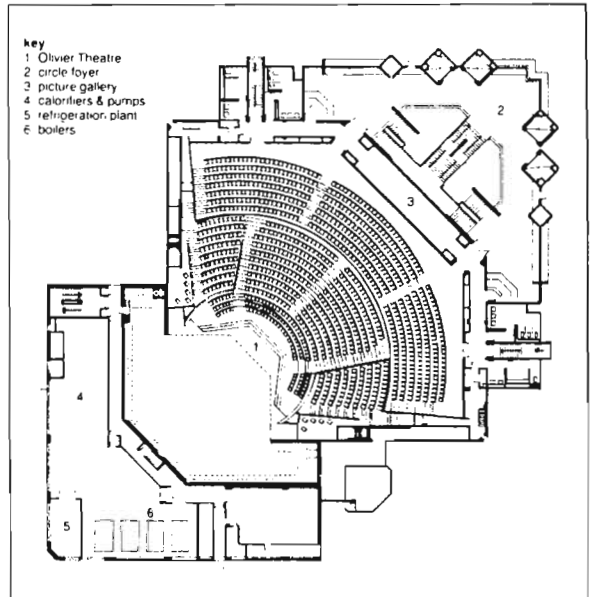
Kleines Haus Theater Mannheim (Germany) with adjustable seating  
peep-show' stage with orchestra b double-sided arena stage c arena stage all round Arch G Weber



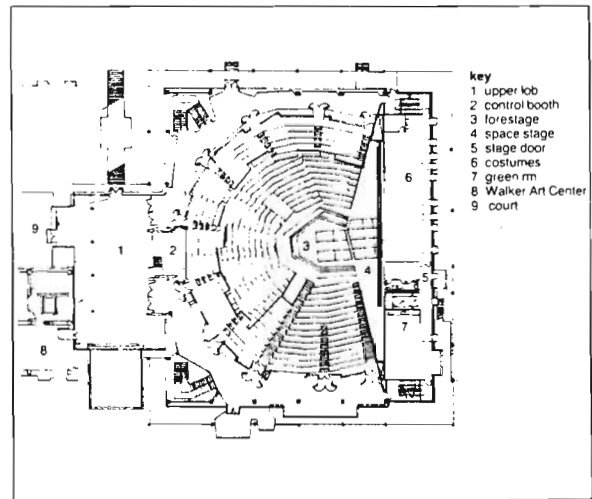
Arena Stage Theater Washington DC USA upper level plan Arch Harry Eese

**Theatre references:**

→Bibliography entries 015 034 113 114 152 266 298 309 340 343 350 351 352 361 408 409 413 475 556 572 626



6 Circle level Olivier auditorium National Theatre London England Arch Denys Lasdun



7 Plan at balc level Tyrone Guthrie Theater (three-quarter arena) Minneapolis USA Arch Ralph Rapson

## C. MARINAS

### OFFSHORE BOAT HARBOUR COMPONENTS

**Area needed:** craft sizes vary: 14.8–21.3 m (USA 4.3–24.4 m), beam 1.8–6.0 m (USA 2–6 m); areas of water calculated on basis of planned number and size of craft moored, pontoon layout, types of berth

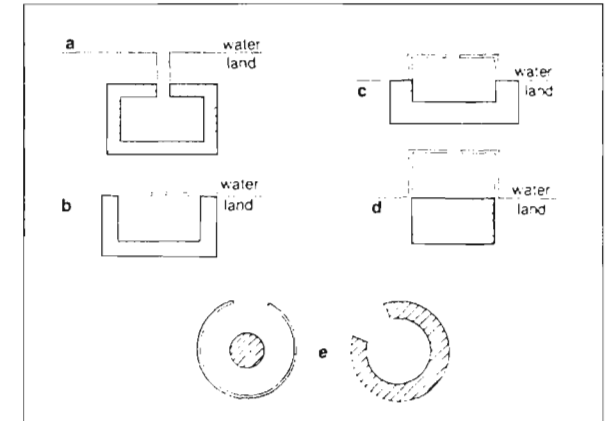
**Depth of water:** min 600 (USA 610) plus max draft of vessel at lowest astronomical tide, 300 reserved for stiling, 300 for clearance. If too shallow at lowest tide dredging necessary.

**Channel:** leading to entrance  $\geq 20$ –30 m wide; main channel within harbour area depends on number and sizes of craft passing through at any 1 time, min w 18 m.

