



**TIER 3 – CONTAMINATED MATERIALS
AND HAZARDOUS WASTE
TECHNICAL MEMORANDUM**

Prepared for:

Southeastern Pennsylvania Transportation Authority (SEPTA)



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Executive Summary

The Federal Transit Administration (FTA) and Southeastern Pennsylvania Transportation Authority (SEPTA) are preparing a Draft Environmental Impact Statement (DEIS) that examines and evaluates a proposed extension of the existing Norristown High Speed Line (NHSL) to the King of Prussia area, known herein as the King of Prussia (KOP) Rail Project (Project). This technical memorandum supports the DEIS and examines the potential benefits and impacts of five Action Alternatives and the No Action Alternative with regard to contaminated materials and hazardous waste.

This technical memorandum provides background information on contaminated materials and hazardous waste in the Project area; and it assesses the potential effects of contaminated materials and hazardous waste on and as a result of the Action and No Action Alternatives.

ES.1 Methodology

The assessment is consistent with ASTM E 1527-13, *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process*. The evaluations reported in this technical memorandum used available land use data as well as a review of historical records, including maps and aerial photographs, and a search of Federal and State records for properties with known environmental contamination. A Project study area was defined as an area 500 feet on either side of the centerline of each Action Alternative, as well as ½ mile from the center point of each proposed station area. The 69th Street Transportation Center study area includes all area within 500 feet of the proposed Project. A Project study area reconnaissance was completed to identify contaminated materials and hazardous waste that were not previously identified in the desktop research.

ES.2 Affected Environment

The Project study area currently has a large amount of non-residential development formed around a dense highway and roadway network. Key employment concentrations are along the Henderson Road corridor, DeKalb Pike, the King of Prussia Mall area, and the King of Prussia Business Park. Available information indicates that planned development and redevelopment will occur in the Project study area through design year 2040, particularly in the Henderson Road corridor, the King of Prussia Mall area, and the King of Prussia Business Park. Due to the developed character of the Project study area, contaminated materials and hazardous waste issues have the potential to influence decision-making as to the preferable alternative to advance.

ES.3 No Action Alternative

In the No Action Alternative, future residential and non-residential development will occur according to the demographic projections of the Delaware Valley Regional Planning Commission (DVRPC). The No Action Alternative also includes the committed transportation projects, except for the Project, that DVRPC has identified. These projects include major improvements and expansions to area highways, particularly US Route 422 and the Pennsylvania Turnpike. These transportation and development projects are likely to increase the potential for contaminated materials and hazardous waste concerns because of ground disturbance during construction of the projects. The sponsors of these projects will be

responsible for avoiding or minimizing effects due to contaminated materials and hazardous waste as they advance each project, addressing impacts through mitigation as warranted, and obtaining permits when their activities are regulated.

ES.4 Action Alternatives

Five Action Alternatives are under consideration in the DEIS and this technical memorandum. Each Action Alternative would extend Norristown High Speed Line (NHSL) service through King of Prussia along a new railroad line that branches off the existing NHSL and terminates near the intersection of 1st Avenue and N. Gulph Road at the Valley Forge Casino Resort (VFCR). The alignments of the Action Alternatives vary; each Action Alternative would be primarily aligned within existing public transportation and utility rights-of-way. The Action Alternatives are:

- PECO-1st Ave.
- PECO/TP-1st Ave.
- PECO/TP-N. Gulph
- US 202-1st Ave.
- US 202-N. Gulph

Of these Action Alternatives, SEPTA has identified PECO/TP-1st Ave. as the recommended locally preferred alternative (LPA).

Table ES-1 summarizes the findings of this technical memorandum. To assess potential contaminated materials and hazardous waste concerns, the analysis identified the properties/facilities that have an existing or historical land use pattern consistent with the use and/or the generation of contaminated materials and hazardous waste. This assessment found that Action Alternatives that would use a combination of the PECO and PA Turnpike corridors to get the King of Prussia Mall would be the best performing alternatives because each would require right-of-way acquisition from the fewest number of areas of concern (AOCs).

West of the King of Prussia Mall, the N. Gulph alignment is the best performing alignment as it would have the fewest number of AOCs within its limit of disturbance (LOD). Compared to the 1st Avenue alignment, the N. Gulph alignment would have a lower number of potential risks involving contaminated materials and hazardous waste.

The PECO/TP-N. Gulph Action Alternative is the best performing Action Alternative as it would have the fewest number of AOCs within its LOD; therefore, the PECO/TP-N. Gulph Action Alternative would have the fewest number of potential risks involving contaminated materials and hazardous waste.

ES.5 Minimization and Mitigation Strategies

As the Project advances, SEPTA would further examine the potential for contaminated materials and hazardous waste effects and would focus on methods to avoid or minimize potential conflicts with contaminated materials and hazardous waste. Phase I and II Environmental Site Assessments (ESAs) would be completed after a locally preferred alternative is selected and prior to acquiring right-of-way. The Phase II ESA includes field sampling and laboratory testing to evaluate the extents and severity of contaminated materials and hazardous waste.

Site-specific Health and Safety Plans and Materials Management Plans would be developed to address contaminated soil and groundwater. If buildings would be demolished, an Asbestos Abatement Plan and a Lead-Based Paint Assessment Plan would be developed to document methodologies for completing the surveys.

Table ES-1: Hazardous Materials – Action and No Action Alternatives

Numbers of:	No Action Alternative	Action Alternatives				
		PECO-1 st Ave.	PECO/TP-1 st Ave.	PECO/TP-N. Gulph	US 202-1 st Ave.	US 202-N. Gulph
Areas of Concern	Not measured	100	102	102	103	105
Areas of Concern within LOD	Not measured	27	25	13	35	23
Superfund Sites within LOD (a)	Not measured	0	0	0	0	0
Storage Tank Sites	Not measured	28	29	35	27	33
Pennsylvania AUL Sites	Not measured	0	1	1	1	1
Toxic Release Inventory Sites	Not measured	4	4	4	5	5
Environmental Complaints/ER Incidents	Not measured	23	39	42	43	46
Wells/Water Supply	Not measured	47	45	43	28	26

Source: Malick & Scherer, 2016.

Notes: LOD = limit of disturbance for temporary and permanent right-of-way based on conceptual engineering; AUL = Activity and Use Limitations; ER = Environmental Release; (a) 362-372 S. Henderson Road, Record of Decision 1988.

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1.0 Introduction

This Contaminated Materials and Hazardous Waste Technical Memorandum supports a Draft Environmental Impact Statement (DEIS) prepared by the Federal Transit Administration (FTA) and the Southeastern Pennsylvania Transportation Authority (SEPTA) that examines and evaluates a proposed extension of the existing Norristown High Speed Line (NHSL) to the King of Prussia area, known herein as the King of Prussia (KOP) Rail Project (Project) (Figure 1, Appendix B).

This memorandum was prepared in accordance with ASTM E 1527-13, *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process*. It provides background information on historical and current land use patterns related to known hazardous waste and materials contamination; and compares the potential effects of contaminated and hazardous materials on and as a result of the Project. For the purpose of this report, the study involved in-office investigation utilizing existing databases and a field reconnaissance of the Project area on May 14, 2015 to identify contaminated materials and hazardous waste that were not previously identified in the desktop research.

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2.0 Project Description

The DEIS and this technical memorandum examine five Action Alternatives and the No Action Alternative described in the following subsections.

This report assesses two Project study areas where SEPTA proposes to provide new rail infrastructure as part of the Project: the Action Alternatives study area and the 69th Street Transportation Center study area. The Action Alternatives study area is in King of Prussia and includes all areas within 500 feet of each proposed Action Alternative centerline and ½ mile radius around each proposed station area. The Action Alternatives are depicted in Figures 2 through 6 in Appendix B. The 69th Street Transportation Center study area is in Upper Darby Township and includes all area within 500 feet of the proposed Project. The 69th Street Transportation Center study area is depicted in Figure 7 in Appendix B.

Although SEPTA would add trains on the existing NHSL as part of the Project, no new stations are proposed on the NHSL under each Action Alternative. As a result, no new impacts on existing contaminated materials and hazardous waste sites are anticipated to occur. As electrically powered vehicles, Project operations on the NHSL are not anticipated to be a new source of contamination or hazardous materials concern.

2.1 No Action Alternative

The No Action Alternative is the 2040 condition without the Project. The No Action Alternative assumes no Project improvements to the transportation system in the Action Alternatives study area although all other projects contained in the financially constrained element of *Connections 2040 Plan for Greater Philadelphia*, the long-range transportation plan of the Delaware Valley Regional Planning Commission, would be implemented. Table 2-1.1 lists the committed No Action Alternative projects within the Project area.

The committed projects consist primarily of planned capacity and operational improvements to regional and local study area roadways, particularly US Route 422 and the Pennsylvania Turnpike. All but one roadway project will operate at the periphery of the Action Alternatives study area; the 1st Avenue “road diet” project and Montgomery County’s Chester Valley Trail Extension are within the Action Alternatives study area. In addition to the committed projects listed in Table 2-1.1, the No Action Alternative consists of transit service levels, highway and transit networks, traffic volumes, and forecasted demographics for the horizon year 2040.

Table 2-1.1: Committed No Action Alternative Projects, Action Alternatives Study Area

Project	Type	Description
New US Route 422 Bridge crossing over Schuylkill River	Highway	New 4-lane bridge westbound; replace bridge eastbound.
Widen US Route 422 from US Route 202 to PA 363	Highway	Widen this 2-mile segment from 4 lanes to 6.
Full interchange at US Route 422 and PA 363	Highway	Complete to a full interchange, with movements in both directions.
PA Turnpike widening from Morgantown exit to Valley Forge	Highway	Widen to 6 lanes throughout.
Lafayette Street extension and new Turnpike exit in Norristown	Highway	Construction on extension underway. Construction on Turnpike exit could start in 2018.
1 st Avenue Streetscape and Multi-use Trail (known also as the 1 st Avenue Road Diet project)	Highway	Funded through statewide TAP program. Road Diet, streetscaping and multi-use trail along the length of 1 st Avenue to enhance multi-modal access.
Relocate PA 23/Valley Forge Road and North Gulph Road	Highway	Move roadway 300 feet east of current entrance with Valley Forge National Historical Park to improve operations and reduce traffic impacts at the Park entrance, and create a new Gateway entrance.
Widen Henderson Road and South Gulph Road	Highway	Widen South Gulph Road from Crooked Lane to I-76 intersection at Gulph Mills, and widen Henderson Road from South Gulph to Shoemaker Road.
Chester Valley Trail Extension	Multimodal	Extend the Chester Valley Trail to connect with the Schuylkill River Trail in Norristown, a 3.5 mile extension.

Source: DVRPC, *Connections 2040 Plan for Greater Philadelphia*.

2.2 Action Alternatives

In this technical memorandum, each Action Alternative is composed of two parts, a trunk and a branch, described as follows:

- **Trunk:** Using the analogy of a tree, each Action Alternative has a main trunk, which is the part of the alignment beginning at the existing NHSL and ending at the King of Prussia Mall.
- **Branch:** Extending from the trunk is a branch. The branch extends west from the King of Prussia Mall to the western Project terminus near the Valley Forge Casino Resort.

