Wildlife Habitat and Vegetation Evaluation

Thorndike Place
Dorothy Road
Arlington, MA

November 2020

BSC GROUP

Prepared for:
Arlington Land Realty, LLC

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1.0 INTRODUCTION

The Thorndike Place Comprehensive Permit Civil/Site peer review conducted by BETA, dated August 5, 2020, identifies several concerns pertaining to wildlife habitat and vegetation on the project site, making several recommendations for thorough wildlife habitat and vegetation evaluation.

Recommendations include providing a field evaluation of functions and values of the Isolated Vegetated Wetland (IVW) and Arlington Bylaw Adjacent Upland Resource Areas (AURAs) to determine the area's significance to interests identified in the [Arlington] Bylaw and to conduct a wildlife habitat evaluation of the 17.7-acre site focusing on resource areas and potential loss of habitat within isolated wetlands and AURA zones.

The Arlington Regulations for Wetlands Protection (June 4, 2015) define wildlife as any non-domesticated mammal, bird, reptile, amphibian, fish, mollusk, arthropod or other invertebrate [that is not a pest], and wildlife habitat as an area being used by or necessary to provide breeding or nesting habitat, shelter, food and water for any animal species.

The Massachusetts Wetlands Protection Act (WPA) defines wildlife somewhat more restrictively as all mammals, birds, reptiles and amphibians, and additionally any state-listed species (which includes invertebrates). The WPA regulations identify the important wildlife habitat functions that wetlands provide as food, shelter, migratory or overwintering areas, or breeding areas for wildlife. The regulations further recognize that it is the topography, soil structure, plant community composition and structure, and hydrologic regime that provide important wildlife habitat functions.

This report presents the findings and analysis of a field investigation of the wildlife habitat and vegetation of the Thorndike Place project site conducted on October 27, 2020 by BSC Senior Ecologist Matt Burne, PWS. Matt holds a Master of Science degree from the University of Massachusetts Amherst in Fisheries & Wildlife Conservation and was previously employed by the Massachusetts Natural Heritage & Endangered Species Program as a Vernal Pool Ecologist and Rare Species Environmental Review Biologist for almost ten years.

2.0 METHODS

2.1 DESKTOP REVIEW AND FIELD PREPARATION

Prior to conducting field data collection, a desktop assessment of the site was conducted to identify existing known resources of potential interest including:

- Rare species habitat, Massachusetts Natural Heritage an Endangered Species Program (NHESP)
- BioMap2 Core Habitat, NHESP
- Critical Natural Communities, NHESP
- Prime Agricultural Soils, Natural Resources Conservation Service
- Current and historic aerial photography, Google Earth
- Wetlands, as mapped by BSC Group
- Flood zones, Federal Emergency Management Agency (FEMA)
- Areas of Critical Environmental Concern (ACEC), Department of Conservation and Recreation
- Important Bird Areas (IBA), National Audubon Society

Field survey points were identified in advance of field work with attention to the proposed project footprint where impacts to AURA are proposed or are immediately adjacent, to flood plain areas within the proposed project footprint, and to potentially suitable locations for compensatory storage (Attachment A).

2.2 FIELD SURVEY

A site visit was conducted on October 27, 2020 to collect data on the vegetation characteristics and important wildlife habitat features of the project site. At each field-located survey point, a 25-foot radius plot was established and vegetation was characterized within the survey plot (field forms attached as Attachment C). Field Forms developed by the Massachusetts Natural Heritage & Endangered Species Program for Quantitative Community Characterization were used to collect standardized data within each survey plot.

In addition to vegetative characterization, each survey plot was searched for signs of wildlife and for any additional features that provide important wildlife habitat values.

Survey plot center points were recorded using the ArcGIS Field Data Collector application, with GPS accuracy of approximately 15 feet under the forest cover. Photographs were collected at each survey point to create a visual record of conditions.

3.0 RESULTS

3.1 OVERVIEW

Much of the site is characterized by a diverse, mature forest canopy with dense understory vegetation. There are many very large specimens of Silver Maple (*Acer saccharinum*) and Cottonwood (*Populus deltoides*) throughout the property, especially near the series C wetland and on the eastern portion of the project site, near Parker Street. Several invasive exotic plant species are found throughout the site, with Garlic Mustard (*Alliaria petiolata*) especially common in the understory.

In many ways, the site is generally typical of urban forest fragments. In total, the forested area of the subject site and surrounding parcels that remain under forest canopy is approximately 18.5 acres. The setting of the forest patch that remains on this site is urban, though there is a tenable green-way connection to the bike path that leads north to Spy Pond, a Natural Heritage & Endangered Species Program BioMap2 Core Habitat and Priority Habitat polygon (PH 1421) and to the Alewife Brook Reservation, which connects to the Mystic River to the north. These connections have tree cover and are generally considered green space, though there is a heavy human presence in both corridors, and they are notably narrow.

This forest fragment is therefore not entirely isolated, despite the dense development surrounding it and the presence of the Route 2 corridor to its south, which isolates it from open space connected to Little Pond and Alewife Brook to the south. There is no direct connection to the Important Bird Area at Fresh Pond to the south in Cambridge.

Evidence was detected of several common bird species and a small number of mammals typical of urban woodland patches. There were no amphibians or reptiles encountered during the site visit, but it is recognized that late October is late in the year for encountering these groups of organisms.

It is important to acknowledge the extensive encampment of homeless persons on the subject parcel, as this has a direct and significant impact on the wildlife habitat values of the property overall. In general, wildlife species will not cohabitate with humans, and the presence of the large encampment and extensive areas of trash and waste spread throughout site depress any wildlife habitat values that may exist in this fragmented and isolated forest patch.

3.2 DESKTOP REVIEW AND FIELD PREPARATION

The status of the resources that are mapped or described by the reference material reviewed for the desktop assessment are summarized below in Table 1.

