

9

AD-A281 915

5371



FINAL

**Community Environmental Response
Facilitation Act (CERFA) Report
Tacony Warehouse
Philadelphia, PA**

Prepared for

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

Prepared by

**ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
855 Springdale Drive
Exton, PA 19341**

Distribution limited to U. S. Government Agencies
only for protection of privileged information
evaluating another command.

Requests for this document must be referred to:
Commander, U. S. Army Environmental Center
Aberdeen Proving Ground, MD 21010

DTIC
SELECTED
JUL 18 1994
S B D

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

11 APRIL 1994

DTIC QUALITY INSPECTED 1

64P
94-21629

94 7 12 401

FINAL

Community Environmental Response Facilitation Act (CERFA) Report

Tacony Warehouse Philadelphia, PA

Prepared for

U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010

Prepared by

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
855 Springdale Drive
Exton, PA 19341

Distribution limited to U. S. Government Agencies
only for protection of privileged information
evaluating another command.

Requests for this document must be referred to:
Commander, U. S. Army Environmental Center
Aberdeen Proving Ground, MD 21010

11 APRIL 1994

ST #A, AUTH: USAEC/SFIM-AEC-RMI
(MS. BARRY -DSN 584-1659)
PER TELECON 14 JULY 94 CB

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By: <i>per telecon</i>	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

D

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

The use of trade names in this report does not constitute an official endorsement or approval of the use of such commercial products. This report may not be cited for purposes of advertisement.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE April 1994	3. REPORT TYPE AND DATES COVERED Final	
4. TITLE AND SUBTITLE Community Environmental Response Facilitation Act (CERFA) Report, Tacony Warehouse, Philadelphia, Pennsylvania			5. FUNDING NUMBERS Contract No. DAPA15-91-D-0011; Delivery Order DA06	
6. AUTHOR(S) A. Lavin, M. Crossman, L. Ward			8. PERFORMING ORGANIZATION REPORT NUMBER N/A	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) ERM, Inc. 855 Springdale Drive Exton, PA 19341			10. SPONSORING/MONITORING AGENCY REPORT NUMBER SFIM-AEC-BC-CR-94048	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Environmental Center Aberdeen Proving Ground, MD 21010			11. SUPPLEMENTARY NOTES Report is contained in one volume	
12a. DISTRIBUTION/AVAILABILITY STATEMENT Distribution Unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <p>This report presents the results of the Community Environmental Response Facilitation Act (CERFA) investigation conducted by Environmental Resources Management (ERM) at Tacony Warehouse, a U.S. Government property selected for closure by the Base Realignment and Closure (BRAC) Commission under Public Laws 100-526 and 101-510. Under CERFA (Public Law 102-426), Federal agencies are required to identify expeditiously real property that can be immediately reused and redeveloped. Satisfying this objective requires the identification of real property where no hazardous substances or petroleum products, regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), were stored for one year or more, known to have been released, or disposed.</p> <p>Tacony Warehouse is a 14.2-acre site located in Philadelphia, Pennsylvania. Tacony Warehouse, also known as USA&AF Exchange Warehouse, was constructed in 1943 as an armor plate assembly plant. It has been used for a variety of warehousing activities, most notably by the Army and Air Force Exchange Service. No operations currently take place at the site.</p> <p>ERM reviewed existing investigation documents; U.S. Environmental Protection Agency, State, and county regulatory records; environmental data bases; and title documents pertaining to Tacony Warehouse during this investigation. In addition, ERM conducted interviews and visual inspections of Tacony Warehouse as well as visual inspections of and data base searches for the surrounding properties.</p> <p>Information in this CERFA report was current as of the site visit by ERM in October 1993, and is probably current through April 1994 (since no operations are ongoing). This information was used to divide the installation into two categories of parcels: CERFA Disqualified Parcels and CERFA Excluded Parcels, as defined by the Army.</p> <p>The total BRAC property acreage at Tacony Warehouse is 14.2 acres. Areas of the facility that have no history of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more; and no history of other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls), are categorized as CERFA Parcels. No CERFA Parcels were identified.</p>				
14. SUBJECT TERMS Tacony Warehouse, CERFA, Base Closure, BRAC			15. NUMBER OF PAGES 35	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR	

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

EXECUTIVE SUMMARY

1.0	INTRODUCTION	ES-1
1.1	PURPOSE AND SCOPE	1-1
1.2	DEFINITION OF TERMS	1-2
1.3	GEOGRAPHICAL/ENVIRONMENTAL SETTING	1-4
2.0	SCOPE OF INVESTIGATION	2-1
2.1	EXISTING INVESTIGATION DOCUMENTS	2-1
2.2	GOVERNMENT REGULATORY RECORDS	2-2
2.3	INTERVIEWS	2-2
2.4	VISUAL INSPECTIONS	2-3
2.5	TITLE DOCUMENTS	2-3
3.0	PROPERTY BACKGROUND INFORMATION	3-1
3.1	PROPERTY DESCRIPTION AND OPERATIONAL HISTORY	3-1
3.2	CHANGES TO REAL PROPERTY ENVIRONMENTAL CONDITIONS SINCE ENHANCED PA INVESTIGATION	3-3
4.0	INVESTIGATION RESULTS	4-1
4.1	PREVIOUSLY IDENTIFIED AREAS REQUIRING ENVIRONMENTAL EVALUATION (AREES)	4-1
4.2	ADDITIONAL AREAS IDENTIFIED	4-6
4.3	ADJACENT/SURROUNDING PROPERTIES	4-7
4.4	RELATED ENVIRONMENTAL, HAZARD, AND SAFETY ISSUES	4-7
4.5	CERFA EXCLUDED PROPERTY	4-9
5.0	SITE PARCELIZATION	5-1

5.1	CERFA CATEGORY AND DESIGNATION MAP	5-3
5.2	CERFA TRACT MAP	5-3
5.3	CERFA PARCEL DESIGNATORS	5-3

LIST OF FIGURES		FOLLOWING PAGE
1.3-1	<i>Property Location</i>	1-4
1.3-2	<i>Site Plan</i>	1-4

LIST OF TABLES		FOLLOWING PAGE
2.3-1	<i>List of interviewees for Tacony Warehouse CERFA Assessment</i>	2-3
4.4-1	<i>Buildings with CERFA Qualifiers</i>	4-8
5.1-1	<i>CERFA Map Table</i>	5-3

APPENDIX

ACRONYMS AND ABBREVIATIONS

AAFES	Army and Air Force Exchange Service
ACM	Asbestos Containing Material
AEHA	Army Environmental Hygiene Agency
AREE	Area Requiring Environmental Evaluation
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
DPW	Department of Public Works
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
ERNS	Emergency Response Notification System
FS	Feasibility Study
FY	Fiscal Year
HVAC	Heating, Ventilation, and Air Conditioning
IRP	Installation Restoration Program
LBP	Lead-based Paint
NCAD	New Cumberland Army Depot
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission

°F	Degrees Fahrenheit
PA	Preliminary Assessment
PADER	Pennsylvania Department of Environmental Resources
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
pCi/l	Picocuries Per Liter
POL	Petroleum, Oil, and Lubricant
ppb	Parts Per Billion
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SI	Site Inspection
TPHC	Total Petroleum Hydrocarbons
TW	Tacony Warehouse
USA&AF	U.S. Army and Air Force
USAEC	U.S. Army Environmental Center
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USDA	U.S. Department of Agriculture
UST	Underground Storage Tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

This report presents the results of the Community Environmental Response Facilitation Act (CERFA) investigation conducted by Environmental Resources Management (ERM) at Tacony Warehouse, a U.S. Government property selected for closure by the Base Realignment and Closure (BRAC) Commission under Public Laws 100-526 and 101-510. Under CERFA (Public Law 102-426), Federal agencies are required to identify expeditiously real property that can be immediately reused and redeveloped. Satisfying this objective requires the identification of real property where no hazardous substances or petroleum products, regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), were stored for one year or more, known to have been released, or disposed.

Tacony Warehouse is a 14.2-acre site located in Philadelphia, Pennsylvania. Tacony Warehouse, also known as USA&AF Exchange Warehouse, was constructed in 1943 as an armor plate assembly plant. It has been used for a variety of warehousing activities, most notably by the Army and Air Force Exchange Service. No operations currently take place at the site.

ERM reviewed existing investigation documents; U.S. Environmental Protection Agency, State, and county regulatory records; environmental data bases; and title documents pertaining to Tacony Warehouse during this investigation. In addition, ERM conducted interviews and visual inspections of Tacony Warehouse as well as visual inspections of and data base searches for the surrounding properties.

Information in this CERFA report was current as of the site visit by ERM in October 1993, and is probably current through April 1994 (since no operations are ongoing). This information was used to divide the installation into two categories of parcels: CERFA Disqualified Parcels and CERFA Excluded Parcels, as defined by the Army.

The total BRAC property acreage at Tacony Warehouse is 14.2 acres. Areas of the facility that have no history of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more; and no history of other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls), are categorized as CERFA Parcels. No CERFA Parcels were identified.

Areas of the facility that had no evidence of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more, but contained other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls) were categorized as CERFA Qualified Parcels. No CERFA Qualified Parcels were identified.

Areas of the facility, for which there is a history of release, disposal, or storage for one year or more of CERCLA-regulated hazardous substances or petroleum products or had a release of the other environmental hazards identified above were categorized as CERFA Disqualified Parcels. One 13.3-acre Disqualified Parcel was identified.

Areas on the facility that will be retained by the Federal Government or that have already been transferred by deed are categorized as CERFA-Excluded Parcels. One .9-acre CERFA Excluded Parcel was identified.

The primary objective of CERFA is satisfied by the identification of CERFA Parcels and CERFA Qualified Parcels. As a result, concurrence has been sought from the regulatory agencies on these two categories of parcels. This CERFA Report has been reviewed by the U.S. Army Environmental Center (USAEC), Region III, U.S. Environmental Protection Agency and the Pennsylvania Department of Environmental Resources (PADER). Comments received from regulatory agencies and USAEC's response to those comments are located in the Appendix. Concurrence on this report was received from PADER.

This report contains maps that summarize the categorization of Tacony Warehouse on the basis of the above definitions. This Executive Summary should be read only in conjunction with the complete CERFA Report for this installation. The CERFA Report provides the relevant environmental history to substantiate the parcel categorization. This report does not address other property transfer requirements that may be applicable under the National Environmental Policy Act (NEPA), nor does it address natural resource considerations such as the threat to plant or animal life.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Public Laws 100-526 and 101-510 designated more than 100 Department of Army facilities for closure and realignment. As a result, it became necessary to expedite the environmental investigation and cleanup process, as necessary, prior to the release and reuse of Army Base Realignment and Closure (BRAC) property. The BRAC environmental restoration program was established in 1989 with the first round (BRAC 88) of base closures and continued with subsequent rounds (BRAC 91, BRAC 93, etc.). The BRAC program is patterned after the Army's Installation Restoration Program (IRP), except that it has been expanded to include such categories of contamination as asbestos, radon, polychlorinated biphenyls (PCBs), and others that are not normally addressed under the Army IRP.

The BRAC environmental restoration program begins by conducting enhanced Preliminary Assessments (PAs). The term "enhanced" is used to distinguish these assessments from previous IRP preliminary assessments since the BRAC PAs are conducted from a property transfer perspective and evaluate areas which are not included in the IRP (e.g., asbestos, radon, PCBs). The enhanced PAs include reviews of existing installation documents, regulatory records, and aerial photographs; a site visit and visual inspection; and employee interviews. Enhanced PAs were conducted for BRAC 88 and BRAC 91 installations, and are currently underway at BRAC 93 installations. An Enhanced PA was prepared for Tacony Warehouse in July 1989 by Roy F. Weston, Inc. under the direction of USAEC (formerly the U.S. Army Toxic and Hazardous Materials Agency [USATHAMA]).

In October 1992, Public Law 102-426, the Community Environmental Response Facilitation Act (CERFA) amended Section 120 (h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. Also, the designation must be concurred with by the appropriate regulatory agency (U.S. Environmental Protection Agency for National Priority List (NPL) bases and state for non-NPL bases). These requirements retroactively affect the Army BRAC 88

and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites concurrently with their enhanced PAs. The primary CERFA objective is for federal agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

ERM was awarded the task to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed at twelve BRAC 88 sites. Under this task, an Execution Plan was developed to describe the process in satisfying the CERFA task objective. The purpose of this report is to present the findings for Tacony Warehouse, Philadelphia, Pennsylvania.

1.2

DEFINITION OF TERMS

The following definitions are used in this report:

CERFA Parcel - A portion of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. CERFA parcels include areas where PCE containing equipment is in operation, but there is no evidence of release. CERFA parcels also include any portion of the installation which once contained related environmental, hazard, or safety issues including unexploded ordnance (UXO) located on firing ranges or impact areas, radon, stored (not-in-use) PCB containing equipment, asbestos contained within building materials, radionuclides contained within products being used for their intended purposes, and lead-based paint applied to building material surfaces, but which have since been fully remediated or removed.

CERFA Qualified Parcel - A portion of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. Parcel does however contain related environmental, hazard, or safety issues including unexploded ordnance (UXO) located on firing ranges or impact areas, radon, radionuclides contained within products being used for their intended purposes, asbestos contained within building materials, lead-based paint applied to building material surfaces, or stored (not-in-use) PCB containing equipment.

CERFA Disqualified Parcel - A portion of the installation real property for which investigation reveals evidence of a release, disposal, or storage for more than one year of a CERCLA hazardous substance, petroleum, or petroleum derivative; or a portion of the installation threatened by such a release or disposal. CERFA Disqualified Parcels also include any portion of the installation where PCB, asbestos containing material, lead-based paint residue, radionuclides, or any ordnance has been disposed of, and any locations where chemical ordnance has been stored. Additionally, CERFA Disqualified Parcels include any areas in which CERCLA hazardous substances or petroleum products have been released or disposed of and subsequently fully remediated.

