



PROPOSED PLAN OF REMEDIAL ACTION

**Chrysler Newark Assembly Plant Site – Operable Unit 5
(-AKA- University of Delaware’s Science and Technology Campus)
Newark, Delaware
DNREC Project No. DE-0105**



November 2010

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

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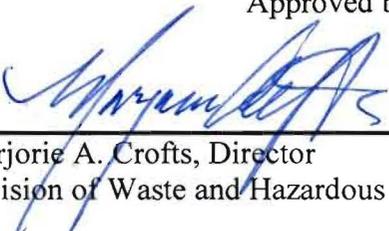
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Chrysler Newark Assembly Plant Site (OU-5)
New Castle, Delaware
DNREC Project No. DE-0105



Approval:

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

Approved by:

Marjorie A. Crofts, Director Division of Waste and Hazardous Substances
11.18.10
Date

Chrysler Newark Assembly Plant Site (OU-5)



What is the Chrysler Newark Assembly Plant Site (OU-5)?

The Site is the former location of the Chrysler Newark Assembly Plant. The Site is depicted on Figure 1. It is currently owned by 1743 Holdings, LLC, a wholly owned subsidiary of the University of Delaware. 1743 Holdings, LLC entered into a Brownfields Development Agreement (BDA) with the Department of Natural Resources and Environmental Control (DNREC) – Site Investigation and Restoration Branch (SIRB) to perform a Brownfield Investigation and address contamination determined to be present on the Site. The Site has been divided into operable units or smaller areas to more easily manage its investigation and cleanup. **This proposed plan specifically addresses Operable Unit 5 (OU-5) of the Site. The boundaries of OU-5 are depicted on Figure 2.**

Tax Parcel Number: 18-039.00-002 (See Figure 2 for OU-5 boundaries)

Address: 550 South College Avenue; Newark, Delaware

Nearest major intersection: South College Avenue and Mopar Drive

Area: 32.5 acres

Surrounding Property: The property to the west of OU-5 is wooded. There are railroad tracks along the northern and eastern boundaries of OU-5. The former paint shop building is located to the south/southwest of OU-5.

Zoning: MI- General Industrial

Site Utilities: There are no utilities on the OU-5 portion of the Site.

Surface water: There are no surface water bodies present on OU-5.

Topography: The OU-5 portion of the Site is generally flat, minus the embankments of the former test track and the steep downward slope along the wooded western boundary. The majority of the area is covered with bituminous concrete paving.

Groundwater: Groundwater was encountered at depths ranging from 7 to 20 feet below ground surface. Flow direction beneath OU-5 is generally towards the south. (Figure 3)

What happened at the Chrysler Newark Assembly Plant Site (OU-5)?

Prior to the 1950s, OU-5 of the Site was utilized for agricultural purposes. During the early 1950s, it was then used by Chrysler as a test track with a water test pool for military tanks manufactured on-site. A paved parking lot was constructed in the center of the existing test track in the mid 1950s. By then, automobiles were being manufactured at the facility. In the past, there were also two tanks (5,000 and 1,750 gallons in size) installed for No.2 fuel oil and gasoline storage, respectively, on or close to the southern and eastern boundaries of OU-5.

Reportedly, the larger tank was an underground storage tank (UST) installed in 1951, was taken out of service in 1957, and was removed in 1989. The smaller tank was an aboveground storage tank (AST). An incinerator pit and a repair garage were also located on the OU-5 portion of the Site at one time. The extent of the area impacted from the incinerator pit is evident on a historical aerial photograph from 1954, which is included in the Brownfield Investigation report. The repair garage was located in the southeastern corner of OU-5. An approximately 400 square foot apparent remnant of the former garage pit, approximately 5.5 feet below ground surface, and filled in with demolition debris was encountered during the environmental investigation.

What is the environmental problem at the Chrysler Newark Assembly Plant Site (OU-5)?

