

**LOS ANGELES INTERNATIONAL AIRPORT-PALMDALE REGIONAL AIRPORT
SPECIALIZED RAIL TRANSIT SYSTEM DEMONSTRATION PROJECT**

TASK 4:

YARD AND SHOP AREAS

Prepared for:

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INTRODUCTION

The following is a technical memorandum which presents Task 4 - Review of existing conditions at proposed Sylmar and Palmdale yard and shop areas for the Los Angeles International Airport to Palmdale Specialized Rail Transit System (LAX-Palmdale). The LAX-Palmdale Rail Project is proposed to follow the alignment of Interstate 405 (I-405, San Diego Freeway), Interstate 5 (I-5, Golden State Freeway), and State Route 14 (SR-14, Antelope Valley Freeway), and is generally proposed as an aerial transitway within the freeway median. (See Figure 1.) This section discusses general plan designations, applicable zoning regulations, existing land uses, flood plain data, and soils conditions.

Organization of this Document

This memorandum presents the baseline conditions including zoning, adjacent land uses, flood plain conditions, and generalized soils conditions for each of the two proposed yard/shop locations. As shown on the LAX-Palmdale Base Map, the yard/shop locations are:

Location	Nearest Station	Survey Station
Sylmar	Roxford (9)	1450+00
Palmdale Yard	Palmdale (13)	3793+00

The baseline condition data is presented as follows for each proposed yard/shop location:

Zoning: This section presents generalized existing zoning for the area immediately surrounding the proposed yard/shop location. Information about the General Plan designation of the area is also presented. For additional information about existing and future land uses, see Technical Memorandum, Task No. 5.

Adjacent Land Uses: A field investigation was conducted to ascertain adjacent land uses at each site. A brief description of the results of this investigation is presented in this section.

Flood Plain and Surface Topography: This section discusses the location of the yard/shop areas in relation to the 100-Year flood plain and other topographical issues.

Soils and Subsurface Conditions: A records search was conducted to investigate general geologic conditions at each site. For a more extensive discussion of geologic conditions along the route, see Technical Memorandum Task No. 3 "Geotechnical, Groundwater, and Contaminated Soils Information."

Methodology

Cordoba Corporation conducted a comprehensive field survey of the baseline conditions along the LAX-Palmdale route. The purpose of the field survey was to assess the existing conditions and identify elements that might impact construction of the proposed project. The baseline data is presented for each station and indicates station location and number. The proposed station numbers range from baseline station number 00+00 (LAX) to baseline station number 3793+00 (Palmdale). The station numbers correspond to the alignment and station drawings prepared in July 1991 by ICF Kaiser Engineers for LACTC.

While every effort was made to obtain complete and accurate information, each agency providing data disclaimed responsibility for completeness and accuracy of information. Accordingly, the completeness and accuracy of the information provided herein is based on the most up to date information available; however, the user assumes responsibility for verifying field conditions before construction.

SYLMAR YARD

The proposed Sylmar Yard is located west of I-5, north of its intersection with I-405. (See Figure 2 and Photo 1.) The Los Angeles Reservoir (an LADWP water storage facility) and the Lower San Fernando Flood Control Basin lie to the northwest and west of the site, respectively.

Zoning

The zoning designation of this site is Agriculture. This designation is consistent with the City's General Plan designation of the site of Open Space/Public/Quasi-Public Lands. Development of a transit maintenance yard is not permitted by the existing zoning. Both a General Plan amendment and zone change will be necessary.

Adjacent Land Use

The proposed yard site lies west of I-5 and east of the Los Angeles Reservoir. South of the site is the Lower San Fernando Storm Water Detention Basin. East of the Freeway lies the Roxford Golf Course. Thus, the site is well insulated from sensitive land uses such as residential areas.

Paralleling the west side of the Freeway is a DWP high voltage powerline easement serving the Sylmar Substation one mile to the north. The vertical clearance of these lines is unknown.

Floodplain and Surface Topography

Flood Insurance Rate Maps covering the Sylmar maintenance yard site indicate that the site is located in Flood Zone C, the zone of minimal flood potential.¹

The Freeway elevation at this location is approximately 1,200 feet above Mean Sea Level (MSL). The proposed yard/shop site itself is hilly and ranges in elevation from approximately 1,150 to 1,200 feet above MSL. It is located adjacent to, and partly within, the Lower San Fernando Storm Water Detention Basin. The channel which feeds the Detention Basin runs between the proposed yard/shop site and the Los Angeles Reservoir to the west. Retention of the full capacity of this channel is essential.

