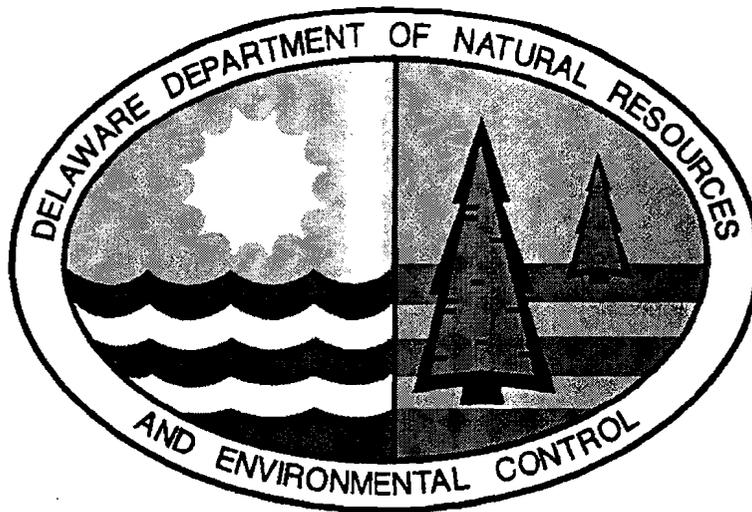


One Christina Centre
301 North Walnut Street
Wilmington, Delaware

SCANNED
APR 24 1998

File # DE1076
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Final Plan of Remedial Action



December 1996

Department of Natural Resources and Environmental Control
Site Investigation & Restoration Branch

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One Christina Centre Final Plan of Remedial Action

1. Introduction

The Delaware Department of Natural Resources and Environmental Control (“Department”) issues this Final Plan of Remedial Action under the provisions of the Delaware Hazardous Substance Cleanup Act (“HSCA”), 7 Del C. Chapter 91, and the Delaware Regulations Governing Hazardous Substance Cleanup (“Regulations”). The Final Plan presents to the public, the Departments final selection of remedial activities to occur at the One Christina Centre Site (“Site”), Wilmington, New Castle County, Delaware, (Figure 1).

2. Background

The Department reached an agreement with the Galbreath Company the prospective purchaser (“PP”), to perform a document review of a Facility Evaluation (“FE”) under HSCA in November, 1996. The document review concluded in November, 1996.

The One Christina Centre site consists of a 1.9± acre parcel of land located at 301 North Walnut Street in Wilmington, Delaware (Figure 1). The site is currently occupied by an 18-story office building. The building was constructed in 1989. Surrounding land uses include: fourth Street and a paved parking lot to the north; Walnut Street and Wilmington Public Safety building to the east; Three Christina Center (First USA office building) to the south; and an office building and a paved parking lot to the west (Figure 2). There is minimal land area which is not covered by either a building or paving.

3. Investigation Results

In June 1987, a Phase I Environmental Site Assessment (ESA) was conducted by Jason M. Cortell and Associates, Inc. at the subject site (Cortell, 1987). The report indicated that a gas station formerly occupied the northeast corner of the property. In addition, a geotechnical investigation of an adjacent property indicated potential subsurface contamination by fuel oil. Therefore, Cortell installed four soil borings at the site. A total of eleven soil samples were submitted to a laboratory for analyses. Four samples were analyzed for the eight Resource Conservation and Recovery Act (“RCRA”) metals. The remaining seven samples were analyzed for Volatile Organic Compounds (“VOCs”). The report indicated that metals results were within or near expected ranges for urban soils. In addition, no VOCs were detected. The report concluded that there was no widespread soil contamination at the site.

In November 1996, a Phase I ESA was conducted by APEX Environmental, Inc. Waste Science, Inc. at the subject site (APEX, 1996 and WSI, 1996). As part of the ESA, groundwater samples were collected from two basement sumps and a freight elevator pit. The samples were collected based on the historic location of a gas station at the site. The samples were analyzed for Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-GRO), Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO), benzene, toluene, ethyl benzene, xylenes (BTEX), halogenated hydrocarbons, and lead. Tetrachloroethene (PCE) concentrations in both sumps and Lead in sample F3 exceeded Federal Drinking Water Standards (See Table 1). APEX and WSI concluded that while the reported concentrations exceed regulatory criteria, they did not constitute a significant environmental risk.

In November, 1996, a FE was conducted at One Christina Centre by WIK Associates, Inc. The purpose of the FE was to determine if soils and/or groundwater had been impacted by historic site uses and/or by adjacent properties. The scope of work included the installation of six (6) Geo-Probe borings and the collection and analysis of one (1) soil and five (5) groundwater samples.

