

**Hopewell Valley Community Stewardship Plan
Friends of Hopewell Valley Open Space**

**Appendix 9.
Guastella Preserve**

Acreage: 0.53

Block and Lot: B7, L16

Ownership: FoHVOS (100%)

Year(s) Purchased: 2008

Location & Access: Preserve is located on the east side of Van Dyke Road (just north of intersection with Route 654). Unofficial parking access occurs along the opposite road shoulder. Nearest street address: 64 Van Dyke Road, Hopewell, NJ 08525.

Structures: None

Additional property information is summarized in Appendix W. The following Preserve maps are provided at the end of this document:

- Map 1 2007 Aerial Photography
- Map 2 1930 Aerial Photography
- Map 3 Topography
- Map 4 Bedrock Geology
- Map 5 Soils
- Map 6 Land Cover Types (2007)
- Map 7 Protected Lands
- Map 8 Deer Management
- Map 9 Invasive Plant Cover (Relative Infestation Severity for all species)

Website Description:

Guastella Preserve is a small tract located just west of the Hopewell Borough boundary. The parcel is part of a network of open space outside the Borough.

BROAD PROPERTY DESCRIPTION

The Guastella Preserve (see Map 1) is located in northeastern Hopewell Township, just west of Hopewell Borough. The preserve is bounded by forest and residential development. The topography (see Map 3) is relatively flat, at about 280 feet above sea level.

Based upon analysis of NJDEP's 2007 Land Use/Land Cover dataset, the preserve contains two broad plant communities: Shrubland (< 10% canopy, > 25% shrub cover) – Upland and Urban Lands. Land Use/Land Cover is summarized in Appendix X and illustrated in Map 6.

Historically, the preserve and its surroundings were used for agriculture and the current native plant communities reflect this alteration in the soils. Currently, the preserve is a narrow strip which connects to a small forest patch. The preserve is located between two developed parcels.

The preserve has one type of bedrock geology--the Passaic formation. See Map 4.

The preserve has one soil type (see Map 5)--Lawrenceville and Mount Lucas silt loams, 2 to 6 percent slopes. The preserve's soils are described in Appendix Y.

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CONSERVATION VALUES

Based on an analysis involving the ranking of ecological values and threats (See Community Stewardship Plan text), the Preserve has a weighted Ecological Value at 25%. See Appendix A for a description of ranking factors.

Forest and Woodland Communities: The forest patch found on the Preserve is too small and fragmented to provide significant habitat.

Old forest: None. See Map 2.

Early Successional Communities:

Shrublands: This community type is primarily composed of non-native species, including multiflora rose, shrub honeysuckle species, Norway maple, privet and Asiatic bittersweet.

Meadows/Grasslands: N/A

Waterbodies: N/A

Rare Species:

Rare Plants: None documented on the Preserve. Natural Heritage grid data shows no species.

Rare Animals: None.

THREATS

Deer: The preserve serves as habitat for ‘pocket deer’ that cannot be accessed by hunters.

Invasive species: In 2008 staff began walk-through surveys for emerging invasive species on all preserves. Mapping documented each species and its population size. No species were detected. See www.njisst.org for the current status of emerging invasive species at the Preserve.

In 2011 staff completed surveys for invasive plant species on all preserves (see Map 9). Mapping documented each species found and its population size (See Table 1 below). The five species with the highest infestation scores include: Japanese Honeysuckle, Asiatic Bittersweet, Multiflora Rose, Norway Maple, and Morrow's Honeysuckle.

Other: N/A

STRATEGIES and ACTIONS

Forest and Woodland Habitat Stewardship: N/A

Early Successional Habitat Stewardship: Annual surveys for and eradication of emerging invasive species is the highest priority at this Preserve.

No action is recommended for widespread invasive species, except for Asiatic bittersweet. All fruiting vines should be treated with basal bark or cut stump (in the case of vines on trees) methods. Reduced deer density will allow the native plant communities to recover and compete with the widespread invasive species on a long-term basis.

