

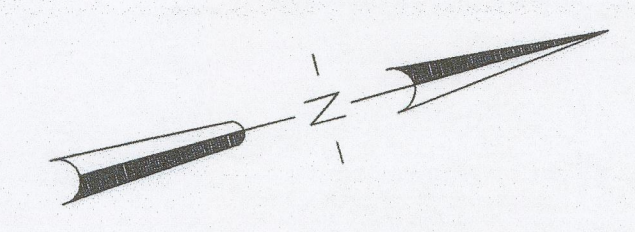
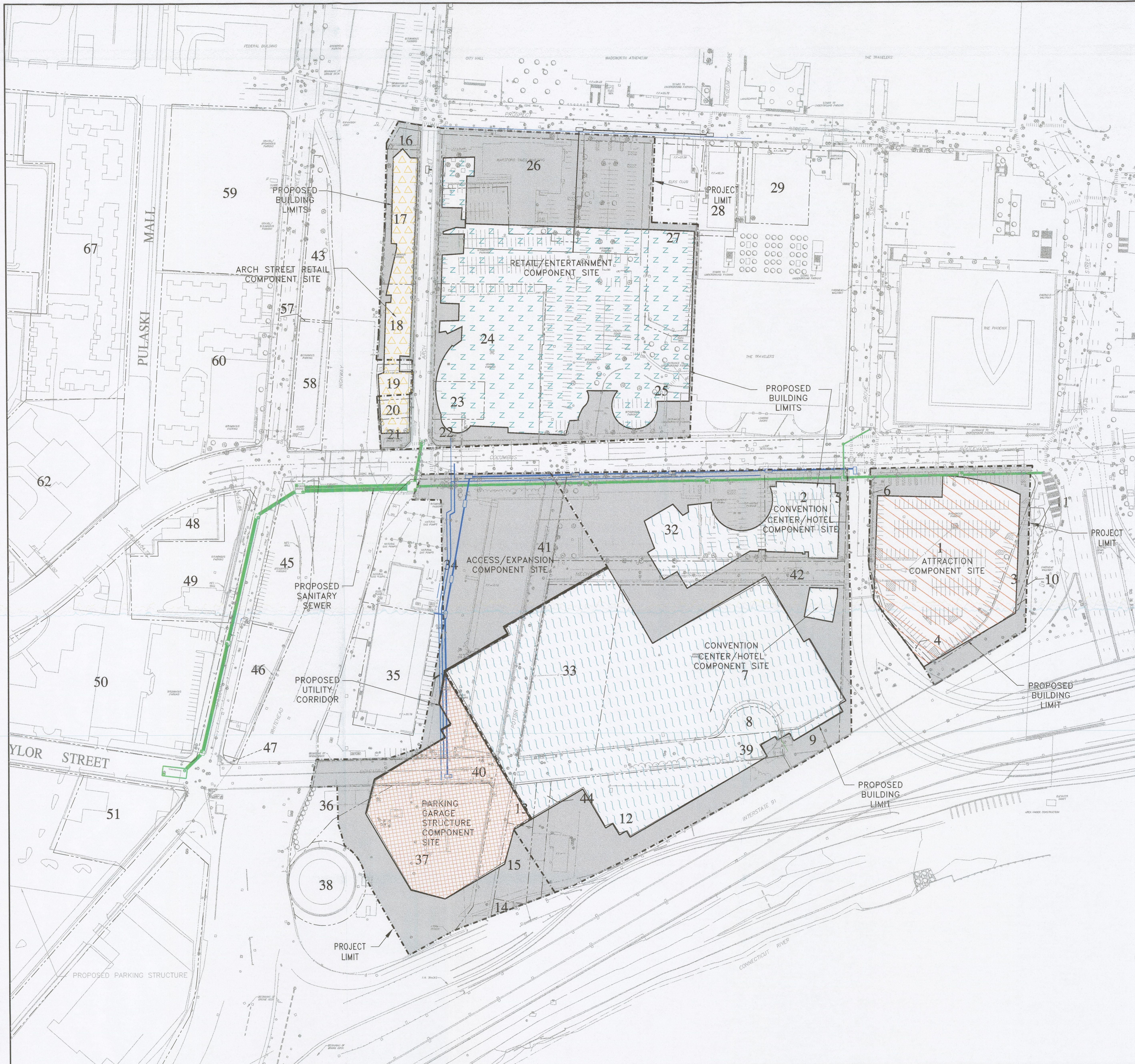
LEGEND

- APPROXIMATE LIMITS OF COAL TAR RESIDUES FOUND IN THE URBAN FILL, SILT, AND SAND LITHOGRAPHIC UNITS. COAL TAR RESIDUES ARE SOILS THAT EXHIBITED SIGNIFICANTLY ELEVATED SVOC CONCENTRATIONS, HAD STRONG PETROLEUM ODORS AND/OR EXHIBITED VISUAL EVIDENCE OF SEPARATE PHASE PRODUCT (OIL, TAR, OIL SHEEN).
- APPROXIMATE LIMITS OF COAL TAR RESIDUES FOUND ONLY IN THE SILT LITHOGRAPHIC UNIT AND DEEPER.
- AREAS OF LEAD IN URBAN FILL AND SILT LITHOGRAPHIC UNITS THAT WILL POTENTIALLY REQUIRE SPECIAL WASTE HANDLING IF EXCAVATED.
- 12** PARCEL NUMBERS FROM PHASE I INVESTIGATION
- BOUNDARY OF PROJECT
- BOUNDARY OF INDIVIDUAL COMPONENTS
- PROPOSED BUILDING/STRUCTURE FOOTPRINT AT GROUND SURFACE
- SHADED AREAS ARE APPROXIMATE LOCATIONS OF EXISTING OR HISTORIC GAS HOLDERS, TAR TANKS, UNDERGROUND STORAGE TANKS, OIL PIPELINES AND/OR LARGER AREAS WHERE UNDERGROUND STORAGE TANKS ARE SUSPECTED BUT HISTORICAL REFERENCES DO NOT GIVE EXACT LOCATIONS.
- EARTHEN WALL DIKE
- SHEETING WALL DIKE

NOTES

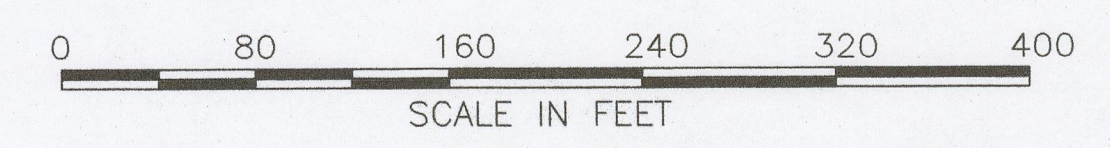
- 1) BASE PLAN IS AN AUTOCAD FILE ARTS011.DWG PROVIDED BY F.A. HESKETH & ASSOCIATES, INC., EAST GRANBY, CONNECTICUT.
- 2) LOCATION OF PROPOSED BUILDING/STRUCTURE FOOTPRINT AT GROUND SURFACE WAS ADDED BY HALEY & ALDRICH USING INFORMATION SHOWN ON A PLAN TITLED "ADRIAEN'S LANDING, LEVEL 26, CONCEPT MASTER PLAN SUBMISSION", DATED 12 DECEMBER 2000, PROVIDED BY BRENNAN BEER GORMAN/ARCHITECTS, NEW YORK, NEW YORK.
- 3) THE LOCATIONS OF ALL FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE.

