

Figure No.  
5

# Delineation Map

Location: 2014-01-28

Client/Project:  
Dominion Virginia Power  
Line 18-145 Possum Point - Smoketown

Project Location:  
Possum Point, Virginia  
Prepared by: GTS at 2014-01-28  
Reviewed by: GTS at 2014-01-28  
Approved by: GTS at 2014-01-28



## Legend

### Flag Location

■ Existing Tower Location

● Data Point Location

□ Approximate Palustrine Emergent Wetland Limits

□ Approximate Scrub-Shrub Wetland Limits

□ Approximate Ephemeral Stream Channel Limits

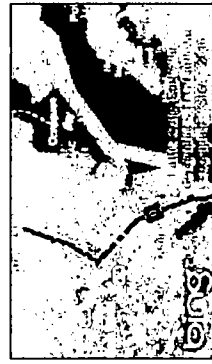
□ Approximate Upper Perennial Stream Channel Limits

□ Approximate Intermittent Stream Channel Limits

□ Approximate Open Water Units

□ 2-Foot Contour

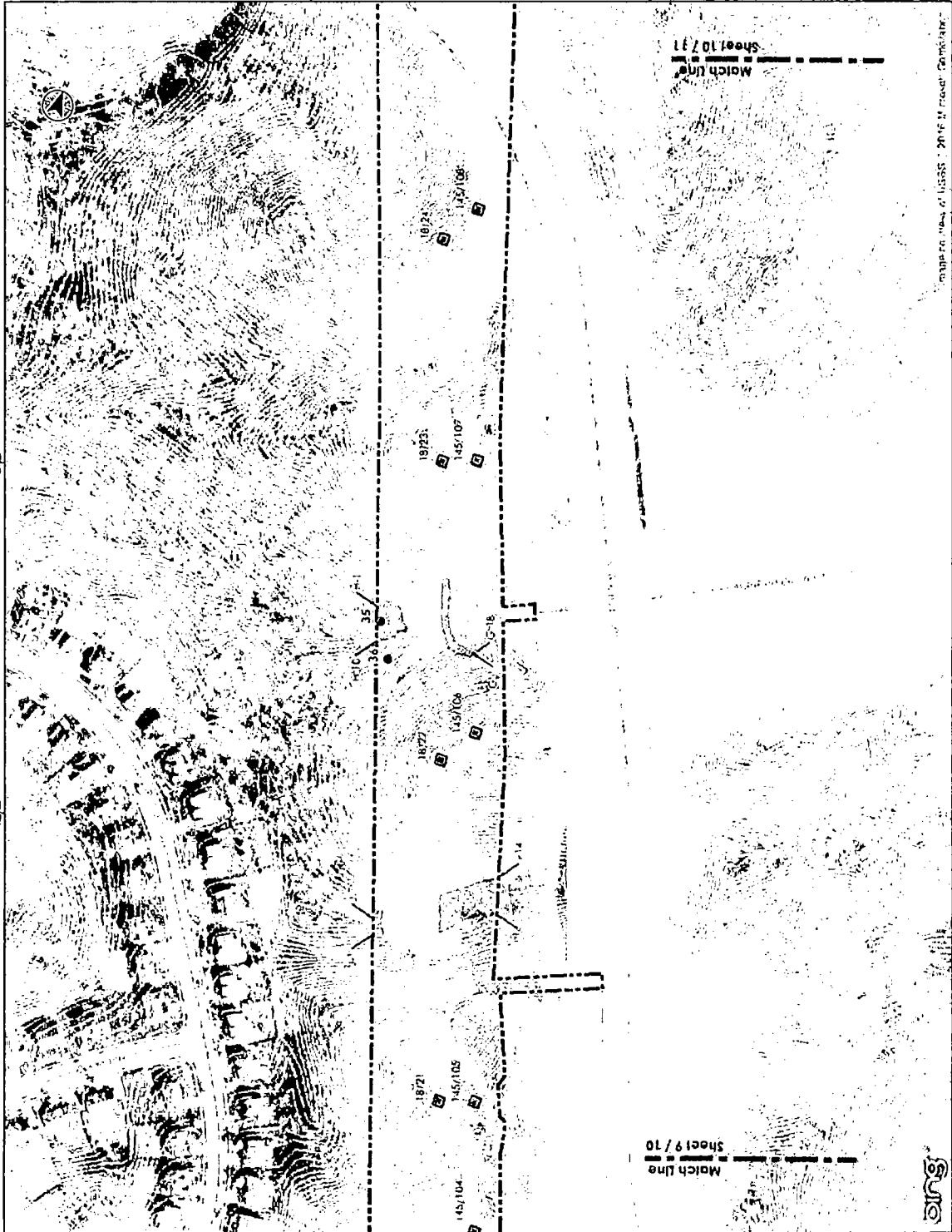
□ Project Limits



- Notes:
1. Coordinate system: NAD 1983 StatePlane Virginia North FIPS 4201 Feet
  2. Topography produced with data provided by Virginia Geographic Information Network (VGIN)
  3. The map is a general representation of the terrain and does not show any features within the U.S. shown on this map have been field located by means of sub-meter GPS technology and are for planning purposes only
  4. Orthorectified 1:25,000 scale aerial photography was used for this map
  5. Wetland data was derived from the National Wetlands Inventory (NWI)
  6. Right-of-way dimensions digitized from aerials
  7. Microsoft product screen shot(s) prepared with permission from Microsoft Corporation

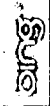


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Map from view of USGS - 2014-01-28

This map is a general representation of the terrain and does not show any features within the U.S. shown on this map have been field located by means of sub-meter GPS technology and are for planning purposes only. The map is a general representation of the terrain and does not show any features within the U.S. shown on this map have been field located by means of sub-meter GPS technology and are for planning purposes only.



Match Line  
Sheet 9 / 10

Match Line  
Sheet 10 / 11

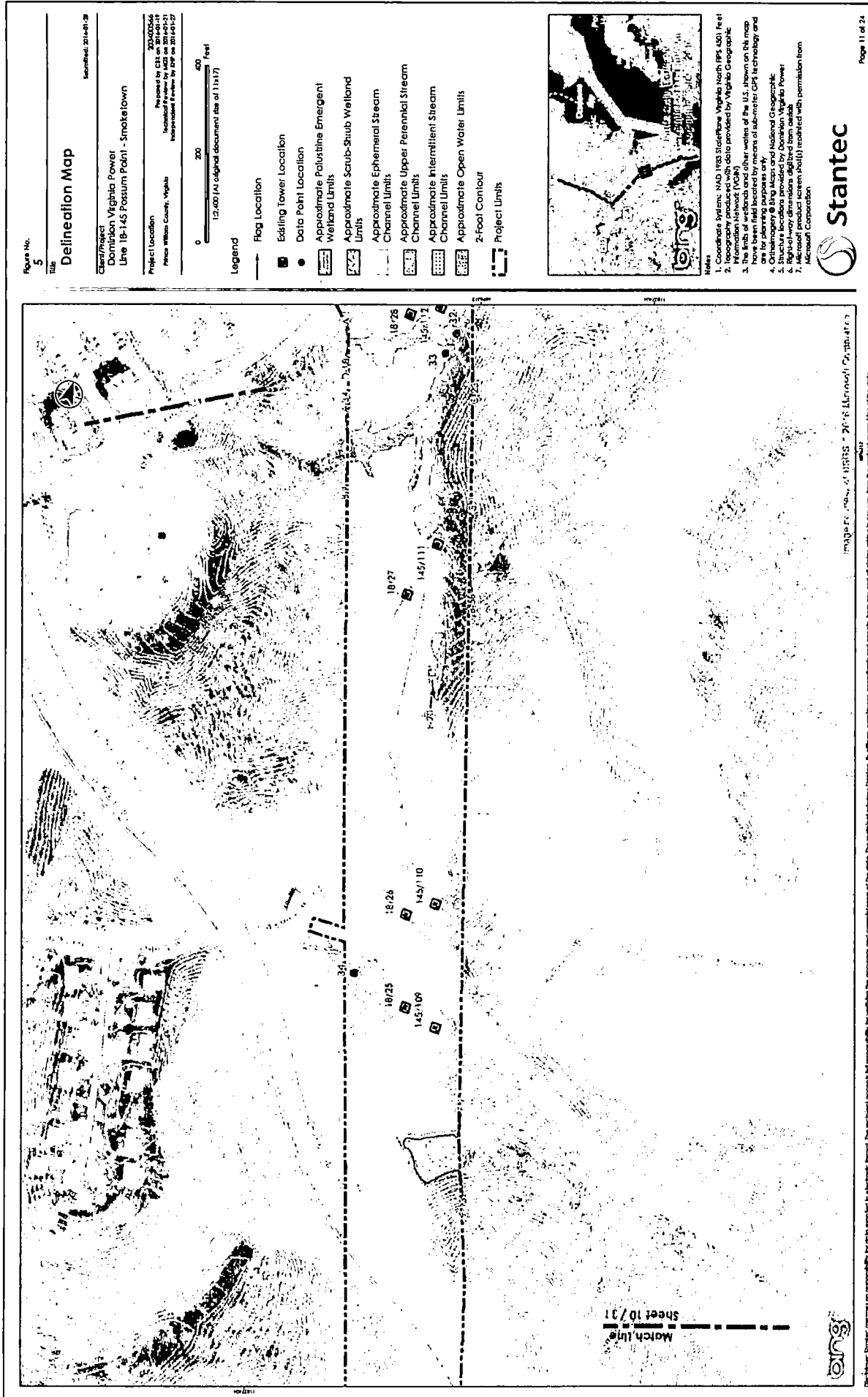


Figure No.  
5

# **Delineation Map**

**Client/Project**  
Dominion Virginia Power  
Line 18-145 Passum Point - Spotsdown

**Project Location**  
New River County, Virginia

**Scale**  
12.402 (AS) original document size of 11x17

**Revised**  
2014-04-28  
Revised by CLE on 2014-04-28  
Revised by CLE on 2014-04-28  
Revised by CLE on 2014-04-28

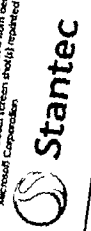
Legend

- Flag Location
- Existing Tower Location
- Data Point Location
- Approximate Pollutants Emergent Wetland Limits
- Approximate Scrub-Shrub Wetland Limits
- Approximate Ephemeral Stream Channel Limits
- Approximate Upper Perennial Stream Channel Limits
- Approximate Intermittent Stream Channel Limits
- Approximate Open Water Limits
- 2-Foot Contour
- Project Limits



