

Chesapeake BAY CROSSING STUDY
TIER 2 NEPA

# INITIAL SITE ASSESSMENT
# TECHNICAL REPORT

JANUARY 2026

MDTA
Maryland Transportation Authority

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## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AIRS | Aerometric Information Retrieval System |
| ARDS | Alternatives Retained for Detailed Study |
| AST | Aboveground Storage Tank |
| ASTM | American Society for Testing and Materials |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act of 1980 |
| CERCLIS | CERCLA Information System |
| CORRACTS | Corrective Action Sites |
| ECHO | Enforcement and Compliance History Online |
| EDR | Environmental Data Resources, Inc. |
| EIS | Environmental Impact Statement |
| ENG | Engineering Controls |
| EPA | Environmental Protection Agency |
| EPSC | Erosion Prevention and Sediment Control |
| ERNS | Emergency Response Notification System |
| ERP | Emergency Response Program |
| ESA | Environmental Site Assessment |
| FHWA | Federal Highway Administration |
| FINDS | Facility Index System |
| FOIA | Freedom of Information Act |
| FRS | Facility Registry System |
| FTTS | Federal Insecticide, Fungicide, and Rodenticide Act / Toxic Substances Control Act Tracking System |
| HIST | Historical |
| HMIRS | Hazardous Materials Information Reporting System |
| HWC | Hazardous Waste Combustors |
| ICIS | Integrated Compliance Information System |
| INST | Institutional Controls |
| ISA | Initial Site Assessment |
| LQG | Large Quantity Generator |
| LRP | Land Restoration Program |
| LUST | Leaking Underground Storage Tank |
| MD | Maryland |
| MDE | Maryland Department of the Environment |
| MDTA | Maryland Transportation Authority |
| NAPL | Non-Aqueous Phase Liquids |
| NEPA | National Environmental Policy Act |
| NLR | No Longer Regulated |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priority List |

| | |
|---|---|
| OCP | Oil Control Program |
| PAH | Polycyclic Aromatic Hydrocarbon |
| PCB | Polychlorinated Biphenyl |
| PEMIS | Permanent Air Emission |
| PFAS | Per- and Polyfluoroalkyl Substances |
| PIA | Public Information Act |
| PPE | Personal Protective Equipment |
| PPM | Parts Per Million |
| PTSU | Part-Time Shoulder Use |
| RCRA | Resource Conservation and Recovery Act of 1976 |
| REC | Recognized Environmental Condition |
| ROD | Record of Decision |
| SDAT | State Department of Assessments and Taxation |
| SEMS | Superfund Enterprise Management System |
| SHWS | State Hazardous Waste Site |
| SQG | Small Quantity Generator |
| SUP | Shared Use Path |
| SVOC | Semi-Volatile Organic Compounds |
| TDM | Transportation Demand Management |
| TSCA | Toxic Substances Control Act |
| TSM | Transportation Systems Management |
| U.S. | United States |
| UIC | Underground Injection Control |
| USGS | United States Geological Survey |
| UST | Underground Storage Tank |
| VCP | Voluntary Cleanup Program |
| VOC | Volatile Organic Compounds |
| VSQG | Very Small Quantity Generator |

# 1 INTRODUCTION

The Chesapeake Bay Crossing Study (Bay Crossing Study) is a two-tiered engineering and environmental study being advanced by the Maryland Transportation Authority (MDTA) in coordination with the Federal Highway Administration (FHWA) to address existing and future transportation issues at the William Preston Lane, Jr. Memorial Bridge (Bay Bridge) and its approaches along U.S. 50/301. Each tier of the Bay Crossing Study involves development of an Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) to describe potential significant environmental effects and inform the evaluation of alternatives. Tier 1 of the Bay Crossing Study (Tier 1 Study) was completed in April 2022. At that time, FHWA issued a Final EIS/Record of Decision (ROD) identifying Corridor 7, the corridor including the Bay Bridge and its approaches, as the Selected Corridor Alternative for further evaluation. Tier 2 of the Bay Crossing Study (Tier 2 Study) was launched in June 2022 to focus on project-level (site-specific) analysis within the Tier 1 Selected Corridor Alternative (Corridor 7).

This technical report contains the methodology implemented and the information collected as part of the Initial Site Assessment (ISA). The purpose of this ISA was to identify, to the extent feasible, recognized environmental conditions (REC) in connection with proposed construction activities associated with the Tier 2 Study in Anne Arundel and Queen Anne's counties, Maryland (herein referred to as the "study area"). A REC is defined by the American Society for Testing Materials (ASTM) Standard Practice E1527-21 (Standard Practice for Environmental Site Assessments (ESA): Phase I ESA Process) as: (1) the presence of hazardous substances or petroleum products in, on, or at the subject property; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; and (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.

The investigation tasks described in this ISA were performed using the guidelines set forth in the ASTM E1527-21 standard as it pertains to multiple parcels of land for a project corridor, as opposed to single or contiguous parcels typical for an ASTM Phase I ESA. The assessment consisted of a review of current and historical activities and conditions that have taken place within the study area and surrounding properties, including a limited non-intrusive visual inspection of the study area; review of local, state, and federal regulatory database records; review of available historic records; and a survey of surrounding land uses. This report reflects the observations, information, and data associated with the properties impacted by the proposed construction activities associated with the study area.

# 2 BACKGROUND

## 2.1 Description of Study Area

The Chesapeake Bay is one of Maryland's most important natural, economic, and cultural resources and the largest estuary in the United States. The 64,000-square-mile watershed that flows into the Chesapeake Bay spans six states and the District of Columbia and includes 150 major rivers and over 100,000 tributaries. The Chesapeake Bay has historically shaped the region's identity, culture, and traditions.

The Bay Bridge is a two-span structure that crosses the Chesapeake Bay from Anne Arundel County on the Western Shore to Queen Anne's County on the Eastern Shore. The original span opened in 1952, and the second span opened in 1973. Today, the two-lane original span typically carries eastbound traffic and the three-lane second span typically carries westbound traffic. However, lanes on the bridge can be reversed to accommodate periods of heavy traffic. The approaches along U.S. 50/301 on each shore have six lanes (three lanes for each travel direction). The Bay Bridge has become one of Maryland's most iconic and recognizable landmarks, used by millions of Maryland residents and other travelers every year.

## 2.2 The Tiered NEPA Process

To study possible solutions that could address transportation issues, specifically as they relate to congestion, the MDTA and FHWA are conducting the Bay Crossing Study as a tiered NEPA study. The tiered approach to NEPA allowed the MDTA and FHWA to focus on broader, planning-level decisions related to the preferred location of a potential new Bay crossing in the Tier 1 Study EIS, and then analyze more specific, project-level alternatives and potential impacts in a subsequent Tier 2 Study EIS.

The Tier 1 Study evaluated 14 possible alternative corridor locations over a broad geographic area that spanned nearly 100 miles of the Chesapeake Bay between Harford and Cecil counties to the north and St. Mary's and Somerset counties to the south. The Tier 1 Study identified Corridor 7 as the Selected Corridor Alternative, which is a two-mile-wide and approximately 22-mile-long corridor that follows existing U.S. 50/301 and includes the location of the existing Bay Bridge.

The Tier 2 Study involves a project-level (site-specific) alternatives analysis within the Tier 1 Selected Corridor Alternative (Corridor 7). The focus of the Tier 2 Study is to identify the environmental impacts associated with alternatives to address the Tier 2 Study's Purpose and Need. This technical report supports the evaluation presented in the EIS.

## 2.3 Study Limits

The MDTA analyzed the traffic volumes along Corridor 7 and its interchanges to determine appropriate study limits for the Tier 2 Study. The Tier 2 western study limit has been identified as the MD 2/MD 450 interchange just east of the Severn River Bridge, and the Tier 2 eastern study limit has been identified as the U.S. 50/301 split.

## 2.4 Purpose and Need

The purpose of the Tier 2 Study is to address existing and future transportation capacity needs and access across the Chesapeake Bay and at the Bay Bridge approaches along the U.S. 50/301

corridor. The Tier 2 Study is evaluating measures to reduce congestion, improve travel times and reliability, mobility, and roadway deficiencies, and accommodate maintenance activities and navigation, while minimizing impacts to local communities and the environment. Five needs have been identified:

- **Adequate Capacity and Reliable Travel Times** – Capacity of the Bay Bridge and its approaches on U.S. 50/301 are not sufficient to accommodate existing and anticipated traffic demand, resulting in traffic congestion on the Bay Bridge and adjacent roadway network.

- **Mobility** – Congestion at the Bay Bridge and its approaches and subsequent spillover effects on local roadways limit the movement of people, goods, and services across the Chesapeake Bay and in adjacent communities.

- **Roadway Deficiencies** – The bridge does not meet current design standards for design or traffic operations because of existing conditions such as narrow lanes and lack of shoulders.

- **Existing and Future Maintenance Needs** – Due to the age of the existing Bay Bridge, extensive maintenance work will be required, which will cause major congestion in the future.

- **Navigation** – The existing Bay Bridge is a key constraint for the height of ships that travel the Chesapeake Bay, including to the Port of Baltimore.

The MDTA has also identified two study objectives:

- **Environmental Responsibility** – Project alternatives will be developed to avoid and minimize impacts to communities and sensitive environmental resources.

- **Cost and Financial Responsibility** – Cost and financial responsibility will be a factor when analyzing and evaluating potential solutions, with regard to the means of paying for the development, operation, and maintenance of all proposed facilities.

# 3 ALTERNATIVES

The MDTA identified the Alternatives Retained for Detailed Study (ARDS) which are the NEPA range of reasonable alternatives for evaluation in the Tier 2 Study EIS. The ARDS include the No-Build Alternative and six build alternatives, (**Figure 3-1)**. Each build alternative includes removing the existing eastbound and westbound bridge structures and replacing them with two new bridge structures constructed near the location of the existing bridges. The ARDS are differentiated by the number of lanes provided across the new bridge and on the approaches as well as the bridge location, and include:

- **Alternative A - No-Build**: retains the existing Bay Bridge, the U.S. 50/301 alignment, and the existing number of lanes: 6 lanes along U.S. 50/301 on the Western Shore, 5 lanes across the Chesapeake Bay on the existing Bay Bridge, and 6 lanes along U.S. 50/301 on the Eastern Shore;

- **Alternative B - 6-8-6 North**: 6 lanes along U.S. 50/301 on the Western Shore, 8 lanes across the Chesapeake Bay on a new bridge with one span to the north of the existing spans and one span in-between the existing spans, and 6 lanes along U.S. 50/301 on the Eastern Shore;

- **Alternative C - 6-8-6 South**: 6 lanes along U.S. 50/301 on the Western Shore, 8 lanes across the Chesapeake Bay on a new bridge with one span to the south of the existing spans and one span in-between the existing spans, and 6 lanes along U.S. 50/301 on the Eastern Shore;

- **Alternative D - 8-8-8 North**: 8 lanes along U.S. 50/301 on the Western Shore, 8 lanes across the Chesapeake Bay on a new bridge with one span to the north of the existing spans and one span in-between the existing spans, and 8 lanes along U.S. 50/301 on the Eastern Shore;

- **Alternative E - 8-8-8 South**: 8 lanes along U.S. 50/301 on the Western Shore, 8 lanes across the Chesapeake Bay on a new bridge with one span to the south of the existing spans and one span in-between the existing spans, and 8 lanes along U.S. 50/301 on the Eastern Shore;

- **Alternative F - 8-10-8 North**: 8 lanes along U.S. 50/301 on the Western Shore, 10 lanes across the Chesapeake Bay on a new bridge with one span to the north of the existing spans and one span in-between the existing spans, and 8 lanes along U.S. 50/301 on the Eastern Shore and

- **Alternative G - 8-10-8 South**: 8 lanes along U.S. 50/301 on the Western Shore, 10 lanes across the Chesapeake Bay on a new bridge with one span to the south of the existing spans and one span in-between the existing spans, and 8 lanes along U.S. 50/301 on the Eastern Shore.

Each of the ARDS will also include an optional pedestrian / bicycle shared use path, tolling, transit-related improvements, Transportation Systems Management (TSM)/ Transportation Demand Management (TDM), stormwater management, utilities, and truck weigh and inspection stations. These common items, in addition to the improvements associated with each build alternative, informed the development of the limit of disturbance (LOD) for each build alternative. Additional detail on the ARDS can be found in the Tier 2 Study Draft EIS.

## 3.1 Alternative A: No-Build

Alternative A (6-5-6), the No-Build Alternative, would retain the existing Bay Bridge, the U.S. 50/301 alignment, and the existing number of lanes. This alternative would retain six lanes on the approaches on the Eastern and Western Shores and five lanes on the two-span Bay Bridge. The No-Build Alternative will include regular maintenance of the Bay Bridge and U.S. 50/301, but no capital improvements other than currently planned and programmed projects.

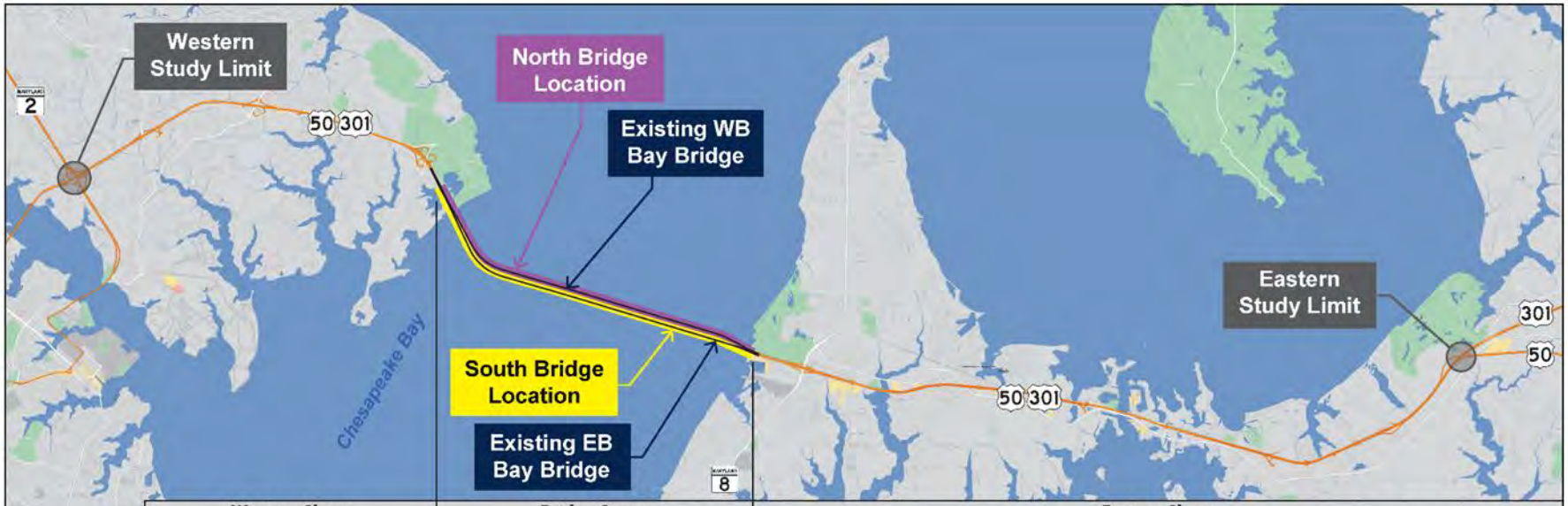
## 3.2 Alternative B: 6-8-6 North

Alternative B (6-8-6 North) would replace the existing Bay Bridge spans with two new bridge spans and would consist of six lanes along U.S. 50/301 on the Western Shore (three per direction), eight lanes on a new bridge (four per direction), and six lanes along U.S. 50/301 on the Eastern Shore (three per direction). The two new bridge spans would consist of one span to the north and one span in between the location of the existing bridge spans. The approach roadways would remain on the existing roadway alignment, except where necessary to connect to the new bridge spans. Thus, with Alternative B, the five existing bridge lanes would be increased to eight bridge lanes; however, the number of lanes on the Western Shore and Eastern Shore would not change and would remain at six total travel lanes beyond the immediate tie-ins to the new bridge spans.