ADRIAEN'S LANDING HARTFORD, CONNECTICUT		ESTIMATED EXTENT OF COAL TAR AND ELEVATED LEVELS OF LEAD-IMPACTED SOILS	
PROJ MGR: JTH	DESIGNED BY: JTH	REV. NO.	DESCRIPTION
REVIEWED BY: MJS	DRAWN BY: MJS	BY	DATE
DATE: 12/28/00	<p>27 MAJEK ROAD VERNOH, CT 06066 P: 860 875-7655 F: 860 872-2416</p>		
JOB NO. 49150	FIGURE NO. 3		



LEGEND
 PAVED/LANDSCAPED AREAS

- NOTES**
1. BASE PLAN IS AN AUTOCAD FILE ARTS011.DWG PROVIDED BY F.A. HESKETH & ASSOCIATES, INC., EAST GRANBY, CONNECTICUT.
 2. LOCATION OF PROPOSED BUILDING WAS ADDED BY HALEY & ALDRICH USING INFORMATION SHOWN ON A PLAN TITLED "ADRIAEN'S LANDING, LEVEL 26, CONCEPT MASTER PLAN SUBMISSION", DATED 12 DECEMBER 2000, PROVIDED BY BRENNAN BEER GORMAN/ARCHITECTS, NEW YORK, NEW YORK.
 3. THE LOCATIONS OF ALL FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE.
 4. PROJECT LIMITS ADDED BY HALEY & ALDRICH USING INFORMATION SHOWN ON A PLAN TITLED "TOPOGRAPHIC SURVEY PREPARED FOR ADRIAEN'S LANDING" DATED 28 AUGUST 2000, PROVIDED BY F.A. HESKETH & ASSOCIATES, INC., EAST GRANBY, CONNECTICUT.



91268-523 E54



ADRIAEN'S LANDING
 HARTFORD, CONNECTICUT

PROJECT SITE PLAN

UNDERGROUND
 ENGINEERING &
 ENVIRONMENTAL
 SOLUTIONS

SCALE: AS SHOWN

DECEMBER 2000

FIGURE 2

HA-RP-024.2

copy

**VOLUME II of II
REMEDIAL ACTION PLAN
ADRIAEN'S LANDING
HARTFORD, CONNECTICUT**

by

**Haley & Aldrich, Inc.
Glastonbury, Connecticut**

and

**GZA GeoEnvironmental, Inc.
Vernon, Connecticut**

for

**Parsons Transportation Group, Inc.
Glastonbury, Connecticut**

**File No. 91268-523
December 2000**

I. INTRODUCTION

This report presents the Remedial Action Plan (RAP) for the Adriaen's Landing project, and has been prepared jointly by Haley & Aldrich, Inc. and GZA GeoEnvironmental (GZA), Inc. The Table of Contents of this RAP indicates which sections Haley & Aldrich or GZA prepared. The purpose of this RAP is to describe the remedial actions that will be implemented during the construction of the Adriaen's Landing Project.

The remedial measures presented in this RAP have been developed in consultation with the Connecticut Department of Environmental Protection (CTDEP) and are consistent with the requirements of the Connecticut Remediation Standard Regulations (RSRs).

1.1 Project Background

The Adriaen's Landing project consists of redeveloping approximately 36 parcels of property comprising approximately 33-acres of property located in downtown Hartford, Connecticut. The project location is shown on the attached Figure 1, Project Locus. The project currently includes a convention center, hotel, parking facilities, entertainment, retail, residential and office space.

For the purposes of this RAP the Adriaen's Landing Project Site has been divided into the following Component Sites:

- Convention Center/Hotel Component Site
- Access/Expansion Component Site
- Retail/Entertainment Component Site
- Arch Street Retail Component Site
- Parking Garage Structure Component Site
- Attraction Component Site
- Utility Relocations

The limits of each Component Site are shown on the attached Figure 2, Project Site Plan and described below.

II. REMEDIAL OBJECTIVES

Based upon available historical use information, only two parcels (32 and 34) of the Project Site are known to meet the definition of an "Establishment", as defined in the requirements of the Property Transfer Statute (Connecticut General Statutes Section 22a-134a-e). This statute is commonly referred to as the "Transfer Act". The transfer of properties that meet the definition of an "Establishment" typically requires that the properties be brought into compliance with the Remediation Standard Regulations (RSRs). However, the legislative act authorizing the Adriaen's Landing project (PA 99-241, as amended by PA 00-140) exempts the project from the Property Transfer Act. Despite this exception, the RAP has been developed so that all properties that will make up the project, whether they meet the definition of an Establishment or not, will be remediated in a manner consistent with the requirements of the RSRs and other applicable CTDEP regulations and guidance.

Remedial actions performed during the proposed work will be performed to minimize the risk to human health and the environment for site workers, the public, and future building occupants. Site development objectives also include minimizing underground structures, and subsurface excavations and construction of below grade structures to the extent practical. Deep foundation systems including the use of piles are planned for the proposed Site buildings. The project remedial objectives also include monitoring the Site's groundwater quality prior to and after the installation of the proposed deep foundation systems. The pre-construction groundwater monitoring data will be used to evaluate the groundwater quality on-site prior to the installation of deep foundations to support the proposed component structures. The post-construction groundwater monitoring data will be used to evaluate whether the installation of the deep foundation systems have had an adverse effect on the Site's groundwater quality as a result of the formation of preferential pathways for contaminant migration. As existing Phase II investigations have indicated that the lower aquifer at the Site is already degraded, negative impacts are not anticipated. If the installation of the deep foundation systems negatively impact the Site's groundwater quality, this RAP will be amended so that the Site's environmental quality can be managed consistent with the RSRs.

2.1 Remediation Standards

2.1.1 Soil Criteria

Construction actions initiated at the Adriaen's Landing site will be performed consistent with the requirements of the RSR's for areas where the groundwater classification is "GB", and the planned land use is residential for the Retail/Entertainment Component Site and industrial or commercial for the remainder of the site.

Criteria for soil include pollutant mobility criteria (PMC) and direct exposure criteria (DEC). PMC apply to soils above the seasonal high groundwater table based on the groundwater classification of the Site (GB), residential and industrial/commercial DEC apply to soil within 15 ft of the ground surface. Baseline numeric DEC and PMC criteria are published in Appendices A and B to Section 22a-133k-2 of the RSRs. Although the majority of the site will be used for industrial/commercial purposes, a portion of the retail/entertainment component may include residential structures, therefore the residential direct exposure criteria will apply to this project component. Because the remainder of the project site will be used for industrial/commercial purposes, the application of industrial/commercial DEC are considered appropriate.

