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Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for Maywood, New Jersey

U.S. Department of Energy

0489-0613.1

115716

Department of Energy

Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831—8723

April 21, 1994

Mr. Jonathan Gell
State of New Jersey Department of
Environmental Protection and Energy
Natural and Historic Resources
Division of Parks and Forestry
Office of New Jersey Heritage
CN 404
Trenton, New Jersey 08625-0404

Dear Mr. Gell:

MAYWOOD SITE - TRANSMITTAL OF THE STATE IA ARCHAEOLOGICAL AND HISTORICAL STUDY

The purpose of this letter is to transmit one copy of the Phase IA Archaeological and Historical Study of the Maywood Site. The study concludes that although the buildings on the Maywood Interim Storage Site (MISS) and Stepan appear eligible for the National Register of Historic Places as a district, the decontamination measures would have no effect on the buildings. Although the demolition of building 76 on MISS would have an adverse effect by removing a contributing building to the district, an appropriate mitigation measure may be to document the building with large format black and white archival photographs. In addition, no further archaeological research is recommended.

Your approval or comments are requested by May 16, 1994, to meet the scheduled publication date of the Feasibility Study and Proposed Plan. If you have any questions, or if I can be of any assistance, please contact me at (615) 576-5724. Your cooperation is appreciated.

Sincerely,

Susan M. Cange, Site Manager
Former Sites Restoration Division

Enclosure

APPENDIX G

STAGE IA ARCHAEOLOGICAL AND HISTORICAL STUDY OF THE MAYWOOD SITE

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DRAFT FINAL

STAGE IA ARCHAEOLOGICAL AND HISTORICAL STUDY OF THE MAYWOOD SITE

MAYWOOD, NEW JERSEY

APRIL 1994

U.S. Department of Energy
Oak Ridge Operations Office
Formerly Utilized Sites Remedial Action Program

115649

DRAFT FINAL

STAGE IA ARCHAEOLOGICAL AND HISTORICAL STUDY OF THE MAYWOOD SITE

MAYWOOD, NEW JERSEY

APRIL 1994

prepared by
U.S. Department of Energy, Oak Ridge Operations Office, Formerly Utilized Sites Remedial Action Program

with technical assistance from
Science Applications International Corporation ESC-FUSRAP
under Contract No. DE-AC05-91OR21950

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1.0 INTRODUCTION

This report consists of an archaeological and historical sensitivity study of the Maywood Site, a parcel owned by the U.S. Department of Energy (DOE). The survey was conducted because DOE plans to remediate contaminated materials at the site and remediation may affect archaeological and historical resources. The goal of this report is to determine whether the remediation project could affect any resources eligible for listing on the National Register of Historic Places (NRHP). This report complies with Section 106 of the National Historic Preservation Act, as amended.

2.0 PROJECT LOCATION AND DESCRIPTION

The Maywood Site includes four areas in the boroughs of Maywood and Lodi and the township of Rochelle Park, New Jersey: MISS; the Stepan property; 23 commercial and government properties; and 35 residential and municipal properties (Figures 1, 2 and 3). A list of these properties is provided in Table 1.

MISS is an 11.7-acre (4.7 ha) fenced area, west of and originally part of the Stepan property, which includes an interim waste storage pile containing approximately 35,000 cubic yards of radioactively contaminated soils and materials removed from vicinity properties: a warehouse, pump house, temporary office trailers, a reservoir, two rail spurs, and three former retention ponds.

The Stepan property, at 100 West Hunter Avenue, Maywood, is an 18.2 acre (7.4 ha) property consisting of 14 industrial buildings on terraced land. The older buildings were part of the former Maywood Chemical Works (MCW) founded in 1910, which incorporated the Schaeter Alkaloid Works built in 1895.

The 15 commercial/governmental vicinity properties that have buildings on them consist of banks, warehouses, gas stations, manufacturing buildings, and office buildings, built between the 1950s and the 1980s, along Essex and Hancock streets in Lodi and between Route 17 and Maywood Avenue in Maywood.

The 35 residential and municipal buildings consist of three parks, a fire station, and modest single family homes dating from the 1910s to 1970s in Lodi and Maywood.

The Maywood and Lodi properties were contaminated with thorium, radium, and uranium from processing at the Maywood Chemical Works, either through contaminated fill or through overflow of Lodi Brook which runs through almost all of the properties (BNI 1992).

Proposed remediation alternatives for the Maywood site include No Action; Partial Excavation and Disposal; Partial Excavation, Treatment and Disposal; Complete Excavation and Disposal; Complete Excavation, Treatment and Disposal; Decontamination, Partial Demolition,

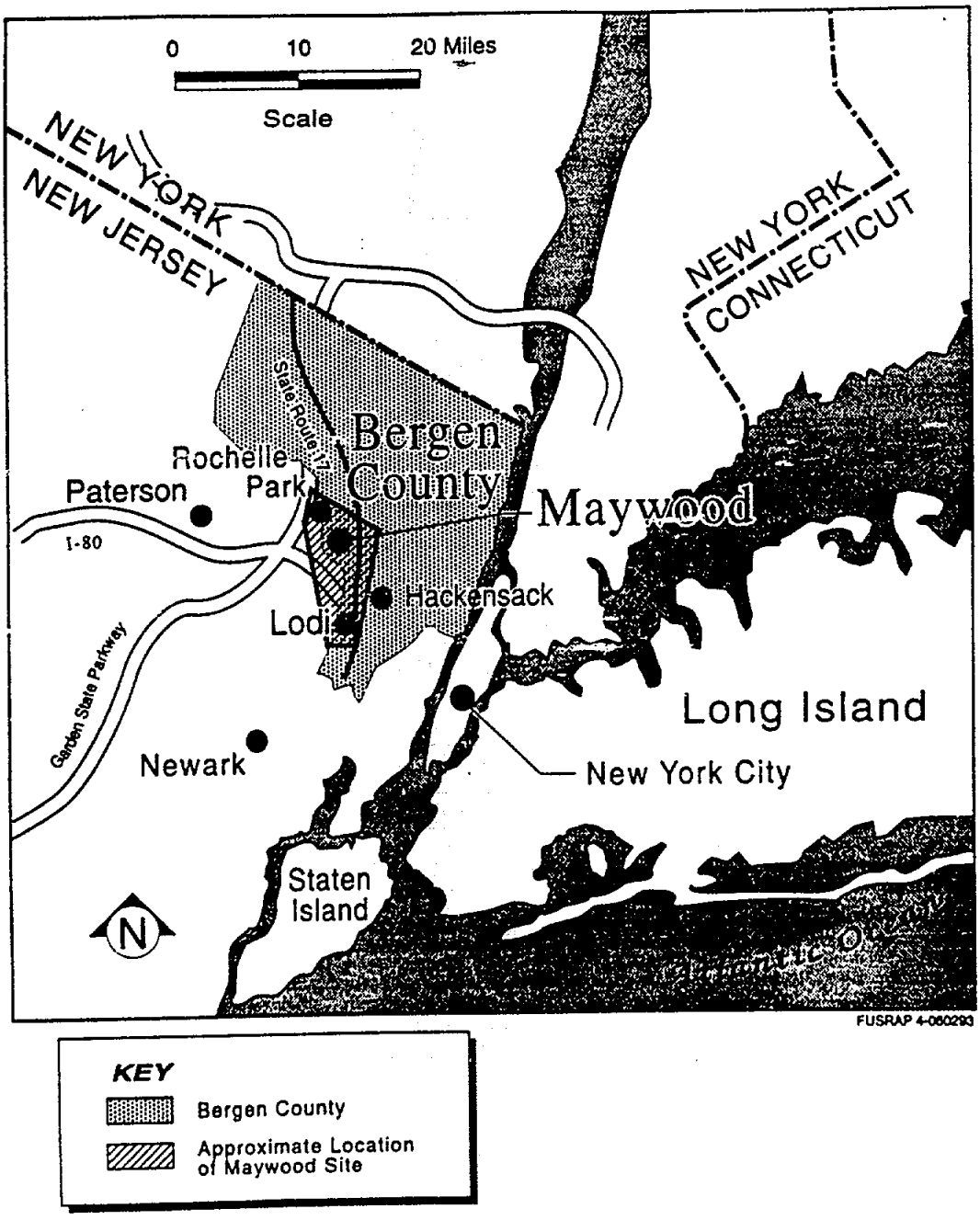

Figure 1. Location of Maywood, Bergen County, New Jersey

Figure 2. Aerial Photograph of the Maywood Site

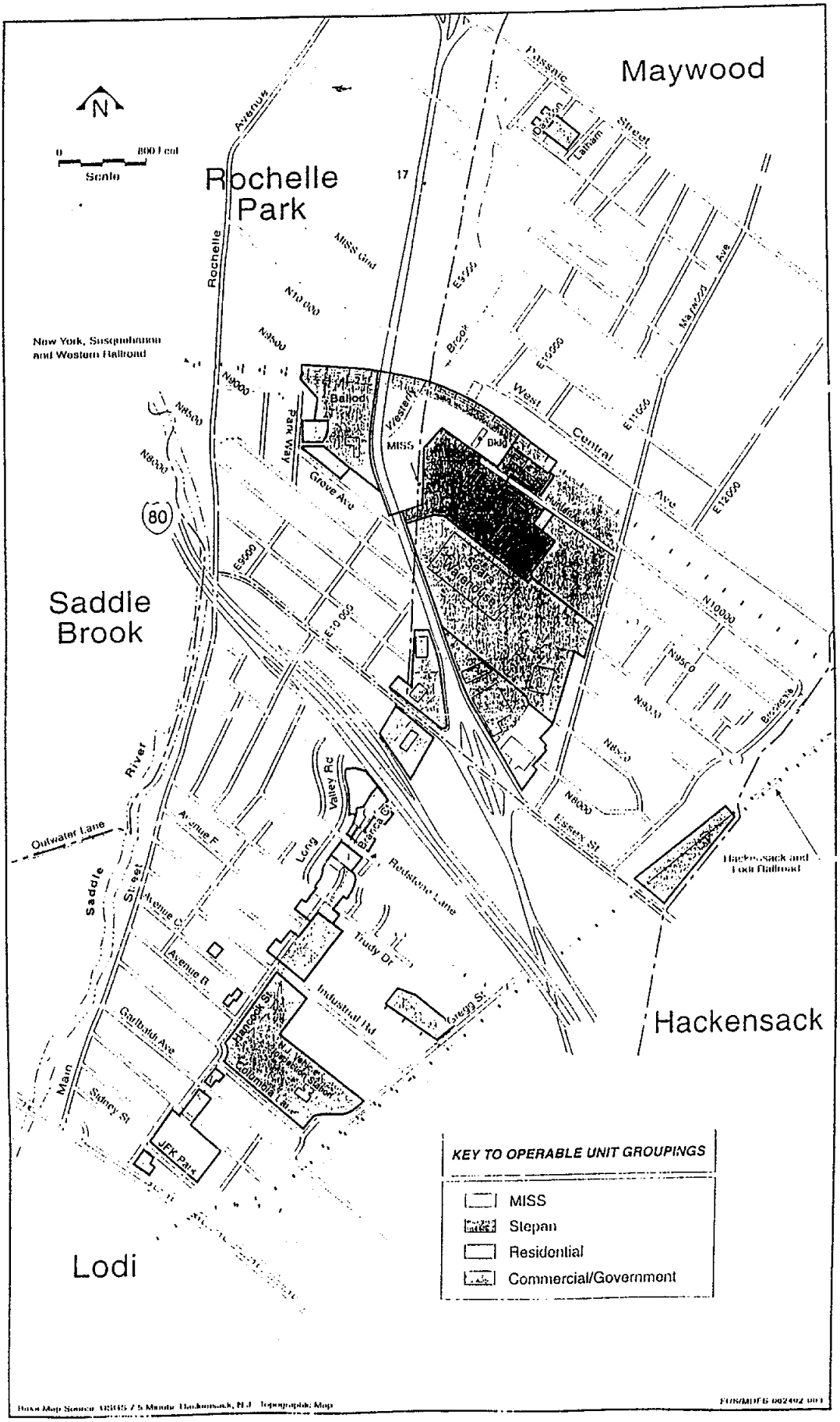

Figure 3. Location of Properties Comprising the Maywood Site

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Table 1 List of the Maywood Site Properties

Description	*Location*
MISS	Maywood Interim Storage Site, Maywood and Rochelle Park
Stepan	Stepan Company property, Maywood and Rochelle Park
Commercial/Government	149-151 Maywood Avenue, Maywood and Rochelle Park (Sears property)
	Rochelle Park (Ballod property)
	80 Hancock Street, Lodi (AIRCO)
	100 Hancock Street, Lodi
	80 Industrial Road, Lodi (Flint Ink)
	72 Sidney Street, Lodi (car lot)
	113 Essex Street, Maywood (National Community Bank)
	160/174 Essex Street, Maywood (National Community Bank)
	Interstate 80 (eastbound and westbound rights-of-way), Lodi
	200 Rte 17, Maywood (Sears small truck repair)
	Rte 17 and Essex Street, Maywood (Joseph Muscarelle Associates)
	Essex Street, Maywood (vacant lot)
	87-99 Rte 17, Maywood (Hunter Douglas property)
	137 Rte 17, Maywood (Federal Express property)
	239 Rte 17, Maywood (Gulf Station property)
	23 W. Howcroft, Maywood (DeSaussure property)
	167 Rte 17, Maywood (Sunoco Station property)
	Gregg St.-Columbia Lane, Lodi (New Jersey Vehicle Inspection Station)
	170 Gregg Street, Lodi (Bergen Cable Technologies, Inc.)
	New Jersey State Route 17, Maywood and Rochelle Park

Description	*Location*
Commercial	New York, Susquehanna & Western Railroad property, Maywood (western right-of-way)
	205 Maywood Avenue, Maywood (Myron Manufacturing)
	Hackensack & Lodi Railroad
Residential	60 Trudy Drive, Lodi
	62 Trudy Drive, Lodi
	4 Hancock Street, Lodi
	5 Hancock Street, Lodi
	6 Hancock Street, Lodi
	7 Hancock Street, Lodi
	8 Hancock Street, Lodi
	10 Hancock Street, Lodi
	2 Branca Court, Lodi
	4 Branca Court, Lodi
	6 Branca Court, Lodi
	7 Branca Court, Lodi
	11 Branca Court, Lodi
	14 Long Valley Road, Lodi
	16 Long Valley Road, Lodi
	18 Long Valley Road, Lodi
	20 Long Valley Road, Lodi
	22 Long Valley Road, Lodi
	24 Long Valley Road, Lodi
	26 Long Valley Road, Lodi
	11 Redstone Lane, Lodi
	17 Redstone Lane, Lodi
	Lodi Municipal Park (Jet Age Park), Lodi
	106 Columbia Lane, Lodi

Description	*Location*
Residential (cont.)	99 Garibaldi Avenue, Lodi
	Fire Station No. 2, Lodi
	Fireman's Memorial Park, Lodi
	J.F. Kennedy Municipal Park, Lodi
	90 Avenue C, Lodi
	108 Avenue E, Lodi
	112 Avenue E, Lodi
	113 Avenue E, Lodi
	79 Avenue B, Lodi
	136 W. Central Avenue, Maywood
	200 Brookdale SE, Maywood

and Disposal (for buildings on MISS and Stepan only) (DOE Draft *Proposed Plan for the Maywood Site*, April 1994).

3.0 SETTING

The Maywood site is in a densely urban setting in northeastern New Jersey in the boroughs of Maywood and Lodi and the township of Rochelle Park, and contains four defined areas: MISS; the Stepan property; 23 commercial and government properties; and 35 residential and municipal properties.

MISS, in Maywood, is bounded on the west by Route 17, on the north by the New York, Susquehanna and Western Railroad, and to the east and south by the Stepan Company property. Residential properties lie to the north beyond the railroad line. The Stepan Company property is surrounded by industrial, commercial, and residential buildings. To the north and northeast the property is bordered by the New York, Susquehanna and Western railroad and by commercial properties to the south and southwest.

All of the residences except two are located in Lodi, directly adjoining Maywood to the southwest. The residences are located in four different housing tracts, consisting of modest one and two story single family homes, located on a linear north/south corridor off Hancock Street, linked by Lodi Brook. The commercial and governmental buildings are located in Maywood, between Route 17 and Maywood Avenue, and in Lodi along Essex and Hancock streets and Industrial Road in predominantly commercial/industrial sections of both boroughs. The Pfizer Company buildup are no longer in existence; the Myron Manufacturing Company building stands on the site.

Two properties in the larger project area are listed on both the New Jersey State Register and the NRHP, the Romeyn-Oldis-Brinkerhoff House at 279 Maywood Avenue and the Romine-Van Voorhis House at 306 Maywood Avenue (Office of New Jersey Heritage 1988). A *1985 Bergen County Historic Sites Survey* of the area, a "reconnaissance level" inventory of potentially significant buildings, identified the "Maywood Chemical Works" complex, including the Stepan and Pfizer companies as significant within a matrix (district) for its architectural style and association with Maywood's industrial heritage. Additionally, the Peerless Engine Company #2 Fire House, adjacent to the chemical plants, was identified as significant within a matrix (Pfoutz 1992). Pfizer has been replaced by the Myron Manufacturing Company.

4.0 HISTORICAL RESOURCES

4.1 Methodology

In December 1993, Alexandra Cole of Science Applications International Corporation (SAIC) carried out archival research in the Maywood Public Library, the Maywood and Lodi Borough Offices, the New Jersey Room of the Newark Public Library, and the DOE Public Information Center in Maywood. She interviewed John O'Brien, Manager of the Stepan

Company, and reviewed his archives. Additionally she consulted the New Jersey State Library. Jonathan Gell of the New Jersey State Historic Preservation Office provided information on historic surveys in the Maywood area.

On-site research included a tour of the properties with Nicke Ring, Bechtel National Incorporated (BNI), to examine the buildings' condition and number of alterations, and to photograph them.

4.2 History of the Area

Maywood

The borough of Maywood, 885 acres, was originally settled by Dutch families from Long Island and New York City in 1600, who settled along the Hackensack River, gradually spreading out into what was called Bergen County after a town in Holland. The first deed given by the Indians was in 1630. The area, called Midland Township, was a farming community for almost 300 years. The main urban settlement was along Maywood Avenue between Essex Street and Passaic Street, with houses built of local red sandstone in the Dutch Colonial style.

In 1885 Midland Township became part of Hackensack, being known as West Hackensack. At this time several German businessmen transformed a great deal of this rural area into a suburban development. Gustav L. Jaeger, who made his money in paper manufacturing in New York, developed a large tract of farmland with fellow German Henry Lindenmeyer. Jaeger paved the streets with macadam, and persuaded the Hackensack Water Company and Electric Light Company to supply his new development with utilities. He sponsored industries such as the Maywood Art Tile Company. In 1894, he was instrumental in forming a new borough, separate from Hackensack, with 350 inhabitants, which was named Maywood. As owner of the Maywood Land Company, Jaeger developed a number of houses in town, and served on the first Council when Maywood became a borough. A second entrepreneur, Gustav Peetz, bought a large farm in 1892 and developed housing in the northeast section of Maywood (Van Valen 1900).

Successful development of the new town was made possible by the presence of the New York Susquehanna and Western railroad, built in 1872 to connect the Hudson River to the Pennsylvania coal fields. Such railroad service allowed Mr. Peetz to advertise Maywood in 1890s newspapers as the "most charming suburb of New York City" with house prices for a seven-room cottage for $1,200 (Maywood 1944). The central part of town near the railroad station began to develop with two-story suburban wood frame houses on long narrow lots lining the streets, providing homes for workers commuting to New York City but wanting to live in a rural area.

Trolley service to Maywood from the Hudson River began in 1900 with the arrival of a line from the New Jersey and Hudson River Railway and Ferry Company. This trolley line went up Maywood Avenue and turned left onto West Pleasant Street, enabling that section of

town to expand in the 1910s and early 1920s. Maywood Heights was developed after 1920, north of Passaic Street and west of Maywood Avenue. Garden apartments, clusters of two- and three-story buildings within landscaped areas, began to appear in the 1920s and 1930s (Fiftieth Anniversary 1944: 9, Sanborn Map, Hackensack 1926).

Maywood remained a small town until after World War II, when returning soldiers under the Veterans Administration's easy mortgages were able to buy houses in the suburbs. The expanding network of highways surrounding Maywood, 17 going north and south, 46 going east and west, and the New Jersey Turnpike and Garden State Parkway, built in the 1950s, made the town easily accessible to New York City as a bedroom community. The remaining areas of vacant land in the extreme northwest and northeast parts of the town filled up with housing. More inhabitants meant more services were required, and in the 1950s and 1960s a number of warehouses, banks, gas stations, and service buildings were constructed along Route 17. The Garden State Plaza, one of the area's first malls, was built adjacent to Route 17 in 1957.

Although primarily a residential community for people working in the surrounding cities, Maywood did attract industry in the early years of the 20th century, primarily chemical works established by German chemical manufacturers who had moved from New York City to Maywood to establish both homes and businesses. Ernst Bilhuber, manager of the Maywood Tile Works, induced Dr. Louis Schaefer to settle in Maywood, where he built his Schaefer Alkaloid Works in 1896, close to the railroad line and the station. Other German chemical manufacturers followed suit, establishing by 1909 three more chemical companies, the Thorien Chemical Company, the Herman-de Lair-Schaeffer Company, and Standard Essen Company in Maywood. These four companies merged in 1910 to become the Maywood Chemical Works. The Citro Chemical Company was established adjacent to the Maywood Chemical Works by Dr. Emerson, the manufacturer of Bromo Seltzer (Maywood 1944). Today the Stepan Company and Myron Manufacturing are indicative of the industries located in Maywood.

Lodi

The borough of Lodi, immediately to the south of Maywood, originally was settled by the Leni-Lenape Indians along the Saddle River, then known as the Warepeake River. In the 1670s a Captain John Berry bought the land from the Indians for development. A number of Dutch from Holland, New York City, and other parts of New Jersey, settled on Berry's land after 1682. The town, originally called Pollifly, or Polifly, meaning a bog meadow, was situated between the Saddle River and Polifly Road to the east. The area was primarily farm land, with vegetables, fruits, and grains the main crops. The township of Polifly was established in 1825 and named Lodi, apparently at the suggestion of General Lafayette, after the town of Lodi in Italy (Lodi Chamber of Commerce Business Directory 1989; Clayton 1882).

The village of Lodi, within the larger township of the same name, was virtually non-existent with the exception of a saw-mill on the Saddle River, until the Scotsman, Robert Rennie, established a calico printing mill, called the Lodi Print Works, on the river in the 1830s. In 1855, Rennie built the Lodi Chemical Works adjacent to his calico mill, for the refining of

petroleum and the production of oil of vitriol, nitric acid, and muriatic acid, with raw materials coming from Europe and South America. Rennie's factories were highly successful, attracting hundreds of people to work there. He was instrumental in bringing a railroad line from the New York, Susquehanna & Western Railroad south to Lodi (then the New Jersey Midland Railroad) to service his enterprises. As well he provided amenities for his employees such as a library and a men's club, as well as a post office and school for the town. His accomplishments earned him the unofficial title of the "father of Lodi" (Heusser 1927). The residential part of town grew up on either side of the river. Lodi became a borough in 1894.

Rennie's cloth mill was eventually sold to the firm of Burns and Smith in 1875, who in turn sold it to the Blum brothers, who operated a dyeing business called Alexander Piece Dye Works. A second dye mill, the Boettger Piece Dye Works, was established in 1896. In 1903 the two firms merged as the United Piece Dye Works, a firm that attracted thousands of new workers to the area, primarily Italians and Poles. The population of Lodi doubled between 1900 and 1910, and a large number of worker houses were built in Lodi at this time to handle the increased population (Lodi Chamber of Commerce Business Directory 1991-92; Fogarty et al. 1985).

A major textile strike in 1926 at the United Piece Dye Works and the surrounding woolen mills, led by the United Front Committee of Textile Workers, lasted eight months and left a scar on the New Jersey textile industry. By the 1930s the development of synthetic fibers caused the wool business to decline, and the Lodi factory closed in 1957.

As a result of the loss of the major employer in Lodi, an urban renewal program was undertaken to attract federal funds for the redevelopment of the downtown, creating new shopping malls, an industrial park to attract other types of industry such as chemical and electrical plants, and a municipal complex. The network of highways created in the 1940s and 1950s, as well as the post-war housing boom, attracted an influx of families to Lodi, and numerous tracts of single-family houses were built in the northern section of town. Lodi today is a mix of residential, industrial and service -oriented businesses (Lodi Chamber of Commerce Business Directory 1991-92; *Borough of Lodi Master Plan* 1964).

4.3 History of the Properties

Maywood Interim Storage Site (MISS)

The MISS property is the western 11.7-acre (4.7 ha) portion of the original 30 acres (12.1 ha) belonging to the Maywood Chemical Works, and approximately 35 of the company's manufacturing and warehouse buildings stood on the site. The 300,000-gallon reservoir, a warehouse, and the concrete and brick foundations of several of these buildings remain. The area was acquired from the Stepan Company by DOE in 1985 as an interim waste storage site.

Stepan Property

The Stepan property is the eastern portion of the original 30 acres belonging to the MCW, founded in 1896 as the Schaefer Alkaloid Works by Dr. Louis Schaefer, a German chemist. Around 1910 this company merged with three other German chemical companies to become the Maywood Chemical Works, which incorporated the old Schaefer Alkaloid buildings (Maywood 1944). The primary focus of MCW at this time was the extraction of chemicals and essences from natural substances. Very early in the plant's history it began to make lithium compounds; according to a written account by the former President of MCW, by 1917 Thomas Edison financed a building (present #67) at the plant where lithium hydroxide could be processed to provide the electrolytes for the alkaline nickel iron storage battery he invented for an electric car (Stepan 1992) (this link, however, has not been corroborated by other sources).

The plant expanded rapidly during and after World War I when the United States, cut off from its German supply of dyes and organic chemicals, was forced to develop it own chemical industry; the majority of the current buildings on the site were built between 1910 and 1930. A spur line of the New York, Susquehanna and Western railroad ran east and west through the property. In 1916 the company began extracting thorium from monazite sands to be used in the manufacture of mantles for gas lamps. In the early 1940s Building 78 was built to Navy specifications for the manufacture of lithium hydroxide, which was used on submarines during World War II to absorb carbon dioxide from the air (personal communication, J.O'Brien 1992; Stepan 1992). By 1951, MCW was extracting thorium from monazite sands, caffeine from tea waste, lithium from lithia salts and ore, and cocaine crystals from coca leaves, as well as producing detergents, alkaloids, essential oils, and flavoring extracts for soft drinks (1951 Plot Plan of MCW).

In 1959 the Stepan Company bought MCW, and continued to manufacture similar products, with the exception of the extraction of thorium, which was discontinued. Many of the older buildings were torn down in the late 1970s, including Building 21, one of the original buildings of the Schaefer Alkaloid Works, where the thorium was extracted from the monazite sands. Additions were made to the office (#15) and warehouse (#13) in 1967 and two warehouses (#2 and #3) were constructed in 1975. Currently 17 buildings remain from the approximately 115 that existed on the property in the 1970s (Figure 4).

