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SVE

Middle East  
Projects

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**Sverdrup**

Sverdrup & Parcel  
and Associates, Inc.

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Projects**

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#### INTRODUCTION

Sverdrup & Parcel is an international firm of architects, engineers, and planners with a staff of over 1100 professionals in 15 offices in the U.S. and abroad. In its 50-year history, the firm has provided services to clients for a diversity of projects throughout the world.



#### Middle East Projects

The nations of the Middle East have moved into an era of growth and change that is transforming their desert, primarily agrarian environment, into a sophisticated, urban, industrialized society. This dynamic new image is characterized by large-scale regional developments which are drawing on Western technology, while at the same time challenging that technology with unprecedented demands in design and construction.

To meet the challenge of helping build the new Middle East, while respecting its unique customs and traditions, S&P has assembled a team of architects, engineers, planners, programmers, estimators, and construction managers devoted exclusively to Middle East projects. Through the experience described on the following pages, this specialized group has achieved a familiarity with and working knowledge of the needs and concerns of this part of the world, adding a new dimension to S&P's proven ability to provide the highest quality project planning, design, and management.

**S&P's multidisciplinary staff offers a complete range of services in three general categories:**

**Pre-design Services**

Master planning  
Facilities evaluation and physical condition surveys  
Site location evaluation  
Land surveys  
Functional and space programming  
Feasibility analysis  
Environmental impact statements  
Energy conservation analysis  
Environmental planning  
Land use planning  
Promotional materials preparation  
Public hearings  
Traffic engineering  
Presentation development

**Design Services**

Architectural design  
Civil, structural, mechanical and electrical design  
Life safety engineering  
Environmental engineering  
Interior design  
Graphics and signage design  
Landscape design  
Life-cycle costing  
Value engineering  
Specifications  
Geotechnical engineering  
Solar engineering  
Energy conservation design  
Seismic design  
Computerized heat gain and loss calculations

**Construction Services**

Project planning  
Contract and labor negotiations  
Managing contracts  
Field supervision  
Construction surveillance  
Checking drawings  
Monitoring quality control  
Detailed status reports  
Purchasing  
Expediting  
Equipment testing and balancing  
Facility checkout and start-up

**Master Planning  
Airborne and Physical Training  
School**

Tabuk, Saudi Arabia

**Client:**  
U. S. Army Corps of Engineers  
Middle East Division

**S&P Services:**  
Master Planning  
Programming  
Landscape Design

S&P's master plan study was the first step in the design of several major additions to an existing military facility at Tabuk, Saudi Arabia. The study's main purpose was to properly relate a new school complex, family housing, and visitor accommodations to present and future development in the area.

The city of Tabuk is strategically located to the north of the Western Region, which contains several of Saudi Arabia's major cities. For centuries Tabuk has been a stopping point along the trade routes running from Mecca and Medina to Damascus. The city has continued to grow, and today Tabuk has an international airport, a major highway running from Amman, Jordan, to Medina, and the military school, which covers an area larger than the original city.

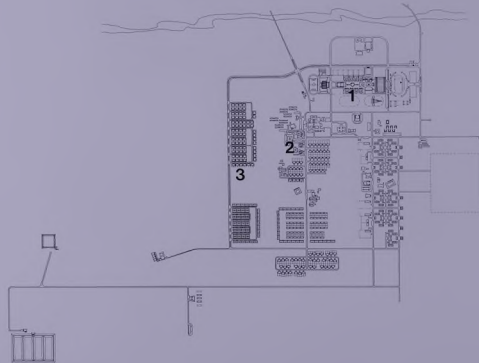
S&P was commissioned in 1975 to add an Airborne and Physical Training School, family housing and a VIP hotel complex to the existing development at Tabuk. At that time many additions were being proposed but no master plan had been formulated.

S&P's initial planning was characterized by broad-based studies that provided sound direction for future growth. The 23-building school complex was related to existing facilities and circulation patterns. A traffic study resolved a road pattern for the housing development and the school complex. A concept of open space, derived from research into the recreational and leisure time preferences of native Saudi Arabians, was developed for the family housing. Planning for the VIP hotel complex involved integrating existing buildings with new facilities.



Today Tabuk's master plan incorporates many of S&P's original recommendations:

- Large-scale and long-term planning
- A hierarchy of land utilization
- Clustered building complexes
- "Neighborhood" modules oriented to family recreation-education-pedestrian spaces
- A divided arterial highway system fed by secondary roads
- Expanded sewage treatment facilities
- Expanded power plant facilities
- Children's play areas



- 1 AIRBORNE AND PHYSICAL TRAINING SCHOOL
- 2 HOTEL COMPLEX
- 3 FAMILY HOUSING

Design considerations throughout this 48-hectare (125-acre) addition to the existing school reflect S&P's determination to integrate the most advanced architectural and engineering design with the traditional environment and lifestyle of the Saudi Arabians. From site visits and extensive analyses of similar facilities in Saudi Arabia and other countries, the S&P design team developed a plaza-oriented group of buildings which respond to the necessary training requirements as well as to the desert site and Islamic tradition.

The 23-building school complex was planned and designed to be a completely self-contained living and educational facility for 700 students and 150 staff members. It includes an academic building, administration building, training building, field house, mosque, dining hall and community center, swimming pool building, housing, athletic facilities, training areas, and support buildings.





VEHICULAR CIRCULATION

- 1 ATHLETIC FACILITIES
- 2 SWIMMING POOL BUILDING
- 3 COMMONS
- 4 DINING HALL - COMMUNITY CENTER
- 5 MOSQUE
- 6 STUDENT HOUSING
- 7 ACADEMIC BUILDING
- 8 PLAZA
- 9 ADMINISTRATION BUILDING
- 10 TRAINING BUILDING
- 11 FIELD HOUSE
- 12 SUPPORT BUILDINGS
- 13 OUTDOOR EXERCISE TRAINING AREAS
- 14 EXISTING ATHLETIC FACILITIES



A central elevated plaza provides a landscaped focal point for the major buildings of the complex as well as a pleasant setting for the school's religious and cultural life. It covers a below-grade service level that contains lounges and an auditorium, teaching spaces, athletic support facilities, parking, and building service areas. This service level permits easy vehicular and pedestrian circulation among the buildings and facilitates centralized maintenance for the complex.

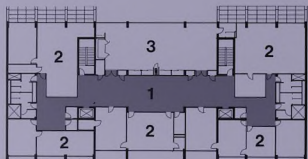
A major feature of the complex is the S&P-designed solar heating system which will be the heat source for all domestic hot water and 70 percent of the heat for the main buildings of the school. Solar cells with 4,370 sq m (47,000 sq ft) of collecting surface will be mounted on the roof of the field house, making this one of the largest applications of solar heating in the world.

**Area:**  
3,540 sq m (38,090 sq ft)

The administration building is a symbolic gateway to the Airborne and Physical Training School complex. Its third story spans a pair of two-story wings forming an entranceway to the elevated landscaped plaza that is the center of the 23-building campus. Administrative functions for the entire school will be located in this central headquarters.



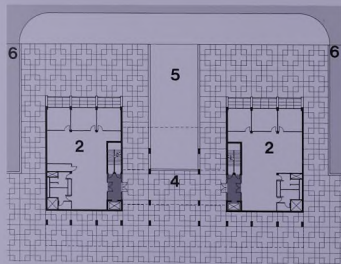
**Administration Building**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia



THIRD LEVEL

The building's first floor, at the service level beneath the elevated plaza, will house the main lobby, mail and paymaster facilities, a museum, and the student processing center. Vehicular circulation and parking will also be at this level.

The plaza and second levels, in separate wings, will contain administrative offices for the various components of the school. The third level will house the central administration for the entire school in 770 sq m of office and reception space. Movable partitions on all floors will provide flexibility for changes in future space needs.



