CHULA VISTA MEDICAL FACILITIES

FINAL ENVIRONMENTAL

IMPACT REPORT

EIR-76-6

Prepared for:

Community Hospital of Chula Vista
751 Dora Lane
Chula Vista, California 92012

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ISSUED BY THE

ENVIRONMENTAL REVIEW COMMITTEE

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Planning Commission on
September 13, 1976

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1.0 INTRODUCTION

1.1 Purpose

This environmental impact report addresses the proposed development of a skilled nursing facility and physician's office building on an 11.7 acre parcel adjacent to the Community Hospital of Chula Vista. To implement the proposed development, the project applicants are requesting from the City of Chula Vista the reclassification of the project site from an R-1-H to a C-O-P zone, and the approval of a Precise Plan and a Conditional Use Permit.

The desired rezoning and project approvals constitute discretionary actions by the City, and the responsible decision-making authorities are obligated to balance the potential adverse environmental effects of such actions against social and economic objectives in determining whether or not the project is approved. This environmental impact report, thus, is designed to provide the responsible authorities with detailed information on the environmental consequences of the proposed project. In addition, the report addresses measures to reduce the magnitude of any adverse effects and discusses possible alternatives to the project as proposed.

This report has been submitted to the City of Chula Vista in accordance with procedural guidelines outlined in their Environmental Review Policy (City of Chula Vista, 1975), and

the State Guidelines for the Preparation and Evaluation of Environmental Impact Reports under the California Environmental Quality Act of 1970, as amended (State of California, 1973).

This environmental impact report is not meant to be used as an engineering document. Likewise, it does not relieve the City or the applicant of their responsibilities to ensure that engineering documents otherwise required for this project are prepared and submitted.

1.2 Executive Summary

1.2.1 Project Description

The proposed project consists of the development of a skilled nursing care facility (also referred to as a convalescent hospital) and a physician's office building on an 11.7 acre parcel adjacent southerly to the Community Hospital of Chula Vista. At ultimate development, the skilled nursing facility will consist of a one-story structure of approximately 62,000 square feet containing 198 beds. Development of the facility is planned in two 99-bed phases; Phase 1 would be operational by late 1977, and Phase 2 by 1982, depending on the demand for the services offered.

The physician's office building will be constructed in three wings: two wings of two stories and one of three stories. At ultimate development the building will

enclose 65,000 square feet. The first wing of this facility, a two-story structure providing space for 12 to 14 doctors and a pharmacy, would be completed and operational by late 1977. A second wing of two stories with space for an additional 12 to 15 doctors is planned for completion in 1978-1979. The third wing, three stories with space for 22 to 24 doctors, would be operational by 1980-1981, depending upon demand.

1.2.2 Impacts Which Cannot Be Wholly Avoided

The following is a list of environmental impacts which cannot be fully mitigated should the proposed project be implemented.

a. Traffic generated by the combined medical facilities will add to existing high traffic volumes on Telegraph Canyon Road. In light of the fact that Telegraph Canyon Road is already carrying a volume of traffic which results in an inadequate level of service this increased ADT must be considered significant

b. Potential for seismic ground shaking which is characteristic of virtually all areas in southern California.

c. Potential for seismic ground rupture if proposed structures cannot be situated away from significant traces of the La Nacion Fault System. Detailed geological studies on adjacent land have shown, however, that the siting of structures away from significant fault traces is generally feasible.

In any event, this project continues to concentrate medical and related facilities in an area where seismic ground rupture could destroy access and utility support facilities. In the case of a large scale seismic induced emergency, the ability of these facilities to provide emergency services could be greatly impaired.

d. Land form alteration by the grading process.

e. Minor incremental increases to region-wide air and water quality problems.

f. Land use and related aesthetic impacts resulting from development of the currently vacant site.

g. Increased demand for municipal services and public utilities.

1.2.3 Beneficial Impacts

Significant social and economic benefits would accrue due to the provision of needed medical offices and extended care facilities adjacent to the Community Hospital. Specifically, the proposed facilities would better meet the health care needs of the area while increasing the community tax base and creating new jobs. Also, the proposed development would be in conformance with provisions of the Ctiy's General Plan.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The proposed medical facilities site is an 11.7 acre parcel situated southwest of Dora Lane and the Community Hospital of Chula Vista. As shown on Figure 2-1, a topographic map of the project site and vicinity, the subject property lies within a 30 acre parcel owned by the Community Hospital.

Figure 2-2 shows the subject property in a regional context. The site is located in southwest San Diego County, approximately 1,800 feet south of Telegraph Canyon Road and 1 mile east of Interstate 805. Access to the property is via Brandywine Avenue and Dora Lane off Telegraph Canyon Road. The location of the Community Hospital is identified as 751 Dora Lane, City of Chula Vista.

2.2 Project Objectives

The basic objective of the proposed project is to provide the citizens of the Chula Vista area with a complete medical complex in a conveniently located area with ample space for parking and possible future expansion. It is felt by the project applicants, as well as numerous community leaders in the Chula Vista area, that the concentration of medical and health care facilities adjacent to the hospital would meet several public needs. The need for a skilled nursing

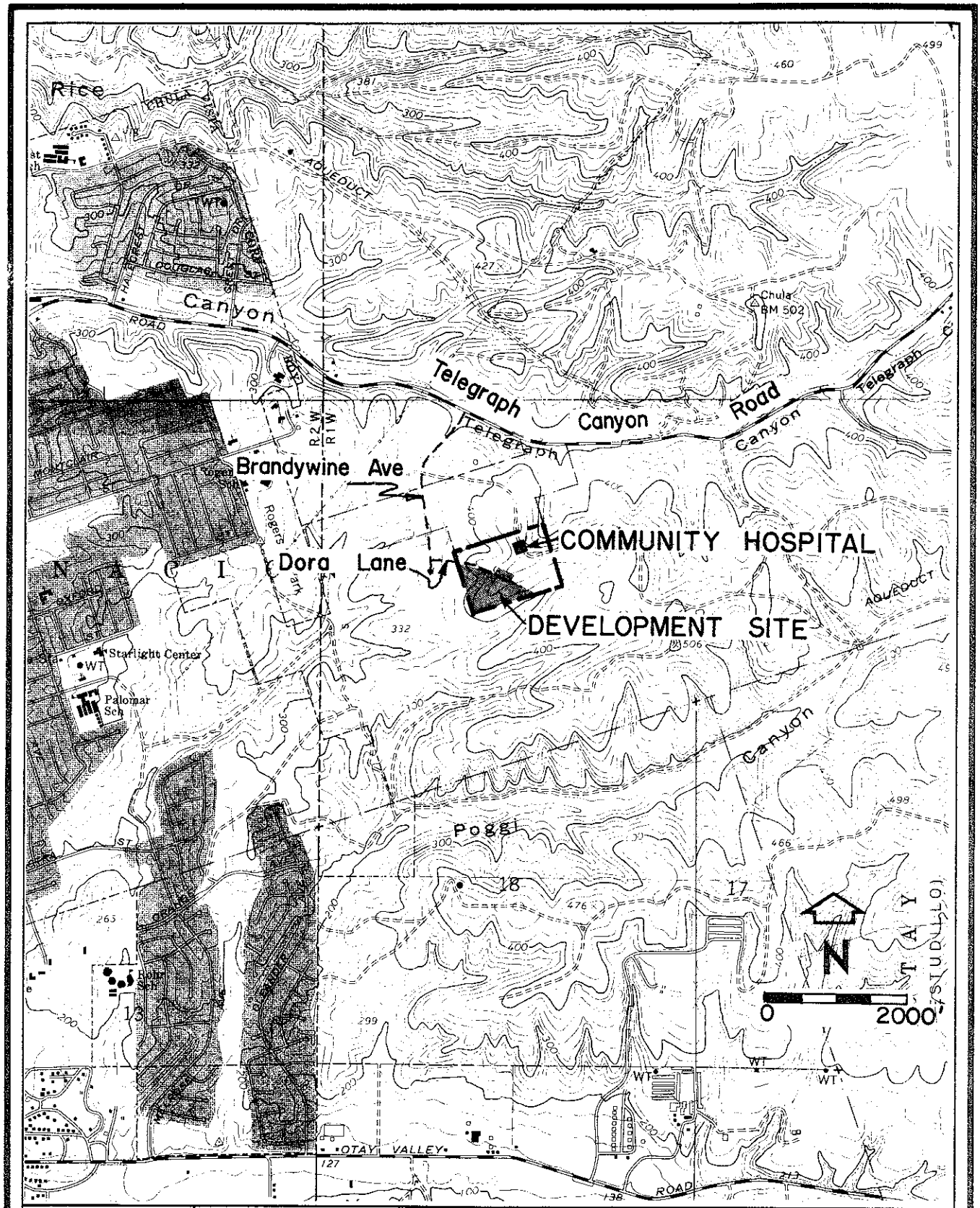

FIGURE 2-1

Topographic Map of Proposed Medical Facilities Development Site.

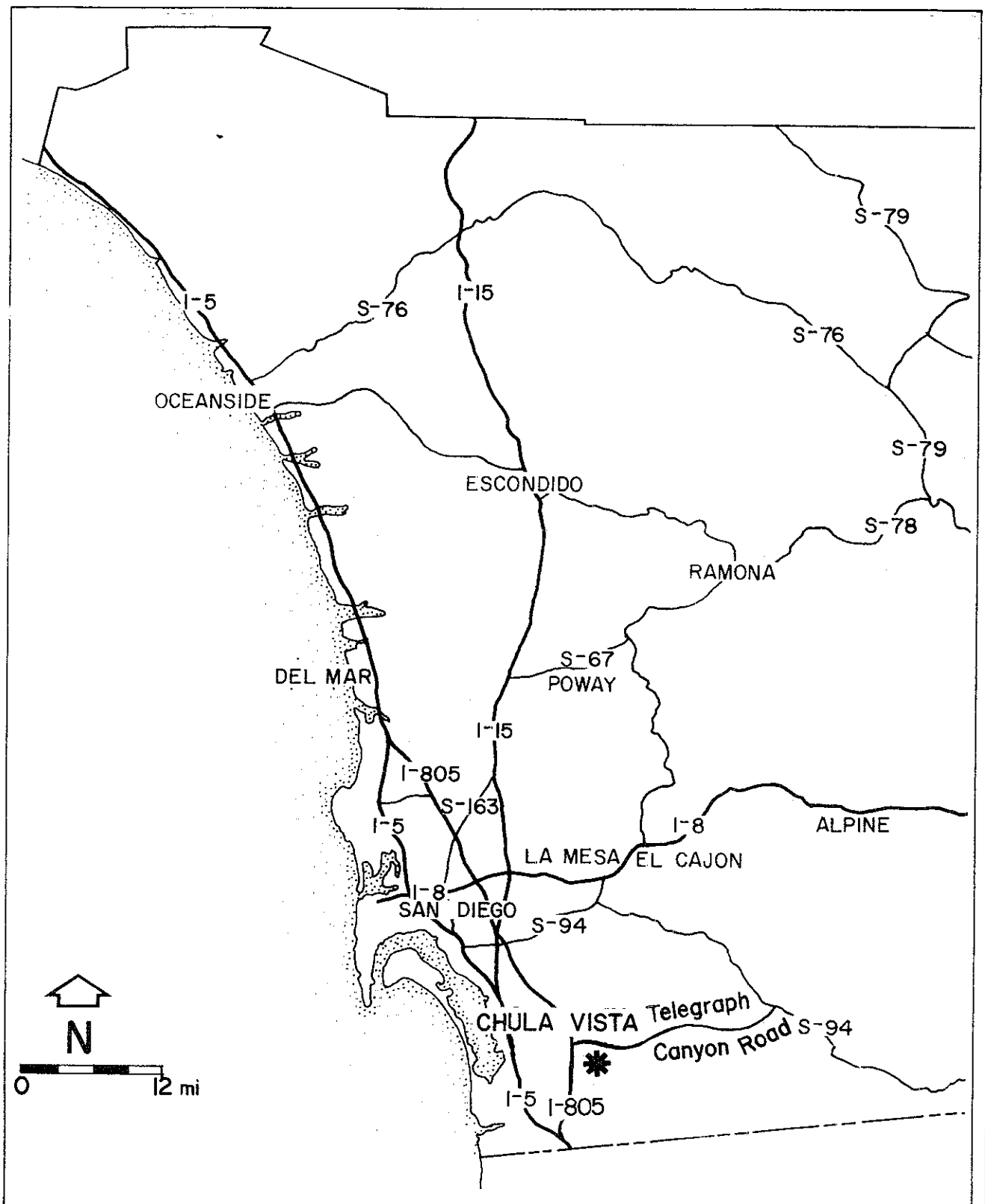

FIGURE 2-2

Location of Medical Facilities Site in Relation to Western San Diego County.

facility in the area is well documented in the "Application for Certificate of Need" submitted to the Comprehensive Health Planning Association of Imperial, Riverside and San Diego Counties. The Comprehensive Health Planning Association has, in response, certified the need for the licensed skilled nursing beds as proposed. The reader is referred to that application and the supporting letters of endorsement for particulars regarding the community need. The application also provides a detailed description of the planned services and facilities. (Certificate of Need on file in the Planning Dept.)

Regarding the proposed physican's office building, the administrators of the Community Hospital feel that the construction of this facility is critical to the continued maintenance and growth of the hospital. Experience has shown that the provision of a physican's office building in immediate proximity to an acute general hospital tends to increase both outpatient referrals and hospital occupancy. Maintenance of referrals and occupancy rate at relatively high levels is vital to the financial viability of the Community Hospital.

A further objective of the proposed project should be mentioned. The Community Hospital of Chula Vista, with its existing ancillary facilities and master-planned

future expansion areas, utilize 18.3 acres of a 30 acre parcel owned in fee by the hospital. Approximately 11.7 acres lying southwesterly of Dora Lane are available for complementary and compatible land uses as a supporting need of the hospital. The hospital Board of Trustees has conditionally offered this surplus land for lease, with the objective of applying proceeds from the lease toward the retirement of the debt service incurred when the hospital was built.

2.3 Project Scope

The proposed project consists of the construction of a skilled nursing care facility (or convalescent hospital) and physician's office building on the aforementioned 11.7 acres of surplus land. The proposed layout of individual project elements is shown on the Site Plan, Figure 2-3.

All development work, including grading, landscaping, and the design and construction of buildings, access roads and parking areas will be carried out in accordance with the Standard Drawings, Specifications and Ordinance of the City of Chula Vista. The principal engineering characteristics of the proposed project are described or illustrated on Figure 2-3, and pertinent details regarding the skilled nursing facility and the physician's office building are provided below.

2.3.1 Skilled Nursing Facility

The skilled nursing facility will provide professional medical attention with patient rehabilitation as its goal. Its services will be designed to relieve the adjacent Community Hospital and other area hospitals of patients no longer requiring acute care. The facility will also serve patients from local residential care homes which require skilled nursing attention not available at such homes.

Services which will be available at the skilled nursing facility include:

a. Post-acute hospitalization.

b. Skilled nursing care by a professional staff under the direction of a registered nurse. The facility would be licensed for both Medicare, Medi-Cal and private patients.

c. Dietary, housekeeping and other necessary service departments to provide a total care program.

d. Coordination of patient care needs with other facilities in the area offering physical, speech, occupational and social therapy and rehabilitation.

e. A social service department under a full-time director to implement therapeutic recreational and educational social contact programs.

Ultimately, 198 beds enclosing an area of 62,000 square feet are proposed for the skilled nursing facility (see Figure 2-4, Floor Plan). Two increments of construction are proposed. Phase I, which would be operative by late 1977, consists of 99 beds and ancillary features such as a kitchen, laundry, dining area and physical therapy and activity rooms in approximately 37,000 square feet. Phase 2, consisting of an additional wing of 25,000 square feet with 99 beds, would be developed as dictated by demand, probably about 1982.

Figure 2-5 is an architect's rendering of the proposed skilled nursing facility. The building will be of one story stud and stucco construction, fully sprinkled, with a wood roof. The architectural theme will be compatible with the existing Community Hospital and the planned medical building.

Six room configurations will be provided at the facility, as shown on Table 2-1. A total of 65 parking spaces will ultimately surround the convalescent hospital. Thirty-seven spaces will be provided for Phase I, with an additional twenty-eight for Phase 2.

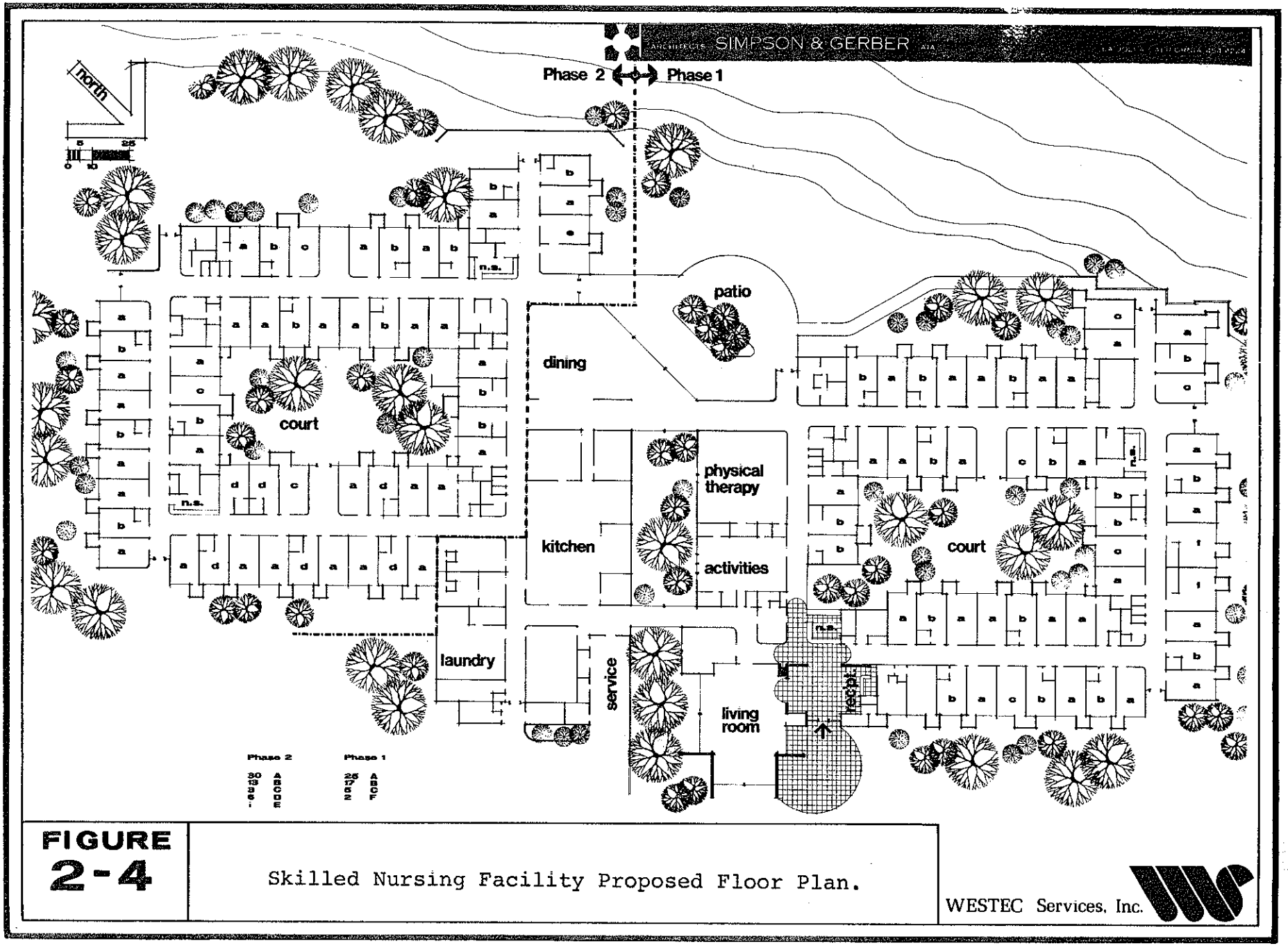

FIGURE 2-4

Skilled Nursing Facility Proposed Floor Plan.