**Notes**

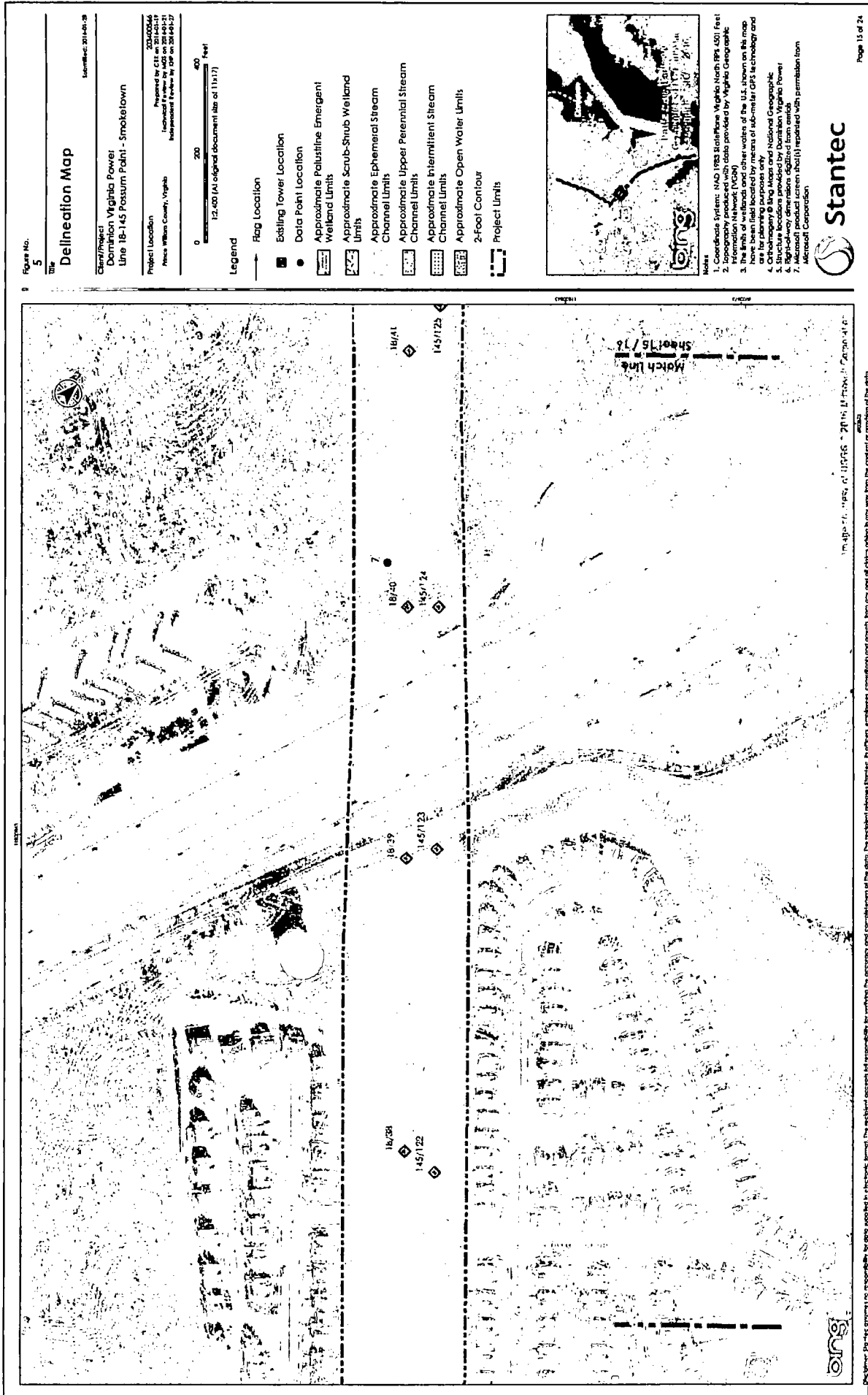
1. Coordinates System: NAD 1983 StatePlane Virginia North (FIPS 4501) Feet
2. Information produced by this map is based on data provided by Virginia Geographic Information Institute (VGINI).
3. The limits of Wetland (Wetland) have been identified by means of the U.S. Army Corps of Engineers (USACE) National Wetland Inventory (NWI) and other sources of the U.S. Army Corps of Engineers (USACE) National Wetland Inventory (NWI).
4. Other planning purposes by means of the U.S. Army Corps of Engineers (USACE) National Wetland Inventory (NWI).
5. Structure Agency (Virginia) and National Geographic.
6. Right-of-way shown are provided by Dominion Virginia Power.
7. All wetland areas are delineated by Dominion Virginia Power.
8. All wetland areas are delineated by Dominion Virginia Power.