Commercial/Industrial Properties

The commercial and governmental buildings included as part of the Maywood site are located in Maywood, between Route 17 and Maywood Avenue, and in Lodi along Hancock Street and Industrial Road in predominantly commercial/industrial sections of both boroughs. The particular triangle-shaped industrial area of Maywood, between Route 17 and Maywood Avenue, and along Essex Street, was not developed until the 1950s, with the exception of the MCW and the Citro Chemical Company (later Pfizer, and now the site of the Myron Manufacturing Company), which were built in the early part of the century close to the railroad. The 11 buildings surveyed were constructed between 1955 and 1982, and consist of the types

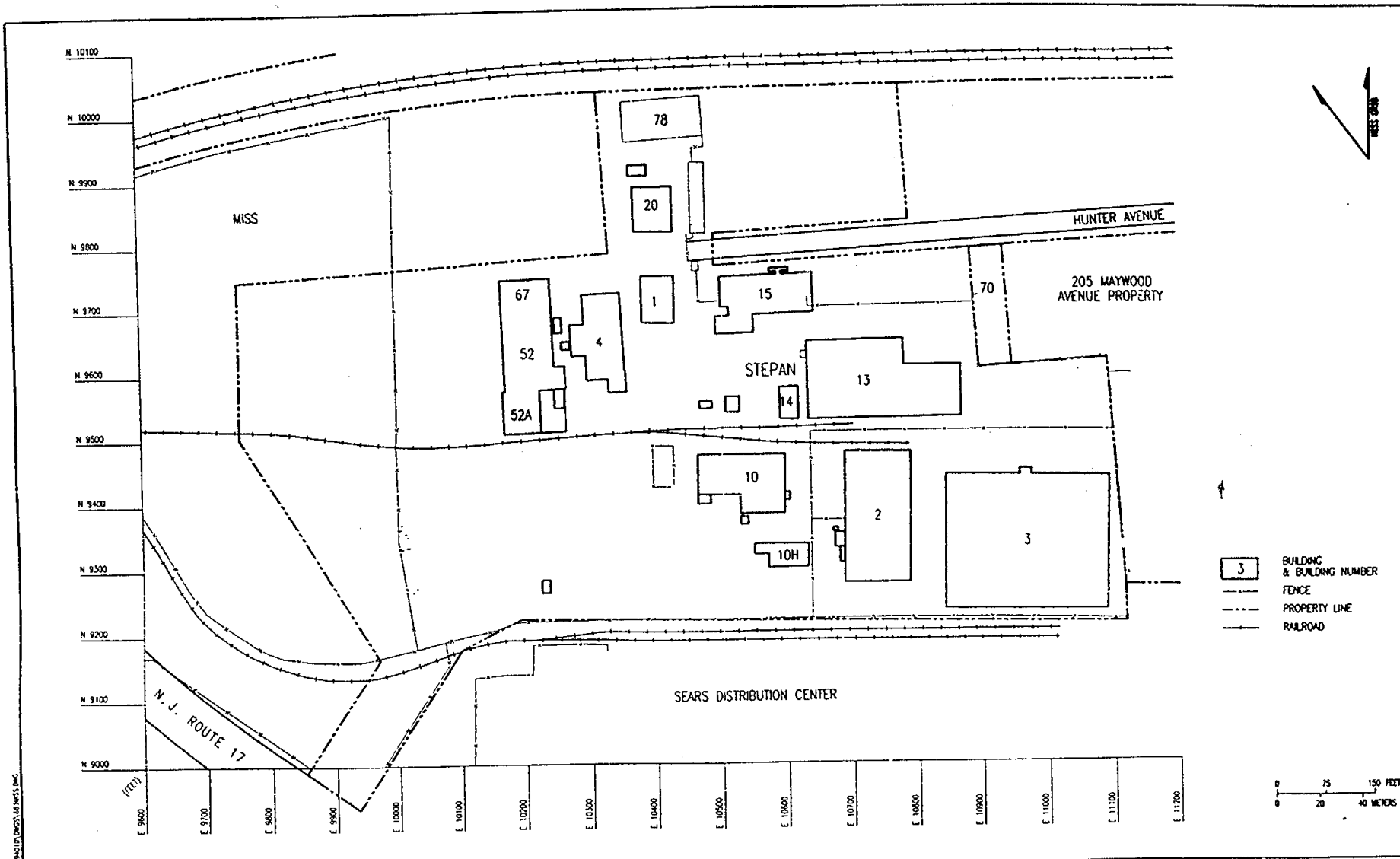

Figure 4. Stepan Property 1993

of service buildings that traditionally developed along a modern highway strip, in this case gas stations, warehouses, and a bank.

The industrial area in Lodi where four buildings are located was not developed until the 1950s and 1960s. The six buildings surveyed were constructed between 1956 and 1978, in an area zoned for industry and public land (*Borough of Lodi Master Plan* 1964).

Residential and Municipal Properties

All of the residences except two are located in Lodi. The residences, consisting of one and two story single family homes dating from the 1910s to the 1970s, are located in a number of different housing tracts located on a linear north/south corridor off Hancock Street, linked by Lodi Brook, and represent different stages in the town's history of housing.

The house on Avenue C is one of a row of one-and-one-half story gable-front houses built in the 1910s as housing for factory workers, in a vernacular style that derived its rectangular shape, simplicity, and gable-front orientation from the Greek Revival style of the preceding century. The three residences on Avenue E, built in 1941, are small side-gabled houses on high concrete foundations, with front gabled wings and attached garages. The house on Avenue B is one of a number of split level houses, built in the 1950s, with hipped roofs and brick veneer and shingle siding. The residence on Columbia Lane dates from the 1950s and has brick veneer and an eaves front roof with two hipped roof wings to the front. The adjacent house on Garibaldi Avenue also dates from the 1950s but has been altered with the addition of a second story. The avenues in this section of town are on a grid pattern, representing a 19th-century town plan.

The housing development to the east of Trudy Drive includes curving drives designed to give a suburban appearance. The seven houses on Long Valley Road date from the 1940s, and with one exception have been remodelled from their original one story with gabled dormers to two-story Garrison Colonial style homes. The six houses at the end of Hancock Street date from the 1940s, and have eaves-front roofs, gabled wings and dormers, and one-car attached garages. Three of these houses have been remodelled by the addition of a full second story or a large dormer. The two houses on Trudy Drive date to the 1950s, and are small one-story gable-roofed houses on high concrete foundations with shingle siding. The two Redstone Lane houses, dating from the 1960s, have been extensively remodeled with additions and new siding. The five Branca Court houses, built in 1970 around a cul de sac, are hipped or gable-roofed Garrison Colonial homes, with mixed siding of red or yellow brick veneer, shingles, or grooved plywood.

The two houses in Maywood consist of a 1940s residence on West Central Avenue which has been remodelled with a large dormer, and a residence on Brookdale Street, which is a shingled split level Colonial.

Firehouse Number 2, at the corner of Brook and Kennedy Streets, is in the process of being remodelled in a post-Modern style. There are three municipal parks: Lodi Municipal

Park, which is located at Hancock Street and Redstone Lane, the Fireman's Memorial Park adjacent to Firehouse Number 2, and the large John F. Kennedy Park at the corner of Kennedy and Money Streets.

4.4 Evaluation of Resources

Federal agencies are required by Section 106 and 110 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's regulations implementing Section 106 to take into account the effect of any undertaking within their jurisdiction on properties included in or eligible for the NRHP and, prior to approval of an undertaking that may affect such properties, to afford the Advisory Council a reasonable opportunity to comment (36 CFR 800.1). Agencies must (1) identify potential historic properties (generally those which are 50 years old or older, however there are exceptions), (2) evaluate them for eligibility for listing on the National Register, (3) if eligible, manage them if they are under federal jurisdiction, (4) consider the effects of actions on them, (5) undertake and encourage their preservation, and/or (6) document them if they must be altered or destroyed. In complying with these regulations, agencies are able to reduce effects on historic properties while meeting the needs of the undertaking.

According to the above federal guidelines, all permanent buildings on the Maywood Site that retain integrity are to be evaluated for NRHP eligibility, using the following criteria:

> the quality of <u>significance</u> in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. that are associated with the lives of persons significant in our past; or
>
> C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. that have yielded, or may be likely to yield, information important in prehistory or history

The majority of the buildings in this survey are not 50 years old, nor do they have the exceptional significance required of buildings less than 50 years old to qualify them for the NRHP. They are typical residential, commercial, or industrial buildings which could be found in any town. The buildings that will be evaluated for NRHP significance are those over 50 years, namely those on the Stepan property and some of the residences.

Criterion A. "that are associated with events that have made a significant contribution to the broad patterns of our history;"

Stepan and MISS Properties. Fourteen of the 17 buildings and structures on the Stepan and MISS properties, (combined because they were a single property during their period of significance), dating from 1895-1940, appear to be significant as a district under Criterion A, for their association with the chemical industry, which was a strong factor in the growth and development of Maywood in the late 19th and early 20th centuries. The dates of significance encompass the period from 1895, when the Schaefer Alkaloid Works was founded, through the 1940s, when the Navy commissioned Building 78 to be constructed for wartime manufacturing use. These buildings (1, 4, 10, 10H, 14, 15, 20, 52, 67, 76, 78, garage) and structures (the smoke stack and the reservoir) retain integrity of location, setting, design, and materials. Non-contributing buildings include #13, which was extensively remodelled in 1967; #2 and #3, which were built in 1975; #15A, which was added to 15 in 1967; and the pumphouse, which is a recent metal-sided building.

The Maywood Chemical Works, as one of a number of chemical companies in the area, was directly responsible for the growth of Maywood in the early 20th century when the industry prospered as a result of World War I and the unavailability of German dyes and chemicals. The buildings, through Louis Schaefer, one of the founders of MCW, also are associated with the German community in Maywood, which was instrumental in transforming the agricultural village of Maywood into a developed town at the turn of the century. The quartet of Schaefer, Ernest Bilhuber, Gustav Jaeger, and Henry Lindenmeyer brought money, expertise and their New York connections to Maywood in the 1890s. The presence of these entrepreneurs, who established industries, laid out residential developments, and founded utility companies, made a significant impact on the development of Maywood at this time (Van Valen 1900).

Criterion B. "that are associated with the lives of persons significant in our past;"

The Stepan and MISS properties do not appear to be significant under Criterion B. Building 67 has been linked to the noted inventor Thomas A. Edison, as a lithium production plant which supplied him with the requisite materials for inventing a battery for his electric car. According to the former President of MCW, he funded the plant in 1917 and came to the building a number of times (Stepan 1992). However, this association of MCW with Edison has not been documented. Invoices in the Edison laboratory archives in West Orange, New Jersey indicate that the inventor purchased lithium hydroxide from MCW, but thus far no known records indicate that he financed a building for the company (personal communication, J. O'Brien 1994). Therefore, the property does not appear to be significant under Criterion B.

Criterion C. "that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;"

Stepan and MISS Properties. Buildings 1, 4, 10, 10H, 14, 15, 20, 52, 67, 76, 78 and the garage, as well as the smoke stack and the reservoir, appear be significant as a district under Criterion C, representing a "significant and distinguishable entity whose components may lack individual distinction." With the exception of the small wood-frame 1910 bungalow (15), a long wood-frame warehouse (76), and a yellow brick 1940s building (78), the buildings are unified in architectural style. Built of red brick on raised concrete foundations, these one- and two-story buildings have gable roofs covered with either concrete corrugated tile or corrugated metal. Brick piers, corbelled cornices, and concrete lintels and sills enliven most of the utilitarian facades. The bricks were made at the local Little Falls brickyard of N.S. Mehrhof; remains of building foundations on the MISS site contain bricks with the Merhof imprint.

Building 1, a rectangular one-story gable-front brick building, has a concrete tile roof. The windows have been bricked in and metal roll-up doors added. One addition to the northwest has a brick parapet, and a second addition to the southwest has glass block windows.

Building 4, the boiler plant, is a two-story gable-front brick building with a concrete tile roof. The bays are delineated by decorative brick piers and corbelled cornices. The metal sash windows are multi-paned, both fixed and pivot. Glass block windows have replaced the original windows in the east and west bays of the north facade. A corrugated metal four-story coal boiler tower is located at the southwest corner, and a yellow brick smokestack stands adjacent to it on the east.

Building 10, a rectangular two-story gable-roof brick refinery, has a third story monitor lit by metal sash pivot windows. The bays are delineated by decorative brick piers and corbelled cornices. The metal sash windows are multi-paned, both fixed and pivot. Glass block windows have replaced some of the original windows. Tall metal separator tanks stand to the south. Building 10H to the south is a rectangular two-story flat roof building with brick piers and concrete block infill. A corrugated metal pent-house has metal sash multi-paned windows.

Building 13, a rectangular warehouse, consists of an older section, adjacent to the railroad tracks, with five gabled bays with a concrete base and walls clad in wood siding. A 1967 addition and remodel to the north consists of a flat-roofed yellow brick building with aluminum frame windows.

Building 14, a rectangular two-story gable-roof brick building on a raised concrete foundation, has a concrete tile roof. The bays are delineated by decorative brick piers and corbelled cornices. The 2/2 light wood sash windows have aluminum storm windows over them.

Building 15 consists of a ca. 1910 wood frame bungalow, which was the original MCW office, with a c. 1928 flat-roofed brick office building addition to the south, connected to the house by a passageway. Number 15A, a 1967 yellow brick addition, housing the present Stepan office is attached to the east of the bungalow.

Building 20, a rectangular one-story gable-front brick building, has a concrete tile roof. The bays are delineated by decorative brick piers and corbelled cornices. A large brick addition, with bricked in windows, is attached to the west.

Building 67, a rectangular one-and-one-half story gable-front brick building, sits on a raised concrete foundation. Decorative brick pilasters and corner posts, and concrete lintels over the doors and windows add architectural interest to the utilitarian facades. Many of the original tall multi-paned metal sash windows have been bricked in. The roof is being redone.

Building 76, on a raised concrete foundation, is a rectangular wood-frame gable-front warehouse. The roof and sides are clad in corrugated iron. Four large wooden doors give access to the interior.

Building 78, commissioned in the 1940s by the Navy for use in processing lithium, is a one-story flat-roof yellow brick building on a raised concrete foundation. Large glass block windows light the interior. A metal penthouse tops the eastern half of the roof.

A rectangular 12-car garage, made of concrete block with brick gable ends, has paneled wooden roll-up doors. The gable roof is covered with brown asphalt shingles.

A 300,000 gallon-capacity concrete reservoir is located to the west of the existing buildings, on the MISS site, and serviced the southern section of the MCW plant. A modern metal pump house has been added adjacent to the reservoir.

To qualify for the NRHP, the buildings additionally must retain at least two of the following elements of integrity: location, design, setting, materials, workmanship, feeling or association. Although the setting has been compromised by the removal of a majority of the buildings dating from the heyday of the MCW, and many of the existing brick buildings have been altered, with the additions of new windows or doors, or the bricking-up of old ones, the addition of aluminum awnings, or the replacement of roofs, sufficient integrity of location, materials, workmanship, and association, remains for these buildings to qualify as a district.

The MCW plant at its height contained approximately 115 buildings (See Figure 5). Approximately 25 of these were of brick, and the remainder were wood-frame with corrugated metal siding, like Building 76. A majority of them were removed in the 1970s, leaving only 15. However, these 15 buildings are primarily the larger brick buildings that were on the property. They are clustered and retain the cohesion necessary for a district. Although many similar brick industrial plants were constructed in this section of New Jersey in the 19th and early 20th century, a large number of them have been demolished, including the Citro Chemical Company adjacent to MCW. Because other industrial properties have disappeared, the Stepan property becomes even more important to Maywood as a representative of its 20th century industrial development.

etc. do not represent a significant concentration of 1940s houses to be eligible as a district of

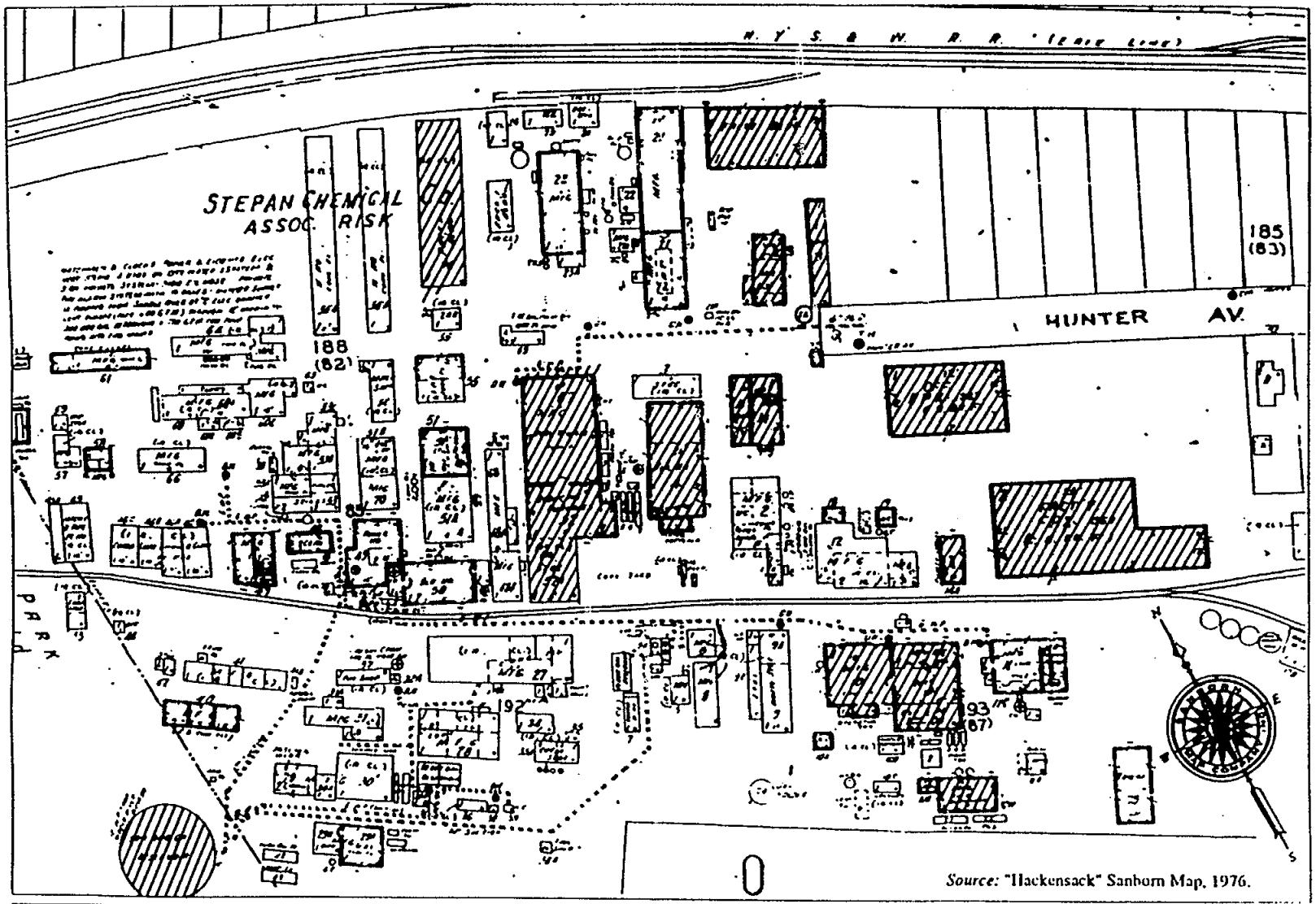

Figure 5

STEPAN PROPERTY 1976

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Residences. The 1940s houses along Long Valley Road, Central Avenue, Hancock Street, early and post-war housing which would be representative of the type of house made possible by Veterans' Administration loans. In addition, most of them have been sufficiently altered that they no longer retain integrity of workmanship, design, and association. The single residence dating from 1917, on Avenue C, has been recently remodelled in such a way that it no longer retains its ability to demonstrate what turn of the century worker housing looked like. None of the residences appear to be significant under this criterion.

5.0 ARCHAEOLOGICAL RESOURCES

The archaeological research described below was developed in response to the urbanized nature of the Maywood Site. As will be seen, the archaeological surface survey was largely ineffective because the ground surface at virtually all properties was obscured by grass, buildings, structures, and other modern features. The focus of the archaeological research therefore is on assessing the archaeological sensitivity of the area based on soil borings taken from the properties during radiological investigations.

5.1 Methodology

Background research conducted in support of this section of the report included a site records and literature search at the New Jersey State Museum (Appendix A); a meeting with Jonathan Gell of the Office of Historic Preservation, New Jersey Department of Environmental Protection and Energy; and a review of DOE reports documenting contamination at each property included within the Maywood Site.

In addition, an archaeological survey of all accessible areas of each property was conducted by SAIC archaeologist Craig Woodman, M.A., between November 8-13, 1993. Nicke Ring of BNI accompanied Mr. Woodman and provided information regarding the location of contaminated areas requiring remediation. All exposed ground surfaces were inspected but the survey yielded little information because most ground surfaces in this highly urbanized area were obscured.

The assessment of the sensitivity of each property was based primarily on radiological characterization reports prepared for each property. Characterization of subsurface contamination was conducted by systematically drilling 3-inch or 6-inch boreholes across the subject property and taking downhole measurements of radioactive contaminants. Figures 6 and 7 are examples of the intensive nature of the soil sampling conducted at residential properties and relatively large areas such as parks, respectively.

Boring logs prepared by geologists describe the soils excavated from the boreholes. In some cases the logs were used to prepare geological cross-sections of various Maywood and Lodi properties. These descriptions as well as the cross-sections that summarize them were prepared by professional geologists in accordance with government standards described in ASTM Designation D 2488-84 *Standard Practice for Description and Identification of Soils (Visual-*

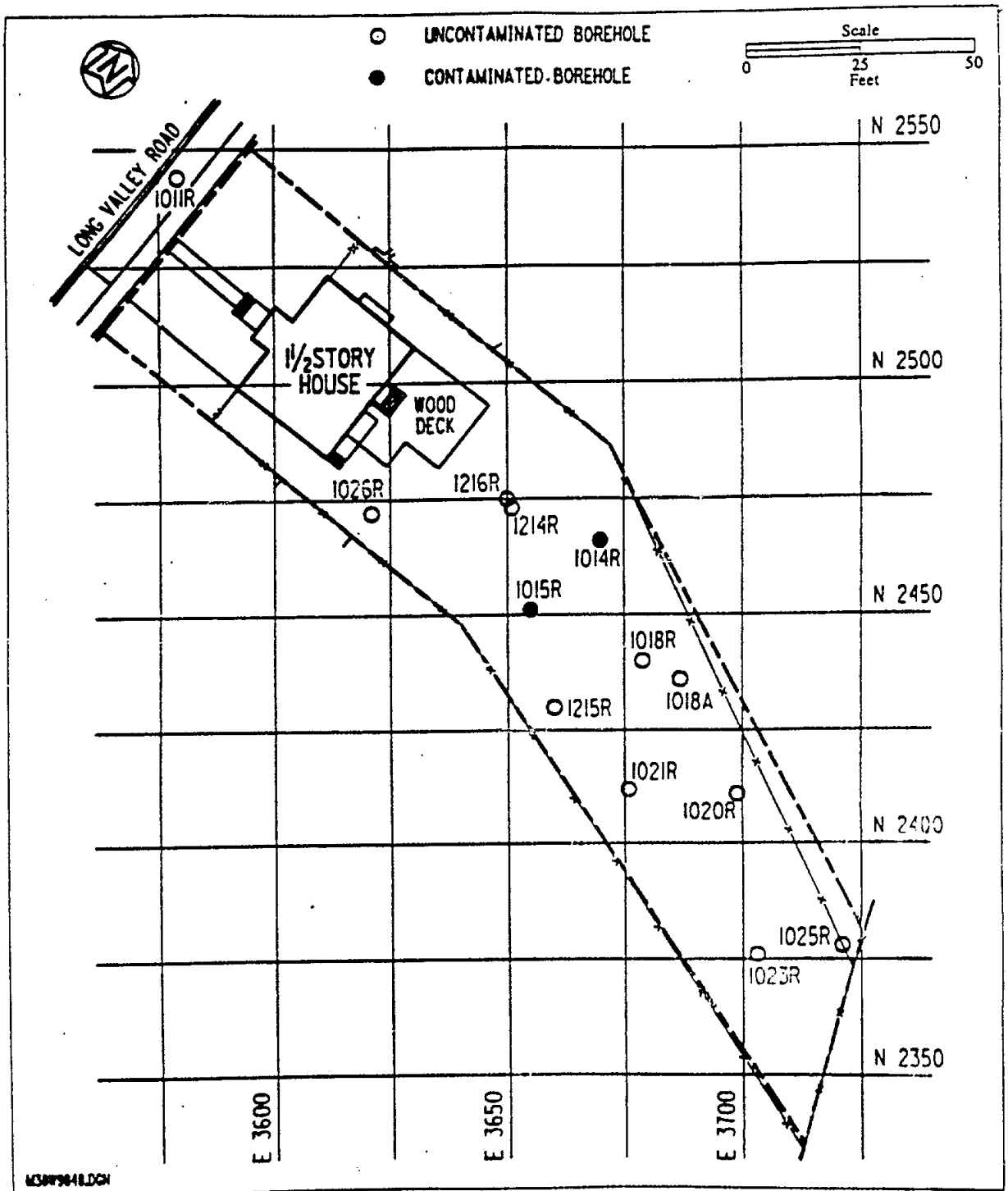

Figure 6

BOREHOLE LOCATIONS AT LONG VALLEY ROAD

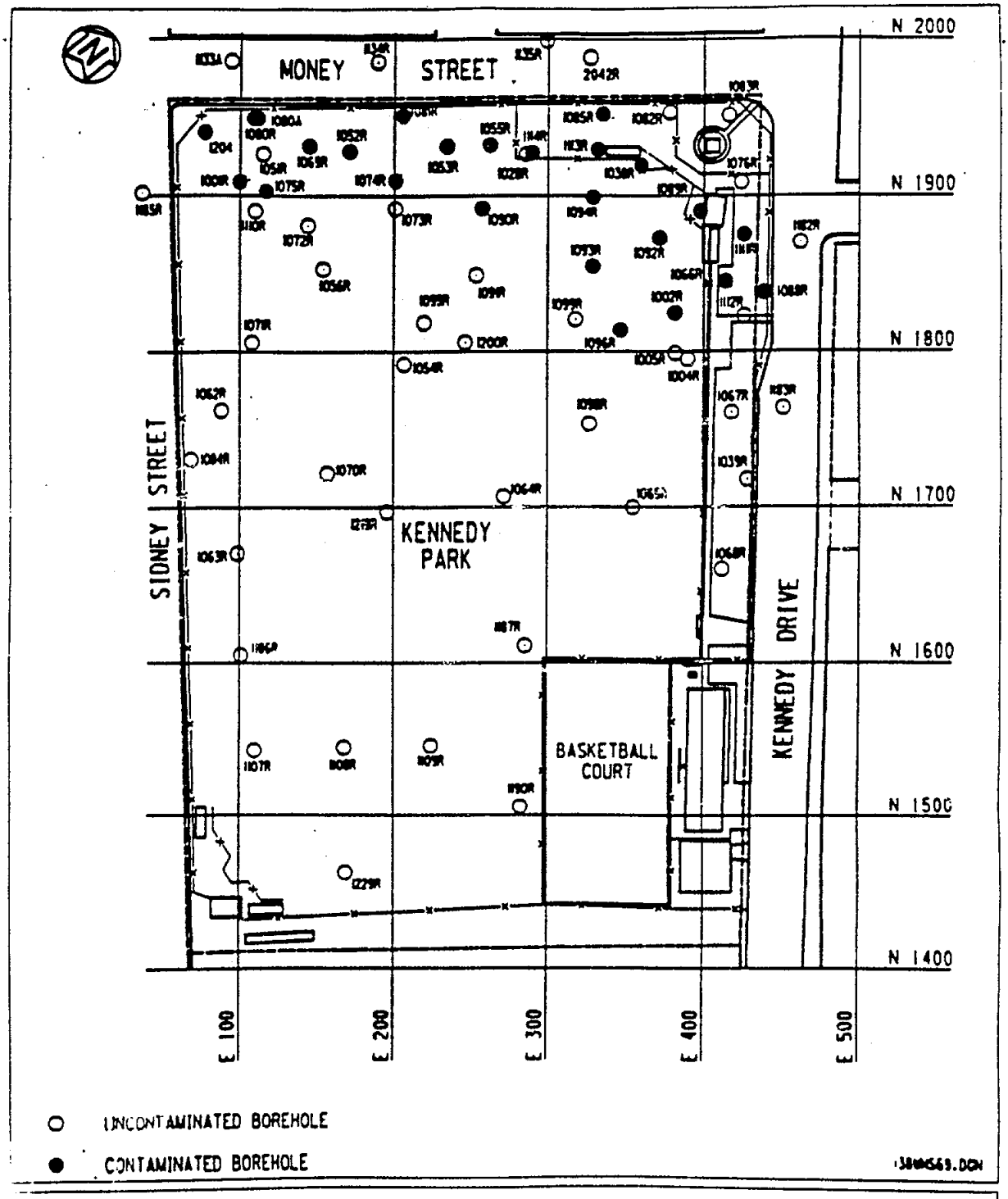

Figure 7

BOREHOLE LOCATIONS AT KENNEDY PARK

Manual Procedure). Conversations with soils scientist Suzanne Curtiss of Bechtel National Inc. Suzanne indicates that unusual soil inclusions such as shellfish remains, pottery, and historic materials would be routinely noted on the boring logs (personal communication, C. Woodman 1994). Section X2.2 of the ASTM standard referenced above does specifically mention that shell remains should be noted and generally requires the notation of additional comments that may be relevant.

