Basis of Design Report (30%) Design Stage
Operable Unit Two (OU2)

Standard Chlorine of Delaware Superfund Site
New Castle, New Castle County, Delaware

APPENDIX B:
T&E Species Consultations

This Appendix includes the letters submitted to federal and state resource agencies inquiring about potential project-related impacts to species of concern and their habitats and agency responses. These consultations will be updated, as needed, since they are valid for limited time periods as listed species change (new listings and delistings) and new populations of protected species are reported.

Also included are the results of online data searches that inform these letters, such as the USFWS Information for Planning and Consultation (IPaC) tool and the NMFS Essential Fish Habitat Mapper. Two IPaCs are provided. An initial IPaC dated December 2023 did not list the potential presence of Northern Long-eared Bat (*Myotis septentrionalis*) or Tricolored Bat (*Perimyotis subflavus*) or specific species protected under the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. This was surprising and a second IPaC dated June 2024 was completed. The second IPaC included the listed bats but still did not itemize migratory birds or eagles. To supplement these data the latest USFWS Birds of Conservation Concern will be reviewed to identify birds of concern for this project and seasonal breeding periods that may require time of year restrictions for certain remedial activities.

Draft letters to be submitted to USFWS and NMFS are included. While an early letter to the DNREC Division of Fish and Wildlife is included, it needs to be revised and updated. These revisions will be submitted once responses from the federal agencies are received. To date, a response from DNREC has not been received.

AECOM

June XX, 2024

NOAA Fisheries
Greater Atlantic Regional Fisheries Office
Protected Resources Division
55 Great Republi Drive
Gloucester, MA 01930

AECOM
625 West Ridge Pike, Ste E-100
Conshohocken, PA 19428
aecom.com

Att: Ms. Jenner Anderson

RE: Standard Chlorine of Delaware Superfund Site Project
New Castle County, Delaware

Dear Ms. Anderson:

The United States Environmental Protection Agency (EPA) proposes remediation of residual chlorobenzene contamination within non-tidal and tidal wetlands, as well as the Red Lion Creek at the at the Standard Chlorine of Delaware Superfund Site Project located in New Castle County, DE (Project) (**Figure 1**).

EPA has asked AECOM Technical Services Inc. (AECOM), on their behalf, to request Endangered Species Act (ESA) and Magnuson-Stevens Act concurrence from your office for the Project.

Standard Chlorine of Delaware Site

The Standard Chlorine of Delaware site has seen multiple historical releases of chlorobenzenes during its past use as a manufacturing plant. This has led to contamination of the site soils and surrounding wetlands and waterways. In 2002, the property was abandoned to the custody of the EPA and Delaware Department of Natural Resources (DNREC). The EPA has designated multiple Operable Units to manage cleanup of the site.

The Project and this concurrence request letter relate to actions assigned to Operable Unit 2. Proposed work includes excavation of soil within the surrounding wetlands and Red Lion Creek. The soil will then undergo heat treatment to 'cook' off the chlorobenzene. The resultant material will then be mixed with soil amendment and placed back into the location originally excavated. The site is proposed to be restored to pre-existing grades and contours and replanted with native plant material for vegetative stabilization.

Potential Project Impacts

The Project is located within Essential Fish Habitat for the Atlantic Butterfish (Larvae, Adult), Bluefish (Juvenile, Adult), Black Sea Bass, Longfin Inshore Squid (Eggs), Scup (Juvenile, Adult), and Summer Flounder (Juvenile, Adult). The Red Lion Creek is also within the Shortnose Sturgeon Consultation Area and the Atlantic Sturgeon Consultation Area (**Figure 2**).

Due to the actions to be implemented for this Project, AECOM has made the determination that the proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered under the jurisdiction of NOAA Fisheries (or National Marine Fisheries Service) or Essential/Critical Fish Habitat under the Endangered Species Act of 1973, as amended, and the Magnuson-Stevens Act.

AECOM requests your review and concurrence of this assessment. If additional information is required, please contact Christy Anderson by email at christy.anderson@aecom.com or by phone at 484-942-6089.