In this document, each Action Alternative is presented and analyzed in whole as well as by trunk and branch. Alternatives are named for the common “Trunk” corridor each uses between the NHSL and the King of Prussia Mall: US Route 202 (US 202), the PECO electric utility corridor (PECO), and PECO alternatives that also use the PA Turnpike (PECO/TP). Fourteen station

areas, including two park-and-ride facilities, were also analyzed. Figures 2 through 6 in Appendix B illustrate the Action Alternatives, described as follows:

- **PECO-1st Ave.:** The PECO-1st Ave. Action Alternative would use a portion of the PECO electric utility corridor as its trunk, passing in front of (to the south of) the King of Prussia Mall, turning north to use a portion of the Norfolk Southern (NS) Railroad Industrial Track before turning west along 1st Avenue as its branch and ending near the intersection of 1st Avenue and N. Gulph Road near the Valley Forge Casino Resort (VFCR).
- **PECO/TP-1st Ave.:** The PECO/TP-1st Ave. Action Alternative would use portions of the PECO electric utility corridor and PA Turnpike as its trunk, passing behind (to the north of) the King of Prussia Mall, turning north to use a portion of the NS Railroad Industrial Track before turning west along 1st Avenue as its branch and ending near the intersection of 1st Avenue and N. Gulph Road near the VFCR.
- **PECO/TP-N. Gulph:** The PECO/TP-N. Gulph Action Alternative would use portions of the PECO electric utility corridor and PA Turnpike as its trunk, passing behind (to the north of) the King of Prussia Mall, turning south to connect to N. Gulph Road before turning west along the N. Gulph Road as its branch and ending near the intersection of 1st Avenue and N. Gulph Road near the VFCR.
- **US 202-1st Ave.:** The US 202-1st Ave. Action Alternative would use portions of the US Route 202 corridor and the PA Turnpike right-of-way as its trunk, passing behind (to the north of) the King of Prussia Mall, turning north to use a portion of the NS Railroad Industrial Track before turning west along 1st Avenue as its branch and ending near the intersection of 1st Avenue and N. Gulph Road near the VFCR.
- **US 202-N. Gulph:** The US 202-N. Gulph Action Alternative would use portions of the US Route 202 corridor as its trunk, passing behind (to the north of) the King of Prussia Mall, turning south to connect to N. Gulph Road before turning west along N. Gulph as its branch and ending near the intersection of 1st Avenue and N. Gulph Road near the VFCR.

As part of each Action Alternative, two tracks would be provided on primarily elevated guideway. However, a short at-grade section would be provided in the turnoffs adjacent to the existing NHSL. In the PECO and PECO/TP Trunks, the tracks would also be at grade on a hilltop area within the PECO corridor a short distance west of Henderson Road.

The Action Alternatives includes five to seven proposed station areas: Henderson Road, the Court, Mall Boulevard North, Plaza, 1st Avenue East, and the terminal stations 1st & Moore or Convention Center. The Henderson Road and 1st & Moore stations would include park-and-ride facilities, currently configured as a surface lot at the Henderson Road station and a multi-story garage structure at 1st & Moore.

As the elevated guideway approaches the western terminal stations (1st & Moore or Convention Center), the two-track guideway structure would widen from approximately 34 feet to a three-track cross-section approximately 50 feet wide. In the widened area, the third track would provide SEPTA with the necessary track capacity for efficient train operations at the terminal station and along the alignment in those areas.

With Project service, some NHSL trains that currently turn back at Hughes Park would continue to King of Prussia. In addition, new trains would provide service between Norristown Transportation Center and King of Prussia. SEPTA proposes to use the same vehicles that currently operate on the NHSL and the existing track and guideway. With the exception of providing a new wye junction with the NHSL to enable Project trains to connect to the NHSL, SEPTA proposes no physical changes to the NHSL guideway or its related infrastructure. In the PECO-1st Ave., PECO/TP-1st Ave. and PECO/TP-N. Gulph Alternatives, the wye would be in the vicinity of the PECO corridor crossing of the NHSL, north of I-276. In the US 202-1st Ave. and US 202-N. Gulph Alternatives, the wye would be just south of Old DeKalb Pike. The proposed wye junction would consist of connecting the new Project guideway and track to the existing NHSL guideway and track.

Extending NHSL service into King of Prussia would require SEPTA to add one new station track at SEPTA's 69th Street Transportation Center in Upper Darby Township, Delaware County (Figure 7 in Appendix B). The new track would be aligned along the north side of the existing NHSL tracks, stopping at the existing building along the north side of the existing northern platform. The ballast embankment supporting the existing NHSL tracks would be widened to the north to accommodate the new track. Adjacent to the northern platform, the new track would be supported on an elevated guideway structure. The purpose of using structure rather than continuing the embankment up to the building is to avoid impacting the existing bus stop and turnaround area underneath and adjacent to the new track.

The northern platform would be widened to serve the new track. As with the existing NHSL service, the new track and widened platform would be designed to enable level passenger boarding. The existing windbreak wall along the northern edge of the existing platform would be removed and rebuilt along the northern edge of the proposed guideway structure. Elements to be removed include a short section of existing turnout track along the proposed alignment as well as an existing stairway used by passengers exiting from the north platform and by SEPTA personnel. The existing track embankment retaining wall would be relocated to the north edge of the new embankment and the existing track turnout would be replaced. Other portions of the 69th Street Transportation Center would not be affected or changed by the proposed Project.

3.0 Methodology

The assessment is consistent with ASTM E 1527-13, Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process. The following sections discuss the regulatory definitions contaminated materials and hazardous waste, and risk; a description of the study areas; and the methodology employed during this study.

3.1 Definitions

Contaminated materials and hazardous waste are substances that, because of their chemical or physical characteristics, are hazardous to humans and living organisms, property, and the environment, are regulated by the U.S. Environmental Protection Agency (EPA) and, when transported in commerce, by the U. S. Department of Transportation (USDOT).

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §6901 et seq. (1976)) defines hazardous waste as “a waste with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous waste takes many physical forms and may be solid, semi-solid, liquid, or even contained gases.” RCRA hazardous wastes fall into two categories, Listed Wastes and Characteristic Wastes.

Listed wastes appear on one of the four hazardous waste lists established by the EPA (40 CFR § 261) and include:

- The F-list (non-specific source wastes). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources.
- The K-list (source-specific wastes). This list includes certain wastes from specific industries, such as petroleum refining or pesticide manufacturing. Certain sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes.
- The P-list and the U-list (discarded commercial chemical products). These lists include specific commercial chemical products in an unused form. Some pesticides and some pharmaceutical products become hazardous waste when discarded.

Characteristic wastes exhibit one or more of four characteristics: ignitability, corrosivity, reactivity, and/or toxicity.

- Ignitability - Ignitable wastes, such as wastes oils and solvents, can create fires under certain conditions, are spontaneously combustible, or have a flash point less than 60 °C (140 °F).
- Corrosivity - Corrosive wastes, such as battery acid, are acids or bases (pH less than or equal to 2, or greater than or equal to 12.5) that are capable of corroding metal containers, such as storage tanks, drums, and barrels.

- Reactivity - Reactive wastes, such as lithium-sulfur batteries and explosives, are unstable under "normal" conditions. They can cause explosions, toxic fumes, gases, or vapors when heated, compressed, or mixed with water.
- Toxicity - Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead, etc.). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute ground water.

The Hazardous Materials Regulations (49 CFR § 171) defines hazardous material as “a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in part 173 of subchapter C of this chapter.”

Risk is defined as a situation involving exposure to danger (Oxford, 2011), or in the case of this technical memorandum, the potential exposure to contaminated materials and hazardous waste.

3.2 General

The contaminated materials and hazardous waste screening described herein was conducted for properties within the Action Alternatives and 69th Street Transportation Center study areas. The scope of work for this study included:

- Historical records review
- Review of Federal and State records
- Study area reconnaissance

The methodology associated with each of the specific items listed above is discussed in Sections 3.2.1 through 3.2.3. Section 4.0, Summary of Findings/Existing Conditions, presents the information obtained from the historical records review, a review of federal and state records, and the study area reconnaissance. Resources that were reviewed, but which yielded no pertinent information, are not cited in this report. In Section 5.0, Environmental Impacts, properties with a likely potential to impact the Action Alternatives are discussed. Section 6.0, Results, provides a comparative discussion of the alternatives as well as discusses minimization and mitigation strategies,

3.2.1 Historic Records Review

To determine if any historic land uses in the Project study areas are a contaminated materials and hazardous waste concern, a review of the holdings of the Sanborn Library, LLC collection of Fire Insurance Maps was conducted by Environmental Data Resources, Inc. (EDR®), of Southport, Connecticut. The results of the review concluded that Sanborn Fire Insurance Maps are unavailable for the Action Alternatives study area. Sanborn Fire Insurance Maps are available for the 69th Street Transportation Center study area. Copies of the EDR® Certified Sanborn Map Report are provided in Appendix D.

For the Action Alternatives study area, historic topographic maps from 1895, 1943, 1952, 1956, 1966, 1973, 1981, 1983, and 1992 were reviewed. For the 69th Street Transportation Center study area, historic topographic maps from 1894, 1896, 1898, 1901, 1942, 1946, 1956, 1967, 1973, 1994, and 2013 were reviewed. Information obtained from a review of the historic topographic maps is provided in Section 4.1.2 of this report. Copies of the historic topographic map and details of the review are provided in the EDR® Historical Topographic Map Reports in Appendices E and N.

Additionally for the Action Alternatives study area, historical aerial photographs from 1950, 1959, 1965, 1973, 1981, 1987, 1988, 1992, and 1999 were reviewed. For the 69th Street Transportation Center study area, historic aerial photographs from 1937, 1942, 1945, 1950, 1958, 1965, 1967, 1971, 1975, 1981, 1988, 1993, 1999, 2005, 2008, and 2010 were reviewed. Information obtained from review of the historic aerial photography is provided in Section 4.1.3 of this report. Copies of the aerial photographs and details of the review are provided in the EDR® Historical Aerial Photographs Report in Appendix F and the EDR® Aerial Photo Decade Package in Appendix O.

3.2.2 Review of Federal and State Records

Information from federal and state environmental records, identifying sites with recorded environmental activities was obtained from EDR®, from Pennsylvania Department of Environmental Protection (PADEP) database searches accessed through the PADEP website, and the United States Environmental Protection Agency (USEPA) database, accessed through the USEPA website. All records searches were conducted to identify sites with recorded environmental activities within the study areas. Copies of the EDR® DataMap™ Corridor Studies for each Action Alternative are provided in Appendices G-K. Due to the EDR® DataMap™ Corridor Studies' extended coverage, the data has been condensed in order to reflect the study areas as described in Section 2.0. The Hazardous Materials Map for each Action Alternative is provided in Appendix C. Similarly, the extended coverage of the EDR® Radius Map™ has been condensed to reflect the 69th Street Transportation Center study area as described in Section 2.0. A copy of the EDR® Radius Map™ Report for the 69th Street Transportation Center study area is provided in Appendix M.

Additionally, information from federal and state well records, identifying water supply facilities within the each study area is provided in the EDR® DataMap™ Well Search Report and the EDR® Radius Map™ Report provided in Appendices L and M, respectively.

3.2.3 Study Area Reconnaissance

A field reconnaissance of the Action Alternatives study area and the 69th Street Transportation Center study area was completed on May 14, 2015 and December 4, 2015, respectively. The purpose of field reconnaissance was to identify contaminated materials and hazardous waste that were not previously identified in the desktop research. The reconnaissance consisted of a curbside visual inspection of the study areas to verify local land-use patterns and identify contaminated materials and hazardous waste that were not previously identified in the EDR® reports discussed in Section 3.2.2.

