



WILDLIFE HABITAT FEATURE INVENTORY

NORTHERN VIRGINIA STREAM RESTORATION BANK

THE GLADE – REACH 2

FAIRFAX COUNTY, VIRGINIA

Prepared For:

Northern Virginia Stream Restoration, L.C.
c/o Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155

WSSI Project #20030

JANUARY 12, 2009

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Wildlife Habitat Feature Inventory

The Glade – Reach 2
Fairfax County, Virginia
WSSI #20030

January 12, 2009

Executive Summary

On Monday, December 8, 2008, Wetland Studies and Solutions, Inc. (WSSI), assisted by Reston Association Staff and William Sipple, conducted a Wildlife Habitat Feature Inventory within study area along design Reach 2 of The Glade portion of the Northern Virginia Stream Restoration Bank (NVS RB). This study was conducted to determine the location of active, inactive, and potential wildlife denning and nesting features within a study area along Reach 2 of The Glade.

In summary, several wildlife habitat features were found, including stick nests, squirrel nests, tree cavities, dens, and snags, within the study area of design Reach 2 of The Glade. The results of this inventory shall be used by project engineers to minimize the stream restoration project's impact on local wildlife.

Introduction

As set forth in NVSRB Banking Instrument, dated February 17, 2006 and prepared by WSSI, the Northern Virginia Stream Restoration, L.C. will restore approximately 14 miles of streams and upland buffers, within portions of the Snakeden Branch, Colvin Run, and The Glade watersheds in Reston, Virginia. In response to resident concerns about the effects of restoration activities on resident wildlife populations within The Glade, WSSI is inventorying the location of active, inactive, and potential wildlife denning and nesting features within The Glade portion of the NVRSB. This report identifies the location of these features located within design Reach 2 of The Glade. The location of these features in the remaining portions of The Glade will be documented in subsequent inventory reports.

Project Area

The study area includes approximately 1,850 linear feet of stream along Reach 2 of The Glade, as well as the adjacent riparian corridor. The study area is located between Colt's Neck Road and Steeplechase Drive. Exhibit 1 is a vicinity map that depicts the approximate location of the study area.

The study area is covered mostly by mixed-deciduous forest, as depicted in the February 23, 2004 Natural Color Imagery from Air Survey aerial photograph of the study area Exhibit 2. The Glade flows in a southeasterly direction through the central portion of the study area. Both an asphalt recreational trail and an unpaved horse trail, which cross The Glade multiple times, are located parallel to the stream. The study area is gently to moderately sloping. The topography can be seen in the excerpt from the Vienna, Virginia-Maryland 1994 USGS topographical quadrangle map included as Exhibit 3.

The boundaries of jurisdictional wetlands and other waters of the U.S. (WOUS) located within the study area were delineated and survey-located by WSSI as described in The Glade delineation report, dated October 9, 2008.

Methodology

On December 8, 2008, wildlife biologist Roy Van Houten, AWB, CWCP¹, environmental scientist Eric Calladine, ISA Certified Arborist², Nicki Foremsky³, Claudia Thompson-Deahl⁴ and ecologist William S. Sipple⁵ examined the entire study area, including both aquatic and terrestrial habitats. Aquatic and terrestrial areas were inspected to identify and map specific wildlife habitat features within the study area to classify them according to type. Only representative wildlife habitat features (or lack of) were photographed, as depicted in Exhibit 4. Any wildlife species directly observed or animal signs such as tracks and scat were noted during the fieldwork. For the purpose of this report, WSSI has defined the wildlife habitat features as follows:

- A. Nest** – A nest is defined as a place of refuge to hold an animal's eggs and/or provide a place to raise their offspring. Nests are usually made of sticks and leaves. Nest were subsequently categorized in Table 1 as:

- 1) Stick Nest
- 2) Squirrel Nest
- 3) Songbird nest

- B. Cavity** – A cavity is defined as a hollowed out feature in a standing tree which can provide an animal with refuge and a place to raise their offspring. Cavities were subsequently categorized in Table 1 as:

- 1) Snag
- 2) Live Tree

- C. Den** – A den is defined as a hollowed out feature, either in a deadfall, tree hollow, or ground hollow. Dens were subsequently categorized in Table 1 as:

- 1) Deadfall
- 2) Tree Hollow
- 3) Ground Hollow

¹ WSSI - Associate Wildlife Biologist through The Wildlife Society; Certified Wildlife Control Professional through National Wildlife Control Operators Association.