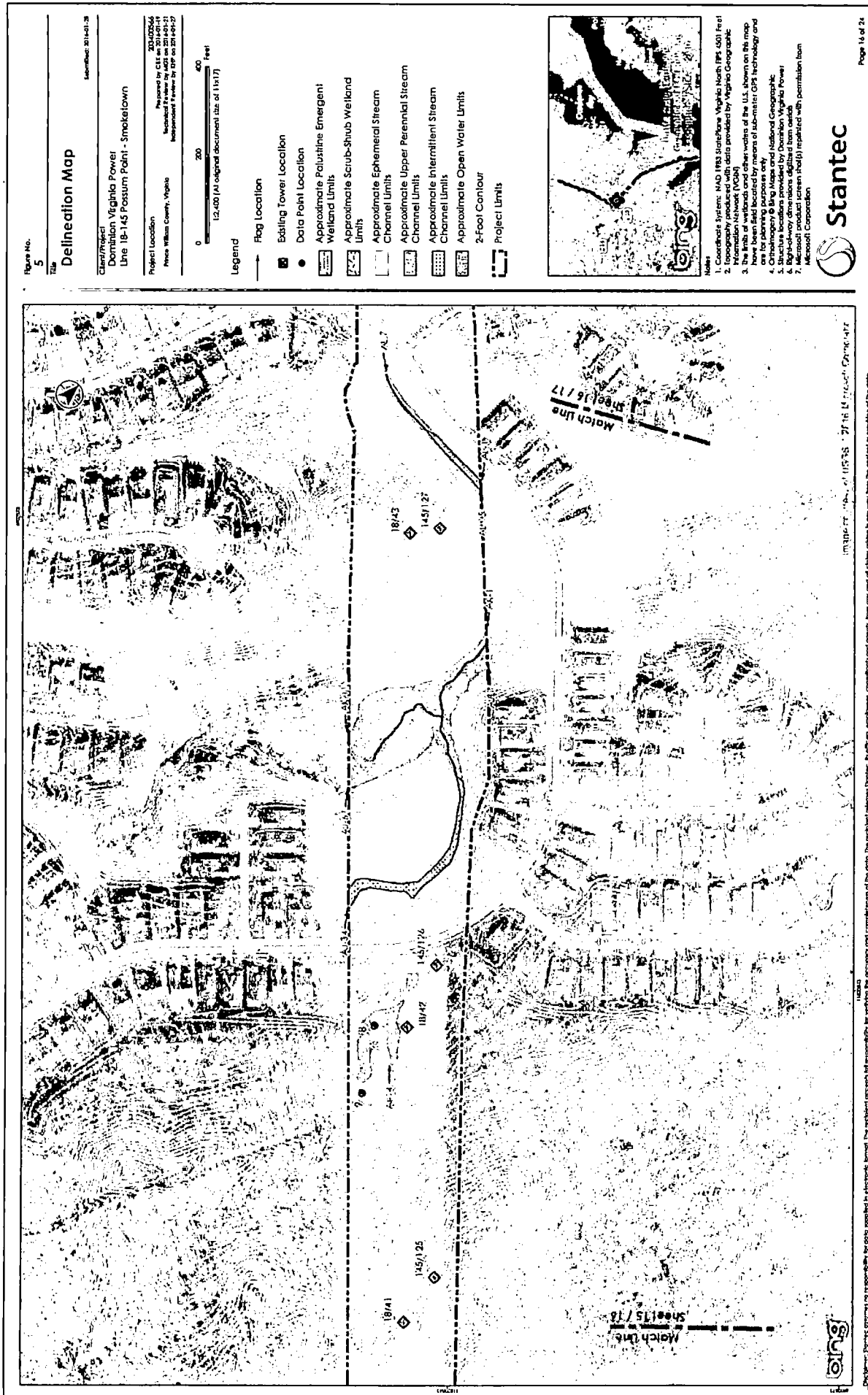




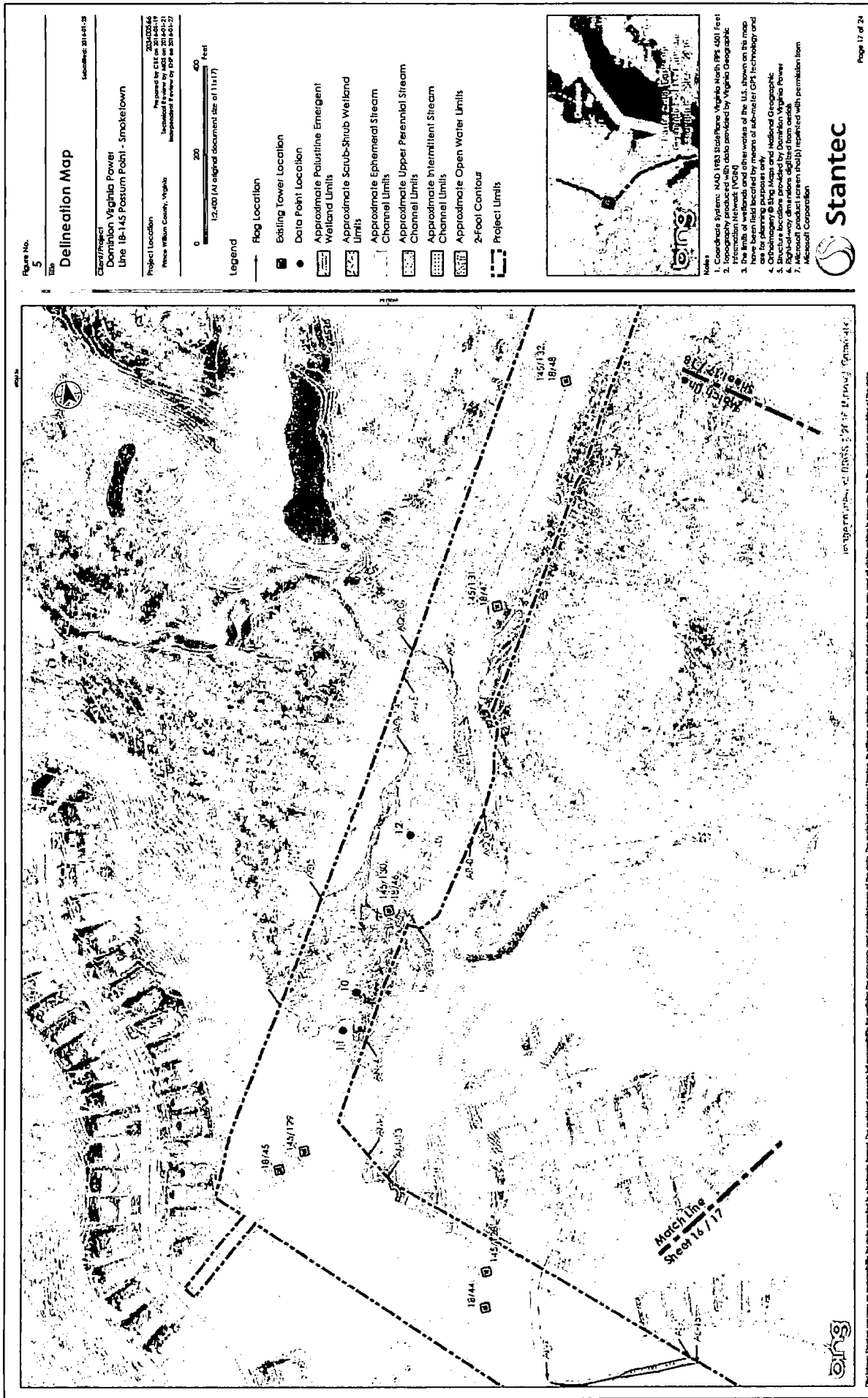


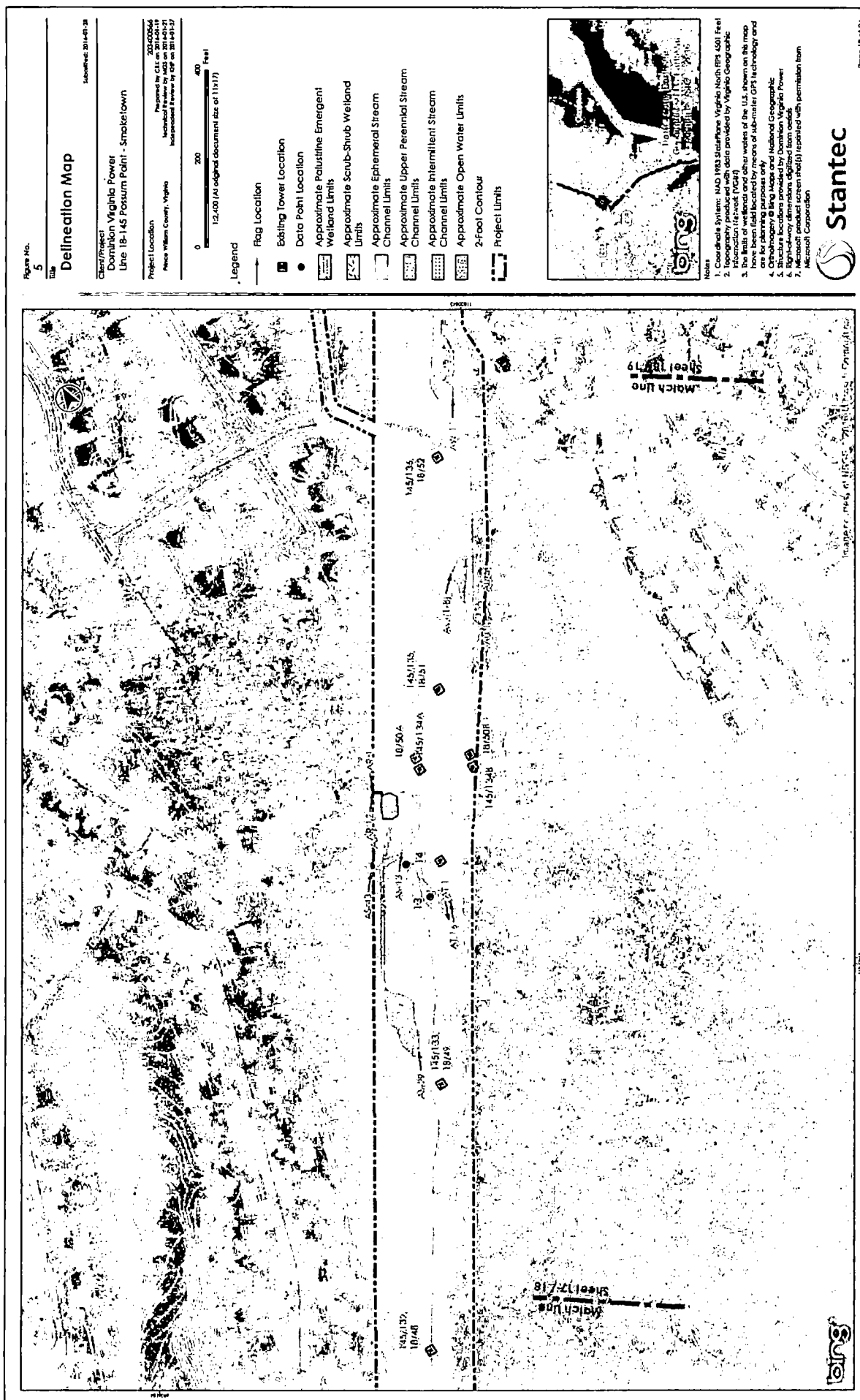
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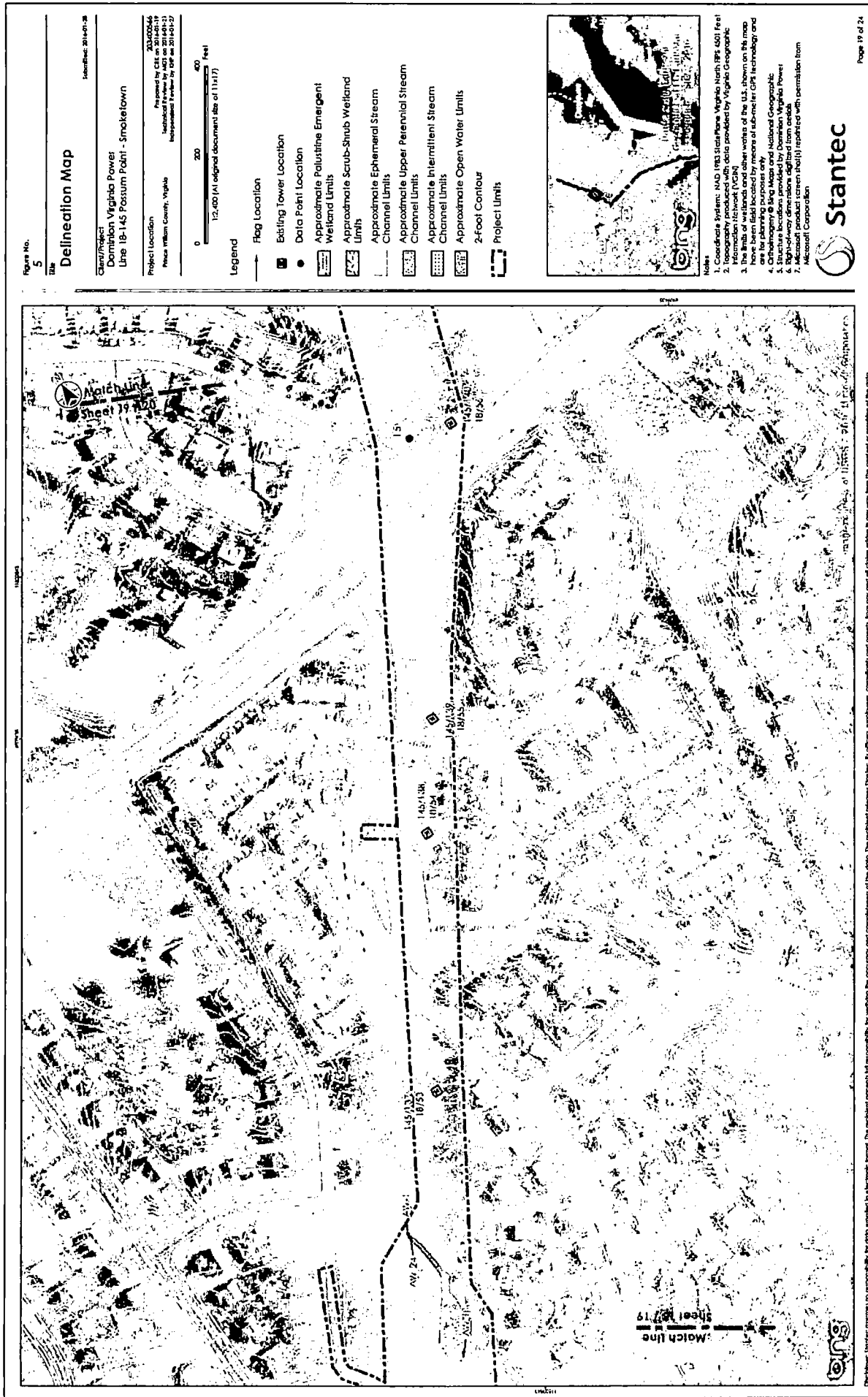