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4.0 Summary of Findings/Existing Conditions

4.1 Historical Review

This section describes both the historical and existing land use patterns and the potential for contaminated materials and hazardous waste in the Action Alternatives and 69th Street Transportation Center study areas, including areas of concern (AOC), storage tanks, Pennsylvania AUL sites, toxic release inventory sites, environmental complaint/ER incidents, and well/water supply data.

4.1.1 Sanborn Fire Insurance Rate Maps

Based on the EDR® Certified Sanborn Map Report, Sanborn Fire Insurance Maps are unavailable for the Action Alternatives study area. Sanborn Fire Insurance Maps are available for the 69th Street Transportation Center study area. Copies of the EDR® Certified Sanborn Map Reports are provided in Appendix E. The Sanborn maps show the growth and expansion SEPTA's 69th Street Transportation Center over time with changes in track configuration as well as expansion of the service facility and relocation of facility elements over time.

4.1.2 Historical Topographic Maps

The historic topographic maps for the Action Alternatives and 69th Street Transportation Center study areas document the region's gradual transformation from an agricultural community to a suburban/industrial community. Copies of the EDR® Historical Topographic Map Reports are provided in Appendices E and N.

4.1.3 Historical Aerial Photographs

The historical aerial photographs for the Action Alternatives study area document the region's gradual transformation from an agricultural community to a suburban/industrial community. During the 1950s, prior to the construction of I-76 and I-276, the Action Alternatives study area was still primarily an agricultural community with residential development beginning to take a foothold. The region experienced a sharp increase in residential and industrial development during the seven year period 1958 – 1965. After 1965, residential and industrial development continued to increase dramatically due to the proximity of the aforementioned roadways. The earliest historical aerial photograph for the 69th Street Transportation Center study area, 1937, documents the region as an urban/industrial community. Copies of the EDR® Historical Aerial Photographs Report and the EDR® Aerial Photo Decade Package are provided in Appendices F and O, respectively.

4.2 Review of Federal and State Records

This section describes the results of the EDR® DataMap™ Corridor Studies, the EDR® DataMap™ Well Search Report, the EDR® Radius Map™ Report, and review of federal and state sources previously described in Section 3.2.2. The EDR® DataMap™ Corridor Studies encompass a study area of 1-mile radius around each Action Alternative. As mentioned previously, for the purpose of this technical memorandum, the results of the EDR® reports have been condensed to reflect the Action Alternatives study area described in Section 2.0. The

results of the EDR® Radius Map™ Report have been condensed to reflect a study area that includes the 69th Street Transportation Center study area that is described in Section 2.0.

The results of the records review are organized into six categories: Areas of Concern (AOC), Storage Tank Sites, Pennsylvania Activity Use Limitation (AUL) Sites, Toxic Release Inventory (TRI) Sites, Environmental Complaints/ER Incidents, and Wells/Water Supply Data.

For the purpose of this report, an Area of Concern (AOC) is defined as any physical location, facility, etc. that either historically or at present time has been exposed to or has handled contaminated or hazardous materials as defined in Section 3.1 of this report. The AOCs identified in this report include a wide variety of facilities including but not limited to hazardous waste generators, storage tank facilities, toxic release sites, and environmental complaints/ER incidents, dry cleaners, auto repairs facilities, National Priorities List (NPL) sites, landfills, or any other hazardous waste/materials treatment, storage or disposal facilities.

4.2.1 Study Area Reconnaissance / Areas of Concern (AOC) Identification

The study area reconnaissance consisted of a curbside visual inspection to verify local land use patterns and identify contaminated materials and hazardous waste that were not previously identified in the EDR® reports discussed in Section 3.2.2.

Based on the study area reconnaissance, historical review, and federal and state records reviews, 131 AOCs were identified in the Action Alternatives study area and shown on maps for each Action Alternative (Table 4-2.1). As described in Section 4.2, an AOC is a location that is identified because of its current or historical land use type, known facility activities, or reported past incidents indicate a potential environmental concern with regard to the use, storage or disposal of potential contaminated materials and hazardous waste. In certain instances, multiple facilities are listed under a single identification number due to a variety of reasons including, but not limited to: a facilities change of ownership, corporate name change, or proximity to existing AOCs. In instances where multiple addresses are given, the Hazardous Materials Map depicts each address where verifiable. Appendix G-K contains the EDR® DataMap™ Corridor Studies for each Action Alternative. Two National Priorities List (NPL) Sites are located within the Action Alternatives study area: Henderson Road Superfund Site, EPA ID# PAD009862939, 372 South Henderson Road, King of Prussia (AOC #72), and Stanley Kessler, EPA ID# PAD014269971, 103 Queens Drive, King of Prussia (AOC #104).

Table 4-2.1: Areas of Concern – Action Alternatives Study Area

AOC No.	Property Description	Property Location	Municipality or Area
1	Sears Logistic Center	760 Moore Rd.	King of Prussia
2	Cochrane Inc.	800 Third Ave.	King of Prussia
3	RREEF USA Fund I	660-680 Allendale Rd.	Upper Merion Twp.
4	131 Boro Line Rd.	131 Boro Line Rd.	King of Prussia
5	RREEF USA Fund I	640-660 Allendale Rd.	Upper Merion Twp.
6	DeKalb Auto Service	1082 DeKalb Pk.	Bridgeport
6	Eger Imports	1082 DeKalb Pk.	Bridgeport
6	DeKalb Auto Service	1082 DeKalb Pk.	Bridgeport
6	Marinelli Berardo	1070 DeKalb Pk.	Bridgeport
6	Gibbs Atlantic Station	1069 DeKalb Pk.	Bridgeport
6	Log Cabin Service Station	1069 DeKalb Pk.	Bridgeport

AOC No.	Property Description	Property Location	Municipality or Area
7	Deacon Industrial Supply	165 Boro Line Rd.	King of Prussia
8	Chancellor Press Inc.	1160 DeKalb Pk.	Bridgeport
9	Minuteman Press	1300 DeKalb Pk.	King of Prussia
9	33 Crooked Ln.	33 Crooked Ln.	King of Prussia
9	28 Crooked Ln.	28 Crooked Ln.	King of Prussia
9	John Byrne Painting	1160 DeKalb St.	King of Prussia
9	Axon Chancellor Printing	1160 DeKalb St.	King of Prussia
10	211 Boro Line Rd.	211 Boro Line Rd.	King of Prussia
11	AT&T	601 Allendale Rd.	Upper Merion Twp.
11	Tyco Healthcare King of Prussia PLT.	601 Allendale Rd.	King of Prussia
12	Field House	310 DeKalb Pk.	King of Prussia
12	Sunoco 0374 6401	381 DeKalb Pk.	King of Prussia
13	1173 Bush St	1173 Bush St	King of Prussia
14	Tozour & Trane	741 1 st Ave.	King of Prussia
15	MCI Kigopa	625 Clark Ave.	King of Prussia
16	General Electric Co. Space Division	501 Allendale Road, Bldg-11	King of Prussia
17	Teleflex Development Training Center	771 1 st Ave.	King of Prussia
18	Georgia Pacific Corp.	801 1 st Ave.	King of Prussia
19	630 Clark Ave.	630 Clark Ave.	King of Prussia
19	ICD Products	630 Clark Ave.	King of Prussia
19	MCI KGAOPA	630 Clark Ave.	King of Prussia
19	Amer Digital Svc, Inc.	653 Clark Ave.	King of Prussia
20	DeKalb Street Site	234 E. DeKalb Pk.	King of Prussia
20	BFI King of Prussia Recyclery	215 E. DeKalb Pk.	King of Prussia
20	Independence Const Materials	240 E. DeKalb Pk.	King of Prussia
21	Airco Cylinder Operations	197 E. DeKalb St.	King of Prussia
21	REC Oil East	194 E. DeKalb Pk.	King of Prussia
22	Egglands Best	842 1 st Ave.	King of Prussia
22	Ducon Fluid Transport	841 1 st Ave.	King of Prussia
23	600 Clarke Ave.	600 Clarke Ave.	King of Prussia
24	SKF Industries	1100 1 st Ave.	King of Prussia
24	SKF USA Inc.	1100 1 st Ave.	King of Prussia
25	Georgia Pacific/Phila Container Facility	801 1 st Ave.	King of Prussia
25	Gatti Morrison Construction Service, Inc.	801 1 st Ave.	King of Prussia
25	Georgia Pacific Corp.	801 1 st Ave..	King of Prussia
26	Con Way Ctl Express	184 E. DeKalb Pk.	King of Prussia
27	Maschellmac OFC Complex	1000 1 st Ave.	King of Prussia
27	Martin Marietta M & DS Bldg-15	1020 1 st Ave.	King of Prussia
28	King of Prussia Post Office	190 Town Center Rd.	King of Prussia
29	Hess 38279	164 E. DeKalb Pk.	King of Prussia
30	Centennial Printing Corp/King of Prussia	875 1 st Ave.	King of Prussia
30	Sorbus	875 1 st Ave.	King of Prussia
30	Centennial Printing Co.	875 1 st Ave.	King of Prussia
30	Hewlett Packard	875 1 st Ave.	King of Prussia
31	Avellinos Tire & Auto	152 DeKalb Pk.	King of Prussia
32	Federal Express	460 American Ln.	King of Prussia
33	ELF Atochem North America, Inc.	900 1 st Ave.	King of Prussia
33	Arkema, Inc./King of Prussia	900 1 st Ave.	King of Prussia
33	Arkema Chem Research & Dev Lab Mag	900 1 st Ave.	King of Prussia