Table 1: Results of Desktop Resource Review

Resource	Source*	Present/Type	Comments
Rare Species Habitat	NHESP	Not present	Project site is not within mapped Priority Habitat or Estimated Habitat for rare species, as mapped in the current NHESP Rare Species Habitat Atlas (2017).
BioMap2 Core Habitat	NHESP	Not present	Project site is not within mapped BioMap2 Core Habitat, as mapped by NHESP and available through OLIVER, the MassGIS data viewer.
Critical Natural Communities	NHESP	Not present	Project site is not located within a mapped Critical Natural Community, as mapped by NHESP and available through OLIVER, the MassGIS data viewer.
Prime Agricultural Soils	NRCS	Present	Portions of the project site are mapped as Swansea Muck, identified as a Farmland of Unique Importance.
Current and historic aerial photography	Google Earth, historicalaerials	1938, 1955, 1995 - 2018	See discussion of aerial imagery below
Wetlands	MA DEP, Parcel Specific Delineation	Present	BSC has delineated wetlands on the project site.
Flood zones	FEMA	Present	Portions of the project site lie within FEMA Zone AE
Areas of Critical Environmental Concern (ACEC)	MA DCR	Not present	Project parcel does not lie within mapped ACEC, as indicated by the current data available through OLIVER.
Important Bird Areas (IBA),	NAS	Not present	The project parcel does not lie within an IBA, and the nearest mapped IBA is Fresh Pond, approximately 1200 meters away. An additional IBA, the Mystic Valley Watershed, is mapped within 1800 meters.

*Full Organizational names:
NHESP – Natural Heritage and Endangered Species Program
NRCS – Natural resources Conservation Service
MA DEP – Massachusetts Department of Environmental Protection
NAS – National Audubon Society

3.2.1 Historical Site Context

Aerial photography available on Google Earth was reviewed to evaluate changes in land use and cover type. The earliest imagery provided on the Google Earth platform was from 1995, and this image shows no change in the landscape context or use of the property over the twenty-five year period available for review.

Using historicalaerials.com, we were able to review aerial photography from 1938 and 1955, and subsequent years leading into the modern era. In the late 1930s, the property was in active farming with a

number of distinct fields defined. Route 2 had been established several years prior (1935 or so) cutting off everything to the south of the property, and housing development was beginning to hem in the property from the north, though there was still a partial connection to the Spy Pond area with the exception of housing along Lake Street which fragmented the property from Spy Pond.

By 1955, farming had clearly been abandoned on the property, and more intensive housing development had occurred in the neighborhood of Dorothy Road and Littlejohn Street. In fact, by 1955, all of the housing in the neighborhood directly north of the property was in existence.

This parcel continued to revert to forest on the abandoned agricultural fields following the 1930s, and has been physically isolated from other natural areas for nearly 100 years.

3.2.2 Wetlands

Wetland delineations for this project site have been conducted and contested several times over nearly 20 years. We carefully reviewed current delineations and FEMA floodplain designations to plan survey plot locations to provide useful characterization of the parcel with respect to the current, significantly reduced Revised Site Plan (September 28, 2020).

The revised plan proposes no impact to Isolated Wetland (local), Bordering Vegetated Wetland, 25’ No Disturb Zones for Isolated or Bordering Vegetated Wetlands, and significantly reduces proposed impacts to 100’ Buffer and AURA associated with Bordering Vegetated Wetland and to Floodplain resources on the site.

Field data collection was planned for four (4) locations in AURA-BVW, three (3) locations in FEMA Floodplain, two (2) locations in possible Compensatory Flood Storage sites, and one (1) location in a very small Isolated Area on the northeast of the site that has been delineated as a wetland previously and which has had some question raised about possible function as a vernal pool. Two of the ten survey points were situated within the encampment and were therefore not included in the survey (see below).

3.3 FIELD SURVEY

3.3.1 AURA Survey Locations

AU-B9 Terrestrial deciduous forest with dense shrub layer
Tree canopy 35% cover composed of Ash (20%), Norway maple (10%), Black Locust (5%)
Shrub layer 20% cover composed of rose (15%), Chokeberry (Tr)
Vines present include Oriental Bittersweet (20%)
Herbaceous layer 70% composed of Garlic Mustard

Topography is gently sloping, dry loamy soil with thin litter and duff layer
There is a large amount of downed woody debris (30% cover) with a high fuel load
One snag > 4" DBH; few cavities observed
Few small mammal burrows observed

Evidence of dumping including concrete and macadam
Extensive invasive exotic plants

AU-C10 Terrestrial deciduous forest with well-developed shrub layer
Tree canopy 75% composed of Silver Maple (50%), Poplar (10%), Ash (10%) and Cherry (Tr)
Shrub layer 20% cover composed of Box Elder (10%), Elm (10%)
Vines including Oriental Bittersweet and grape present (20%)
Herbaceous layer composed of Garlic Mustard (70%) and Japanese Knotweed (20%)

Topography is gently sloping toward C-series wetland
There is a large amount of downed woody debris (40% cover) with moderate fuel loads
Three snags > 4" DBH, few cavities observed
No small mammal burrows observed

Evidence of human disturbance including refuse
Extensive exotic invasive plants

AU-C16 Terrestrial deciduous forest
Tree canopy 65% cover with Tree of Heaven (30%), American Elm (10%), and Cherry (5%)
Tree sub-canopy layer composed of very old fruit trees (25%)
Tangled shrub layer of Amur Honeysuckle (5%), vines (20%) including Bittersweet
Herbaceous layer 75% cover composed of Garlic Mustard

Topography is gently sloping toward C-series wetland
There is a small amount of downed woody debris (15%) with moderate fuel loads
No snags >4" DBH; no cavities observed
No small mammal burrows observed

Significant amount of trash and waste materials in this location
Extensive exotic invasive plants

AU-D18 Terrestrial deciduous forest with relatively open understory
Tree canopy 75% composed of Black Cherry (70%) and Silver Maple (5%)
Tree sub-canopy and shrub layer 30% with Black Cherry, Poison Sumac, and Tree-of-Heaven
Shrub and herbaceous layer 60% composed of American Pokeweed, Goldenrod, Buckthorn