2.1.2 Groundwater Criteria

The subject Site is located in an area where groundwater is classified as "GB". Groundwater standards for "GB" areas consist of volatilization criteria (VC) and surface-water protection criteria (SWPC). The VC apply to groundwater within 15 ft. of the ground surface. Baseline numeric VC and SWPC are published in Appendices D and E to Sections 22a-133k-3 within the RSR's. The RSRs also allow for the calculation of site specific alternative groundwater criteria and describe options, exceptions and variances to the baseline numeric criteria.

III. OVERVIEW OF ENVIRONMENTAL EVALUATIONS

Multiple environmental and geotechnical evaluations have been performed on the Adriaen's Landing Site. These site evaluations are summarized below, and for the purposes of this RAP have been organized into the following categories:

- A. Historic Environmental Investigation Data (assessments and investigations performed prior to 1999);
- B. Phase I Environmental Site Assessment (spring of 1999);
- C. Initial Subsurface Investigation Program (summer of 1999); and
- D. Supplemental Subsurface Investigation Program (summer of 2000).

3.1 Historic Environmental Investigation Data

Several environmental and geotechnical assessments and investigations were performed on various portions of the Adriaen's Landing Site prior to 1999. The data gathered during these historic assessments and investigations has been incorporated in the environmental site evaluation of the Adriaen's Landing project site.

Listed below is a summary of the assessments and investigations performed on various portions of the Adriaen's Landing Site prior to 1999. These reports are compiled in GZA's report entitled "Adriaen's Landing Existing Engineering Reports Volumes I and II", dated February 1999, and revised April 1999.

- "Subsurface Exploration Program and Groundwater Analyses, Connecticut Natural Gas", March 1989. Prepared by Goldberg-Zoino & Associates.
- Subsurface Investigation, 12-24 Mechanic Street, dated July 1989. Prepared by Con-Test, Inc.
- "Environmental Site Assessment of Hartford Builders Finish Company, 34 Potter Street", dated August 1989. Prepared by Environmental Risk Limited.
- "Environmental Site Assessment, 34 Potter Street", dated August 1990. Prepared by Fuss & O'Neill, Inc.
- "Preliminary Environmental Site Assessment and Subsurface Investigation, Phoenix Mutual Life Insurance Company Parking Lot", dated April 1990. Prepared by Fuss & O'Neill, Inc.
- Letter Report on "Proposed High Rise Development, Phoenix Mutual Large Parking Lot", dated July 1990. Prepared by Haley & Aldrich, Inc.
- Letter Report on "Synopsis of Environmental Site Data, Chez-Est Parcel (238 Columbus Boulevard)", dated April 1991. Prepared by Haley & Aldrich, Inc.
- "Environmental Site Assessment, 12-24 Mechanic Street", dated August 1995. Prepared by Alta Environmental Corporation.

IV. SITE DESCRIPTION

4.1 Convention Center/Hotel Component Site

The Convention Center/Hotel Component Site is bounded by Grove Street to the North, the Keeney Lane Pump Station and Interstate 91 to the east, the Parking Garage Structure Component Site, The CNG steam plant and the Surface Parking Component Site to the south, and Columbus Boulevard to the west. This Component Site includes Parcels 2, 5, 7, 8, 9, 12, 13, 32, 33, 34, 39, 41, 42, and 44, as previously identified in earlier phases of work performed at the Adriaen's Landing Project Site. The project limits of the Convention Center/Hotel Component Site are shown on the attached Figure 2.

4.2 Access/Expansion Component Site

The Access/Expansion Component Site is bounded by Columbus Boulevard to the west, the CNG steam plant and, the Whitehead Highway to the south, and the Convention Center/Hotel Center Component Site to the north and east. The project limits of the Surface Parking Component Site are shown on the attached Figure 2. This component includes properties identified during the 1999 Phase I as Parcels 32, 33, 34, 41, and 42.

4.3 Retail/Entertainment Component Site

The Retail/Entertainment Component Site is bounded by Arch Street and the Arch Street Retail Component Site on the south, Columbus Boulevard on the east, Prospect Street on the west, and by the Elks Club and The Travelers on the north. The project limits of the Retail/Entertainment Component Site are shown on the attached Figure 2. This component includes properties identified during the 1999 Phase I ESA as Parcels 22, 23, 24, 26, and parts of parcels 25, and 27.

4.4 Arch Street Retail Component Site

The Arch Street Retail Component Site is bounded by Arch Street and the Retail/Entertainment Component Site on the north, Prospect Street on the west, Whitehead Highway on the south, and Columbus Boulevard on the east. The project limits of the Arch Street Retail Component Site are shown on the attached Figure 2. This component includes properties identified during the 1999 Phase I ESA as Parcels 16, 17, 18, 19, 20, and 21.

4.5 Parking Garage Structure Component Site

The Parking Garage Structure Component Site is bounded by the CNG property on the south, a highway entrance ramp and Interstate 91 on the east, the Convention Center/Hotel Component Site on the north, and the CNG steam plant on the west. The project limits of the Parking Garage Structure Component Site are shown on the attached Figure 2. This component includes properties identified during the 1999 Phase I ESA as parts of Parcels 14, 15, and 40, and parts of parcels 13, 34, 36, 37, and 41.

The alluvial sand and glaciolacustrine units were not encountered within the Retail/Entertainment component site.

Laboratory analytical results for soil samples collected from the till unit within the Retail/Entertainment component site indicate the presence of SVOCs, metals, and TPH. The levels of SVOCs exceed the baseline numeric RSR criteria. Some soil samples are greater than 15 feet below finish grade and the R DEC would not apply to those soils. Because impacted soils within the till are below the seasonal high water table, the GB PMC do not apply.

The exceedances of the baseline numeric RSR criteria for the Retail/Entertainment Component site are outlined in Table II. The locations of the exceedances of the baseline numeric R-DEC that are present within 15 ft. below the lowest floor level or finish grade of the proposed buildings within the Retail/Entertainment component site are shown on Figure 4. The locations of the exceedances of the baseline numeric GB PMC that are present above the water table within the Retail/Entertainment component are shown on Figure 5. The exceedances of the R DEC and GB PMC will be addressed as described in Section 8.4.

6.2.4.2 Groundwater

Groundwater data from this component is summarized in Table 10 in Volume 1. Groundwater within this Component Site is encountered at approximately 7.5 to 20.5 feet below the ground surface. Groundwater throughout this Component Site is impacted with VOCs, SVOCs, ETPH, and metals. Benzene was detected at levels which exceed the Residential Volatilization Criteria (R VC) in one well location (GZSI-07G-MW). Figure 6 shows exceedances of the R VC criteria. Surface Water Protection Criteria (SWPC) are not exceeded at points of compliance wells along the Connecticut River at the project boundaries (see Section 6.2.9). Therefore, measures are not required to address SWPC for this component.