WESTEC Services, Inc.

FIGURE 2-5

Architects Rendering of Skilled Nursing Facility.

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Table 2-1

CONVALESCENT HOSPITAL ROOM CONFIGURATIONS

Phase 1		Phase 2		Room Description*
Type	Number	Type	Number	
A	25	A	30	150 square foot double room
B	17	B	13	110 square foot double room
C	5	C	3	150 square foot isolation room
		D	6	110 square foot single room
		E	1	Suite-double room with sitting room
F	2			200 square foot double room

*Distribution of rooms shown on Figure 2-4

2.3.2 Physicians Office Building

The physicians office building, at ultimate development, will consist of a structure with three wings of two or three stories and a gross building area of 65,000 square feet. Net rentable area, including doctors suites and a pharmacy, will comprise approximately 54,000 square feet. A central lobby and core facilities will enclose 3,500 square feet. Parking to accommodate 325 cars is planned.

Development of the office building is proposed in three phases. Phase 1 will consist of grading for wings A and B and a portion of the parking area

(see Figure 2-3), and the construction of wing A. Wing A will be a two-story structure enclosing about 16,800 square feet. It will contain space for 12 to 14 doctors and a pharmacy. A minimum of 84 parking spaces will be provided in Phase 1. It is anticipated that Phase 1 construction will commence in September of 1976, and be completed within the following six months.

The construction of Phase 2 of the physicians office building is projected to begin March 1, 1978, dependent on demand. This phase will consist of the construction of wing B as shown on Figure 2-3. Wing B, like wing A, would be a two-story structure with an area of 16,800 square feet. An additional 12 to 15 doctors would occupy this wing, and 84 parking spaces would be provided.

Phase 3 entails additional grading and the construction of wing C, a three-story building of approximately 31,400 square feet. Parking for an additional 157 cars will be constructed. Wing C will provide space for 22 to 24 doctors. Construction of Phase 3, like Phase 2, will be dependent on demand; however, a tentative starting date of March 1, 1980 is projected.

Figure 2-6 shows several elevations of the proposed office building. The building will be steel

frame with a masonry exterior. As in the case of the convalescent hospital, the architectural theme will be compatible with existing and proposed facilities.

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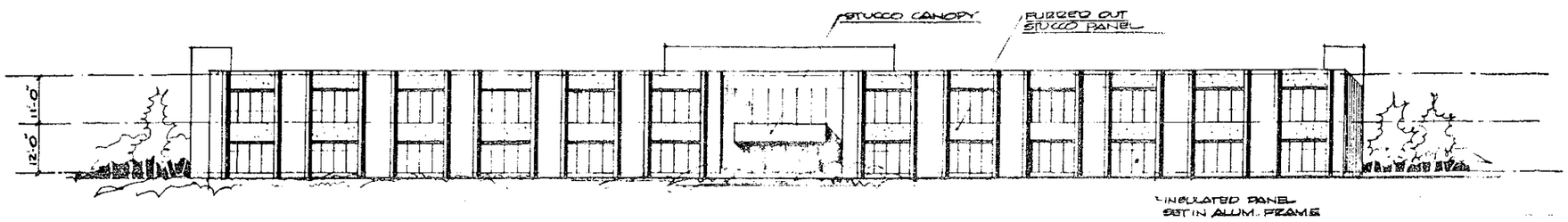
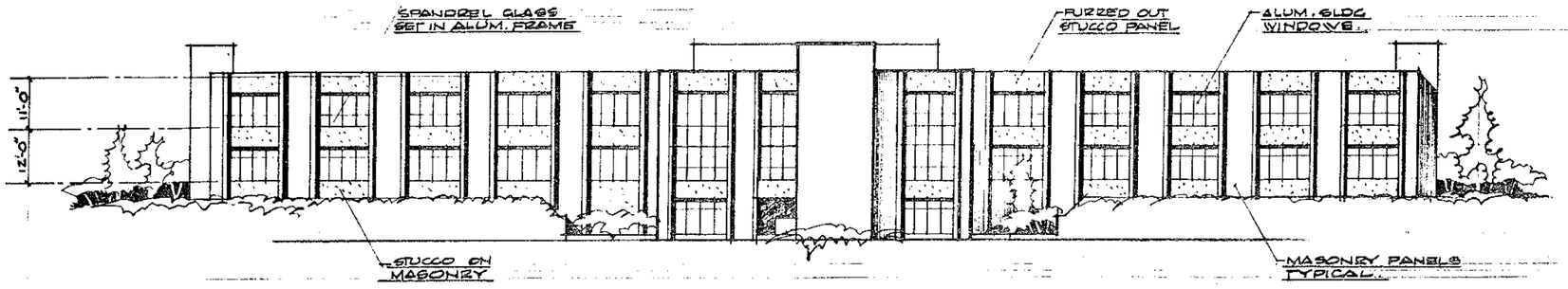
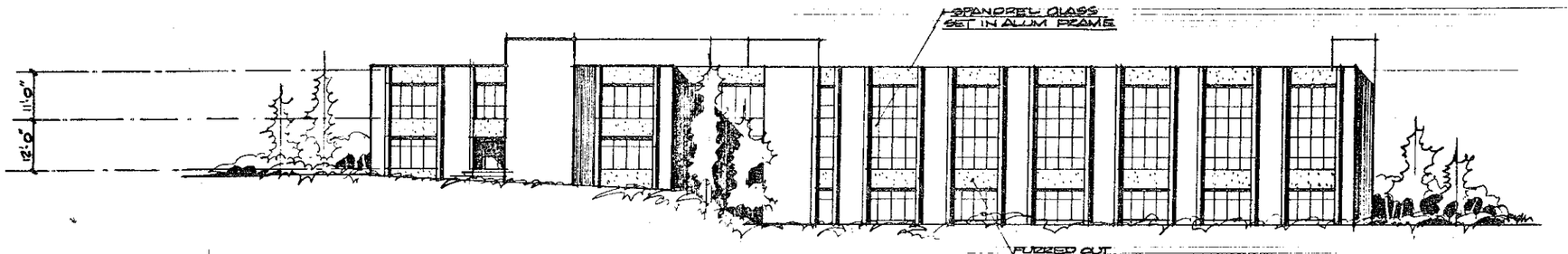


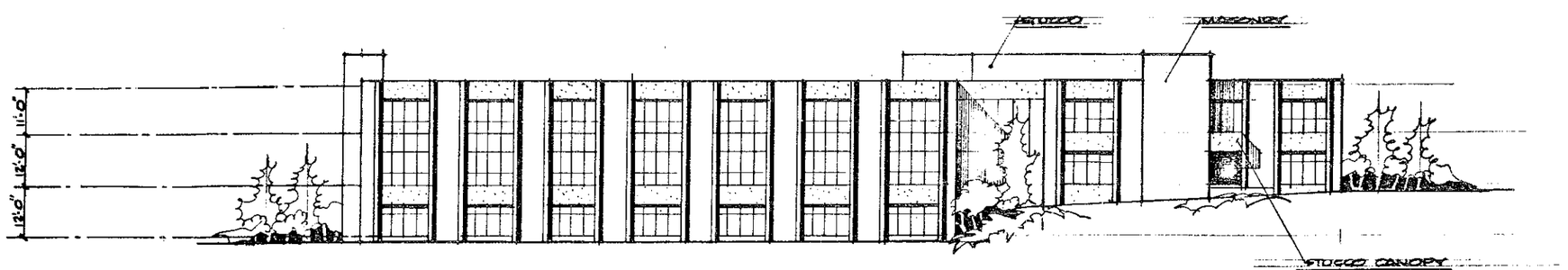
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

FIGURE 2-6

Elevations

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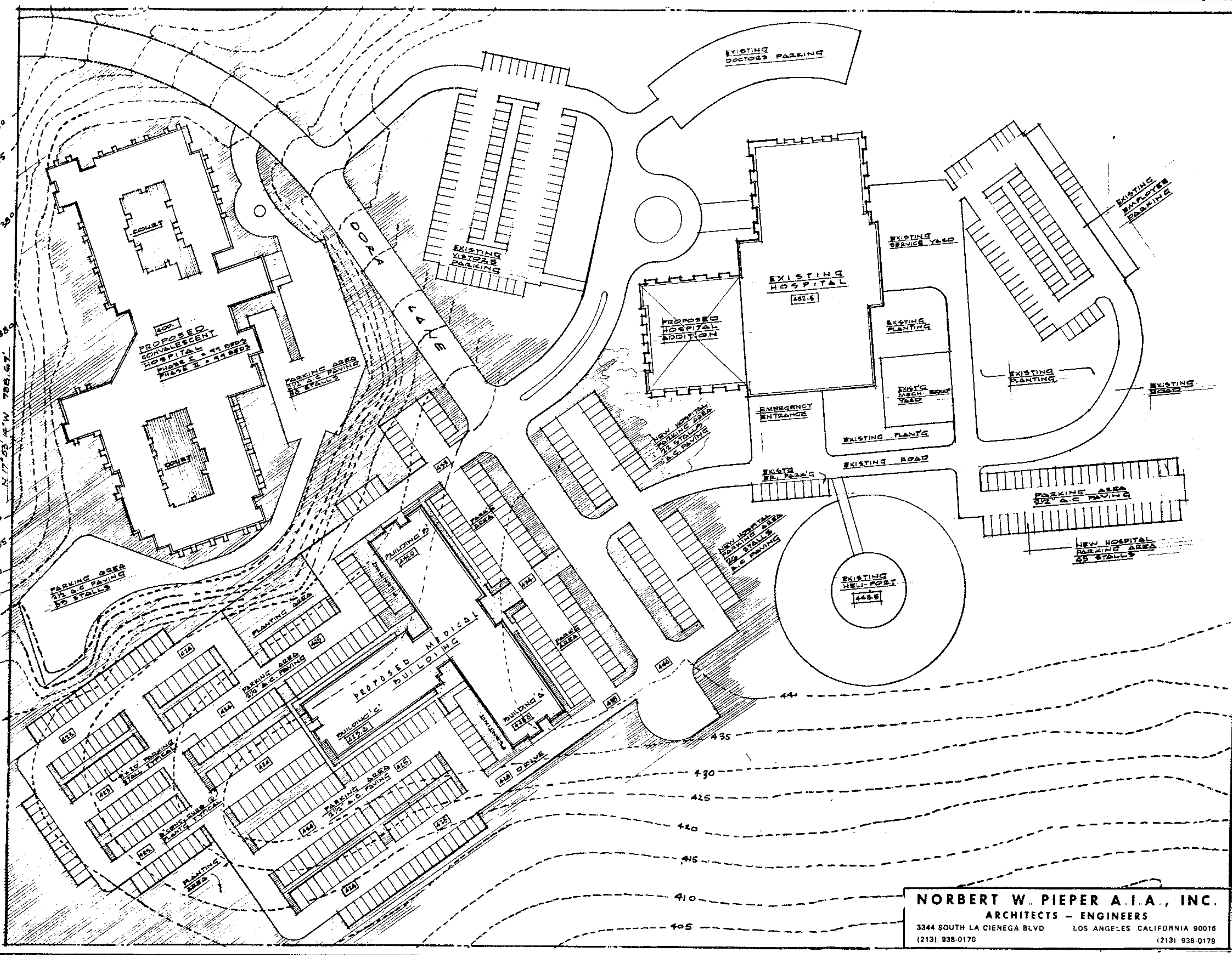


LAND USE INCLUDING DESCRIPTIONS

DESCRIPTION	REQUIRED	PROVIDED
A. LAND AREA - TOTAL		
1. LEGAL DESCRIPTION: PORTION OF EAST 1/2 OF QUARTER SECTION 67, RANCHO DE LA NACION, MAP 166 AND 880 CITY OF CHULA VISTA, COUNTY OF SAN DIEGO.		
2. ACREAGE		30 ACRE ±
3. SIZE: SEE PLAN		
B. DESCRIPTION OF COMMUNITY HOSPITAL		
1. LAND AREA		18.3 ACRES
2. EXISTING FACILITY - PHASE I		131 BEDS
3. FUTURE EXPANSION PHASE II NEW NURSING TOWER		131 BEDS
4. PARKING FOR EXISTING FACILITY PHASE I		284 CARS
5. PARKING FUTURE EXPANSION PHASE II		100 CARS
C. DESCRIPTION OF DOCTORS OFFICE BUILDING		
1. LAND AREA		3 ACRE ±
2. BUILDING AREA GROSS		65,000 □ ±
3. BUILDING AREA NET RENTABLE INCL. DOCTORS SUITE, PHARMACY.		54,000 □ ±
4. BUILDING AREA CENTRAL LOBBY & CORE FACILITIES		3,500 □
5. PARKING SPACES CRITERIA: 1 SPACE PER 200 SQ. FT	325	325
D. DESCRIPTION OF CONVALESCENT HOSPITAL		
1. LAND AREA		
2. BUILDING AREA PHASE I		
BEDS		99 BEDS
AREA OF BUILDING		37,000 □
PARKING SPACES		37
3. BUILDING AREA PHASE II		
BEDS		99 BEDS
AREA OF BUILDING		25,000 □
PARKING SPACES		25

SPECIAL NOTES

A. ENTIRE 30 ACRE SITE IS OWNED BY THE COMMUNITY HOSPITAL OF CHULA VISTA.

B. GRADING DESIGN PROVIDES FOR UPPER LEVEL BUILDING PAD AND ADJOINING PARKING AREAS, AND LOWER LEVEL BUILDING PAD AND ADJOINING PARKING AREAS. APPROX. 6000 CUBIC YARDS "CUT" WITH NO "FILL."

C. DIFFERENTIAL PAD ELEVATIONS HAVE TRANSITION CUT 1/2:1 SLOPE BANKS. CONNECTING DRIVEWAYS HAVE MAX. .05% GRADE.

D. ALL PARKING AREA DRAINAGE IS (3) THREE DIRECTIONAL SHEET FLOW.

E. ALL SLOPE BANKS AND PERIMETER AREAS PROTECTED AGAINST EROSION AND SHALL BE DISTINCTIVELY LANDSCAPED.

FIGURE 2-3

Site Plan

WESTEC Services, Inc.

3.0 IMPACT ANALYSIS

3.1 Geology

3.1.1 Project Setting

3.1.1.1 Stratigraphy

The subject property is situated near the easterly edge of the southern California coastal plain, and is underlain predominantly by sedimentary rocks of Tertiary age. Bedrock formations found on the site are the Otay Formation of probably Miocene age and the Pliocene San Diego Formation. One surficial geologic unit is present: the Lindavista Formation of Pleistocene age.

The Otay Formation is a medium-grained, greenish-gray to light-gray, tuffaceous sandstone. This unit underlies the extreme northwesterly corner of the 30-acre hospital parcel (Woodward-Gizienski & Associates, 1973a). The San Diego Formation, which underlies the bulk of the hospital parcel, is a light-gray to yellowish-gray, poorly cemented, micaceous sandstone and conglomerate (Woodward-Gizienski & Associates, 1973a). The early Pleistocene Lindavista Formation forms a cap over the bedrock San Diego Formation on the higher elevations of the property. The Lindavista is a marine terrace deposit consisting of a reddish-brown, sandy conglomerate.

3.1.1.2 Geologic Structure

The bedrock and surficial units on the hospital property have not been subjected to intense folding and are essentially flat-lying. A regional dip of 2 to 10 degrees in a southerly direction is generally recognized in this area. Local variations in the magnitude and direction of strata inclination are evident near zones of faulting.

A number of fault traces have been mapped through the subject property (see Woodward-Gizienski & Associates, 1973a,b,c,d; Southern California Testing Laboratory, 1973; and Kennedy et al., 1975). These faults form the La Nacion fault zone, which extends discontinuously north to the vicinity of San Diego State University and south through San Ysidro and Tijuana. The faults trend in a northerly to north-northwesterly direction and are generally inclined steeply to the west. It is estimated that there is a minimum of 210 feet of normal displacement along the La Nacion fault zone in the project area. At least 110 feet of this displacement has been interpreted to have occurred since late Pleistocene time (past 100,000 years) (Woodward-Gizienski & Associates, 1972). Seismic risk associated with the La Nacion fault zone is discussed below.

3.1.1.3 Geologic Hazards

Because a number of fault traces within the La Nacion fault zone pass through the hospital area, the most significant geologic hazards are associated with potential seismicity. Demonstrated repeated offsets of Pleistocene strata indicate that the La Nacion fault zone should be classified as "potentially active." Early analyses of the fault zone (Artim and Pinckney, 1973) concluded that it "should be considered a potentially active, if not active, fault." Subsequent work, however, indicates that alluvium as old as 13,375 ±275 years overlying the fault is undisturbed (Hart, 1974; Dowlen et al., 1975). This serves to remove it from the "active" category as generally defined (that is, no evidence of movement apparent in the past 11,000 years). Nevertheless, four classes of seismic-related hazards should be considered: ground shaking, ground rupture, soil failure and seismic water waves.

a. Ground Shaking

Relatively rapid movement along a fault results in a release of energy in the form of seismic waves which are perceived as a shaking motion at the ground surface. Such shaking can range from a slight trembling to a violent oscillation of the ground. The severity of

ground shaking depends on several factors, including: earthquake magnitude and duration of shaking, distance from causative fault, local soil conditions, and building design and construction.