AOC No.	Property Description	Property Location	Municipality or Area
33	ELF Atochem North America, Inc.	900 1 st Ave.	King of Prussia
33	Pennwalt	900 1 st Ave.	King of Prussia
33	JRF America	900 1 st Ave.	King of Prussia
33	Atochem Inc.	900 1 st Ave., Bldg-4	King of Prussia
33	ELF Atochem Technical Center	900 1 st Ave.	King of Prussia
33	Chemlink	900 1 st Ave., U&A Bldg-4	King of Prussia
33	Sartomer Co., Inc.	900 1 st Ave., Bldg-4	King of Prussia
33	Atofina Chemicals, Inc.	900 1 st Ave.	King of Prussia
33	Cerexagri, Inc.	900 1 st Ave., Bldg-4	King of Prussia
33	Arkema, Inc.	900 1 st Ave.	King of Prussia
33	ELF Atochem North Amer Rw Operation	900 1 st Ave.	King of Prussia
33	Keystone Ind Lubricant	900 1 st Ave.	King of Prussia
33	Henkel & Surface Tech	900 1 st Ave., Bldg-5	King of Prussia
34	Lockheed Martin M&DE Bldg-12	935 1 st Ave.	King of Prussia
35	Martin Marietta M&DS Bldg-15	1020 1 st Ave.	King of Prussia
35	CSL Behring	1020 1 st Ave.	King of Prussia
36	Maschellmac OFC Complex	1000 1 st Ave.	King of Prussia
37	SKF Ind, Inc. K P	1100 1 st Ave.	King of Prussia
37	SKF Industries, Inc. HQ	1100 1 st Ave.	King of Prussia
37	SKF USA	1100 1 st Ave.	King of Prussia
37	Moore Court	1100 1 st Ave.	King of Prussia
38	Valley Forge Convention Center	1160 1 st Ave.	King of Prussia
38	Sheraton Valley Forge Hotel	1160 1 st Ave.	King of Prussia
38	1150 1 st Ave.	1150 1 st Ave.	King of Prussia
39	Concentra Med Ctr	1045 1 st Ave.	King of Prussia
39	MSD Philadelphia Branch	1045 1 st Ave.	King of Prussia
40	Smithkline Clinical Laboratories-Phi	1075 1 st Ave.	King of Prussia
40	Smithkline Bio-Science Laboratories	1075 1 st Ave.	King of Prussia
41	CT Henderson	250 Tanglewood Ln.	Upper Merion Twp.
42	700 American Ave.	700 American Ave.	King of Prussia
42	Martin Marietta M&DS Bldg-28	680 American Ave.	King of Prussia
42	660 American Ave.	660 American Ave.	King of Prussia
43	871 Richards Rd.	871 Richards Rd.	Wayne
44	Merion Publications, Inc.	650 Park Ave.	King of Prussia
44	REEF funds	650 Park Ave.	King of Prussia
45	Smithkline Beecham	600 Park Ave.	King of Prussia
46	610 Freedom Business Ctr. Dr.	610 Freedom Business Ctr. Dr.	King of Prussia
47	OT Hendren Jr.	216 Allendale Rd.	King of Prussia
48	Delcollo Tire Center, Inc.	223 S. Henderson Rd.	King of Prussia
48	223 S. Henderson Rd.	223 S. Henderson Rd.	King of Prussia
49	Lane Metal Prod Div.	377 Crooked Ln.	King of Prussia
50	381 W. DeKalb	381 W. DeKalb	King of Prussia
51	Ken's Collision Center	243 S. Henderson Rd.	King of Prussia
52	Valley Forge Automotive, Inc.	331 Crooked Ln.	King of Prussia
52	331 Crooked Ln.	331 Crooked Ln.	King of Prussia
53	Penske David Chevrolet, Inc.	240 Mall Blvd.	King of Prussia
54	Lockheed Martin Corp.	230 Mall Blvd.	King of Prussia
54	Lockheed Martin M&DS Bldg-100	230 Mall Blvd.	King of Prussia
54	Gen Elec Co.	230 Mall Blvd.	King of Prussia
54	Martin Marietta Astro Space	230 E. Mall Blvd.	King of Prussia

AOC No.	Property Description	Property Location	Municipality or Area
54	Lockheed Martin Management & Data Systems	230 E. Mall Blvd, Bldg-100	King of Prussia
54	Lockheed Martin Management & Data Systems	230 Mall Blvd, Bldg-10	King of Prussia
54	Lockheed Martin IS & S	230 E. Mall Blvd.	King of Prussia
54	Altman William B, Inc.	2916 E. Old Rt. 422	King of Prussia
54	Builders Square	232 Mall Blvd.	King of Prussia
55	Akzo Sikkens Training Center	241 King Manor Rd.	King of Prussia
56	Holiday Inn Vly Forge	260 Mall Blvd.	Upper Merion Twp.
57	455 W. DeKalb Pk.	455 W. DeKalb Pk.	King of Prussia
57	US Petro Gas	455 W. DeKalb Pk.	King of Prussia
57	455 W. DeKalb W.	455 W. DeKalb W.	King of Prussia
58	314 S. Henderson Rd.	314 S. Henderson Rd.	King of Prussia
58	CVS Pharmacy 2481	312 S. Henderson Rd.	King of Prussia
59	King of Prussia Vol Fire Co 1	170 Allendale Rd.	King of Prussia
60	500 N. Gulph Rd.	500 N. Gulph Rd.	King of Prussia
61	Safelite Auto Glass	516 W. DeKalb Pk.	Upper Merion Twp.
62	King Tester Corp.	201King Manor Dr.	King of Prussia
63	T Baird Mcilvain Co.	320 S. Henderson Rd.	King of Prussia
64	Texaco Service Station	540 W. DeKalb Pk.	King of Prussia
64	540 W. DeKalb Pk. Shell	540 W. DeKalb Pk.	King of Prussia
64	540 W. DeKalb Pk.	540 W. DeKalb Pk.	King of Prussia
65	Glasgow Inc.	No Address Given	King of Prussia
66	Courtside Sq. Apts.	570 W. DeKalb Pk.	King of Prussia
67	Pennline Ind	290 E. Church Rd.	King of Prussia
68	Bloomington Store 16 King of Prussia	600 W. DeKalb Pk.	King of Prussia
68	Bloomington	600 W. DeKalb Pk.	King of Prussia
68	590 W. DeKalb Pk.	590 W. DeKalb Pk.	King of Prussia
68	Sunoco Service Station	590 W. DeKalb Pk.	King of Prussia
68	Jiffy Lube 261	590 W. DeKalb Pk.	King of Prussia
68	Jiffy Lube King of Prussia	590 W. DeKalb Pk.	King of Prussia
69	346 Mall Blvd.	346 Mall Blvd.	King of Prussia
70	Chemical Separations Corp	303 E. Church Rd.	King of Prussia
70	Bassett Inds	303 E. Church Rd.	King of Prussia
71	620 W DeKalb Pk. PA0159	620 W DeKalb Pk.	King of Prussia
71	Rollos Exxon	620 W DeKalb Pk.	King of Prussia
72	Suburban Hauling Inc.	372 S. Henderson Rd., Bldg. -1	King of Prussia
72	Henderson Rd. Superfund Site EPA ID#PAD009862939	362-372 S. Henderson Rd.	King of Prussia
72	Injection Well Operable Unit	372 S. Henderson Rd.	King of Prussia
72	Allied Waste Svc King of Prussia	372 S. Henderson Rd	King of Prussia
72	BFI Waste Svc of PA.	372 S. Henderson Rd	King of Prussia
72	BFI Waste Sys of N. America	372 S. Henderson Rd, Garage	King of Prussia
72	Henderson Rd. NPL EPA ID#PAD009862939	362-372 S. Henderson	King of Prussia
72	Henderson Rd. Disposal Site	372 S. Henderson Rd	Upper Merion Twp.
73	356 S. Henderson Rd.	356 S. Henderson Rd.	King of Prussia
74	Exxon Co. USA #20385	Rte 202 & Allendale Rd. - Tanks	King of Prussia
75	216 Mall Blvd.	216 Mall Blvd.	King of Prussia

AOC No.	Property Description	Property Location	Municipality or Area
76	Lockheed Martin Space Systems	260 Hansen Access Rd.	King of Prussia
76	Louderback Transport Co.	260 Hansen Access Rd.	King of Prussia
76	Lockheed Martin Space Systems, Co.	260 Hansen Access Rd.	King of Prussia
76	Chef Francisco	250 Hansen Access Rd.	King of Prussia
76	Heinz North America	250 Hansen Access Rd.	King of Prussia
77	Frasse Bassett Inc.	280 Hansen Access Rd.	King of Prussia
78	Louderback North America	200 Hansen Access Rd.	King of Prussia
79	440 Drew Ct.	440 Drew Ct.	King of Prussia
79	CTI King of Prussia LLC	440 Drew Ct.	King of Prussia
79	American Food Service Corp.	440 Drew Ct.	King of Prussia
80	477 Kingwood Rd.	477 Kingwood Rd.	King of Prussia
81	GE Welding & Machine Svc	302 Hansen Access Rd.	King of Prussia
81	Centimark Corporation	298 Hansen Access Rd.	King of Prussia
82	690 W. DeKalb Pk.	690 W. DeKalb Pk.	King of Prussia
82	Macys King of Prussia 090	690 W. DeKalb Pk.	King of Prussia
82	Macys East Store No. 090 King of Prussia	680 W. DeKalb Pk.	King of Prussia
82	Macys King of Prussia No. 209	680 W. DeKalb Pk.	King of Prussia
83	General Electric Co. Bldg-21	970 Pulaski Dr.	King of Prussia
84	Ryder Truck Rental Inc.	200 Hansen Access Rd.	King of Prussia
85	120 Hansen Access Rd.	120 Hansen Access Rd.	King of Prussia
86	GE Nuclear energy Tech Service Center	300 Hansen Access Rd.	King of Prussia
86	VIMCO	300 Hansen Access Rd.	King of Prussia
87	National Tire & Battery No. 595	180 Church Rd.	King of Prussia
88	The Children's Hospital of Philadelphia	950 Pulaski Ave.	King of Prussia
88	Childelphia Hosp of Phila Care Network /spec Care	950 Pulaski Ave.	King of Prussia
89	Sizzler Restaurant	700 W. DeKalb Pk.	Upper Merion Twp.
90	Valley Forge GC	401 N. Gulph Road	King of Prussia
90	Village at Valley Forge	401 N. Gulph Road	King of Prussia
91	AKPZ Noble Coatings Inc.	310 Hansen Access Rd., St. 108	King of Prussia
92	P Dimarco	131 E. Church Rd.	King of Prussia
93	Natl Refrigeration & Air Cond	411 Yerkes Rd.	King of Prussia
94	Cummins Inc T A Art Cummins Exxon	715 W. DeKalb Pk.	King of Prussia
94	Art Cummins Exxon	715 W. DeKalb Pk.	King of Prussia
94	715 W. DeKalb Pk.	715 W. DeKalb Pk.	King of Prussia
94	Exxon RS 2 1745	715 W. DeKalb Pk.	King of Prussia
94	Exxon RAS 2 1745	715 W. DeKalb Pk. Tanks	King of Prussia
95	731 W. DeKalb Pk.	731 W. DeKalb Pk.	King of Prussia
95	Atlantic Svc Sta	740 W. DeKalb Pk. Tanks	King of Prussia
96	202 N. Gulph Rd.	202 N. Gulph Rd.	King of Prussia
97	Sears Roebuck	160 N. Gulph Rd.	King of Prussia
97	Sephora King of Prussia No. 376	160 N. Gulph Rd.	King of Prussia
97	Rite Aid No. 11158	160 N. Gulph Rd.	King of Prussia
97	Sephora Store No. 376	160 N. Gulph Rd.	King of Prussia
97	160 N. Gulph Rd	160 N. Gulph Rd	King of Prussia
97	Sterns Dept Store No. 28	160 N. Gulph Rd, Bldg-S	King of Prussia
98	Walmart Supercenter 4687	275 N. Gulph Rd.	King of Prussia
99	113 N. Gulph Rd. King of Prussia	113 N. Gulph Rd.	King of Prussia
99	Exxon RAS No. 21779	113 N. Gulph Rd. Tanks	King of Prussia