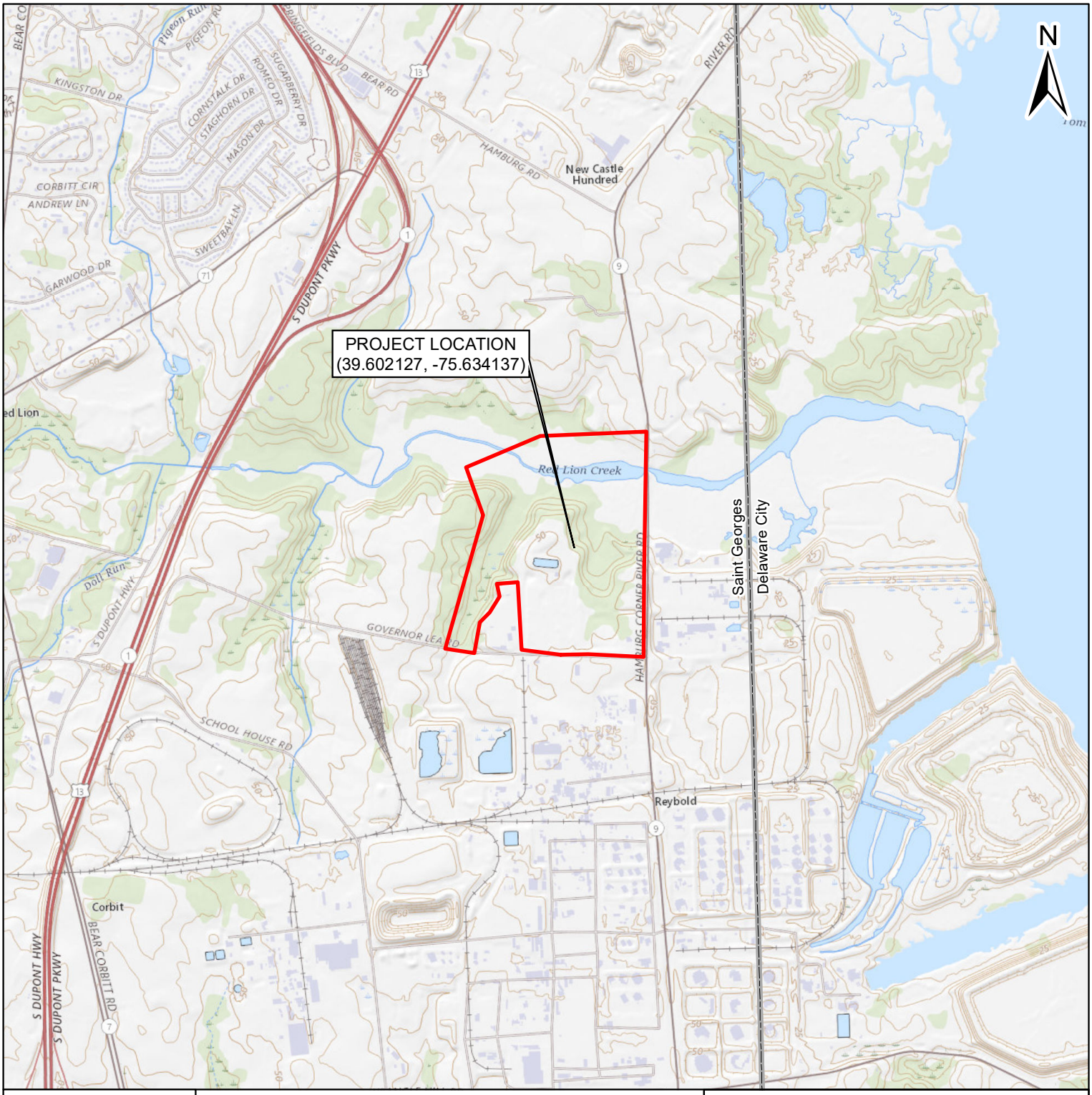
Sincerely,

Christy Anderson,
Environmental Scientist

AECOM

Attachments
Figure 1: Project Location Map
Figure 2: NOAA Fish Habitat and Critical Habitat

CC: Ravi Demera (AECOM)



PROJECT LOCATION

LEGEND

PROJECT STUDY AREA

USGS QUADRANGLE BOUNDARY

0 1,000 2,000 4,000 Feet

REFERENCE: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National

USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE: SAINT GEORGES, DE
NEW CASTLE, NEW CASTLE COUNTY, DE

AECOM

STANDARD CHLORINE OF DELAWARE SUPERFUND SITE

FIGURE 1
PROJECT LOCATION MAP

PREPARED BY: MWC	Page 1 of 1
CHECKED BY: JRK	Date: 12/15/2023

L:\DCS\Projects\ENV\60707136_Standard_Chlorine_Field\900_CAD_GIS\920_GIS\maps\StandardChlorine_Figure 1 - USGS.mxd

Essential Fish Habitat
Atlantic Butterfish:Larvae, Adult
Bluefish: Juvenile, Adult
Black Sea Bass
Longfin Inshore Squid: Eggs
Scup: Juvenile, Adult
Summer Flounder: Juvenile, Adult