Table 3-1 lists the major active or potentially active faults of southern California which could cause significant ground shaking at the subject site. As shown, seismic events on the distant Elsinore, San Jacinto or San Andreas fault zones are the most likely to affect the project area based on estimated recurrence intervals. Ground shaking equivalent to Modified Mercalli (M.M.) Intensity VI-VII (see Table 3-2) would occur at the project site from the maximum probable earthquake on the Elsinore fault. Significantly less likely but more damaging ground shaking (M.M. Intensity VIII-IX) could occur due to the maximum probable event on the potentially active La Nacion fault zone.

b. Ground Rupture

Movement along a fault can result in displacement or rupture of the ground surface along the fault trace. Generally it is not technically or economically feasible to design and construct a building capable of withstanding a major seismic rupture of its foundation.

Table 3-1

SIGNIFICANT FAULTS AND SUMMARY OF ANTICIPATED GROUND SHAKING

	Causative Fault Zone	Distance From Subject Site (Miles)	Approximate Age of Most Recent Displacement	Maximum Probable Earthquake (Richter Magnitude)	Expected Firm Ground Acceleration (Gravity)	Ground Shaking Intensity On Average Soil (Modified Mercalli Scale)	Estimated Recurrence Interval (years)
POTENTIALLY ACTIVE FAULTS	Rose Canyon/ San Diego Bay (1)	6.5(2)	11,000 to 120,000 years before present. Holocene movement probable.(2)	5.8-6.2(6)	0.29-0.39(8)	VIII(9)	300(1)
	La Nacion/ Sweetwater	0(2)	11,000 to 120,000 years before present(2,5)	5.8-6.2(6)	0.5-0.6(8)	VIII-IX(9)	300(1)
ACTIVE FAULTS	Elsinore	38(3)	11,000 to $2x10^6$ years before present(4)	6.9-7.3(6)	0.09-0.13(8)	VI-VII(9)	100(6)
	San Jacinto	59(3)	1968(4)	6.9-7.3(6)	0.05(8)	V-VI(9)	100(6)
	San Andreas	87(4)	1968(4)	7.5(7)	0.04(8)	V(9)	40-100(10)
	San Clemente	40(4)	Unknown	6.9(7)	0.09(8)	VI(9)	Unknown

(1) Moore and Kennedy, 1975
(2) Kennedy et al., 1975
(3) Lough, 1974
(4) Jennings, 1973
(5) Hart, 1974; Dowlen et al., 1975
(6) Woodward-Gizienski & Associates, 1974
(7) Bonilla, 1970 in Greensfelder, 1974
(8) Schnabel and Seed, 1973
(9) Coulter et al., 1973
(10) Lamar et al., 1973

Table 3-2

THE MERCALLI INTENSITY SCALE

(As modified by Charles F. Richter in 1956 and rearranged)

If most of these effects are observed	*then the intensity is:*
Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly.	*I*
Effect on people. Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.	*II*
Effect on people: Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.	*III*
Other effects: Hanging objects swing. *Structural effects:* Windows or doors rattle. Wooden walls and frames creak.	*IV*
Effect on people: Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls. *Other effects:* Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. *Structural effects:* Doors close, open or swing. Windows rattle.	*V*
Effect on people. Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. *Other effects:* Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset. *Structural effects:* Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.	*VI*
Effect on people Felt by everyone. Many are frightened and run outdoors. People walk unsteadily. *Other effects:* Small church or school bells ring. Pictures thrown off walls, knicknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle. *Structural effects:* Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.	*VII*
Effect on people. Difficult to stand. Shaking noticed by auto drivers. *Other effects:* Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver. *Structural effects:* Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.	*VIII*
Effect on people: General fright. People thrown to ground. *Other effects:* Changes in flow or temperature of springs and wells. Cracks in wet ground and, on steep slopes. Steering of autos affected. Branches broken from trees. *Structural effects:* Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Reservoirs seriously damaged. Underground pipes broken.	*IX*
Effect on people: General Panic. *Other effects:* Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed. *Structural effects:* Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.	*X*
Effect on people: General panic. *Other effects:* Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. *Structural effects:* General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.	*XI*
Effect on people: General panic. *Other effects:* Same as for Intensity X. *Structural effects:* Damage nearly total, the ultimate catastrophe. *Other effects:* Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.	*XII*

* Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.

* Masonry B: Good workmanship and mortar, reinforced.

* Masonry C: Good workmanship and mortar, unreinforced.

* Masonry D: Poor workmanship and mortar and weak materials, like adobe.

Thus, an area traversed by a fault or fault zone considered capable of significant displacement is best avoided.

As mentioned above, a number of fault traces within the La Nacion fault zone pass through the hospital area. Lengthy trenching operations were carried out by Woodward-Gizienski & Associates (1973b,c,d) to determine the precise location of branch faults in the area which was then proposed for the Community Hospital. Fault branches located during those studies necessitated the relocation of the hospital structure away from its originally planned position to avoid building on a fault trace. Further fault investigation trenches were excavated on a proposed junior high school site situated adjacent northerly of the hospital parcel (Woodward-Gizienski & Associates, 1973e). Several additional branch faults were encountered in those trenches.

Linear extrapolation of fault traces discovered near the hospital building and on the junior high school site indicates that the area of the proposed skilled nursing facility and physicians office building lies within the La Nacion fault zone. Faults extrapolated southerly from the junior high school site pass a short distance west of the skilled nursing facility. Fault branches extrapolated southerly from the area of the hospital structure, with one exception, pass just east of the physicans office building. The exception is one branch which may pass beneath the extreme easterly side of

wing A of the proposed structure. Between these two zones of faulting there appears to be an area unaffected by faults. It is within this area that the nursing facility and most of the office building is proposed.

A word of caution must be stated. Fault branches within the La Nacion fault zone have been found to be quite segmented and inconsistently oriented. Thus, extrapolation of fault traces any great distance (more than a few tens of feet) away from a test trench is tenuous at best. The aforementioned area unaffected by faulting may, in fact, be faulted; conversely, it may be entirely free of faulting.

c. Soil Failure

During an earthquake, ground shaking tends to compact loose deposits of cohesionless soil. Such unstable soils may settle differently or fail by cracking. If the soils are water saturated, they may fail by liquefaction and lateral flow on gentle slopes, or by landsliding on steep slopes.

A condition of loose, poorly graded silty strata combined with a shallow water table does not exist on the subject property, so seismic-induced soil failure by settlement or liquefaction is not likely (Woodward-Gizienski & Associates, 1973b). Steep slopes, subject to landsliding, also do not exist on the site.

d. Seismic Water Waves

Due to the subject property's location away from the coastline and major water bodies, no significant potential for seismic water waves (tsunamis or seiches) is recognized.

e. Other Geologic Hazards

No landslides were noted or are reported to exist on the subject property, although several large landslides have been noted in similar geologic formations below the westerly edge of the Otay Mesa (Foster, 1973; Kennedy, 1972). The area is not considered to be susceptible to hazards resulting from areal land subsidence or volcanic activity (Alfors et al., 1973).

No unique geologic resources were noted or are reported to exist on the subject property (County of San Diego, undated).

3.1.2 Impact

An evaluation of recognized geologic hazards in the project area indicates that the development site is not susceptible to tsunamis, seiches, areal land subsidence, or volcanic activity. No unique geologic resources were noted or are reported to exist on the property. Unfavorable geologic conditions at the site are associated primarily with potential seismic ground shaking and ground rupture impacts, as discussed below.

Provided several specific recommendations are considered and incorporated into the design and construction of the proposed structures, development and operation of the medical facilities can be accomplished without undue geology-related impacts. These recommendations are discussed as mitigation measures in Subsection 3.1.3.

3.1.2.1 Ground Shaking

The approximate magnitude of seismic ground shaking which can be expected to affect the subject property is shown on Table 3-1 in Subsection 3.1.1.3. This ground shaking is for the "maximum probable" earthquake on faults considered pertinent to the development site. The maximum probable earthquake on an active fault is generally used as the design earthquake for normal occupancy structures such as the physician's office building. Critical facilities, such as the skilled nursing home, are usually designed with consideration of the "maximum credible" earthquake, a less likely but somewhat larger event.

Under California law, Senate Bill 519 (effective July 1973), new hospital or other long-term health care facility construction is subject to very conservative engineering geologic analysis regarding seismic safety. Facility design must consider both the maximum probable and maximum credible earthquakes, as well as any site specific

potential for amplification of seismic ground motions due to underlying, unconsolidated earth materials. Incorporation of more rigorous geologic and seismic factors into the structural design should result in a skilled nursing facility that is relatively resistant to ground shaking impacts.

3.1.2.2 Ground Rupture

As discussed above, several traces of the La Nacion fault system pass through the subject property. Any structure constructed astride a potentially active fault trace risks damage resulting from ground rupture due to displacement (either rapid or slow) along the fault, or differential settlement of the foundation due to unequal compaction in different geologic formations juxtaposed by earlier fault movement.

Based on geologic studies in the immediate vicinity, it appears the proposed construction sites may be free of fault traces. However, trenching along the anticipated foundations would be necessary to positively confirm or refute this.

3.1.3 Mitigation

Although it is not yet possible to predict precisely when, where and how large the next earthquake will be, a study of regional seismicity indicates that the subject property is likely to be subjected to at least one significant earthquake during the life of the proposed project. It seems

improbable that the state-of-the-art with respect to earthquake prevention will have advanced to the stage where the control of earthquakes is possible within the next several decades. Thus, measures to minimize seismic-related impacts must be incorporated into the design and construction of structures and support facilities in the proposed project.

3.1.3.1 Ground Shaking

Incorporation of appropriate factors into the design and construction of the proposed medical facilities would largely alleviate ground shaking impacts. In the case of the skilled nursing facility, Senate Bill 519 requires that very conservative geologic and seismic factors be considered in the design of hospitals or other similar use structures. The less critical physicians office building will be subject to the less stringent design requirements of the most current Uniform Building Code.

3.1.3.2 Ground Rupture

To avoid potential impacts from seismic ground rupture, buildings should ideally be located away from fault traces. Alternatively, it may be acceptable to span a minor fault trace or traces with rigid, reinforced foundation bond beams. Prior to finalization of development plans, test trenches should be excavated along proposed foundations to determine the existence or absence of fault traces. It will be important that the skilled nursing facility is not located on a major fault trace or traces. The physicians office building

should also be situated away from major fault traces. Because of the less critical nature of this building, however, a small level of risk may be acceptable, and minor faults beneath the structure permitted.

3.1.4 Analysis of Significance

In terms of ground shaking impacts, the proposed Dora Lane site is "...not considered to be comparatively a more hazardous location from the standpoint of earthquake shaking than that of any other area in San Diego." (Woodward-Gizienski & Associates, 1973b). Regarding potential ground rupture, the placement of critical structures away from fault traces should reduce possible impacts to insignificant levels. As stated in the engineering and geologic study for the Community Hospital (Woodward-Gizienski & Associates, 1973c), "...breaking (faulting) of new ground, not previously broken, adjacent to a fault is not substantiated by the historic record. It is therefore our opinion that the possibility of faulting of new ground within the limits of the proposed building is relatively small."

3.2 Soils

The following description of on-site soils and discussion of potential soils-related impacts are derived from soil investigation reports completed for the Community Hospital (Southern California Testing Laboratory, 1971) and a proposed

junior high school on a site located directly north of the subject property (Woodward-Gizienski & Associates, 1973a).

3.2.1 Project Setting

The following are general descriptions of the soils found on the project site.

3.2.1.1 Topsoil

Loose to medium dense, damp, brown to gray, clayey to silty, medium to fine sand. These soils exist over much of the site at depths ranging from approximately 1 to 4.5 feet. They are generally loose and frequently porous and, consequently, will require treatment during grading.

3.2.1.2 Residual Clay

Hard, damp, brown, silty to sandy clay. These soils are encountered immediately below the topsoil with observed thicknesses ranging from approximately 0.5 to 2 feet. They are generally quite stiff and strong, but because they have a relatively high potential for expansion they are not desirable materials to have near finish grade. As a result, the presence of these soils should be considered during grading.

3.2.1.3 Terrace Materials

Very dense, damp, brown, silty, coarse to fine sand with occasional gravel. These materials

are generally found on the higher elevations with thicknesses ranging from approximately 4.5 to 11.5 feet. They represent relatively competent and nonexpansive foundation soils which overlie formational soils at some areas of the site.

3.2.1.4 San Diego Formation

Very dense, damp, tan to gray, silty fine sand with occasional gravel and shell zones. These soils exist over much of the site and extend to depth. This is the basic formational material underlying the bulk of the site. The soils of this formation generally provide competent foundation materials with a low potential for expansion in both the undisturbed and recompacted condition. Some special consideration should be given, however, due to their relatively high susceptibility to erosion.

3.2.1.5 Otay Formation Clay

Very stiff, damp to moist, gray, silty to fine sandy clay. These soils are encountered only in the extreme westerly portion of the site and extend to depth. Although these soils are older in geologic age than the San Diego Formation, the two soil types occur essentially side by side as a result of past vertical offsets along traces of the La Nacion fault. It should be expected, therefore, that the Otay clays would be encountered on the west side of the fault zone and the San Diego sands on the east side at relatively

shallow depths. Loaded swell and plasticity tests indicate that the Otay clays have a moderate to high potential for expansion.

3.2.2 Impact

In both of the previously cited soil investigation reports, it was concluded that no major adverse soil conditions exist which would preclude development. Bearing capacities are considered adequate if foundation areas are properly prepared, and estimated settlement for pertinent soil bearing pressures are low. The presence of loose or porous topsoil, possibly expansive clays and erosive soils will require special treatment during site grading.

3.2.3 Mitigation

3.2.3.1 Loose Topsoil

In all building areas, existing loose topsoil not removed by grading operations should be excavated, replaced and properly compacted before new fill, foundations or pavement are placed.

3.2.3.2 Expansive Clays

Where expansive clays of the Otay Formation or residual clays are encountered in areas of proposed construction, they should be undercut and replaced with non-expansive material.

3.2.3.3 Erosive Soils

Measures to prevent excessive erosion are described in Subsection 3.6.3.1.

3.2.3.4 General Mitigation Measures

All grading operations should be performed in accordance with standard, conservative procedures. In addition, a soils engineer should be present during grading to examine soils exposed in excavations or cut slopes and make any modifications necessary to avoid or alleviate adverse soil conditions.

3.2.4 Analysis of Significance

Adherence to the mitigation measures listed above in development of the site should prevent any significant soil-related impacts.

3.3 Groundwater

3.3.1 Project Setting

Historically, groundwater of low quality has been extracted from deep wells in the San Diego and Otay Formations in the project area (State of California, 1967). Wells on mesa tops in the vicinity extend to depths of more than 1,000 feet and encounter groundwater with a total dissolved solids (IDS) content that ranges from 2,000 to 5,000 mg/1.

Shallow wells, which tap alluvial aquifers, are situated in the valley of the Sweetwater River to the north and the Otay River to the south.

Soil investigations on and adjacent to the project site (Southern California Testing Laboratory, 1971; Woodward-Gizienski & Associates, 1973a) indicate that no groundwater exists to depths of 71 feet beneath the property. No significant springs were noted on the site.

3.3.2 Impact

Due to the depth of the water table beneath the subject property, no groundwater-related impacts are anticipated.

3.3.3 Mitigation

As no groundwater impacts are anticipated, no mitigation measures are proposed.

3.4 Drainage Pattern

3.4.1 Project Setting

The proposed development site is situated in the Otay Hydrologic Unit, one of 11 major drainage systems within the San Diego Basin as defined by the Department of Water Resources (State of California, 1967). The major stream system traversing the unit is the Otay River and its tributaries.

Drainage from the site is primarily to the west and south through broad, ill-defined natural swales. These swales form a portion of the headwaters of an unnamed intermittent stream that trends southwesterly from the subject property to the Otay River, about 2.5 miles downstream. The Otay River flows westerly from this confluence about four miles to the extreme south end of San Diego Bay.

3.4.2 Impact

The subject property is located near the crest of a ridge separating the Otay River and Telegraph Canyon Creek drainages. Runoff through the site from higher ground, thus, is minimal (less than 25 cfs) and no significant flooding potential exists.

As the site is graded and developed with impermeable surfaces, the volume and velocity of storm runoff will increase slightly over existing levels. The property will be graded to drain into planned and existing drainages, thus avoiding standing water problems on the site. Where increased volumes of runoff are concentrated, however, an increased potential for erosion will exist.

3.4.3 Mitigation

The potential for erosion due to concentrated storm runoff can be mitigated by providing energy dissipating devices to maintain runoff velocities at or below existing, pre-development levels.

3.4.4 Analysis of Significance

Drainage impacts associated with the project are expected to be only very minor. The provision of erosion protection features should serve to reduce erosion to existing levels or lower.

3.5 Mineral Resources

3.5.1 Project Setting

No economically viable mineral commodities are known in the immediate project area (Weber, 1963). Bentonite deposits of marginal economic significance occur about 1.5 miles to the south in the Otay Valley area (Cleveland, 1960). It is estimated that some 83,000 tons of this clay mineral, used primarily as an absorbent in petroleum refining, was extracted from the deposits. Currently, however, the area is not being mined.

Sand and gravel on the subject property is not present in sufficient quantity or quality to be of significant value.

3.5.2 Impact

As discussed above, no economically viable mineral resources exist on the subject property. Thus, no related impacts are foreseen.

3.5.3 Mitigation

As no significant adverse impacts on mineral resources are anticipated, no mitigation is proposed.

3.6 Land Form

3.6.1 Project Setting

The subject property is situated on a highly dissected, mesa-like terrace lying north of Otay Mesa. This mesa is a remnant of a gently westward-sloping marine wave-cut terrace that formed during the gradual emergence of the land surface that began some 3 to 4 million years ago.

Intermittent stream flow has incised several steep-sided canyons into the mesa surface as shown on Figure 2-1 (Topographic Map). In the study area, the most prominent of these are Telegraph Canyon, 2,000 feet to the north, and Poggi Canyon, 3,000 feet to the south.