Given that the presence of prehistoric or historic materials would affect the numerous measurements and descriptions required for each soil sample, it seems reasonable to assume that the boring logs would note whether such materials were recovered. This assumption is supported by a review of hundreds of boring logs for the Maywood and Lodi properties. For example, section 5.4 and boring logs in Appendix B demonstrate that historic materials such as brick and glass were noted during boring activities even though the ASTM standard does not specifically mention them.

In addition, the boring logs routinely indicate when a buried upper soil horizon is present. Upper horizons represent old ground surfaces that were stabilized long enough to be affected by various natural processes such as leaching and discoloration by organic materials. These surfaces have the highest probability of containing evidence of cultural use because they were exposed for relatively long periods of time.

This report therefore considers that data contained on soil boring logs and associated geologic cross-sections to be generally adequate for assessing the potential for encountering archaeological deposits at a particular property. That is, the borings are adequate for the identification of old ground surfaces that could contain archaeological sites. The borings are also considered adequate in that they are likely to have recovered archaeological remains from sites of moderate or high artifact density. The borings are less likely to have recovered archaeological materials from low density sites such as sherd or lithic scatters due to small sample sizes.

Sensitivity assessments were made in the following manner:

- Geologic cross-sections were inspected for evidence of buried soil horizons and cultural strata. Individual borehole logs generally were not reviewed for sites with cross-sections.

- Soil boring logs for properties lacking cross-sections were reviewed. A table was prepared that identified depth of fill, depth of contamination, presence and nature of cultural materials, and presence and depth of buried upper soil horizons. Some reports lacked boring logs but existing data represent an excellent sample for assessing sensitivity throughout the Maywood Site.

- Archaeologically sensitive areas were identified by noting boreholes (1) where depth of contamination exceeded depth of fill and (2) where removal of

contaminated soil would affect cultural materials or a buried upper soil horizon. All other areas were considered non-sensitive. As will be shown in section 5.4 of this report, only a few boreholes encountered cultural materials and these were restricted to a few brick fragments, bits of glass, and rusty nails.

5.2 Previous Archaeological Investigations in the Vicinity of All Properties Associated with the Maywood Site

A site record and literature search was conducted at the New Jersey State Museum by Dr. Karen Flinn of the New Jersey Historic Preservation Office. The record search, presented in Appendix A of this report, indicates there are no known record sites within the boundaries of the project. Two prehistoric sites within a mile of the project area were described by Skinner and Schrabisch (1913) as a camp (28-Be-48) and a probable village (28-Be-49) located next to the Saddle River. As shown in the record search map (see Appendix A), these locations are now urbanized and the prehistoric sites may have been destroyed by development. It is not known whether Skinner and Schrabisch ever examined areas specifically within the Maywood Site boundaries.

The location of sites next to a major watercourse is a common feature of prehistoric settlement patterns. Smaller drainages such as Westerly and Lodi Brooks which cross the Maywood Site are also likely to have been utilized by prehistoric and historic peoples but the intensity and temporal fluctuations of such occupations is not clear. Archaeologists have utilized locational characteristics from known sites to generate predictive models of prehistoric site locations in areas lacking good archaeological survey coverage but Dr. Scott Madry, an archaeologist and the Director of the Open GRASS Foundation at Cook College's Remote Sensing Center in New Brunswick, indicates that no such model exists for northern New Jersey (personal communication, C. Woodman 1994). It is therefore not possible to assess the archaeological sensitivity of properties within the Maywood site due to a lack of archaeological data, both existing and predictive.

5.3 Archaeological Survey Results

The survey revealed no prehistoric or historic archaeological sites or isolates. The survey did locate a historic water well and a building foundation and associated rubble at MISS.

The well is located in the extreme northern portion of MISS near where a spur of the New York, Susquehanna and Western railroad passes beneath State Highway 17. The well is approximately two feet in diameter and consists of a brick lining partially encased in cement. No markings were evident on the bricks but similar bricks were heavily utilized in the construction of what is now known as the Stepan property. The well was probably constructed between the late 19th and the early 20th centuries when the chemical industry began utilizing the property. At that time, Westerly Brook once flowed immediately adjacent to the well.

The foundations of a demolished brick and concrete building were found at the former location of Building 47 (see the left central portion of Figure 5). The Sanborn map (Figure 5) indicates that this building was used for manufacturing. The foundation was constructed to form an elevated work surface adjacent to the New York, Susquehanna and Western railroad spur, suggesting a loading dock was present. Evidently the manufactured products were loaded onto railcars. Most of the building materials have been removed or are buried but the raised concrete foundation, the use of bricks from the local N.S. Mehrhof brickyard, and other architectural features link Building 47 with other early buildings on the nearby Stepan property. Building 47 was present in 1976 but was probably one of the many buildings demolished in the 1970s by the Stepan Company (see section 4.3).

5.4 Assessment of Archaeological Sensitivity Based on Soil Borings

The methodology and approach for using soil borings to assess the archaeological sensitivity of the Maywood and Lodi properties was described earlier. The data consist of soil boring logs prepared for all properties. At some properties, particularly large properties such as MISS, the New Jersey Motor Vehicle Inspection Station and John F. Kennedy Park, the boring logs were used to prepare geological cross-sections. The following assessment begins with the presentation and discussion of these cross-sections followed by a discussion of other properties.

MISS

The MISS property is a large area crossed by Westerly Brook. The property has been intensively sampled for contamination and excellent geological cross-sections have been prepared (see Figures 8 through 13). The cross-sections provide a clear picture of extensive subsurface disturbance. Figure 9, for example, indicates that extensive cutting and filling associated with the construction and use of three former retention ponds has removed the original ground surface. This ground distrubance would have destroyed or severely damaged any historic remains associated with former buildings that once stood on the site (see section 4.3). The former ponds are underlain either by weathered bedrock or by black sands, silts and clays derived from the former swampy conditions of Westerly Brook. No evidence of historic or prehistoric materials or old upper soil horizons is evident and MISS is not considered sensitive for archaeological resources.

Lodi

Figure 14 indicates the location of three of the four cross-sections that have been prepared for the Lodi area (the fourth is presented later in this section as Figure 19). Figure 15 crosses 160 and 174 Essex Street (the National Community Bank property). Contamination is limited to the upper part of urban fill that would not contain intact archaeological deposits.

Figure 16 crosses the northernmost portion of Hancock Street. It indicates that contamination is restricted to the former channel of Lodi Brook. Given that the lowest

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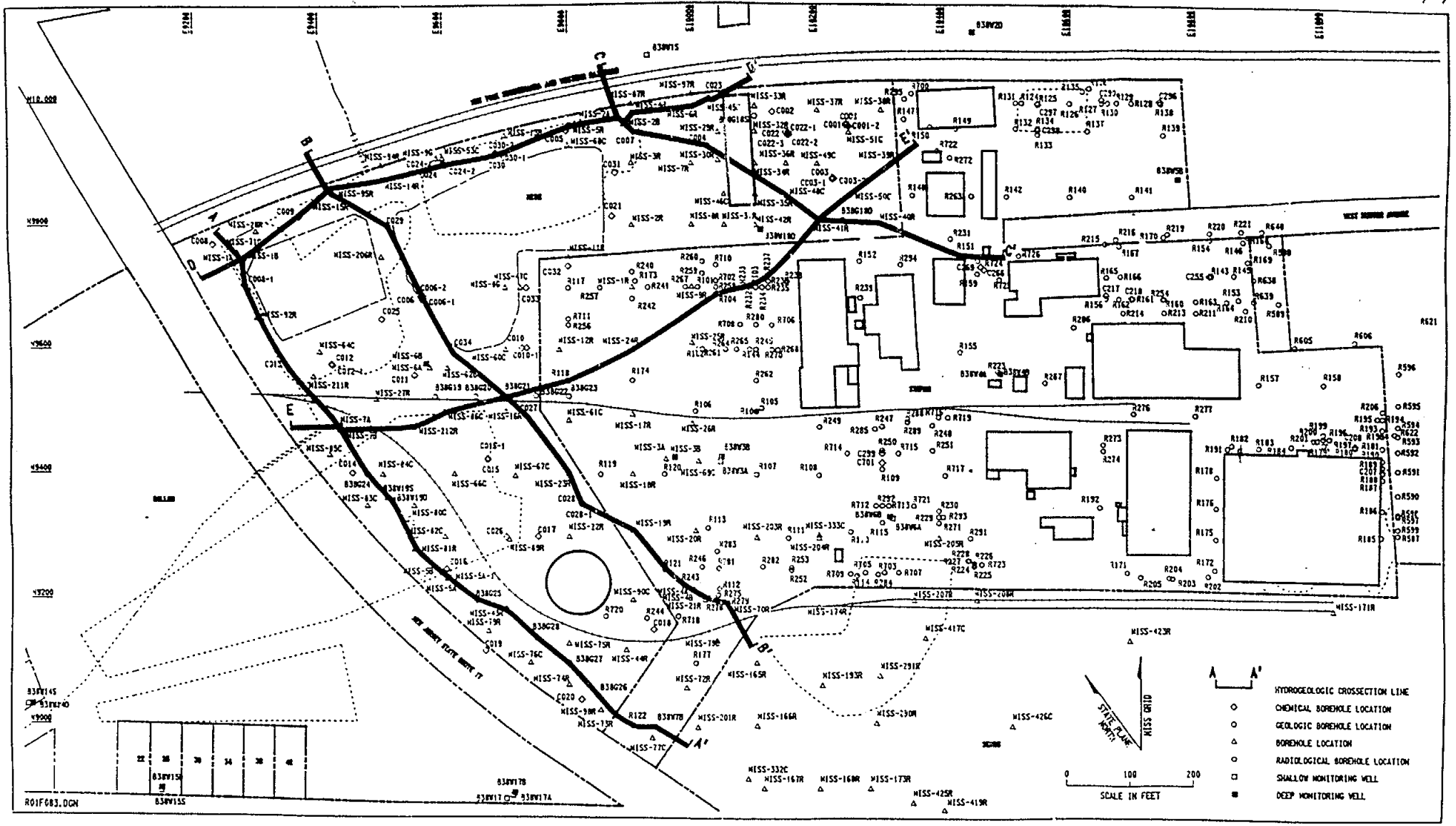

Figure 8

LOCATIONS OF HYDROGEOLOGIC CROSS-SECTIONS A-A', B-B', C-C', D-D', E-E' AT MISS

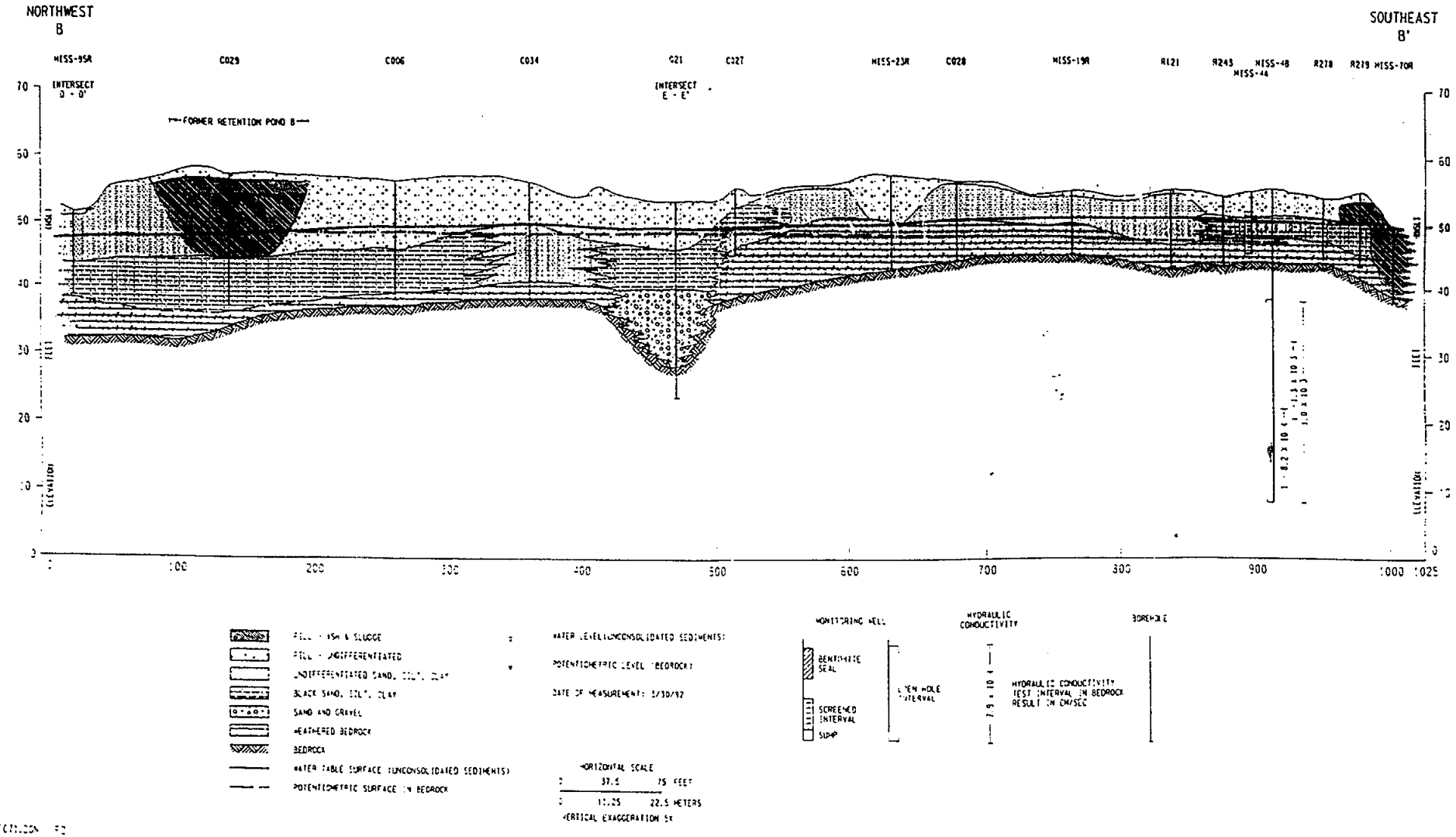

Figure 10

HYDROGEOLOGIC CROSS-SECTION
B-B' AT MISS

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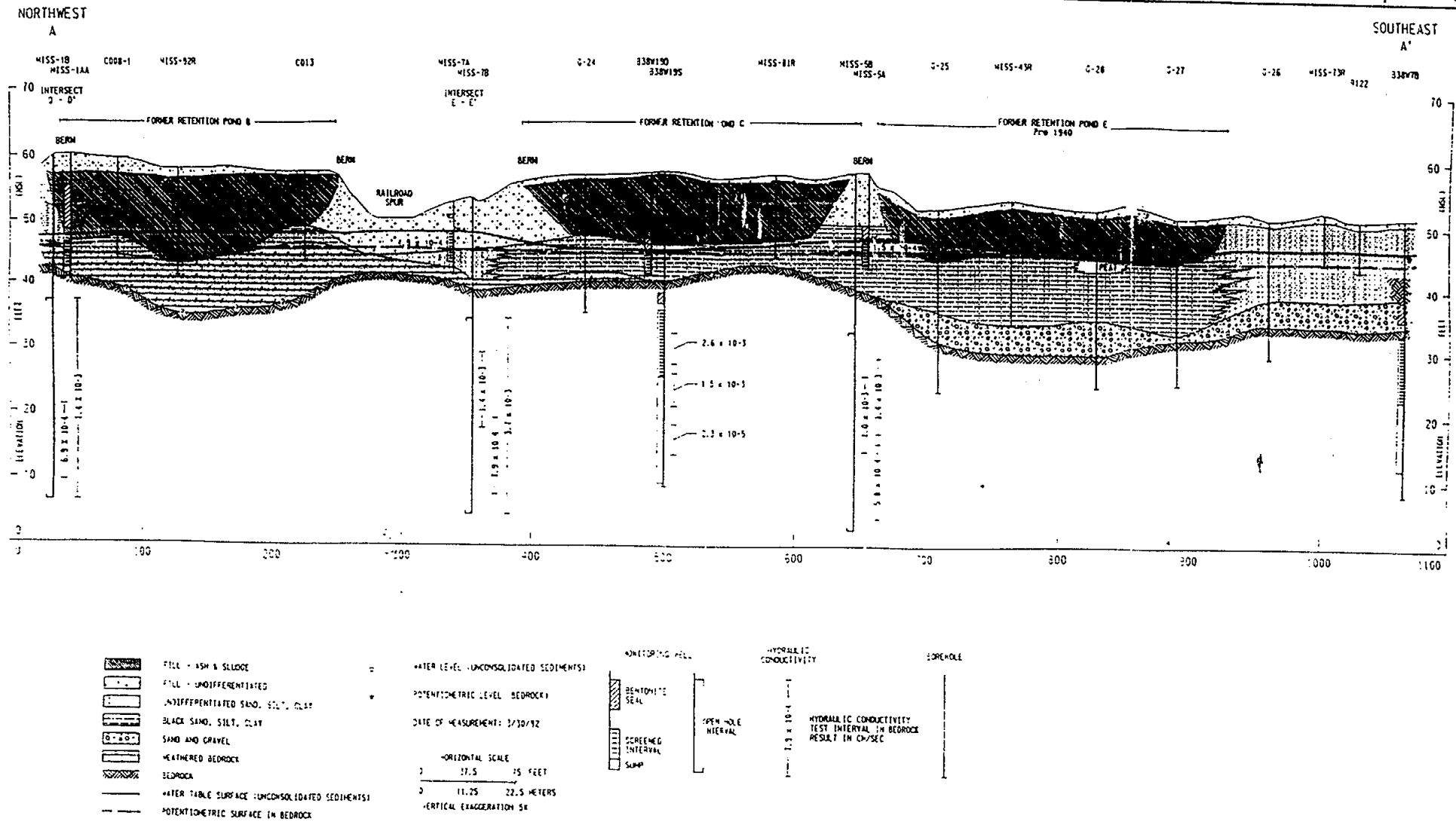

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Figure 9

HYDROGEOLOGIC CROSS-SECTION A-A' AT MISS

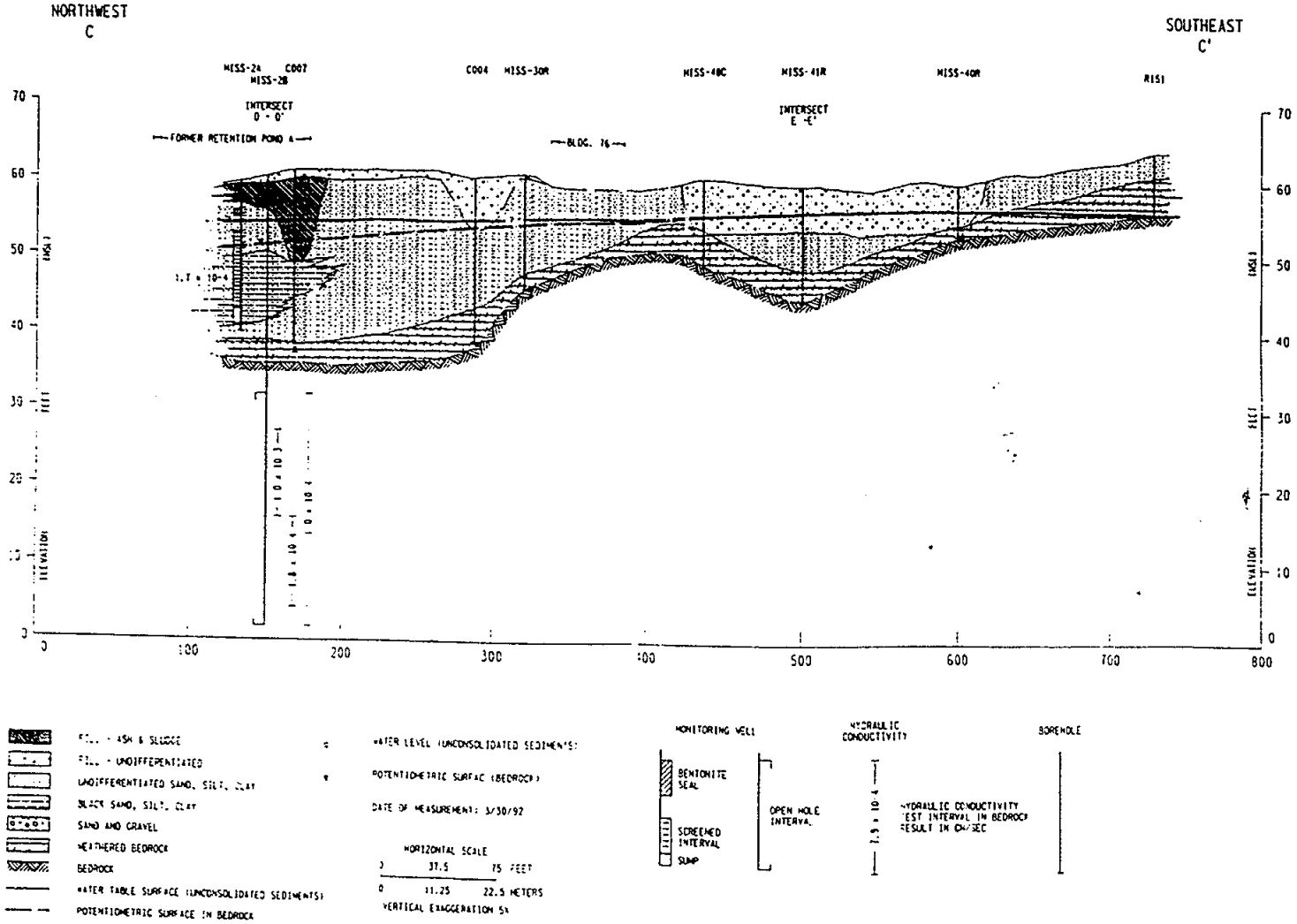

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Figure 11

HYDROGEOLOGIC CROSS-SECTION C-C' AT MISS

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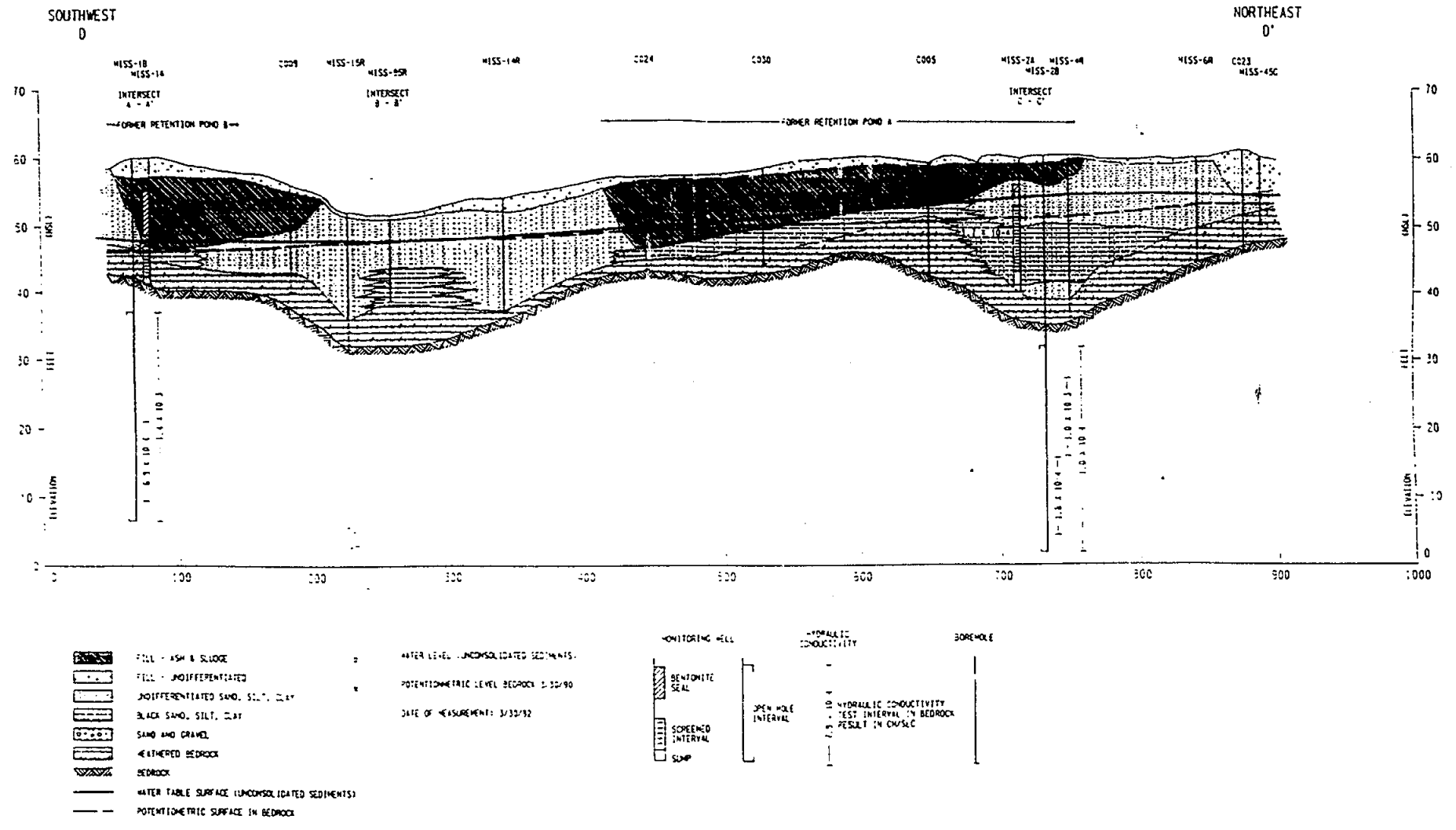