## 3.3 Alternative C: 6-8-6 South

Alternative C (6-8-6 South) would replace the existing Bay Bridge spans with two new bridge spans and would consist of six lanes along U.S. 50/301 on the Western Shore (three per direction), eight lanes on a new bridge (four per direction), and six lanes along U.S. 50/301 on the Eastern Shore (three per direction). The two new bridge spans would include one span to the south and one span in between the location of the existing bridge spans. The approach roadways would remain on the existing roadway alignment, except where necessary to connect to the new bridge spans. Thus, with Alternative C, the five existing bridge lanes would be increased to eight bridge lanes; however, the number of lanes on the Western Shore and Eastern Shore would not change and would remain at six total travel lanes beyond the immediate tie-ins to the new bridge spans.

**Figure 3-1: Alternatives Summary**




| | Western Shore | Bridge Spans | Eastern Shore |
|---|---|---|---|
| Alternative A: No-Build | 6 Lanes | 5 Lanes | 6 Lanes |
| Alternative B | 6 Lanes | 8 Lanes NORTH | 6 Lanes |
| Alternative C | 6 Lanes | 8 Lanes SOUTH | 6 Lanes |
| Alternative D | 8 Lanes | 8 Lanes NORTH | 8 Lanes |
| Alternative E | 8 Lanes | 8 Lanes SOUTH | 8 Lanes |
| Alternative F | 8 Lanes | 10 Lanes NORTH | 8 Lanes |
| Alternative G | 8 Lanes | 10 Lanes SOUTH | 8 Lanes |

## 3.4 Alternative D: 8-8-8 North

Alternative D (8-8-8 North) would replace the existing Bay Bridge spans with two new bridge spans and would consist of eight lanes along U.S. 50/301 on the Western Shore (four per direction), eight lanes on a new bridge (four per direction), and eight lanes along U.S. 50/301 on the Eastern Shore (four per direction). The two new bridge spans would include one span to the north and one span in between the location of the existing bridge spans. Alternative D would increase the number of lanes along the U.S. 50/301 approaches to eight lanes from the MD 2/MD 450 interchange on the Western Shore to the U.S. 50/301 split on the Eastern Shore and would generally remain on the existing roadway alignment except where necessary to connect to the new bridge spans. Thus, with Alternative D, the five existing bridge lanes would be increased to eight bridge lanes and the number of lanes on the Western Shore and Eastern Shore would increase from six total travel lanes to eight total travel lanes.

## 3.5 Alternative E: 8-8-8 South

Alternative E (8-8-8 South) would replace the existing Bay Bridge spans with two new bridge spans and would consist of eight lanes along U.S. 50/301 on the Western Shore (four per direction), eight lanes on a new bridge (four per direction), and eight lanes along U.S. 50/301 on the Eastern Shore (four per direction). The two new bridge spans would include one span to the south and one span in between the location of the existing bridge spans. Alternative E would increase the number of lanes along the U.S. 50/301 roadway approaches to eight lanes from the MD 2/MD 450 interchange on the Western Shore to the U.S. 50/301 split on the Eastern Shore and would generally remain on the existing roadway alignment except where necessary to connect to the new bridge spans. Thus, with Alternative E, the five existing bridge lanes would be increased to eight bridge lanes and the number of lanes on the Western Shore and Eastern Shore would increase from six total travel lanes to eight total travel lanes.

## 3.6 Alternative F: 8-10-8 North

Alternative F (8-10-8 North) would replace the existing Bay Bridge spans with two new bridge spans and would consist of eight lanes along U.S. 50/301 on the Western Shore (four per direction), ten lanes on a new bridge (five per direction), and eight lanes along U.S. 50/301 on the Eastern Shore (four per direction). The two new bridge spans would include one span to the north and one span in between the location of the existing bridge spans. Alternative F would increase the number of lanes along the U.S. 50/301 approach roadway to eight lanes from the MD 2/MD 450 interchange on the Western Shore to the U.S. 50/301 split on the Eastern Shore and would generally remain on the existing roadway alignment except where necessary to connect to the new bridge spans. Thus, with Alternative F, the five existing bridge lanes would be increased to ten bridge lanes and the number of lanes on the Western Shore and Eastern Shore would increase from six total travel lanes to eight total travel lanes.

## 3.7 Alternative G: 8-10-8 South

Alternative G (8-10-8 South) would replace the existing Bay Bridge spans with two new bridge spans and would consist of eight lanes along U.S. 50/301 on the Western Shore (four per direction), ten lanes on a new bridge (five per direction), and eight lanes along U.S. 50/301 on the Eastern Shore (four per direction). The two new bridge spans would include one span to the south and one span in between the location of the existing bridge spans. Alternative G would increase the number of lanes along the U.S. 50/301 approach roadway to eight lanes from the MD 2/MD 450 interchange on the Western Shore to the U.S. 50/301 split on the Eastern Shore

and would generally remain on the existing roadway alignment except where necessary to connect to the new bridge spans. Thus, with Alternative G, the five existing bridge lanes would be increased to ten bridge lanes and the number of lanes on the Western Shore and Eastern Shore would increase from six total travel lanes to eight total travel lanes.

## 3.8 Other Components of the Build Alternatives

### 3.8.1 *Optional Pedestrian / Bicycle Shared Use Path*

All proposed build alternatives include the option for the safe inclusion of a pedestrian/bicycle shared use path (SUP) along a new bridge. The MDTA has identified connections to existing and proposed trails and recreational facilities on the Eastern Shore and Western Shore.

### 3.8.2 *Tolling*

The MDTA owns and operates the Bay Bridge and uses tolls from its eight facilities to maintain and operate all their facilities. The Bay Bridge will continue to be a tolled facility and the MDTA will continue to manage it and the toll to address the current and future traffic and the associated congestion.

### 3.8.3 *Transit-related Improvements*

Transit-related improvements would be made through a financial commitment from the MDTA that would focus on providing a one-time investment for local transit agencies near the Bay Bridge. The same commitment would be made for all alternatives and would not be used to differentiate between alternatives.

All transit-related opportunities would be determined in the future, closer to the time of construction. The MDTA would coordinate with the Maryland Transit Administration (MTA), local governments, and local transit agencies to help determine the opportunities. However, these agencies would determine the transit-related improvements that would be most beneficial for them at that time, and they would be separate and distinct projects from the Bay Crossing.

### 3.8.4 *TSM TDM Considerations*

Two TSM/TDM improvements were considered with the retained build alternatives for potential implementation: congestion pricing and part-time shoulder use (PTSU) lanes.

The Bay Bridge will continue to be a tolled facility. If a build alternative is selected, congestion pricing could be used in the future to provide flexibility for toll management strategies that the MDTA could use to further reduce congestion and achieve transportation goals.

The shoulders on the bridge would be full width (12 feet wide) to accommodate future maintenance needs and incident management; therefore, they would also be wide enough to accommodate a PTSU lane. Although the build alternatives have been developed to accommodate PTSU, the operation of PTSU lanes is not being included as part of the alternatives. Future implementation of PTSU is not precluded.

### 3.8.5 *Stormwater Management (SWM)*

A planning-level, conceptual SWM analysis was completed that identified the stormwater needs and potential treatment locations throughout the study area for each build alternative.

### 3.8.6 *Utilities*

The study area along U.S. 50/301 contains public utilities including: potable water, sanitary sewer, natural gas, electric power/distribution, communications, and cable television. The build alternatives would impact some of these utilities that are in close proximity to U.S. 50/301, and the impacts to these utilities and associated replacements have been included in the build alternatives.

### 3.8.7 *Truck Weigh and Inspection Station*

There are two existing Truck Weigh and Inspection Stations (TWIS) along U.S. 50/301 between Oceanic Drive and the Bay Bridge, one in each direction. As part of the build alternatives, these facilities would be upgraded and relocated where necessary.

### 3.8.8 *Limits of Disturbance (LOD)*

The LOD is the proposed boundary that would include all construction, erosion and sediment control, SWM, and right-of-way offsets. The LODs for the alternatives were developed from the proposed horizontal and vertical geometry, typical sections, roadside design, and proposed interchange modifications. For Alternatives B and C, the number of lanes on the Western Shore and Eastern Shore would not change and would remain at six total travel lanes beyond the immediate tie-ins to the new bridge spans. This would mean the limits of roadway improvements associated with Alternatives B and C would end at the immediate tie-ins to the new bridge spans, compared with the limits of roadway improvements for Alternatives D through G, which would end at the study limits (MD 2/MD 450 and the U.S. 50/301 Split). Due to the shorter distance of proposed roadway modifications associated with Alternatives B and C, the LODs associated with these two build alternatives are smaller than the LODs associated with the other build alternatives.

# 4 REGULATORY CONTEXT

Under NEPA, evaluation of hazardous materials, solid waste, and pollution prevention typically includes the evaluation of:

- Waste streams that would be generated by a project, potential for the wastes to impact environmental resources, and the impacts on waste handling and disposal facilities that would likely receive the wastes;
- Potential hazardous materials that could be used during construction and operation of a project, and applicable pollution prevention procedures;
- Potential to encounter existing hazardous materials at contaminated sites during construction, operation; and
- Potential to interfere with any ongoing remediation of existing contaminated sites at the proposed project site or in the immediate vicinity of a project site.

Federal laws that address various aspects of hazardous material generation, disposal and remediation include:

- Oil Pollution Act (OPA)
  - Establishes a comprehensive framework for preventing, responding to, and cleaning up oil spills, holding parties accountable, and compensating the public for damages (33 U.S. Code §2701).
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
  - Authorizes the EPA and cooperating agencies to respond to releases of hazardous substances, provides the legal framework for the Superfund program (42 U.S. Code § 9601) and establishes liability protections under the All Appropriate Inquiries (AAI) rule;
- Resource Conservation and Recovery Act (RCRA) –
  - Establishes a “cradle-to-grave” regulatory system for managing hazardous waste including generation, treatment, storage, and disposal (42 U.S. Code §6901).
- Toxic Substances Control Act (TSCA)
  - Authorizes the EPA to regulate chemical substances in commerce, and establishes rules for reporting, testing, and managing chemicals as well as specific hazardous substances (15 U.S. Code §2601)
- Analogous Maryland programs including: MDE Land Restoration Program (LRP), MDE Voluntary Cleanup Program (VCP), and MDE Controlled Hazardous Substance (CHS) Enforcement Division.

This ISA is intended to provide an initial screening that can be applied towards the fulfillment of the Environmental Due Diligence requirement necessary for the “Innocent Landowner Defense” provisions of CERCLA. The ISA includes additional information requests for detailed documentation of the hazardous material or contamination incidents within the study area. As part of the ISA, an environmental database report was obtained that includes a radius search of applicable federal, state, and tribal records. The environmental database report defines the environmental records sources and their minimum search distances from the study area. Regulatory records that were reviewed and evaluated as part of this ISA are discussed in detail in **Section 7**.

## 4.1 Assumptions and Limitations

In expressing the opinions stated in this report, the MDTA has exercised the degree of skill and care ordinarily exercised by a reasonable, prudent Environmental Professional in the same community and in the same time frame given the same or similar facts and circumstances.

The independent conclusions in this report represent the MDTA's professional judgment based on information and data available during the course of this investigation. The conclusions presented are based on the data reviewed by the MDTA, observations made by the MDTA, and conditions that existed on the date of the on-site visits.

Environmental studies established to meet appropriate inquiry or due diligence requirements under CERCLA, or to determine appropriate hazardous material management and disposal plans, should be combined with the NEPA process. The ISA is not intended to serve as a hazardous material management and disposal plan (or similar document). However, the information contained in the ISA can be utilized during the development of such plans once the preferred alternative is selected and the specific construction activities associated with that alternative have been determined.

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# 5 STUDY AREA LAND USE

## 5.1 Physical Setting

This report has been prepared to support the Tier 2 Study EIS and summarize the RECs that have been identified as being associated with the study area (see **Appendix A – Figure 1**). The EIS is being prepared as a separate document and provides a detailed summary of the Physical Setting associated with the study area.

## 5.2 Property Tax Files

In lieu of obtaining a deed and/or title report for every site located within the study area, limited information pertaining to the study area was obtained online from the Maryland State Department of Assessments and Taxation (SDAT) database. The information available through the SDAT database pertains to current owner, current deed, and land use zoning. Due to the volume of sites located within the study area, all available information obtained from the SDAT database associated with the ranked sites is summarized in **Appendix B** of this report.

## 5.3 Description of On-Site Structures, Roads, and Improvements

The study area contains the following structures and improvements:

- Over 35 primary state and county roads (most notably U.S. 50/301, Blue Star Memorial Highway (U.S. 301), Governor Ritchie Highway (MD 2), Ocean Gateway (U.S. 50), Main Street (MD 18), Skidmore Drive, Oceanic Drive, E College Parkway, Whitehall Road, Cape St. Clair Road, St, Margarets Road (MD 179), Busch's Frontage Road, and Bay Dale Drive;
- Residential properties;
- Commercial properties (including shopping centers, places of worship, restaurants, schools, etc.) and associated paved parking;
- Gasoline stations, marinas, and automotive repair facilities;
- Dry-cleaning or laundry facilities;
- Utility easements;
- Wooded/partially wooded parcels; and
- Agricultural fields/farmland.

