CITY OF STOCKTON

STOCKTON WATERFRONT BROWNFIELDS PROJECT

REPORT OF KNOWN ENVIRONMENTAL CONDITIONS

SELECTED WATERFRONT PROPERTIES

December 2005

Prepared by Black & Veatch Corporation

Updated by BASELINE Environmental Consulting

Funded by a Grant from the
U.S. Environmental Protection Agency

TABLE OF CONTENTS

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing materials
Agency	City of Stockton Redevelopment Agency
APN	assessor's parcel number
AST	aboveground storage tank
B&V	Black & Veatch
BASELINE	BASELINE Environmental Consulting
BTEX	benzene, toluene, ethylbenzene, and xylenes
bgs	below ground surface
CalEPA	California Environmental Protection Agency
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
City	City of Stockton
CLPAS	Contract Laboratory Program Analytical Services
COC	contaminant of concern
CPT	cone penetrometer test
DCA	dichloroethane
DPE	dual phase extraction
DTSC	Department of Toxic Substances Control
EDB	ethylene dibromide
EMP	Environmental Master Plan
EPA	U.S. Environmental Protection Agency
ERAP	Environmental Risk Assessment Program
ESA	environmental site assessment
HHRA	Human Health Risk Assessment
HI	hazard index
HSP	health and safety plan
LANPL	light non-aqueous phase liquid
LUST	Leaking Underground Storage Tank
MCLs	maximum contaminant levels
MDL	method detection limits
mg/kg	milligrams per kilogram
MTBE	methyl tert-butyl ether
N.A.	not applicable
OU	Operating Unit
PAHs	polyaromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCP	pentachlorophenol
PEA	Preliminary Endangerment Assessment
PEOA	Preliminary Environmental Oversight Agreement
Phase I ESA	Phase I Environmental Site Assessment
PID	photoionization detector
PRGs	Preliminary Remediation Goals
QA/QC	quality assurance/quality control

QAMS	EPA Quality Assurance Management Section
RAP	Regional Analytical Program
RCRIS	Resource Conservation and Recovery Information System
RP	responsible party
RWQCB	Regional Water Quality Control Board
SAP	sampling and analysis plan
SJCEHD	San Joaquin County Environmental Health Department
SJVAPCD	San Joaquin Valley Air Pollution Control District
SPH	separate-phase hydrocarbon
STLC	soluble threshold limit concentration
SVE	soil vapor extraction system
SVOC	semi-volatile organic compound
TBA	tertiary butyl alcohol
TCE	trichloroethene
TCLP	toxicity characteristic leaching procedure
TOC	total organic carbon
TPH	total petroleum hydrocarbon
TPHd	total petroleum hydrocarbons as diesel
TPHg	total petroleum hydrocarbons as gasoline
TPHmo	total petroleum hydrocarbons as motor oil
UST	underground storage tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WET	waste extraction test
µg/L	micrograms per liter

EXECUTIVE SUMMARY

The City of Stockton Redevelopment Agency (Agency) is working toward reestablishing the Stockton Deep Water Channel as the center of the Stockton Community. This endeavor consists of rehabilitating the land surrounding the channel to develop areas for public use and encourage the redevelopment of the area. The areas covered by this report include select properties currently owned by the City of Stockton (City) located in the Channel Head, North Shore, and South Shore of the Stockton Deep Water Channel in Stockton, San Joaquin County, California as well as properties not owned by the City.

This effort was funded in part by a Brownfields Redevelopment grant from the U.S. Environmental Protection Agency (EPA) Region IX. The term "Brownfields" refers to abandoned, idled, and under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. A major goal of the EPA's initiative is to empower states, communities, and other stakeholders in economic redevelopment to work together to assess, safely clean up, and sustainably reuse Brownfields.

An earlier version of this report was prepared for the original Brownfields Pilot Program (1996-2000) and was entitled "Data Gap Analysis Report." It included a summary of known data sources and reports on the fourteen areas that were included in the first Pilot Program. This effort has continued with the Supplemental Pilot Program. The report is now entitled the "Known Environmental Conditions Report" and includes a total of 28 identified areas. These 28 areas include the fourteen that were discussed in the first report and have been updated to include more recent reports and cleanups that have since taken place.

The objective of the Known Environmental Conditions Report is to summarize relevant soil and groundwater environmental information from available sources, identify information gaps, and provide recommendations for obtaining necessary information. This compilation of data provides interested parties pertinent information concerning the 28 areas. This report attempts to summarize all available data, but does not provide a complete characterization of the areas.

Numerous consultants have conducted assessments of the subject areas to determine the presence and extent of contaminants of concern at the project site. A summary list of potential concerns that may impact future redevelopment options at the selected Channel Head, North Shore, and South Shore areas is presented in this report. A summary of previous investigations, conclusions, and recommendations for each of these subject areas is also included in this document. This 2005 Report of Known Environmental Conditions is intended to be a fluid document, and will be routinely updated with new information as additional areas are investigated or are redeveloped.

1.0 INTRODUCTION

As part of the U.S. Environmental Protection Agency (EPA)-funded Brownfields grant awarded to the City of Stockton (City), Black & Veatch (B&V) conducted a Data Gap Analysis Report of potential Brownfields located west of the downtown business district along the North Shore, South Shore, and the head of the Stockton Deep Water Channel. A second EPA grant was awarded in 2001 and additional properties around the waterfront were included for assessment. The report is now entitled "Report of Known Environmental Conditions" rather than the earlier "Data Gat Analysis." Figure 1-1 shows the study area, and the individual areas.

This effort was funded in part by two Brownfields Redevelopment grants from the EPA Region IX. The term "Brownfields" refers to abandoned, idled, and under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. A major goal of the EPA's initiative is to empower states, communities, and other stakeholders in economic redevelopment to work together to assess, safely clean up, and sustainably reuse Brownfields.

The objectives of the original Data Gap Analysis Report, completed under the original Brownfields grant, were to summarize existing environmental information and identify any data gaps that needed to be filled to assess the potential for contaminated media on the subject areas. The components of that task included a review of the following: previous investigation reports as provided by the City, federal and state database records, Sanborn Fire Insurance Maps, limited historical aerial photographs, and selected San Joaquin County Environmental Health Department (SJCEHD) files; visual inspection of subject areas; and limited City personnel interviews. Title searches and interviews with some local agencies were not performed. Additionally, it is likely that additional environmental reports covering the subject areas (other than those provided by the City for review) exist and were not reviewed. This might include those covered by client-attorney privilege or those that could not be located. However, it is believed that a majority of available documents were reviewed, and conclusions and recommendations contained herein are reasonable summaries of the existing status of each subject area. This updated report, partially completed under funding of the supplemental EPA Brownfields grant, is a consolidation of available environmental information for the entire downtown Stockton Waterfront Area. Section 4.0 presents references for all documents reviewed as part of this work.

This 2005 Report of Known Environmental Conditions is a summary of technical information presented and supported in various other environmental documents prepared for the City of Stockton. These documents are referenced for each individual Area presented in Section 3.0 and in the Reference list presented in Section 4.0. These documents should be referred to for support of conclusions and recommendations presented in this report.

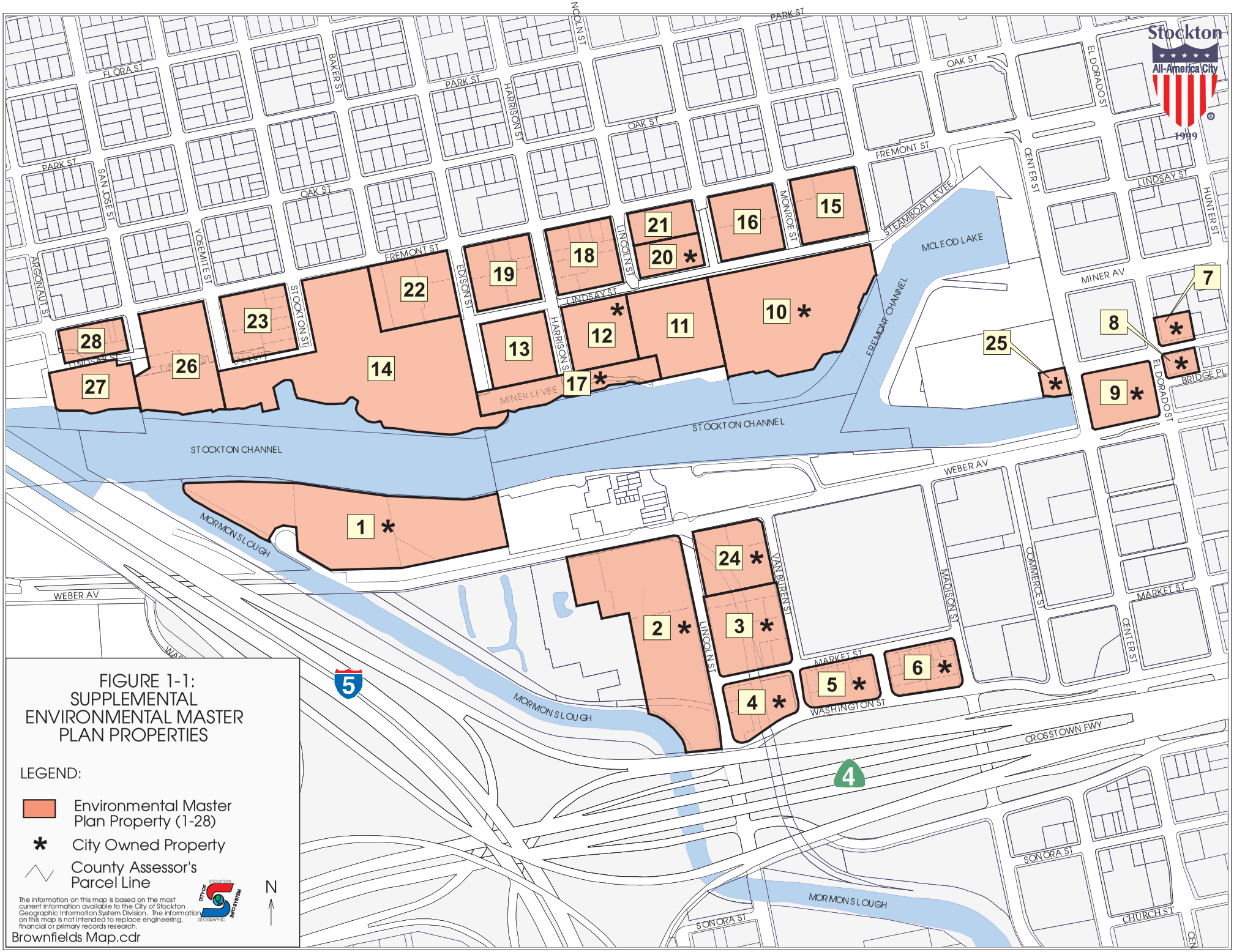


FIGURE 1-1:
SUPPLEMENTAL
ENVIRONMENTAL MASTER
PLAN PROPERTIES

LEGEND:

- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Brownfields Map.cdr

1.1 Disclaimer

This report was prepared by BASELINE Environmental Consulting (BASELINE) based on a draft Report of Known Environmental Conditions, dated October 2002 by B&V, for the City of Stockton Redevelopment Department. The findings and opinions conveyed in this report are based on information obtained from a variety of sources enumerated herein, which are considered reliable. Nonetheless, B&V and BASELINE cannot and do not guarantee the reliability of the information contained within this report. In addition, B&V and BASELINE did not perform any environmental sampling or subsurface exploration in connection with this report. Black and Veatch and BASELINE cannot state with certainty as to whether a property is free of adverse environmental conditions or contamination, or the nature and degree of such contamination if it is present. The absence or failure to note any environmental contamination does not constitute any warranty or representation that the property is free of such contamination.

2.0 REGIONAL BACKGROUND INFORMATION

The City of Stockton, located in San Joaquin County, California, was established in 1847 during the Gold Rush Era. The Stockton Deep Water Channel was a major navigational artery for the City during the Gold Rush Era and the importance of the waterway was rekindled with the ship building period of World War II. Following the decline of these vital industrial times, the land surrounding the Stockton Deep Water Channel has been used for many purposes, adapting to the changing needs of the City and, most recently, falling into disuse as the channel and its connection to the Delta is no longer used as a transportation route.

2.1 Regional Location and Description

The subject areas are located in San Joaquin County, California, in the City of Stockton (Figure 1-1). The subject areas for this Updated 2005 Report of Known Environmental Conditions include Areas 1 through 19, 20, 21, 22, and 23 of the total 28 areas depicted on Figure 1-1. The areas are located west of the downtown City business district in a portion of the City that is primarily occupied by commercial, light industrial, and recreational land uses. The subject areas are presented in detail in their respective subsections in Section 3.0 of this document.

Since the preparation of the 2002 Report of Known Environmental Conditions, significant redevelopment activities have been undertaken in the study area. Projects include a ballpark, a cineplex, commercial uses, and the new DeCarli Square at the site of the former Weber Block. The 2005 conditions in these specific areas are described in Section 3 of this report.

2.2 Surrounding Land Use

Generally, the subject areas are located within industrial and commercial sections of Stockton and within close proximity of residential areas primarily to the north and east. The Stockton Deep Water Channel extends through the center of the study area.

Historical land uses of the subject areas were reviewed by examining the changing configuration of the land and buildings on the historical topographic maps. Area-specific descriptions are included in their respective subsections of Section 3.0.

Historical aerial photographs and Sanborn Fire Insurance Maps (EDR, 1997) were reviewed for the subject areas and surrounding properties. These data sources typically revealed that all subject areas were developed at least prior to 1950, and the predominant land use has been industrial and commercial.

2.3 Hydrogeology and Geology

Stockton is located within the northern portion of the San Joaquin groundwater basin, and the study area is located along the eastern flank of the Central Valley in an area of low topographic relief. The nearest surface water body is the Stockton Deep Water Channel which runs east to west. The Stockton Channel is connected to the Sacramento-San Joaquin Delta to the west. The Stockton Channel terminates at North El Dorado Street.

The direction of flow for the shallow groundwater aquifer is variable, but is primarily away from the Stockton Deep Water Channel and other surface water bodies, including Mormon Slough. Based on data from groundwater monitoring wells at Area 10 - Banner Island, groundwater flows to the north in this area. Based on data from groundwater monitoring wells at Area 7 - 222 N. El Dorado Street, groundwater flows to the east, or away from the Channel. Based on data from groundwater monitoring wells at Area 2A, groundwater flows to the south adjacent to the deep water channel, and to the north adjacent to Mormon Slough. Approximately midway between the two channels, the groundwater flow direction shifts to the east away from the water bodies.

Gradients away from the surface water bodies indicate that the local groundwater system is being recharged from surface water within the channels. In 2004, the Agency reviewed historical reports prepared near the Stockton waterfront area to assess the groundwater flow directions. The reader is referred to the Stockton Waterfront Risk Management Plan (BASELINE, 2005) for details of this study.

Subsurface geology for the Stockton vicinity is characterized by Pleistocene and Quaternary-Recent alluvial sediments consisting of heterogeneous sequence of sands and gravels from active stream channels, and silts and clays form overbank and marsh deposits (RESNA, 1993).

3.0 KNOWN ENVIRONMENTAL CONDITIONS

This Section presents area-by-area discussions of environmental work completed to date along selected areas of the Stockton Waterfront. Each discussion includes site location and description; existing land uses near the area; previous land uses of the area; previous investigations; summary of the analytical soil and groundwater results for the area; and conclusions and recommendations for further investigative work in each subarea.

The existing land uses were determined during site reconnaissances in 1997 by B&V staff; these were updated by BASELINE in 2005. The development that has occurred on individual parcels since 1997 has also been described, as have the results of additional known environmental investigations that have been conducted since 2002.

Area 1

Site Location and Description of Area 1

Area 1 occupies approximately 9.1 acres, and is currently undeveloped, vacant land. The assessor's parcel numbers (APN) for this area include 145-190-03 and 145-270-06. The area is bounded by the Stockton Deep Water Channel to the north, Edison Street to the east, Weber Avenue to the south, and Industrial Road and the Mormon Channel to the west. Property boundaries of Area 1 are shown on Figure A1-1.

Black and Veatch personnel conducted a site reconnaissance visit of Area 1 on June 16, 1997. No discoloration, staining, or unusual odors were observed in surface soils. No groundwater wells were observed, nor was there any evidence of subsurface investigations on the property. Additionally, no drums, barrels, or illegal dumping were observed on Area 1. BASELINE personnel conducted a "windshield" site reconnaissance visit of the site on June 7, 2005. The site conditions had not changed since the 1997 reconnaissance; it was vacant.

Existing Land Use near Area 1

The Stockton Deep Water Channel is adjacent to the north and east of Area 1. Across from the channel are industrial properties and buildings. Adjacent property south of Area 1 is occupied by residential developments, and west of Area 1 is the Mormon Channel and the Interstate 5 (I-5) freeway.

Previous Land Use of Area 1

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. In 1952, Area 1 was occupied by the eastern portions of two rectangular warehouses. One warehouse was situated along the Stockton Deep Water Channel and the second extended into the central portion of Area 1. In 1968, Area 1 was occupied by two "places of employment," which covered most of the site, and the I-5 freeway was under construction west of Area 1. In 1976, the two "places of employment" still occupied most of Area 1 and the Mormon Slough had been realigned adjacent to and west of the site. Several large tanks were present at Area 2A southeast of Area 1 in 1952, 1968, and 1976.

Historical aerial photographs for the years 1970, 1979, and 1996 were reviewed to determine historic land uses for Area 1. The information is summarized in Table A1-1.

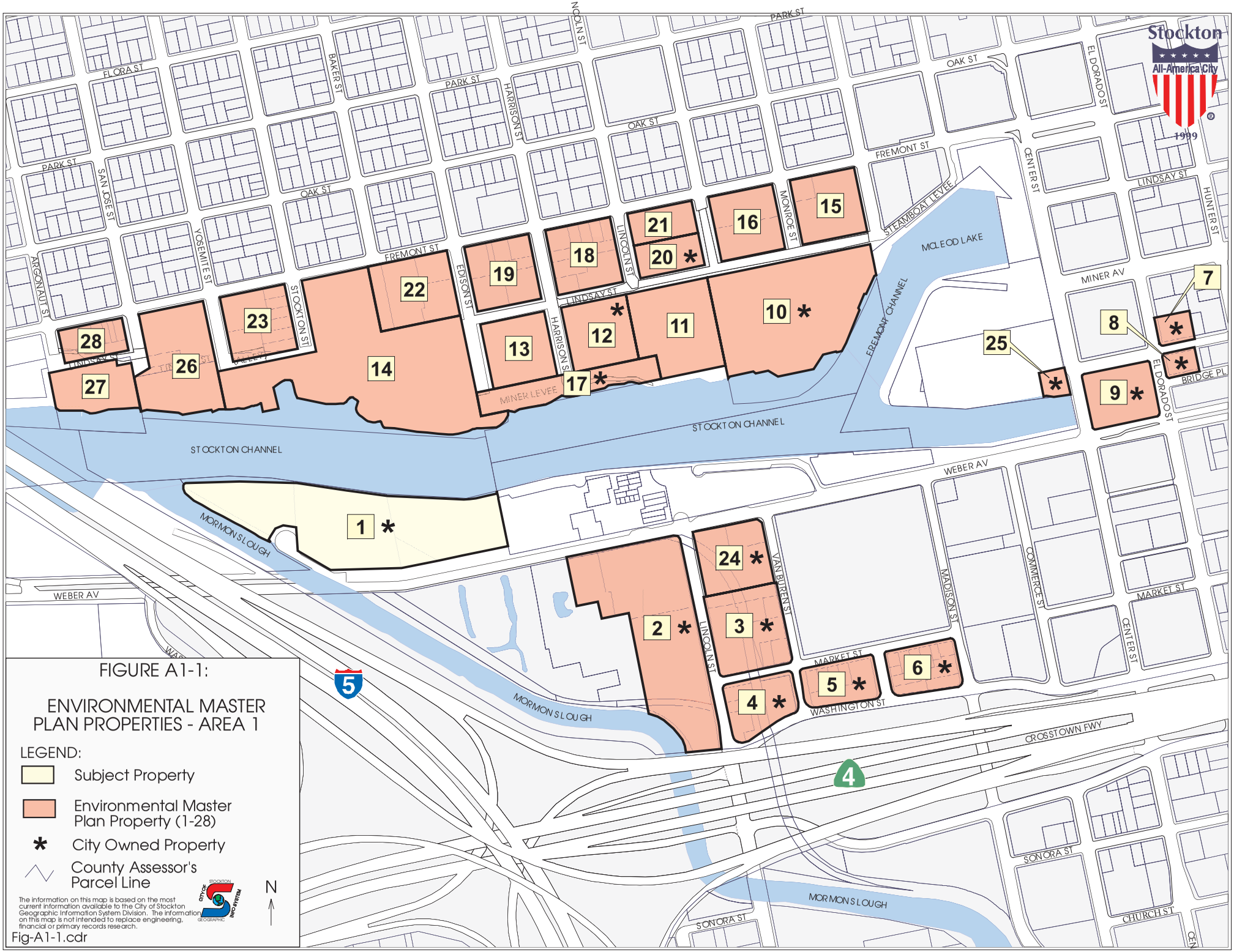


FIGURE A1-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 1

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A1-1.cdr

Table A1-1
Historical Aerial Photograph Review Area 1

Year	Summary of Observations
1970	The central and eastern portions of Area 1 were occupied by several warehouses and industrial buildings. A conveyor belt system was shown on a rooftop in the northeastern corner. Four small silos were visible in the southeast corner of the site. The western portion of Area 1 was vacant. Several large aboveground storage tanks (ASTs) were present southeast of Area 1 (at Area 2).
1979	The western portion of Area 1 was still vacant but contained numerous cargo containers, bins, and piles.
1996	Area 1 was vacant land.

Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 were reviewed to determine historic land use of Area 1. This information is summarized in Table A1-2.

Table A1-2
Historical Sanborn Fire Insurance Map Summary Area 1

Year	Observations and Surrounding Land Use
1895	The subject parcel was used for grain storage. Stockton Milling Company operated two grain warehouses, Farmer's Union and Milling Company operated two grain warehouses, and the California Navigation and Improvement Company operated one grain warehouse at the site. One small storage shed and one horse shed were also on the site (RESNA, 1994).
1917	Small storage shed was expanded to larger warehouse; horse sheds were enlarged; and California Navigation and Improvement Company built and operated second grain warehouse. Southern Pacific Produce Company and J. K. Armsby Grain and Produce Company added two adjoining warehouses (RESNA, 1994). Several structures were present on northern portion of property that appeared to be domestic residences. Cultivated land was east of N. Stockton St. Stephens Bros. Boat Shops were shown west of N. Yosemite St.
1950	Ownership of warehouses changed from 1917 Sanborn map. Owners included: Southern Pacific Produce Company, the Ralston-Purina Company, the Delta Warehouse Company, and the California Transportation Company. Fertilizer and produce were stored in warehouses in addition to grain (RESNA, 1994). ASTs operated by Tidewater Associated Oil Company and Standard Oil Company of California were shown southwest of site (RESNA, 1994).
1972	Warehouses were still occupied by Ralston Purina and Delta Warehouse Companies. Western portion of Area 1 (formerly occupied by California Transportation and Southern Pacific companies) was shown to be vacant with no structures present (RESNA, 1994).

Previous Investigations of Area 1

***Phase 1 Environmental Site Assessment for City of Stockton South Channel Property, Stockton, California*, prepared by RESNA Industries, Inc., for the City of Stockton City Manager's Office, February 11, 1994.**

In 1994 RESNA performed a Phase I Environmental Site Assessment (Phase I ESA) for Area 1. The report concluded the following:

- No visible evidence of contamination was observed at Area 1 during the site visit.
- Surrounding land use was residential to the south, commercial to the east, light industrial to the north across the Stockton Deep Water Channel, and formerly heavy industry to the west.

- Previous wood treatment processes operated at the McCormick and Baxter National Priority List (NPL) site located southwest of Area 1. This site caused a major fish kill in the Mormon Slough as a result of a pentachlorophenol release in 1977.
- Based on a regulatory database review, no upgradient tank leak sites are within 500 feet of Area 1.

Summary of Results for Area 1

Available records reviewed indicate Area 1 was occupied primarily by warehouses used for grain, fertilizer, and produce storage from at least 1895 to sometime after 1979 when the structures were demolished and removed. No subsurface soil or groundwater sampling has been performed at Area 1. Adjacent properties and potential offsite sources of contamination identified in the Phase I ESA database review do not appear to be potential environmental concerns for Area 1. Petroleum ASTs at Area 2A are located hydraulically downgradient from Area 1. No visible evidence of contamination or other potential environmental concerns was observed at Area 1 during site visits conducted in 1993 by RESNA, in 1997 by B&V, and in 2005 by BASELINE.

Conclusions and Recommendations for Area 1

No visible evidence of contamination or other potential environmental concerns were observed at Area 1 during site visits conducted in 1993 by RESNA, in 1997 by B&V, and in 2005 by BASELINE. In 1994, a Phase I ESA was performed for Area 1.

Review of available data indicates that both soil and groundwater at several nearby properties may have been impacted by petroleum hydrocarbons and/or metals above preliminary remediation goals (PRGs) and maximum contaminant levels (MCLs), respectively. Reports completed on these areas have not indicated any migration of contaminants of concern (COC) onto Area 1. Based on the results of this report and our understanding of the subject properties and immediate surrounding areas, no further investigation is recommended at this time for Area 1. These recommendations are based on an evaluation of the available information and do not preclude the potential for encountering unexpected contamination in other locations on the properties.

Area 2A/2B

Site Location and Description for Areas 2A/2B

Area 2A (APN: 137-370-03, 04, 05, 06) occupies approximately 6.5 acres of undeveloped vacant land bounded by Weber Avenue on the north; Lincoln Street on the east; the former Market Street on the south; and an apartment complex on the west (Figure A2-1). Area 2B (APN: 137-370-02) is comprised of approximately 1 acre of undeveloped land bounded by the former Market Street on the north; Lincoln Street on the east; the Crosstown Freeway and the Mormon Slough on the south; and the residential complex on the west (Figure A2-1).

During the B&V site visit on June 16, 1997, Area 2A/2B was vacant, and unpaved with very little vegetation. No discoloration, staining, or unusual odors were observed in surface soils at the property. Seven monitoring wells were visually identified at Area 2A. BASELINE personnel conducted a "windshield" reconnaissance of the site on June 7, 2005. Portions of Area 2A were occupied by remediation-related equipment, but was otherwise vacant.

Area 2A has been extensively investigated since 2002 and remediation system(s) have been installed to remediate groundwater contamination. The investigation and remediation activities are being undertaken with oversight from the Central Valley Regional Water Quality Control Board (RWQCB) and the Department of Toxic Substances Control (DTSC) pursuant to terms of several executed settlement agreements between the historic operators at the site and the Stockton Redevelopment Agency.

Existing Land Use near Areas 2A/2B

Property adjacent to Area 2A is occupied by a parking lot and commercial buildings to the north, a children's museum (Area 24) and an office building (Area 3) to the east, undeveloped land (Area 2B) to the south, and a residential development to the west.

Adjacent properties north and east of Area 2B are undeveloped (Areas 2A and 4, respectively). The Crosstown Freeway and the Mormon Slough are southeast of Area 2B, and a residential development is to the northwest.

Previous Land Use of Areas 2A/2B

Historical aerial photographs for the years 1953, 1964, 1970, 1979, and 1996 were reviewed to determine historic land use at Area 2A/2B. Observations are noted in Table A2-1.

Sanborn Insurance Maps for the years 1895, 1917, 1950, and 1972 were reviewed. The Sanborn Maps for the years 1895 and 1972 did not cover the area west of Harrison Street. Observations from each map are presented in Table A2-2. A map of former land uses of Area 2A/2B is shown on Figure A2-2.

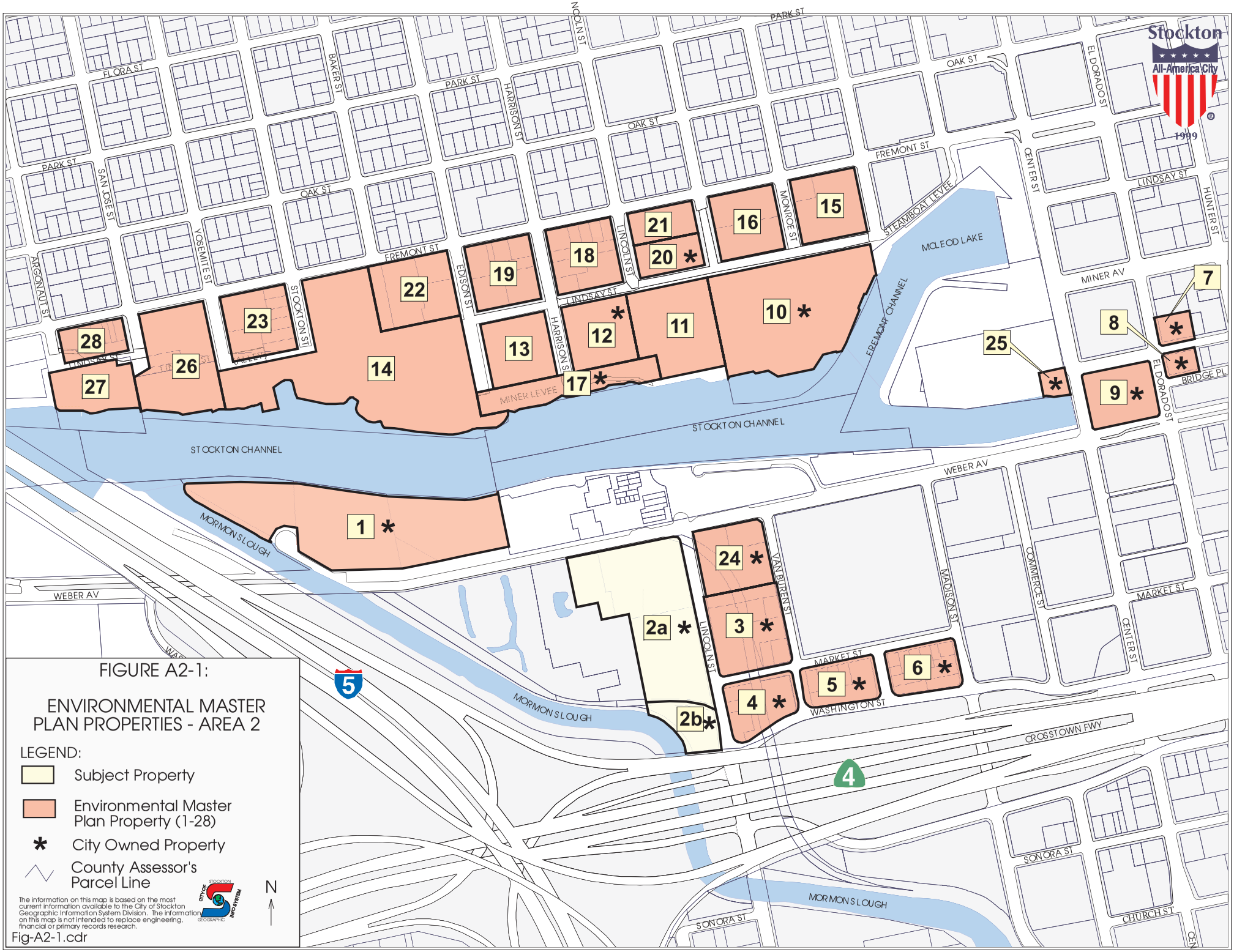


FIGURE A2-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 2
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-A2-1.cdr
N
Stockton All-America City 1999
STOCKTON CHANNEL
MORMON SLOUGH
MCLEOD LAKE
EREMOMY CHANNEL
MINER LEVEE
STEAMBOAT LEVEE
PARK ST
OAK ST
FREMONT ST
LINDSAY ST
MINER AV
WEBER AV
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
BRIDGE PL
FLORA ST
SAN JOSE ST
BAKER ST
HARRISON ST
LINCOLN ST
MONROE ST
CENTER ST
EL DORADO ST
HUNTER ST
ARGONAUT ST
YOSEMITE ST
EDISON ST
STOCKTON ST
VALLEY ST
VAN BUREN ST
MADISON ST
COMMERCE ST
1
2a
2b
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

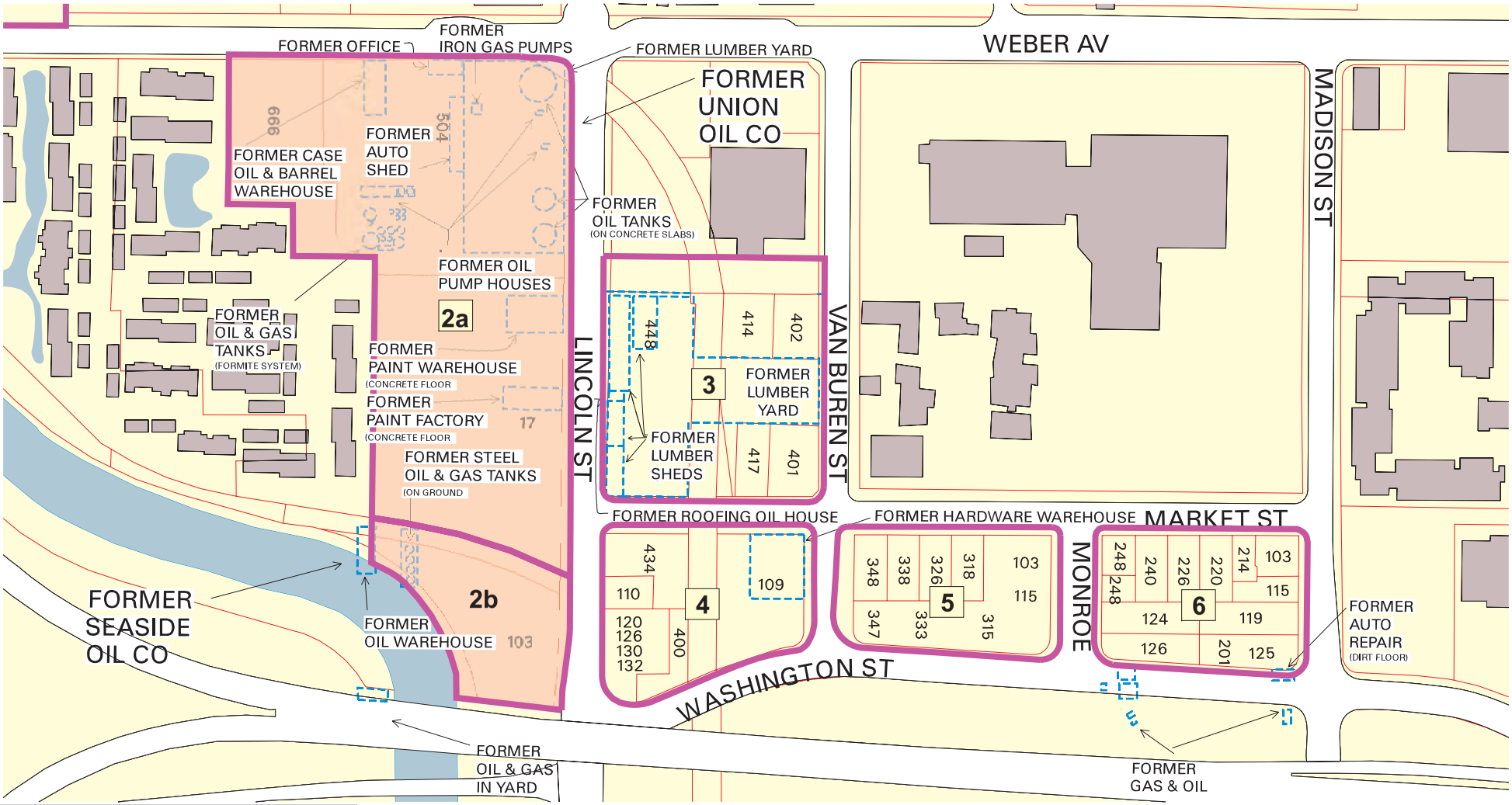


FIGURE A2-2:

HISTORICAL LAND USES - AREA 2

LEGEND:

- Subject Property
- Environmental Master Plan Properties
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A2-2.cdr

Table A2-1
Historical Aerial Photograph Review Areas A2A/2B

Year	Area	Summary of Observations
1953	2A	Property was occupied by several large aboveground storage tanks (ASTs) and several industrial buildings north of former Main Street. The central portion of the site was undeveloped and the southern portion of the site was residential.
	2B	Four small ASTs and an industrial building were present in the northwestern corner of Area 2B. The remainder of the site appeared to be residential.
1964	2A	Two additional ASTs were present in Area 2A north of former Main Street and the central and southern portions of the site were similar to 1953.
	2B	The site was similar to 1953, except the four ASTs were no longer shown.
1970	2A	Site 2A was similar to 1964, except three industrial buildings were present in the central eastern portion of the site. The Mormon Slough was realigned south of the site, traversing over a portion of former N. Harrison Street and the former Seaside Oil Co. property.
	2B	Structures were no longer shown on the southwestern half of Area 2B and grading was taking place to realign the Mormon Slough to its current configuration along the southwestern side of Area 2B.
1979	2A	The ASTs located north of former Main Street between Lincoln Street and former Harrison Street were removed, but the foundations for the three largest tanks along Lincoln Street were still visible. An industrial building was built in the central/western portion of Area 2A. Numerous 55-gallon drums were visible around the four industrial buildings south of former Main Street. Eight concrete pads, each approximately 4 feet square, were visible in the asphalt parking area between the three industrial buildings in the central eastern portion of the site. These pads contained dark circular centers and may have been flush mounted fill ports for eight USTs.
	2B	The realigned Mormon Slough was present southwest of the site and the site was occupied by five residences and several vacant lots.
1996	2A	All buildings were removed and Area 2A was vacant. An unpaved parking area was present in the northeastern corner of the site.
	2B	All buildings were removed and Area 2B was vacant.

Table A2-2
Historical Sanborn Fire Insurance Map Summary Areas 2A/2B

Year	Area	Observations and Surrounding Land Use
1895	2A	Subject property was occupied by Simpson & Gray Lumber Yard on the eastern portion of Area 2A; the remainder of the property was undeveloped or residential.
	2B	The property was undeveloped or residential.
1917	2A	Associated Oil Company occupied the eastern half of block bounded by W. Weber, N. Harrison, W. Main and N. Edison (at least nine tanks and several buildings) with Standard Oil Company occupying the western half (at least 15 tanks); Union Oil Co. of Cal. (one crude oil tank, four refined oil tanks and several buildings), western half of block was bounded by W. Weber, N. Lincoln, W. Main, and N. Harrison streets; Simpson & Gray Lumber Yard, eastern half of same block; remainder of Area 2A was undeveloped or residential. NOTE: Map did not cover the area west of Harrison Street.
	2B	The property was undeveloped or residential.
1950	2A	Tidewater Associated Oil Company occupied the southeast 2/3 of block bounded by W. Weber, N. Harrison, W. Main and N. Edison (at least 15 tanks and several buildings) with a tank farm occupying the northwestern 1/3rd (at least 7 tanks); Union Oil Co. of Cal. (eight oil and gasoline tanks and several buildings), western half of block bounded by W. Weber, N. Lincoln, W. Main, and N. Harrison streets; one steel oil tank, southeastern corner of same block; remainder of Area 2A was undeveloped or residential. NOTE: Map did not cover the area west of Harrison Street.
	2B	Seaside Oil Co. (four steel gasoline tanks and oil warehouse), northwestern corner of block bounded by W. Market, S. Lincoln, W. Washington, and S. Harrison streets; auto repair garage, southwestern corner of same block; remainder of Area 2B was undeveloped or residential.
1972	2A	Tidewater Oil Company occupied block bounded by W. Weber, N. Harrison, W. Main and N. Edison (at least 20 tanks and several buildings); Union Oil Co. of Cal. (17 oil and gasoline tanks and several buildings), entire block was bounded by W. Weber, N. Lincoln, W. Main, and N. Harrison streets; paint warehouse, paint facility, and drum storage/ equipment yard, northeast quarter of block was bounded by W. Main, S. Lincoln, W. Market, and S. Harrison streets; remainder of Area 2A was undeveloped or residential. NOTE: Map did not cover the area west of Harrison Street.
	2B	Area 2B was undeveloped or residential. Mormon Slough was realigned as well as W. Washington Street and W. Market Street.

Previous Investigations of Areas 2A/2B

Previous Investigations of Area 2A

***Subsurface Environmental Investigation Report at City of Stockton, Waterfront Redevelopment Property, West Weber Avenue and North Lincoln Street, Stockton, California,* prepared by Applied Geosystems for the City of Stockton Community Development Department, October 31, 1989.**

Applied Geosystems collected eleven soil gas samples, installed two groundwater monitoring wells, and collected soil and groundwater samples at the former Union Oil Company and Morton Paint (7, 17, and 29 S. Lincoln Street) properties in the north and east central portions of Area 2A, respectively. The former Union Oil Company site is bounded by W. Weber, N. Lincoln, former W. Main, and former N. Harrison streets. Applied Geosystems also collected three soil gas samples and installed one groundwater monitoring well on the adjacent property to the east of Area 2A and north of Area 3.

Soil gas samples were collected at depths of 15 feet bgs and analyzed for benzene, ethylbenzene, toluene, and xylenes (BTEX) using a field gas chromatograph. Benzene was detected at 2 parts per million (ppm) by volume in the soil gas sample collected in the northwest corner of the former Union Oil Company property (VP-1). Toluene was detected at 1 ppm in the soil gas sample collected near the 10 former USTs at the former Morton Paint property (VP-11).

TPHg up to 1,800 milligrams per kilogram (mg/kg) and low levels of BTEX were detected in soil samples collected in the northwest corner of the former Union Oil Company property (MW-1). TPHg (0.870 milligram per liter (mg/L)), TPHd (0.92 mg/L), and benzene (0.071 mg/L) were detected in the groundwater sample collected from MW-1.

The Applied Geosystems report recommended additional soil and groundwater sampling to further characterize the depth and extent of contamination at the former Union Oil Company and L&M Petroleum properties at Area 2A, and the adjacent property to the east of Area 2A and north of Area 3. A supplementary investigation was performed in 1990 and is discussed below.

***Evaluation of Hydrocarbons in Soil and Groundwater Report at City of Stockton, Waterfront Redevelopment Property, West Weber Avenue and North Lincoln Street, Stockton, California,* prepared by Applied Geosystems for the City of Stockton Community Development Department, January 29, 1991.**

During 1990, Applied Geosystems performed a supplemental site assessment at the former Union Oil Company and L&M Petroleum properties at Area 2A and at the adjacent property east of Area 2A and north of Area 3. The former L&M facility was located west of former N. Harrison Street and north of former W. Main Street. Work included drilling 16 soil borings (B-4 through B-19) and installing four groundwater monitoring wells (MW-4 through MW-7), and collecting and analyzing soil and groundwater samples.

Results of the investigation were as follows:

- High-boiling point hydrocarbons (diesel, kerosene, and motor oil), and to a lesser extent, gasoline hydrocarbons were present beneath the former L&M Petroleum property. Concentrations of TPHg were detected at 1,800 ppm in a sample collected from 15 feet below grade. Hydrocarbons extend to the northern, eastern, and western property boundaries and to Mormon Slough to the south.
- Gasoline hydrocarbons and high-boiling point hydrocarbons were detected in groundwater beneath the former Union Oil and L&M Petroleum properties, but not beneath the property east of Area 2A and north of Area 3. Hydrocarbons in groundwater appeared to have been delineated to the east, but not to the north, west, or south.
- Gasoline hydrocarbons were present in soil in one general area beneath the former Union Oil property at MW-1. The lateral extent of gasoline impacted soil appears to have been delineated at the Union Oil property. High-boiling point hydrocarbons were also detected in two areas along the west side of this property adjacent to the former L&M Petroleum property.
- Gasoline hydrocarbons were present in soil in one general area of the former Morton Paint property at MW-6. Gasoline hydrocarbons appear to have been delineated at Morton Paint site. High boiling point hydrocarbons were not detected beneath the former Morton Paint property.
- Gasoline hydrocarbons and high-boiling point hydrocarbons were not detected in soil samples collected at the property east of Area 2A and north of Area 3.
- Groundwater was encountered between 15 and 33 feet bgs. The groundwater flow direction was to the south-southeast with a gradient of 0.052 to 0.056 ft/ft.

The 1991 Applied Geosystems report recommended:

- Remediation of hydrocarbons in soil beneath the former Union Oil and Morton Paint properties. Possible additional soil sampling at the former Morton Paint property.
- Drilling offsite soil borings to characterize the lateral extent of hydrocarbon impacted soil to the north, west, and south of the former L&M Petroleum property.
- Drilling soil borings and installing monitoring wells offsite to the north, west, and south of the entire "Waterfront Redevelopment Property" to characterize the lateral extent of hydrocarbon impacted groundwater.
- Collecting a surface water sample from the slough at the southern property boundary of the former L&M Petroleum to evaluate whether hydrocarbons have migrated into the slough.

***Phase 1 Environmental Site Assessment for Weber Point and Waterfront Areas, Central Stockton, CA*; prepared by Smith Environmental Technologies Corporation for City of Stockton Housing and Redevelopment; September 22, 1995.**

A Phase I ESA was conducted in 1995 for Area 2A/2B, Area 3, and Area 4. The Phase I ESA included a database search; personal interviews; review of historical aerial photographs, Sanborn Maps, and Polk Business Directories; and a site inspection. Results of the historical aerial photograph and Sanborn Map review were similar to the findings discussed above.

Smith Environmental reviewed file information at the SJCEHD concerning the areas covered by the Phase I ESA (Areas 2A/2B, 3, and 4). Potential offsite sources identified in the database search were considered to be of no apparent concern because potential responsible parties had been identified and the sites were currently under regulatory oversight, with the exception of the former Morton Paint property at 7, 17, and 29 S. Lincoln Street. Morton Paint was identified as a potential environmental concern due to incompletely characterized petroleum hydrocarbon impacted soil and groundwater. The file review found that gasoline hydrocarbons were present in one general area on the Morton Paint property. Gasoline petroleum hydrocarbons were also found in groundwater samples collected from monitoring wells located on the former Morton Paint property. Groundwater contamination had not fully been delineated. The 17 S. Lincoln site was placed on the SJCEHD contaminated site database on April 6, 1993.

Additional assessment was recommended in the Phase I ESA for the former Morton Paint Company, which stored and manufactured paint products at 17 S. Lincoln Street. Additionally, the Phase I ESA recommended further assessment of the adjacent Star Lumber (Area 3) and Seaside Oil Company site (Area 2B) properties.

***Subsurface Investigation, South Parcel West Weber Avenue and North Lincoln Street, Stockton, California*; prepared by Treadwell & Rollo for Jaffe, Trutanich, Scatena & Blum; November 8, 1996.**

The Treadwell & Rollo soil and groundwater investigation was conducted in October 1996 to obtain consistent data concerning the type and extent of shallow soil contamination, and to update the type and extent of groundwater contamination at Area 2. Gregg Drilling and Testing, Inc. drilled 26 exploratory borings: 22 boreholes to a depth of 10 feet; and 4 exploratory borings were drilled to a depth of 30 feet and converted to monitoring wells. Fifty-two soil samples and nine groundwater samples were analyzed for some or all of the following: TPHd, TPHg, TPHmo, BTEX, halogenated volatile organic compounds (VOCs) by EPA Method 8010, polyaromatic hydrocarbons (PAHs) by EPA Method 8270, and priority pollutant metals. For well construction details, soil borings, laboratory transcripts, and chain of custody forms, please see the original document referenced above.

TPHg, TPHd, and/or TPHmo were detected in most soil samples collected on the former L&M Petroleum, Union Oil, and Morton Paint properties. Generally, BTEX were detected in only a few soil samples with the highest TPH concentrations. BTEX concentrations did not exceed U.S. EPA Region IX residential PRGs in any soil samples. Beryllium levels in most soil samples exceeded the residential PRG (0.14 mg/kg), but not the industrial PRG (1.1 mg/kg). Beryllium levels were consistent across the site and may represent background levels for the area. Benzene was detected and exceeded the California drinking water maximum contaminant level (MCL) of 1 µg/L in all groundwater samples, except MW-11. Methylene chloride, which is a common laboratory contaminant, and naphthalene, which is a constituent of petroleum products, were also detected in some groundwater samples.