The flood inundation area within the Detention Basin is at elevation 1,150 feet. Thus, grading and buttressing of a portion of the proposed yard/shop site may be necessary.

Soils and Subsurface Conditions

This site is situated on the Quaternary alluvial fans formed from the San Gabriel Mountains to the north and the Santa Susana Mountains to the west. (See Figure 3.) The Mission Hills, approximately one-half mile south of the yard site, are an extension of the Santa Susana Mountains. More specifically, the yard is located at the approximate confluence of Bee, Weldon,

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and Grapevine Canyons, in the extreme northwest corner of the San Fernando Valley. The recent alluvium which makes up the soils and substrata at this site are of the Altamont-Diablo association (slopes under 5%) and the Ramona-Placentia association (greater slopes).²

Altamont soils are well drained and have slow subsoil permeability. The dark brown neutral clay surface layers (8 to 12 inches) are underlain by a brown calcareous clay subsoil. Partially weathered calcareous soft shale or sandstone occurs at depths of 20 to 27 inches. Diablo soils are 20 to 52 inches deep, depending on slope erosion. Diablo soils are well drained and have slow subsoil permeability. They are characterized by dark grey, neutral clay surface layers up to 20 inches thick, underlain by dark grayish-brown strongly calcareous clay subsoils. Very strongly calcareous shale occurs at depths of 20 to 39 inches.

The soils of the Ramona-Placentia association are 18 to 60 inches deep with slow subsoil permeability. An 18-inch heavy loam, loam or sandy loam surface layer overlays a dense clay loam or clay subsoil (30-inches) and a clay loam, clay, or loam substratum below 48-inches. Some subsoils include stratified beds of silt to sand and up to 60 percent stones and cobbles can occur.

No prior uses of this site are documented. Although the hilly topography of the site makes agricultural uses unlikely, the site and surrounding area are zoned for agriculture and this region was almost exclusively agricultural prior to 1960. There is no visual evidence of contaminated soils at this site (e.g., drums of chemicals, stained ground surface, etc.), nor are there any nearby uses which would contribute to contaminated soil conditions.

PALMDALE YARD

The proposed Palmdale Yard is located in the south half of the west half of Section 20, Township 6 North, Range 11 West, southwest of the future intersection of Avenue "P-8" and 35th Street East. (See Figure 4 and Photo 2.) This location is generally north and east of the present City of Palmdale (not within the incorporated area), but is within the City's planning sphere of influence and is designated as within the "Urban Core" area.

Zoning

This site is part of the Palmdale Airport ownership of the City of Los Angeles. It is controlled by the Los Angeles Department of Airports. The proposed yard/shop site does not presently have a General Plan land use designation. The area *south* of the proposed yard (i.e., *further away* from AF Plant 42) is designated as Airport Commercial/Industrial on the Palmdale General Plan. The Avenue "P-8" corridor is proposed for designation as a transit corridor in the proposed amendments to the City's General Plan, presently in draft stage. This 400-foot transit corridor is designed to accommodate the State Route 138 "Metropolitan Bypass."

The *Los Angeles County* zoning of the site is Agricultural. This designation permits only crop production and associated activities. A change of zone would be necessary to develop the maintenance yard as proposed.

Adjacent Land Use

The site is presently vacant. Lands to the west, south, and east are also vacant. To the north of the site (across the future Avenue "P-8") is the City of Palmdale wastewater treatment plant.

Floodplain and Surface Topography

The site and the surrounding area are nearly flat, being on the alluvial desert surface approximately three miles north of the Sierra Pelona mountains. The elevation of the site is approximately 2,570 feet above MSL. This area is designated by FEMA as being in flood zone B, which is defined as the area between the 100-year and 500-year flood or areas subject to 100-year flooding with inundation of less than one foot.³

Soils and Subsurface Conditions

This site is situated on the Sierra Pelona Mountains derived alluvial fans which make up the Antelope Valley near Palmdale. Alluvial material in this vicinity is several hundred to several thousand feet thick. There are three different soil types in the immediate vicinity of this site: Adelanto coarse sandy loam, Rosamond fine sandy loam, and Rosamond loam.⁴ (See Figure 5.)