Elevations on the development site range from a maximum of 442 feet near the easterly end of Dora Lane to a minimum of about 370 feet at the northwest corner. Total relief, thus, is approximately 72 feet.

Average natural slope gradients are on the order of 9 percent, with large areas being virtually flat. The steepest gradients are approximately 25 percent along the sides of a wide, natural swale on the westerly edge of the site.

3.6.2 Impact

3.6.2.1 Grading

The principal land form-related environmental impact will be associated with the grading that will be necessary to prepare the site for construction. Approximately 6,000 cubic yards of excavation, consisting of shaping an existing knoll projection, will be necessary to prepare the medical building site for construction. About 16,000 cubic yards of earth will be moved in developing the skilled nursing facility site. Cut slopes with a maximum height of 25 feet and fill slopes to 15 feet in height will be created in developing the convalescent hospital. Slope banks will be no steeper than 2.0 (horizontal) to 1.0 (vertical). It is anticipated that the total cut and fill volumes necessary to develop each site, the access roads and parking areas will balance.

Site grading will impact both the physical and biological environment of the site, as discussed below:

a. Grading will result in a modification of the existing land form. Because of the relatively soft to moderately well indurated nature of on-site soils, no excavation or rippability difficulties are foreseen.

b. The land form modification will involve a certain amount of cut and fill. The stability aspects of resulting cut slopes and fill embankments are discussed below.

c. Grading will result in temporarily exposed ground surfaces, free of vegetation, with a resulting potential for erosion due to surface runoff if not protected from seasonal rainstorms.

d. If uncontrolled, such erosion could produce increased amounts of sediment to be transported through local drainages to the Otay River and eventually San Diego Bay.

3.6.2.2 Slope Stability

A slope stability analysis was completed for the adjacent Community Hospital as part of the soil investigation (Southern California Testing Laboratory, 1971). Table 3-3 shows stable slope configurations as a function of both slope height and slope ratio. These values provide a minimum factor of safety of 1.5 under a static load and 1.2 under a 0.1g seismic load. Anticipated cut and fill slopes will have slope ratios of 2:1 or flatter. Thus, no slope stability problems are anticipated.

3.6.3 Mitigation

3.6.3.1 Grading

To reduce the visual impacts of grading, artificial slopes will be constructed to blend into the natural topography. This will be accomplished by using slope ratios of 2:1 or flatter, as appropriate, and rounding

Table 3-3

STABLE ARTIFICIAL SLOPE PARAMETERS

	Slope Ratio (horizontal:vertical)
Cut Slopes to 24 Feet in Height	1.0 :1.0
to 36 Feet in Height	1.25:1.0
to 60 Feet in Height	1.50:1.0
Fill Slopes to 10 Feet in Height	1.50:1.0
to 18 Feet in Height	1.75:1.0
to 39 Feet in Height	2.0 :1.0
to 133 Feet in Height	2.5 :1.0

the slope toes and crests into the natural ground. In addition, curved rather than planar slopes will be created where feasible.

Measures to mitigate the short-term erosion and resulting siltation potential focus on either prevention of sediment removal from exposed surfaces, or trapping sediment that has been removed. Prevention of sediment removal can be accomplished by the immediate stabilization of exposed surfaces with grass or ground cover plants, or by limiting grading to the late spring, summer or early fall months when heavy rainfall is unlikely. Also, the grading plan will reflect the proposed project phasing. That is, grading for Phase 2, or Phase 3 development will be delayed until construction of that phase is imminent. The use of siltation basins or other temporary drainage control measures may be necessary to prevent the removal of sediment from the grading site.

3.6.4 Analysis of Significance

Reshaping and lowering the existing land form by the grading process would be one of the more noticeable effects of site development. However, because no significant natural resources (such as unique flora or fauna or archaeological resources) would be affected, the impact would be primarily of an aesthetic nature.

3.7 Air Quality

3.7.1 Project Setting

The project site lies within the San Diego regional air basin and the San Diego County Air Pollution

Control District (SDAPCD) which maintains ten monitoring stations throughout the basin. Data from the Chula Vista monitoring station on East "J" Street are felt to be most indicative of air quality conditions at the development site. This assumption is based upon the fact that the prevailing westerly to northwesterly wind pattern carries the air mass from Chula Vista in the general direction of the subject property prior to any significant opportunity for dispersion of pollutants or the crossing of topographic barriers which might accelerate mixing of the air mass.

Table 3-4 and Figure 3-1 present pertinent data relating pollutant levels likely to exist at the development site.

A storage yard for local farming operations is situated at the intersection of Brandywine Avenue and Dora Lane. Weed oil or herbicide (and presumably insecticide) are stored and distributed from this yard. Noticeable odors from these materials on the yard were detected at the project site; however, no complaints have been made by hospital personnel (Barrington, 1976).

3.7.2 Impact

The quality of local and regional air cells will be incrementally (cumulatively) degraded as a result of the proposed project. The sources which will contribute to

Table 3-4

EXISTING AIR QUALITY

Pollutant (Standard)	Number of Days Federal Standards Exceeded		
	1973	1974	1975
Oxidant (> 0.08 ppm, 1 hour average)	79	56	46
CO (> 9 ppm, 8 hour average)*	5	4	0
SO_2 (> 0.14 ppm, 24 hour average)*	0	0	0
Non-Methane HC (> 0.24 ppm 3 hour average)**	312	298	146
NO_2 (≥ 0.25 ppm, 1 hour average)***	0	1	0

* Chula Vista data not available; San Diego Downtown data were used.

** San Diego Downtown data used for 1973-74, Chula Vista data available for 1975.

*** State of California Standard, no Federal Standards available.

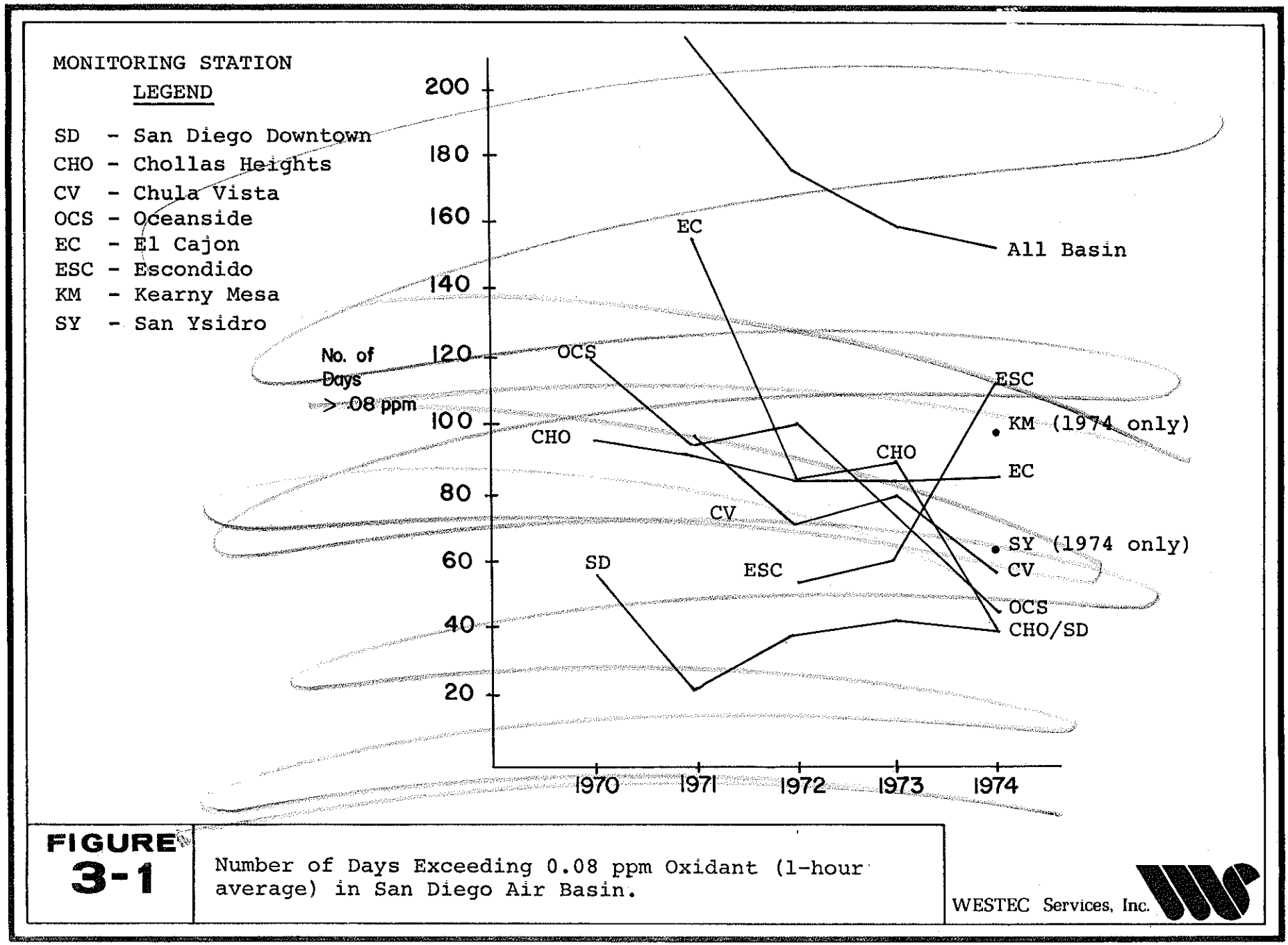


FIGURE 3-1

Number of Days Exceeding 0.08 ppm Oxidant (1-hour average) in San Diego Air Basin.

WESTEC Services, Inc.

MONITORING STATION

LEGEND

SD - San Diego Downtown

CHO - Chollas Heights

CV - Chula Vista

OCS - Oceanside

EC - El Cajon

ESC - Escondido

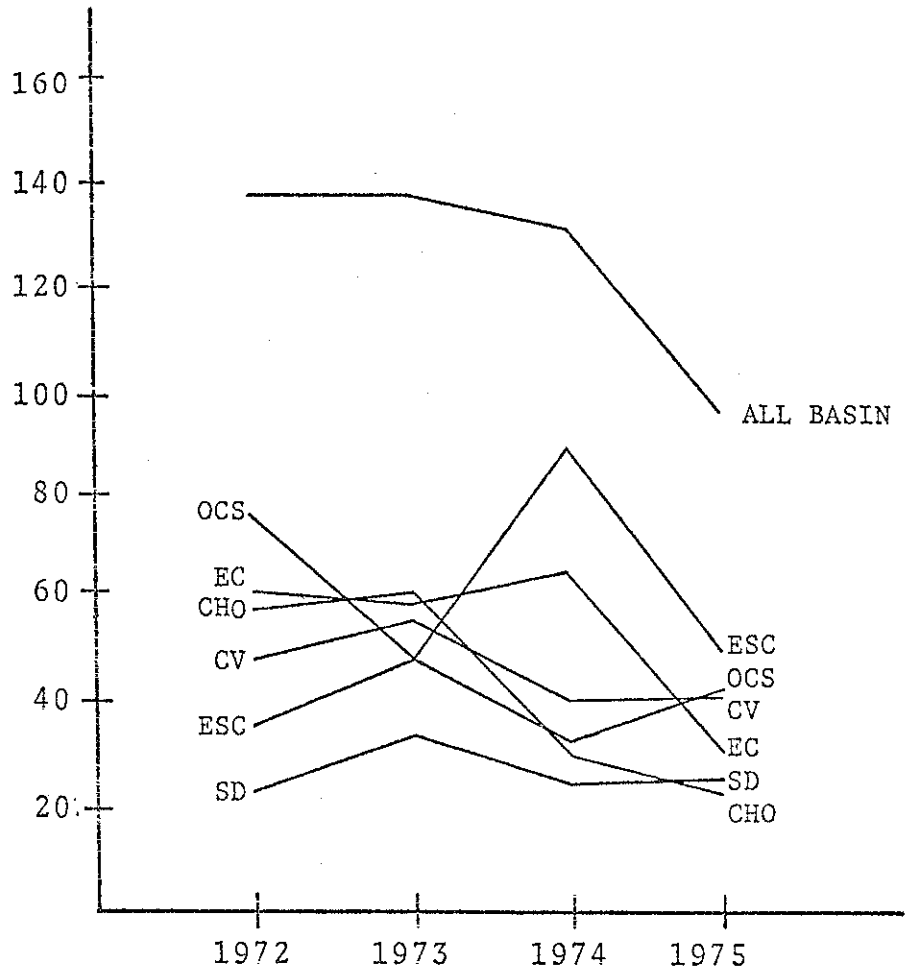


FIGURE 3-1

Number of Days Exceeding 0.08 ppm Oxidant (1-hour average) in San Diego Air Basin.

WESTEC Services, Inc.

this include construction activity, vehicular traffic, and the consumption of energy (electricity and natural gas).

The predominant localized impact on air quality will be the introduction of dust and particulate matter from the construction process. Grading activity, which will generate dust and fumes during site preparation, will be a major contribution. Additionally, the movement of construction vehicles over dirt roads and the temporarily exposed graded areas will create a further source of dust, albeit of a short-term nature.

Regional air quality will be affected primarily through motor vehicle emissions. Based on the trip generation data given in the traffic analysis (Subsection 3.2.1), and using an average of six miles per trip, the emission rates shown in Table 3-5 were calculated (USEPA, 1973). Air quality impact calculations are attributed solely to the proposed project and do not include the project's anticipated indirect impact of increasing the Community Hospital traffic base.

Data provided by San Diego Gas & Electric Company (Hollins, 1976) and the U.S. Environmental Protection Agency (1973) regarding pollutant emissions from stationary sources result in the emission rate values shown on Table 3-6.

The following comparison (Table 3-7) shows the relationship of all pollutant emissions from the project to the total 1970 emissions from sources within the City of Chula Vista and the San Diego Air Basin as a whole. As can

Table 3-5

POLLUTANT EMISSIONS FROM MOBILE SOURCES

Pollutant	Emission Rates (lbs./yr.)		
	1977-78	1978-79	1982*
Carbon Monoxide	229,592	410,171	659,176
Hydrocarbons	29,164	53,322	83,973
Nitrogen Oxides (NO_x as NO_2)	26,682	50,279	88,845
Particulates	2,357	5,028	10,891
Sulfur Oxides (SO_2)	1,241	2,646	5,732

*1980 emission data utilized due to lack of data for 1982 project completion date. This figure then represents a "worst case" condition.

Table 3-6

POLLUTANT EMISSIONS FROM STATIONARY SOURCES

Pollutant	Emission Rates (lbs./yr.)		
	1977-78	1978-79	1982*
Nitrogen Oxide (NO_x as NO_2)	7,351	8,837	8,241
Particulates	564	677	635
Sulfur Oxides	548	659	613

*Emissions are lower for project completion due to anticipated percentage increase in use of nuclear energy. If nuclear ambitions are not realized, emission rates for completion date (~ 1982) based on (1977-78) data would be roughly 2 times greater.

Table 3-7

TOTAL ESTIMATED INCREMENTAL INCREASE IN EMISSION

	Percent Increase in Chula Vista Contribution to San Diego Air Basin (1)			Percent Increase to San Diego Air Basin (1)		
Pollutant	1977-78	1978-79	1982	1977-78	1978-79	1982
Carbon Monoxide	.48	.86	.14	.024	.049	.068
Hydrocarbons	.29	.52	.83	.014	.026	.041
Nitrogen Oxides (NO_x as NO_2)	.74	1.26	2.10	.036	.063	.104
Particulates	.14	.27	.55	.007	.014	.027
Sulfur Oxides (SO_2)	.14	.25	.49	.007	.013	.024

(1) City of Chula Vista, 1975, Table C.

be seen, the project represents a small additional source of pollutants, and will contribute to the cumulative adverse effect on air quality in the basin.

3.7.3 Mitigation

The following measures would serve to reduce the extent of air quality degradation due to implementation of the proposed project.

a. The provision of adequate public transportation to the site would help decrease automobile miles travelled.

b. Brandywine Avenue and Dora Lane should be wide enough to insure safe bicycle travel to the medical complex from the Telegraph Canyon Road bikeway.

c. Carpools should be encouraged for personnel at the medical complex.

d. Dust palliatives such as watering graded surfaces, using sheepsfoot tampers and planting ground cover, can effectively modify the scope and magnitude of adverse air quality impacts associated with the construction process.

3.7.4 Analysis of Significance

As shown on Table 3-7, the proposed medical complex will, upon completion, incrementally increase the Chula Vista contribution to the San Diego Air Basin by 0.14 to 2.1

percent, depending on the pollutant considered. Phase 1 development will result in an incremental increase of 0.14 to 0.74 percent.

3.8 Water Quality

3.8.1 Project Setting

Surface waters in the project area are present primarily only during and immediately following periods of rainfall. The limited surface runoff is generally contaminated by urban and agricultural pollutants and is of poor quality.

Groundwater in the area is sodium-calcium chloride with a higher than normal flouride concentation (State of California, 1967). As mentioned previously, the TDS content ranges up to about 5,000 mg/l. Connate water in the underlying sedimentary rocks is believed responsible for the sodium chloride character of the groundwater, and the observed high flouride concentrations may be due to the influence of volcanic tuffs in the Otay Formation.

3.8.2 Impact

Surface water quality effects of two types can be associated with development of the subject property: urban runoff and siltation. Siltation can result from the erosion of exposed ground surfaces during the grading phase of the project. This impact and measures to mitigate it are discussed in a previous subsection.

Urban runoff consists of storm runoff contaminated by such urban pollutants as hydrocarbons, rubber, metal and dust particles from streets and parking areas, fertilizer from landscaped areas, and several others. Because the watersheds below the subject property are already largely urbanized, the increased level of urban runoff from the developed site will represent a relatively insignificant contribution.

3.8.3 Mitigation

Treatment of runoff to reduce urban pollutants is costly and frequently ineffective. A more realistic approach toward mitigating this problem is to adopt a rigid program of clean-up techniques. The dispersal of street and parking lot surface contaminants, for instance, can be significantly reduced by proper street cleaning operations. This can be achieved by implementing a program such as that suggested by the U.S. Environmental Protection Agency (1972).