PLAZA LEVEL

■ PUBLIC CIRCULATION  
 ■ VEHICULAR CIRCULATION

- 1 RECEPTION
- 2 ADMINISTRATIVE OFFICES
- 3 CONFERENCE ROOM
- 4 PLAZA
- 5 PEDESTRIAN RAMP
- 6 VEHICLE RAMPS

**Academic Building**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

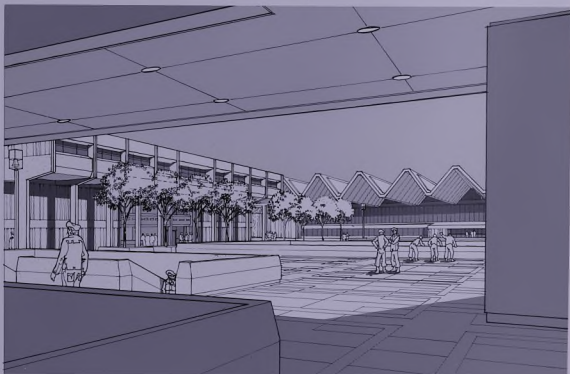
**Client:**  
 U.S. Army Corps of Engineers  
 Middle East Division

**S&P Services:**  
 Programming  
 Architectural and Engineering Design  
 Interior Design

**Area:**  
 3,222 sq m (34,668 sq ft)

The academic building's central location on the elevated plaza emphasizes its importance as the educational center of the 23-building Airborne and Physical Training School complex. The three-story building will have an open interior court extending from the service level beneath the plaza through the roof.

An auditorium on the service level will seat 274 persons and will be equipped for lectures and audio-visual presentations. The plaza and second levels will be predominantly classrooms and faculty offices. Classrooms were designed for general academic use by various size groups and for various instructional methods, with movable dividers for additional flexibility. A library on the second level will provide study areas.



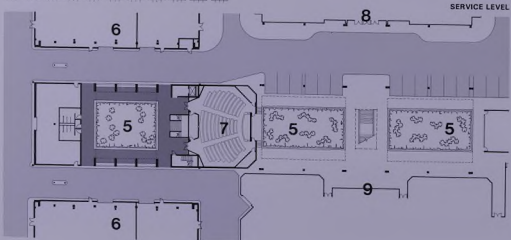
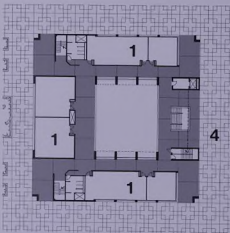
Academic Building  
Airborne and Physical Training School  
Tabuk, Saudi Arabia

SECOND LEVEL

- PUBLIC CIRCULATION
- VEHICULAR CIRCULATION
- 1 CLASSROOMS
- 2 LIBRARY
- 3 STAFF OFFICES
- 4 PLAZA
- 5 PLANTERS
- 6 MAINTENANCE SHOPS
- 7 AUDITORIUM
- 8 ADMINISTRATION BUILDING
- 9 TRAINING BUILDING



PLAZA LEVEL



Mosque  
Airborne and Physical Training School  
Tabuk, Saudi Arabia

Client:  
U.S. Army Corps of Engineers  
Middle East Division

Area:  
625 sq m (6,718 sq ft)

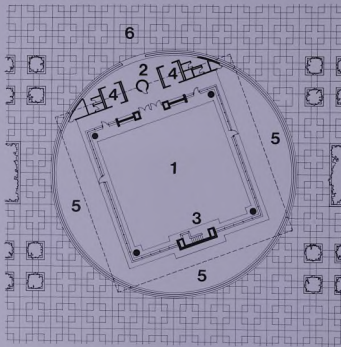
S&P Services:  
Programming  
Architectural and Engineering Design  
Interior Design

Religion is an integral part of the everyday lives of persons of the Islamic faith. The location and setting of the mosque reflects its central role in the 23-building Airborne and Physical Training School complex. It will be in the middle of the housing area on the elevated landscaped plaza.





**Mosque**  
**Airborne and Physical Training School**  
Tabuk, Saudi Arabia



PLAZA LEVEL

- 1 PRAYER AREA
- 2 MINARET
- 3 EMAM AND MIHRAB
- 4 ABLUTION ROOMS
- 5 COURTYARD
- 6 PLAZA

The square glass-enclosed mosque will be surrounded by a perforated masonry screen enclosing the traditional courtyard. The screen will be high enough to ensure privacy for worshippers in both the courtyard and the mosque. Floor-to-ceiling glass walls, a departure from traditional mosque design, make the courtyard a part of the place of worship, and during times of high attendance, doors can be opened to accommodate worshippers in the courtyard.

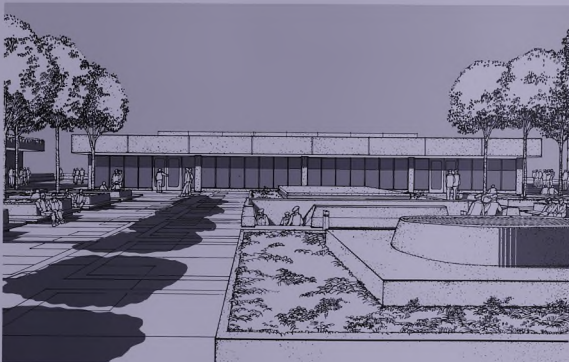
**Dining Hall/Community Center**  
**Airborne and Physical Training School**  
Tabuk, Saudi Arabia

**Client:**  
U.S. Army Corps of Engineers  
Middle East Division

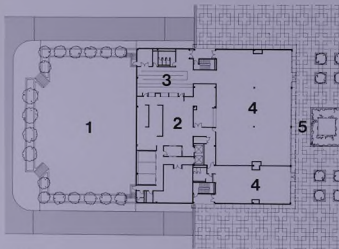
**Area:**  
2,578 sq m (27,739 sq ft)

**S&P Services:**  
Programming  
Architectural and Engineering Design  
Interior Design  
Landscape Design

The Dining Hall/Community Center is planned to be a focal point for social life at the Airborne and Physical Training School and will be at the westernmost end of the central elevated plaza. Its two dining rooms, which can accommodate up to 400 persons, will have glass walls overlooking the landscaped plaza. Complete kitchen and food service facilities will be located at this level.

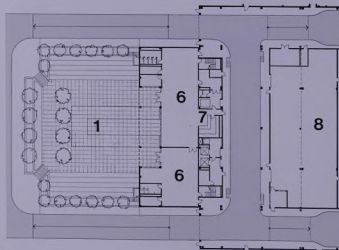


**Dining Hall/Community Center**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia



A community center on the service level below the plaza provides lounge space and open areas for social activities. The glass west wall of the community center will adjoin a common area with peripheral seating and landscaping which can be used as an activity space. A concession area and an office will also be on this lower level.

PLAZA LEVEL



SERVICE LEVEL

VEHICULAR CIRCULATION

- 1 COMMONS
- 2 KITCHEN
- 3 SERVING LINE
- 4 DINING ROOMS
- 5 PLAZA
- 6 LOUNGE AREAS
- 7 CONCESSIONS
- 8 WAREHOUSE

**Field House**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

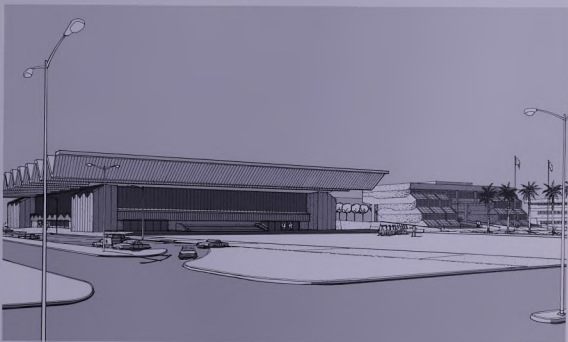
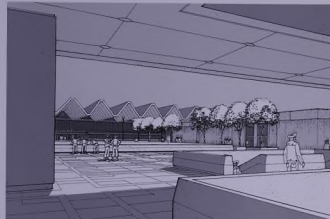
**Client:**  
 U.S. Army Corps of Engineers  
 Middle East Division

**S&P Services:**  
 Programming  
 Architectural and Engineering Design  
 Interior Design

**Area:**  
 6,414 sq m (69,014 sq ft)

At the east end of the elevated plaza is the 23-building Airborne and Physical Training School's largest and most unique building, the field house. Its 12 m (39 ft) clear height provides instruction area for both airborne and physical training, as well as sports and recreational facilities including a boxing ring and basketball and volleyball courts.