AOC No.	Property Description	Property Location	Municipality or Area
99	Exxon Co. USA No. 21779	113 N. Gulph Rd. Tanks	King of Prussia
99	Cordisio Exxon	113 N. Gulph Rd.	King of Prussia
99	Exxon RS 21779	113 N. Gulph Rd.	King of Prussia
99	Exxon Co. USA No. 21779	113 N. Gulph Rd.	King of Prussia
100	Mobil Oil Corp SS#K9N	800 W DeKalb Pk.	King of Prussia
100	Lukoil 69720	800 W DeKalb Pk.	King of Prussia
100	800 W DeKalb Pk.	800 W DeKalb Pk.	King of Prussia
101	Sportsters Restaurant	900 DeKalb Pk.	King of Prussia
102	Laramie Tire	215 W. Church Rd.	King of Prussia
102	Fleming Co. Gmd	201 W. Church Rd.	King of Prussia
103	Home Depot USA HD 4188	181 S. Gulph Rd.	King of Prussia
103	Philadelphia Gear Corporation	181 S. Gulph Rd.	King of Prussia
103	Phila Gear Corp	181 S. Gulph Rd.	King of Prussia
103	198 S. Gulph Rd.	198 S. Gulph Rd	King of Prussia
104	Stanley Kessler NPL Site EPA ID#PAD014269971	103 Queens Dr.	King of Prussia
104	Buchman Dist	101 Queens Dr.	King of Prussia
105	Carmax 7271	185 S. Gulph Rd.	King of Prussia
106	Fisher Scientific Branch 06	191 S. Gulph Rd.	King of Prussia
107	Sunoco 0363 0126	Rt. 202 & Warner Rd.	King of Prussia
108	George Washington Motor Lodge	990 DeKalb Pk.	King of Prussia
109	Upper Merion Mid Sch	450 Crossfield Dr.	King of Prussia
110	Questares	562 Charles Rd.	King of Prussia
111	Acme No. 7756	320 W. DeKalb Pk.	King of Prussia
112	340 W. DeKalb Pk.	340 W. DeKalb Pk.	King of Prussia
113	Costco Wholesale 245	201 Allendale Rd.	King of Prussia
114	460 N. Gulph Rd.	460 N Gulph Rd.	King of Prussia
115	Glenhardie SC	1399 Old Eagle School Rd.	Wayne
116	400 Gulph Rd.	400 Gulph Rd.	Upper Merion Twp.
117	121 E. Church Road	121 E. Church Rd.	King of Prussia
118	International Business Systems, Inc.	431 Yerkes Rd.	King of Prussia
118	International Business Systems, Inc./King of Prussia	431 Yerkes Rd.	King of Prussia
119	Users Inc.	1250 Drummers Ln.	King of Prussia
120	Mother of Divine Providence Church	333 Allendale Road	King of Prussia
121	David Penske Chevrolet	240 Goddard Blvd.	King of Prussia
122	Glasgow Landfill	Ross Rd. & Henderson Rd.	King of Prussia
123	Upper Merion Treatment Plant	S. DeKalb Pk. & Henderson Rd,	King of Prussia
123	Glasgow Inc. – Bridgeport Plant	Henderson Rd. & Rte. 202	Bridgeport
123	BFI Services of PA, LLC. BFI King of Prussia Recyclery		King of Prussia
123	Sunoco 0016 6371	Rte. 202 & Henderson Rd.	King of Prussia
123	160 E. DeKalb Pk.	160 E. DeKalb Pk.	King of Prussia
124	Wawa Store No. 8058	145 W. DeKalb Pk.	King of Prussia
124	Wawa Food Markets No. 8058	145 W. DeKalb Pk.	King of Prussia
124	Carville Cleaners	176 W. DeKalb Pk.	King of Prussia
124	Target Store No. T2596	160 W. DeKalb Pk.	King of Prussia
125	161 W. DeKalb Pk.	161 W. DeKalb Pk.	King of Prussia
125	Carville Cleaners	234 N. DeKalb Pk.	King of Prussia
125	234 W. DeKalb Pk.	234 W. DeKalb Pk.	King of Prussia
125	Carville Cleaners King of Prussia	234 W. DeKalb Pk.	King of Prussia

AOC No.	Property Description	Property Location	Municipality or Area
126	Marquis	251 W. DeKalb Pk.	King of Prussia
126	Valley Forge Hilton	251 W. DeKalb Pk.	King of Prussia
126	Fuji Photo Film USA	251 W. DeKalb Pk.	King of Prussia
127	LoREL Marketing Group, LLC.	590 N. Gulph Rd.	King of Prussia
128	Valley Forge Interchange MP 326	Valley Forge Interchange MP 326	King of Prussia
129	Candlebrook Elem Sch	Candlebrook Elem Sch	King of Prussia
130	King of Prussia Arms	King of Prussia Arms	King of Prussia
131	John Middleton Company	418 W. Church Rd.	King of Prussia

Source: EDR, 2015.

As summarized in Table 4-2.2 below, 13 AOCs were identified in the 69th Street Transportation Center study area and depicted in the EDR® Radius Map™ Report Detail Map.

Table 4-2.2: Areas of Concern – 69th Street Transportation Center Study Area

AOC No.	Map No.	Property Description	Property Location	Municipality
1	A1	ALS Auto Repairs	42 Victory Ave.	Upper Darby
2	A2	SEPTA 69 th Street Elevated Shop	Victory Ave (N of Keystone)	Upper Darby
3	B3	SEPTA 69 th Street Shop	69 th & Market St.	Upper Darby
4	B4	SEPTA 69 th Street Term Maint. Fac.	69 th & Market St.	Upper Darby
5	C5	7001 West Chester Pl.	7001 West Chester Pl.	Upper Darby
6	C6	Korean Market	7001 West Chester Pl.	Upper Darby
7	B7	Wilmer Realty	2 South 69 th St.	Upper Darby
8	A8	SEPTA 69 th Street Elevated Shop	Victory Ave (N of KE)	Upper Darby
9	A9	-	70 N. Keystone Ave.	Upper Darby
10	A10	-	103 Victory Ave.	Upper Darby
11	A11	SEPTA 103 Victory Ave. Fac.	103 Victory Ave.	Upper Darby
12	A12	SEPTA 103 Victory Ave.	103 Victory Ave.	Upper Darby
13	A13	SEPTA 103 Victory Ave. Fac.	103 Victory Ave.	Upper Darby

Source: EDR, 2015.

4.2.2 Storage Tank Sites

The Storage Tank Spill Prevention Act (Act 39 of 1989) establishes a comprehensive regulatory program for both above ground and below ground storage tanks and facilities. The program's intent is to prevent and clean up storage tank product releases and spills.

An aboveground storage tank (AST) is defined as a stationary tank with a capacity greater than 250 gallons that has more than 90 percent of its volume (including the volume in the pipes) above supporting grade, can be visually inspected from the exterior, and is used to contain regulated substances.

An underground storage tank (UST) is defined as a tank with a capacity greater than 110 gallons that has 10 percent or more of its volume (including the volume in the underground pipes) beneath the surface of the ground and is used to contain regulated substances.

Regulated substances include: petroleum, hazardous chemicals, nonpetroleum oils including biodiesel, synthetic fuels and oils, tung oils, wood-derivative oils and inedible seed oils from plants, and pure ethanol for blending with motor fuels (PADEP).

As summarized in Table 4-2.3 below, thirty-six AOCs have been identified within the Action Alternatives study area that have a history of storage tanks in use on the property.

Table 4-2.3: Storage Tank Sites – Action Alternatives Study Area

AOC No.	Property Description	Property Location	Town
12	Sunoco 0374 6401	381 DeKalb Pk.	King of Prussia
20	BFI King of Prussia Recyclery	215-225 E. DeKalb Pk.	King of Prussia
21	REC Oil East	194-199 E. DeKalb Pk.	King of Prussia
26	Con Way Ctl Express	184 E. DeKalb Pk.	King of Prussia
27	Maschellmac OFC Complex	1000 1 st Ave.	King of Prussia
28	King of Prussia Post Office	190 Town Center Rd.	King of Prussia
29	Hess 38279	164 E. DeKalb Pk.	King of Prussia
31	Avellinos Tire & Auto	152 DeKalb Pk.	King of Prussia
33	ELF Atochem Technical Center	900 1 st Ave.	King of Prussia
33	Henkel & Surface Tech	900 1 st Ave., Bldg-5	King of Prussia
37	Moore Court	1100 1 st Ave.	King of Prussia
38	Sheraton Valley Forge Hotel	1160 1 st Ave.	King of Prussia
49	Lane Metal Prod Div.	377 Crooked Ln.	King of Prussia
53	Penske David Chevrolet, Inc.	240 Mall Blvd.	King of Prussia
57	US Petro Gas	455 W. DeKalb Pk.	King of Prussia
59	King of Prussia Vol Fire Co 1	170 Allendale Rd.	King of Prussia
60	500 N. Gulph Rd.	500 N. Gulph Rd.	King of Prussia
63	T Baird Mcilvain Co.	320 S. Henderson Rd.	King of Prussia
64	540 W. DeKalb Pk. Shell	540 W. DeKalb Pk.	King of Prussia
68	Jiffy Lube 261	590 W. DeKalb Pk.	King of Prussia
71	620 W DeKalb Pk. PA0159	620 W DeKalb Pk.	King of Prussia
72	Injection Well Operable Unit	372 S. Henderson Rd.	King of Prussia
84	Ryder Truck Rental Inc.	200 Hansen Access Rd.	King of Prussia
88	The Children's Hospital of Philadelphia	950 Pulaski Ave.	King of Prussia
90	Valley Forge GC	401 N. Gulph Road	King of Prussia
97	Sears Roebuck	160 N. Gulph Rd.	King of Prussia
99	113 N. Gulph Rd. King of Prussia	113 N. Gulph Rd.	King of Prussia
100	Lukoil 69720	800 W DeKalb Pk.	King of Prussia
102	Fleming Co. Gmd	201 W. Church Rd.	King of Prussia
104	Buchman Dist	101 Queens Dr.	King of Prussia
107	Sunoco 0363 0126	Rt. 202 & Warner Rd.	King of Prussia
108	George Washington Motor Lodge	990 DeKalb Pk.	King of Prussia
119	Users Inc.	1250 Drummers Ln.	King of Prussia
128	Valley Forge Interchange MP 326	Valley Forge Interchange MP 326	King of Prussia
129	Candlebrook Elem Sch	Candlebrook Elem Sch	King of Prussia
130	King of Prussia Arms	King of Prussia Arms	King of Prussia

Source: EDR, 2015.

As summarized in Table 4-2.4 below, one AOC has been identified within the 69th Street Transportation Center study area that has a history of storage tanks in use on the property.

Table 4-2.4: Storage Tanks Sites – 69th Street Transportation Center

AOC No.	Map No.	Property Description	Property Location	Town
5	C5	7001 West Chester Pl.	7001 West Chester Pl.	Upper Darby

Source: EDR, 2015.

4.2.3 PADEP Activity and Use Limitations (AUL) Sites

The Pennsylvania Uniform Environmental Covenants Act (UECA) requires the use of environmental covenants when engineering or institutional controls are necessary to demonstrate attainment or assure maintenance of an Act 2 remediation standard. The PADEP maintains a registry of those properties that contain environmental covenants.

Two properties are located within the Action Alternative study area that contain an environmental covenant and are summarized in Table 4-2.5. Appendix Q contains the Pennsylvania AUL Site Data. No AUL sites are located within the 69th Street Transportation Center study area.

Table 4-2.5: AUL Sites – Action Alternatives Study Area

AOC No.	Property Affected	County Parcel ID No.	Facility
68	590 West DeKalb Pike, King of Prussia, Upper Merion Township.	58-00-003687-00-7	Jiffy Lube #261
71	620 West DeKalb Pike, King of Prussia, Upper Merion Township	58-00-06205-00-1	Rollo's Exxon

Source: EDR, 2015.

4.2.4 Toxic Release Inventory (TRI) Sites

The Federal Emergency Planning and Community Right-to-Know Act (EPCRA) is designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state/tribe and local governments. EPCRA required the establishment of state/tribe emergency response commissions (SERCs/TERCs), responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs). The EPCRA established four types of reporting obligations for facilities that store or manage specified chemicals. Section 313 of EPCRA specifically requires facilities to report releases of over 600 designated toxic chemicals to the environment. TRI facilities are required to report on releases of toxic chemicals into the air, water, and land. In addition, they need to report off-site transfers -- a transfer of wastes for chemical recycling, treatment, or disposal at a separate facility. Facilities may also report pollution prevention activities. The reports are submitted to the EPA and to the Pennsylvania Department of Labor & Industry, Bureau of PENNSAFE. The EPA maintains a list of all TRI Sites.