TPHg, TPHd, and/or TPHmo were detected at concentrations above RWQCB maximum soil screening levels (500, 1,000, and 10,000 mg/kg, respectively, for a distance above groundwater between 20 and 150 feet, RWQCB, 1996) in soil samples collected from borings TR-4, TR-5, TR-6, TR-13, and MW-10. These soil borings were located in the central and southern portions of the former L&M Petroleum property with the exception of TR-6, which was located in the adjacent west central portion of the former Union Oil property. Arsenic levels exceeded the residential PRG (21 mg/kg) in soil samples collected from borings TR-3 and TR-14 located on the former L&M Petroleum property. Arsenic does not have an industrial PRG. Toluene, ethylbenzene, and xylenes exceeded their respective California MCLs in groundwater samples collected from MW-4, MW-6, and MW-10. TCE up to 1 µg/L was detected in MW-9 and MW-10.

TPHg, TPHd, and/or TPHmo were not detected above maximum soil screening levels in the remainder of the former Union Oil property. Arsenic levels exceeded the residential PRG (21 mg/kg) in the samples collected from MW-8 located on the former Union Oil property. Lead (2,200 mg/kg) exceeded the industrial PRG of 1,000 mg/kg in the soil sample collected at a depth of 2.5 feet from boring TR-11 located in the central southern portion of the former Union Oil property.

TPHg, TPHd, and/or TPHmo were not detected above maximum soil screening levels in the former Morton Paint property. Borings TR-19, TR-20 and TR-22 were located along the southern portion of the former Morton Paint. PCB levels were below the residential PRG of 5.4 mg/kg. Lead levels exceeded the residential PRG in soil samples collected from borings TR-16, TR-19, TR-20, TR-21, and MW-11. All of these borings were located on the former Morton Paint property. Lead exceeded the California and Federal MCL of 0.015 mg/L in the groundwater sample collected from MW-11. However, the report does not indicate that groundwater samples were filtered prior to analysis, which may provide results not being representative of metals in groundwater.

BTEX levels were low or not detected in wells MW-5, MW-8, and MW-11, suggesting two separate petroleum hydrocarbon-impacted groundwater plumes may exist beneath Area 2. The first plume includes wells MW-1, MW-4, MW-9, and MW-10, and is likely due to aboveground storage tank (AST) releases and resulting soil contamination detected on the former L&M Petroleum property and on the western side of the former Union Oil property. The second plume includes well MW-6 and may be the result of a release from the former USTs at the former Morton Paint property.

***Phase I Environmental Site Assessment for 110 West Fremont Street and Selected South Shore Properties, Central Stockton, Stockton, CA*, prepared by Smith Environmental Technologies Corporation, for City of Stockton Housing and Redevelopment, January 29, 1998.**

A Phase I ESA was conducted for Areas 2B, 3, 4, and the southern portion of Area 2A. The subject properties were vacant and largely undeveloped. No evidence of wells or USTs were observed on the subject properties during the site visit in December 1997.

Smith Environmental reviewed file information at SJCEHD concerning the areas covered by the Phase I ESA (Areas 2A/2B, 3, and 4). The file contained information regarding the two-phase subsurface investigation performed in 1989 and 1990 involving 448 West Weber Street (Area 2B) and 17 S. Lincoln Street (Area 2A). The file review found that gasoline hydrocarbons were present in one general area of 17 S. Lincoln Street (the Morton Paint property). Gasoline petroleum hydrocarbons were also found in groundwater samples collected from monitoring wells located on the former Morton Paint property. Groundwater contamination had not fully been delineated. The 17 S. Lincoln site was placed on the SJCEHD contaminated site database on April 6, 1993. The report noted that the existing portion of the 17 S. Lincoln Street property (consisting of former West Market Street), included as part of the 1997 ESA, was not occupied by the Morton Paint Company. Results of the historical aerial photograph and Sanborn Map review were similar to the findings discussed in the previous tables at the beginning of this section.

An internal file review of the records from the City of Stockton Community Development, Buildings Division was conducted pertaining to the properties covered by this ESA. No records indicated sumps, tanks, or leach fields during the file review.

The results of this ESA were similar to the ESA conducted by Smith Environmental in 1995. Additional assessment was recommended in the Phase I ESA for the former Morton Paint Company, which stored and manufactured paint products at 17 S. Lincoln Street. Additionally, the Phase I ESA recommended further assessment of the western edge of the adjacent Star Lumber site at 448 West Main Street (Area 3) and the northern edge of the Seaside Oil Company site at 440/448 West Market Street (Area 2B).

***Groundwater Monitoring and Sampling and Tidal Influence Study Report, The Stockton Group Site, West Weber Avenue and North Lincoln Street, Stockton, California*, prepared by ERI for the Stockton Group, June 11, 1999.**

In January and February 1999, Environmental Resolutions, Inc. (ERI) conducted a tidal study to determine the influence of tidal fluctuations on the direction of groundwater flow, collected additional data to evaluate concentration trends, and collected inorganic water quality data to investigate whether natural attenuation is occurring beneath the site. Pressure transducers/data loggers were installed in wells MW-5, MW-8, and MW-9 to monitor changes in water levels within the monitoring wells over a 48-hour period. Results of the tidal study indicated that, over the testing period, observed tidal changes (up to 4 feet) had little influence on the southerly direction of groundwater flow in the monitoring wells (less than 0.1 foot).

***Volume II - Site Characterization Report, South Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

A site characterization began in August 1999 for Area 2A and Area 2B. Both properties were vacant plowed lots with no structures remaining. The northern portion of Area 2A was used as an unpaved parking lot.

Soil in the northwest corner of Area 2A contained TPHg, TPHd, and BTEX. Soil recovered and analyzed from the site had concentrations of TPHg and TPHd ranging from 300 mg/kg to 8,300 mg/kg. Soil from two test pits also exhibited concentrations of TPHg, and TPHd. TPHd was found at 8,800 mg/kg at test pit 2ATP-5 at 6 feet bgs. The RWQCB maximum soil screening levels for TPHg, TPHd, and/or TPHmo are 500, 1,000, and 10,000 mg/kg, respectively, for a distance above groundwater between 20 and 150 ft. All of the significant petroleum fuel hydrocarbon concentrations were detected in the northern portion of Area 2A. The highest concentrations were either at or directly off site from the former L&M Petroleum facility. Semi-volatile organic compounds were detected in one test pit at 6 feet bgs. These compounds were anthracene (1,360 µg/kg), fluorene (2,080 µg/kg), and 2-methyl-naphthalene (9,080 µg/kg). No significant metal concentrations were detected in soil collected at Area 2A during this investigation.

Groundwater contamination was found in 10 of the 11 monitoring wells sampled. Well MW-8 in the northeast corner of the site was the only well that did not contain petroleum fuel hydrocarbons and semi-volatile compounds. Well MW-13, located north of the former L&M Petroleum site, had the highest concentration of TPHg (130 mg/L) and TPHd (11 mg/L). Other significant concentrations of TPHg were found in wells MW-6 (88.9 mg/L), MW-1 (19.5 mg/L), and MW-9 (5.53 mg/L). TPHd was also found in well MW-14 (13 mg/L) and MW-9 (6.3 mg/L). TPHmo was found in MW-14 at 4.7 and 3.5 mg/L. Benzene was detected in well MW-9 (3.16 mg/L) and MW-13 (15 mg/L). Several fuel-related VOCs were detected at wells MW-1 and 9, including 1,2,4-trimethylbenzene (1.01 mg/L at MW-2A), naphthalene (0.52 mg/L at MW-2A), and 1,2,4-trimethylbenzene (at MW-9). Metals contamination was not detected in any groundwater wells at Area 2A.

The test pit opened in the general area of the boundary between the former L&M Petroleum and the Union Oil facilities exhibited a strong hydrocarbon odor from approximately 2 to 10 feet bgs. A sheen was observed on soil from 6 feet bgs at test pit 2ATP-5, located in the western portion of the former L&M petroleum facility.

A Preliminary Endangerment Assessment (PEA) was performed for Area 2A to help quantify the human health risks associated with hazardous materials in the soil and groundwater.

The Hazard Index (HI) exceeded 1 for construction and landscape maintenance workers, commercial/industrial workers, and residents. The result was driven by the 2-methyl naphthalene concentration of 14,000 µg/kg detected at well 2 AMW-13 at 30 feet bgs. Given that the only other detection of this compound was at test pit 2ATP-4 at 6 feet bgs, and that eight other sample analyses did not detect this compound, it is likely that the PEA over-estimated the actual hazard.

Calculated excess cancer risk for construction and landscape maintenance workers and commercial/industrial workers was within the acceptable risk range of 1E-04 to 1E-06. Calculated excess cancer risks were higher than 1E-04 for residents primarily due to the presence of benzene in soil. Soil lead concentrations did not appear to constitute a hazard.

Area 2A is hydraulically upgradient from Areas 3 and 4, and may be a source for hydrocarbon contamination in soil and groundwater beneath Areas 3 and 4. Although soil and groundwater at Area 2A has been significantly impacted by petroleum fuel hydrocarbons with evidence of offsite

contamination, redevelopment of the site should not be precluded. However, the presence of soil and groundwater contamination would likely result in the requirement to use soil management plans for handling soil and may impact some development alternatives, unless mitigation measures are taken.

***Further Characterization at the West Weber Avenue and North Lincoln Street Site, Parcel 2A,* prepared by Clayton Group Associates for the Stockton Group, December 18, 2001.**

In September 2001, a total of eleven cone penetrometer test (CPT) borings (DP-1 through DP-11) were drilled to investigate the following: 1) subsurface lithology, 2) the presence of separate phase hydrocarbons (SPH), 3) the lateral extent of petroleum hydrocarbon-impacted groundwater east, south, and west of the site, and 4) potential offsite sources upgradient (north-northwest) of the site. Surficial soil samples were also collected from depths up to 5 feet below ground surface (bgs) to evaluate whether the presence of residual concentrations of metals presented a threat to groundwater quality.

***Site Delineation Report*, prepared by Clayton Group Associates for the Stockton Group, August 6, 2002.**

In May 2002, Clayton initiated quarterly monitoring activities, installed eight additional CPT soil borings (DP-12 through DP-19), and collected grab samples to delineate soil and groundwater impacts previously identified in the vicinity of borings DP-1 through DP-6. In July 2002, Clayton also oversaw the performance of a soil gas survey involving the installation of 111 Gore-Sorber® modules to investigate the areas of greater petroleum hydrocarbon impact.

***Well Installation and DPE Feasibility Report*, prepared by Secor for the L&M Operable Unit Group, January 24, 2003.**

In December 2002, a 5-day dual-phase extraction (DPE) feasibility test was performed by Secor, following the installation of seven DPE wells (DDPE-1 through DPE-7). SPH were reportedly present in wells DPE-1, DPE-3, DPE-4, DPE-6, and DPE-7 prior to the initiation of testing. DPE tests were performed utilizing well 2AMW-14 for approximately 45 hours; simultaneously on wells DPE-4 and DPE-6 for approximately 26 hours; and simultaneously on wells DPE-1, DPE-3, and DPE-7 for approximately 26 hours. Results of DPE feasibility testing indicated the following: 1) a calculated radius of influence of 31 feet west of well 2AMW-14, and lower estimated radii of influence to the south and east due to the presence of low permeability clays and lower induced vacuum readings in wells DPE-3, DPE-4, and DPE-7; and 2) the removal of an estimated 196.38 pounds of TPHg from soil and groundwater, 97.02 pounds of TPHd from groundwater, and 9.57 pounds of TPHmo from groundwater.

***Results of Additional DPE Feasibility Testing*, prepared by Secor for the L&M Operable Unit Group, May 23, 2003.**

An additional DPE test was performed at the site from March 3 through 7, 2003, using a 25-horsepower (hp) liquid ring vacuum pump connected to a thermal oxidizer unit for abatement of the extracted soil vapor prior to discharge to the atmosphere. DPE tests were performed separately on wells DPE-4 and 2AMW-14 simultaneously for approximately 21.5 hours, and wells DPE-4, DPE-6, and 2AMW-14 simultaneously for approximately 72.5 hours. The DPE unit ran for a total of approximately 97 hours during the test. Groundwater and soil vapor were removed simultaneously from the respective test wells by applying a high vacuum to a drop tube that was lowered into the

water table within each test well. Results of DPE feasibility testing indicated the following: 1) an effective radius of influence of at least 36 feet to the west of 2AMW-14, and 2) the removal of an estimated 212.3 pounds (34.2 gallons) of TPHg from soil vapor, and approximately 0.29 pound (0.05 gallon) of TPHg, 17.56 pounds (2.46 gallons) of TPHd, and 8.29 pounds (1.13 gallons) of TPHmo from groundwater.

Note that an additional assessment report, dated May 30, 2002, was prepared by Secor for the subject property but is not described herein (Secor, 2003).

***DPE Well and System Installation Report,* prepared by Secor, December 5, 2003**

From October through December 2003, five additional DPE wells (DPE-8 through DPE-12) were installed and a DPE remediation system was installed at the site. The DPE system was connected to wells DPE-1 through DPE-12. Additionally, a Non-aqueous Extraction Technique (NET™) SPH removal system was installed at well 2AMW-14.

***Revised Underground Utility Search Report,* prepared by Secor, March 5, 2004.**

On December 17, 18, and 22, 2003, exploratory excavations were conducted at the site to locate underground utilities, including former product pipelines. Steel pipelines were discovered at the site at 14 locations.

***Human Health Risk Assessment at the L&M Operable Unit and Delta Gateway Apartments, Stockton California*[1] prepared by Earth Tech, Inc. on behalf of the L&M Operable Unit Group, July 14, 2004.**

A draft Human Health Risk Assessment (HHRA) was performed to assess the potential for adverse human health effects as a result of current and hypothetical future exposure to chemicals in soil and groundwater at the site. Potential receptors included on- and off-site residents, on- and off-site workers, and an on- and off-site trespasser. After review of the report, DTSC requested additional data collection and incorporation of this additional dataset into the exposure analysis. Preliminary results indicated that the risk drivers at the site include PAHs, benzene, ethylbenzene, chrysene, trichloroethene, methylene chloride, and arsenic. Finalization of the HHRA is anticipated by early 2006. Site specific cleanup levels are anticipated to be a product of the HHRA process, with these levels possibly applicable to all of Parcel 2A.

***Additional Assessment Report and Work Plan for Additional Deep Groundwater Zone Assessment,* prepared by Secor, July 29, 2004**

Additional assessment activities were conducted for the L&M Operating Unit (OU) in May 2004 to investigate the vertical extent of petroleum hydrocarbons in the vicinity of the site. Secor advanced one deep soil boring (SB-7) to a depth of approximately 140 feet bgs in the vicinity of well MW-17, installed shallow offsite well MW-45, and installed deep offsite wells MW-40 through MW-44 and MW-46. Three groundwater samples were collected at 117, 128, and 139 feet bgs using a hydropunch sampling device in soil boring SB-7. Laboratory analysis of groundwater from SB-7 indicated maximum concentrations of TPHd, TPHmo, TPHg, benzene, MTBE, and tertiary butyl alcohol (TBA) of 8,300 µg/L (139 feet bgs), 3,200 µg/L (139 feet bgs), 1,800 µg/L (117 feet bgs),

[1] Earth Tech, Inc., 2004. Human Health Risk Assessment at the L&M Operable Unit and Delta Gateway Apartments, Stockton, California. Prepared for The L&M Operable Unit Group, July 14.

200 µg/L (117 feet bgs), 4.5 µg/L (117 feet bgs), and 100 µg/L (117 and 128 feet bgs), respectively. Two deep zone wells, MW-40 and MW-43, contained measurable SPH.

***Subsurface Investigation Report, Unocal Operable Unit, Vicinity of Weber and Lincoln Streets, Stockton, California*, prepared by Clayton Group Services, Inc. for Union Oil Company of California, August 11, 2004.**

This soil and groundwater investigation was performed to further refine the understanding of the horizontal and vertical distribution of TPH, metals, VOCs and SVOCs at the Site. The investigation included advancement of 23 soil boreholes on the Unocal Operable Unit (OU), with the collection of groundwater samples from four boreholes. The 104 soil sample results indicated the presence of TPH, VOCs, SVOCs and metals, with highest concentrations generally in the western portion of the Site. TPH and VOCs were identified in groundwater.

***Interim Pipeline Removal and Abandonment and Soil Excavation Report*, prepared by Secor, December 22, 2004.**

Secor completed pipeline abandonment/removal activities during the fourth quarter of 2004, and the installation of horizontal soil vapor extraction (SVE) wells and connection of the horizontal SVE wells to the DPE system during the first quarter 2005. Pipelines discovered during the December 2003 investigation, as well as additional pipelines discovered during pipeline abandonment/removal activities, were removed from the undeveloped portion of the L&M OU, soil was excavated to approximately 10 feet bgs, a 500-gallon steel UST was removed, and an old well was properly abandoned, and pipelines trending off the undeveloped portion of the L&M OU were rinsed and filled with cement. Approximately 300 gallons of product/water mixture were removed from three pipelines, and approximately 350 gallons of product was pumped out of the UST. Horizontal SVE wells were installed at the bottom of the excavation and the bottom was lined with a high density polyethylene liner. Additionally, six horizontal SVE wells were installed beneath five apartment buildings in the Delta View apartment complex. Analytical results of soil samples collected at the bottoms of the excavations indicated maximum concentrations of TPHd, TPHmo, TPHg, benzene, MTBE, and TBA of 12,000 mg/kg, 2,200 mg/kg, 5,400 mg/kg, 0.60 mg/kg, 0.0056 mg/kg, and 0.87 mg/kg, respectively. Analytical results of soil samples collected on the side walls of the excavations indicated maximum concentrations of TPHd, TPHmo, TPHg, benzene, and TBA of 25,000 mg/kg (5 feet bgs), 1,700 mg/kg (5 and 8 feet bgs), 2,400 mg/kg (8 feet bgs), 0.060 mg/kg (5 feet bgs), and 0.82 mg/kg (5 feet bgs), respectively. MTBE was not detected at or above laboratory method reporting limits in the side wall samples.

***Pipeline Removal, Abandonment, Soil Excavation, On-Site Horizontal SVE Well Installation, and Horizontal SVE Well Installation Beneath Delta View Apartments Report and Work Plan for Pipeline Removal, Abandonment, and Soil Excavation in Waterfront Towers Parking Lot for Stockton Parcel 2A, L&M Operable Unit*; prepared by Secor, February 10, 2005.**

Pipelines beneath the undeveloped portion of the L&M OU were excavated and removed in conjunction with soil excavation to a maximum depth of 10 feet. Pipelines extending beneath the Delta View Apartments and offsite to the north beneath W. Weber were abandoned, in place, after rinsing and sealing the pipes. Prior to backfill of the excavation, horizontal SVE wells (11 horizontal wells) were installed for vapor removal of VOCs from deeper soils and groundwater. Horizontal SVE wells were also installed beneath the apartment buildings (six horizontal wells beneath six apartment buildings) immediately adjacent to the undeveloped portion of the L&M OU;

these wells installed to remove VOCs from soil beneath the apartment buildings. Operation of both SVE well systems was initiated in 2005. A work plan for pipeline and contaminated soil removal to the north of W. Weber (in the Waterfront Towers Parking Lot) was also included in the document. It is anticipated that the Waterfront Towers Parking Lot work will be initiated in 2006.

***Additional Deep Groundwater Zone Assessment Report for Stockton Parcel 2A – L&M Operable Unit, Stockton, California*; prepared by Secor, May 25, 2005.**

Wells were installed on and to the north of the L&M OU to further delineate the extent of separate phase petroleum hydrocarbon in deep groundwater. Nine groundwater monitoring wells were installed for groundwater monitoring and three Geoprobe boreholes were advanced to collect groundwater samples. Wells were installed to a maximum depth of 122.5 feet below ground surface. Soil samples were collected during borehole advancement and depth to groundwater or free-phase (floating) hydrocarbon was measured, and where applicable, groundwater samples collected and analyzed for contaminants of concern. Petroleum hydrocarbons, VOCs, SVOCs and metals were detected in soil samples. Petroleum hydrocarbons, VOCs and metals were detected in groundwater samples. Subsequent groundwater monitoring reported light aqueous non-phase liquid (LANPL) in several of the wells.

Previous Investigations of Area 2B

***Phase 1 Environmental Site Assessment for Weber Point and Waterfront Areas, Central Stockton, CA*; prepared by Smith Environmental Technologies Corporation for City of Stockton Housing and Redevelopment; September 22, 1995.**

A Phase I ESA was conducted in 1995 for Area 2A/2B, Area 3, and Area 4. The Phase I ESA included a database search; personal interviews; review of historical aerial photographs, Sanborn maps, and Polk Business Directories; and a site inspection. Results of the historical aerial photograph and Sanborn Map review were similar to the findings discussed above.

One location within Area 2B, 548 W. Market Street, was identified in the Phase I ESA as a potential environmental concern based on its past land uses (bulk storage of petroleum hydrocarbons). Additional assessment was recommended in the Phase I ESA for the former Seaside Oil Company site (listed as 440/448 W. Market Street in the Phase I ESA) that contained four former gasoline ASTs. Additionally, the Phase I ESA recommended further assessment of the Star Lumber (Area 3) and former Morton Paint Company (Area 2A) properties located adjacent to Area 2B.

***Phase I Environmental Site Assessment for 110 West Fremont Street and Selected South Shore Properties, Central Stockton, Stockton, CA*, prepared by Smith Environmental Technologies Corporation, for City of Stockton Housing and Redevelopment, January 29, 1998.**

A Phase I ESA was conducted in December 1997 for Areas 2B, 3, 4, and the southern portion of Area 2A. The subject properties were vacant and largely undeveloped. No evidence of wells or USTs was observed on the subject properties during the site visit in December 1997.

An internal file review of the records from the City of Stockton Community Development, Buildings Division was conducted pertaining to the properties covered by this ESA. No records indicated sumps, tanks, or leach fields during the file review.

The results of this ESA were similar to the ESA conducted by Smith Environmental in 1995. Additional assessment was recommended in the Phase I ESA for the former Seaside Oil Company site at 440/448 West Market Street (Area 2B). Additionally, the Phase I ESA recommended further

assessment of the adjacent Star Lumber site at 448 West Main Street (Area 3) and the former Morton Paint Company, which stored and manufactured paint products at 17 S. Lincoln Street (Area 2A).

***Geophysical Investigation Brown Field Sites, Stockton, CA*, prepared by Sage Earth Science for Ecology and Environment, October 2, 1998.**

A ground penetrating radar survey was performed at sites 2B and 3. The objective of the survey was to screen the sites for USTs and associated equipment. The primary conclusions regarding Area 2B are the following: 1) No suspect UST locations were identified at Area 2B based on geophysical data; 2) A moderate size burial/fill area was identified on site 2B; and 3) Numerous other buried items were evident in the geophysical data (i.e., foundations, utilities, and objects).

***Volume II - Site Characterization Report, South Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999**.

A site characterization began in August 1999 for Area 2A and Area 2B. Both properties were vacant plowed lots with no structures remaining.

The soil sampled at Area 2B did not contain any petroleum fuel hydrocarbons, volatile organic compounds, or any significant metals. Several semi-volatile organic compounds were detected in one soil sample from boring 2BB-1 at 1 foot bgs, including benzo(a)pyrene at 1,020 µg/kg.

One groundwater sample was collected at Area 2B from well 2BMW-1. It did not contain any detectable concentrations of TPHg, diesel, or motor oil. No significant metal concentrations were detected either. Toluene, ethylbenzene, and total xylenes were detected at less than 0.01 mg/L.

No debris or petroleum hydrocarbon contamination was encountered in the three test borings, one test pit, or one well installed at Area 2B.

A PEA was performed for Area 2B to help quantify human health risk (non-carcinogenic hazards and carcinogenic risks) associated with hazardous materials in the soil and groundwater. Area 2B did not exhibit the degree of soil and groundwater contamination found at Area 2A. However, semi-volatile organic compounds at Area 2B resulted in calculated excess cancer risks for residents, although the calculated risks were driven by relatively few occurrences of semi-volatile organic compounds.

Summary of Groundwater Monitoring for Areas 2A/2B

***Second Quarter 2005 Site Status, Groundwater Monitoring, and Remedial Summary Report*, prepared by Secor on behalf of the L&M Operable Unit, July 20, 2005.**

Groundwater monitoring has been performed at the site since 1989, with the installation of three wells in August of that year. Additional wells have been installed since that time. Over 65 wells have been installed at and in the vicinity of Area 2A/2B, and monitoring has generally been performed on a quarterly basis since May 2002. Water level monitoring indicates the area is considered a recharge area for the regional aquifer, with shallow groundwater generally flowing to the east, away from the Mormon Slough and Stockton Channel and regional groundwater flowing generally to the east and north. Laboratory analytical data indicate the presence of the several classes of contaminants in groundwater, including TPH, VOCs, SVOCs, and metals.

Summary of Results and Recommendations for Areas 2A/2B

Summary of Results for Area 2A

Three properties within Area 2A are potential environmental concerns based on previous land use involving bulk storage of petroleum hydrocarbons and/or possible hazardous substances: 1) the former Union Oil Company property (Unocal); 2) the former L&M Petroleum property (L&M); and 3) the former Morton Paint Company property (Morton-Alco). These three areas have each been defined as an "operating unit" (OU) for the purposes of remediation under oversight from the RWQCB and/or DTSC.

The Agency has entered into settlement with the former owners and operators of the respective parcels and the Agency will be responsible for remediation of the Morton-Alco and Unocal operating units, while the former owners/operators will be responsible for remediation of the L&M operating unit.

The former owners/operators of L&M operating unit have entered into a Voluntary Cleanup Agreement with DTSC for the preparation of a human health risk assessment (HHRA). As of June 2005, the HHRA had not been approved by DTSC.

Summary of Results for Area 2B

One property within Area 2B is a potential environmental concern based on previous land use involving bulk storage of petroleum hydrocarbons. The former Seaside Oil Company property contained four gasoline ASTs. The subsurface is known to have been affected by petroleum and petroleum-related compounds.

Conclusions and Recommendations for Areas 2A/2B

Area 2A is an environmental concern based on previous land use involving bulk storage of petroleum hydrocarbons and associated products, and paint manufacturing. Area 2A has been divided into three OUs, including the L&M, Unocal, and Morton-Alco.

The Agency has entered into settlement agreements with the former owners/operators of the OUs. The former owners/operators of the L&M OU are responsible for investigation and remediation of the L&M OU, including contamination emanating from that OU. The Agency is responsible for the Unocal and Morton-Alco OUs. Groundwater monitoring is being performed on a quarterly basis under Regional Board Monitoring and Reporting Programs for each OU. Future investigation and remedial actions at the sites are anticipated to be performed under Polanco Oversight Agreements.

The draft HHRA prepared in 2004 considered the potential exposure to human receptors to chemicals detected in soil and groundwater at the L&M OU and on adjacent properties to the north, west, and south. The draft HHRA evaluated several exposure scenarios, including the on-site resident, off-site resident, on-site maintenance worker, off-site worker, and on- and off-site trespassers. Preliminary results indicate that contaminants of concern may include metals, VOCs (inclusive of petroleum hydrocarbons), SVOCs, and possible other contaminants.

Interim remedial actions are being performed at the L&M OU to remove contaminants from soil with a soil vapor extraction system, and removal of light non-aqueous phase hydrocarbons (LNAPL) from groundwater with a dual phase extraction (DPE) system. Remedial actions at the Unocal OU are planned for 2006. Additional investigation and proposed remedial actions at the Morton-Alco site are planned for late 2005 with continuation into 2006. A comprehensive cleanup program for the three OUs is in preparation by the Agency.

Recommendations for Parcel 2A include the following:

- Complete Polanco agreements between Agency and Regional Board or DTSC;
- Continue operation of interim remedial measures (operation of SVE systems and DPE system);
- Continue groundwater monitoring as required by the regulatory agencies;
- Finalize the HHRA, and develop and finalize site-specific residential and commercial cleanup goals;
- Develop a comprehensive cleanup plan for remediation of soil and groundwater and implement remedial actions that should include, but not be limited to, the following:
  - Soil excavation in areas of core contamination;
  - Remove historic pipelines and underground storage tanks associated with previous site operations;
  - Perform groundwater remediation to address core groundwater contamination beneath Parcel 2A and groundwater contamination emanating off of Parcel 2A;
  - Expand interim remedial measures, as appropriate, to maximize removal of LNAPL and contaminant vapors in soil;
- After site remedial actions, reduce contamination to below site cleanup goals, coordinate with the regulatory agencies (Regional Board and DTSC) to perform the following:
  - Removal of remedial action infrastructure from Parcel 2A;
  - Remove monitoring wells after approval has been granted to discontinue groundwater monitoring;
  - Develop the property based on land use restrictions, if any.

Areas 3 and 4

Areas 3 and 4 are discussed together due to their proximity to one another and common Phase I ESA report. Area 3 is located adjacent to and north of Area 4 (Figure A3/4-1).

Site Location and Description of Areas 3 and 4

Area 3 (APN: 137-360-18, 19, 20, 21, 22, 38, and 50) occupies approximately 2.4 acres bounded by the former W. Main Street on the north; Van Buren Street on the east; Market Street on the south; and S. Lincoln Street on the west. Area 4 (APN: 137-360-24, 26, 27, 28, 39, 51, and 52) occupies approximately 1.5 acres of undeveloped land bounded by Market Street on the north; Van Buren Street on the east; Washington Street on the south; and S. Lincoln Street on the west (Figure A3/4-1).

During the B&V site visit on June 16, 1997, Areas 3 and 4 were vacant, and free of litter. No structures were present on the property. No discoloration, staining or unusual odors were observed in the surface soils on the property. No monitoring wells were identified on Areas 3 and 4. A rail spur was observed crossing the center of Areas 3 and 4 in a north-south direction. No contamination was observed along the rail spur.

BASELINE personnel conducted a "windshield" site reconnaissance visit of the site on June 7, 2005. A two-story office building was observed under construction on Area 3. Area 4 had not been redeveloped.

Existing Land Use near Areas 3 and 4

Adjacent property north of Area 3 is occupied by a children's museum and parking lot (Area 24). Adjacent property east of Area 3 is occupied by a vocational school. Adjacent property east of Area 4 is vacant land (Area 5). The Crosstown Freeway is south of Area 4, across Washington Street. Adjacent property west of Areas 3 and 4 is vacant land (Areas 2A and 2B).

Previous Land Use of Areas 3 and 4

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. Areas 3 and 4 were shaded by "house omission tint" in all three maps, indicating the property was occupied by commercial or residential development.

Historical aerial photographs for the years 1953, 1964, 1970, 1979, and 1996 were reviewed to determine historic land use. A summary of the observations from the review of historical aerial photographs is included in Table A3/4-1.

Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 were reviewed to determine historic land use. Historic land uses of Areas 3 and 4 are presented in Table A3/4-2 and Figure A3/4-2.

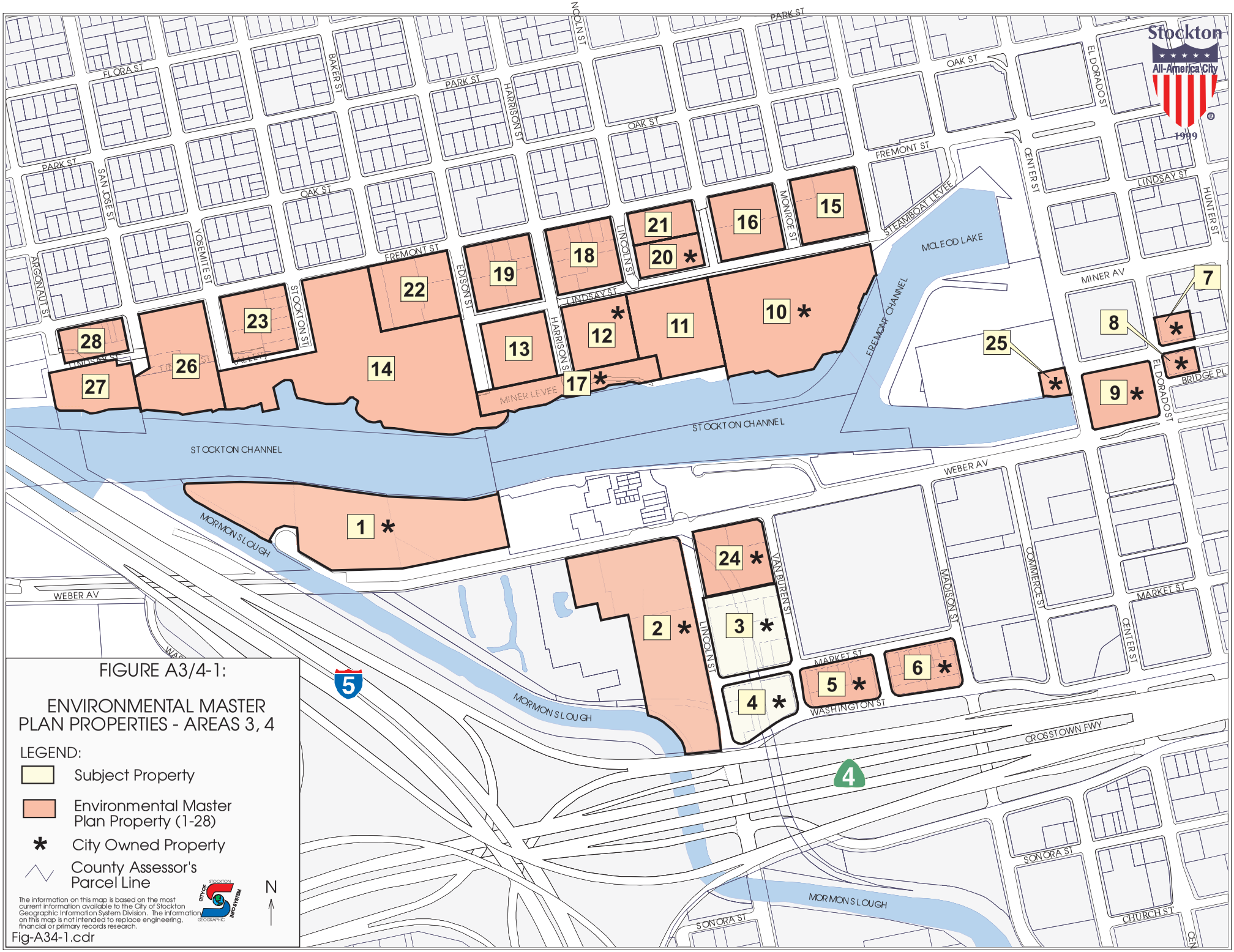

Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
LINCOLN ST
HARRISON ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
VOSEMITE ST
ARGONAUT ST
STOCKTON ST
EDISON ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
MINER AV
EREMONY CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
5
4
N
FIGURE A3/4-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREAS 3, 4
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-A34-1.cdr

Table A3/4-1
Historical Aerial Photographs Areas 3 and 4

Year	Area	Summary of Observations
1953	3	Subject property was occupied by a lumber mill and yard on the western half, and by several residences on the eastern half.
	4	The western half of Area 4 was occupied by several residences. The northeastern corner was occupied by a commercial building and the southeastern corner was vacant.
1964	3	The lumber yard appeared to have expanded onto the southeastern portion.
	4	There were no visible changes to the property since 1953.
1970	3	A rail spur crossed the center of Area 3 in a north-south direction.
	4	A rail spur crossed the center of Area 4 in a north-south direction, and Washington Street was realigned to traverse the southern half of the site.
1979	3	The buildings on the western half of Area 3 were similar, but the yard was being used to store tires. A new large building was present in the eastern central portion of the site.
	4	The western half of Area 4 was vacant and contained a large pile of tires and debris adjacent to the railroad tracks. The commercial building was still shown in the northeastern corner of the site
1996	3	The property was vacant.
	4	The property was vacant.

Table A3/4-2
Historical Sanborn Fire Insurance Map Summary Areas 3 and 4

Year	Area	Observations and Surrounding Land Use
1895	3	Subject property was occupied by the J.F. Hoerl Planing Mill in the western central portion of the property at 18 and 32 S. Lincoln Street. The remainder of the property was either residential or vacant.
	4	The property was either residential or vacant.
1917	3	R.F. Wilson's Lumber Yard occupied the western portion of the property. The eastern half of the property was residential.
	4	The eastern half of Area 4 was vacant.
	3	The Star Lumber Yard occupied the western portion and center of the property. The remainder of Area 3 was residential.
1950	4	The western portion of Area 4 was residential. A commercial building occupied by a furniture manufacturer/upholstering shop and the National Biscuit Co. (packed fruit and sugar storage) was present in the northeastern corner. The southeast corner was vacant.
1972	3	The Star Lumber Yard occupied the entire property, except for a duplex residence in the northeastern corner.
	4	The commercial building still exists in the northeast corner, but was occupied by a building and hardware supply store and warehouse. Three dwellings were shown in the northwestern corner. The rest of the site was vacant. Washington Street was realigned through the southern half of Area 4.

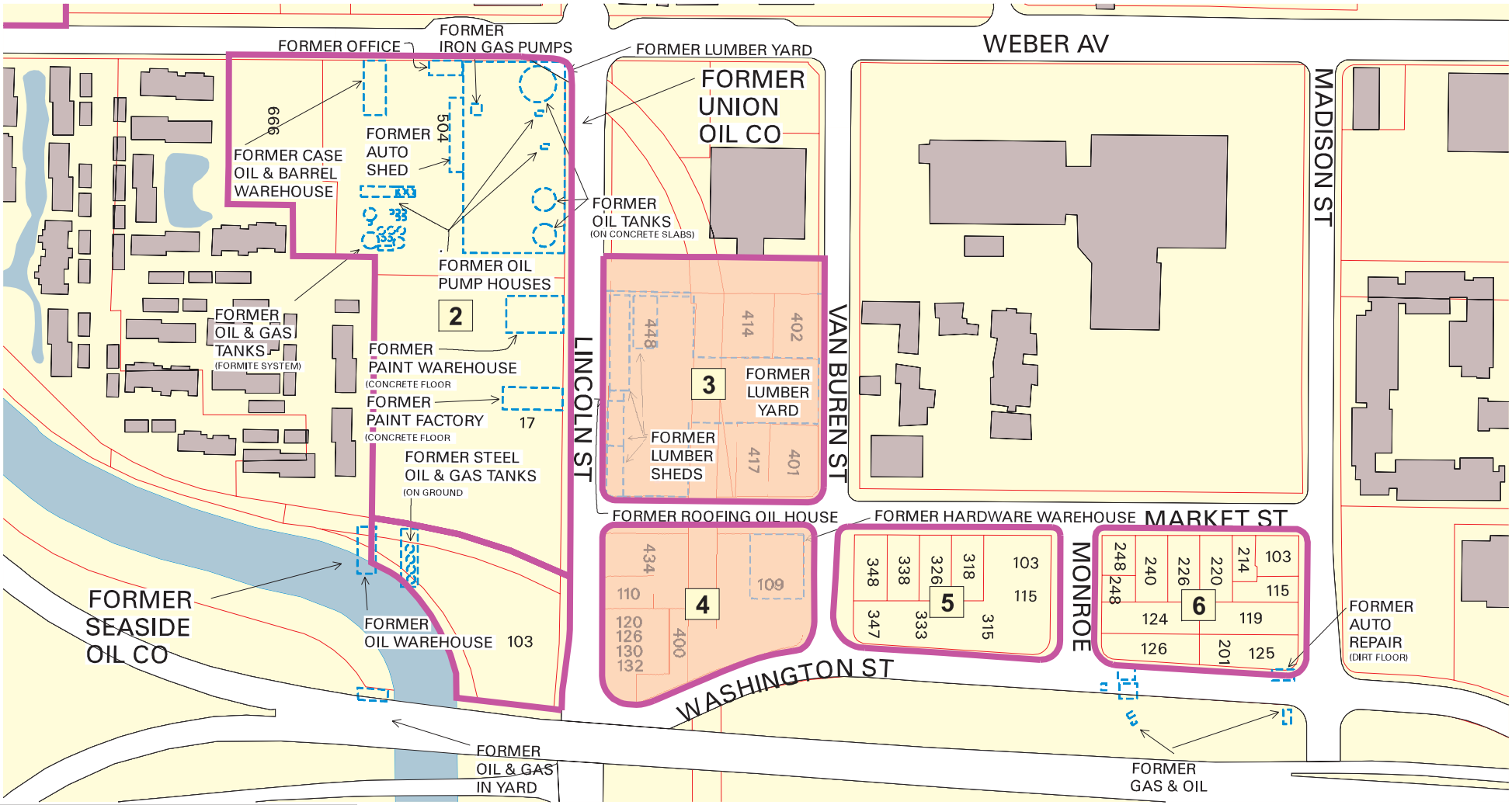


FIGURE A3/4-2:

HISTORICAL LAND USES - AREA 3, 4

LEGEND:

- Subject Property
- Environmental Master Plan Properties
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A34-2.cdr

Previous Investigations of Areas 3 and 4

***Phase 1 Environmental Site Assessment for Weber Point and Waterfront Areas, Central Stockton, CA*; prepared by Smith Environmental Technologies Corporation for City of Stockton Housing and Redevelopment; September 22, 1995.**

A Phase I ESA was conducted for Areas 2B, 3, and 4 in 1995. The Phase I ESA included a database search; personal interviews; review of historical aerial photographs, Sanborn Maps, and Polk Business Directories; and a site inspection. Results of the historical aerial photograph and Sanborn Map review were similar to findings discussed above.

Smith Environmental personnel reviewed file information at SJCEHD concerning Areas 2B, 3, and 4. A file search was conducted at the City of Stockton Fire Department for Area 2B, Area 3, and Area 4. A file for 448 W. Main Street (Area 3) contained a permit, dated June 6, 1976, for the installation of one 2,000-gallon gasoline UST in the southeastern portion of the property. The file also indicated the presence of a 250-gallon UST in the northwestern corner of Area 3.

Potential offsite sources identified in the database search were considered to be of no apparent concern because potential responsible parties had been identified and the sites are under regulatory oversight.

The Phase I ESA identified one area of potential environmental concern within Area 3 based on past land use (bulk storage of petroleum hydrocarbons); 448 W. Main Street (Area 3), possible 2,000 and 250 gallon USTs at the former Star Lumber Site. Additionally, the Phase I ESA recommended further assessment of the former Star Lumber (Area 3) property and no further action for Area 4.

***Final Report of Ground Penetrating Radar Survey for Areas 4, 5, and 6, Stockton, San Joaquin County, California*, prepared by GPRX Inc. for B&V, November 25, 1997.**

In November 1997, GPRX performed a ground penetrating radar survey at Areas 4, 5, and 6 to determine if USTs existed at the sites. The survey concluded that none of the targets located and imaged during the survey could be identified as being a UST, potential UST, or UST remains.

***Phase I Environmental Site Assessment for 110 West Fremont Street and Selected South Shore Properties, Central Stockton, Stockton, CA*, prepared by Smith Environmental Technologies Corporation, for City of Stockton Housing and Redevelopment, January 29, 1998.**

A Phase I ESA was conducted in December 1997 for Areas 3, 4, and 2A/2B. The subject properties were vacant and largely undeveloped. No evidence of wells or USTs was observed on the subject properties during the site visit in December 1997.

An internal file review of the records from the City of Stockton Community Development, Buildings Division was conducted pertaining to the properties covered by this ESA. No records indicated sumps, tanks, or leach fields during the file review. A ground penetrating radar survey was performed by Sage Earth Science at Sites 2B and 3 in October 1998. This survey also concluded that there are no suspect UST locations at either site.

The results of this ESA were similar to the ESA conducted by Smith Environmental in 1995. Additional assessment was recommended in the Phase I ESA for the Star Lumber site at 448 West Main Street (Area 3).

***Geophysical Investigation Brown Field Sites, Stockton, CA*, prepared by Sage Earth Science for Ecology and Environment, October 2, 1998.**

A ground penetrating radar survey was performed at sites 2B and 3. The objective of the survey was to screen the sites for USTs and associated equipment. The primary conclusions regarding these sites are: No suspect UST locations are identified at either site 2B or 3 based on geophysical data. A moderate size burial/fill area is identified on site 2B. Numerous other burial items are evident in the geophysical data (i.e., foundations, utilities, and objects).

***Volume II - Site Characterization Report, South Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

A site characterization for Areas 3 and 4 began in August 1999. Area 3 was vacant at that time with no aboveground structures remaining. However, there were some small concrete slabs present. An abandoned railroad spur also ran through the center of the site. Area 4 was also vacant with no remaining structures. The railroad spur from Area 3 continued into Area 4.

No petroleum hydrocarbons, volatile or semi-volatile hydrocarbons were detected in any of the soil samples collected from the test pits or test borings at Area 3. However, elevated lead concentrations were detected in five soil samples, generally in the top 1 foot of soil. Concentrations ranged from 200 to 710 mg/kg. Samples with total lead concentrations of 630 and 710 mg/kg were analyzed for soluble lead using the TCLP test. No soluble lead was detected. Using the STLC test, 24 mg/L of lead was leached from the sample with total lead of 630 mg/kg. These findings suggest that a soil management plan designed to deal with lead in the soil may be required to develop the site, and that soil excavated and removed from the site may require special handling. Total mercury was detected in one soil sample at 9.1 mg/kg. Because this exceeds the EPA Residential PRGs of 5.5 mg/kg, the sample was analyzed for soluble mercury using the TCLP method. A total of 0.046mg/L soluble mercury was detected.

Petroleum hydrocarbons appear to have minimal impact on the groundwater at Area 3. TPHg was detected at 0.07 mg/L at well 3-W-1. BTEX compounds were all detected at less than 0.001 mg/L. No significant metals concentrations were detected in any sample.

TPHd was detected at 280 mg/kg in one of the ten soil samples collected from the three test pits. TPHg was detected at boring 4B-1 at 430 mg/kg at 6 feet bgs. No BTEX compounds or other VOCs were detected in soil. Several SVOCs were detected in one of seven soil samples analyzed. These compounds include benzo (a) pyrene at 630 µg/kg and chrysene at 712 µg/kg. Lead concentrations exceeded 130 mg/kg in three of thirteen soil samples analyzed, with a maximum total lead concentration of 360 mg/kg found at 1-foot bgs at test pit 4TP-3. A TCLP analysis was run on this sample, with no soluble lead detected greater than 1mg/L.

No volatile organic compounds or significant metal concentrations were detected in the groundwater sample collected from test boring 4B-1.

***Area 4 Phase II Environmental Site Assessment, South Shore Parcels, Stockton, California*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, 17 August 2001.**

A Phase II investigation was completed in 2001 at Area 4 to provide additional soil and groundwater quality information, and an environmental database search of regulatory agency information for the subject property and nearby sites was obtained. Soil sampling was completed at four locations and the samples were analyzed for lead and semi-volatile organics. Two groundwater

samples were also collected and analyzed for TPHd, TPHg, BTEX, volatile organics, and methyl tert butyl ether (MTBE).

Total lead in the soil samples ranged from 9 to 300 mg/kg; two of the samples exceeded the California hazardous waste criteria for soluble lead (STLC) of 5 mg/L. None of the soil samples exceeded the federal hazardous waste criteria for soluble lead (TCLP of 5 mg/L). Semi-volatile compounds were not detected in any of the four soil samples analyzed at or above method detection limits. TPHd was detected in groundwater (one sample only) at 210 µg/liter; the other sample was non-detect. No other total petroleum hydrocarbon compounds or volatile organics were detected above laboratory reporting limits in either groundwater sample collected.

The conclusions of the report indicated that lead exceeding California hazardous waste criteria was present at the site but appears to be confined to the upper foot of soil (but may be found deeper). There was reportedly no clear pattern of lateral distribution of lead across the site. Offsite removal of lead-impacted soil exceeding California's hazardous waste criteria would require disposal at a Class I landfill. A Soil Management Plan was recommended for preparation prior to site development and should include appropriate soil handling and disposal procedures, areas requiring excavation, stockpile sampling requirements, and a health and safety plan. Groundwater (one sample only) was reported to contain lead above laboratory reporting limits (210 µg/L). Nearby and adjacent properties have demonstrated soil and groundwater contamination based on the regulatory agency database search. However, there was reportedly no evidence that the site had been adversely impacted by offsite sources, or would likely be impacted in the future.