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Deer Management: The preserve is not enrolled in the DMP. It falls completely within the 450' and 150' safety zones. See Map 8 for delineations of the 150' and 450' safety zones and hunting status.

Rare Species Management: N/A

Neighboring Lands: See Map 7 for adjacent protected lands.

Waterbodies Management: N/A

Undesirable Activities Management: N/A

Scientific Research Assessment: The Preserve is available for scientific research.

Recreational Opportunities Assessment: The preserve is too small to merit a trail. Currently, there are no opportunities to connect to a regional trail system—none yet exist.

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Table 1. Invasive Plants – Species Abundance and Treatment Recommendations

Scientific Name	Common Name	Infestation Index Score ¹	Total Acres Present	Percent of Preserve Area Present	Treatment Recommendation	LOE Estimate (Hours)	Acreage by Percent Ground Cover Categories						
							Category 0: 0%	Category: Trace	Category 1: 1-10%	Category 2: 10-25%	Category 3: 25-50%	Category 4: 50-75%	Category 5: 75-100%
<i>Acer palmatum</i>	Japanese Maple	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Acer platanoides</i>	Norway Maple	1.1	0.5	100.0	None		0.00	0.0	0.0	0.5	0.0	0.00	0.0
<i>Ailanthus altissima</i>	Tree-of-Heaven	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Alliaria petiolata</i>	Garlic Mustard	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Artemisia vulgaris</i>	Common Mugwort	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Arthraxon hispidus</i>	Small Carpgrass	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Berberis thunbergii</i>	Japanese Barberry	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cardamine impatiens</i>	Narrow-leaved Bittercress	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Catalpa bignonioides</i>	Northern Catalpa	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet	1.6	0.5	100.0	Control - Treat Fruiting Plants	5	0.00	0.0	0.0	0.0	0.5	0.0	0.0
<i>Centurea sp.</i>	Knapweed sp.	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cirsium arvense</i>	Canada Thistle	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Dipsacus sylvestris</i>	Teasel	0.0	0.0	0.0	N/A		0.53	0.0	0.00	0.0	0.0	0.0	0.0
<i>Eleagnus umbellata</i>	Autumn Olive	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Euonymus alata</i>	Winged Burning Bush	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.00
<i>Iris pseudoacris</i>	Yellow Iris	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lespedeza cuneata</i>	Chinese Bushclover	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ligustrum obtusifolium</i>	Border Privet	0.0	0.5	100.0	None		0.00	0.5	0.00	0.0	0.0	0.0	0.0
<i>Lonicera japonica</i>	Japanese Honeysuckle	2.7	0.5	100.0	None		0.00	0.0	0.0	0.0	0.0	0.0	0.5
<i>Lonicera maackii</i>	Amur Honeysuckle	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	0.5	0.5	94.3	None		0.03	0.0	0.5	0.0	0.00	0.0	0.0
<i>Lysimachia nummularia</i>	Moneywort	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lythrum salicaria</i>	Purple Loosestrife	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Malus toringo</i>	Toringo Crabapple	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Microstegium vimineum</i>	Japanese Stiltgrass	0.5	0.5	94.3	None		0.03	0.0	0.5	0.0	0.0	0.0	0.0
N/A	Non-native, cool season grass	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phalaris arundinacea</i>	Reed Canary Grass	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phragmites australis</i>	Common Reed	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygonum cuspidatum</i>	Japanese Knotweed	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygonum perforiatum</i>	Mile-a-Minute	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Pyrus calleryana</i>	Callery Pear	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ranunculus ficaria</i>	Lesser Celandine	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Robinia pseudoacacia</i>	Black Locust	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rosa multiflora</i>	Multiflora Rose	1.5	0.5	94.3	None		0.03	0.0	0.0	0.0	0.5	0.0	0.0
<i>Rubus phoenicolasius</i>	Wineberry	0.5	0.5	94.3	None		0.03	0.0	0.5	0.0	0.0	0.0	0.0
<i>Securigera varia</i>	Crown vetch	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Viburnum dilatatum</i>	Linden Viburnum	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Viburnum sieboldii</i>	Siebold's Viburnum	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
<i>Wisteria floribunda</i>	Japanese Wisteria	0.0	0.0	0.0	N/A		0.53	0.0	0.0	0.0	0.0	0.0	0.0
Total LOE						5							





¹ The Infestation Index Score combines the extent of acreage infested and the intensity of the infestation. It was derived by multiplying the cover class number by the number of acres within each cover class.