Five facilities accounting for 109 documented toxic releases are located within the Action Alternatives study area. Table 4-2.6 summarizes each facility with its location and number of documented toxic releases. The facility with the greatest number of toxic releases, Philadelphia Gear Company (AOC No. 103), has been redeveloped as a retail store. The remaining facilities

are currently in operation. No toxic release sites are located within the 69th Street Transportation Center study area.

Table 4-2.6: Toxic Release Inventory (TRI) Sites – Action Alternatives Study Area

AOC No.	Facility	Address (in King of Prussia, Upper Merion Township)	Number of Release Events
21	Airco Distributor and Cylinder Gases	197 E. DeKalb Street	3
54	Martin Marietta Astro Space	230 Mall Boulevard	7
76	HJ Heinz Chef Francisco	250 Hansen Access Road	11
103	Philadelphia Gear Company	181 S. Gulph Road	83
131	John Middleton Company	418 W. Church Road	5

Source: EDR, 2015.

4.2.5 Environmental Complaints/ER Incidents

Environmental Complaints and ER Incidents cover a wide range of topics related to environmental contamination. Complaints range from residential and industrial discharges and spills to malfunctioning public sewer systems, and roadway related incidents that caused spills or releases of substances.

The PADEP maintains a public-use toll-free telephone number (1-800-541-2050) that is monitored 24/7/365 for dispatching response personnel to emergencies and incidents within PADEP purview. The PADEP also maintains 24 hour telephone lines in each region of Pennsylvania for reporting emergencies and incidents. The PADEP Southeast Region emergency telephone number is 484-250-5900. Complaints can also be submitted via the internet at the following link:

https://forms.logiforms.com/formdata/user_forms/23785_4145344/76918//page1.html?isV2EmbedCode=true&cachebust=2557.

The PADEP maintains a list of environmental complaints and ER incidents. Forty-nine complaints and/or ER incidents, encompassing twenty-eight locations are located within the Action Alternatives study area. Table 4-2.7 lists the complaint/ER incident identification number and the corresponding map number for each complaint/ER incident; Appendix R contains detailed information for each complaint/incident. A single complaint/ER incident (PADEP Complaint Number 236252) was identified within the 69th Street Transportation Center study area.

Table 4-2.7: Complaints and ER Incidents – Action Alternatives Study Area

Map No.	PADEP Complaint Number
1	238566
2	246816
3	248326 241623
4	242655
5	243142
6	236271

Map No.	PADEP Complaint Number
7	239526
8	238892
9	249732
10	264340
11	249142 247972 248655 243753 248310 248859 243425 242917 247829 247424 239310 249464 249584 245325 243173 246632 246032
12	273535
13	242830
14	246318
15	234661 238202 235011 237821 238201
16	247731
17	286263
18	249441
19	248422
20	244329
21	249199
22	247961
23	237632
24	237614
25	236591
26	246056
27	248256
28	246797

Source: PADEP, 2015.

4.2.6 Wells/Water Supply

The Safe Drinking Water Act (SDWA) (42 U.S.C. §300f) was established to protect the quality of drinking water in the U.S. The Pennsylvania Bureau of Safe Drinking Water (PABSDW) is

charged with managing the federally delegated drinking water program and implements both the federal and state SDWA and associated regulations. Under PA Code, Title 25, Chapter 109 - Safe Drinking Water, the PABSDW established the Wellhead Protection Program (WHPP) in which wellhead protection areas (WHPAs) are established to protect groundwater sources used by public water systems from contamination. In Pennsylvania, the responsibility of wellhead protection is shared between the State, local governments, and water suppliers (PADEP 2002).

Chapter 109 defines a three-tiered wellhead protection area. Zone I is the innermost protective zone, which ranges from a 100 to 400 feet radius depending on the source and aquifer characteristics. Zone II is the capture zone, which by default is ½ mile radius around the source unless a hydrogeological delineation is performed. Zone III is the area beyond Zone II that contributes recharge to the aquifer within the capture zone. Collectively, Zones II and III constitute the contributing area of the well (PADEP, 2000). The PADEP does not regulate private wells.

The Pennsylvania Water Resources Planning Act (Act 220) requires any commercial, industrial, agricultural, or individual activity that withdraws or uses 10,000 GPD (gallons per day), averaged over any 30-day period, to register and periodically report their water use to the PADEP. Those activities that use less than 10,000 GPD may choose to register voluntary with the PADEP.

The Delaware River Basin Commission (DRBC) regulates large water withdrawals in Montgomery and Delaware counties. Any proposed surface or groundwater withdrawal in the basin exceeding 100,000 GPD is subject to review by the DRBC. Further, the DRBC has established the Southeastern Pennsylvania Groundwater Protected Area where any groundwater withdrawal exceeding 10,000 GPD requires DRBC approval.

The EDR® DataMap™ Well Search Report encompasses a study area of 1-mile radius around each Action Alternative. As mentioned previously, for the purpose of this report, the results of the EDR® DataMap™ Well Search Report have been condensed to reflect the Action Alternatives and 69th Street Transportation Center study areas.

The EDR® DataMap™ Well Search Report documents forty-nine facilities that contain wells within the Action Alternatives study area. Table 4-2.8 contains a list of the well identification numbers, the corresponding map number, and identifies the location of public water purveyors (PWS). The table includes public, private, and industrial wells. With the exception of PWS, the EDR® DataMap™ Well Search Report does not stipulate the type of well (private or industrial). Appendix L contains the EDR® DataMap™ Well Search Report.

Table 4-2.8: Wells/Water Supply Facilities – Action Alternatives Study Area

Map No.	Federal Well Number	State Well Number	PWS Purveyor
34	-	PASI130000045155	-
35	-	PAW012197 PASI130000045058	-
36	-	PAW0126430 PAW0126431 PAW0126432 PASI130000044953 PASI130000044952	-

Map No.	Federal Well Number	State Well Number	PWS Purveyor
		PASI130000044951	
38	USGS4001008604	PASI30000044895	-
41	-	PASI30000044705	PWS ID No. PA1460073 Philadelphia Suburban Water Co, 762 Lancaster Ave. Bryn Mawr, PA 19010
42	-	PASI30000044575 PASI30000044513	PWS ID No. PA1460492 Sheraton Valley Forge Hotel Route 363 and 1 st Ave. King of Prussia, PA 19406
43	USGS 4000100853	PASI30000044507	-
44	-	PAW0126459 PASI30000044468 PASI30000044423 PAW0126458 PASI30000044380 PAW0126457	-
45	USGS4001008482	PSSI30000044309	-
46	USGS4001008443	PASI30000044088	-
47	-	PASI30000044012 PAW0126485	-
49	-	PASI30000043885	-
50	-	PASI30000043884 PASI30000043883 PASI30000043882 PAW0126444 PAW0126445 PAW0126446 PAW0126442 PAW0126443 PASI30000043834 PASI30000043833	-
51	USGS4001008382	PASI30000043880 PASI30000043881 PAW0126488	-
52	-	PASI30000043879 PAW0126486	-
53	-	PASI30000043878 PAW0062326	-
54	USGS40001008443	PASI30000044088	PWS ID No. PA1460073 Philadelphia Suburban Water Co, 762 Lancaster Ave. Bryn Mawr, PA 19010
55	-	PASI30000043793	-
56	-	PASI30000043789 PASI30000043790 PASI30000043792 PASI30000043791	-
57	-	PASI30000043750 PAW0126420	-
58	USGS4001008337	PASI30000043681	-
59	-	PASI30000043680 PAW0126438	-

Map No.	Federal Well Number	State Well Number	PWS Purveyor
60	-	PAW0126439 PASI30000043585	-
61	USGS4001008313	PASI30000043586	-
62	-	-	PWS ID No. PA1150423 Kimberton Country House 390 Valley Forge Plaza King of Prussia, PA 19406
63	-	PAW0126456 PASI30000043425 PASI30000043371 PAW0126455 PASI30000043333 PASI30000043332 PAW0126454	-
64	USGS4001008252	PASI30000043370	-
65	USGS4001008242	PASI30000043332	-
66	USGS4001008213	PASI30000043247	-
67	USGS4001008201 USGS4001008200 USGS4001008202 USGS4001008203 USGS4001008199 USGS4001008191 USGS4001008192 USGS4001008190	PASI30000043206 PASI30000043202 PASI30000043203 PASI30000043204 PASI30000043205 PASI30000043167 PASI30000043166 PASI30000043164 PASI30000043165 PASI30000043162 PASI30000043163 PAW0126405 PAW0126406 PAW0126407 PAW0126402 PAW0126403 PAW0126404 PASI30000043138 PASI30000043137 PASI30000043136	-
68	USGS4001008204 USGS4001008205	PASI30000043201 PASI30000043200	-
69	USGS4001008180	PASI30000043135	-
70	USGS4001008151	PASI30000043081	-
71	USGS4001008152	PASI30000043080	-
72	USGS4001008145	PASI30000043043	-
73	USGS4001008093	PASI30000042935	-
74	USGS4001008094 USGS4001008076	PASI30000042934 PASI30000042902	-
75	-	PAW0126413 PAW0126414 PASI30000042864 PASI30000042863 PAW0126411 PAW0126412 PASI30000042837	-

Map No.	Federal Well Number	State Well Number	PWS Purveyor
		PASI30000042836	
76	-	PAW0126408 PASI30000042835	-
77	USGS4001008056	PASI30000042838	-
78	USGS4001008055	PASI30000042839	-
79	USGS4001008027	PASI30000042778	-
80	USGS4001008028	PASI30000042777	-
81	-	PAW0126451 PAW0126452 PAW0126453 PASI30000042689 PASI30000042688 PASI30000042687	-
82	-	PAW0126449 PAW0126450 PASI30000042686 PASI30000042685 PAW0126447 PASI30000042658 PASI30000042657 PAW0126448	-
83	USGS4001007985	PASI30000042613	-
84	USGS4001007986	PASI30000042612	-
88	USGS4001007947	PASI30000042510	-
91	USGS4001007852	PASI30000042280	-

Source: PADEP, 2015.

The EDR® Radius Map™ Report concludes that no wells/water supply facilities are located within the 69th Street Transportation Center study area. Appendix M contains the EDR® Radius Map™ Report.

5.0 Environmental Impacts

This section identifies properties that may have some level of contaminated materials and/or hazardous waste present in the Project study areas, including areas of concern (AOC), storage tanks, Pennsylvania AUL sites, toxic release inventory sites, environmental complaint/ER incidents, and well/water supply data.

In this document, the Action Alternatives are presented and analyzed by trunk and branch as defined in Section 2.0. For evaluation purposes the trunks and branches are then combined into the respective Action Alternatives for reporting potential impacts.

5.1 Areas of Concern (AOC)

In some areas along the Action Alternative alignments, current and historic land uses indicate an industrial past and have a higher potential for soil or groundwater contamination. AOCs are located throughout the study areas; however, they are particularly concentrated along the US Route 202 (DeKalb Pike) and 1st Avenue corridors.

Since the location and level of contamination at each AOC is undetermined at this level of study, each AOC is assumed to have the same level of risk to public safety. As a result, the level of risk for each Action Alternative is determined by the relative quantity of AOCs within a study area or LOD; an Action Alternative with more AOCs in its study area or LOD is considered more risky than an Action Alternative with fewer AOCs in its comparable areas.