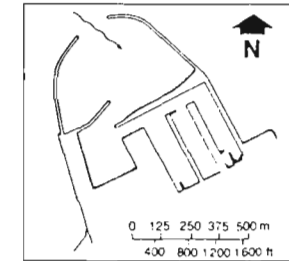
**Entrance:** protection required from ingress (wave energy to be absorbed before choppy conditions arise in yacht basin)  $\rightarrow$ (2); suitable protection: spending beaches, rocks or concrete blocks moulded to appropriate shapes, piles.

**Pontoon layouts:** well selected layout very important; main choice limited to pontoons stretching from a land, b breakwaters, c floating elements  $\rightarrow$ (3).

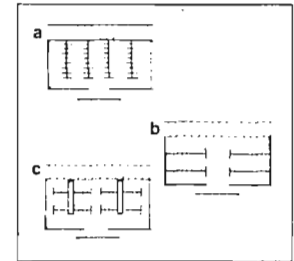
**Berth types  $\rightarrow$ (6):** a stern to quay, jetty or pontoon bows to piles (poor for embarking); b same but bows moored to anchors or buoys (not for tidal marinas); c alongside finger piers or catwalks, 1 craft each side (convenient for embarking); d alongside quays, jetties or pontoons, single banked; e same up to 3 or 4 abreast (disadvantage of yachtsmen on outer climbing over inner craft); f star finger.



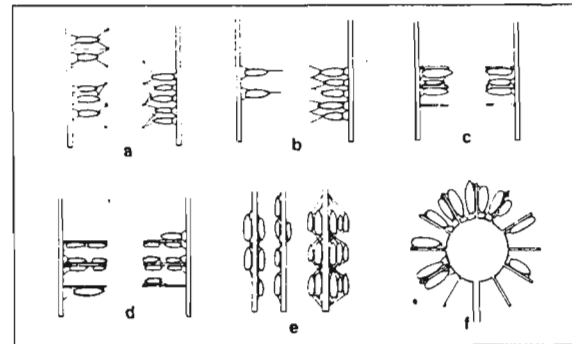
1 Land to water relationship: a land-locked b built-in c semi-recessed d offshore e island



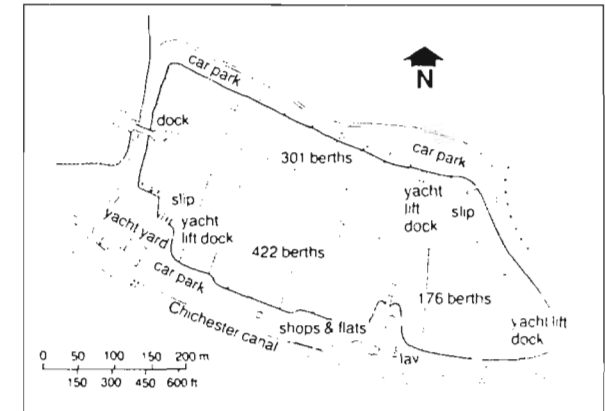
2 Energy-absorbing slopes inside Hantsholm harbour Denmark



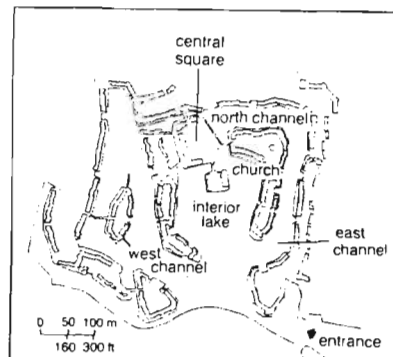
3 Pontoon layouts: a stretching from land b stretching from breakwaters c stretching from floating elements



6 Types of berth



4 Yacht basin Chichester England: land locked, 1000 berths



5 Marina Port Grimaud France built on reclaimed marshland: 900 flats each with berth

### DEFINITION

Marina's main role provide shelter from wind, waves and swell of passing craft; access to moorings at all states of tide with space for manoeuvre; tying-up points for boats with services, eg water, el, telephone, television, refuse collection, fire fighting, sanitation, public address system; sanitary needs and amenities for yachtsmen, eg wc, sho, changing and drying rm, entertaining, sporting activities, shopping; car parking; eqp for launching, lifting, manoeuvring, repairing, maintaining boats; other bldg directly related to boating.