Environmental investigations conducted on the OU-5 portion of the Site indicated that contaminants of concern (COCs) in soil for a restricted use (commercial/industrial) exposure scenario are isolated to two “hot spot” areas. The COCs for soil in this area of the Site are: select volatile organic compounds, (VOCs), select semi-volatile organic compounds (SVOCs), select pesticides and select polychlorinated biphenyls (PCBs). There are no COCs for groundwater.

The following environmental investigations were performed on the OU-5 portion of the Site:

- 1985: DNREC conducted a Preliminary Assessment on behalf of the United States Environmental Protection Agency (US EPA). The assessment recommended further investigation at the Site due to repeated detections of perchloroethylene (PCE) and trichloroethylene (TCE) in the City of Newark municipal wells to determine if it was a contributor to the contamination.
- 1986: DNREC conducted a Desktop Site Inspection (SI). There were no soil or groundwater samples collected on the OU-5 portion of the Site during this investigation. The investigation did not recommend any follow-up activities at the Site.
- 2008: ATC conducted a Phase I and Phase II on behalf of Chrysler. The investigations indicated detections of diesel range organics at concentrations below the DNREC-UST Tier 0 screening level concentrations in soil on the OU-5 portion of the Site. There were also detections of arsenic in soil on OU-5 at a maximum concentration of 5.4 mg/kg, which is below DNREC-SIRB’s default background standard of 11 mg/kg.
- 2008: Duffield Associates conducted an Environmental Site Assessment on behalf of the University of Delaware. Analytical results indicated detections of No. 6 oil in some of the soil samples collected on the OU-5 portion of the Site. There were also elevated concentrations of metals detected in the groundwater samples collected in this area. The report indicated that additional investigation of the entire Site was warranted.

- 2010: Duffield Associates conducted a Brownfield Investigation (BFI) on the OU-5 portion of the Site on behalf of the 1743 Holdings, LLC. The following constituents were determined to be COCs because they were detected at concentrations exceeding the corresponding Delaware Uniform Risk-Based Remediation Standards (URS) values for restricted use in the soil samples collected in two limited areas of OU-5: Benzene, xylenes, 4,4-DDD, 4,4-DDT, dieldrin, PCB-1254, and PCB-1260 in the incinerator pit area, and benzo(a)pyrene, benzo(b)fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and PCB-1254 in the repair garage area.

What does the owner want to do at the Chrysler Newark Assembly Plant Site (OU-5)?

The entire Site is the future location of the University of Delaware's science and technology campus. The OU-5 portion, specifically, is under consideration as the location for non-residential development, which will include associated underground utilities and parking.

What remedial actions are proposed at the Chrysler Newark Assembly Plant Site (OU-5)?

Currently, the only potential exposure pathway to present a human health risk on the OU-5 portion of the Site is the potential for Site users to come into contact with or inhale dust generated from the soil in two specific "hot spot" areas. Therefore, 1743 Holdings, LLC will be required to remove the majority of impacted soil in these areas to prevent exposure to future site users. The removal of impacted material must be demonstrated by the collection and analysis of confirmatory soil samples. Excavations must then be backfilled with DNREC-approved material consistent with site use. In the former incinerator area, the limited quantity of deep soil contaminated with PCBs to remain in place must be capped with a low-permeability (e.g. asphalt) cap and must only be utilized for "low occupancy" purposes, such as a parking lot. DNREC will also require an environmental covenant, or restriction, be recorded on the property deed. The covenant will:

- 1) prohibit future digging beneath the marker fabric, placed to delineate contaminated soil from DNREC-approved fill material, or the existing concrete slab in the remediated "hot spot" areas of the OU-5 portion of the Site without first contacting DNREC, and 2) restrict the use atop capped PCB-impacted soil to "low-occupancy" uses.

DNREC requires the following remedial actions be performed on the Former Chrysler Newark Assembly Plant Site (OU-5):

1. Removal of contaminated soil in the identified "hot spot" areas to prevent human exposure. Excavations must be backfilled with DNREC-approved fill material consistent with site use.