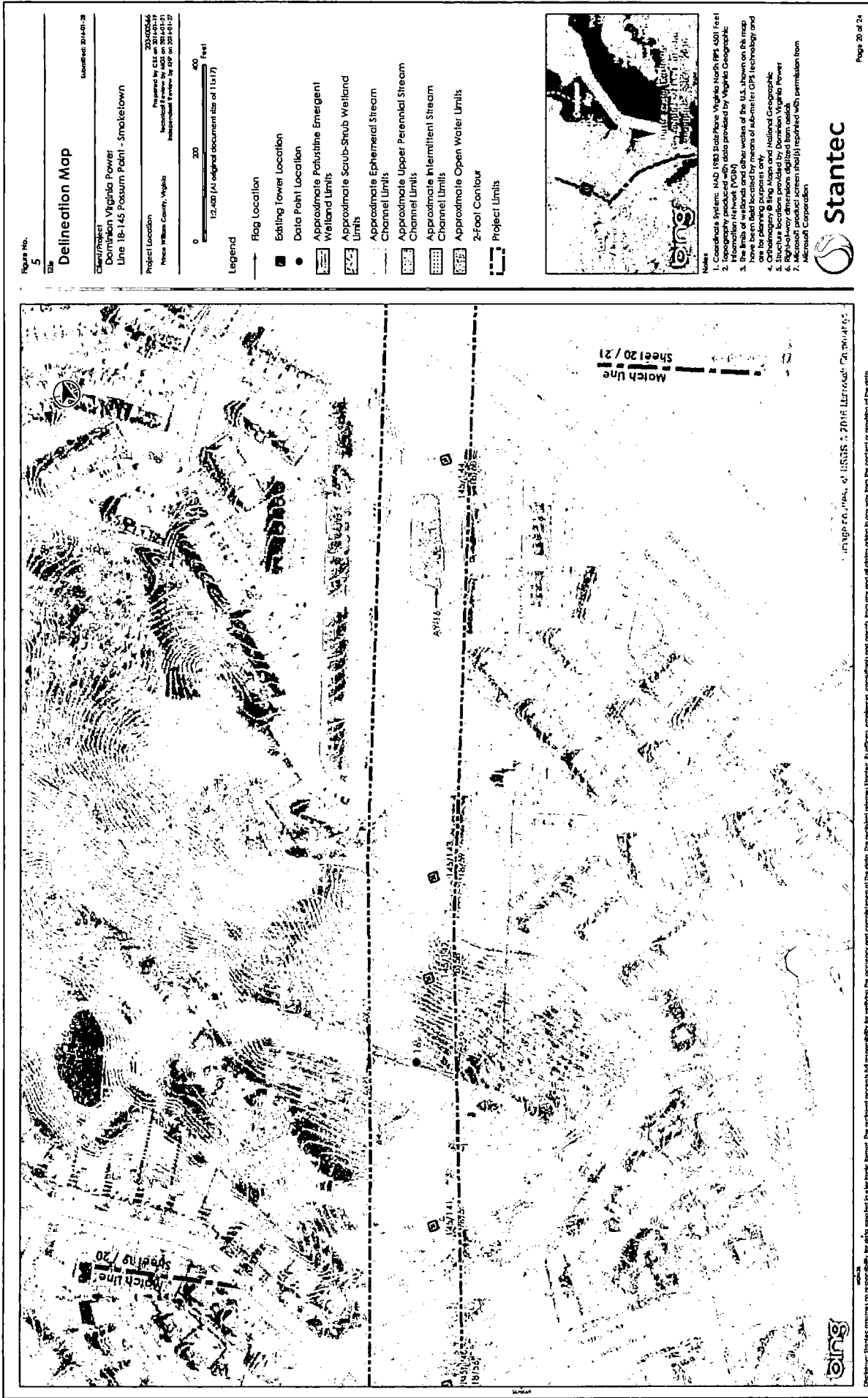




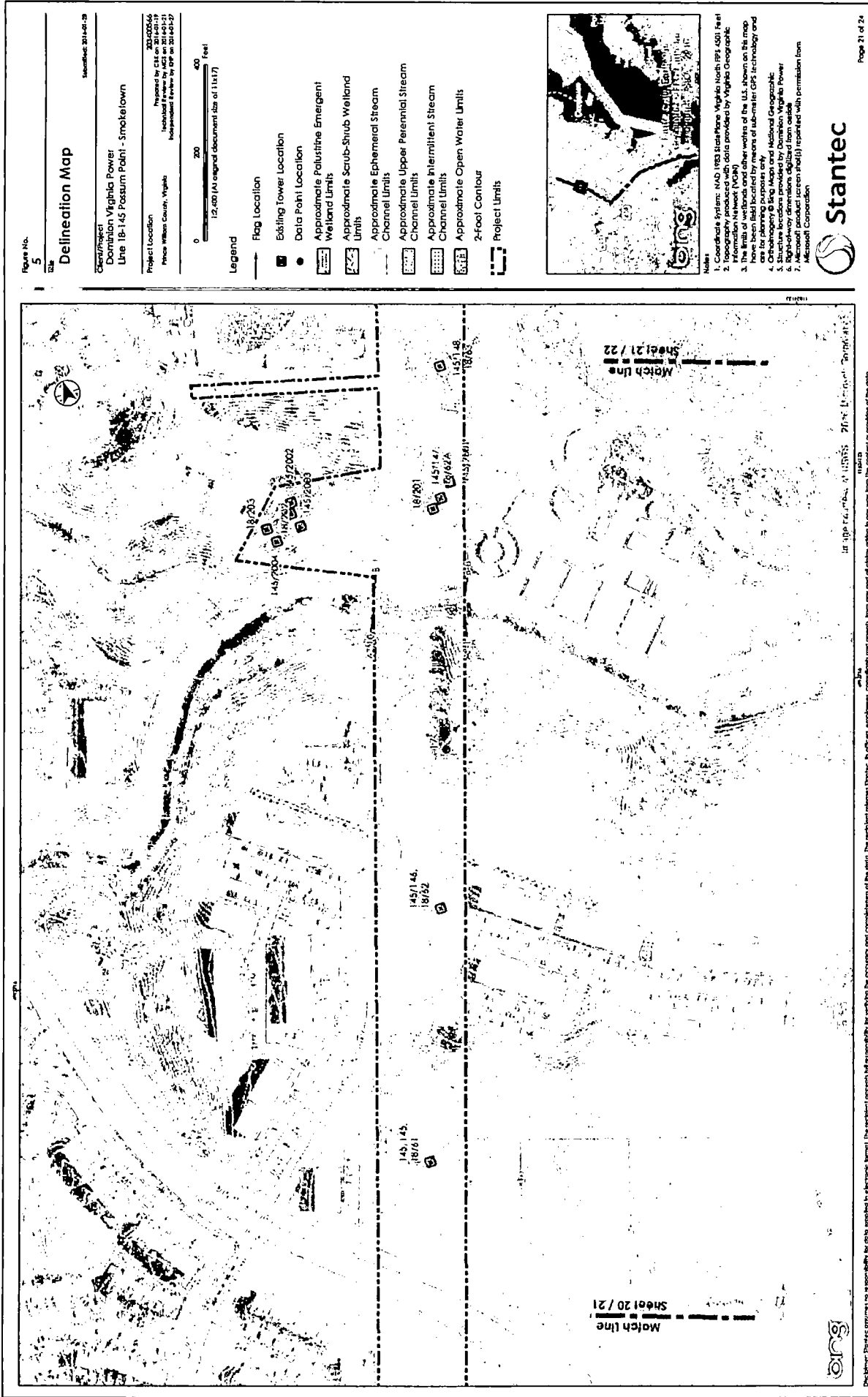




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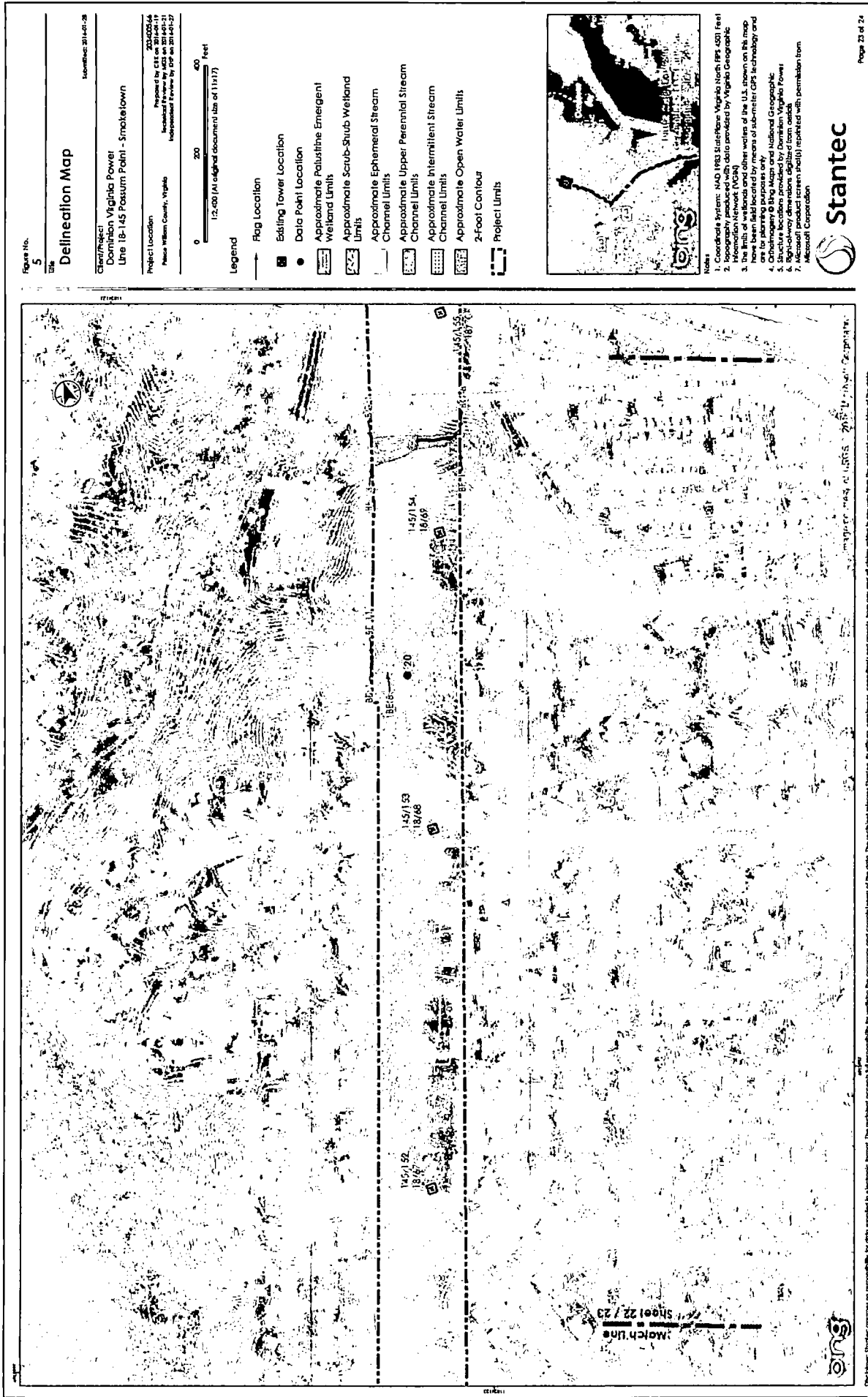
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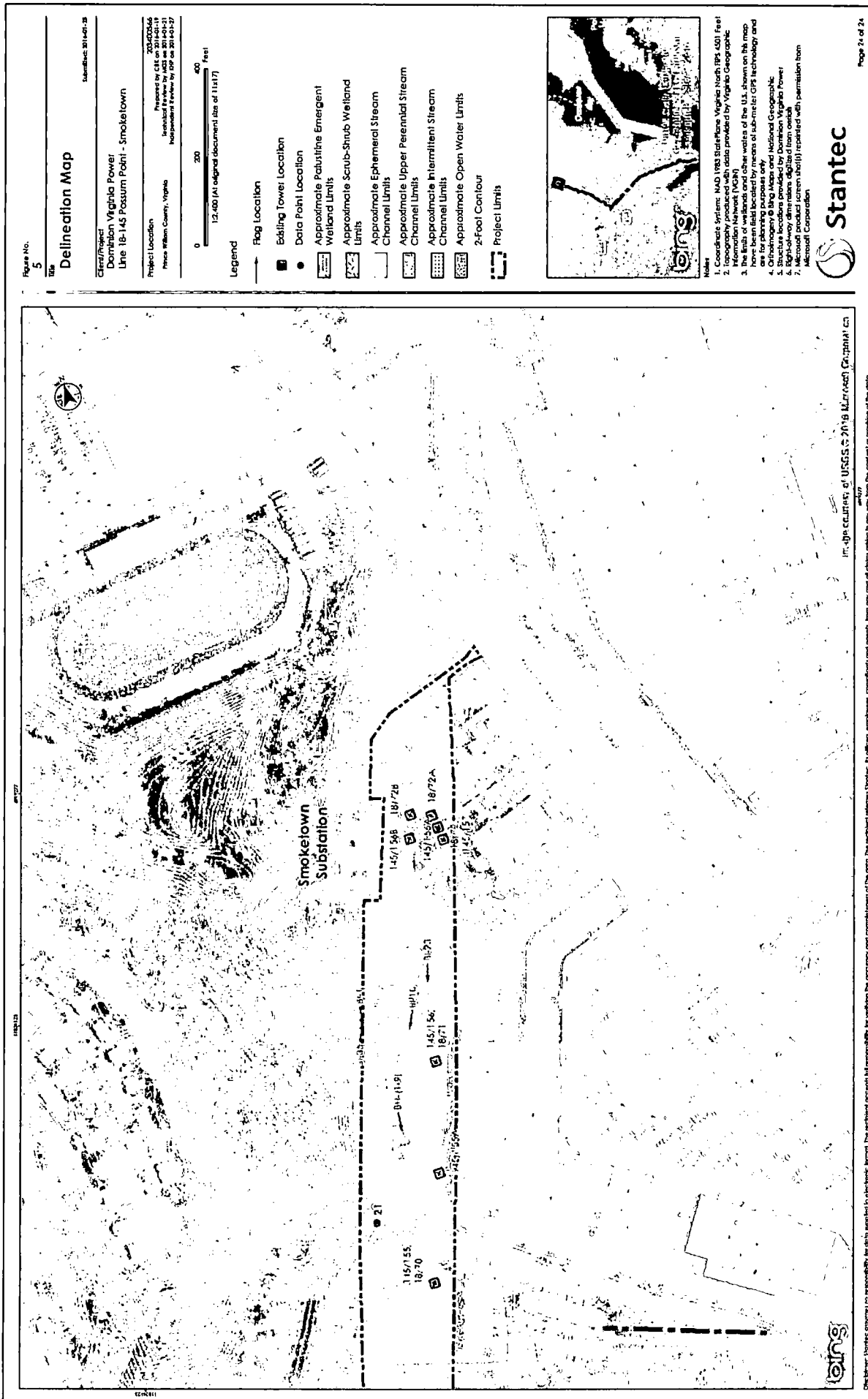