² WSSI - International Society of Arboriculture (ISA) Certified Arborist
³ Reston Association- Watershed Manager

⁴ Reston Association-Environmental Resource Manager

⁵ Principal of William S. Sipple Wetland and Environmental Training and Consulting.

D. Subsurface Erosional Feature – A subsurface erosional feature is defined as a naturally-occurring subterranean hollow, usually associated with a drainage feature and may be used as a wildlife travel corridor. These features are not likely to be utilized as den sites due to their high probability of flooding during runoff-producing events. Subsurface erosional features were subsequently categorized in Table 1 as:

- 1) Inactive
- 2) Active

E. Snags - A snag refers to a standing, partly or completely dead tree, often missing a top or most of the smaller branches, and greater than or equal to 20 inches diameter breast height. These features were identified regardless of evidence of known wildlife usage.

Results and Conclusions

Several wildlife habitat features were located in design Reach 2 of The Glade during this inventory, including stick and squirrel nests, cavities, snags, and subsurface erosional features. The location of these features is depicted on the Wildlife Habitat Feature Location Map (Exhibit 5) and is summarized in Table 1 below. The results of this inventory will be used by project engineers to further limit the stream restoration project's impact on local wildlife habitat features.

Table 1. List of Wildlife Habitat Features Observed Within Design Reach 2 of The Glade		
FEATURE	LOCATION	DESCRIPTION
A1	Tree #31638	Inactive unknown stick nest
A1	Tree #14590	Inactive unknown stick nest
A1	Tree #14591	Inactive unknown stick nest
A1	Tree #31555	Inactive unknown stick nest
A2	Tree #31547	Squirrel leaf nest
A2	Tree #14237	Squirrel leaf nest
A2	Tree #14238	Squirrel leaf nest
A2	Tree #14239	Squirrel leaf nest
A2	Tree #14240	Squirrel leaf nest
A2	Tree #14241	Squirrel leaf nest
A2	Tree #15497	Squirrel leaf nest
A2	Tree #15493	Squirrel leaf nest
A2	Tree #15491	Squirrel leaf nest
A2	Tree #N/A	Squirrel leaf nest located 10 feet northeast of Tree#14289
A2	Tree #31620	Squirrel leaf nest
A2	Tree #31666	Squirrel leaf nest
A2	Tree #14572	Squirrel leaf nest
A2	Tree #14575	Squirrel leaf nest
A2	Tree #14583	Squirrel leaf nest
A2	Tree #14388	Squirrel leaf nest
A2	Tree #14389	Squirrel leaf nest
A2	Tree #14806	Squirrel leaf nest