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**Guastella Preserve
Map 1
2007 Aerial Photography**

- Legend**
-  Preserve Access Point
 -  FoHVOS Preserves
 -  Early Successional Lands
 -  Trails



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Guastella Preserve
Map 3
Topography

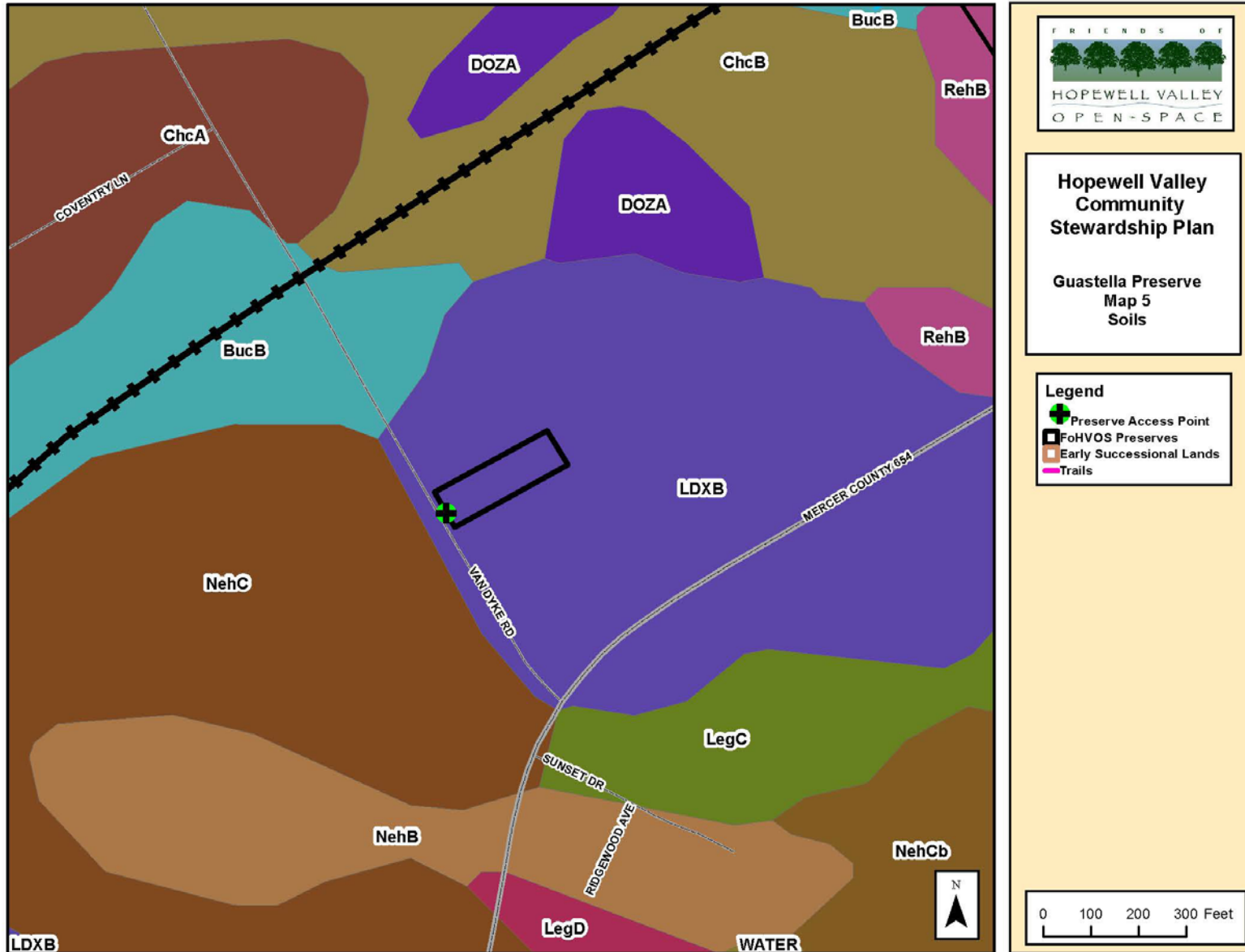