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**Attachment 2.E.1**  
**Solid and Hazardous Waste Review**



## Memo

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To:	Amanda Mayhew	From:	Corey Gray
	Dominion Virginia Power		Stantec Consulting Services Inc.
	701 E. Cary Street, 12th Floor		5209 Center Street
	Richmond, Virginia 23219		Williamsburg, VA 23188
File:	203400566	Date:	January 13, 2017

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**Reference: Possum Point-Smoketown Rebuild Project: Solid & Hazardous Waste Search**

Stantec conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed Possum Point-Smoketown Rebuild Project. The project is located in Prince William County, Virginia and consists of a rebuild of two 115 kV transmission lines to 230 kV capacity. Publicly available data from the Environmental Protection Agency (EPA) Facility Registry System was obtained, which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set contains all sites subject to environmental regulation by the EPA or other state authority, including sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs, such as Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); or brownfield sites. According to this database, twenty-seven registered RCRA sites are present within the project radius. All are small in scale and all but one fall outside the right-of-way of the proposed project (Table 1). A-Annadale Inc. is a RCRA site with coordinates that locate the site at the end of Possum Point Road and within the project right-of-way (ROW) and within the Possum Point Power Station property. However, the street address for this noted RCRA facility is located approximately 1 mile from the project ROW. The Virginia Department of Environmental Quality (DEQ) Virginia Environmental Geographic Information System (VEGIS) does not show a RCRA site within the project ROW. Therefore, it appears that the EPA database may be in error and no RCRA sites are located within the project ROW.

DEQ records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites and petroleum releases within 0.5 miles of the proposed project. Twenty-eight petroleum release sites were identified by the DEQ within the search radius, none of which fall within the right-of-way of the proposed project and all cases have been closed (Table 2). These petroleum release sites may include aboveground storage tank and underground storage tank (UST) releases, as well as aboveground spills. Dominion has a procedure in place to handle petroleum contaminated soil, if encountered; however, as all of the release sites are located outside of the project area, none of the petroleum release sites are expected to impact the proposed project.

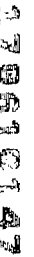
DEQ records show a closed construction demolition debris (CDD) landfill within the ROW near the Possum Point Power Station. This location also corresponds to a surface impoundment that Dominion used to store coal combustion residuals (CCR) from the Possum Point Power Station. Dominion is currently removing the CCR from this site under authorization from DEQ and in accordance with 40 CFR Part 257 Subpart D.

If you have any questions regarding the details presented in this report, please feel free to contact me at your convenience.



January 13, 2017  
Amanda Mayhew  
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Attachment 2.E.1  
Page 2



**Reference: Possum Point-Smoke town Rebuild Project: Solid & Hazardous Waste Search**

**Stantec Consulting Services Inc,**

A handwritten signature in black ink that reads "Corey P. Gray".

Corey P. Gray  
Senior Environmental Scientist  
(757) 220-6869  
Corey.gray@stantec.com



January 13, 2017  
Amanda Mayhew  
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Reference: Possum Point-SmokeTown Rebuild Project: Solid & Hazardous Waste Search

**Table 1.** Hazardous waste sites identified by the EPA as occurring within 0.5-mile of the Line 18 Rebuild project

Site Name	Regulation	Location	Latitude	Longitude	Distance (Miles)
7-ELEVEN, INC. # 32149	RCRA	DUMFRIES	38.58762	-77.30625	189
A-ANNANDALE INC	RCRA	DUMFRIES	38.53824	-77.281848	241
ABERCROMBIE & FITCH	RCRA	WOODBIDGE	38.64514	-77.299559	1,135
BETTY BRITE CLEANERS - WOODBIDGE	AIR, AIRS/AFS, CEDS, RCRA	WOODBIDGE	38.63849	-77.298508	1,224
COSTCO WHOLESALE #626	ICIS, RCRA	WOODBIDGE	38.64515	-77.299481	1,147
CVS PHARMACY #6852	RCRA	DUMFRIES	38.5892	-77.30491	867
DIP N STRIP	RCRA	DUMFRIES	38.58547	-77.307849	689
EXXON CO USA #28046	RCRA	WOODBIDGE	38.63954	-77.29672	1,569
FESTIVAL CLEANERS - POTOMAC MILLS ROAD	AIR, AIRS/AFS, CEDS, RCRA	WOODBIDGE	38.63572	-77.297234	1,922
FIRESTONE STORES	RCRA	WOODBIDGE	38.63934	-77.295635	1,885
GREAT AMERICAN CLEANERS	RCRA	WOODBIDGE	38.63552	-77.297817	1,793
HOLLISTER CO.	RCRA	WOODBIDGE	38.64514	-77.299559	1,135
IKEA US EAST, LLC - 168	RCRA	WOODBIDGE	38.64627	-77.29439	2,432
KAISER PERMANENTE WOODBIDGE	RCRA	WOODBIDGE	38.63842	-77.2949	2,198
KENS TRUCK REPAIR	RCRA	DUMFRIES	38.58925	-77.31726	1,609
KMART #3512	RCRA	WOODBIDGE	38.62713	-77.30195	1,766
MOBIL OI CORP SS# BGV	RCRA	WOODBIDGE	38.63737	-77.29866	1,325
PENSKE AUTO CENTER	RCRA	WOODBIDGE	38.62713	-77.30195	1,766

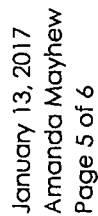


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Amanda Mayhew  
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Reference: Possum Point-SmokeTown Rebuild Project: Solid & Hazardous Waste Search

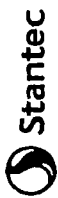
Site Name	Permitting Agency	County	Latitude	Longitude	Area (sq. ft.)
POSSUM POINT POWER STATION	AIR, AIRS/AFS, CAMDBS, CEDRI, CEDS, E-GGRT, EGRID, EIA-860, EIS, ICIS, NCDB, NPDES, OIL, RBLG, RCRA, TRIS	DUMFRIES	38.5391	-77.2786	946
POTOMAC MILLS EXXON	RCRA	WOODBIDGE	38.63954	-77.29672	1,569
POTOMAC NEWS	RCRA	WOODBIDGE	38.64391	-77.301382	578
SAMS CLUB NO 6371	RCRA	WOODBIDGE	38.64712	-77.29463	2,576
SHOPPERS #2381	RCRA	DUMFRIES	38.59638	-77.332428	2,824
STAR ENTERPRISE	RCRA	WOODBIDGE	38.62744	-77.299621	2,355
SUN DRYCLEANING	AIR, AIRS/AFS, CEDS, RCRA	DALE CITY	38.6272	-77.2997	2,363
TARGET STORE T2017	BR, RCRA	DUMFRIES	38.59737	-77.33307	2,739
WALMART SUPERCENTER #3588	RCRA	DUMFRIES	38.58227	-77.31013	1,975

1. The coordinates for this facility appear to be incorrect as the street address in the record does not match this location, nor does this site appear in the DEQ database.



**Table 2.** Petroleum releases identified by the DEQ as occurring within 0.5 mile of the Line 18 Rebuild project

Site Name	Site No.	County	City	Area	Longitude	Latitude	Status	Notes
ConocoPhillips Station 2635157	20043327	Dumfries		38.58388	-77.3081	Closed	Y	1,157
Dale City Shell #139517	20063270	Dale City		38.62767	-77.3024	Closed	Y	1,568
Dale City Texaco	20053282	Dale City		38.62814	-77.2984	Closed	Y	2,592
Dale City Volunteer Fire Department	19963162	Dale City		38.6281	-77.3104	Closed	N	629
Dip n Strip	19890055	Triangle		38.58414	-77.3083	Closed	N	1,117
Dominion Possum Point Power Station	20013150	Dumfries		38.53789	-77.2798	Closed	N	439
Dominion Possum Point Power Station	20013228	Dumfries		38.53803	-77.2812	Closed	N	101
Duncan Greg and Molly Rental Property	20063130	Dumfries		38.60303	-77.3317	Closed	N	1,904
Duncan Molly Rental Property	20053194	Dumfries		38.60303	-77.3317	Closed	N	1,915
Exxon 28046	19910911	Woodbridge		38.63893	-77.298	Closed	Y	1,313
Exxon 28046	20033161	Woodbridge		38.6389	-77.298	Closed	N	1,304
Exxon Station 28046	20043246	Woodbridge		38.63891	-77.2983	Closed	N	1,213
Hydro Raelene Property	20123168	Dumfries		38.5693	-77.2879	Closed	N	1,055



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Reference: Possum Point-Smoketown Rebuild Project: Solid & Hazardous Waste Search