## 5.4 Current Use of the Study Area

The majority of the study area consists of paved roadways and associated sidewalks, public right-of-way, bridge structures, and landscaped areas that extend along U.S. 50/301 and intersecting state/county roads near the towns of Annapolis, Arnold, Stevensville, Grasonville, and Queenstown in Anne Arundel and Queen Anne's counties, Maryland. The study area also includes the portions of waterways, residential parcels, commercial parcels, woodlands, and utility easements that adjoin the existing roadway(s).

## 5.5 Description of Adjoining Properties

The study area is located within a mixed-use area of Anne Arundel County and Queen Anne's County, Maryland, and consists of parcels zoned for residential, exempt commercial, institutional, commercial, and industrial uses (see **Appendix A – Figure 2** and **Appendix B**).

# 6 HISTORICAL RECORDS REVIEW

Historical mapping was obtained from Environmental Data Resources, Inc. (EDR) and reviewed for the purpose of compiling information on activities that have previously occurred within the study area and surrounding area. According to all available historical data reviewed, the study area consisted of woodlands, agricultural properties, and sparsely developed areas prior to the mid to late 1940s. MD 179 (i.e., "Revell Highway") was constructed within the study area sometime between 1946 and 1950, which predated U.S. 50/301. However, MD 179 terminated at the Chesapeake Bay and Sandy Point Ferry Terminal. The major artery through Kent Island at this point consisted of MD 18/404 as well as the Baltimore and Eastern Railroad, which extended east to Queenstown. U.S. 50/301 was constructed in the area sometime between 1950 and 1952, which included the construction of the original Bay Bridge span and redesignation of several state roads, most notably MD 179 and MD 404. The construction of U.S. 50/301 through Kent Island included the redevelopment of several agricultural properties.

After completion of the original Bay Bridge span, redevelopment within the study area consisted of a general shift from primarily agricultural properties to residential and small commercial properties. Increased residential and commercial redevelopment occurred throughout the mid to late 1960s and into the early to mid-1970s. Increased redevelopment was likely due to the construction of a second parallel bridge span of the Bay Bridge sometime between 1970 and 1973. Redevelopment activities within the surrounding area prompted expansion of U.S. 50/301 (and local roads) throughout the study area to accommodate the influx of vehicular traffic. U.S. 50/301 was significantly widened in the early 1990s through Kent Island from a 4-lane highway to a 6-lane freeway. Additional redevelopment activities occurred within the study area throughout the 1990s and 2000s with the construction of multiple interchanges along U.S. 50/301 due to increased residential redevelopment within the surrounding area. In general, no significant changes have occurred within the study area since the mid-2000s.

## 6.1 Historical Topographic Maps

Historical aerial photographs were obtained from EDR for the following years: 1892-1893, 1898, 1903-1904, 1908, 1942-1944, 1946-1950, 1949-1954, 1970-1973, 1978-1979, 1986, 2014, 2016, and 2019. Copies of the topographic maps are presented as **Appendix C**. The results of the historical topographic map review are summarized below in **Table 6-1**.

**Table 6-1: Historical Topographic Map Summary**

| Date | Study Area | Surrounding Area |
|---|---|---|
| 1892-1893 | U.S. 50/301 has not been constructed. Local roads intersect portions of the study area near sparsely developed areas. | The surrounding area is sparsely developed with residential and/or agricultural properties and associated roads. The majority of the development is centered around Winchester and Queenstown. Kent Island is sparsely developed. |
| 1898 | The study area appears similar to the 1892-1893 topographic maps. | The surrounding area appears similar to the 1892/1893 topographic maps. |

| Date | Study Area | Surrounding Area |
|---|---|---|
| 1903-1904 | U.S. 50/301 has not been constructed; however, the "Queen Anne R.R." now spans from Queenstown to Kent Island. The Queen Anne Railroad terminates at Kent Island (north of Stevensville) and appears to continue farther east of Queenstown. | The surrounding area appears similar to the 1898 topographic map; however, there has been increased development in the general vicinity of the Queenstown Railroad. |
| 1908 | U.S. 50/301 has not been constructed. The Queen Anne R.R. is now depicted as the "Maryland Delaware and Virginia R.R." and an additional spur now continues farther southeast of Queenstown. | The surrounding area appears similar to the 1903-1904 topographic map; however, development continues near the rail corridor near Kent Island, Winchester, and Queenstown. |
| 1942-1944 | U.S. 50/301 has not been constructed in the area. The Maryland Delaware and Virginia R.R. is now depicted as the "Baltimore and Eastern R.R." MD 2 has been constructed near the Severn River and MD 18/MD 404 has been constructed, which extends from Kent Island to Queenstown along the existing rail corridor. Additional road construction now intersects MD 2 and MD 18. MD 179 (i.e., "Revell Highway") has been constructed and now extends from MD 2 to the Chesapeake Bay where it terminates at the "Sandy Point Ferry Terminal." MD 179/404 appears to predate U.S. 50/301. | There has been an increase in development within the surrounding area due to the additional road construction. The majority of the development appears to be associated with residential properties. Development is primarily focused around Kent Island, Grasonville, Winchester, and Queenstown. Additional development has taken place in Kent Island likely associated with the construction of the Sandy Point Ferry Terminal and MD 179. |
| 1946-1950 | MD 179 is now depicted as U.S. 50. U.S. 50 extends from MD 2 to the Chesapeake Bay. Construction of the original Bay Bridge span appears to be underway or near completion. MD 404 and MD 18 extend from Kent Island to Queenstown. Portions of the Bay Bridge are not yet depicted at Kent Island in this image; as such, U.S. 50 does not currently appear to extend the entire length of the study area. There appears to be extensive road construction within the study area and a shift from local county/state roads to major highways. | Development within the surrounding area continues with the increase in road construction. The majority of the development appears to be associated with residential and commercial properties. There appears to be less agricultural properties within the surrounding area. |
| 1949-1954 | The study area now consists of U.S. 50/301 for the entire extent of the study area, which included redesignation of MD 179, MD 404, and MD 18. U.S. 50/301 continues west over the Severn River. U.S. 50/301 continues east of Queenstown. The construction of the original Bay Bridge span is now complete and extends from Sandy Point (at the approximate location of the Sandy Point Ferry Terminal) to Stevensville in Kent Island. U.S. 50/301 appears to be a 4-lane highway; however, the Bay Bridge appears to be 2-lanes with a single bridge structure. Existing roads along the U.S. 50/301 corridor appear to have been incorporated during construction or run parallel to U.S. 50/301 (e.g., MD 18). | There appears to be less railroad activity within the surrounding area; however, the Baltimore and Eastern Railroad is still depicted and appears to parallel U.S. 50/301 in Kent Island. There is ongoing development within the surrounding area. |

| Date | Study Area | Surrounding Area |
|---|---|---|
| 1970-1973 | U.S. 50/301 appears to be under construction with several areas of expansion. The majority of U.S. 50/301 west of Kent Island appears similar to the 1949-1954 topographic maps; however, extensive redevelopment appears to be underway through Kent Island and further east into Queenstown. A new interchange has been constructed near Queenstown that consists of a U.S. 50/301 split with U.S. 50 continuing south and U.S. 301 continuing east. A second parallel bridge span is now depicted adjacent to the existing Bay Bridge. U.S. 50/301 has been expanded to accommodate construction of the second bridge structure. | The surrounding area is still the subject of extensive development and redevelopment with the expansion of U.S. 50/301 and construction of the parallel bridge structure. There is little to no rail activity within the surrounding area and the Baltimore and Eastern Railroad appears to have been abandoned. The majority of the agricultural properties have been redeveloped for residential use. |
| 1978-1979 | The study area appears similar to the 1970-1973 topographic map. Construction of the second parallel bridge span appears to be complete. The majority of U.S. 50/301 appears to be at least a 4-lane highway that extends the extent of the study area. Several new interchanges have been constructed within the study area where several local roads intersect U.S. 50/301. | The surrounding area appears similar to the 1970-1973 topographic maps. |
| 1986 | The study area appears similar to the 1978-1979 topographic maps. | The surrounding area appears similar to the 1970-1979 topographic maps. |
| 2014 | There is less detail provided in the 2014 topographic map; however, the study area appears similar to the 1986 topographic map. | There is less detail provided in the 2014 topographic map; however, additional road construction suggests continued residential/commercial development within the surrounding area since the 1970s. |
| 2016 | The study area appears similar to the 2014 topographic map. | The surrounding area appears similar to the 2014 topographic map. |
| 2019 | The study area appears similar to the 2016 topographic map. | The surrounding area appears similar to the 2016 topographic map. |

## 6.2 Historical Aerial Photographs

Historical aerial photographs were obtained from EDR for the following years: 1952 (partial), 1959-1960, 1969-1970, 1977-1978, 1982, 1992-1994, 2005, 2009, 2011, 2015, and 2018. Copies of the aerial photographs are presented as **Appendix D**. The results of the historical aerial photograph review are summarized below in **Table 6-2**.

**Table 6-2: Historical Aerial Photograph Summary**

| Date | Study Area | Surrounding Area |
|---|---|---|
| 1952 | Partial coverage of the study area was provided for review, which included aerial imagery west of Kent Island. U.S. 50/301 (possibly MD 179/404) appears to have been constructed east of the Severn River. MD 2 has been constructed and traverses north to south along the Severn River. U.S. 50/301 intersects MD 2 but does not appear to extend west of MD 2. U.S. 50/301 extends from MD 2 to Sandy Point to the east and appears to consist of a 4-lane highway. A single bridge structure extends east from Sandy Point and a portion of U.S. 50/301 appears to terminate at the Sandy Point Ferry Terminal located just south of the Bay Bridge. The majority of the development within the study area appears to consist of residential and agricultural properties along U.S. 50/301. | The surrounding area consists predominately of agricultural and residential properties. Several of the roads in the surrounding area appear to be partially paved or unpaved access roads associated with agricultural use. The majority of the development within the surrounding area has occurred along U.S. 50/301 (formerly MD 179/404), which appears to be at least a 4-lane highway and a major artery through Anne Arundel County. Several local roads intersect the study area, which appear to be primarily associated with residential and agricultural development. |
| 1959-1960 | The study area now includes U.S. 50/301 and now extends west of MD 2 over the Severn River. A large interchange has been constructed at the intersection of MD 2 and U.S. 50/301. There appears to be additional commercial development along U.S. 50/301 west of the Chesapeake Bay. Aerial coverage east of Sandy Point has been provided, which indicates that U.S. 50/301 extends from Sandy Point to Stevensville in Kent Island via the Bay Bridge. The Bay Bridge is a single bridge span consisting of at least 2 lanes. The ferry terminal and Sandy Point appears to have been abandoned. U.S. 50/301 extends through Kent Island and splits at a large interchange near Queenstown. U.S. 50/301 continues south while U.S. 301 continues east. The majority of U.S. 50/301 in Kent Island cuts through several agricultural properties. | The surrounding area west of the Chesapeake Bay appears to consist of residential and agricultural properties; however, there appears to be an increase of commercial properties along U.S. 50/301. The surrounding area in Kent Island and east of Kent Island consists predominately of agricultural and residential properties. |
| 1969-1970 | The study area appears similar to the 1959-1960 aerial photographs; however, construction of a second parallel bridge span appears to be underway. Pilings, road construction/expansion, and other structures are present near Sandy Point and Stevensville. Additional interchanges have been constructed along the study area likely to accommodate increased vehicular traffic within the area. | The surrounding area appears similar to the 1959-1960 aerial photographs, however, there has been a slight increase in residential redevelopment. Most of the surrounding area in Kent Island and east of Kent Island still consists of agricultural properties. |

| Date | Study Area | Surrounding Area |
|---|---|---|
| 1977-1978 | The study area appears similar to the 1969-1970 aerial photographs; however, there has been additional development along stretches of U.S. 50/301 and construction of the second parallel bridge span is now complete. Additional interchanges have been constructed along the study area. Several agricultural properties in Kent Island and east of Kent Island appear to have been redeveloped for residential and commercial use. | There has been an increase in residential redevelopment and associated road construction within the surrounding area. Several agricultural properties previously depicted have been cleared and/or redeveloped as residential properties. However, several agricultural properties still exist within the surrounding area. The majority of the redevelopment appears to be associated with the expansion of U.S. 50/301 and construction of the second parallel bridge structure. |
| 1982 | The study area appears similar to the 1977-1978 aerial photographs; however, there has been a shift from primarily agricultural to residential and commercial development. The majority of the commercial development has occurred within the study area along U.S. 50/301. | There has been additional residential redevelopment within the surrounding area. Several agricultural properties have now been redeveloped for residential use. Commercial development has also occurred within the surrounding area. Commercial development appears to be primarily associated with shopping centers, automotive service stations, and/or convenience stores along U.S. 50/301. Commercial development has occurred primarily at or near intersecting roads with U.S. 50/301. In general, there appears to be less agricultural activity within the surrounding area and a transition from primarily residential/agricultural use to residential/commercial use. However, several large agricultural properties still exist near Kent Island and east of Kent Island. |
| 1992-1994 | The study area appears similar to the 1982 aerial photographs; however, several new interchanges have been constructed throughout the study area. There has been increased development around the new interchanges. U.S. 50/301 has been significantly expanded throughout Kent Island and appears to be associated with a freeway. The expansion is likely associated with increased traffic within the area. | There is continued residential redevelopment within the surrounding area. Significant residential redevelopment is ongoing throughout Anne Arundel County west of Sandy Point. There has been significant residential development throughout Kent Island and Grasonville. As such, there has been a significant decrease in agricultural use within the surrounding area. |
| 2005 | The study area appears similar to the 1992-1994 aerial photographs; however, new residential and commercial redevelopment activities are ongoing. | There is continued residential and commercial redevelopment within the surrounding area. |
| 2009 | The study area appears similar to the 2005 aerial photographs; however, redevelopment activities are ongoing. | There is continued residential and commercial redevelopment within the surrounding area. |

| Date | Study Area | Surrounding Area |
|---|---|---|
| 2011 | The study area appears similar to the 2009 aerial photographs. | The surrounding area appears similar to the 2009 aerial photographs; however, residential and commercial redevelopment is ongoing. |
| 2014 | The study area appears similar to the 2011 aerial photographs. | The surrounding area appears similar to the 2011 aerial photographs. |
| 2018 | The study area appears similar to the 2014 aerial photographs. | The surrounding area appears similar to the 2014 aerial photographs. |

## 6.3 Sanborn Fire Insurance Maps

EDR was contacted regarding the availability of historical Sanborn® fire insurance maps for the study area. EDR confirmed that there was no fire insurance map coverage for the study area. Therefore, no Sanborn maps were made available for review.