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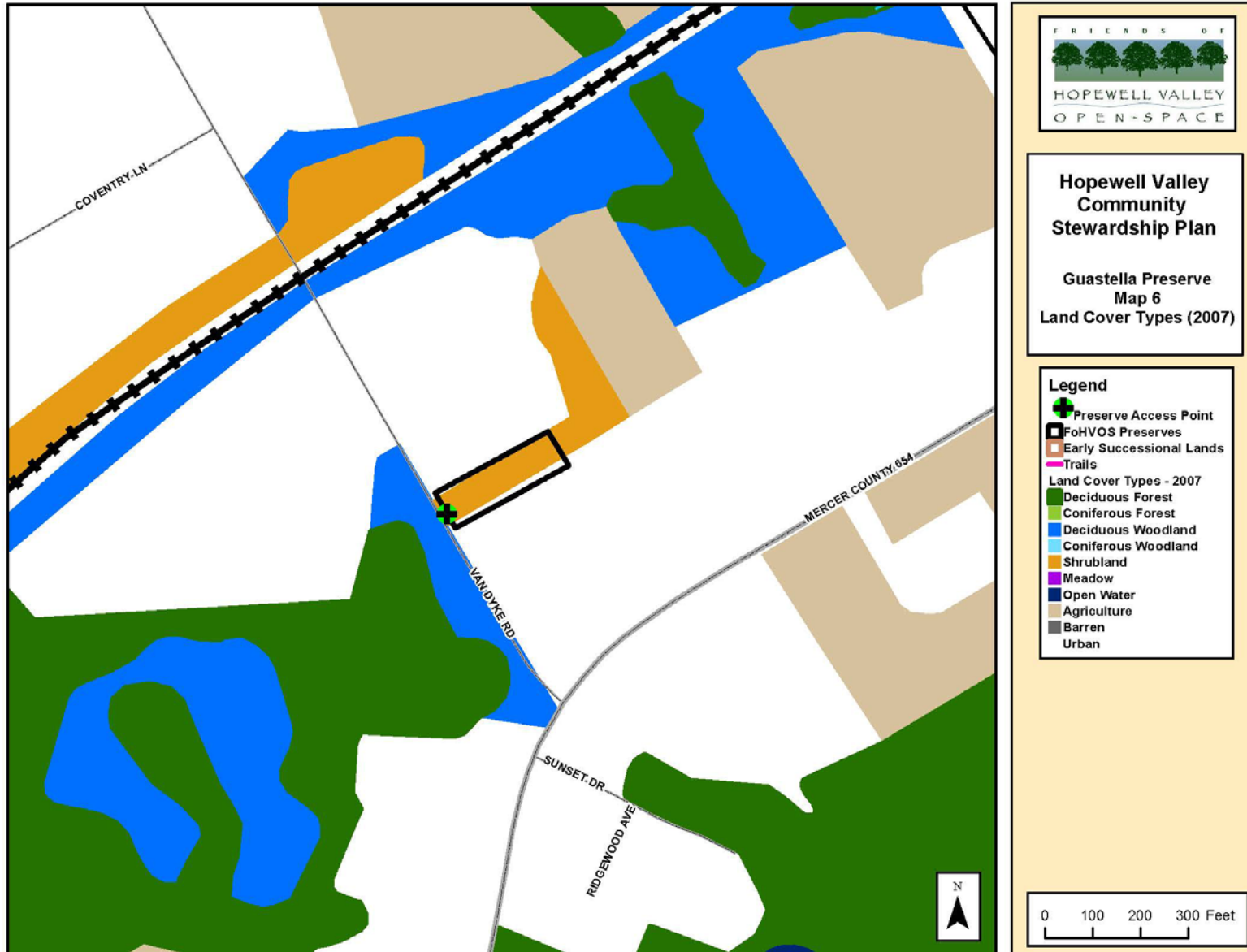
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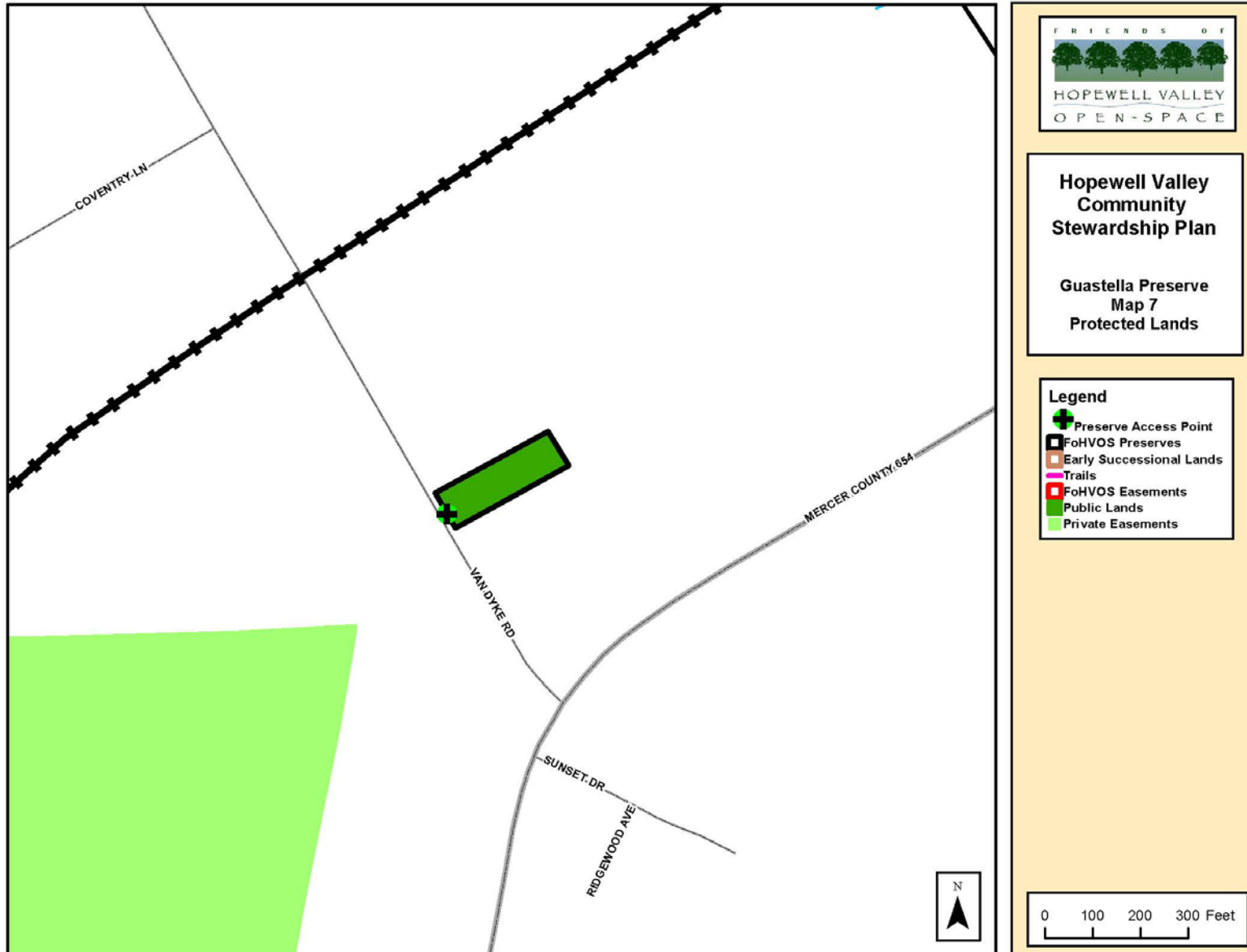