Based on the hydrogeologic and analytic data collected during the ESA and the FE, only the contaminants PCE and Lead exceeded regulatory standards in the site groundwater. (See Table 1 and 3). The PCE and Lead contaminants observed at One Christina Centre may be originating off-site to the north and west, however, because historic uses at the property could have contributed to the contaminants identified on-site, it is uncertain that contaminants were derived from off-site sources exclusively. The presence of these compounds do not pose a current risk to human health because groundwater in the area is not used as a drinking water supply and the area is served by a water utility.

4. Remedial Action Objectives

In accordance with the Regulations, the Department set remedial action objectives for land use, resource use, and cleanup levels that are protective of human health and the environment for the Site. The following objectives were determined to be appropriate for the Site:

- Prohibit groundwater usage at the site; and
- Restrict land use to commercial/industrial.

These objectives are consistent with the current and future use of the Site as an office building, the surrounding land use, the City of Wilmington zoning policies, state and federal regulations, and worker health and safety.

5. Proposed Plan and Public Participation

The Department provided public notice of its Proposed Plan of Remedial Action for the One Christina Centre Site in The News Journal and Delaware State News on November 28, 1996. The Department preferred remedy conveyed in the Proposed Plan is:

1. Placement of a deed restriction on the property by the current owner which restricts usage to either commercial or industrial purposes.
2. Placement of a Groundwater Management Zone for the property by the Department which prohibits groundwater usage.

During the comment period, the Department received no comments on the Proposed Plan.

6. Further Action

Based upon the information and results of the investigations performed at the One Christina Centre property, 301 North Walnut Street, the Department has determined that the most appropriate remedial alternative is:

- A deed restriction is placed on the property by the current owner limiting it to industrial/commercial use only; and,
- A Groundwater Management Zone on usage is placed by the Department for the entire property.

7. Declaration

This Final Plan of Remedial Action for the One Christina Centre Site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

 12/19/96
Nicholas A. Di Pasquale, Director
Division of Air and Waste Management

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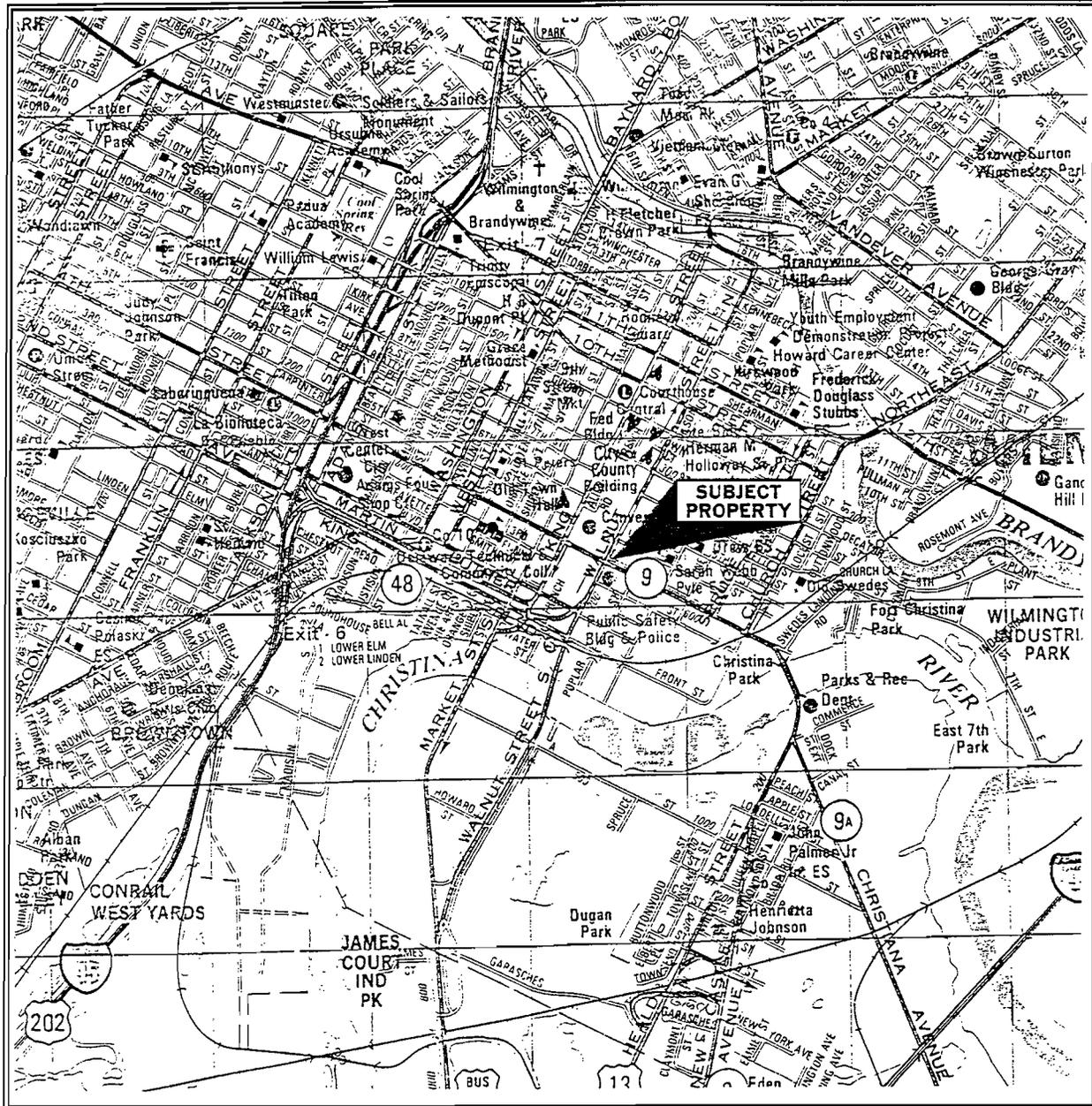