CERFA Excluded Parcel - A portion of the installation real property retained by the Department of Defense, and therefore, explicitly investigated for CERFA. CERFA Excluded Parcels also include any portions of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.

The following labels are used in conjunction with the identified parcels. Each parcel is given a unique number to which the appropriate labels are attached.

- P = CERFA Parcel
- Q = CERFA Qualified Parcel
- D = CERFA Disqualified Parcel
- E = CERFA Excluded Parcel

EXAMPLE: 4P indicates that the fourth parcel is in the CERFA Parcel category.

The presence of related environmental, hazard, and safety issues, responsible for placing a parcel in the CERFA Qualified Parcel category, is indicated by the following labels:

- A = Asbestos
- L = Lead-Based Paint
- P = PCB
- R = Radon
- X = Unexploded Ordnance (UXO)
- RD = Radionuclides

EXAMPLE: 5Q-L indicated that the fifth parcel is in the CERFA Qualified Parcel category because of the presence of lead-based paint.

The following designations are used to indicate the type of contamination or storage present in a parcel. Conditions responsible for placing a parcel in the CERFA Disqualified category are indicated by the following:

- PR = Petroleum Release
- PS = Petroleum Storage
- HR = Hazardous Release
- HS = Hazardous Storage

EXAMPLE: 12D-HR indicates that the twelfth parcel is in the CERFA Disqualified category because of evidence of hazardous release.

For all parcels, (P) [i.e., P with parentheses around it] is used to indicate that the presence of the contamination is possible, but that data is unavailable for verification.

EXAMPLE: 9Q-A(P) indicates that the ninth parcel is in the CERFA Qualified Parcel category because of the possible presence (unverified) of ACM.

OTHER EXAMPLES:

Parcel label 15D-HR/PS/A(P) indicates that the 15th parcel is in the CERFA Disqualified category based on evidence of a hazardous substance release and petroleum storage. It also contains possible ACM.

Parcel label 8Q-X/R indicates that the eighth parcel is in the CERFA Qualified Parcel category because of the presence of unexploded ordnance and radon.

1.3

GEOGRAPHICAL/ENVIRONMENTAL SETTING




Tacony Warehouse (TW), also known as the U.S. Army and Air Force (USA&AF) Exchange Warehouse on the Army Real Property list, is located on the northwest bank of the Delaware River in the Tacony section of Philadelphia, Pennsylvania. An area map is presented in Figure 1.3-1.

TW comprises 14.2 acres, which includes a 0.9-acre CERFA Excluded Parcel leased to the Pennsylvania Fishing Commission for parking along the south side of the property. A site map of TW is shown in Figure 1.3-2.

The climate of Philadelphia is determined by the following features:

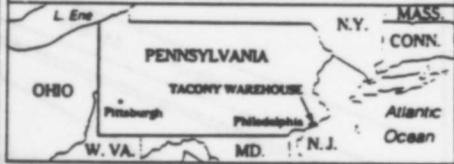
- Prevailing westerly winds.
- Proximity to the Atlantic Ocean.

Figure 1.3-1
 Property Location
 Tacony Warehouse
 Philadelphia, Pennsylvania

 Wetlands
  100-Year Flood Plain
  500-Year Flood Plain

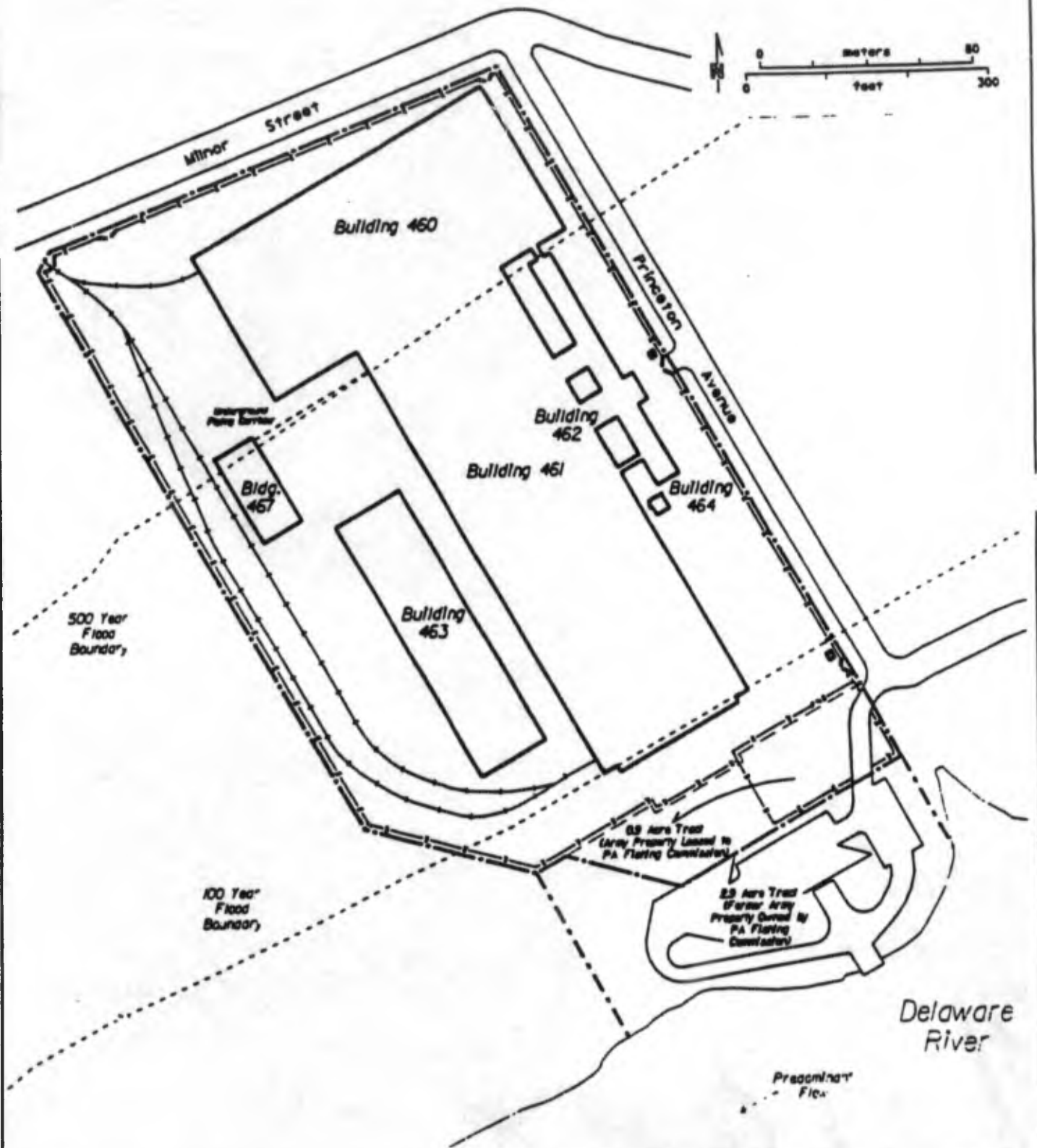
Property boundary shown in red. Base map image is from the USGS 7.5' Series quadrangles Frankford, PA-N.J. 1967 (PR 1983), and Camden, N.J.-PA. 1967 (PR 1984).

Scale 1:30,000
 0 3000 Feet
 0 1000 Meters



Source: "Enhanced Preliminary Assessment: Tacony Warehouse"
 R.F. Weston, Inc., December 1989.

Figure 1.3-2
 Site Plan
 Tacony Warehouse
 Philadelphia, Pennsylvania



Source "Enhanced Preliminary Assessment Tacony Warehouse"
 R F Weston, Inc. December 1989

- Proximity to the Appalachian Mountains.

Philadelphia has a humid, continental-type climate. Prevailing westerly winds carry weather disturbances from the interior of the continent, while the Atlantic Ocean acts as a moderating influence on many of these storms.

The prevailing winds show a seasonal variation. In the winter, the prevailing winds are from the northwest. During the summer, the prevailing winds are from the southwest. The normal annual prevailing direction is from the west-southwest. During 1988, west winds occurred most frequently with a secondary maximum of southwest winds.

Precipitation is evenly distributed throughout the year with maximum amounts occurring during the spring and late summer months. Normal yearly precipitation is 41.42 inches. August is the wettest month with 4.10 inches, and February is the driest month with normal precipitation of 2.81 inches. The majority of summer rainfall occurs as a result of showers and thunder showers. During the rest of the year, storm systems from the interior of the continent and coastal storms produce the majority of the precipitation. Coastal storms produce heavy rains during warm months and heavy snow or a mixture of rain and snow during winter months. Average yearly snowfall is 21.6 inches. The 24-hr maximum snowfall recorded was 21.3 inches during February 1983.

Temperatures generally remain between zero degrees Fahrenheit (°F) and 100°F and average 54.6°F annually. Temperatures above 100°F or below 0°F occur rarely. Temperatures vary (moderately) from season to season. The coldest month is January with a normal temperature of 31.2°F, and the warmest month is July with an average temperature of 76.5°F. Temperatures above 90°F occur 15 to 25 days per year, although there have been occasional years with 30 days or more of high temperatures. During the summer months, episodes of high humidity add to the discomfort of the high temperatures. Because of the blocking effect of the Appalachian Mountains to the west and the moderating effect of the Atlantic Ocean to the east, periods of very high or very low temperatures seldom last longer than three or four days.

Hurricanes or low pressure systems with a tropical origin seldom affect Philadelphia. Damage from tropical storms is rare, but damage has occurred from flooding associated with these storms. Tornadoes are not a common occurrence in Philadelphia, and when they have occurred, they have caused relatively minor damage. Coastal storms or "northeaster's" can produce high winds and heavy rain or snow. Some thunderstorms can be severe and produce heavy rain, high winds, and hail, causing minor damage.

The Delaware River flows past TW in a predominantly southwesterly direction, but the flow direction reverses with the tide. The river is used for recreational, commercial, and industrial activity. A large portion of Philadelphia's drinking water is drawn from the Delaware River approximately two miles upstream of TW. The stormwater runoff from TW is collected by an Army-owned, two-foot diameter storm sewer system. The TW storm sewer discharge point into the Delaware River is on a direct line with the east edge of Building 463 and can be observed only by performing a dye test at low tide.

Another storm sewer, which receives a small amount of runoff from TW's extreme east edge, runs down the center of Princeton Avenue to its outfall at the river. No surface water bodies are present within the facility boundaries. The area south of the southern edge of Building 461 falls within the 100-year floodplain.

The U.S. Soil Conservation Service describes the area around TW as urban land. Most areas have been regraded or filled, and the original soil material has been disturbed and filled over. Soil boring logs from a site less than one mile east of TW reveal the soils to be variable, but characterized by firm sand and gravel with some clay. The limited amount of visible surface soil (almost all surrounding areas are paved with concrete) is sandy with some silt and small particles of brick.

All shallow ground water flows southwest towards the river. The water table is 5 to 14 feet below the surface. The depth to ground water and flow direction are influenced by the tidal nature of the river.

The area surrounding TW consists primarily of urban, industrially-zoned land. No endangered or threatened species are recorded on TW, nor would any be expected in this environment. The TW property itself contains no wetlands. The southeastern corner of the property is adjacent to an area identified as wetlands by the Pennsylvania Department of Environmental Resources (PADER).

The only permit applicable to TW is a license to operate equipment venting to the atmosphere from the Philadelphia Department of Public Health issued on 29 December 1971 for a 100-horsepower natural gas-fired boiler installed in 1958 in Building 460. This boiler is now out of service.

2.0

SCOPE OF INVESTIGATION

The scope of the CERFA investigation includes:

- Review of previous environmental investigations, assessments, reports, etc.
- Review of applicable government regulatory records: federal, state, and local (where applicable and available).
- Interviews with representatives from the installation (or command responsible for the installation), other federal agencies, regulatory officials, and others.
- Review of maps and aerial photographs (where available).
- Inspection of adjacent property that potentially could contaminate the BRAC property.
- Detailed site inspection (the scope of these site inspections was determined principally by the review of previous investigations and assessments).
- Review of recorded chain of title documents.

These seven activities are specifically included within the statutory scope of CERFA. All seven activities were conducted during the CERFA investigation at Tacony Warehouse.

2.1

EXISTING INVESTIGATION DOCUMENTS

Extensive documentation on environmental conditions at Tacony Warehouse has been compiled within the past decade. Documents describing the environmental conditions or the results of previous or current investigations at locations either within or adjacent to the Tacony Warehouse were used as primary sources throughout the CERFA investigation. These sources are listed below.

1. *Enhanced Preliminary Assessment Phase I*, Roy, F. Weston, Inc., July 1989.
2. *Environmental Investigation Phase I*, ICF Technology, July 1990.
3. *Environmental Investigation and Risk Assessment Phase I*, Versar, Inc., December 1992.
4. *Construction Specifications for Underground Storage Tank and Contaminated Soil Removal*, Dynamic Corporation, June 1993.

5. *Environmental Investigation and Risk Assessment Phase I, Versar, Inc., August 1993.*

2.2 GOVERNMENT REGULATORY RECORDS

Federal Records

ERM conducted a records review at the EPA Region III on 4 October 1993, for applicable records regarding TW and surrounding sites. Information collected from EPA corroborated the information obtained from the documents listed in Section 2.1 above and the CERFA site visit. No new information regarding releases or the potential for environmental contamination of the site was identified.

A search of the EPA's Emergency Response Notification System (ERNS) database during the period 30 January - 2 February 1994 identified no reports of releases of oil or hazardous substances at Tacony Warehouse since the inception of the database in 1986.