The field house roof, set on four pylons, will be a steel folded-plate structure carrying 4,370 sq m (47,000 sq ft) of glass-faced flat plate solar collectors. This solar collection system, the largest of its kind, will take advantage of the desert sun to provide 70 percent of the heat and all of the domestic hot water to over half the 78,000 sq m school complex.



**Field House**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

**Swimming Pool Building**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

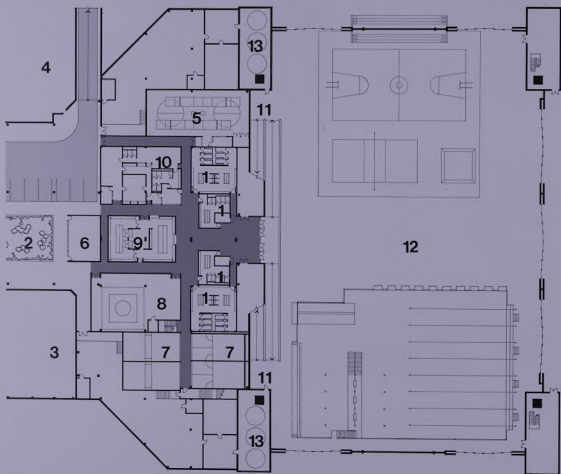
**Client:**  
 U.S. Army Corps of Engineers  
 Middle East Division

**S&P Services:**  
 Programming  
 Architectural and Engineering Design  
 Interior Design

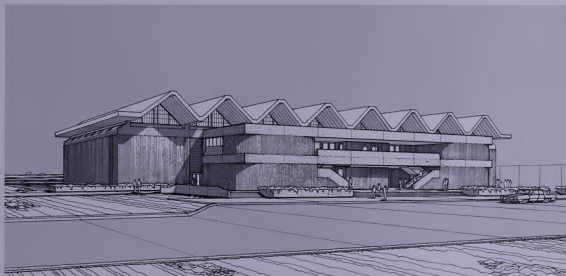
**Area:**  
 3,606 sq m (38,000 sq ft)

The translucent walls of the field house will permit maximum use of natural light, and large overhangs will reduce glare problems from sunlight. At ground level large openings will give the field house interior an open-air effect. These openings can be closed with sliding glass doors during high wind and sandstorms.

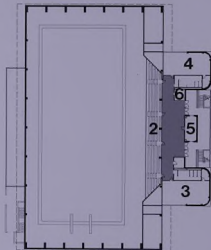
The swimming pool building will be the center of a sports area planned for the westernmost end of the Airborne and Physical Training School complex. The building houses an olympic-size pool for training, spectator, and recreational events in swimming and diving.



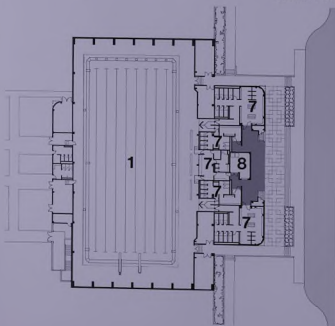
- |                          |                              |                     |
|--------------------------|------------------------------|---------------------|
| ■ PEDESTRIAN CIRCULATION | 1 STUDENT LOCKER ROOMS       | 8 MARTIAL ARTS AREA |
| ▨ VEHICULAR CIRCULATION  | 2 PLANTER                    | 9 EQUIPMENT STORAGE |
|                          | 3 TRAINING BUILDING          | 10 STAFF AREA       |
|                          | 4 ADMINISTRATION BUILDING    | 11 PEDESTRIAN RAMPS |
|                          | 5 FENCING AREA               | 12 FIELD HOUSE      |
|                          | 6 BREAK AREA                 | 13 SOLAR STORAGE    |
|                          | 7 HANDBALL AND SQUASH COURTS |                     |



**Swimming Pool Building**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia



SECOND LEVEL



- GRADE LEVEL**
- PUBLIC CIRCULATION
  - 1 NATATORIUM
  - 2 SEATING
  - 3 CLASSROOMS
  - 4 ADMINISTRATIVE OFFICES
  - 5 TICKET AREA
  - 6 CONCESSIONS
  - 7 LOCKER AND SHOWER ROOMS
  - 8 LAUNDRY AND EQUIPMENT ISSUE

Classrooms, office space, locker rooms, spectator seating, and a ticket and concession area are included in the building. It was designed to accommodate expansion of the elevated plaza as the school enlarges to the west and more housing units are added. Lighted tennis courts, basketball and volleyball courts, and a track and soccer field will be adjacent to the building.

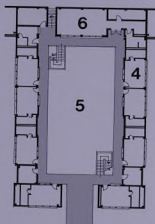
**Student Housing**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

Client:  
 U.S. Army Corps of Engineers  
 Middle East Division

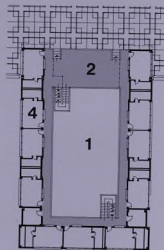
Area:  
 13,500 sq m (145,260 sq ft)

S&P Services:  
 Programming  
 Architectural and Engineering Design  
 Interior Design

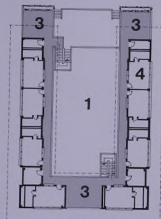
Considerable effort was made to accommodate the traditional Saudi Arabian lifestyle in the planning and design of housing for the Airborne and Physical Training School. Housing units for 700 students will be located on either side of the landscaped elevated plaza, with the mosque as a focal point, and outdoor areas will be integral parts of the total living space.



GRADE LEVEL



PLAZA LEVEL

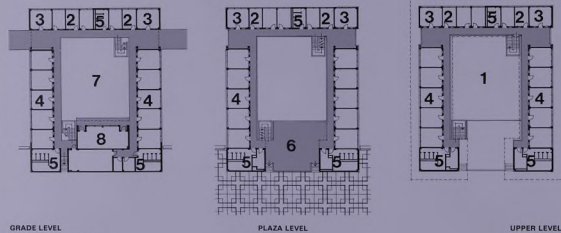


UPPER LEVEL

- GRADE LEVEL**
- PUBLIC CIRCULATION
  - 1 OPEN
  - 2 DECK
  - 3 BALCONY
  - 4 TYPICAL ONE MAN ROOM
  - 5 COURTYARD
  - 6 LOUNGE

**Student Housing**  
**Airborne and Physical Training School**  
 Tabuk, Saudi Arabia

The three-story buildings will have spacious elevated decks overlooking a large central courtyard that will provide a pleasant setting for customary outdoor conversational gatherings. Each building will also have a lounge, tea rooms, laundry areas, and storerooms. Suites with sleeping, sitting, and bathroom areas will accommodate either two or four students.



**GRADE LEVEL**

- PUBLIC CIRCULATION
- 1 OPEN
- 2 TYPICAL ONE-MAN ROOM
- 3 TYPICAL TWO-MAN ROOM
- 4 TYPICAL FOUR-MAN ROOM
- 5 BATHROOMS
- 6 DECK
- 7 COURTYARD
- 8 LOUNGE

**Family Housing**  
 Tabuk, Saudi Arabia

**Client:**  
 U.S. Army Corps of Engineers  
 Middle East Division

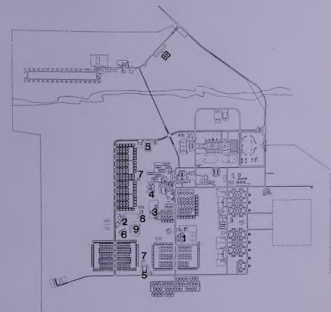
**Number of Units:**  
 586

**S&P Services:**  
 Programming  
 Master Planning  
 Civil Design  
 Cost Estimating  
 Landscape Design

S&P's design team programmed, master planned, and estimated the cost for 586 proposed new family housing units, along with recreational and support facilities at Tabuk. Work also included design of utility distribution, roads and grading.

