FINAL PLAN OF REMEDIAL ACTION

Former Star Building Property Site

West Street and Justison Street
Wilmington, Delaware

August 6, 2008
DNREC Project No. DE-1425

This Final Plan of Remedial Action (Final Plan) presents the Department of Natural Resources and Environmental Control's (DNREC's) requirements to address environmental contamination at the Former Star Building Property site (Site).

DNREC issued public notice of the Proposed Plan of Remedial Action (Proposed Plan) for the Site on July 13, 2008 and opened a 20-day public comment period. The Proposed Plan is attached. There were no comments or questions from the public. Therefore, the Proposed Plan is adopted as the Final Plan.

Final Plan will consist of the following requirements:

- The surface of the Site will be covered with a cap which may consist of buildings, pavement, or a minimum of two feet of DNREC-approved clean fill material in the landscaped areas.
- All construction and redevelopment work will continue to be done in accordance with the DNREC-approved Former Star Building Concrete Slab Removal Work Plan, DNREC-approved Contaminated Material and Water Management Work Plan (CMWMWP), and the Site Specific Health and Safety Plan (HASP), which results in removal and disposal of excavated contaminated material.
- After construction of the parking lots, a hydraulically up-gradient and a down-gradient well will be placed in the deeper aquifer which will be used as a part of the area wide groundwater monitoring network for the Wilmington Riverfront.
- Soil contaminated with elevated levels of lead (over 1000 milligrams per kilogram) will be disposed off site as encountered during construction to prevent future construction workers from exposure to the contaminated soil.
- Site owner will record an environmental covenant consistent with Delaware's Uniform Environmental Covenants Act, UECA (Title 7, Del. Code Chapter 79, Subtitle II). The environmental covenant will include: limit to commercial development, prohibit land disturbing activities without DNREC's prior written approval except in landscaping areas, and will prohibit the installation of wells and use of any groundwater at the Site.

- Implement a DNREC-approved Operation and Maintenance (O&M) Plan to detail the procedures and practices to be followed in order to minimize disturbing the cap and to promote the long-term integrity of the cap.

Approval:
This Final Plan meets the requirements of the Hazardous Substance Cleanup Act.

Kathleen Stiller Banning 8/5/08

Kathleen Stiller Banning, Program Manager II
Site Investigation and Restoration Branch

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PROPOSED PLAN OF REMEDIAL ACTION

Former Star Building Property Site
Wilmington, Delaware
DNREC Project No. DE-1425

July 2008

Delaware Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation & Restoration Branch
391 Lukens Drive
New Castle, Delaware 19720

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PROPOSED PLAN OF REMEDIAL ACTION

Former Star Building Property Site
Wilmington, Delaware
DNREC Project No. DE-1425

Approval:
This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:

James D. Werner, Director
Division of Air & Waste Management

8 July 2008

Date

PROPOSED PLAN
Questions & Answers

Former Star Building Property Site

What is the Former Star Building Property Site? The Former Star Building Property Site (Site) is a brownfield property located in Wilmington, Delaware and is comprised of 5 tax parcels. The Star Building, the former Vets Welding property and the Farley building property formerly occupied the Site (Figure 1 and 2). Vets Welding was formerly addressed by DNREC as a separate site (DE-1276). However, due to site redevelopment, Vet Welding has been incorporated into the Former Star Building Property.

The Site is bordered by Amtrak Rail Line to the North, Justison Street to the East, West Street to the South, and the Delaware Center for Contemporary Arts (DCCA) to the West. The Site is currently vacant. Star Building, LLC is planning to construct a seven story office building and DelDOT will construct a parking lot for the building (Figure 3). Star Building, LLC; Gates Building, LLC; 115 Just, LLC; and DelDOT are the current owners and developers of the Site.

Tax Parcel Numbers: 2604200010, 2604200011, 2604200014, 2604200020, 2604200009
Address: 123 South Justison Street, 119 South Justison Street, 0 South Justison Street (formerly 155 South Justison Street), 0 South Justison Street, a portion of 115 South Justison Street
Nearest major intersection: West Street and Justison Street
Area: Approximately 3.0 acres
Surrounding Property: Surrounding land use is commercial and residential
Zoning: 26W4 Riverfront Commercial and Residential
Site Utilities: City water and sewer
Surface water: Approximately 500 feet southeast
Topography: Relatively flat
Groundwater: The groundwater appears to flow to the southeast toward the Christina River

What are the former uses at the Former Star Building Property Site?
The Site is located in an area of Wilmington that has been in continuous industrial use since the late 1700s. Review of historical information showed that the Site was part of a property previously owned by Harlan and Hollingsworth Corporation (Railcar building company) and the Bethlehem Shipbuilding Corporation until 1955.