***Area 3 Subsurface Investigation, South Shore Parcels, Stockton, California*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, 17 August 2001.**

The purpose of the work was to provide additional soil and groundwater quality information to assist in the determination of the acceptability of the site for development. In 2001, soil samples at ten locations were collected roughly equidistant across the site and analyzed for lead and mercury. Four groundwater samples were collected; two at approximately 15 feet bgs and two at approximately 40 feet bgs. Groundwater samples were analyzed for TPHg, TPHd, BTEX, volatile organics, and MTBE.

Total lead concentrations in the samples ranged from 6 to 270 mg/kg and equaled or exceeded 130 mg/kg in four samples. The highest concentration of total lead was found at one and three feet bgs, with all locations in the southern half of the site. Four of six samples analyzed for soluble lead (STLC) exceeded the state regulatory threshold of 5 mg/L. None of the samples analyzed using the TCLP method exceeded the federal regulatory threshold of 5 mg/L for hazardous waste. Total mercury concentrations ranged from <0.06 to 2.2 mg/kg, all below the state hazardous waste criteria for total mercury of 20 mg/kg. TPHd was detected in the four groundwater samples at concentrations ranging from 110 to 530 µg/L. TPHg, volatile organics, BTEX, and MTBE were not detected in any groundwater samples at or above method detection limits.

The report concluded that lead was present in the upper three feet of soil, at levels above the California hazardous waste criteria. Lead contamination was reportedly confined to the southern half of the site. Offsite removal of lead-impacted soil exceeding California's hazardous waste criteria would require disposal at a Class I landfill. A Soil Management Plan should be prepared prior to site development and include the same items as mentioned in the Area 4 Phase II Environmental Site Assessment report. Groundwater has been minimally impacted by petroleum hydrocarbons.

***Expanded Initial Study/Mitigated Negative Declaration for the Work Net Office Building, Stockton,* prepared by the City of Stockton Department of Housing and Redevelopment for the City of Stockton Community Development Department Planning Division, April 2004.**

The Work Net office building proposed for Area 3 qualifies as infill development and is located in an area historically developed with a mix of residential and industrial. Current redevelopment plans envision a highly urban mix of office, retail, recreational, and residential in the surrounding areas. Based on information in the study and after independent review, it was determined that the Work Net Office Building project would not result in significant environmental effects if mitigation measures identified in the expanded Initial Study were implemented. Based on the earlier Treadwell & Rollo Phase II completed for Areas 3 and 4, the report acknowledges that lead is present in soil at 1 to 10 feet below grade at concentrations ranging from 6.1 to 360 mg/kg. Soluble lead concentrations performed on four soil samples suggested that the soluble lead concentrations do exceed California standards for residential development, but not federal RCRA standards. Further, these levels do not exceed those approved for commercial development. Based on these findings, the Expanded Initial Study recommended preparation of a soil management plan detailing steps to minimize exposure to workers or neighboring populations during construction.

***Preliminary Endangerment Assessment Equivalent Report Review of the Stockton Work Net Office Building Site (Parcel #3), Stockton, California,* prepared by the Department of Toxic Substances Control for the City of Stockton Redevelopment Agency, September 2, 2004.**

DTSC reviewed documents and historical records for Area 3, reviewing the documents and records as a Preliminary Endangerment Assessment (PEA) equivalent report. The DTSC review focused on human health review with the understanding that the site would be developed as a commercial office building with asphalt parking lots and minimal landscaping. The DTSC identified lead in soil as the primary contaminant of concern in that the levels present were above those acceptable for unrestricted land use. The DTSC recommended and required a deed restriction for the property identifying the necessary restrictions and the restriction of the site to commercial development.

***Revised Soil and Dust Management Plan – Stockton Worknet,* prepared by Wallace Kuhl & Associates, Inc., September 14, 2004.**

This management plan outlines mitigation measures implemented during construction of the Work Net office building to minimize the potential for lead impacted soil at the site to be released to the atmosphere through windblown dust from surface soils. The mitigation measures include water spreading for suppression of dust and soil stockpiling. Real time particulate monitors were specified during active soil grading. Also, soil excavation would be suspended when wind speeds are high enough to result in significant visible fugitive dust. The plan also specified that other mitigation measures may be implemented, as required.

***Report of Findings of Soil Excavation and Subsurface Soil and Groundwater Investigation,* prepared by Wallace Kuhl & Associates for Stockton Worknet, March 28, 2005.**

Grading activities for the WorkNet office building began in July 2004. During grading, TPH contaminated soil was identified, specifically along and beneath the alignment of the former railroad spur that bisected the center of Area 3. The apparent source of contamination appeared to be coming from a historic French drain, which was located beneath the railbed. Soil sampling began on July 16, 2004, followed by soil excavation in the center of the site. The unanticipated volume of contaminated soil encountered resulted in halting the excavation to assess the extent of contamination. To minimize impact to the building construction schedule, excavation was restarted in September 2004. Clean fill was imported as backfill. Excavation and backfill activities continued through November 2004.

In December 2004, soil and groundwater sampling was performed. Laboratory analyses of soil samples in the excavation sidewall and bottom indicated the presence of TPH as diesel from non-detectable to 1,400 mg/kg and TPH as motor oil from non-detectable to 90 mg/kg. Benzene and MTBE were not reported in the confirmation samples and lead concentrations were consistent with background levels. Concentrations of TPH as diesel and MTBE were reported in groundwater. TPH as gasoline and motor oil, and VOCs, SVOCs, and PAHs were not reported in groundwater samples. Additional soil and groundwater results are presented in the report.

***First Quarter 2005 Site Status, Groundwater Monitoring, and Remedial Summary Report,* prepared by Secor on behalf of the L&M Operable Unit, April 29, 2005.**

In Area 3, groundwater monitoring (water level fluctuations and water quality) has been performed from May 2003 through February 2004 in two wells (Wells MW-36 and 3-MW-1R) on the western boundary of Area 3. Depth to groundwater is approximately 16 feet. Contaminants identified include TPH, VOCs, MTBE, and arsenic. Groundwater monitoring has not been performed in Area 4. These wells were destroyed in 2004 after approval from the California Regional Water Quality Control Board – Central Valley Region. These wells had been installed to determine if groundwater contamination from Area 2A had migrated onto Area 3. The well destruction was necessary for the new office development on Area 3 to proceed.

Summary of Results for Areas 3 and 4

Historic land use for Areas 3 and 4 included a mix of working class housing, commercial, and industrial uses. Specifically, Area 3 was occupied by a lumber yard and planing mill from 1895 through at least 1972. In 1979, tires were being stored on Area 3, extending to Area 4. Area 4 land uses included commercial buildings that were present on the eastern half by 1950.

A file review found a permit for the installation of one 2,000-gallon gasoline UST in the southeastern portion of Area 3, and indicated the presence of a 250-gallon UST in the northwestern corner of Area 3. No USTs, potential USTs, or UST remains were identified at Areas 3 or 4 during a ground penetrating radar survey. Also, no USTs were identified during construction or soil excavation in Area 3.

During development of Area 3, contamination was encountered beneath the former railroad tracks in the center of Area 3. Two sets of parallel tracks were present through the middle of Areas 3 and 4. In Area 3, soil was contaminated with TPH, characterized as diesel, along a French drain that was located beneath the eastern tracks. Contaminants present included TPH and metals. After receiving regulatory approvals, the core of the contaminated soil was removed from the site by excavation.

After excavation of approximately 8,000 cubic yards of soil, laboratory analysis identified diesel at concentrations up to 1,400 mg/kg in excavation sidewall samples. Other contaminants in soil included lead at concentrations up to 68 mg/kg and motor oil at 3.1 mg/kg in one soil sample. Contaminants in groundwater included TPH as diesel and MTBE.

A soil management plan was prepared outlining mitigation measures to be implemented during construction at the Site to minimize the potential for lead impacted soil to be released to the atmosphere through windblown dust from surface soils. A PEA equivalent report was prepared specifying a deed restriction on the property, thereby limiting development to commercial use.

Conclusions and Recommendations for Areas 3 and 4:

The Agency entered into a Voluntary Cleanup Agreement with DTSC for oversight of Area 3's lead management plan. The Agency also entered into a VCP with the Central Valley Regional Water Quality Control Board for the TPH-contaminated soil and groundwater that emanated from the French drain.

The Agency is currently having discussions with DTSC and the RWQCB regarding the appropriate agency with which to enter into a potential Polanco Act Environmental Oversight Agreement for Areas 3, 4, and 24. This agreement would be entered into pursuant to the requirements of the Polanco Redevelopment Act as set forth in Health and Safety Code 33459 – 33459.8.

The Agency intends to enter into a Polanco oversight agreement to establish a process for restoring the contaminated properties to beneficial use, while being protective of human health and the environment. The Polanco process provides the Agency with contaminant liability relief and the ability to pass this immunity to future developers.

A draft work plan has been prepared by the Agency to assess subsurface conditions at Areas 3, 4, and 24. The proposed work would further delineate the horizontal and vertical extent of contamination in Areas 3 and 4, and in Area 24. This work would also assist in identifying the probable source of the diesel release. The work plan will be submitted for final approval upon transition to a Polanco oversight agreement discussed above. The results of the assessment will address the requirement for additional work and/or remediation. The work plan proposes the collection of soil and groundwater data. The locations of soil and groundwater data collection were based on review of historical site use documentation.

Areas 5 and 6

Areas 5 and 6 are discussed together due to their proximity to one another and similar historic land uses. Area 5 is located adjacent to and west of Area 6, as shown on Figure A5/6-1.

Site Location and Description of Areas 5 and 6

Area 5 (APN: 137-330-01, 02, 03, 04, and 20) occupies approximately 1.2 acres, and is bounded by Market Street to the north, Monroe Street to the east, Washington Street to the south, and Van Buren Street to the west. Area 6 (APN: 137-330-08 through 19) occupies approximately a 1.4 acre property bounded by Market Street to the north, Madison Street to the east, Washington Street to the south, and Monroe Street to the west (Figure A5/6-1).

During the B&V site visit on June 16, 1997, no discoloration, staining, or unusual odors were observed in surface soils on Areas 5 and 6. Standing pipes were noted during visual site inspection at Area 5. Both sites are easily accessible from all streets surrounding the properties.

BASELINE personnel conducted a "windshield" site reconnaissance visit of the site on June 7, 2005. Area 5 was unpaved and vacant, with scattered stockpiles of soil and construction debris. Area 6 was vacant with scattered ruderal vegetation.

Existing Land Use near Areas 5 and 6

Adjacent property north of Areas 5 and 6 is occupied by a vocational school. Adjacent property east of Area 6 is occupied by a parking lot and office building. Adjacent property south of Areas 5 and 6 is occupied by the Crosstown Freeway. Adjacent property west of Area 5 (Area 4) is vacant land.

Previous Land Use of Areas 5 and 6

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. Areas 5 and 6 were shaded with "house omission tint" in all three maps indicating the property was occupied by commercial or residential development. In 1952, Area 5 was occupied by the Monroe School.

Historical aerial photographs for the years 1953, 1964, 1970, 1979, and 1996 were reviewed to determine historic land use. A summary of this review is presented in Table A5/6-1. Figure A5/6-2 shows the historic land uses for Areas 5 and 6.

Sanborn Fire Insurance Maps were reviewed for the years 1895, 1917, 1950, and 1972 to determine historic land use. A summary of this review is presented in Table A5/6-2.

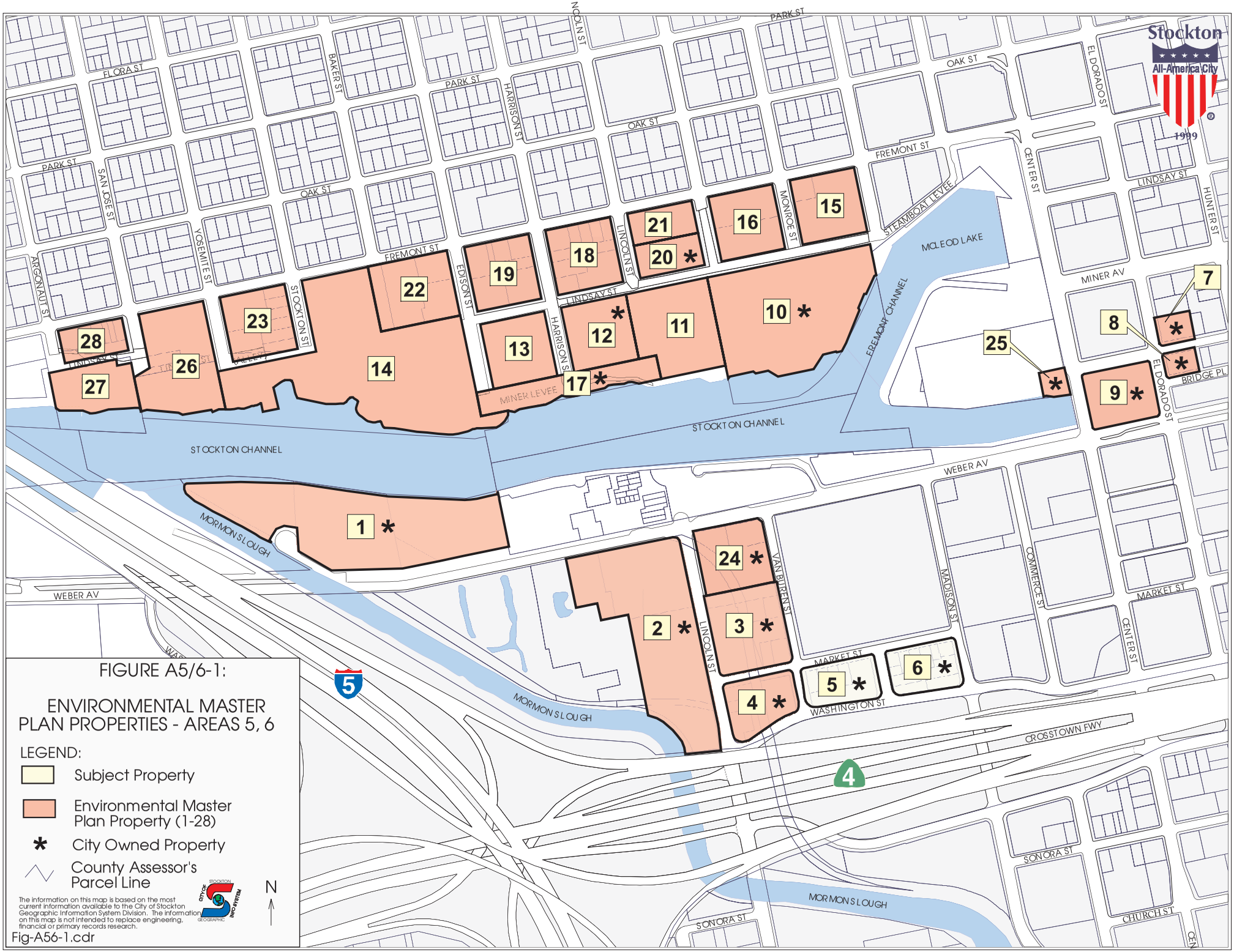


FIGURE A5/6-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREAS 5, 6

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A56-1.cdr

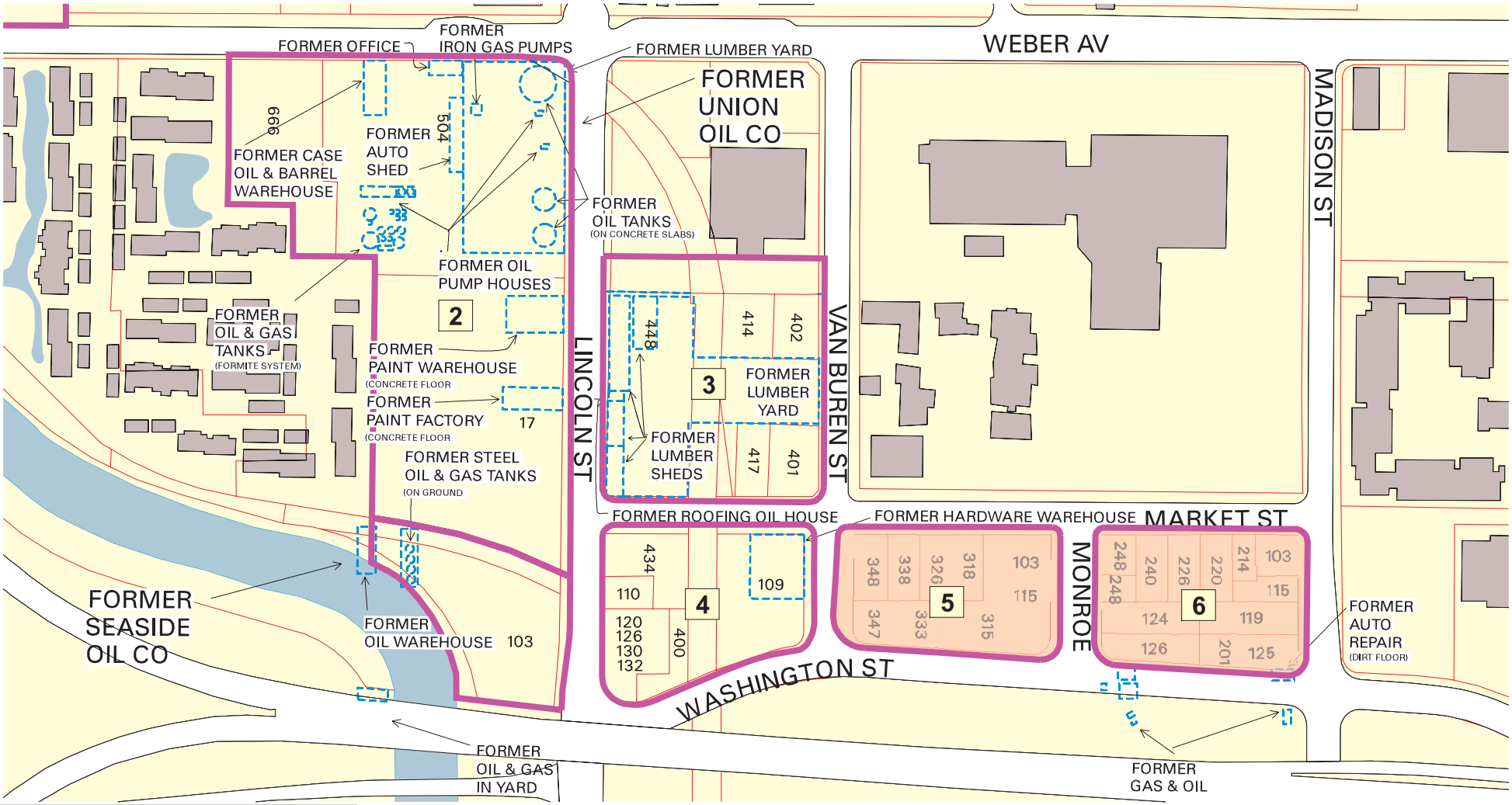


FIGURE A5/6-2:

HISTORICAL LAND USES - AREA 5, 6

LEGEND:

- Subject Property
- Environmental Master Plan Properties
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A56-2.cdr

Table A5/6-1
Historical Aerial Photographs Areas 5 and 6

Year	Area	Summary of Observations
1953	5	Subject property was occupied by residences on the northern portion and by a school on the southern portion. Adjacent property to the north was residential.
	6	The property was residential. Adjacent property to the north of Area 6 was residential. Service stations/auto repair shops were present adjacent to and south of Area 6 on the northwest corner of the former Washington Street and Madison Street and the northeast corner of the former Washington Street and Monroe Street.
1964	5	There were no visible changes since 1953.
	6	The property was residential. Adjacent property to the north of Area 6 was residential. The area of the former service stations and the land between them was vacant.
1970	5	The residences were still present, but the school was no longer shown. Washington Street was realigned through the southern half of Area 5.
	6	The property was residential. Adjacent property to the north of Area 6 was residential.
1979	5	The western half was vacant and the eastern half was occupied by two residences and a school. Adjacent property to the north was vacant.
	6	The northwest quarter of Area 6 was occupied by a commercial building and two vacant lots and the remainder of Area 6 was occupied by three residences and three vacant lots. Adjacent property north of Area 6 was occupied by a school parking lot.
1996	5	The property was vacant.
	6	The property was vacant.

Table A5/6-2
Historical Sanborn Fire Insurance Map Summary Areas 5 and 6

Year	**Area**	**Observations and Surrounding Land Use**
1895	5	The subject property was occupied by dwellings.
	6	One shop occupied the northwest corner of Area 6. The remaining property was occupied by dwellings.
1917	5	The property was occupied by dwellings.
	6	Three shops occupied the northwest corner of Area 6. The remaining property was occupied by dwellings.
1950	5	The kindergarten and playground of the Monroe Public School occupied the southern portion of the property while a mission occupied the northwest corner. The remainder of Area 5 was residential.
	6	There were no visible changes to the property since 1917.
1972	5	Area 5 was vacant except for three dwellings in the northeast area of the site.
	6	Three shops still occupied the northwest corner. The remaining property was occupied by dwellings and a lodging/boarding house. Washington Street was realigned through the southern half of Areas 5 and 6.

Previous Investigations of Areas 5 and 6

***Phase I Environmental Site Assessment for Properties located at Madison, Market, Van Buren, and Washington Streets, Stockton, CA; APNs 137-330-01 through 137-330-04 and 137-330-08 through 137-330-20*; prepared by RESNA Industries, Inc. for City of Stockton Department of Housing and Redevelopment; March 24, 1994.**

In 1994, RESNA performed a Phase I ESA for Areas 5 and 6. The report concluded:

- No visible evidence of contamination was observed in surficial soils at Areas 5 and 6 during a site visit.
- Surrounding land use consisted primarily of commercial properties.
- Areas 5 and 6 were occupied primarily by residential and commercial properties from the 1930s to the late 1980s when most of the structures were demolished.
- The southwestern corner of Area 6 was occupied by a gas station with at least one underground gas and one underground oil tank. *NOTE: This conclusion may be incorrect. The site of the former gas station identified in the Sanborn Maps was occupied by the realigned Washington Street, and was not part of Area 6. The former gas station was south of and hydraulically downgradient from Area 6.*
- No upgradient UST leak sites are within 500 feet of Areas 5 and 6.

***Final Report of Ground Penetrating Radar Survey for Areas 4, 5, and 6, Stockton, San Joaquin County, California*, prepared by GPRX Inc. for B&V, November 25, 1997.**

In November 1997, GPRX performed a ground penetrating radar survey at Areas 4, 5, and 6 to determine if USTs were present at the sites. The survey concluded that none of the targets located and imaged during the survey could be identified as being a UST, potential UST, or UST remains.

Summary of Results for Areas 5 and 6

From at least 1895 to the present, Areas 5 and 6 have been occupied by residential dwellings, a school, shops, or vacant land. No industrial land use, USTs, or other environmental concerns were identified on the subject properties. No USTs, potential USTs, or UST remains were identified at Areas 5 or 6 during a ground penetrating radar survey. No offsite environmental concerns were identified for Areas 5 and 6.

Conclusions and Recommendations for Areas 5 and 6

No industrial land use, USTs, or other environmental concerns were identified in Areas 5 and 6. During a ground penetrating radar survey, no USTs, potential USTs, or UST remains were identified at Areas 5 or 6. Because no offsite environmental concerns were identified for Areas 5 and 6, no further investigation is recommended at Areas 5 or 6.

Area 7

Site Location and Description of Area 7

Area 7 (200 - 222 N. El Dorado Street) is located at the northeast corner of N. El Dorado Street and Channel Street in Stockton, California. Figure A7-1 shows the location of Area 7. The site is approximately 16,000 square feet.

During the B&V site visit on June 16, 1997, no discoloration, staining, or unusual odors were observed in the surficial soil on the property. Area 7 contained a two-story office building with a basement, which extended over the entire area of the building footprint in 1997. Three monitoring wells were identified on Area 7.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. The two-story office building, previously observed on the site in 1997, had been replaced with a newly-constructed multi-screen cinema.

Existing Land Use near Area 7

Area 7 is located in a mixed commercial section and civic area of downtown Stockton. North of the site is a bank building and retail stores. Channel Street and a Goodyear Tire store border the south side of Area 7. A State of California office building and El Dorado Street are to the west. East of the site is a residential building.

Previous Land Use of Area 7

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. Area 7 was shaded with "house omission tint" in all three maps indicating the property was occupied by commercial or residential development.

Historical aerial photographs for the years 1953, 1964, and 1996 were reviewed to determine historic land use. A summary of this review is presented in Table A7-1.

Table A7-1
Historical Aerial Photographs Area 7

Year	Summary of Observations
1953	The southwest corner of the subject property was occupied by a parking lot. A rectangular commercial building occupied the northern third of the site and two smaller commercial buildings occupied the southeast corner of the site.
1964	A bank building was present in the southwest corner of the site and the northern portion of the site consisted of parking lots. One of the two commercial buildings present in 1953 still occupied the southeast corner of the site.
1996	The western half was occupied by the existing bank building and the eastern half was occupied by a parking lot.

Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 were reviewed to determine historic land use. A summary of this review is in Table A7-2.

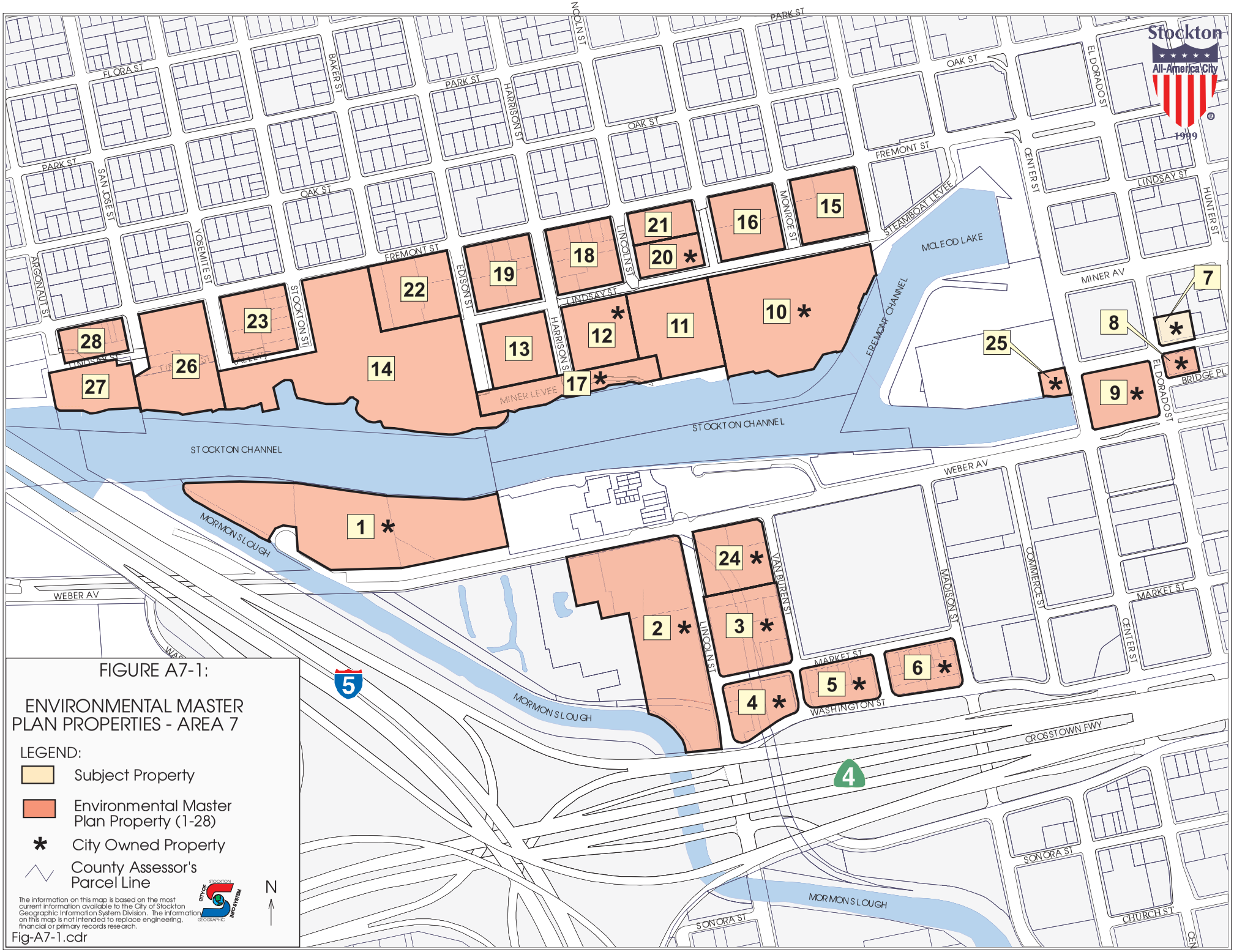


FIGURE A7-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 7

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

N

Fig-A7-1.cdr

Table A7-2
Historical Sanborn Fire Insurance Map Summary Area 7

Year	Summary of Observations
1895	Subject property was occupied by the Miner Channel, which traversed (east-west) through 222 N. El Dorado. Modern bridge (foot bridge) crossed N. El Dorado Street. Johnson's Livery was being built at 200-222 N. El Dorado. Undetermined use for structures at 117-123 W. Channel. Surrounding land use was commercial development.
1917	Miner Channel flowed east and stopped at N. El Dorado. Wooden Bridge crossed N. El Dorado. Autos & Electric Auto. Service Station were located at 222 N. El Dorado; Tourist Garage and Auto Repair Shop at 218 N. El Dorado; Office at 200 N. El Dorado; Ice Delivery shed at 115 E. Channel; Dye & Cleaning at 117 E. Channel; and Chine Laundry at 123 E. Channel. Planked Yard was located between auto repair shop and laundry buildings. Adjacent properties were El Dorado Garage to the north and auto repair shops and auto garages to the east.
1950	Wooden Bridge still crossed N. El Dorado. Auto Supplies located at 222 N. El Dorado; Garage and Auto Repair Shop at 218 N. El Dorado; Gas & Oil and Tire Service at 200-216 N. El Dorado; and Auto Top Shop at 123 E. Channel. Auto Supplies was adjacent to the north. Bowling alley replaced auto garage to the east.
1972	Bank and parking lot were visible. Surrounding land use was commercial development. Auto supplies store was adjacent to the north.

Previous Investigations of Area 7

***Phase I Environmental Assessment of the American Savings Bank located at 222 N. El Dorado Street, Stockton, California,* prepared by Clayton Environmental Consultants for American Savings, February 7, 1991.**

In 1991, Clayton Environmental Consultants performed a Phase I ESA for Area 7. The Phase I ESA concluded that the site has been used as a bank building since 1961. Prior to this date, two smaller buildings existed on the site. No visible evidence of USTs, stained soil, chemical contamination, or hazardous materials were observed onsite. No known polychlorinated biphenyl-containing electrical equipment was observed onsite. Suspected asbestos-containing materials (ACM) were observed onsite. The regulatory agency list review identified one adjacent site that was considered to be an environmental concern, a car repair and former Shell gasoline station at 141 N. El Dorado Street. This site is 200 feet hydraulically cross-gradient or upgradient from the subject site and had five USTs removed in 1984. In 1990, groundwater samples collected at 141 N. El Dorado Street detected benzene and xylene at concentrations above MCLs. The Phase I ESA recommended an ACM survey and installation of one groundwater monitoring well on the subject site to assess the extent of groundwater contamination at the site.

***Subsurface Investigation, 222 N. El Dorado Street, Stockton, California,* prepared by Clayton Environmental Consultants for American Savings Bank, May 14, 1991.**

In April 1991, Clayton Environmental Consultants completed one soil boring/groundwater monitoring well in the parking lot east of the building near Channel Street. Only the text of this report was available for review. Figures, data tables, and appendices were not available for review. Soil and groundwater samples were analyzed for TPHg and BTEX. One soil sample collected at 16.5 feet bgs contained TPH and toluene. No TPH or BTEX was detected in the second soil sample collected. TPH, toluene, ethylbenzene, and xylenes were detected in the groundwater sample from

MW1. Volatile organic compound levels in the groundwater sample were below primary drinking water MCLs.

***Phase II Environmental Assessment and Subsurface Investigation, Lighthouse Village School, 222 N. El Dorado Street, Stockton, California,* prepared by CRC Environmental Risk Management, Inc. for American Saving Bank, November 3, 1995.**

In October 1995, CRC Environmental Risk Management Inc. (CRC) performed a geophysical survey using electromagnetic and ground penetrating radar methods. CRC also completed six soil borings and two soil borings/groundwater monitoring wells. Soil samples were screened in the field with a photoionization detector (PID). Soil samples with elevated PID readings were analyzed for TPHg, TPHd, and VOCs. The one existing and two new onsite groundwater monitoring wells were sampled. Only the text and tables of this report were available for review. Figures and appendices were not available for review.

The report stated that from 1917 to at least 1953, the subject property was used for automotive related businesses, such as auto supplies and storage facilities, auto electrical service station, and garage facilities with associated gas, oil, and tire service. The existing building was built in 1961 as a banking facility.

Results of the geophysical survey indicated no evidence of potential USTs on-site. Groundwater was encountered between 27 and 36 feet bgs with a southeast flow. TPHg was detected in one soil sample and one groundwater sample. TPHd was also detected in two soil samples. Low levels of TCE were detected in one soil sample, and low levels of fuel-related VOCs were detected in both soil and groundwater. Benzene exceeded the primary drinking water MCL in two groundwater samples. CRC recommended additional sampling of groundwater to monitor changes in benzene levels.

Memorandum from Leslie Crow, Bank of Stockton Archives, to Lyn Krieger, Deputy City Manager, regarding finding relative to east side of El Dorado, between Bridge Place and Channel Street, dated May 14, 1996.

The following information was derived from the Stockton City Directories for Areas 7 and 8. This information is actually for the east side of El Dorado, between Bridge Place and the Miner Channel.

1921	Tourist Garage listed at 215 N. El Dorado, E. F. Casenave and R. T. Manuel, owners.
1926	Tourist Garage listed at 200 - 218 N. El Dorado, L. B. and G. C. Ulrey, owners.
1930	Tourist Garage listed at 216 N. El Dorado.
1935	Tourist Garage listed at 200 N. El Dorado, L. B. and G. C. Ulrey, owners, "complete automotive repairs, storage, tires and tubes, washing, greasing, gasoline and oils."
1938	Tourist Garage listed at 200 N. El Dorado, L. B. and G. C. Ulrey, owners.
1942	B&P Auto Service listed at 200 N. El Dorado, Patrick Latham and Will Breitenbucher, owners, "complete auto service, open 24 hours." Goodyear Service tires listed at 130 N. El Dorado (Area 8).

***Groundwater Monitoring and Soil Boring Advancement at the Former American Savings Bank at 222 N. El Dorado Street in Stockton, California,* prepared by Clayton Environmental Consultants for the City of Stockton, July 26, 1996.**

In June 1996, Clayton Environmental Consultants sampled the three existing on-site groundwater monitoring wells and completed one soil boring (B7) adjacent to former boring B6. Soil samples were collected from boring B7 at 5 and 10 feet bgs. A grab groundwater sample was also collected from boring B7. Soil and groundwater samples were analyzed for TPHg, d, and mo and VOCs. The groundwater flow direction was determined to be to the east. TPH (17 mg/kg weathered gasoline and 11,000 mg/kg oil) and low levels of fuel-related VOCs were detected in the soil sample collected from B7 at 5 feet bgs. No TPH or VOCs were detected in the soil sample collected from B7 at 10 feet bgs.

TPHg, d, and/or mo were detected in groundwater samples collected from the three on-site monitoring wells and boring B7. TCE (7 µg/L) was detected in MW1, the downgradient well at Area 7. The report concluded that TPHg in MW2, an upgradient well, suggested an upgradient offsite source for gasoline-range hydrocarbons in groundwater at Area 7. TPHmo in soil and groundwater samples from boring B7 suggested an on-site source for oil range hydrocarbons in soil and groundwater at Area 7.

***Phase II Environmental Assessment and Groundwater Investigation at 222 N. El Dorado Street, Stockton, California*, prepared by Santochi & Bravante LLC. for American Savings Bank, January 10, 1997.**

From October to December in 1995, Santochi & Bravante (S&B) conducted a Phase II ESA and groundwater monitoring survey at Area 7. At the request of American Savings Bank, four geoprobe locations were advanced to a total depth of 15 feet bgs. Soil samples were collected at 5, 10, and 15 feet bgs. Gasoline constituents were found in the soil from boring GP-3 at all three depths indicating a potential release of hydrocarbons had occurred on Area 7. Concentrations of TPHg (at 540 ppm), toluene (at 0.4 ppm), ethylbenzene (at 2.4 ppm), and xylene (at 11 ppm) were found in sample GP-3 collected from a depth of 5 feet. Additionally, elevated levels of motor oil (at 21,000 ppm) and diesel (at 1,100 ppm) were detected in soil collected from boring GP-3. No benzene concentrations were detected in any of the soil samples collected during this Phase II ESA. Concentrations of gasoline were also detected in groundwater collected from monitoring wells MW-2 (at 580 ppb) and MW-1C (at 160 ppb). Four out of five groundwater monitoring events indicated a consistent gradient to the east-northeast.

Due to the absence of benzene in the impacted soils, the report concluded that petroleum hydrocarbons in the soil were most likely attributed to an old release. Santochi & Bravante recommended additional geoprobe borings in the area of GP-3 to fully define the lateral and vertical extent of petroleum hydrocarbons in the soil. Additionally, the S&B report concluded that the gasoline concentrations found in MW-2, the upgradient well, suggested an offsite source of contamination. Santochi & Bravante recommended that a monitoring well be installed downgradient of GP-3 to determine if groundwater at the site had been impacted. There may be two upgradient sources of groundwater contamination. One source is the former Shell Oil Station located at 141 N. El Dorado Street. The second source is the former Arco site located at 205 N. Center Street.

***Additional Phase II Environmental Assessment Groundwater Investigation Closure Report, 222 N. El Dorado Street, Stockton, California*, prepared by Santochi & Bravante LLC. for American Savings Bank, June 30, 1997.**

In June 1997, Santochi & Bravante completed five geoprobe soil borings (GP1A through GP5A) and installed one groundwater monitoring well (MW4) at Area 8. Soil samples were collected at depths of 5, 10, and 15 feet bgs in each boring. Soil and groundwater samples were

analyzed for TPHg, d, and mo (EPA Method 8015) and BTEX (EPA Method 8020). TPH (up to 1,400 mg/kg TPHg, up to 1,400 mg/kg TPHd, and up to 2,500 mg/kg TPHmo) and low levels of BTEX were detected in soil samples collected from boring GP1A. Concentrations at the other five borings were low or were below laboratory detection limits for TPH and BTEX. No BTEX contaminants were detected in groundwater samples collected from MW1, MW3, or MW4. Toluene, ethylbenzene, and xylenes were detected in the upgradient well (MW2), but at concentrations below California's primary drinking water MCLs. TCE was detected at 4.9 µg/L in MW1, the downgradient well at Area 7.

The report concluded that the site was classified as a low risk groundwater site per the California State Water Resources Control Board draft policy, and no further action was requested. The no further action request was based on the following information: (1) the site had been fully characterized both laterally and vertically, (2) MTBE did not exceed 35 ppb in groundwater at the site, (3) benzene no longer exceeded 1 ppb at the site, and (4) there were no domestic groundwater wells within 750 feet of the site, and the Stockton Deep Water Channel was hydraulically upgradient from the site.

Letter regarding Additional Phase II Environmental Assessment, American Savings Bank, Stockton, San Joaquin County, prepared by the California Regional Water Quality Control Board, Central Valley Region for American Savings Bank, September 11, 1997.

The RWQCB, Central Valley Region, provided comments on the Additional Phase II Environmental Assessment Groundwater Investigation Closure Report, 222 N. El Dorado Street, Stockton, California, prepared by Santochi & Bravante LLC. for American Savings Bank, June 30, 1997. The letter denied the request for no further action and required a minimum of four consecutive quarters of either nondetection or a demonstration of plume stability. The letter also presented a monitoring and reporting program for the site.

Summary of Results for Area 7

Area 7 was occupied by a tourist garage, service station, and auto repair shops from at least 1917 to sometime after 1950. The previous building at the site was constructed in 1961 as a banking facility.

Area 7 has been redeveloped by a multi-screen cinema complex. The site has been remediated and the RWQCB issued a No Further Action letter on 6 April 2000.

Conclusions and Recommendations for Area 7

No further investigation or remediation is required at Area 7.

Area 8

Site Location and Description of Area 8

Area 8 (128 - 148 N. El Dorado Street, 102 - 122 E. Channel Street, and 101 - 121 Bridge Street) is located at the northeast corner of N. El Dorado Street and Bridge Place in Stockton, California (Figure A8-1).

During a B&V site reconnaissance in 1997, Area 8 contained a glass shop and parking lot. No discoloration, staining, or unusual odors were observed in surface soils on or around the property during the B&V site visit.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. The glass shop previously observed on the site in 1997 had been replaced with a concrete public plaza serving as the entrance to the adjacent newly constructed multi-screen cinema, located on Area 7.

Existing Land Use near Area 8

Area 8 is located in a mixed commercial section of downtown Stockton. Area 7 is directly north of the site and is occupied by a two-story office building. West of Area 8 is the newly constructed DeCarli Square, which was formerly a parking lot (Area 9). The historic Stockton Hotel is directly to the south. Commercial buildings border the east side of Area 8.

Previous Land Use of Area 8

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. Area 8 was shaded with "house omission tint" in all three maps indicating the property was occupied by commercial or residential development.

Historical aerial photographs for the years 1953, 1964, and 1996 were reviewed to determine historic land use. A summary of this review is presented in Table A8-1.

Table A8-1
Historical Aerial Photographs Area 8

Year	Summary of Observations
1953	The subject property was occupied by a commercial building and a small parking lot on the northwestern corner of the site.
1964	There were no visible changes to Area 8.
1996	A different commercial building occupied the northern half of the site and a parking lot occupied the southern half.

Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 were reviewed to determine historic land use. A summary of this review is shown in Table A8-2.

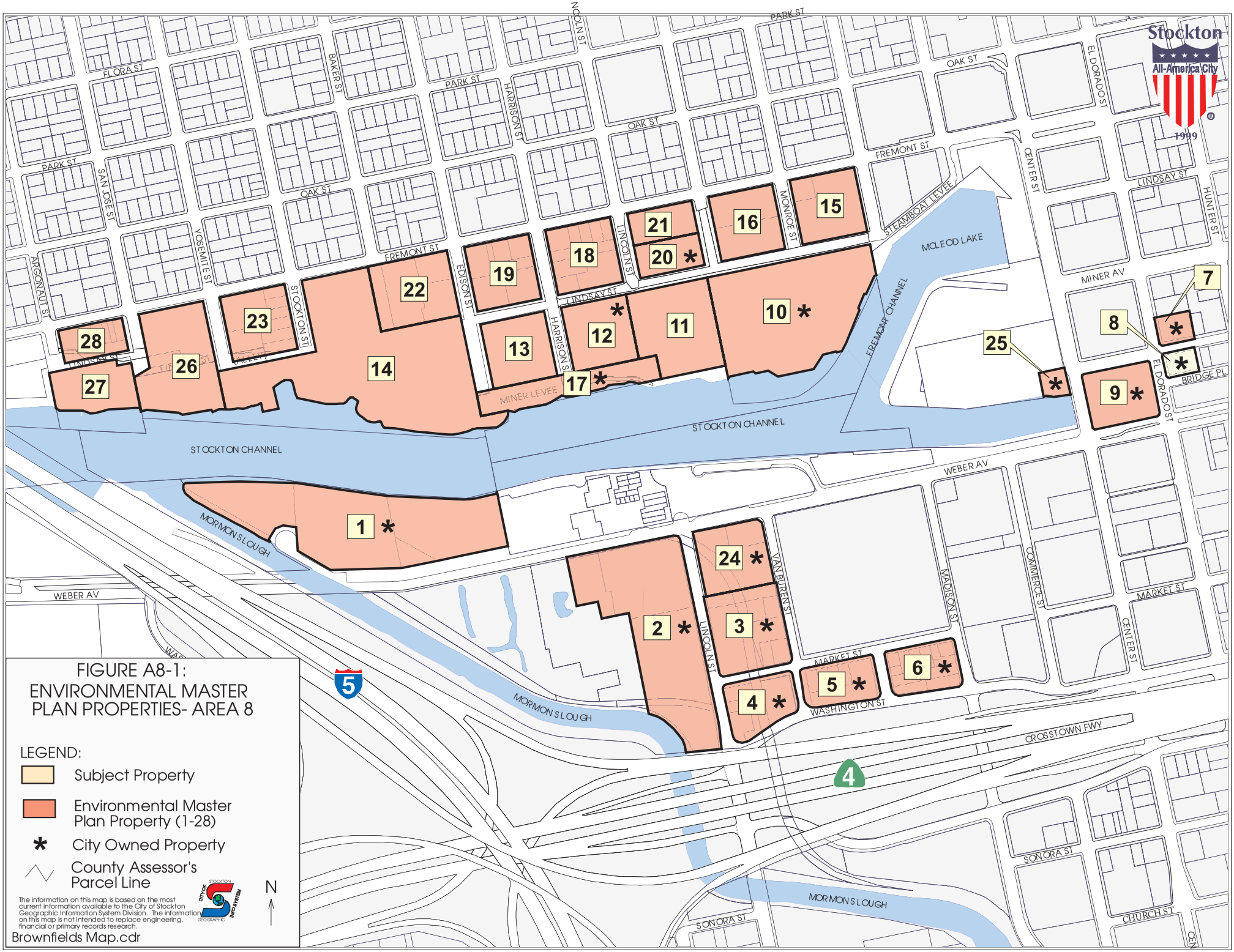

Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
LINCOLN ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
HARRISON ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
ARGONAUT ST
VOSEMITE ST
EDISON ST
LINCOLN ST
MINER AV
EREMONY CHANNEL
STOCKTON ST
HARRISON ST
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
25
26
27
28
5
4
FIGURE A8-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES- AREA 8
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Brownfields Map.cdr
N

Table A8-2
Historical Sanborn Fire Insurance Map Summary Area 8

Year	Summary of Observations
1895	Subject property was occupied by the Masonic Hall Building (128 - 140 N. El Dorado Street, 102 - 122 E. Channel Street, 101 - 121 Bridge Street). The eastern portion of the building was occupied by a Post Office and Assembly Hall.
1917	The Masonic Hall Building was still visible. Occupants included: (1) produce (130 and 146 N. El Dorado), (2) electric fixture shop (102 E. Channel), (3) justice's court (120 E. Channel), (4) elec. printing (101 Bridge), (5) police station (119 and 121 Bridge first floor), and(6) Masonic Temple (119 and 121 Bridge fourth floor).
1950	A new building occupied the site except a small parking lot located in the northwestern corner, Tire sales & service (130 N. El Dorado and 101 Bridge).
1972	A new building occupied the northern half of site. There was no listing of occupants or use. A gas and oil service station (141 N. El Dorado) was located on the northeastern corner of N. El Dorado Street and E. Channel Street.

Previous Investigations of Area 8

***Phase I Environmental Assessment of the American Savings Bank located at 222 N. El Dorado Street (Area 7), Stockton, California,* prepared by Clayton Environmental Consultants for American Savings, February 7, 1991.**

In 1991, Clayton Environmental Consultants performed a Phase I ESA for Area 7. The agency list review identified one site that may represent an environmental concern to Areas 7 and 8. This site, 141 N. El Dorado Street, was formerly occupied by an auto repair shop and Shell gasoline service station. The former Shell service station was less than 100 feet hydraulically upgradient from Area 8, and had five USTs removed in 1984. In 1990, groundwater samples collected at 141 N. El Dorado Street contained benzene and xylene at concentrations above MCLs.

SJCEHD file information, indicating underground waste oil tank was removed, February 1994.

Received completion of waste oil tank removal investigation on February 10, 1994.

Memorandum from Leslie Crow, Bank of Stockton Archives, to Lyn Krieger, Deputy City Manager, regarding finding relative to east side of El Dorado, between Bridge Place and Channel Street, dated May 14, 1996.

The Stockton City Directories for Area 8 listed a Goodyear Service facility at 130 N. El Dorado.

Summary of Results for Area 8

Area 8 was occupied by a Masonic Hall from at least 1895 to sometime after 1917. A tire sales and service building occupied the site from approximately 1950 to 1972. The existing building and parking lot were built around 1972. One waste oil UST was removed and a No Further Action letter was received from the RWQCB on 6 April 2000.