Topography is essentially flat
There is only a trace amount of downed woody debris with a moderate fuel load
There are several snags >4" DBH (Tree-of-Heaven) and Cherry; few cavities
No small mammal burrows observed

Immediately adjacent to the largest encampment on the property.
Survey Plot has the least Garlic Mustard on the site
Evidence of dumping including concrete and macadam
Impact of highway evident

3.3.2 Floodplain Survey Locations

FP-1 Terrestrial deciduous forest with moderate understory
Tree canopy 80% composed of Cherry (60%), Box Elder (20%) and Black Oak (5%)
Understory composed of brambles, Chokecherry (10%), American Pokeweed (10%)
Herbaceous layer 80% composed of Garlic Mustard (70%), Goldenrod (5%)

Topography is generally flat
There is a moderate amount of downed woody debris (25%) and moderate fuel load
One snag 4" DBH present

Invasive exotic shrubs/vines are present but sparse, including Bittersweet, Knotweed
There are abundant plants that produce food for wildlife
Some evidence of the homeless encampment, including trash within survey plot
Evidence of dumping including concrete and macadam

FP-2 Terrestrial deciduous forest with fairly open understory
Tree canopy 80% with Ash (20%), Norway Maple (40%), Red Maple (10%), Elm (5%)
Tree sub-canopy and shrub layer composed of Cherry (5%), Norway Maple (5%)
Herbaceous layer 90% composed of Garlic Mustard, Sensitive Fern, ivy

Topography is generally flat
Small amount of downed woody debris, including 18" DBH trunk, moderate fuel load

Survey plot includes some very large trees, including specimens of 24" and 30" DBH
Site is close to Dorothy Road and there is evidence of yard waste dumping
Evidence of dumping concrete macadam

FP-3 Located within encampment and therefore not surveyed

3.3.3 Possible Compensatory Storage Locations

CS-1 Terrestrial deciduous forest with open understory
Tree canopy 100% composed of Norway Maple. Elm and Cherry present (Tr)
Understory has trace amount of Linden and Bittersweet

Topography gently sloping to the west
Small amount of downed wood debris (5%) with moderate fuel load
No snags observed; no cavities observed
No small mammal burrows observed

Some residential encroachment of lawn area, but no other evidence of impacts
Garlic mustard is present outside of plot at fence line

CS-2 Located within encampment and therefore not surveyed

3.3.4 Isolated Area

IA-1 Distinct topographic depression
Cottonwood trees on edge of basin
Knotweed and ferns in basin

This was evaluated for vernal pool habitat potential and does not meet such criteria

3.3.5 Wildlife Observations

Few animals were observed during the field survey on October 27, 2020. A dead Eastern gray squirrel (*Sciurus carolinensis*) was observed at the forest edge, opposite 65 Dorothy Road. An Eastern Cottontail rabbit (*Sylvilagus floridanus*) was observed near Plot IA-1. Fresh canid scat was found at Plot AU-B9. It is believed to be that of Eastern Coyote (*Canis latrans*), given apparent contents of the droppings (Photo AU-B9 #867).

Several birds were heard or observed within the forested parcel. Species included Northern Cardinal (*Cardinalis cardinalis*), Black-capped Chickadee (*Poecile atricapillus*), Blue Jay (*Cyanocitta cristata*), Downy Woodpecker (*Picoides pubescens*) and American Robin (*Turdus migratorius*).

Residents of the abutting neighborhood have stated that they have observed increased pest species activity, including rats. No evidence of rats or other pest species was observed during the field survey.

4.0 SUMMARY OF FINDINGS

4.1.1 Site Context

Fragmentation and isolation of forest patches have long-term adverse impacts on forests and wildlife habitat values associated with isolated patches. Fragmentation reduces overall forest health and leads to a loss of biodiversity, and increases invasive plants, pests, and pathogens. Isolation at the landscape scale inhibits the movement of plants and animals over the long-term.

As discussed above, the subject parcel has been isolated for nearly a century, since the construction of Route 2 on its south and the development of dense housing to its north. There is a greenway connection to Spy Pond and the Mystic River through existing bike paths, which mitigates the effects of isolation to a certain degree, but this remains a significantly isolated and therefore compromised patch of forest.

4.1.2 Important Wildlife Habitat Features

Survey plots were established in locations where direct impact to Arlington Bylaw Adjacent Upland Resource Areas (AURAs) is proposed or immediately adjacent, and to Floodplain sites that would be directly affected by proposed work, as well as to two locations where Compensatory Storage may be proposed for the project.

Using the Wetlands Protection Act Wildlife Habitat Protection Guidance, Appendix B: Detailed Wildlife Habitat Evaluation as a basis for site evaluation, BSC Group evaluated the project site for features that provide important wildlife habitat.

- Wetland/Aquatic Food Plants were not detected in survey plots. This is a result of locating plots primarily in AURA and floodplain locations. No plots were established within the flagged wetlands. Upland Food Plants are present on the project site, found in several of the survey plots. The project will not adversely affect availability of wetland plants that are important for wildlife food, but may marginally diminish available upland wildlife food plants. Mitigation of this impact could be accomplished with careful landscape planning.
- The property is characterized by numerous large trees, many of which are near or in excess of 30" DBH. We did not conduct an inventory of such trees as part of this evaluation, but they were present at five (5) of the eight (8) survey plots. Large trees were mostly living, and there were few dead standing trees across the site, and relatively few snags or cavities, considering the extensive amount of downed woody debris.
- The most significant feature found throughout the site is the extensive amount of downed woody debris. Each survey plot was characterized by a large amount of woody debris, from very small, typically abundant fuel wood to a number of quite large downed tree trunks. This feature can be particularly valuable to small mammals, reptiles and amphibians. The project may reduce available downed woody debris within the small amount of jurisdictional resource area proposed for alteration. However, we believe that the proportion of available woody debris on the site will not be adversely affected due to its abundance at all survey plots. Mitigation of this impact could be accomplished by placing coarse woody debris in compensatory storage areas or in AURA zones and with careful consideration in landscape design and implementation.
- Rocks, rock piles, and debris were also abundant on the project site, which can all provide valuable cover objects for small mammals, reptiles and amphibians.
- There was no suitable turtle nesting habitat, nor wetlands likely to support rare species. The large wetland on site (Series C) is dominated by Phragmites, and as such not expected to provide important waterfowl habitat.
- There are no depressions that appear to provide likely vernal pool habitat on the site.