Housing will be clustered to create an open park with many shade trees and plants. Pedestrian pathways will link the housing and park to the school complex. The park will contain childrens' play areas, conversation areas, recreational facilities, religious buildings, and meeting areas. A portion of the planning involved extensive research on landscaping in desert climates, and trees and plants were carefully selected for viability in Saudi Arabia.

S&P's master plan called for housing complex support facilities to include a new boys' school, a new girls' school, additions to existing boys' and girls' schools, a commissary with an outdoor marketplace, a mosque, and two community centers. Other features include an athletic field with a track and spectator stands, two softball practice fields, and six tennis courts.



- 1 EXISTING BOYS' SCHOOL
- 2 BOYS' SECONDARY SCHOOL
- 3 EXISTING GIRLS' SCHOOL
- 4 GIRLS' SECONDARY SCHOOL
- 5 COMMISSARY
- 6 MOSQUE
- 7 COMMUNITY CENTER
- 8 RECREATION CENTER
- 9 ATHLETIC FIELD



**Family Housing**  
Tabuk, Saudi Arabia

S&P's plan also recommends an additional recreational center with a swimming pool, a second commissary with an outdoor market, and a mosque.

Site work and utilities will include grading, paving, sewers, a water system, electrical distribution, and telephone and fire protection systems.



**Hotel Complex**  
Tabuk, Saudi Arabia

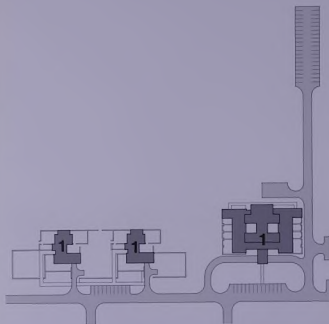
**Client:**  
U.S. Army Corps of Engineers  
Middle East Division

**S&P Services:**  
Programming  
Master Planning  
Architectural and Engineering Design  
Interior Design  
Landscaping Design

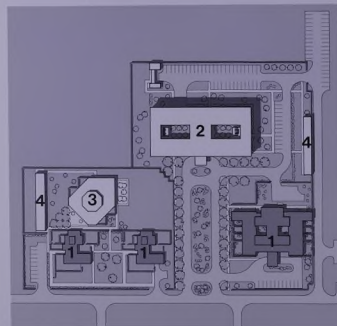
An S&P-designed hotel complex, developed around three villas at Tabuk, Saudi Arabia, will include a 50-room hotel with a dining facility, a four-suite villa, and two eight-room staff quarters. Planning and design efforts were geared toward making the completed group of buildings a unified complex.



**Hotel Complex**  
Tabuk, Saudi Arabia



Attention to landscaping, convenience, and visitor comfort will make the complex an attractive oasis in the desert setting. The 50-unit hotel will be a hundred meters from the road passing the complex, and a tree-lined boulevard will lead from the road to the hotel entrance, providing a pleasing view and easy access to all the buildings of the complex.



- 1 EXISTING VILLAS
- 2 50 UNIT HOTEL
- 3 FOUR-SUITE VILLA
- 4 STAFF QUARTERS

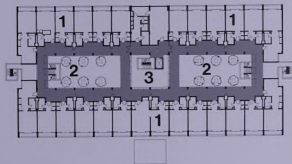
**Hotel Complex**  
Tabuk, Saudi Arabia

**50-Unit Hotel**

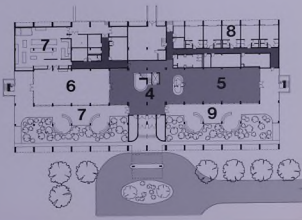
The hotel, designed to accommodate dignitaries visiting Tabuk will have the atmosphere of a private club. It will contain 40 individual living units with private baths and balconies, and 10 one-bedroom suites.

The first level of the three-story building will be symmetrical on either side of a three-story entry and reception area. On one side, the dining room will have seating for 150, and on the other a guest lounge will provide sitting and conversation areas for hotel guests. Both the dining room and lounge will open directly to an outdoor arcade formed by the balconied guest rooms above.

A one-meter berm will elevate the building above the flat desert site, making the hotel the focal point of the complex.



TYPICAL LEVEL  
GRADE LEVEL



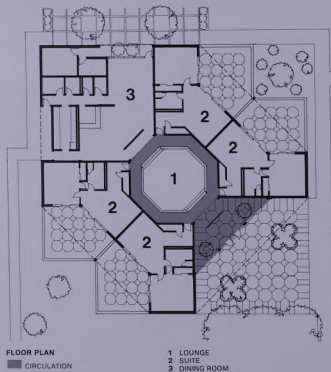
- PUBLIC CIRCULATION
- SERVICE CIRCULATION
- VEHICULAR CIRCULATION
- 1 BEDROOM
- 2 COURTYARD
- 3 OPEN
- 4 LOBBY
- 5 LOUNGE
- 6 DINING ROOM
- 7 KITCHEN
- 8 STAFF QUARTERS
- 9 LOGGIA

**Hotel Complex**  
Tabuk, Saudi Arabia



**Four-Suite Villa**

Dignitaries of very high, possibly royal status, will stay at the four-unit villa, which will consist of one-bedroom suites. Each suite will contain a private living room, bedroom, study, and courtyard. Centered within the villa's cruciform shape will be a large lounge with a sunken conversation and sitting area that opens into a small dining room.

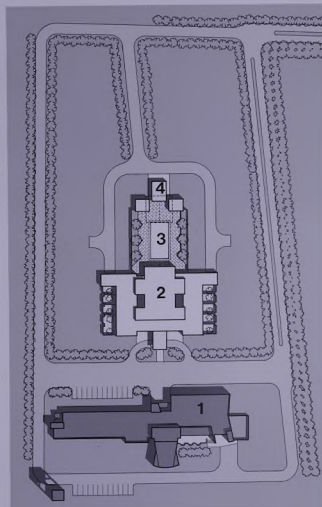


**Recreational Complex**  
Tabuk, Saudi Arabia

**Client:**  
U.S. Army Corps of Engineers  
Middle East Division

**S&P Services:**  
Programming  
Master Planning  
Architectural and Engineering Design  
Interior Design  
Landscape Design

The recreational complex will provide private rest and relaxation for government officials and executives visiting Tabuk. It will consist of an eight-bedroom villa, a swimming pool and bathhouse, and staff quarters.



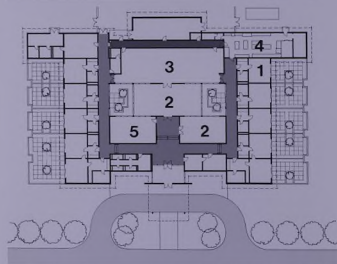
■ VEHICULAR CIRCULATION

- 1 EXISTING BUILDINGS
- 2 EIGHT-BEDROOM VILLA
- 3 SWIMMING POOL
- 4 BATHHOUSE

**Recreational Complex**  
Tabuk, Saudi Arabia



The main villa will have eight one-bedroom units with bath and living areas, a dining room, and lounges around central courtyards. The swimming pool area will be surrounded by a paved deck, with landscaping and a wall to ensure privacy. A colorful roof will cover a refreshment area and provide shaded seating for swimmers.