3.8.4 Analysis of Significance

As mentioned, urban runoff from the fully developed site would represent a relatively insignificant contribution to existing levels. It must be recognized, however, that any level of urban runoff represents an incremental addition to a water quality problem of regional significance, particularly when such runoff is eventually carried to an

ecologically unique area such as the salt water marshes along the southeasterly edge of San Diego Bay. In this regard, it is anticipated that only a regional effort, involving local, State and possible Federal agencies, will be needed to produce a workable solution.

3.9 Mobile Noise Sources

3.9.1 Project Setting

Mobile noise sources affecting the ambient noise environment of the development site include:

- Motor vehicle traffic
- Aircraft overflights
- Ambulances
- Helicopters

A noise survey of the project site was made to determine the ambient noise environment. A General Radio 1565 Sound Level Meter (SLM) which meets the requirements listed in American National Standards Institute Standard S1.4-1971, "Sound Level Meters," was used. The SLM was calibrated with a General Radio Type 1562-A Sound Level Calibrator and fitted with a windscreen. Measurements were taken approximately 4 feet above the ground to avoid ground reflection influences. The A-weighting network and the slow response mode

were used on the SLM. The A-weighting network discriminates against the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear in terms of loudness at moderate sound levels. The A-scale sound level measures the relative noisiness or loudness of many common sounds and as such is regularly used for community noise measurements and noise from surface vehicles. A-weighted measurements can be time averaged to yield average sound pressure levels which have been widely correlated with degrees of community impact and annoyance.

Readings were made at two locations in the vicinity of the project site (see Figure 3-2) in accordance with the procedures described in the Federal Highway Administrations' Fundamentals and Abatement of Highway Traffic Noise (Bolt, Beranek, Newman, 1973). From these readings, the L_{10} sound levels and an approximate average range were determined. The results of the survey are shown in the following table:

Table 3-8

AMBIENT NOISE MEASUREMENTS
MEDICAL FACILITY PROJECT SITE

Location	Average Range dB(A)(1)	L_{10} dB(A)(2)	Predominant Noise Source
1	46-48	47^{+3}_{-1}	None
2	46-50	51^{+3}	None

(1) Includes 70% of noise measurements at a particular location.

(2) Indicates noise level exceeded 10% of the time.

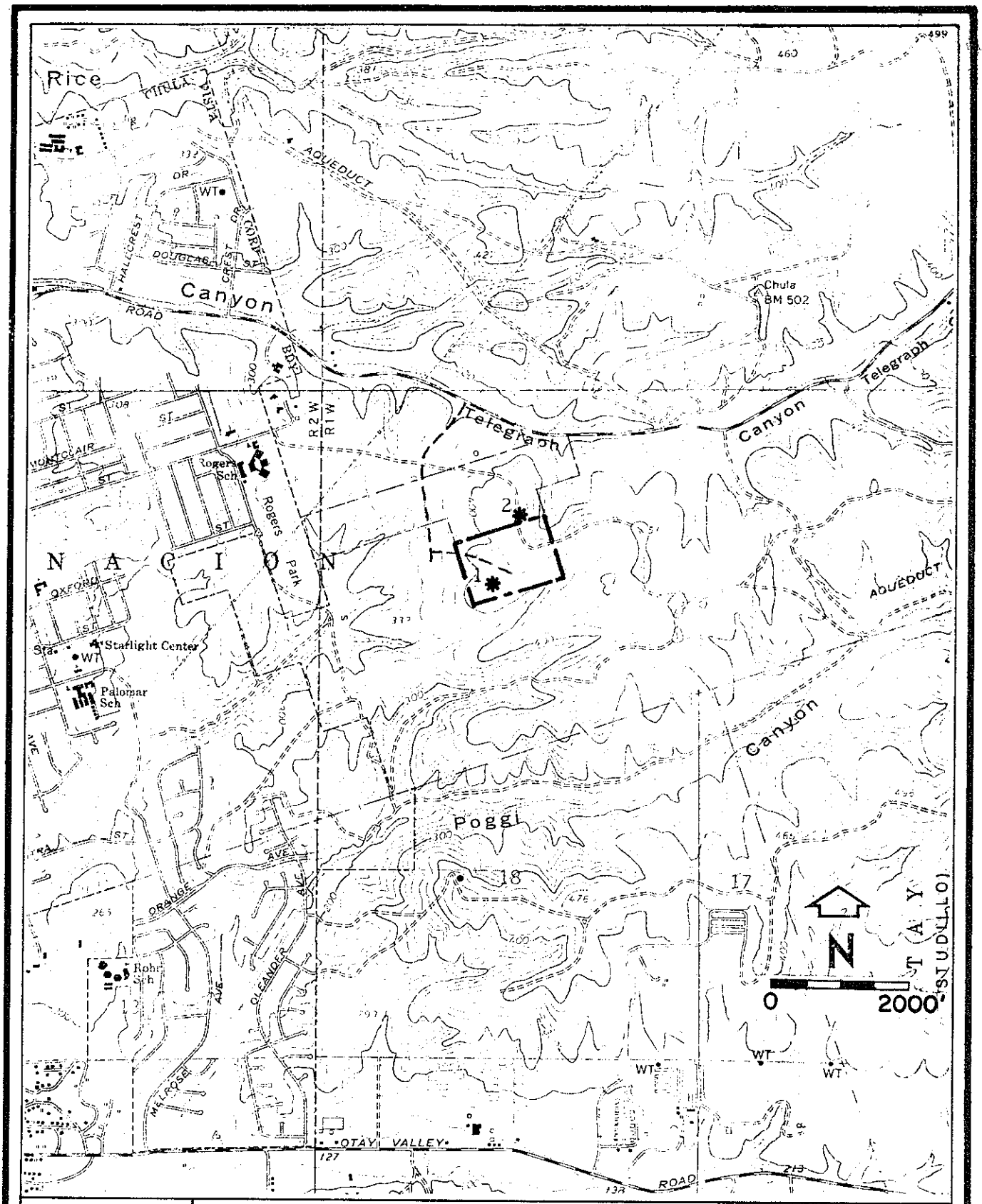


FIGURE 3-2

Ambient Noise Monitoring Stations.

Noise measurements were taken in the late afternoon (3:00 p.m. - 4:20 p.m.) in anticipation of possible rush-hour effects from Telegraph Canyon Road. No apparent impact from traffic flow on Telegraph Canyon Road was noted during the noise survey. The roadway is over a quarter of a mile north of the existing hospital and is almost entirely shielded topographically from the receiver at position 2. There is no line-of-sight visibility at position 1 to Telegraph Canyon Road.

Interstate 805, 6.85 miles due west of the project site, contributes to the general background noise of the area but does not directly impact the area or affect on-site readings significantly.

Local noise intrusions include helicopters and light aircraft. A helicopter pad presently exists adjacent (on the south) to the hospital. During the noise survey a helicopter took off from the pad and was recorded at 91 dB(A) approximately 15 feet directly overhead. Light aircraft are not uncommon overhead and are presumably associated with Brown Field which is located about 3.5 miles to the south.

Current traffic flow on Brandywine and Dora Lane is very low with only hospital generated trips and some farming personnel utilizing these roadways. Estimated traffic flow on these roadways is currently low with the hospital averaging only 47 percent of its capacity (average daily census of 62 in 131 bed hospital).

3.9.2 Impact

Noise is considered a localized impact on the proposed medical facilities. Four sources of noise are considered to the impact analysis.

- Aircraft overflights
- Traffic noise
- Construction noise
- Hospital-related noise

Criteria for assessing noise impact and external noise exposure standards for new construction sites have been established by the U.S. Department of Housing and Urban Development (1971). For purposes of this analysis, the objective is to identify areas within the project which may be in the Normally Unacceptable category. These are areas which exceed a noise level of 65 dB(A), 8 hours or more per 24 hours.

3.9.2.1 Aircraft Overflights

Aircraft overflights, particularly light aircraft, occur fairly regularly, but are not considered a significant factor inasmuch as the project site is outside the normal departure and landing paths for the nearest airport (Brown Field). The project site is also well beyond the calculated 65 CNEL noise contour for Brown Field, and thus the project will not be exposed to harmful sound exposure levels as a result

of this noise source (Comprehensive Planning Organization, 1973). Regular overflights of large helicopters (HC-3 Type), presumably on training flights from the Naval Air Station, Imperial Beach, do occur, but these are at fairly high altitude and do not adversely affect the local noise climate.

3.9.2.2 Traffic Noise

Motor vehicle noise to the project site will be from facilities-related traffic on Dora Lane. Traffic volume on Dora Lane will be due to the combined generation of the Community Hospital, the medical professional building and the convalescent hospital. High traffic volumes on Dora Lane are not anticipated for at least six years and even at that time, standard building construction methods should ensure adequate attenuation from this noise source. If, and when, Brandywine is extended southward as a secondary access route, traffic on that roadway should measurably increase; however, adequate separation of the convalescent hospital from the roadway will ensure an acceptable noise climate at that facility.

3.9.2.3 Construction Noise

Noise will be a factor during the construction phases of the proposed medical facilities. It will be most noticeable during the initial phases of site preparation due to the operation of grading equipment. The construction function is predominantly a daytime activity and

no associated noise impacts are expected outside normal working hours. It must be recognized, however, that certain temporary annoyances will result accompanying the construction phase.

3.9.2.4 Hospital-Related Noise

Two mobile noise sources from hospital-related activities include ambulance sirens and helicopters. The number of ambulances averages 48 per month (Barrington, 1976); and most of the time the siren is not used once the ambulance leaves Telegraph Canyon Road. This policy may change in the future when an additional access route to the hospital creates greater traffic volume on Brandywine Avenue.

The Community Hospital averages only 12 helicopter visits per year (Barrington, 1976). Due to the insignificant number of visits, no adverse noise impacts are associated with the heliport use.

3.9.3 Mitigation

Utilization of standard construction methods for the proposed facilities should allow for acceptable interior noise levels. Exterior activity associated with the convalescent hospital (outside relaxation and coffee area) will be situated away from Dora Lane, shielded by the structure itself.

3.9.4 Analysis of Significance

No significant noise problems will affect the project personnel and patients given the incorporation of the mitigation measures indicated above.

3.10 Stationary Noise Source

3.10.1 Project Setting

The only stationary noise source existing in the immediate area is the cooling tower for the hospital. A noise level of 74 dB(A) was recorded 10 feet from the cooling tower with attenuation factors of -12 dB(A) at 70 feet, -18 dB(A) at 175 feet, and -20 dB(A) at 350 feet.

The cooling tower is recessed into the southeasterly side of the low rise on which the hospital is situated. It is situated about 500 feet from the nearest proposed structure and is shielded by the low rise, the retaining wall (on three sides), and the hospital itself.

The hospital has an emergency generation system consisting of two diesel units rated at 250 kw and 645 kw, respectively. This system is operated only occasionally for maintenance and, of course, during emergencies. It is situated on the north side of the existing hospital.

3.10.2 Impact

Stationary sources of noise associated with the proposed project include a small emergency generating unit for the convalescent hospital and air conditioning rooftop "packages." The generating unit will be operated only very infrequently, including short periods for maintenance and testing purposes. No impact is foreseen from the air conditioning

packages nor from the stationary noise sources associated with the Community Hospital (the cooling tower and emergency generating systems).

3.10.3 Mitigation

The emergency generator for the convalescent hospital should include an adequate exhaust silencer and possibly some sound absorbent paneling about the generating unit to reduce the noise effects.

3.10.4 Analysis of Significance

The infrequent temporary noise associated with the maintenance of, or the actual use of, the emergency generating unit is not deemed a significant noise problem.

3.11 Biology

3.11.1 Project Setting

3.11.1.1 Flora

The project site has been disturbed in the past due to farming activities and more recently from hospital construction activities. The undeveloped acreage is covered with ruderal (weedy, adventitious) species, most of which are introduced, non-native species. Typical of such disturbed

areas are mustards (Brassica spp., Sisymbrium spp.), filaree (Erodium spp.), annual grasses (Bromus rubens, Festuca myuros), and Russian thistle (Salsola iberica). A few scattered individual specimens of California sagebrush (Artemisia californica) have reinvaded the area.

Some native vegetation (Coastal Sage Scrub), suggestive of that which once covered the site, does still exist northwest of the hospital off the subject property. The remainder of the surrounding land has been altered for farming purposes. Vegetation (landscaping) about the existing hospital is limited due to its recent planting.

3.11.1.2 Fauna

Fauna is limited due to the sparse cover, lack of native growth, and disturbed nature of the site. Those species actually observed on-site include: Audubon cottontails, blacktail jackrabbit, mourning doves, California ground squirrel, western meadowlarks, and California quail. With the exception of the mourning doves, which were relatively abundant, the other species were represented by only a few individuals. Avifaunal species observed on or adjacent acreage and which may utilize the site on a transient basis include; common raven, brown towhee, and marsh hawk. Coyote scat was observed on-site indicating use of the area for hunting. A variety of raptors including marsh hawk, American kestrel, red-tailed hawk (all

of which have been observed in the immediate area) may also use the open areas of the site for hunting purposes.

3.11.1.3 High Interest Species

Floral and faunal species are considered to be of high interest if they are:

- Rare or endangered
- Of depleted status (including Audubon Blue List species)
- Endemic or of unusual or unique distribution

a. Rare or Endangered

No rare or endangered floral or faunal species as listed by the California Native Plant Society (CNPS)(1974) and the State Department of Fish and Game (State of California, 1974) were found on the subject property.

b. Depleted Status

No floral species considered to be "rare but not endangered" by the CNPS (1974) were observed on-site, and no faunal species considered as depleted (Burns, 1971; Bury, 1971) were observed or thought to utilize the site. No Blue-Listed avifaunal species (declining in all or parts of their range) were among those observed on-site. The marsh hawk (observed off-site) and the red-shouldered hawk

(hypothetical for area) both appear on the 1976 Blue List (Arbib, 1975), and both are thought to be declining in the San Diego region.

c. Endemic/Unique Distribution

No floral species endemic to San Diego County or of "limited distribution" (CNPS, 1974) were observed on-site. Similarly, no faunal species endemic to the general region or of unique distribution were found on the subject property.

3.11.2 Impact

Due to the lack of native vegetative cover and high interest floral and faunal species, no significant biological impacts are foreseen due to the development of the proposed medical facilities. Some minor impacts, however, will occur. These include the loss of approximately 9 acres of currently exploitable habitat, the displacement of existing wildlife, and the loss of hunting territory for a number of raptors. Some of the resident wildlife will be lost or displaced during the construction phase. The effect of the development on adjacent open areas is expected to be minimal due to the farming character of the majority of this area.

3.11.3 Mitigation

Due to the lack of significant biological impacts, no mitigation is deemed necessary. Project landscaping

will attract birds to the site, but these will for the most part be more urban-adapted species.

3.11.4 Analysis of Significance

Due to the lack of any high interest species and native floral cover, no significant biological impacts are anticipated due to project development.

3.12 Archaeology

3.12.1 Project Setting

The Telegraph Canyon/Poggi Canyon area is known to contain numerous archaeological sites. Studies by Carrico (1973, 1974a, 1974b, 1976) and Fink (1973) have indicated that sites representing the Early Milling La Jollan and Paleo-Indian San Dieguito cultures are generally situated on knolls or mesa tops above major water courses and outside of steep canyon features in the project area. Archaeological sites within the general vicinity are depicted in Figure 3-3. There are no recorded sites on or immediately adjacent to the proposed development site (San Diego Museum of Man, 1976; San Diego State University, 1976).

An intensive on-foot archaeological survey was performed by WESTEC Services, Inc. on May 19, 1976. Richard L. Carrico served as project archaeologist and William Eckhardt

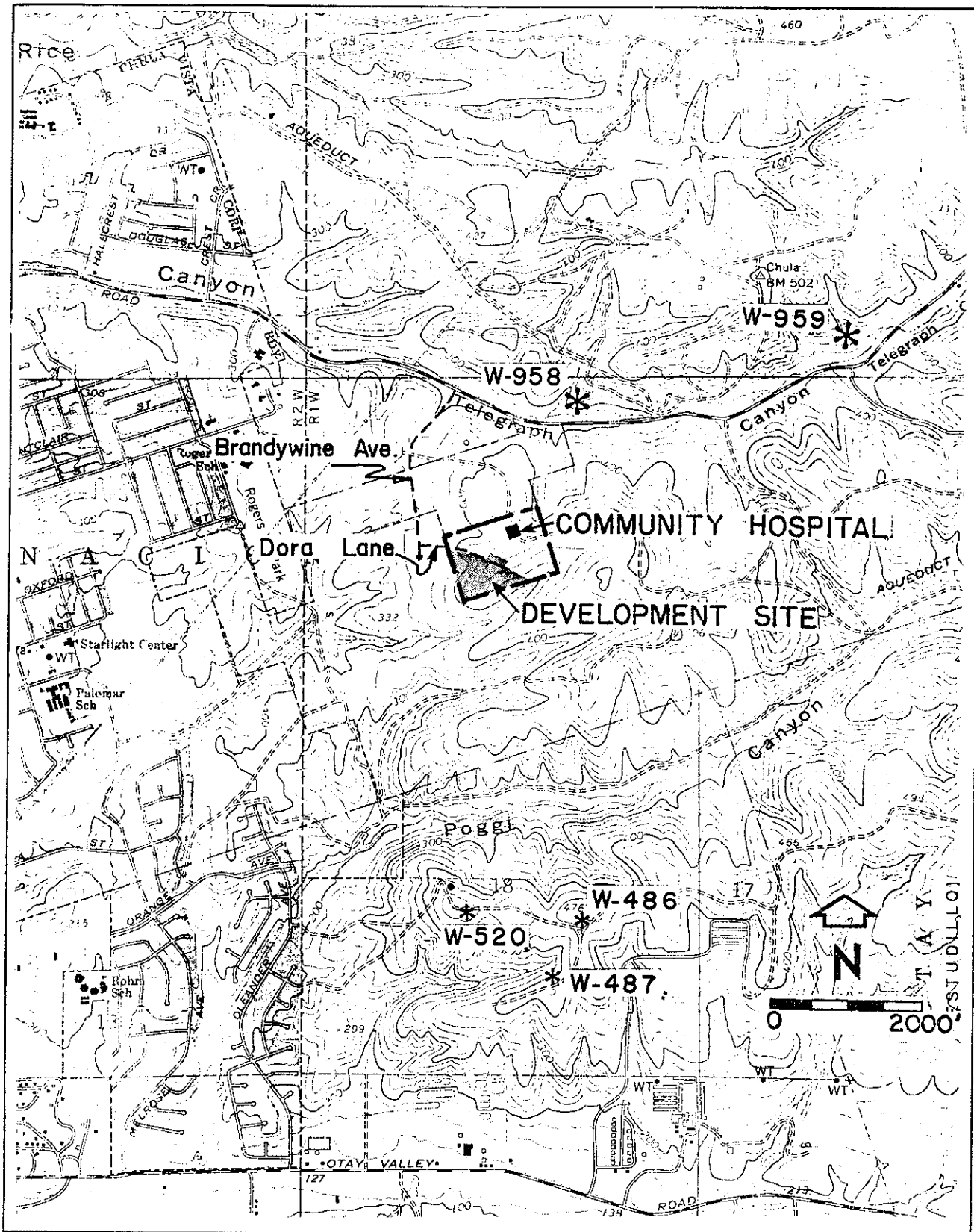


FIGURE 3-3

Known Archaeological Sites in Project Vicinity.

served as archaeological field aide. To ensure complete coverage and to assess possible indirect impacts on adjacent areas, every square foot of the subject property and nearby areas which possessed potential for archaeological resources were investigated.