State Records

ERM conducted a records review at PADER on 10 October 1993, for applicable records on TW and surrounding sites. Information collected from PADER corroborated the information obtained from the documents listed in Section 2.1 above and the CERFA site visit. No new information regarding releases or the potential for environmental contamination of the site was identified.

NRC Records

TW has not been issued a Nuclear Regulatory Commission (NRC) license to work with radioactive material.

AEHA Records

A record search conducted by the Army Environmental Hygiene Agency (AEHA) did not reveal any information of concern to the CERFA investigation.

2.3 INTERVIEWS

Table 2.3-1 provides a summary for those individuals interviewed during the CERFA investigation.

2.4

VISUAL INSPECTIONS

A walkover and inspection of the Tacony Warehouse facility was conducted on 28 September 1993. Two ERM representatives were accompanied by Mr. Andrew Maly, USAEC Project Officer and Mr. Robin Aitken, U.S. Army Fort Dix, Department of Public Works. All buildings on the site were entered and inspected. The walkover included an inspection of the facility's perimeter. The site was inspected for new and previously documented Areas Requiring Environmental Evaluation (AREEs). Properties within one-half mile, if accessible, of the Tacony Warehouse facility were inspected by automobile, for the presence of any concerns that might impact the facility.

The facility appeared to be in a general state of disrepair and a recent fire had destroyed most of Building 462. Due to the fire, the portions of the building that remained could not be accessed for inspection. Much of the site was paved, but portions of the site, especially the western side, were overgrown with brush and small trees. Buildings 460 and 461 were large warehouse-type buildings observed to be unmaintained but appearing to be of sturdy construction. Portions of the basement in Buildings 460 and 461 were not inspected due to water levels, inaccessibility and safety concerns. Building 467 housed the facility boiler. Although the building seemed solid, a significant amount of damage to the building was observed throughout, especially exterior windows and doors. Building 463 appeared to be used for vehicle storage or loading and was open on the western side.

TW is currently in a caretaker status. No operations are ongoing and the site was deserted at the time of the site visit.

2.5

TITLE DOCUMENTS

ERM conducted a review of tract maps and transfer documents to identify the prior property owners of the BRAC portion of Tacony Warehouse at the time of its transfer to the Army. The purpose of this review was to collect additional information concerning the property's prior use and environmental condition at the time of its transfer to the Army. Based on this review, no additional information was collected. Previous ownership and the dates of transfer to the Army are indicated on Figure 5.2-1.

**Table 2.3-1
List of Interviewees for Tacony Warehouse CERFA Assessment**

Interview No.	Date	Name	Telephone	Organization/Position	Length of Service
I-1	9/93 to 4/94	Andrew Maly	(410) 671-3261 (410) 671-3461 (410) 671-1635 Fax	U.S. Army Environmental Center Tacony CERFA Project Officer	5 Years
I-2	9/28/93	Robin Aitken	(609) 562-3050 (609) 562-5345 Fax	U.S. Army - Fort Dix Public Works Department	15 Years Fed Gov't. 2 Years at Ft. Dix
I-3	10/4/93	Maureen Zacharias	(215) 597-9800	U.S. Environmental Protection Agency, Region III Philadelphia, PA	
I-4	10/1/93	Sonya Smith	(215) 832-6000	Pennsylvania Department of Environmental Resources (PADER)	

3.0

PROPERTY BACKGROUND INFORMATION

This Section provides a description of the BRAC property, a discussion of its operational history (see Section 3.1), and a description of any changes to environmental conditions since the most recent environmental investigation (see Section 3.2).

3.1

PROPERTY DESCRIPTION AND OPERATIONAL HISTORY

TW, also known as the USA&AF Exchange Warehouse, is located adjacent to I-95 near the Delaware River waterfront, in the 41st Ward of the City of Philadelphia, 7071 Wissonoming Street and also addressed at 5100 Princeton Avenue. Tacony Warehouse covers 14.2 acres, which includes a CERFA Excluded 0.9-acre area outleased to the Pennsylvania Fishing Commission along the south side of the property for parking and access to the State's waterfront property. TW is bordered on the west by a concrete plant. It is bordered on the north by Interstate Highway 95, beyond which lies the densely populated residential neighborhood of Tacony. St. Vincent's Home, an orphanage, is located 1,000 feet to the east of the site. A major municipal sewage treatment plant is located two and a half miles downriver (southwest) of the site. Major industries to the immediate west include Ralston Purina (an animal-feed processor), and Disston Precision, a metal-working facility. There are no known national or cultural historic sites located on the property.

The two main buildings on the property are Building 460 and Building 461. Each is a steel-framed masonry structure on a concrete slab with a total of approximately 245,507 square feet. The perimeter walls of Buildings 460 and 461 consist of hollow-tile masonry from the foundation to the bottom of a series of corrugated-wire/glass panels. The siding consists of corrugated-asbestos panels above the glass panels. The concrete floors throughout the two buildings are in good condition.

There are two basements beneath Building 461. They appear structurally sound but reportedly remain continuously wet. There are several floor drains and two sumps located in each basement.

The roof of each building is gabled and has several large ridge ventilators. These ridge ventilators are in very poor condition and are no longer in service. The condition of the entire roof system on buildings 460 and 461 is poor; there are numerous leaks and the existing roof access is unsafe. There are approximately 134 roof drains, many of which are blocked.

The administration building, Building 462, is adjacent (east) to Building 460 and 461. This building is a two story, World War II era, wood-frame building approximately 17,843 square feet in size. This building is badly deteriorated as a result of a recent fire, and is reportedly beyond economical repair.

An open storage shed, Building 463, is an open-walled structure consisting of a corrugated-metal roof supported by wood columns. The shed is 90 feet wide by 350 feet long with approximately 31,723 square feet in area. This building appears to be in good condition.

The central steam plant, Building 467, is a two story masonry building that appeared to be in good condition during the site visit.

Other structural features located on the property include two wood-framed sentry stations, three transformer substation buildings constructed of masonry, a masonry heat plant (Building 464), gas pipe lines, sewer pipe lines, paved roads, and a vehicle parking area.

All of the buildings are located above the 100-year flood plain. Under the western portion of the property is a Government-owned, two-foot diameter storm water sewer which carries a considerable amount of stormwater runoff from the site to the Delaware River during heavy rainfalls. Sewer lines connect to the city sanitary-sewer system.

All water is supplied to the site by the city of Philadelphia. A twelve inch water line extends from Tacony Street into Princeton Avenue, then into the northeast corner of the site. This provides sufficient water for fire protection and the sprinkler systems. Electricity is purchased from the Philadelphia Electric Company, and gas is purchased from the Philadelphia Gas Works Company.

TW was constructed in 1943 as an armor plate assembly plant on land purchased from the Warner Company. The newly constructed plant was operated by Henry Disston & Sons Company until control of the property was transferred to the Frankford Arsenal on April 25, 1944. The Frankford Arsenal, located two miles southwest from what is now referred to as TW, actively utilized the warehouse for storage in the 1950s and throughout much of the 1960s.

While very few records exist concerning operations conducted at TW, information on the facility's early history indicates that it was fairly active from its founding until at least 1966. Aerial photographs taken during this period consistently show approximately 50 parked cars and materials stored outdoors, including in the early 1950s, military tanks. Activity at TW during World War II is believed to have included welding, cutting,

and possibly camouflage painting of armor brought into the plant by rail. The spray pond utilized for cooling processed armor was still visible in 1960 aerial photographs. However, the Enhanced PA states that former Frankford Arsenal employees believed that little production occurred at TW even during wartime and were unaware of any operations outside of warehousing and possibly military-tank maintenance.

TW was reported as excess in 1966. No resolution of the excess condition was made until November 12, 1970, when the property was assigned to Army & Air Force Exchange Service (AAFES), while remaining under accountability to the Frankford Arsenal. AAFES utilized the warehouse for storing various consumer products such as clothing, housewares, and automotive equipment. Although motor oil and antifreeze were stored at the warehouse, the containers within the pallets were never larger than one gallon and any damaged containers were quickly secured for use on site. The facility was again reported as excess by Frankford Arsenal on December 12, 1975. On June 24, 1976, accountability for TW was transferred to Ft. Dix.

In March 1979, a 2.91 acre parcel along the Delaware River was excessed and subsequently conveyed by quitclaim deed to the Pennsylvania Fishing Commission for use as a recreational boat launch. An additional 0.9 acre parcel of land, located to the north of the excessed area, was (and is as of this date) outleased to the Pennsylvania Fishing Commission. The leased area is located along the south side of TW property and is used for boat-launch parking.

AAFES vacated TW on November 23, 1987. The facility remained vacant for four months until the New Cumberland Army Depot (NCAD) entered into an agreement with Ft. Dix to lease TW for the storage of items such as unused containers, office furniture, and spare equipment parts. Until April 1993, active materials handling was scheduled by NCAD for one or two days per week. The lease to NCAD expired in April 1993 and was not renewed.

3.2

CHANGES TO REAL PROPERTY ENVIRONMENTAL CONDITIONS SINCE ENHANCED PA INVESTIGATION

The Enhanced PA was performed in 1989. Since that time, three 300-gallon and four 9,000-gallon aboveground storage tanks (ASTs) have been removed from the site. In addition, four of the five underground storage tanks (USTs) have been removed from the site. One tank, located on the northwest side of the site, was abandoned and has not been removed. The piping associated with all the removed USTs was not removed and remains in place. Drums filled with tank sludge remain on site and a few

have been knocked over, causing the contents to spill in the general area. Many of the underground tank pits have not been backfilled and water has collected in the tank pits. On August 30, 1993, a fire occurred at TW, virtually destroying Building 462. TW is frequently vandalized (two unauthorized individuals were on site removing copper piping and electrical wire at the time of ERM's walk-through CERFA inspection).

This Section describes the results of the CERFA investigation by identifying areas of environmental concern, both of those previously identified in prior investigations and those uncovered as a result of the CERFA site visit. In addition, Section 4 identifies parcels in accordance with the parcel definitions contained in Section 1.2.

PREVIOUSLY IDENTIFIED AREAS REQUIRING ENVIRONMENTAL EVALUATION (AREES)

A number of areas within TW have been identified as sites of known or potential environmental concern. These sites, described below, are listed to correspond to the map table (Table 5.1-1) and site map (Figure 5.1-1). The size of TW and the extent of contamination lead to the designation of the entire site as a CERFA Disqualified Parcel. The designation of the Disqualified Parcel also includes the appropriate CERFA Parcel identifiers, which describe the basis for Parcel classification (see Section 1.2). Individual sites containing only CERFA Qualifiers (such as asbestos and lead-based paint) are discussed in this section because they are components of a larger Disqualified Parcel. An additional general discussion of the status of CERFA Qualifying materials at TW is included in Section 4.4.

1. *Entire Site [1D-HS/HR/PS/PR/A/L(P)]*

Underground and Above Ground Storage Tanks

An abandoned UST is located on the northwest side of Building 467 between the railroad tracks. The tank was believed to be used for gasoline or diesel fuel storage until 1972, when the dispensing pump was removed and two new USTs were installed in other locations on the site. The age and capacity of the UST is unknown. The tank's pipe protrudes two feet above ground level at a 70 degree angle and is covered with a loose fitting cap. During the Environmental Investigation performed in June 1990, the tank contents were measured and it was determined that there were five inches of liquid in the tank and it had a strong petroleum odor. An obstruction was encountered at 14 inches below grade level. The tank may have been used for liquid waste disposal after abandonment. The obstruction may be sand used to fill the tank after the abandonment in 1972.

A 1,400-gallon UST was installed south of Building 464 in 1943. It contained No. 2 heating oil until 1987. According to the previous reports, the tank had not been leak tested during the 1970s or 1980s and was believed to contain only residual amounts of oil until its removal in July of 1993. ERM's visual walkthrough verified that the tank had been removed and backfilled. Currently, there are no tank closure plans or reports which indicate hydrocarbon levels of the surrounding soil.

Three 10,000-gallon fiberglass tanks were buried within the area of the former spray pond. Two of the tanks located to the south of the spray pond were originally installed in 1972. The tanks originally contained gasoline and diesel fuel. In 1987, the eastern most tank was switched from gasoline to diesel service. The third tank was installed in 1974 and contained No. 2 diesel fuel. This tank has underground piping leading to a boiler room on the southwest portion of Building 460. The three 10,000 gallon tanks were removed in July 1993. Soil samples taken during the Environmental Investigation and Risk Assessment Phase I, near the former tank locations, were found to contain polynuclear aromatic hydrocarbons (PAHs).

Four 9,000-gallon capacity ASTs were located on the south side of Building 467. The tanks were used to store No. 6 heating oil. The two northernmost tanks were installed in 1943; the two southernmost sometime between 1950 and 1953. The installation of the southernmost two tanks corresponds with the conversion of the steam boilers from coal or oil to exclusively fuel oil. The tanks and boilers were taken out of service prior to 1970. The tanks were mounted above a concrete surface and surrounded by a four foot concrete wall. The wall was used to prevent damage from traffic and not as a means of containment. Rain water and any leakage from the tanks was believed to be drained through holes at the base of the wall. All four tanks were removed in July of 1993. Currently, there are no closure plans or reports to verify total hydrocarbon levels of the surrounding soil.

Between 1970 and 1987, three 300-gallon capacity ASTs were used to store gasoline or kerosene in three locations at TW. One tank was mounted on a wall next to the 10,000-gallon tanks, another was located on a concrete paved area near the former vehicle maintenance area in the vicinity of the 9,000-gallon tanks, and the third was located on the south side of Building 463. All were removed from the site in July of 1993. Currently, there are no closure plans or reports to verify total hydrocarbon levels of the surrounding soil.

Former Spray Pond

The Former Spray Pond is located east of Building 467. It was believed to be concrete lined and was used to cool an oil bath into which hot armor plates were immersed. The pond capacity is estimated to have been roughly 200,000 gallons.