Conclusions and Recommendations for Area 8

The site has been remediated and redeveloped. No additional work is required at Area 8.

Area 9

Area 9 was not assessed in the 2002 Report of Known Environmental Conditions. This update provides available information on the area.

Site Location and Description of Area 9

Area 9, formerly known as Weber Block, was successfully cleaned up and redeveloped by the Agency as the Dean DeCarli Waterfront Square. The Agency was awarded the California Redevelopment Agency 2004 Award of Excellence for Brownfields Redevelopment and was the recipient of EPA's Phoenix Award in 2002 for redevelopment work on the site. Numerous investigations were completed on the property prior to the cleanup and redevelopment effort. The most notable documents are summarized below. Refer to the references section for additional reports on Weber Block/Area 9.

The assessor's parcel number for the property is 139-090-02. The site is bounded by Weber Avenue to the south, Center Street to the west, Channel Street to the north, and El Dorado Street to the east (Figure A9-1). An address of '141 N. El Dorado Street,' 'Weber Point,' or 'C.M. Weber Enterprises Inc., Property' were commonly used to refer to the site in early site investigations. The Stockton Deep Water Channel terminates at the site. The site is approximately 2 acres in size (B&V, 1998).

Existing Land Use near Area 9

A state building is located north of the site, the Stewart-Eberhardt Building is located south of the site, the Stockton Channel and Weber Point are located to the west, and the historic Stockton Hotel and the B&M Building are located to the east.

Previous Land Use of Area 9

Historic uses of the site include freight sheds and transportation loading terminals on the northern and southern portions of Weber Block, and an open Stockton Channel extending across the center of the property to El Dorado Street prior to 1950. By the early 1950s, the Stockton Channel was covered by a parking lot supported on treated wood piles.

Shell Oil Company operated a gasoline service station on the northeastern portion of the property from approximately 1955 to the early 1980s. After the gas station closed, the property was later occupied by the Bridgestone Tire and Automobile Repair facility. All underground tanks (USTs) associated with these former land use activities were removed.

A soil vapor extraction system was operated on the northeastern portion of the property from 1992 to 1996. This system was augmented from 1993 to 1995 with a groundwater extraction system. A groundwater oxygenator system was on-line from1994 to approximately 1996. These systems are no longer operated at the site and were removed (BASELINE, 2000). Case closure for the USTs was granted by the San Joaquin County Local Oversight Program in July 2002, with concurrence from the Central Valley Regional Water Quality Control Board.[2]

For a summary of aerial photographs reviewed and a summary of historical Sanborn fire insurance maps, the reader is directed to Versar-McLaren/Hart, 1996.

[2]See http://www.geotracker.swrcb.ca.gov/ for details of the closure.

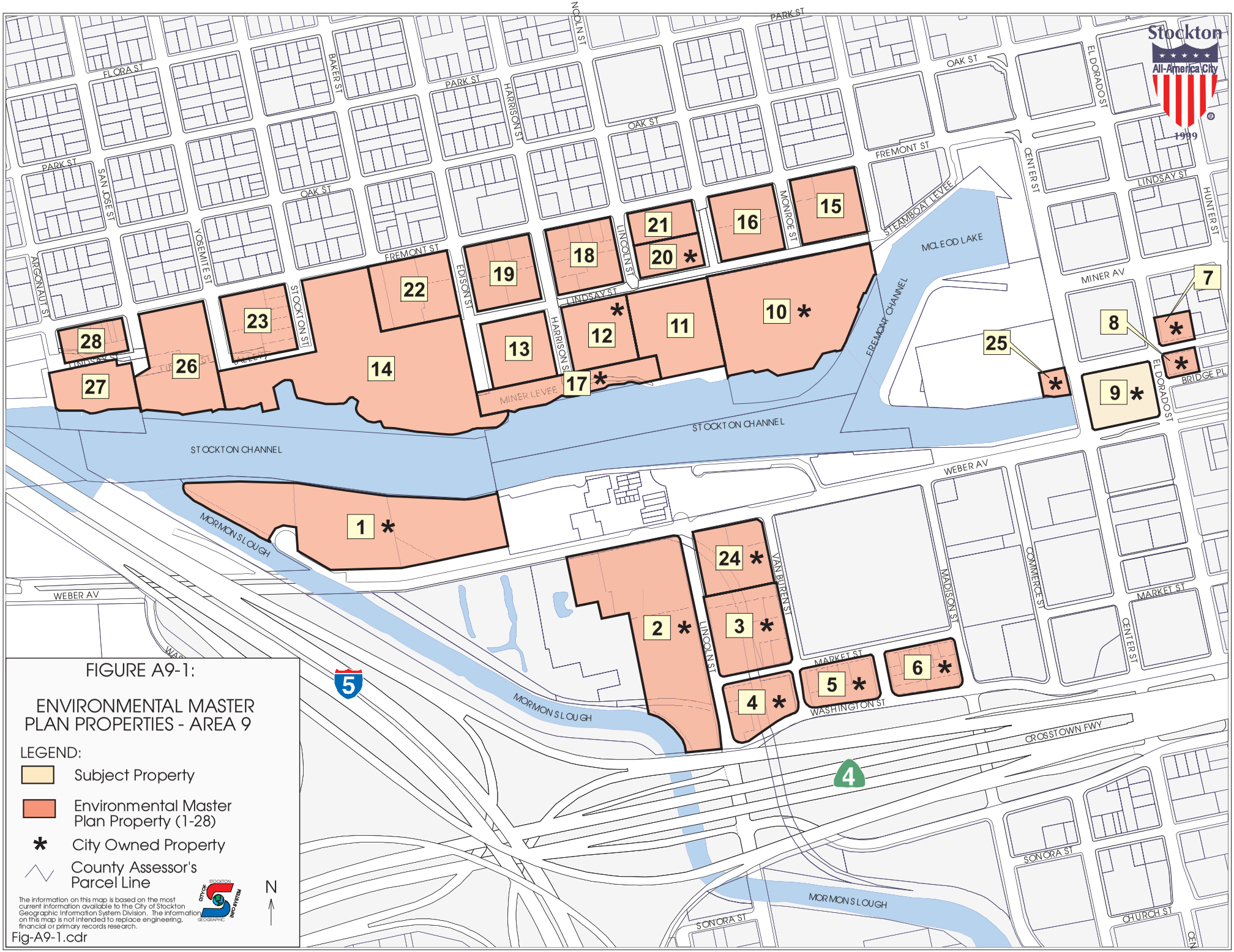


FIGURE A9-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 9

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A9-1.cdr

Previous Investigations of Area 9

***Stockton Waterfront Brownfields Project, Phase II Environmental Investigation, Weber Block (Area 9), Final*, 1998, prepared by Black and Veatch for the City of Stockton, November.**

At the time of the investigation, the area was almost entirely surfaced with asphalt and concrete with an abandoned structure (former Shell station) and an unused parking lot. An investigation completed in 1996 by Siegfried Engineering, Inc. found that the structural integrity of the parking lot and wood piers supporting the structure was failing. The Phase II was completed in April 1998 to determine the presence and concentration of contaminants at the site. Soil, groundwater, sediment, and wood chip samples (from the piers) were collected as part of the investigation.

The results of the investigation concluded that methyl tert butyl ether (MTBE), benzene, vinyl chloride, 1,1-dichloroethene, and cis 1,2-dichloroethene were found above regulatory screening levels in the offsite grab groundwater sample taken west of the Weber Block site and were attributed to an offsite source (gas station). Grab groundwater samples collected at the site contained elevated concentrations of aluminum and lead; the samples were not filtered to remove sediment and that may have accounted (at least in part) for the elevated concentrations. These metal concentrations were also found to be reportedly similar to those taken elsewhere near the Stockton Waterfront. Soil and sediment samples collected at the site contained elevated iron, lead, and arsenic concentrations, but were also reportedly found to be comparable to background concentrations found at other locations along the Stockton Waterfront.

The wood sampling investigation indicated that creosote-treated wood piers would need to be disposed of at a Class II landfill upon removal. In addition, sediment samples showed elevated concentrations of selected polycyclic aromatic hydrocarbons, iron, and lead. These detected metals concentrations were suggested as either naturally-occurring or as a result of historical site uses along the waterfront.

***Revised Preliminary Endangerment Assessment, Weber Block Property, Stockton, California, 2000*, prepared by BASELINE Environmental Consulting for Black & Veatch of Concord, California, March.**

A Preliminary Endangerment Assessment (PEA)-equivalent document was prepared for Weber Block/Area 9 to determine whether current or past waste management practices at the site (or immediately offsite) had resulted in the release or threatened release of hazardous substances that pose a threat to public health or the environment. The PEA was submitted and approved by DTSC.

Results from the Phase II investigation completed in 1998 (B&V, 1998) and results from previous investigations conducted on the property associated with former operation of a gasoline station and tire and automobile repair facility, provided the basis in the PEA for determination of whether releases at the site posed a threat to human health and the environment. In addition, analytical data from the neighboring former ARCO property (Area 25) were separately evaluated since this site is hydrogeologically upgradient from the Weber Block property (BASELINE, 2000).

A human health screening evaluation was completed as part of the PEA. This screening used generic assumptions, models, and parameters in a future proposed residential setting. The resulting risks and hazards calculated allowed for comparability to be made by DTSC between sites, but did not represent true risks or hazards.

An ecological screening evaluation was also completed. No potentially significant ecological habitats or species at the site, with the exception of the Center Street Bridge for nesting swallows during the breeding season, were identified.

Major recommendations in the PEA (BASELINE, 2000) included:

- Implement a deed restriction to prevent future residential use of site and on the use of shallow groundwater.
- Initiate groundwater remediation (overseen by a regulatory agency) for aromatic hydrocarbons and chlorinated compounds at the former ARCO property, located upgradient of the site.
- The Agency should request a letter of no further action for the Weber Block property from San Joaquin County Public Health Services, Environmental Health Division (for the former USTs).
- Dispose of treated piles at an appropriate landfill based on characterization of the piles.

All of these recommendations were carried out as part of redevelopment of the property as the Dean DeCarli Waterfront Plaza. The deed restriction placed on the property by DTSC also prevents use of the parcel for sensitive land uses, including residential development. A No Further Action letter was issued by DTSC on 8 November 2002.

Summary of Results for Area 9

Considerable environmental investigations have been completed at this site. The Agency worked with DTSC extensively through the preparation of a PEA-equivalent document and on overcoming the obstacles to successfully redevelop this site.

Conclusions and Recommendations for Area 9

The Agency is proud of the awards received for their work completed on the Dean DeCarli Waterfront Plaza. The waterfront plaza is located in the heart of the city and has acted as a catalyst site in facilitating nearby redevelopment. The plaza provides passive recreational and open space opportunities for Stockton citizens, providing a visual and physical connection between the waterfront and the downtown business district.

Area 10

Site Location and Description of Area 10

Banner Island was formerly an island that was reclaimed in the 1920s. Figure A10-1 shows the location of Banner Island. A former ship building facility occupied Banner Island from the 1930s until the 1970s when the facility was removed and the area cleared. Area 10 is currently being redeveloped and a cleanup was performed in conjunction with Areas 11, 12,[2] 15, 16, 20, and 21 for the Stockton Events Center (Treadwell & Rollo, 1996; Treadwell & Rollo, 1999; Treadwell & Rollo, 2000a,b,c; Treadwell & Rollo, 2001a,b; and Treadwell & Rollo, 2004). These areas are collectively referred to as the 'North Shore Parcels' and are all owned by the City of Stockton. Redevelopment includes a multi-facility center with an indoor arena and an outdoor ballpark (used by the Stockton Ports, a professional baseball team). A seven-level parking structure, hotel with conference facilities, and restaurant and retail space are part of the multi-facility center. The site will also incorporate green space redevelopment by providing an open space along the waterfront. The cleanup has been completed with some remaining operations and maintenance required, specifically groundwater monitoring wells along the Fremont Street frontage and a deed restriction. Final approval from DTSC, the oversight agency, has not yet been granted, but is expected soon.[3]

Existing Land Use near Area 10

The areas surrounding Area 10 are part of the redevelopment of the area. In September 2005, Areas 15 and 16 to the north were part of the construction area for the Stockton Events Center. Area 11 to the west contained the newly constructed Banner Island minor league baseball stadium; south and east were the Stockton and Fremont channels, respectively.

Previous Land Use of Area 10

Historical topographic maps for the years 1952, 1968, and 1976 were reviewed to determine historic land use. Area 10 was shaded with "house omission tint" in all three maps indicating the property was occupied by commercial or residential development. A rectangular "dwelling or place of employment" occupied the central portion of the site and a rectangular warehouse existed along the waterfront in the southeastern corner of the site in the 1952 map.

Historical aerial photographs for the years 1953, 1964, 1970, and 1996 were reviewed to determine historic land use. A summary of this review is included in Table A10-1.

[2]Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore Parcels, although it is part of the combined Event Center project.

[3]Personal communication, J. Pettijohn of BASELINE, with J. Lile of the California Department of Toxic Substances Control, 27 and 29 September 2005.

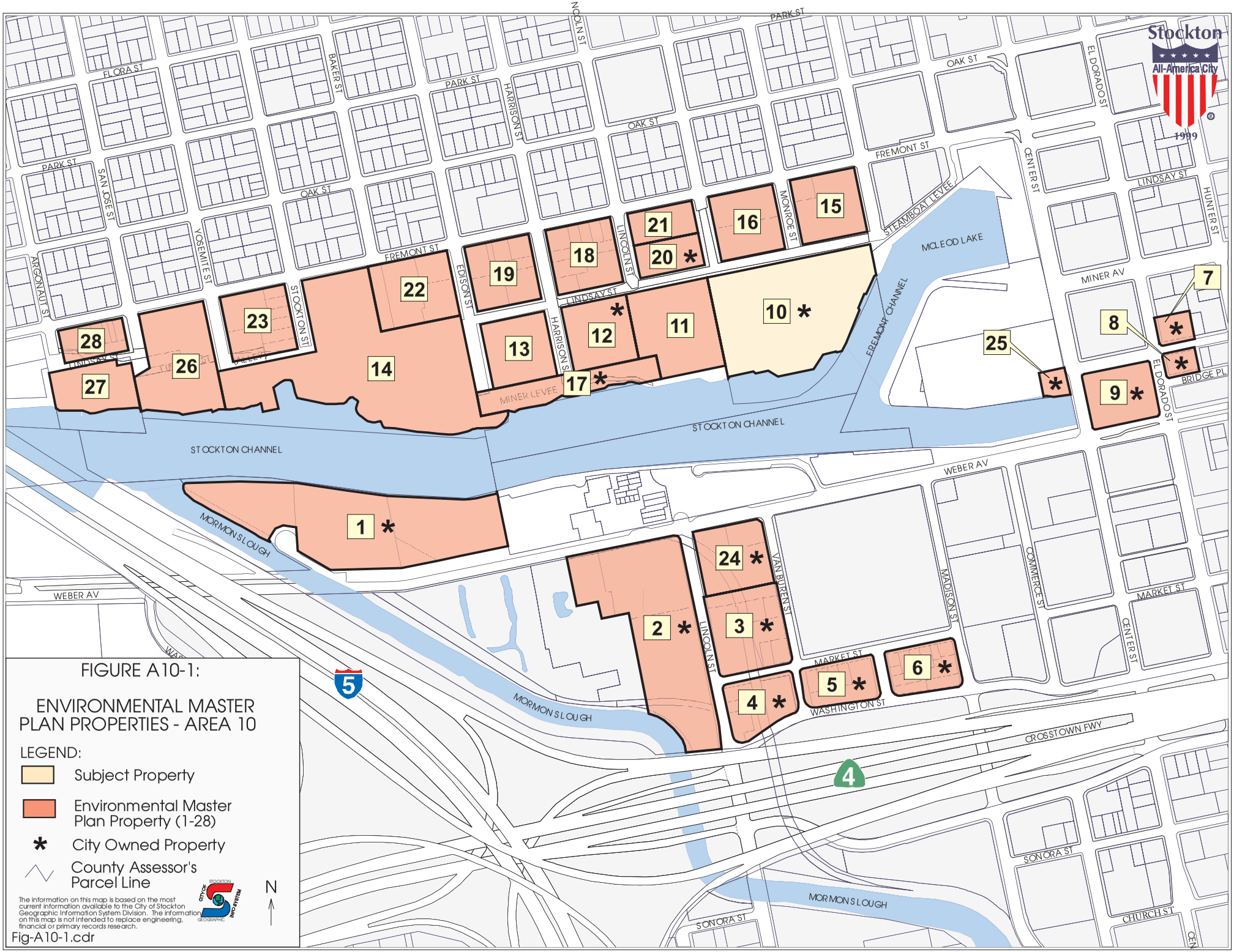


FIGURE A10-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 10

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A10-1.cdr

Table A10-1
Historical Aerial Photograph Review Area 10

Year	Summary of Observations
1953	A large rectangular building occupied the central portion of the subject property. Several smaller buildings were visible along the western and northern portions of the site. Several buildings and wharves were shown along the waterfront on the southern side of the site. Numerous piles of building materials were present across the site.
1964	There were no visible changes.
1970	There were no visible changes.
1996	The subject property was vacant.

Sanborn Fire Insurance Maps for the years 1917, 1950, and 1972 were reviewed to determine historic land use. The Sanborn map reviewed for 1917 covered only the portion of Area 10 east of Monroe Street. Historic land uses for Area 10 are presented in Table A10-2.

Table A10-2
Historical Sanborn Fire Insurance Map Summary Area 10

Year	Summary of Observations
1917	East of Monroe Street, the subject property was occupied by the Island Transportation Company and contained five buildings: a machine shop, a storage/woodworking building, a storage room, a paint room, and a small unlabeled building.
1950	The subject property was occupied by the Gunnert & Zimmerman Ship Building Yards and contained seven different buildings; (1) ship building and steel fabrication shops, (2) paint storage and mixing, (3) movable ship building shed on craneway traces, (4) office, (5) drafting room, (6) carpentry and ship fitting, and (7) small unlabeled building.
1972	The subject property was still occupied by the Gunnert & Zimmerman Ship Building Yard and contained several additional buildings including a large welding building. The former paint storage and mixing building were labeled "elec. motor rep."

Previous Investigations of Area 10

***Assessment of Potential Soil and Groundwater Contamination; Banner Island South of Lindsay between Van Buren and Madison Streets; Stockton, CA*; prepared by WaterWorks for City of Stockton Department of Community Development, January 24, 1990.**

In 1990, WaterWorks drilled 18 soil borings at Area 10 (16 borings to 6 feet bgs [SB-1 through SB-16] and two borings to 40 feet bgs [MW-1 and MW-2]). The two deep borings in the former diesel storage and paint storage areas were completed as groundwater monitoring wells (MW1 and MW2). Three composite soil samples from the 16 shallow soil borings, two capillary fringe soil samples from the monitoring well borings, and two groundwater samples were analyzed for metals and VOC analyses.

Arsenic, lead, and mercury levels in soil samples exceeded RWQCB maximum soil screening levels. Arsenic levels in all five soil samples (4.2 to 9.0 mg/kg) exceeded the cancer endpoint residential PRG (0.38 mg/kg) and industrial PRG (2.4 mg/kg). Beryllium levels in all five soil samples (0.55 to 1.1 mg/kg) exceeded the residential PRG (0.14 mg/kg). Cadmium, total chromium, selenium, and lead levels in groundwater samples exceeded California drinking water primary

MCLs. Groundwater samples were not filtered prior to analysis. No VOCs were detected in any groundwater samples.

The report recommended collection of additional onsite and offsite soil samples, and analysis for total and soluble priority pollutant metals. The report also recommended installation of one additional onsite groundwater monitoring well and sampling of nearby wells to assess background water quality.

***Second Phase Subsurface Investigation; City of Stockton Banner Island Property; Stockton, CA;* prepared by RESNA Industries for Department and Housing and Economic Development; May 29, 1992.**

In March 1992, RESNA completed seven soil borings/groundwater monitoring wells (MW-3 through MW-9) to a depth of about 37 feet bgs at Area 10. Groundwater was encountered at about 25 to 27 feet bgs. Using the two existing and seven new wells, the groundwater flow direction at Area 10 was determined to be to the northwest away from the Stockton Deep Water Channel. Soil samples were collected from each boring at a depth of about 5 feet bgs and groundwater samples were collected from the nine onsite wells. Samples were analyzed for California Title 22 metals and VOCs (EPA Method 8240).

Arsenic levels in all seven soil samples (6.8 to 28 mg/kg) exceeded the cancer endpoint residential PRG (0.38 mg/kg) and industrial PRG (2.4 mg/kg). Beryllium levels in four soil samples (0.62 to 0.9 mg/kg) exceeded the residential PRG (0.14 mg/kg). Lead in the soil sample collected from MW-7 (690 mg/kg) exceeded the residential PRG (400 mg/kg). No VOCs were detected in soil samples. Arsenic, cadmium, chromium, and selenium levels in groundwater samples exceeded California drinking water primary MCLs. Groundwater samples were not filtered prior to analysis. Acetone, a common laboratory contaminant, was the only VOC detected in groundwater samples.

The report concluded that shallow groundwater in the Stockton area is of poor quality and has been impacted by intrusion of water from deltaic sediments, deep connate water from marine sediments, leakage from improperly abandoned gas wells, and infiltration of water from the Stockton Deep Water Channel and other surface water. Poor quality groundwater beneath Area 10 was considered to be consistent with regional conditions. The report recommended no further action at Area 10 because groundwater is not potable for the entire area.

***Project Status Update Report, Subsurface Investigation at Banner Island Property, Stockton, California*; prepared by RESNA Industries for the California Regional Water Quality Control Board, September, 17, 1992.**

In August 1992, RESNA sampled the nine groundwater monitoring wells at Area 10. Groundwater samples were analyzed for total concentration of California Title 22 metals. Two samples (MW-1 and MW-4) were analyzed for VOCs (EPA 8240) and three samples (MW-7, MW-8, and MW-9) were analyzed for total dissolved solids (TDS).

The groundwater flow direction was determined to be to the northwest, consistent with previous investigations. Arsenic, barium, selenium, and zinc levels in groundwater samples exceeded California drinking water primary MCLs. Groundwater samples were not filtered prior to analysis. No VOCs were detected in any groundwater samples. TDS exceeded the secondary state drinking water standard in the three samples analyzed. The report concluded that poor quality groundwater beneath Area 10 was consistent with regional conditions, and no further investigation was recommended.

***Verification Soil and Ground-water Investigation, Banner Island*; prepared by Luhdorff and Scalmanini Consulting Engineers for the City of Stockton, August 1993.**

In April 1993, Luhdorff and Scalmanini performed a soil gas sampling investigation at Area 10. Low levels of VOCs were detected in soil gas samples collected from the former ship building yard and in the area southwest of the former ship building yard and the former steel fabrication shop. The detected VOCs consisted of light aromatics (BTEX), cycloalkanes, and alkenes (C8 to C11), various naphthalenes, and heavier weight petroleum hydrocarbons (C10 to C15). The report for this soil gas investigation was not available for B&V review.

In July 1993, Luhdorff and Scalmanini drilled four soil borings (B1 through B4) to groundwater in areas with VOCs in soil gas. Soil samples were analyzed for total and soluble concentrations of copper, lead, mercury, and zinc, TPHd, TPHmo, and/or BTEX. Groundwater samples from each boring were collected using a hydropunch and analyzed for TPHd, TPHmo, and BTEX.

Lead levels in soil samples from boring B2 at 3 feet bgs (1,100 mg/kg) and boring B4 at 5 feet bgs (1,000 mg/kg) exceeded the residential and industrial PRGs (400 mg/kg and 1,000 mg/kg, respectively). BTEX were not detected in any groundwater sample. Petroleum hydrocarbons detected in soil and groundwater were characterized as aged gasoline and hydraulic oil.

The report recommended drilling four additional soil borings to further characterize subsurface soil and groundwater near boring B4. The report also recommended excavation and offsite disposal of onsite soil with lead levels above the Total Threshold Limit concentration (TTLC) of 1,000 mg/kg (at boring B2 and boring B4).

***Soil and Groundwater Investigation, Banner Island, Stockton, California*; prepared by Harza, November 21, 1995.**

In October 1995, Harza drilled ten soil borings (HB1 through HB10) and sampled the nine existing groundwater monitoring wells at Banner Island. Soil samples collected between 1.5 and 10 feet bgs were analyzed for total extractable petroleum hydrocarbons (TEPH) and total lead. Groundwater samples were analyzed for TEPH, TPHg, BTEX, dissolved metals (filtered samples), and water quality parameters. A surface water sample from the adjacent Stockton Deep Water Channel was also collected and analyzed for the same constituents as groundwater samples. A grab groundwater sample from HB8 was collected and analyzed for TEPH and dissolved lead.

TPH was detected in several soil samples (up to 24 mg/kg diesel and up to 470 mg/kg motor oil). Lead levels in HB8 at 5 feet bgs (4,600 mg/kg), HB9 at 1.5 feet bgs (420 mg/kg), and HB10 at 1.5 feet bgs (420 mg/kg) exceeded the residential and industrial PRGs (400 mg/kg and 1,000 mg/kg, respectively). No BTEX contaminants were detected in any groundwater samples. Metals concentrations in all groundwater samples were below MCLs.

***Subsurface Investigation; North Parcel Banner Island, Stockton, California*; prepared by Treadwell & Rollo for Jaffe, Trutanich, Catena & Blum, December 10, 1996.**

In October 1996, Treadwell and Rollo drilled 15 soil borings and sampled existing groundwater monitoring wells MW2 through MW9. Soil samples were collected at depths of 3 and 7 feet bgs from each boring and analyzed for total recoverable petroleum hydrocarbons (TRPH), TPH (diesel and oil), PAHs (EPA Method 8270), total concentrations of arsenic, chromium, lead, and mercury, and soluble lead. Groundwater samples were analyzed for TPH (gasoline, diesel, and oil); BTEX; PAHs (EPA Method 8270); total concentrations of arsenic, chromium, chromium (VI), and mercury; and soluble lead.

TRPH (up to 3,300 mg/kg) and TPH (up to 65 mg/kg diesel and up to 2,500 mg/kg oil) were detected in most soil samples. These levels are below RWQCB maximum screening levels for soil above a drinking water aquifer. One PAH, benzo(b)fluoranthene, was detected in the soil sample collected from TR-13 at 3 feet bgs. The benzo(b)fluoranthene concentration (350 mg/kg) exceeded the residential and industrial PRGs (0.61 and 2.6 mg/kg, respectively).

Benzene levels in MW3 and MW6 exceeded state drinking water MCLs. TPHd was detected in most groundwater samples (up to 0.47 mg/L). Neither TPHg, TPHmo, nor PAHs were detected in any groundwater sample.

Total arsenic levels up to 28 mg/kg exceeded the cancer endpoint residential or industrial PRGs (0.38 mg/kg and 2.4 mg/kg, respectively) in most soil samples. Total lead levels up to 3600 mg/kg exceeded the residential or industrial PRGs (400 mg/kg and 1,000 mg/kg, respectively) in five soil samples (all at 3 feet bgs). Soluble lead (up to 39 mg/L) in ten soil samples exceeded the Soluble Threshold Limit Concentration (STLC) maximum limit of 5 mg/L. Additionally, arsenic concentrations (up to 0.11 mg/L) in samples collected from wells MW2 and MW4 exceeded the state drinking water MCL (0.050 mg/L). The total chromium concentration (0.18 mg/L) in the groundwater sample collected from well MW2 also exceeded the state drinking water MCL (0.050 mg/L).

***Volume I - Site Characterization Report, North Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

A site characterization for Area 10 began in September 1999 with preparation of a Phase II and PEA. This site is referred to as the Banner Island Site and is owned by the Redevelopment Agency; Areas 11, 15, 16, 20, and 21 were also included in the site characterization investigation. All structures have been removed from Area 10 and, reportedly, underground utilities were removed. In 1999, the site was predominantly soil with some areas of pavement and concrete.

Shallow soil at the Banner Island site was impacted by lead and petroleum hydrocarbons. Total and soluble lead concentrations exceeding the California thresholds for hazardous waste were found in much of the shallow soil across the site, to depths exceeding 5 feet bgs. The concentrations of hydrocarbons in the shallow soil did not appear to exceed threshold values that would warrant managing the soil as a hazardous waste, although some soil may contain sufficient concentrations of petroleum hydrocarbons to exceed acceptance at some Class III landfills.

No petroleum fuel hydrocarbons, volatile, or semi-volatile organic compounds were detected in groundwater during this investigation. No significant concentrations of metals were detected in groundwater.

The PEA prepared for Banner Island indicated that lead contamination in soil represented a potential health risk to child and industrial receptors. Soil excavated during development of the site would likely require disposal as a hazardous waste. Soil not excavated during development would likely require containment via capping with clean fill or engineered structures such as pavement or buildings. Deed notifications or restrictions may be required by DTSC.

***Final Remedial Action Plan, North Shore Parcels, Stockton Department of Housing and Redevelopment, Stockton California*, prepared by Treadwell and Rollo for the City of Stockton Department of Housing and Redevelopment, August 29, 2001b.**

A Final Remedial Action Plan (RAP) was approved by DTSC for Areas 10, 11, 15, 16, 20, and 21. The RAP provides for removal of contaminated soils that do not meet established cleanup goals

for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses.

***Remedial Design and Implementation Plan, North Shore Parcels, Stockton, California*, prepared by Treadwell & Rollo for the Stockton Department of Housing and Redevelopment, 5 March 2004.**

The Remedial Design and Implementation Plan (RDIP) was prepared for properties collectively referred to as the North Shore Parcels (Areas 10, 11, 15, 16, 20, and 21). Operable Unit 1 (soil contamination only) included Areas 10, 11, and 20, and Operable Unit 2 (soil and groundwater contamination) included Areas 15, 16, and 21. The RDIP described the remedy that was previously chosen in the Revised Feasibility Study and subsequent addendum (Treadwell & Rollo 2000a,b,c). The selected remedy consists of selective excavation of "hot spots" of soil contamination and soil disposal at appropriate facilities, as described in the approved RAP (Treadwell & Rollo, 2001a,b). The groundwater remedy, which included continued monitoring and ozone sparging at three locations, is being performed under the oversight of the San Joaquin County Environmental Health Department (and was outside the scope of this document).

The RDIP described the Remedial Action Objectives, and protocols for excavation confirmation sampling, sample handling and analysis, and a soil management plan. In addition, plans for transportation and disposal of the excavated material were described.

Summary of Results for Area 10

Banner Island was formerly an island that was reclaimed in the 1920s. It is believed that dredge spoils may have been used as part of the reclamation, and solid waste may have been used as part of the fill. A former ship building facility occupied Banner Island from the 1930s until the 1970s when the facility was removed and the area was cleared. A ship building and steel fabrication shop, a ship building yard, a fitting shop and dock, and a paint storage area formerly occupied the subject property.

Area 10 is in the process of being redeveloped in accordance with the requirements of the DTSC-approved RAP and RDIP. The City and DTSC are in the process of completing a deed restriction prohibiting sensitive land uses. Final approval from DTSC on the cleanup is expected soon.

Conclusions and Recommendations for Area 10

No further actions are required; if land uses other than commercial/industrial are proposed, then additional remediation may be required.

Area 11

Site Location and Description of Area 11

Area 11 is currently being redeveloped. A cleanup was performed in conjunction with Areas 10, 12,[4] 15, 16, 20, and 21 for the Stockton Events Center (Treadwell & Rollo, 1996; Treadwell & Rollo, 1999; Treadwell & Rollo, 2000a,b,c; Treadwell & Rollo, 2001a,b; and Treadwell & Rollo, 2004). The cleanup has been completed with some remaining operations and maintenance required, specifically groundwater monitoring wells along the Fremont Street frontage and a deed restriction. Final approval from DTSC, the oversight agency, is expected soon (see Area 10 for details).

The property occupies approximately one city block bounded by N. Lincoln Street, W. Lindsay Street, N. Van Buren Street, and Miner's Levee. The property was formerly occupied by the Pittsburgh-DesMoines Steel Co. and Kyle & Company, Inc. and is now the location of the Banner Island minor league baseball stadium. The property is owned by the City of Stockton. Figure A11-1 shows the location of Area 11.

Existing Land Use near Area 11

To the west of Area 11 is the former Marina Towers property (Area 12). To the east and north of Area 11 are Areas 10, 20, and 21, which are part of the Stockton Events Center redevelopment project. The Stockton Channel is located to the south of Area 11.

BASELINE personnel conducted a "windshield" site reconnaissance visit of the site on June 7, 2005. The area included the new Banner Island minor league baseball stadium. Associated surface parking was located in front of the public entrance to the stadium (Areas 20 and 21).

Previous Land Use of Area 11

Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed for Area 11 to determine historic land use.

Two large rectangular structures on Area 11, formerly Kyle & Co., Inc., were present in the 1952 topographic map. No other facilities were shown for this property in 1952.

Structures previously identified on the 1952 topographic map were no longer shown on the 1968 topographic map. North Edison Street and North Harrison Street extended further south past West Lindsay Street towards the waterfront. The Interstate 5 (I-5) freeway was under construction.

The Stockton Channel now ends at North Center Street. North Van Buren Street extends south from West Fremont Street to West Lindsay Street. Surrounding areas were developed.

The 1968 topographic map (photorevised 1976) showed entire North Shore properties as developed area (shaded in pink). No individual structures were shown on the map. Construction of I-5 appeared completed.

[4] Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore Parcels, although it is part of the combined Event Center project.

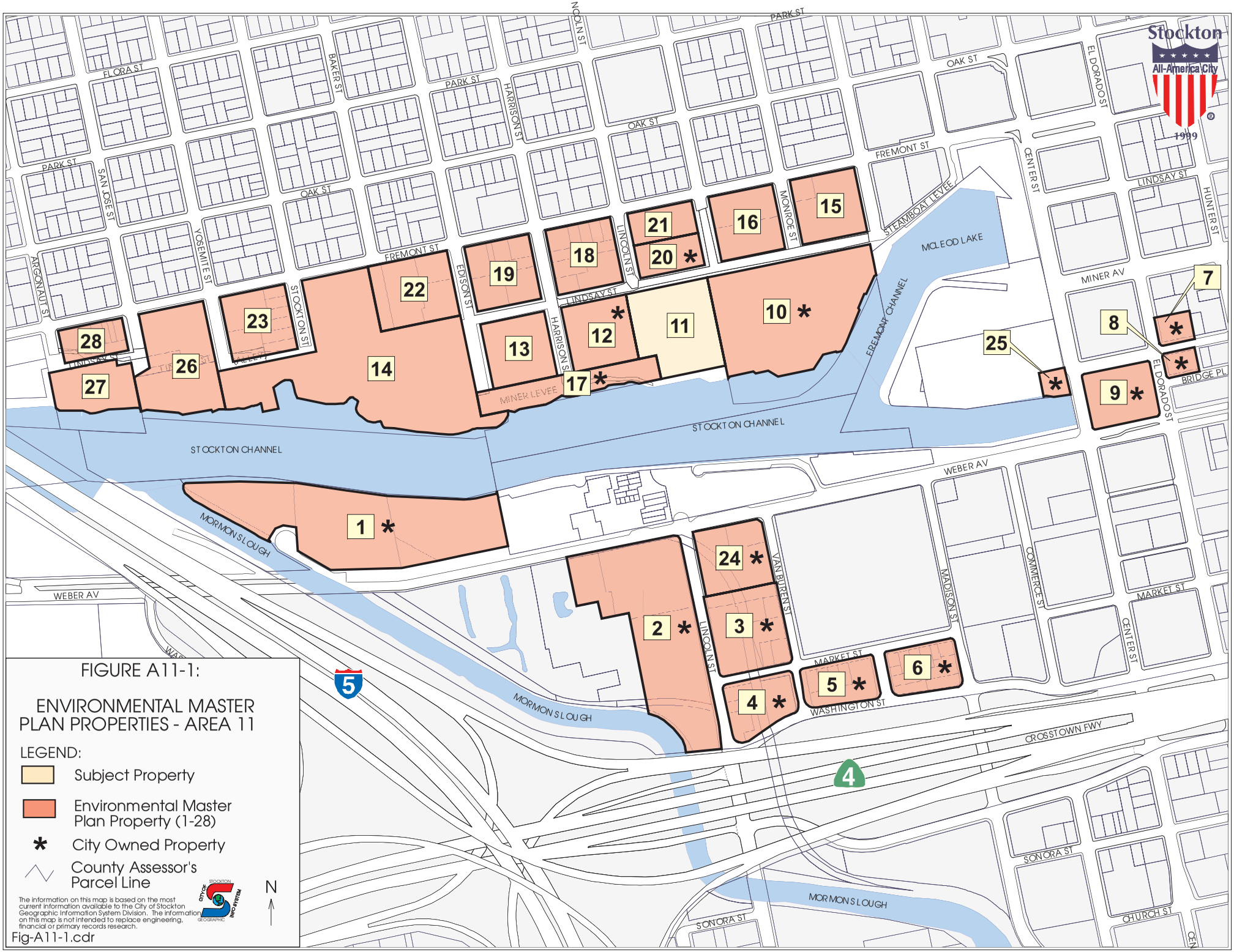


FIGURE A11-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 11

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A11-1.cdr

In the 1968 topographic map (photorevised 1987), there were no significant land use changes to the North Shore subject properties or surrounding area from previous 1976 photorevision.

The review of historical aerial photographs is summarized in Table A11-1. The review of historical Sanborn Fire Insurance Maps is summarized in Table A11-2.

Table A11-1
Historical Aerial Photograph Review Area 11

Year	Site Observations
1953	Two large warehouses and several smaller structures and storage areas are visible. Large ship is in Stockton Channel south of Banner Island.
1964	Two large warehouses are present. Several structures have been removed and areas are now used for storage.
1970	Two large warehouses on western portion of Area 11 are still present. Fewer storage areas along eastern portion of Area 11.
1979	All buildings and storage areas have been removed. Rail spurs are visible entering property on the north. Five vehicles are parked in vehicle spaces. Remaining areas are vacant.
1996	Area 11 is completely vacant. Adjacent Banner Island is also vacant.

Table A11-2
Historical Sanborn Fire Insurance Map Summary Area 11

Year	Site Observations and Surrounding Land Use
1917	No map coverage available for review.
1950	Railroad tracks are shown leading to two large structures on the western portion of the property used for steel fabrication associated with Kyle & Co., Inc. operations on the Marina Towers property. A warehouse, machine shop, and storage bay are also shown. "Movable shipbuilding shed on craneway traces" shown on Banner Island leading to machine shop and storage bay. Gunnert & Zimmerman ship building yards occupy Banner Island adjacent to the east.
1972	Kyle & Co., Inc. steel fabrication warehouses are replaced by Pittsburgh-DesMoines Steel Co. A culvert form shop and metal forming area are shown.

Previous Investigations of Area 11

***Volume I - Site Characterization Report, North Shore Properties, Stockton, CA,* prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

In August 1999, a site characterization for Area 11 began. Areas 10, 15, 16, 20, and 21 were also included in the site characterization investigation. The investigation of Area 11 included a geophysical survey and soil and grab groundwater sampling. There were no structures on the site, although approximately half of the site was capped with a steel-reinforced concrete slab that was likely the floor for the former warehouses. Reportedly, no previous soil or groundwater investigations have been conducted at this site.

The site characterization indicates that soil at Area 11 has been minimally impacted by petroleum fuel hydrocarbons. TPHd at concentrations ranging from 1.4 to 1.9 mg/kg and TPHmo at <50 to 280 mg/kg were detected. No TPHg was detected in soil. Toluene was the only BTEX compound detected in soil. It was detected in only one sample at 9.7 mg/kg. One SVOC, benzo(a)pyrene, was detected in one surface soil sample at 110 µg/kg. Total lead exceeded

California hazardous waste criteria in two of 13 soil samples. However, on the basis of the samples analyzed for this study, soil remediation was not anticipated.

Groundwater does not appear to be significantly impacted at Area 11. TPHd was the only petroleum hydrocarbon detected. It was detected in two of three groundwater samples at less than 1 mg/L. Two SVOCs were detected at less than 1 mg/L.

***Final Remedial Action Plan, North Shore Parcels, Stockton Department of Housing and Redevelopment, Stockton California,* prepared by Treadwell and Rollo for the City of Stockton Department of Housing and Redevelopment, August 29, 2001b.**

A Final Remedial Action Plan (RAP) was approved by DTSC for Areas 10, 11, 15, 16, 20, and 21. The RAP provides for removal of contaminated soils that do not meet established cleanup goals for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses.

***Remedial Design and Implementation Plan, North Shore Parcels, Stockton, California,* prepared for the Stockton Department of Housing and Redevelopment, 5 March 2004.**

A Remedial Design and Implementation Plan (RDIP) was prepared for properties collectively referred to as the North Shore Parcels (Areas 10, 11, 12, 15, 16, 20, and 21). See the description in Area 10 for details.

Summary of Results for Area 11

Area 11 is in the process of being redeveloped in accordance with the requirements of the DTSC-approved RAP and RDIP. The RAP provides for removal of contaminated soils that do not meet established cleanup goals for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses. The City and DTSC are in the process of completing a deed restriction prohibiting sensitive land uses. Final approval from DTSC on the cleanup is expected soon (see Area 10 for details).

Conclusions and Recommendations for Area 11

No further actions are required, except if land uses other than commercial/industrial are proposed. Additional remediation may then be required.

Area 12

Site Location and Description of Area 12

The former Marina Towers Office Park property, Area 12, is located at 300 North Harrison Street. Area 12 is bounded on the south by Miner's Levee (Area 17), Lindsay Street to the north, South Harrison Street to the west, and Area 11 to the east. Property boundaries of Area 12 are shown on Figure A12-1. Area 12 is part of the redevelopment activities associated with the Stockton Events Center and the baseball stadium. Area 12 is a parking lot supporting the Stockton Events Center activities. It is owned by the City of Stockton.

Existing Land Use near Area 12

Surrounding the Area 12 property are T.C. Baskin Automotive Service and Towing, J&B Paint, S/M Toy Company, an old automobile storage yard to the north, Area 11, the baseball stadium to the east, and the Stockton Channel to the south.

Previous Land Use of Area 12

Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed to determine historic land uses for North Shore properties, including Area 12. The predominant land use has been industrial and commercial for the North Shore properties. Area 12 was formerly occupied by the California Navigation & Improvement Co. Shipyard, Kyle & Company, Inc., and Pittsburg-DesMoines Steel Co.

Historical aerial photographs for years 1953, 1964, 1970, 1979, and 1996 were reviewed to determine historic land uses for Area 12. This information is summarized in Table A12-1.

Table A12-1
Historical Aerial Photograph Review Area 12

Year	Summary of Observations
1953	Area 12 is occupied by several structures and storage areas. Boat docking areas are visible along Stockton Channel (present Area 17).
1964	Entire Area 12 is occupied with structures and storage areas.
1970	Several structures are visible on Area 12, but the Marina Towers Office Park is not present.
1979	Marina Towers Office Building is present. Vehicles are parked in paved parking lot spaces.
1996	Marina Towers Office Building is present, but no cars are visible in parking lot.

Sanborn Fire Insurance maps for years 1917, 1950, and 1972 were reviewed to determine historic land use of Area 12. This information is summarized in Table A12-2.

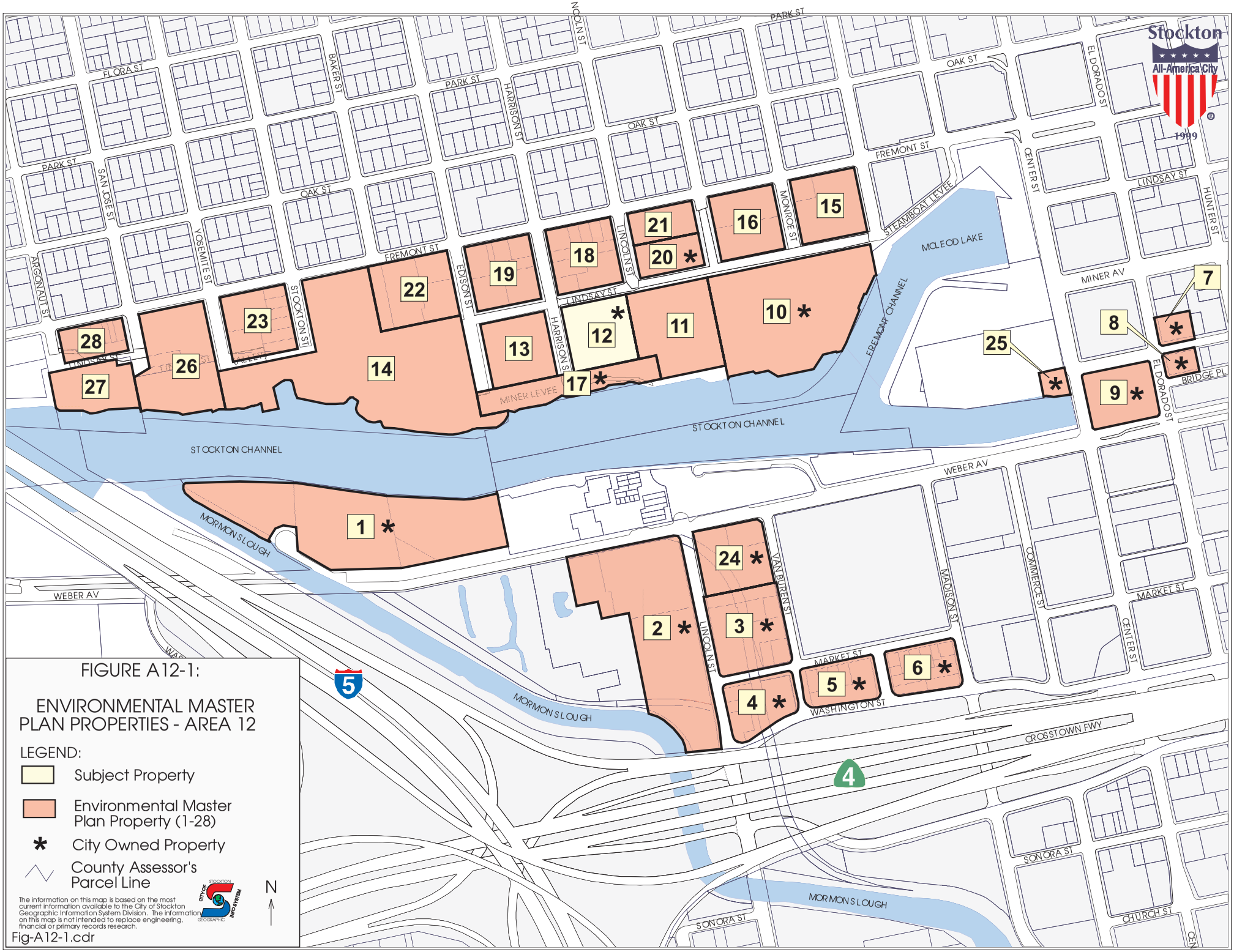


FIGURE A12-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 12

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A12-1.cdr

Table A12-2
Historical Sanborn Fire Insurance Map Summary Area 12

Year	Site Observations and Surrounding Land Use
1917	California Navigation & Improvement Co.'s Ship Yard occupies the property. Approximately seven structures are shown including a paint shop, coal and lumber storage, planing mill, and machine shop.
1950	Kyle & Co. replaced California Navigation Ship Yard. Facilities shown include a shipbuilding yard and steel products division. Approximately seven structures, including electric shop, machine shop, and paint storage and mixing, appear to the south along the waterfront/wharf.
1972	Pittsburgh-DesMoines Steel Co. replaced Kyle & Co. Facilities shown have not changed from 1950 Sanborn Map. Structures no longer appear along the wharf and dock areas.

Previous Investigations of Area 12

***Phase I, Environmental Site Assessment, North Shore Properties; Stockton, CA*; prepared by Black & Veatch for the City of Stockton Redevelopment Agency, December 1997.**

B&V performed a Phase I ESA for various North Shore properties, including Area 12 (referred to in the Phase I ESA as "Area 3"). The assessment was not intended to fully conform to ASTM E 1527-97; however, ASTM was used as a guideline for conducting this assessment. The study objective was to assess the potential for contaminated media to be present on the subject properties, and was not intended to support innocent landowner defense for property transfer.