Star Building –

1901-1955	Harlan and Hollingsworth (car building, varnishing, upholstering and painting).
1955-1977	various publishing and printing companies
1977-1979	vacant
1979-2006	various light industrial/commercial companies
2007	fire destroyed the Former Star Building

Farley Building-

1901 – 1950s	Harlan and Hollingsworth
1950s-1974	Unknown
1974 - 1986	Wilmington TBA Center (tires, batteries and accessories)
1986 – 1990s	Xerocopy Center, Comp House, Farley Printing and Idea Factory
May 2008	Building collapsed

Vets Welding-

1927 - 1951	Harlan and Hollingsworth material storage
1951 - 1963	Vacant
1963 - 1992	Vets Welding/Steel Fabrication

What are the environmental problems at the Former Star Building Property Site?

The Site soil and groundwater are contaminated with metals and polynuclear aromatic hydrocarbons (PAHs) which are present above DNREC-SIRB restricted use (commercial) standards. The contamination resulted from the past industrial use of the Site along with the fill material brought into the Site in the past. Metals that exceeded DNREC's commercial standard in soil are arsenic in the surface soil and lead in the subsurface soil. PAHs in soil that exceeded include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. In groundwater, naphthalene, mercury, antimony and 2-methlynaphthalene were detected above DNREC standards. However, groundwater is not being used at the Site and the Site is located in a groundwater management zone (GMZ) which prohibits the installation and use of drinking water wells. The evaluation of potential impact of groundwater contamination discharging to surface water (Christina River) indicated that the river will not be impacted. Modeling of the potential intrusion of subsurface vapors from groundwater and soil into the future building indicated that it will not exceed the DNREC standard.

Environmental investigations were performed at the Site include a Remedial Investigation in May 2001 on the Vet's Welding Property (DE-1276), which constitutes part of the Site; a geotechnical evaluation conducted in October 2007 and a Brownfield Investigation conducted at the Site in January 2008. In addition, one 10,000-gallon heating oil underground storage tank (UST) was removed and one 10,000-gallon heating oil UST was filled with select fill and abandoned in place at the former Vet's Welding Property in April 2000. Contaminated soil was excavated and DNREC Tank Management Branch issued a No Further Action letter on December 13, 2002 related to the contamination associated with the USTs on the Vet's Welding Property.

These investigations indicated that surface soil (0-2 feet depth) at the Site is contaminated with PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and arsenic above DNREC standards for a commercial (non-residential) use of the property. For subsurface soil (at depth greater than 2 feet) PAHs including benzo (a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and lead were detected over DNREC standards for a commercial (non-residential) use. These contaminants would only pose a human health risk above DNREC standards if not addressed by

remedial actions. Groundwater from one well (MW-1) showed presence of 2-methlynaphthalene, naphthalene, mercury and only antimony in another well (MW-2) over DNREC standards. MW-1 is screened in the deeper aquifer and would not be encountered during construction excavations.

What does the owner want to do at the Former Star Building Property Site?

Star Building, LLC. is planning on redeveloping the property into a commercial office building with the construction of a parking lot by DelDOT on the adjoining properties. The development plan is included as Figure 3.

The development plan includes removing the former Star Building concrete slab, footers and piles, removing railroad lines, site grading, installing utilities (i.e. water, gas, electric), installing two stormwater management systems, paving, installation of piles, pile caps, footers, construction of hardscaped (sidewalks and brick areas), building construction and landscaped areas.

What clean-up actions have been taken at the Former Star Building Property Site?

The following interim actions, which have been conducted under the DNREC-approved Contaminated Material and Water management work plan (CMWMWP), have been completed to date:

- Excavation and proper material management of concrete pad, footers and piles
- Removal of soil from the utility corridors (while screening for contamination)
- Installation of sediment control according to DNREC standards.
- Disposal of railroad ties

What additional clean-up actions are needed at the former Former Star Building Property Site?

The proposed remedy for the Site includes: capping the Site with asphalt and the building or a minimum of two feet of DNREC-approved fill in the landscaped areas; and as encountered during construction, removal of lead contaminated soil. These measures will prevent human exposure to the contaminated soil and groundwater at the Site.