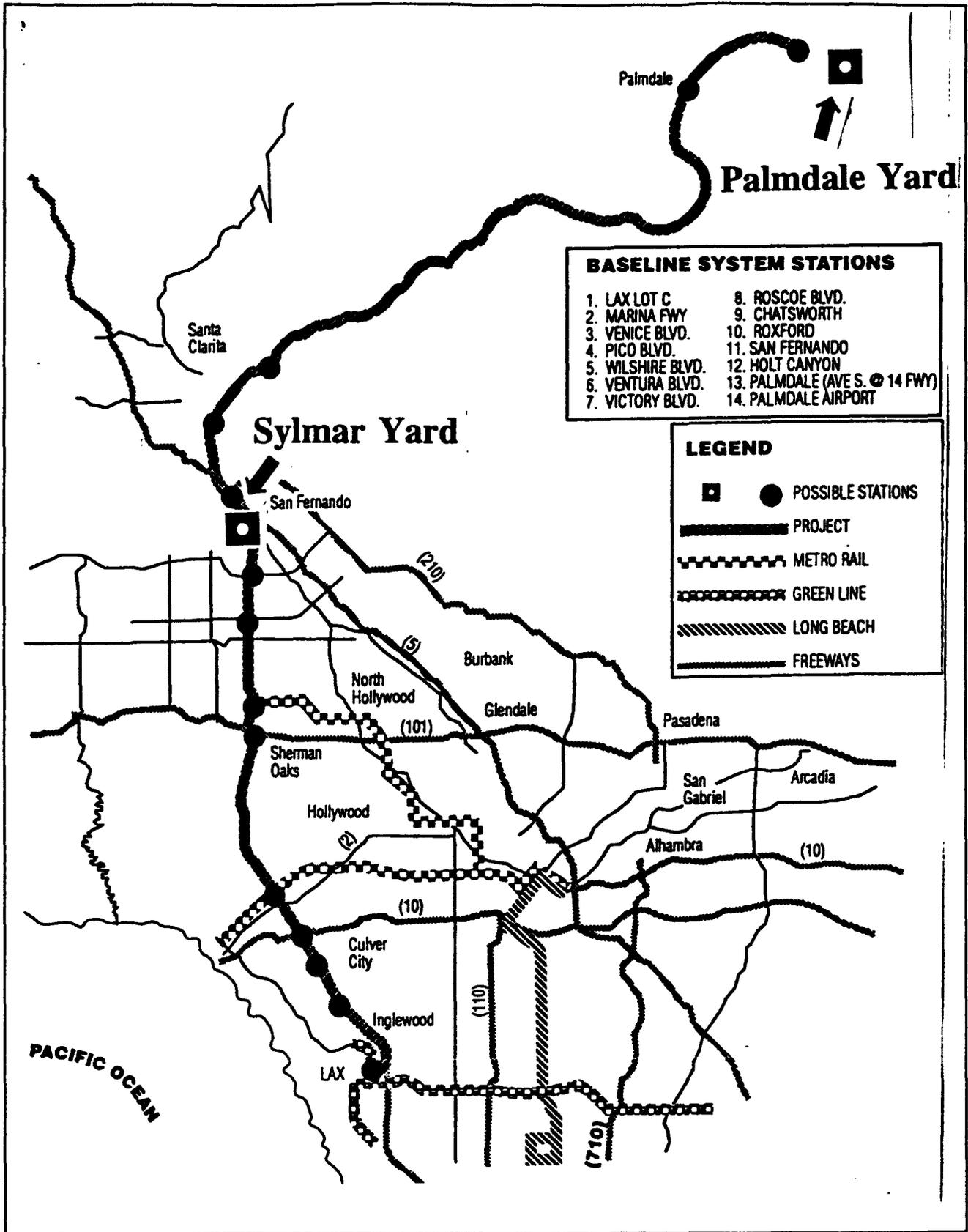
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Adelanto coarse sandy loam (0 to 2 percent slopes) occupies alluvial fans and may be locally overlain by thin lenses of Cajon loamy sand or Mojave coarse sandy loam. It is characterized by sandy to coarse sandy loam of pH of 6.5 to 7.0. It is massive, slightly hard when dry, friable when moist, and nonsticky and nonplastic when wet. Adelanto soils may be noneffervescent to slightly effervescent. Runoff is very slow and soil blowing is a moderate hazard. Subsoils are sandy loam and heavy sandy loam with a subangular block or massive structure. Reaction ranges from mildly alkaline to moderately alkaline (generally increasing with depth) with slight to strong effervescence.