The components of the Phase I ESA that were performed during this assessment included: a visual inspection of the subject properties, a federal records search, a state records search, a Sanborn Fire Insurance Map review, a limited historical aerial photograph and topographic map review, a limited city directory search, a limited SJCEHD file review, and limited personal interviews.

Environmental Data Resources, Inc. (EDR), a firm specializing in regulatory database information reviews, was used to provide regulatory record searches for an area within the recommended ASTM E 1527-97 search radius, where applicable. EDR also performed a limited city directory search for the years 1961, 1965, 1975, 1980, 1985, 1990, and 1996. City directory findings were limited.

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA;* prepared by Baseline Environmental Consulting for the City of Stockton Redevelopment Agency, June 2002.**

As stated by BASELINE in its Phase I ESA for properties adjacent to Area 12, Phase I and II ESAs were prepared by Treadwell & Rollo (1999a) for Area 12. As part of the Treadwell & Rollo investigation, eleven soil borings were installed to collect soil and groundwater samples for chemical analysis (Treadwell & Rollo, 1999a). Results of the investigation indicated that soil had been impacted to a limited extent by lead, total petroleum hydrocarbons as gasoline (TPHg), TPHd, TPHmo, and associated aromatics (Treadwell & Rollo, 1999a). In two groundwater samples collected at Area 12, TPHd was reported above laboratory reporting limits in only one sample at a low concentration (0.07 mg/L). TPHg, TPHmo, TPH-kerosene, BTEX, and VOCs were all reported below laboratory reporting limits in the two groundwater samples.

Summary of Results for Area 12

When this property was acquired by the City of Stockton, the City removed the Marina Towers office building and associated parking from the site. No additional environmental testing or cleanup is known to have been performed at the site following these actions.[5] The site has been redeveloped as part of the Stockton Events Center as a paved parking lot. Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore Parcels, although it is part of the combined Event Center project. Final approval from DTSC for cleanup of the North Shore parcels (Areas 10, 11, 15, 16, 20, and 21) is expected soon (see Area 10 for details).

Conclusions and Recommendations for Area 12

No further remediation is required for the current land uses.

[5]Personal communication, J. Pettijohn of BASELINE with K. Walker, City of Stockton, Department of Housing and Redevelopment, 23 September 2005.

Area 13

Site Location and Description of Area 13

Area 13 is a multi-industrial business site property, located adjacent to and east of the Colberg Boat Works (Colberg) property (Area 14). The property occupies approximately one city block extending from Miner's Levee (Area 17) on the south, West Lindsay Street to the north, and Harrison Street to the east. Area 13 is zoned heavy industrial and currently consists of several businesses, including Challenger Enterprises, HAAS Grant Minor Heavy Lift Cranes, Stockton Iron Works, Head Start, Crane Co., Windustrial Co., National Machinery Exchange, and Crane Performance Steel. Property boundaries of Area 13 are shown on Figure A13-1.

Because all observations were made from the public right-of-way, current facility operations could not be determined from outside the site perimeter. The property is primarily paved with some vegetation present. No evidence of spills or releases of materials outside the buildings were observed from public rights-of-way. No discoloration or staining of the soil or pavement was observed. No unusual odors were observed. No evidence of hazardous wastes, illegal dumping, or litter was observed on the subject property from public rights-of-way during the 1997 reconnaissance.

BASELINE personnel conducted a "windshield" reconnaissance of the site on June 7, 2005. The area included several corrugated metal industrial buildings associated with the Stockton Iron Works complex. Tenants include industrial and institutional (Head Start) uses. The original three-story Iron Works brick building was located at the corner of Harrison and Lindsay streets.

Existing Land Use near Area 13

The Area 13 property is surrounded to the north by Collins' Electrical Co. Storage Yard (Area 19); to the west by the Colberg property (Area 14); to the east by a parking lot (Area 12); and to the south by Miner's Levee (Area 17). The predominant land uses surrounding Area 13 are industrial and commercial.

Previous Land Use of Area 13

Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed to determine historic land uses for North Shore properties, including Area 13. The predominant land use has been industrial and commercial for the North Shore properties. Facilities in Area 13 have included a steel products division. See Figure A13-2 for further information.

The Stockton Iron Works Building (Area 13) is listed on the Office of Historic Preservation's Historic Property Data File (HPDF) and may be eligible for listing in the National Register of Historic Places.

Historical aerial photographs for years 1964, 1970, 1979, and 1996 were reviewed to determine historic land uses for Area 13. This information is summarized in Table A13-1.

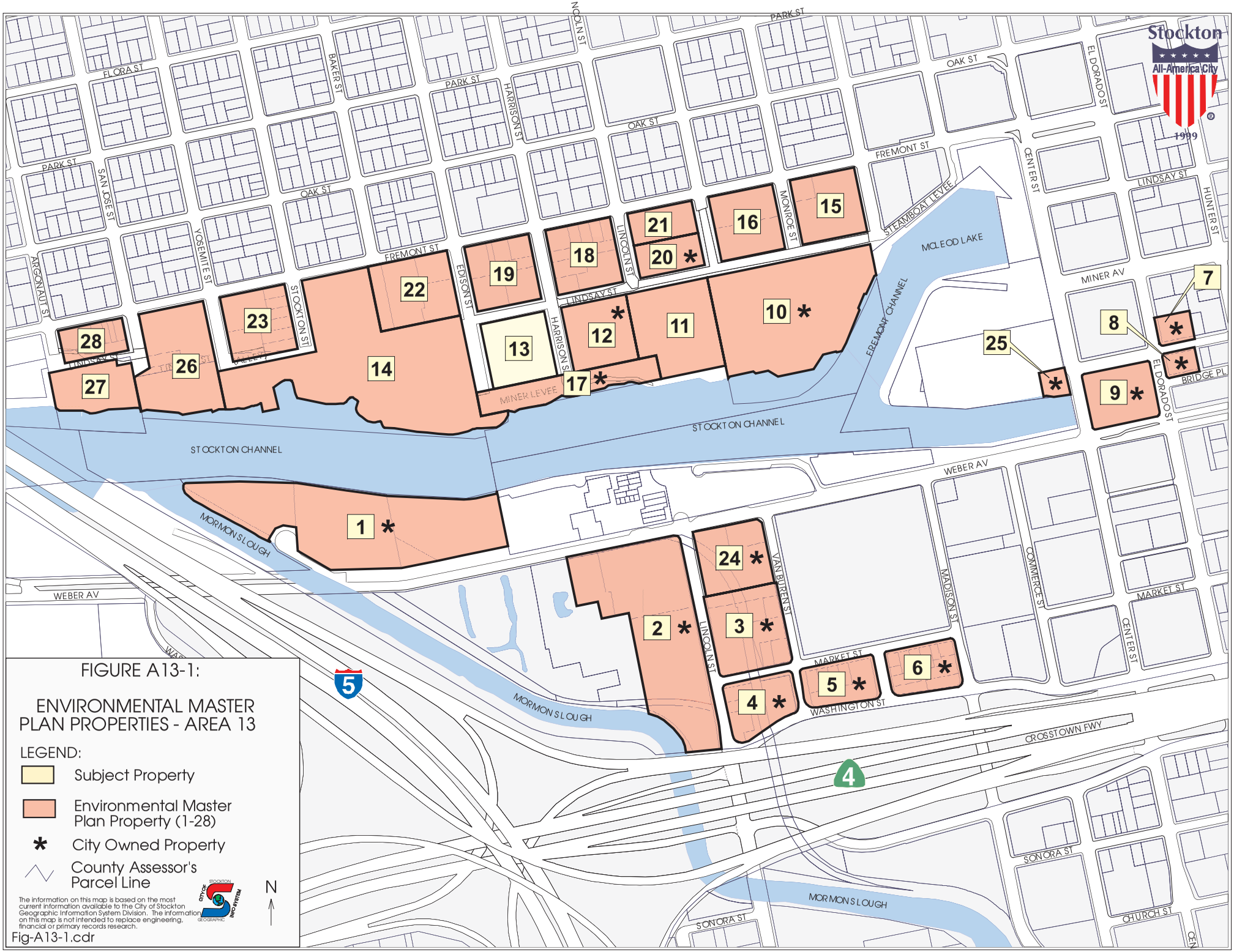


FIGURE A13-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 13

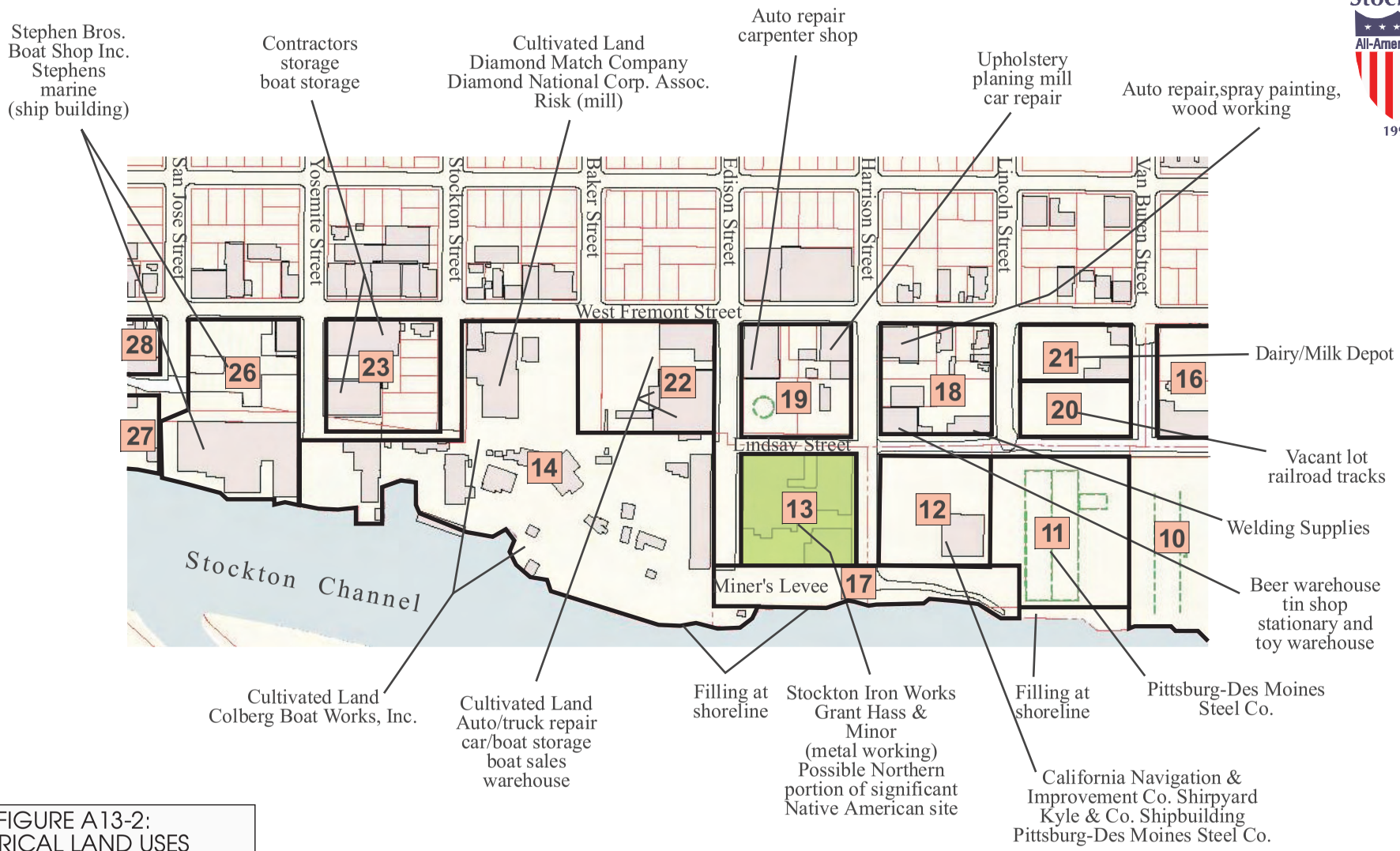
LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A13-1.cdr



Stockton
All-America City
1999

FIGURE A13-2:
HISTORICAL LAND USES
AREA 13

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

N

0 300 Feet

BASELINE

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A13-2.cdr

Table A13-1
Historical Aerial Photograph Review Area 13

Year	Summary of Observations
1964	Only eastern portion of Area 13 is visible on aerial photo. Area 13 is developed with several structures present. Parked cars are evident on southern portion of property.
1970	Several structures are visible in Area 13.
1979	Several buildings occupy Area 13. Southwestern portion of Area 13 used for parts storage.
1996	No significant changes from 1979 aerial photo.

Sanborn Fire Insurance maps for years 1917, 1950, and 1972 were reviewed to determine historic land use of Area 13. This information is summarized in Table A13-2.

Table A13-2
Historical Sanborn Fire Insurance Map Summary Area 13

Year	Site Observations and Surrounding Land Use
1917	Stockton Iron Works operations occupy the entire site. Several buildings with earth floors are located on northern portion of property including a chipping room, foundry, dredger bucket, boiler shop, machine shop, and coke bins. Tramway Tracks traverse the west side of the property from the Stockton Channel with an adjacent storage building.
1950	Stockton Iron Works expanded to include additional buildings (e.g., pipe storage, oil storage, cleaning room, and wire rope warehouse) on the southern portion of the property. Forge shop added to northern portion of property.
1972	Stockton Iron Works has changed to show the owner as Grant HAAS & Minor. Facilities include metal working, electrical supply warehouses, metal parts warehouses, and an auto warehouse. Tracks run along the western border of the property from W. Lindsay St. toward the Stockton Channel.

Previous Investigations of Area 13

***Phase I, Environmental Site Assessment, North Shore Properties; Stockton, CA;* prepared by Black & Veatch for the City of Stockton Redevelopment Agency, December 1997.**

Black and Veatch performed a Phase I ESA for various properties located on the North Shore of the Stockton Channel, including Area 13 (referred to in the Phase I ESA as "Area 2"). The assessment was not intended to fully conform to ASTM E 1527-97; however, ASTM was used as a guideline for conducting this assessment. The study objective was to assess the potential for contaminated media to be present on the subject properties, and was not intended to support innocent landowner defense for property transfer.

The components of the Phase I ESA that were performed during this assessment included: a visual inspection of the subject properties, a federal records search, a state records search, a Sanborn

Fire Insurance Map review, a limited historical aerial photograph and topographic map review, a limited city directory search, a limited SJCEHD file review, and limited personal interviews.

Environmental Data Resources, Inc. (EDR), a firm specializing in regulatory database information reviews, was used to provide regulatory record searches for an area within the recommended ASTM E 1527-97 search radius, where applicable. EDR also performed a limited city directory search for the years 1961, 1965, 1975, 1980, 1985, 1990, and 1996. City directory findings were limited.

Individual facilities in Area 13 were not listed in the agency database search and site access and owner/operator were not authorized. A comprehensive SJCEHD file search should be conducted for each previous facility address. No records were discovered indicating that any previous environmental investigations have taken place to date.

***Final Sampling and Analysis Plan for Environmental Master Plan Properties 13, 14, and 17,* prepared by BASELINE Environmental Consulting, for City of Stockton Housing and Redevelopment, 3 February 2003.**

A Sampling and Analysis Plan (SAP) for EMP properties 13, 14, and 17 was prepared under a Supplemental Brownfields redevelopment grant issued by the U.S. Environmental Protection Agency to the City of Stockton Department of Housing and Redevelopment. The Plan was prepared in compliance with EPA's requirements and was approved by EPA's quality assurance personnel in February 2003. The Plan was not implemented and sampling was not performed as of the date of this report. Site access and permission to sample could not be obtained for all locations proposed in the SAP.

The objective of the sampling effort was to provide a preliminary assessment of the presence and magnitude of contaminants in on-site soil and groundwater beneath sites 13, 14, and 17. The results of the investigation would be used to support future, more detailed studies, as appropriate, and to support future planning efforts for site redevelopment.

Field sampling would be conducted under EPA's protocol and laboratory services were to be coordinated through EPA. Soil and/or groundwater samples would be submitted for analysis of a variety of contaminants, including TPH as gasoline, diesel, and motor oil; VOCs, including BTEX and fuel oxygenates; SVOCs; organochlorine pesticides and herbicides; Title 22 metals (and soluble metals, based on the total sample results); and soil parameters (volumetric water content, porosity, bulk density and total organic carbon).

Summary of Results for Area 13

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site.

Conclusions and Recommendations for Area 13

Based on the historical land uses and known or suspected hazardous materials uses, chemicals of potential concern that may be present in soil and/or groundwater include: TPHg, TPHd, TPHmo, VOCs (including BTEX and fuel oxygenates), SVOCs, organochlorine pesticides/herbicides, and metals.

It is recommended that soil and groundwater sampling be conducted for hydrocarbons to assess potential impacts from previous operations. The areas recommended to be sampled are areas in the vicinity of the former machine shop, foundry, boiler shop, chipping room, forge shop, cleaning room, oil storage, and Tramway Tracks.

Area 14

Site Location and Description of Area 14

The Colberg Boat Works (Colberg) property (Area 14) is located at 401 North Stockton Street (mailing address is 848 W. Fremont Street) and extends from North Yosemite Street on the west to North Edison Street on the east. The property encompasses approximately four city blocks and is bounded on the south by the Stockton Channel and on the north by Area 23, West Fremont Street, and Area 22. A boat/vehicle storage area, located in the northern portion of Area 14, is bounded by North Stockton Street to the west, West Fremont Street to the north, and North Baker Street to the east. The Colberg property is zoned heavy industrial. The area is approximately 18 acres and consists of several large warehouse buildings and workshop facilities. The site currently has little activity, but has been previously used as a shipyard to construct, maintain, and retrofit ships and boats. Property boundaries of Area 14 are shown on Figure A14-1. A "windshield" reconnaissance of the area on June 7, 2005 did not identify any changes in the land uses.

Existing Land Use near Area 14

The Area 14 property is surrounded by vacant land and a multi-industrial building to the north, across from which are Fremont Street and residential subdivisions; the Stockton Channel to the south; multi-industrial business properties (Area 13) and Miner's Levee (Area 17) to the east; and warehouses and the Stephens Marine facility to the west. Beyond Stephens Marine facility is the former Texaco Bulk Terminal.

Previous Land Use of Area 14

Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed to determine historic land uses for North Shore properties, including Area 14. The predominant land use has been industrial and commercial for the North Shore properties. Past facilities in Area 14 have included a shipbuilding and ship retrofit yard. See Figure A14-2 for further information.

The Colberg Boat Works (Area 14) was recorded during a historical resource inventory, but has not been entered into the Historic Property Data File (HPDF). At the time of recording, Colberg Boat Works may have been eligible for listing in the National Register, but a formal evaluation has not been made (Far Western, 2002).

Historical aerial photographs for years 1970, 1979, and 1996 were reviewed to determine historic land uses for Area 14. This information is summarized in Table A14-1.

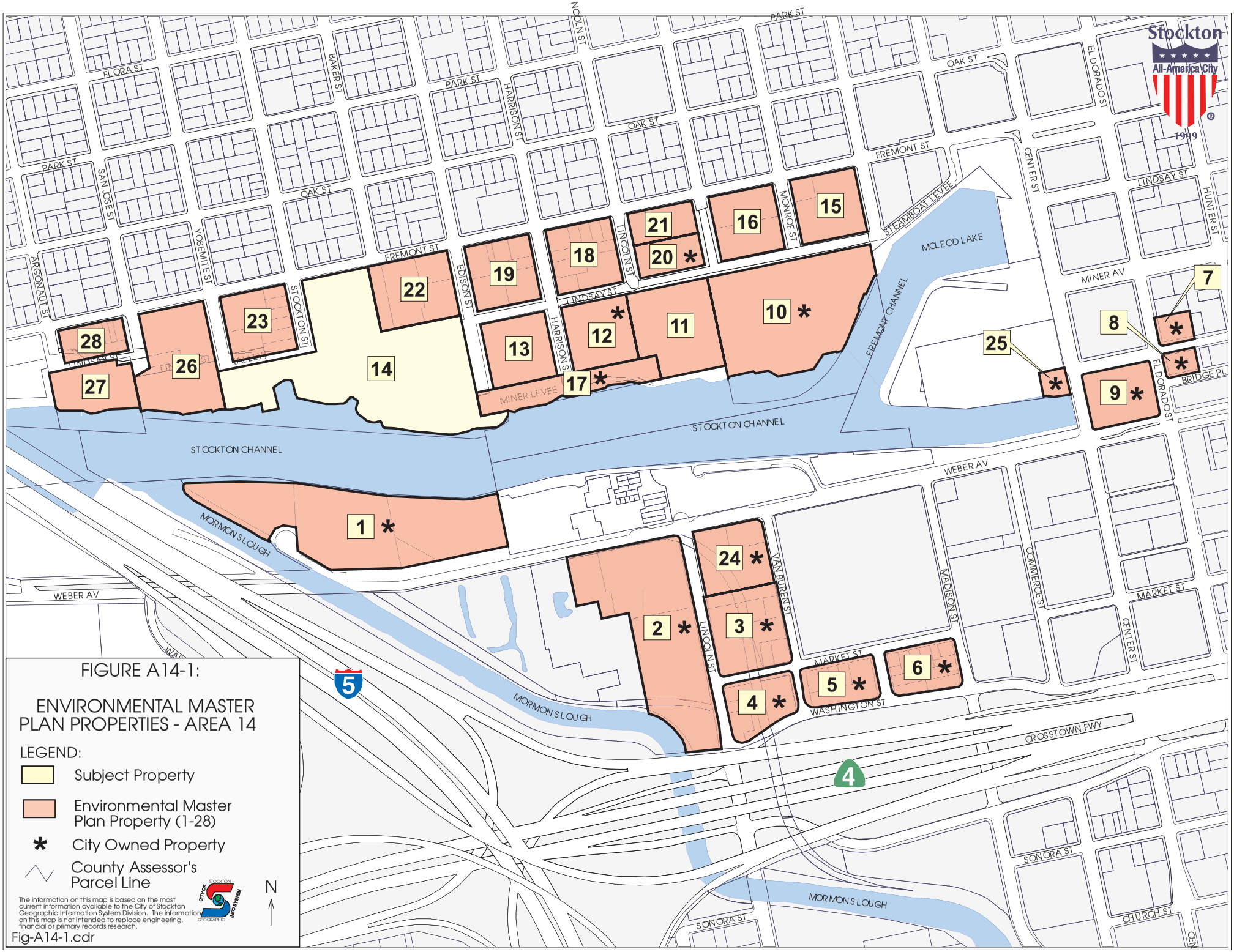


FIGURE A14-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 14
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-A14-1.cdr
N
Stockton All-America City 1999
STOCKTON CHANNEL
MORMON SLOUGH
MCLEOD LAKE
EREMOMY CHANNEL
MINER LEVEE
STEAMBOAT LEVEE
PARK ST
OAK ST
FREMONT ST
WEBER AV
MINER AV
LINDSAY ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
FLORA ST
SAN JOSE ST
BAKER ST
HARRISON ST
LINCOLN ST
MONROE ST
CENTER ST
EL DORADO ST
HUNTER ST
ARGONAUT ST
YOSEMITE ST
EDISON ST
STOCKTON ST
VALLEY
VAN BUREN ST
MADISON ST
COMMERCE ST
BRIDGE PL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
25
26
27
28

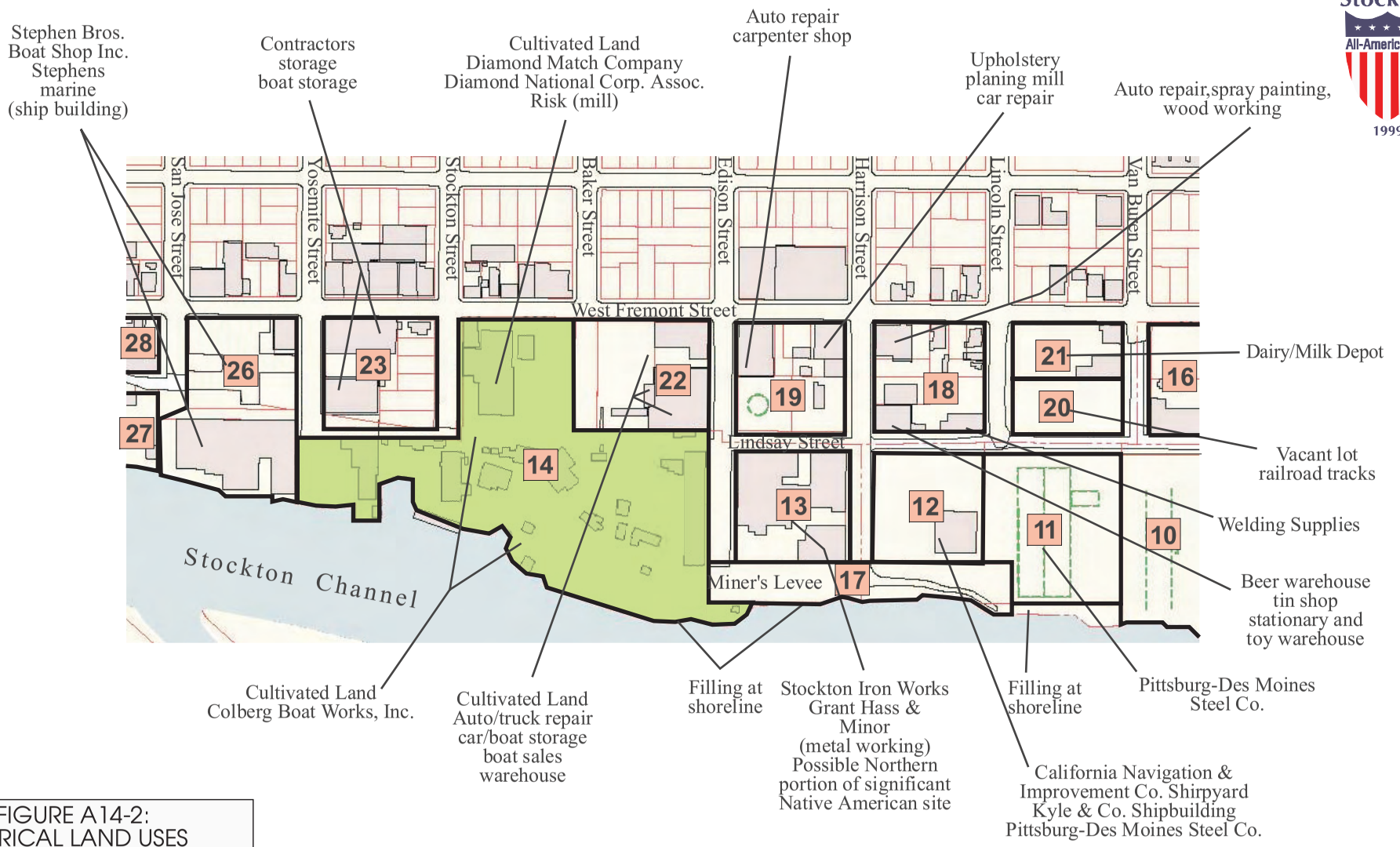


FIGURE A14-2:
HISTORICAL LAND USES
AREA 14

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

N

0 300 Feet

BASELINE

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A14-2.cdr

Table A14-1
Historical Aerial Photograph Review Area 14

Year	Summary of Observations
1970	Boats and ships present in Stockton Channel along southern property boundary. Several buildings occupy Area 14, including large structure in boat/vehicle storage area.
1979	Residence visible in northwest corner. Large storage structure and lumber storage areas along northern portion of Area 14. One large ship and two boats are docked. Approximately 15 to 20 structures with storage areas outside the buildings are visible. Area appears unpaved.
1996	All buildings appear to still be present. No ships or boats are visible in docking areas.

Sanborn Fire Insurance maps for years 1917, 1950, and 1972 were reviewed to determine historic land use of Area 14. This information is summarized in Table A14-2.

Table A14-2
Historical Sanborn Fire Insurance Map Summary Area 14

Year	Site Observations and Surrounding Land Use
1917	Several structures are present on northern portion of property that appear to be residences. Cultivated land is east of N. Stockton St. Stephens Bros. Boat Shops is shown west of N. Yosemite St.
1950	Colberg Boat Works operations cover most of the site. There are approximately 15 to 20 structures shown including steel fabrication warehouse, machine shop, paint storage, planing mill, and woodworking and boat building shed. The Diamond Match Co. occupies the northern portion of Area 14 with lumber storage, mill, and paint storage. Nearby, Stephens Bros. Inc. expanded to include the property south of Fremont St. between San Jose St. and Yosemite St. Ship building yard includes brass casting, woodworking, and boat building facilities. The Texas Co. (Texaco) appears to the west across San Jose St. Approximately five oil storage tanks and two oil warehouses are present.
1972	Colberg Boat Works operations cover most of the site. There are approximately 20 to 25 structures shown including boat repair, paint storage, lumber storage, machine shop, woodworking, planing mill, and supply warehouse. The Diamond National Corp. Assoc. Risk company now occupies the northern portion of Area 14 with lumber storage, mill, and paint storage. Nearby, Stephens Bros. Inc. facilities are now Stephens Marine, Inc. The Texas Co. (Texaco) to the west across San Jose St. expanded to include approximately seven oil storage tanks, two oil warehouses and gas pumps. Residences and small business warehouses border the property to the north across W. Fremont St. A new car storage yard, boat storage, and truck repair operation occupy the property to the east across N. Baker St.

Previous Investigations of Area 14

***Phase II, Site Assessment Report; Colberg Boat Works; 401 North Stockton Street, Stockton, California*; prepared by APEX Envirotech, Inc. for Colberg Boat Works, January 23, 1995.**

A Phase II Site Assessment was performed in January 1995. Soil and groundwater samples were analyzed for BTEX, TPHg, TPHd, and halogenated volatiles. Soil samples were also analyzed for total oil and grease and for EPA priority pollutant metals. The depths of all soil samples ranged between 10 and 19 feet bgs. The three samples analyzed for metals indicated the presence of one or more EPA priority pollutant metals above laboratory detection limits. One soil sample was above laboratory detection limits for TPHg, TPHd, and BTEX; and one soil sample exceeded detection limits for oil and grease. Groundwater samples contained detectable levels of BTEX and TPHg (Apex Envirotech, 1995).

***Phase I, Environmental Site Assessment, North Shore Properties; Stockton, CA;* prepared by Black & Veatch for the City of Stockton Redevelopment Agency, December 1997.**

Black and Veatch performed a Phase I ESA for various properties located on the North Shore of the Stockton Channel, including Area 14 (referred to in the Phase I ESA as "Area 1"). The assessment was not intended to fully conform to ASTM E 1527-97; however, ASTM was used as a guideline for conducting this assessment. The study objective was to assess the potential for contaminated media to be present on the subject properties, and was not intended to support innocent landowner defense for property transfer.

The components of the Phase I ESA that were performed during this assessment included: a visual inspection of the subject properties, a federal records search, a state records search, a Sanborn Fire Insurance Map review, a limited historical aerial photograph and topographic map review, a limited city directory search, a limited SJCEHD file review, and limited personal interviews.

Environmental Data Resources, Inc. (EDR), a firm specializing in regulatory database information reviews, was used to provide regulatory record searches for an area within the recommended ASTM E 1527-97 search radius, where applicable. EDR also performed a limited city directory search for the years 1961, 1965, 1975, 1980, 1985, 1990, and 1996. City directory findings were limited.

The Phase I ESA determined that Area 14 is listed on the Ca. FID, LUST, and UST databases. One 1,000 gasoline underground storage tank (UST) and three diesel USTs (two 550 gallon and one 8,000 gallon) were removed in May 1986. A release of petroleum hydrocarbons was discovered surrounding the former USTs. Four USTs remain on-site. One gasoline tank had an unauthorized release of an unspecified quantity in February 1988.

The Stephens Marine property (Area 26), located at 345 North Yosemite Street, is west of Area 14. A UST was removed from the Stephens Marine property in May 1986. Subsurface soil and groundwater investigations indicated petroleum hydrocarbon contamination. TPHg, BTEX, and MTBE were identified in some soil samples. TPHg, TPHd, and BTEX contamination in groundwater was revealed in the analysis of grab groundwater samples. Samples collected near the plating shop were analyzed for metals and determined to be near background levels. Hydrocarbon impacted soil was limited to the area in the vicinity of the former UST. Gasoline-contaminated groundwater plume appears to extend 50 feet northeast and southwest from the former UST location (Advanced GeoEnvironmental, Inc., 1997). Further site characterization was necessary to define the extent of contamination.

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA;* prepared by BASELINE Environmental Consulting for the City of Stockton Redevelopment Agency, June 2002.**

Investigations at this site are described below for USTs and for other environmental issues (lead, hazardous wastes, releases from a compressor). This site is upgradient of Areas 18, 19, 22, and 23 based on the assumed shallow groundwater flow direction. Many of the reports referenced below were not available for review during the preparation of this Phase I ESA. The primary information source for environmental investigations to date at Colberg included GHH (2001), and Telic (1993). References for these documents are found in the BASELINE Phase I ESA document.

USTs. The Colberg site was acquired in 1912 and UST operation occurred at the site from 1930 to 1986, when one 1,000-gallon gasoline UST and three diesel USTs (two 550 gallon and one 8,000 gallon) were removed. The diesel USTs were located in one area and the gasoline UST in another area of the site. A release of petroleum hydrocarbons was discovered surrounding the former USTs, and investigation of the release was reportedly requested by the County. The area around the former USTs was overexcavated in 1988.

In February 1993, a Phase I investigation was prepared for the site. In December 1994, Apex installed eleven subsurface probes to collect soil and groundwater samples at the site. Results of the investigation were documented in the Phase II Site Assessment Report 23 January 1995 (report not available for review). The results of the subsurface investigation reportedly indicated that areas around the former USTs contained petroleum hydrocarbons. Subsequently, Colberg was directed by the SJCEHD to perform further investigations at the site.

In July 1997, Apex supervised the drilling, soil sampling and installation of six borings that were converted into groundwater monitoring wells at the site. The results of the investigation were documented in Apex's report (report not available for review).

In April 1998, a closure request was submitted for the former diesel USTs. SJCEHD indicated that it would not require further investigation of the former diesel UST area at that time.

In September 1998, Apex submitted a remediation plan to the SJCEHD; an addendum to the workplan was resubmitted in January 1999. Prior to acceptance of the remediation plan, SJCEHD requested a mass balance calculation to determine whether remediation was necessary. In April 1999, Apex submitted a report entitled Mass Balance for Remaining Total Petroleum Hydrocarbons as Gasoline (TPHg). Based on a review of the report, SJCEHD reportedly determined that the extent of contamination had not been delineated on the eastern portion of the property.

A Workplan for Additional Subsurface Investigation and Site Characterization was submitted in 1999. In September 1999, the workplan was implemented and five geoprobes were installed at the site to establish the extent of TPHg impacted groundwater on the eastern portion of the property. One soil sample was reported above the laboratory reporting limits for MTBE; BTEX was reported above laboratory reporting limits in groundwater samples collected as part of this investigation.

The County requested an additional groundwater investigation at the site in February 2001. An April 2001 workplan was prepared by GHH that proposed installation of six geoprobes to evaluate the extent of TPHg impacted groundwater, which is currently undefined on the eastern portion of the site. It was proposed that soil and groundwater samples collected during the investigation be analyzed for TPHg, BTEX, 1,2 DCA, EDB, and oxygenated fuel additives. According to a note in the SJCEHD file, the consultant was planning to conduct the sampling in January 2002. A report on this investigation was not included in the SJCEHD file, as reviewed in April 2002.

Lead, Hazardous Wastes, and Air Compressor Release. In addition to samples collected and submitted for analysis of COC related to the USTs in 1986 and 1988, samples were also collected at the site and analyzed for lead (the sample locations may have been below the fill pipes, but the

records are unclear). Lead was reported above laboratory reporting limits in some up to 40 mg/kg, but not in groundwater samples.

In 1988, samples of sandblast waste were also collected and analyzed (the maximum reported concentration was 120 µg/g for one set of sample results as 1,600 µg/g for another, as reported on a fresh-weight basis, however, these records are difficult to read). Photographs identified during the SJCEHD file review showed the primary location of sandblast waste around the boat lift area; some sandblast waste was also stockpiled at another location on-site prior to offsite disposal. Records also indicate the storage on-site of waste materials. These materials were transported offsite for disposal.

An air compressor reportedly leaked at the site sometime before 1990 and may have caused soil contamination. No additional information was identified regarding this release in the files reviewed.

Pentachlorophenol, an SVOC associated with wood milling activities, also may have been used; however, the current property owner, Mr. Swanson, indicated during a 2002 site reconnaissance that all wood used on the site for ship building was received from an offsite location, and wood was not treated at the site.

***Final Sampling and Analysis Plan for Environmental Master Plan Properties 13, 14, and 17,* prepared by BASELINE Environmental Consulting, for City of Stockton Housing and Redevelopment, 3 February 2003.**

A Sampling and Analysis Plan (SAP) for EMP properties 13, 14, and 17 was prepared under a Supplemental Brownfields redevelopment grant issued by the EPA to the City of Stockton Department of Housing and Redevelopment. The Plan was prepared in compliance with EPA's requirements and was approved by EPA's quality assurance personnel in February 2003. Site access and permission to sample could not be obtained for all locations proposed in the SAP. See property 13 for more details on this report.

***Preliminary Assessment, Colberg Boat Works, Inc., 848 W. Fremont St./401 N. Stockton Street, Stockton, California*; prepared by Mr. J. Lile, California Department of Toxic Substances Control (DTSC) for Ms. J. Johnson, U.S. Environmental Protection Agency (U. S. EPA), Region IX, revised report date January 2003 (original report date June 2002).**

The EPA, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), asked DTSC to conduct a Preliminary Assessment (PA) of the site. The purpose was to review existing information on the site and its environs and to assess the threat(s), if any, posed to public health, welfare, or the environment and to determine if further information available is available from federal, state, and local agencies, and to perform an on-site reconnaissance visit. Using these sources of information, the site was then to be evaluated using EPA's Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS is the primary method used by EPA for determining a site's eligibility for placement on the National Priorities List (NPL).

Identified sources of contamination included former leaking underground storage tanks that held gasoline and diesel. The leaking underground storage tanks have been removed and San Joaquin County Environmental Health Department is reportedly overseeing soil and groundwater remediation related to the tanks.

A report filed by the Department of Fish and Game in 1990 identified boat sandblast waste being pushed into the water (presumably the Stockton Channel). Elevated levels of lead, copper, and zinc were identified in sandblast waste samples collected by the Department of Fish and Game in a 2

August 1990 report entitled "Notification to Counties of Hazardous Waste Discharge; Problem Description-sand blasting paint from boat bottoms and pushing all material into water." Historical photos taken after a fire damaged a warehouse at the site identified sandblast waste piles stored on the ground.

The PA concluded that potential soil and groundwater contamination from the sandblast waste is unknown. DTSC also concluded that the buildings were identified to potentially contain asbestos and other contaminants. Further assessment under CERCLA (in the form of a site investigation) was recommended in the PA by DTSC. Additional sampling was also recommended to determine the nature and extent of contamination to groundwater and surface waters. EPA's Hazard Ranking score was not included as part of the PA and would be reportedly completed by EPA at which point the PA was approved.

Summary of Results for Area 14

Previous investigations have revealed that both soil and groundwater at the Area 14 property have been impacted by petroleum hydrocarbons and metals to some extent. Based on historic ship building, steel fabrication, paint storage, lumber storage, machine shop, planing mill, and boat repair activities on the Colberg property, additional soil contamination may be likely in other areas of the property not previously sampled, particularly at shallower depths (two to seven feet bgs).

In a letter dated September 2, 2003, SUJCEHD confirmed the completion of the site investigation and corrective action plan for the four on-site tanks.

Conclusions and Recommendations for Area 14

Soil and groundwater sampling is recommended on the site to evaluate potential effects of past and current land uses on the subsurface. Soil and groundwater samples should be analyzed for TPHg, TPHd, TPHmo, VOCs, SVOCs, metals, and organochlorine pesticides and herbicides to assess potential impacts from previous operations.

Area 15 - Chase 2 Property

Site Location and Description of Area 15 - Chase 2 Property

The former Chase Chevrolet car dealership consists of two properties located at:

- 424 North Van Buren Street (Area 16), also referred to as Chase 1;
- 423 North Madison Street (Area 15), also referred to as Chase 2.

The Chase 2 property (Area 15) is defined as the city block adjacent to the east of the Chase 1 property. It is bordered on the north by West Fremont Street; on the east by North Madison Street; on the south by Banner Island (Area 10); and on the west by Monroe Street (Figure A15-1). Former business operations located on this property include Dyeing & Cleaning, Dry Cleaning, and Plating Works. The Chase 2 property is zoned for commercial manufacturing.

Area 15 is currently being redeveloped and a cleanup was performed in conjunction with Areas 10, 12,[3] 16, 20, and 21 for the Stockton Events Center (Treadwell & Rollo, 1996; Treadwell & Rollo, 1999; Treadwell & Rollo, 2000a,b,c; Treadwell & Rollo, 2001a,b; and Treadwell & Roll0, 2004). These areas are collectively referred to as the 'North Shore Parcels' and are all owned by the City of Stockton. Redevelopment includes a multi-facility center with an indoor arena and an outdoor ballpark (used by the Stockton Ports, a professional baseball team). A seven-level parking structure, hotel with conference facilities, and restaurant and retail space are part of the multi-facility center. The site will also incorporate green space redevelopment by providing an open space along the waterfront. The cleanup has been completed with some remaining operations and maintenance required, specifically groundwater monitoring wells along the Fremont Street frontage and a deed restriction. Final approval from DTSC, the oversight agency, has not yet been granted, but is expected soon.[4]

Existing Land Use near Area 15 - Chase 2 Property

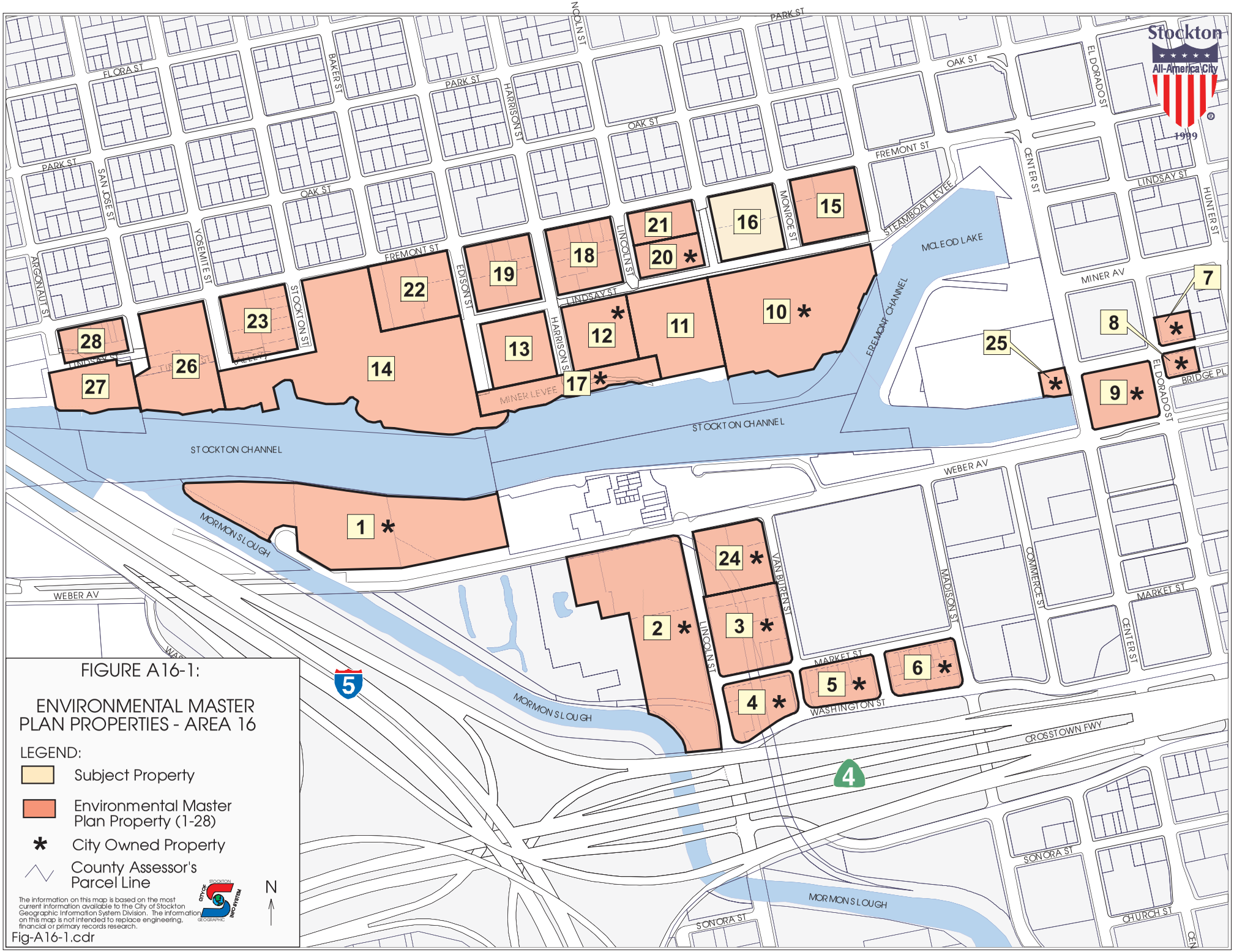
The Chase 2 property was bordered on the north by West Fremont Street, across which is a lot full of old cars, tires, and metal scraps surrounded by a chain-link fence. The Stockton Events Center, under construction, is to the south and includes this property. Chase 1 (Area 16) is to the east of Chase 2, which is currently (2005) under construction as part of the Stockton Events Center.

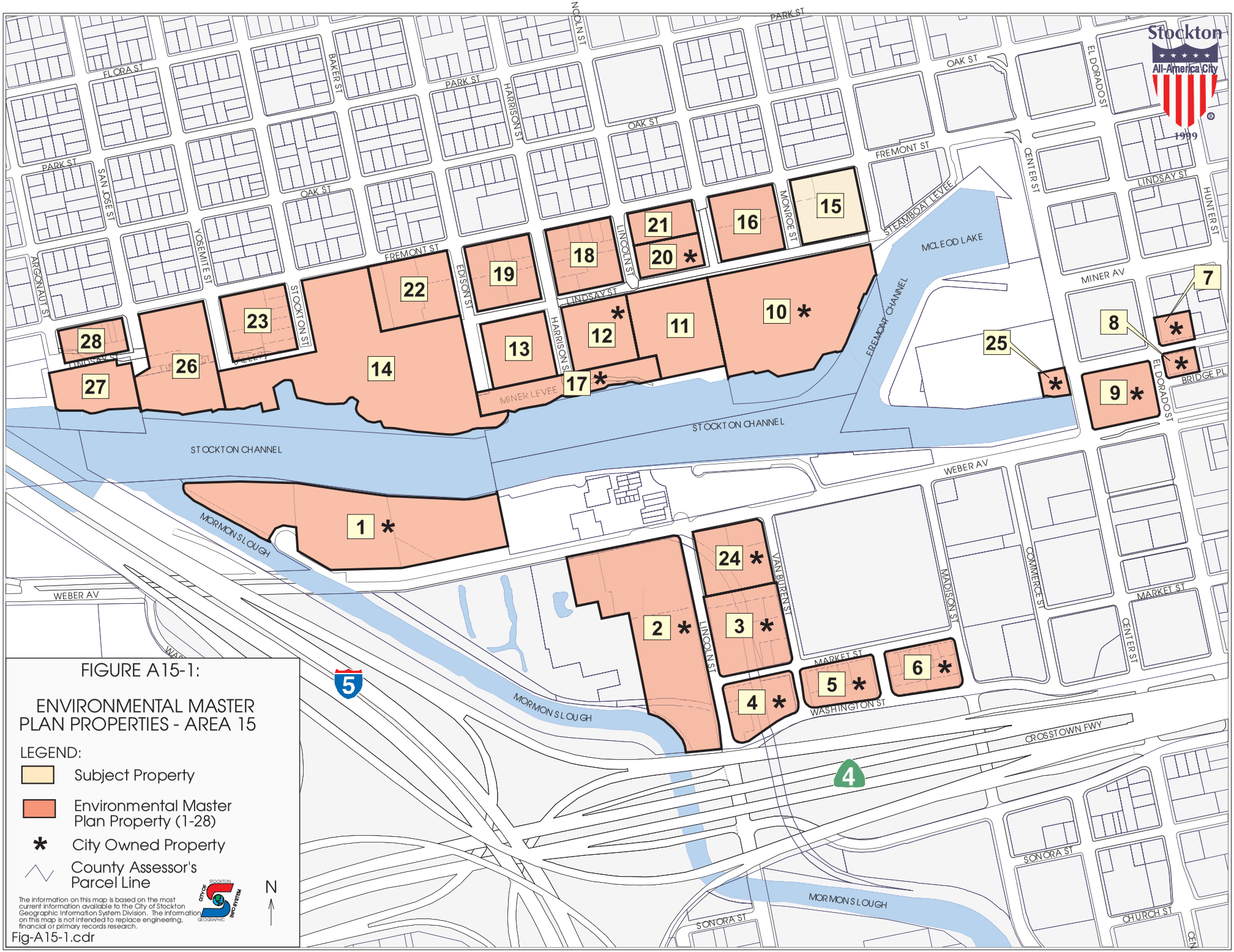
Previous Land Use of Area 15 - Chase 2 Property

Historical land uses of the site were reviewed by examining the changing configuration of the land and buildings in the historical topographic maps available. Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed.