■ PUBLIC CIRCULATION  
■ SERVICE CIRCULATION  
■ VEHICULAR CIRCULATION

1 ONE-BEDROOM UNIT  
2 LOUNGE  
3 DINING ROOM  
4 KITCHEN  
5 OFFICES

**Office and Commercial Complex**  
Riyadh, Saudi Arabia

**Client:**  
General Organization for  
Social Insurance

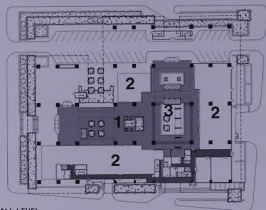
**Area:**  
55,762 sq m (600,000 sq ft)

**Associates:**  
Abalkhail Consulting Engineers

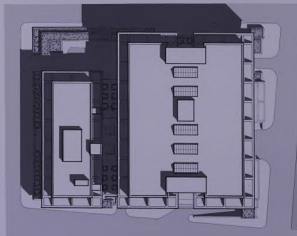
**S&P Services:**  
Programming  
Architectural and Engineering Design  
Landscaping Design

This S&P-designed eight-story complex will be located on one of Riyadh's busiest thoroughfares, which runs from the airport past the Kingdom's ministerial buildings to the capital city's busy commercial center. It is an investment property of the General Organization for Social Insurance, Saudi Arabia's counterpart to the U.S. Social Security System. The building will provide rental office and commercial space and underground parking for 200 cars.





MALL LEVEL



SITE PLAN

- PUBLIC CIRCULATION
- SERVICE CIRCULATION
- VEHICULAR CIRCULATION
- 1 CONCOURSE
- 2 SHOPS
- 3 POOL

Eastern and western architectural styles will be integrated in the steel-framed complex. An eight-story skylighted atrium will dominate the interior spaces, and an architectural sunscreen will surround the exterior. The screen will provide sun protection for the glass-walled office areas on the upper floors while recalling a motif often a part of Islamic architecture.

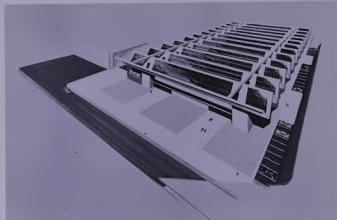
S&P's services for a physical training school for the Saudi Arabian government included all architectural and engineering design beginning with the 125-acre building site to the detail design of 22 buildings. The main school complex includes a centralized solar heating system for 14 buildings arranged around a 230 ft by 950 ft plaza. The design was completed in October 1976 and construction is scheduled to begin in early 1977.

S&P's initial study indicated that a solar heating system is feasible to satisfy the year-round domestic hot water requirement of 36,000 gallons per day, as well as a significant portion of the building space heating requirement.





**Solar Heating System**  
**14-Building School Complex**  
Saudi Arabia



Next the passive design of the building complex was tailored to accommodate the proper layout of an efficient and cost-effective centralized solar system. Primary emphasis was placed on minimizing heat losses from the hot components of the system and reducing the building space heating load. Thermal insulation thicknesses for the system components were optimized. The buildings were thermally designed to meet ASHRAE Insulation Code 90-75.

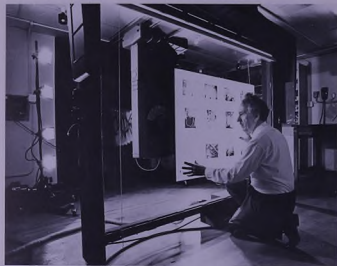
Finally the solar heating system was designed and the components optimized. Some of the special design features are thermally stratified storage, standby pumps, multiple components, and a flexible control system. A cost-effective system was achieved with high thermal performance coupled with good constructability, reliability, and maintainability.

**Support Services**

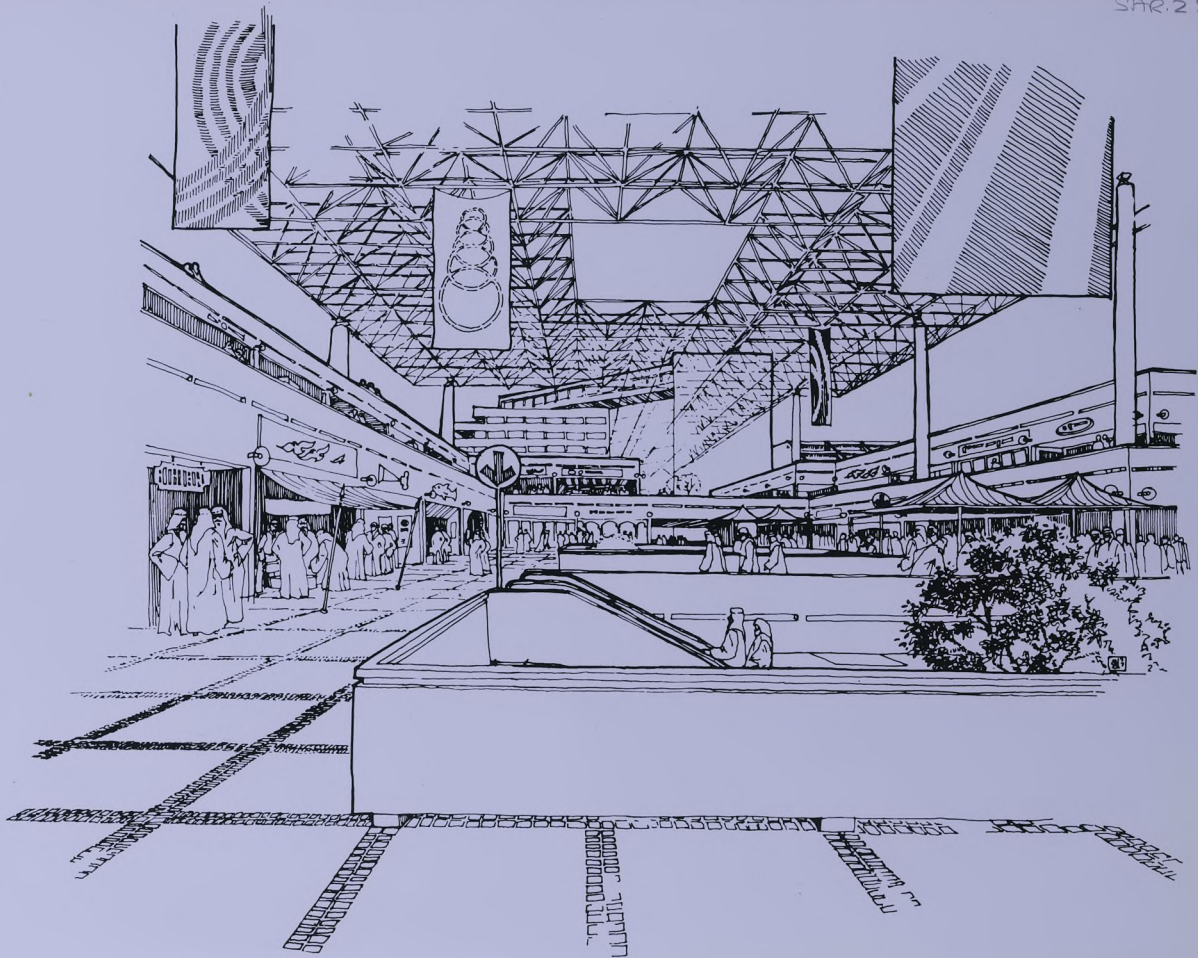
In the continuing belief that a client benefits from totally coordinated services, S&P maintains an in-house staff of professionals and technicians providing the following services:

- construction management
- geotechnical engineering
- laboratory testing and analysis
- computer systems
- CPM scheduling
- life-cycle costing
- energy utilization
- data processing
- technical library
- technical writing
- graphics and signage design
- value engineering
- cost estimating
- photographic and printing reproduction
- model building
- delineating