### TYPES OF DEVELOPMENT

**Land to water relationship  $\rightarrow$ (1):** land locked  $\rightarrow$ (4), built-in  $\rightarrow$ (5), semi-recessed, offshore, island (constructed in open water: special case).

**Tidal situation:** non-tidal: variations of water level  $\leq 1000$ ; usually easy for people and trolleys and simple connexions between onshore and offshore service systems.

tidal: substantial changes of water level; difficult connexion between pontoons and land for people and services; construction difficulties almost inevitable.

**Site selection factors:** legal problems; transport systems; potential for future extension; construction options and methods; geological, hydraulic, climatic; soil and sub-soil; orientation, physical features, erosion, possibility of flooding; engineering network on shore; materials stability; tides, currents, navigational requirements; pollution control; labour sources; effect of marina on existing environment during construction period and after completion.

**COMPONENTS (cont)**

**Locks:** often have more than 1 compartment; should maintain constant water level on 1 side, other side varying with tide; capacity decided by peak use; waiting pontoons either side lock recommended.

**Pontoon design:** often used to carry services and to support lighting; lockers, refuse collection points, fire fighting devices; service boards often provided: boats/bollard 2-6; sewage collection points for boats recommended either as holding tanks or as outlets connected with vacuum sewage system leading to onshore network. Min w main access pontoons 2000 with fingers  $\geq 500$  wide; if total pier l over 100, 2000 w more appropriate; min w floating pontoon 2500.

**Pontoon types:** fixed: for non-tidal marinas; fixed deck (timber, aluminium, plastics decking) resting on structural supports (piles most common); service ducts usually under deck;

floating: for tidal marinas or where structural difficulties occur and supports on bed not feasible (eg deep water, geological conditions); deck fixed to floating units and so kept at required level above water; floats of steel, plastics, timber, concrete, polystyrene, filled with lightweight material (eg polystyrene) or left hollow; pontoons held in position by chains; in exceptional cases may be anchored to bed; connexion to land by hinged bridge, ramps, lifts, hoists, collapsible steps.

**Breakwaters:** rubble mound: mainly for sites with relatively small tidal variations; alternative concrete blocks moulded to shape: not appropriate for more extensive structures: with relatively shallow slope (1:2 to 1:3) rubble mound occupies large water area otherwise available for craft or other essential uses;

vertical face: concrete walls (constructed in open sea conditions as mass concrete or buttress structures): efficient when built, difficult to construct and maintain;

caisson type: precast concrete cylinders (either hollow or filled with

sand) resting on sea bed; circular shaped cusps between units, positive contribution to wave energy absorption;

floating: usually considered for sites with great depth of water and relatively mild conditions; sometimes act as secondary protection or primary barrier, reducing sea impact before waves reach main sea defence.

**Fuelling points:** considered desirable but not required by authorities (UK); floating tanks not usually accepted. **NB** fire risk prevention at points of flexible connexions between tanks and floating pumps.

**Pollution control:** in non-tidal marinas water circulation certainly required but hard to achieve. Sanitary accn for yachtsmen essential (travelling distance  $\leq 100$  m); provide refuse disposal units close to craft as possible; pollution culverts may also be needed.

**Onshore elements:**

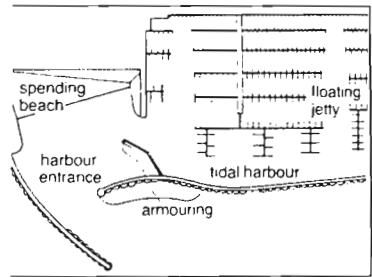
car parking: ratio cars: boats 1:1-1:2; not too far from craft for yachtsmen and their eqp;

sanitary accn: recommended min either 1 wc and 1 sho each sex per 20 berths or 1 wc, 1 urinal, 1 hb, 1 sho per 25 men, 1 wc, 1 hb, 1 sho per 25 women (max occupancy of harbour estimated 60%; suggested ratio men to women 2:1);

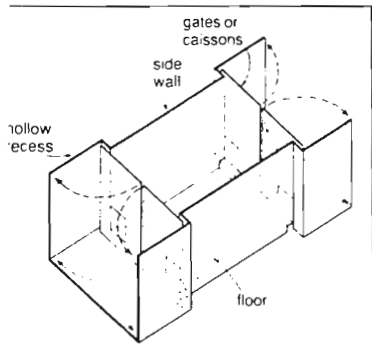
yacht clubs: floor ar/P 1.0-5.0 m<sup>2</sup>: club rm, lav, drying rm, bars, restaurants, meeting rm, indoor sports, off, information centre, sleeping accn, caretaker's flat;

hard standing, boat sto, repair shop and other elements related to boat maintenance and handling; should have suitable device for boat lifting and launching and easy connexion to roads; free areas for manoeuvring; fuel tanks often sited close to boatyards;