6.2.5 Arch Street Retail Component Site

6.2.5.1 Soil

Soil sampling results for this component are summarized in Table 4 of Volume 1. Laboratory testing results show the soils within this Component Site as being impacted with detectable levels of VOCs, SVOCs, TPH and metals (total and leachable). Baseline numeric RSR criteria that apply to the Arch Street Retail Component site include the baseline numeric industrial/commercial direct exposure criteria (I/C DEC) and GB Pollutant Mobility Criteria (GB PMC). Exceedances of both of the baseline numeric I/C DEC and GB PMC were detected within the soils within this component.

Laboratory analytical results for soil samples collected from the urban fill within the Arch Street Retail component site indicate the presence of SVOCs, total metals, and leachable metals. The levels of, SVOCs, and leachable metals exceed the baseline numeric RSR criteria.

Laboratory analytical results for a single soil sample collected from the till unit within the Arch Street Retail component site indicate the presence of VOCs, SVOCs, and metals (total and leachable). The levels of total metals exceeded the baseline numeric criteria. However,

samples collected within the till unit were greater than 15 feet below finish grade and below the water table. Therefore, the I/C DEC and GB PMC do not apply.

The exceedances of the baseline numeric RSR criteria for the Arch Street Retail Component site are outlined in Table 2. The locations of the exceedances of the baseline numeric I/C DEC that are present within 15 ft. below the lowest floor level or finish grade of the proposed buildings within the Arch Street Retail component site are shown on Figure 4. The locations of the exceedances of the baseline numeric GB PMC that are present above the water table within the Arch Street Retail component are shown on Figure 5. The exceedances of the I/C DEC and GB PMC will be addressed as described in Section 8.5.

Alluvial silt, sand, and glaciolacustrine units were not encountered at the Arch Street/Retail component site. Soil samples collected from this Component site consisted entirely of fill and glacial till.

6.2.5.2 Groundwater

Groundwater data from this component is summarized in Table 11 in Volume 1. Groundwater within this Component Site is encountered at approximately 19.8 to 20.8 feet below the ground surface. Groundwater throughout this Component Site is impacted with VOCs, SVOCs, ETPH, and metals. Baseline Numeric I/C Volatilization Criteria do not apply to this component site because groundwater is encountered at depths greater than 15 feet below finish grade. The levels of VOCs and metals detected in groundwater at this Component do not exceed the baseline numeric SWPC. Therefore, measures are not required to address SWPC or VC for this component.

6.2.6 Parking Garage Structure Component Site

6.2.6.1 Soil

Soil sampling results for this component are summarized in Table 2 of Volume 1. Laboratory testing results show the soil within this component site as being impacted with detectable levels of SVOCs, VOCs, TPH, metals (total and leachable). Baseline numeric RSR criteria that apply to the Parking Garage Structure Component Site include the baseline numeric industrial/commercial direct exposure criteria (I/C DEC) and GB Pollutant Mobility Criteria (GB PMC). Exceedances of both of the baseline numeric I/C DEC and GB PMC were detected within the soils within this component.

Laboratory analytical results for soil samples collected from the urban fill unit within the Parking Garage Structure Component Site indicate the presence of VOCs, SVOCs, TPH, total metals, and leachable metals. The levels of VOCs, SVOCs, TPH, and total and leachable metals exceed the baseline numeric RSR criteria.

The exceedances of the baseline numeric RSR criteria for the Parking Garage Structure Component site are outlined in Table II. The locations of the exceedances of the baseline numeric I/C DEC that are present within 15 ft. below the lowest floor level or finish grade of the proposed structures within the Parking Garage Structure component site are shown on Figure 4. The locations of the exceedances of the baseline numeric GB PMC that are present above the water table within the Parking Garage Structure component are shown on Figure 5. The exceedances of the I/C DEC and GB PMC will be addressed as described in Section 8.6.

There are proposed paved entrances and landscaped areas along Columbus Blvd. and Arch Street. Olmstead Street is elevated along the parking levels.

7.4 Arch Street Retail Component Site

The proposed development along Arch Street will include 25,000 sq. ft. of retail space, including restaurants, surface parking, and landscaped areas. The lowest floor level for the building is El. 26.

7.5 Parking Garage Structure Component Site

The Parking Garage Structure Component will be used for the Convention Center, Hotel, and “replacement parking” (parking spaces for surrounding businesses that formerly used portions of the Site for at grade parking lots). The garage will share its northern wall with the Convention Center and will extend beneath the Convention Center. Parking will extend beneath the Convention Center as well. The lowest level will be open air on three sides and be at El. 26. This Component Site also includes access roads serving the Keney Lane Pumping Station which abut the Parking Garage Structure Component site to the north and a combination ramp/elevated roadway providing service access to the rear (east) side of the Convention Center.

7.6 Attraction Component Site

The plans for the Attraction Component Site have not yet been finalized. The development plan for this Component Site is currently envisioned as a public interactive-entertainment and cultural venue, approximately 200,000-sq. ft. in size, with an 800 car at and above-grade parking garage.

7.7 Utility Relocations

Utility work proposed for the Project Site includes installing new utilities for the new Site structures, and removing abandoned utilities remaining from historical Site operations.

New utilities to be constructed include a sanitary sewer line ranging in size from 48 in. to 72 in., planned to be installed along the east side of Columbus Boulevard. This sanitary sewer line will be installed in trenches excavated to approximately the top of bedrock. Additional shallow utilities will also be installed for the structures planned at each Component Site.

The attached Figure 2 shows the locations of new utilities proposed for construction, and abandoned utilities planed for removal.

VIII. PROPOSED REMEDIAL ACTIONS

Section 8.1 below describes the general conceptual remedial approaches to be applied to the various components of the project. Sections 8.2 through 8.8 describe the specific remedial actions to be applied to each component.

construction for this component may include some enclosed and/or occupied spaces (ie. elevator shafts, maintenance rooms) at the lowest level, vapor control measures are required. A vapor barrier will be placed beneath the building where residential VC exceedances have been detected. Final design of the barrier, which could be constructed under the entire component or that portion of the component where VC exceedances have been detected with or without a perimeter vapor collection system, will be prepared as the structural details of the component become available.

8.5 Arch Street Retail Component Site

As shown in Table 4 in Volume 1, soils within the component footprint exceed the residential DEC and the GB PMC. As shown on Table 11 in Volume 1, groundwater present in the deep aquifer exceeds the I/C VC. However, groundwater was not encountered less than 15 feet below finish grade at this component therefore the I/C VC do not apply and vapor control measures are not required.

Consistent with the conceptual remedial approach for those soils not removed during construction, the Arch Street Retail structure will act to render pollutants other than VOCs as both inaccessible and environmentally isolated. In addition, because pollutants include VOCs, (detected at boring location GZ-SI-5D only) the building will also serve as an engineered control. The structure will eliminate the potential for direct exposure to soils and from infiltration of precipitation which could lead to leaching of pollutants from impacted soils to groundwater.