Site Name	Parcel Number	County	Latitude	Longitude	Status	Confirmed	Estimated Volume (cubic yds)
Irwin William L and Howard Martha Residence	20073164	Dumfries	38.61249	-77.3237	Closed	Confirmed	1,714
Kens Truck Repair	19993374	Dumfries	38.58865	-77.3168	Closed	Confirmed	1,664
Mobil 16BGV	19954173	Woodbridge	38.63719	-77.2983	Closed	Confirmed	1,450
Nelson Property	19911884	Montclair	38.60273	-77.3336	Closed	Confirmed	2,420
Potomac High School	19954232	Dumfries	38.59681	-77.3081	Closed	Confirmed	2,183
Prince William VFD Dale City	19870325	Dale City	38.62819	-77.3104	Closed	Confirmed	639
Sunoco 0810 7039 01	20103259	Woodbridge	38.63834	-77.2933	Closed	Confirmed	2,633
Texaco	20063101	Woodbridge	38.63703	-77.2982	Closed	Confirmed	1,500
Texaco 230680048	19860212	Woodbridge	38.64002	-77.2943	Closed	Confirmed	2,159
Tosco 2634870 - former Mobil 16BGV	19953881	Dale City	38.62823	-77.2986	Closed	Confirmed	2,539
VEPCO - Possum Point Power Station	20013045	Woodbridge	38.63698	-77.2981	Closed	Confirmed	1,539
Virginia Electric Power - APAC Virginia	19860023	Dumfries	38.53587	-77.2809	Closed	Confirmed	596
Virginia Power - Possum Point	19983621	Dumfries	38.54039	-77.2839	Closed	Confirmed	236
Virginia Power - Possum Point	19921506	Dumfries	38.53814	-77.2808	Closed	Confirmed	235

**Attachment 2.F.1**  
**Listed Species Review**





## Memo

January 13, 2017  
Amanda Mayhew  
Page 1 of 6

**Reference:** Possum Point-Smoketown Rebuild Project: Threatened and Endangered Species Review

To: Amanda Mayhew

From: Corey Gray

Dominion Virginia Power  
701 E. Cary Street, 12th Floor  
Richmond, VA 23219

Stantec Consulting Services, Inc.  
5209 Center Street  
Williamsburg, VA 23188

File: 203400566

Date: January 13, 2017

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**Reference: Possum Point-Smoketown Rebuild Project: Threatened and Endangered Species Review**

Online database searches for threatened and endangered species were completed by Stantec for the Possum Point to Smoketown Project located in Prince William County, Virginia. The project will take place within the existing 8.4-mile, cleared and maintained transmission line right-of-way (ROW) and no additional ROW is required. The project consists of rebuilding the existing 115 kV transmission line at 230 kV capacity. The online database searches included the following:

- U.S. Fish & Wildlife (USFWS) Information, Planning, and Conservation system
- Virginia Department of Game and Inland Fisheries (DGIF)
- Virginia Fish and Wildlife Information Service (VAFWIS)
- DGIF NLEB Winter Habitat and Roost Trees application
- Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer (NHDE)
- Center for Conservation Biology (CCB) Bald Eagle Nest Locator for Virginia.

## Results

The DGIF VAFWIS search was conducted for a two-mile radius of the proposed project. Search results identified four confirmed anadromous fish use streams within the project vicinity: Neabsco Creek, Potomac River, Quantico Creek, and Powells Creek. Species with confirmed or potential observations within the project vicinity have been identified by database searches and are provided below in Table 1.

**Reference:** Possum Point-Smoketown Rebuild Project: Threatened and Endangered Species Review

**Table 1.** Database Search Results

Species	Status	Database	Results
Harperella <i>Ptilimnium nodosum</i>	FE, SE	USFWS	Identified by USFWS as potentially occurring in the vicinity of the project.
Small whorled pogonia <i>Isotria medeoloides</i>	FT, SE	USFWS, DCR	Identified as potentially occurring in the vicinity of the project.
Northern long-eared Bat <i>Myotis septentrionalis</i>	FT, ST	USFWS, DGIF	Identified as potentially occurring in the vicinity of the project. No known hibernacula or maternity roost trees within Prince William County.
Water boatman <i>Sigara depressa</i>	SE	DCR	Identified as potentially occurring within the project vicinity.
Wood Turtle <i>Glyptemys insculpta</i>	ST	DGIF	Identified as potentially occurring within the project vicinity.
Peregrine Falcon <i>Falco peregrinus</i>	ST	DGIF	Two confirmed observations nearby Possum Point in 2009 and 2010. One nest currently located at Possum Point Power Station.
Bald Eagle <i>Haliaeetus leucocephalus</i>	BGEPA	CCB, DGIF	One nest within 330-foot radius of project location; last recorded activity 2016. Nest approximately 255 feet from transmission line. Depending on construction timing, Eagle Act Permit may be required.

FT: federally threatened, FE: federally endangered, ST: state threatened, SE: state endangered, BGEPA: Bald and Golden Eagle Protection Act

## Conclusion

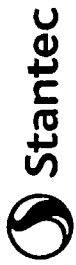
The following conclusions are based upon the proposed scope of work, as described by Dominion. This scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings with no in-stream work being required. Erosion and sediment controls would be used as appropriate throughout the project. No anadromous fish streams will be crossed by construction access. Under these conditions, impacts to listed aquatic species or anadromous fish use streams would not be expected. Therefore, impacts to the water boatman, are not expected. The wood turtle requires forested riparian corridors along perennial streams. Vegetation within the transmission ROW is maintained as herbaceous or

**Design with community in mind**

**Reference:** Possum Point-Smoketown Rebuild Project: Threatened and Endangered Species Review

scrub/shrub and would not be suitable wood turtle habitat. Therefore, impacts to the wood turtle are not expected.

There is a peregrine falcon nest present at the Possum Point Power Station; however, this nest is greater than 600 feet from proposed construction activities. Therefore, the project would not be expected to impact the peregrine falcon. The northern long-eared bat has been identified by USFWS as potentially occurring within the project area; however, DGIF records indicate that no known hibernacula or maternity roost trees occur within Prince William County. Federally listed plants, harperella and small whorled pogonia, have been identified as potentially occurring within the project vicinity. Small whorled pogonia habitat consists of mature forest, which does not exist within the project ROW. Harperella may be found in saturated wetlands or along streams with fluctuating water levels. Appropriate habitat is not expected to occur within the project ROW and the use of timber mats within wetlands and across streams would be expected to minimize impacts. One bald eagle nest is present within the project area, approximately 255 feet from the transmission line. To avoid the need for an eagle incidental take permit, no work should occur between December 15-July 15 within 660 feet of the nest. Additionally, structures 18/1 through 18/5 are located within an eagle shoreline concentration area. To avoid the need for an eagle incidental take permit, no work should occur on these structures from the periods of May 15-August 31 and December 15-March 15. If construction must occur in these areas during the noted months, Dominion should coordinate with USFWS to determine whether an Eagle Act Permit may be required. The complete results from the database searches are provided for your reference as well as a Species Conclusion Table for use in agency coordination.



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Amanda Mayhew  
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# Memo

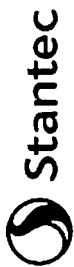
**Reference:** Possum Point-SmokeTown Rebuild Project: Threatened and Endangered Species Review

## Species Conclusions Table Federal Listed Species

Species/ Resource Name	Conclusion	ESA Section 7/ Eagle Act Determination	Notes/ Documentation
Harperella ( <i>Platimium nodosum</i> ) Federal Endangered USFWS IPAC	Habitat not likely present.	May affect, not likely to adversely affect.	The project will take place within the cleared transmission line right-of-way and will continue to be maintained as such upon completion of the project. Timber mats will be used to cross wetlands and streams.
Small whorled pogonia ( <i>Isoetia medeoloides</i> ) Federal Threatened State Endangered USFWS, DCR	No habitat present in project area.	No effect	The project will take place within the cleared transmission line right-of-way and will continue to be maintained as such upon completion of the project. Timber mats will be used to cross wetlands and streams.

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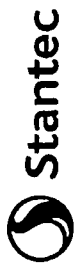
January 13, 2017  
Amanda Mayhew  
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**Reference:** Possum Point-SmokeTown Rebuild Project: Threatened and Endangered Species Review

Northern long-eared bat ( <i>Myotis septentrionalis</i> )  Federal Threatened State Threatened  USFWS, DGIF	No hibernacula or maternity roost trees known to occur within project county.	May affect, not likely to adversely affect.	This bat generally relies on intact interior forest habitat, with low edge-to-interior ratios. The project area is predominantly developed and will take place within the cleared transmission line right-of-way. No tree clearing is proposed.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )  CCB, DGIF	Depending on construction timing, Eagle Act Permit may be required.	May disturb if time-of-year restrictions not implemented	One nest located within 330 feet of transmission line. Structures 18/1 through 18/5 located within shoreline concentration area.
Critical Habitat	No critical habitat present		No critical habitat present (Source: USFWS IPAC). However, critical habitat for Atlantic sturgeon is proposed within the main stem of the Potomac River.

Design with community in mind

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January 13, 2017  
Amanda Mayhew  
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# Memo

**Reference:** Possum Point-SmokeTown Rebuild Project: Threatened and Endangered Species Review

## State Listed Species

Species/ Resource Name	Conclusion	Determination	Notes/ Documentation
Water boatman ( <i>Sigara depressa</i> ) State Endangered DCR	Identified as potentially occurring within Neabsco Creek conservation unit.	No effect	No in-stream work is proposed and erosion and sediment controls will be used as appropriate throughout the project. Under these conditions, no impacts to this species or its habitat are expected.
Wood Turtle ( <i>Glyptemys insculpta</i> ) State Threatened DGIF	Predicted habitat identified within Neabsco creek within the project vicinity, however no survey has been conducted.	No effect	No in-stream work is proposed and erosion and sediment controls will be used as appropriate throughout the project. Under these conditions, no impacts to this species or its habitat are expected.
Peregrine Falcon ( <i>Falco peregrinus</i> ) State Threatened DGIF	Nest present at Possum Point Power Station.	No adverse effect.	Historically confirmed observations nearby Possum Point; one nest present at Possum Point Power Station, but greater than 600 feet from proposed construction.

Design with community in mind

\\us12&5-01\shared\_protects\2013-000566\05\_report\_del\A\mem\_te.docx

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**Attachment 2.F.2**

**Department of Conservation and Recreation  
Division of Natural Heritage  
Response**

Molly Joseph Ward  
*Secretary of Natural Resources*

Clyde E. Cristman  
*Director*



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

Rochelle Altholz  
*Deputy Director of  
Administration and Finance*

David C. Dowling  
*Deputy Director of  
Soil and Water Conservation  
and Dam Safety*

Thomas L. Smith  
*Deputy Director of Operations*

December 29, 2016

Mitchell Jabs  
Stantec Consulting Services, Inc.  
5209 Center Street  
Williamsburg, VA 23185

Re: Line 18-145 Possum Point-Smoketown

Dear Ms. Jabs:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

**Occoquan and Quantico Quad:**

According to the information currently in our files, the Unnamed Tributary to Neabsco Creek Stream Conservation Unit (SCU) is located downstream of the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Unnamed Tributary to Neabsco Creek SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resource associated with this site is:

Aquatic Natural Community  
(NP-Middle Potomac-Anacostia-Occoquan First Order Stream) G3G4/S3S4/NL/NL

The documented Aquatic Natural Community based on Virginia Commonwealth University's INSTAR (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. These data represent fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. The associated Aquatic Natural Community is significant on multiple levels. First, this stream is a grade B, per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. This stream reach also holds a "Healthy" stream designation per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this stream to ideal stream conditions of biology and habitat for this region. Lastly, this stream contributes to high Biological Integrity at the watershed level (6<sup>th</sup> order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

600 East Main Street, 24<sup>th</sup> Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning  
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*



Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species.