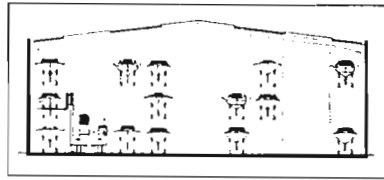
ancillaries may include customs, coastguards, lock keepers, insurance brokers, car hire, travel agent off.



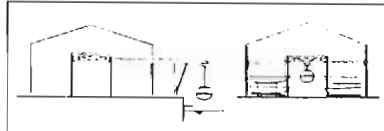
Marina entrance design Brighton UK



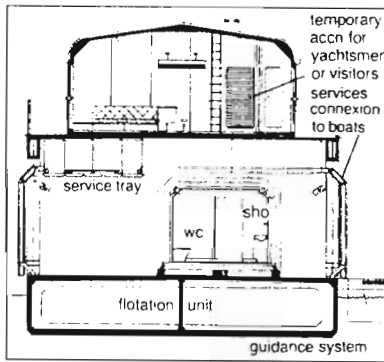
Main components of lock



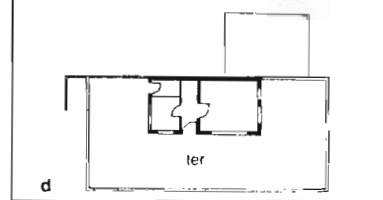
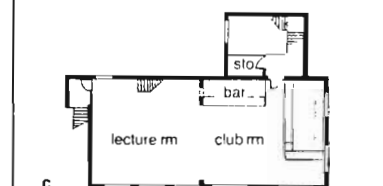
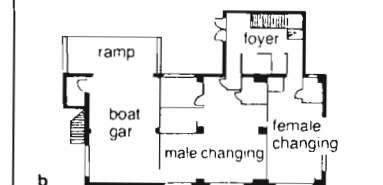
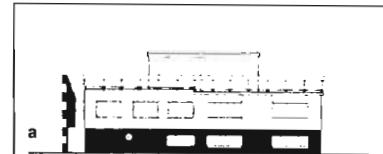
4 Boat sto with hoist



5 Sto for small motor boats



6 Floating jetty with housing superstructure Brighton marina: section



7 Clubhouse design Stokes Bay sailing club Gosport UK: a W elevation b ground floor c first floor d second floor

## D. CAR PARKS

### DESIGN GEOMETRY (cont)

#### Split level layout →(1)

Arrangement widely adopted.

2 bins so arranged that adjacent parking levels separated by half storey height.

Short interconnecting ramps used between levels.

#### Warped slab layout →(2)

Parking levels constructed with uninterrupted horizontal external edge: steady transition of gradients constructed give internal interconnection of parking levels. Compared with split level layout need for ramps at either end of bldg eliminated, gradients reduced.

#### Parking ramp layout →(3)

Parking level constructed as long ramp: has significant effect on elevational appearance; to keep to acceptable gradients long bldg required. When necessary exit can be speeded up by adopting external helical ramp.

#### Flat slab layout →(4)

External ramp used to interconnect level parking areas.

### VEHICLE CONTROL

#### Fee collection

Group A driver payment:

fixed or variable charge payed on exit

Group B pedestrian payment:

fixed or variable charge by purchase of token or ticket

season ticket

pay & display ticket

### Barrier capacity

2 barrier types available: rising arm or rising kerb, having recommend capacities:

entry barrier	400 vehicles/hr
exit barrier	
group A	250 vehicles/hr
group B	400 vehicles/hr

### LIGHTING

Mean service illumination for public should be (lx):

parking areas	20
driveways	50
ramps	70
roof	20
entrance & exit	150

### FIRE PROTECTION & SAFETY

USA: check applicable codes and standards.