The Rosamond series consists of moderately well drained soils formed in granite alluvium (0 to 2 percent slopes). Rosamond fine sandy loam is a very fine to fine sandy loam of moderate permeability. It is slightly hard to hard when dry, very friable when moist, nonsticky to slightly sticky and slightly plastic when wet. Runoff is very slow and soil blowing is a moderate hazard. Subsoils consist of light silty to sandy clay loam with an angular blocky structure. They are hard when dry, friable when moist, sticky and plastic when wet and have moderate alkalinity (pH 8.2). Rosamond loam typically has a six to eight-inch surface layer of massive loam. Slopes are typically under one percent, but can range up to two percent locally. In some scattered areas, Rosamond loam is characterized by saline-alkali soil.

Historical uses of this site include agriculture. The land has been fallow for over 15 years. There is no visual evidence of contaminated soils at this site (e.g., drums of chemicals, stained ground surface, etc.). However, because of the prior agricultural use, there may be substances such as pesticide residues remaining in the soil. The nearby wastewater treatment plant could, in the event of a major storm, produce contaminated surface water flooding.

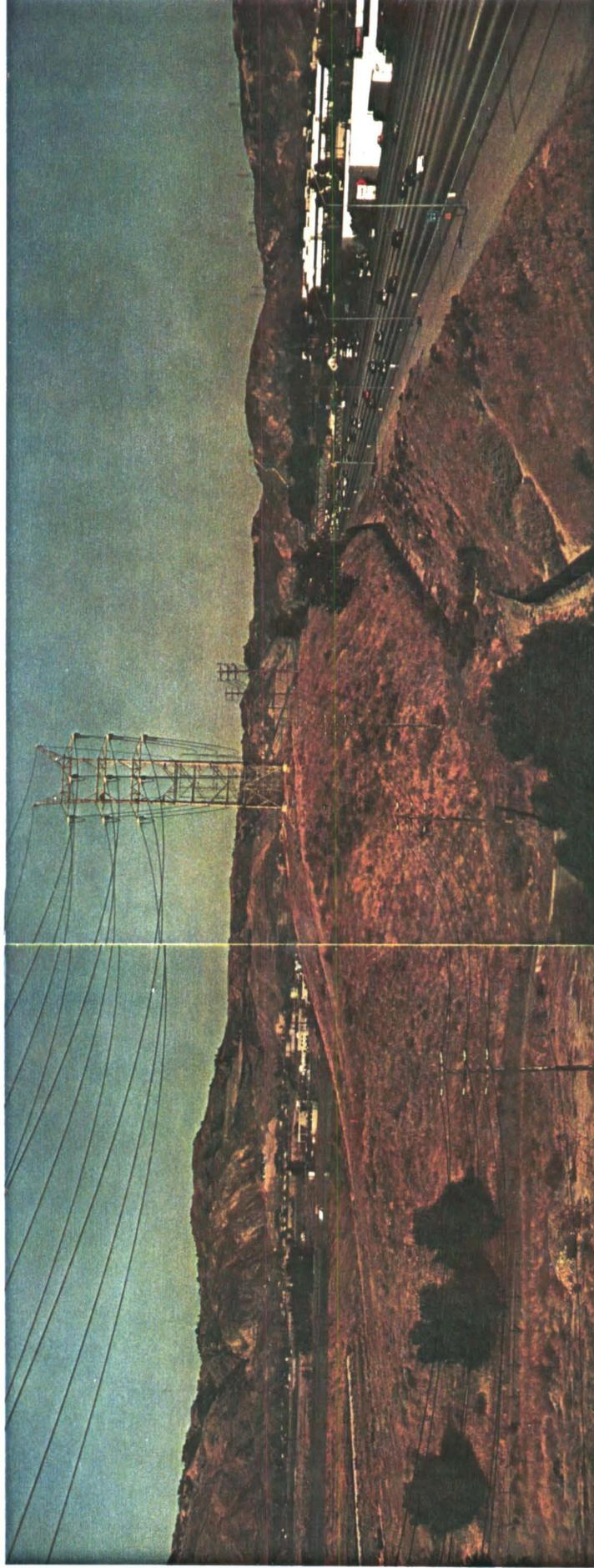
Figure 1

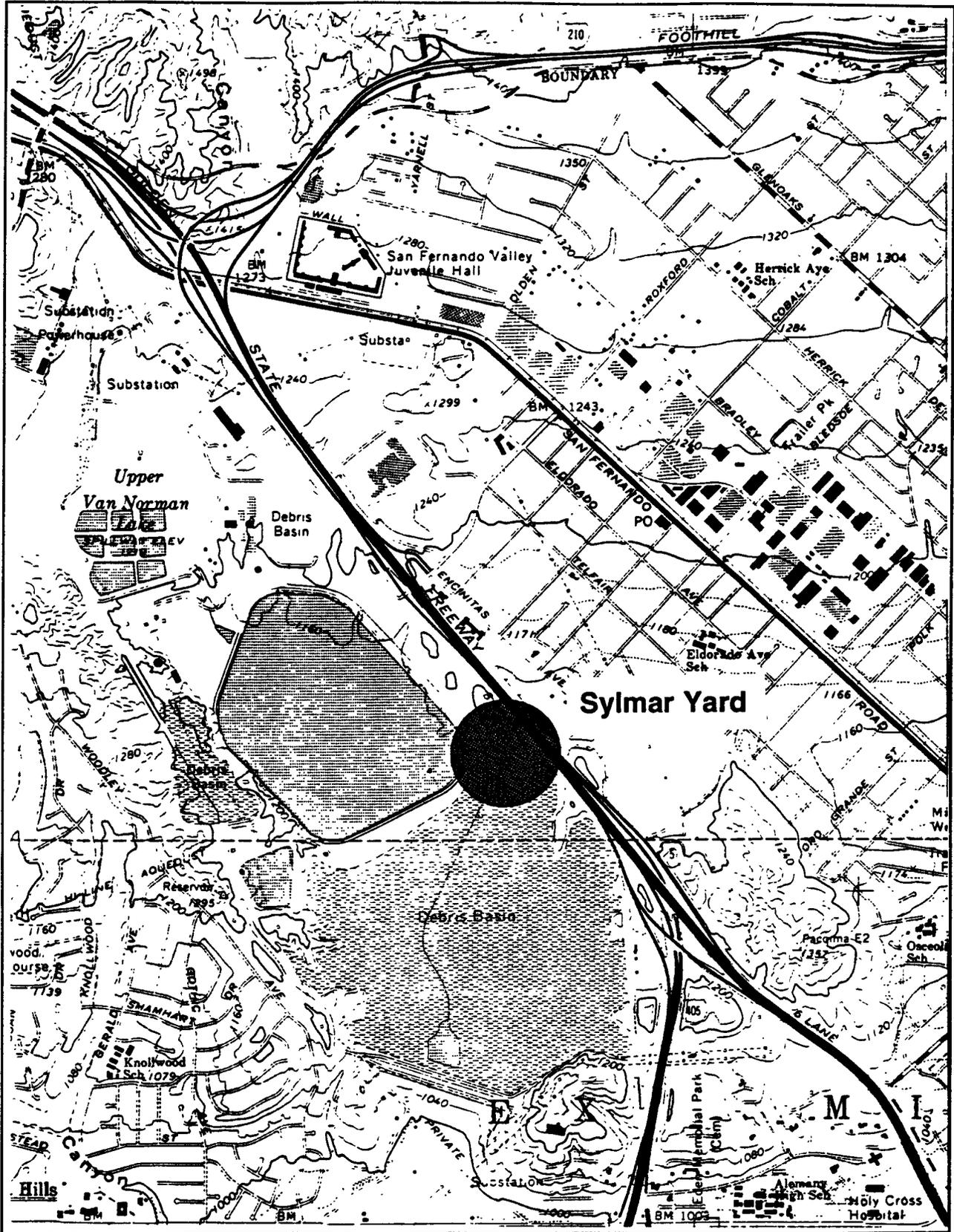


LAX-Palmdale

Sylmar Yard Site - looking north

Photo 1





Source: USGS