The results of the field survey were negative; no archaeological sites or features were encountered on or near the proposed medical facility, although one isolated stone tool and one isolated flake were noted. The two isolated artifacts were discovered within an area which had been bladed, thus making any attempts to ascertain their original provenence impossible.

3.12.2 Impact

The lack of significant archaeological sites or features indicates that the proposed medical facility project will in no way cause direct or indirect adverse impacts on any known archaeological resources.

3.12.3 Mitigation

The absence of any significant archaeological resources precludes the necessity for any mitigating measures or further investigation.

3.12.4 Analysis of Significance

The two isolated artifacts noted within the project boundaries do not constitute an archaeological

site nor a significant archaeological resource; the medical facility property is thus devoid of archaeological significance.

3.13 Paleontological Resources

3.13.1 Project Setting

A horizon within the San Diego Formation in the project vicinity contains abundant fossil molluscs. They occur in a laterally persistent bed several feet thick. Similar occurrences of Pliocene Molluscan fauna in the San Diego Formation are common and widespread throughout the region as evidenced by numerous fossil finds west and north of the project site. Both megafossils and microfossils are fairly well known in the San Diego Formation and are not generally considered unique or unusual.

On the medical facility site, only poorly preserved and previously impacted fossil remains were noted in a rather poor exposure.

3.13.2 Impact

While a rather diverse Pliocene Molluscan fauna could be collected from the San Diego Formation in the area, fossils on the subject property are not well exposed nor well preserved. In addition, these fossils are common and widespread throughout the San Diego coastal plain and not

considered paleontologically unique or unusual. Thus, no significant paleontology-related impacts are anticipated.

3.13.3 Mitigation

As no unusual or unique paleontological resources are known on the project site, no mitigation is deemed necessary.

3.13.4 Analysis of Significance

Although it is desirable, where practical, to preserve fossil-bearing rocks for future scientific and educational use, there currently appears to be nothing paleontologically significant on the site which would make preservation of these resources necessary.

3.14 Historical Resources

3.14.1 Project Setting

In historic times, the subject property was a portion of the La Nacion land grant, a sprawling Mexican cattle rancho. In recent years, the surrounding area has been used for cattle grazing as well as for agricultural purposes.

A search of available historic literature indicates that the development site is devoid of historical significance (Federal Register, 1976; County of San Diego, undated; Moyer, 1969; Rush, 1965; California Resources Agency, 1973). A field investigation by WESTEC Services' project

historian confirmed the absence of any historical resources or historical elements.

3.14.2 Impact

The lack of historic resources on or near the subject property precludes the possibility that the proposed project will cause adverse impacts, either direct or indirect, on such resources.

3.14.3 Mitigation

The absence of any historic resources precludes the necessity for any mitigating measures or further investigation.

3.14.4 Analysis of Significance

The subject property is devoid of historic significance of either local, state or federal stature. No historic features, resources or cultural significance can be ascribed to the site.

3.15 Land Uses

3.15.1 Project Setting

The 11.7 acre subject property currently provides a passive open space function, and there is some evidence of prior use for agricultural or grazing activities. The only paved roadway into the project area is Dora Lane

which, via Brandywine Avenue, provides access from Telegraph Canyon Road to the north.

Adjacent to and in the immediate vicinity of the subject property, a variety of land uses currently exist. Areas immediately to the east, south and west are vacant with only minor portions being devoted to limited agricultural functions. Further south and west is extensive residential development in areas adjacent to Interstate 805. Proceeding further west is a golf course, school and more heavily developed areas of Chula Vista. Directly north (across Dora Lane) is the Chula Vista Community Hospital, beyond which lies north-sloping hillsides which trend toward Telegraph Canyon Road. A junior high school has been proposed for this area. Land on the opposite side of Telegraph Canyon Road contains scattered residences and occasional commercial uses (Archway Inn), but is, for the most part, also vacant open space. However, several land use plans and proposals have been formulated for this area (South Bay Villas, Canyon Apartments, Windsor Views, and El Rancho Del Rey). These plans are indicative of the trend of development within the southeastern Chula Vista area.

The subject property is currently zoned R-1-H which allows single-family residential development with a minimum lot size of 7,000 square feet. The "H" designation indicates the applicability of the City Hillside Modifying District. The project area is currently designated as "Hospital" within the Chula Vista General Plan.

3.15.2 Impact

The proposed project represents a transition in land use from largely passive open space to medical and office uses. Phase 1 of development represents the initial step in this transition.

The project will impact current uses of the subject property through initial grading and subsequent development activities. The passive land use functions such as open space, watershed, and wildlife habitat will be irreversibly altered. It should be noted, however, that development of nearby properties appears imminent, and urbanization of the general region is progressing rapidly.

The greatest impact of such a land use transition will be felt by patients and employees of the adjacent Chula Vista Community Hospital. However, the nature of this project can also be viewed as a positive land use impact in that it is located adjacent to facilities of similar, and therefore complementary, function. The Chula Vista Medical Facility project represents an expansion of available medical services and extended care facilities in the Chula Vista area, which from a City-wide perspective is a positive impact. The scale of the project would seem compatible with the 11.7 acre site in that development plans also call for the provision of adequate off-street parking.

In addition to the submission of a Precise Plan and request for Conditional Use Permits, the project sponsors are also requesting a change of property zoning from

R-1-H (Single Family, Residential) to C-O-P (Community Office), with approval of the Precise Plan and CUPs by the Planning Commission and the City Council. The proposed land uses conform with the Chula Vista General Plan designation (Hospital).

3.15.3 Mitigation

Land use impacts can be mitigated through alterations in project plans or implementation of project alternatives as discussed in Section 5.0, Alternatives.

3.15.4 Analysis of Significance

When viewing the project in terms of the number of acres to be altered, the proposed land use transition would seem of relatively minor significance. However, the construction of the Chula Vista Medical Facilities represents a positive addition in health care services to the Chula Vista area.

3.16 Aesthetics

3.16.1 Project Setting

The primary aesthetic attribute of the Chula Vista Medical Facilities project site is the general atmosphere of ambient open space. Within the project boundaries can be found a sloping hillside covered with ruderal floral species.

The most dominant visual feature of the immediate area is the Chula Vista Community Hospital buildings. The project is otherwise immediately surrounded by gently rolling hillsides which trend to lower elevations on the south and west. Views to the south include two large water tanks on a nearby hilltop; however, more noticeable are the residential areas in and around Interstate 805. Views to the east consist of a series of gently rolling hills while those to the west are initially interrupted by electrical transmission lines and towers. The relatively high elevation of the project site offers panoramic views of the Chula Vista area farther to the west and, on days of little fog or air pollution, a sweeping vista of the San Diego Bay and the Pacific Ocean (see Figure 2-5).

3.16.2 Impact

The visual nature and appearance of the project site will be significantly and irreversibly altered as a result of project implementation. The transition will be from the general serenity offered by open space to buildings and support areas devoted to medical and office uses. Figures 2-5 and 2-6 indicate the general appearance of the Chula Vista Medical Facilities upon completion.

The subject property is visually accessible from the east, south and west (views from the north are blocked by higher elevations and existing structures). Those currently

residing in areas to the south and west will be within the visual range of the proposed project (the nearest residence lies over 3,000 feet to the west). It is thus anticipated that prudent design and landscaping techniques will negate any significant potential for aesthetic degradation. Any assessment of aesthetic impacts must be also tempered with the fact that these future buildings will be immediately adjacent to buildings of a similar use and appearance. As such, further interruptions of views from an off-site perspective can be reduced significantly.

Another potential negative aesthetic impact would be the interruption of views from current hospital facilities. Given the decreased elevation of the proposed structures (15 feet lower for the medical building and 50 feet lower for the convalescent hospital) and implementation of prudent design techniques, such a situation seems easily avoided.

3.16.3 Mitigation

A variety of design and architectural factors will be implemented to mitigate potentially adverse aesthetic impacts. These include the following:

a. All new structures will duplicate or compliment the visual theme, color and appearance of existing buildings in order to achieve a certain degree of visual continuity.

b. Landscaping will surround buildings, parking lots and roadways providing a degree of visual buffering.

c. Building orientation will attempt to maximize view potentials with respect to shorelines and hillsides.

d. Future development will adhere to the intent and objectives of the City Hillside Modifying District.

e. Every attempt will be made to minimize the blockage of views from existing hospital buildings adjacent to the project.

3.16.4 Analysis of Significance

The location of the subject property on a visually significant hillside will place added importance on the degree and extent of prudent architectural design features integrated into the project design.

3.17 Socio-Economic Factors

3.17.1 Project Setting

The existing Chula Vista Community Hospital provides a wide range of health care services to a large portion of the Chula Vista Community and other nearby areas. It lies within Census Tract 90. The following table presents pertinent demographic and housing data for this tract, the City of Chula Vista and the County of San Diego (City of Chula Vista, 1975).

As indicated on Table 3-9, Census Tract 90 possesses growth rates exceeding those of both the City of Chula Vista and the County of San Diego. These figures, in addition to those of other census tracts in the southeast Chula Vista area, are indicative of the trend of urban expansion in this portion of the City. The Chula Vista General Plan (1990) projects a population increase for the City to within a range of 140,000 to 160,000 by 1990. However, this prediction must be tempered with the knowledge that similar predictions for 1975 population levels (between 86,000 and 95,000) are well above the total realized for that year (75,133).

As of 1975, Chula Vista still relies quite heavily upon the metropolitan San Diego area as an employment generator. Only 19.5 percent of Chula Vista "heads of household" work in the Chula Vista-Sweetwater geographic area. A large proportion of those remaining are employed in the metropolitan San Diego region (City of Chula Vista, 1975).

3.17.2 Impact

The principal socio-economic impact of the proposed Chula Vista Medical Facilities will be to more adequately serve the medical needs of the existing and future residents of the area. Upon completion, these new facilities will provide enlarged pharmaceutical, x-ray, and other medical services as well as new extended care (convalescent)

Table 3-9

DEMOGRAPHIC AND HOUSING DATA

	1970 Population	1975 Population	Percent Increase	1970 Housing	1975 Housing	Percent Increase
Census Tract 90	4,698	5,640	20.0	1,144	1,590	39.0
City of Chula Vista	67,901	75,133	10.7	22,951	27,320	19.0
County of San Diego	1,357,854	1,559,505	14.9	447,739	578,899	29.3

capabilities. Additional employment, consisting of both short-term construction and long-term hospital related jobs, will be created.

The proposed medical facilities will, at completion, also encourage additional physicians, other medical professionals, and medical paraprofessionals to locate within the area, thereby broadening the base of community activities, interests and revenues. This indirect effect is a function of the economic multiplier wherein subsidiary economic impacts such as new services and demands for new facilities are created in the wake of initial employment generation.

3.17.3 Mitigation

The positive nature of socio-economic impacts resulting from the proposed project precludes the necessity for a discussion of mitigation measures.

3.17.4 Analysis of Significance

The socio-economic impacts associated with the proposed project are among its primary attributes. These positive effects gain significance when viewed not only from a public health perspective, but also in terms of a purely economic standpoint.

3.18 Fire and Police

3.18.1 Fire Protection

3.18.1.1 Project Setting

Fire protection services to the Chula Vista Medical Facilities property are provided by the Chula Vista Fire Department. The nearest facilities are Station Number 2 at 80 East "J" Street, and Station Number 3, at 255 East Onieda, both of which are approximately two miles from the project area. This distance translates into a response time of three to four minutes, depending upon existing traffic conditions. Each station contains one engine company, while the Downtown Station (at 447 "F" Street) is also equipped with a ladder company. A structural alarm merits a minimum response of two engine companies and, if necessary, a ladder company. The City also maintains a mutual aid agreement with other jurisdictions throughout San Diego County (Monsell, 1976).

The City of Chula Vista currently holds a class 4 rating from the Insurance Service Office (ISO), a subsidiary of the American Insurance Office. This class 4 rating indicates "very adequate" fire protection on a scale of 1 (highly protected) to 10 (unprotected). These ratings are based upon fire department capabilities, fire safety, and fire service communications.

3.18.1.2 Impact

The primary impact of the construction of the Chula Vista Medical Facilities will be an incremental increase in demand for fire protection services. The Chula Vista Fire Department does not anticipate any problems in serving the project site, given adherence to City Standards regarding fire hydrants and street widths (Monsell, 1976). However, in the event of a fire episode or other emergency (such as a major earthquake), potential complications related to vehicle access may result. This is primarily due to the single roadway (Brandywine Avenue/Dora Lane) serving the existing hospital and proposed project site. In the event of its blockage or otherwise being rendered unusable, the current and proposed facilities could be without any type of access route. This may ultimately result in the lack of necessary emergency services, a potentially catastrophic situation.

The location of the project site within a hillside grassland area also merits special attention in terms of increased fire potential. In the case of the Chula Vista Medical Facilities project, causes of a potential fire episode include construction activities, automobile and truck use and access to adjacent off-road areas. The impact of such an episode includes removal of vegetation, baring of highly visible hillsides, and increased erosion of soil and nutrients.

The Chula Vista Fire Department possesses limited off-road fire fighting capabilities, thus magnifying access problems in the event of a fire episode.

3.18.1.3 Mitigation

The following measures would not only serve to ease burdens upon fire fighting authorities in the event of a fire episode, but also reduce the chance for its occurrence.

a. The potential for significant structural fire damage will be alleviated by building design features. Specifically, the convalescent hospital will be fully sprinkled and the medical office building will be of fireproofed framework and shell construction.

b. Construction of other means of ingress and egress would be highly advantageous from a public safety standpoint. Provision of a second entry route (perhaps through a southern extension of Brandywine Avenue) would eliminate complications resulting from the potential blockage of the single roadway currently serving the subject property. Such provision would also serve to direct the resultant traffic generation in two directions rather than one. Such an extension may temporarily be restricted to emergency vehicle use, thus involving less in terms of the degree of roadway construction costs.

c. Buffer areas containing fire retardant vegetation should line all future roadways and parking

lots. Regular discing is an effective, albeit far less attractive alternative. Such buffer areas should be regularly maintained (i.e., watered and dry litter removed).

d. Any design features which discourage access into undeveloped open space areas adjacent to the project site which would thereby discourage off-road vehicle use should be implemented. Such actions would not only reduce the chances of fire but would assist in the retention of native biological species and reduce future ambient noise levels (this latter factor is of particular importance in areas adjacent to a convalescent hospital.)

e. Construction activities should be carried out with an eye toward fire prevention.

f. Compliance with the standards and objectives of the Safety Element of the Chula Vista General Plan should be achieved.

3.18.1.4 Analysis of Significance

The degree of significance of fire protection impacts is highly dependent upon the degree of implementation of the aforementioned design recommendations. The Chula Vista Fire Department does not, at this time, foresee any major problems regarding fire protection for the project site.

3.18.2 Police Protection

3.18.2.1 Project Setting

Law enforcement services to the project area are provided by the Chula Vista Police Department.

Service emanates from the Main Station, approximately four miles from the subject property. The City maintains an operating force of 89 patrolmen and utilizes 40 vehicles for patrol and investigative purposes. Patrol of the subject area is accomplished through the use of motor vehicles. Little in the way of major law violations are currently reported.

3.18.2.2 Impact

Little in the way of added police protection burdens can be anticipated as a result of the proposed project. The only additional law enforcement requirements resulting from project implementation would be police protection services associated with health care facilities, (which are, in even the worst cases, minimal) and any crime occurring in parking areas.

3.18.2.3 Mitigation

Site and building design should be conducted with an eye toward crime prevention. Specific design measures include:

a. Areas of high use should be oriented so that many individuals will be providing surveillance (the provision of "defensible space").

b. Proper lighting and other necessary security measures in open areas, particularly parking lots should be provided.

3.18.2.4 Analysis of Significance

Demand for additional police protection as a result of project implementation is expected to be minimal.

3.18.3 Health Care

3.18.3.1 Project Setting

Chula Vista Community Hospital, a 131-bed facility offering a full range of medical services, currently operates at an average capacity of about 50 percent. Ambulance service is provided by Bay City Ambulance Company, the City of Chula Vista's privately-franchised operator (Hale, 1976).

3.18.3.2 Impact

Implementation of the proposed project is seen as having a positive impact in terms of an expansion in the type and amount of health care services to be provided to the Chula Vista area. No significant impact upon the Bay City Ambulance service due to the proposed project is foreseen (Hale, 1976).

3.18.3.3 Mitigation

As no significant impacts upon health care services are anticipated, no mitigation is proposed.

3.18.3.4 Analysis of Significance

As previously stated, implementation of the proposed Chula Vista Medical Facilities is seen as having a positive net effect upon health care needs of the area.

3.19 Waste Disposal

3.19.1 Project Setting

Solid waste service to Chula Vista, on both a residential and commercial basis, is provided by the Chula Vista Sanitary Service Company, the City's franchised contractor. Solid waste is ultimately transported to the sanitary landfill site operated by the County of San Diego on Otay Valley Road, one mile east of its intersection with I-805. This landfill is located approximately three miles from the project site, and has a projected life span of nine to twelve years (Erikson, 1976).

3.19.2 Impact

Projected solid waste generation is based upon a factor of .00018 cubic yards of solid waste per square foot per day. As a result, it is anticipated that approximately 3,500 cubic yards of solid waste would be generated annually during the 1977-78 phase of development, 4,600 cubic yards during 1978-79, and 8,300 cubic yards at project completion.

This not only includes paper products associated with office functions, but also various types of materials associated with hospital functions.