The following cleanup actions are proposed for the Site:

1. The surface of the Site will be covered with a cap which may consist of buildings, pavement, or a minimum of two feet of DNREC-approved clean fill material in the landscaped areas. Portions of the Site may be covered with two feet or more of fill for construction purposes; however, this will not be considered as a required remedy for reimbursement purpose.
2. All construction and redevelopment work will continue to be done in accordance with the DNREC-approved Former Star Building Concrete Slab Removal Work Plan, DNREC-approved Contaminated Material and Water Management Work Plan (CMWMWP), and the Site Specific Health and Safety Plan (HASP), which results in removal and disposal of excavated contaminated material.
3. After construction of the parking lots, a hydraulically up-gradient and a down-gradient well will be placed in the deeper aquifer which will be used as a part of the area wide groundwater monitoring

network for the Wilmington Riverfront.
4. Soil contaminated with elevated levels of lead (over 1000 milligrams per kilogram) will be disposed off site as encountered during construction to prevent future construction workers from exposure to the contaminated soil.
5. A DNREC-approved Operation and Maintenance (O&M) Plan will be established and implemented within ninety (90) days following construction completion. The O&M Plan will detail the procedures and practices including regular inspections to minimize the potential for disturbing the cap and to promote the long-term integrity of the cap.
6. A Ground Management Zone (GMZ) is already in place for the City of Wilmington (August 2001). The Site is within the City of Wilmington boundary limits. The GMZ will prohibit the installation of any water wells on, or groundwater usage at the Site without prior written approval from DNREC. In addition, the City prohibits drinking water wells to be installed within the City limits.
7. Site owner will record an environmental covenant consistent with Delaware's Uniform Environmental Covenants Act, UECA (Title 7, Del. Code Chapter 79, Subtitle II). The environmental covenant will limit land use to non-residential development as part of the proposed development plan consistent with safe site reuse that does not damage the cap, prohibit land disturbing activities without DNREC's prior written approval except in landscaping areas, and prohibit the installation of wells and use of any groundwater at the Site.

What are the long term plans for the Site after the cleanup? The future commercial use of the property includes an office building and a parking lot. After construction, the following will be completed for the Site: restricting the Site use to non-residential (unless approved in advance by DNREC); preventing the use of groundwater for potable use; restricting land disturbance activities without DNREC's prior approval and compliance with DNREC-approved Operation and Maintenance Plan (O&M) and groundwater monitoring plan. Under the O&M Plan, the Site will be periodically inspected to ensure that the cap is in good condition and that land use is consistent with the restrictive covenant.

DNREC plans to issue a Certificate of Completion of Remedy for the Site after the remedy is in place, the redevelopment of the property, and the implementation of the uniform environmental covenants at the Site.

How can I find additional information or comment on the Proposed Plan?

The complete file on the Site including the Brownfields Remedial Investigation is available at the DNREC office, 391 Lukens Drive in New Castle. Most documents are also found on:

http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/

The 20-day public comment period begins on July 13, 2008 and ends at close of business (4:30 pm) on August 4, 2008. Please send written comments to the DNREC office or call Rick Galloway, Project Manager, at: 302-395-2600.