Delaware River

Red Lion Creek

BASE MAP SOURCES:
AERIAL IMAGERY: GOOGLE MAPS SATELLITE

ESSENTIAL FISH HABITAT AND ESA CRITICAL HABITAT (NOAA FISHERIES 2024)

Legend

- PROJECT STUDY AREA
- ESSENTIAL FISH HABITAT
- ATLANTIC STURGEON CRITICAL HABITAT
- SHORTNOSE STURGEON CONSULTATION AREA
- ATLANTIC STURGEON CONSULTATION AREA

0 2,000 4,000 6,000 8,000 Feet

AECOM

STANDARD CHLORINE OF DELAWARE SUPERFUND SITE
FIGURE 2
NOAA FISH HABITAT AND CRITICAL HABITAT

NEW CASTLE, NEW CASTLE COUNTY, DE

Prepared by: MWC	Checked by: CA	Date: 2/28/2024	Page 1 of 1

AECOM

June XX, 2024

Project Review
U.S. Fishand Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

AECOM
625 West Ridge Pike, Ste E-100
Conshohocken, PA 19428
aecom.com

RE: Standard Chlorine of Delaware Superfund Site Project
New Castle County, Delaware

Dear Environmental Reviewer:

The United States Environmental Protection Agency (EPA) proposes remediation of residual chlorobenzene contamination within non-tidal and tidal wetlands, as well as the Red Lion Creek at the at the Standard Chlorine of Delaware Superfund Site Project located in New Castle County, DE (Project) (**Figure 1**).

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Standard Chlorine of Delaware Site

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The Project and this concurrence request letter relate to actions assigned to Operable Unit 2. Proposed work includes excavation of soil within the surrounding wetlands and Red Lion Creek. The soil will then undergo heat treatment to 'cook' off the chlorobenzene. The resultant material will then be mixed with soil amendment and placed back into the location originally excavated. The site is proposed to be restored to pre-existing grades and contours and replanted with native plant material for vegetative stabilization.

Field Surveys

Field surveys were conducted on August 28, 2023 to October 5, 2023 to delineate jurisdictional wetland and other waters (**Figure 2**), and map vegetative communities (**Figure 3**). The existing site habitats are characterized as follows in Table 1 and the subsequent text.

TABLE 1: Vegetation Types within the Study Area

Vegetation Type	Description
Mixed Hardwood Forest	Hardwood forest characterized by a variety of deciduous and potential occasional evergreen species.
Emergent Wetland	Wetland characterized by dominant herbaceous vegetation. Occasional shrub or tree species.
Meadow	Grassland that may be maintained infrequently. Potential occasional shrub or tree species.
Water	At least intermittently flooded, unconsolidated bottom water feature. This class includes streams.
Forested Wetland	Wetland characterized by dominant tree species.
Mowed lawn	Areas dominated by turf grasses and maintained by frequent mowing.
Urban	Developed areas including roads, buildings, and parking lots. Lacking in substantial vegetation presence.

Agricultural Field	Field that may be used for a variety of agricultural purposes, including grazing or crop production.
Maintained ROW	Right-of-way subject to occasional maintenance including mowing, tree trimming, etc. May include a mix of low shrubs, vines, and herbaceous vegetation.
Scrub-Shrub	Land that is dominated by shrub and herbaceous species.

- **Mixed Hardwood Forest**

The mixed hardwood vegetation type appears in upland areas above wetlands and stream valleys. Common tree species that characterize this vegetation class include: Callery pear *(Pyrus calleryana*), tulip-tree (*Liriodendron tulipifera*), black cherry *(Prunus serotina*), black walnut (*Juglans nigra*), and black locust (*Robinia pseudoacacia*). There is typically a varying makeup of understory, sub-canopy and canopy trees.

- **Emergent Wetland**

The emergent wetland vegetation type appears in areas along Red Lion Creek dominated by common reed (*Phragmites australis*), and in few depressions within the central meadow and surrounding forest. The depressional emergent wetlands typically include common reed as well as other species identified as soft rush (*Juncus effusus*), dotted smartweed (*Percicaria punctata*), and path rush (*Juncus effusus*).

- **Meadow**

The meadow vegetation type appears in the central capped area of the site, where grasses are dominant and infrequently maintained. Vegetation commonly includes Chinese bush-clover (*Lespedeza cuneata*), common mugwort (*Artemisia vulgaris*), switchgrass (*Panicum virgatum*), and common milkweed (*Asclepias syriaca*).