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Figure 12

HYDPOGEOLOGIC CROSS-SECTION D-D' AT MISS

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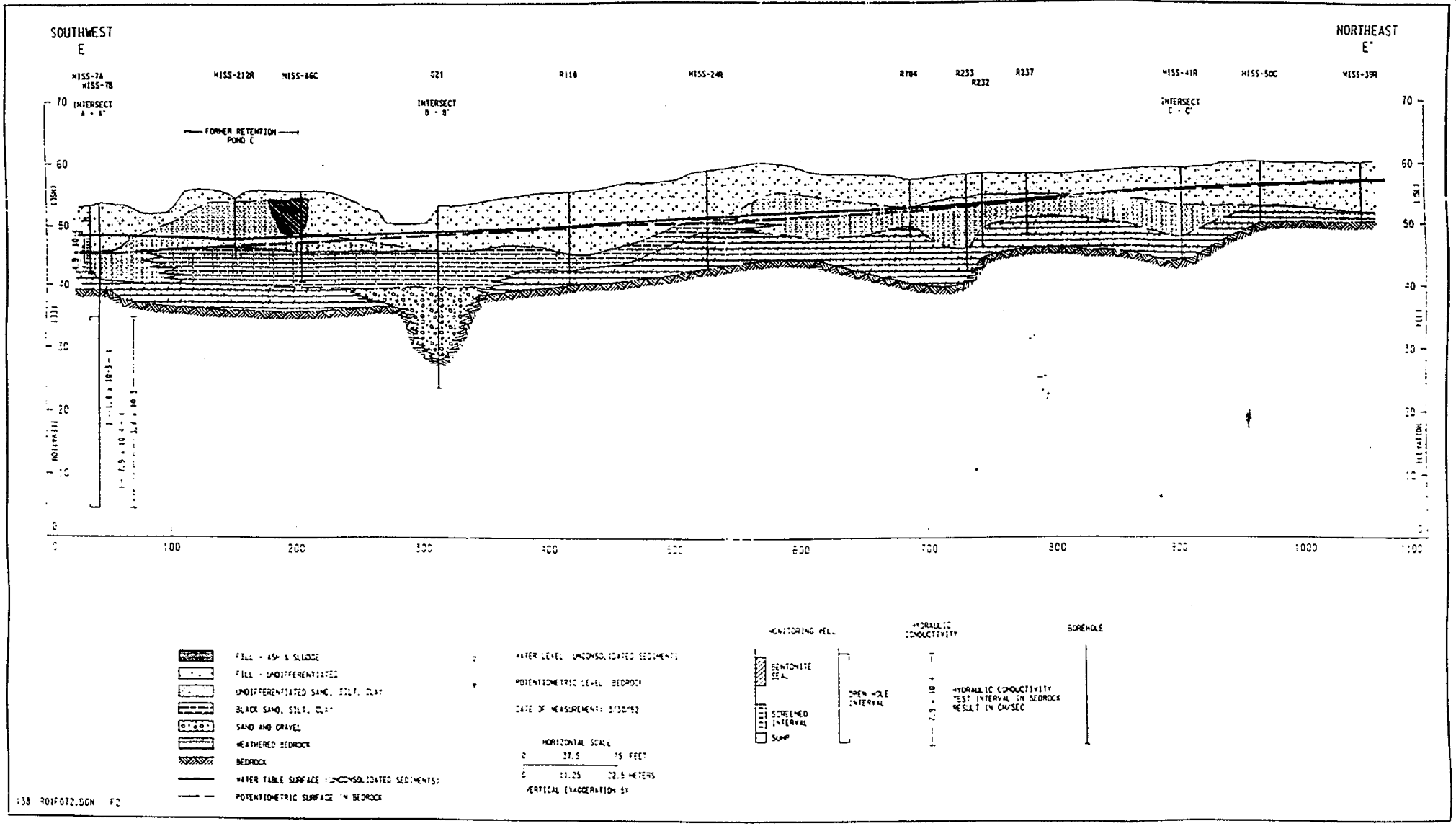

Figure 13

HYDROGEOLOGIC CROSS-SECTION E-E' AT MISS

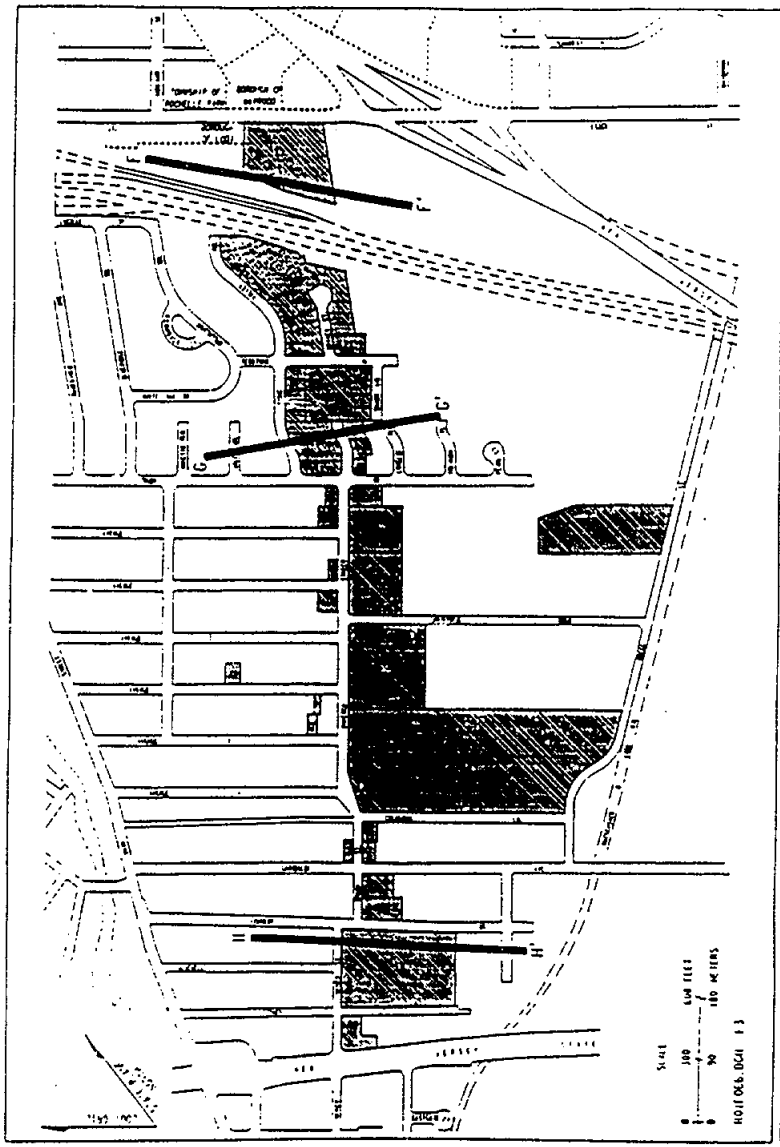

Figure 14

APPROXIMATE LOCATIONS OF DIAGRAMMATIC CROSS-SECTIONS OF THE LODI AREA

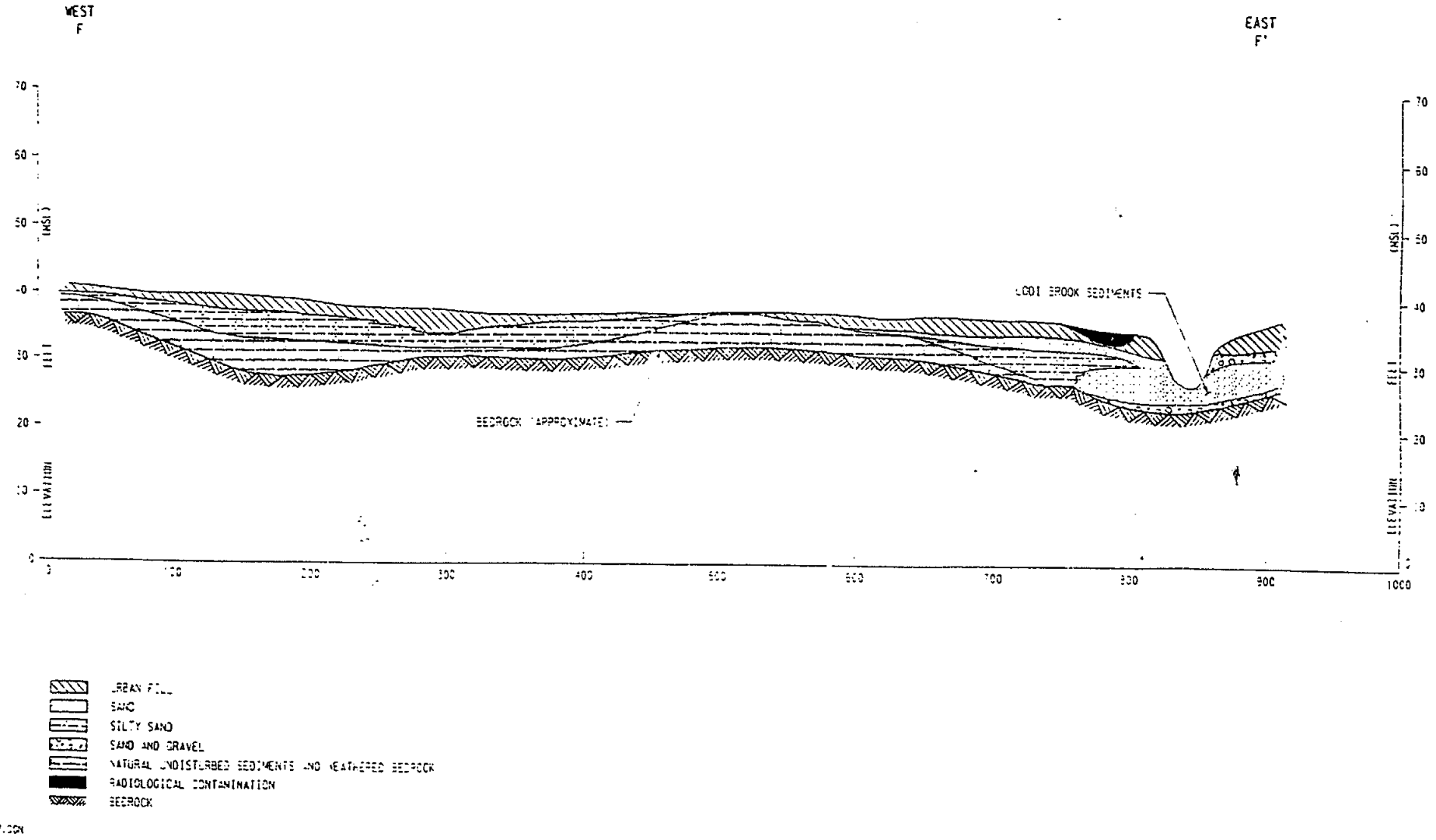

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Figure 15

DIAGRAMMATIC CROSS-SECTION SECTION F-F' OF LODI STUDY AREA

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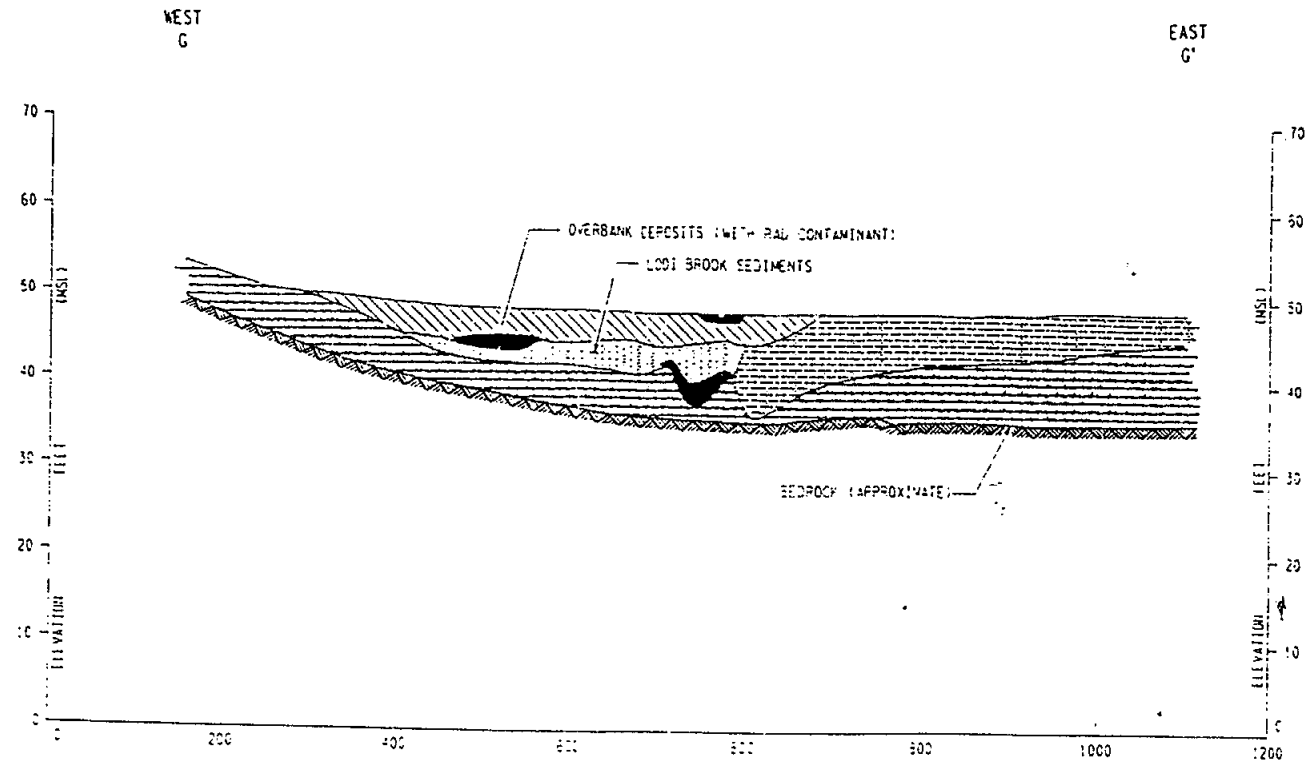

URBAN FILL
SAND
SILTY SAND
SAND AND GRAVEL
NATURAL UNDISTURBED SEDIMENTS AND WEATHERED BEDROCK
RADIOLOGICAL CONTAMINATION
BEDROCK

139 RDIFC85.DGN

Figure 16

DIAGRAMMATIC CROSS-SECTION SECTION G-G' OF LODI STUDY AREA

contaminated materials would have been deposited no earlier than the 1890s when the Schaefer Alkaloid Works was established in Maywood, these deposits and those that overlie them would not have archaeological sensitivity. In addition, boring logs summarized in Table 2 indicate the absence of historic archaeological materials in this part of Hancock Street.

John F. Kennedy Park

Figure 17 crosses the park and, like Figure 16, reveals that contamination is restricted to the former channel of Lodi Brook. Soils at this level and above would have been deposited after the earliest contamination in the 1890s and would not contain prehistoric materials. Boring logs summarized in Table 2 indicate that four bore holes yielded some brick "specks," a few rusty nails and bits of glass and aluminum foil from soils that may or may not be intact.

To evaluate whether these materials represent a historic archaeological site, boring logs for all 68 bore holes were examined (see Figure 7). No evidence of an archaeological site was discovered. If a archaeological site was present, we would expect to find a greater density of materials, a greater diversity of materials and we would expect to find a greater spatial distribution of materials than we do at this property. John F. Kennedy Park is therefore not considered archaeologically sensitive.

New Jersey Motor Vehicle Inspection Station

Figures 18 and 19 indicate the location and nature of a cross-section prepared for the New Jersey Motor Vehicle Inspection Station. The cross-section indicates that a buried upper soil horizon exists within the property. An examination of the soil boring logs indicates that borings did not locate any cultural materials.

Other Properties

Table 2 presents a summary of data derived primarily from properties lacking cross-sections. Data from a few properties with cross-sections are also included in Table 2 to provide more detail. Because remediation would only occur in areas with contamination, this table excludes borehole information from uncontaminated areas. It also excludes data from 7 Branca Court because contamination was restricted to the surface (0-1.0 ft below grade) of the property. It includes borehole data from uncontaminated areas only for the Federal Express and Hunter Douglas properties. Although boreholes at these properties did not encounter contaminated soils, testing at adjacent properties suggests that a man-made ditch running along one edge of the Federal Express and Hunter Douglas properties is contaminated. Table 2 therefore includes data from representative boreholes near the ditch to assess its archaeological sensitivity.

Table 2 allows the reader to determine (1) which properties contain intact upper soil horizons that will be affected by remediation and (2) whether these intact soils were found to contain cultural materials. Properties with upper soil horizons that would be affected by remediation were identified by comparing the depth of fill with the depth of contamination at

Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 2 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
16 Long Valley Road	466R	0.0	0.5	No	Mostly silty sands; shallow native soils?
	468R	0.0	**	No	Mostly silty sands; shallow native soils?
	469R	1.0	0.5	No	Mostly silty sands; shallow native soils?
18 Long Valley Road	613R	0.0	1.5	No	Mostly silty sands; shallow native soils?
	616R	0.0	0.5	No	
20 Long Valley Road	434R	0.0	1.5	No	Mostly silty sands; shallow native soils?
	438R	2.5	1.0	No	
22 Long Valley Road	444R	0.0	1.5	No	Mostly silty sands; shallow native soils?
	445R	0.0	3.0	No	Mostly silty sands; shallow native soils?
	446R	0.0	1.5	No	Mostly silty sands; shallow native soils?
	447R	0.0	3.0	No	Mostly silty sands; shallow native soils?
24 Long Valley Road	557R	3.5	7.5	No	Buried stream sediments and upper soil horizon(?) 3.5 to 7.0 feet.
	578R	5.0	5.5	No	Buried stream sediments and upper soil horizon. 5.0 to 7.5 feet.
	579R	3.0	3.5	No	Stream sediments 3 to 4 feet; buried upper soil horizon 4 to 7 feet.
26 Long Valley Road	455R	9.0	2.0	No	Mixed fill and indigenous materials (difficult to distinguish).
	456R	8.5	5.5	No	
	461R	3.0	2.5	No	
	462R	6.5	3.5	No	
	463R	7.0	**	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 3 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
2 Branca Court	490R	5.5	6.5	Yes	One piece porcelain (0.3-5.5 ft) in fill.
	491R	8.0	6.5	No	
	492R	5.0	5.0	No	
	497R	4.5	5.5	No	
4 Branca Court	485R	4.5	8.5	No	May be buried soil horizon 5.5 to 7.0 feet.
	488R	4.3	**	No	
6 Branca Court	474R	5.0	6.5	No	
	475R	4.5	7.0	No	
	476R	9.0	5.5	No	
	478R	5.0	4.0	No	
	483R	3.5	6.5	No	
	484R	6.0	6.0	No	
11 Branca Court	390R	Unknown	**	No	
	395R	3.0	2.0	No	
	397R	4.5	4.5	No	
	398R	2.0	2.0	No	
	399R	2.0	**	No	
	506R	6.5	7.0	No	
	507R	4.0	5.5	No	
11 Redstone Lane	376R	4.0	**	Yes	Glass 0 to 4.0 feet in fill.
17 Redstone Lane	498R	4.5	7.5	No	Difficult to distinguish break between fill and native material.

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 4 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
17 Redstone Lane	499R	9.0	5.5	No	Possible mixed stream sediments and buried upper soil horizon 3 to 6.5 feet.
	501R	3.0	4.5	No	
	502R	5.0	4.5	No	
	503R	3.0	7.0	No	
	504R	4.0	5.0	No	
	508R	2.0	2.5	No	
	510R	3.5	7.5	No	Possible mixed stream sediments and buried upper soil horizon 3.5 to 6.0 feet.
	511R	4.0	5.0	No	
19 Redstone Lane	2003R	3.4	4.5	No	
	2004R	5.2	4.0	No	
60 Trudy	544R	3.5	4.5	No	Possible buried upper soil horizon 6 to 9 feet and 4 to 8 feet at three boreholes.
	545R	6.0	3.5	No	
	546R	3.0	6.0	No	
	547R	4.0	5.5	No	
	548R	3.5	7.0	No	
	549R	4.5	7.5	No	
	551R	0.9	9.5	No	
	552R	Unknown	**	No	
4 Hancock	537R	6.0	6.5	No	Possible buried upper soil horizon between 6 and 10 feet.
	538R	7.0	7.0	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 5 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
4 Hancock	543R	6.0	7.5	No	
5 Hancock	591R	6.0	2.0	No	Possible upper soil horizon between 6 and 8 feet.
	592R	6.0	2.5	No	
	2007R	8.0	2.0	No	
	2049R	6.0	2.0	No	
6 Hancock	530R	7.0	7.5	No	Possible buried upper soil horizon between 7 and 11 feet.
	532R	6.0	8.0	No	
7 Hancock	565R	5.0	**	No	
	566R	6.0	3.5	No	
8 Hancock	522R	9.0	8.0	No	
	523R	7.0	8.0	No	
	524R	10.0	9.5	No	
	525R	6.0	**	No	
	526R	7.0	7.5	No	
	527R	7.0	7.5	No	
9 Hancock	556R	6.0	**	No	Difficult to distinguish between fill and native material in one location.
	560R	Unknown	**	No	
10 Hancock	512R	0-5	6.5	No	Possible buried upper soil horizon between 6 and 8.5 feet in some locations.
	514R	0-8	7.0	No	
	515R	0-6	6.5	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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PREDECISIONAL DRAFT - DO NOT CITE

Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 6 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
10 Hancock	516R	0-8	**	No	
80 Hancock	1220R	0-4.6	**	No	
	1221R	5.0	**	No	
	1222R	4.6	6.0	No	
	1224R	6.5	5.5	No	
	1228R	4.0	**	No	
	1230R	4.7	5.0	No	
100 Hancock	2015R	0-1.3	5.5	No	
	2016R	0-1.3	8.0	No	
	2017R	0-9.1	9.0	No	
	2018R	0-4.9	**	No	
Lodi Municipal Park	342R	0.0	6.0	No	Soils primarily silty sands (non-fill) in all bore locations and at all depths.
	343R	0.0	7.0	No	
	344R	0.0	**	No	
	345R	0.0	1.5	No	
	346R	0.0	2.5	No	
	347	4.0	**	No	
	349R	0.0	5.5	No	
	350R	0.0	2.0	No	
	354R	0.0	**	No	
	355R	0.0	3.0	No	
	356R	0.0	3.0	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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PREDECISIONAL DRAFT - DO NOT CITE

Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 7 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
Lodi Municipal Park	358R	0.0	**	No	
	364R	0.0	4.0	No	
	365R	0.0	**	No	
	1207C	0.0	**	No	
	1211	0.0	3.0	No	
	363R	0.0	2.0	No	
80 Industrial Road	1131R	3.8	7.5	No	
	1136R	6.8	6.0	No	
	1145R	4.0	1.0	No	
	1146R	0.0	6.0	No	
	1147R	4.0	6.5	No	
	1157R	6.3	6.0	No	
	1162R	8.0	8.0	No	
	1164R	4.7	1.5	No	
	1188R	1.0	3.5	No	
	1195R	8.1	8.0	No	
	1202R	0.0	5.0	No	
New Jersey Vehicle Inspection Station	225R	0	1.0	No	
	641R	3.0	2.0	No	0-3.0 ft mixed fill & stream sediments.
	224R	0	4.5	No	
	640R	4.5	7.0	No	0-1.0 ft mixed fill & stream sediments.
	213R	0.0	1.5	No	

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** Data not readily available.

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PREDECISIONAL DRAFT - DO NOT CITE

Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 8 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
New Jersey Vehicle Inspection Station	E1020 N1820	Unknown	0.5	Unknown	Not geologically logged.
	223R	6.0	6.5	Yes	4.5-6.0 ft small pieces of metal in fill.
	639R	5.0	5.5	No	0-5.0 ft mixed fill & stream sediments.
	214R	0.0	1.5	No	
	644R	1.5	0.5	No	0-1.5 ft fill, probably former stream sediments.
	E1170 N1605	Unknown	0.5	Unknown	Not geologically logged.
	E1192 N1705	Unknown	0.5	Unknown	Not geologically logged.
	E1150 N1700	Unknown	0.5	Unknown	Not geologically logged.
	635R	4.0	0.5	No	1.0-4.0 ft fill or alluvial soil?
	E1210 N1755	Unknown	0.5	Unknown	Not geologically logged.
	631R	1.0	1.5	No	0-1.0 ft mixed fill & stream sediments.
	629R	3.5	4.0	No	0-3.5 ft mixed fill & stream sediments.
	628R	1.5	2.5	No	0-1.5 ft mixed fill & stream sediments.
	E1490 N1745	Unknown	0.5	Unknown	Not geologically logged.
	647R	0.5	1.0	No	0.5-3.0 ft soil horizon?
	645R	0.0	1.5	No	0.5-1.0 ft upper soil horizon? 1.0-3.0 ft lower soil horizon?
106 Columbia Lane (Lodi)	1040R	0.0	5.5	No	
	1046R	0.0	6.5	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 9 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
106 Columbia Lane (Lodi)	1048R	0.0	7.5	No	Not geologically logged (data inferred from adjacent boreholes).
	1049R	0.0	5.5	No	
	1097R	0.0	5.0	No	Not geologically logged (data inferred from adjacent boreholes).
99 Garibaldi Lane	1027R	Unknown	2.0	No	
	1175R	4.9	4.0	No	
Fireman's Memorial Park (Garibaldi Ave.)	1003R	Unknown	6.0	No	
	1012R	Unknown	3.0	No	
	1102R	4.0	2.5	No	
	1103R	7.1	4.5	Yes	Glass bits 4 to 6.6 feet in fill.
	1115R	5.3	7.0	No	
	2033R	Unknown	**	No	
Fire Station #2 (Garibaldi Dr.)	1013R	Unknown	5.5	No	
	1017R	1.0	5.0	No	
	1031R	9.5	**	No	
	1201R	0.0	6.0	No	
	2041R	0.0	6.5	No	
	1017R-A	1.0	5.5	No	
72 Sidney Street	1101R	1.8	**	No	
JFK Park (Kennedy Dr.)	1204	Unknown	4.5	No	
	1001R	Unknown	3.5	No	
	1080R	Unknown	3.5	Unknown	Probably brick "specks" 2.0 to 4.7 feet.
	1080R-A	Unknown	3.5	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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PREDECISIONAL DRAFT - DO NOT CITE

Table 2
SUMMARY OF SOIL BORING DATA AT SELECTED PROPERTIES
(page 10 of 10)

Property	*Borehole No./ Coordinate*	*Maximum Depth of Fill (ft.)*	*Maximum Depth of Contamination (ft.)*	*Cultural Material Present*	*Comment*
JFK Park (Kennedy Dr.)	1057R	6.9	4.0	No	
	1069R	8.0	5.5	No	
	1052R	8.5	**	No	
	1074R	7.1	4.0	No	
	1081R	Unknown	4.5	No	
	1053R	4.0	6.5	Unknown	Charcoal 0 to 4.0 feet in fill.
	1055R	7.0	5.0	No	
	1090R	1.3	6.5	No	
	1114R	6.8	6.5	No	
	1085R	0.0	**	No	
	1113R	8.4	6.5	No	
	1094R	0.3	6.0	Yes	A "few" rusty nails 5.3 to 7.0 feet in a silty clay matrix.
	1038R	1.0	5.5	No	
	1093R	0.8	6.0	No	
	1092R	1.6	5.5	Yes	Aluminum foil scraps 5.0 feet.
	1002R	0.0	3.5	No	
	1112R	4.0	**	No	
	1111R	4.2	3.5	No	
	1088R	0.0	5.5	No	
	1089R	1.9	7.0	No	
	1096R	1.7	4.0	No	

* Due to the large number of bore holes at the Sears site, data are presented only for bore holes containing cultural materials.
** Data not readily available.