View of Souk and Soccer Field

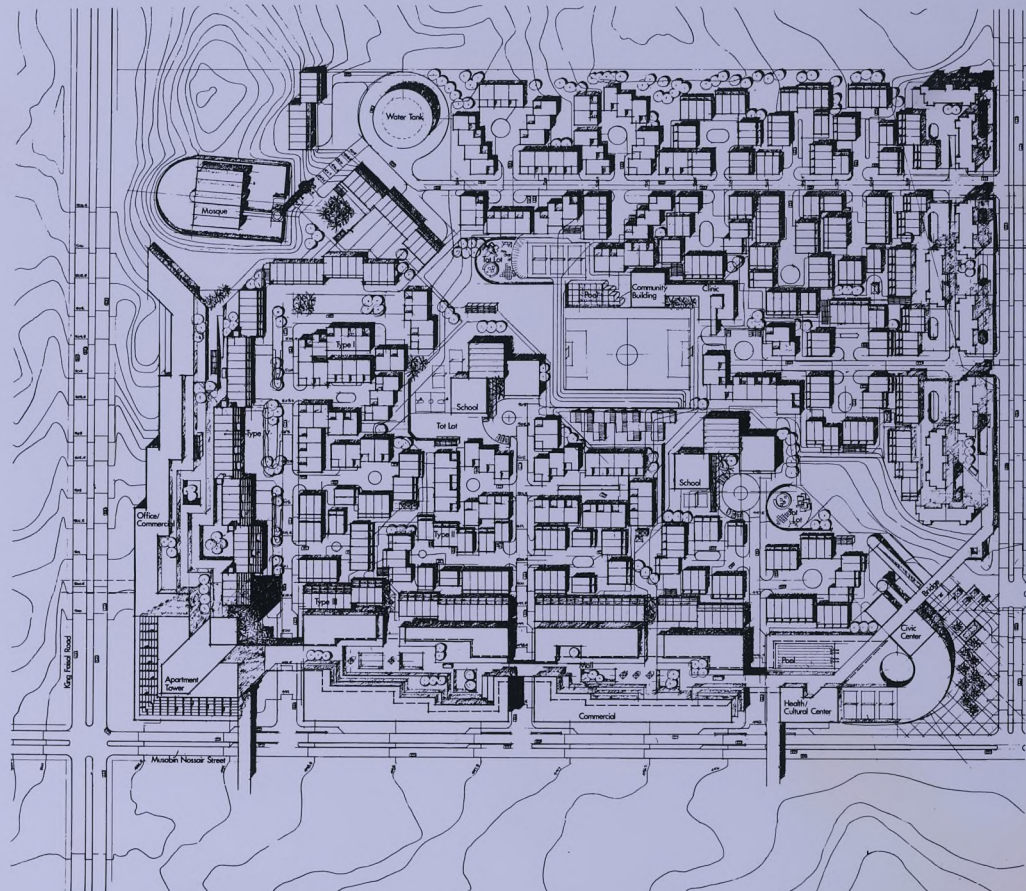




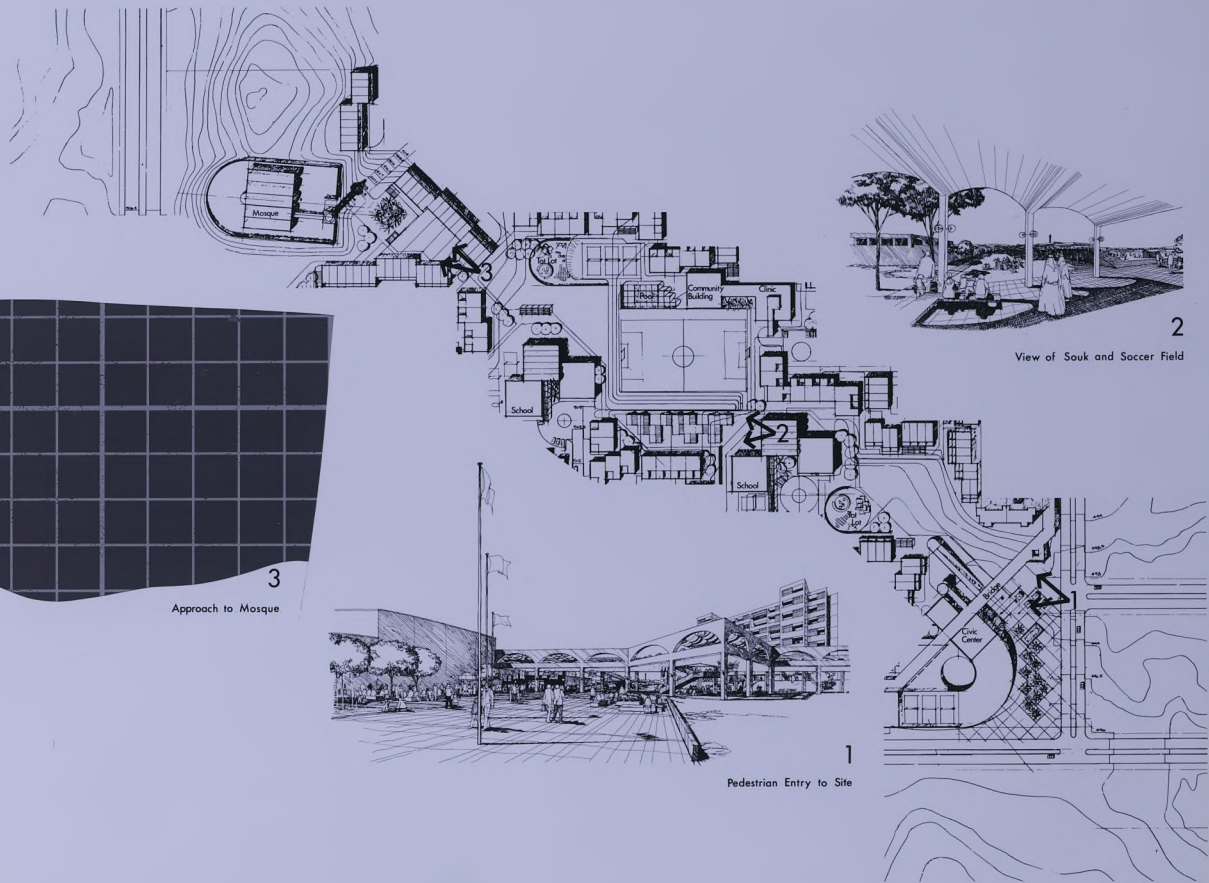
Approach to Mosque



Pedestrian Entry to Site



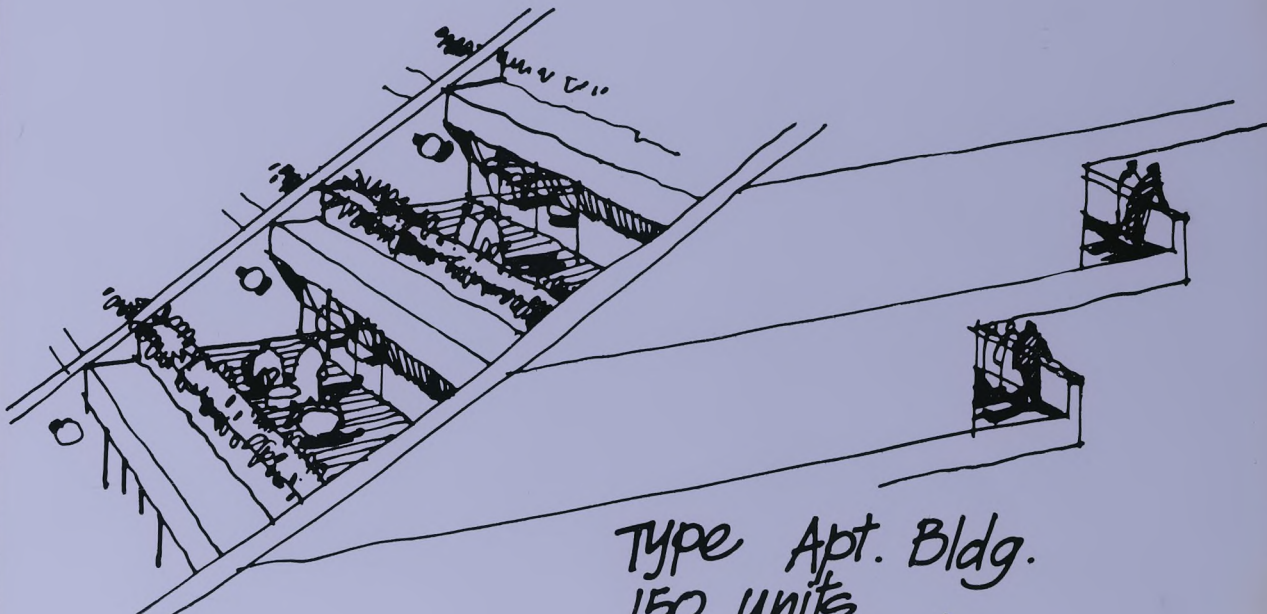




3  
Approach to Mosque

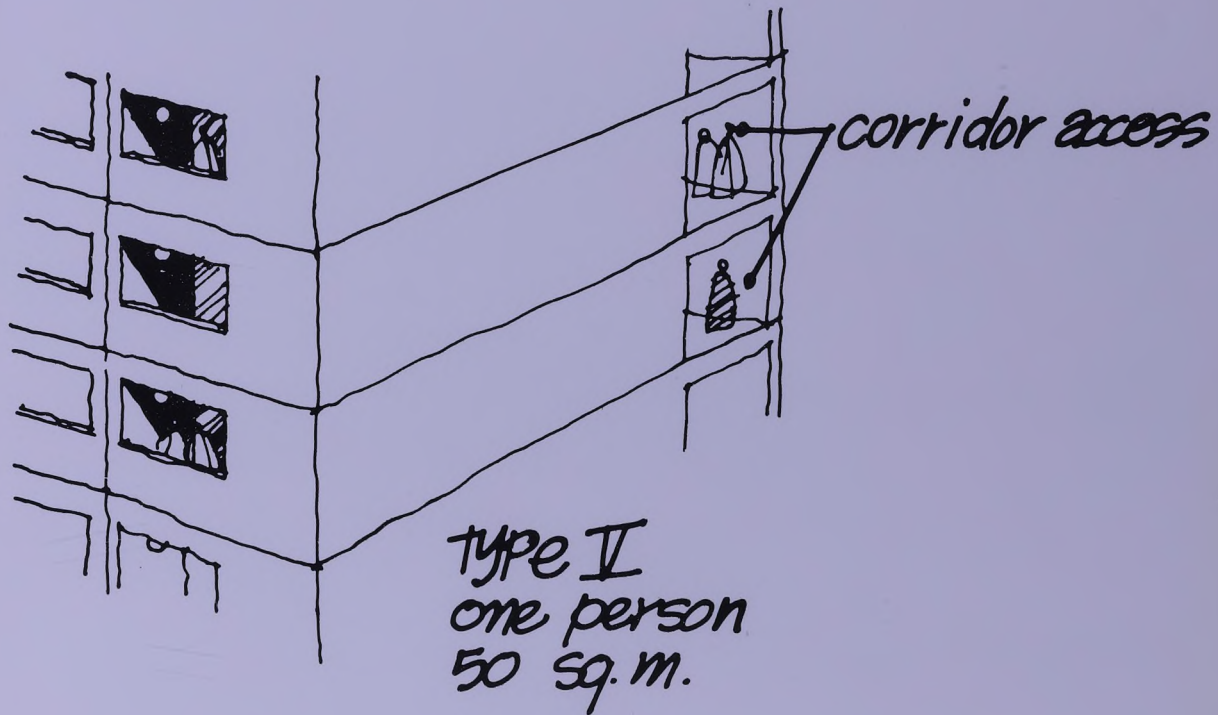
1  
Pedestrian Entry to Site