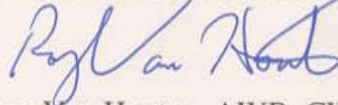
Table 1. List of Wildlife Habitat Features Observed Within Design Reach 2 of The Glade		
FEATURE	LOCATION	DESCRIPTION
A2	Tree #14808	Squirrel leaf nest
A2	Tree #14817	Squirrel leaf nest
A2	Tree #14799	Squirrel leaf nest
A2	Tree #14854	Squirrel leaf nest
A2	Tree #10483	Squirrel leaf nest
A2	Tree #14288	Squirrel leaf nest
A2/B1	Tree #14326	Squirrel leaf nest/Unknown cavity in snag
A2/B2	Tree #31525	Squirrel leaf nest/Unknown cavity in live tree
A2/B2	Tree #10470	Squirrel leaf nest/Unknown cavity in live tree
B1	Tree #31500	Unknown cavity in snag
B1	Tree #31502	Unknown cavity in snag
B1	Tree #31503	Unknown cavity in snag
B1	Tree #31503	Unknown cavity in snag
B1	Tree #14242	Unknown cavity in snag
B1	Tree #15499	Unknown cavity in snag
B1	Tree #14533	Unknown cavity in snag
B1	Tree #N/A	Unknown cavity in snag located 13 feet southeast of Tree#14817
B1	Tree #14798	Unknown cavity in snag
B1	Tree #14313	Unknown cavity in snag
B2	Tree #20697	Unknown cavity in live tree
B2	Tree #14265	Unknown cavity in live tree
B2	Tree #15500	Unknown cavity in live tree
B2	Tree #14342	Unknown cavity in live tree
B2	Tree #31643	Unknown cavity in live tree
B2	Tree #14366	Unknown cavity in live tree
B2	Tree #14568	Unknown cavity in live tree
B2	Tree #14809	Unknown cavity in live tree
C2	Tree #10455	Unknown den in live tree
C2	Tree #10461	Unknown den in live tree
C2	Tree #14636	Unknown den in live tree
E	Tree #10454	Snag
E	Tree #14303	Snag
E	Tree #14340	Snag
E	Tree #14387	Snag

Limitations

This study is based on examination of the conditions on the study site at the time of our review and does not address conditions in the future. Such conditions change over time. Therefore, our conclusions may vary from future observations. Our wildlife habitat feature inventory report has been prepared in accordance with generally accepted guidelines for the conduct of such evaluations. We make no other warranties, either expressed or implied that other wildlife species will not be observed in the project site during future wildlife surveys.

If you have any questions regarding this report, please contact me at (703) 679-5631 or rvanhouten@wetlandstudies.com.

WETLAND STUDIES AND SOLUTIONS, INC.



Roy Van Houten, AWB, CWCP
Wildlife Biologist



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Vicinity Map
The Glade Reach 2
WSSI #20030
Scale: 1" = 2000'