# 7 REGULATORY RECORDS REVIEW

An EDR Area/Corridor Report (dated October 16, 2023) was obtained from EDR in preparation of this ISA report. The EDR report fulfills the ASTM research requirements pertaining to standard environmental record sources, as well as supplementary information sources considered to constitute additional environmental records. Occasionally, the study area (or adjacent properties) may be listed under different names and may be included in multiple databases, due to changes in ownership or land use. Explanations of the content of the databases are provided directly within the EDR report in **Appendix E**. The Users are encouraged to review **Appendix E** of this report to supplement information presented herein pertaining to surrounding properties. The following federal, state, and tribal records were reviewed as part of this ISA:

- Federal National Priorities List (NPL)
- Federal Delisted NPL site list
- Federal Facility Index System (FINDS)
- Federal Superfund Enterprise Management System (SEMS) – formerly known as Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list
- Federal SEMS-ARCHIVE – formerly known as Federal CERCLIS-No Further Remedial Action Planned site list
- Federal Resource Conservation and Conservation Act (RCRA) Corrective Action Sites (CORRACTS) facilities list
- Federal RCRA non-CORRACTS Treatment, Storage, and Disposal facilities list
- Federal RCRA generators list
- Federal Institutional Control/Engineering Control registries
- Federal Emergency Response Notification System (ERNS)
- State and Tribal lists of hazardous waste sites (SHWS)
- State and Tribal-equivalent NPL
- State and Tribal-equivalent CERCLIS
- State and Tribal Landfill and/or Solid Waste Disposal sites lists
- State and Tribal Leaking Underground Storage Tanks (LUST) list
- State and Tribal Registered Underground Storage Tanks (UST) list
- State and Tribal Institutional Control/Engineering Control registries
- State and Tribal Voluntary Cleanup Program (VCP) sites
- State and Tribal Brownfield sites.
- Local Brownfield lists
- Local Landfill/Solid Waste Disposal sites
- Local Hazardous Waste/Contaminated sites
- Local Registered Storage Tanks (MD Historical [HIST] UST and Aboveground Storage Tanks [AST])
- Local Land Records
- Records of Emergency Release Reports
- EDR High Risk Historical Records
- EDR Recovered Government Archives

Database findings indicate that there are 728 sites located within the ASTM recommended search distance of the study area. Due to the number of database findings, only those that are located in close proximity to the study area and present a potential environmental concern to the study area are discussed below. The remaining facilities listed in the EDR database report are not anticipated to have an adverse environmental impact based on various factors, such as current land use (i.e., residential), distance from the study area, topography, estimated groundwater flow, and/or regulatory status (i.e., closed). However, it should be noted that revisions to the build alternatives may alter the impacts to the proposed construction activities or require re-evaluation of specific sites. Database findings that may be considered RECs are discussed in detail in **Section 10**.

An additional 180 sites were identified in the regulatory databases that were unable to be mapped by EDR due to poor or inadequate address information. EDR refers to these sites as "Orphan Sites." Based on the available information reviewed, several of these Orphan Sites were associated with previously identified sites that are discussed in **Section 7.1** and **7.2**. As such, the information provided in the orphan summary was incorporated throughout **Section 7.1** and **7.2**. The remaining sites identified in the orphan summary are not associated with the study area and are not anticipated to have adverse environmental impact based on various factors, such as distance from the study area, topography, estimated groundwater flow, and/or regulatory status (i.e., closed).

The results of the environmental database review are summarized below in **Table 7-1**.

**Table 7-1: Environmental Database Summary**

| Database | ASTM Search Distance (Miles) | Sites within Search Distance | Sites within Proposed Build Alternatives | Orphan Sites |
|---|---|---|---|---|
| ***FEDERAL DATABASES*** | | | | |
| CONSENT | 1.00 | 1 | 0 | 0 |
| Delisted NPL | 1.00 | 1 | 0 | 0 |
| DOCKET HWC | SA | 0 | 0 | 1 |
| DEPARTMENT OF DEFENSE | 1.00 | 1 | 0 | 0 |
| Enforcement and Compliance History Online (ECHO) | SA | 44 | 44 | 5 |
| ERNS | SA | 12 | 12 | 108 |
| FINDS | SA | 56 | 56 | 14 |
| Federal Insecticide, Fungicide, and Rodenticide Act / Toxic Substances Control Act Tracking System (FTTS) | SA | 0 | 0 | 1 |
| Formerly Used Defense Site | 1.00 | 2 | 0 | 0 |
| HIST FTTS | SA | 0 | 0 | 1 |
| ICIS | SA | 4 | 4 | 0 |
| Per- and Polyfluoroalkyl Substances (PFAS) ECHO | 0.25 | 12 | 8 | 0 |
| SEMS | 0.50 | 1 | 0 | 0 |
| SEMS-ARCHIVE | 0.50 | 1 | 0 | 0 |
| RCRA NonGen/No Longer Regulated (NLR) | 0.25 | 10 | 4 | 2 |
| RCRA-Large Quantity Generator (LQG) | 0.25 | 1 | 1 | 3 |

| Database | ASTM Search Distance (Miles) | Sites within Search Distance | Sites within Proposed Build Alternatives | Orphan Sites |
|---|---|---|---|---|
| RCRA- Small Quantity Generator (SQG) | 0.25 | 8 | 4 | 2 |
| RCRA- Very Small Quantity Generator (VSQG) | 0.25 | 15 | 6 | 1 |
| ROD | 1.00 | 1 | 0 | 0 |
| U.S. Aerometric Information Retrieval Systems (AIRS) | SA | 11 | 11 | 2 |
| U.S. Engineering (ENG) CONTROLS | 0.50 | 1 | 0 | 0 |
| ***STATE DATABASES*** | | | | |
| HMIRS | SA | 1 | 1 | 4 |
| MD ASBESTOS | SA | 5 | 5 | 1 |
| MD AST | 0.25 | 3 | 1 | 0 |
| MD BROWNFIELDS | 0.50 | 0 | 0 | 1 |
| MD DRYCLEANERS | 0.25 | 2 | 2 | 1 |
| MD ENG CONTROLS | 0.50 | 1 | 0 | 0 |
| MD Financial Assurance | SA | 40 | 40 | 15 |
| MD HIST UST | 0.25 | 30 | 15 | 9 |
| MD HIST LUST | 0.50 | 12 | 6 | 4 |
| MD INST CONTROLS | 0.50 | 1 | 0 | 1 |
| MD LEAD | SA | 16 | 16 | 11 |
| MD Land Restoration Program (LRP) | 0.50 | 3 | 0 | 2 |
| MD MANIFEST | 0.25 | 16 | 8 | 1 |
| MD National Pollutant Discharge Elimination System (NPDES) | SA | 5 | 0 | 4 |
| MD OCPCASES | 0.50 | 260 | 75 | 80 |
| MD PFAS | 0.25 | 5 | 0 | 3 |
| MD SHWS | 1.00 | 2 | 1 | 0 |
| MD SPILLS 90 | SA | 0 | 0 | 2 |
| MD Underground Injection Control (UIC) | SA | 1 | 1 | 0 |
| MD UST | 0.25 | 90 | 40 | 15 |
| MD VCP | 0.50 | 1 | 0 | 1 |
| NJ MANIFEST | 0.25 | 4 | 2 | 1 |
| NY MANIFEST | 0.25 | 2 | 1 | 1 |
| PA MANIFEST | 0.25 | 9 | 5 | 2 |
| ***EDR PROPRIETARY RECORDS*** | | | | |
| EDR HIST AUTO | 0.125 | 29 | 19 | 0 |
| EDR HIST CLEANER | 0.125 | 8 | 4 | 0 |

NOTES:
SA = Search was limited to the study area only.
Sites may be listed in more than one database.

## 7.1 Database Findings – Study Area

The following sites, as identified in the EDR report, are in close proximity to the study area and present a potential environmental concern to the study area and build alternatives.

**Site Address: *101 Ferguson Rd, Annapolis, MD***

- Alias: Land Rover/Jaguar Annapolis
- Regulatory Database(s): N/A
- Potential Environmental Concern: Automotive dealership and automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *117 Ferguson Rd, Annapolis, MD***

- Alias: N/A
- Regulatory Database(s): N/A
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *121-123 Ferguson Rd, Annapolis, MD***

- Alias: Sheehy Lexus of Annapolis
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, MD NPDES, MD UIC, FINDS, ECHO
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *640A Broadneck Rd, Annapolis, MD***

- Alias: U.S. Army Reserve Center, David Taylor/Annapolis - Control
- Regulatory Database(s): MD LRP, MD SHWS, MD UST, MD Financial Assurance, MD OCPCASES, RCRA-VSQG, FINDS, ECHO, DOCKET HWC, PFAS ECHO
- Potential Environmental Concern: Federal army reserve facility listed under the MD LRP and MD SHWS (MD204) programs for the production of Nike Ajax and Nike Hercules missiles between 1954 and the early 1970s. Included handling, storing, and disposal of missile components and propellants.

**Site Address: *25-31 Old Mill Bottom Rd, Annapolis, MD***

- Alias: BMW of Annapolis & Mini of Annapolis
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, RCRA-VSQG, NY MANIFEST, MD MANIFEST, MD VCP, MD INST CONTROLS
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids. Previously investigated VCP site (MD1730) with institutional controls including groundwater use restrictions.

**Site Address: *68 Old Mill Bottom Rd, Annapolis, MD***

- Alias: Baymart Shell, Baymart Liquors, St Margrets Gas Co (Amoco)
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, ICIS, U.S. AIRS, FINDS, ECHO
- Potential Environmental Concern: Active gasoline station with previously documented release(s) of petroleum.

**Site Address: *158 Old Mill Bottom Rd, Annapolis, MD***

- Alias: High's Dairy Store, High's #36
- Regulatory Database(s): MD UST, MD Financial Assurance, FINDS, ECHO
- Potential Environmental Concern: Active gasoline station.

**Site Address: *313 Busch's Frontage Rd, Annapolis, MD***

- Alias: Revell Service Center, Annapolis Service Center
- Regulatory Database(s): MD OCPCASES, EDR Hist Auto
- Potential Environmental Concern: Former automotive service station, including handling, storing, and disposal of automotive fluids with documented release.

**Site Address: *317 Busch's Frontage Rd, Annapolis, MD***

- Alias: Exxon #25094, AJR Petroleum
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, EDR HIST AUTO, RCRA-VSQG, ICIS, U.S. AIRS, FINDS, ECHO
- Potential Environmental Concern: Active gasoline/service station with previously documented release(s) of petroleum.

**Site Address: *321 Busch's Frontage Rd, Annapolis, MD***

- Alias: Wawa Food Market, Wawa #569
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, U.S. AIRS, FINDS, ECHO, PA MANIFEST, PFAS ECHO, MD MANIFEST
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *333 Busch's Frontage Rd, Annapolis, MD***

- Alias: Annapolis Subaru Volvo
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, RCRA-SQG, FINDS, ECHO
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *730-760 E College Parkway, Annapolis, MD***

- Alias: 7-Eleven, Inc., 7 Eleven #17214
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *804 E College Pkwy, Annapolis, MD***

- Alias: 430 Revell Hwy, Sizzler, Cape Auto
- Regulatory Database(s): MD UST, MD Financial Assurance, RCRA-VSQG
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *810 E College Parkway, Annapolis, MD***

- Alias: 438 Revell Hwy, Champion Realty
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, HIST LUST, U.S. AIRS, FINDS, PFAS ECHO
- Potential Environmental Concern: Former LUST site with 24-hour active remediation (i.e., extraction wells). LUST has been given case closure by authority having jurisdiction.

**Site Address: *1001-1005 Skidmore Dr, Annapolis, MD***

- Alias: 625 Revell Hwy, Eastern Petroleum Co. Inc., Oasis Mart #16, Recov Inc
- Regulatory Database(s): MD UST, MD Financial Assurance, MD HIST UST, MD OCPCASES, EDR Hist Auto
- Potential Environmental Concern: Former automotive service station with documented releases.

**Site Address: *881-899 Oceanic Dr, Annapolis, MD***

- Alias: MDTA MD Department of Transportation, Police and Automotive Maintenance Building
- Regulatory Database(s): FINDS
- Potential Environmental Concern: Automotive/fleet maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *850 Revell Hwy, Annapolis, MD***

- Alias: MDTA William Preston Lane Bridge, William Preston Lane Jr. Memorial Bridge
- Regulatory Database(s): MD OCPCASES, MD AST, NJ MANIFEST, MD MANIFEST, PA MANIFEST, MD NPDES, RCRA-LQG, ICIS, FINDS, ECHO
- Potential Environmental Concern: Automotive/fleet maintenance activities, including handling, storing, and disposal of automotive fluids with documented release.

**Site Address: *895 Oceanic Dr, Annapolis, MD***

- Alias: Northrop Grumman – Undersea Systems, Northrop Grumman Systems Corp
- Regulatory Database(s): MD UST, MD Financial Assurance, MD HIST UST, MD OCPCASES, RCRA-SQG, MD MANIFEST, NY MANIFEST, NJ MANIFEST, MD NPDES, U.S. AIRS, FINDS, ECHO, ERNS
- Potential Environmental Concern: Large industrial facility and hazardous waste generator. Documented release of emulsified cutting oil from machine shop.

**Site Address: *357 Pier 1 Rd, Stevensville, MD***

- Alias: Bay Bridge Marina, Pier 1 Motel, Pier 1 Marina
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, HIST LUST, MD NPDES, RCRA NonGen/NLR, FINDS, ECHO
- Potential Environmental Concern: Active marina used for refueling purposes. Former LUST site with groundwater sampling/gauging. LUST has been given case closure by authority having jurisdiction.

**Site Address: *121 Love Point Rd, Stevensville, MD***

- Alias: Kent Island Auto Body, Duty's Service Center
- Regulatory Database(s): RCRA-VSQG, FINDS, ECHO
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *346-356 Thompson Creek Mall, Stevensville, MD***

- Alias: Bayside Cleaners Inc, Kent Island Cleaners, Thompson Creek Cleaners
- Regulatory Database(s): MD DRYCLEANERS, EDR Hist Cleaner, MD MANIFEST, ICIS, U.S. AIRS, FINDS, ECHO
- Potential Environmental Concern: Active/former drycleaning facility including handling, storing, and disposal of drycleaning solvents.

**Site Address: *400 Thompson Creek Rd, Stevensville, MD***

- Alias: Big Daddy's Texaco
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO, PFAS ECHO
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *401 Thompson Creek Rd, Stevensville, MD***

- Alias: Big Daddy 301 Texaco, Shell #433 (SMO), Shell Dash In #1433
- Regulatory Database(s): EDR Orphan Site due to poor/inaccurate address information, MD OCPCASES
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *101 Duke St, Stevensville, MD***

- Alias: Last Stop, Citgo – 101 Duke St
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO, PFAS ECHO
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum.