In 1970, the Former Spray Pond was excavated and used as a vault for the three AST's located on the south side of building 463. During the Environmental Investigation and Risk Assessment Phase I, six soil borings were completed in the vicinity of the spray pond. Highly elevated arsenic concentrations were detected. Zinc and gamma-chlordane were found at moderate levels. PAHs were also detected.

Oil/Water Separator

An underground oil/water separator is located southeast of Building 467. It was believed to have been used for weekly boiler blowdown and for separation of the spray pond water. The oil/water separator has not yet been removed. Under CERFA guidance, an oil/water separator is not Qualifying or Disqualifying unless releases are known or suspected.

Building 460

The former armor plate manufacturing area was located in Building 460. It is believed that armor plates were delivered by rail to the west end of Building 460. Manufacturing operations included welding, cutting, and possibly camouflage painting. Hazardous materials, such as acetylene, propane, paint, solvents and coolants, used in connection with these operations were stored in the building. Oxygen and acetylene piping used to supply welders was still in place at the time of the Enhanced PA in 1989, however, the pipes were purged and removed from their former location in the basement. There had been a suspicion that depleted uranium was stored on site; however, Visar, Inc. conducted a geiger counter sweep of the area and concluded that radiation was not present.

Building 460 contained non-friable asbestos-containing building materials in the form of floor tile found in the middle of the warehouse, corrugated transite siding located around the upper exterior portion of the building and transite panels located between the structural support members of the roof and surrounding the Heating, Ventilation, and Air Conditioning (HVAC) Room. Other asbestos-containing materials (ACM) are friable pipe and elbow insulation located in the upper structural support members of the roof, and tank boiler insulation found in the HVAC room.

Any surface that was painted prior to 1978 is presumed to contain lead-based paint (LBP). No samples have been taken to confirm the existence of LBP at TW. However, given the date of construction of TW, it is highly likely that all painted surfaces on the property contain LBP.

Building 461

A spill of hydraulic oil covering 150 square feet was observed near the elevator in the basement in the southern end of Building 461. Sampling results from the Environmental Investigation and Risk Assessment Phase I conducted in December 1992, revealed high levels of Total Petroleum Hydrocarbons (TPHC). At the date of this report, there has been no effort to clean the spill and no documentation was found to indicate intent to remediate.

In Building 461, non-friable ACM was found in the form of floor tile found in the small office of the warehouse. Exterior transite siding was found on the upper half of the exterior of the building and transite panels were located between the structural support members for the roof. Most of the non-friable ACM had minor localized damage. Friable materials included pipe and elbow insulation located in the structural support members of the roof and in the north and south basements.

Building 461 is presumed to contain LBP.

Radon tests were performed for a three-month period in the basements of Building 461. Radon concentrations were well below the EPA recommended action level of 4.0 picocuries per liter (pCi/l) for radon remediation.

Pesticide Storage Building

The Pesticide Storage Building, located north of Building 460, was used to store pesticides such as chlordane, herbicides, and rodenticides from 1970 to 1987. There is a drain in the middle of the building that appears to drain to a storm sewer. The building originally housed transformers.

Wipe sampling in 1992 revealed the presence of PCB 1260.

The painted surfaces in the Pesticide Storage Building are presumed to contain LBP.

Electrical Equipment

PCBs could potentially be present in four areas at TW; three transformers in the north transformer substation, three transformers in the south

transformer substation, and the electrical switchgear on the upper floor of Building 467. In addition, there are two pole mounted transformers above the sentry station along Princeton Avenue. The electrical equipment was all in use in 1989 during the Enhanced PA. During the site visit, the existence of all the previously identified transformers was confirmed.

The north transformer substation has three pad mounted General Electric transformers, each containing 182 gallons of dielectrical fluid. According to the manufacturer, the transformers were manufactured in 1942 and did not originally contain PCBs. In the early part of the 1980s, dielectric fluid was added by a contractor. Testing has confirmed the presence of PCBs in all three transformers. The substation building has concrete floors with a floor drain in the middle which leads to the storm sewer. No staining was observed during the site visit.

The south transformer station is identical to the north station except that the transformers were manufactured by Kuhlman Electric Company. The manufacturer verified that these three transformers, manufactured in 1942 did not originally contain PCBs. Like those transformers in the north, these units were refilled in the 1980s. Testing has confirmed the presence of PCBs in all three transformers.

Wipe samples were collected as part of the Environmental Investigation and Risk Assessment conducted in December, 1992. Samples taken at the Pesticide Storage Building revealed the existence of PCB 1260. Samples taken at both the south and north transformer stations revealed low concentrations of PCB 1260.

Building 463

The former maintenance area located in the southern end of the Building 463 was used for maintenance of a fleet of tractor trailers and forklift trucks. The concrete floor in this area was moderately stained with what is believed to be hydraulic oil and motor oil.

Building 463 is presumed to contain LBP.

Railroad Bed

The railroad tracks at TW are located on the western portion of the property. The rails run from the northwest corner of the property into the western end of the Building 460 and the southern end of Building 461. Materials transported to TW by rail include armor plating, AAFES consumer products, and coal to fire the steam boilers. Waste oil was sprayed along the railroad tracks to control weeds from 1970 through 1975. The quantity of oil sprayed in that area is unknown.

Building 467

In Building 467, non-friable and friable forms of ACM were identified: floor tile from the boiler room office, pipe insulation, tank insulation, boiler insulation, flue insulation and boiler stack insulation.

Building 467 is presumed to contain LBP.

Building 462

Building 462 was virtually destroyed by fire. ACM that was in the building and now mixed with fire debris included non-friable floor tile and associated mastics, asphalt shingles, and exterior transite siding. Friable ACM includes pipe insulation from the crawl space under the first level of the building, as well as joint compound located on the former walls. It is assumed that most of this material sustained considerable damage in the fire and is in poor condition.

Building 462 is presumed to contain LBP.

Building 464

In Building 464, the only ACM identified was transite panel boards covering much of the building.

Building 464 is presumed to contain LBP.

4.2

ADDITIONAL AREAS IDENTIFIED

Several new additional areas of environmental concern were identified during ERM's site visit at TW. These new areas were identified and discussed in Section 4.1 because they are within the Disqualified Parcel.

- UST pit and piping associated with the 10,000-gallon USTs and the 300-gallon ASTs.
- Destruction of Building 462 by fire, which occurred August 30, 1993.
- 55-gallon drum spill near the former location of the 9,000 gallon storage tanks.

Tunnel Between Buildings 467 and 460/461

During the site visit, an underground pipe corridor, not referenced in previous investigations, was identified between Buildings 467 and Building 460/461. The tunnel was filled with water and could not be accessed. There may be asbestos containing pipe insulation on the piping running through the tunnel.

4.3

ADJACENT/SURROUNDING PROPERTIES

Industrial and commercial properties border the site to the west. To the north of the TW lies Milnor Street and Interstate 95, beyond which is a residential neighborhood. To the east sits Princeton Avenue and beyond that, undeveloped land associated with St. Vincent's Home. To the south of the TW is a recreational boat launch and the Delaware River. The Pennsylvania Fishing Commission owns a 2.91-acre parcel also on the south side of the property. The Fishing Commission has constructed office and maintenance buildings and boat launching and storage facilities on this land. This area was formerly a part of the Tacony Warehouse property but was exsessed and subsequently conveyed by quitclaim deed to the Fishing Commission in March 1979.

No off-site areas have been identified that are impacting, or have the potential to impact, the TW property.

4.4

RELATED ENVIRONMENTAL, HAZARD, AND SAFETY ISSUES

Military installations frequently contain issues which the U.S. Army Environmental Center (USAEC) believes fall outside of the provisions of CERFA. For example, while a release of lead-based paint onto the ground may be a CERCLA concern, the application of lead-based paint to a building surface is generally not. However, lead-based paint applied to buildings may represent a safety hazard to young children. Similarly, other substances or materials commonly applied to or found in buildings (for example, radon and asbestos) may not be explicitly regulated under CERCLA, but may require a notice to potential transferees and lessees that they exist.

USAEC has sought to balance the statutory requirements of CERFA with the law's intent to identify uncontaminated property to the public which can be expeditiously reused. Notice has been provided for those parcels which appear to be uncontaminated under the definition provided in

CERFA, but which may contain environmental, hazard, or safety issues. Buildings which contain asbestos-containing materials, lead-based paint, or naturally occurring radon fall into this category and are identified as "CERFA Qualified Parcels" in this CERFA report. Parcels which contain stored (not in use) equipment containing 50 parts per million (ppm) or more of polychlorinated biphenyl (PCB) oil, low level radionuclide-containing equipment such as dials and weapon site posts, and unexploded ordnance are also designated "CERFA Qualified Parcels".

In those cases, however, where for example, asbestos or PCBs have been disposed in the environment, the parcel has been identified as "CERFA Disqualified". In this example, the designation indicates that a CERCLA hazard may exist at this location.

All of the CERFA Qualifiers found at TW have been discussed in Section 4.1 because TW is one Disqualified Parcel. Descriptions of specific structures/areas containing CERFA Qualifiers are provided in Section 4.1. Table 4.4-1 contains a listing of all buildings with CERFA Qualifiers.

Asbestos

ACM was identified throughout the TW site. As part of the Environmental Investigation and Risk Assessment conducted in December, 1992, a total of 66 bulk samples were collected from six buildings and from four ASTs. Forty of the samples were found to contain ACM. All ACM is contained within the Disqualified Parcel.

Radiological Study

A geiger-counter sweep was performed in Building 461, the most likely site of possible radioactive material storage. No anomalies were detected during the survey.

Lead Based Paint

There are no records of LBP testing at TW; however, all of the buildings were constructed prior to 1978 and therefore are presumed to contain LBP.

PCBs

Analysis of the six transformers revealed total PCB concentrations between 200 and 1,520 parts per million (ppm). The three transformers found in the south transformer substation are all considered PCB-contaminated (containing 50 to 500 ppm of PCB). Of the three transformers found in the north transformer substation, one is considered

Table 4.4-1
Buildings with CERFA Qualifiers
Tacony Warehouse
Philadelphia, Pennsylvania

Buildings	Qualifiers
460	A/L(P)
461	A/L(P)
462	A/L(P)
463	L(P)
467	A/L(P)/P(P)
Guardhouse	A/L(P)

- A** Asbestos-containing material
- A(P)** Asbestos-containing material (possible)
- L** Lead-based Paint
- L(P)** Lead-based paint (possible)
- R** Radon

to be PCB-contaminated and two are considered to be PCB-containing (500 ppm PCB or greater).

4.5

CERFA EXCLUDED PROPERTY

A 0.9-acre area in the southern portion of TW is in the process of being transferred to the Pennsylvania Fish Commission. Based on instructions from USAEC, this property is considered a CERFA Excluded Parcel.

After concluding the review of investigation documents, regulatory records, personnel interviews and visual inspections, ERM identified parcels on the installation as CERFA Parcel, CERFA Qualified Parcels, CERFA Disqualified Parcels, or CERFA Excluded Parcels in accordance with the definitions in Section 1.2. The parcels are delineated on a map of the BRAC portion of the installation using a one-acre square grid for boundary definition.

The Army chose a one-acre grid system to aid in the presentation of data gathered during the CERFA report investigation, and to facilitate use of the document by reuse groups and others. The one-acre grid provided a consistent method to report and locate environmental or other concerns. In the many cases where the concerns are much smaller than once acre, the grid system simplifies the depiction of the concern. Accordingly, the areal extent of many small areas of concern, such as UST sites, are liberally depicted in the CERFA report.

Additionally, the one-acre grid size was chosen as a generally redevelopable parcel size for either industrial or residential uses. However, the grid does not drive reuse nor restrict it. Reuse decisions should be made irrespective of the grid.

The entire one-acre grid square is colored or shaded to indicate the applicable parcel category based on the history of storage or release for any portion of that square. Parcels are labeled according to a system outlined in Section 1.2 of this report to indicate the applicable parcel category and the contaminating circumstances. Parcel labels are connected to the respective parcel boundaries by a line or are located within the parcel boundaries.

Where CERFA Disqualified Parcels and CERFA Qualified Parcels have coincided, the overlapped area has been designated CERFA Disqualified. Labels for any such overlapped parcels also indicate the presence of the qualifying hazards. CERFA Excluded Parcels have been excluded from this investigation of contaminant locations and therefore have no overlapping CERFA Disqualified Parcels or CERFA Qualified Parcels. Structures within CERFA Disqualified Parcels that contain qualifying safety hazards are designated with the applicable qualifying label, where map scale permits this level of detail.

ERM's investigation and subsequent parcelization of Tacony Warehouse determined that no acres of the facility fall within the CERFA Parcel

category. No acres of the facility are categorized as CERFA Qualified Parcels. One 13.3 acres CERFA Disqualified Parcel was identified. There is one .9 acre CERFA Excluded Parcel transferred to the Pennsylvania Fish Commission.

In determining the applicable parcel categories for the installation property, ERM observed the following guidance provided by the USAEC for specific circumstances:

- Buildings constructed prior to 1978 are assumed to contain lead-based paint. A similar assumption is made for asbestos in buildings constructed prior to 1985.
- Storage of petroleum products, petroleum derivatives and CERCLA regulated hazardous substances will prevent an area from becoming a CERFA Parcel as long as that storage is for one year or greater. The quantity of substances stored is not relevant to determining the applicable parcel category. However, if the operation requiring such substances is in the immediate area, and the storage is in limited quantities for immediate use, the area is not precluded from being a CERFA Parcel.
- Non-leaking equipment containing less than 50 ppm PCBs does not preclude an area from becoming a CERFA Parcel. Non-leaking, out-of-service equipment with greater than 50 ppm PCBs will place an area in the CERFA Qualified Parcel category. An area is designated CERFA Disqualified if there is a known release containing greater than 50 ppm PCBs.
- Areas where there are transport systems or process equipment which handle hazardous material or petroleum products and upon which there have been no release, storage, or disposal are categorized as CERFA Parcels.
- Ordnance disposal locations are designated CERFA Disqualified. This does not include ordnance impact areas which are designated CERFA Qualified Parcels.
- Routine pesticide and herbicide application in accordance with manufacturer's directions and chlorofluorocarbons and halon in operational systems do not preclude an area from becoming a CERFA Parcel.
- Coal storage piles and railroad tracks do not by themselves preclude an area from becoming a CERFA Parcel.