Figure 1.
Site Location Map

One Christina Centre
301 North Walnut St, Wilmington Delaware
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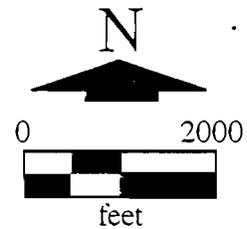
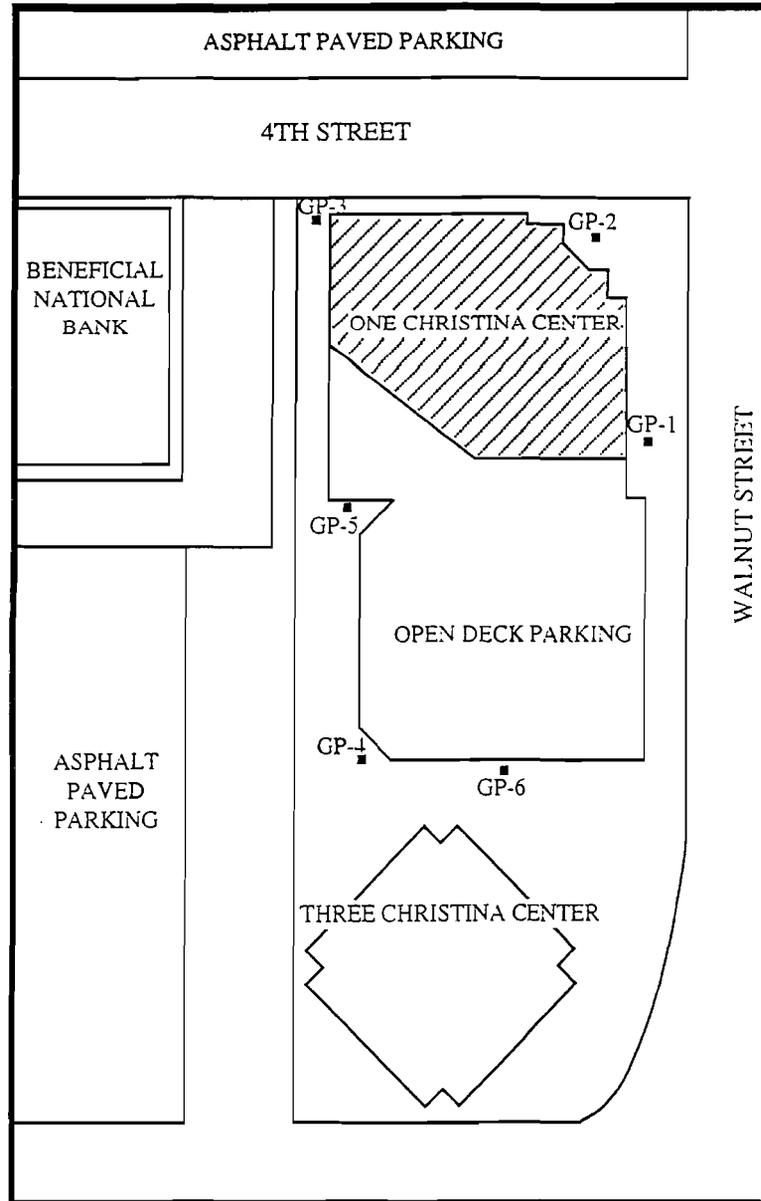