**Site Address: *103 Shopping Center Rd, Stevensville, MD***

- Alias: Kent Island Gas, Former Kent Island Gas, Kent Island Shopping Center
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES
- Potential Environmental Concern: Former gasoline station with previously documented releases of petroleum.

**Site Address: *1101 Shopping Center Rd, Stevensville, MD***

- Alias: Kent Island Auto Body, Duty's Service Center
- Regulatory Database(s): MD OCPCASES
- Potential Environmental Concern: Automotive maintenance activities, including handling, storing, and disposal of automotive fluids.

**Site Address: *1245 Shopping Center Rd, Stevensville, MD***

- Alias: Bank of Annapolis
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES
- Potential Environmental Concern: Former gasoline station/active bank with previously documented releases of petroleum.

**Site Address: *1383 Main Street, Stevensville, MD***

- Alias: Friendly Food Store, Chhays Inc
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO, PFAS ECHO, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum.

**Site Address: *101 Castle Marina Rd, Chester, MD***

- Alias: Castle Marina Shell, Big Daddy's 301 Texaco (SMO Facility)
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, HIST LUST, FINDS, ECHO, PFAS ECHO, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum. Former LUST site with 24-hour active remediation (i.e., extraction wells). LUST has been given case closure by authority having jurisdiction.

**Site Address: *1501 Postal Rd, Chester, MD***

- Alias: Kent Island Mobil (Besche Oil), Rick's Gas & Go
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station and automotive maintenance facility with previously documented releases of petroleum.

**Site Address: *100 Dominion Rd, Chester, MD***

- Alias: Klepper's Exxon, Kent Island Exxon, Dominion Exxon
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, HIST LUST, HMIRS, FINDS, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum. Former LUST site with hand bailing and gauging of onsite wells. LUST has been given case closure by authority having jurisdiction.

**Site Address: *100-120 Chester Station Ln, Chester, MD***

- Alias: Exxon RAS No 20356, Chester Exxon, HMA Inc
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO, RCRA-SQG, U.S. AIRS, ERNS, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum.

**Site Address: *1835 Main St, Chester, MD***

- Alias: Safeway #1939 Fuel Center
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, PFAS, PFAS ECHO
- Potential Environmental Concern: Active gasoline station.

**Site Address: *5-11 Kent Town Market, Chester, MD***

- Alias: Royal Cleaners
- Regulatory Database(s): RCRA NonGen/NLR, EDR Hist Cleaner
- Potential Environmental Concern: Former drycleaning facility, including handling, storing, and disposal of drycleaning solvents.

**Site Address: *2130 Didonato Dr, Chester, MD***

- Alias: ZIPS Dry Cleaners
- Regulatory Database(s): RCRA-VSQG, MD DRYCLEANERS, MD MANIFEST, FINDS, ECHO, EDR Hist Cleaner
- Potential Environmental Concern: Active drycleaning facility including handling, storing, and disposal of drycleaning solvents.

**Site Address: *2120 Piney Creek Rd, Chester, MD***

- Alias: Xtra Mart, Piney Creek Rd LLC, Drake Petroleum, Piney Creek X-Tra Mart
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS, ECHO, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum.

**Site Address: *108 Jackson Creek Rd, Grasonville, MD***

- Alias: Royal Farms Store #208
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *3630 Main St, Grasonville, MD***

- Alias: Parks Tire & Auto Service, BP #4036
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, ERNS, EDR Hist Auto
- Potential Environmental Concern: Former automotive service/gasoline station with documented releases.

**Site Address: *110 Pullman Crossing Rd, Grasonville, MD***

- Alias: 7-Eleven, Inc #3306, 7-11 Store – Pullman Crossing
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, FINDS
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *301 Evans Ave, Grasonville, MD***

- Alias: Shore Shine Car Wash, Miller's Car Wash & Mobil, C&L Oil Co., Big Red #2064
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, MD HIST LUST, ERNS, FINDS, EDR Hist Auto
- Potential Environmental Concern: Former automotive service/gasoline station with documented releases. Former LUST site with hand bailing and gauging of onsite wells. LUST has been given case closure by authority having jurisdiction.

**Site Address: *101 Drummer Dr, Grasonville, MD***

- Alias: Grasonville Food Mart, Queenstown Bank Property, Khlok Inc
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, PA MANIFEST, MD LRP
- Potential Environmental Concern: Former gasoline station and drycleaner with documented releases. The site was entered into the MD LRP under the supervision of the Maryland Department of the Environment (MDE) in 2006 and a closure date has not been provided. However, proposed closure includes a universal environmental covenant with several use restrictions and notification of any renovation, rehabilitation, or redevelopment of the property.

**Site Address: *401 Hess Rd, Grasonville, MD***

- Alias: Hess Road, LLC, Exxon, Grasonville Citgo
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, MD HIST LUST, EDR Hist Auto
- Potential Environmental Concern: Former automotive service/gasoline station with documented releases. Former LUST site with hand bailing and gauging of onsite wells. LUST has been given case closure by authority having jurisdiction.

**Site Address: *101-107 Hissey Rd, Grasonville, MD***

- Alias: Wawa Food Market #8518, Shipwrecked Flea Market & Chesapeake Motel
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, RCRA-VSQG, FINDS
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum.

**Site Address: *4638 Ocean Gateway, Grasonville, MD***

- Alias: Queenstown Xtra Mart, Xtra Fuels PC #7485, Big Red/Easton Petroleum
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, U.S. AIRS, FINDS, ECHO, EDR Hist Auto
- Potential Environmental Concern: Active gasoline station with previously documented release of petroleum. Oil Control Program (OCP) case #19-0732QA opened on June 12, 2019, due to a reported release associated with a UST retrofit – the case remains open.

**Site Address: *Middletown Rd, Annapolis, MD (MD SHWS – MD081)***

- Alias: Middletown Road Dump Site
- Regulatory Database(s): MD SHWS, Delisted NPL, SEMS, U.S. ENG CONTROLS, ROD, PRP, ICIS, CONSENT, FINDS, ECHO
- Potential Environmental Concern: MD SHWS facility that consisted of an unpermitted dump site prior to 1981.

**Site Address: *181 Revell Hwy, Annapolis, MD***

- Alias: St. Margaret's Texaco
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES
- Potential Environmental Concern: Former automotive service/gasoline station with documented releases.

## 7.2 Database Findings – Surrounding Area

The following sites listed in the EDR report were located outside the study area or several hundred feet from the build alternatives and are not anticipated to have adverse environmental impacts. However, if the build alternatives are modified, these sites may pose an environmental risk to the proposed construction activities. As such, the following sites are provided for awareness.

**Site Address: *100 Main St, Stevensville, MD***

- Alias: GPM Site #239, Shore Stop #239
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, RCRA-VSQG, FINDS
- Potential Environmental Concern: Active gasoline station with previously documented releases of petroleum.

**Site Address: *325 Main St, Stevensville, MD***

- Alias: Chevron, W.E. Denny & Son, Franks Place
- Regulatory Database(s): MD UST, MD Financial Assurance, MD HIST UST, MD OCPCASES, EDR Hist Auto.
  Potential Environmental Concern: Former gasoline station/automotive maintenance facility with previously documented releases. Active small engine repair facility.

**Site Address: *4311 Main St, Grasonville, MD***

- Alias: Willard Service Center, Willard Service Station
- Regulatory Database(s): MD OCPCASES
  Potential Environmental Concern: Automotive maintenance facility with previously documented releases.

**Site Address: *4601 Main St, Grasonville, MD***

- Alias: Frank's Service Center, Frank's Service Station, AMJ Automotive 2
- Regulatory Database(s): MD UST, MD Financial Assurance, MD OCPCASES, EDR Hist Auto
  Potential Environmental Concern: Automotive maintenance facility with previously documented releases.

**Site Address: *428 Kent Narrows Way, Stevensville, MD***

- Alias: Safe Harbor Narrows, Mears Point Marina, Ships Store
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD NDPES
  Potential Environmental Concern: Marina with previously documented releases.

**Site Address: *202-204 Airport Rd, Stevensville, MD***

- Alias: Bay Bridge Aviation, Inc., Bay Bridge Airport
- Regulatory Database(s): MD UST, MD HIST UST, MD Financial Assurance, MD OCPCASES, MD NDPES, MD PFAS
  Potential Environmental Concern: Aircraft maintenance facility and airport with previously documented releases.

**Site Address: *100 Friels Rd, Queenstown, MD***

- Alias: S.E.W Friel
- Regulatory Database(s): MD HIST LUST
- Potential Environmental Concern: Former LUST site with hand bailing and gauging of onsite wells. LUST has been given case closure by authority having jurisdiction.

# 8 REGULATORY FILE REVIEW

## 8.1 MDE Public Information Act Requests

Public Information Act (PIA) requests were submitted to MDE regarding the storage and release of hazardous materials and/or petroleum products, or other environmental issues, within the study area. The PIA requests focused on sites in close proximity to the build alternatives with known regulatory action based on the information obtained from the Regulatory Database search (**Section 7**). MDE acknowledged the PIA requests (MDE Tracking Numbers 2023-03098, 2023-03099, 2023-03100, 2023-03103, 2023-03104, 2023-03105, 2023-03106, 2023-03107, 2023-03108, and 2023-03109) via email on December 8, 2023. MDE provided response letters (dated January 8th through 17th, 2024) indicating that the Air and Radiation Administration, Land and Materials Administration, and Water and Science Administration had information associated with sites located within the study area. The MDE Programs associated with the findings included the following: Air Quality Compliance Program, Land Restoration Program (LRP), OCP, and Emergency Response Program. The information obtained from the PIA file review was consistent with the information obtained from the regulatory database search (**Section 7**). However, due to the number of sites and file size restraints associated with the magnitude of the PIA requests, the MDTA requested to review the files on record associated with the MDE OCP only. The regulatory files on record with MDE are summarized below in **Table 8-1**. File request correspondence with MDE is included in **Appendix F** of this report.

**Table 8-1: File Review Summary – State**

| Address | Hazard Type | Regulatory File(s) |
|---|---|---|
| 101 Ferguson Rd | Petroleum | Spill(s) |
| 121-123 Ferguson Rd | Petroleum | UST, OCPCASES, NPDES |
| 640A Broadneck Rd | Petroleum/Other | MD LRP, MD SHWS, UST, OCPCASES |
| 25-31 Old Bottom Rd | Petroleum | UST, OCPCASES, MD VCP, Spill(s) |
| 68 Old Mill Bottom Rd | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 158 Old Mill Bottom Rd | Petroleum | UST |
| 313 Busch's Frontage Rd | Petroleum | OCPCASES, Spill(s) |
| 317 Busch's Frontage Rd | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 321 Busch's Frontage Rd | Petroleum | UST, OCPCASES, NPDES, Spill(s) |
| 333 Busch's Frontage Rd | Petroleum | UST, OCPCASES |
| 730-760 E College Pkwy | Petroleum | UST, OCPCASES, Spill(s) |
| 1000-1005 Skidmore Dr | Petroleum | UST/LUST, OCPCASES |
| 804 E College Pkwy | Petroleum | UST/LUST, OCPCASES |
| 810 E College Pkwy | Petroleum | UST/LUST, HIST UST, OCPCASES |
| 850 Revell Hwy | Petroleum | AST/UST, OCPCASES, NPDES |
| 895 Oceanic Dr | Petroleum/Other | UST, HIST UST, OCPCASES, NPDES |
| 357 Peir 1 Rd | Petroleum | UST/LUST, OCPCASES, NPDES, Spill(s) |
| 346-356 Thompson Creek Rd | Other | MD DRYCLEANER |
| 400 Thompson Creek Rd | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 401 Thompson Creek Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 101 Duke St | Petroleum | UST, OCPCASES, Spill(s) |
| 103 Shopping Center Dr | Petroleum | UST/LUST, OCPCASES |
| 1101 Shopping Center Dr | Petroleum | OCPCASES |

| Address | Hazard Type | Regulatory File(s) |
|---|---|---|
| 1245 Shopping Center Dr | Petroleum | UST/LUST, OCPCASES |
| 1383 Main St | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 101 Castle Marina Rd | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 1501 Postal Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 100 Dominion Rd | Petroleum | UST/LUST, HIST UST, OCPCASES, Spill(s) |
| 100-120 Chester Station Ln | Petroleum | UST, OCPCASES, Spill(s) |
| 1835 Main St | Petroleum | UST, OCPCASES, Spill(s) |
| 2130 Didonato Dr | Solvents | MD DRYCLEANER |
| 2120 Piney Creek Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 108 Jackson Creek Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 107 Parks Way | Petroleum | UST, OCPCASES, Spill(s) |
| 3630 Main St | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 110 Pullman Crossing Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 301 Evans Ave | Petroleum | UST/LUST, HIST UST, OCPCASES |
| 101 Drummer Dr | Petroleum | UST/LUST, OCPCASES, MD LRP, Spill(s) |
| 401 Hess Rd | Petroleum | UST/LUST, OCPCASES, Spill(s) |
| 101-107 Hissey Rd | Petroleum | UST, OCPCASES, Spill(s) |
| 4638 Ocean Gateway | Petroleum | UST, OCPCASES, Spill(s) |

## 8.2 EPA Freedom of Information Act Requests

In lieu of submitting a formal Freedom of Information Act (FOIA) request to the U.S. Environmental Protection Agency (EPA), an online search was performed through the MyProperty portal website using the address information obtained from the appropriate SDAT sheets. According to the EPA, the information obtained through the MyProperty portal is identical to the information that would be received by filing a formal FOIA request.

According to the MyProperty portal website online search, sites located within the study area were identified in the EPA's Facility Registry System (FRS). This information is consistent with the findings discussed in **Section 7**. Copies of the records generated by the MyProperty portal website are included as **Appendix F** of this report and are summarized below in **Table 8-2**.