4.1.3 Invasive Species

The site is characterized by the presence of invasive exotic plant species throughout most survey plots. Garlic Mustard is especially abundant throughout the site, dominating the herbaceous layer of the forest. Garlic Mustard forms dense stands and crowds out native plants. It is also allelopathic, affecting suitability of soil to native plants. Alteration of a native flora by invasive plants is known to alter the value of forest and wetland habitats for wildlife. The abundance of Garlic Mustard, and presence of Japanese Knotweed and Oriental Bittersweet at most survey sites has a significant adverse effect on wildlife.

4.1.4 Human Encampment

Two survey plots, FP-3 and CS-2, were located directly within the human encampment located on the property and therefore not surveyed. There is no suitable habitat value to an area with extensive, on-going habitation.

It is important to note the adverse effects on wildlife habitat values in the forest and wetlands on the project site resulting from the extensive human encampment. The extensive amount of trash that is spread throughout the site has a direct effect of eliminating important wildlife habitat functions. Trash may be construed to provide shelter for some species, and may attract prey organisms, but it eliminates natural

cover, may introduce toxins to soil and water resources, and expands the footprint of human habitation which most wildlife make an effort to avoid.

The encampment on the site of the proposed project has a direct negative impact on the wildlife habitat values of the woods and wetlands.

5.0 CONCLUSION

The BSC Group investigation of the Wildlife Habitat and Vegetation on the site of the proposed Thorndike Place project identified suitable resources for common wildlife species that would normally be expected in an urban/suburban forest fragment of this size. Rabbit, squirrel, and (presumed) coyote were seen, along with a variety of passerine birds. Raccoon, skunk, fox, and possibly deer, and other human-adapted or human-tolerant species are likely to occur in this patch of woods over time. Wetlands on site could also support some species of frog, and the surrounding woods might provide non-breeding habitat for these.

The site is largely isolated from surrounding natural areas which significantly reduces its wildlife habitat value. The forest's potential habitat value is further diminished by extensive invasive exotic plants throughout the site, and by the large human presence on the property.

The current revised proposed project has eliminated a significant amount of direct wetland, buffer zone, and Adjacent Upland Resource Area impacts. The project's effects on wildlife habitat values of the jurisdictional resource areas on the project site have been reduced dramatically from earlier proposals. Through careful design and implementation of flood storage mitigation areas and thoughtful, wildlife-focused landscape planning, the project should have a net beneficial outcome on the wildlife habitat values of the project site.

File Location: \\bscbos\wor\GIS-WOR\GISPrj\2340700\Output\Maps\MXD\ReportMaps\Arlington_SitePlan_20201030.mxd
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1 inch = 200 feet
0 110 220
Feet
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Thorndike Place, Arlington, MA

Wildlife Habitat and Vegetation Evaluation
Field Survey Plot locations

Source: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE.

AU-B9 #866: Survey plot has a dense tangle of bittersweet, rose, and downed woody debris. A large Ash tree dominates the canopy.

AU-B9 #867: Canid scat observed in Survey Plot

AU-C10 #871: Large Silver Maple tree amid generally sparse understory and moderate course woody debris

AU-C10 #873: Open understory with course woody debris and small stand of Japanese Knotweed

AU-C16 #878: Old apple/fruit trees and refuse associated with encampment.

AU-C16 #880: Garlic mustard understory

AU-D18 #881: Cherry and maple make up the canopy trees, and the understory is fairly diverse, with American Pokeweed and Goldenrod dominant.

AU-D18 #882: Homeless encampment has a significant effect on wildlife habitat values of forest and wetlands on the site.

FP-1 #876: Relatively open understory with coarse woody debris and mature overstory trees.

FP-1 #877: Oak and chokecherry occur over garlic mustard

FP-2 #874: Large mature trees in overstory, with a sparse understory and a lot of coarse woody debris.

FP-1 #875: Area has sensitive fern and poison ivy and other indicators of moist floodplain conditions.

CS-1 #869: Very open understory under complete canopy of a large Norway Maple.

CS-1 #870: Survey Plot was very sparse in the understory and ground cover, with some coarse woody debris.

IA-1 #885: Distinct depression with stand of Japanese Knotweed. No vernal pool characteristics.

FP-1 #877: Very large Cottonwood trees in close proximity to IA-1 depression

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42 40/33a 71 151239
3. Assigned type (NHESP use): _____ 4. Lat: _____ N Long _____ W
5. Site name: Thornbird Place 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10. Directions: _____
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MRSurne

B. Environmental Description

14. **PLOT #** AU B9

15. **Photos taken** (Y) N; 0866, 0867
Identifier MB thorn 2

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___ Step in slope
___ Mid slope ___ Toe of slope
___ Low slope
___ Rolling Terrain
___ Level ___ Channel wall
___ Basin floor ___ Channel bed
___ Other Slight rise

18. **Topographic sketch**:

19. **Slope aspect:** _____

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex Linear
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class:
8" 15' partial
Average diameter for all downed wood ≥4 in.
~5" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 30%

23. **Fuel load (< ¼ inch in diameter)**:
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
Ash	15	20

25. **Un-vegetated surface (check the single, most dominant feature)**:
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other: _____