5.1 CERFA CATEGORY AND DESIGNATION MAP

Table 5.1-1 and Figure 5.1-1 identify the breakdown of the Tacony Warehouse according to the criteria for parcel identification under CERFA.

5.2 CERFA TRACT MAP

The property boundaries and all property transfers including prior ownership information is shown in Figure 5.2-1.

5.3 CERFA PARCEL DESIGNATORS

Figure 5.3-1 summarizes the breakdown of the Tacony Warehouse property according to the criteria for parcel identification under CERFA.

Table 5.1-1
Tacony Warehouse
Philadelphia, Pennsylvania

PARCEL NUMBER (SIZE)	NAME AND LOCATION	CATEGORY	BASIS	SOURCE OF EVIDENCE	REMEDIATION	
1D - HS/HR/ PR/PS/A/LUP/P (13.32 acres)	Abandoned UST Coordinates: 2, 4	Dis-qualified	Petroleum Storage	Enhanced PA (1989)		
	1,400 gallon UST Coordinates: 5, 4	Dis-qualified	Petroleum Storage	Enhanced PA (1989)		
	3 10,000 gallon USTs 1 300 gallon AST Coordinates: 3, 4	Dis-qualified	Petroleum Storage	Enhanced PA (1989)		
	4 9,000 gallon USTs 1 300 gallon AST Coordinates: 3, 3	Dis-qualified	Petroleum Storage Hazardous materials release Spill of petroleum contaminated soil	Enhanced PA (1989) 09/93 Site visit		
	Former Spray Pond Coordinates: 3, 4	Dis-qualified	Petroleum waste release Hazardous materials Arsenic, zinc and gamma chloridane contamination	EI/RA (1993)		
	Building 460 Coordinates: 4, 5	Dis-qualified	Solvent, hydraulic oil storage	Enhanced PA (1989)		
	Building 461 Coordinates: 4, 4		Qualified	Asbestos	EI/RA (1993)	
				Lead paint (P)	09/93 Site visit	
			Dis-qualified	Petroleum Release	EI/RA (1993)	
	Pesticide Storage Building Coordinates: 3, 6		Qualified	Asbestos	EI/RA (1993)	
			Lead paint (P)	09/93 Site Visit		
Dis-qualified			Pesticides storage PCB spill Lead paint (PA)	Enhanced PA (1989) EI/RA (1993) 09/93 Site Visit		

Table 5.1-1
Tacony Warehouse
Philadelphia, Pennsylvania

PARCEL NUMBER (SIZE)	NAME AND LOCATION	CATEGORY	BASIS	SOURCE OF EVIDENCE	REMEDIA TION
	North Substation Coordinates: 4, 4	Disqualified	PCB Spill	EI/RA (1993)	
	South Substation Coordinates: 4, 3	Disqualified	PCB Spill	EI/RA (1993)	
	Building 463 1 300 gallon AST Coordinates: 4, 3	Disqualified	Petroleum release Petroleum storage	EI/RA (1993)	
	Railroad Bed Coordinates: 4, 2	Qualified	Lead paint (P)	09/93 Site visit	
	Building 467 Coordinates: 3, 4	Disqualified	Petroleum Release	Enhanced PA (1989)	
	Building 462 Coordinates: 5, 4	Qualified	Asbestos	EI/RA (1993)	
	Building 464 1 1400 gallon AST Coordinates: 5, 4	Disqualified	Lead paint (P) PCB (P)	09/93 Site visit	
	Tunnel Between 467 and 460/461 Coordinates: 3, 4	Qualified	Asbestos	EI/RA (1993)	
	South Property Coordinates	Excluded	Property to be sold to Pennsylvania Fish Commission	09/03 Site Visit	
2E (0.9 acres)					

Table 5.1-1
Tacony Warehouse
Philadelphia, Pennsylvania

PARCEL NUMBER (SIZED)	NAME AND LOCATION	CATEGORY	BASIS	SOURCE OF EVIDENCE	REMEDIATION
--------------------------	----------------------	----------	-------	-----------------------	-------------

Parcel Category
 D = CERFA Disqualified Parcel
 Q = CERFA Qualified Parcel
 E = CERFA Excluded Parcel
 P = CERFA Parcel

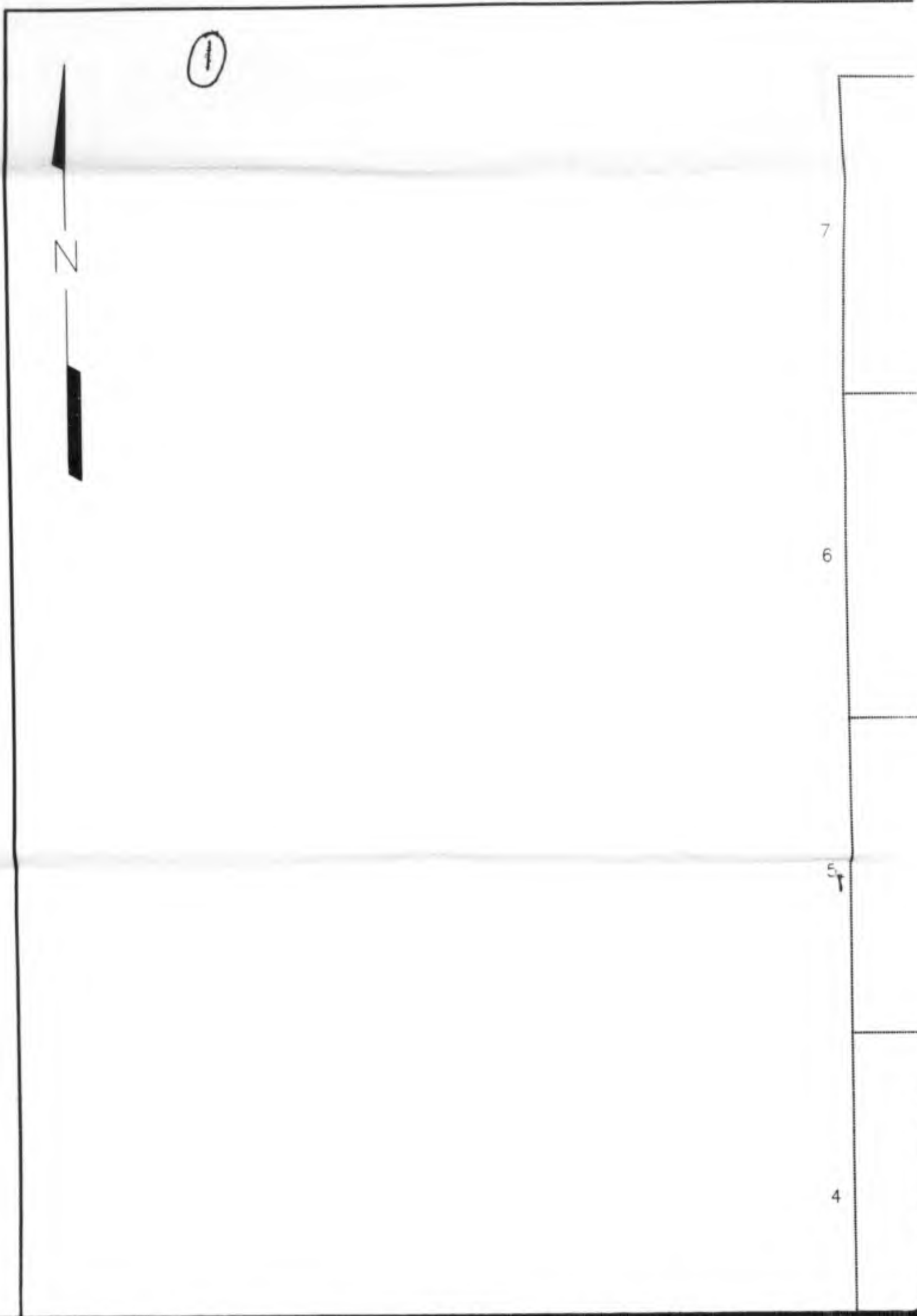
(P) = Possible

Disqualified Designations

FS = Petroleum Storage
 PR = Petroleum Release/Disposal
 HS = Hazardous Materials Storage
 HR = Hazardous Materials Release/Disposal

Qualified Designations

A = Asbestos
 L = Lead-Based Paint
 P = PCBs (Polychlorinated biphenyls)
 R = Radon
 X = UXO (unexploded ordnance)
 RD = Radionuclides



①

N

7

6

5

4

②

7

6

5

4

FORMER PESTICIDE
STORAGE BUILDING

P

MILNOR STREET

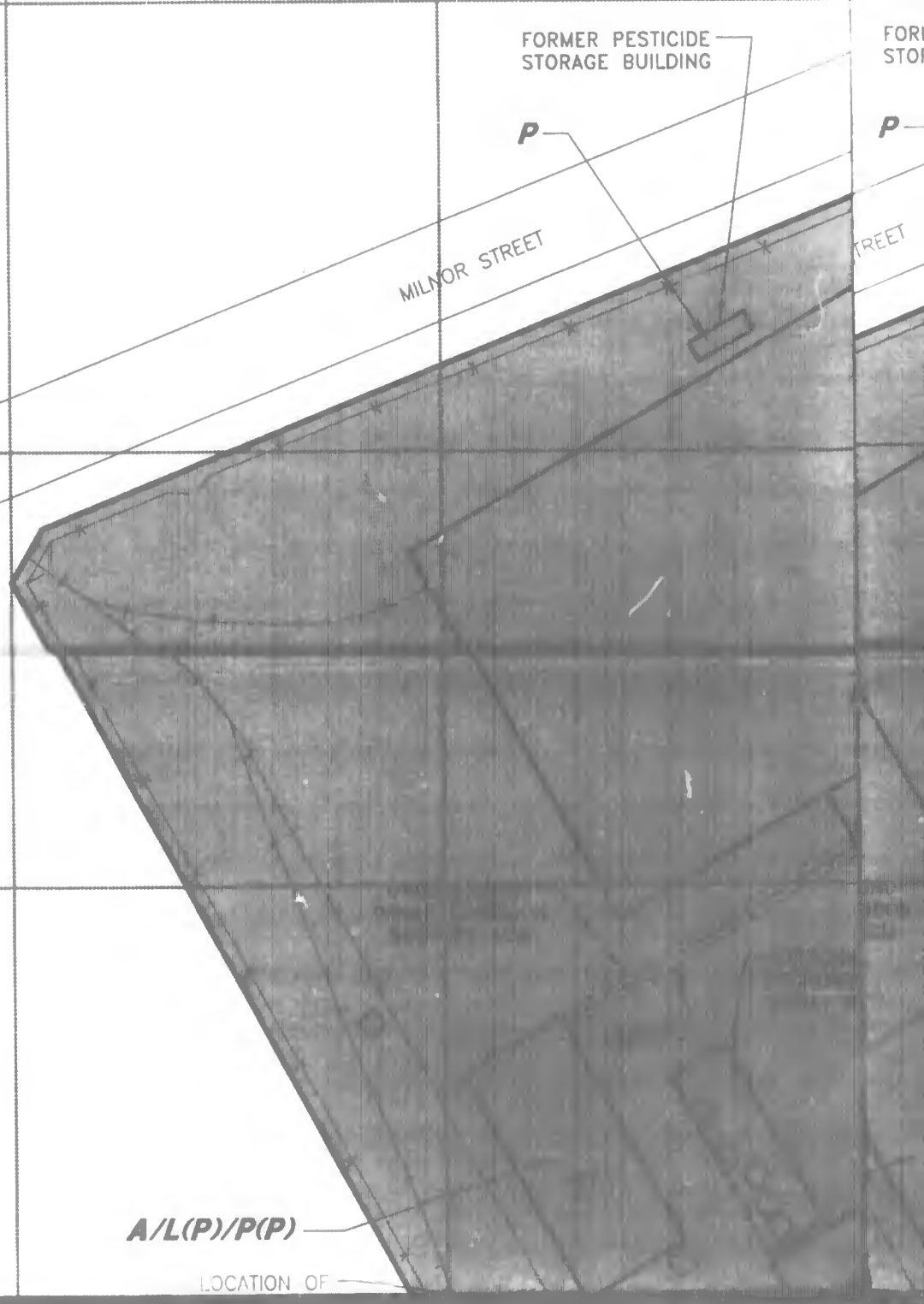
FOR
STOR

P

STREET

A/L(P)/P(P)

LOCATION OF



3

FORMER PESTICIDE
STORAGE BUILDING

P

STREET

A/L(P)