**Table 8-2: File Review Summary – Federal**

| Address | Hazard Type | Regulatory File(s) |
|---|---|---|
| 101 Ferguson Rd | Petroleum/Other | Safe Drinking Water Information System Data Warehouse |
| 121 Ferguson Rd | Emissions/Petroleum | ICIS, NPDES |
| 640A Broadneck Rd | Superfund (Non-NPL) | SEMS |
| 158 Old Mill Bottom Rd | Emissions | AIRS, ICIS, MD Permanent (PEMIS) |
| 317 Busch's Frontage Rd | Emissions/Chemical | RCRA-VSQG, AIRS, MD PEMIS, ICIS |
| 321 Busch's Frontage Rd | Emissions/Chemical | AIRS, ICIS, RCRA Generator, MD PEMIS |
| 333 Busch's Frontage Rd | Chemical | RCRA-SQG |
| 730 E College Pkwy | Chemical | RCRA Generator |
| 804 E College Pkwy | Emissions/Petroleum | MD-Erosion Prevention and Sediment Control (EPSC), AIRS, RCRA Generator |
| 810 E College Pkwy | Emissions | MD PEMIS, ICIS, AIRS |
| 881-899 Oceanic Dr | Emissions/Petroleum | MD TEMPO |
| 850 Revell Hwy | Petroleum/Chemical | MD TEMPO, ICIS, NPDES |
| 895 Oceanic Dr | Emissions/Chemical | AIRS, RCRA, OIS, ICIS, Toxic Release Inventory System, PEMIS, EPSC |
| 357 Peir 1 Rd | Emissions/Petroleum | ICIS, MD-EPSC, NPDES |
| 121 Love Point Rd | Chemical | RCRA-VSQG |
| 400 Thompson Creek Rd | Emissions/Chemical | MD PEMIS, RCRA Generator, ICIS |
| 401 Thompson Creek Rd | Emissions/Petroleum | MD TEMPO |
| 101 Duke St | Emissions | MD PEMIS, ICIS |
| 1383 Main St | Emissions/Petroleum | ICIS, MD PEMIS, MD EPSC |
| 101 Castle Marina Rd | Emissions/Petroleum | ICIS, MD PEMIS, MD EPSC |
| 1501 Postal Rd | Emissions | MD PEMIS |
| 100 Chester Station Ln | Chemical | RCRA-SQG |
| 1835 Main St | Emissions | ICIS |
| 2120 Piney Creek Rd | Emissions/Petroleum | ICIS, MD TEMPO |
| 108 Jackson Creek Rd | Emissions/Petroleum | MD TEMPO |
| 301 Evans Ave | Emissions | MD PEMIS |
| 101 Hissey Rd | Chemical | RCRA-VSQG |

# 9 SITE RECONNAISSANCE

## 9.1 Methodology and Limiting Conditions

A corridor reconnaissance of the study area was performed that consisted of a limited non-intrusive visual inspection of the accessible areas of the parcels that may be impacted by the build alternatives (as described in **Section 2.1**). Onsite activities were conducted between February and May of 2024.

Key site features observed during the onsite inspection are depicted in **Appendix A – Figure 2** and summarized below. Due to property access limitations, visual inspections were performed from public right-of-way. Therefore, there may be additional features at sites within the study area that were not visible at the time of the visual inspections. The observations made at the sites inspected as part of this investigation are discussed below.

## 9.2 Site Observations

### *9.2.1 Aboveground Storage Tanks*

Twenty (20) sites were observed with ASTs within the study area. The standard materials stored in the ASTs included heating oil, gasoline, diesel, used oil, and propane, and are utilized for petroleum storage as well as refueling. The capacity of the ASTs ranged from 275 to 5,000 gallons. The majority of the ASTs appeared to be in good condition with no visual evidence of leaking or staining and are located at the following sites:

- 1839 Anchorage Dr, Chester 21619
- 232 Bateau Dr, Stevensville 21666
- 2739 Cox Neck Rd, Chester 21619
- 2126 Didonato Dr, Chester 21619
- 121 E Main St, Stevensville 21666
- 1861 Harbor Dr, Chester 21619
- 506 Kent Narrows Way N, Grasonville 21638
- 516 Kent Narrows Way N, Grasonville 21638
- 70 Kent Town Market, Chester 21619
- 311 Long Point Rd, Grasonville 21638
- 2000 Main St, Chester 21619
- 2009 Main St, Chester 21619
- 2013 Main St, Chester 21619
- 3116 Main St, Grasonville 21638
- 6229 Main St, Queenstown 21658
- 7401 Main St, Queenstown 21658
- 68 Old Mill Bottom Rd, Annapolis 21401
- 101 VFW Ave, Grasonville 21638
- 1458 Whitehall Rd, Annapolis 21409
- 1540 Whitehall Rd, Annapolis 21409

Additionally, many residences within the study area utilize residential heating oil ASTs; however, they are often located behind structures on private property and may not have been visible at the time of the site inspections. Therefore, additional ASTs may exist within the study area.

### *9.2.2 Maintenance and Repair Facilities*

Maintenance and repair facilities typically store and handle petroleum products and hazardous substances (such as solvents, cleaners, degreasers, paint, batteries, antifreeze, etc.) that are commonly used during vehicle/equipment servicing and maintenance activities. During the site reconnaissance activities, facilities performing automotive/equipment repair services were observed at the following thirty-five (35) sites:

- 100 Bridge Court, Stevensville 21666
- 313 Busch's Frontage Rd, Annapolis 21409
- 333 Busch's Frontage Rd, Annapolis 21409
- 325 Cleat St, Stevensville 21666
- 107 County Day Rd, Chester 21619
- 205 Country Day Rd, Chester 21619
- 620 Del Rhodes Ave, Queenstown 21658
- 101 Drummer Dr, Grasonville 21638
- 400 Drummer Dr, Grasonville 21638
- 804 E College Pkwy, Annapolis 21409
- 232 Evans Ave, Grasonville 21638
- 101 Ferguson Rd, Annapolis 21409
- 117 Ferguson Rd, Annapolis 21409
- 121 Ferguson Rd, Annapolis 21409
- 123 Ferguson Rd, Annapolis 21409
- 225 Hess Rd, Grasonville 21638
- 207 Love Point Rd, Stevensville 21666
- 205 Main St, Stevensville 21666
- 1406 Main St, Stevensville 21666
- 2325 Main St, Chester 21619
- 3630 Main St, Grasonville 21638
- 4311 Main St, Grasonville 21638
- 4601 Main St, Grasonville 21638
- 2020 Marion Quimby Dr, Stevensville 21666
- 21 Old Mill Bottom Rd, Annapolis 21401
- 31 Old Mill Bottom Rd, Annapolis 21401
- 106 Pier 1 Rd, Stevensville 21666
- 101 Rental Ln, Grasonville 21638
- 850 Revell Hwy, Annapolis 21409
- 510 Saddler Rd, Grasonville 21638
- 1101 Shopping Center Dr, Stevensville 21666
- 107 St. Clair Place, Stevensville 21666
- 500 Del Rhodes Ave, Queenstown 21658
- 853 Oceanic Dr, Annapolis 21409
- 101 Blue Star Memorial, Stevensville 21666

In addition to the automotive repair facilities, there were nine (9) sites that contained facilities used for performing engine repair for marine vehicles:

- 314 Evans Ave, Grasonville 21638
- 219 Hess Rd, Grasonville 21638
- 108 Hess Frontage Rd, Grasonville 21638
- 428 Kent Narrows Way, Stevensville 21666
- 345 Pier 1 Rd, Stevensville 21666
- 2212 Piney Creek Road, Chester 21619
- 1629 Postal Rd, Chester 21619
- 121 Rental Ln, Grasonville 21638
- 411 Winchester Creek Rd, Grasonville 21638

The majority of the facilities appeared to implement proper maintenance and disposal protocols, and minimal evidence of leaking or staining was observed on paved surfaces at the facilities.

### *9.2.3 Drum Storage*

During the site reconnaissance, drum storage areas were observed at numerous sites located within the study area. The majority of the drums observed were unlabeled, but appeared to contain site-specific materials (such as waste oil, used oil filters, waste automotive fluids, oil contaminated debris, and non-hazardous cooking grease). The majority of the drums had no means of secondary containment and/or were stored in outdoor areas. Additionally, there were several areas associated with the twenty-four (24) gas stations, thirty-five (35) auto maintenance facilities, and nine (9) marine maintenance facilities that had designated drum storage areas. However, full access was not granted to these areas at the time of inspections to confirm or deny their presence. Therefore, it is anticipated that these facilities also have storage areas with drums of various conditions.

### 9.2.4 Underground Storage Tanks

Active UST fields were observed at twenty-four (24) sites located within the study area that currently exist as gas stations. The gas station sites with active UST fields included the following:

- 68 Old Mill Bottom Rd, Annapolis 21401
- 317 Busch's Frontage Rd, Annapolis 21409
- 321 Busch's Frontage Rd, Annapolis 21409
- 101 Castle Marina Rd, Chester 21619
- 120 Chester Station Ln, Chester 21619
- 100-120 Chester Station Ln, Chester 21619
- 105 Clay Dr, Queenstown 21658
- 100 Dominion Rd, Chester 21619
- 101 Duke St, Stevensville 21666
- 730-760 E College Pkwy, Annapolis 21409
- 101-107 Hissey Rd, Grasonville 21638
- 100 Main St, Stevensville 21666
- 1835 Main St, Chester 21619
- 4638 Ocean Gateway , Queenstown 21658
- 158 Old Mill Bottom Rd, Annapolis 21409
- 2120 Piney Creek Rd, Chester 21619
- 110 Pullman Crossing Rd, Grasonville 21638
- 201 Romancoke Rd, Stevensville 21666
- 320 Romancoke Rd, Stevensville 21666
- 400 Thompson Creek Rd, Stevensville 21666
- 401 Thompson Creek Rd, Stevensville 21666
- 1383 Main St, Stevensville 21666
- 1501 Postal Rd, Chester 21619
- 108 Jackson Creek Rd, Grasonville 21638

Materials stored in the USTs included gasohol, diesel, heating oil, and kerosene. The capacity of the tanks ranged from 2,000 to 25,000 gallons. The majority of USTs observed within the study area were associated with active gasoline stations that contained multiple fuel dispensers. Documented releases have occurred at several of these sites. The majority of the documented releases have been addressed to the satisfaction of the authority having jurisdiction (MDE) or have ongoing remediation activities, as discussed throughout **Section 7**. Minimal surficial staining was observed at the UST fields and dispensers associated with the gas stations.

### 9.2.5 Monitoring Wells

Evidence of subsurface investigations including groundwater monitoring wells and/or extraction wells associated with active or former groundwater remediation systems were observed at all twenty-four (24) gas stations located within the study area. They all appeared to be associated with the active UST fields discussed above in **Section 9.2.4**. The presence of groundwater monitoring wells at sites located within the study area indicates the possibility of subsurface contamination in soil and/or groundwater.

### 9.2.6 Laydown Yards/Equipment Storage Areas

During the site reconnaissance, several laydown areas were observed within the study area. Laydown areas are typically associated with construction activities or storage areas consisting of equipment and various supplies. In general, the laydown areas observed were paved or partially paved and fenced off from the public. Several of the laydown areas were observed to contain automobiles, automotive parts/supplies, and various construction materials that were exposed to the elements. Automotive parts (specifically those containing petroleum products) exposed to the elements have a much higher risk of discharging petroleum products to the surrounding environment. There was no visual evidence of leaking or staining observed in these areas. However, the age of these laydown areas is unknown and there is a potential for leaking of petroleum products that may have gone unnoticed.

### 9.2.7 Dry-Cleaning Facilities

During the site reconnaissance, there were two (2) active dry-cleaning facilities and three (3) historical dry-cleaning facilities observed within the study area at the following locations:

- 2130 Didonato Dr, Chester 21619 (Active)
- 396 Thompson Creek Mall, Stevensville 21666 (Active)
- 146-200 Kent Landing, Stevensville 21666 (Historical)
- 5-11 Kent Town Market, Grasonville 21638 (Historical)
- 346-356 Thompson Creek Mall, Stevensville 21666 (Historical)

There was no evidence indicating the use of chlorinated solvents at the active dry-cleaning sites observed during the site reconnaissance. . However, historical dry-cleaning activities may have been performed at these sites, in addition to multiple unknown locations that have previously been redeveloped or demolished. Active and/or former dry-cleaning facilities have the potential to use and store chlorinated solvents as part of the cleaning process and any leaks that may have occurred could potentially impact the subsurface conditions in these areas.

### 9.2.8 Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) are toxic coolants or lubricating oils used in some electrical transformers, fluorescent light fixtures, electrical panels, and similar equipment. PCB content in electrical transformers has been categorized into three classifications by the federal government. Those units that contain less than 50 parts per million (ppm) are defined as non-PCB. Units that contain between 50 ppm and less than 500 ppm PCBs are defined as PCB contaminated. Units with a PCB content of 500 ppm and greater are classified as PCB transformers. Fluorescent light ballasts manufactured prior to 1979 may also contain PCBs if not labeled otherwise.

During site reconnaissance, numerous pole-mounted and pad-mounted transformers were observed across the entire study area (see **Appendix A – Figure 2**). The majority of the transformers observed within the study area were located along public right-of-way. Several of the pad-mounted transformers were observed as having a label identifying them as not containing PCBs. However, due to the height of the pole-mounted transformers and the absence of labels on the majority of the pad-mounted transformers, the internal PCB contents are unknown for most transformers within the study area. All of the transformers observed appeared to be in good condition with no visual evidence of leaking or staining.

### 9.2.9 Per- and Polyfluoroalkyl Substances

Per- and polyfluoroalkyl substances (PFAS) are widely used and long-lasting chemicals which break down in the environment very slowly. There are thousands of PFAS, and they are found in many different consumer, commercial, and industrial products. Recent studies have determined that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. The following nine sites within the study area may have contamination from previous usage of PFAs:

- 202-204 Airport Road, Queenstown 21666
- 640A Broadneck Road, Annapolis 21409
- 321 Busch’s Frontage Rd, Annapolis 21409
- 101 Castle Marina Road, Chester, 21619
- 810 E. College Parkway, Annapolis 21409
- 101 Duke Street, Stevensville 21666
- 1383 Main Street, Stevensville 21666
- 1835 Main Street, Chester 21619
- 400 Thompson Creek Road, Stevensville 21666

Additional details were not provided regarding the specific usage of PFAS at the sites listed above. However, they were identified during the database search and the presence of PFAS at these sites could potentially impact subsurface conditions in these areas.

### *9.2.10 Unregulated Dumping*

During site reconnaissance, unregulated dumping in various quantities was observed along U.S. 50/301 at multiple properties. Unregulated dumping consisted predominately of construction debris (e.g., concrete, asphalt), household debris from trespassers, and standard non-hazardous roadside debris. Additionally, there were numerous dumpsters and 55-gallon drums observed across the study area that were used as municipal waste receptacles. Although the majority of these receptacles are used to contain non-hazardous debris, and there were no receptacles observed that contained hazardous materials, there is potential for unregulated dumping of hazardous materials by the public due to lack of fencing, locks, or security.

## 9.3 Interviews

Reasonable attempts were made to conduct onsite interviews whenever current (or past) property owners, occupants, site managers, or local government officials that were knowledgeable about the site were available during the site reconnaissance. However, the MDTA was not granted full interior property access. In lieu of conducting interviews with local government officials, PIA requests were submitted to the MDE and property information was entered into the EPA MyProperty portal, which contained environmental information regarding the study area (**Section 8**). Correspondence with government officials in reference to the record requests are discussed in **Section 8** and provided as **Appendix F**. Additional details regarding this approach are discussed in **Section 11**.