[3] Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore Parcels, although it is part of the combined Event Center project.

[4] Personal communication, J. Pettijohn of BASELINE, with J. Lile of the California Department of Toxic Substances Control, 27 and 29 September 2005.


Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
LINCOLN ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
HARRISON ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
ARGONAUT ST
YOSEMITE ST
EDISON ST
LINCOLN ST
MINER AV
STOCKTON ST
HARRISON ST
EREMONY CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
25
26
27
28
5
4
FIGURE A16-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 16
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
N
Fig-A16-1.cdr


Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
LINCOLN ST
HARRISON ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
VOSEMITE ST
ARGONAUT ST
STOCKTON ST
EDISON ST
LINCOLN ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
MINER AV
EREMONY CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
5
4
N
FIGURE A15-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 15
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-A15-1.cdr

Historical aerial photographs for the years 1953, 1964, 1970, 1979, and 1996 and Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 (EDR-Sanborn, 1997) were reviewed for Area 15. The review of historical aerial photographs is summarized in Table A15-1. The review of historical Sanborn Fire Insurance Maps is summarized in Table A15-2.

Table A15-1
Historical Aerial Photograph Summary

Year	Site Observations
1953	Only southern portion of Area 15 is visible on aerial photo. A building is in southwest corner. Parking lot with approximately 70 cars are parked outside building.
1964	Several large buildings occupy the property including one extending along length of southern property/boundary. Cars parked along larger buildings.
1970	Building in northeast corner of Area 15 is no longer present. No other significant changes from 1964 aerial photo.
1979	No significant changes from 1970 aerial photo. Large buildings surrounded by parked cars in paved parking spaces.
1996	Buildings are still present, but no parked cars are visible on the property.

Table A15-2
Historical Sanborn Fire Insurance Map Summary

Year	Site Observations and Surrounding Land Use
1895	Lot is vacant.
1917	Western States Electric Co. Station B occupies SE corner. 10,000 gal. steel crude oil UST and 2000 gal. oil tank are shown. Dyeing and Cleaning operation and "benzine room" are located on northwestern portion of property. Two structures on NE corner of Area 15.
1950	Western States Electric Co. and associated tanks are no longer shown. Southern portion of Area 15 is vacant. Dyeing & Cleaning operation has moved to the east in a smaller building. Five new businesses appear on the northern portion of the property including Neon Sign Manufacturing, Auto Wheel Service, Telephone Co. Supply Warehouse, Plating Works, and Dry Cleaning. Three apartments are on the northeast corner of the property.
1972	Neon Sign Manufacturing, Telephone Co. Warehouse, Plating Works, Dyeing & Cleaning, and Dry Cleaning operations are no longer shown. Auto Storage replaced the three apartments in NE corner. Auto Wheel Service, Private Ambulance Service, and Roofing Material Storage now occupy NW corner. Two large auto repair and garages occupy the southern portion of Area 15.

Previous Investigations of Area 15 – Chase 2 Property

***Volume I - Site Characterization Report, North Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

In August 1999, a site characterization for Area 15 began. The investigation included a geophysical survey, groundwater monitoring well sampling, and soil and grab groundwater sampling. A Preliminary Endangerment Assessment (PEA) was also prepared. At the time of the investigation, several buildings were vacant or involved with automobile repair. Areas between the buildings were paved with asphalt or covered with concrete slabs. All USTs were removed.

During that study, no significant additional soil contamination was found. Prior investigations had found low to moderate concentrations of petroleum hydrocarbons in the general area of former USTs known to have existed at the site. TPHg concentrations were found at test boring 15B-4 located in the north-central portion of the site. It is not associated with any known former UST. No VOCs and only one SVOC were detected in soil. The EPA residential PRG for arsenic was exceeded at test boring 15B-2-6.0. This appears to be an anomalous result, as no other arsenic values approached the residential PRG.

Of the four monitoring wells and one test boring grab groundwater samples analyzed, only one, MW-21A, had significant petroleum contamination, with TPHg and TPHd concentrations at 4.28 and 3.66 mg/L respectively. Also, 1,2-DCA (6.49 μg/L) was found at this well and may be indicative of possible chlorinated solvent contamination.

The PEA indicated that acceptable health risks/hazards were exceeded for outdoor construction workers, residents, landscape workers, and commercial workers due to arsenic in soil. Groundwater monitoring was reportedly under the oversight of the San Joaquin County Environmental Health Department. It was recommended that redevelopment plans should provide for early inclusion of soil management protocols to minimize the potential costs associated with handling potentially contaminated soil, offsite soil disposal, worker health and safety plan management, and site development restrictions.

The PEA results indicated unacceptable health hazards for residential receptors. It was recommended that redevelopment plans should provide for early inclusion of soil management protocols.

***Final Remedial Action Plan, North Shore Parcels, Stockton Department of Housing and Redevelopment, Stockton California*, prepared by Treadwell and Rollo for the City of Stockton Department of Housing and Redevelopment, August 29, 2001b.**

A Final Remedial Action Plan (RAP) was approved by DTSC for Areas 10, 11, 15, 16, 20, and 21. The RAP provides for removal of contaminated soils that do not meet established cleanup goals for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses.

***Remedial Design and Implementation Plan, North Shore Parcels, Stockton, California*, prepared for the Stockton Department of Housing and Redevelopment, 5 March 2004.**

A Remedial Design and Implementation Plan (RDIP) was prepared for properties collectively referred to as the North Shore Parcels (Areas 10, 11, 12, 15, 16, 20, and 21). See the description in Area 10 for details.

Summary of Results for Area 15 - Chase 2 Property

The monitoring wells were removed as part of redevelopment of the site and petroleum affected soil was excavated. Following completion of redevelopment in the area, groundwater monitoring wells will be installed and monitored in accordance with the requirements of SJCEHD.

Area 15 is in the process of being redeveloped in accordance with the requirements of the DTSC-approved RAP and RDIP. The City and DTSC are in the process of completing a deed restriction for the property prohibiting sensitive land uses. Final approval from DTSC on the cleanup is expected soon (see Area 10 for details).

Conclusions and Results for Area 15 - Chase 2 Property

No further actions are required, except if land uses other than commercial/industrial are proposed. Additional remediation may then be required.

Area 16 - Chase 1 Property

Site Location and Description of Area 16 - Chase 1 Property

The former Chase Chevrolet car dealership consists of two properties located at:

- 424 North Van Buren Street (Area 16), also referred to as Chase 1;
- 423 North Madison Street (Area 15), also referred to as Chase 2.

The Chase 1 property (Area 16) is located northeast of Area 11 and is bounded by West Fremont Street, North Van Buren Street, West Lindsay Street, and North Monroe Street (Figure A16-1).

Area 16 is currently being redeveloped and a cleanup was performed in conjunction with Areas 10, 12,[2] 15, 20, and 21 for the Stockton Events Center (Treadwell & Rollo, 1996; Treadwell & Rollo, 1999; Treadwell & Rollo, 2000a,b,c; Treadwell & Rollo, 2001a,b; and Treadwell & Roll0, 2004). These areas are collectively referred to as the 'North Shore Parcels' and are all owned by the City of Stockton. Redevelopment includes a multi-facility center with an indoor arena and an outdoor ballpark (used by the Stockton Ports, a professional baseball team). A seven-level parking structure (on the northern portion of Area 16), hotel with conference facilities, and restaurant and retail space are part of the multi-facility center. The site will also incorporate green space redevelopment by providing an open space along the waterfront. The cleanup has been completed with some remaining operations and maintenance required, specifically groundwater monitoring wells along the Fremont Street frontage and a deed restriction. Final approval from DTSC, the oversight agency, has not yet been granted, but is expected soon.[3]

Existing Land Use near Area 16 - Chase 1 Property

The Chase 1 property (Area 16) is bordered on the north by West Fremont Street, on the west by Van Buren Street across which is the former Crystal Creamery (Area 21) and the former Western Pacific Rail Yard (Area 20); on the east by North Monroe Street, across which is Area 15 - Chase 2 property; and on the south by Area 10 (part of the Stockton Event Center development).

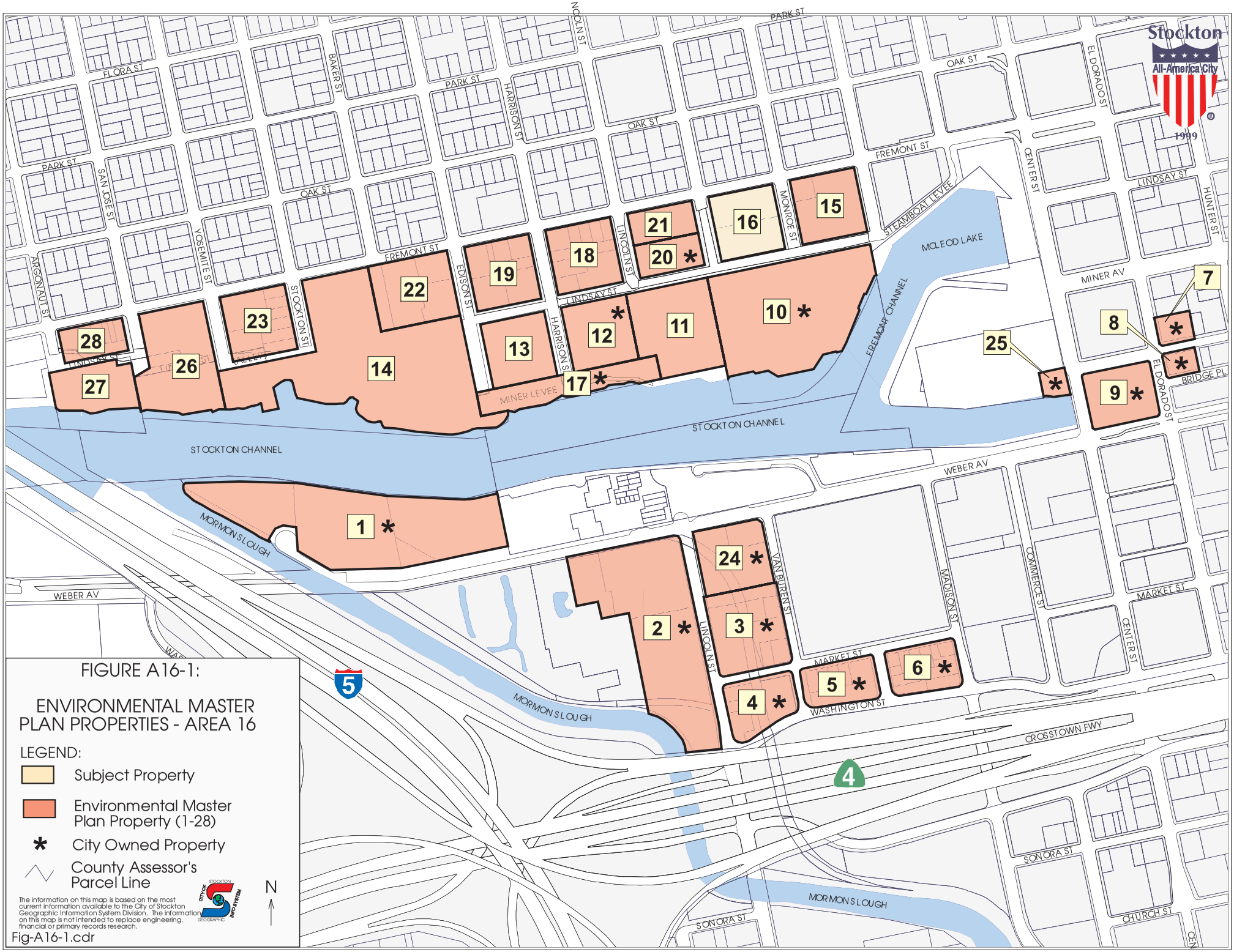
Previous Land Use of Area 16 - Chase 1 Property

Historical land uses of Area 16 were reviewed by examining the changing configuration of the land and buildings in the historical topographic maps available. Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed.

Historical aerial photographs for the years 1953, 1964, 1970, 1979, and 1996 and Sanborn Fire Insurance Maps for the years 1895, 1917, 1950, and 1972 (EDR-Sanborn, 1997) were reviewed for the Area. The review of historical aerial photographs is summarized in Table A16-1. The review of historical Sanborn Fire Insurance Maps is summarized in Table A16-2.

[2]Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore Parcels, although it is part of the combined Event Center project.

[3]Personal communication, J. Pettijohn of BASELINE, with J. Lile of the California Department of Toxic Substances Control, 27 and 29 September 2005.


Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
LINCOLN ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
HARRISON ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
ARGONAUT ST
YOSEMITE ST
EDISON ST
LINCOLN ST
MINER AV
STOCKTON ST
HARRISON ST
EREMONY CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
25
26
27
28
5
4
FIGURE A16-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 16
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
N
Fig-A16-1.cdr

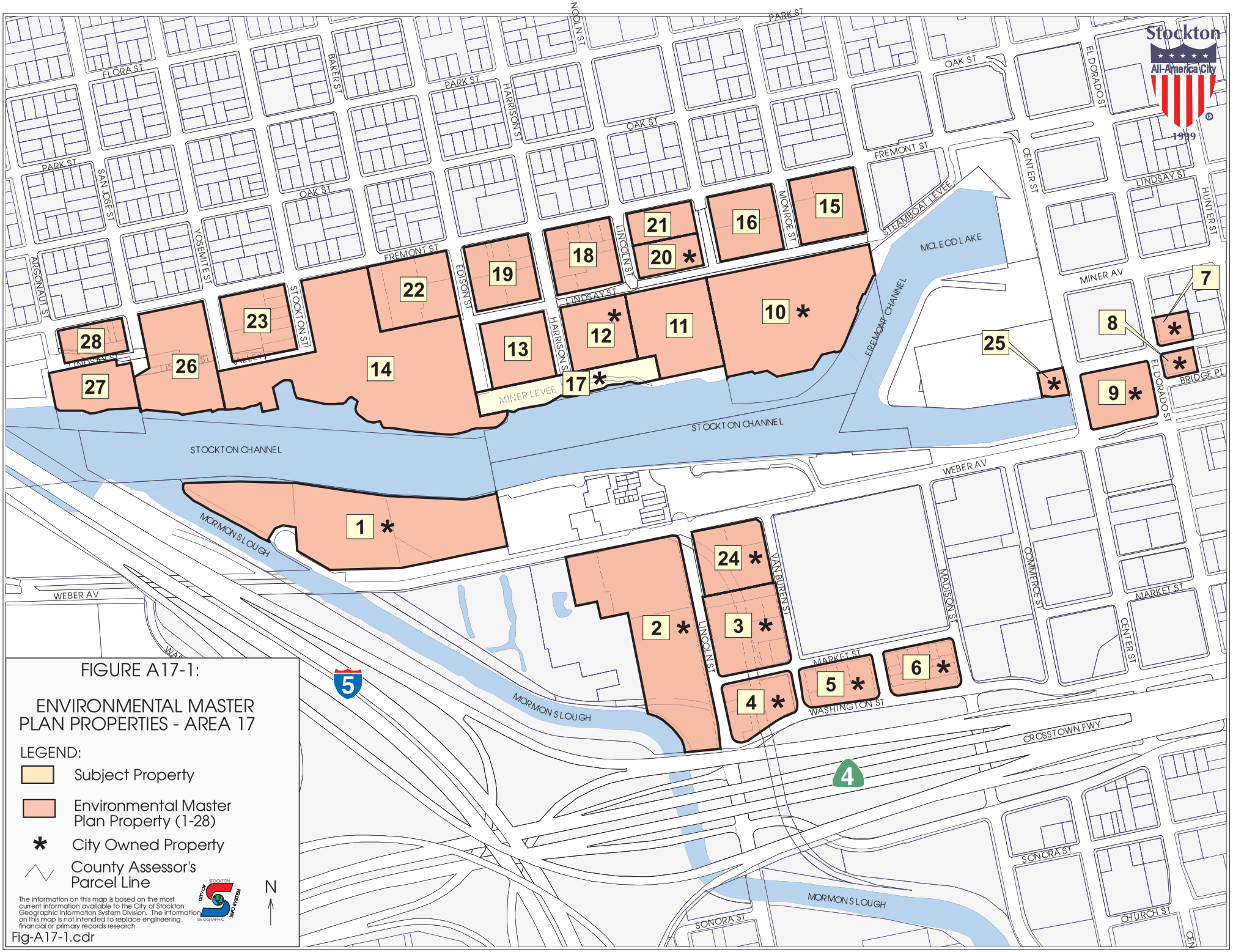

Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
NICOLN ST
HARRISON ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
YOSEMITE ST
ARGONAUT ST
STOCKTON ST
EDISON ST
LINCOLN ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
MINER AV
FREMONT CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2 *
3 *
4 *
5 *
6 *
7
8
9 *
10 *
11
12 *
13
14
15
16
17 *
18
19
20 *
21
22
23
25
26
27
28
5
4
FIGURE A17-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 17
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
N
Fig-A17-1.cdr

Table A16-1
Historical Aerial Photograph Summary

Year	Site Observations
1953	Only southern portion of Area 16 is visible on aerial photo. Rail cars and automobiles appear to be along southern property boundary.
1964	Two large structures surrounded by parked cars are present in northern portion of property. Tracks traverse southern portion of property and lead to single, small structure. No rail cars are present.
1970	Buildings in northern portion of Area 16 have been removed. Large building is present along southern boundary. Parked cars occupy remaining areas.
1979	Two small structures on western portion of Area 16. Large building along southern boundary still present. Parked cars occupy remaining areas.
1996	Buildings are still present, but few cars are parked along the buildings.

Table A16-2
Historical Sanborn Fire Insurance Map Summary

Year	Site Observations and Surrounding Land Use
1895	Vacant lot with two fences dividing the property. Crystal Creamery property is a vacant lot used for ball games. A fence traverses the property from south to northwest. N. Van Buren St. (Formerly Bear Street) is not opened south of N. Fremont St.
1917	Vacant lot. Fences are no longer shown. Adjacent Crystal Creamery property is vacant.
1950	Ruse Lumber Co. resides on the northern portion of the property. Several lumber piles and storage sheds are shown. Tracks from Western Pacific Railroad's N. Channel Freight Station occupies the southern portion. Railroad tracks are shown entering and exiting the southern portion of the Crystal Creamery property. Creamery operations occupy the northwest corner of the property.
1972	Chase Chevrolet replaced Ruse Lumber Co. A new auto storage yard occupies most of the property. A body shop and paint spraying shed are shown along southern portions of Area 16. Tracks from Western Pacific Railroad's N. Channel Freight Station are no longer shown. Railroad tracks are shown traversing the vacant southern portion of the Crystal Creamery property. Milk Depot operations expanded and occupy the northern portion of the property. Approximately ten associated structures are shown.

Previous Investigations of Area 16 – Chase 1 Property

***Volume I - Site Characterization Report, South Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Redevelopment, December 13, 1999.**

In August 1999,a site characterization for Area 16 began. The investigation included a geophysical survey, groundwater monitoring well sampling, and soil and grab groundwater sampling. A PEA was also prepared. At the time of the investigation, several buildings were involved with automotive salvage or repair. An automobile towing yard was present. Areas between buildings were paved with asphalt or covered with concrete slabs.

No new soil contamination was found at Area 16 during this site characterization. Groundwater contamination was encountered in four of the five monitoring wells that were sampled as part of the investigation, three of which were located in the immediate vicinity of a former UST excavation. With the exception of 4.76 µg/L of 1,2-DCA detected at MW14 (also detected during previous investigations), only fuel hydrocarbons and non-chlorinated VOCs were detected, including TPHg at up to 955 mg/L in well MW-3.

Area 16 has been the subject of an extensive soil and groundwater remediation program. An SVE reportedly began operation at the site during November 1999 with the goal of mitigating known soil and groundwater contamination caused by a former UST release. The system is no longer operational due to redevelopment activities.

The PEA results indicated unacceptable health hazards for residential receptors. It was recommended that redevelopment plans should provide for early inclusion of soil management protocols.

***Final Remedial Action Plan, North Shore Parcels, Stockton Department of Housing and Redevelopment, Stockton California*, prepared by Treadwell and Rollo for the City of Stockton Department of Housing and Redevelopment, August 29, 2001b.**

A Final Remedial Action Plan (RAP) was approved by DTSC for Areas 10, 11, 15, 16, 20, and 21. The RAP provides for removal of contaminated soils that do not meet established cleanup goals for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses.

***Remedial Design and Implementation Plan, North Shore Parcels, Stockton, California*, prepared for the Stockton Department of Housing and Redevelopment, 5 March 2004.**

A Remedial Design and Implementation Plan (RDIP) was prepared for properties collectively referred to as the North Shore Parcels (Areas 10, 11, 12, 15, 16, 20, and 21). See the description in Area 10 for details.

Summary of Results for Area 16 - Chase 1 Property

Area 16 is in the process of being redeveloped in accordance with the requirements of the DTSC-approved RAP and RDIP. The RAP provides for removal of contaminated soils that do not meet established cleanup goals for soil. The cleanup goals were developed specifically for the areas covered by the RAP and pertained to soils. Residual contamination remains on the RAP parcels, but below the cleanup goals for commercial land uses. Deed restrictions were recommended to prohibit residential and agricultural land uses. The City is in the process of completing a deed restriction prohibiting sensitive land uses. The City and DTSC are in the process of completing a deed restriction prohibiting sensitive land uses. Final approval from DTSC on the cleanup is expected soon (see Area 10 for details).

Conclusions and Recommendations for Area 16 - Chase 1 Property

The monitoring wells were removed as part of redevelopment of the site and petroleum affected soil was excavated. Following completion of redevelopment in the area, groundwater monitoring wells will be installed and monitored in accordance with the requirements of SJCEHD.

No further actions are required, except if land uses other than commercial/industrial are proposed. Additional remediation may then be required.

Area 17

Site Location and Description of Area 17

Miner's Levee (Area 17) is a water front property that is adjacent to and south of both Area 12 and Area 13. It is further bounded by Area 11 to the east, Area 14 to the west, and the Stockton Channel to the south. The property occupies approximately one city block in area but is narrow in shape. Area 17 is owned by the City of Stockton and is vacant for the most part. A portion of Area 17 has been paved and is used by Windustrial for storage; another portion of Area 17 is used for storage of rusty equipment. Property boundaries of Area 17 are shown on Figure A17-1.

Existing Land Use near Area 17

The Area 17 property is surrounded to the north by Area 12 and Area 13, both zoned as heavy industrial; to the east by Area 11; and to the west by Colberg Boat Works (Colberg) property (Area 14), which is also zoned as heavy industrial. It is adjacent to the new Stockton events Center.

Previous Land Use of Area 17

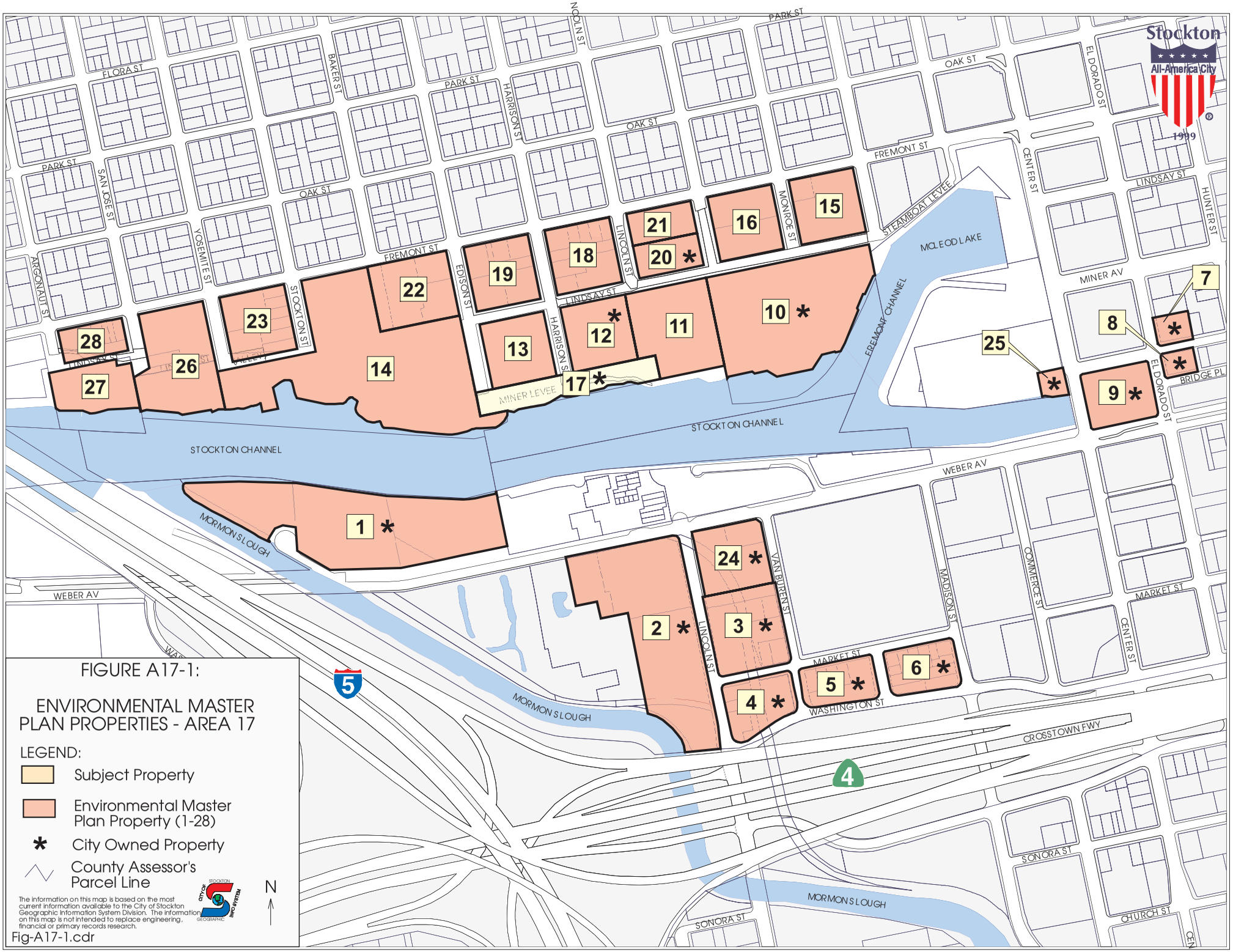
Historical topographic maps for the years 1952, 1968, 1976, and 1987 were reviewed to determine historic land uses for North Shore properties, including Area 17. The predominant historical land use for Area 17 has been industrial and commercial, including various activities related to shipbuilding and loading/unloading operations.

Portions of Area 17 and potentially also the adjoining Area 13 are reportedly the location of a significant prehistoric Native American site. The site was occupied by the *Yatchicumne* (Yokut) Native Americans (Site CA-SJO-80) and was last investigated in 1929. During the 1929 investigation, human burials and numerous artifacts were unearthed. The site was later referred to as the "Stockton Channel Mound" and was also probably the historic village of *Passisimas* (another Yokut tribe). It has been suggested that SJO-80 is the triblet center of the *Yatchicumne* or that this site was the location of an important *Yatchicumne* village.

The site was reportedly catalogued as located on the northern edge of the Stockton Channel, between Edison and Harrison streets (300 feet along the shore). The likely location of the site is on Area 17, between N. Edison and N. Harrison streets, from the Stockton Channel to the south to the northern border of adjoining Area 13 to the north. However, the extent of the site to the north of adjoining Area 13 was not recorded in 1929.

At the time the Native Americans occupied the area, it was reportedly mounded, but over time the site has been flattened out and partially covered with fill from levee construction, soil compaction, and disturbance by industrial activities in the area. One account describes the Stockton Channel Mound as two feet high, elliptical in shape, and more or less parallel to the stream channel and covered by a levee.

Miner's Levee, Historical Landmark #17, as recorded at the City of Stockton Planning Division, is the location at which the California Transportation Company built and launched the famous sternwheelers, the Delta King and Delta Queen, between 1923 and 1927. Some of the machinery was built by the Stockton Iron Works (adjoining Area 13).


Stockton
All-America City
1999
PARK ST
FLORA ST
BAKER ST
NICOLN ST
HARRISON ST
OAK ST
EL DORADO ST
FREMONT ST
CENTER ST
LINDSAY ST
HUNTER ST
SAN JOSE ST
YOSEMITE ST
ARGONAUT ST
STOCKTON ST
EDISON ST
LINCOLN ST
MONROE ST
STEAMBOAT LEVEE
MCLEOD LAKE
MINER AV
FREMONT CHANNEL
BRIDGE PL
MINER LEVEE
STOCKTON CHANNEL
WEBER AV
MORMON SLOUGH
VAN BUREN ST
MADISON ST
COMMERCE ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
1
2 *
3 *
4 *
5 *
6 *
7
8
9 *
10 *
11
12 *
13
14
15
16
17 *
18
19
20 *
21
22
23
25
26
27
28
5
4
FIGURE A17-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 17
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
N
Fig-A17-1.cdr

Historical aerial photographs for years 1953, 1964, 1970, 1979, and 1996 were reviewed to determine historic land uses for Area 12 and Area 13; Miner's Levee (Area 17) was previously part of those areas. This information is summarized in Table A17-1.

Table A17-1
Historical Aerial Photograph Summary

Year	Site	Summary of Observations
1953	Marina Towers Property (Area 12)	Area 12 is occupied by several structures and storage areas. Boat docking areas are visible along Stockton Channel.
1964	Marina Towers Property (Area 12)	Entire Area 12 is occupied with structures and storage areas.
1970	Marina Towers Property (Area 12)	Several structures are visible on the Marina Towers Property (Area 12), but the Marina Towers Office Park is not present.
1979	Marina Towers Property (Area 12)	Marina Towers Office Building is present. Vehicles are parked in paved parking lot spaces.
1996	Marina Towers Property (Area 12)	Marina Towers Office Building is present, but no cars are visible in parking lot.
1953	Multi-industrial Business Site Property (Area 13)	There is no coverage for Multi-Industrial Business Site (Area 13) in 1953 aerial photo.
1964	Multi-industrial Business Site Property (Area 13)	Only eastern portion of Area 13 is visible on aerial photo. Area 13 is developed with several structures present. Parked cars are evident on southern portion of property.
1970	Multi-industrial Business Site Property (Area 13)	Several structures are visible in Area 13.
1979	Multi-industrial Business Site Property (Area 13)	Several buildings occupy Area 13. Southwestern portion of Area 13 used for parts storage.
1996	Multi-industrial Business Site Property (Area 13)	No significant changes from 1979 aerial photo.

Sanborn Fire Insurance maps for the years 1917, 1950, and 1972 were reviewed to determine historic land use of Area 17, Miner's Levee, which was previously part of Areas 12 and 13. This information is summarized in Table A17-2.

Table A17-2
Historical Sanborn Fire Insurance Map Summary

Year	Site	Site Observations and Surrounding Land Use
1917	Marina Towers Property (Area 12)	California Navigation & Improvement Co.'s Ship Yard occupies the property. Approximately seven structures are shown including a paint shop, coal and lumber storage, planing mill, and machine shop.
1950	Marina Towers Property (Area 12)	Kyle & Co. replaced California Navigation Ship Yard. Facilities shown include a shipbuilding yard and steel products division. Approximately seven structures, including electric shop, machine shop, and paint storage and mixing, appear to the south along the waterfront/wharf.
1972	Marina Towers Property (Area 12)	Pittsburgh-Des Moines Steel Co. replaced Kyle & Co. Facilities shown have not changed from 1950 Sanborn Map. Structures no longer appear along the wharf and dock areas.
1917	Multi-industrial Business Site Property (Area 13)	Stockton Iron Works operations occupy the entire site. Several buildings with earth floors are located on northern portion of property including a chipping room, foundry, dredger bucket, boiler shop, machine shop, and coke bins. Tramway Tracks traverse the west side of the property from the Stockton Channel with an adjacent storage building.
1950	Multi-industrial Business Site Property (Area 13)	Stockton Iron Works expanded to include additional buildings (e.g., pipe storage, oil storage, cleaning room, and wire rope warehouse) on the southern portion of the property. Forge shop added to northern portion of property.
1972	Multi-industrial Business Site Property (Area 13)	Stockton Iron Works has changed to show the owner as Grant HAAS & Minor. Facilities include metal working, electrical supply warehouses, metal parts warehouses, and an auto warehouse. Tracks run along the western border of the property from W. Lindsay St. toward the Stockton Channel.

Previous Investigations of Area 17

***Phase I, Environmental Site Assessment, North Shore Properties; Stockton, CA;* prepared by Black & Veatch for the City of Stockton Redevelopment Agency, December 1997.**

Black and Veatch performed a Phase I ESA for the various properties located on the North Shore of the Stockton Channel, including Area 17, Miner's Levee. The assessment was not intended to fully conform to ASTM E 1527-97; however, ASTM was used as a guideline for conducting this assessment. The study objective was to assess the potential for contaminated media to be present on the subject properties, and was not intended to support innocent landowner defense for property transfer.

The components of the Phase I ESA that were performed during this assessment included: a visual inspection of the subject properties, a federal records search, a state records search, a Sanborn Fire Insurance Map review, a limited historical aerial photograph and topographic map review, a limited city directory search, a limited SJCEHD file review, and limited personal interviews.

Environmental Data Resources, Inc. (EDR), a firm specializing in regulatory database information reviews, was used to provide regulatory record searches for an area within the recommended ASTM E 1527-97 search radius, where applicable. EDR also performed a limited city directory search for the years 1961, 1965, 1975, 1980, 1985, 1990, and 1996. City directory findings were limited.

***Final Sampling and Analysis Plan for Environmental Master Plan Properties 13, 14, and 17,* prepared by BASELINE Environmental Consulting, for City of Stockton Housing and Redevelopment, 3 February 2003.**

A Sampling and Analysis Plan (SAP) for EMP properties 13, 14, and 17 was prepared under a Supplemental Brownfields redevelopment grant issued by the EPA to the City of Stockton Redevelopment Agency. The Plan was prepared in compliance with EPA's requirements and was approved by EPA's quality assurance personnel in February 2003. Site access and permission to sample could not be obtained for all locations proposed in the SAP. See Area 13 for more details on this report.

Summary of Results for Area 17

Soil and groundwater sampling have not previously been conducted in Area 17. A Phase I ESA for Area 13, which included Area 17, recommended that soil and groundwater sampling be conducted to assess the potential environmental impacts related to historic industrial operations on this site. The areas recommended for sampling coincided with the former tramway tracks on the western portion of the site. Additional sampling at the eastern portion of the site may prove beneficial.

Conclusions and Recommendations for Area 17

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site. Soil and groundwater sampling is recommended for TPHg, TPHd, TPHmo, VOCs (including BTEX and fuel oxygenates), SVOCs, organochlorine pesticides, herbicides, and metals to assess potential impacts due to those previous operations.

Area 18

Site Location and Description of Area 18

Area 18 is adjacent to and north of Area 12 and is bounded on the east by Lincoln Street, on the west by Harrison Street, and on the north by Fremont Street. The property occupies approximately one city block. Area 18 is within the Amended West End Redevelopment Area and is zoned as M2, Heavy Industrial (B&V, 2000a; City of Stockton Zoning District Map). Property boundaries of Area 18 are shown on Figure A18-1.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. Along Fremont Street, the uses included a wood working shop (Fremont Cabinet), an empty lot, and a private residence. On the Harrison Street side of the block was a tile company (Stockton Ceramic Tile), and along Lincoln Street is McClain & Son Sign and Crane Company and T.C. Baskin Automotive and Towing Service.

Existing Land Use near Area 18

The properties adjoining Area 18 are currently used for industrial/commercial purposes to the west, and residential uses primarily north of W. Fremont Street. Area 18 is surrounded to the east by Areas 20 (the newly constructed main entrance to the Banner Island baseball stadium) and 21 (a surface parking lot); to the west by Area 19 (various commercial and industrial uses including auto repair and upholstery businesses); to the north by commercial/residential uses; and to the south by Area 12 (surface parking lot).

Previous Land Use of Area 18

Historical land uses of Area 18 were determined by reviewing historical aerial photographs, historical Sanborn Fire Insurance Company (Sanborn) maps, historical city directories, and historical topographic maps. Aerial photographs from 1952, 1957, 1964, 1967, 1970, 1982, 1993, and 1996 were reviewed. Sanborn Fire Insurance Company maps from 1895, 1917, 1950, 1956, 1965, and 1972 were reviewed. Area 18 was primarily used for industrial/commercial purposes. This information is summarized in Tables A18-1 and A18-2. See Figure A18-2 for further information.

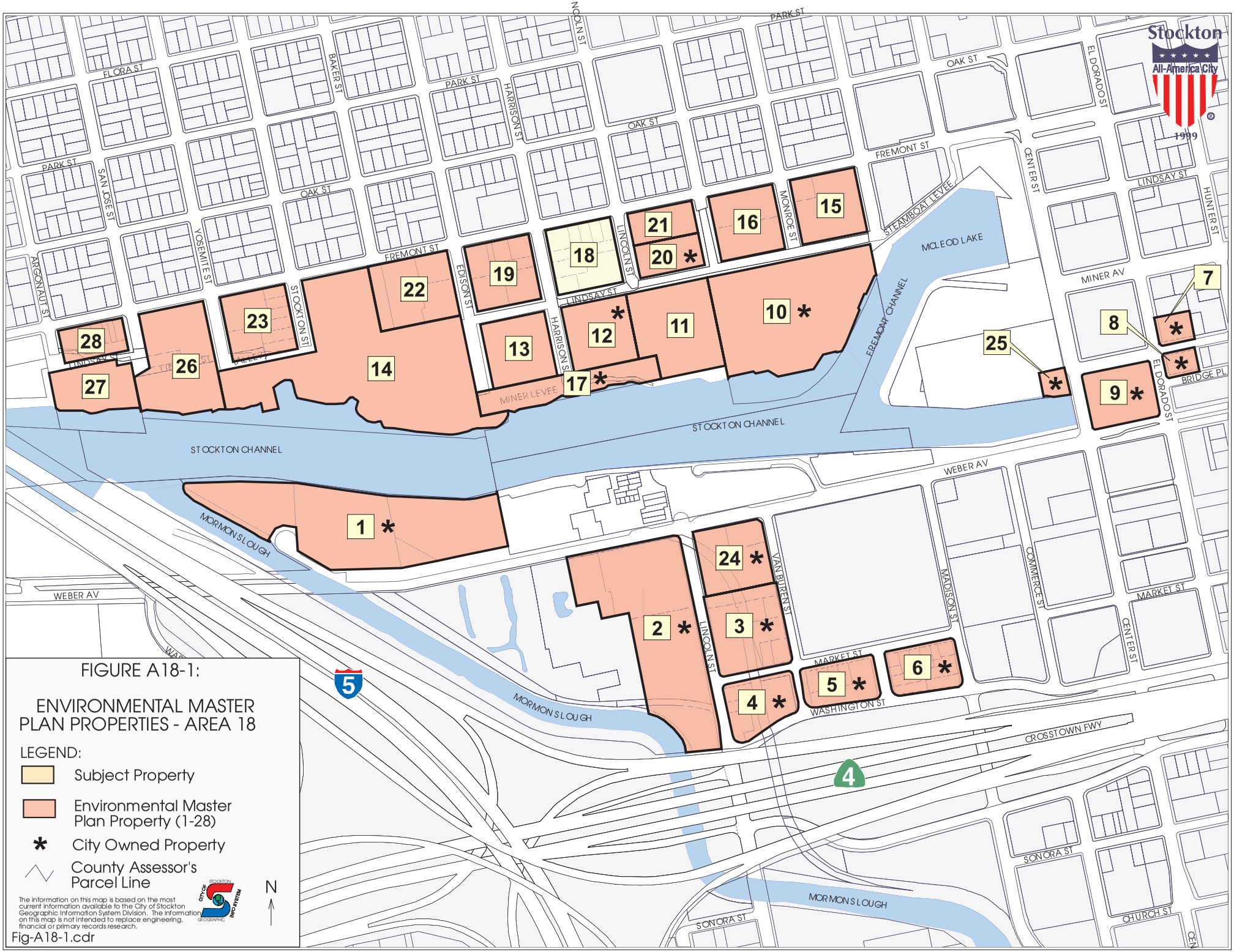


FIGURE A18-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 18

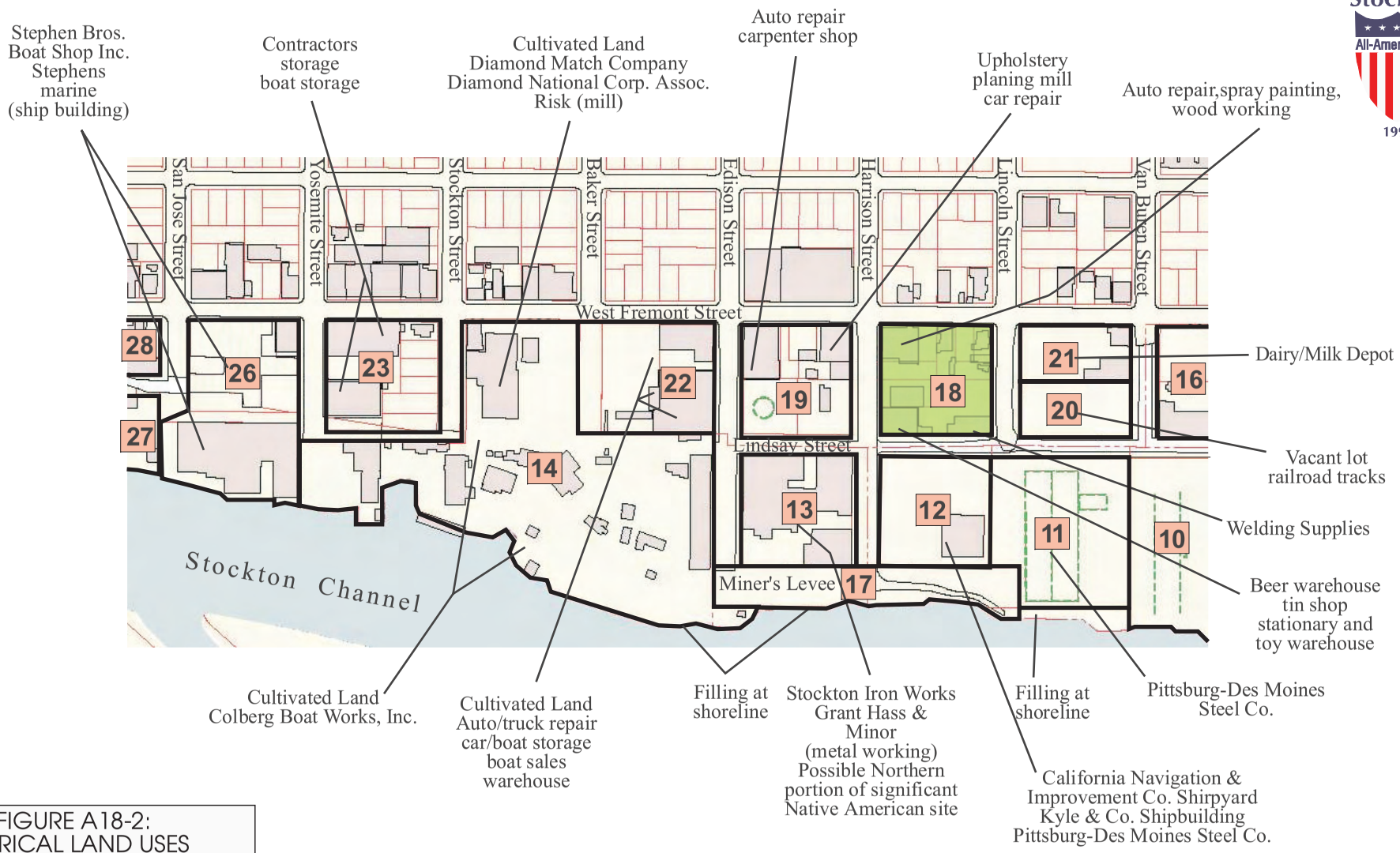
LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A18-1.cdr



Stockton
All-America City
1999

FIGURE A18-2:
HISTORICAL LAND USES
AREA 18

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

N

0 300 Feet

BASELINE

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A18-2.cdr

Table A18-1
Historical Aerial Photograph Review Area 18

Year	Summary of Observations
1952	Two large buildings and several smaller structures with trees in between the buildings/structures.
1957	No change from 1952 photo, except one large building on the southeast corner of the block.
1964	No change from 1957 photo, except fewer trees and additional parking areas.
1967	No change from 1964 photo.
1970	No change from 1964 photo.
1982	Image unclear. No significant changes were observed from 1964 photo.
1993	No change from 1964, except an addition to the large southwest building has been constructed.
1996	No change from 1993 photo.

Table A18-2
Historical Sanborn Fire Insurance Map Summary Area 18

Year	Site Observations and Surrounding Land Use
1895	Two dwellings with stables; remaining areas vacant; portion of southern area not shown on map.
1917	Five dwellings; one water tank and windmill; one auto unit; several small buildings (use unknown) associated with dwelling properties.
1950	Auto repair, dwellings, flats.
1956	Dwellings and flats, some with auto units; auto repair; paint spraying, paint storage; cabinet storage and drying room; beer warehouse, welding machine storage, welding supplies.
1965	Used car storage, stationery and toy warehouse, tin shop and one building labeled “iron”; dwellings some with auto units, flats; woodworking, paint spray room, paint storage, electric contractors warehouse; shops; one building (use unknown).
1972	No change from 1965.

Previous Investigations of Area 18

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA*; prepared by BASELINE Environmental Consulting, June 2002.**

BASELINE Environmental Consulting prepared a Phase I ESA for various properties in the study area, including Area 18. The scope of work included a review of historical land use information; a visual site reconnaissance; a review of regulatory lists and databases, and selected SJCEHD files; and reports available as of the date of this report for properties within and near Area 18. This report was prepared under a Brownfields grant issued by the EPA.

A waste oil spill release occurred at T.C. Baskin Auto Service, 405 N. Lincoln Street (Area 18). This release was not identified in the regulatory agency database search. A spill from a drum containment area occurred in January 1993, and extended offsite into a drainage ditch along Lindsay Street. Part of the material released migrated into a storm drain along N. Harrison Street. The site was cleaned up by an emergency response contractor by vacuuming up the oil, steam cleaning contaminated surfaces, skimming oily water from the storm drain, and soil excavation in the drainage ditch. The excavated materials were transported offsite for disposal/recycling. Soil samples were collected following the excavation; TPHmo, some SVOCs, and dichloromethane were reported above laboratory reporting limits. No additional information was identified in SJCEHD files regarding this release.

The report provided recommendations for further action to determine whether current or historical releases of hazardous materials had the potential to affect Area 18.

Summary of Results for Area 18

Based on the findings of the BASELINE Phase I ESA, a Phase II ESA should be conducted to assess the presence of subsurface soil and/or groundwater contamination at Area 18. The Phase II work should be conducted by a qualified environmental professional(s) under the direction of a regulatory agency and prior to the time of any site redevelopment activities.