PRINCETON AVENUE

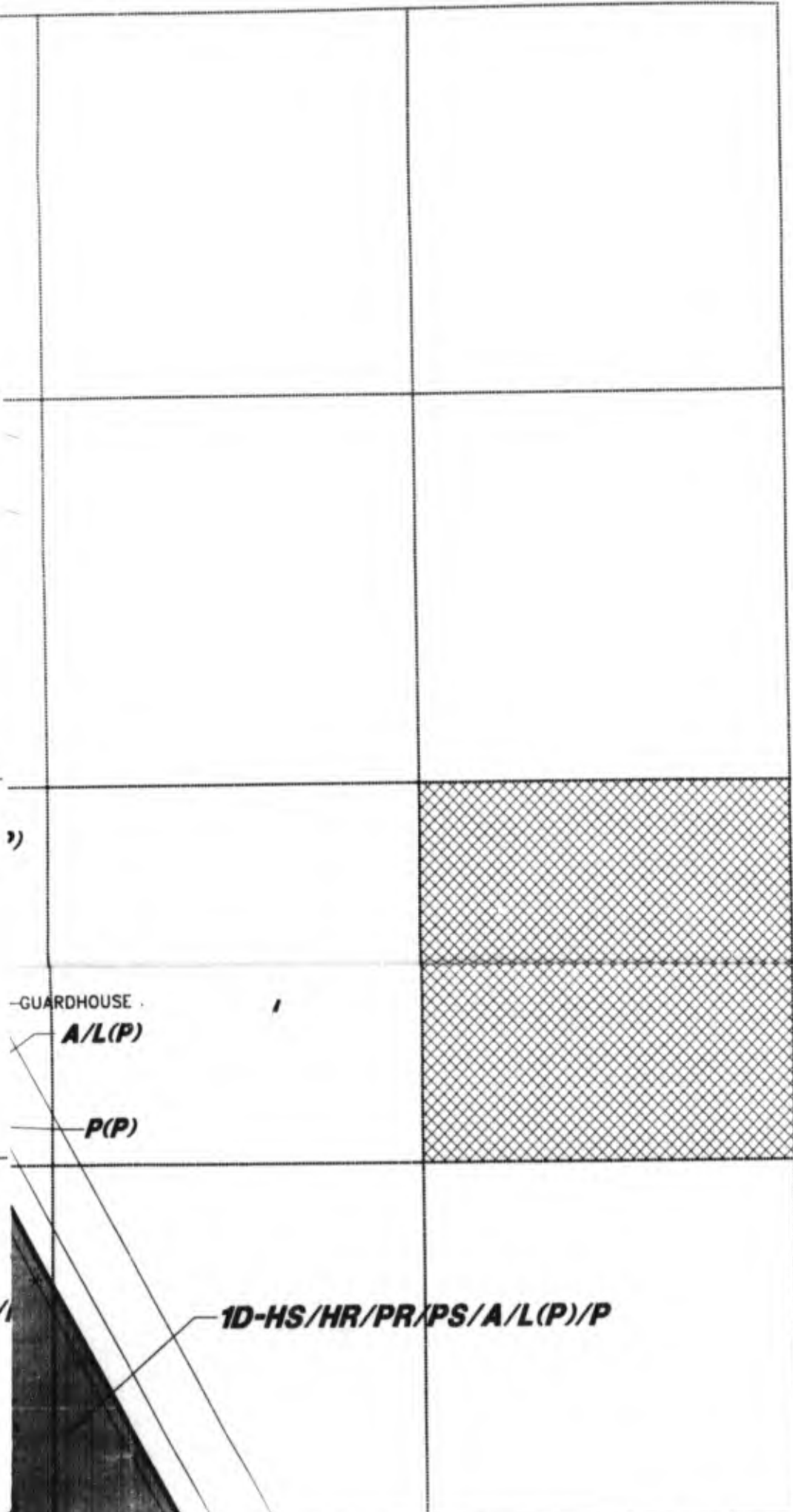
GUARDHOUSE

A/L(P)

P(P)

1D-HS/

4



ONE ACRE GRID SQUARE
COORDINATE LOCATION: 7,5

GUARDHOUSE

A/L(P)

P(P)

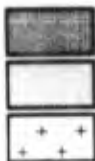
1D-HS/HR/PR/PS/A/L(P)/P

LEG

5

D SQUARE
LOCATION: 7,5

LEGEND:



CERFA DISQUALIFIED

CERFA QUALIFIED

CERFA EXCLUDED

(b)

5

4

3

2

1

5

7

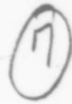
4

UNDERGROUND
PIPING CORRIDOR
SUSPECT ACM

APPROXIMATE
BOUNDARY
SPRAY PO

A/L(P)/P(P)

LOCATION OF
3 FORMER
10,000 USTs



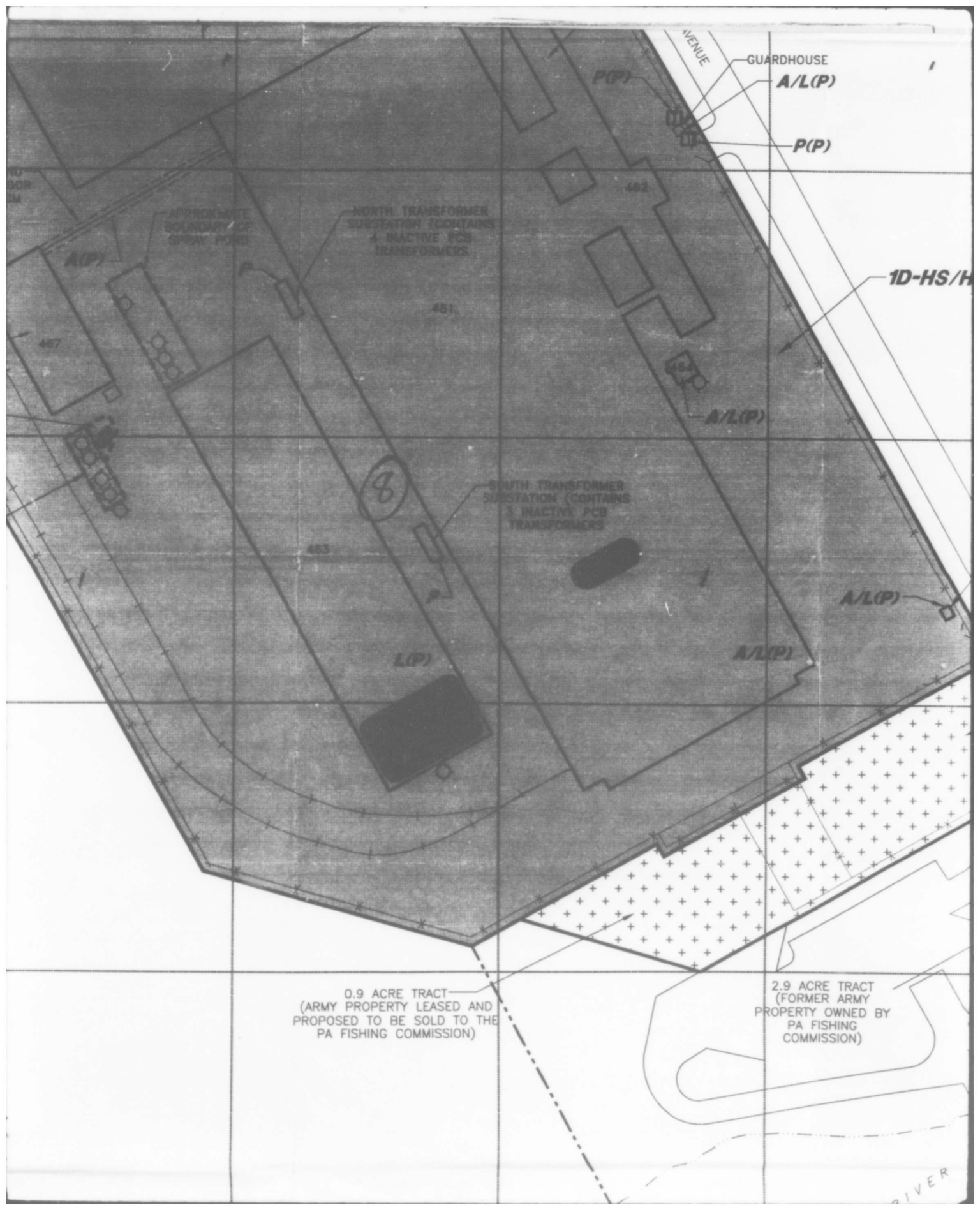
TEMPORARY
DRUM STORAGE
AREA

ABOVEGROUND
STORAGE TANK
CONTAINMENT
STRUCTURE

3

2

1



GUARDHOUSE
A/L(P)

P(P)

APPROXIMATE
BOUNDARY OF
SPRAY POND

NORTH TRANSFORMER
SUBSTATION (CONTAINS
4 INACTIVE PCB
TRANSFORMERS)

481

462

1D-HS/H

SOUTH TRANSFORMER
SUBSTATION (CONTAINS
3 INACTIVE PCB
TRANSFORMERS)

483

LP

A/L(P)

A/L(P)

0.9 ACRE TRACT
(ARMY PROPERTY LEASED AND
PROPOSED TO BE SOLD TO THE
PA FISHING COMMISSION)

2.9 ACRE TRACT
(FORMER ARMY
PROPERTY OWNED BY
PA FISHING
COMMISSION)

RIVER

GUARDHOUSE

A/L(P)

P(P)

1D-HS/HR/PR/PS/A/L(P)/P

GUARDHOUSE

A/L(P)

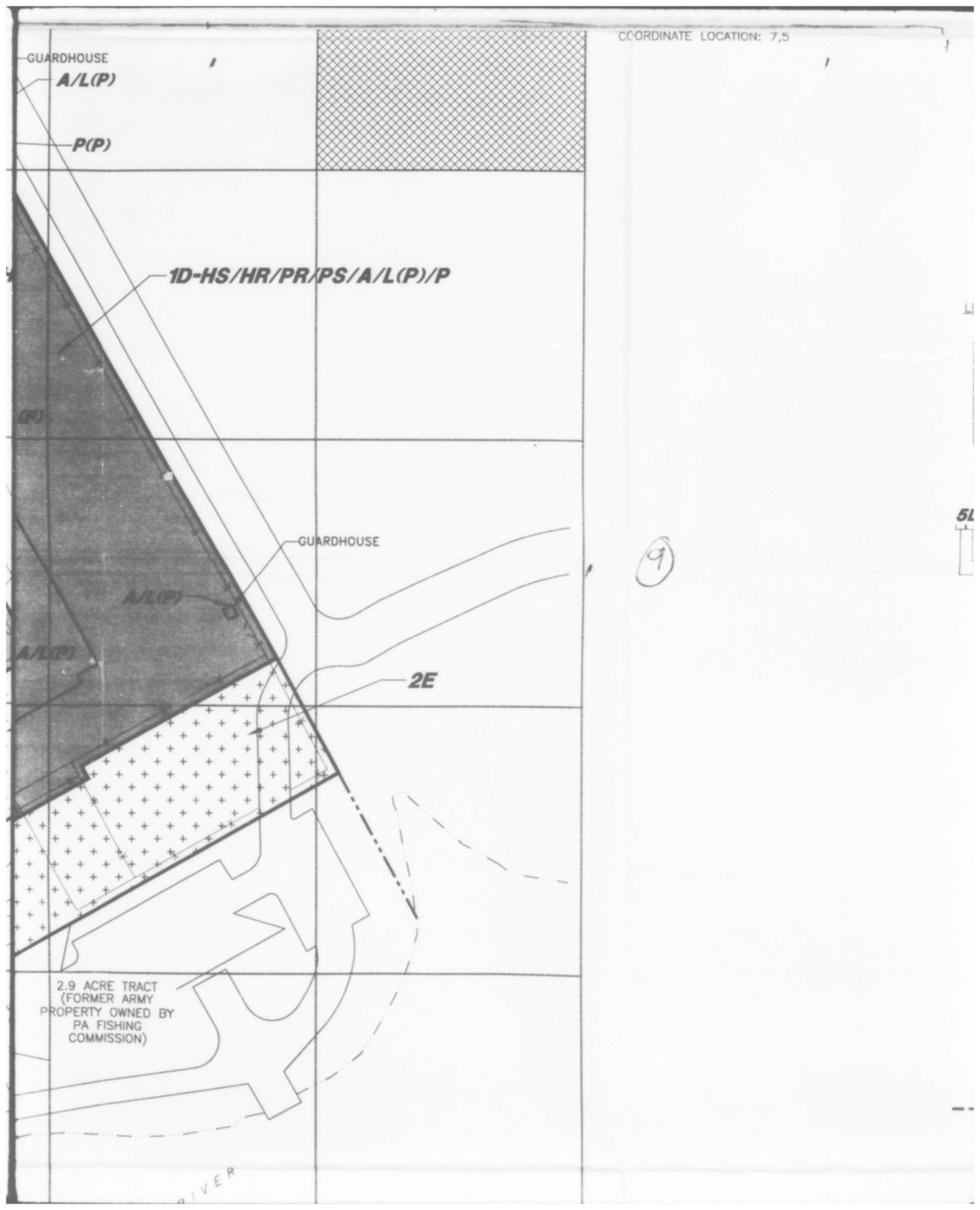
2E

2.9 ACRE TRACT
(FORMER ARMY
PROPERTY OWNED BY
PA FISHING
COMMISSION)





RIVER

9

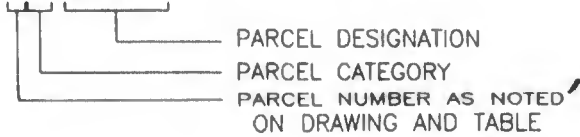
5L



LEGEND:

-  CERFA DISQUALIFIED
-  CERFA QUALIFIED
-  CERFA EXCLUDED
-  CERFA PARCEL

5D-PR/HR



PARCEL LABEL

PARCEL CATEGORY

- D = CERFA DISQUALIFIED PARCEL
- Q = CERFA QUALIFIED PARCEL
- E = CERFA EXCLUDED PARCEL
- P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

- PS = PETROLEUM STORAGE
- PR = PETROLEUM RELEASE/DISPOSAL
- HS = HAZARDOUS MATERIALS STORAGE
- HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

- A = ASBESTOS
- L = LEAD-BASED PAINT
- P = PCBs (POLYCHLORINATED BIPHENYLS)
- R = RADON
- X = UXO (UNEXPLODED ORDNANCE)
- RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

 NON-LEAKING UST OR AST (FORMER OR ACTIVE)