No Scale



Generalized Soils Types -- Sylmar Yard

Figure 3



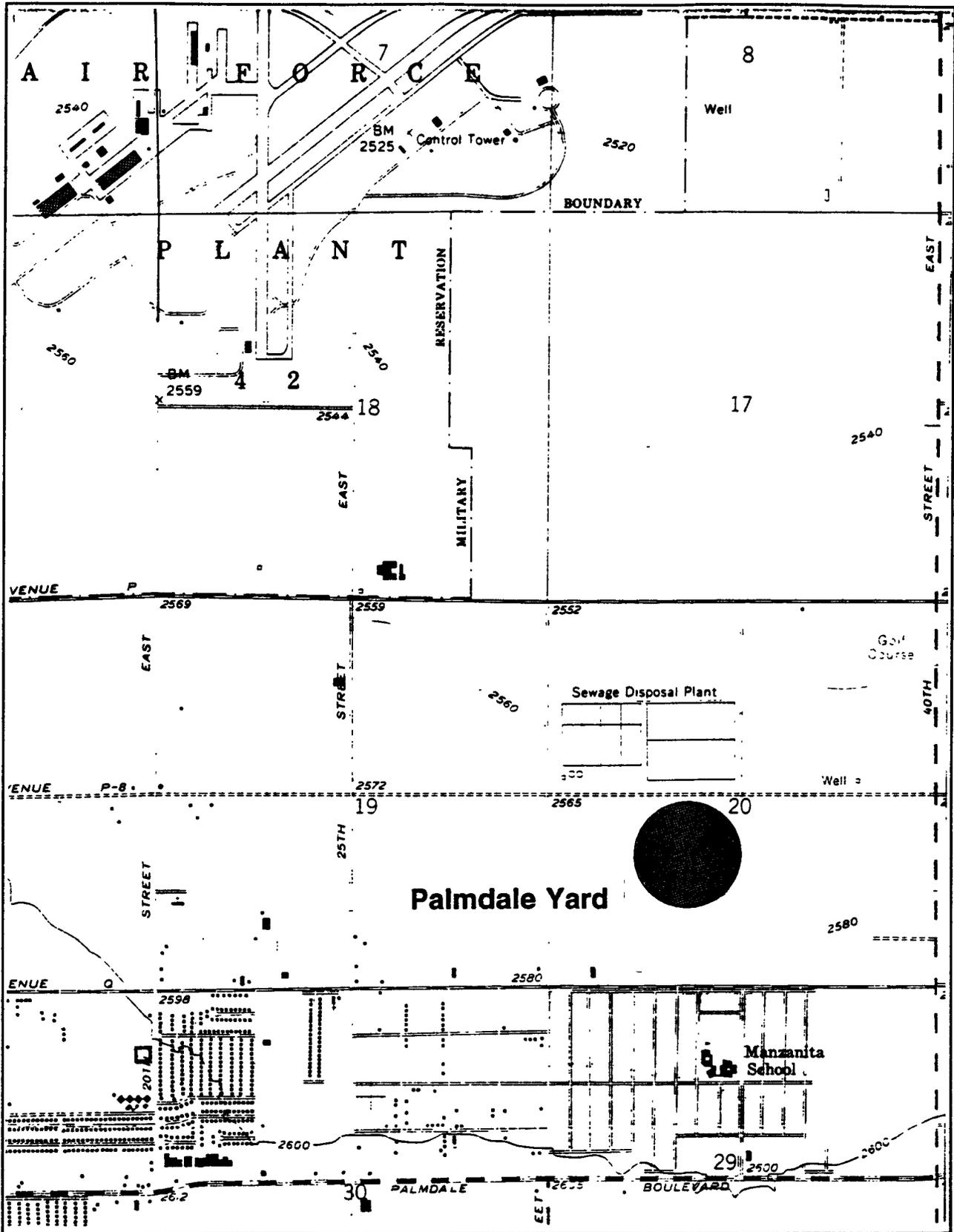
Source: USDA, Soil Conservation Service

No Scale

- | | | | |
|----|---------------------------------------------------------------|----|--------------------------------------------------------------|
| 14 | Hanford association, 2 to 5 percent slopes. | 27 | Gaviota-Millsholm association, 30 to 50 percent slopes. |
| 17 | Cropley association. | 34 | Diablo-Altamont association, 2 to 9 percent slopes. |
| 22 | Ramona-Placentia association, 5 to 9 percent slopes. | 35 | Altamont-Diablo association, 9 to 30 percent slopes, eroded. |
| 23 | Ramona-Placentia association, 9 to 15 percent slopes, eroded. | | |