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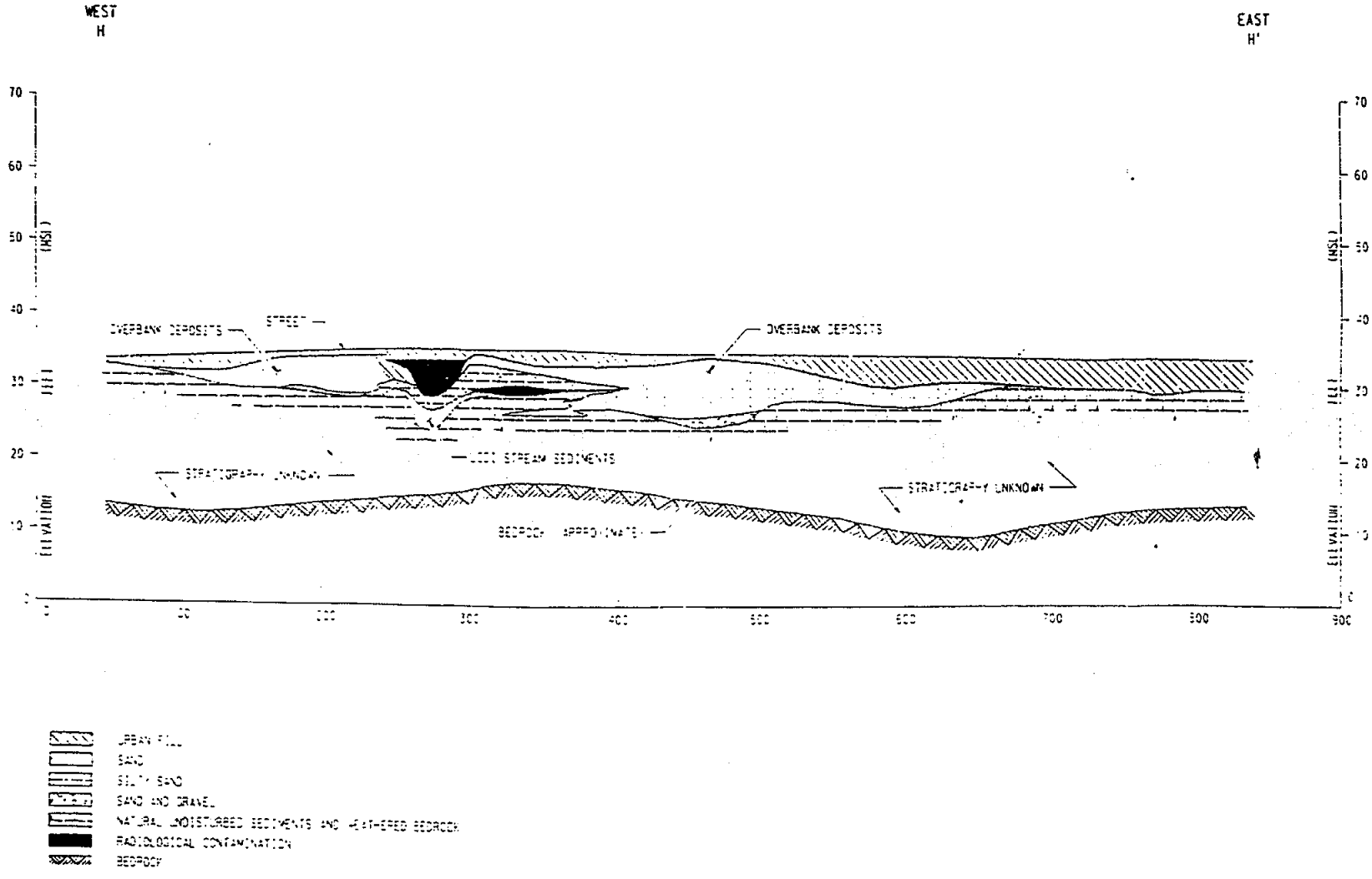


Figure 17

DIAGRAMMATIC CROSS-SECTION SECTION H-H' OF LODI STUDY AREA

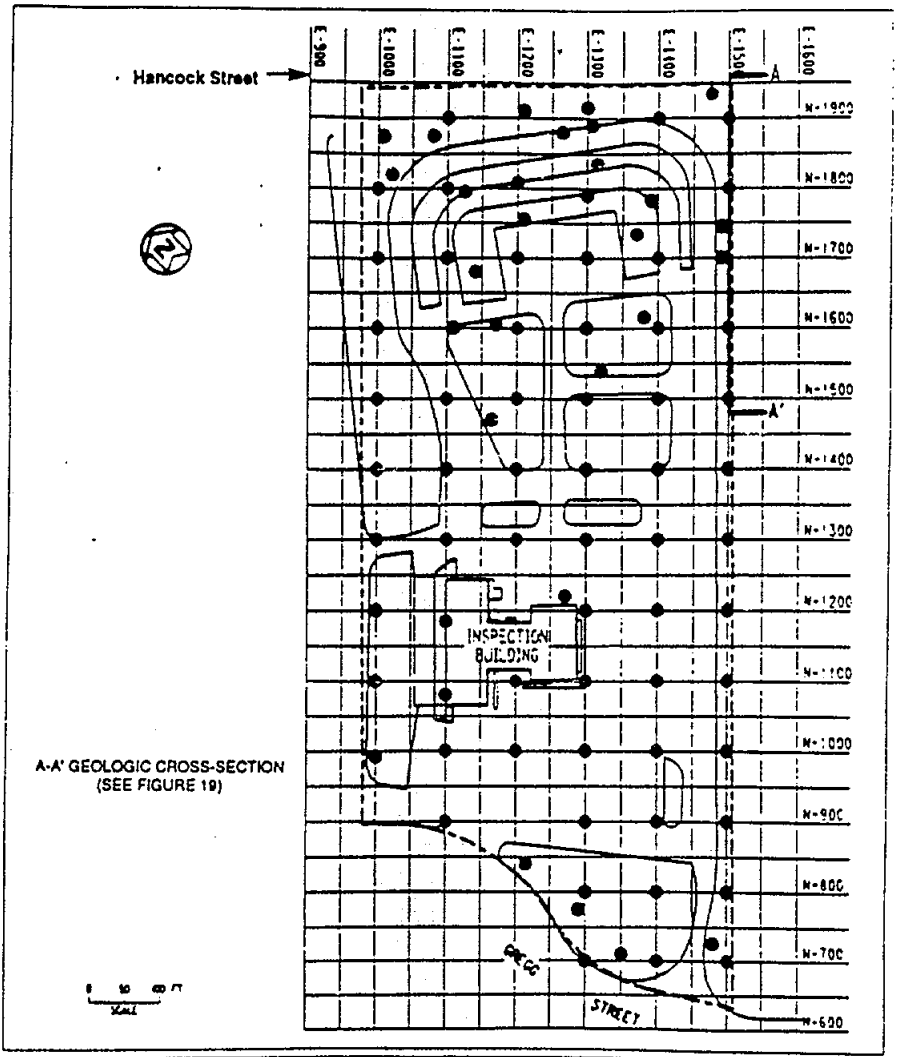
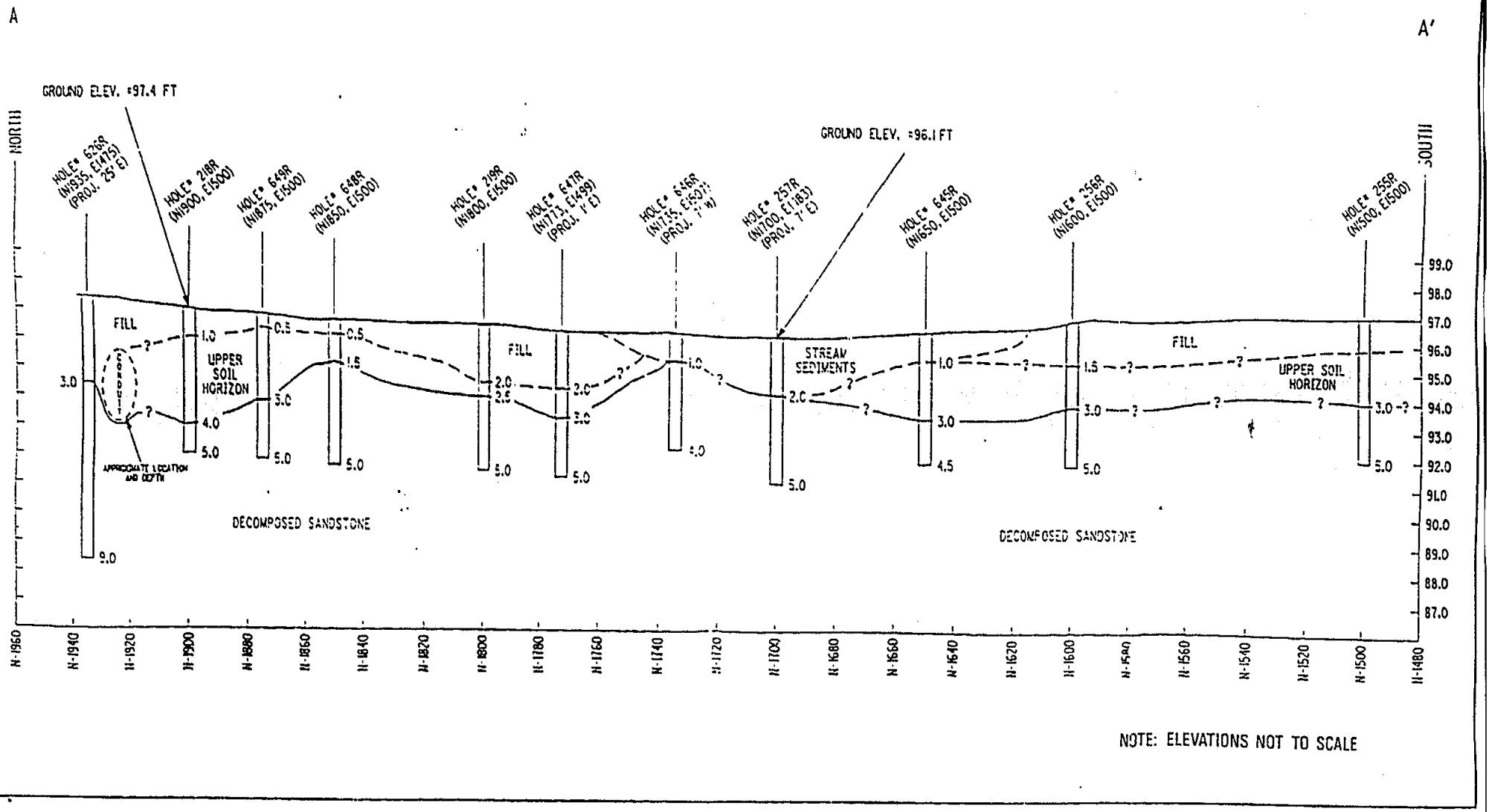


Figure 18

BOREHOLE LOCATIONS AT THE NEW JERSEY VEHICLE INSPECTION STATION PROPERTY

115649



NOTE: ELEVATIONS NOT TO SCALE

Figure 19

GEOLOGIC CROSS-SECTION OF THE FORMER LODI BROOK STREAMBED

each borehole and reviewing the borehole log comments to determine if contamination extended into a buried upper soil horizon. These locations have the potential to contain intact archaeological resources because they represent old ground surfaces.

Table 2 indicates that upper soil horizons were detected at the following properties: 24 Long Valley Road, 4 Branca Court, 17 Redstone Lane, 60 Trudy Drive, and 4, 6, and 10 Hancock Street. Silty sands and other materials that may be native soils were also found at a number of properties, including the Hunter Douglas property, the 14-22 Long Valley Road properties, 9 Hancock Street, and Lodi Municipal Park. None of the boreholes from these properties contained cultural materials. These properties are not considered archaeologically sensitive.

6.0 CONCLUSIONS AND DETERMINATION OF EFFECT

Historical Resources

Historical research documented that the majority of properties in the Maywood survey are not eligible for listing on the NRHP because of age or lack of integrity. However, 14 of the buildings associated with the Maywood Site appear to be eligible for the NRHP as a district. Seven of these buildings (4, 10, 13, 15, 20, 67, 78) have contamination exceeding cleanup guidelines and are required to be remediated (BNI 1992). Building 76 has contaminated soil under it. The proposed remediation alternatives will be analyzed below for their effects on these eight buildings.

Undertakings are considered to have an adverse effect when the effect may diminish the integrity of the property's location, setting, materials, workmanship, feeling or association. Such adverse effects include:

1. Physical destruction, damage, or alteration to all or part of the property;

2. Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

4. Neglect of a property resulting in its deterioration or destruction;

5. Transfer, lease, or sale of the property (36 CFR Part 800.9).

The proposed remediation alternatives and their effects are listed below.

Alternative 1 - No Action. No further remedial action would be undertaken. This alternative would have no effect on the buildings.

Alternative 2 - Excavation and Off-Site Disposal. This alternative would involve partial excavation of contaminated soils on Stepan. Building 3, which is a modern building, will be moved and reconstructed or demolished and a new building constructed before the burial pit beneath it is excavated. There is no inaccessible soil on the Stepan property. Building 76 would be demolished, because of contamination underneath, and would not be rebuilt.

Seven contaminated buildings on Stepan would be decontaminated or partially demolished and reconstructed. There is no contamination on the exteriors of these buildings, with the possible exception of the roofs which have not been checked (personal communication, Mike Redmon, BNI, 1994). Therefore all decontamination treatments would take place on the interior. For removable contamination, non-intrusive techniques such as filtered vacuuming, damp cloth wiping, and hand-washing/scrubbing would be used. If these techniques are not sufficient, more aggressive decontamination methods such as surface abrasion using metal shot, glass beads, carbide bits, grit or other hard materials, scabbling using a small hammer to break up the surface, pressurized air or water, water treatment to remove the dislodged particles, and liquid cleaning agents would be used. These treatments would remove the top 1/16" of the surface, which would then be restored. The intrusive techniques would not be used on brick, but on hard surfaces such as concrete and/or metal. The specific treatment to be used would be determined at the time of remediation, but would be one of the above listed typical treatments. Where these decontamination methods are not successful, contaminated surfaces of the buildings would be dismantled, disposed of, and those sections restored.

The buildings on the Stepan property appear eligible for the NRHP as a district for their architectural merit. Because the remediation using the typical treatments described above will take place on the interior of the buildings, these treatments would not affect the integrity of materials, workmanship and association of the buildings. Therefore the range of proposed treatments would have no effect on the buildings.

Demolition of Building 76 would have an adverse effect by removing a contributing building to the district. An appropriate mitigation measure would be to document the building with large format black and white archival photographs and place them in the Stepan Company archives.

Alternative 3 - Excavation, Treatment, and Offsite Disposal. This alternative is similar to Alternative 2 regarding excavation of the soils, but all soils would be treated with a soil-washing technique to concentrate the contaminant, thereby reducing the volume of soils to be shipped offsite. The decontamination, partial demolition, and reconstruction treatments of the buildings discussed for Alternative 2 would be followed under this alternative. Building 76 would be demolished.

The buildings on the Stepan property appear eligible for the NRHP as a district for their architectural merit. Because the remediation using the typical treatments described above will take place on the interior of the buildings, these treatments would not affect the integrity of materials, workmanship and association of the buildings. Therefore the range of proposed treatments would have no effect on the buildings.

Demolition of Building 76 would have an adverse effect by removing a contributing building to the district. An appropriate mitigation measure would be to document the building with large format black and white archival photographs and place them in the Stepan Company archives.

Alternative 4 - Excavation, Treatment and Onsite Disposal. This alternative is similar to Alternative 3 regarding excavation of soils, followed by treatment. However additionally the soils would be compacted into bricks and placed in an on-site encapsulated facility.

The decontamination, partial demolition, and reconstruction treatments of the buildings discussed for Alternative 2 would be followed under this alternative. Building 76 would be demolished.

The buildings on the Stepan property appear eligible for the NRHP as a district for their architectural merit. Because the remediation using the typical treatments described above will take place on the interior of the buildings, these treatments would not affect the integrity of materials, workmanship and association of the buildings. Therefore the range of proposed treatments would have no effect on the buildings.

Demolition of Building 76 would have an adverse effect by removing a contributing building to the district. An appropriate mitigation measure would be to document the building with large format black and white archival photographs and place them in the Stepan Company archives.

Alternative 5 - Complete Excavation and Offsite Disposal. This alternative is similar to Alternative 2 except that all contaminated soil, regardless of whether it is difficult to access or not, would be excavated and disposed of off-site. The decontamination, partial demolition, and reconstruction treatments of the buildings discussed for Alternative 2 would be followed under this alternative. Building 76 would be demolished.

The buildings on the Stepan property appear eligible for the NRHP as a district for their architectural merit. Because the remediation using the typical treatments described above will take place on the interior of the buildings, these treatments would not affect the integrity of materials, workmanship and association of the buildings. Therefore the range of proposed treatments would have no effect on the buildings.

Demolition of Building 76 would have an adverse effect by removing a contributing building to the district. An appropriate mitigation measure would be to document the building

with large format black and white archival photographs and place them in the Stepan Company archives.

Alternative 6E - Phased Excavation, Treatment, and Offsite Disposal. This approach is a phased approach to remediation, and is the preferred approach. Phase I includes the removal of the MISS pile; complete excavation of the residential properties; excavation of the unremediated portion of the Ballod property; continuation of institutional controls; and continued DOE presence at MISS. Phase II would address the remaining accessible contamination including former retention ponds and waste burial areas whether accessible or not. The decontamination, partial demolition, and reconstruction treatments of the buildings discussed for Alternative 2 would be followed under this alternative. Building 76 would be demolished.

The buildings on the Stepan property appear eligible for the NRHP as a district for their architectural merit. Because the remediation using the typical treatments described above will take place on the interior of the buildings, these treatments would not affect the integrity of materials, workmanship and association of the buildings. Therefore the range of proposed treatments would have no effect on the buildings.

Demolition of Building 76 would have an adverse effect by removing a contributing building to the district. An appropriate mitigation measure would be to document the building with large format black and white archival photographs and place them in the Stepan Company archives.

In conclusion, under the preferred alternative, the range of typical treatments proposed for remediation would have no effect on the buildings that appear eligible for the NRHP as a district. The demolition of Building 76 would have an adverse effect by removing a building contributing to the proposed NRHP district.

Archaeological Resources

None of the Maywood and Lodi properties are considered archaeologically sensitive. The archaeological survey, the record search and the detailed examination of boring logs and cross-sections indicates no intact archaeological deposits are likely to exist at the Maywood and Lodi properties. Four of 68 boreholes at John F. Kennedy Park yielded brick "specks," a few rusty nails, bits of glass, and aluminum foil in soils below fill. These are not likely to represent an intact historic archaeological site because of the density and diversity of materials recovered. In addition, we would expect to find cultural materials in many more boreholes if an archaeological site was present. In addition, neither the well nor the foundation of Building 47 identified on the MISS are considered eligible for listing on the National Register of Historic Places. The well lacks data potential and the foundation lacks integrity as well as data potential.

No further archaeological research is recommended for remediation of the Maywood Site properties.

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_____. 1987. *Characterization Report for the Sears Property, Maywood, New Jersey*. Report No. DOE/OR/20722-140. Prepared by Bechtel National, Inc.

_____. 1987. *Radiological Characterization Report for the Federal Express Property, Maywood, New Jersey*. Report No. DOE/OR/20722-154. Prepared by Bechtel National, Inc.

_____. 1987. *Radiological and Limited Chemical Characterization Report for the Hunter Douglas Property, Maywood, New Jersey*. Report No. DOE/OR/20722-152. Prepared by Bechtel National, Inc.

_____. 1987. *Radiological and Limited Chemical Characterization Report for the Sunoco Station Property, Maywood, New Jersey*. Report No. DOE/OR/20722-155. Prepared by Bechtel National, Inc.

Van Valen, J.M. 1900. *History of Bergen County, New Jersey*. New York: New Jersey Publishing and Engraving Company.

MAPS

"Garfield, Bergen County." Sanborn Map 1948.
"Hackensack, Bergen County." Sanborn Map 1926.
"Hackensack, Bergen County." Sanborn Map 1926-50.
"Hackensack, Bergen County." Sanborn Map 1976.
U.S.G.S. Map. Hackensack Quadrangle, New Jersey. 1981. 7.5 minute
Fairchild Aerial Map of Maywood Chemical Works 1928. (Stepan Company Archives)
J.Harvie. Plot Plan of the Maywood Chemical Company 1951. (Stepan Company Archives)

COLLECTIONS

Maywood Public Library
Newark Public Library, New Jersey Room
Stepan Company Archives
U.S. Department of Energy Public Information Center, Maywood

PLATES

(All photographs taken in November and December 1993)

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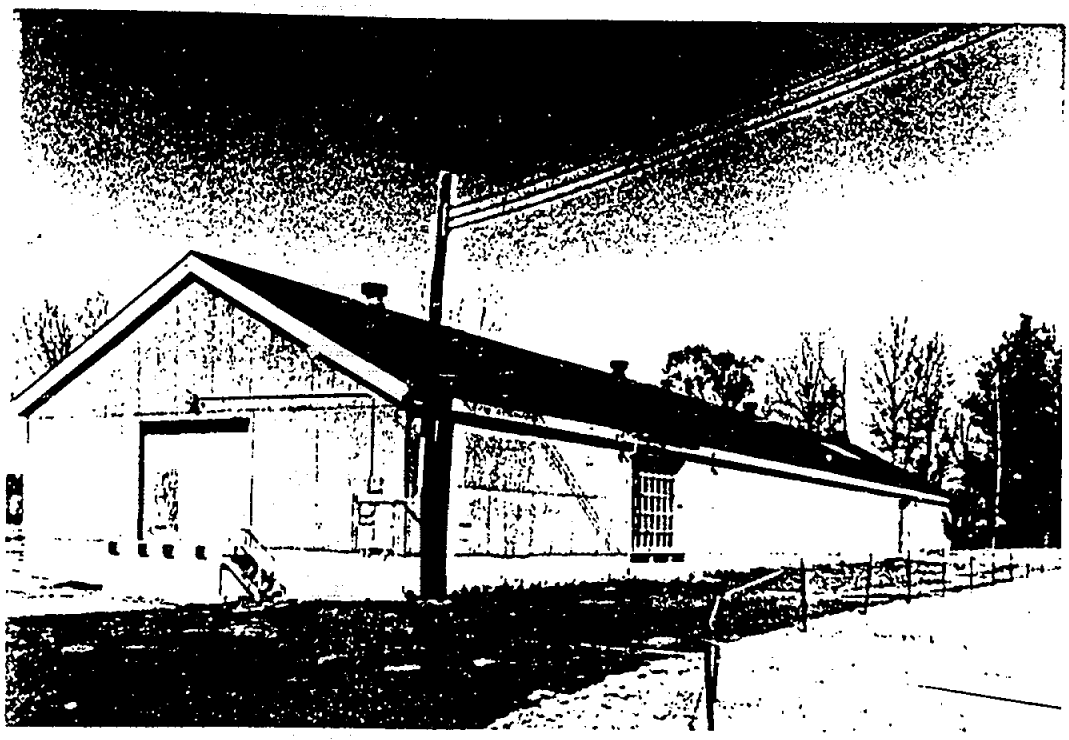

Plate 1. Building 76, facing north-west.

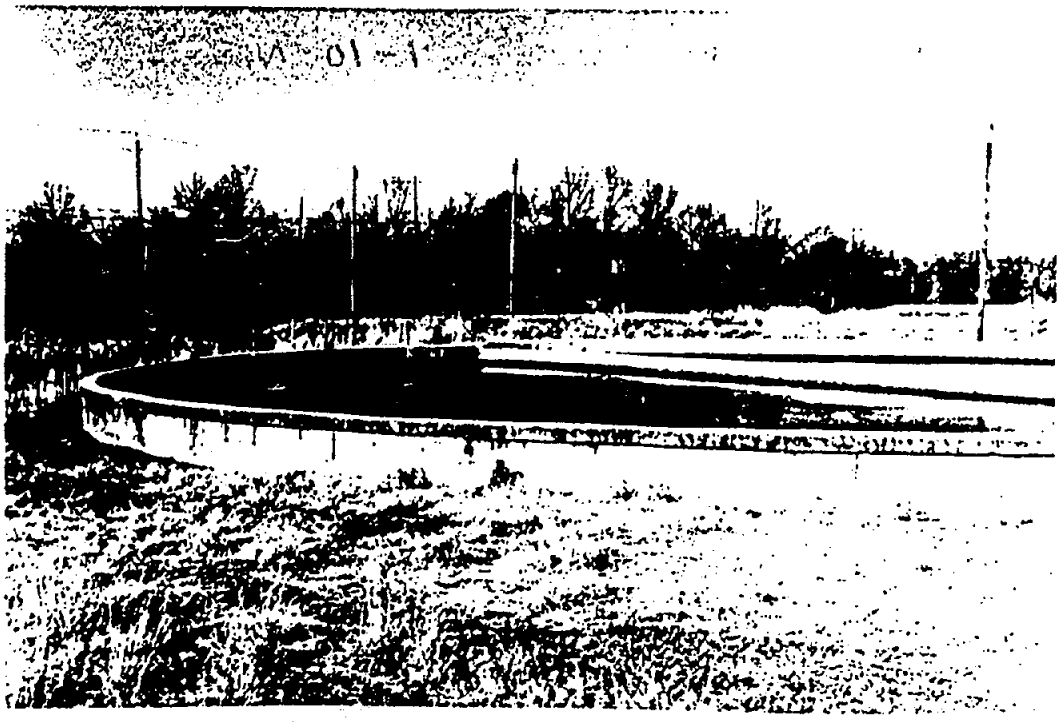

Plate 2. Reservoir, facing north-west.

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MISS Site

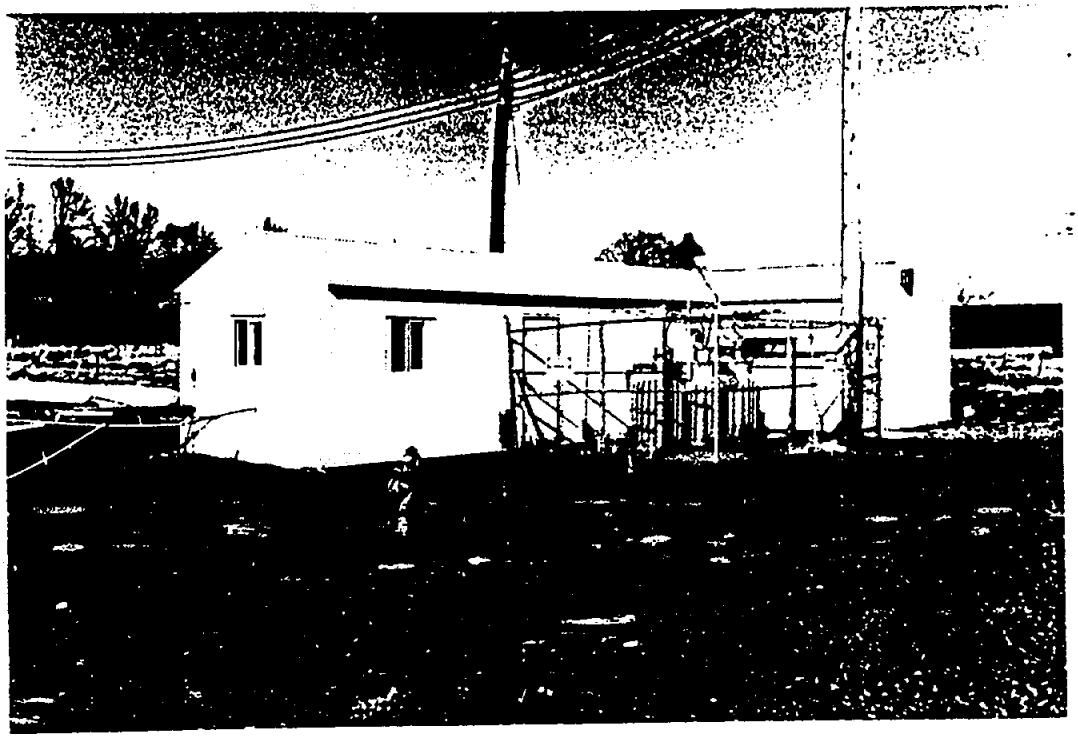

Plate 3. Pump house, facing north-west.

115649

STEPAN PROPERTY

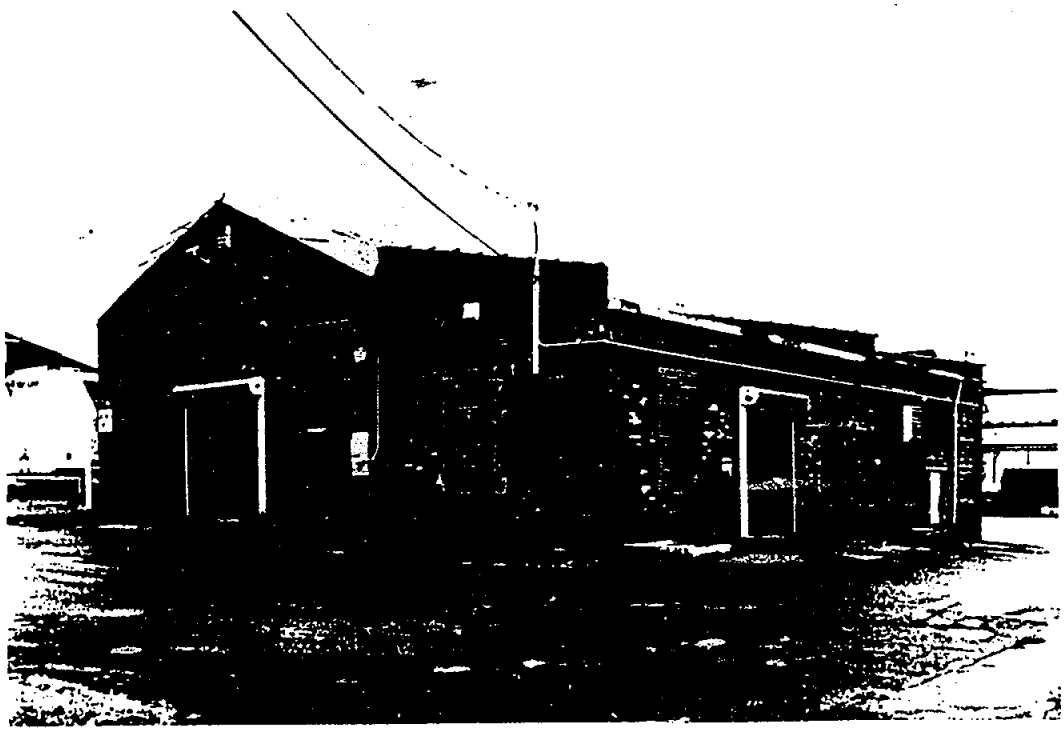

Plate 1. Building 1, facing south-east.