FIGURE 2
ONE CHRISTIANA CENTER
WILMINGTON, DELAWARE
SITE DIAGRAM WITH SAMPLING LOCATIONS



LEGEND

■ APPROXIMATE GEOPROBE LOCATIONS

0' 120'



APPROXIMATE SCALE:

1" = 120'

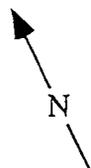


TABLE 1

ONE CHRISTINA CENTRE
301 NORTH WALNUT STREET
WATER SAMPLING RESULTS
(Detected Results Only)

PHASE I ESA, NOVEMBER, 1996

Sample No.	TPH volatiles (mg/L)	TPH extractables (mg/L)	Total BTEX (mg/L)	PCE (mg/L)	TCE (mg/L)	Lead (mg/L)
S1	<0.100	1.190	<0.100	0.0146	<0.001	<0.002
S2	<0.100	<0.100	<0.100	0.0146	0.00158	<0.002
F3	<0.100	<0.100	<0.100	<0.001	<0.001	0.013
EPA Standard			Benzene 0.00036 Toluene 0.75 Ethylbenzene 1.3 Xylenes 12.0	0.005*	0.005*	0.005*

Note:

TPH is Total Petroleum Hydrocarbons (indicators of gasoline, diesel, heating oil)

BTEX is Benzene, Toluene, Ethylbenzene, and Xylenes (components of gasoline)

PCE is tetrachloroethene (chlorinated solvent)

TCE is trichloroethene (chlorinated solvent)

EPA's RBC is EPA's Risk-Based Concentrations, generally considered to indicate low potential risk for tap water.

* = EPA Maximum Contaminant Level

Table 2
 Facility Evaluation
 One Christina Centre
 301 North Walnut Street
 Wilmington, Delaware
 Soil Analytical Results - TCL Organics (mg/Kg)

Sample Location	Regulatory	GP01-S001
Date Sampled	Criteria	11/15/96
Depth Sampled		10'-11'
Lead	nca	3.1
TPH - GRO	100	27.9
TPH - DRO	1,000	430
Volatile Organics		
Methylene Chloride	0.25	0.430 JB
Acetone	8	1.80 JB
2-Butanone(MEK)	nca	3.40 J

B - indicates compound detected in blank

J - Result is below the detection limit and is an estimated value

nca - No criteria available

Table 3
 Facility Evaluation
 One Christina Centre
 301 North Walnut Street
 Wilmington, Delaware
 Groundwater Analytical Results - TCL Organics (mg/L)

Sample Location		GP01-W001	GP01-W101	GP02-W001	GP03-W001	GP04-W001	GP05-W001	Trip Blank
Date Sampled	Regulatory	11/15/96	11/15/96	11/15/96	11/15/96	11/15/96	11/15/96	11/15/96
Depth Sampled	Criteria	18'-22'	18'-22'	18'-22'	18'-22'	18'-22'	18'-22'	NA
Volatile Organics								
Methylene Chloride	0.0041 *	ND (0.010)	0.0075 J	0.0037 J	0.0025 J	0.0034 J	0.0038 J	0.0042 J
Acetone	3.70 *	0.0091 B	0.019 B	0.014 B	0.018 B	0.015 B	0.0099 B	0.012 B
1,2-Dichloroethene (total)	0.055 *	ND (0.010)	ND (0.010)	ND (0.010)	0.0011 J	ND (0.010)	ND (0.010)	ND (0.010)
Chloroform	0.08 †	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.0064 J	ND (0.010)
Trichloroethene (TCE)	0.005 †	ND (0.010)	ND (0.010)	ND (0.010)	0.0014 J	0.0019 J	ND (0.010)	ND (0.010)
Tetrachlorethene(PCE)	0.005 †	ND (0.010)	ND (0.010)	ND (0.010)	0.037	0.031	0.0057 J	ND (0.010)

B - indicates compound detected in blank

J - Result is below the detection limit and is an estimated value

ND - Not Detected. Detection limit shown in parentheses

* - EPA Region III Risk Based Concentration (4/96)

† - Federal Drinking Water Standard Maximum Contaminant Level (2/96)

Bold face indicates result exceeds Federal MCL

Italics indicates result exceeds EPA Region III RBC