Conclusions and Recommendations for Area 18

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site. It is recommended that soil and groundwater sampling be conducted for total petroleum hydrocarbons, VOCs, BTEX, oxygenates, SVOCs, metals, pesticides, and polychlorinated biphenyls to assess potential impacts from previous operations.

Area 19

Site Location and Description of Area 19

Area 19 is adjacent to and north of Area 13 and is bordered on the east by Harrison Street, on the west by Edison Street, and on the north by Fremont Street. The property occupies approximately one city block. Area 19 is within the Amended West End Redevelopment Area and is zoned as M2, Heavy Industrial (B&V, 2000a; City of Stockton Zoning District Map). Property boundaries of Area 19 are shown on Figure A19-1.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. Along Fremont Street, the tenants included Stockton Wheel, Moffett Automotive, Jerry's Archery, Auto Tech, and Morgan's Fabrics. Along the Harrison Street side of the block is Domenic's Auto Tech. The southeastern corner of the block was occupied by a 100-foot tall water tank tower.

Existing Land Use near Area 19

The properties adjoining Area 19 are currently used for industrial/commercial purposes, with residential uses primarily north of W. Fremont Street. Area 19 is surrounded to the east by Area 18 (various commercial and industrial uses including Fremont Cabinet, McClaine & Son Sign & Crane Service, and Stockton Ceramic Tile Company); to the west by Area 22 (Buckeye Appliance, vacant area, and a vehicle storage area), to the north by residential units; and to the south by Area 13 (various commercial and industrial uses, including Head Start, Challenger Enterprises, and Stockton Iron Works).

Previous Land Use of Area 19

Historical land uses on Area 19 were determined by reviewing historical aerial photographs, historical Sanborn Fire Insurance Company maps, historical city directories, and historical topographic maps. Aerial photographs from 1952, 1957, 1964, 1967, 1970, 1982, 1993, and 1996 were reviewed. Sanborn Fire Insurance Company maps from 1895, 1917, 1950, 1956, 1965, and 1972 were reviewed. Area 19 was primarily used for industrial/commercial purposes. This information is summarized in Tables A19-1 and A19-2. See Figure A19-2 for further information.

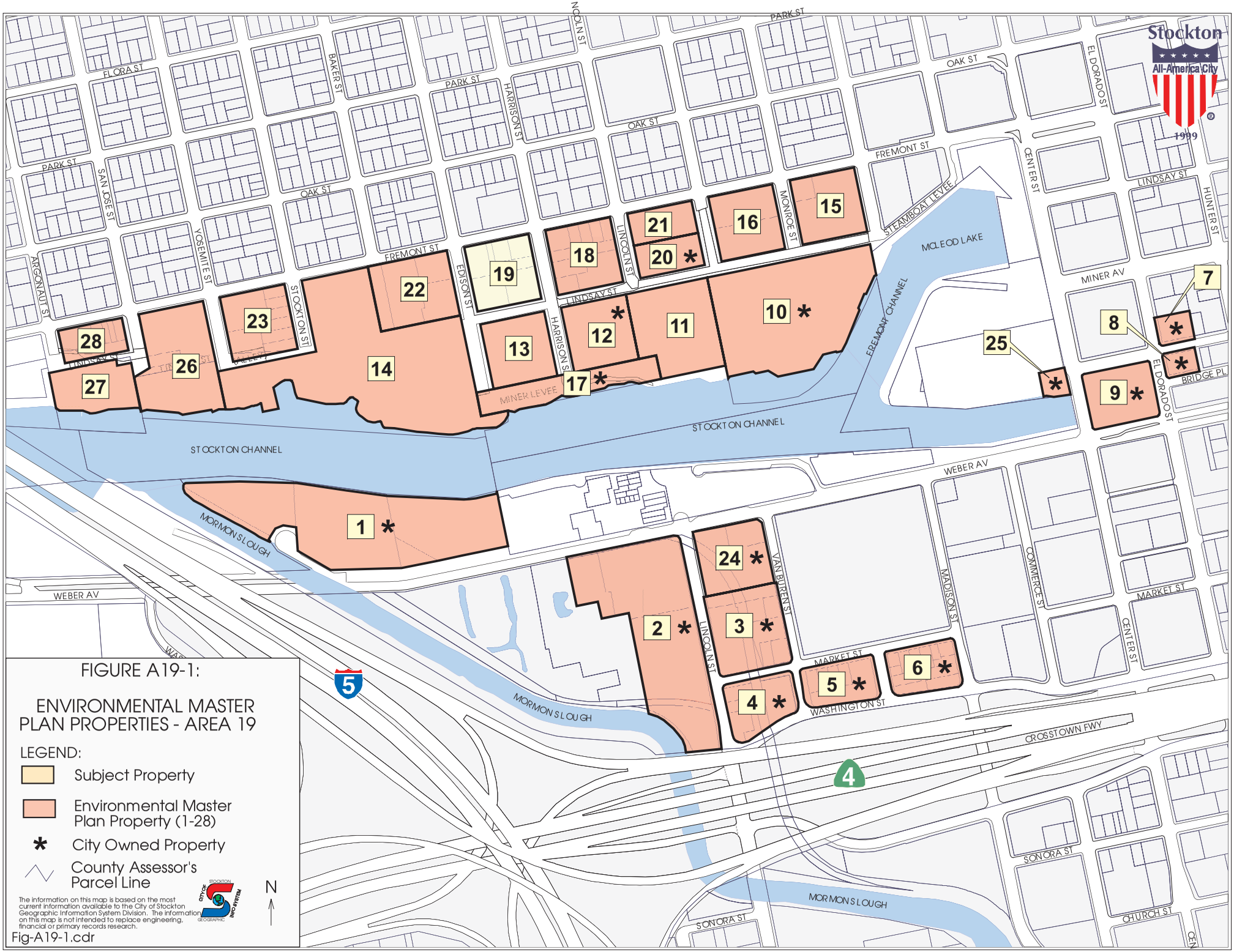


FIGURE A19-1:

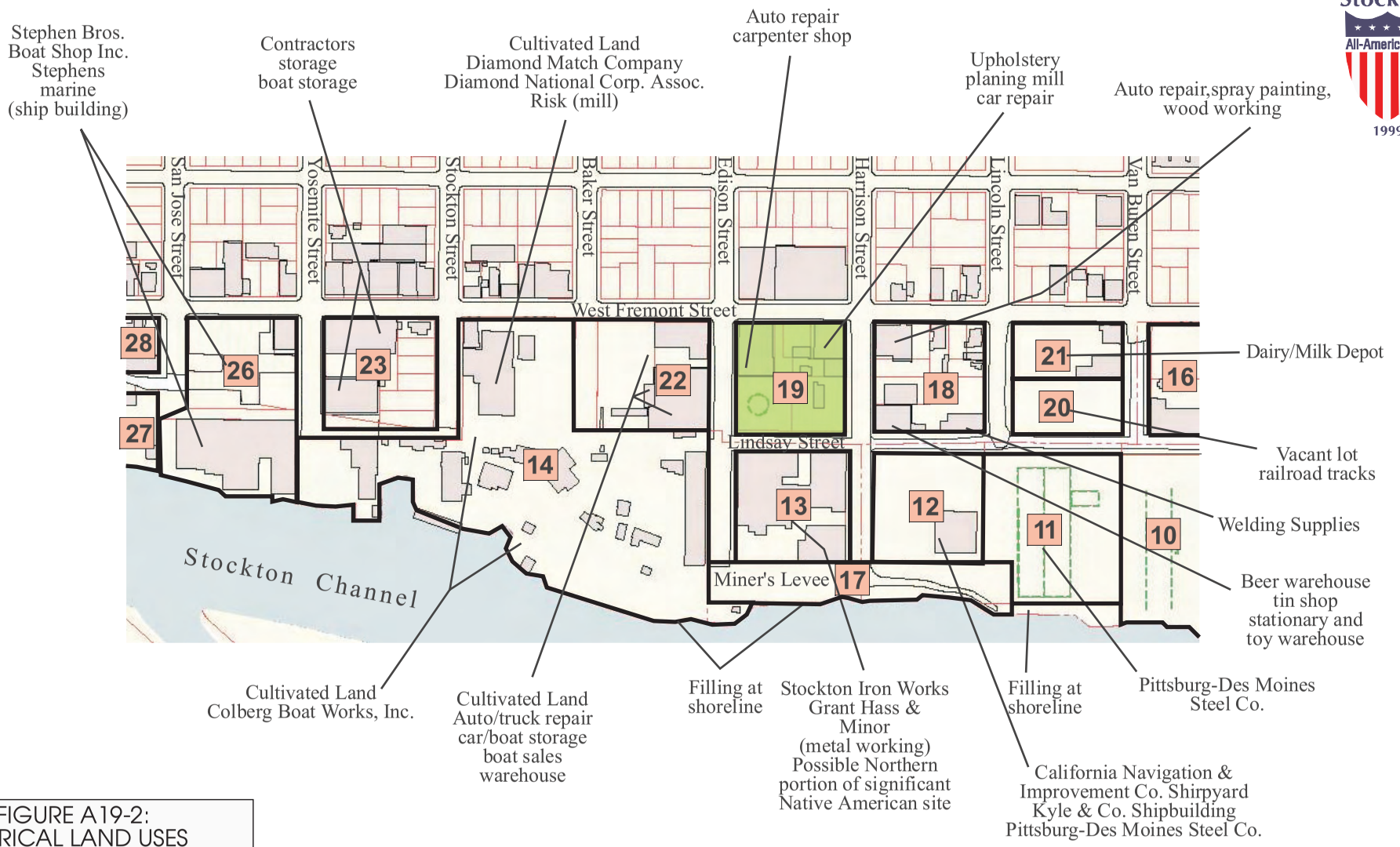
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 19

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A19-1.cdr



Stockton
All-America City
1999

FIGURE A19-2:
HISTORICAL LAND USES
AREA 19

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

N

0 300 Feet

BASELINE

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A19-2.cdr

Table A19-1
Historical Aerial Photograph Review Area 19

Year	Summary of Observations
1952	Water tower occupies one-fourth of the block. Two large structures and several smaller structures occupy the remaining portions of the block.
1957	No change from 1952 photo.
1964	No change from 1952 photo, except four containers are located on the southern side of the block.
1967	No change from 1964 photo, except the four containers are no longer there.
1970	No change from 1967 photo.
1982	Image unclear. No apparent changes from the 1967 photo.
1993	No change from 1967 photo.
1996	No change from 1967 photo.

Table A19-2
Historical Sanborn Fire Insurance Map Summary Area 19

Year	Site Observations and Surrounding Land Use
1895	Four dwellings; one water tank and windmill; one stable; remaining areas vacant; portion of southern area not shown on map.
1917	Four dwellings; one stable; one carpenter/cabinet shop with lumber shed; several small structures (use unknown) primarily associated with dwelling properties.
1950	Two warehouses; Cal Water Service Co. including a 50,000- gallon steel water tank (100' height on steel tower) connected to 12" water pipe; Potato Chip factory including a warehouse, office and storage areas; dwelling; planing mill, cabinet shop, office, storage, lumber shed, one building (use unknown), auto repairing, dust bin.
1956	New structures compared to 1950: glue room, upholstering building.
1965	New structures compared to 1956: warehouse now vacant structure, new auto storage, lumber, warehouse, radiator shop.
1972	No change from 1965, except one warehouse now vacant.

Previous Investigations of Area 19

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA*; prepared by BASELINE Environmental Consulting, June 2002.**

BASELINE Environmental Consulting prepared a Phase I ESA for properties in the study area, including Area 19. The scope of work included a review of historical land use information; a visual site reconnaissance; a review of regulatory lists and databases, and selected SJCEHD files; and reports available as of the date of this report for properties within and near Area 19. The report was prepared under a Brownfields grant issued by the EPA.

No specific recorded events resulting in environmental degradation were identified for Area 19. However, the report provided recommendations for further action to determine whether current or historical releases of hazardous materials had the potential to affect Area 19.

Summary of Results for Area 19

Based on the findings of the BASELINE Phase I ESA, a Phase II ESA should be conducted to assess the presence of subsurface soil and/or groundwater contamination at Area 19. The Phase II work should be conducted by a qualified environmental professional(s) under the direction of a regulatory agency and prior to the time of any site redevelopment activities.

Conclusions and Recommendations for Area 19

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site. It is recommended that soil and groundwater sampling be conducted for total petroleum hydrocarbons, VOCs, BTEX, oxygenates, SVOCs, metals, and pesticides to assess potential impacts from previous operations.

Areas 20 and 21

These two areas were not included in the 2002 Report of Known Environmental Conditions. This update provides available information on the two areas.

Site Location and Description of Areas 20 and 21

The Stockton Events Center includes a multi-facility center with an indoor arena and an outdoor ballpark. A seven-level parking structure, hotel with conference facilities, and restaurant and retail space are part of the multi-facility center. The redevelopment project will also incorporate green space redevelopment by providing an open space along the waterfront.

Areas 20 and 21 have been redeveloped as part of the construction of the Stockton Events Center, specifically the entry to the arena and surface parking in front of the Banner Island baseball stadium. A cleanup was performed on these areas in conjunction with Areas 10, 11, 12,[5] 15, and 16 for the Stockton Events Center (Treadwell & Rollo, 1996; Treadwell & Rollo, 1999; Treadwell & Rollo, 2000 a,b,c; Treadwell & Rollo, 2001 a,b; and Treadwell & Rollo, 2004). These combined properties (Areas 10, 11, 15, 16, 20, and 21) are referred to as the North Shore parcels.

Existing Land Uses near Areas 20 and 21

Fremont Street is the northern boundary of Area 21 with primarily commercial land uses. Area 18 is located to the west of Areas 20 and 21. Area 18 was used for a variety of historical land uses, including auto repair, painting, wood working, beer warehouse, tin shop, welding supplies storage, among other uses. Area 16, the former Chase Property 1, is located to the east of Areas 20 and 21. Area 11 is located to the south of Area 20, the current location of the Banner Island minor league baseball stadium. See Figure A20/21 for the property boundaries.

Previous Land Use of Areas 20 and 21

Historically, Area 20 was the former Western Rail Road parcel. The site was originally used as a switching yard, and a rail spur traversed the site. The site has also been used as a loading/unloading and storage area for rail cars (Resna Industries, 1992). The City owned this property for many years prior to site redevelopment. Area 21 was formerly used by Crystal Creamery as a dairy distribution facility since at least 1965 (Resna Industries, 1992). A leaking 10,000-gallon gasoline underground storage tank was reportedly removed in 1986 at this location, and subsequent work performed in 1994 reported that free-phase petroleum hydrocarbons were found in monitoring wells at the site. Groundwater monitoring wells and soil vapor extraction wells were installed as part of a system to treat soil and groundwater contaminated with fuel hydrocarbons at this location.

[5] Area 12 was not part of the original Remedial Design and Implementation Plan for the North Shore parcels, although it is part of the combined Event Center project.

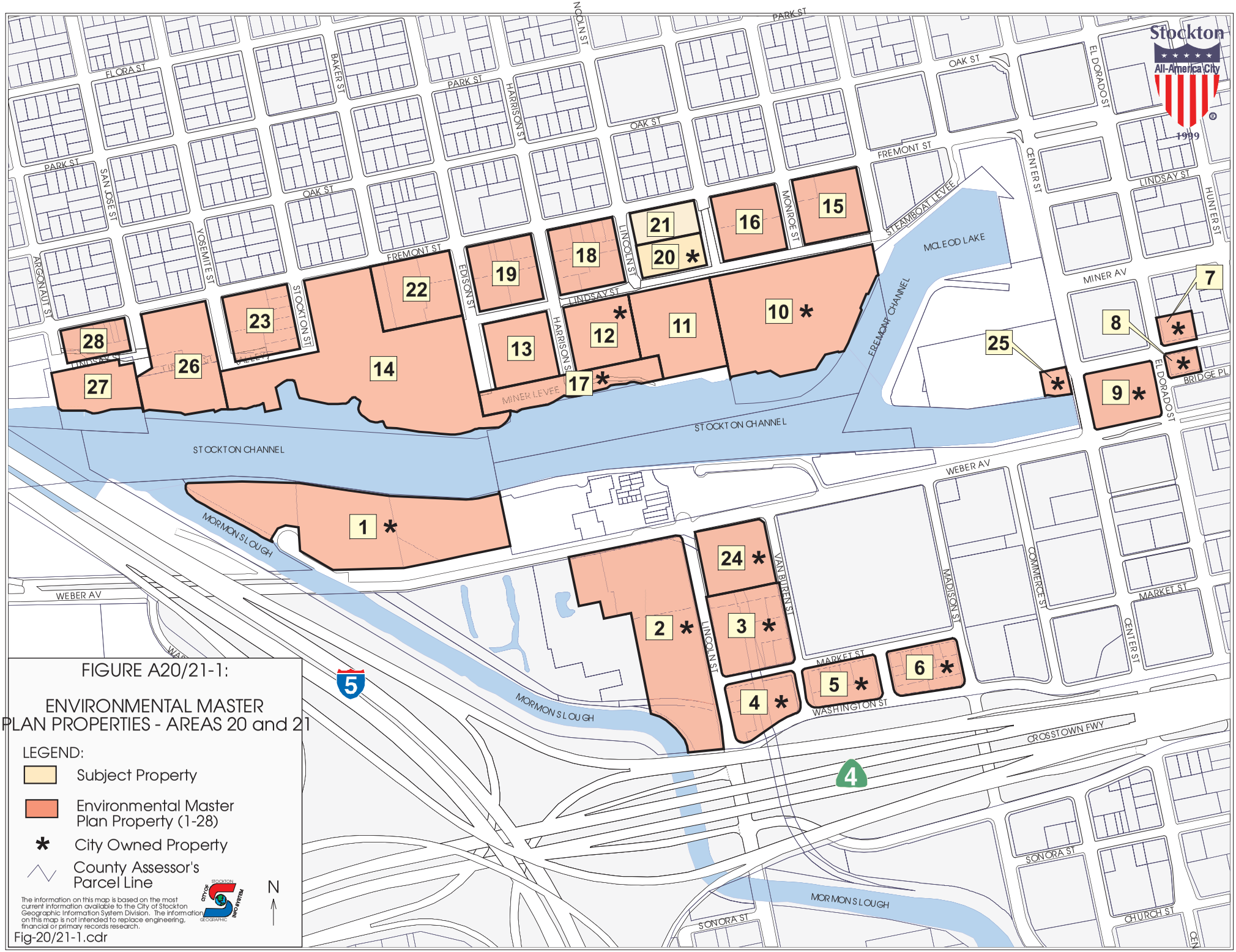


FIGURE A20/21-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREAS 20 and 21

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-20/21-1.cdr

Previous Investigations of Areas 20 and 21

Areas 20 and 21 were part of the Volume I: Site Characterization, North Shore parcels (Treadwell & Rollo, 1999). A brief summary of the findings of the site characterization is presented below. The properties were also included as part of the Remedial Investigation and Feasibility Study; Remedial Investigation and Feasibility Study (Treadwell & Rollo, 2000 a,b,c; Treadwell & Rollo, 2001 a,b); the Final RAP (Treadwell & Rollo, 2001) approved by DTSC in 2001; and the RDIP (Treadwell & Rollo, 2004). See Area 10 for a summary of these documents.

Based on the documents available for review, it is not known if a Phase I ESA was completed for Areas 20 and 21.

***Volume I Site Characterization Report, North Shore Properties, Stockton, CA*, prepared by Treadwell & Rollo for the City of Stockton Department of Housing and Development, December 13, 1999.**

The site characterization of Areas 20 and 21 began in the fall of 1999 with preparation of a Phase II ESA and PEA. The properties included in the North Shore were Areas 10, 11, 15, 16, 20, and 21. Groundwater monitoring and soil and grab groundwater sampling were completed as part of the Phase II investigation. A geophysical survey was also completed at Area 21. A PEA was completed using soil and groundwater data for the two areas.

For Area 20, no petroleum hydrocarbon or volatile or semi-volatile hydrocarbon contamination was detected in soil or groundwater samples analyzed during the investigation. Arsenic concentrations in soil exceeded the residential EPA PRG in four of the twelve samples analyzed. Industrial PRGs were not exceeded in any soil samples. Arsenic in soil at Area 20 resulted in unacceptable health hazards/risks for construction and landscape maintenance workers, and residential receptors. Excavation, construction, and redevelopment would likely require the development and use of a soil management plan for the area.

Significant groundwater contamination with petroleum hydrocarbons was reported for Area 21. TPH as gasoline and diesel, benzene, toluene, ethylbenzene, and xylenes were reported at elevated concentrations in groundwater samples. Minor amounts of non-chlorinated volatile and semi-volatile organic compounds were also detected in one groundwater well. No petroleum hydrocarbons or volatile organic compounds were detected in soil at Area 21 as analyzed during the investigation. However, the study did not include investigation of the immediate area of the former UST where soil contamination was known to exist. Total lead was also reported in one sample at elevated concentrations.

The PEA determined that health hazards for construction, landscape, and commercial/industrial workers, and residential receptors were within acceptable levels for Area 21. Semi-volatile organic compounds found in one soil sample resulted in excess lifetime cancer risks for landscape maintenance and commercial/industrial workers and for residents. The single lead concentration (440 mg/kg) also resulted in exceedances of child and industrial receptor-based soil target concentrations. Redevelopment plans should provide for the early inclusion of soil management protocols.

Summary of Results for Areas 20 and 21

Groundwater monitoring was conducted due to the former presence of a UST at Area 21 as well as treatment. The monitoring wells were removed as part of the redevelopment of the site and petroleum-affected soil was excavated. Following completion of redevelopment of the area,

groundwater monitoring wells will be installed and monitored in accordance with the requirements of SJCEHD.

Areas 20 and 21 have been redeveloped for the Stockton Events Center in accordance with the requirements of the DTSC-approved RAP and RDIP. The City and DTSC are in the process of completing a deed restriction prohibiting sensitive land uses for these properties. Final approval from DTSC on the cleanup of the North Shore parcels, including properties 20 and 21, is expected soon (see Area 10 for details).

Conclusions and Recommendations for Areas 20 and 21

This property has been redeveloped as part of the Stockton Events Center. No further actions are required unless land uses other than commercial are proposed. Additional remediation may then be required.

Area 22

Site Location and Description of Area 22

Area 22 is adjacent to and northeast of Colberg Boat Works property (Area 14) and is bordered on the east by Edison Street, on the west by Baker Street, and on the north by Fremont Street. The property occupies approximately one city block; the main occupant is Buckeye Appliance. Area 22 is within the Amended West End Redevelopment Area and is zoned as M2, Heavy Industrial (City of Stockton Zoning District Map). Property boundaries of Area 22 are shown on Figure A22-1.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. Along Fremont Street, the tenants included Buckeye Appliance and Ag Signs.

Existing Land Use near Area 22

The properties adjoining Area 22 are currently used for industrial/commercial purposes, with residential uses primarily north of W. Fremont Street. Area 22 is bordered to the south and west by Area 14; to the north by residential units; and to the east by Area 19.

Previous Land Use of Area 22

Historical land uses in Area 22 were determined by reviewing historical aerial photographs, historical Sanborn Fire Insurance Company maps, historical city directories, and historical topographic maps. Aerial photographs from 1952, 1957, 1964, 1967, 1970, 1982, 1993, and 1996 were reviewed. Sanborn Fire Insurance Company maps from 1895, 1917, 1950, 1956, 1965, and 1972 were reviewed. Area 22 was primarily used for industrial/commercial purposes. This information is summarized in Tables A22-1 and A22-2. See Figure A22-2 for further information.

Table A22-1
Historical Aerial Photograph Review Area 22

Year	Summary of Observations
1952	One large building, one smaller building, and two parking lots.
1957	No change from 1952 photo.
1964	Area not visible on photo.
1967	No significant change from 1952 photo.
1970	No change from 1967 photo.
1982	Image unclear. No changes were observed from 1967 photo, except a large building in the southeastern portion of the block is larger.
1993	No change from 1982 photo.
1996	No significant change from 1982 photo.

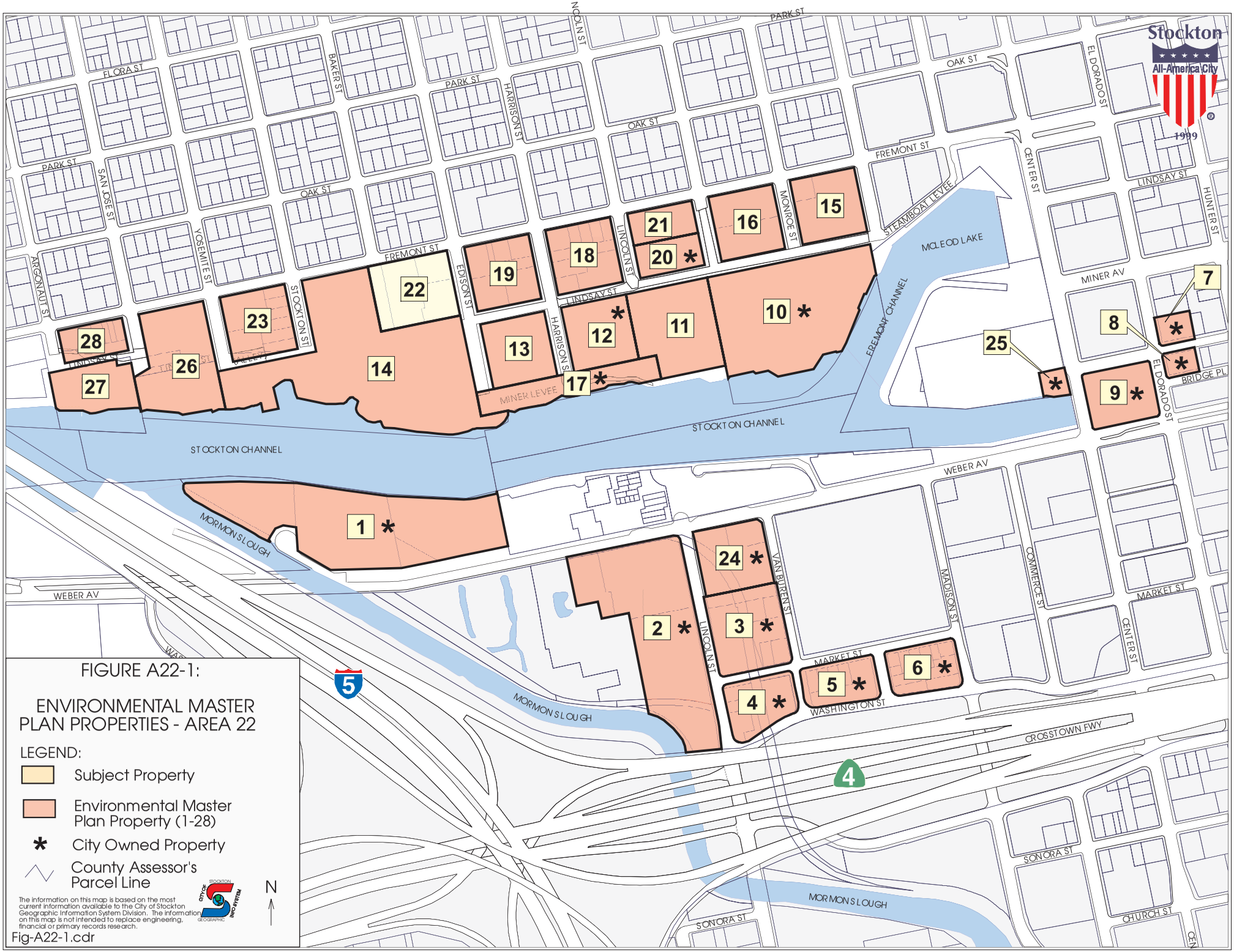


FIGURE A22-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 22

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A22-1.cdr

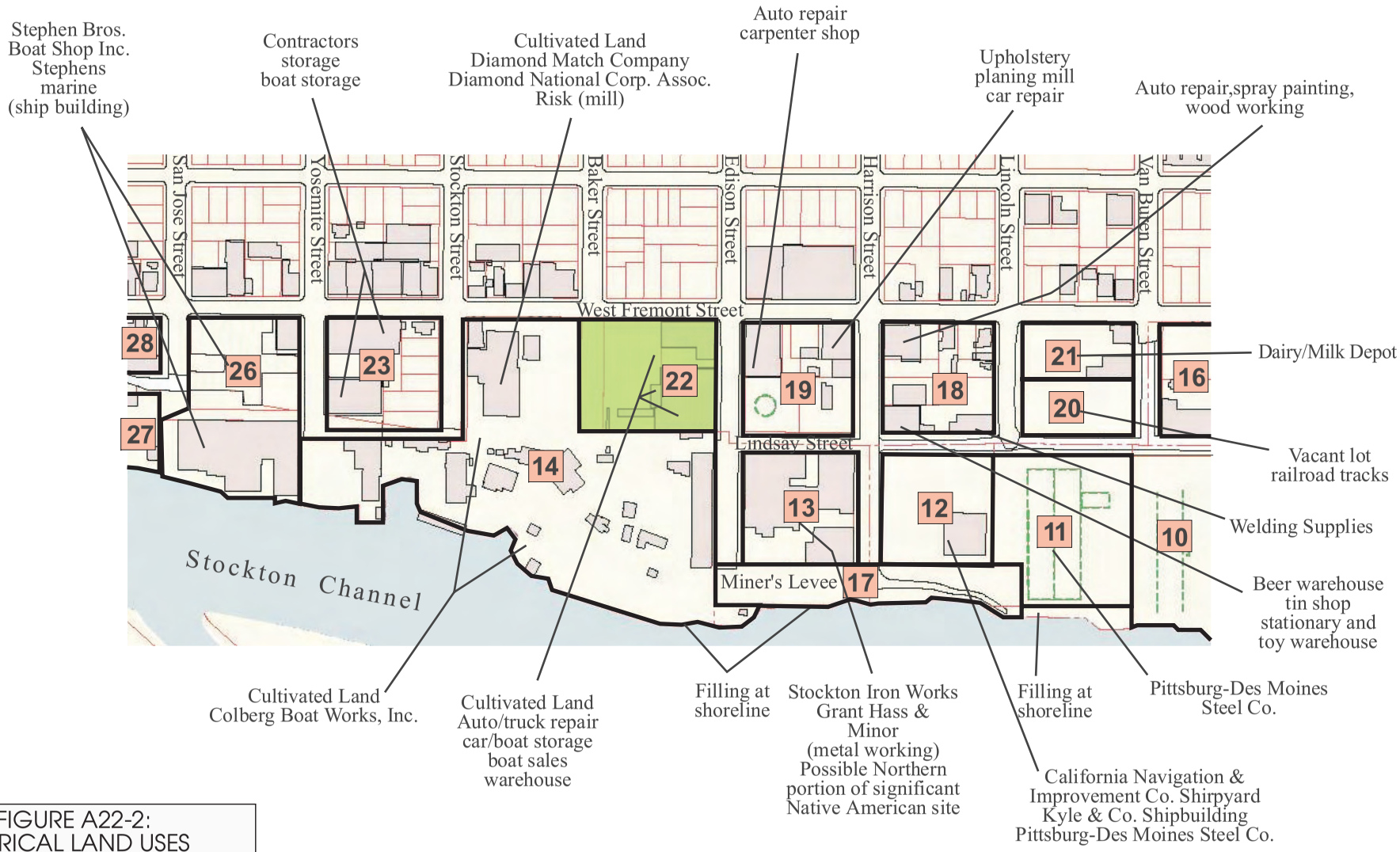


FIGURE A22-2:
HISTORICAL LAND USES
AREA 22

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

N

0 300 Feet

BASELINE

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A22-2.cdr

Table A22-2
Historical Sanborn Fire Insurance Map Summary Area 22

Year	Site Observations and Surrounding Land Use
1895	Map unavailable.
1917	Cultivated land.
1950	Grocery warehouse and storage.
1956	New car storage yard; auto repair; truck repair; paper carton warehouse.
1965	New car storage yard; auto repair; outboard motor sales and services, boat storage, auto polishing; parts storage; government truck "rep." (repair?)
1972	No change from 1965, except auto repair no longer conducted on-site.

Previous Investigations of Area 22

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA*; prepared by BASELINE Environmental Consulting, June 2002.**

BASELINE Environmental Consulting prepared a Phase I ESA for various properties in the study area, including Area 22. The scope of work included a review of historical land use information; a visual site reconnaissance; a review of regulatory lists and databases, and selected SJCEHD files; and reports available as of the date of this report for properties within and near Area 22. The report was prepared under a Brownfields grant issued by the EPA.

One site, Fowler's Auto Body, 405 N. Edison Street, was identified as having a hazardous materials release on the Leaking Underground Storage Tank (LUST) database maintained by the RWQCB. Two USTs (10,500-gallon gasoline and 1,800-gallon diesel) were removed from the site. Soil and groundwater samples were reported below the laboratory reporting limit for TPHmo; TPHg; BTEX; fuel oxygenates; EDB; and 1, 2 DCA. A No Further Action letter was issued by SJCEHD on 29 November 2000 (SJCEHD, 2000).

The report provided recommendations for further action to determine whether current or historical releases of hazardous materials had the potential to affect Area 22.

Summary of Results for Area 22

Based on the findings of the BASELINE Phase I ESA, a Phase II ESA should be conducted to assess the presence of subsurface soil and/or groundwater contamination at Area 22. The Phase II work should be conducted by a qualified environmental professional(s) under the direction of a regulatory agency and prior to the time of any site redevelopment activities.

Conclusions and Recommendations for Area 22

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site. It is recommended that soil and groundwater sampling be conducted for total petroleum hydrocarbons, VOCs, BTEX, oxygenates, SVOCs, metals, chlorinated volatile organic compounds, and pesticides to assess potential impacts from previous operations.

Area 23

Site Location and Description of Area 23

Area 23 is adjacent to and northeast of Colberg Boat Works property (Area 14) and is bordered on the east by Stockton Street, on the west by Yosemite Street, and on the north by Fremont Street. The property occupies approximately one city block. Area 23 is within the Amended West End Redevelopment Area and is zoned as M2, Heavy Industrial (City of Stockton Zoning District Map). Property boundaries of Area 23 are shown on Figure A23-1.

BASELINE personnel conducted a walking reconnaissance of the site on June 7, 2005. Along Fremont Street, a large concrete office building housed McLaughlin Air Conditioning, Bellato Engineers, and North Shore Performance. A private residence was located at the corner of Stockton Street.

Existing Land Use near Area 23

The properties adjoining Area 23 are used for commercial/industrial purposes, with residential uses primarily north of W. Fremont Street. Area 23 is surrounded to the east and south by Area 14; to the north by residential units; and to the west by Area 26.

Previous Land Use of Area 23

Historical land uses in the area were determined by reviewing historical aerial photographs, historical Sanborn Fire Insurance Company maps, historical city directories, and historical topographic maps. Aerial photographs from 1952, 1957, 1964, 1967, 1970, 1982, 1993, and 1996 were reviewed. Sanborn Fire Insurance Company maps from 1895, 1917, 1950, 1956, 1965, and 1972 were reviewed. Area 23 was primarily used for industrial/commercial purposes. This information is summarized in Tables A23-1 and A23-2. See Figure A23-2 for further information.

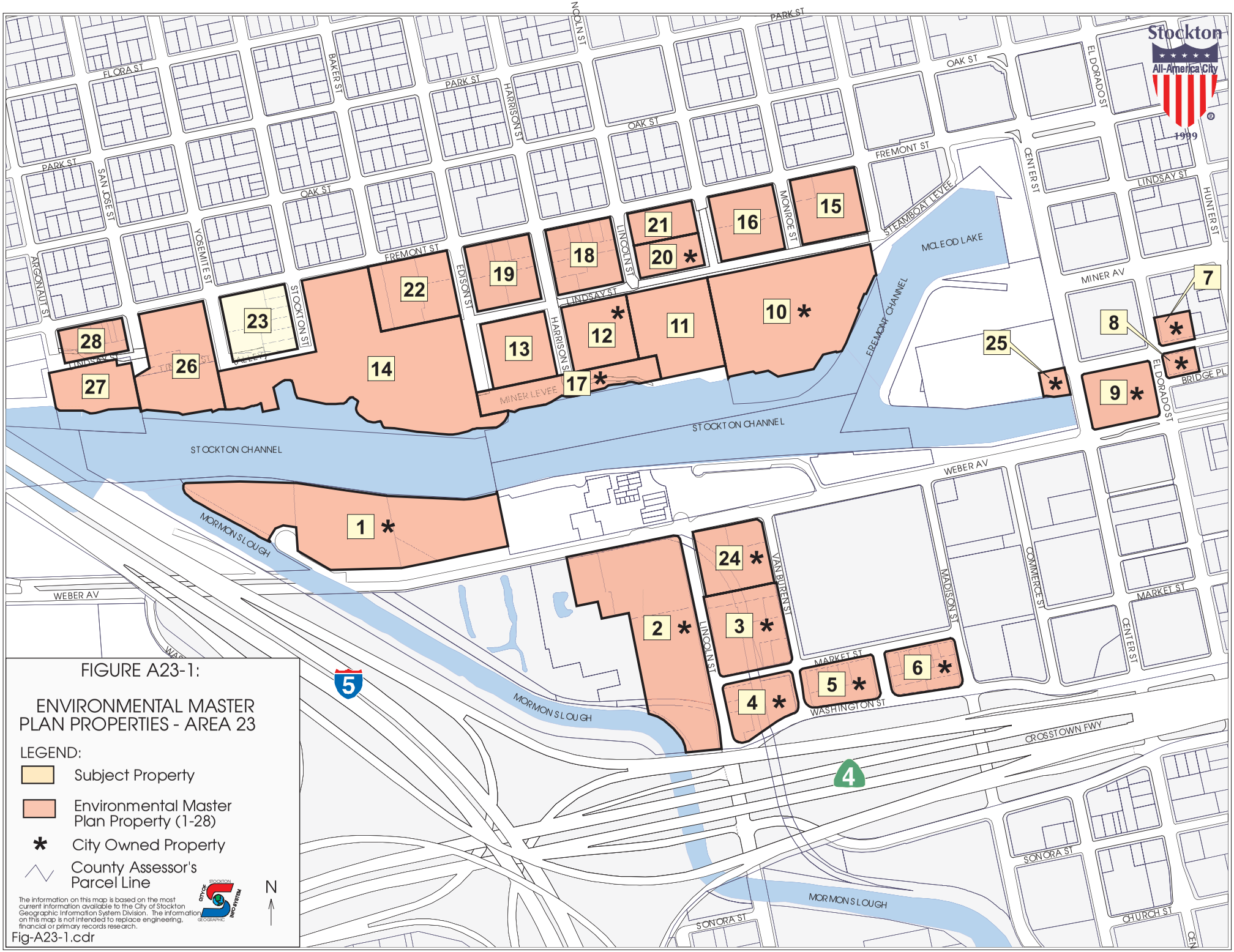


FIGURE A23-1:

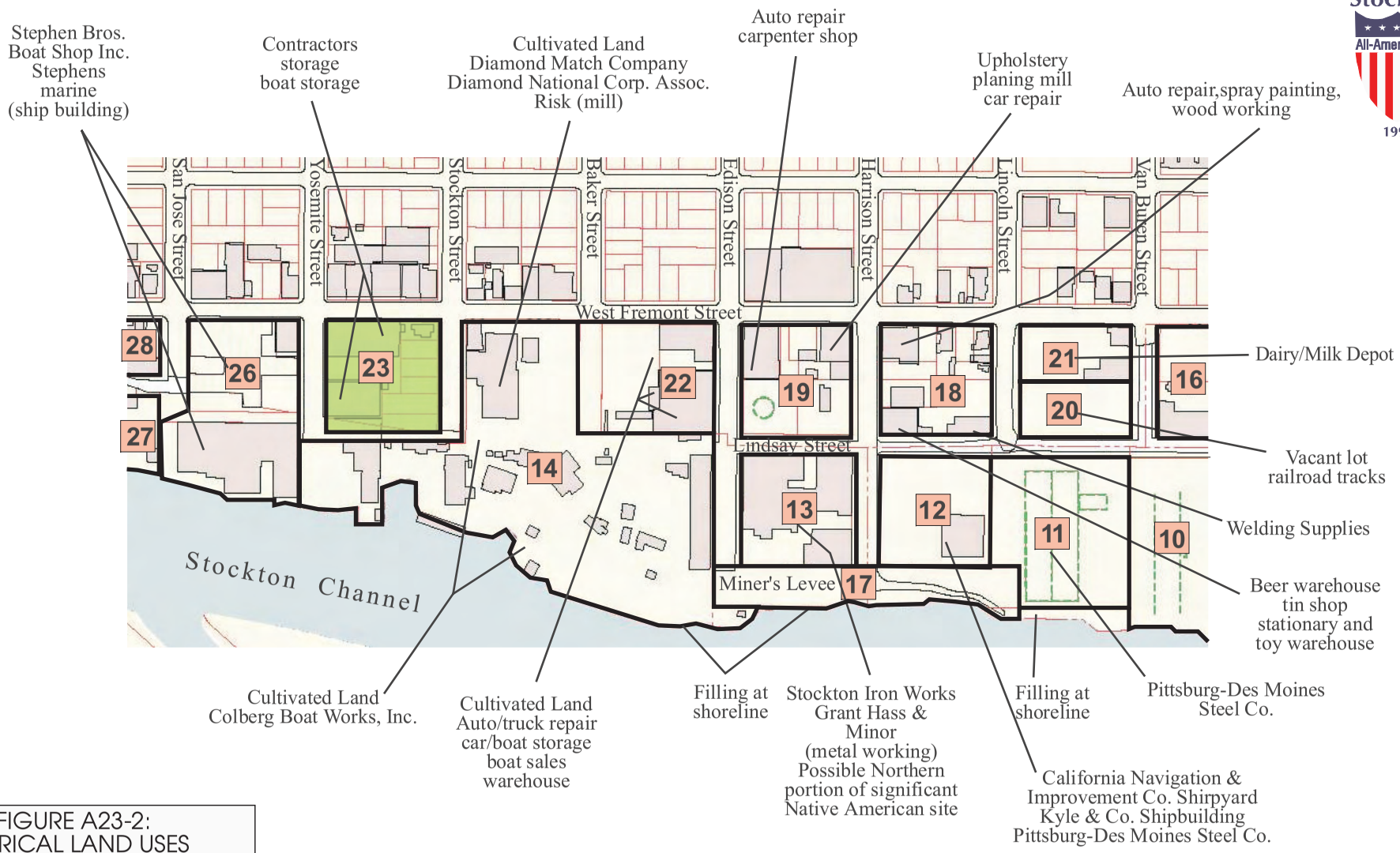
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 23

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A23-1.cdr



Stockton
All-America City
1999

FIGURE A23-2:
HISTORICAL LAND USES
AREA 23

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

N

0 300 Feet

BASELINE

Fig-A23-2.cdr

Table A23-1
Historical Aerial Photograph Review Area 23

Year	Summary of Observations
1952	Image unclear.
1957	Four dwellings, one large building, and smaller structures.
1964	Area not visible on photo.
1967	No change from 1957 photo, except one building is significantly larger.
1970	No change from 1967 photo.
1982	Map unclear. No changes observed from 1967 photo.
1993	No change from the 1967 photo, except a large building is in the northwestern corner of the block and dwellings are no longer present.
1996	No change from 1993 photo.

Table A23-2
Historical Sanborn Fire Insurance Map Summary Area 23

Year	Site Observations and Surrounding Land Use
1895	Map unavailable.
1917	Nine dwelling units; one shed; one water tank; one unknown structure; several small buildings, primarily associated with dwelling properties.
1950	Seven dwellings, some with auto units or small buildings associated with dwellings; contractors storage with auto unit; railroad track; and one unknown structure near contractors storage.
1956	Map unavailable.
1965	Dwellings, some with auto units; contractors storage, boat storage, parking.
1972	No change from 1965.

Previous Investigations of Area 23

***Phase I, Site Assessment, Environmental Master Plan, Properties 18, 19, 22, and 23; Stockton, CA*; prepared by BASELINE Environmental Consulting, June 2002.**

BASELINE Environmental Consulting prepared a Phase I ESA for various properties in the study area, including Area 23. The scope of work included a review of historical land use information; a visual site reconnaissance; a review of regulatory lists and databases, and selected SJCEHD files; and reports available as of the date of this report for properties within and near Area 23. The report was prepared under a Brownfields grant issued by the EPA.

The report provided recommendations for further action to determine whether current or historical releases of hazardous materials had the potential to affect Area 23.

Summary of Results for Area 23

Based on the findings of the BASELINE Phase I ESA, a Phase II ESA should be conducted to assess the presence of subsurface soil and/or groundwater contamination at Area 23. The Phase II work should be conducted by a qualified environmental professional(s) under the direction of a regulatory agency and prior to the time of any site redevelopment activities.

Conclusions and Recommendations for Area 23

Review of available data indicates that both soil and groundwater may have been impacted by past uses of the site. It is recommended that soil and groundwater sampling be conducted for total petroleum hydrocarbons, VOCs, BTEX, oxygenates, SVOCs, chlorinated volatile organic compounds, metals, and polychlorinated biphenyls to assess potential impacts from previous operations.

Area 24

Area 24 was not assessed in the 2002 Report of Known Environmental Conditions. This update provides available information on the area.

Site Location and Description of Area 24

Area 24 occupies one historic city block (Figure A24-1). The property is owned by the Stockton Redevelopment Agency. It is bounded to the north by Weber Avenue, to the south by Area 3, to the east by Van Buren Street, and to the west by Lincoln Street. The southeastern portion of the block is occupied by the Children's Museum of Stockton; a surface parking area occupies the northern frontage on Weber Avenue. The remaining portion of the block is vacant.

Existing Land Use near Area 24

Across Weber Avenue to the north are commercial land uses fronting the Stockton Channel; to the east are existing commercial offices; to the south are the commercial offices under construction in Area 3; Area 2A is located to the west and is vacant.

Previous Land Use of Area 24

Area 24 has been occupied by both commercial and residential development as described by Golden State Environmental (2005). As early as 1895, Area 24 was occupied by a windmill and tank factory in the southwestern portion of the site and some residential development in the southeastern portion; the remainder being vacant.

In 1917, the windmill and tank factory in Area 24 had expanded to include the western three-quarters of the southern half of the site, with residential development in the remaining eastern one-quarter portion. A railroad spur from Weber Avenue entered Area 24 at the north end, cutting across the northeast one-quarter portion of Area 24, continuing to the south in the middle of North Van Buren Street. The remainder of Area 24 (the northern one-half) was vacant. A lumber yard occupied the western portion of Area 3 with residential on the eastern half. The western half of Area 4 was residential and the eastern half was vacant.

By 1950, the area formerly occupied by the windmill and tank factory in Area 24 in the southwestern corner was occupied by a wholesale liquor and beer depot warehouse. The remainder of Area 24 appeared vacant.

In 1957 and 1960, the railroad spur identified in 1917 still appeared to be present in the northeast corner of Area 24, although it is unknown if the tracks were present or if only the ballast remained. In Area 24, the buildings used by a wholesale liquor and beer depot were present in the southern half.

By 1970, an additional railroad spur enters at the northwestern portion of Area 24, crossing the centers of Areas 3 and 4 in a north-south direction. There were also two additional east-west oriented spurs in the northern portion of Area 24. The previous spur located in the northeast corner of the parcel appeared to have been abandoned. The railroad tracks appeared to have been removed; only a trace of the former right-of-way was visible in aerial photos. The wholesale liquor and beer depot buildings were replaced by a warehouse on the western half.