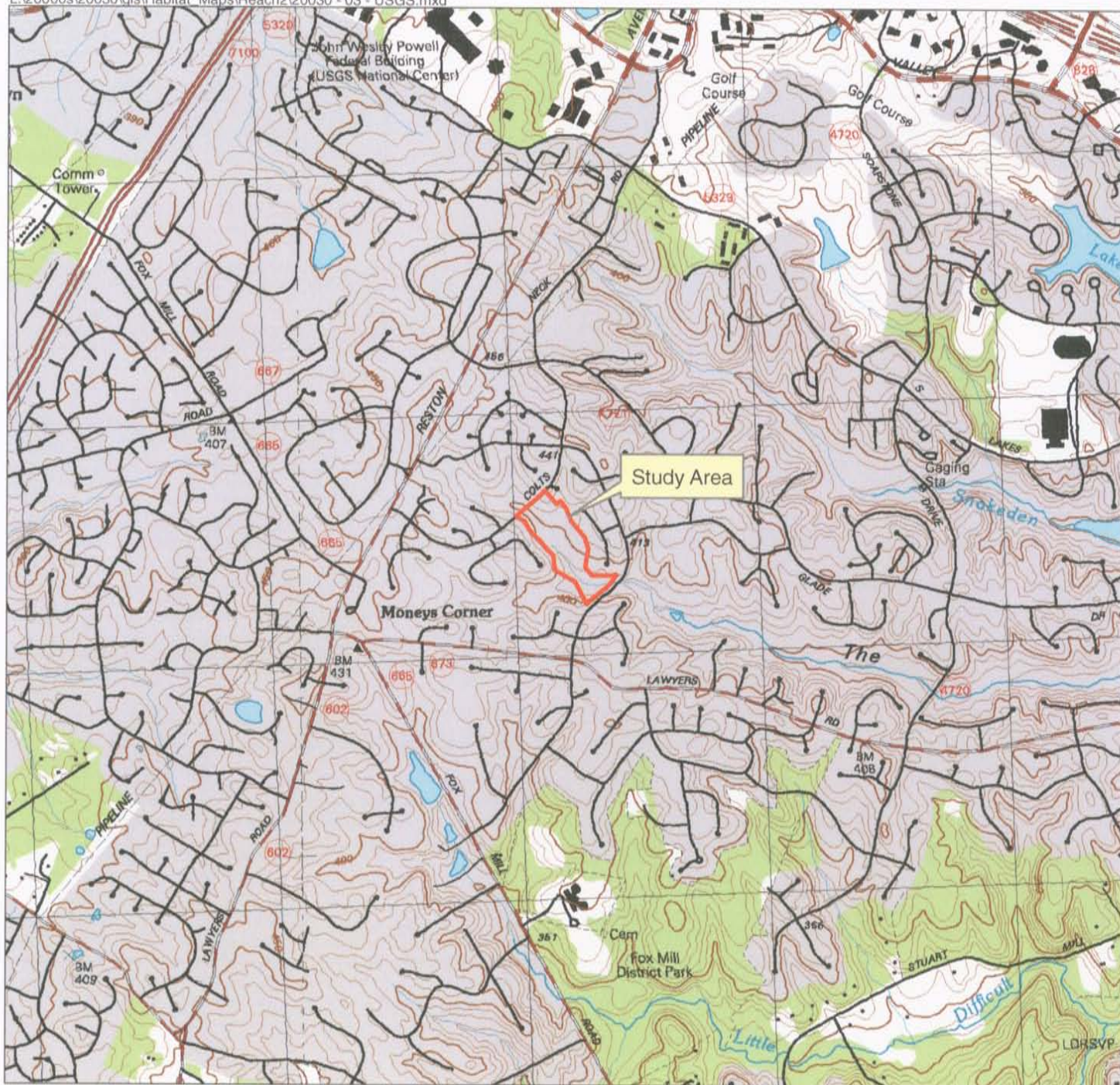




February 2004 Natural Color Imagery
The Glade Reach 2
WSSI #20030
Scale: 1" = 300'

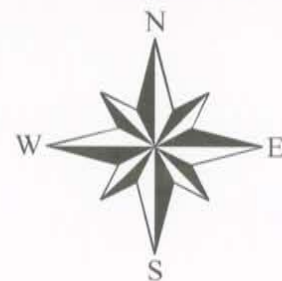


Photo Source: Air Survey



USGS Quad Map
Vienna, VA-MD 1994
The Glade Reach 2
WSSI #20030
Scale: 1" = 2000'

Latitude: 38°55'41" N
 Longitude: 77°21'45" W
 Hydrologic Unit Code (HUC): 020700081004
 Stream Class: III
 Name of Watershed: The Glade