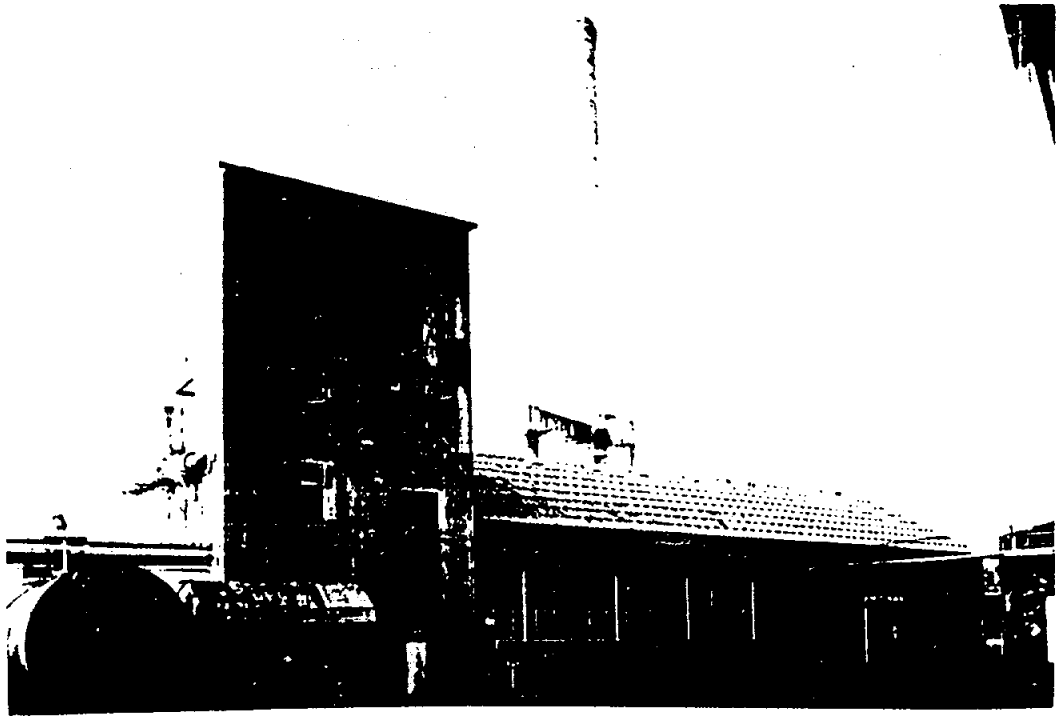

Plate 2. Building 4, facing north-west.

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Plate 3. Building 4, facing south-west.

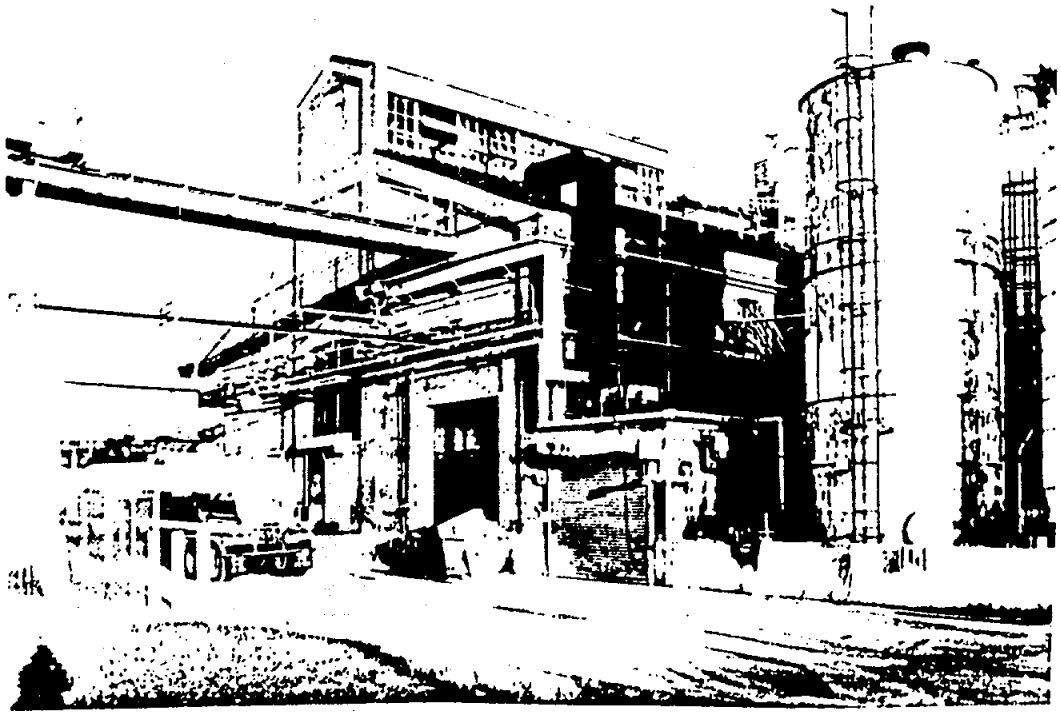

Plate 4. Building 10, facing north-east.

115649

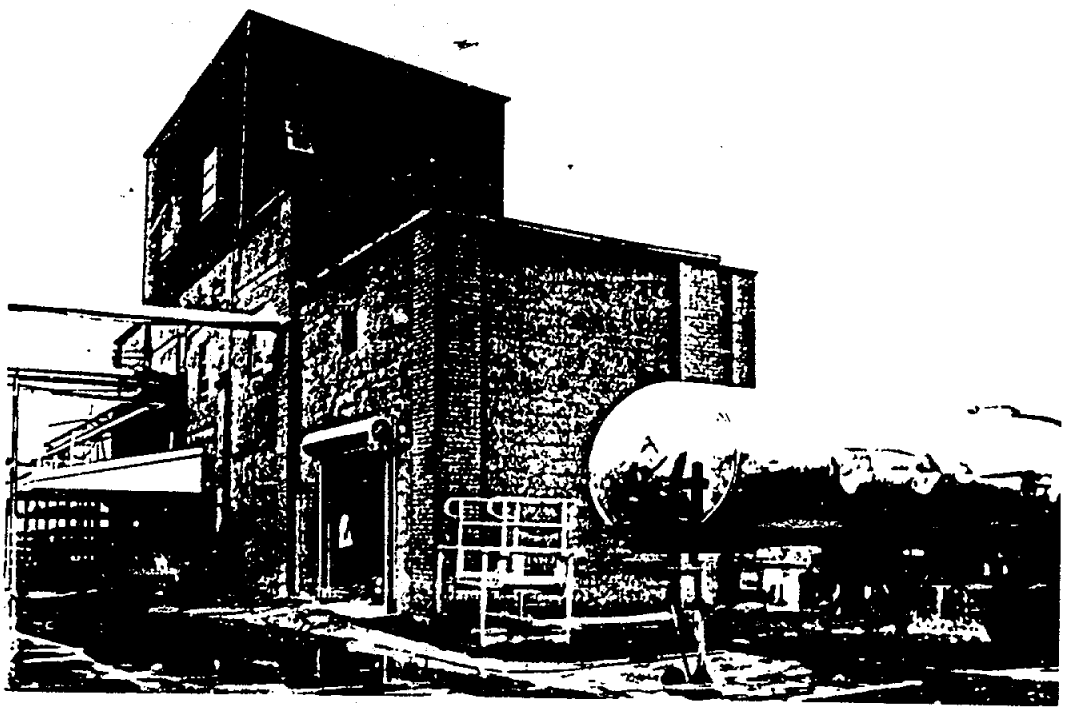

Plate 5. Building 101I, facing east.

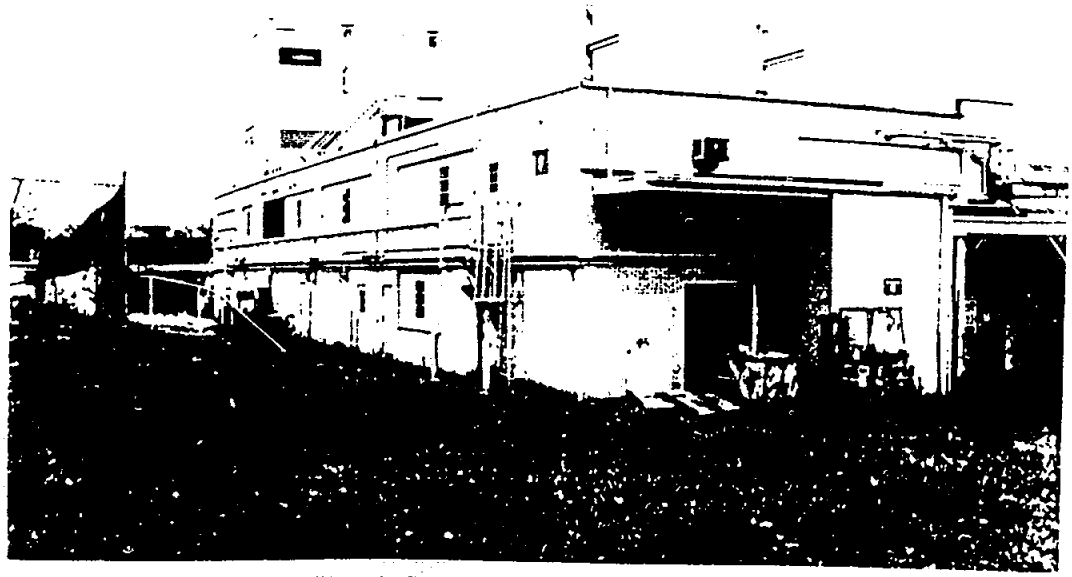

Plate 6. Building 13, facing south-east.

115649

STEPAN PROPERTY

Plate 7. Buildings 13 and14, facing north-east.

Plate 8. Building 14, facing south-east.

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STEPAN PROPERTY

Plate 9. Building 15, facing north-east.

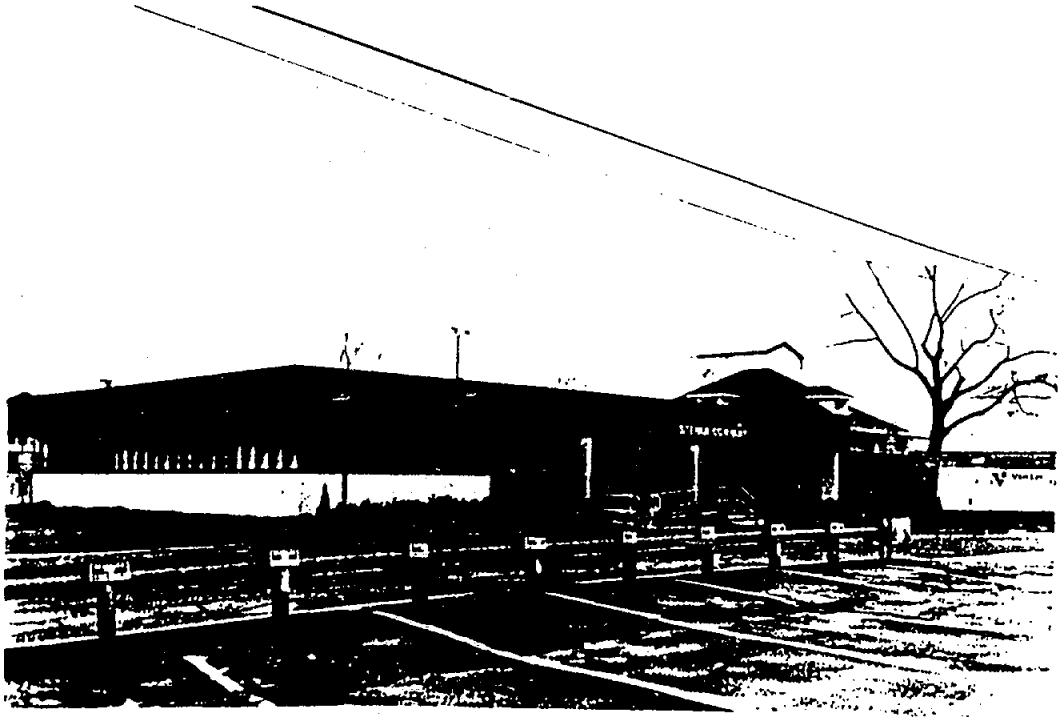

Plate 10. Building 15, facing south-west.

115649

STEPAN PROPERTY

Plate 11. Building 20, facing north-east.

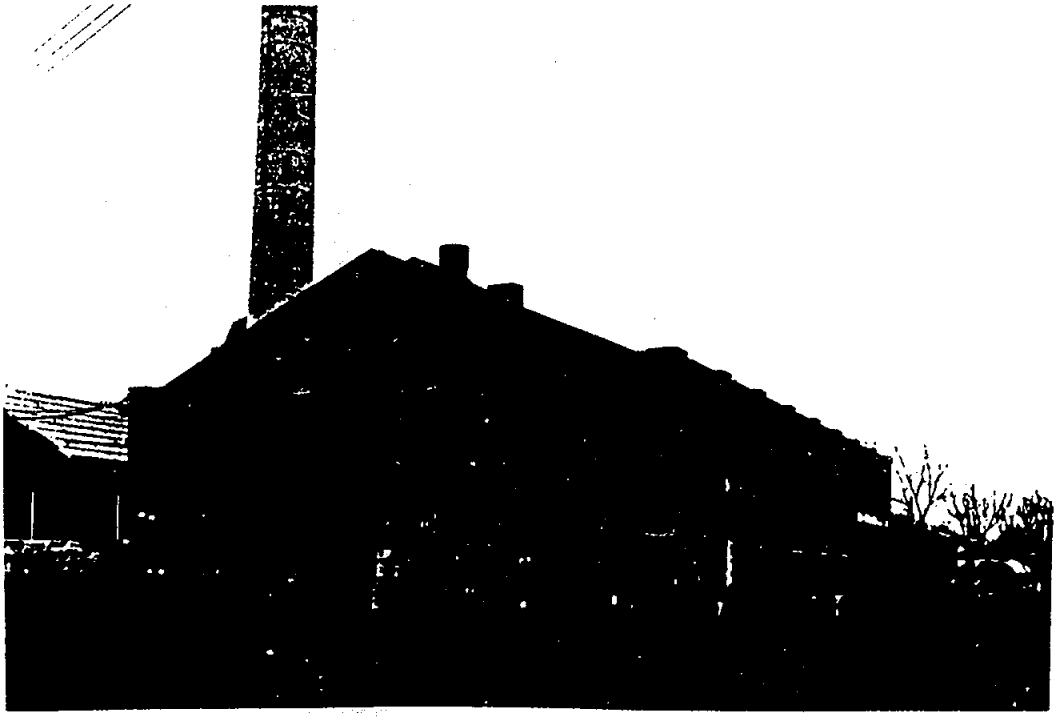

Plate 12. Building 67, facing south-east.

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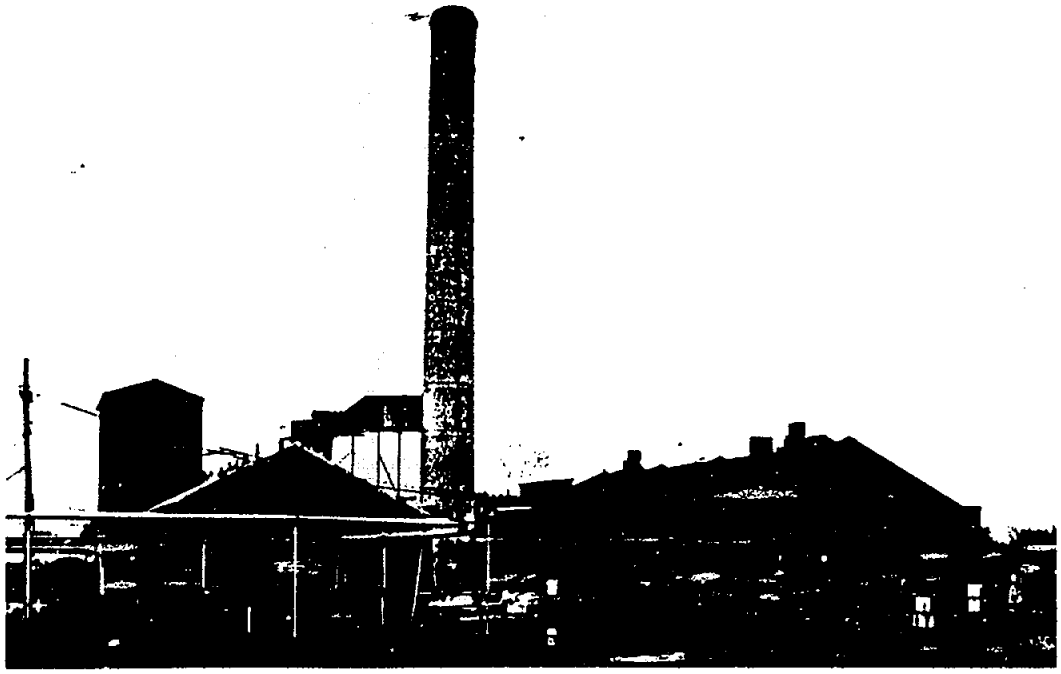

Plate 13. Buildings 4 and 67, facing south-west.

Plate 14. Building 78, facing north-east.

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STEPAN PROPERTY

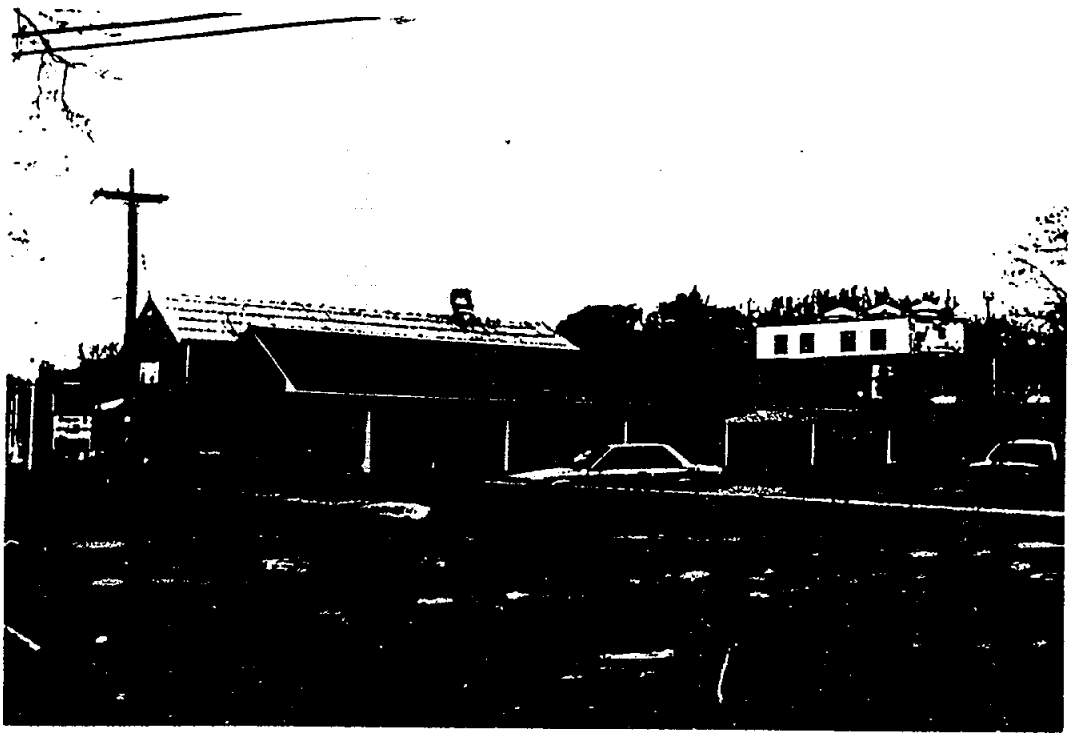

Plate 15. Garages, facing north-west.

COMMERCIAL/GOVERNMENT PROPERTIES

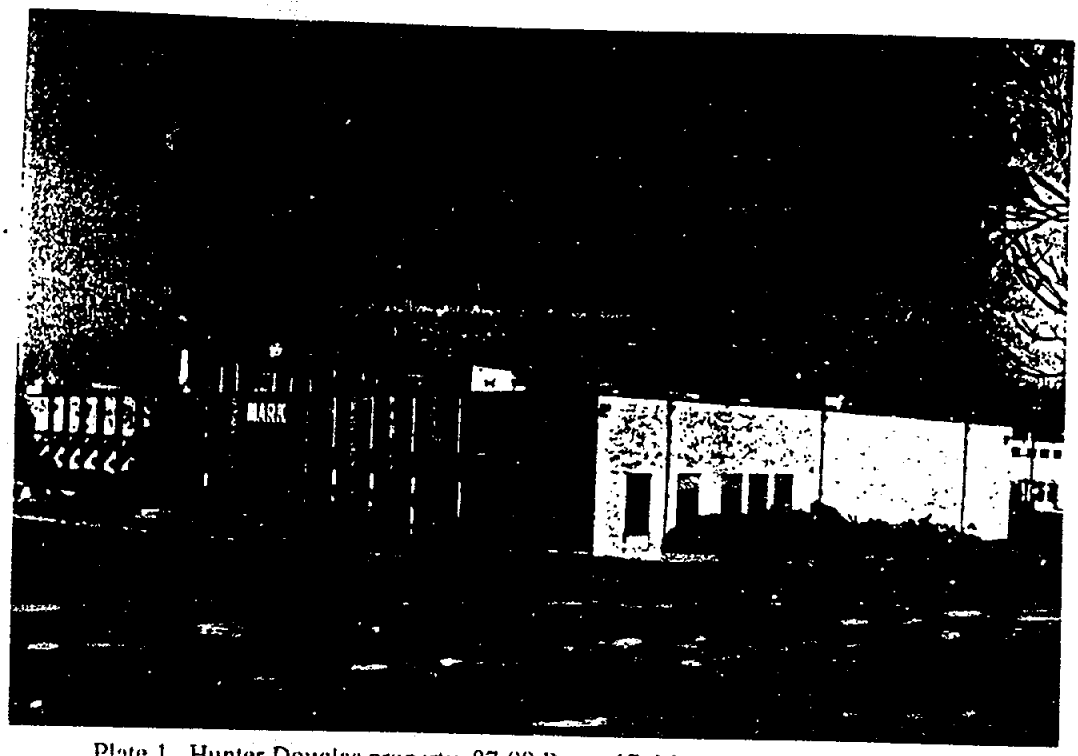

Plate 1. Hunter Douglas property, 87-99 Route 17, Maywood. Facing north-east.

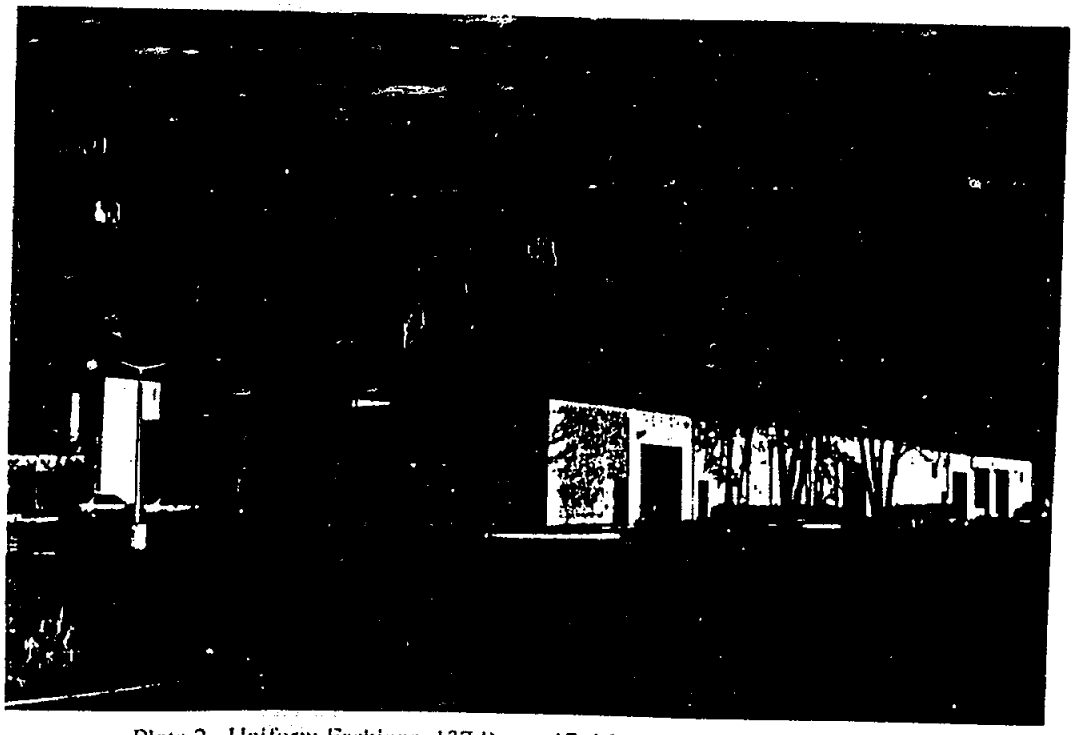

Plate 2. Uniform Fashions, 137 Route 17, Maywood. Facing north-east.

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COMMERCIAL/GOVERNMENT PROPERTIES

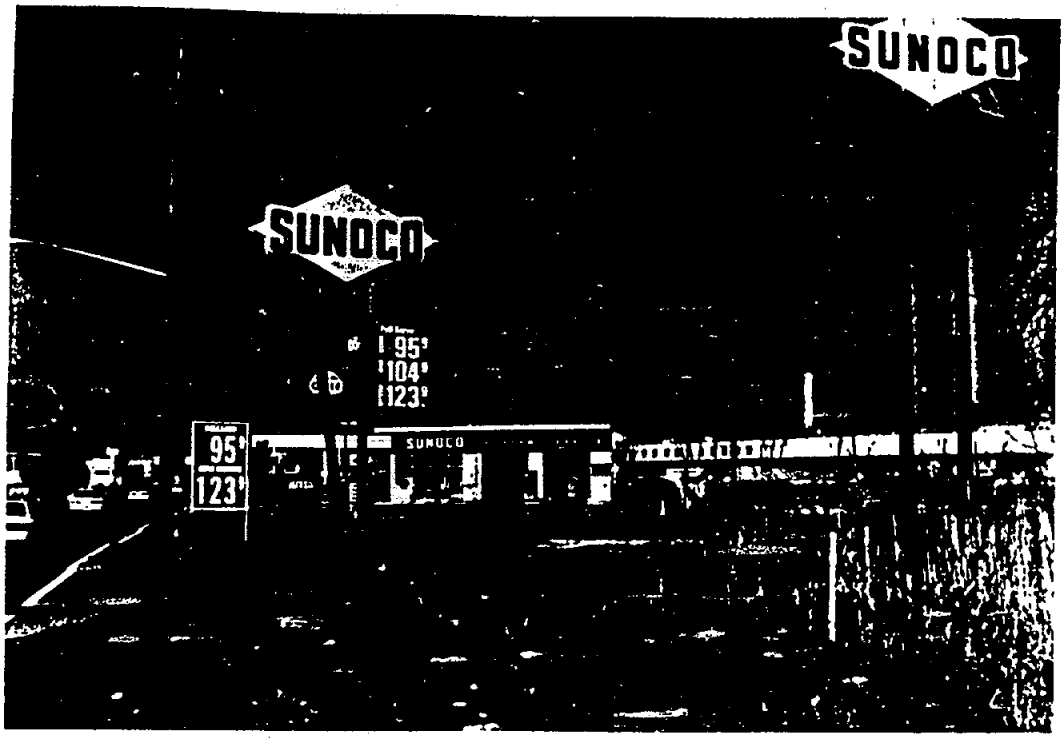

Plate 3. Sunoco Station, 167 Route 17, Maywood. Facing north-east.