5.1.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that because each committed project will require ground disturbance during construction, each has the potential to experience risk involving contaminated materials and/or hazardous waste. The sponsors of those projects will be responsible for determining and managing that risk.

5.1.2 Action Alternatives

Table 5-1.1 lists the number of AOCs that are located within the Action Alternatives study area; the number of AOCs within the limit of disturbance (LOD) of each Action Alternative; and a list of the AOCs within each LOD. The US 202-N. Gulph Action Alternative study area contains the greatest number of AOCs (105) while the PECO-1st Ave. Action Alternative study area contains the fewest (100). Both the PECO/TP-1st Ave. and the PECO/TP-N. Gulph Action Alternatives have 102 AOCs within their study areas, while the US 202-1st Ave. Action Alternative has 103 AOCs within its study area.

The US 202-1st Ave. Action Alternative would have the greatest number of AOCs (35) within its LOD, while the PECO/TP-N. Gulph Action Alternative would have the fewest (13). The PECO-1st Ave., PECO/TP-1st Ave., and US 202-N. Gulph Action Alternatives would have 27, 25, and 23 AOCs within their LODs, respectively.

Table 5-1.1: Areas of Concern - Action Alternatives

Action Alternative	Number of AOCs within Study Area	Number of AOCs within the LOD	AOCs within the LOD
PECO-1 st Ave.	100	27	18, 22, 24, 25, 27, 30, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 50, 53, 54, 65, 69, 80, 89, 97, 103, 121
PECO/TP-1 st Ave.	102	25	18, 22, 24, 25, 27, 30, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 50, 53, 56, 59, 61, 69, 113, 121
PECO/TP-N. Gulph	102	13	38, 46, 50, 54, 56, 59, 60, 61, 69, 113, 114, 116, 128
US 202-1 st Ave.	103	35	18, 20, 22, 24, 25, 26, 27, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 53, 56, 59, 61, 69, 111, 112, 113, 121, 123, 124, 125, 126
US 202-N. Gulph	105	23	20, 26, 29, 31, 38, 46, 54, 56, 59, 60, 61, 69, 111, 112, 113, 114, 116, 123, 124, 125, 126, 128

Source: Malick & Scherer, 2015.

Trunks

The number of AOCs within the PECO Trunk, the PECO/TP Trunk, and the US 202 Trunk study areas is 22, 20, and 29, respectively. The number of AOCs within the LODs of these trunks is 8, 6, and 16, respectively.

Branches

The number of AOCs within the N. Gulph Branch and 1st Ave. Branch study areas is 12 and 23, respectively. The number of AOCs within the LODs of these branches is 7 and 19, respectively.

Station Areas

The number of AOCs within the station area study areas and the number of AOCs within each station area LOD (shown in parenthesis) are as follows: DeKalb and Henderson, 24 (0); DeKalb Plaza, 25 (3); Henderson Road, 31 (0); Court, 29 (2); Mall Blvd. North, 33 (4); Mall Blvd. West, 29 (1); Plaza West, 25 (4); Plaza, 29 (2); 1st Ave. East, 28 (2); 1st & Moore, 17 (2); North Gulph, 25 (1); Convention Center 15 (1); Henderson Road Park-and-Ride, 33 (0); and Convention Center Park-and-Ride, 15 (1). Both the Convention Center Station Area and Convention Center Park-and-Ride have the fewest AOC's within the study area (15) while Mall Blvd North Station Area and Henderson Park-and-Ride have the greatest number of AOCs in its study area (33).

DeKalb and Henderson and Henderson Road station areas, and the Henderson Road Park-and-Ride would not require right-of-way acquisition from an AOC. Mall Blvd. North and Plaza West Station Areas would require right-of-way acquisition from the greatest number of AOCs (4).

69th Street Transportation Center

The number of AOCs within the 69th Street Transportation Center study area is 13. No AOCs are located within the LOD. Right-of-way acquisition is not anticipated.

5.2 Storage Tank Sites

Facilities containing storage tanks have a potential for soil or groundwater contamination. Facilities containing storage tanks are located throughout the study areas.

5.2.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that each proposed project in the Action Alternative study area has the potential to experience risk from storage tanks. The sponsors of those projects will be responsible for determining and managing that risk.

5.2.2 Action Alternatives

Table 5-2.1 compares the number of storage tank facilities located within the Action Alternatives study area. The PECO/TP-N. Gulph Action Alternative has the greatest amount of storage tank facilities within the study area (35), while the PECO-1st Ave. Action Alternative has the fewest (28).

Table 5-2.1: Storage Tank Sites - Action Alternatives Study Area

Action Alternative	Number of Facilities with Storage Tanks in Study Area
PECO-1 st Ave.	28
PECO/TP-1 st Ave.	29
PECO/TP-N. Gulph	35
US 202-1 st Ave.	27
US 202-N. Gulph	33

Source: Malick & Scherer, 2015.

Trunks

The numbers of storage tank facilities within the PECO Trunk, the PECO/TP Trunk, and the US 202 Trunk study areas are 3, 6, and 8, respectively.

Branches

The numbers of storage tank facilities within the N. Gulph Branch and 1st Ave. Branch study areas are 6 and 2, respectively.

Station Areas

The numbers of AOCs within the station study areas are as follows: DeKalb and Henderson, 10; DeKalb Plaza, 6; Henderson Road, 12; Court, 9; Mall Blvd. North, 6; Mall Blvd. West, 10; Plaza West, 9; Plaza, 8; 1st Ave. East, 3; 1st and Moore, 5; North Gulph, 8; Convention Center 4; Henderson Road Park-and-Ride, 12; and Convention Center Park-and-Ride, 4. 1st Ave. East

Station Area has the fewest number of storage tank facilities within the study area (3) while both Henderson Station Area and Henderson Road Park-and-Ride have the greatest number of storage tank facilities in their study areas (12).

69th Street Transportation Center

A single storage tank facility is located within the 69th Street Transportation Center study area.

5.3 Pennsylvania AUL Sites

AOC No. 68, an AUL site, has an environmental covenant in place as part of facility remediation. AOC No. 68 is located within the Court Station study area.

5.3.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that because ground disturbance will occur during construction, each committed project has the potential to experience risk from AUL sites. The sponsors of those projects will be responsible for determining and managing that risk.

5.3.2 Action Alternatives

AOC No.68 is located within each Action Alternative study area except the PECO-1st Ave. Action Alternative study area; AOC No. 68 is not within any Action Alternative LOD.

Trunks

AOC No. 68 is not located within a trunk study area.

Branches

AOC No. 68 is not located within a branch study area.

Station Areas

The Court Station Area study area contains AOC No. 68; however, it is not located within the LOD.

69th Street Transportation Center

No AUL sites are located within the 69th Street Transportation Center study area.

5.4 Toxic Release Inventory (TRI) Sites

Five TRI sites have been identified within the Action Alternatives study area (See Section 4.2.4). The Philadelphia Gear Company (AOC No. 103) has been redeveloped as a retail store; therefore, no risks associated with future toxic release are anticipated. The remaining facilities are in operation.

5.4.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that because ground disturbance will occur during construction, each proposed project has the potential to experience risk from TRI sites. The sponsors of those projects will be responsible for determining and managing that risk.

5.4.2 Action Alternatives

Table 5-4.1 compares the number of TRI sites that are located within the Action Alternatives study area. The PECO-derived Action Alternatives have 4 TRI sites located within their study areas. The US 202-derived Action Alternatives have 5 TRI sites located within their study areas.

Table 5-4.1: Toxic Release Inventory (TRI) Sites - Action Alternatives Study Area

Action Alternative	Number of TRI Sites within Study Area
PECO-1 st Ave.	4
PECO/TP-1 st Ave.	4
PECO/TP-N. Gulph	4
US 202-1 st Ave.	5
US 202-N. Gulph	5

Source: Malick & Scherer, 2015.

Trunks

The number of TRI sites within the PECO Trunk, the PECO/TP Trunk, and The US 202 Trunk study areas is 2, 2, and 1, respectively.

Branches

Both the N. Gulph Branch and 1st Ave. Branch have a single TRI site located within their study areas.

Station Areas

The following station areas have 2 TRI sites located within their study areas: DeKalb and Henderson, DeKalb Plaza, Henderson Road, Plaza West, and Plaza. All of the remaining station areas have a single TRI site located within their study areas. AOC No. 54 is located within the greatest number of station area study areas (7). AOC No. 21 is located within 3 station area study areas; AOC Nos. 76 and 103 are located within 2 station area study areas; and AOC No. 131 is located within a single station area.

69th Street Transportation Center

No TRI sites area located within the 69th Street Transportation Center study area.

5.5 Environmental Complaints/ER Incidents

Forty-nine environmental complaints/ER incidents covering twenty-eight locations were made within the Action Alternatives study area. In general, the majority of environmental

complaints/ER incidents occurred along major roadway corridors; US Route 202, Gulph Road, 1st Ave., and the Turnpike.

5.5.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that because of the tendency for environmental complaints/ER incidents to occur along existing roadways, each committed project has the potential to experience risk from such complaints/ER incidents. The sponsors of those projects will be responsible for determining and managing that risk.

5.5.2 Action Alternatives

Table 5-5.1 compares the number of environmental complaints/ER incidents that occurred within the Action Alternatives study area. The US 202-N. Gulph study area has the highest number of complaints/ER incidents (46) while the PECO-1st Ave. study area has the lowest (23). The PECO-derived Action Alternatives have fewer complaints/ER incidents because the right-of-way is predominantly undeveloped.

Table 5-5.1: Complaints/ER Incidents - Action Alternatives Study Area

Action Alternative	Number of Complaints/ER Incidents
PECO-1 st Ave.	23
PECO/TP-1 st Ave.	39
PECO/TP-N. Gulph	42
US 202-1 st Ave.	43
US 202-N. Gulph	46

Source: Malick & Scherer, 2015.

Trunks

The numbers of environmental complaints/ER incidents within the PECO Trunk, the PECO/TP Trunk, and the US 202 Trunk study areas are 11, 20, and 20, respectively.

Branches

The numbers of environmental complaints/ER incidents within the N. Gulph Branch and 1st Ave. Branch study areas is 1 and 3, respectively.

Stations Areas

The numbers of environmental complaints/ER incidents within the station study areas are as follows: DeKalb and Henderson Road, 8; DeKalb Plaza, 31; Henderson, 6; Court, 26; Mall Blvd. North, 14; Mall Blvd. West, 14; Plaza West, 15; Plaza, 13; 1st Ave. East, 3; 1st & Moore, 2; North Gulph, 5; Convention Center 3; Henderson Road Park-and-Ride, 6; and Convention Center Park-and-Ride, 2.

Both the 1st & Moore station area and the Convention Center Park-and-Ride have the fewest number of environmental complaints/ER incidents within the study area (2) while the DeKalb Plaza station area has the greatest number of environmental complaints/ER incidents (31).

69th Street Transportation Center

A single environmental compliant/ER incident was made within the 69th Street Transportation Center study area.

5.6 Wells/Water Supply

Forty-nine locations that contain wells have been identified within the Action Alternatives study area. Wells within the study area have a variety of uses, including public water supply, industrial water supply, ground water monitoring, site remediation, etc. For this section, the concern is more for the possibility of a well to be negatively impacted by the Project as opposed to the Project being impacted by a well.

5.6.1 No Action Alternative

In the No Action Alternative, it is reasonable to expect that because wells are found throughout the study area, each committed project has the potential to experience risk related to wells/water supply. The sponsors of those projects will be responsible for determining and managing that risk.