Specifically in the former incinerator area, the impacted material remaining on-site must be capped with a low-permeability cap (e.g. asphalt) to prevent future mobility of contaminants.

2. Recording of an environmental covenant consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA) on the property deed. The covenant will: 1) prohibit digging beneath the marker fabric or existing concrete slab without prior written DNREC approval, and 2) restrict property use atop the capped PCB-impacted soil to "low occupancy" uses, e.g. parking lot.

3. Development and implementation of a DNREC-approved Operations and Maintenance (O&M) Plan. The O&M Plan will detail the inspection schedule to be followed in order to ensure the long-term integrity of the cap placed atop impacted soil left in place.

What are long-term stewardship requirements are proposed for the Chrysler Newark Assembly Plant Site (OU-5)?

The long-term stewardship requirements proposed for the OU-5 portion of the Site include: continued adherence to the environmental covenant recorded on the property deed, as well as, following the schedule set forth in the DNREC-approved O&M Plan.

DNREC will issue a Certification of Completion of Remedy (COCR) for the Chrysler Newark Assembly Plant Site (OU-5) following the completion of the aforementioned remedial actions.

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

The complete file on the Site, including the Environmental Site Assessment and the Brownfield Investigation report, is available at the DNREC office, 391 Lukens Drive in New Castle. Most documents are also found on:

<http://www.nav.dnrec.delaware.gov/DEN3/>

The 20-day public comment period begins on Wednesday, November 24, 2010, and ends at close of business (4:30 pm) on Monday, December 13, 2010. Please send written comments to the DNREC office or call Lindsay Hall or Wendy March, Project Managers, at: 302-395-2600.

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Glossary of Terms Used in this Proposed Plan

Contaminants of Concern (COC)	These are potentially harmful substances at concentrations above acceptable levels (e.g. metals and PAHs).
Certification 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.
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a hazardous site.
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.
Proposed Plan of Remedial Action	DNREC's initial plan for cleaning up a hazardous site, which is subject to public comment before being adopted as final.
Site Inspection (SI)	Environmental study of a site which includes the sampling of soils, groundwater, surface water, sediment and/or wastes on the property, as appropriate. This evaluation is performed on behalf of the United States Environmental Protection Agency (U.S. EPA).
Brownfield Investigation (BFI)	Thorough environmental study of a site which includes 1) sampling of site environmental media and/or wastes on the property and 2) conducting a preliminary risk assessment using the data collected to determine the risk posed to human health and the environment.
Risk	Likelihood or probability of injury, disease, or death.
Brownfield Development Agreement (BDA)	This legal agreement is between a potential developer of a Delaware-certified Brownfields Site and the DNREC. The developer agrees to investigate and cleanup a Brownfields property under the oversight of the Department in exchange for liability protection.
Uniform Environmental Covenant Act (UECA)	Deed restrictions on the site. These can include restrictions on soil intrusion, groundwater usage or usage of the site based on the extent of the cleanup.
Uniform Risk-Based Remediation Standards (URS)	A set of concentration criteria for various contaminants potentially present in site media that are developed for protection of human health and the environment

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 cleanup of those environmental problems before DNREC takes action.