# 10 SUMMARY OF RECOGNIZED ENVIRONMENTAL CONDITIONS

According to the information obtained during the site reconnaissance, regulatory records review, and historical mapping review, there is a potential for residual soil and/or groundwater contamination associated with the current/historical land usage, petroleum storage, chemical handling, current/historical gasoline stations, and current/historical dry-cleaning facilities located within the study area. Additional details regarding site rankings are provided in **Section 12** and presented in **Appendix A – Figure 2**.

The Project Impact Ranking Criteria was used to determine potential impacts of the build alternatives located within the study area. Each of the parcels were individually analyzed and ranked based on information gathered during the site reconnaissance, as well as information obtained from the review of historical and regulatory records (see **Appendix A – Figure 2**). **Table 10-1** is a summary of site features (considered to be RECs), which were utilized in determining the assigned rankings. The rank given to each site based on the site features observed as part of this ISA is discussed below.

**Table 10-1: Project Impact Ranking Criteria**

| | |
|---|---|
| ***Rank 1 – High Potential for Impact (63 Sites)*** | |
| • Industrial facilities<br>• Gasoline stations<br>• Automobile repair facilities<br>• Paint manufacturing facilities<br>• ASTs with a large amount of staining<br>• USTs containing gasoline, jet fuel, kerosene fuel, waste oil, or solvents | • Landfills<br>• Remediation systems in place<br>• Pits and lagoons<br>• Dry cleaners<br>• PCB transformers with major stains<br>• Surface dumps with drums or other hazardous materials |
| ***Rank 2 – Listed Sites (2 Sites)*** | |
| • Regulatory database-listed sites that could not be otherwise classified due to insufficient location data or MDE regulatory information.<br>• Sites that were inaccessible. | |
| ***Rank 3 – Medium/High Potential for Impact (20 Sites)*** | |
| • USTs containing materials other than listed above<br>• Unregulated dumping with empty drums or other materials of concern<br>• Mounds | • ASTs with medium staining<br>• Suspected PCB containing transformers with minor staining<br>• Significant evidence of surficial staining<br>• Regulatory database listed sites with documented releases of petroleum |
| ***Rank 4 – Medium Potential for Impact (15 Sites)*** | |
| • Minimal evidence of surficial staining<br>• Slightly discolored surface water<br>• Distressed vegetation<br>• Unmarked transformers<br>• Hazardous material storage sites | • Heavy dumping containing household wastes<br>• ASTs with a few small stains or no staining but questionable integrity |

| ***Rank 5 – Low Potential for Impact (53 Sites)*** | |
|---|---|
| • ASTs (relatively new) with no staining or evidence of poor structural integrity<br>• Suspected PCB containing transformers with no staining | • Septic systems<br>• Non-adjacent sites used for automobile repair/vehicle maintenance facilities<br>• Light dumping containing household wastes |
| ***Rank 6 – No Anticipated Potential for Impact*** | |
| • No evidence of RECs associated with the site | |

## 10.1 Sites with a High Potential for Impact (Rank 1 Sites)

Sixty-three (63) sites were assigned Rank1, meaning they present the highest potential for impact within the study area (**Table 10-2**). Rank 1 sites include those with USTs containing petroleum products, gasoline stations, automotive repair facilities, dry cleaning facilities, and sites with documented releases of contaminants to the surrounding environment.

**Table 10-2: Rank 1 Sites**

| Site Address | Hazard Type/Description of Rank 1 Sites |
|---|---|
| 101 Blue Star Memorial Hwy | Petroleum/Other - Automotive maintenance and transformers |
| 640A Broadneck Rd | Other – MD LRP/MD SHWS, potential PFAs |
| 313 Busch's Frontage Rd | Petroleum/Other – Historical automotive maintenance facility |
| 317 Busch's Frontage Rd | Petroleum – Active gasoline station, documented releases |
| 321 Busch's Frontage Rd | Petroleum – Active gasoline station, documented releases, potential PFAs |
| 333 Busch's Frontage Rd | Petroleum/Other – Active car dealership, automotive maintenance |
| 101 Castle Marina Rd | Petroleum – Active gasoline station, former LUST, potential PFAs |
| 120 Chester Station Ln | Petroleum – Active gasoline station |
| 100-120 Chester Station Ln | Petroleum – Active gasoline station, documented releases |
| 105 Clay Dr | Petroleum – Active gasoline station |
| 107 County Day Rd | Other – Small quantity generator, automotive body repair |
| 205 Country Day Rd | Petroleum/Other – Automotive repair facility |
| 2130 Didonato Dr | Drycleaning solvents – Active drycleaner |
| 100 Dominion Rd | Petroleum – Active gasoline station, former LUST |
| 101 Drummer Dr | Petroleum/Other – MD LRP (active), historical dry-cleaner and gasoline station |
| 400 Drummer Dr | Petroleum – Automotive repair facility |
| 101 Duke St | Petroleum – Active gasoline station, potential PFAs |
| 804 E College Pkwy | Petroleum/Other – Historical automotive maintenance, former filling station |
| 810 E College Pkwy | Petroleum – Former LUST, potential PFAs |
| 730-760 E College Pkwy | Petroleum – Active gasoline station, documented releases |
| 301 Evans Ave | Petroleum/Other – Active carwash, historical gasoline station, former LUST |
| 101 Ferguson Rd | Petroleum/Other – Automotive maintenance |

| Site Address | Hazard Type/Description of Rank 1 Sites |
|---|---|
| 117 Ferguson Rd | Petroleum/Other – Automotive maintenance |
| 121 Ferguson Rd | Petroleum/Other – Automotive maintenance |
| 123 Ferguson Rd | Petroleum/Other – Automotive maintenance |
| 401 Hess Rd | Petroleum – Historical gasoline station, former LUST |
| 101-107 Hissey Rd | Petroleum – Active gasoline station |
| 108 Jackson Creek Rd | Petroleum – Active gasoline station, documented release |
| 146-200 Kent Landing | Drycleaning solvents – Former drycleaner |
| 428 Kent Narrows Way | Petroleum - Marina with previously documented releases. |
| 5-11 Kent Town Market | Drycleaning solvents – Historical dry-cleaner |
| 121 Love Point Rd | Petroleum – Automotive maintenance facility |
| 100 Main St | Petroleum – Active gasoline station |
| 1383 Main St | Petroleum – Active gasoline station, carwash, documented release, potential PFAs |
| 1835 Main St | Petroleum – Active gasoline station, Potential PFAs |
| 3630 Main St | Petroleum/Other – Historical automotive repair, documented release |
| 3700 Main St | Petroleum/Other – Historical automotive maintenance |
| 4638 Ocean Gateway | Petroleum – Active gasoline station |
| 853 Oceanic Dr | Petroleum/Other – Fueling and automotive maintenance |
| 895 Oceanic Dr | Other – Hazardous waste generator, industrial facility |
| 881-899 Oceanic Dr | Petroleum/Other – Automotive maintenance, historical industrial use |
| 25 Old Mill Bottom Rd | Petroleum/Other – Automotive maintenance, MD VCP |
| 31 Old Mill Bottom Rd | Petroleum/Other – Automotive maintenance, MD VCP |
| 68 Old Mill Bottom Rd | Petroleum – Active gasoline station, former LUST |
| 158 Old Mill Bottom Rd | Petroleum – Active gasoline station |
| 107 Parks Way | Petroleum – Historical gasoline station |
| 357 Pier 1 Rd | Petroleum – Active marina, former LUST |
| 2120 Piney Creek Rd | Petroleum – Active gasoline station, documented release |
| 1501 Postal Rd | Petroleum/Other – Active gasoline station, auto repair, documented release |
| 110 Pullman Crossing Rd | Petroleum – Active gasoline station, documented release |
| 101 Rental Ln | Petroleum/Other – Construction laydown, commercial |
| 850 Revell Hwy | Petroleum – Automotive maintenance, ASTs, documented releases |
| 201 Romancoke Rd | Petroleum – Active gas station |
| 320 Romancoke Rd | Petroleum – Active gasoline station |
| 510 Saddler Rd | Petroleum/Other – Active automotive/marine maintenance |
| 103 Shopping Center Dr | Petroleum – Historical gasoline station, active OCP case/LUST |
| 1101 Shopping Center Dr | Petroleum/Other – Automotive repair facility |
| 1245 Shopping Center Dr | Petroleum – Historical gasoline station, documented release |

| Site Address | Hazard Type/Description of Rank 1 Sites |
|---|---|
| 1000-1005 Skidmore Dr | Petroleum – Former gasoline station, former LUST, active car dealership |
| 396 Thompson Creek Mall | Drycleaning solvents – Active drycleaner |
| 400 Thompson Creek Rd | Petroleum – Active gasoline station, former LUST, documented releases, potential PFAs |
| 401 Thompson Creek Rd | Petroleum – Active gasoline station |
| 346-356 Thompson Creek Mall | Drycleaning solvents – Active drycleaner |

## 10.2 Listed Sites (Rank 2 Sites)

Two (2) sites were assigned Rank 2. Rank 2 sites present a potential for significant impact within the study area, but the exact impact cannot be determined because the site was inaccessible during the site reconnaissance, or the exact address/location could not be determined (**Table 10-3**).

**Table 10-3: Rank 2 Sites**

| Site Address | Hazard Type/Description of Rank 2 Sites |
|---|---|
| N/A (Former Middletown Road Dump Site) | Petroleum/Other – MD SHWS (MD081) |
| 181 Revell Hwy | Petroleum – Historical gasoline station |

## 10.3 Sites with a Medium/High Potential for Impact (Rank 3 Sites)

Twenty (20) sites were assigned Rank 3, meaning they present a significant potential for impact within the study area (**Table 10-4**). Rank 3 sites include those with significant dumping of potentially hazardous debris, historical USTs that have been removed from the site, heating oil USTs, or sites identified during review of regulatory records with known releases of petroleum products.

**Table 10-4: Rank 3 Sites**

| Site Address | Hazard Type/Description of Rank 3 Sites |
|---|---|
| 202 Drummer Dr | Petroleum – Historical UST, documented release |
| 100 Friels Rd | Petroleum - Documented leaking UST |
| 3028 Kent Narrows Way S | Petroleum – Historical UST, documented release |
| 610 Main St | Petroleum – Historical UST, documented release |
| 3101 Main St | Petroleum – Historical UST, documented release, former LUST |
| 3701 Main St | Petroleum – Historical UST, documented release |
| 4802 Main St | Petroleum – Historical UST, documented release |
| 1463 Middletown Rd | Petroleum – Commercial property, construction laydown yard |
| 1601 Postal Rd | Petroleum – Documented release |
| 301-302 Saddler Rd | Petroleum – Light industrial property, historical UST, documented release |
| 1114 Shopping Center Rd | Petroleum – Historical UST, documented release |

| Site Address | Hazard Type/Description of Rank 3 Sites |
|---|---|
| 1209-1225 Shopping Center Dr | Petroleum – Historical UST, documented release |
| 410 Thompson Creek Mall | Petroleum – Historical automotive service station |
| 216 VFW Ave | Petroleum – Industrial property, multiple ASTs |
| Wharf & Medic Dr | Petroleum – Documented release |
| 1430 Whitehall Rd | Petroleum/Other – Agricultural property |
| 1456 Whitehall Rd | Petroleum – Commercial property, historical UST, documented release |
| 1458 Whitehall Rd | Petroleum – Commercial property, historical UST, documented release |
| 1540 Whitehall Rd | Petroleum – Vacant property, historical UST, documented release |
| 311 Winchester Creek Rd | Petroleum/Other – commercial property, marine service, dumping |

## 10.4 Sites with a Medium Potential for Impact (Rank 4 Sites)

Fifteen (15) sites were assigned Rank 4, meaning that they present a moderate potential for impact within the study area (**Table 10-5**). Rank 4 sites include those with unlabeled electrical transformers or ASTs with minimal leaking and/or surficial staining observed.

**Table 10-5: Rank 4 Sites**

| Site Address | Hazard Type/Description of Rank 4 Sites |
|---|---|
| 310 Bateau Dr | Other – Industrial property, waste sanitation, ASTs |
| 415 Broadneck Rd | Petroleum/Other - Vehicle and equipment storage |
| 313 Cable House Rd | Other – Construction laydown, dumping |
| 100 Chester Station Ln | Other - Chemical storage |
| 1046 E College Pkwy | Petroleum – Commercial property, possible historical filling station |
| 6521 Friels Rd | Other – Construction laydown and dumping |
| 300 Jackson Creek Rd | Other – Construction laydown and dumping |
| 1340 Log Inn Rd | Other – Industrial property, waste sanitation, ASTs |
| 311 Long Point Rd | Other – Industrial property, waste sanitation, ASTs |
| 2000 Main St | Petroleum - AST with fueling dispenser |
| 2013 Main St | Other – Dumping, Heating Oil AST |
| 3232 Main St | Other – Industrial property, waste sanitation, ASTs |
| 4103 Main St | Other – Industrial property, waste sanitation, ASTs |
| 2025-2029 Main St | Other – Dumping |
| 1021 Skidmore Dr | Other – Construction laydown, dumping |

## 10.5 Sites with a Low Potential for Impact (Rank 5 Sites)

Fifty-three (53) sites were assigned Rank 5, meaning that these sites present a low potential for impact on the study area (**Table 10-6**). Rank 5 sites include properties where existing ASTs were observed to be in good condition, sites where minimal dumping was observed, and sites where no sources of potential contamination were observed.