#### Structural fire resistance

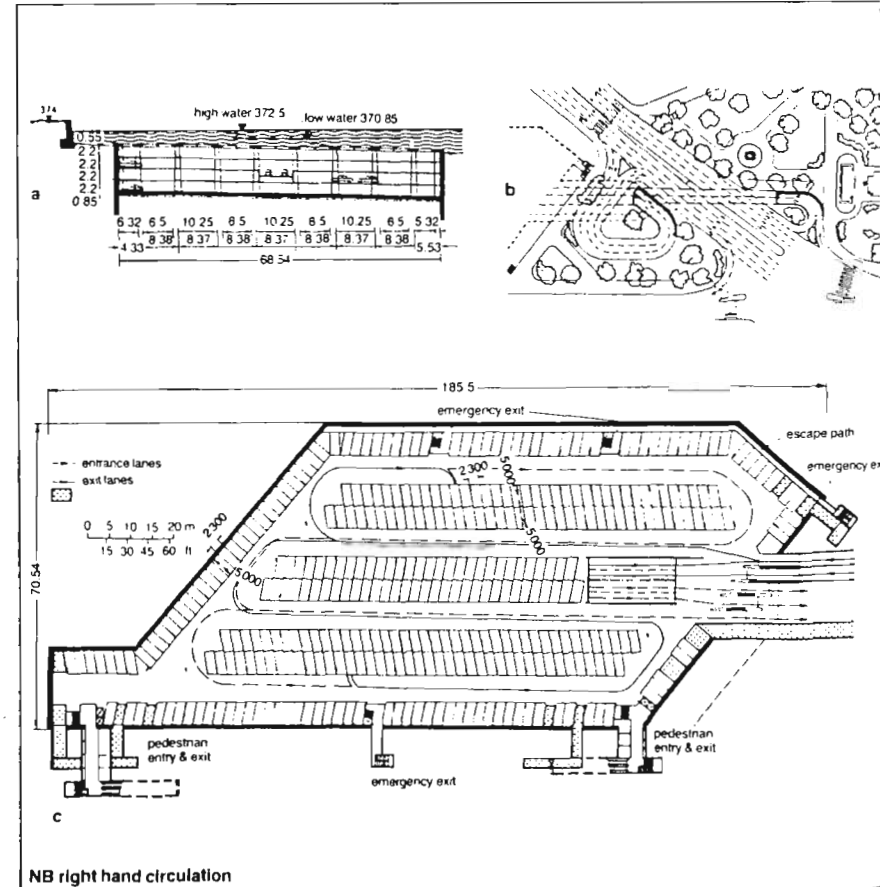
Construction of non-combustible materials with structural fr 1 hr, specified restricted circumstances requirement for structural fr may waived for bldg less than 15.2 m high.

#### Means of escape

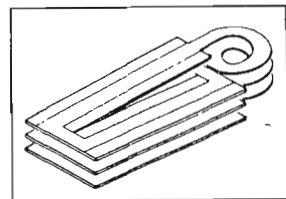
All parking spaces within 45.7 m of escape stairway having 1 hr Adequate alternative means of escape.

#### Fire precautions

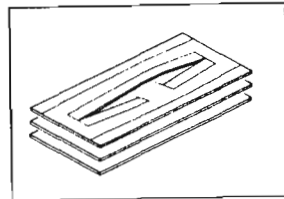
Adequate fire brigade access, dry rising main, fire points plus a specific requirements of local fire officer.



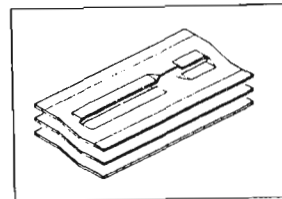
5 Under lake car park Geneva Switzerland a section b site plan c plan of first floor Design C Zschokke



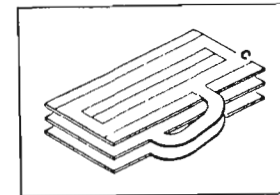
3 Parking ramp layout



2 Warped slab layout



1 Split level layout

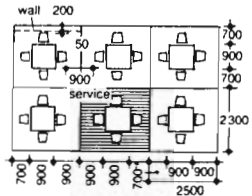


4 Flat slab layout

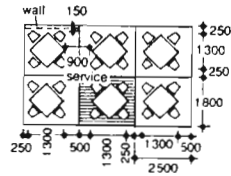


# E. RESTAURANTS

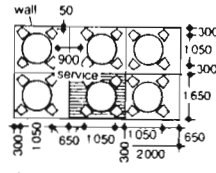
## PLANNING FACTORS



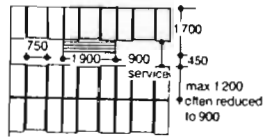
square tables: square layout  
local density 1.4