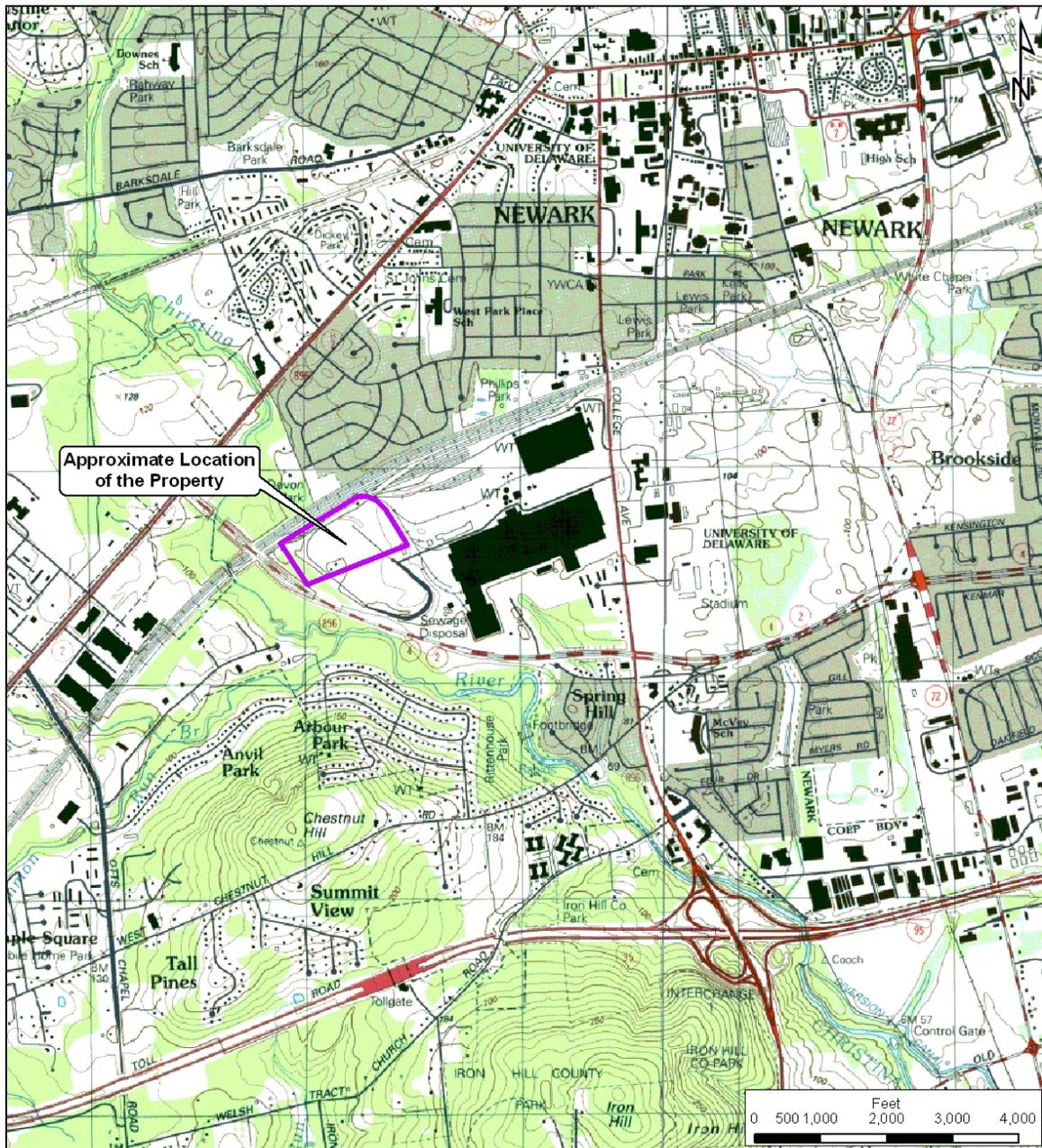
After DNREC studies a site, it summarizes the problems there and proposes one or more possible solutions in a Proposed Plan. The Proposed Plan contains enough information to allow lay persons to understand the site. More detailed information can be found in the reports and documents approved by DNREC. 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 Delaware Environmental Navigator website:

<http://www.nav.dnrec.delaware.gov/DEN3/>

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 during a weekday evening, at a location near the site. Citizens can request a public meeting if DNREC did not already schedule one.

The public may comment on the Proposed Plan by letter or email, or at the public meeting. DNREC considers all comments and questions from the public before the Proposed Plan is finalized and adopted as a Final Plan.