2  
View of Souk and Soccer Field

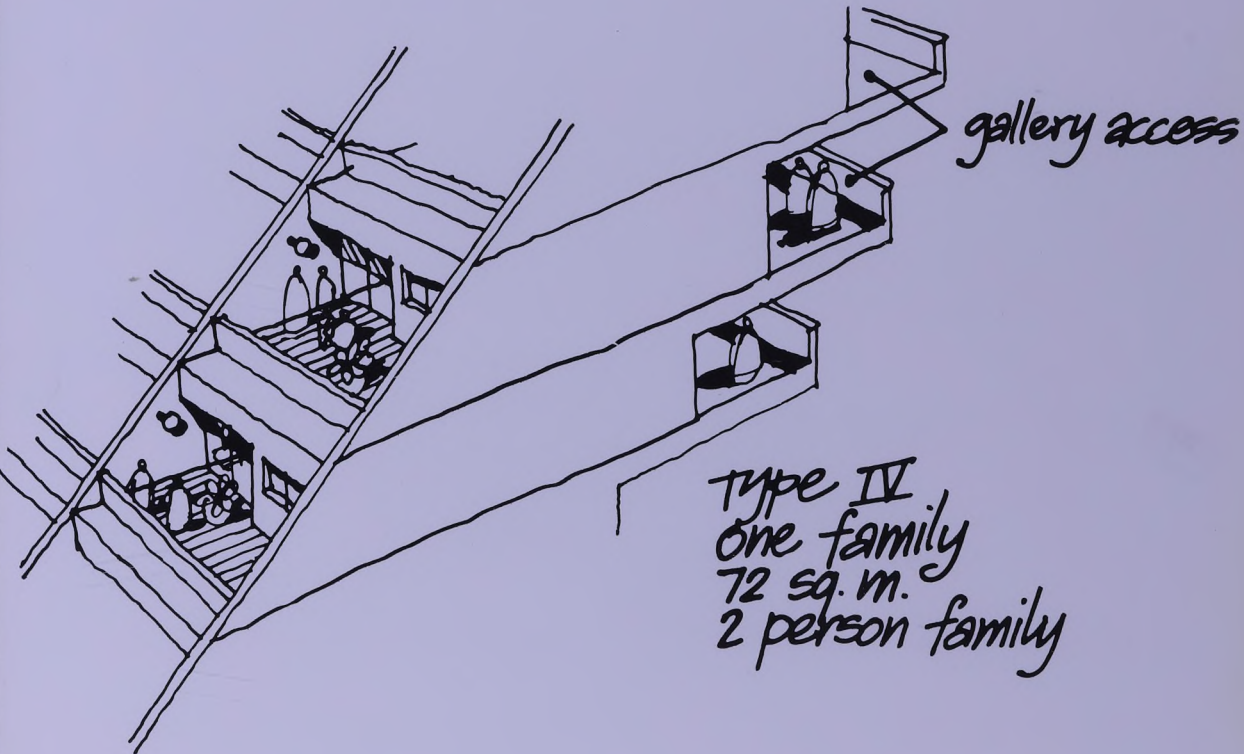


Type Apt. Bldg.  
150 units  
2 and 3 Bed room

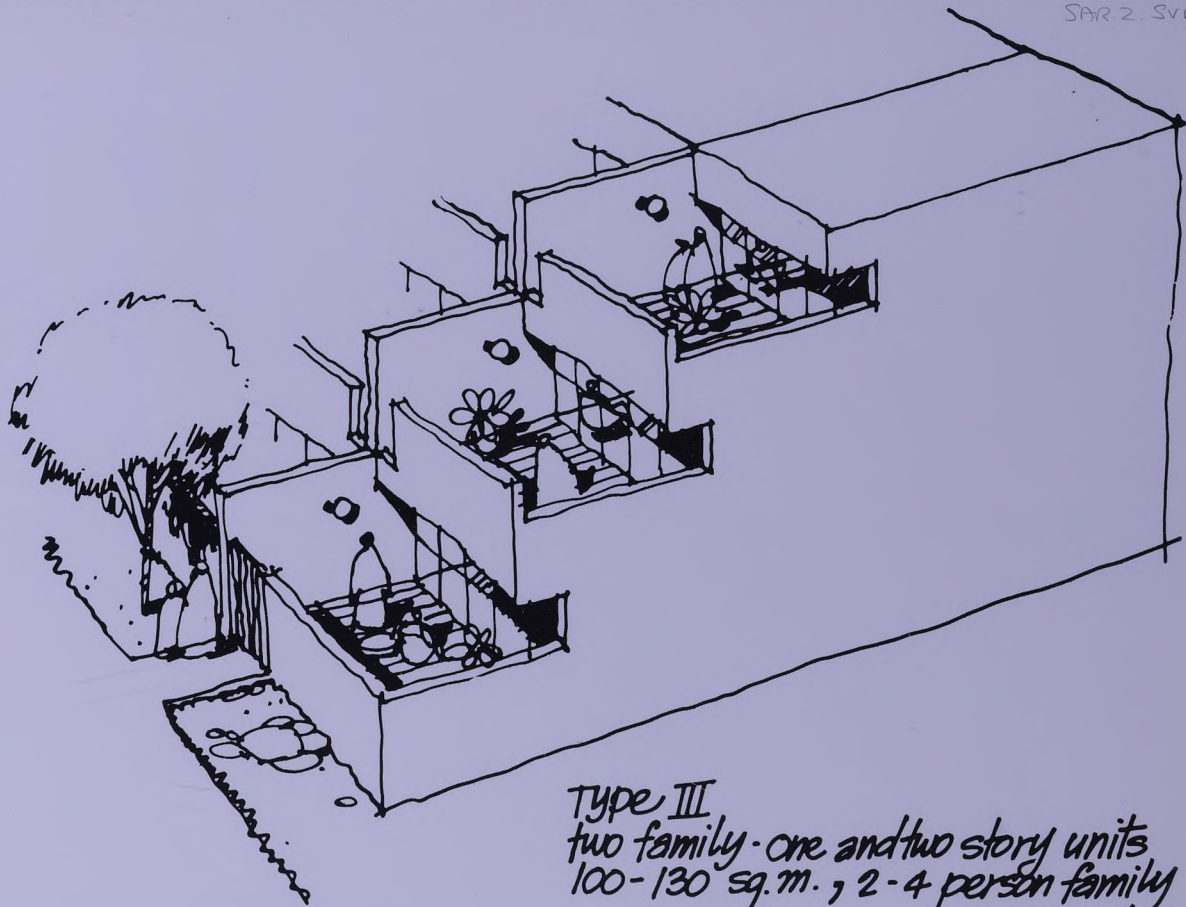




type II  
one person  
50 sq. m.

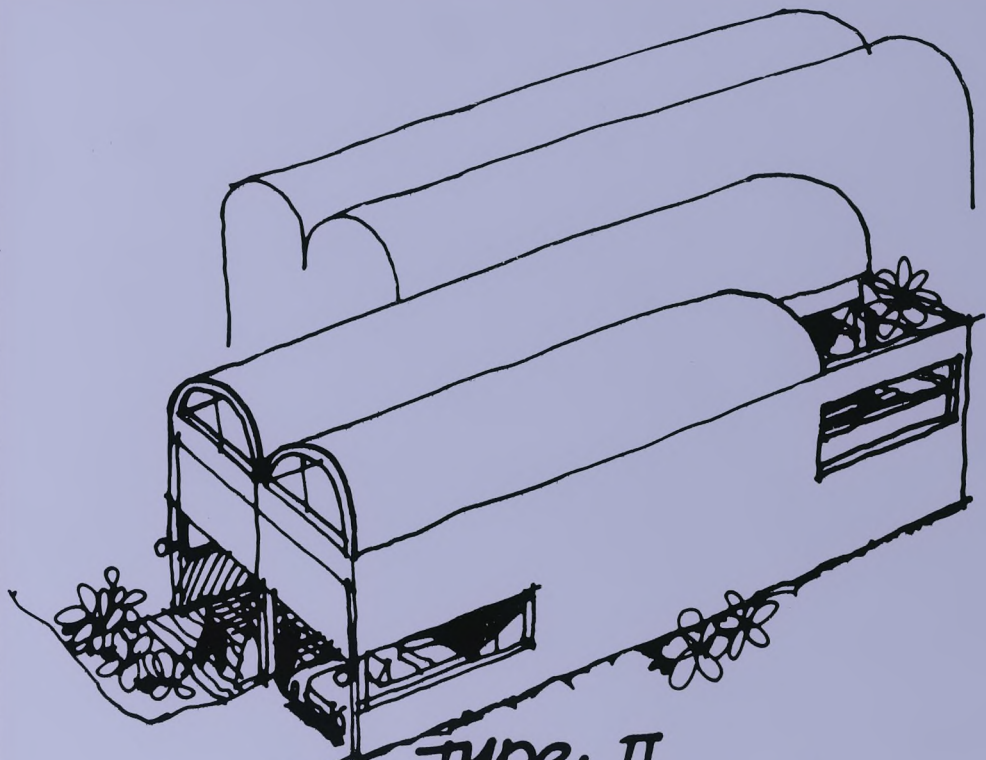


Type IV  
one family  
72 sq. m.  