If approved by the Commissioner, an engineered control consistent with RSR Section 22a-133k-2(f)(2)(b) will be applied as the remedial approach. The engineered control will consist of the installation of a impermeable cap (i.e. the building or a impermeable cap with permeability of less than 10^{-6} centimeters per second), a plan for monitoring and maintenance of the integrity of the engineered control including a groundwater monitoring program, and the implementation of a corresponding ELUR. The design of the engineered control will be finalized after the proposed facility design is finalized. The final design and implementation of the engineered control will ensure that impacted soil is physically isolated, the engineered control will function with minimum maintenance, the engineered control will promote drainage and minimize erosion, the structural integrity of the engineered control will hold up over time, and the engineered control will have a permeability of less than 10^{-6} centimeters per second.

Before proposing use of an engineered control we have preliminarily evaluated those factors identified in the RSRs. As an element of our evaluation, we have estimated the costs of performing remediation of the paved/landscaped areas within the Arch Street Retail component. The area of the paved/landscaped areas within the Arch Street Retail component is approximately 14,000 sq. ft. Because the soils in these areas contain SVOCs and metals that exceed the I/C DEC as well as VOCs, SVOCs and metals that exceed the GB PMC the costs of remediating these areas was based on a remedial action of excavation to an approximate depth of 18 feet (approximate depth of mean high water table), off-site disposal, and backfilling. Cost for remediation of the VOCs via vapor extraction, which we do not believe would be effective in the dense tills that underlie most of this component site, were not included in this estimate and would add greater costs to remediation, if required. The volume of soil that would be excavated under this remedial approach is equal to approximately 9,300 cubic yards (cu. yd.) The cost for performing these remedial activities was estimated to be approximately an order of magnitude higher than those associated with

installing the impermeable cap and conducting the post-construction environmental monitoring described in Section X.

We also considered the risks to human health associated with excavation and believe that excavation and off-Site transport pose greater (though limited and related to transportation on public roads) risks than leaving the material in place. We further believe that the risks to human health and the environment should the engineered control within the Arch Street Retail Component fail are relatively minor because:

- Given the commercial nature of the re-use of the site, adverse affects to human health would occur only if there were long term exposures, which are not anticipated to occur.
- There are no short term risks.
- These contaminants have been present without an engineered control for greater than 100 years without apparent harm.
- Groundwater in the vicinity of the site is classified by the CTDEP as "GB" and there is a public water supply available to properties in the vicinity of the site.
- Limited migration of SVOCs, TPH, and metals through the groundwater towards the Connecticut River could potentially occur. We do not believe that this is a significant issue because the square footage of the area that will be subject to the engineered control will be significantly smaller in size than the area that is currently not subject to an engineered control and allows infiltration to occur. The evaluation of surface water impacts under current conditions (described in Section 6.2.9) does not indicate an unacceptable impact to the Connecticut and Park Rivers is occurring.

Mobilizing to the site to conduct repairs to the impermeable cap and the overlying materials (either pavement or landscaping materials) at the ground surface can be readily accomplished should the engineered control fail. This will reduce direct exposure to contaminants that could potentially be released should the engineered control fail.

Based on the relatively minor nature of the risks in the event the engineered control fails described above, we believe that the significant cost for the remediation of the individual release areas is not warranted.

Groundwater monitoring in support of the engineered control will be by way of the existing monitoring well network or by installation of additional monitoring wells if current wells are damaged or destroyed during construction. Maintenance and inspection of the engineered control will be incorporated into routine maintenance of the proposed facility (i.e. storm water pollution control plan, parking lot maintenance, snow removal/damage maintenance).

Landscaped and paved areas surrounding the Arch Street Retail structure will address the Direct Exposure and Pollutant Mobility Criteria exceedances through a combination of excavation and removal of soils to a depth of 2 to 4 ft. that will eliminating the potential for direct exposure and/or construction of an infiltration barrier that will eliminate infiltration of precipitation which could lead to leaching of pollutants from impacted soils to groundwater. The infiltration barrier would prevent the migration of pollutants and would be approved by the commissioner in writing and would also constitute an engineered control subject to the demonstrations cited above.

X. POST-CONSTRUCTION ENVIRONMENTAL MONITORING

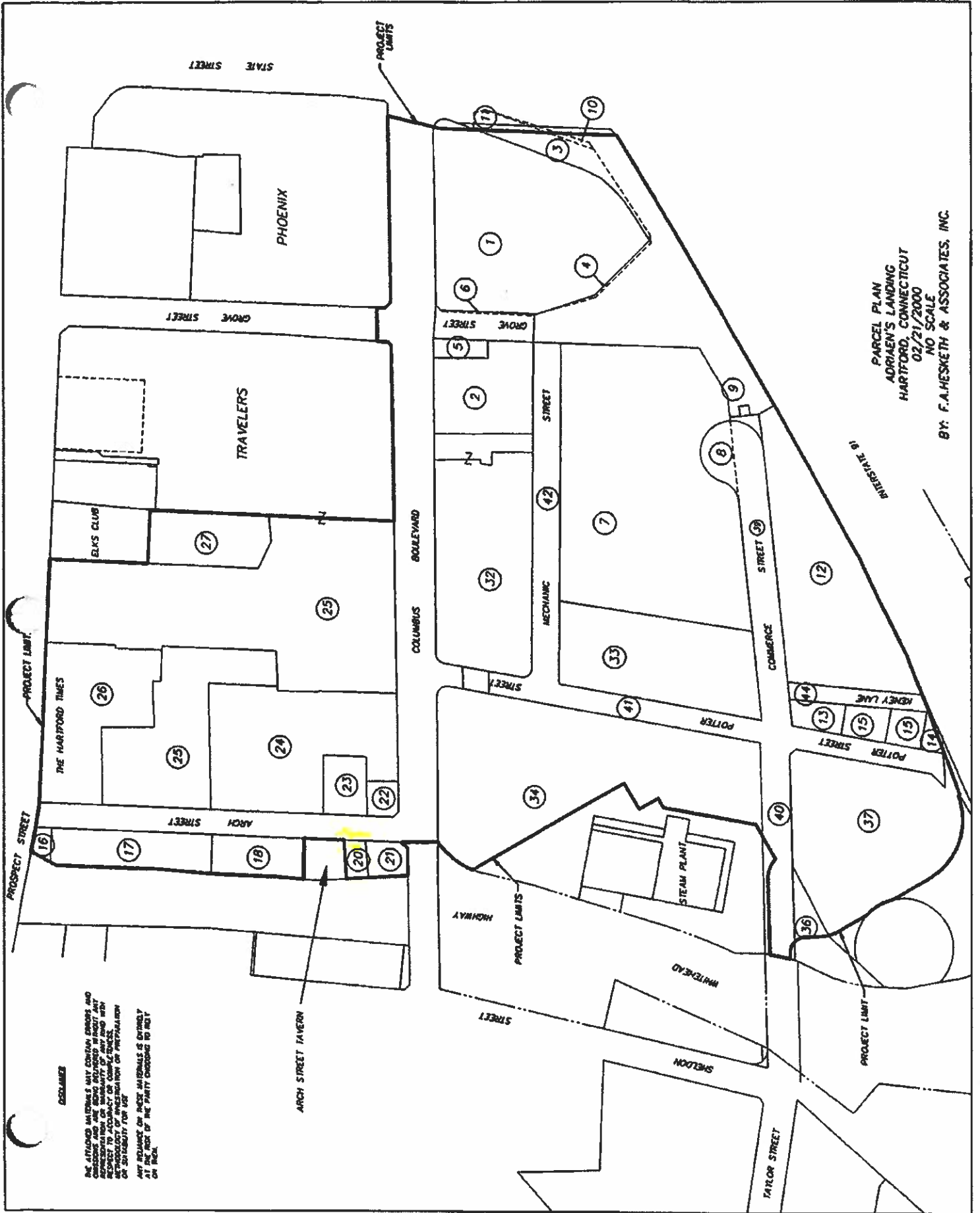
A site-wide, post construction monitoring program will be developed for the Adriaen's Landing Project Site. The site groundwater monitoring program will consist of monitoring site wide groundwater quality prior to the removal of existing piles and installation of the proposed deep foundation systems for the planned site buildings, and conducting groundwater monitoring at the completion of the foundation construction activities. The pre- and post-construction groundwater monitoring data will be used to evaluate if the installation of the deep foundation systems had an adverse affect on the site's groundwater quality.