Plate 4. Gulf Station, 239 Route 17, Maywood. Facing north-east.

115649

COMMERCIAL/GOVERNMENT PROPERTIES

Plate 5. Sears Service Center, 200 Route 17, Maywood. Facing north-west.

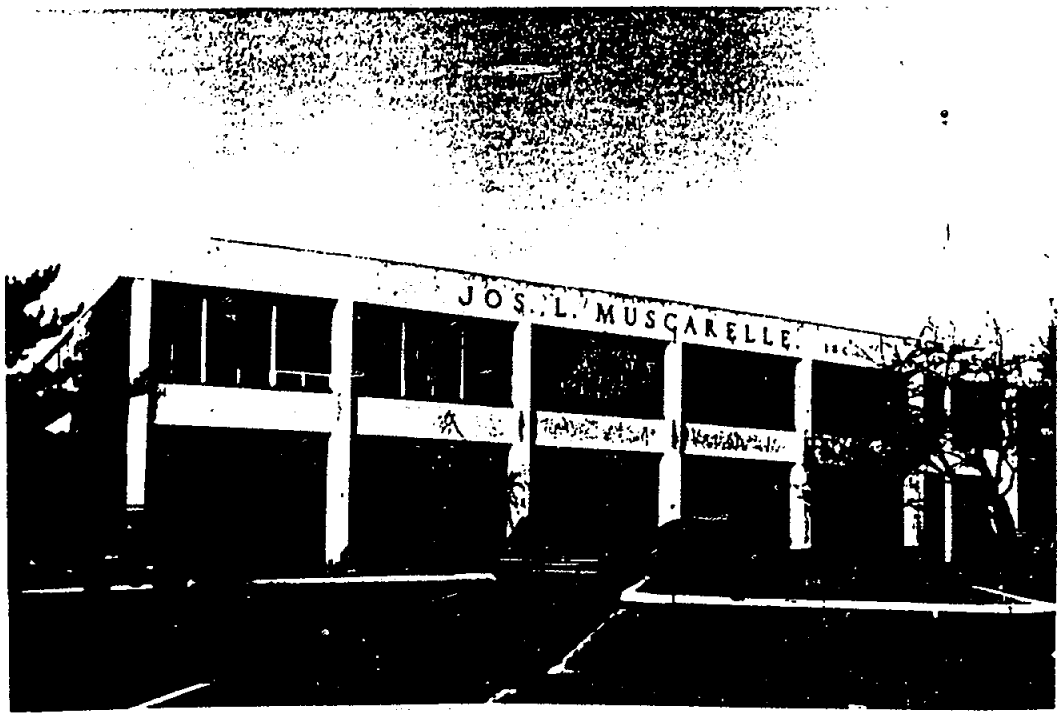

Plate 6. Jos. L. Muscarelle, 99 Essex Street, Maywood. Facing north-east.

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COMMERCIAL/GOVERNMENT PROPERTIES

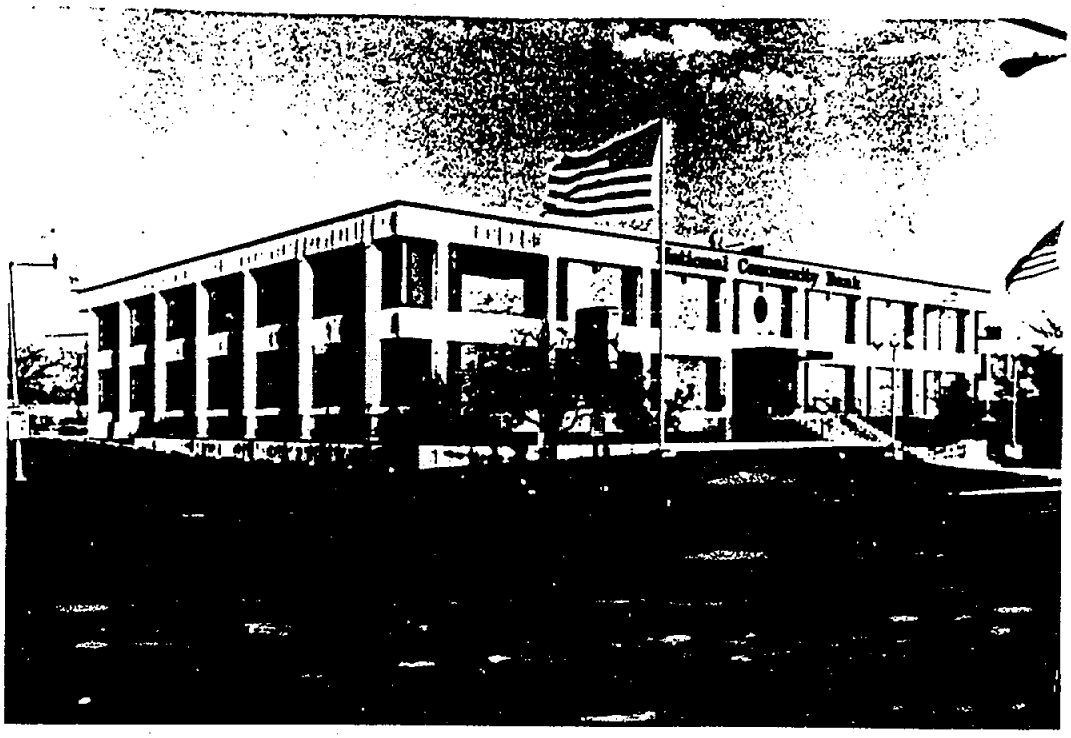

Plate 7. National Community Bank, 113 Essex Street, Maywood. Facing south-east.

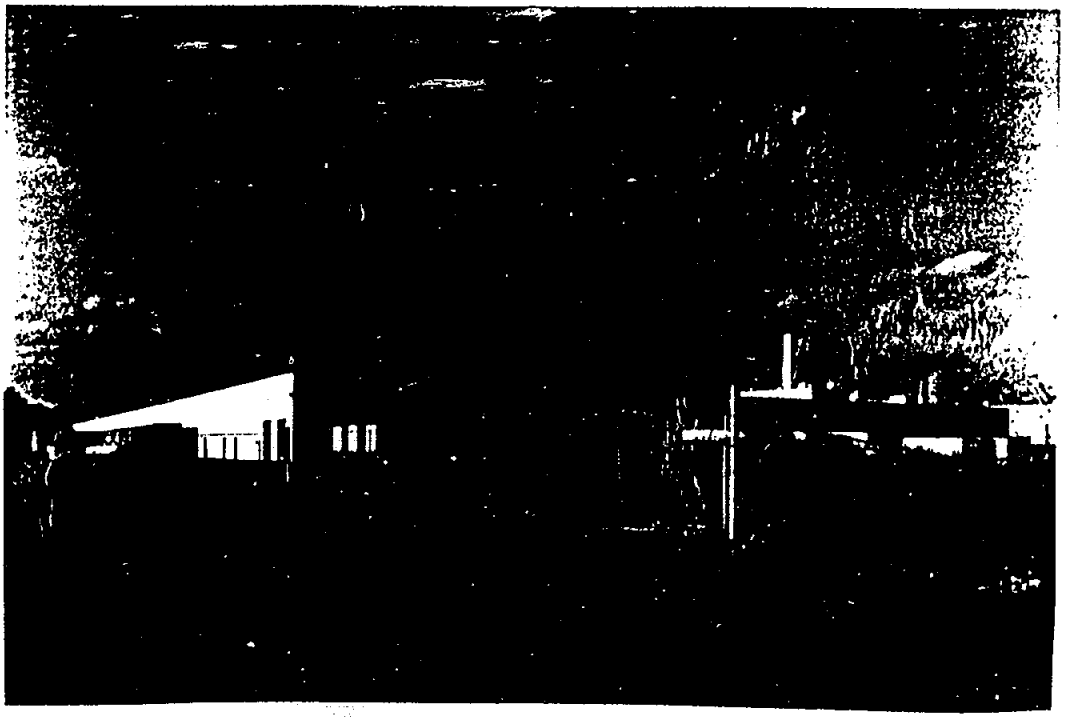

Plate 8. Sears Warehouse, 149-151 Maywood Avenue, Maywood. Facing north-east.

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COMMERCIAL/GOVERNMENT PROPERTIES

Plate 9. Myron Mfg. Co., 205 Maywood Avenue, Maywood. Facing north-east.

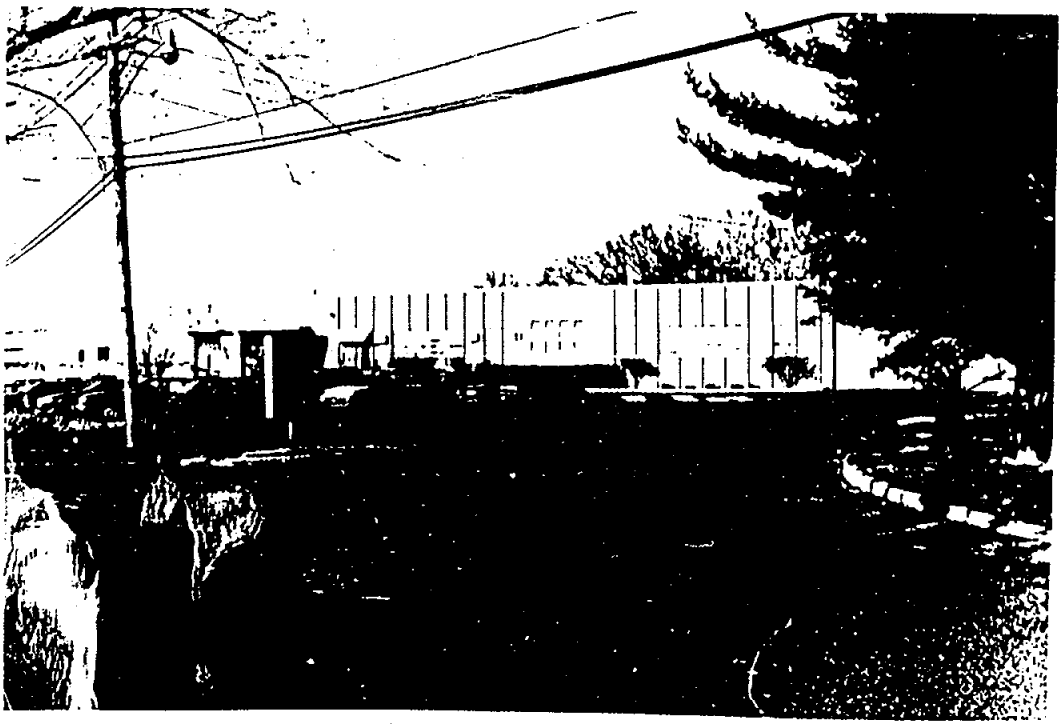

Plate 10. De Saussure, 23 W. Howcroft Road , Maywood. Facing north-east.

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COMMERCIAL/GOVERNMENT PROPERTIES

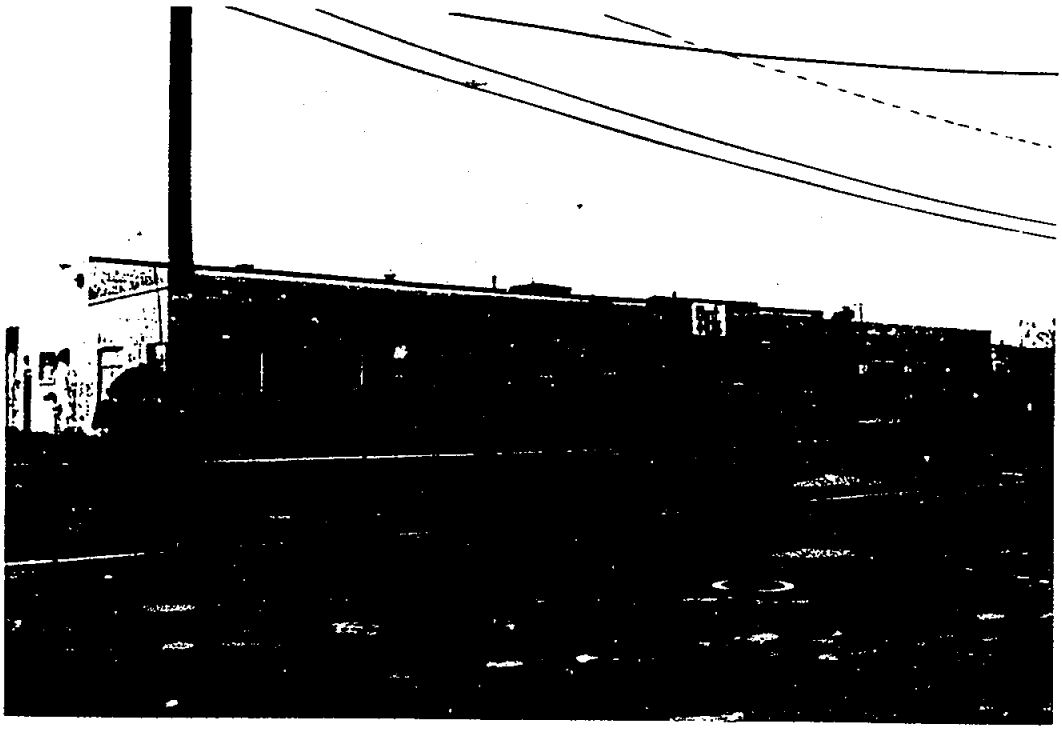

Plate 13. 80 Industrial Road, Lodi. Facing south-west.

Plate 14. N.J. Vehicle Inspection Station Property. Facing northwest.

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COMMERCIAL/GOVERNMENT PROPERTIES

Plate 15. N.J. Vehicle Inspection Station, facing north-east along Hancock Street.

Plate 16. N.J. Vehicle Inspection Station Property. Facing east.

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RESIDENTIAL PROPERTIES

Plate 1. 60 Trudy Drive. Facing south-east.

Plate 2. 62 Trudy Drive. Facing south-east.

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RESIDENTIAL PROPERTIES

Plate 3. 4 Hancock Street, Lodi. Facing north-east.

Plate 4. 5 Hancock Street, Lodi. Facing north-west.

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RESIDENTIAL PROPERTIES

Plate 5. 6 Hancock Street, Lodi. Facing north-east.

Plate 6. 7 Hancock Street, Lodi. Facing north-west.

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RESIDENTIAL PROPERTIES

Plate 7. 8 Hancock Street, Lodi. Facing north-east.

Plate 8. 10 Hancock Street, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

Plate 9. 2 Branca Court, Lodi. Facing north-west.

Plate 10. 4 Branca Court, Lodi. Facing north-west.

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RESIDENTIAL PROPERTIES

Plate11. 6 Branca Court, Lodi. Facing north-west.

Plate 12. 7 Branca Court, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

Plate 13. 11 Branca Court, Lodi. Facing north.

Plate 14. 14 Long Valley Road, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

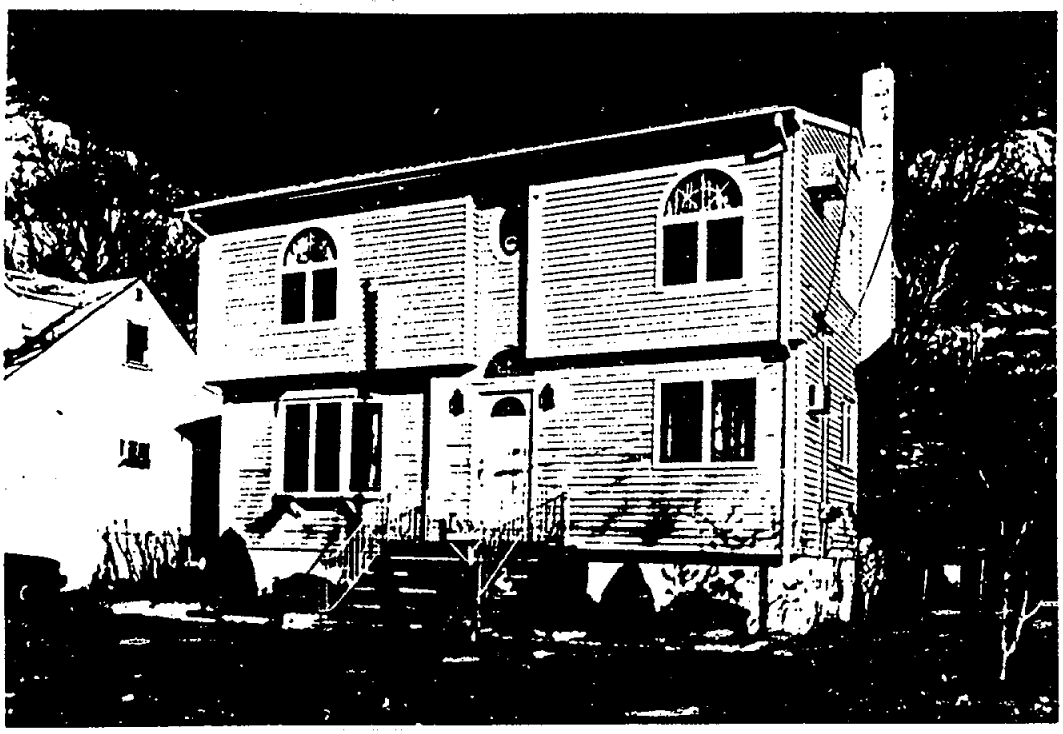

Plate 15. 16 Long Valley Road, Lodi. Facing north-east.

Plate 16. 18 Long Valley Road, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

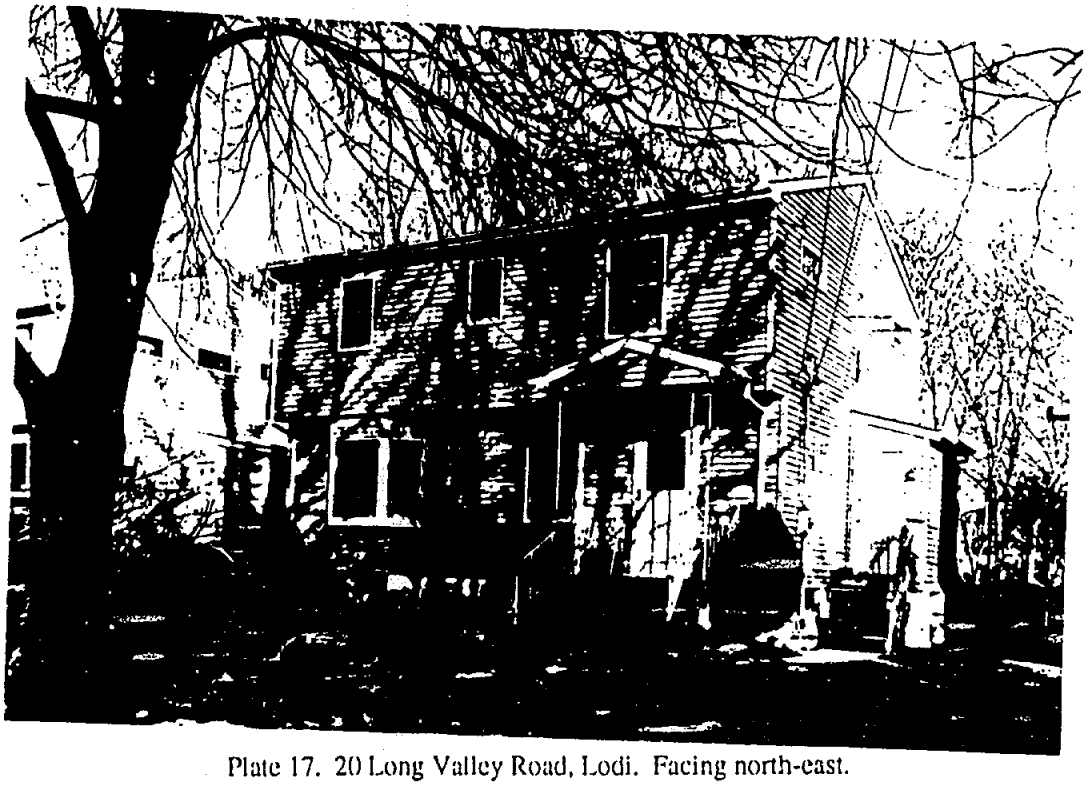

Plate 17. 20 Long Valley Road, Lodi. Facing north-east.

Plate 18. 22 Long Valley Road, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

Plate 19. 24 Long Valley Road, Lodi. Facing north-east.

Plate 20. 26 Long Valley Road, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

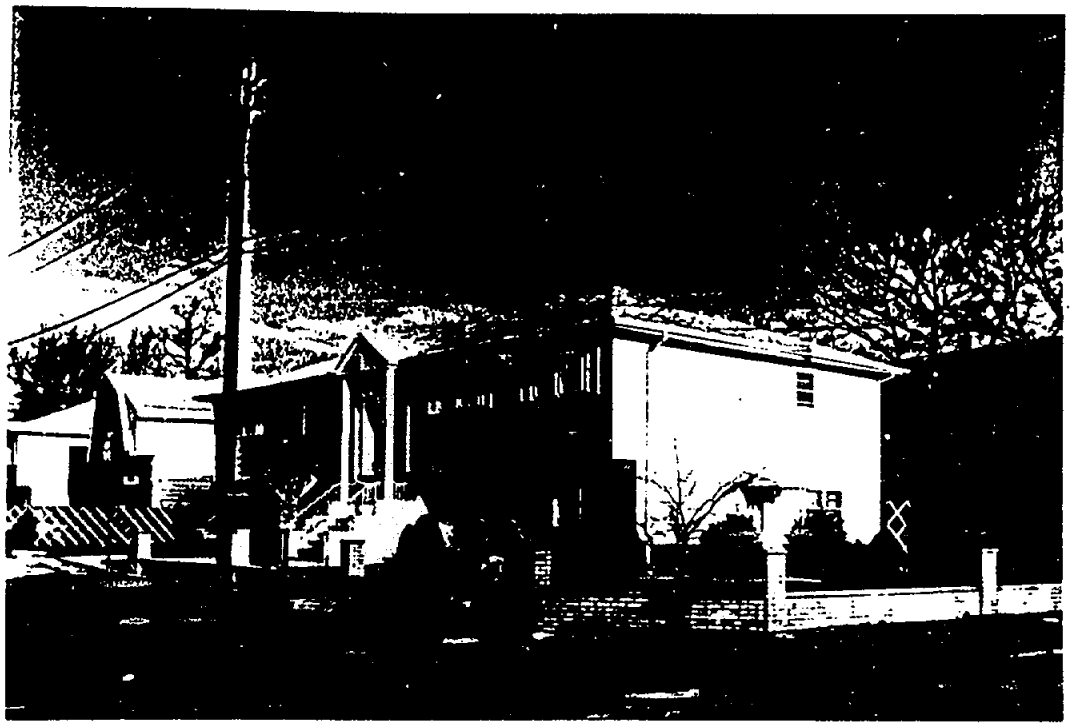

Plate 21. 11 Redstone Lane, Lodi. Facing north-east.

Plate 22. 17 Redstone Lane, Lodi. Facing north-east.

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RESIDENTIAL PROPERTIES

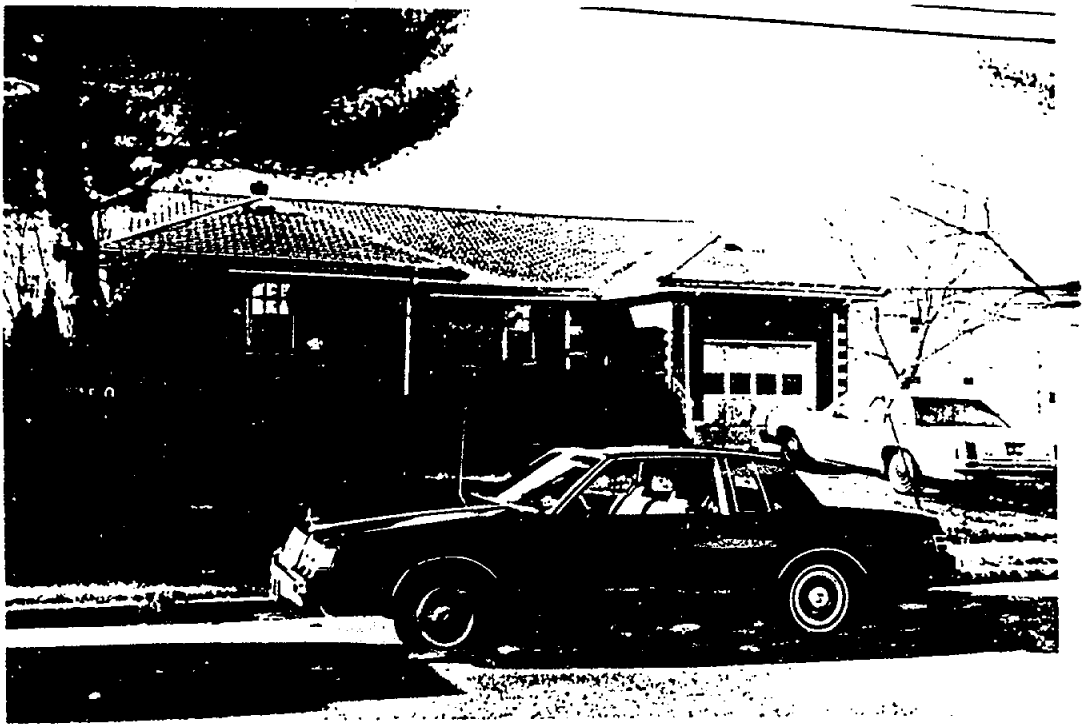

Plate 23. 106 Columbia Lane, Lodi. Facing south-west.

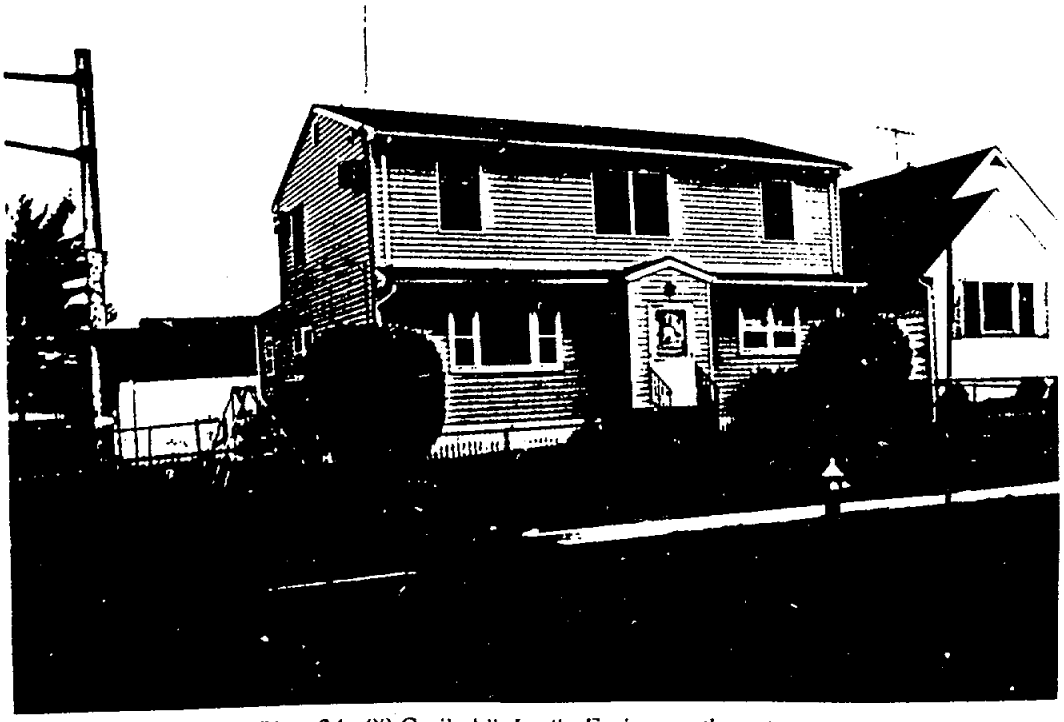

Plate 24. 99 Garibaldi, Lodi. Facing south-east.