 RELEASE OR DISPOSAL OF PETROLEUM OR HAZARDOUS MATERIALS

 RELEASE OR DISPOSAL OF PETROLEUM OR HAZARDOUS MATERIALS

 BUILDING WITH CERFA QUALIFIER(S)

10

CONTAINMENT
STRUCTURE

3

2

1

1

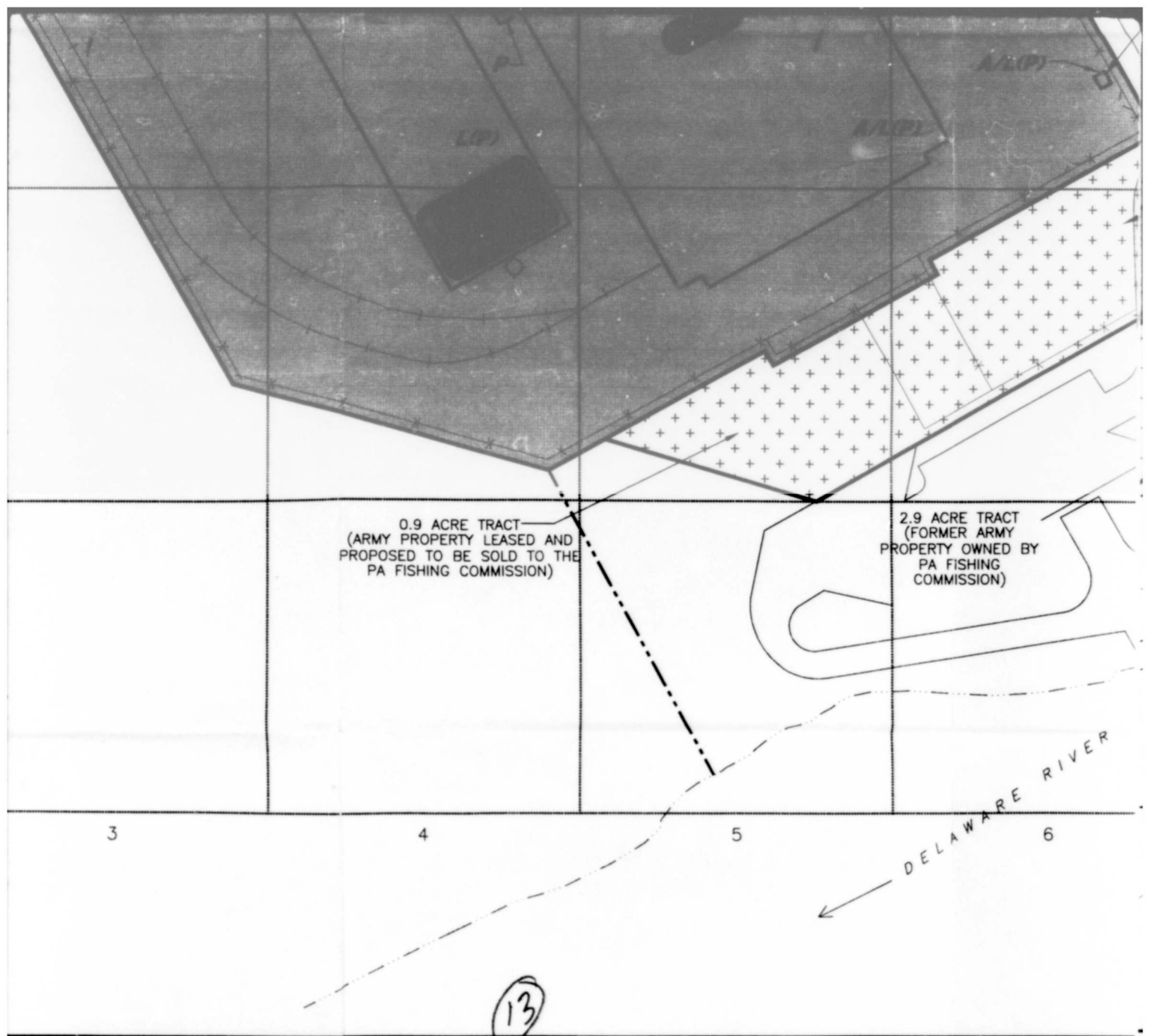
2

3

12

NO.	DATE	APPR.	REVISION

Phila
En
Ext



Tacony Warehouse

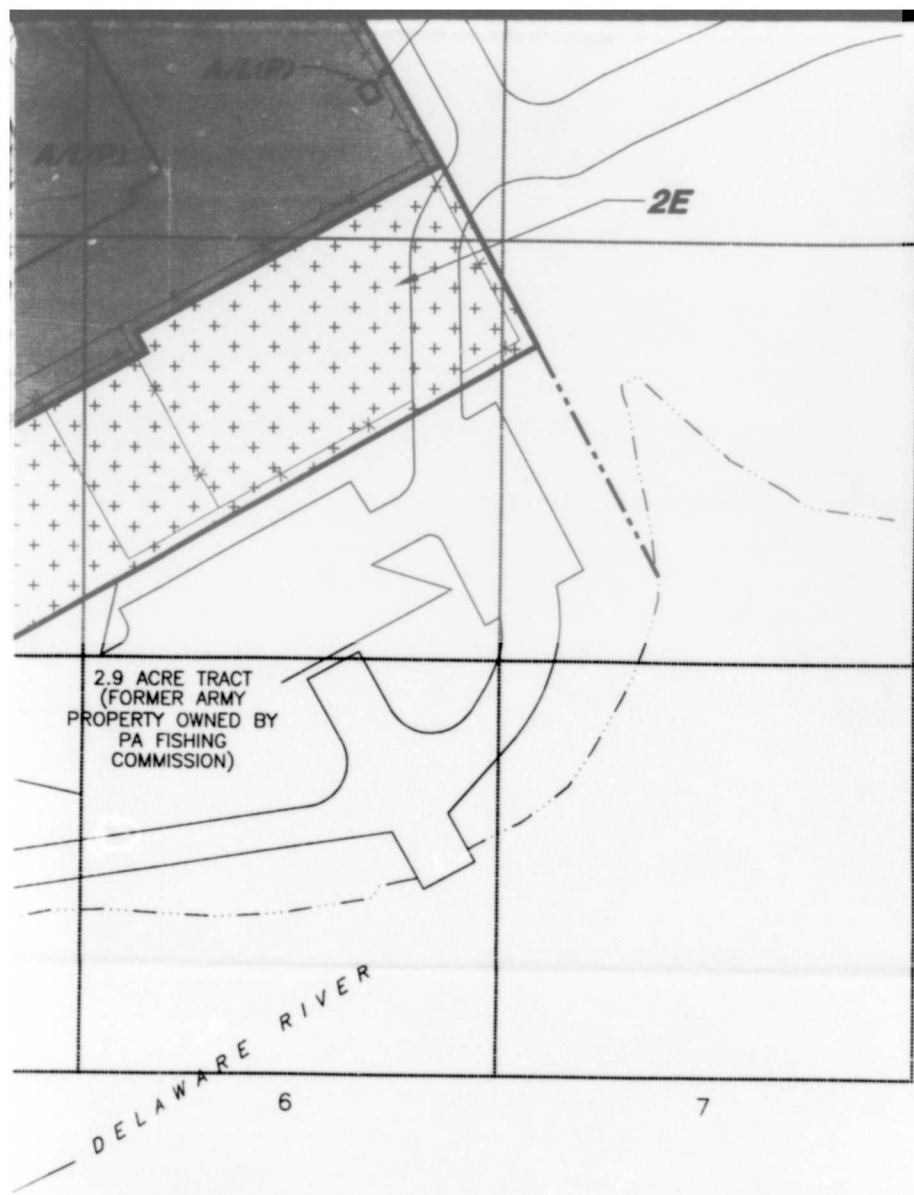
Philadelphia

Pennsylvania

Environmental Resources Management, Inc.

Exton, Pennsylvania 19341 (215) 524-3500





14

Pennsylvania



ERM

CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

CERFA Category and D		DRAWN	DATE
		M.K. Bond/CMP	10.25.93/04.C
		SCALE	W.O. No.
		1" = 80'	PM307.70.01

10

PARCEL CATEGORY

- D = CERFA DISQUALIFIED PARCEL
- Q = CERFA QUALIFIED PARCEL
- E = CERFA EXCLUDED PARCEL
- P = CERFA PARCEL


DISQUALIFIED DESIGNATIONS

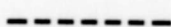
- PS = PETROLEUM STORAGE
- PR = PETROLEUM RELEASE/DISPOSAL
- HS = HAZARDOUS MATERIALS STORAGE
- HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL


QUALIFIED DESIGNATIONS


- A = ASBESTOS
- L = LEAD-BASED PAINT
- P = PCBS (POLYCHLORINATED BIPHENYLS)
- R = RADON
- X = UXO (UNEXPLODED ORDNANCE)
- RD = RADIONUCLIDE


(P) POSSIBLE DISQUALIFIER/QUALIFIER

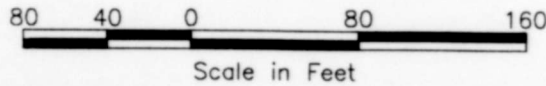
 NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

 RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS

 RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS

 BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

 INACTIVE PCB TRANSFORMERS



15

CERFA Category and Designation Map

DRAWING NO.

Figure 5.1-1

REV. NO.

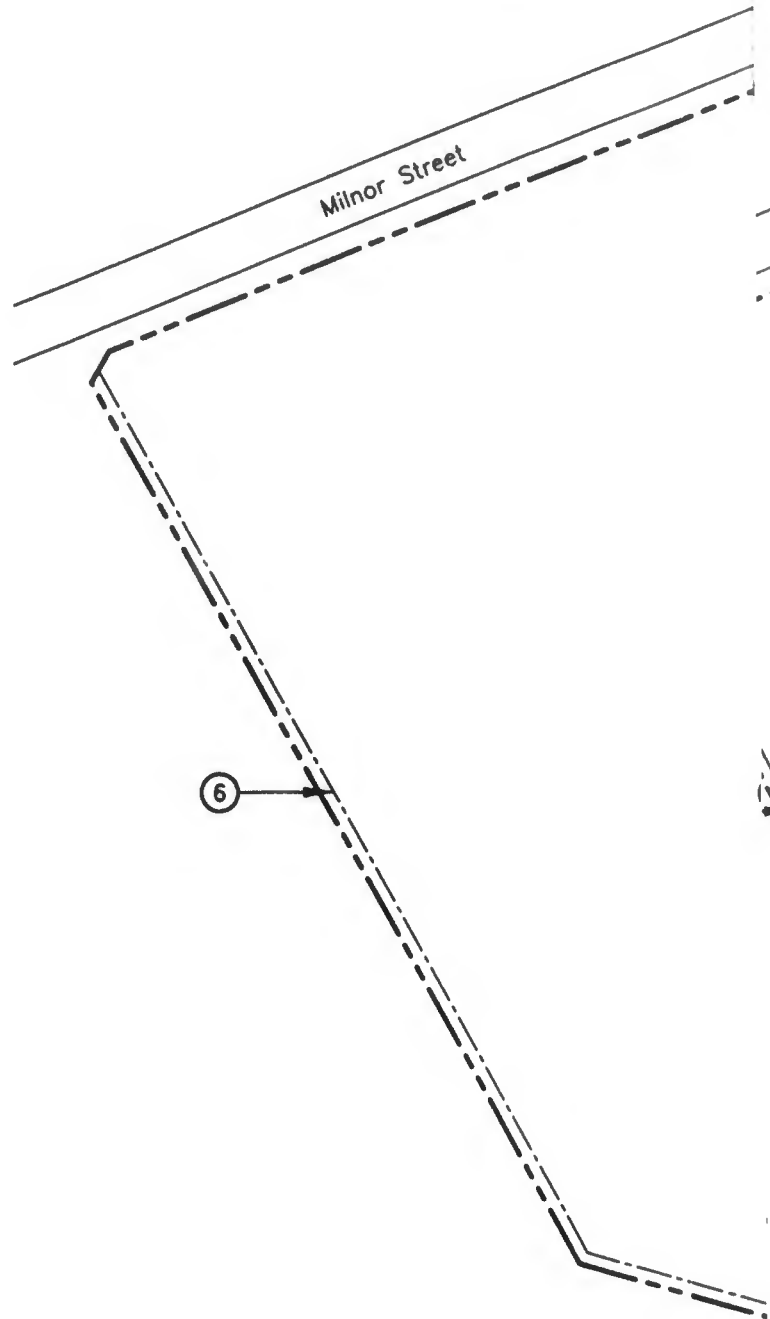
CMP	DATE 10.25.93/04.06.94	CLIENT APPROVAL	SHEET 1 OF 1	
	W.O. No. PM307.70.01/A301-1	ISSUED FOR	DATE	

Tacony Warehouse Previous Owners

Tract No.	Name of Previous Owner (Transferrors)	Date of Transfer	Acreage Fee
1	Warner Corporation	14 September 1942	14.10
6	Warner Corporation	14 September 1942	0.12

Notes:

1. The tract numbers are not consecutive in order to stay consistent with historical tract numbers
2. Original Warner Corporation Property Extended Further South, and Included the 2.9 Acre Parcel Now Owned by the PA. Fish Commission. The 2.9 Acres is not Part of the BRAC Property.