Little difficulty is foreseen in the way of solid waste collection for the proposed project after Phase 1 or at ultimate completion (Erikson, 1976). Such an increase in solid waste production would result in an incremental decrease in the lifespan of the County landfill site to which the solid waste will be ultimately transported.

3.19.3 Mitigation

Any efforts aimed at the establishment of solid waste recycling programs, particularly for paper goods and glass, would serve to reduce the projected solid waste generation totals while also slowing the depletion rate of these non-renewable resources.

3.19.4 Analysis of Significance

The proposed project will result in a cumulative increase in the amount of solid waste generated in the Chula Vista area. The small degree of such a generation is indicative of the significance of these impacts.

3.20 Utilities/Energy

3.20.1 Project Setting

3.20.1.1 Gas/Electricity

Natural gas and electrical service to the project area is currently supplied by the San Diego Gas & Electric Company. Major distribution facilities include 4 and 8-inch gas mains and major electrical lines which run along Telegraph Canyon Road at its intersection with Brandywine Avenue. In addition, a 3-inch natural gas main and 12 KV electrical feeder lines currently provide service to the existing Community Hospital on Dora Lane. These lines were designed to serve demand loads of future medical facilities immediately adjacent to Dora Lane (Hollins, 1976).

3.20.1.2 Water

Water service to the project area is provided by the Otay Municipal Water District, which receives water from the Metropolitan Water District (via the Colorado River). Areas south of Telegraph Canyon Road are currently served by a 16-inch gravity-fed water main which runs along the roadway. Chula Vista Community Hospital is served by a 10-inch main in Dora Lane which emanates from a 12-inch feeder main on Brandywine Avenue. Water pressure difficulties experienced by the Chula Vista Community Hospital have necessitated

the provision of a temporary booster pump station at the Brandywine Avenue/Telegraph Canyon Road intersection for emergency purposes. However, the Otay Municipal Water District is currently in the process of connecting the aforementioned feeder lines into a newly-constructed 20-inch main which also runs along Telegraph Canyon Road. While this line has been designated to serve areas north of Telegraph Canyon Road, it will also provide water service (with adequate pressure levels), to areas surrounding the Chula Vista Community Hospital without utilizing the temporary booster station (Barber, 1976).

3.20.1.3 Sewage

The project area is served by sewage lines operated by the City of Chula Vista. Resultant flows are transported to the San Diego Metropolitan Treatment and Disposal System for secondary treatment. City of Chula Vista capacity rights to this system are 22 million gallons per day (MGD), while their daily flows average 6 MGD (Daoust, 1976).

Existing facilities in the project area include a 15-inch line in Telegraph Canyon Road, from which emanates a 10-inch line along Brandywine Avenue and Dora Lane which currently serves the Chula Vista Community Hospital.

3.20.1.4 Telephone

The planning and provision of telephone service to the project area is the responsibility of the Pacific Telephone and Telegraph Company. Area facilities include a 400-pair feeder line which runs along Telegraph Canyon Road, from which emanates a 200-pair feeder line along Brandywine Avenue, and a 400-pair feeder line currently serving the Chula Vista Community Hospital. Pacific Telephone is also in the process of constructing a two-acre service facility along Telegraph Canyon Road approximately two miles east of its intersection with Brandywine Avenue (Brueninger, 1976).

3.20.2 Impact

3.20.2.1 Gas/Electricity

It is anticipated that service to the proposed project will emanate from the 3-inch natural gas and 12 KV electrical feeder lines along Dora Lane. Based upon the usage rates of 0.003464 therms per square foot per month and 1.708 kilowatt hours per square foot per month, predictions of natural gas and electrical consumption associated with Phases 1 and 2 and ultimate completion of the proposed project are listed below:

	Total Floor Space (Square Feet)	Natural Gas Consumption	Electrical Consumption
1977-78	53,800	186 therms/mo.	91,900 kwh/mo.
1978-77	70,600	245	120,600
1982	127,000	440	216,900

Representatives of the San Diego Gas & Electric Company have stated that these projected loads are within the capacities of existing facilities and their long-range growth parameters which they are planning to meet for the general area (Hollins, 1976).

3.20.2.2 Water

Based upon a consumption factor of 0.2704 gallons per square foot per day, Phase 1 of project development (1977-78) will consume 14,500 gallons of water daily, Phase 2 (1978-79) will consume 19,100 gallons daily, and the project at ultimate completion will consume 34,300 gallons per day.

The proposed medical facilities will connect into and be adequately served by the 10-inch water mains along Dora Lane (see letter from Otay Municipal Water District in Appendix A). This line will ultimately connect into the newly-constructed 20-inch main along Telegraph Canyon Road. This will ensure more than adequate water pressure levels for daily use and in the event of a fire emergency. Therefore, the Otay Municipal Water District does not foresee any unusual

problems in providing future water service to the Chula Vista Medical Facilities. However, as discussed in Appendix A, in the event of an emergency which interrupted service from the two reservoirs which normally serve the project area, the backup facilities (the ID 10 tanks) would not provide adequate water pressure.

3.20.2.3 Sewer

Based upon a generation rate of 0.194 gallons per square foot per day, the resultant sewage generation will total 10,400 gallons per day in the 1977-78 time frame, 13,700 gallons per day in 1978-79, and 24,600 gallons daily at ultimate development. This total represents approximately 0.4 percent of the Chula Vista contribution to the Metropolitan Treatment System, and would therefore not constitute a significant addition to that total.

The City of Chula Vista, Engineering Department, does not anticipate any problems in providing sanitary sewer service to the Chula Vista Medical Facilities upon completion. Since service is expected to emanate from 10-inch mains along Dora Lane, little in the way of major new facilities will be required (Daoust, 1976).

3.20.2.4 Telephone

The Pacific Telephone Company foresees little difficulty in providing telephone service to both phases of the proposed medical facilities. Service will

emanate from 400-pair feeder lines currently serving the Chula Vista Community Hospital. All distribution facilities will be underground (Brueninger, 1976).

3.20.3 Mitigation

There are no measures proposed to minimize the initial commitment of raw materials and fuels required in the construction process of the project. Often, a careful initial outlay of such resources can yield considerable savings in subsequent years. However, all involved public utilities should be notified well in advance of any construction in order to coordinate efforts regarding the installation of any necessary utilities.

The following specific measures are proposed to promote efficient use and distribution of energy resources during the life of the project.

a. Measures for non-mechanical ventilation of structures should be implemented wherever possible, thus conserving the amount of energy devoted to interior cooling. It would seem advantageous to maximize the degree of design compatibility with prevailing climatologic regimes.

b. The effects of glare from a low, westerly sun could be minimized by orienting windows to fall in a north/south direction.

c. Builders and architects should seek, within reason, appliances, interior lighting, insulation, space heating and cooling methods designed to minimize internal load factors.

d. The utilization of solar energy and waste heat recovery systems should be encouraged wherever feasible. Waste heat recovery systems may be utilized in kitchen or laboratory areas which may require large amounts of initial heating.

e. Street, parkway and walkway lighting should be selected and situated with regard for minimizing energy consumption.

f. Water saving devices, such as small reserve tank toilets and low water flow pipelines and fixtures (faucets, showerheads, etc.) should be installed in all bathrooms and kitchens.

To mitigate possible impacts resulting from interrupted water service, the Otay Municipal Water District has recommended that emergency water storage facilities be installed if a constant, guaranteed water supply to either the the convalescent hospital or physician's office building is required (see Appendix A).

3.20.4 Analysis of Significance

Due to the scarcity and rising cost of energy supplies, increased significance has been attached to

conservation measures to be incorporated into the project design. The degree of proper planning and design will determine the degree of significance relative to the provision of energy and utility service.

3.21 Transportation/Access

3.21.1 Project Setting

3.21.1.1 Public Transportation

Transportation to the project site and the Community Hospital is provided by Aztec Bus Lines. Regular hourly service is provided between downtown Chula Vista and Southwestern College along Telegraph Canyon Road, the bus stopping at the Brandywine intersection. Every two hours, bus service by the same company goes up Brandywine to the Hospital. The bus stop at the intersection of Brandywine and Telegraph Canyon Road is approximately 300 yards from the proposed skilled nursing facility.

In addition to public bus service, the Chula Vista Inn, a 224-bed licensed residential care facility operated by the convalescent hospital applicants, has a 15 passenger bus which will be operated on a regular schedule between the Chula Vista Inn, downtown Chula Vista, and the skilled nursing care facility. The bus will also be utilized for recreational purposes and transportation as needed at the facility.

3.21.1.2 Traffic

Access to the proposed development site is provided solely from Telegraph Canyon Road via Brandywine Avenue and Dora Lane. Telegraph Canyon Road is designated as a Major Road on the City's General Plan (City of Chula Vista, 1970). No designations are given to Brandywine Avenue or Dora Lane, although it is anticipated that Brandywine will eventually be considered a Collector Road.

Current traffic flow on Brandywine Avenue and Dora Lane is due entirely to the Community Hospital of Chula Vista, save a few farming-related vehicles. Average daily traffic (ADT) on these roads is quite low as the hospital is currently operating at only about 47% capacity (an average daily census of 62 patients). Traffic flow to and from the hospital, as measured at Brandywine Avenue, was 1,480 ADT in May 1976 (Hanson, 1976).

Current traffic flow on Telegraph Canyon Road near Brandywine Avenue is approximately 13,000 ADT. During peak traffic hours, this road is operating at or near capacity. Table 3-10 shows peak hour volumes as counted between Brandywine Avenue and Buena Vista Way. Eastbound evening peak hour traffic flow on Telegraph Canyon Road currently interfers with and is disrupted by hospital-generated traffic at Brandywine Avenue. Similar but less significant congestion is also realized during the other peak hour periods. Peak hour congestion also occurs on Telegraph Canyon Road at its intersection

with Crest Drive/Oleander Avenue, and at the Interstate 805 interchange.

Table 3-10

PEAK HOUR TRAFFIC ON TELEGRAPH CANYON ROAD (Hanson, 1976)

Direction of Travel	AM or PM	Peak Time Period	No. of Vehicles (Average)
Eastbound	AM	7:15 - 8:15	940
	PM	5:30 - 6:30	1,110
Westbound	AM	11:00 -12:00	500
	PM	8:45 - 9:45	840

To alleviate the congestion and safety problems, there is evidence of need for traffic signals at the Brandywine Avenue and Crest/Oleander Avenue intersection. Furthermore, traffic projection studies by the Ctiy's Engineering Staff indicate that Telegraph Canyon Road will require improvement as a prime arterial (i.e., six lanes with a median and a right of way width of 126 feet). However, no city funds are currently budgeted for such an improvement, and it is anticipated that Telegraph Canyon Road will be so improved only as a part of development of lands adjacent to the roadway. Such development along any appreciable length of Telegraph Canyon Road would be done in piecemeal fashion, and is probably several years in the future.

The proposed signalization of the Telegraph Canyon Road/Brandywine Avenue intersection was noted

to be an effective solution to the peak hour traffic congestion experienced in accessing or egressing the hospital complex (estimated cost of $25,000).

The City of Chula Vista Department of Public Works (1976) has completed a study to investigate the feasibility of constructing an alternate route or routes to the Community Hospital to supplement the existing Telegraph Canyon Road/Brandywine Avenue route. Such an alternate access would essentially entail extending Brandywine Avenue southerly to connect with easterly extensions of Palomar Street and/or Orange Avenue. Although the study was conducted primarily in response to safety concerns, such an alternate access route would also serve to ease current traffic congestion problems. The study concluded that, based on the expense involved, the lack of funds and the small amount of access time to the hospital that would be saved, the City should not expend funds for the construction of an alternate access route. The County of San Diego, which would be expected to share in the construction of an alternate access route (proposed route alignments pass through County land), also stated that County funding is not available under current budgeting (City of Chula Vista, 1976, attachment). As the intervening land is developed, it is quite likely that portions of this secondary road will be constructed by incremental stages.

3.21.2 Impact

3.21.2.1 Public Transportation

An increased utilization of public transportation services to and from the hospital area will result from the proposed project. No problems are anticipated in meeting this demand.

3.21.2.2 Traffic

Based on the proposed project phasing and traffic generation rates derived from counts at similar facilities, estimates of traffic flow from both the skilled nursing facility and physician's office building were made, as shown on Table 3-11. In calculating these estimates, it was assumed that by 1977-78, Phase 1 of the project (as described in Subsection 2.3) will have been completed and occupancy will have reached 75 percent of capacity. This would entail 74 beds at the skilled nursing facility (75 percent of 99 bed Phase 1 capacity) and 11 doctors operating out of the medical building (75 percent of the 14 doctor Phase 1 capacity). It was further assumed that by 1978-79 an additional 16,800 square feet of medical office space would be completed and 75 percent occupied (an additional 11 doctors). It is anticipated that at this time the initial increment of office space would be at 95 percent capacity and the 99 beds at the skilled nursing facility would be 85 percent occupied. This would consist of 24 doctors in the medical building and 84 beds in

Table 3-11

ESTIMATED TRAFFIC VOLUMES GENERATED BY PROPOSED

MEDICAL FACILITIES PROJECT AT VARIOUS DEVELOPMENT PHASES

	Traffic Generation Factor (per day)	Average Daily Traffic (ADT) 1976	1977-78	1978-79	1982
Skilled Nursing Facility	2 trips/patient (1)	--	150	170	375
Physician's Office Building	75 trips/doctor (2)	--	825	1,800	3,750
Community Hospital	24 trips/patient (2)	1,490 (3)	2,040	2,520	2,985
TOTALS		1,490	3,015	4,490	7,110

(1) County of San Diego, 1972

(2) CALTRANS, 1972

(3) This calculated generation figure compares favorably with actual weekday traffic counts on Brandywine Avenue, which totalled 1480 in May 1976 (Hanson, 1976).

the nursing home. By 1982 the project is assumed to have reached full development and occupancy (95 percent occupancy, for this analysis, is considered to be effectively at full capacity). This would consist of 188 beds at the nursing home (95 percent of 198 bed ultimate capacity) and 50 doctors in the medical building (95 percent of the anticipated 53 doctor ultimate capacity).

Indirect impacts, due to an increased average daily census at the Community Hospital resulting from the development of adjacent, complementary facilities, are also considered in Table 3-11. For this analysis, it was assumed that the proposed project, in 1977-78, will lead to an increase in the hospital's average daily census from the current 47 percent to 65 percent of the 131 bed capacity. By 1978-79, the daily average census was assumed to increase to 80 percent of capacity, and full capacity (95 percent occupancy) by 1982.

Referring to Table 3-11, it can be seen that traffic volumes from the project will be affected, especially in the later stages of development, primarily by the physician's office building, and to a lesser extent by the skilled nursing facility and the anticipated induced growth of the Community Hospital. As discussed, traffic generated by the project will be directed wholly onto Telegraph Canyon Road, which is currently operating at or near capacity during peak hours. The impact of project traffic, thus, will be most significant during these peak hour periods.

In quantifying peak hour traffic impacts it must be noted that the medical complex does not contribute as substantially to peak hour commuter traffic as many other land uses. This is due primarily to the staggered working shifts and more evenly distributed traffic generation associated with these facilities. Their peak hour flows will not coincide with normal peak hour commuter traffic on Telegraph Canyon Road.

Peak weekday hours on Telegraph Canyon Road are currently 7:15 - 8:15 AM and 5:30 - 6:30 PM (see Table 3-10). During the peak AM hour, traffic is distributed so that approximately 940 vehicles are eastbound (EB) and 380 vehicles are westbound (WB). During the peak PM hour, there are about 1,110 vehicles EB and 240 vehicles WB.

Extrapolating past traffic volume increases on major roads in the area (a 50 percent increase from 1970 to 1975), an annual increase of 10 percent appears reasonable. Thus, in the 1977-78 time frame, peak hour AM traffic on Telegraph Canyon Road can be expected to increase to about 1,140 vehicles EB and 460 WB. Peak hour PM traffic, likewise, will increase to approximately 1,340 vehicles EB and 290 WB. Extrapolations of the 10 percent annual increase beyond the 1977-78 time frame do not appear valid because of the uncertainty of significant improvements in the area such as the extension of "H" Street to Otay Lakes Road, the possible provision of an

alternate access route to the hospital, and the number of dwelling units to be built in the easterly reaches of the City.

The number of vehicles generated by the medical complex during peak AM and PM hours on Telegraph Canyon Road is shown on Table 3-12. Considering that the normal employee working hours at the physician's office building are 9:00 AM to 5:00 PM and patient hours are 10:30 AM to 12:00 noon and 1:30 PM to 5:00 PM, it is estimated that approximately four percent of the ADT attributed to this facility will be generated during the peak AM commuter hour, and about 3 percent during the peak PM commuter hour. Existing traffic count data show that about 4 percent of Community Hospital-related traffic (as expressed by counts on Brandywine Avenue) is generated during the peak AM and PM hours on Telegraph Canyon Road. It is assumed that the skilled nursing facility, with similar working shifts, will generate a similar percentage of its ADT during these hours. Based on these percentages of ADT, Table 3-12 expresses the AM and PM traffic generation attributable to the medical complex during peak hours on Telegraph Canyon Road.