The program will also be designed to be consistent with the groundwater monitoring provisions specified by the RSRs related to Engineering Controls and alternative surface water criteria calculations.

The groundwater monitoring program will be developed in consultation with the DEP. It is anticipated that it will consist of using existing groundwater monitoring wells and installing new groundwater monitoring wells as necessary, across the Site.

Post-construction monitoring associated with the engineered controls to be implemented for the site will include visual inspections of "capped areas" including landscaped, paved, and building areas throughout the site where engineered controls have been applied. The purpose of the inspections is to evaluate the integrity of the surfaces at these areas. The visual inspections will be required throughout the year with more frequent monitoring during the winter and spring to monitor effects of snow removal and freeze/thaw conditions.

In the event that damage to the surfaces of the engineered controls are observed during the inspections, immediate actions will be undertaken by the site owners to conduct necessary repairs. Logs of the inspections and actions taken to address damage to the engineered controls will be prepared by the site owner and submitted to the CTDEP on an annual basis. The inspection and record keeping aspects of the engineered controls will be outlined and documented similar to the storm water management plan for the site.



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PARCEL PLAN
 ADRIAEN'S LANDING
 HARTFORD, CONNECTICUT
 02/21/2000
 NO SCALE
 BY: F.A.HESKETH & ASSOCIATES, INC.

Adriaen's Landing -- Parcel Ownership

Parcel	Owner
1	Phoenix Home Life
2	Phoenix Home Life
3	City of Hartford
4	State of Connecticut
5	State of Connecticut
6	City of Hartford
7	Phoenix Home Life
8	Phoenix Home Life
9	State of Connecticut
10	State of Connecticut
11	City of Hartford
12	City of Hartford
13	City of Hartford
14	City of Hartford
15	Metropolitan District Commission (MDC)
15	City of Hartford
16	City of Hartford
17	City of Hartford
18	Hartford Municipal Employee Retirement Fund
20	Mark Yellin
21	City of Hartford
22	The Energy Network (CNG)
23	Connecticut Natural Gas (CNG)
24	Connecticut Natural Gas (CNG)
25	Travelers Insurance Company
26	Hartford Municipal Employee Retirement Fund
27	Elks, Hartford Lodge #19
32	Connecticut Natural Gas (CNG)
33	Phoenix Home Life
34	Connecticut Natural Gas (CNG)
36	The Energy Network (TEN)
37	Connecticut Natural Gas (CNG)
39	City of Hartford - Commerce Street
40	City of Hartford - Commerce Street
41	City of Hartford - Potter Street
42	City of Hartford - Mechanic Street
44	Metropolitan District Commission - Keney Lane

Chapter 6
ADRIAEN'S LANDING -
SITE ACQUISITION PLAN

Prepared by
State of Connecticut

Chapter 6

ADRIAEN'S LANDING – SITE ASSEMBLY, ACQUISITION AND RELOCATION PLAN

6.1 INTRODUCTION

The site that has come to be known as Adriaen's Landing is comprised of twenty-one parcels of property that are owned by eight major owners either solely, or by entities that are related to corporate parents. These owners are as follows:

The Phoenix Mutual Life Company
The Traveler's Property and Casualty Company
CTG Resources, Inc.
The City of Hartford Municipal Employees Retirement Fund
The City of Hartford
MDC
B.P.O. Elks, Hartford Lodge 19
Mark Yellin

The site assembly represented a major challenge in that all the property owners are currently utilizing the land for productive purposes and barring the Adriaen's Landing project, these owners would have retained both ownership and current use. Thus, there were absolutely no incentives to negotiate the sale of their land. Disincentives varied by property owner and included: replacement and incremental employee parking, various prohibitions under federal pension law, the fiduciary obligation to preserve shareholder value and the replacement of parking revenue use to pay property taxes. It was clear however, that the majority of owners were supportive of the development effort and many of the owners devoted substantial resources, by both human and financial to the negotiation process. In the absence of this support, the acquisition plan that follows would not have been attainable.

There has been clear departure from the assumption employed in the last legislative session that the site could be acquired with no use of appropriated or state bond funds. The proposed amount of State funds under P.A. 99-241 for acquisition and relocation of properties and businesses at Adriaen's Landing site is \$49,600,000. The total cost from all sources is \$61,866,809.

Although previous representations were honest and fair, circumstances regrettably have changed. There are two primary reasons that have contributed to this substantial change. Under a previous development scenario, the property owners would contribute their land to a holding company and receive a return on their investment from the for-profit elements of the development. This assumption appears to have been unrealistic in two major areas. First, the over 500,000 square foot retail component of the previous project was not sustainable under any objective retail demand projection. After an extensive analysis by the current master developer, the current version has been scaled back by over 50%. The projected net cash flow of the proposed retail entertainment district is insufficient to provide the landowners with an acceptable return on the value of the land contributed. Second, although two property owners had expressed a preliminary interest in the holding company concept, there appears to have been a breakdown of communication with the balance of the owners who were prohibited from participation by either federal law or by fiduciary responsibility to shareholders.

Based upon the current information and econometric models, the determination has been made that the public investment will provide substantial economic benefit to the region. Therefore, the investment of public funds for the acquisition of the property is warranted.