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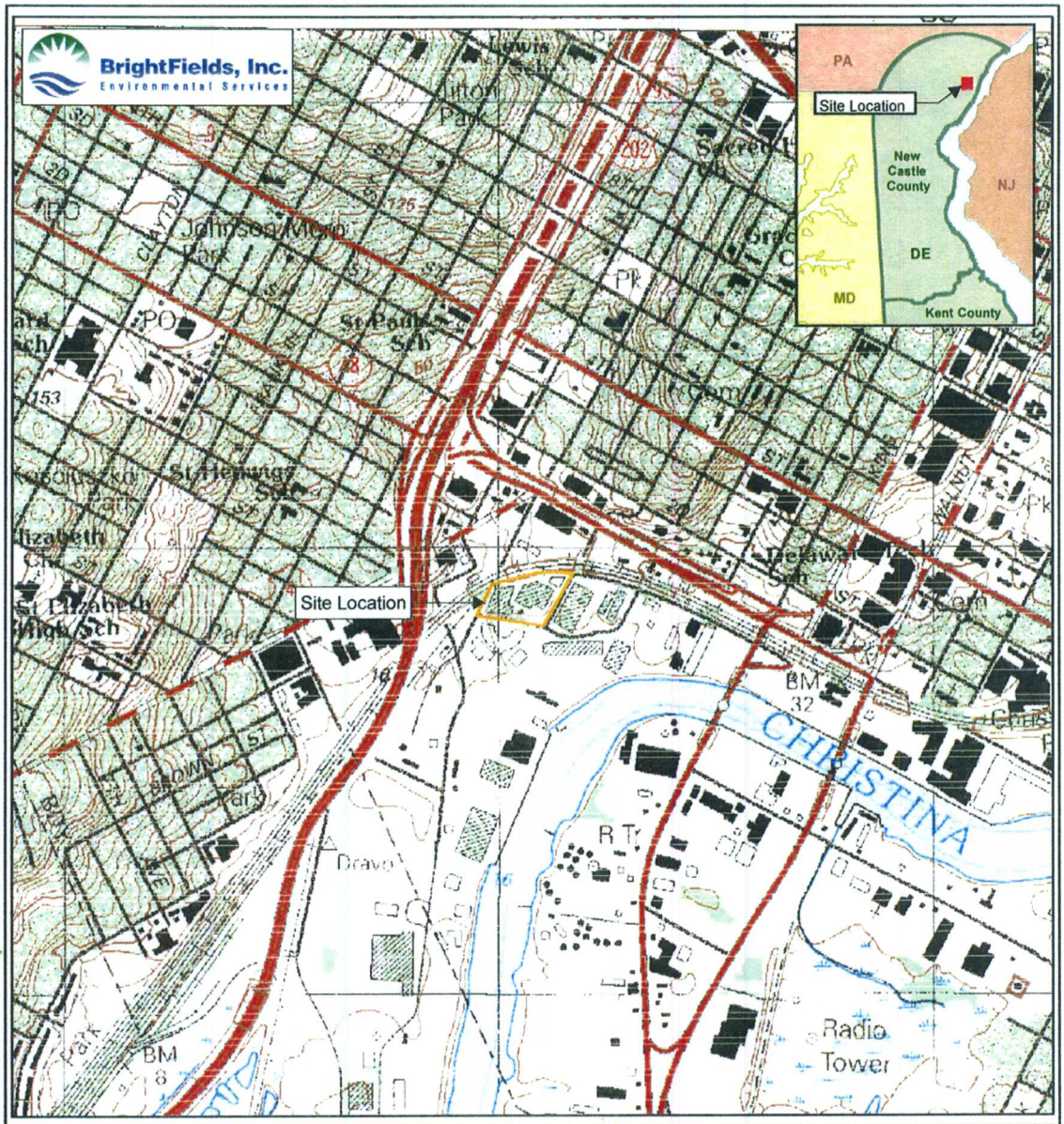