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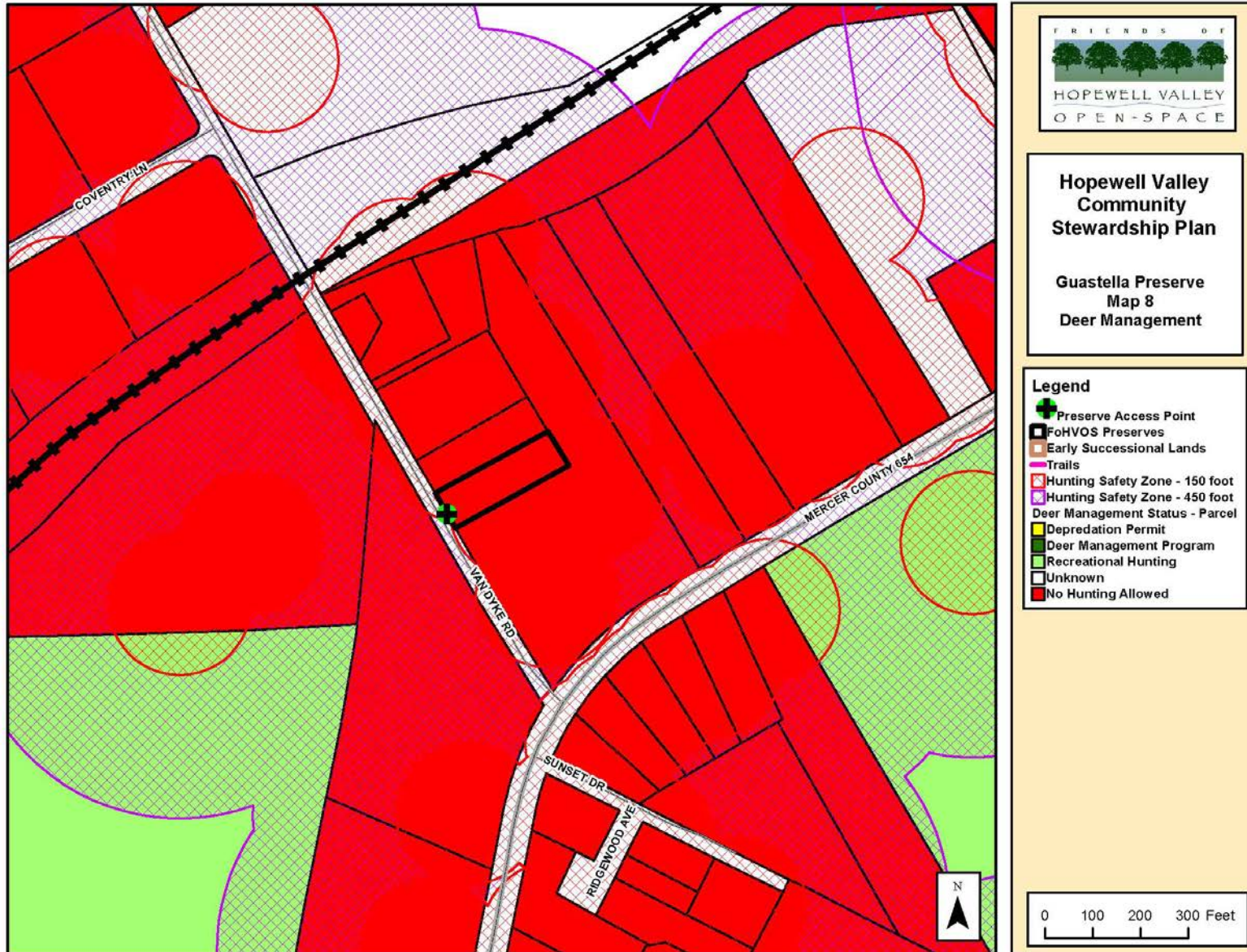
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