NOTES: This location sketch is adapted from the USGS Topographic Map, 7.5 Minute Series, for Wilmington-South dated 1998.

DATE: NOVEMBER 2010	Site Location Sketch BROWNFIELD INVESTIGATION OPERABLE UNIT NO. 5 - 1743 HOLDINGS, LLC PROPERTY SCIENCE AND TECHNOLOGY CAMPUS NEWARK-NEW CASTLE COUNTY-DELAWARE	BASEMAP: USGS Digital Raster Graphic	 DUFFIELD ASSOCIATES <small>Geomatics, Inc. - Geoscientists</small> 3400 LIMESTONE ROAD WILMINGTON, DE 19808 TEL: (302)239-6634 FAX: (302)469-2205 OFFICES IN DELAWARE, MARYLAND, PENNSYLVANIA, AND NEW JERSEY E-MAIL: DUFFIELD@DUFFIELD.COM
SCALE: 1 inch equals 2,000 feet		DRAWN BY: MPN	
PROJECT NO. 7333.EN		CHECKED BY: MRB	
SHEET: FIGURE 1		FILE: 7333EN_Figure1.mxd	

Figure 1: Site Location Map

<p>DUFFIELD ASSOCIATES 1400 MARKET STREET, SUITE 200 NEWARK, DELAWARE 19702 TEL: 302.486.4400 FAX: 302.486.4401 WWW.DUFFIELDASSOCIATES.COM</p>	<p>Legend</p> <ul style="list-style-type: none"> OU-5 Outline 	<p>Field Sampling Locations</p> <p>Type</p> <ul style="list-style-type: none"> Monitoring Well Geoprobe Boring Hand Auger Boring <p>Stratigraphic Profiles</p> <p>Profile</p> <ul style="list-style-type: none"> A-A B-B <p>Elevation (ft. NAVD83)</p>	<p>BASEMAP 2007 AERIAL PHOTOGRAPHY</p> <p>DRAWN BY MPN</p> <p>CHECKED BY MKB</p> <p>DATE 7/28/10 gpa2@aol.com</p>	<p>SOIL BORING AND MONITORING WELL MAP</p> <p>OPERABLE UNIT NO. 5</p> <p>SCIENCE AND TECHNOLOGY CAMPUS</p> <p>1743 HOLDINGS, LLC PROPERTY</p> <p>NEWARK-NEW CASTLE COUNTY-DELAWARE</p>
	<p>DATE OCTOBER 2010</p> <p>SCALE AS SHOWN</p> <p>PROJECT NO. 7333 EN</p> <p>SHEET FIGURE 2</p>			