2 person family



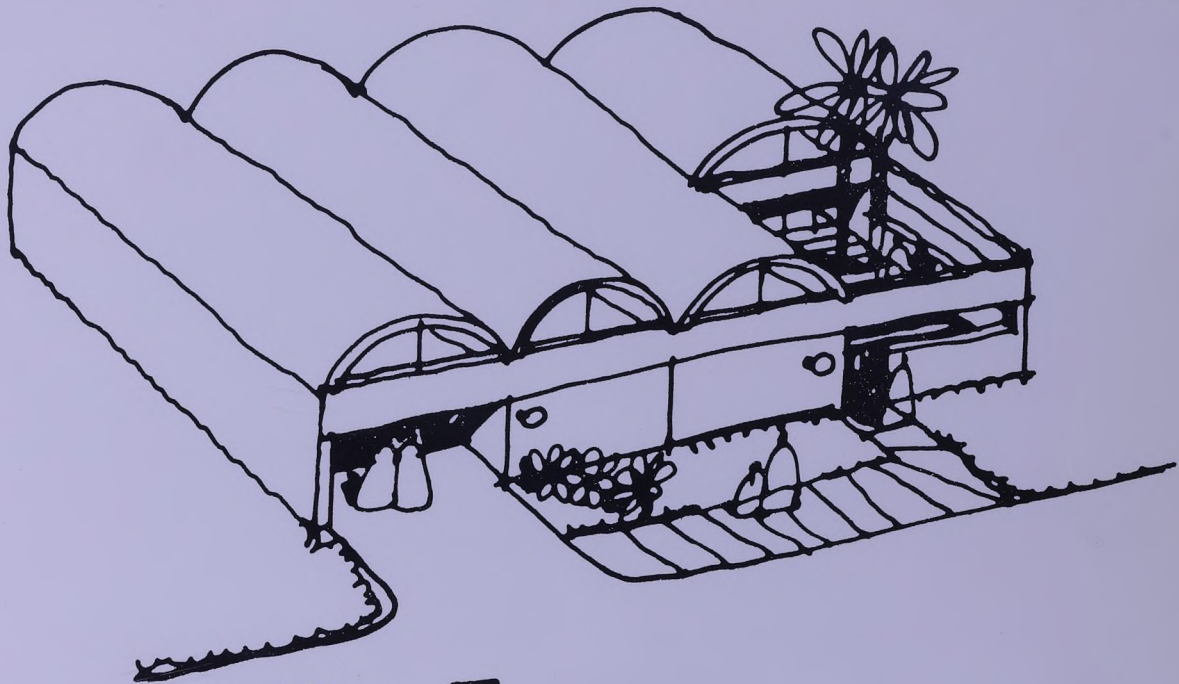
Type III  
two family - one and two story units  
100-130 sq. m. ; 2-4 person family

SAR.2  
SVE



Type II  
one family / two story  
180 sq. m. - 5 person family





TYPE I  
one family / one story  
215 sq. m. - 6 person family



SACI 3 SVE