FIGURE 1
Site Location Map
USGS Topographic Quadrangle, Wilmington North, 1993

Star Building

Wilmington, Delaware

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Figure 2 – Site Map

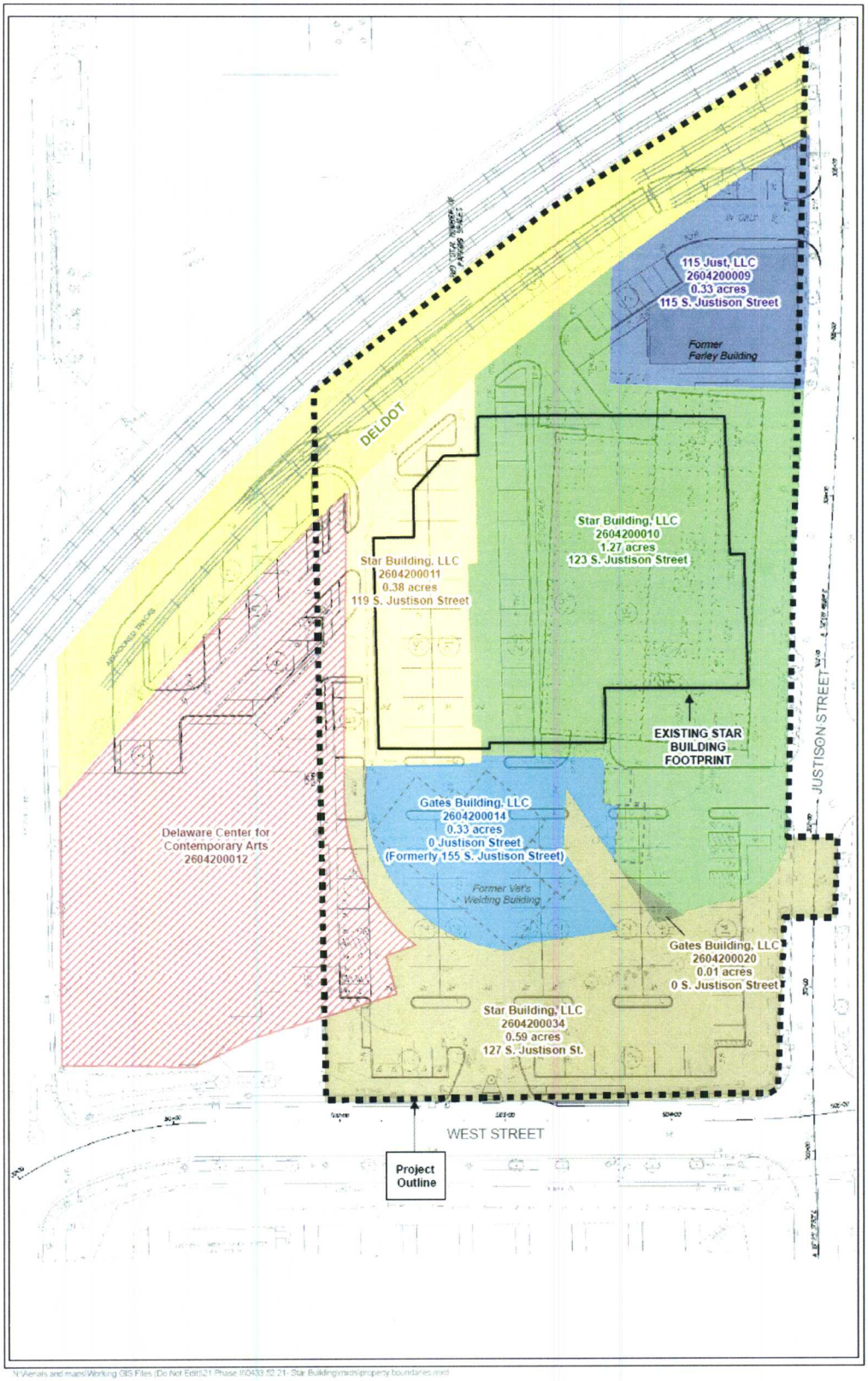

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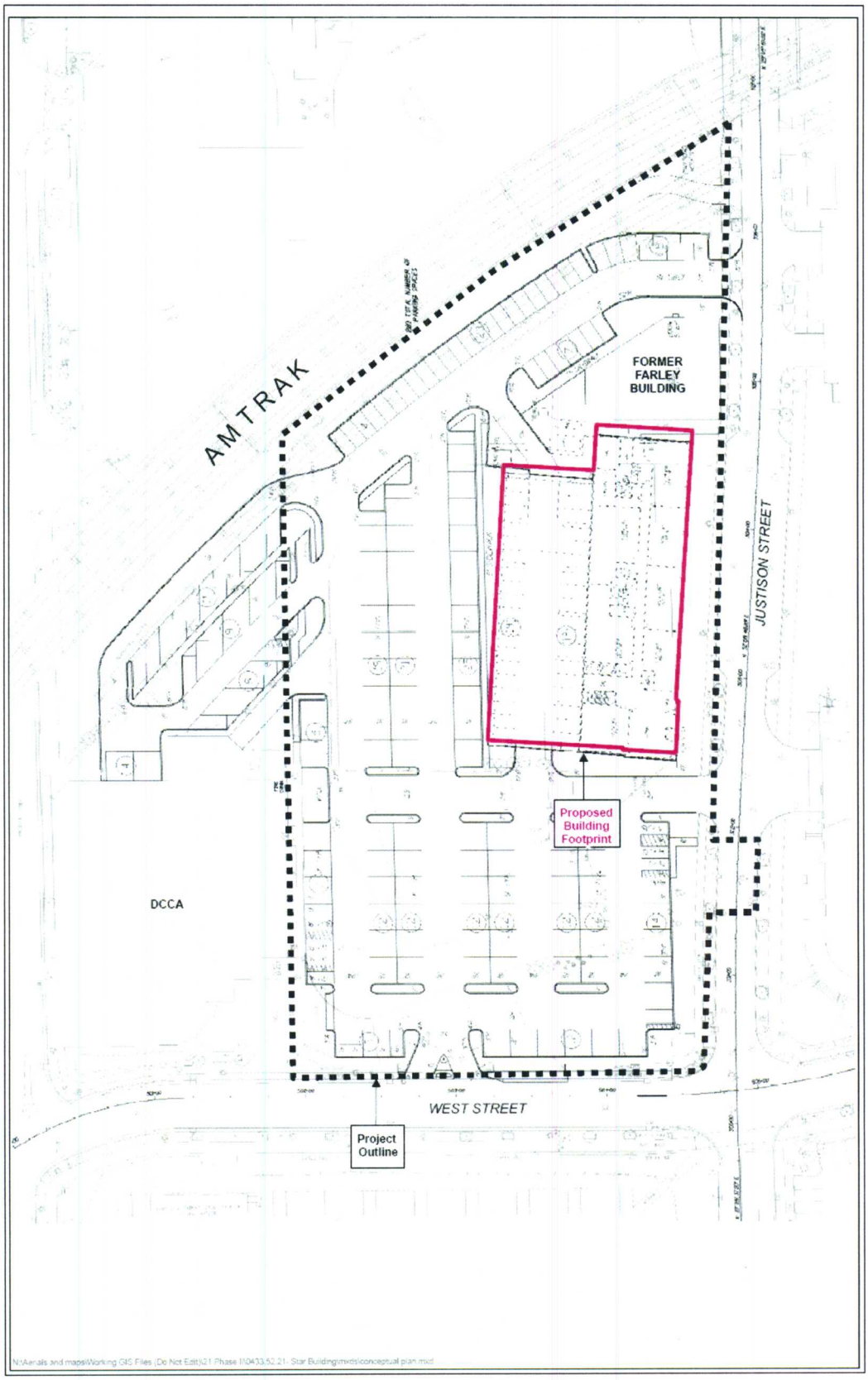
Figure 3- Redevelopment Map