①

Figure 5.2-1
Tract Map
Tacony Warehouse
Philadelphia, Penns)



Legend

- Property Boundary (Real BRAC Pro)
- Tract Boundary
- ① Tract Number

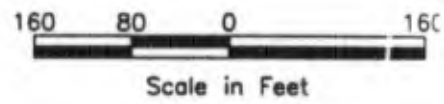
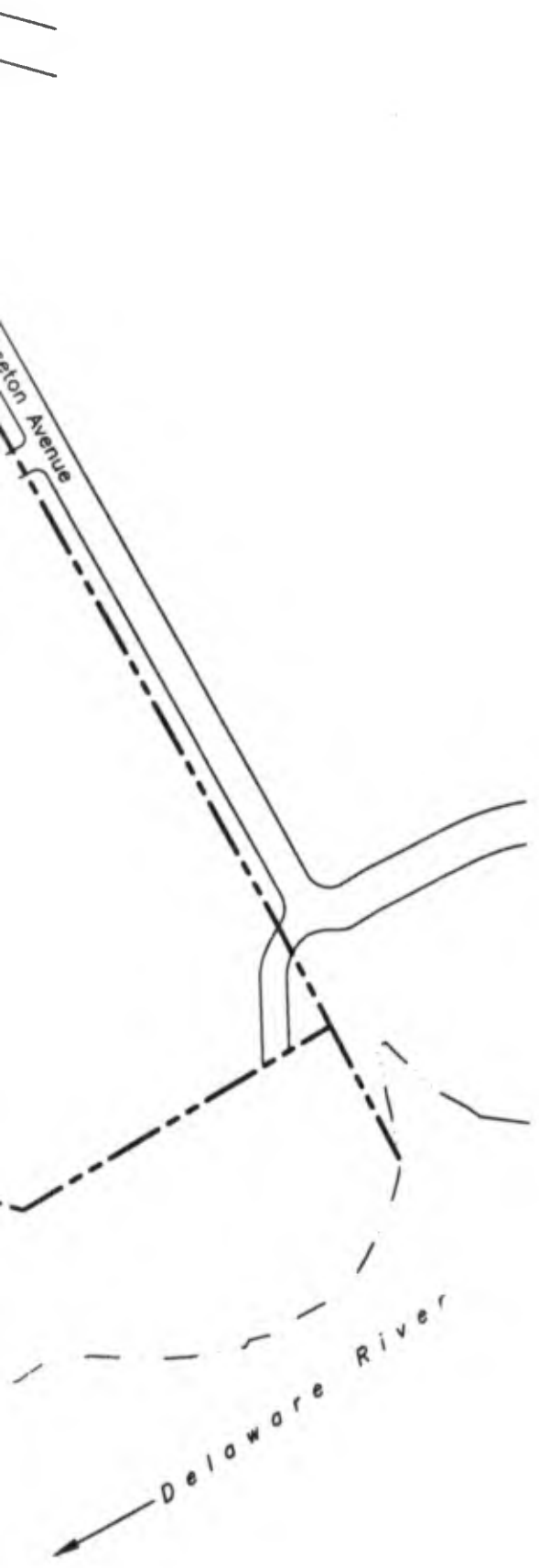
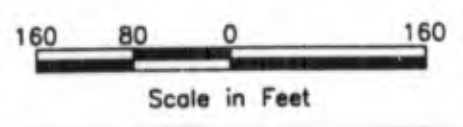


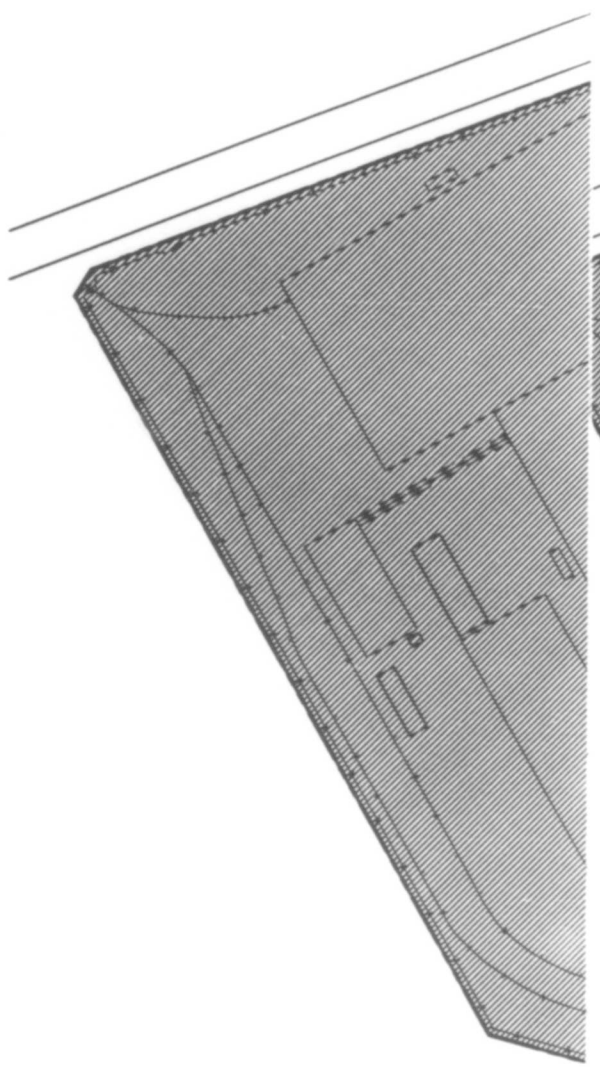
Figure 5.2-1
Tract Map
Tacony Warehouse
Philadelphia, Pennsylvania



- Legend**
- Property Boundary (Real BRAC Property)
 - Tract Boundary
 - ① Tract Number



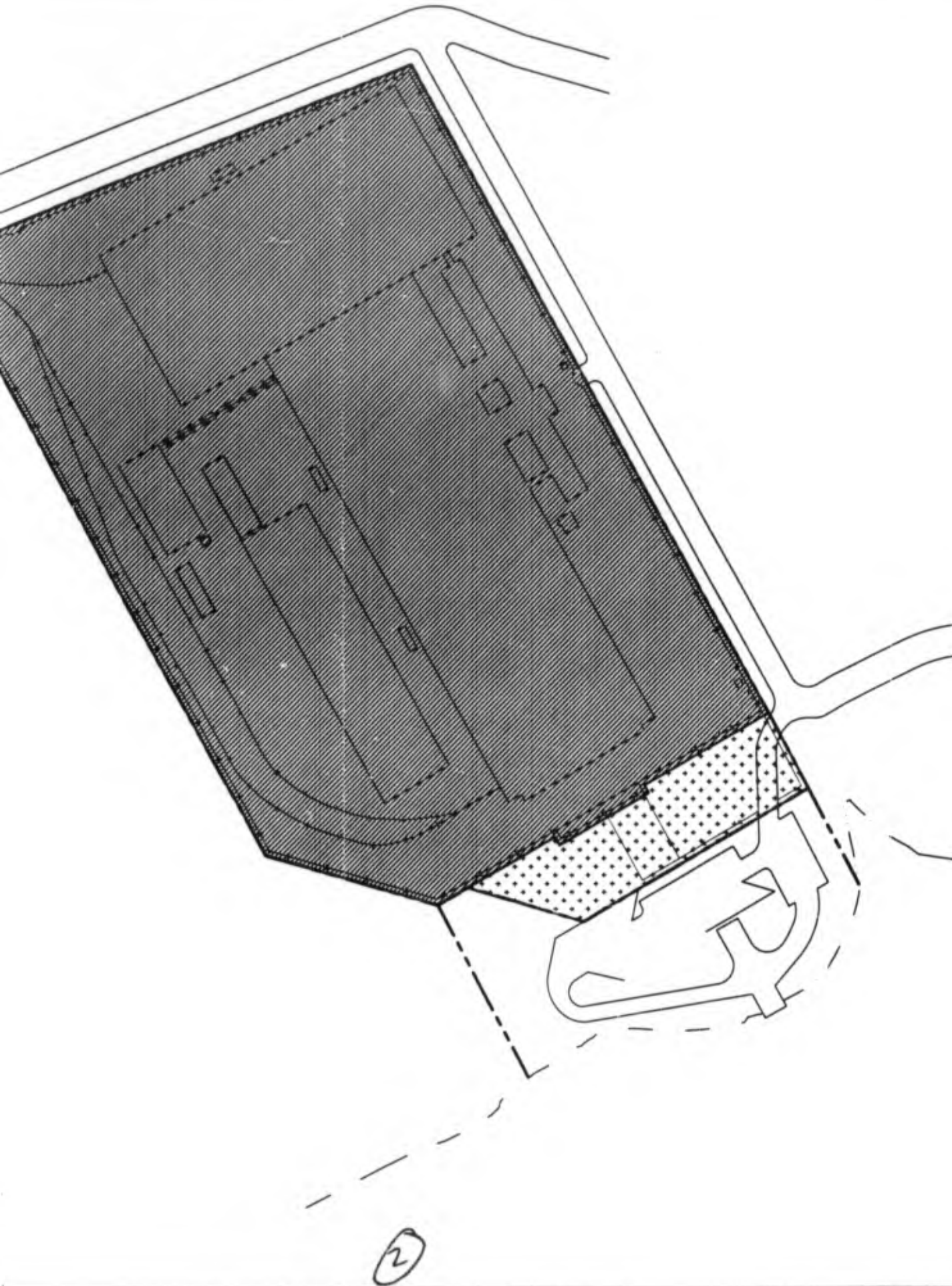
③



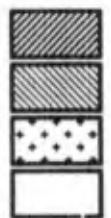
THE ERM GROUP

1

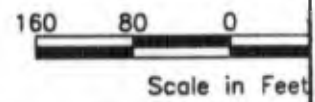
Figure 5
CERFA Parcel D
Tacony Ward
Philadelphia, Pa



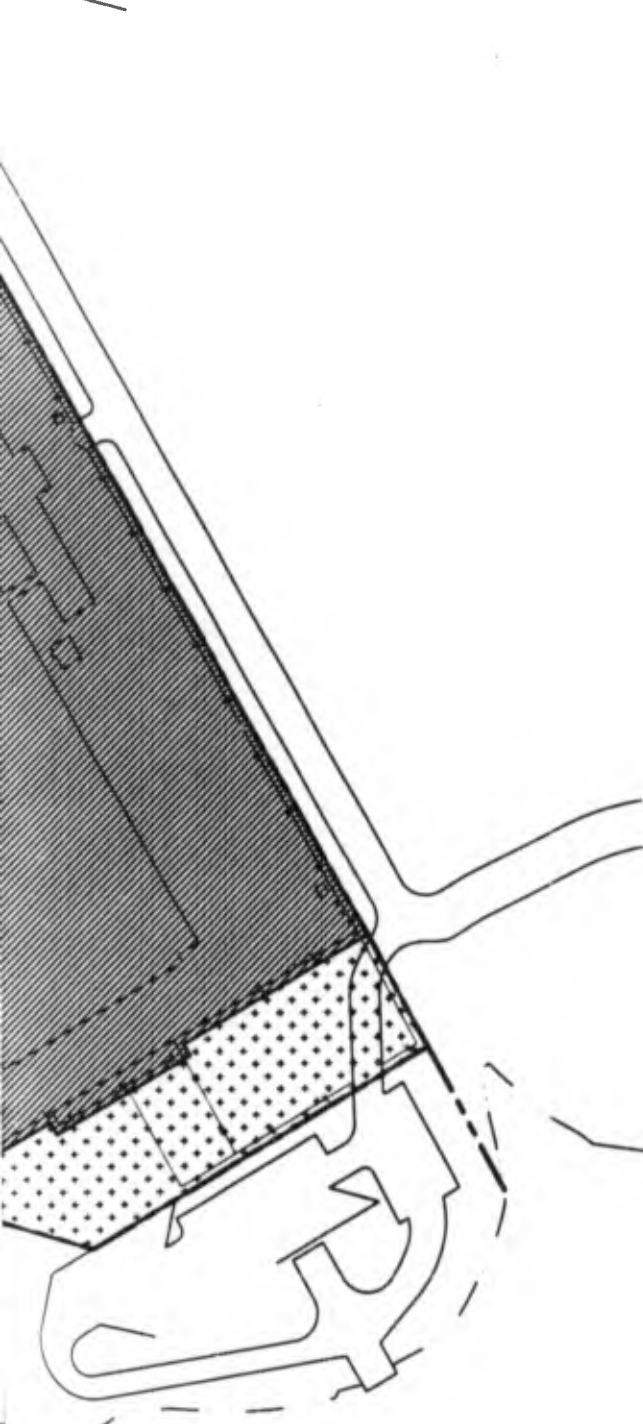
LEGEND:







CERFA
CERFA
CERFA
CERFA

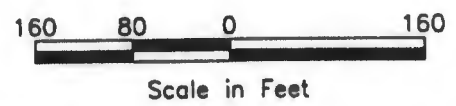


**Figure 5.3-1
CERFA Parcel Designations
Tacony Warehouse
Philadelphia, Pennsylvania**



LEGEND:

-  CERFA DISQUALIFIED
-  CERFA QUALIFIED
-  CERFA EXCLUDED
-  CERFA PARCEL



3



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
March 31, 1994

Southeast Regional Office

(610) 832-5949
FAX: (610) 832-6259

Lt. Colonel Paul E. Wojciechowski
Base Closure Division
Department of the Army
United States Army Environmental Center
Aberdeen Proving Ground, MD 21010-5401

Re: ECP Special Projects
U.S. Army Tacony Warehouse
Philadelphia, PA

Dear Colonel Wojciechowski:

The Department has completed review of the December 9, 1993 Community Environmental Response Facilitation Act (CERFA) Report for the site referenced above. The review of our records and our current understanding of the conditions at the site indicate that areas of the site are contaminated and substantiate the findings of the Army's CERFA PA document.

The beneficial reuse of the Federal real property is an admirable objective which is supported by the Department of Environmental Resources.

If you have any questions, please feel free to contact me at (610) 832-5930.

Sincerely,

Christopher H. Falkler

Christopher H. Falkler
Soil Scientist
Environmental Cleanup Program

cc: Mr. Day-Lewis
Mr. Brown
File
Re 30 (KAL)90.9