**REACH 2 – THE GLADE
WILDLIFE HABITAT FEATURE INVENTORY – DECEMBER 9, 2008
PHOTOS TAKEN BY ROY VAN HOUTEN**



1. Squirrel nest in tree #14817.



2. Inactive unidentified stick nest in tree #14591.

**REACH 2 – THE GLADE
WILDLIFE HABITAT FEATURE INVENTORY – DECEMBER 9, 2008
PHOTOS TAKEN BY ROY VAN HOUTEN**



3. Inactive unknown cavity in live tree #14242.

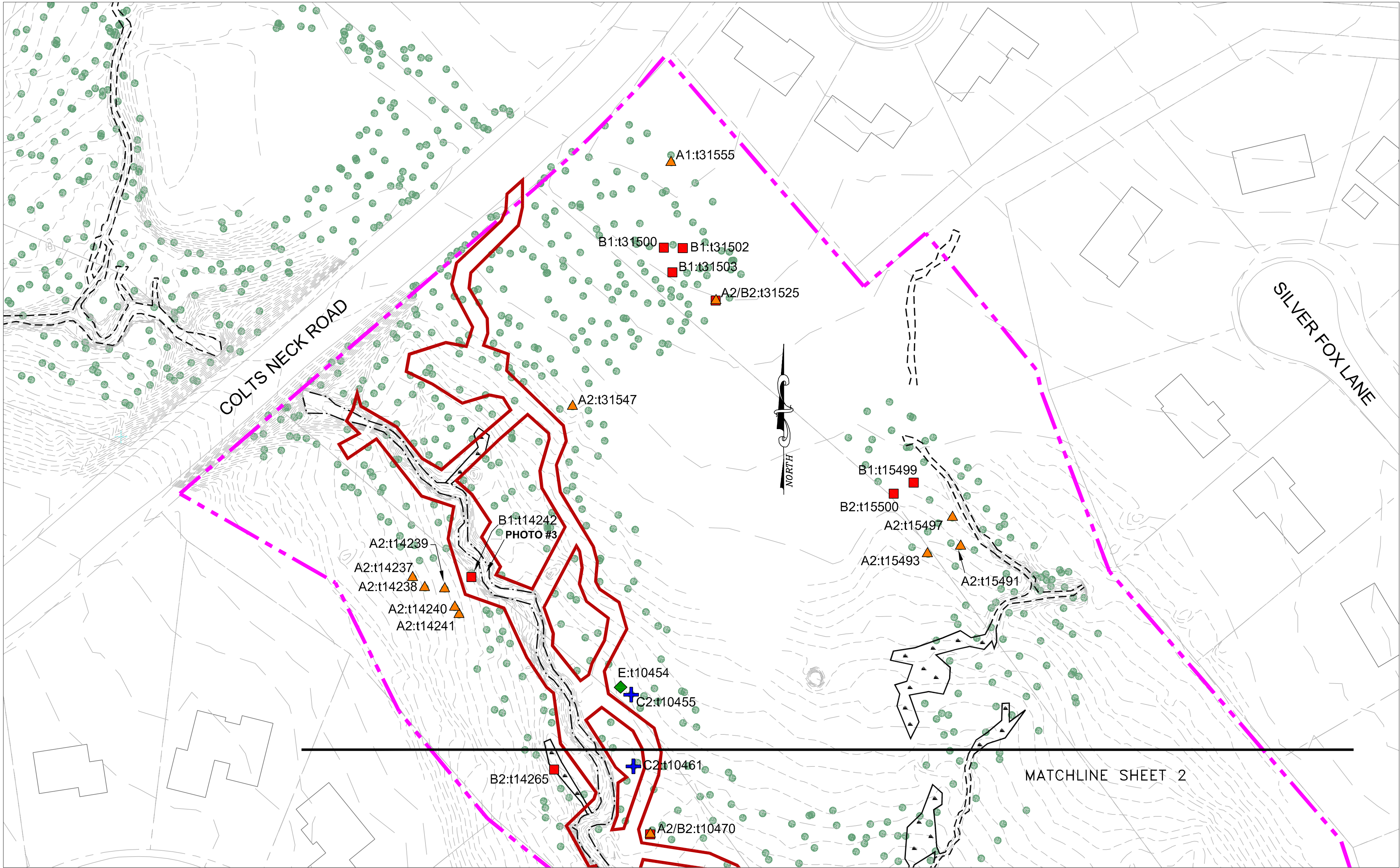


4. Unknown inactive den in live tree #14342.

**REACH 2 – THE GLADE
WILDLIFE HABITAT FEATURE INVENTORY – DECEMBER 9, 2008
PHOTOS TAKEN BY ROY VAN HOUTEN**



5. Standing dead snag tree #14387.



WILDLIFE HABITAT FEATURE INVENTORY NOTES:

- Wetland Studies and Solutions, Inc. (WSSI) conducted a Wildlife Habitat Feature Inventory within a study area along design Reach 2 of The Glade portion of the Northern Virginia Stream Restoration Bank (NVSRB). This study was conducted to determine the location of active, inactive and potential wildlife denning and nesting features within a study area along Reach 2 of The Glade.
- Topographic information from Air Survey Corp. and from Fairfax County digital data and easement boundary information from WSSI were used as a base for this attachment. The contour interval (C.I.) obtained from Air Survey Corp. is 0.5 feet and the C.I. from Fairfax County digital data is 5 feet. This information is based in the NAD 83 coordinate system, and vertical datum of NGVD 29.
- Fieldwork was conducted on December 8, 2008 by Roy Van Houten, AWB, CWCP, Eric Calladine, ISA Certified Arborist, Nicki Foremski, Claudia Thompson-Deahl and William S. Sipple.
- For the purpose of this report, WSSI has defined the wildlife habitat features as follows:
 - A.Nest - A nest was defined as a place of refuge to hold an animal's eggs and/or provide a place to raise their offspring. Nests are usually made of sticks and leaves. Nest were subsequently categorized in Table 1 as:
 - Stick Nest
 - Squirrel Nest
 - Songbird nest
 - B.Cavity - A cavity was defined as a hollowed out feature in a standing tree which can provide an animal with refuge and a place to raise their offspring. Cavities were subsequently categorized in Table 1 as:
 - Snag
 - Live Tree
 - C.Den - A den was defined as a hollowed out feature, either in a deadfall, tree hollow, or ground hollow. Dens were subsequently categorized as:
 - Deadfall
 - Tree Hollow
 - Ground Hollow
 - D.Subsurface Erosional Feature - A subsurface erosional feature was defined as a naturally-occurring subterranean hollow, usually associated with a drainage feature and may be used as a wildlife travel corridor. These features are not likely to be utilized as den sites due to their high probability of flooding during runoff-producing events. Subsurface Erosional Features were subsequently categorized in Table 1 as:
 - Inactive
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 - E. Snags - A snag refers to a standing, partly or completely dead tree, often missing a top or most of the smaller branches, and greater than or equal to 20 inches diameter breast height. These features were identified regardless of evidence of known wildlife usage.

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B2	Tree #14366	Unknown cavity in live tree
B2	Tree #14568	Unknown cavity in live tree
B2	Tree #14909	Unknown cavity in live tree
C2	Tree #10455	Unknown den in live tree
C2	Tree #10461	Unknown den in live tree
C2	Tree #14636	Unknown den in live tree
E	Tree #10454	Snag
E	Tree #14303	Snag
E	Tree #14340	Snag
E	Tree #14387	Snag

LEGEND

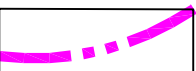
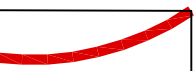

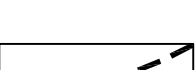
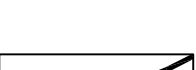





-  EASEMENT BOUNDARY
-  LIMITS OF CLEARING
-  PERENNIAL STREAM
(BASED ON FAIRFAX COUNTY RPA MAPS)
-  NON-PERENNIAL STREAM (BASED ON FAIRFAX COUNTY
RPA MAPS AND WSSI'S SITE OBSERVATIONS)
-  JURISDICTIONAL WETLAND AREAS
-  NEST
-  CAVITY
-  SNAG
-  DEN
-  SURVEY-LOCATED TREE

Exhibit 5:
Wildlife Habitat Feature Location Map

Prepared For: Northern Virginia Stream Restoration, L.C.

The Glade - Reach 2
Fairfax County, Virginia

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REVISIONS

No.	Description	Date	App. By		Rev. By		DATE: December 2008	SCALE: 1" = 50'