#### Quantico Quad:

According to the information currently in our files, the Powells Creek Conservation Site is located downstream of the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Powell Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Tidal Freshwater Marsh (Mixed High Marsh Type)

GNR/S4?/NL/NL

Tidal Freshwater Marsh (Mixed High Marsh Type) (*Impatiens capensis*-*Peltandra virginica*-*Polygonum arifolium*-*Schoenoplectus fluviatilis*-*Typha angustifolia* Tidal Herbaceous Vegetation) occupies the higher elevation zone of freshwater to slightly oligohaline marshes on the Atlantic Coast from Maine to Virginia. From Delaware to northern Virginia, this is the principal mixed freshwater tidal marsh community and forms extensive patches along many tidal rivers. This community is composed of mixed, dense, and often diverse marsh vegetation with highly variable species composition and patch dominance. The soils are highly variable, varying from silts and silty mucks to peats and sands across the range (NatureServe, 2010). In Virginia, this community occurs most extensively in estuarine reaches of the Potomac River drainage, but has also been documented along the Rappahanock, Pamunkey, Mattaponi, and James Rivers.

Freshwater tidal marshes are naturally dynamic systems that are best developed where there is a major input of freshwater, daily tidal range of at least 0.5 m, and a geomorphology that tends to constrict and magnify tidal influence in the upper reaches of the estuary. These marshes are subject to diurnal flooding by tides and river discharge (NatureServe, 2010). Principal threats include chronic sea-level rise leading to increasing upstream salinity, pollutants, and invasive exotic plants such as marsh dewflower (*Murdannia keissak*) (Fleming et al. 2011).

Furthermore, Hard-stem bulrush (*Schoenoplectus acutus* var. *acutus*, G5T5/S1/NL/NL) has been historically documented downstream of the project site. Hard-stem bulrush is a member of the sedge family and is found in wetlands across North America (Flora of North America Editorial Committee 2002). In Virginia it has only been documented historically in a few scattered locations in a calcareous fen in the Ridge and Valley region, and in marshes in the Northern Piedmont /Northern Coastal Plain regions (Virginia Botanical Associates 2011). This tall, stout, rhizomatous, colonial, perennial bulrush produces fruit during the summer (Gleason and Cronquist 1991), and surveys would best be conducted from July-August. Threats include direct habitat destruction, hydrological disturbances, and water quality degradation.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations, establishment/enhancement of riparian buffers with native plant species and maintaining natural stream flow.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$95.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, **DCR - Division of Natural Heritage, 600 East Main Street, 24<sup>th</sup> Floor, Richmond, VA 23219.** Payment is due within thirty days of the invoice date. Please note the change of address for remittance of payment as of July 1, 2013. Late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or [Ernie.Aschenbach@dgif.virginia.gov](mailto:Ernie.Aschenbach@dgif.virginia.gov).

Should you have any questions or concerns, feel free to contact me at (804) 692-0984. Thank you for the opportunity to comment on this project.

Sincerely,



Alli Baird, LA, ASLA  
Coastal Zone Locality Liaison

#### Literature Cited

Flora of North America Editorial Committee. 2002. Flora of North America North of Mexico, Volume 23, Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press: New York and Oxford. 608 pp.

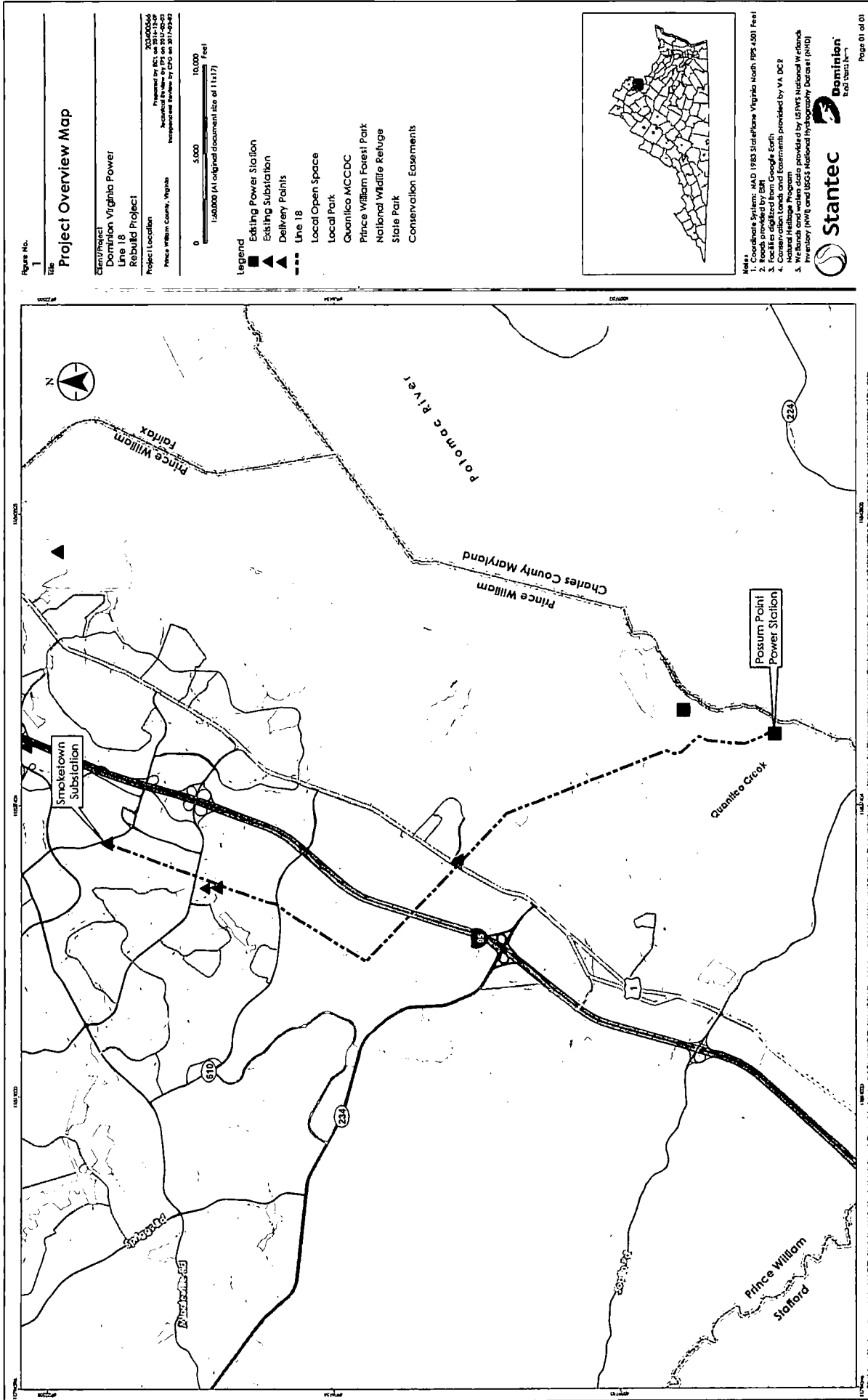
Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2011. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.4. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.

Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. Second Edition. The New York Botanical Garden. Bronx, NY. 910 pp.

NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: December 13, 2011).

Virginia Botanical Associates. 2011. Digital Atlas of the Virginia Flora ([http://www.biol.vt.edu/digital\\_atlas/](http://www.biol.vt.edu/digital_atlas/)). c/o Massey Herbarium, Department of Biological Sciences, Virginia Tech, Blacksburg.

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## Natural Heritage Resources

### Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: Select All

State Legal Status: Select All

County: Prince William

Watershed (8 digit HUC): 02070010 - Middle Potomac-Anacostia-Occoquan,02070011 - Lower Potomac River

Planning District: Select All

Virginia Coastal Zone: Select All

Search Run: 9/2/2015 16:45:06 PM

### Result Summary

Total Species returned: 6

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	<u>Global Conservation Status Rank</u>	<u>State Conservation Status Rank</u>	<u>Federal Legal Status</u>	<u>State Legal Status</u>	Statewide Occurrences	Virginia Coastal Zone
<b>Prince William</b>							
Lower Potomac							
Northern Virginia							
HETEROPTERA (TRUE BUGS)							
Virginia	<u>Sigara</u>	G1G2	S1S2	SOC	LE	5	Y
Piedmont	<u>depressa</u>						
Water							
Boatman							
VASCULAR PLANTS							
Small	<u>Isotria</u>	G2	S2	LT	LE	48	Y
Whorled	<u>medeoloides</u>						
Pogonia							
Middle Potomac-Anacostia-Occoquan							
Northern Virginia							
BIVALVIA (MUSSELS)							
Brook Floater	<u>Alasmidonta</u>	G3	S1	None	LE	14	Y
	<u>varicosa</u>						
Yellow Lance	<u>Elliptio</u>	G2G3	S2S3	SOC	None	50	Y
	<u>lanceolata</u>						
VASCULAR PLANTS							
Small	<u>Isotria</u>	G2	S2	LT	LE	48	Y
Whorled	<u>medeoloides</u>						
Pogonia							
Torrey's	<u>Pycnanthemum</u>	G2	S2	SOC	None	15	Y
Mountain-mint	<u>m. torreyi</u>						

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

## **Attachment 2.G.1**

### **2016 Annual Standards and Specifications Approval**



**From:** Courtney R Fisher (Services - 6)  
**To:** Courtney R Fisher (Services - 6)  
**Subject:** FW: Dominion ET Standards & Specs  
**Date:** Thursday, December 08, 2016 3:31:00 PM

---

Courtney,

Per conversation, this extension will handle any gaps until we have a submission that is suitable for approval.

Please consider this your notification:

The Department will be administratively extending Dominion Electric Transmission's previously approved Annual Standards and Specifications until a FY2017 (State Fiscal Year: July 1 2016 – June 30, 2017) submission has been approved. At which point in time, the FY2017 submission will supersede this administratively extended version.

Please continue to notify the DEQ with the required project information as per the approved Annual Standards and Specifications prior to initiating land-disturbance.

Thank you,

Hannah

---

**From:** Zegler, Hannah (DEQ)  
**Sent:** Tuesday, October 18, 2016 3:49 PM  
**To:** 'Courtney R Fisher (Services - 6)'  
**Cc:** 'Jason P Ericson (Services - 6)'  
**Subject:** RE: Dominion ET Standards & Specs

Please see EDIT below.