6.2 APPRAISALS

The parcels to be acquired were appraised by Italia and Lemp and Marchitelli Barnes, two independent appraisal firms, on behalf of the State in order to establish a base value on which negotiations could commence. A summary of the appraised value by property owner is as follows:

<u>Property Owner</u>	<u>Italia and Lemp</u>	<u>Marchitelli Barnes</u>	<u>Average</u>
Phoenix Home Life	\$16,455,000	\$16,700,000	\$16,577,500
Travelers	9,500,000	9,530,000	9,425,000
CTG Resources	24,125,000	33,145,000	28,635,000
City Pension Fund	4,300,000	6,100,000	5,200,000
MDC	500,000	705,000	602,500
Elks Lodge 19	900,000	670,000	785,000
Mark Yellin	150,000	140,000	145,000
Sub Total	55,930,000	66,810,000	61,370,000
City of Hartford*			11,000,000
	Total Average Value	\$72,370,000	

**Please note that the State assumed the City of Hartford would contribute the City-owned parcels and therefore they were not appraised. The City of Hartford has informed that the State the property is valued in excess of \$11,000,000.*

The current site plan retains the Arch Street Tavern at its current location and will not be acquired by the Adriaen’s Landing development.

6.3 ACQUISITION AND RELOCATION COSTS

6.3.1 Phoenix Home Life

Method of Acquisition: Land Donation and Sale to State or 501(c)3

Use(s) of Parcel: Attraction and Garage
Convention Center
Hotel

Average Appraised Value: \$16,577,500

Amount from State Funds Under P.A. 99-241	Acquisition	\$ 5,000,000
	Interim Parking	<u>825,000</u>
	Total	\$ 5,825,000

<u>Cost of Acquisition</u>	
Amount from State Funds:	\$5,825,000
Plus Present Value of Replacement Parking	4,442,373
Less Present Value Financing	<u>(2,787,560)</u>
Total Cost of Acquisition	\$7,479,813

Phoenix Financing provided: \$10,000,000 (5% taxable fixed for 20 years)

Replacement Parking: 500 on site spaces for 20 years at market minus
\$55/space/month

Additional Conditions include:

- Reservation of \$16,000,000 to seed attraction.
- Attraction must be acceptable to Phoenix.
- CHEFA agrees to entertain application for \$25,000,000 for Attraction.
- Phoenix will be named on environmental liability insurance.

Phoenix Home Life was unique among the property owners given its long association with the Adriaen's Landing project. During a time period that began almost four years ago and extending until the present time, Phoenix has expended several million dollars of financial and human resources in pursuit of the redevelopment of Hartford. Although the company's role as lead developer was assumed by the State in mid-1999, the company had been an active participant in the creation of the new plan for Adriaen's Landing.

The negotiations were based upon the company's desire to donate the land for an attraction, to be paid in cash for the for-profit hotel which was relocated from the Prospect Street site, to receive fair value for the convention center site and to replace the 500 parking spaces currently used by Phoenix employees on the site.

These goals required an allocation of the site to the attraction use, the hotel use and the convention center use in order that discrete values be assigned to each component. This process was accomplished by overlaying the master development plan on a site plan that showed the ownership of each parcel. The results of this exercise established that Phoenix owned approximately 329,813 square feet of the master development site and that 96,352 was allocated to the attraction, 27,021 was allocated to the hotel and 206,400 was allocated to the convention center site. Dividing the average appraised value by the total square footage and then multiplying the per square foot appraised value by each component yielded a value of \$4,842,972 for the attraction, \$1,358,165 for the hotel and \$10,376,362 for the convention center. These values were used as a guide to generate the donation value of the attraction land, the cash payment of \$1,400,000 for the hotel land, and combination of cash and parking subsidy that was exchanged for the convention center land.

Perhaps some members of the Legislature will be critical of Phoenix receiving cash for a portion of its land. These criticisms, we believe, should be tempered by the willingness of the company to donate a portion of the land and to purchase \$10,000,000 of the taxable parking revenue bonds at a rate at least 3% below the market.

6.3.2 Travelers Property and Casualty

Method of Acquisition:	Ninety-nine year land lease @ \$1.00/year
Use(s) of Parcel:	Retail/Entertainment Office Housing
Average Appraised Value:	\$9,425,000
Amount of State Funds Under P.A. 99-241:	Interim Parking \$3,000,000

Cost of Acquisition

Amount from State Funds:	\$ 3,000,000
Plus Present Value of Replacement Parking:	8,505,494
Less Present Value of Financing:	<u>(5,873,498)</u>
Total Cost of Acquisition:	\$ 5,632,000

Replacement Parking: 1,100 spaces for 20 years at \$90/space/month.
300 spaces for 20 years at 110/sapce/month.

Travelers Financing Provided: \$20,000,000(Loan to CCEDA @ 5% for 20 years)

Additional Conditions:

- Financing secured solely by replacement parking lease relative to Travelers' spaces.
- Travelers named on environmental liability policy.

Travelers' one and only concern relative to the master plan was to provide replacement parking at reasonable rates for its existing 1,100 employees who park on-site and to provide incremental parking for the over 880 employees that are on a waiting list to park on-site. The final number of 300 incremental spaces is significantly less than the over 900 originally requested. Although the cost of this parking is significant, analysis of the shared parking for the entire site required that only 440 spaces be constructed over and above the amount required for the master development for use by Travelers' employees. Given that Travelers employees number over 5,600 and that these employees represent a substantial customer base for the retail entertainment component of the master development and that the long-term lease of 1,400 spaces has significant value, the decision was made to react positively to the Travelers request for parking. The effective donation of the land via a 99-year lease and the \$20,000,000 in below-market rate financing extended by Travelers are important to the ultimate success of the project and is tangible evidence of Travelers, commitment to the redevelopment of Hartford. Also, Travelers real estate division provided valuable ongoing support and advice during the planning process.

6.3.3 CTG Resources, Inc.

Method of Acquisition:	Sale to State	
Use(s) of Property:	Convention Center Hotel Parking	
Average Appraised Value:	\$28,635,000	
Amount of State Funds under P.A. 99-241:	Property Acquisition	\$12,500,000
	Building/Systems Replacement	20,000,000
	Moving	575,000
	Arch. Eng. FFE relocation	<u>3,975,000</u>
	Total	\$37,050,000
CTG Private Investment Commitment:	\$15,000,000	

Additional Conditions:

- Opportunity to bid on Adriaen's Landing heating and cooling contracts.

CTG named on environmental liability insurance.

Of all the property owners at Adriaen's Landing, CTG Resources, Inc. is the most affected. The current master development plan requires the relocation of the administration building and the operations center, both of which collectively house over 400 employees and all equipment used by CTG work crews. These buildings contain sophisticated communications and energy control equipment that is used to regulate the distribution of natural gas throughout the region. The district heating and cooling plant, also known as the steam plant, heats and cools many downtown locations and cannot suffer an interruption of service.