Horizontal Datum: VCS NAD83

Vertical Datum: NGVD 29

Boundary and Topo Source:
Fairfax County Digital Data

Design	Draft	Approved
SDS	SDS	MSR

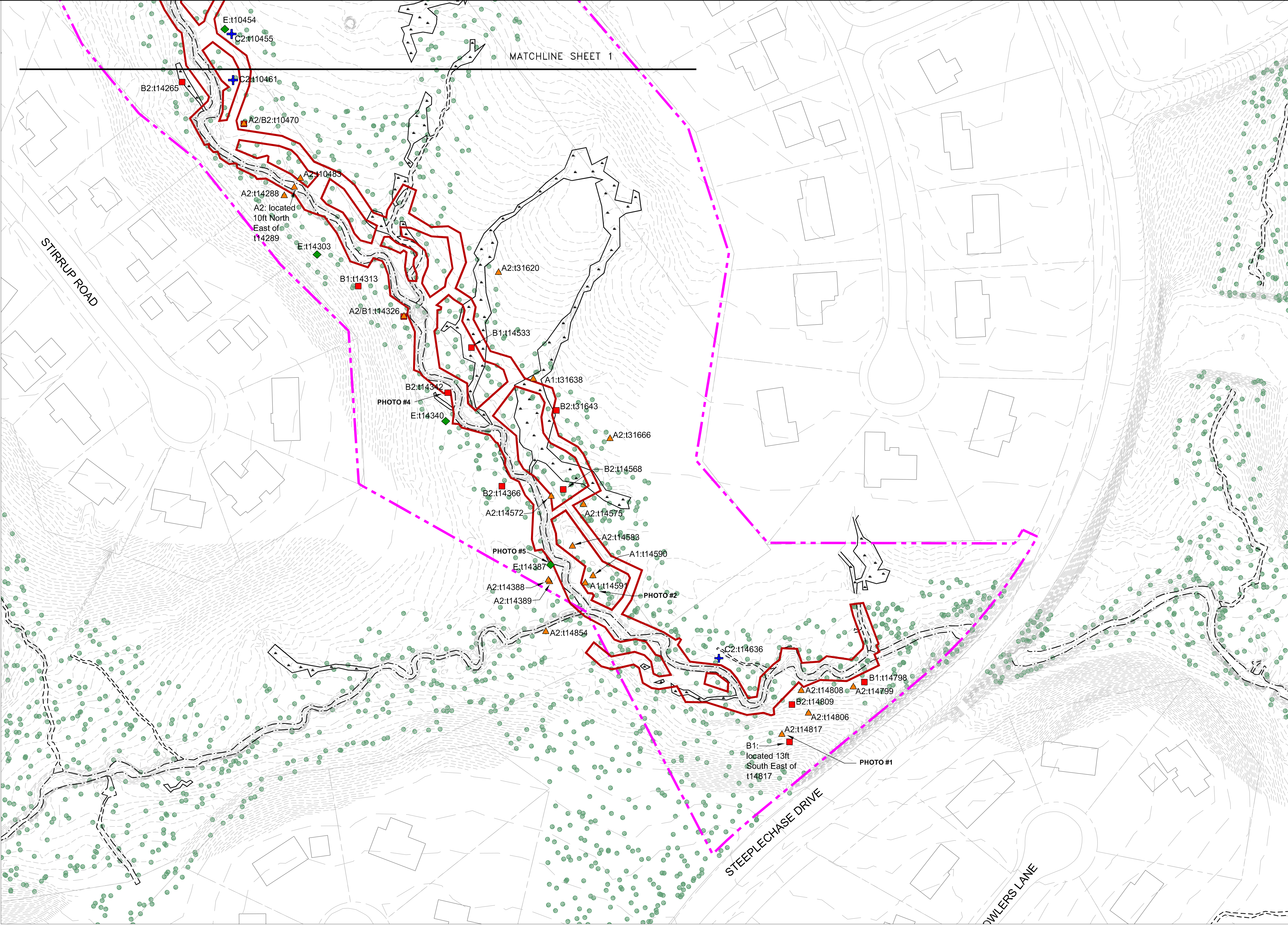
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1 of 2

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Exhibit 5:
Wildlife Habitat Feature Location Map
Prepared For: Northern Virginia Stream Restoration, L.C.
The Glade - Reach 2
Fairfax County, Virginia
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REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: December 2008

SCALE: 1" = 50'

Horizontal Datum: VCS NAD83

Vertical Datum: NGVD 29

Boundary and Topo Source: Fairfax County Digital Data

Design	Draft	Approved
SDS	SDS	MSR

Sheet #
2 of 2

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