26. **Combined litter & duff depth:**
2" inches

27. **Parent material:** loam

28. **Moisture regime**:
___ Very dry
✓ Dry ___ Wet
___ Moist ___ Saturated
___ Periodically inundated
___ Permanently inundated

29. **Soil type** (if observed)
___ sand ✓ loam
___ clay ___ peat
___ muck
other _____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Pavement, concrete chunks

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: Invasives

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Robins calling
Fresh scat - could be coyote.
Tangled understory
Downed wood considerable, but fairly small

C. VEGETATION 34. **System:** √ Terrestrial __ Palustrine __ Estuarine 35. **PLOT NUMBER:** AV B9 36. **Plot Dimensions:** 20' / 6 M

37. **Leaf phenology:**
- X Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ___ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** forest w/ dense shrub layer

40. **Strata/life forms**	**height (m or ft)**	**% cover**	**Cover Classes**
T1 Emergent tree	~~100~~	~~25~~	+ <1%
T2 Tree canopy	80	25	**1** =1-5%
T3 Tree sub-canopy	25	10	**2** =6-25%
S1 Tall shrub			**3** =26-50%
S2 Short shrub	8	20	**4** =51-75%
H Herbaceous		70	**5** >75%
N Non-vascular			
V Vine / liana	15	15	

41. **Plant Species & abundance**: list each species and the corresponding cover class for each stratum.

Ash	20				
Norway maple	10				
Sycamore	Tr				
Black locust	5				
Rose	15				
Chokeberry	Tr				
Bittersweet	20				
Garlic mustard	70				

Coyote (?) scat
Lot of downed wood

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: _____
3. Assigned type (NHESP use): _____ 4. Lat: _____N Long _____W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10.Directions: 60' 0°N from WF C-10
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MR Burne

B. Environmental Description

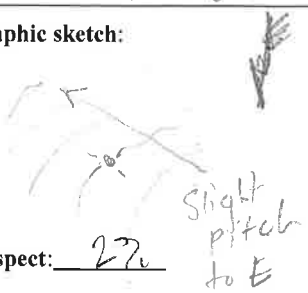
14. **PLOT #** AU C10

15. **Photos taken** (Y) N; **Identifier** 871, 872, 873

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___Step in slope
___ Mid slope ___Toe of slope
___ Low slope
___ Rolling Terrain
___ Level ___Channel wall
___ Basin floor ___Channel bed
___ Other

18. **Topographic sketch**:



19. **Slope aspect:** 22

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex Linear
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class: 10" 30' Partial
Average diameter for all downed wood ≥4 in. 6" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 40%

23. **Fuel load (< ¼ inch in diameter)**:
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
Elm	6	15
Unk	12	15
Ash	6	20

25. **Un-vegetated surface (check the single, most dominant feature)**:
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other: _____

26. **Combined litter & duff depth:** 2" inches

27. **Parent material:** loam

28. **Moisture regime**:
___Very dry
✓Dry ___Wet
___Moist ___Saturated
___Periodically inundated
___Permanently inundated

29. **Soil type** (if observed)
___ sand ✓loam
___clay ___peat
___muck
other_____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Invasives

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Knotweed, Garlic Mustard
Diverse tree species

C. VEGETATION 34. **System:** ✓ Terrestrial ___ Palustrine ___ Estuarine 35. **PLOT NUMBER:** AV C10 36. **Plot Dimensions:** 25' diam

37. **Leaf phenology:**
- ✓ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ✓ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** Forest

40. Strata/life forms	height (m or ft)	% cover	Cover Classes
T1 Emergent tree			+ <1%
T2 Tree canopy	60	75	**1** =1-5%
T3 Tree sub-canopy			**2** =6-25%
S1 Tall shrub	20	10	**3** =26-50%
S2 Short shrub	15	10	**4** =51-75%
H Herbaceous	~~60~~	50	**5** >75%
N Non-vascular			
V Vine / liana		15	

41. **Plant Species & abundance**: list each species and the corresponding cover class for each stratum.

Silver Maple	50	* Champion tree in plot		28" dia each of 3 stems	
Poplar	10				
Ash	10				
Cherry	Tr				
Box Elder	10				
Elm	10				
Knotweed	20				
Garlic Mustard	70				
Bittersweet	10				
Grape	10				

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42 40109 71 15006 4
3. Assigned type (NHESP use): _____ 4. Lat: _____ N Long _____ W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10. Directions: _____
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MA Burne

B. Environmental Description

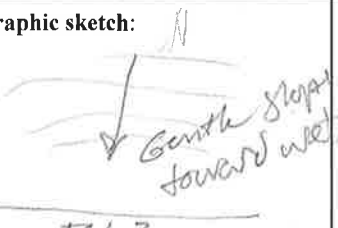
14. **PLOT #** All 016

15. **Photos taken** (Y) N; **Identifier** 0878, 0879, 0880

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___ Step in slope
___ Mid slope ___ Toe of slope
✓ Low slope
___ Rolling Terrain
___ Level ___ Channel wall
___ Basin floor ___ Channel bed
___ Other

18. **Topographic sketch:**



19. **Slope aspect:** R+2

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex Linear
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class: 6" 15ft Fresh
Average diameter for all downed wood ≥4 in. 4" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 15%

23. **Fuel load (< ¼ inch in diameter)**:
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
None		

25. **Un-vegetated surface (check the single, most dominant feature)**:
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other: _____

26. **Combined litter & duff depth:** 2 inches

27. **Parent material:** loam

28. **Moisture regime**:
___ Very dry
✓ Dry
___ Moist
___ Wet
___ Saturated
___ Periodically inundated
___ Permanently inundated

29. **Soil type** (if observed)
___ sand ✓ loam
___ clay ___ peat
___ muck
other _____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Old fruit trees
Lots of trash

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Location of encampment. Copious trash
Tangled understory. Lots of trash

C. VEGETATION 34. **System:** √ Terrestrial ___ Palustrine ___ Estuarine 35. **PLOT NUMBER:** AV 016 36. **Plot Dimensions:** 25' Rad.