The cost of this component of the acquisition plan reflects the significant amount of disruption that will occur by the relocation of two major sections of the, CTG operation. Given the regulated nature of CTG as well as it being a public company, its management has taken the position that there can be no loss to the shareholders or ratepayers of the company or cost imposed on ratepayers and shareholders. In its role as a major employer in Hartford, the company has also taken the position that it has a responsibility to the State and the City in that there should likewise be no gain. In addition, the company desires to remain a corporate citizen in the City of Hartford which somewhat limits its choice of properties to which it could relocate. Its support of the redevelopment of Hartford includes the commitment to invest \$15,000,000 in private investment to service the energy requirements of Adriaen's Landing.

During the 1998 and the 1999 legislative sessions, representations were made that the majority of the relocation expenses attributable to CTG Resources could be generated from sources outside the State appropriation and authorization of bond funds. These representations were made based upon a master development plan that included the replacement of the steam plant with a new more efficient facility and an energy supply agreement between CTG and the Connecticut Resources Recovery Authority. This agreement along with the more efficient steam plant, significantly reduced CTG's unit cost to produce steam and chilled water. This reduction in unit cost would generate a revenue stream that could have been used to repay revenue bonds. The proceeds of the revenue bonds would have been sufficient to defray the cost of the steam plant replacement and the majority of the relocation of the administration building and the operations center. As the master development evolved, the relocation of the steam plant at a projected cost \$60,000,000 was deemed not to be in the best interest of the project, therefore, the source of the funding was no longer available.

6.3.4 City of Hartford Municipal Employees Retirement Fund

Method of Acquisition:	Transfer of property to State in exchange for State lease.
Use(s) of Property:	Entertainment/Retail
Average Appraised Value:	\$5,200,000
Amount of State Funds under P.A. 99-241:	\$0
Cost of Acquisition:	Exchange of the Hartford Times building for a commitment by the State of Connecticut to lease sufficient space at a sufficient rental rate to offset the \$8,000,000 value to the pension fund.

Estimate of State Lease Required: 45,000 square feet at a gross rental of \$24.00 per foot less \$8.00 per foot common expenses capitalized at 9.50%.

The City Pension Fund is willing to exchange the Hartford Times building for a commitment by the State to lease sufficient space in a building to be purchased by the Pension Fund. The value of the transfer is based upon the appraised value of the property plus a lease termination penalty of \$3,000,000 assessed to the City of Hartford.

The \$8,000,000 cost is a worse case scenario in that should a State agency relocate from leased facilities, the net cost to the State would be the difference between the current rental and the project rental at the new location. Disclosure requires that worst case scenario should be assumed.

6.3.4 City of Hartford

Method of Acquisition: Transfer of property to State

Use(s) of Property: Entertainment/Retail
Housing
Convention Center
Hotel

Average Appraised Value: \$11,000,000 (Represented by the City of Hartford)

Amount of State Funds under P.A. 99-241: \$0

The City of Hartford is in the process of obtaining the necessary legal authority to transfer City owned parcels and streets to the Adriaen's Landing project.

6.3.5 MDC

Method of Acquisition: Transfer of property to State.

Use(s) of Property: Convention Center

Average Appraised Value: \$602,500

Amount of State Funds under P.A. 99-241: \$0

The MDC has agreed to transfer the property to the State.

6.3.6 Elks Lodge

Method of Acquisition: Transfer of parking lot to State.

Use(s) of Property: Housing
Parking

Average Appraised Value: \$785,000

Amount of State Funds under P.A. 99-241	Parking Lot Allocation	\$1,750,000
	Rehabilitation of Historic Structure	<u>1,750,000</u>
	Total	\$3,500,000

The Elks Lodge 19 is one of the oldest continually operating fraternal organizations of its kind in the United States. The acquisition of the parking lot was obviously not based upon appraised value but on the Lodge's need to replace the parking revenue it utilizes to pay its property taxes. The premium above the appraised value is to allow the Lodge to hire a professional money manager to conservatively invest the funds in a low-risk investment that will generate sufficient earnings to pay the approximately \$110,000 in property taxes. Currently the Lodge is able to generate sufficient revenue easily by meeting the high demand for parking in the area. The Lodge did not wish to take on excessive risk in order to earn the same revenue and it requested the premium above the appraised value.

The Lodge also requested that additional funds be made available for the complete rehabilitation of the historic structure which, after a review by the State and the private developer, it was determined to be in the best interest of the master development. Incorporation and linkage of this historic structure into the development preserves a well known element of Hartford's history and could encourage national Elks conventions that would benefit the entire project.

6.3.7 Mark Yellin

Method of Acquisition:	Transfer to State by sale or eminent domain.	
Use(s) of Property:	Retail/Entertainment	
Average Appraised Value:	\$145,000	
Amount of State Funds under P.A. 99-241:	Reserve	\$225,000

An offer to purchase this property has been sent to Mr. Yellin who has not responded to date. Given Mr. Yellin's lack of cooperation during the appraisal process, it is assumed this property will be acquired by eminent domain. The reserve reflects a potential gross-up of the value by the court and expenses.

6.4 SUMMARY OF ACQUISITION COSTS

Average Appraised Value	\$72,370,000
Amount from State Funds Under P.A. 99-241	
Phoenix	5,825,000
Travelers	3,000,000
CTG Resources	37,050,000
City Pension Fund	0
City of Hartford	0
MDC	0
B.P.O. Elks, Hartford Lodge	3,500,000
Mr. Mark Yellin (reserve)	<u>225,000</u>
Total State Funds	49,600,000
Cost of Subsidized Parking	
Phoenix	4,422,373
Travelers	<u>8,505,494</u>
Total	12,927,867

Gain from Financing	
Phoenix	2,787,560
Travelers	<u>5,873,498</u>
Total	8,661,058
Net Present Value Replacement State Lease	8,000,000
Summary	
Total State Funds under P.A. 99-241	49,600,000
Plus Cost of Subsidized Parking	12,927,867
Less Gain from Financing	(8,661,058)
Plus Cost of Replacement State Lease	<u>8,000,000</u>
Total Net Acquisition Cost	61,866,809
Total Average Value	72,370,000
Net Cost Over/(Under) Average Appraised Value	(\$10,503,191)

6.5 OWNERSHIP AND LEASE ARRANGEMENTS

The current development plans for all property with the exception of the Travelers' parcel to be owned by the State of Connecticut. The Traveler's parcel will be leased to the State of Connecticut for 99 years for \$1.00 per year.

The property will be remediated and all infrastructure including parking will be constructed by the State of Connecticut or by an appropriate quasi-public Authority. The air rights above the property will be leased, or in the case of the Travelers' parcel sub-leased, to CCEDA or the private developer for 99 years at \$1.00 per year.

6.6 SITE ACQUISITION DOCUMENTS

Copies of site acquisition documents attached:

Phoenix Home Life	Letter of Intent
Travelers	Letter of Intent
CTG Resources	Letter of Intent
City of Hartford Pension Fund	Letter of Response
MDC	Letter of Response
B.P.O. Elks, Hartford Lodge 19	Letter of Response
Mr. Mark Yellin	Offer Letter
City of Hartford	City Council to act on land donation on February 28, 2000