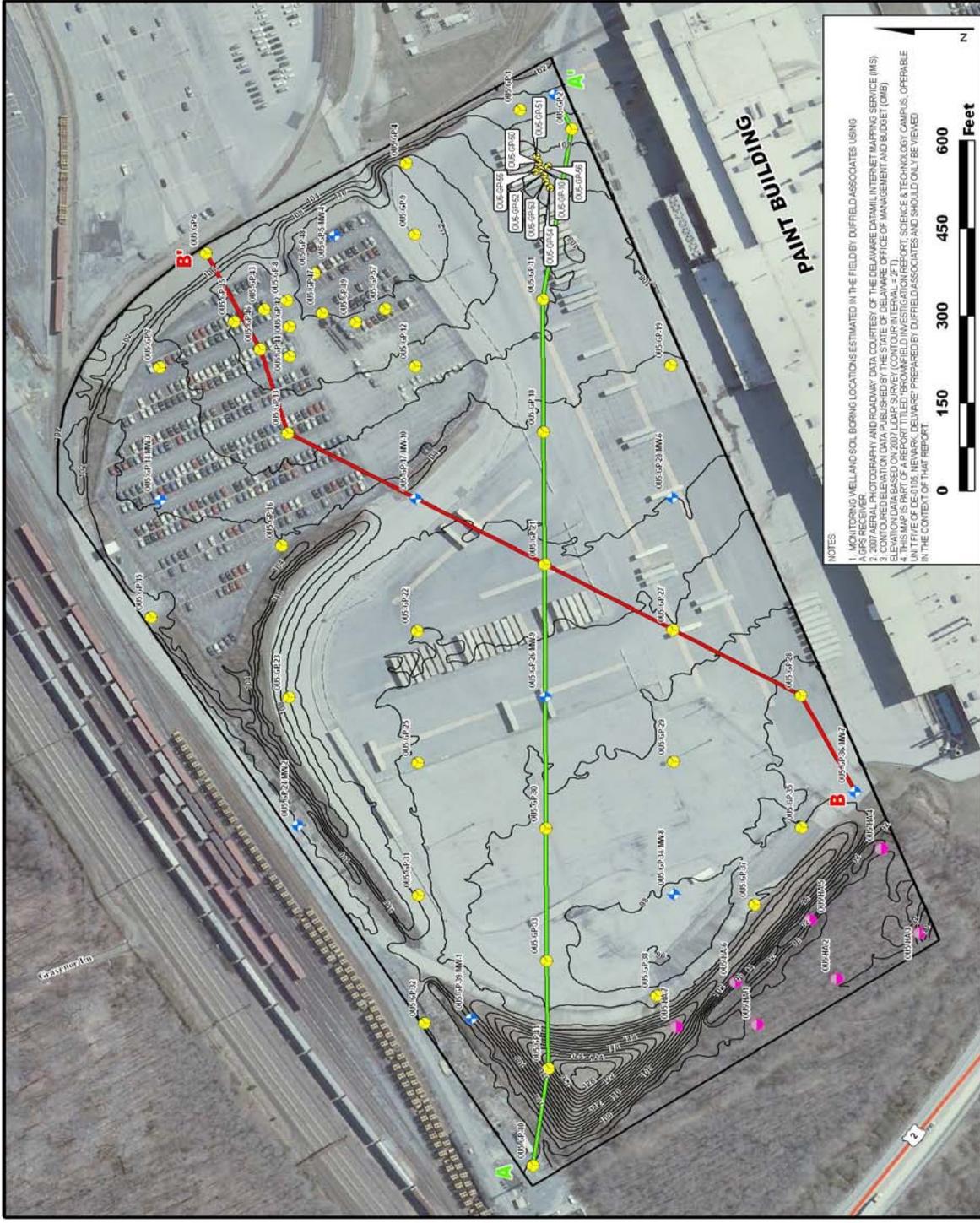


Figure 2: OU-5 Location Map

<p>DUFFIELD ASSOCIATES <small>AN UNLIMITED FIELD OF SERVICE</small> <small>1743 HOLDINGS, LLC PROPERTY</small> <small>1743 HOLDINGS, LLC PROPERTY</small> <small>1743 HOLDINGS, LLC PROPERTY</small> <small>1743 HOLDINGS, LLC PROPERTY</small></p>	<p>Water Table Elevation 10/29/18 & 10/29/10</p> <p>OU-5 Boundary</p> <p>Monitoring Wells</p>	<p>BASEMAP: 2007 AERIAL PHOTOGRAPHY</p>	<p>CHECKED BY: MFP</p>	<p>NEWMARK-NEW CASTLE COUNTY-DELAWARE</p>
		<p>PROJECT NO: 7335EN</p>	<p>DATE: NOVEMBER 2010</p>	
<p>Legend</p>		<p>FRANN BY: MPN</p>	<p>PROJECT NO: 7335EN</p>	<p>1743 HOLDINGS, LLC PROPERTY</p>
<p>Estimated Groundwater Flow Direction</p>		<p>OPERABLE UNIT NO. 5</p>	<p>SHEET: FIGURE 3</p>	<p>1743 HOLDINGS, LLC PROPERTY</p>



Figure 3: OU-5 Groundwater Contour Map