37. **Leaf phenology:**
- √ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- √ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** Forest

40. **Strata/life forms**	**height (m or ft)**	**% cover**	**Cover Classes**
T1 Emergent tree			+ <1%
T2 Tree canopy	80	65	**1** =1-5%
T3 Tree sub-canopy	50	20	**2** =6-25%
S1 Tall shrub	20	60	**3** =26-50%
S2 Short shrub			**4** =51-75%
H Herbaceous		75	**5** >75%
N Non-vascular			
V Vine / liana			

41. **Plant Species & abundance:** list each species and the corresponding cover class for each stratum.

Ailanthus	30				
American Elm	10				
Cherry	15				
Old decrepit apples	25				
Asian honeysuckle	5	Fruit			
Tangled vines group, B. Herbweed	20				
Garlic mustard	25				

Cardinal observed
Birds twittering, chickadees

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42 40132 71 14918
3. Assigned type (NHESP use): _____ 4. Lat: _____N Long _____W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10.Directions: _____
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MR/Bruno

B. Environmental Description

14. **PLOT #** AU D18

15. **Photos taken** (Y) N; **Identifier** 0881 – 0883

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___Step in slope
___ Mid slope ___Toe of slope
___ Low slope
___ Rolling Terrain
✓ Level ___Channel wall
___ Basin floor ___Channel bed
___ Other

18. **Topographic sketch**:
Encampment
Rte 2

19. **Slope aspect:**_____

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex Linear
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class:
4 10' partial
Average diameter for all downed wood ≥4 in.
N/A (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) Br
there is burned wood, but most <4

23. **Fuel load (< ¼ inch in diameter):**
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
Cherry	3	
Ailanthus (5)	4	20

25. **Un-vegetated surface (check the single, most dominant feature):**
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other:
_____

26. **Combined litter & duff depth:**
2 inches

27. **Parent material:** blown

28. **Moisture regime**:
___Very dry
✓ Dry
___Moist
___Wet
___Saturated
___Periodically inundated
___Permanently inundated

29. **Soil type** (if observed)
___ sand ✓ loam
___clay ___peat
___muck
other_____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Chunks of pavement

32. **Evidence of Disturbance:**
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Ground is relatively flat w/ some topographic undulation
Chicadee flying, Blue Jay calling
Significant homeless encampment here

C. VEGETATION 34. **System:** √ Terrestrial ___ Palustrine ___ Estuarine 35. **PLOT NUMBER:** AUD-18 36. **Plot Dimensions:** 75' Rad

37. **Leaf phenology:**
- √ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- √ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** Forest

40. **Strata/life forms**	**height (m or ft)**	**% cover**	**Cover Classes**
T1 Emergent tree			+ <1%
T2 Tree canopy	40	75	**1** =1-5%
T3 Tree sub-canopy	60	15	**2** =6-25%
S1 Tall shrub	25	30	**3** =26-50%
S2 Short shrub	12	10	**4** =51-75%
H Herbaceous		60	**5** >75%
N Non-vascular			
V Vine / liana			

41. **Plant Species & abundance**: list each species and the corresponding cover class for each stratum.

Black Cherry	20	8" to 12" DBH			
Silver maple	5				
Poison Sumac	Tr				
Black Cherry	15	Family numerous in tall shrub layer			
Dogwood	Tr				
American Pokeweed	20				
Goldenrod	30				
Buckthorn	5				
Knotweed	Tr				

Downy woodpecker
least Garlic mustard of entire site

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42 401 323 71 149881
3. Assigned type (NHESP use): _____ 4. Lat: _____ N Long _____ W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10. Directions: _____
11. Survey date 10/27/20 1130A 12. Previous observations at this site: _____
13. Surveyors: JW Burne

B. Environmental Description

14. **PLOT #** FP 1

15. **Photos taken** Y N; **Identifier** 0876 0877

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___ Step in slope
___ Mid slope ___ Toe of slope
___ Low slope
___ Rolling Terrain
___ Level ___ Channel wall
___ Basin floor ___ Channel bed
___ Other flood plain

18. **Topographic sketch**:

19. **Slope aspect:** _____

20. **Slope Class** (Percent):
✓ Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex ✓ Linear
Horizontally: Concave Convex ✓ Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class:
12" 10' fresh
Average diameter for all downed wood ≥4 in.
5" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 25%

23. **Fuel load (< ¼ inch in diameter)**:
Low = 1 ✓ Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
AS 2	4	

25. **Un-vegetated surface (check the single, most dominant feature)**:
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other:

26. **Combined litter & duff depth:**
2" inches

27. **Parent material:** loam

28. **Moisture regime**:
___ Very dry
✓ Dry
___ Moist
___ Wet
___ Saturated
___ Periodically inundated
___ Permanently inundated

29. **Soil type** (if observed)
___ sand
___ clay
✓ loam
___ peat
___ muck
other_____

30. **Sphagnum hummocks/overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Chunks of pavement & bricks, etc

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Some evidence of homeless encampment

C. VEGETATION 34. **System:** ✓ Terrestrial __ Palustrine __ Estuarine 35. **PLOT NUMBER:** FP 1 36. **Plot Dimensions:** 26' (7.9m) radius

37. **Leaf phenology:**
- ✓ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ✓ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** forest

40. **Strata/life forms**	**height (m or ft)**	**% cover**
T1 Emergent tree		0
T2 Tree canopy	80	60
T3 Tree sub-canopy	60	15
S1 Tall shrub	25	15
S2 Short shrub		
H Herbaceous		80
N Non-vascular		
V Vine / liana		15

Cover Classes
+ <1%
1 =1-5%
2 =6-25%
3 =26-50%
4 =51-75%
5 >75%

41. **Plant Species & abundance:** list each species and the corresponding cover class for each stratum.