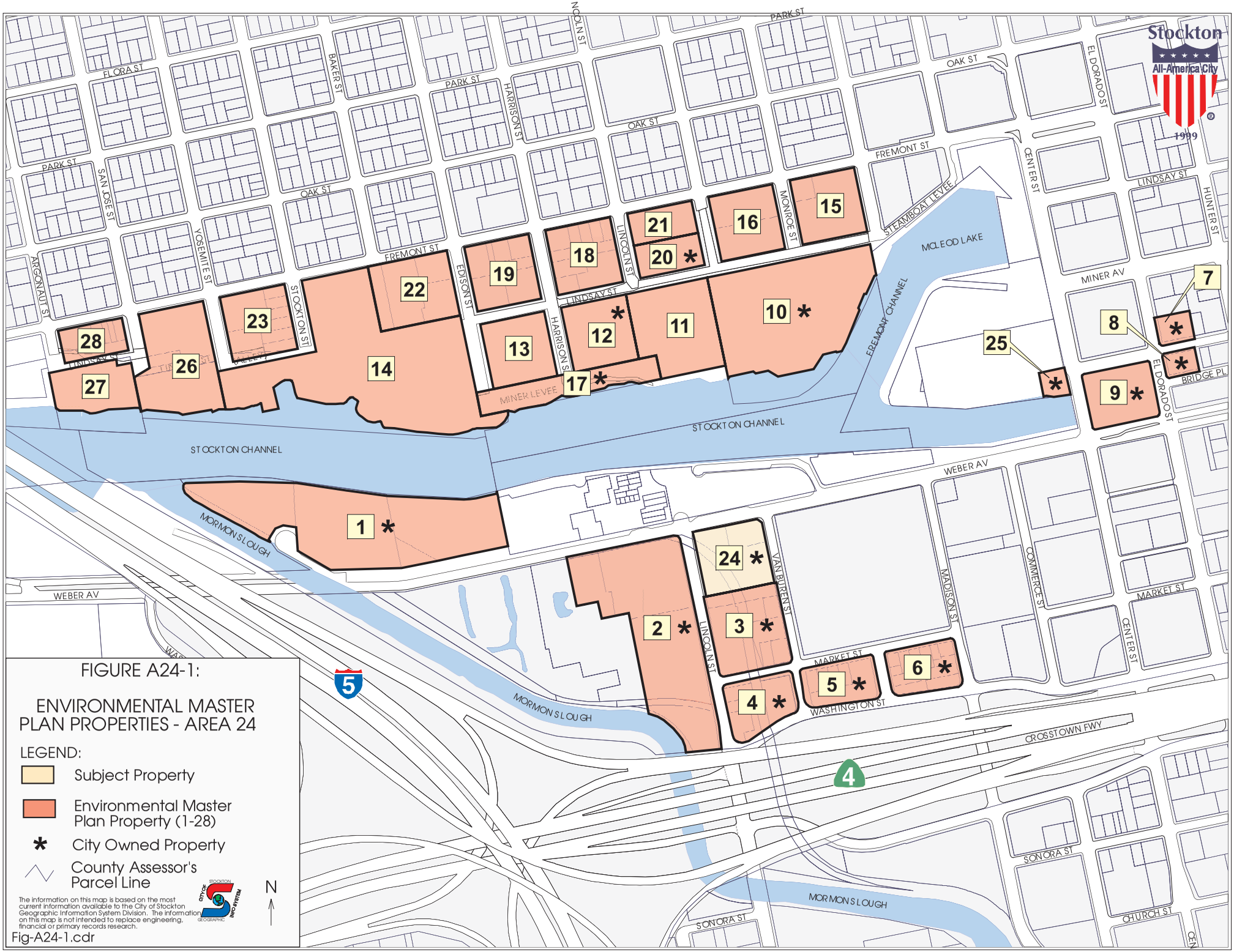


FIGURE A24-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 24

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-A24-1.cdr

In 1972, the southern portion of Area 24 was occupied by a warehouse and storage yard on the west half and a beer warehouse on the east half; the north half being mostly vacant and used for parking or unloading along railroad spurs.

By 1974, the visible trace of the former railroad spur in the northeastern corner of Area 24 was not visible. The rail spur through the center of the site (having a north-south orientation) and two rail spurs in the northern half of Area 24, were present. Two structures were present on Area 24, one large (warehouse) on the east portion and one smaller (historically warehouse storage) on the western portion.

By 1981, the rail spur through the middle of Area 24 (having a north-south orientation) and two rail spurs in the northern half were present. Two structures were present on Area 24, one large (warehouse) on the east portion and one smaller (historically warehouse storage) on the western portion.

In 1990, the location of a former underground storage tank (UST) was identified, from records review, along the southern boundary of Area 24 to the immediate east of the former rail spur.

By 1993, the location of the railroad spurs in Area 24 was visible in aerial photos. The warehouse in the southeastern corner of Area 24 was still present. No other buildings were visible in Area 24.

Previous Investigations of Area 24

Previous investigations conducted in Area 24 are summarized by Golden State Environmental (2005) and described below.

In Area 24, soil samples were collected during the installation of two groundwater monitoring wells; MW-3 and MW-7, in the western portion of the site near the former railroad tracks. Analytical results indicated that the soil samples collected at depths of 20 and 15 feet, respectively, did not contain TPHg or TPHd above method detection limits (MDLs). Also, benzene was not detected above the reported MDL. Other chemicals of concern, such as VOCs, fuel oxygenates (methyl-t-butyl-ether, tert-butyl-alcohol), and metals, including arsenic and lead, apparently were not analyzed.

Groundwater samples were also collected from monitoring wells MW-3 and MW-7. Sampling in June 2004 identified TPHd at concentrations of 1,400 µg/L in MW-3, 610 µg/L in MW-7, and TPHmo at concentrations of 370 µg/L in MW-3 and 230 µg/L in MW-7. Neither gasoline nor benzene was identified, although TPHg had been historically detected at 51.5 µg/L in MW-3 and 54 µg/L in MW-7. Other contaminants of concern, including n-propylbenzene, MTBE, and TBA, were reported at below their respective MDLs for MW-3 and MW-7 in May 2003. Arsenic was detected in MW-3 at 160 µg/L in 2004 and in MW-7 at 31 µg/L. Lead was below the MDL of 3 µg/L in MW-3 and detected at a concentration of 3.5 µg/L in MW-7 in 2004.

The former railroad right-of-way arches from the northwest corner to the center of the southern boundary of Area 24 and continues south through the center of Areas 3 and 4. Two rail lines were present in the right-of-way, the track remaining after the lines were "abandoned." The side by side rail lines were placed on approximately two feet of railroad ballast. Beneath the eastern line, and beneath the railroad ballast, a French drain system was installed to a depth of approximately five feet bgs. The French drain consisted of a corrugated steel pipe, approximately 12 inches in diameter with holes placed in the bottom of the pipe, the holes positioned downward, and the trough filled with pea gravel to approximately two feet bgs.

***First Quarter 2005 Site Status, Groundwater Monitoring, and Remedial Summary Report,* prepared by Secor on behalf of the L&M Operable Unit, April 29, 2005.**

In Area 24, groundwater monitoring (water level fluctuations and water quality) has been performed from August 1989 and is currently ongoing as of the date of this report (wells MW-3 and MW-7). Monitoring data are used to assess groundwater flow and contaminant distribution. Depth to groundwater is approximately 10 feet in the northern portion of Area 24 to a depth of approximately 16 feet in the southern portion. Contaminants identified include TPH, VOCs, SVOCs, and several metals.

Summary of Results for Area 24

Two monitoring wells installed near the former railroad tracks in the western portion of the site contained petroleum hydrocarbons and related compounds in the groundwater. A French drain system is located adjacent to the former eastern railroad tracks in the railroad right-of-way; the drain may be a source of petroleum hydrocarbons and associated compounds.

Conclusions and Recommendations for Area 24

The Agency is currently having discussions with DTSC and the RWQCB regarding the appropriate agency with which to enter into a potential Polanco Act Environmental Oversight Agreement for Areas 3, 4, and 24. This agreement would be entered into pursuant to the requirements of the Polanco Redevelopment Act as set forth in Health and Safety Code 33459 – 33459.8.

The Agency intends to enter into a Polanco oversight agreement to establish a process for restoring the contaminated properties to beneficial use, while being protective of human health and the environment. The Polanco process provides the Agency with contaminant liability relief and the ability to pass this immunity to future developers.

A draft work plan has been prepared by the Agency to assess subsurface conditions at Areas 3, 4, and 24. The proposed work would further delineate the horizontal and vertical extent of contamination in Areas 3 and 4, and in Area 24. This work would also assist in identifying the probable source of the diesel release. The work plan will be submitted for final approval upon transition to a Polanco oversight agreement discussed above. The results of the assessment will address the requirement for additional work and/or remediation. The work plan proposes the collection of soil and groundwater data. The locations of soil and groundwater data collection were based on review of historical site use documentation. Future development of that portion of Area 24 would be subject to preceding investigations and remediation, if necessary, with regulatory agency oversight. Such investigations would likely include evaluation of the French drain as a source of soil and/or groundwater contamination.

Area 25

Site Overview

Area 25, also known as the ARCO site, was the location of an ARCO station and mini-mart. Historically, this area was the site of an ice cream factory and was part of a larger area Phase I ESA completed in 1995 for the Weber Point Events Center. This 0.3-acre property (Figure A25-1) was acquired by the City of Stockton in 1999 to complete the park and open space improvements of the Events Center. The acquisition of the property was done using provisions specific in the Polanco Redevelopment Act so that the Agency and City would gain liability protection as a responsible party (RP). Thus, ARCO remains responsible for characterizing and cleaning up any contamination resulting from its historic operations, even though the gas station was demolished in 2000 and the property was redeveloped in 2001.

Quarterly groundwater monitoring reports are submitted to SJCEHD. As a result of migrating methyl tert butyl ether (MTBE) in the groundwater, which trends to the northeast, SJCEHD has required the installation of several additional groundwater monitoring wells to the east of Area 25, specifically at the Dean DeCarli Waterfront Square (Area 9). No specific groundwater remediation has been specified by the local oversight agency as of the close of this document (December 2005).

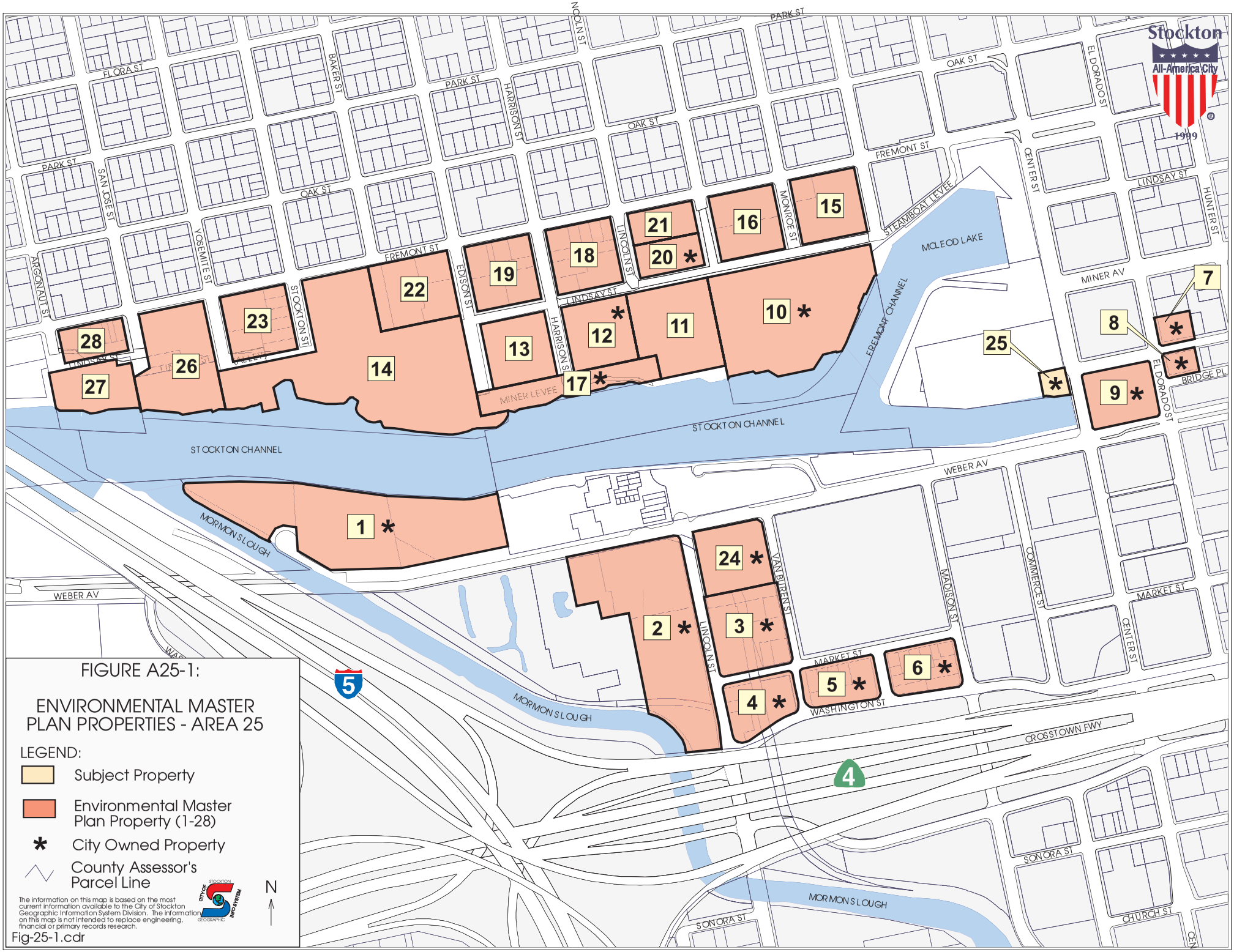


FIGURE A25-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 25
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-25-1.cdr
N
Stockton All-America City 1999
STOCKTON CHANNEL
MORMON SLOUGH
MCLEOD LAKE
EREMOMY CHANNEL
MINER LEVEE
STEAMBOAT LEVEE
PARK ST
OAK ST
FREMONT ST
LINDSAY ST
MINER AV
WEBER AV
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
FLORA ST
SAN JOSE ST
BAKER ST
HARRISON ST
LINCOLN ST
MONROE ST
CENTER ST
EL DORADO ST
HUNTER ST
ARGONAUT ST
YOSEMITE ST
STOCKTON ST
EDISON ST
VAN BUREN ST
MADISON ST
COMMERCE ST
BRIDGE PL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Area 26

Site Overview

Area 26 was used historically for ship building and plating operations (Figure A26-1). The site is currently used for industrial/commercial purposes, including automotive repair, sheet metal working, and as a boat storage facility. Total petroleum hydrocarbons as gasoline and diesel, volatile organic compounds, and selected metals have been identified in site soils and groundwater. These environmental investigations were completed in 1996 through 2000, as reported in a Phase I ESA completed for adjoining properties in 2002. It is unknown if additional investigations have been completed at the site.

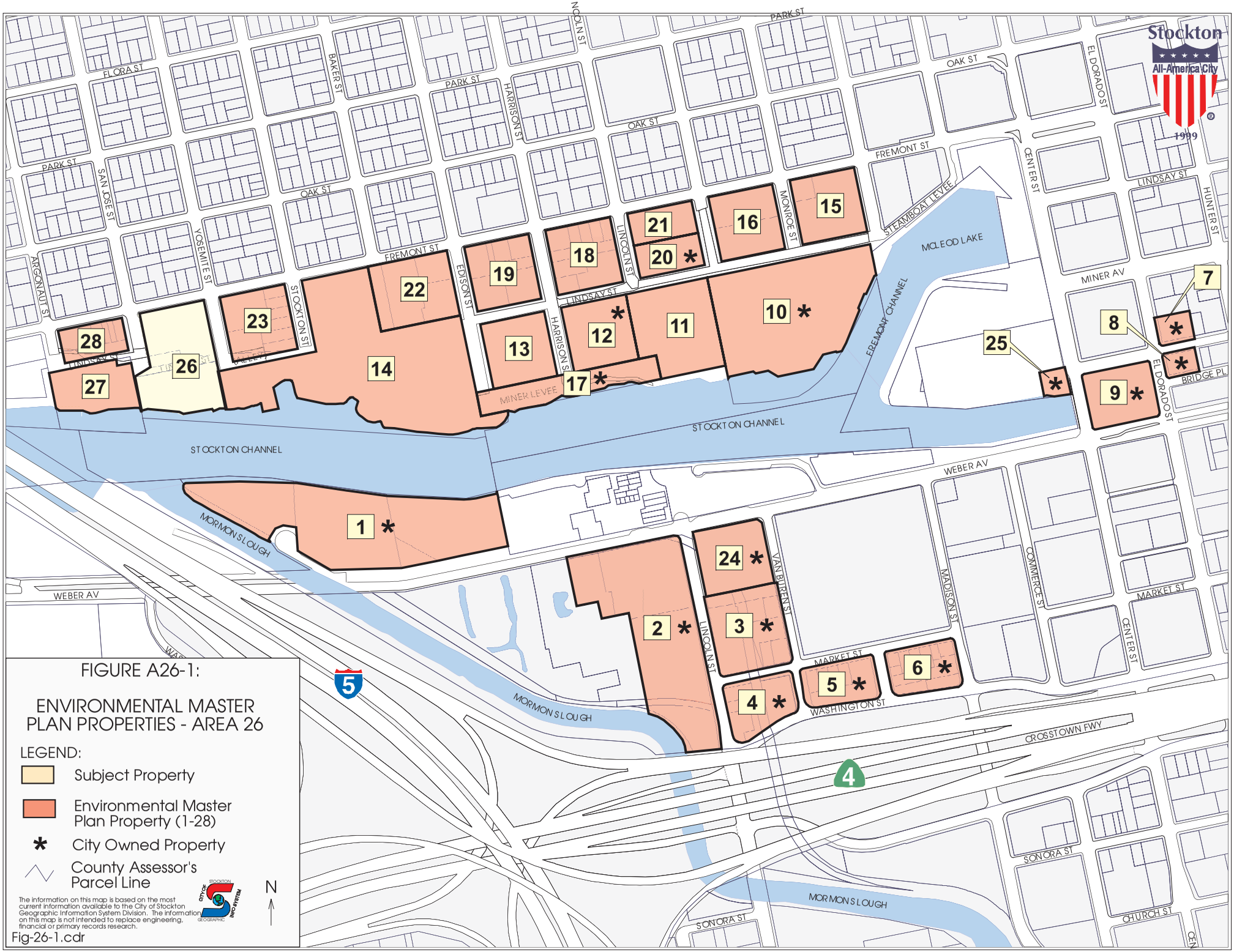


FIGURE A26-1:
ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 26
LEGEND:
Subject Property
Environmental Master Plan Property (1-28)
* City Owned Property
County Assessor's Parcel Line
The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.
Fig-26-1.cdr
N
Stockton All-America City 1999
STOCKTON CHANNEL
MORMON SLOUGH
MCLEOD LAKE
EREMONT CHANNEL
MINER LEVEE
STEAMBOAT LEVEE
PARK ST
OAK ST
FREMONT ST
WEBER AV
MINER AV
LINDSAY ST
MARKET ST
WASHINGTON ST
CROSSTOWN FWY
SONORA ST
CHURCH ST
BRIDGE PL
FLORA ST
SAN JOSE ST
BAKER ST
HARRISON ST
LINCOLN ST
MONROE ST
CENTER ST
EL DORADO ST
HUNTER ST
ARGONAUT ST
YOSEMITE ST
EDISON ST
STOCKTON ST
VALLEY ST
HARRISON ST
VAN BUREN ST
MADISON ST
COMMERCE ST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
5
4

Areas 27 and 28

Areas 27 and 28 were not formally evaluated in either the Initial Brownfields Pilot Project or in the Supplemental Pilot Project. Available information for these properties is summarized below with respect to the existing land uses, previous land uses, and previous investigations for Areas 27 and 28. The site boundaries for Areas 27 and 28 are shown on Figures A27-1 and A28-1.

Existing and Previous Land Uses of Areas 27 and 28

The area between San Jose and Fremont streets is a partially paved lot with commercial structures in a primarily commercial area (TetraTech, 2001). The most recent use of the site has been for sales, service, and repair of racing boats.

For over 35 years, the site has been reportedly used for industrial/commercial purposes (Environmental Safety Service, 2004). Historical fire insurance maps reviewed since the preparation of a Phase I Environmental Site Assessment (ESA) for the property have identified that Area 27 was used by the Texaco Company for oil/fuel storage in aboveground tanks from at least 1950 to at least 1972. Past land uses on Area 28 with potential hazardous materials uses have included: a carpenter shop, laundry, pet hospital, aluminum awning manufacturing, parking, and other commercial uses (EDR Sanborn, Inc., 1917, 1950, 1965, 1972).

Previous Investigations for Areas 27 and 28

***North Beach Marine Dry Boat Storage Project, Initial Study/Mitigated Negative Declaration,* prepared by Tetra Tech for North Beach Marine Storage, 1220 West Fremont Street, Stockton, California, October 2001.**

A Mitigated Negative Declaration and Initial Study was prepared for a proposed project at Areas 27 and 28. The proposed project would include construction of boat storage and launch facilities at 401 N. San Jose Street in Stockton, California, bordering the Stockton Deep Water Channel. Construction was proposed on the upland area (1.89 acres) and the aquatic areas of the channel (approximately 0.75 acre). The proposed facility would allow for storage of approximately 144 boats in sheds. Boats would be stored until customers asked that they be placed in the Channel, at which time they would be lowered into the water using a forklift. The boats would be returned to dry storage after use. No boats would be permanently stored in the water and no fueling facilities were proposed for the site.

Based on the findings of the initial study, the proposed project could have a significant effect on the environment. However, there would not be a significant environmental effect in this case because revisions to the project have been made or agreed to by the project proponent. All potential impacts from hazards and hazardous materials in the initial study were found to be "less-than-significant" or to have "no impact."

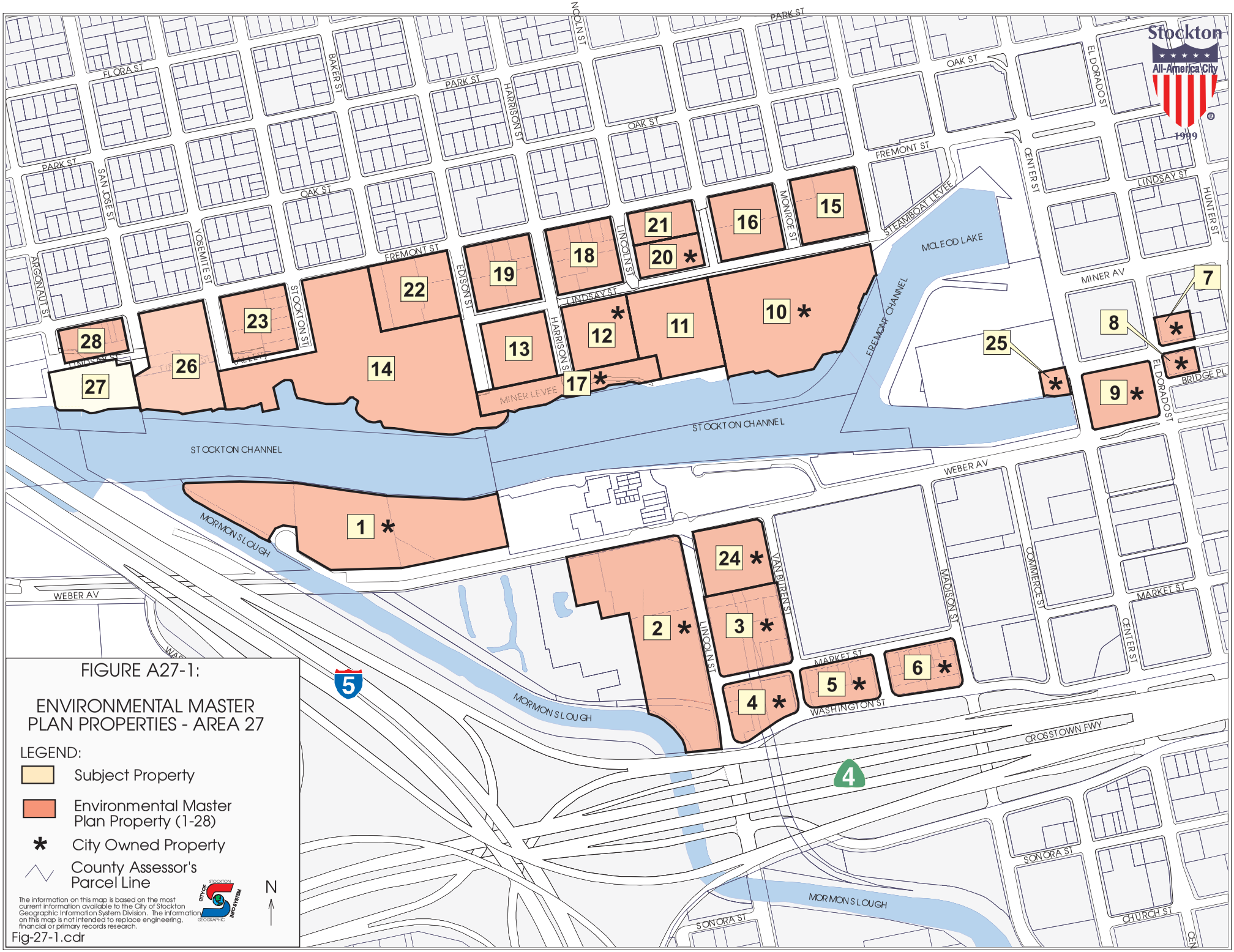


FIGURE A27-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 27

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-27-1.cdr

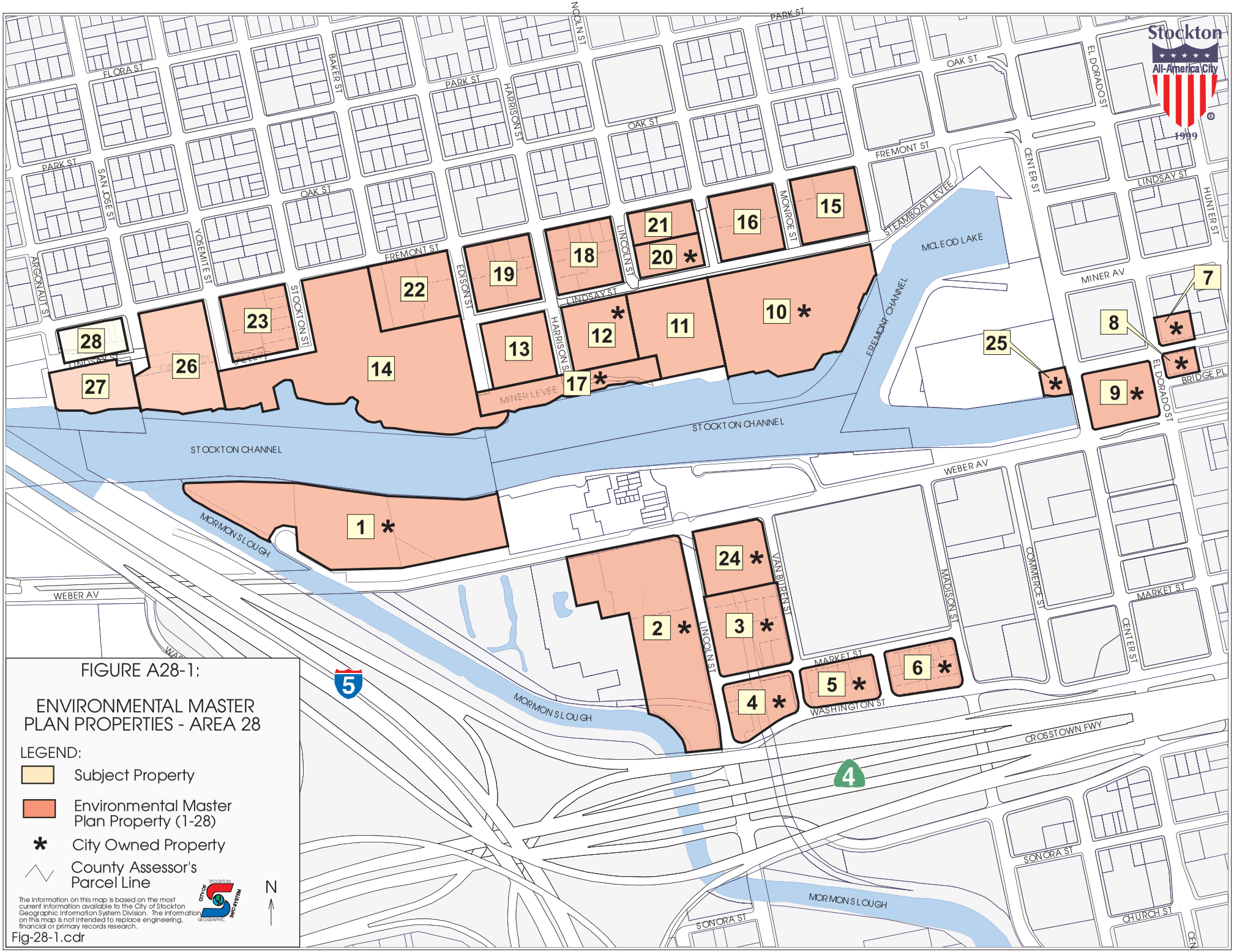


FIGURE A28-1:

ENVIRONMENTAL MASTER PLAN PROPERTIES - AREA 28

LEGEND:

- Subject Property
- Environmental Master Plan Property (1-28)
- * City Owned Property
- County Assessor's Parcel Line

N

The information on this map is based on the most current information available to the City of Stockton Geographic Information System Division. The information on this map is not intended to replace engineering, financial or primary records research.

Fig-28-1.cdr

***Faso Houseboat Sales, Repair and Restoration Project, Draft Initial Study*, prepared by TOVA Applied Science & Technology for Moffatt & Nichol Engineers, Stockton, California, February 2004.**

The scope of the proposed project was to relocate an existing covered boat dock from the downtown Marina to the project site at 401 N San Jose Street. The boat dock and existing land facilities would be used for houseboat sales, service, repair, and restoration. A summary of the Phase I ESA, which was provided as an appendix to the document, is summarized below.

The Phase I ESA[6] prepared by Environmental Safety Services (2004) stated that the site is reportedly not on the EPA National Priorities List (NPL), the Comprehensive Environmental Response, Compensation and Liability Information System List (CERCLIS), the Resource Conservation and Recovery Information System List (RCRIS), the Emergency Response Notification System (ERNS), the California Hazardous Waste Sites database (CalSites), the California Solid Waste Information System (SWIS), or the California Leaking Underground Storage Tank Information System list (LUST). The subject property was not observed to be involved in the generation, treatment, storage, or disposal of hazardous waste at the time of preparation of the Phase I ESA. Based on direct observations, the site does not reportedly contain any asbestos containing material, urea formaldehyde insulation, radon gas, underground tanks, or transformers with dielectric fluid. No other previous land uses with potential hazardous materials usage were identified in the Phase I report.

According to the Draft Initial Study, City records indicated that the project site was the historic location of a Texaco Bulk Oil Terminal from 1926 to 1982; all aboveground tanks have been removed associated with this land use. Sanborn Fire Insurance maps and regulatory agency databases for Areas 27 and 28 were reviewed by BASELINE Environmental Consulting from the years 1917, 1950, 1965, and 1972 during the update of this report to verify this claim (EDR Sanborn, Inc., 1917, 1950, 1965, 1972).

The Texaco Company had oil storage tanks on Area 27 in the 1950, 1965, and 1972 Sanborn Fire Insurance maps; the tanks were not observed on the 1917 Sanborn Fire Insurance Map. Oil storage tanks, two oil warehouses, a paint house, and a filling shed were indicated on the fire insurance maps reviewed for Area 27. On the 1950 fire insurance map, four tanks were noted as containing "20,000 gallons of oil each." For Area 28, potential land uses with hazardous materials uses included: a carpenter shop, laundry, and pet hospital (1950), aluminum awning manufacturing and "PRT'G" (printing?) (1965), a multi-space commercial store (use unknown), and "parking" (1972).

Area 27 (401 N San Jose) was also identified on DTSC's Site Cleanup-Site Mitigation and Brownfields Reuse Program Database (CalSites) reviewed on-line (DTSC, 2005). This property was referred to the CVRWQB for follow up in November 2004. No additional on-line information was identified for this property in the State Water Resources Control Board geotracker database (SWRCB, 2005).

Conclusions and Recommendations for Areas 27 and 28

The Phase I ESA performed for the property did not include a review of historical aerial photographs, historical topographic maps, or historical fire insurance maps. Sanborn fire insurance

[6] The Phase I ESA did not include a review of historical aerial photos, historical fire insurance maps, or historical topographic maps.

maps reviewed for the years 1917, 1950, 1965 and 1972 indicated that Area 27 was used by the Texaco Company for oil/fuel storage in aboveground tanks from at least 1950 to at least 1972. Area 28 was also used for commercial purposes since at least 1950; some of those uses may have had involved hazardous materials. It is recommended that this new information be considered during any proposed development activities on these properties and that the project proponent work with the CVRWQCB to ascertain whether a site investigation is warranted prior to development.

4.0 REFERENCES

2005

BASELINE, 2005, *Draft Risk Management Plan, Stockton Waterfront*, *Stockton, California*, October.

Golden State Environmental, 2005, *Workplan, Soil and Groundwater Characterization, Union Pacific Redevelopment Project, Stockton, California*, July.

J. Pettijohn of BASELINE, 2005, personal communication with K. Walker, City of Stockton, Department of Housing and Redevelopment, 23 September.

J. Pettijohn of BASELINE, 2005, personal communication, with J. Lile of the California Department of Toxic Substances Control, 27 and 29 September.

B. Abelli-Amen of BASELINE, 2005, "Windshield" site reconnaissance and walking site reconnaissance, communication with K. Walker, City of Stockton, Department of Housing and Redevelopment, June 7.

DTSC, 2005, Site Cleanup-Site Mitigation and Brownfields Reuse Program Database (CalSites), ID 39510028, Texaco Property-Bulk Terminal, reviewed on-line at http://www.dtsc.ca.gov, 9 November.

Secor, 2005, *Pipeline Removal, Abandonment, Soil Excavation, On-Site Horizontal SVE Well Installation, and Horizontal SVE Well Installation Beneath Delta View Apartments Report and Work Plan for Pipeline Removal, Abandonment, and Soil Excavation in Waterfront Towers Parking Lot for Stockton Parcel 2A, L&M Operable Unit*; February 10.

Secor, 2005, *First Quarter 2005 Site Status, Groundwater Monitoring, and Remedial Summary Report*, April 29.

Secor, 2005, *Additional Deep Groundwater Zone Assessment Report for Stockton Parcel 2A – L&M Operable Unit, Stockton*, *California*; May 25.

Secor, 2005, *Second Quarter 2005 Site Status, Groundwater Monitoring, and Remedial Summary Report*, July 20.

SWRCB, 2005, http://www.geotracker.swrcb.ca.gov/ Case closure information for Weber Enterprises Inc. property, 141 N. El Dorado Street, Stockton, California reviewed on-line September.

SRWRCB, 2005, http://www.geotracker.swrcb.ca.gov, reviewed on-line 9 November.

Wallace Kuhl & Associates, 2005, *Report of Findings of Soil Excavation and Subsurface Soil and Groundwater Investigation*, March 28.

2004

City of Stockton Department of Housing and Redevelopment, 2004, *Expanded Initial Study / Mitigated Negative Declaration for the Work Net Office Building, Stockton,* April.

Clayton Group Services, Inc., 2004, *Subsurface Investigation Report, Unocal Operable Unit, Vicinity of Weber and Lincoln Streets, Stockton, California*, August 11.

DTSC, 2004, *Preliminary Endangerment Assessment Equivalent Report Review of the Stockton Work Net* Office *Building Site (Parcel #3), Stockton, California,* September 2.

Earth Tech, Inc., 2004, *Human Health Risk Assessment at the L&M Operable Unit and Delta Gateway Apartments, Stockton California,* July 14.

Environmental Safety Services, 2004, *Environmental Site Assessment of APN 135-260-16, 401 N San Jose, Stockton, California*, 21 January.

Secor International Incorporated, 2004, *Revised Underground Utility Search Report*, March 5.

Secor International Incorporated, 2004, *Additional Assessment Report and Work Plan for Additional Deep Groundwater Zone Assessment*, July 29.

Secor International Incorporated, 2004, *Interim Pipeline Removal and Abandonment and Soil Excavation Report*, December 22.

Treadwell & Rollo, 2004, *Remedial Design and Implementation Plan, North Shore Parcels, Stockton,* California, prepared for the Stockton Department of Housing and Redevelopment, 5 March.

Wallace Kuhl & Associates, Inc., 2004, *Revised Soil and Dust Management Plan – Stockton Worknet*, September 14.

2003

BASELINE Environmental Consulting, 2003, *Final Sampling and Analysis Plan for Environmental Master Plan Properties 13, 14, and 17*, 3 February.

California Department of Toxic Substances Control (DTSC), 2003, *Preliminary Assessment*, Colberg Boat Works, Inc., 848 W. Fremont St/401 N. Stockton St., Stockton, California, Site EPA ID Number CAL 00003246 (Inactive), report revised 13 January (original report 10 June 2002).

Secor International Incorporated, 2003, *Well Installation and DPE Feasibility Report*, January 24.

Secor International Incorporated, 2003, *Results of Additional DPE Feasibility Testing*, May 23.

Secor International Incorporated, 2003, *Additional Assessment Report*, May 30.

Secor International Incorporated, 2003, *DPE Well and System Installation Report*, December 5.

2002

BASELINE Environmental Consulting, 2002, *Phase I Site Assessment, Environmental Master Plan, Properties 18, 19, 22 and 23, Stockton, California*, June.

Black & Veatch, 2002, *Report of Known Environmental Conditions, Selected Waterfront Properties, Draft, Stockton Waterfront Brownfields Project*, October.

Clayton Group Associates, 2002, *Site Delineation Report*, August 6.

Far Western Anthropological Research Group Inc. (Far Western), 2002, *Workplan for Archaeological* Monitoring *of Bore-Testing for the Miner's Levee Brownfields Assessment Project, for the City of Stockton, San Joaquin County, California*, April 1.

Secor International Incorporated, 2002, *Third Quarter 2002 Site Status and Groundwater Monitoring Report, Parcel 2A and Adjacent Areas, Stockton, California*, October 31.

2001

Clayton Group Associates, 2001, *Further Characterization at the West Weber Avenue and North Lincoln Street Site,* Parcel *2A*, December 18.

Treadwell & Rollo, 2001a, *Second Addendum to Revised Feasibility Study, North Shore Parcels, Stockton*, 25 May.

Treadwell & Rollo, 2001b, *Final Remedial Action Plan (RAP), North Shore Parcels, Stockton, California*, 29 August.

Treadwell & Rollo, 2001c, *I Area 4 Phase II Environmental Site Assessment, South Shore Parcels, Stockton, California*, 17 August.

Treadwell & Rollo, 2001d, *Area 3 Subsurface Investigation, South Shore Parcels, Stockton, California*, 17 August.

2000

BASELINE Environmental Consulting, 2000, *Revised Preliminary Endangerment Assessment, Weber Block* Property, Stockton, California, March.

Black & Veatch, 2000, *Data Gap Analysis Report, Selected Waterfront Properties, Final, Stockton Waterfront* Brownfields *Project*, February.

Treadwell & Rollo, 2000a, *Remedial Investigation Report, North Shore Parcels, Stockton, California*, 24 August.

Treadwell & Rollo, 2000b, *Feasibility Study Report, North Shore Parcels, Stockton, California*, 21 September.

Treadwell & Rollo, 2000c, *Addendum to Revised Feasibility Study Report, North Shore Parcels, Stockton,* California, 15 November.

1999

Environmental Resolutions, Inc. (ERI), 1999, *Groundwater Monitoring and Sampling and Tidal Influence Study Report, The Stockton Group Site, West Weber Avenue and North Lincoln Street, Stockton, California*, June 11.

Treadwell & Rollo, 1999, *Volume 1 - Site Characterization Report, North Shore Properties, Stockton, California,* December 13.

Treadwell & Rollo, 1999, *Volume 2 - Site Characterization Report, South Shore Properties, Stockton, California*, December 13.

1998

Black & Veatch, 1998, Stockton *Waterfront Brownfields Project, Phase II Environmental Investigation, Weber Block (Area 9), Final*, November.

California Regional Water Quality Control Board - Central Valley Region, 1998, *A Compilation of Water Quality Goals*, March.

Cambria, 1998, *Quarterly Monitoring Report-First Quarter 1998, C.M. Weber Enterprises Property* - 141 *North El Dorado, Stockton, California*; March 15.

Sage Earth Science, 1998, *Geophysical Investigation Brown Field Sites, Stockton, California,* October 2.

Smith Environmental Technologies Corporation, 1998, *Phase I Environmental Site Assessment for 110 West Fremont Street and Selected South Shore Properties, Central Stockton, Stockton, CA,* January 29.

U.S. EPA, 1998, *Region IX Preliminary Remediation Goals (PRGs).*

1997

Black & Veatch, 1997, Phase *I Environmental Site Assessment, North Shore Properties, Final, Stockton Waterfront Brownfields Project, Stockton, California*, December.

California Regional Water Quality Control Board - Central Valley Region, 1997, letter regarding Additional Phase II Environmental Assessment, American Saving Bank, Stockton, Jan Joaquin County, September 11.

Kathaleen Delahunty and Alana Lee, 1997, B&V, SJCEHD file review notes; June 16.

Kathaleen Delahunty and Alana Lee, 1997, B&V, Site reconnaissance notes; April 24 and June 16.

EDR Sanborn, Inc., 1997, *Sanborn Map Report for the Stockton Brownfields Redevelopment Project*; April 18.

Enviros, 1997, Preliminary *Site Closure Summary*, C.M Weber Enterprises Property, Former Shell Service Station,141 N. El Dorado, Stockton, California, 10 July.

GPRX Inc., 1997, Final Report *of Ground Penetrating Radar Survey for Areas 4, 5, and 6, Stockton, San Joaquin County, California*, November 25.

Santochi & Bravante LLC., 1997, *Phase II Environmental Assessment and Groundwater Investigation at 222 N. El Dorado Street, Stockton, California*, January 10.

Santochi & Bravante LLC., 1997, *Additional Phase II Environmental Assessment Groundwater Investigation Closure Report, 222 N. El Dorado Street, Stockton, California*, June 30.

1996

Clayton Environmental Consultants, 1996, *Groundwater Monitoring and Soil Boring Advancement at the* Former *American Savings Bank at 222 N. El Dorado Street in Stockton, California*, July 26.

Leslie Crow, 1996, Memorandum to Lyn Krieger, Deputy City Manager, Bank of Stockton Archives, regarding finding relative to east side of El Dorado, between Bridge Place and Channel Street, May 14.

Siegfried Engineering, 1996, *Structural Engineering Investigation of Stockton Channel Seawalls*, 3 October.

Treadwell & Rollo, 1996, confidential report, *Subsurface Investigation, South Parcel West Weber Avenue & North Lincoln Street, Stockton, California*; November 8.

Treadwell & Rollo, 1996, confidential report, *Subsurface Investigation, North Parcel Banner Island, Stockton, California*; December 10.

Versar-McLaren/Hart, 1996, *Preliminary Phase I Site Assessment*, Weber Block Property, Stockton, California, 25 November.

U.S. EPA, 1996, *Soil Screening Guidance: User's Guide*.

1995

Apex Envirotech, Inc., 1995, *Phase II, Site Assessment Report*, Colberg Boat Works, 401 North Stockton Street, Stockton, California, January 23.

CRC Environmental Risk Management, Inc., 1995, *Phase II Environmental Assessment and Subsurface Investigation*, Lighthouse Village School, 222 N. El Dorado Street, Stockton, California, November 3.

Fugro West, Inc., 1995, *First Quarter Groundwater Monitoring and Remediation Report*, 141 N. El Dorado, 24 May.

Harza, 1995, *Soil and Groundwater Investigation, Banner Island, Stockton, California*, November 21.

Shell Oil, 1995, *First Quarter Sewer Discharge Report*, Former Shell Service Station, 141 N. El Dorado, 5 April.

Smith Environmental Technologies Corporation, 1995, *Phase 1 Environmental Site Assessment for Weber Point and Waterfront Areas, Central Stockton, CA*, September 22.

1994

RESNA Industries, Inc., 1994, *Phase 1 Environmental Site Assessment for City of Stockton South Channel Property, Stockton, California*, February 11.

RESNA Industries, Inc., 1994, *Phase I Environmental Site Assessment for Properties located at Madison, Market, Van* Buren*, and Washington Streets, Stockton, CA; APNs 137-330-01 through 137-330-04 and 137-330-08 through 137-330-20*, March 24.

SJCEHD file information, 1994, indicating underground waste oil tank was removed, February.

1993

Luhdorff and Scalmanini, 1993*, Verification Soil and Ground-water Investigation, Banner Island*, prepared for the City of Stockton, August.

RESNA,1993, as cited in Black & Veatch 2000 and Black & Veatch 2002.

Siegfried Engineering, 1993, *Cost Estimate and Scope of Work*, Weber Parking Lot, Stockton, California, 18 May.

1992

RESNA Industries, 1992, *Second Phase Subsurface Investigation, City of Stockton Banner Island Property; Stockton, CA,* May 29.

RESNA Industries, 1992, *Preliminary Subsurface Investigation, City of Stockton, Former Western Pacific Railroad Property, Stockton, California,* prepared for Mr. Bob Sivell, Stockton Department of Housing and Economic Development, 17 June.

RESNA Industries, 1992, *Project Status Update Report, Subsurface Investigation at Banner Island Property, Stockton, California*, September, 17.

RESNA, 1992a, Soil Closure *Workplan*, prepared for C. M. Weber, Inc. Property, 141 N. El Dorado, Stockton, California, 30 July.

RESNA, 1992b, Report *on Vapor Extraction System*, C.M. Weber Enterprises, Inc., Property,, 141 N. El Dorado, Stockton, California, 18 December.

1991

Applied Geosystems, 1991, *Evaluation of Hydrocarbons in Soil and Groundwater Report at City of Stockton,* Waterfront *Redevelopment Property, West Weber Avenue and North Lincoln Street, Stockton, California*, January 29.

Clayton Environmental Consultants, 1991, *Phase I Environmental Assessment of the American Savings Bank located at 222 N. El Dorado Street, Stockton, California,* February 7.

Clayton Environmental Consultants, 1991, *Subsurface Investigation, 222 N. El Dorado Street, Stockton, California,* May 14.

RESNA/Water Work Corporation, 1991, *Groundwater Remedial Action Plan*, Weber Point, 141 N. El Dorado, 27 July.

RESNA/Water Work Corporation, 1991a, *Preliminary Report, Assessment of Potential Soil and* Groundwater Contamination, Weber Point, Weber Point, 141 N. El Dorado, Stockton, California, 13 March.

RESNA/Water Work Corporation, 1991b, *Summary of Soil Investigation/Soil Remediation Plan*, for Weber Point Property, 141 N. El Dorado, Stockton, California, 31 May.

Water Work Corporation/RESNA, 1991, *Application for Facility Permit/Waste Discharge*, 141 N. El Dorado Street, 26 September.

1990

California Department of Fish and Game, 1990, *Notification to Counties of Hazardous Waste Discharge*, Problem Description-sand blasting paint from boat bottom and pushing all material into water, Colberg Boat Works, 2 August.

Leedshill-Herkenhoff, Inc., 1990, *Preliminary Site Assessment Report*, Weber Point, 141 N. El Dorado, Stockton, California, 12 November.

WaterWorks, 1990, *Assessment of Potential Soil and Groundwater Contamination, Banner Island South of Lindsay between Van Buren and Madison Streets, Stockton, CA*, January 24.

1989

Applied Geosystems, 1989, *Subsurface Environmental Investigation Report at City of Stockton,* Waterfront Redevelopment *Property, West Weber Avenue and North Lincoln Street, Stockton, California*, October 31.

1986

Kleinfelder & Associates, 1986, *Geotechnical Investigation of McLeod Lake and Stockton Channel Report,* Stockton, *CA,* May 26.

Miscellaneous

EDR Sanborn, Inc., 1972, Sanborn Fire Insurance Map, Stockton.

EDR Sanborn, Inc., 1965, Sanborn Fire Insurance Map, Stockton (obtained from the City of Stockton Planning Office).

EDR Sanborn, Inc**.,** 1950, Sanborn Fire Insurance Map, Stockton.

EDR Sanborn, Inc., 1917, Sanborn Fire Insurance Map, Stockton.

City of Stockton Zoning District Map

Stockton Brownfields Redevelopment Project; Historical Aerial Photographs for the years 1953 (scale unknown); 1964 (scale 1 inch = 450 feet); 1970 (scale 1 inch = 500 feet); 1979 (1 inch = 80 feet); 1996 (1 inch = 500 feet).

U.S. Geological Survey, Topographic Map of Stockton West Quadrangle, 7.5 Minute Series, for the years 1952 (scale 1:24000), 1968 (scale 1:24000), 1968 photorevised 1976 (scale 1:24000), and 1996 (scale 1:24000).