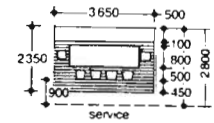
square tables: diagonal layout  
local density 0.92



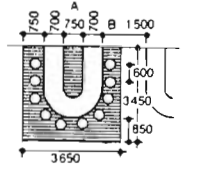
circular tables: diagonal layout  
local density 0.82



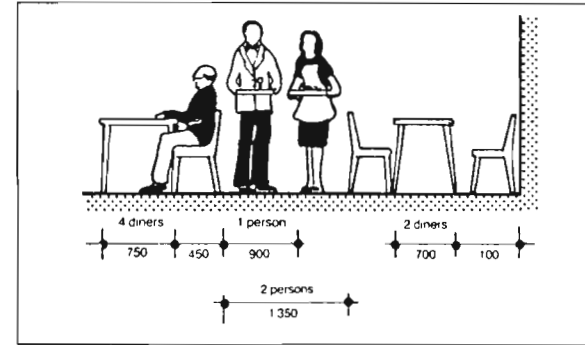
banquette booth seating  
local density 0.8



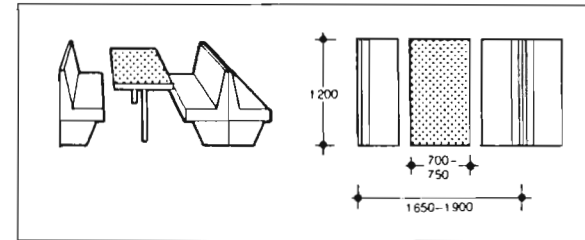
large booth in recess  
local density 0.86 if seating 10 people  
or 1.1 if only 2 people sit on bench seat



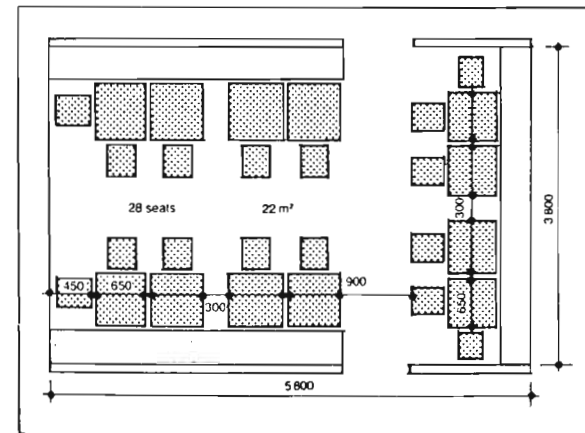
counter service  
local density 1.25  
dimensions A & B increased where 2 waiters employed



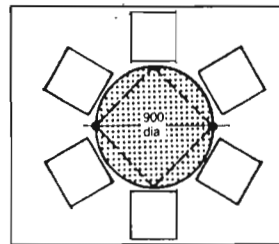
2 Aisle w



3 Typical banquette seating



4 Min layout for part of restaurant: local density excluding main circulation & waiter stations & service areas



5 'Stadtler' table to seat 4: with flaps extended seats 6

**SPACE ALLOWANCES  
(EXCLUDING COOKING AREAS)**

**Snack bar service**

Usually restricted to light meals, served at counter or taken by customer to table. Food normally cooked within counter area but back-up preparation, wash-up and sto required. 1.50–2.20 m<sup>2</sup>/P including counter and cooking.

**Cafe service**

0.83 m<sup>2</sup>/P: limited menu, usually family type of business, designed on traditional lines with kitchen separate from dining rm. Food may be collected by waitress from small service counter or hatch to kitchen.

**Self-service cafeteria**

1.4–1.7 m<sup>2</sup>/P, long self-service counter, provide good circulation space. Space for clearing trolleys (carts) required. Self-service counters →p206(2).

**Coffee shop service →(3)**

1.2–1.4 m<sup>2</sup>/P, usually waitress service, often from forward cooking area with counter which may be decoratively screened. Main preparation and wash-up at rear. Counter service sometimes included.