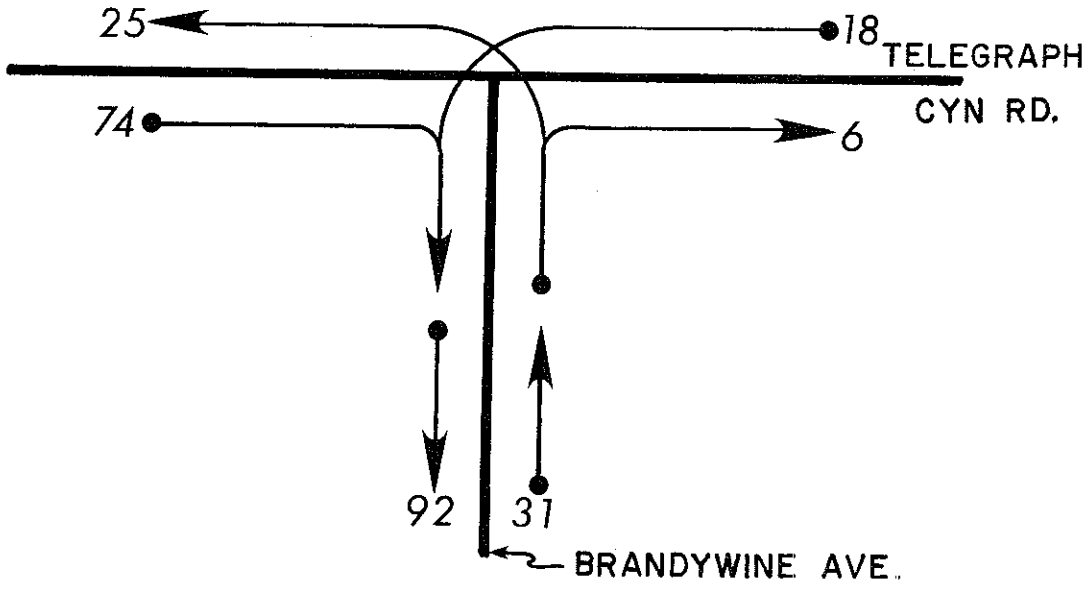
Of the total traffic volumes shown on Table 3-12, it is anticipated that 80 percent will approach or leave the medical complex from the west on Telegraph Canyon Road. In addition, based on recent traffic count data,

it is anticipated that medical facility traffic will be distributed such that an approximate 3:1 split between accessing and egressing vehicles will exist. That is, about 75 percent of the commuter hour traffic volume will enter the site during 7:15 to 8:15 AM hour, and about 75 percent of the volume will exit during the 5:30 to 6:30 PM period. The resulting distribution of traffic can be expressed diagrammatically as shown on Figure 3-4. This figure shows 1977-78 distribution of traffic near the Telegraph Canyon Road/Brandywine Avenue intersection during the AM and PM peak commuter hours. Similar figures could be prepared for the 1978-79 and 1982 time frames using the data from Table 3-12 and the directional splits described above.

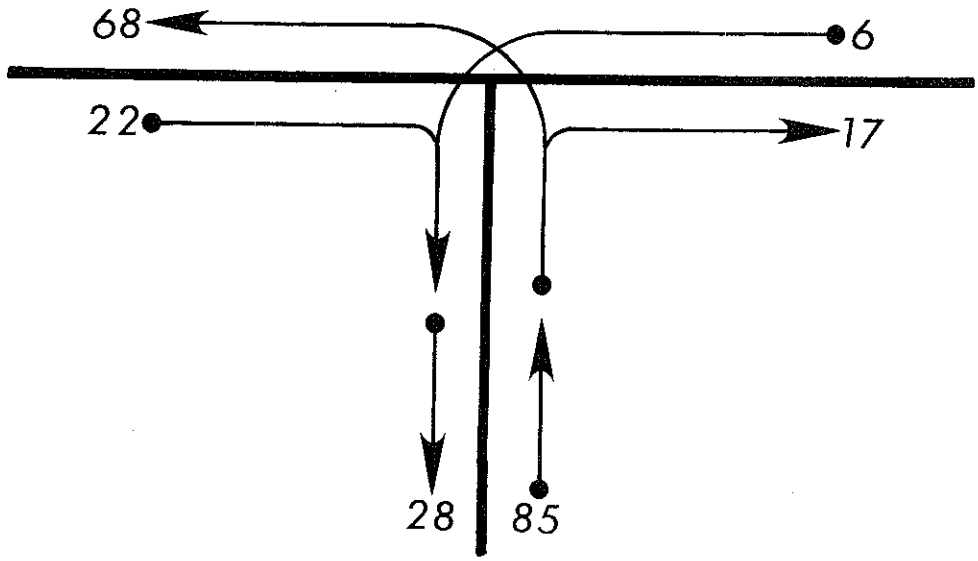
Table 3-12

TRAFFIC GENERATED BY MEDICAL COMPLEX DURING PEAK AM AND PM HOURS ON TELEGRAPH CANYON ROAD

		Number of Vehicles		
		1977-78	1978-79	1982
Skilled Nursing Facility (AM or PM)		6	7	15
Physician's Office Building	(AM)	35	72	150
	(PM)	25	54	113
Community Hospital (AM or PM)		82	101	119
TOTALS	(AM)	123	180	284
	(PM)	113	162	247



PEAK AM COMMUTER HOUR (7:15 to 8:15 AM)



PEAK PM COMMUTER HOUR (5:30 to 6:30 PM)

FIGURE 3-4

Distribution of Traffic Generated by Medical Complex During Peak AM and PM Commuter Hours on Telegraph Canyon Road (1977-78 Time Frame).

Based on the above projections, it can be concluded that the medical complex, in the 1977-78 period, will increase peak hour traffic on the stressed east-bound lane of Telegraph Canyon Road by about 6.5 percent in the AM peak hour, and by about 1.6 percent during the PM peak hour. In addition, the increased traffic making left turns onto or off of Brandywine Avenue would disrupt traffic on Telegraph Canyon Road and make signalization of this intersection preferable. As this is a "T" intersection, traffic signalization can be very efficient in eliminating opposing left turn conflicts. However, as a result of signalization, traffic flows on Telegraph Canyon Road would be interrupted.

During the 1978-79 time frame, the increase in peak hour traffic attributable to the medical complex is estimated to be roughly 50 percent greater than that of 1977-78. The impact of the project in the 1982 time frame is dependent on future roadway improvements and growth in the area, as mentioned previously. Nevertheless, at project

completion, the medical complex contribution to peak hour traffic can be expected to be significant.

Using an approach similar to the above, an analysis was made of the impact of peak traffic flows from the medical complex. Peak flows were found to occur principally from 11:00 to 12:00 AM and from 4:00 to 5:00 PM. Approximately 322 vehicles would be generated by the medical complex during each of the peak hours in the 1977-78 developmental phase. The projected 1978 traffic volumes on Telegraph Canyon Road during the AM and PM periods are about 970 and 850 vehicles, respectively; therefore an increase of about 33 to 38 percent would occur. However, because of the capacity of Telegraph Canyon Road and the fact that the 11:00 to 12:00 AM and 4:00 to 5:00 PM traffic flow is more equally distributed in the eastbound and westbound directions, no significant near-term impacts are foreseen.

To summarize the results of the above analyses, peak traffic generated by the medical complex (at 11:00 to 12:00 AM and 4:00 to 5:00 PM) will be effectively absorbed onto Telegraph Canyon Road. However, even though the complex will generate a relatively small number of vehicles during the peak commuter hours on Telegraph Canyon Road (7:15 to 8:15 AM and 5:30 to 6:30 PM), the incremental increase will affect the already stressed eastbound lane.

The ADT on Telegraph Canyon Road will also be impacted by the proposed project. Again assuming a 10 percent annual increase in existing traffic volume, Telegraph Canyon Road will be carrying approximately 15,700 ADT in 1977-78. The medical complex contribution to this (Table 3-11) will constitute an increase of about 19 percent. Traffic from just the skilled nursing facility and physician's office building will be approximately 6.2 percent of the ADT on Telegraph Canyon Road.

In the 1978-79 and 1982 time frames, the project contribution to ADT can be expected to represent an even larger percentage. In light of the fact that Telegraph Canyon Road is already carrying a substantial traffic volume, the increased ADT must be considered a significant impact.

3.21.3 Mitigation

At the present time, the City of Chula Vista is planning several improvements to Telegraph Canyon Road west of Brandywine Avenue. These include the widening of the roadway to 40 feet to accommodate an 8 foot bikeway and improvements at the Interstate 805 interchange. The signalization and provision of extended left turn lanes at the Brandywine Avenue intersection will aid in handling the projected traffic from the medical complex. The City's current schedule would provide this signal in the mid to late 1978 time frame. If the installation were to be undertaken prior to that date it would have to be at the expense of the project proponent. In the near future,

widening of Telegraph Canyon Road will be necessary to maintain an acceptable level of service. The most critical need would be the construction of an additional eastbound lane between Interstate 805 and Brandywine Avenue, and possibly beyond.

Provision of an alternate access to the hospital complex, preferably through the extension of Brandywine Avenue south to eastbound extensions of either Palomar Street or Orange Avenue, could significantly reduce the anticipated traffic impacts.

3.21.4 Analysis of Significance

Traffic generated by the proposed project in the 1977-78 time frame will significantly impact traffic levels on Telegraph Canyon Road. During the peak AM and PM commuter hours, increases of about 6.5 percent and 1.6 percent, respectively, to the stressed eastbound lane of the roadway will occur. A 19 percent increase in ADT on Telegraph Canyon Road is also anticipated. Traffic due solely to the convalescent hospital and medical building, disregarding the anticipated growth at the Community Hospital, will increase peak hour AM and PM eastbound flows by about 2.2 and 0.5 percent, respectively. The increase in ADT, disregarding the Community Hospital-generated traffic, will be approximately 6.2 percent.

Signalization and left turn lanes at the Telegraph Canyon Road/Brandywine Avenue intersection will aid

traffic flow from the medical complex. The provision of additional lanes on Telegraph Canyon Road will be necessary to handle the anticipated ADT from the project in the 1982 time frame.

4.0 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

4.1 Seismic Ground Shaking

A study of regional seismicity factors indicates that the subject property, as virtually all of southern California, is likely to be subjected to at least one significant ground shaking episode during the life of the proposed project. Such ground shaking is both unavoidable and adverse. However, compliance to modern building code requirements can generally be expected to minimize impacts.

4.2 Seismic Ground Rupture

Placement of project structures across significant traces of the La Nacion Fault system could lead to unavoidable structural damage should movement occur on the fault. The discontinuous nature of the fault system, however, is such that the siting of structures away from significant fault traces appears feasible.

4.3 Land Form

Grading to create a viable medical facilities complex will alter the existing land form. From an aesthetic point-of-view, a very subjective criterion, many would consider this an adverse impact. However, because of the relatively small amount of land to be graded (approximately 85 percent of an 11.7 acre site), this impact is considered to be of minor significance.

4.4 Air Quality

Construction activities will generate dust and fumes, and thus constitute a very minor short-term adverse impact on local air quality.

Mobile and stationary emission sources associated with the project will contribute incrementally to regional air cell pollutant levels.

4.5 Water Quality

Increased urban runoff from the developed property will represent a minor adverse environmental effect that, given the current state-of-the-art, is largely unavoidable.

4.6 Mobile Noise Sources

During the development phases of the project, temporary annoyances due to construction activities will occur.

4.7 Land Use

The primary unavoidable land use-related impact will be the development of vacant land currently serving passive open space functions.

4.8 Aesthetics

The visual character of the project site will be unavoidably altered not only from an on-site perspective, but also for the views of the hillside and ridgeline from lower

elevations. The impact of such visual interruption is not judged significant considering that the future buildings will be immediately adjacent to existing buildings of similar use and appearance.

4.9 Community Resources

An unavoidable increased demand for municipal services and public utilities will result from the proposed development.

4.10 Traffic

Traffic generated by the medical complex will add to existing traffic volumes on Telegraph Canyon Road. The ADT on this roadway will be increased approximately 19 percent in the 1977-78 time frame. Peak AM hour traffic, particularly in the heavily travelled eastbound lane, will increase an estimated 6.5 percent in 1977-78. In later stages of project development, particularly if no significant improvements in the local circulation network are implemented, traffic impacts can be expected to increase further.

5.0 ALTERNATIVES TO THE PROPOSED ACTION

5.1 Land Use Alternatives

The subject property is currently zoned R-1-H, which would allow development of single family residences on a minimum lot size of 7,000 square feet. Residential development of the site would result in environmental impacts roughly equivalent to the proposed land use; i.e., impacts related to seismicity, land form alteration, air and water quality, aesthetics, demand for utility services, access, and traffic. In addition, residential use of the property would require a higher level of municipal services (such as schools, fire and police protection, and recreational facilities) than would the proposed use.

Development of the subject property for industrial or recreational/open space uses would lead to significantly greater and significantly less impacts, respectively, on the environment. Increased aesthetic, utility services, traffic/access, and possibly air and water quality impacts would accompany industrial development. Development or retention of the site for recreational or open space use would result in a considerable reduction of impacts on the physical, biological and human environments. It should be noted, however, that either of these two alternative land uses seem to be largely precluded by both economic factors and the City General Plan which designates the area as "Hospital."

A further land use option is the "No Project" alternative, or retention of the site in its existing state. This alternative would effectively eliminate the unavoidable adverse environmental effects discussed in Section 4. However, the "No Project" alternative may be viewed as possessing adverse social and economic impacts relative to the proposed land use. As discussed in Subsection 3.15.2, the proposed project represents a needed expansion of available medical services and extended care facilities located adjacent to facilities of similar, and hence complementary, function. From a City-wide perspective, this represents a positive impact.

5.2 Location Alternatives

Development of the proposed facilities at an alternate location would, with two exceptions, probably result in the transfer of environmental impacts from one site to another. The two exceptions are: (1) an alternate site could be found which was not susceptible to seismic ground rupture impacts, and (2) a site with more viable access routes might be available. However, with respect to General Plan and adjacent land use considerations, the subject site is considered very appropriate. In addition, as discussed in Subsection 2.2, the provision of a medical office building near the Community Hospital is considered critical to the continued maintenance and growth of the hospital.

5.3 Design Alternatives

Design alternatives available to the developers are confined primarily to revisions in the layout of individual project elements. Alternatives related to architectural design and project phasing are quite limited, being tied to the maintenance of a consistent architectural theme throughout the entire medical complex, and economic factors related to the public's demand for the services to be offered.

The proposed layout of project elements, shown on Figure 2-3, utilizes the existing contours of the land to the extent feasible, and minimizes grading to that necessary to provide a safe, viable project. The proposed grading will not adversely affect any unique biological, archaeological or paleontological resources, and related impacts will be primarily of an aesthetic nature.

6.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The current use of the subject property is primarily as passive open space which supports a limited wildlife population. Unique natural resources were found to be absent. Conversion of the site from its existing condition will affect the long-term productivity of the environment to a degree, as discussed in Section 3 (Impact Analysis); however, for the most part, the anticipated adverse environmental effects can be mitigated. Several impacts, such as minor increased degradation of air and water quality, loss of open space and land form alteration, are unavoidable and will contribute incrementally to region-wide problems.

The long-term environmental productivity effects are balanced by the shorter-term social and economic benefits which would be derived from the proposed expansion of medical services and extended care facilities in the Chula Vista area. In addition, based on current zoning and growth patterns, the anticipated development of surrounding areas in near future will largely urbanize this sector of the City.

7.0 IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WILL RESULT FROM THE PROPOSED PROJECT

Approval of the proposed project will lead to the following environmental changes that, for the most part, are irreversible:

a. Semi-permanent commitment of the 11.7 acre site to institutional and commercial land uses.

b. Alteration of the existing land form by the grading process.

c. Removal of the existing ruderal floral cover and related faunal habitat.

d. Alteration of the human environment as a consequence of the development process.

e. Commitment of construction materials, such as steel, cement, concrete aggregate and lumber.

f. Consumption of energy in the form of construction equipment fuel, and the commitment of construction labor. These would be necessary expenditures if the proposed projects were developed as essential facilities in any location.

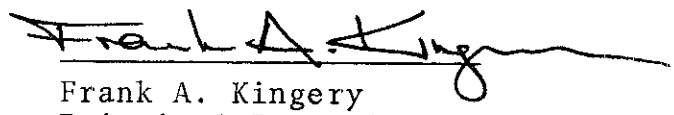
8.0 GROWTH-INDUCING IMPACT OF THE PROPOSED ACTION

The proposed facilities are being developed in response to a growing demand for medical facilities in the Chula Vista area. As such, the project will not significantly induce residential growth. It will, however, encourage physicians and other medical professionals and paraprofessionals to locate within the area, thereby broadening the base of community activities, interests and revenues.

The concentration of medical facilities will encourage, and possibly accelerate, the eventual expansion of the Community Hospital. In addition, further surplus land, outside of existing and proposed expansion areas, are available on the 30-acre hospital parcel. Implementation of the proposed project will encourage the development of this land for medical-related uses.

9.0 CERTIFICATION

I hereby affirm that to the best of my knowledge and belief, the statements and information herein contained are in all respects true and correct and that all known information concerning the potentially significant environmental effects of the project has been included and fully evaluated in this draft EIR.



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APPENDIX A

Letter From Otay Municipal Water District

MUNICIPAL OTAY WATER DISTRICT

Our 20th Anniversary

Dedicated to Community Service

TELEPHONE: 462-2222 AREA CODE 714
10595 JAMACHA BOULEVARD
SPRING VALLEY CALIFORNIA 92078

May 18, 1976

Westec Services, Inc.
1520 State Street
San Diego, CA 92101

Attn: Mr. Douglas Wood

Subj: Proposed Medical Facilities Near the Chula Vista Community Hospital, Work Order 544

Dear Mr. Wood:

The Otay Municipal Water District has a 10" water main in Dora Lane. It is ten feet south of the centerline of the street.

The static pressure in this area can vary considerably depending upon which reservoir is feeding the area at the time. Under normal conditions the pressure will be regulated by 22-1 Reservoir and the static pressure in Dora Lane at station 5+00 of the street improvement plans will be 143 psi; at station 8+00 it would be 130 psi. In the event of an emergency, it may be necessary to switch to Patzig Reservoir and it is possible that the pressure at station 5+00 could be reduced to 104 psi static. In the event that both these reservoirs could not be used, the area would be served by the ID 10 tanks which would reduce the pressure to 34 psi statice at station 5+00. At station 8+00 it would be 91 psi and 21 psi static.

We are going to recommend to the hospital that they consider installing emergency water storage because we cannot guarantee uninterrupted service. There are times when natural disasters or annual maintenance or emergency breaks could potentially cut off our service to the area. If the care necessary at your convalescent hospital requires constant water supply it may also be to your advantage to install an emergency water system. Under normal conditions, I see no problem with providing water service to both the facilities you are planning.

Very truly yours,

R. E. Barber, Jr.
Chief Engineer

dm

11.0 INPUT

August 31, 1976

TO: Planning Commission

FROM: Environmental Control Commission

SUBJECT: EIR-76-6

The Environmental Control Commission accepts the Chula Vista Medical Facilities Draft Environmental Impact Report according to guidelines set by CEQA.

However, we have reservations about the incremental increase in air pollution (up to 2% for Chula Vista's portion of the San Diego basin), caused by not only increased auto trips but congestion caused by limited access.

We also hope that minimum grading plans will be maintained, grading only whatever is necessary to meet requirements for foundations complying with earthquake standards. These, we feel, should be the same as those standards applied for schools.

Comments prepared by: Meredith Roeder, Member
Environmental Control Commission

Approved at Environmental Control Commission special business meeting of Monday, August 30, 1976

MR:av