5.6.2 Action Alternatives

Table 5-6.1 compares the number of wells/water supply facilities that are located within the Action Alternatives study area. The PECO-1st Ave. Action Alternative study area has the highest number of well/water supply facilities (47) while the US 202-N. Gulph Action Alternative has the lowest (26). This is because a cluster of water supply facilities (17) is located in the southeastern portion of the Action Alternatives study area, in the vicinity of Church and Shoemaker Roads.

Table 5-6.1: Wells/Water Supply Facilities - Action Alternatives Study Area

Action Alternative	Number of Water Supply Facilities
PECO-1 st Ave.	47
PECO/TP-1 st Ave.	45
PECO/TP-N. Gulph	43
US 202-1 st Ave.	28
US 202-N. Gulph	26

Source: Malick & Scherer, 2015.

Trunks

The numbers of wells/water supply facilities within the PECO Trunk, the PECO/TP Trunk, and the US 202 Trunk study areas are 10, 8, and 7, respectively.

Branches

The numbers of wells/water supply facilities within the N. Gulph Branch and 1st Ave. Branch study areas are 3 and 1, respectively.

Stations Areas

The numbers of wells/water supply facilities within the station study areas are as follows: DeKalb and Henderson, 9; DeKalb Plaza, 4; Henderson Road, 28; Court, 5; Mall Blvd North, 7; Mall Blvd. West, 6; Plaza West, 6; Plaza, 7; 1st Ave. East, 8; 1st & Moore, 7; North Gulph, 4; Convention Center 6; Henderson Road Park-and-Ride, 28; and Convention Center Park-and-Ride, 6.

69th Street Transportation Center

No wells/water supply facilities are located within the 69th Street Transportation Center study area.

6.0 Results

This section summarizes the potential effects of contaminated materials and hazardous waste on the Action and No Action Alternatives, compares the alternatives in this regard, and recommends the alternative with least potential impacts. Tables 6-1.1, 6-1.2, 6-1.3, and 6-1.4 illustrate a comparison between each of the Action Alternatives, trunks, branches, and station areas using the information presented in the preceding sections of this report. Green colored fields represent the best performing alternatives with the fewest contaminated materials and hazardous waste risk; red colored fields represent the alternatives with most contaminated materials and hazardous waste risk.

6.1 Comparative Discussion

The region has a long history of industrial development which corresponds to a higher probability of some type of environmental contamination having occurred within the study areas. Each Action Alternative is anticipated to have similar probability for risk from contaminated materials and hazardous waste due to the region's historical industrial land use patterns.

6.1.1 No Action Alternative

Due to the historical industrial development within the study areas, the No Action Alternative has some risks related to contaminated materials and hazardous waste. The sponsors of those projects will be responsible for determining and managing that risk.

6.1.2 Action Alternatives

Due to the historical industrial development within the Action Alternative study areas, each Action Alternative has some probability for risk related to contaminated materials and hazardous waste. However, the PECO/TP-N. Gulph Action Alternative has the fewest number of AOCs within its LOD; therefore, the PECO/TP-N. Gulph Action Alternative least potential risk regarding contaminated materials and hazardous waste. US 202-1st Ave. has the highest number of AOCs within its LOD, thereby having the highest potential risk among the Action Alternatives. The numbers of AOCs within the LODs of the other Action Alternatives are in between these lowest and highest quantities.

Trunks

The PECO/TP Trunk has the fewest number of AOCs within its LOD.

Branches

The N. Gulph Branch has the fewest number of AOCs within its LOD.

Station Areas

The DeKalb and Henderson Station Areas and the Henderson Road Park-and-Ride are the best performing station areas; none has a known AOC within its LOD.

69th Street Transportation Center

No AOCs are located within the LOD.

Table 6-1.1: Contaminated Materials and Hazardous Waste Risk – Trunks/Branches/Action Alternatives

Numbers of:	No Action Alternative	Trunks			Branches		Action Alternatives				
		PECO	PECO/TP	US 202	N. Gulph	1 st Ave.	PECO-1 st Ave.	PECO/TP-1 st Ave.	PECO/TP-N. Gulph	US 202-1 st Ave.	US 202-N. Gulph
Areas of Concern	Not measured	22	20	29	12	23	100	102	102	103	105
Areas of Concern within LOD	Not measured	8	6	16	7	19	27	25	13	35	23
Superfund Sites within LOD	Not measured	0	0	0	0	0	0	0	0	0	0
Storage Tank Sites	Not measured	3	6	8	6	2	28	29	35	27	33
Pennsylvania AUL Sites	Not measured	0	0	0	0	0	0	1	1	1	1
Toxic Release Inventory Sites	Not measured	2	2	1	1	1	4	4	4	5	5
Environmental Complaints/ER Incidents	Not measured	11	20	20	1	3	23	39	42	43	46
Wells/Water Supply	Not measured	10	8	7	3	1	47	45	43	28	26

Note: Some Trunk and Branch study areas overlap; totals for Action Alternatives are adjusted to eliminate overlaps.

Source: Malick & Scherer, 2015.

Table 6-1.2: Contaminated Materials and Hazardous Waste Risk – Station Areas

Numbers of:	No Action Alternative	Station Areas									
		DeKalb & Henderson	DeKalb Plaza	Henderson Road	Court	Mall Blvd. North	Mall Blvd. West	Plaza West	Plaza	1 st Ave. East	1 st & Moore Station
Areas of Concern	Not measured	24	25	31	29	33	29	25	29	28	17
Areas of Concern within LOD	Not measured	0	3	0	2	4	1	4	2	2	2
Superfund Sites within LOD	Not measured	0	0	0	0	0	0	0	0	0	0
Storage Tank Sites	Not measured	10	6	12	9	6	10	9	8	3	5
Pennsylvania AUL Sites	Not measured	0	0	0	1	0	0	0	0	0	0
Toxic Release Inventory Sites	Not measured	2	2	2	1	1	1	2	1	1	1
Environmental Complaints/ER Incidents	Not measured	8	31	6	26	14	14	15	13	3	2
Wells/Water Supply	Not measured	9	4	28	5	7	7	6	7	8	7

Source: Malick & Scherer, 2015.

Table 6-1.3: Contaminated Materials and Hazardous Waste Risk – Station Areas and Potential Park-and-Ride Locations

Numbers of:	Station Areas		Potential Park-and-Ride Locations	
	North Gulph	Convention Center	Henderson Road	Convention Center
Areas of Concern	25	15	33	15
Areas of Concern within LOD	1	1	0	1
Superfund Sites within LOD	0	0	0	0
Storage Tank Sites	8	4	12	4
Pennsylvania AUL Sites	0	0	0	0
Toxic Release Inventory Sites	1	1	1	1
Environmental Complaints/ ER Incidents	5	3	6	2
Wells/Water Supply	4	6	28	6

Source: Malick & Scherer, 2015.

Table 6-1.4: Contaminated Materials and Hazardous Waste Risk – 69th Street Transportation Center

Numbers of:	69 th Street Transportation Center
Areas of Concern	13
Areas of Concern within LOD	0
Superfund Sites within LOD	0
Storage Tank Sites	1
Pennsylvania AUL Sites	0
Toxic Release Inventory Sites	0
Environmental Complaints/ ER Incidents	1
Wells/Water Supply	0

Source: Malick & Scherer, 2015.

6.2 Minimization and Mitigation Strategies

After a preferred alternative is selected and as the Project advances, SEPTA would further examine the potential for contaminated materials and hazardous waste effects and would focus on methods to avoid or minimize conflicts with contaminated materials. Phase I and II Environmental Site Assessments (ESAs) would be completed after a locally preferred alternative is selected and prior to acquiring property for right-of-way. The Phase II ESA includes field sampling and laboratory testing to evaluate the extents and severity of contamination.

Site-specific Health and Safety Plans and Materials Management Plans would be developed to address contaminated soil and groundwater. If buildings would be demolished, an Asbestos Abatement Plan and a Lead-Based Paint Assessment Plan would be developed to document methodologies for completing the surveys.

7.0 References

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APPENDIX A

Acronyms

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Acronyms

AA	Alternatives Analysis
ASTM	American Society of Testing and Materials
BEA	Bureau of Economic Analysis
BID	Business Improvement District
BLS	Bureau of Labor Statistics
BLVD	Boulevard
CAA	Clean Air Act
CBD	Central Business District
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHOP	Children's Specialized Hospital
CN	Canadian National Railway
CO	Carbon
CSX	CSX Railroad
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
DVRPC	Delaware Valley Regional Planning Commission
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESRI	Ecological Systems Research Institute
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GIS	Geographic Information Systems
KOP	King of Prussia
LEP	Limited English Proficient
LPST	Leaking Petroleum Storage Tanks
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
MCMC	Michigan City Municipal Coach
MED	Metra Electric District
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act

NHSL	Norristown High Speed Line
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NS	Norfolk Southern Railroad
NTD	National Transit Database
NTHP	National Trust for Historic Preservation
NWI	National Wetlands Inventory
NWP	Nationwide Permit
O&M	Operating and Maintenance
OCS	Overhead Contact System
PADEP	Pennsylvania Department of Environmental Protection
PHMC	Pennsylvania Historical and Museum Commission
PM	Particulate Matter
PST	Petroleum Storage Tanks
ROW	Right-of-way
SCC	Standard Cost Categories
SEPTA	Southeastern Pennsylvania Transportation Authority
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
TAZ	Traffic Analysis Zone
TOD	Transit Oriented Development
TP	Pennsylvania Turnpike
USACE	United States Army Corps of Engineers
U.S.C	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Services
USGS	United States Geological Survey
V/C	Volume to Capacity
VFNHP	Valley Forge National Historical Park
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WQC	Water Quality Certification

APPENDIX B
Figures

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APPENDIX C
Maps

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APPENDIX D
EDR® Certified Sanborn® Map Reports

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APPENDIX E
EDR® Historical Topographic Map Report

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APPENDIX F
EDR® USGS Large Report
(Historic Aerial Photographs)

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APPENDIX G
EDR® DataMap™ Corridor Study
King of Prussia Rail – PECO-1st Ave. Alternative
(Alt. A-PECO 2)

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APPENDIX H

EDR® DataMap™ Corridor Study

King of Prussia Rail – PECO/TP-1st Ave. Alternative

(Alt. B-PECO/TP 1)

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APPENDIX I
EDR® DataMap™ Corridor Study
King of Prussia Rail – PECO/TP-N. Gulph Alternative
(Alt. C-PECO 3)

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APPENDIX J
EDR® DataMap™ Corridor Study
King of Prussia Rail – US 202-1st Ave. Alternative
(Alt. D-US RT 202 5)

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APPENDIX K
EDR® DataMap™ Corridor Study
King of Prussia Rail – US 202-N. Gulph Alternative
(Alt. E-US RT 202 4)

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APPENDIX L
EDR® DataMap™ Well Search Report

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APPENDIX M

EDR® Radius Map™ Report

King of Prussia Rail – 69th Street Transportation Center (Terminal)

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APPENDIX N

EDR® Historical Topographic Map Report

King of Prussia Rail – 69th Street Transportation Center (Terminal)

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APPENDIX O

EDR® Aerial Photo Decade Package

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APPENDIX P

EDR® City Directory Image Report

King of Prussia Rail – 69th Street Transportation Center (Terminal)

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APPENDIX Q
PADEP AUL Site Data

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APPENDIX R
PADEP Environmental Complaints/ER Incident Data

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