- **Water**

The Water cover type typically does not contain vegetation, except at the edges. This cover type represents intermittent and perennial streams across the PSA, including Red Lion Creek and its tributaries. Common riparian vegetation includes common reed, small-spike false nettle (*Boehmeria cylindrica*), red maple (*Acer rubrum*), and pickerelweed *(Pontederia cordata*).

- **Forested Wetland**

Forested Wetlands appear in areas adjacent to emergent wetlands, as forested borders, or upslope in stream valleys. Trees within this community typically include red maple and black gum (*Nyssa sylvatica*).

- **Mowed Lawn**

The mowed lawn vegetation type appears as gravel roads and buildings on the central portion of the site, as well as a historical parking lot on the eastern edge. Very little vegetation is present in these areas.

- **Urban**

The urban vegetation type appears on the eastern side of the site, in a fenced area alongside River Road where a powerline ROW and historical yard area overlap. It is also present around a water tower in this area. This area is frequently mowed and does not contain much species diversity. The dominant species is a turf grass (*Poa* sp.).

- **Agricultural Field**

Agricultural fields appear on the northern side of the site, past Red Lion Creek. At the time of survey, this area was used for soybean (*Glycine max*) row crops, but this may change from year to year.

- **Maintained ROW**

Maintained ROWs appear on site along the eastern and western boundaries, where distribution or transmission line corridors cross the site. Woody vegetation is mowed and the area will commonly be colonized by grasses, creeping vines, and short saplings or shrubs. Commonly observed vegetation includes: Japanese honeysuckle (*Lonicera japonica*), Carolina horsenettle (*Solanum carolinense*), common mugwort, raspberry (*Rubus idaeus*) and

Oriental bittersweet (*Celastrus orbiculatus*).

- **Scrub-Shrub**

Scrub-shrub vegetation appears on site in two small areas, one a historical baseball diamond in early stages of succession back to a forest, and the second beside an agricultural field under a transmission structure. Vegetation in these areas is low and dominated by shrub species, although saplings may intrude. Typical species include Morrow's honeysuckle *(Lonicera morrowii*), Callery pear, and raspberry.

Threatened and Endangered Species

The USFWS online Information for Planning and Consultation (IPaC) tool was access twice for the Project. Official Species Lists were generated on December 1, 2023 and June 13, 2024 for Project Codes 2024-0021794 and 2024-0103808, respectively (attached).

Both IPaCs identified one threatened reptile, the Bog Turtle (*Glyptemys muhlenbergii*) and one candidate insect, the Monarch Butterfly (*Danus plexippus*). No critical habitats were identified within the Project area. However, the June 2024 IPaC also identified two mammals – the endangered Northern Log-eared Bat (*Myotis septentrionalis*) and the proposed endangered Tricolored Bat (*Perimyotis subflavus*).

A Technical Assistance Letter dated February 23, 2024 was generated as a result of completing the Determination Keys. This letter indicates that impact "may affect" the federally endangered Bog Turtle (attached).