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RESIDENTIAL PROPERTIES

Plate 25. 79 Avenue B, Lodi. Facing north-east.

Plate 26. 90 Avenue C, Lodi. Facing south-east.

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RESIDENTIAL PROPERTIES

Plate 27. 108 Avenue E, Lodi. Facing south-west.

Plate 28. 112 Avenue E, Lodi. Facing south-east.

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RESIDENTIAL PROPERTIES

Plate 29. 113 Avenue E, Lodi. Facing north.

Plate 30. 136 W. Central, Maywood. Facing south-east.

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RESIDENTIAL PROPERTIES

Plate 31. 200 Brookdale, Maywood.. Facing north-east.

Plate 32. Fire Station No. 2, Lodi. Facing north-east.

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Plate 33. Fireman's Memorial Park, Lodi. Facing south-east.

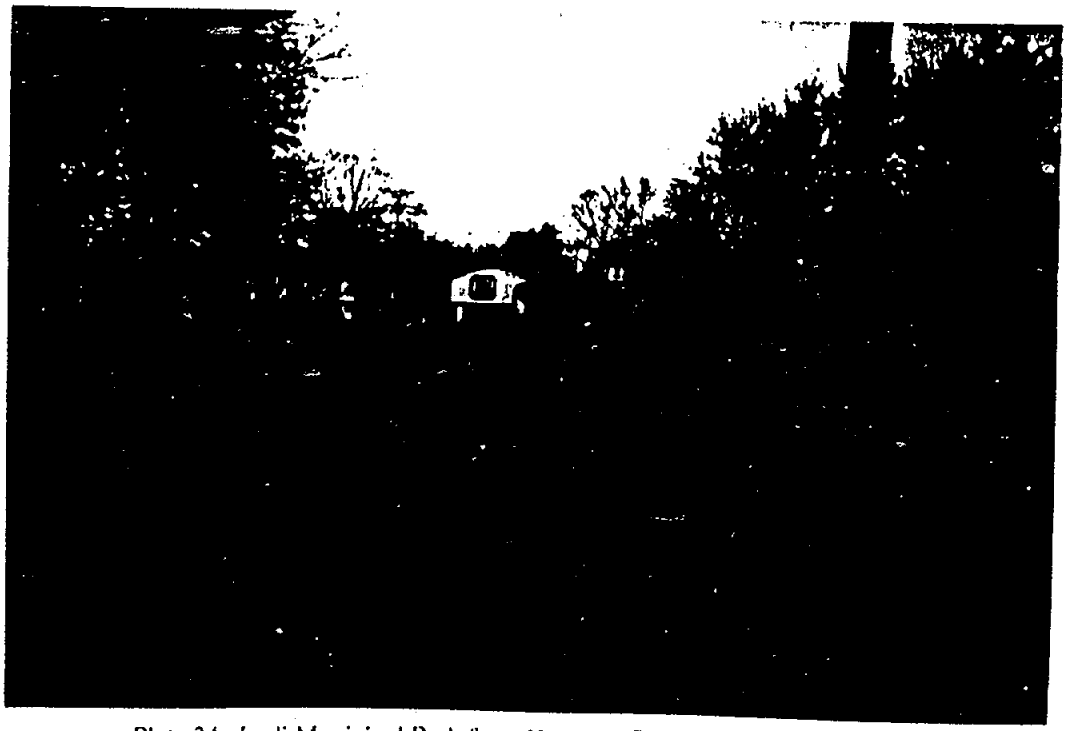

Plate 34. Lodi Municipal Park from Hancock Street. Facing north-east.

115649

RESIDENTIAL PROPERTIES

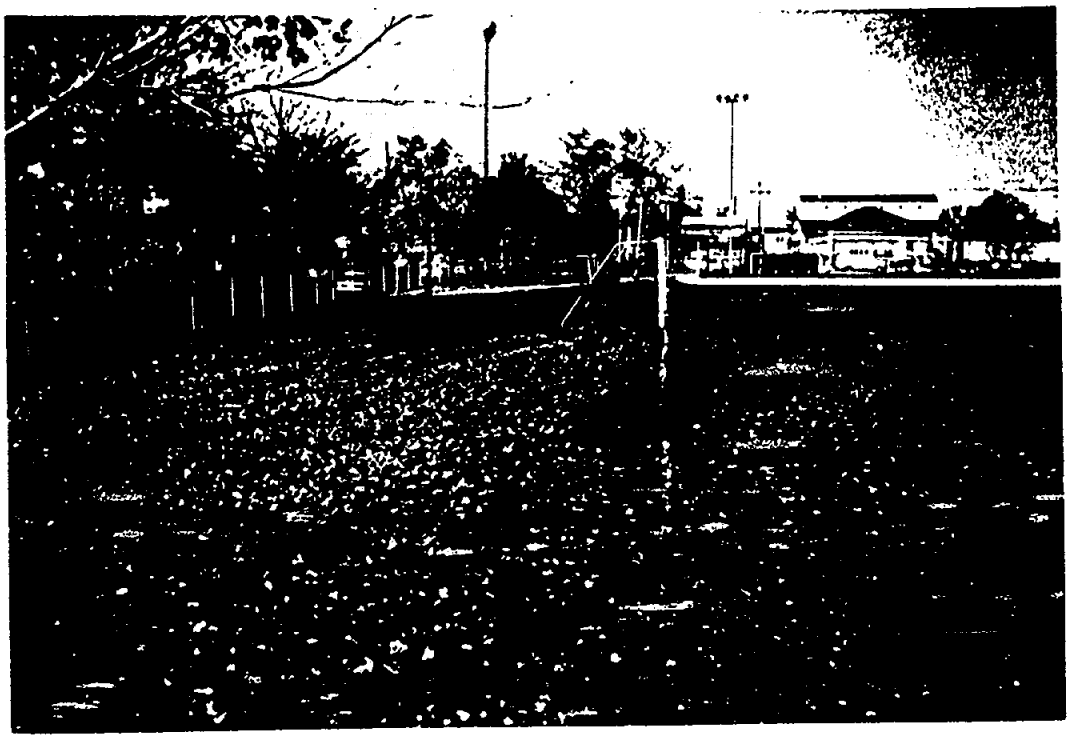

Plate 35. John F. Kennedy Municipal Park, Lodi. Facing north.

APPENDIX A

RESULTS OF THE SITE RECORD SEARCH

115649

PREDECISIONAL DRAFT - DO NOT CITE

State of New Jersey
NEW JERSEY STATE MUSEUM
DEPARTMENT OF STATE
205 WEST STATE STREET CN 530
TRENTON, NJ 08625-0530

November 4, 1993

Mr. Craig F. Woodman
Director
Cultural Resources Management Group
Science Applications International Corp.
816 State Street
Suite 500
Santa Barbara, CA 93101

Re: Maywood, New Jersey Project Area

Dear Mr. Woodman:

We have checked our records for the above-referenced project and report the following:

> No known archaeological resources appear to be located within the boundaries of the project site. There are two known prehistoric archaeological sites located within a one mile radius of the project site. A copy of your project map showing the locations of these sites is attached. A copy of the archaeological site information from our files for these sites is also attached. An archaeological survey, by a professional archaeologist, would have to be conducted in order for an accurate assessment to be made of its archaeological significance.

If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Karen Flinn
Registrar
Archaeology/Ethnology Bureau

KF:gg
Enclosures
CC: Ms. Nancy Zerbe, Administrator
NJ Department of Environmental Protection & Energy
Historic Preservation Office

PREDECISIONAL DRAFT - DO NOT CITE

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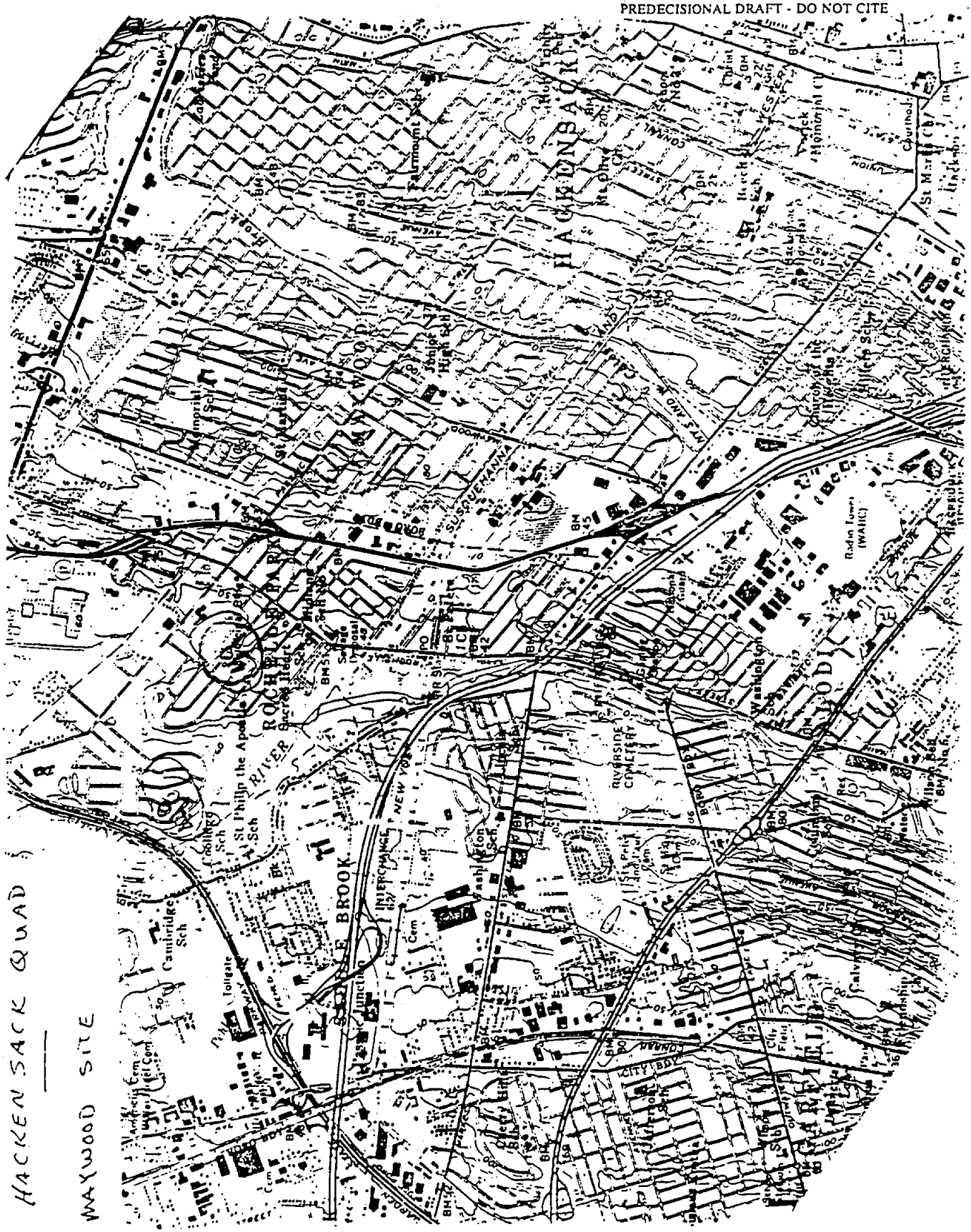
PREDECISIONAL DRAFT - DO NOT CITE



PREDECISIONAL DRAFT - DO NOT CITE

115649

GEOLOGICAL SURVEY OF NEW JERSEY

HENRY B. KÜMMEL, STATE GEOLOGIST

BULLETIN 9

A Preliminary Report

OF THE

Archaeological Survey

OF THE

STATE OF NEW JERSEY

MADE BY THE

Department of Anthropology in the American Museum of Natural History

Clark Wissler, Ph.D., Curator

Under the Direction of the State Geological Survey

COMPILED BY

ALANSON SKINNER

AND

MAX SCHRABISCH

TRENTON, N. J.
MacCrellish & Quigley, State Printers, Opposite Post Office.

1913

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pebbles and in the soil covering its floor there were found some fragments of pottery, chips, bones and a few arrow points of inferior workmanship. (23-33-7-6-6; 8-4-7; 8-4-5.)

Paramus.—On the plains of Paramus, 3 miles downstream, there are three sites near the river, one of them west, the other two east of it (23-43-2-7-1; 7-6; 7-9). Two sites have been noted southeast of Paramus, at the headwaters of Sprout Brook (23-43-5-2-5; 3-1).

Ridgewood.—East of this town there occur two sites on the east bank of Hohokus Creek (23-43-1-6-4; 6-8).

Dunker Hook.—There are three sites at a place called Dunker Hook, 2 miles south of Paramus, two of them west, the other east of Saddle River (23-43-4-6-5, 6; 5-7-1, 2; 5-4-4).

Arcola.—A number of sites have been identified in the neighborhood of Arcola, 2 miles east of Passaic River. Three of these ancient camps were distributed along the western bank of Saddle River, the fourth and most southerly one lay east of it. (26-3-2-1-1, 2; 1-4; 1-8; 5-4.) (28-Be-48)

An exceptionally good site, probably a village, if one may judge by the profusion of artifacts recovered here in years gone by, occupied the elevated ground east of Sprout Brook, a short distance north of its confluence with Saddle River, between Arcola and Rochelle Park (26-3-2-8-2, 3). (28-Be-49)

SITES IN THE HACKENSACK VALLEY.

Few data have as yet been obtained concerning the location of aboriginal sites in the region watered by Hackensack River and its affluents. Best known thus far is a section of country lying about 3 miles west of Hackensack River in the townships of Hillsdale and Washington. Six sites have here been noted on or near the banks of Musquapsink Creek, which flows into Pascack Brook, a westerly tributary of Hackensack River.

Wearimus.—The northernmost site is at Wearimus, 1 mile west of Hillsdale (23-33-9-7-4).

Westwood.—Four others lie close together, 1½ miles west of Westwood (23-43-3-4-2; 4-4; 4-5; 4-9).

Emerson.—The southernmost and last site occurs 1½ miles west of Emerson (23-43-3-8-7).

APPENDIX B

J.F.K. PARK:

LOGS OF BOREHOLES CONTAINING CULTURAL MATERIALS

115649

GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
FUSRAP	4501-138	1 OF 1	1053R

SITE	COORDINATES	ANGLE FROM HORIZ	BEARING
J.F.Kennedy Park (LODI)	N 1,932 E 235	Vertical	------

BEGUN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	SIZE	OVERBURDEN	ROCK (FT.)	TOTAL DEPTH
0-21-87	10-21-87	E.D.I.	MOBILE B-57	6.5'	18.0		18.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
12.2/68		9			/	/

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY:
140 lbs/30 in	NA	D. Harnish

SAMP. TYPE NO. DIAM.	SAMP. ADV. LEN CORE	SAMPLE REC. CORE REC.	SAMPLE BLOWS /6" % CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	PRESS. P.S.I.	TIME IN MIN.	ELEV.	DEPTH	GRAPHICS SYMBOLS	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
SS 2.0	2.0	0.8	3-6-6-7							0.0 - 7.8 Ft. Sandy SILT, Gravelly SILT and Silty SAND FILL (ML, GM, SM).	Borehole advanced 0-18 Ft. using 3" i.d. split-spoon sampler and 6.5" o.d. solid-stem augers.
SS 2.0	2.0	0.3	3-14 8-22							0.0-4.0 Ft. Silty sand, dark reddish brown (2.5YR3/4), fine-grained, bits of charcoal and Brunswick sandstone gravel. Top is sandy silt topsoil, dark brown (10YR3/3).	
SS 2.0	2.0	0.8	6-5-4-5					5		4.0-7.8 Ft. Gravelly silt, dark gray (7.5YR4/0) and brown (7.5YR5/2); gravel is concrete, broken Brunswick shale, soft yellowish brown silt pebbles, and soft green and brown clay pebbles; minor dark brown decomposed plant pieces, moist.	Borehole was radiologically sampled and gamma-logged by TMA-Eberline, Corp.
SS 2.0	2.0	2.0	5-5-4-4								
SS 2.0	2.0	2.0	2-4-6-8							7.8 - 8.0 Ft. SAND (SM). Black (7.5YR2/0), medium-grained, some charcoal, horizontally bedded.	
SS 2.0	2.0	1.8	5-6-6-8					10		8.0 - 14.3 Ft. CLAY, some SILT, minor SAND (CL-ML, SM).	
SS 2.0	2.0	2.1	10-16 20-20							8.0-10.0 Ft. Clay, pinkish gray (7.5YR6/2) mottled with yellow iron-hydroxide; slightly damp, moderately stiff.	
SS 2.0	2.0	1.7	5-10 15-13							10.0-11.0 Ft. Clay and silt, reddish gray (10R5/1).	
SS 2.0	2.0	2.0	4-10-15 100/2"					15		11.0-11.2 Ft. Sandy gravel.	
										11.2-12.0 Ft. Sand, grayish brown, medium-grained.	
										12.0-14.3 Ft. Clay, reddish gray (10R5/1).	18.0 ft. Sampler refusal.
										14.3 - 16.0 Ft. SAND and CLAY (SM, CL). Sand is dark yellowish brown (10YR4/4); Clay is 5-10 mm interbeds, weak, red (5YR5/2).	
										16.0 - 17.5 Ft. Gravelly SAND (SP). Strong brown (7.5YR4/6), fine- to medium-grained sand and dark green shale, subrounded.	
										17.5 - 18.0 Ft. CLAY (CL). Dusky red (7.5YR3/2). Bedrock, dark green Brunswick shale at base, horizontally fractured.	
										Bottom of borehole at 18.0 Ft. Borehole backfilled with spoils, 10/21/87.	

Description and classification of soils by visual examination.

S = SPLIT SPOON; ST = SHELBY TUBE; D = DENNISON; P = PITCHER; O = OTHER

SITE	HOLE NO.
J.F.Kennedy Park (LODI)	1053R

115649

GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
FUSRAP	14501-138	1 OF 1	1080R

SITE	COORDINATES	ANGLE FROM HORIZ	BEARING
J.F.Kennedy Park (LODI)	N 1,951 E 111	Vertical	------

BEGUN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	SIZE	OVERBURDEN	ROCK (FT.)	TOTAL DEPTH
10-30-87	10-30-87	G. Engel; BNI	Minuteman Auger	4"	7.4		7.4

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
5.7/77		8			/	/

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY:
140 lbs/30 in	NONE	R. Migues

SAMP. TYPE AND NUM.	SAMP. ADV. LEN CORE	SAMPLE REC. CORE REC.	SAMPLE BLOWS "N" X CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	WATER PRESSURE TESTS: PRESS. P.S.I.	WATER PRESSURE TESTS: TIME IN MIN.	ELEV.	DEPTH	GRAPHICS	SOILS	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
SS 1	1.0	0.6									0.0 - 1.0 Ft. Silty Sandy CLAY (CL-ML). Grayish brown (5YR3/3), mottled with dark reddish brown (10R3/4). Fine- to medium-grained sand.	Borehole advanced 0-7.4 Ft. using 3" i.d. split-spoon sampler and 4" o.d. solid-stem augers.
SS 2	1.0	0.7									1.0 - 2.0 Ft. Silty CLAY (CL). Dusky brown (5YR3/2), mottled with brownish black (5YR2/1).	
SS 3	1.0	1.0									2.0 - 4.7 Ft. CLAY (CL). Dusky brown with specks of moderate red (5YR4/6) - probably brick.	Borehole was radiologically sampled and gamma-logged by TMA-Eberline, Corp.
SS 4	1.0	0.4									4.7 - 5.7 Ft. Sandy CLAY (CL). Pale brown (5YR5/2), with fine- to medium-grained sand.	
SS 5	1.0	1.0									5.7 - 6.9 Ft. Clayey SAND (SC). Pale yellowish brown (10YR6/2), fine- to medium-grained sand.	
SS 6	0.7	0.5									6.9 - 7.4 Ft. Sandy Silty CLAY (CL-ML). Grayish red (10R4/2) mottled with moderate reddish brown (10R4/6).	Augered to 5.0 Ft. Gamma-scanned to 5.5 Ft.
SS 7	1.0	1.0										
SS 8	0.7	0.6										

Bottom of borehole at 7.4 Ft.
Borehole backfilled with spoils, 10/30/87.

Description and classification of soils by visual examination.

SS = SPLIT SPOON; ST = SHELBY TUBE; D = DENNISON; P = PITCHER; O = OTHER

SITE	HOLE NO.
J.F.Kennedy Park (LODI)	1080R

115649

PREDECISIONAL DRAFT - DO NOT CITE

GEOLOGIC DRILL LOG

PROJECT: FUSRAP				JOB NO.: 4501-138	SHEET NO.: 1 OF 1	HOLE NO.: 1092R	
SITE: J.F.Kennedy Park (LODI)	COORDINATES: N 1,878 E 372			ANGLE FROM HORIZ: Vertical	BEARING: ------		
BEGUN: 11-23-87	COMPLETED: 11-23-87	DRILLER: G. Engel: BNI	DRILL MAKE AND MODEL: Minuteman Auger	SIZE: 4"	OVERBURDEN: 11.0	ROCK (FT.):	TOTAL DEPTH: 11.0
CORE RECOVERY (FT./%): 9.9/90	CORE BOXES:	SAMPLES: 10	ELEV. TOP CASING:	GROUND EL.:	DEPTH/EL. GROUND WATER:	DEPTH/EL. TOP OF ROCK:	
SAMPLE HAMMER WEIGHT/FALL: 140 lbs./18 in.	CASING LEFT IN HOLE: DIA./LENGTH: NONE	LOGGED BY: R. Migues					

SAMP. TYPE	SAMP. NO.	LEN CORE REC.	SAMPLE REC. CORE REC.	SAMPLE "N" BLOWS / X CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M.	PRESS. P.S.I.	TIME IN MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
SS	1	1.0	1.0									0.0 - 1.6 Ft. SAND (SP). Dark yellowish orange (10YR6/6), fine- to coarse-grained. FILL.	Borehole advanced 0-11.0 Ft. using 3" i.d. split-spoon sampler and 4" o.d. solid-stem augers.
SS	1	0.8										0.3-0.7 Ft. Grayish orange (10YR7/4).	
SS	1	1.0										0.7-1.6 Ft. Pale yellowish brown (10YR6/2).	
SS	1	1.0										1.6 - 3.3 Ft. Clayey SAND (SC). Moderate brown (5YR4/4), very fine- to coarse-grained.	Borehole was radiologically sampled and gamma-logged by TMA-Eberline, Corp.
SS	1	0.9							5			3.1-3.3 Ft. Pale yellowish brown (10YR6/2), fine- to medium-grained.	7.2-8.1 Ft. Saturated and mucky, but no sign of free water in the borehole.
SS	1	1.0										3.3 - 5.3 Ft. Silty Sandy CLAY (FILL).	
SS	1	1.0										3.3-3.4 Ft. Light brown (5YR6/4).	
SS	1	1.0										3.4-5.3 Ft. Dark reddish brown (10R3/4) with scattered clasts and pebbles to 0.5 in., mottled with dusky yellowish brown (10YR3/6). Fine- to medium-grained sand component.	Augered and gamma-logged to 7.5 Ft.
SS	1	1.0										5.0 Ft. Aluminum Foil scraps.	
SS	2	1.3							10			5.3 - 7.2 Ft. CLAY (CL). Brownish black (5YR3/1), locally near black (N1).	
												7.2 - 8.1 Ft. Silty Clayey SAND (SM). Moderate brown (5YR4/4) and brownish gray (5YR4/1), fine- to medium-grained.	
												8.1 - 8.5 Ft. SAND (SW). Dark greenish gray (5GY4/1), fine- to medium-grained.	
												8.5 - 11.0 Ft. CLAY (CL). Pale red (5R6/2) mottled with medium light gray (N6) and moderate yellowish brown (10YR5/4).	
												Bottom of borehole at 11.0 Ft. Borehole backfilled with mechanically mixed spoils, 11/23/87.	Description and classification of soils by visual examination.

SS = SPLIT SPOON; ST = SHELBY TUBE; D = DENNISON; P = PITCHER; O = OTHER

SITE: J.F.Kennedy Park (LODI)

HOLE NO.: 1092R

PREDECISIONAL DRAFT - DO NOT CITE

115649

PREDECISIONAL DRAFT - DO NOT CITE

GEOLOGIC DRILL LOG

PROJECT: FUSRAP | JOB NO.: 14501-138 | SHEET NO.: 1 OF 1 | HOLE NO.: 1094R

SITE: J.F.Kennedy Park (LODI) | COORDINATES: N 1,899 E 329 | ANGLE FROM HORIZ: Vertical | BEARING: ------

BEGUN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	SIZE	OVERBURDEN	ROCK (FT.)	TOTAL DEPTH
11-24-87	11-24-87	G. Engel; BNI	Minuteman Auger	4"	9.0		9.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
9.7/96		9			▽ /	/

SAMPLE HAMMER WEIGHT/FALL: 140 lbs/18 in. | CASING LEFT IN HOLE: DIA./LENGTH: NONE | LOGGED BY: R. Migues

SAMPLE TYPE AND DIAM.	SAMPLE NO. AND LEN. CORE	SAMPLE REC. CORE REC.	SAMPLE "N" BLOWS / CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M.	PRESS. P.S.I.	TIME IN MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
SS	1.0	1.0									0.0 - 0.3 Ft. SAND (SP). Dark yellowish orange (10YR6/6), fine- to coarse-grained gravel; FILL.	Borehole advanced 0-9.0 Ft. using 3" i.d. split-spoon sampler and 4" o.d. solid-stem augers.
SS	1.0	0.7									0.3 - 1.3 Ft. Clayey SAND (SC). Dusky brown (5YR3/3), fine- to medium-grained.	
SS	1.0	1.0									1.3 - 1.8 Ft. Silty SAND (SM). Moderate reddish brown (10R4/6), fine- to coarse-grained with pebbles (to 1.5 in.).	
SS	1.0	1.0						5			1.8 - 2.0 Ft. SAND (SP). Fine- to coarse-grained.	Borehole was radiologically sampled and gamma-logged by TMA-Eberline, Corp. 7.0-8.0 Ft. Penetrated water-bearing interval.
SS	1.0	1.0									2.0 - 4.1 Ft. Clayey silty SAND (SC-SM). Moderate brown (5YR4/4), fine- to medium-grained with pebbles.	
SS	1.0	1.0									4.1 - 4.3 Ft. SAND (SP). Dusky yellowish brown (10YR3/4), fine- to medium-grained.	
											4.3 - 5.0 Ft. Silty CLAY (CL-ML). Brownish black (5YR3/1).	Augered and gamma-logged to 7.5 Ft.
											5.0 - 5.3 Ft. SAND (SP). Dark yellowish orange (10YR6/6). Fine- to coarse-grained.	
											5.3 - 7.0 Ft. Silty CLAY (CL-ML). Brownish black (5YR3/1) mottled with moderate brown (5YR4/4) and light gray (N7). Some roots and a few rusty nails.	
											7.0 - 8.0 Ft. SAND (SP). Olive gray (5Y4/1), fine- to very coarse-grained with very small pebbles. Mottled with light olive brown(5Y5/6), and moderate red (5YR4/6).	
											8.0 - 9.0 Ft. CLAY (CL). Pale red (5R6/2) mottled with light brown (5YR5/6) and light brownish gray (5YR6/1).	
											Bottom of borehole at 9.0 Ft. Borehole backfilled with soil/grout mixture, 11/24/87.	
												Description and classification of soils by visual examination.

SS = SPLIT SPOON; ST = SHELBY TUBE; D = DENNISON; P = PITCHER; O = OTHER | SITE: J.F.Kennedy Park (LODI) | HOLE NO.: 1094R

PREDECISIONAL DRAFT - DO NOT CITE