**Table 10-6: Rank 5 Sites**

| Site Address | Hazard Type/Description of Rank 5 Sites |
|---|---|
| 202-204 Airport Rd | Petroleum/Other – Aircraft maintenance, MD NPDES, historical UST, potential PFAs |
| 230 Bateau Dr | Petroleum - Small quantity AST (belly tank) |
| 232 Bateau Dr | Petroleum - Heating Oil AST |
| 100 Bridge Court | Other – Automotive body shop, RCRA generator |
| 325 Cleat St | Petroleum/Other – Commercial property, small engine repair |
| 2739 Cox Neck Rd | Petroleum - Heating Oil AST |
| 500 Del Rhodes Ave | Petroleum – Active gasoline station, unregulated dumping |
| 620 Del Rhodes Ave | Petroleum – Automotive repair facility |
| 726 E College Pkwy | Potential presence of PCBs - Substation |
| 1070 E College Pkwy | Petroleum/Other – Automotive maintenance |
| 121 E Main St | Petroleum - Heating Oil AST |
| 232 Evans Ave | Petroleum/Other – Historical automotive maintenance |
| 314 Evans Ave | Petroleum/Other – Commercial property, small marine engine repair |
| 119 Ferguson Rd | Petroleum - Small quantity AST (belly tank) |
| 1861 Harbor Dr | Petroleum - Heating Oil AST |
| 219 Hess Rd | Petroleum/Other – Commercial property, small marine engine repair |
| 225 Hess Rd | Petroleum/Other – Automotive maintenance |
| 108 Hess Frontage Rd | Petroleum/Other – Commercial property, small marine engine repair |
| 506 Kent Narrows Way N | Petroleum - Heating Oil AST |
| 516 Kent Narrows Way N | Petroleum - Heating Oil AST |
| 207 Love Point Rd | Petroleum/Other – Automotive maintenance |
| 205 Main St | Petroleum/Other – Automotive maintenance |
| 325 Main St | Petroleum/Other – Small engine repair, historical UST, documented release |
| 1406 Main St | Petroleum/Other – Automotive repair facility |
| 1610 Main St | Petroleum/Other – Fueling and automotive maintenance |
| 1820 Main St | Petroleum/Other – Automotive maintenance |
| 2009 Main St | Petroleum - Heating Oil AST |
| 2325 Main St | Petroleum/Other – Automotive maintenance |
| 2508 Main St | Potential presence of PCBs - Substation |
| 3425 Main St | Potential presence of PCBs - Substation |
| 4128 Main St | Petroleum/Other – Fueling and automotive maintenance |
| 4311 Main St | Petroleum/Other – Automotive maintenance, documented release |
| 4601 Main St | Petroleum/Other – Automotive maintenance, documented release |
| 6208 Main St | Petroleum - Small quantity AST (belly tank) |
| 6229 Main St | Petroleum - Heating Oil AST |
| 7110 Main St | Petroleum/Other – Fueling and automotive maintenance |

| Site Address | Hazard Type/Description of Rank 5 Sites |
|---|---|
| 7401 Main St | Petroleum/Other - Heating Oil AST and pad-mounted transformer |
| 2020 Marion Quimby Dr | Petroleum/Other – Automotive maintenance |
| 1434 Middletown Rd | Petroleum - Small quantity AST (belly tank) |
| 911 Oceanic Dr | Petroleum/Other – Automotive maintenance |
| 21 Old Mill Bottom Rd | Petroleum/Other – Automotive maintenance |
| 100 Pier 1 Rd | Potential presence of PCBs - Substation |
| 106 Pier 1 Rd | Petroleum/Other – Automotive maintenance |
| 345 Pier 1 Rd | Petroleum/Other – Commercial property, small marine engine repair |
| 2212 Piney Creek Road | Petroleum/Other – Commercial property, small marine engine repair |
| 1629 Postal Rd | Petroleum/Other – Commercial property, small marine engine repair |
| 215 Pullman Crossing Rd | Petroleum/Other – Fueling and automotive maintenance |
| 121 Rental Ln | Petroleum/Other – Commercial property, small marine engine repair |
| 119 S Piney Rd | Petroleum/Other – Active carwash |
| 1825 Sherman Dr | Petroleum – Historical UST, AST |
| 125 Shoreway Dr | Petroleum - Small quantity AST (belly tank) |
| 107 St. Clair Place | Petroleum – Automotive repair facility |
| 411 Winchester Creek Rd | Petroleum/Other – Commercial property, small marine engine repair |

## 10.6 Sites with No Anticipated Potential for Impact (Rank 6 Sites)

The remaining sites located within the study area were assigned Rank 6, meaning that these sites are not anticipated to have impacts within the study area. These sites include residential properties and other sites where no evidence of RECs was observed, sites that were not identified during review of regulatory records, or sites that were located far enough from the study area that they would not impact the build alternatives.

# 11 DATA GAPS

A data gap is defined by ASTM E1527 as a lack of, or inability to obtain, information required by this process despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this process including, but not limited to, the site reconnaissance, interviews, and historical research. Failure to achieve the historical research objectives identified in the standard is termed a data failure and is a type of data gap. However, additional detailed investigations will be performed to further investigate areas of concern upon selection of the Preferred Alternative.

The data gaps associated with this ISA are summarized below.

- **Section 5.2 Property Tax Files** – Due to the large number of sites located within the study area, property deeds and/or titles were not reviewed for every property. In lieu of performing full title searches to identify any environmental liens and/or activity use limitations, limited property owner information was reviewed through the SDAT database in conjunction with the regulatory records review. The information obtained from SDAT in conjunction with the information provided in the regulatory records reviewed as part of this ISA provided sufficient information to determine engineering controls, land use restrictions, and/or institutional controls associated with properties that pose potential impacts to the build alternatives. As such, this data gap is not anticipated to require further evaluation at this time.
- **Section 6.0 Historical Records Review** – Partial coverage and spans exceeding 5 years or more were observed during review of historical mapping of the study area. However, reviews of historical aerial photographs provided sufficient coverage to determine general use of the study area and surrounding areas. As such, this data gap is not anticipated to require further evaluation.
- **Section 7.0 Regulatory Record Review** – Due to the large number of sites located within the study area, a vapor mitigation assessment was not performed. However, the proposed construction activities will include surficial roadway improvements for the transportation corridor that will result in minimal vapor concerns. As such, the data gap is not anticipated to require further evaluation.
- **Section 9.2 Site Observations** – Full property access was not granted for the majority of the sites included within the study area. In these cases, the visual inspections were performed from public right-of-way. Therefore, a complete inspection was not performed of every site and some of the on-site tanks or equipment may not have been visible. However, reviews of historical aerial photographs and regulatory records provided sufficient site information to determine general site activities within the study area and surrounding areas. As such, this data gap is not anticipated to require further evaluation.

- **Section 9.3 Interviews** – Several of the previous or current owners, employees, or occupants of the properties located throughout the study area were not interviewed during the site reconnaissance. Additional information regarding the previous usage of the properties located within the study area may have been disclosed during the interview process. However, review of historical topographic maps and aerial photographs provided sufficient coverage to determine the general use of the study area. As such, this data gap is not anticipated to require further evaluation.

# 12 ENVIRONMENTAL CONSEQUENCES

According to the information obtained as part of this ISA, contaminated environmental media associated with the current/historical land usage may be present within the study area, as discussed in **Section 10**.

## 12.1 No-Build Alternative

The No-Build Alternative (Alternative A) would have no impact to sites that have been identified as having potential for residual soil and/or groundwater contamination.

## 12.2 Build Alternatives

There is potential to encounter sites that have been identified as potentially having soil and/or groundwater contamination with each of the build alternatives (Alternatives B through G). Most of the proposed construction activities associated with the Tier 2 Study build alternatives are anticipated to occur at-grade with minimal soil excavation activities. As such, surficial impacts may be encountered associated with releases or spills from commercial and/or industrial sites, laydown areas, or other activities resulting in surface spills (e.g., fueling ASTs, leaking ASTs, improper handling of petroleum products, etc.) at properties located along the Preferred Alternative.

Existing and/or residual contamination that may be associated with properties within the study area located adjacent to the roadway and outside the associated right-of-way are not anticipated to be further impacted by the build alternatives. Ranked sites located along the northern or southern portion of the existing roadway will present the same impacts from the build alternatives due to proximity to the roadway and the anticipated construction activities associated with each alternative. **Table 12-1** provides a summary of the number of ranked sites that are located within 500 feet of the of the build alternatives.

**Table 12-1: Ranked Sites Located within 500 feet of Build Alternatives**

| Site Ranking | No-Build (A) | Build Alternative | | | | | |
|---|---|---|---|---|---|---|---|
| | | B | C | D | E | F | G |
| Sites with a High Potential for Impact (Rank 1 Sites) | 0 | 25 | 25 | 55 | 55 | 55 | 55 |
| Listed Sites (Rank 2 Sites) | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Sites with a Medium/High Potential for Impact (Rank 3 Sites) | 0 | 8 | 8 | 19 | 19 | 19 | 19 |
| Sites with a Medium Potential for Impact (Rank 4 Sites) | 0 | 3 | 3 | 10 | 10 | 10 | 10 |
| Sites with a Low Potential for Impact (Rank 5 Sites) | 0 | 10 | 10 | 28 | 28 | 28 | 28 |
| **Total Ranked Sites (Ranks 1 – 5)** | **0** | **46** | **46** | **113** | **113** | **113** | **113** |

## 12.3 Potential Minimization and Mitigation Strategies

The MDTA's proposed improvements include interchange reconfigurations, roadway widening, and construction of stormwater management facilities. If the proposed construction activities will

require earth disturbance activities (for the purposes of utility relocations, stormwater management structures, and/or construction of new building structures) in the vicinity of Rank 1, 2, or 3 sites, the construction contractor should be prepared to encounter impacted surface soils, subsurface soils, and/or groundwater. As such, additional environmental investigations may be performed at these sites before commencing excavation or construction activities to determine the extent of the potential impacts, to plan for appropriate worker and environmental/public exposure protection, and to assess the appropriate soil management requirements.

Proper handling, disposal, and/or reuse of materials generated during the construction phase of the preferred alternative will be outlined in a material management plan (or similar document) prepared by the construction contractor. It is also understood that impacted media generated by construction and destined for offsite disposal will require additional chemical characterization for acceptance by the landfill and this requirement is performed by the construction contractor. Lastly, if construction requires dewatering in proximity to identified groundwater RECs, the NPDES permit and construction specifications addressing management of this groundwater should be further assessed.

# 13 CONSTRUCTION CONSIDERATIONS

Construction of the build alternatives that result in any earth disturbing activities will generate waste materials. Prior to the implementation of any build alternative, the presence of the detected contaminants should be considered when assessing the potential means and methods, including aspects of the work that will interact with the ground and groundwater. The potential impacts associated with the detected contaminants should also be taken into consideration with regard to excavation, handling, testing, transport, and disposal of potentially impacted soils or groundwater, as well as health and safety considerations regarding the detected contaminants.

## 13.1 Potential Contaminated Media Exposure

Compared to the general public or local residents, construction workers will have a higher likelihood of encountering a complete exposure pathway from soil and groundwater contaminants. As part of the construction activities, a site-specific health and safety plan should be developed and implemented that identifies the potential risks and details the appropriate personal protective equipment (PPE) and/or other controls to ensure the safety of onsite workers.

### *13.1.1 Soil*

Construction workers may encounter impacted surficial and subsurface soils during earth moving and excavation operations associated with the Preferred Alternative. Proper engineering and institutional controls (including the appropriate level of PPE, dust control, etc.) should be established and maintained for all earth disturbance activities. Upon completion of the Preferred Alternative, the finished structures, including paving and surface landscaping, will operate as barriers preventing the local residents from coming into direct contact with these potentially contaminated soils.

### *13.1.2 Groundwater*

Impacted groundwater may be encountered during the construction process based on potential contaminant sources (petroleum products, semi-volatile organic compounds (SVOC), and metal compounds) identified within the study area. Construction workers may have direct contact with the impacted shallow groundwater during surface construction activities and impacted groundwater at depth during any deeper excavation activities. Once the proposed construction has been completed, local residents and the general public are not anticipated to have direct contact with the impacted groundwater due to the depth of the contaminant source and general use restrictions of groundwater in Anne Arundel and Queen Anne's counties.

### *13.1.3 Air*

Air quality may be of concern during construction activities due to the potential for the generation of construction-related dust, encountering pockets of contaminated soil vapor, and/or volatilization of impacted groundwater during construction activities. In addition, construction workers may encounter direct exposure with petroleum or volatile soil vapors once potentially impacted soils are uncovered. Once the Preferred Alternative has been completed, the removal of any impacted soils and replacement with clean fill will have reduced the severity of any potential contaminant sources resulting in improved air quality for local residents and the general public.

## 13.2 Potential Health and Safety Risks During Construction

Health and safety risks associated with potential contaminant exposures to construction workers and the general public will vary considerably depending on the exposure route, the type of contaminant, the contaminant concentration, or duration and frequency of exposure. The primary contaminants of concern that may be encountered during construction activities include, but are not limited to, petroleum hydrocarbons, metals, volatile organic compounds (VOCs), SVOCs (including polycyclic aromatic hydrocarbons [PAHs]), PFAS, and PCBs. These contaminants are anticipated to be encountered in soil and as dissolved contaminants in groundwater. Petroleum hydrocarbons are the most common anticipated contaminant and may be present in soil, soil vapor, or groundwater. In extreme cases, petroleum hydrocarbons or solvents may be encountered as non-aqueous phase liquids, otherwise known as "free product."

The anticipated exposure routes that are associated with construction activities include inhalation, ingestion, or dermal contact. In each case, the construction workers will have greater exposure than the general public due to the proximity to freshly excavated materials, open excavations, and dewatering activities.

### *13.2.1 Inhalation*

This exposure route applies to contaminants that can generate significant vapor concentrations (such as VOCs or petroleum hydrocarbons) or adhere to soil particles that are subsequently transported as dust. Typically, hazardous vapor concentrations would be generated by the presence of high levels of volatile contaminants in excavated materials. Soil vapor concentrations may occur in localized "hot spots" near contaminated sites but are not anticipated to be encountered across the entire length of the Preferred Alternative. Mitigation steps include the implementation of engineering controls to protect the public, such as restricted access to the contaminated area and/or covering the contaminated materials with impermeable plastic sheeting. Respiratory protection (such as respirators or blowers) may be needed for construction workers performing activities in close proximity to the vapor source or in confined spaces.

Dust inhalation would be a more common problem and may range from common nuisance dust to airborne dust particles contaminated with petroleum compounds, metals, PCBs, or PAHs. However, exposure to nuisance dust can be controlled by standard construction dust control methods. A certified industrial hygienist should evaluate dust exposure scenarios and provide safety instructions for workers as well as risk reducing guidance to the public. Where construction workers are exposed to dust in areas where dust control is not practical, dust masks or respirators may be warranted.

### *13.2.2 Ingestion*

Typically, ingestion of contaminants is most often associated with accidental hand to mouth contact. Dust borne contaminants may also represent an ingestion exposure if the dust impacts food or drinking products, utensils, or meal preparation areas. Construction area dust control measures should be implemented to minimize the risk of dust borne exposure via inhalation or ingestion.

Contaminated water ingestion is not considered a significant exposure route for the project because local groundwater will not be used as a potable water source during construction activities and the existing water supply for local residents is not anticipated to be disrupted or directly impacted by construction activities. However, accidental ingestion of groundwater may be a minor route of exposure for construction workers handling dewatering activities.

### *13.2.3 Dermal Contact*

The dermal exposure route primarily applies to construction workers in the immediate vicinity of, or actively handling, contaminated materials. The general public is not anticipated to come into direct contact with subsurface impacted media with proper implementation of site access restrictions. Typically, dermal contact is controlled by providing workers with proper PPE, such as gloves, coveralls or disposable Tyvek® suits (as needed). Institutional controls, such as restricted access to the work zone, would provide protection for the general public.

# 14 REFERENCES

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