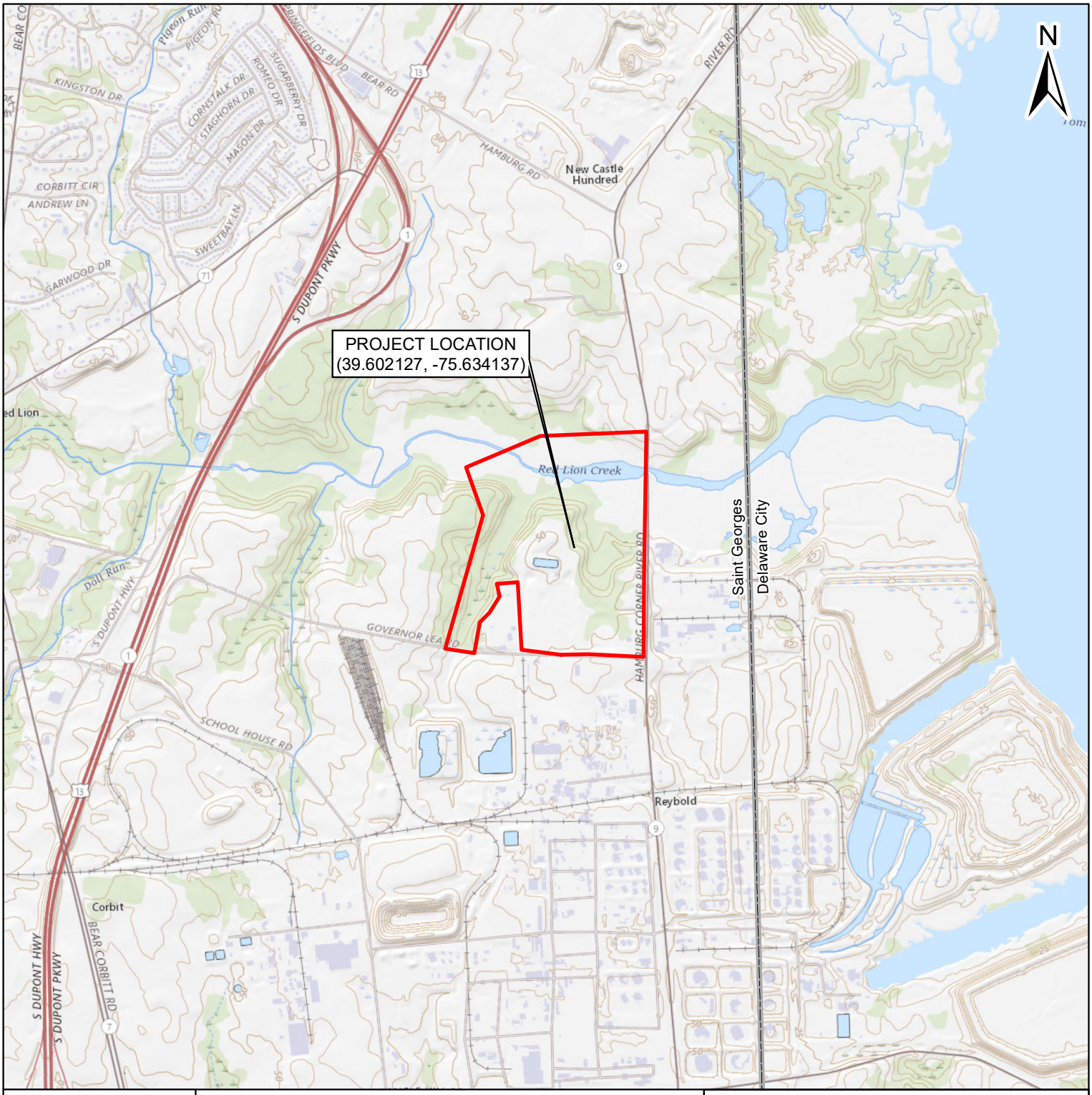
AECOM requests your review and recommendations for this project. If additional information is required, please contact Christy Anderson by email at christy.anderson@aecom.com or by phone at 484-942-6089.

Sincerely,

Christy Anderson,
Environmental Scientist

Attachments
Figure 1: Project Location Map
Figure 2: NOAA Fish Habitat and Critical Habitat
Figure 3: Vegetation Survey Results Map

CC: Ravi Demera (AECOM)



PROJECT LOCATION

LEGEND

PROJECT STUDY AREA

USGS QUADRANGLE BOUNDARY

0 1,000 2,000 4,000 Feet

REFERENCE: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National

USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE: SAINT GEORGES, DE
NEW CASTLE, NEW CASTLE COUNTY, DE

AECOM

STANDARD CHLORINE OF DELAWARE SUPERFUND SITE

FIGURE 1
PROJECT LOCATION MAP

PREPARED BY: MWC	Page 1 of 1
CHECKED BY: JRK	Date: 12/15/2023

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Delaware River

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0 2,000 4,000 6,000 8,000 Feet

AECOM

STANDARD CHLORINE OF DELAWARE SUPERFUND SITE
FIGURE 2
NOAA FISH HABITAT AND CRITICAL HABITAT

NEW CASTLE, NEW CASTLE COUNTY, DE

Prepared by: MWC	Checked by: CA	Date: 2/28/2024	Page 1 of 1

BASE MAP SOURCE:
AERIAL IMAGERY: GOOGLE MAPS SATELLITE

LEGEND

- VEGETATION SAMPLING POINT
- VEGETATION SURVEY TRANSECT
- PROJECT STUDY AREA

VEGETATION TYPE

- MIXED HARDWOOD FOREST
- EMERGENT WETLAND
- MEADOW
- WATER
- FORESTED WETLAND
- MAINTAINED ROW
- AGRICULTURAL FIELD
- SCRUB-SHRUB
- LANDSCAPED AREA
- URBAN

0 500 1,000 1,500 2,000 Feet

AECOM

STANDARD CHLORINE OF DELAWARE SUPERFUND SITE
FIGURE 3
VEGETATION SURVEY RESULTS MAP
NEW CASTLE, NEW CASTLE COUNTY, DE

Prepared by: MC	Checked by: CA	Date: 1/30/2024	Page 1 of 1