Glossary of Terms
Used in this Proposed Plan

Brownfield	Property that is vacant or underutilized because of the perception or presence of an environmental problem.
Certified Brownfield	A brownfield that DNREC has determined is eligible for partial funding through the Delaware Brownfields Program.
Contaminant of Concern (COC)	These are potentially harmful substances at concentrations above acceptable levels (eg metals and PAH).
Certificate of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
***Exposure**	Contact with a substance through inhalation, ingestion, or direct contact with the skin. Exposure may be short term (acute) or long term (chronic).
Final Plan of Remedial Action	DNREC's proposal for cleaning up a hazardous site after it has been reviewed by the public and finalized.
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.
Human Health Risk Assessment (HHRA)	An assessment done to characterize the potential human health risk associated with exposure* to site related chemicals.
Proposed Plan of Remedial Action	A plan for cleaning up a hazardous site submitted by DNREC and subject to public comments.
Risk	Likelihood or probability of injury, disease, or death.
Risk Assessment Guidance for Superfund (RAGS)	An EPA guidance document for superfund sites
Site Specific Assessment (SSA) and Site Inspection (SI)	Environmental studies of a site including sampling of soils, groundwater, surface water, sediment and/or wastes on the property.

What is a *Proposed Plan?*

A Proposed Plan of Remedial Action (Proposed Plan) is a summary of how DNREC plans to clean up a contaminated site. A Final Plan of Remedial Action (Final Plan) is the adoption of the Proposed Plan, after all comments made by the public within the comment period of twenty days have been considered and addressed by DNREC.

The Delaware State Legislature passed the Hazardous Substance Cleanup Act (HSCA) in 1990. The Legislature made sure that members of the public would be informed about environmental problems in their own neighborhoods and have a chance to express their opinion concerning the clean up of those environmental problems before DNREC takes action.

After DNREC studies a site, it summarizes the problems there and proposes one or more possible solutions in a Proposed Plan. The Proposed Plan contains enough information to allow lay persons to understand the site. More detailed information can be found in the reports and documents approved by DNREC. All of the documents and reports created by DNREC or consultants during the course of the investigation of the site are available to the public at the offices of DNREC-SIRB or at DNREC's website:

http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/sitefiles.asp .

DNREC issues the Proposed Plan by advertising it in at least one newspaper in the county where the site is located. The legal notices for the Proposed Plans and the Final Plans usually run on Wednesdays or Sundays in the legal classified section of the News Journal and/or the Delaware State News. The public comment period begins on the day (Wednesday), or the day after (Sunday) the newspaper publishes the legal notice for the Proposed Plan.

DNREC frequently holds public meetings during the comment period. Those meetings are usually held near the site in the evening. Citizens can request a public meeting if DNREC did not already schedule one.

Comments are collected at the public meetings, by phone or in writing. DNREC considers all comments and questions from the public before the Proposed Plan is finalized and adopted as a Final Plan.