Cherry	60				
Box elder	20				
Black oak	5				
Brambles	5				
Choke cherry	10				
American pokeweed	10				
Garlic Mustard	70				
Goldenrod	5	5			
Knotweed		present but not band			
Bittersweet	5	sparse			

fairly open, sparse area. lots of CWD, & trees/shrubs that produce food

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program MB Thorn 5

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42 [illegible] 71 [illegible]
3. Assigned type (NHESP use): _____ 4. Lat: _____ N Long _____ W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10. Directions: _____
11. Survey date 10/22/20 12. Previous observations at this site: _____
13. Surveyors: MRB

B. Environmental Description

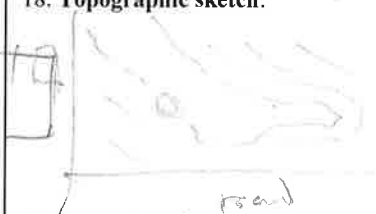
14. **PLOT #** FP2

15. **Photos taken** (Y) N; 874, 875
Identifier MB Thorn 5

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___ Step in slope
___ Mid slope ___ Toe of slope
___ Low slope
___ Rolling Terrain
✓ Level ___ Channel wall
___ Basin floor ___ Channel bed
___ Other

18. **Topographic sketch**:



19. **Slope aspect:** _____

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
Gentle (2-9%) Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex Linear
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class:
18" 25' Partial
Average diameter for all downed wood ≥4 in.
5" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 20

23. **Fuel load (< ¼ inch in diameter)**:
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH**:

Species	DBH	ht.
Unk	18	7'

25. **Un-vegetated surface (check the single, most dominant feature)**:
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other: _____

26. **Combined litter & duff depth**:
2 inches

27. **Parent material:** mineral soil

28. **Moisture regime**:
✓ Very dry
✓ Dry ___ Wet
___ Moist ___ Saturated
___ Periodically inundated
___ Permanently inundated

29. **Soil type** (if observed)
___ sand ✓ loam
___ clay ___ peat
___ muck
other _____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Lots of pavement chunks

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments:** vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Close to road & houses, evidence of yard dumping from neighbors
Dead Squirrel at road side

C. VEGETATION 34. **System:** √ Terrestrial ___ Palustrine ___ Estuarine 35. **PLOT NUMBER:** PP 2 36. **Plot Dimensions:** 26' diam

37. **Leaf phenology:**
- ___ √ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ___ √ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** forest

40. Strata/life forms	height (m or ft)	% cover	Cover Classes
T1 Emergent tree			+ <1%
T2 Tree canopy	60	60	**1** =1-5%
T3 Tree sub-canopy	30	10	**2** =6-25%
S1 Tall shrub			**3** =26-50%
S2 Short shrub	15	25	**4** =51-75%
H Herbaceous		90	**5** >75%
N Non-vascular			
V Vine / liana			

41. **Plant Species & abundance:** list each species and the corresponding cover class for each stratum.

Ash	20	24" diameter			
Norway maple	40	24" diameter			
Red maple	10	30" diameter			
Elm	5				
Cherry	5				
Norway maple	5				
Common buckthorn	fr				
Ivy	10				
Sensitive fern	5				
Garlic Mustard	90				

Some very large trees, good diversity of tree spp
large amount CWD

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: 42.401566 / 71.152019
3. Assigned type (NHESP use): _____ 4. Lat: _____ N Long _____ W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10. Directions: laser measured 23m from brk wall of house
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MRB

B. Environmental Description

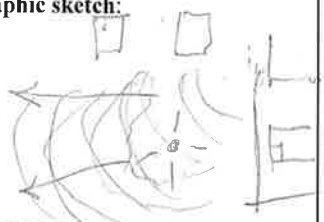
14. **PLOT #** CS-1

15. **Photos taken** (Y) N; 0869, 870
Identifier _____ MB thorn 3

16. **Elevation (from topo):** ____ m or ft

17. **Topographic position**:
___ Summit/Crest
___ High slope ___ Step in slope
___ Mid slope ___ Toe of slope
☑ Low slope
___ Rolling Terrain
___ Level ___ Channel wall
___ Basin floor ___ Channel bed
___ Other Slight slope away from house to E & N

18. **Topographic sketch:**



19. **Slope aspect:** _____

20. **Slope Class** (Percent):
Flat (<2%) Steep (48-95%)
~~Gentle (2-9%)~~ Very Steep (>95%)
Moderate (10-25%)
Abrupt (cliff or ledge)
Rather Steep (26-47%)

21. **Slope Shape**:
Vertically: Concave Convex (Linear)
Horizontally: Concave Convex Linear

22. **Downed Wood**
(within or partially within plot)
Max. diameter/length/decay class:
9" 12' fresh not dec.
Average diameter for all downed wood ≥4 in.
5" (estimate)
Abundance of downed wood ≥4 in. diameter (using cover classes) 5%

23. **Fuel load (< ¼ inch in diameter):**
Low = 1 Moderate = 2 High = 3

24. **Snags ≥ 4" DBH:**

Species	DBH	ht.
None		

25. **Un-vegetated surface (check the single, most dominant feature):**
___ Bedrock
___ Large rocks (boulders > 24 in.)
___ Small rocks (stones 10-24 in.)
___ Cobbles (2-9 in.)
___ Gravel (<2 in.)
___ Sand
___ Litter
___ Bare soil
___ Water
___ Other: _____

26. **Combined litter & duff depth:**
3" inches

27. **Parent material:** Mineral Soil

28. **Moisture regime**:
___ Very dry
☑ Dry
___ Moist
___ Wet
___ Saturated
___ Periodically inundated
___ Permanently inundated

29. **Soil type** (if observed)
___ sand ___ loam
___ clay ___ peat
___ muck
other _____

30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot)
GPS point (location): _____
Size of habitat: _____
3 water depths _____ (max. inches)
Circle: Moving channels or Pools of Water
Comments: _____

31. **Evidence of Land Use History**:
stone walls, barbed wire, wolf trees
cut stumps, multi-trunk trees,
foundations, wells
Other Some encroachment