Palmdale Yard

Figure 4

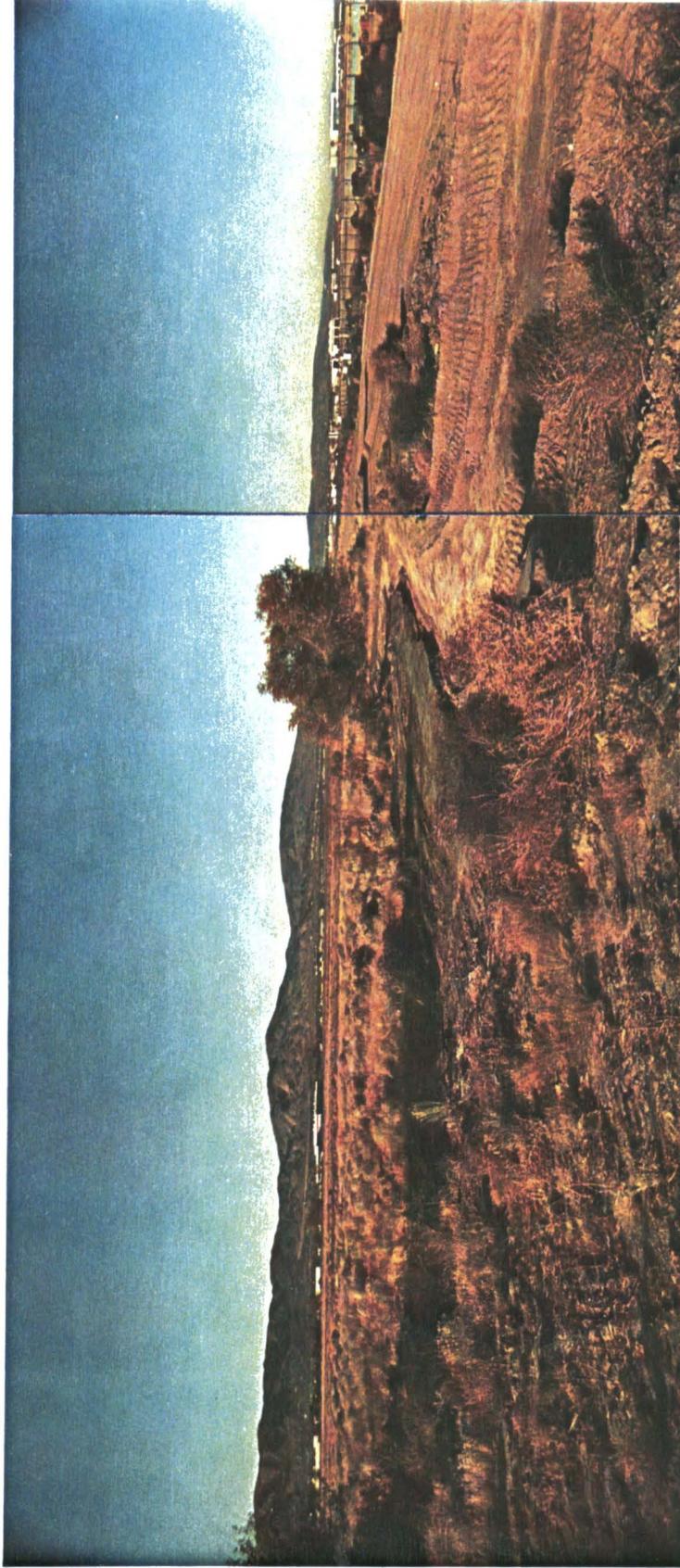


Source: USGS
No Scale



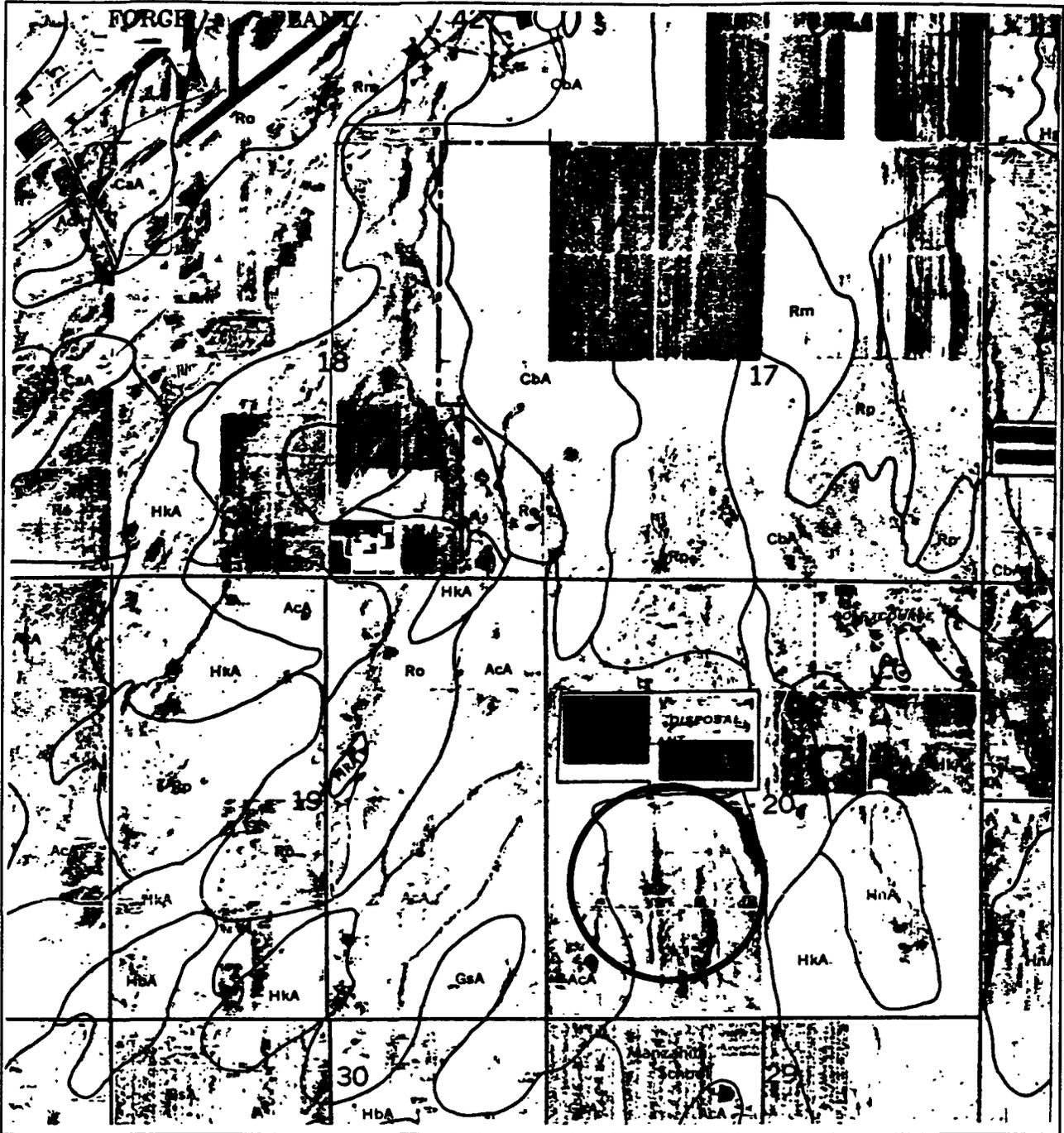
Palmdale Yard Site - looking west

Photo 2



Generalized Soils Types -- Palmdale Yard

Figure 5



Source: USDA/UC Agricultural Experiment Station

No Scale

AcA	Adelanto coarse sandy loam, 0 to 2 percent slopes.
HkA	Hesperia fine sandy loam, 0 to 2 percent slopes.
Ro	Rosamond fine sandy loam.
Rp	Rosamond loam.

Endnotes

1. Federal Emergency Management Agency, Flood Insurance Rate Maps, Community No. 060137, Panel Nos. 0006 and 0012, December 2, 1980.
2. United States Department of Agriculture Soil Conservation Service, Report and General Soil Survey, Los Angeles County, California, December, 1969.
3. Federal Emergency Management Agency, Flood Insurance Rate Map Community Panel Number 065043 0275 B, December 2, 1980.
4. United States Department of Agriculture (in cooperation with the University of California Agricultural Experiment Station), Soil Survey Antelope Valley Area, California, January, 1970.