---

**From:** Zegler, Hannah (DEQ)  
**Sent:** Tuesday, October 18, 2016 3:49 PM  
**To:** Courtney R Fisher (Services - 6)  
**Cc:** Jason P Ericson (Services - 6)  
**Subject:** RE: Dominion ET Standards & Specs

Please consider this your notification:

The Department will be administratively extending Dominion Electric Transmission's previously approved Annual Standards and Specifications until a FY2017 submission has been approved or 12/31/2016, whichever occurs first. At which point in time, the FY2017 submission will supersede this administratively extended version or an additional administrative extension may be given.

Please continue to notify the DEQ with the required project information as per the approved Annual Standards and Specifications prior to initiating land-disturbance.

Thank you,

Hannah

---

**From:** Courtney R Fisher (Services - 6) [<mailto:courtney.r.fisher@dom.com>]  
**Sent:** Tuesday, October 18, 2016 3:44 PM  
**To:** Zegler, Hannah (DEQ)  
**Cc:** Jason P Ericson (Services - 6)  
**Subject:** RE: Dominion ET Standards & Specs

Hannah-As discussed, we will be resubmitting next week or at the latest the 31<sup>st</sup>. Just because I'm a nervous nelly & don't want to not have coverage, could you send the extension prior to us sending the resubmission? Thanks.

*Courtney*

*Environmental Consultant Electric Transmission~ (804) 380-9335*

---

**From:** Zegler, Hannah (DEQ) [<mailto:Hannah.Zegler@deq.virginia.gov>]  
**Sent:** Thursday, October 06, 2016 8:39 AM  
**To:** Courtney R Fisher (Services - 6)  
**Cc:** Jason P Ericson (Services - 6)  
**Subject:** [External] RE: Dominion ET Standards & Specs

Courtney,

Yes of course. I can send an additional administrative extension when we receive your resubmission.

Thanks,

Hannah

---

**From:** Courtney R Fisher (Services - 6) [<mailto:courtney.r.fisher@dom.com>]  
**Sent:** Thursday, October 06, 2016 8:33 AM  
**To:** Zegler, Hannah (DEQ)  
**Cc:** Jason P Ericson (Services - 6)  
**Subject:** Dominion ET Standards & Specs

Hannah-Dominion ET is planning on resubmitting our revised S&S prior to 10/31; however, that bumps into the current approval expiration of 10/31. Will DEQ extend the 2013 S&S once again so we can maintain coverage? Thanks!

*Courtney*

Courtney R. Fisher//Environmental Consultant//Dominion Virginia Power, Dominion North Carolina Power  
701 E. Cary St.//Richmond, VA 23219//☎ Mobile (804) 380-9335//✉ [courtney.r.fisher@dom.com](mailto:courtney.r.fisher@dom.com)

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## **Attachment 2.H.1**

### **Stage 1 Pre-Application Analysis of Cultural and Historic Resources**

**STAGE I PRE-APPLICATION ANALYSIS  
FOR THE PROPOSED REBUILD OF  
POSSUM POINT TO SMOKETOWN 115  
kV LINES #145 AND #18, PRINCE  
WILLIAM COUNTY, VIRGINIA**

**VDHR File No. TBD**



Prepared for:  
Dominion Virginia Power  
Attention: Amanda Mayhew  
701 East Cary Street, 12th Floor  
Richmond VA 23319  
(804) 771-6145

Prepared by:  
Sandra DeChard  
Senior Architectural Historian

and

Ellen Brady  
Senior Principal Investigator

Stantec Consulting Services Inc.  
1049 Technology Park Drive  
Glen Allen VA 23059  
(804) 355-7200

April 26, 2017

## Executive Summary

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed rebuilding of the Possum Point to Smoketown 115 kV Lines #145 and #18 project in Prince William County, Virginia. Dominion, in order to maintain the structural integrity and reliability of its transmission system, to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards, and to provide for the overall growth in the area, proposes to rebuild, entirely within an existing right-of-way (ROW), approximately 8.4 miles of existing 115 kV double circuit transmission lines, Possum Point to Smoketown Line #18 and Possum Point to Smoketown Line #145, located between the Company's Possum Point Switching Station (Possum Point Station) and Northern Virginia Electric Cooperative's (NOVEC) Smoketown Delivery Point (DP) entirely in Prince William County, Virginia. The rebuild will utilize 230 kV design clearances. Although the Rebuild Project proposes to construct the lines to be capable of operating at 230 kV, operation of the lines would continue at 115 kV until such time as needed to serve the Woodbridge load area. Figure 1 depicts the location of Dominion's existing Line #145 and Line #18 transmission line corridor in this area. The rebuild of the Possum Point to Smoketown Line #145 and Line #18 would require the tear-down and replacement of approximately 125 existing 115 kV structures with new tower structures of comparable size or exhibiting, at the maximum height, an increase of 73.5 feet (Tower 145/18; 18/18) within the existing ROW. Five structures will remain with no change in height.

Background research for the Stage I Pre-Application Analysis was conducted in January 2017 by Stantec staff. The preliminary background research and a field study was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (Virginia Department of Historic Resources [VDHR] 2008) for proposed transmission line improvements.

As detailed by VDHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, Battlefields, and Historic Landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW corridor. Four previously identified architectural resources and 12 previously recorded archaeological resources were identified for inclusion in the Stage I analysis. In addition, the Cockpit Point Battlefield (VDHR #042-5842; ABPP VA100) is also located within the project area radius and was included in this study (see below).

### Recommendations

#### *Architectural Resources*

There are 92 previously identified architectural resources located within a 1.5-mile radius of the project centerline for this rebuild project. No NHL-listed architectural resources are located within the 1.5-mile buffer. Two NRHP-listed resources, the Quantico Marine Corps Base Historic District (VDHR #287-0010) and the Prince William Forest Park Historic District/Chopawamsic Recreation

Demonstration Area (VDHR #076-0299), were identified in the 1.0-mile buffer of the project corridor. The Quantico Marine Corps Base Historic District, as an active military base, was not accessible during the current survey effort. A small section of NRHP-listed Camp French/Battle of the Potomac (VDHR #076-5313) was located within the 1.0-mile buffer as well; however, the portion of the resource under consideration is located within the bounds of Quantico and was also not accessible during the current view shed analysis. The Quantico Marine Corps Base Historic District and Camp French/Battle of the Potomac were only analyzed by line-of-sight computer modeling. The visual impact recommendations for these two resources are based solely on the computer analysis. Two resources, which have been determined eligible for listing on the NRHP, were identified within the 0.5-mile buffer of the transmission line corridor and include Tayloe's Iron Works (VDHR #076-0265) and the Richmond, Fredericksburg & Potomac Railroad (VDHR #076-0301). The c. 1730 iron works was demolished prior to the current view shed analysis and is now an archaeological site. The site does not cross the transmission line corridor and as an archaeological site, does not meet the criteria for consideration per VDHR's transmission line guidelines. Therefore, the resource was not evaluated for visual impacts. In addition to the previously recorded resources listed above, the American Battlefield Preservation Program (ABPP) Cockpit Point Battlefield (VDHR #042-5842; ABPP VA100) falls within the project area. Since the study was completed prior to filing a State Corporation Commission (SCC) application, all digital images were taken from public ROW and/or Dominion property easements.

*The proposed rebuild would increase structure heights approximately 0.5 to 73.5 (maximum) feet over the existing structure heights. New structures will be located, in some cases, approximately 50 to 100 feet from the locations of existing 115 kV structures. Several structures at the southern end of the line will remain, while several will be lower than the existing structures. The proposed structure heights will be, in most cases, equal to or lower than the existing 230 kV Line #2022, also located within the ROW corridor in the northern end of the project area. Based on the analysis, it is recommended that the rebuild would have a None to Minimal Visual Impact to the Richmond, Fredericksburg & Potomac Railroad (VDHR #076-0301), and the Quantico Marine Corps Base Historic District (VDHR #287-0010) as the existing line is currently visible in areas and the proposed structures will change in height approximately 30 feet or less. It is recommended that the ABPP Cockpit Point Battlefield (VDHR #042-5842; ABPP VA100) will be Minimally Visually Impacted as several of the towers in the northwestern end of the resource within the Study Areas will range in height from approximately 56 to 136 feet, with tower 145/30, which is in a new location, constructed at the maximum height of approximately 136 feet. It is also recommended that the rebuild would have No Visual Impact to the Chopawamsic Recreation Demonstration Area/Prince William Forest Park Historic District (VDHR #076-0299) and Camp French/Battle of the Potomac/Camp Mallory (VDHR #076-5313).*

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process				
VDHR #	Resource Name	VDHR/NRHP Status	Distance to Line (Feet)	Impact
042-5842; ABPP VA100	Cockpit Point Battlefield	Potentially Eligible (ABPP)	0	Minimal

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process				
VDHR #	Resource Name	VDHR/NRHP Status	Distance to Line (Feet)	Impact
076-0299	Chopawamsic Recreation Demonstration Area/Prince William Forest Park Historic District	NRHP-Listed 2012	3,500	None
076-0301	Richmond, Fredericksburg & Potomac Railroad	Determined Eligible by VDHR in 2010; Determined Potentially Eligible by VDHR in 2016	0	None to Minimal
076-5313	Camp French/ Battle of the Potomac/ Camp Mallory	NRHP-Listed 2008	5,100	None
287-0010	Quantico Marine Corps Base Historic District	NRHP-Listed 2001	3,670	None to Minimal

### Archaeological Resources

Twelve previously identified archaeological resources are located either within or immediately adjacent to the project ROW corridor. Of these, one (Site 44PW1023), was determined not eligible for listing on the NRHP in 2004. Site 44PW0766 was documented as an Early Archaic/Early Woodland camp site and Site 44PW0794 as a Late Archaic camp site. The remainder of the previously recorded sites is noted as unevaluated in the records of the VDHR. These sites range in date from the Archaic Period through the early seventeenth century. ***It is recommended that archaeological sites located within the ROW be investigated and evaluated as appropriate during future investigations.***

Previously Recorded Archaeological Resources Located within the Project Limits				
VDHR ID	Resource Type	VDHR/NRHP Status	Distance to Line (FT)	Recommendation
44PW0766	Early Archaic/Early Woodland Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0782	Unknown Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0793	Early Woodland Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0794	Late Archaic Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0795	Prehistory/Unknown Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0804	Prehistory/Unknown Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0807	Early Woodland Camp/ Lithic Workshop	Not Evaluated	0	Investigate During Archaeological Survey
44PW0814	Prehistoric/Historic Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0843	Early Woodland Camp	Not Evaluated	0	Investigate During Archaeological Survey
44PW0844	Prehistoric Camp	Not Evaluated	0	Investigate During Archaeological Survey



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Previously Recorded Archaeological Resources Located within the Project Limits				
VDHR ID	Resource Type	VDHR/NRHP Status	Distance to Line (FT)	Recommendation
44PW1023	Unknown	Determine Not Eligible by VDHR in 2004	0	Investigate During Archaeological Survey
44PW1030	Unknown	Not Evaluated	0	Investigate During Archaeological Survey

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## Abbreviations

ABPP	American Battlefield Protection Program
kV	Kilovolt
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register
VDHR	Virginia Department of Historic Resources