**Specialty restaurant**

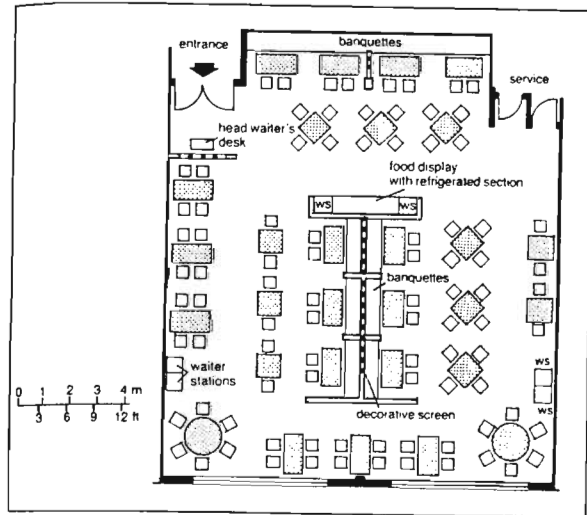
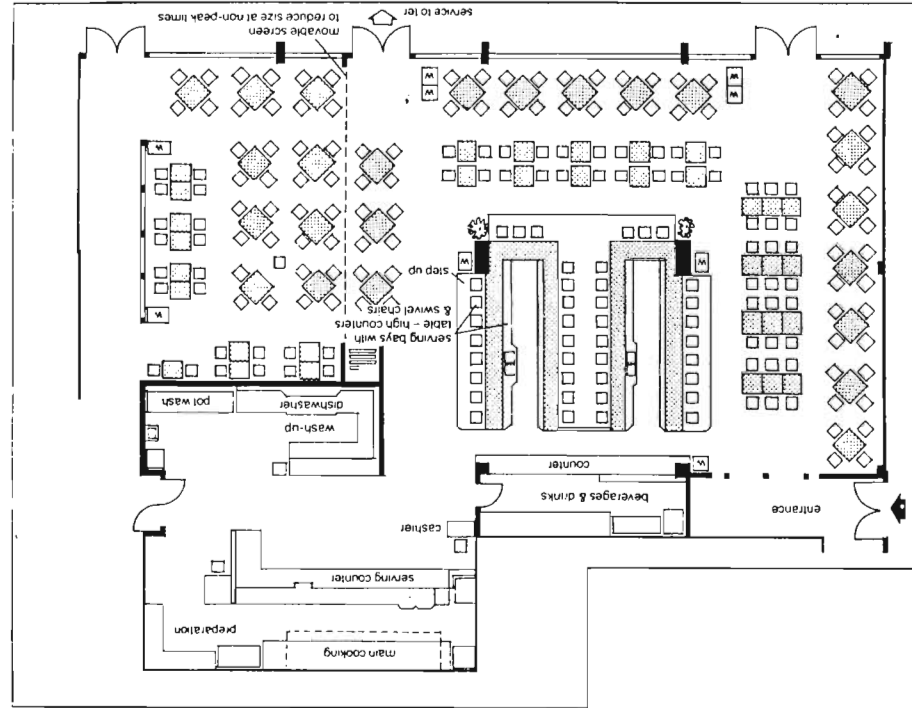
Space requirements vary widely. Display cooking, grill, dance floor, special decor effects may be required. Bar may be included within restaurant.

**Traditional restaurant →(1)**

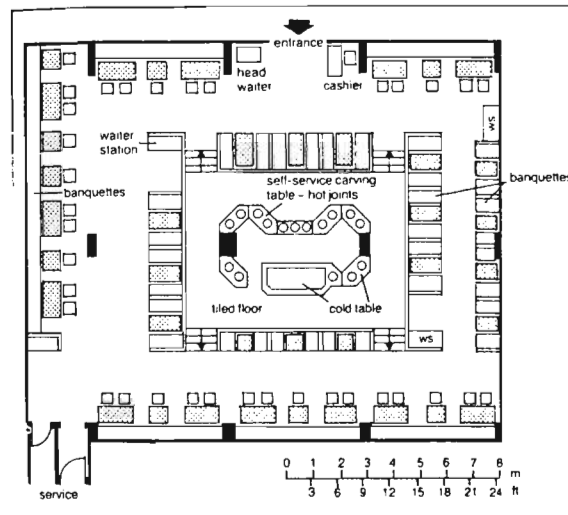
1.3–1.9 m<sup>2</sup>/P according to type of business. Should have space for display table, flambé work, generous seating and spacing of tables.

**Carving table restaurant →(2)**

1.6 m<sup>2</sup>/P including space for carving table. Display table with hot and cold positions for self-service of joints, vegetables and sweets. Preparation, cooking and wash-up done in main kitchen.