32. **Evidence of Disturbance**:
Fires: fire scars, charcoal, standing snags
Blowdowns: aligned downed trees
Ice damage: broken tree tops
Disease: adelgid, gypsy moth, beech bark
Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:
Sparse understory, Complete OVN story

C. VEGETATION 34. **System:** __ Terrestrial __ Palustrine __ Estuarine 35. **PLOT NUMBER:** _____ 36. **Plot Dimensions:** _____

37. **Leaf phenology:**
- ✓ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ✓ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

39. **Photo Cover Type:** _____ 39a. **Field-Observed Cover Type:** forest

40. **Strata/life forms**	**height (m or ft)**	**% cover**
T1 Emergent tree		
T2 Tree canopy	90	100
T3 Tree sub-canopy	60	20
S1 Tall shrub	10	10
S2 Short shrub		0
H Herbaceous		0
N Non-vascular		
V Vine / liana	15'	TC

Cover Classes
+ <1%
1 =1-5%
2 =6-25%
3 =26-50%
4 =51-75%
5 >75%

41. **Plant Species & abundance**: list each species and the corresponding cover class for each stratum.

Norway maple	100				
American Elm	T				
Cherry	T				
Linden	S				
Buttercup	T				

Garlic mustard at fence line near second house.
Not present in plot.

Form 3: Quantitative Community Characterization

MA Natural Heritage & Endangered Species Program

A. Identifiers (general EOR information)

1. Community type (observed): _____ 2. GPS Point: _____
3. Assigned type (NHESP use): _____ 4. Lat: _____N Long _____W
5. Site name: _____ 6. Quad name(s): _____
7. Ecoregion (DFW): _____ 8. County name(s): _____
9. Town: Arlington 10.Directions: _____
11. Survey date 10/27/20 12. Previous observations at this site: _____
13. Surveyors: MR Byrne

B. Environmental Description

14. **PLOT #** 1A-1	15. **Photos taken** (Y) N; **Identifier** 0885, 0884	16. **Elevation (from topo):** ____ m or ft
17. **Topographic position**: ___ Summit/Crest ___ High slope ___Step in slope ___ Mid slope ___Toe of slope ___ Low slope ___ Rolling Terrain ___ Level ___Channel wall ___ Basin floor ___Channel bed ___ Other edge of basin	18. **Topographic sketch**: 19. **Slope aspect:**_____	20. **Slope Class** (Percent): Flat (<2%) Steep (48-95%) Gentle (2-9%) Very Steep (>95%) Moderate (10-25%) Abrupt (cliff or ledge) Rather Steep (26-47%) 21. **Slope Shape**: Vertically: Concave Convex Linear Horizontally: Concave Convex Linear
22. **Downed Wood** (within or partially within plot) Max. diameter/length/decay class: _____ Average diameter for all downed wood ≥4 in. _____(estimate) Abundance of downed wood ≥4 in. diameter (using cover classes) _____ 23. **Fuel load (< ¼ inch in diameter)**: Low = 1 Moderate = 2 High = 3 24. **Snags ≥ 4" DBH**: Species DBH ht. _____ ____ ___ _____ ____ ___ _____ ____ ___ _____ ____ ___ _____ ____ ___	25. **Un-vegetated surface (check the single, most dominant feature)**: ___ Bedrock ___ Large rocks (boulders > 24 in.) ___ Small rocks (stones 10-24 in.) ___ Cobbles (2-9 in.) ___ Gravel (<2 in.) ___ Sand ___ Litter ___ Bare soil ___ Water ___ Other: _____ 26. **Combined litter & duff depth**: _____inches 27. **Parent material**: _____	28. **Moisture regime**: ___Very dry ___Dry ___Wet ___Moist ___Saturated ___Periodically inundated ___Permanently inundated 29. **Soil type** (if observed) ___ sand ___loam ___clay ___peat ___muck other_____
30. **Sphagnum hummocks overhanging water:** (only if >25 m² and visible from plot) GPS point (location): _____ Size of habitat: _____ 3 water depths _____ (max. inches) Circle: Moving channels or Pools of Water Comments: _____	31. **Evidence of Land Use History**: stone walls, barbed wire, wolf trees cut stumps, multi-trunk trees, foundations, wells Other Trash _____	32. **Evidence of Disturbance**: Fires: fire scars, charcoal, standing snags Blowdowns: aligned downed trees Ice damage: broken tree tops Disease: adelgid, gypsy moth, beech bark Other: _____

33. **Environmental Comments**: vegetation homogeneity, erosion / sedimentation, invasive species presence/distribution, etc:

There is a slight topographic depression large eastward basin filled with knotweed. Clearly not a vernal pool. Trash in basin

C. VEGETATION 34. **System:** ✓ Terrestrial __ Palustrine __ Estuarine 35. **PLOT NUMBER:** _____ 36. **Plot Dimensions:** _____

37. **Leaf phenology:**
- ✓ Deciduous
- ___ Semi-deciduous
- ___ Semi-Evergreen
- ___ Evergreen
- ___ Perennial
- ___ Annual

38. **Physiognomic type:**
- ✓ Forest
- ___ Sparse woodland
- ___ Shrubland
- ___ Dwarf shrubland
- ___ Sparse dwarf shrubland
- ___ Herbaceous
- ___ Woodland
- ___ Scrub thicket
- ___ Sparse shrubland
- ___ Dwarf scrub thicket
- ___ Non-vascular
- ___ Sparsely vegetated

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40. **Strata/life forms**	**height (m or ft)**	**% cover**	**Cover Classes**
T1 Emergent tree			+ <1%
T2 Tree canopy		60	**1** =1-5%
T3 Tree sub-canopy			**2** =6-25%
S1 Tall shrub			**3** =26-50%
S2 Short shrub			**4** =51-75%
H Herbaceous		80	**5** >75%
N Non-vascular			
V Vine / liana			

41. **Plant Species & abundance:** list each species and the corresponding cover class for each stratum.

Knotweed					
Ferns					
Cottonwood					