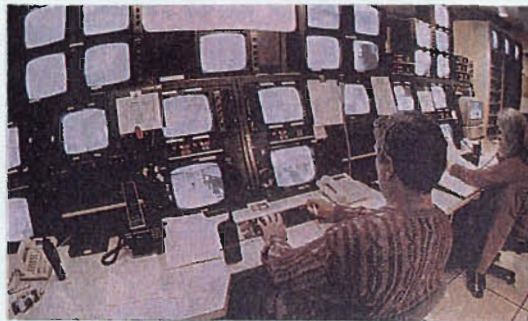


1 Traditional restaurant: 110 seats,



2 Restaurant seating 124 with self-service carving table

## F. CONTROL ROOM



# *X. BIBLIOGRAPHY*

## **X. Bibliography:**

### **Books:**

- \* **Casino du Liban**; Beirut, 1996.
- \* Clarke. T; **The Dictionary of Gambling And Gaming**, Lexik House, NY, 1987.
- \* Clark. R; **Einstein**, World Publishing Co., N.Y., 1971.
- \* Florence. D; **Games of Chance**.
- \* Frampton.K; **Modern Architecture**, Thames and Hudson, London,1992.
- \* Gros. R; **Casino Gambling**, Carlton Books Limited, London, 1996.
- \* Neufert.E; **Architect's Data**, BSP Professional Books, Oxford, 1992.
- \* Papaduki.S; **Oscar Niemeyer:Works in Progress**,Reinhold Publishing, N.Y.,1956.
- \* Sarkis. H; **Tyr**; Ministry of Tourism, Beirut, 1996.
- \* Sharpe. G; **The Essential Gambler**, Robert Hale, London, 1995.
- \* Sifakis. C; **Encyclopedia of Gambling**, Facts On File, NY, 1990.
- \* Toukhi. A; **The Science of Kotchina**; Al Maktaba Al Sakafiah, Beirut, 1991.
- \* Turner. J; **Gambling**, Guardian Newspaper Ltd., London, 1995.
- \* Venturi. R; **Learning From Las Vegas**, The MIT Press, Massachusetts, 1985.

### **Periodicals:**

- \* Architectural Record; **Will Gambling Glitz Kill America's Favorite Sin City**, July 1993.
- \* Interiors; **A Luxurious Spa Crowns Atlantic City Casino**, December 1986.
- \* Progressive Architecture; **Architectural Consequences of Casino Gambling on Atlantic Cities Boardwalk**, March 1990.
- \* Progressive Architecture; **Grandiose Casino Planned For Australia**, September 1994.

### **Films:**

- \* **Billy Bathgate** : Touchstone Home Video, 1991.
- \* **Bugsy** : Warehouse entertainment , Inc., 1991.
- \* **Casino** : Starring Robert de Niro, 1996.
- \* **Casino Du Liban** : Documentary, MTV Beirut, 1996.
- \* **The Color of Money** : Touchstone Home Video, 1986.
- \* **Havana** : Universal Pictures, 1990.
- \* **Leaving Las Vegas**, 1996.
- \* **Showgirls** : By Paul Verhouven, 1996.

### **Newspapers:**

- \* The Daily Star: **The Gamblers Paradise That Refused to Fold**, 3 December 1996.
- \* Echo: **Perils of Gambling**, 3 December 1996.
- \* Al-Hayat: **Casino Du Liban Returns... For Gambling and as “Meeting Place For Cultures”!**, 28 November 1996.
- \* Al- Nahar: **Memories of The Casino On Its Second Opening**, 2 December 1996.
- \* Al-Safir: **President Hrawi Re-Opens The Casino**, 4 December 1996.
- \* Times of London: **About The Casino Du Liban ” Lebanon is Back To Its Normal Life”**, 4 December 1996.

### **Plans:**

- \* **Casino Du Liban:** Dar Al-Handasah: Shair and Partners, Beirut, 1996.
- \* **Casino Du Liban:** Almabani General Contractors Co. Ltd., Beirut, 1996.
- \* **Tyr:** MAPS co., Beirut, 1996.

### **Meetings:**

- \* **Miss Lara Khoury**, assistant vice president gaming at Casino de Liban .
- \* **Mr. Joseph Hajjar**, Architect at Dar Al-Handasah; Casino De Liban Renovation.
- \* **Miss Maha Estephan**, Architect at Dar Al-Handasah; Casino De Liban Renovation.
- \* **Mr. Nabih Masaad**, Site engineer [ civil] at Almabani Contractors; Casino De Liban Renovation.

