

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

**Appendix 6.
Franz Preserve**

Acreage: 18.5

Block and Lot: B92, L12.02

Ownership: FoHVOS (100%)

Year(s) Purchased: 2000

Location & Access: Preserve is located on the south side of Pennington-Titusville Road, 0.7 miles east of Bear Tavern Road/Route 579. A formal gravel parking lot is installed at the preserve entrance. Alternate access at dead end street off of Continental Lane (south side of preserve). Nearest street address: 388 Pennington-Titusville Road, Pennington.

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:

Franz Preserve protects a portion of the Jacobs Creek, one of its tributaries, and adjacent forested wetlands and uplands. The preserve's forests are in various states of succession from young red cedar thickets to mature forest.

BROAD PROPERTY DESCRIPTION

The Franz Preserve (see Map 1) is located in central Hopewell Township. The preserve is bounded by residential development, forest, and farmland. The topography (see Map 3) slopes down towards Jacob's Creek.

Based upon analysis of NJDEP's 2007 Land Use/Land Cover dataset, the preserve contains seven broad plant communities: Coniferous Forest (> 50% canopy) - Upland, Deciduous Forest (> 50% canopy) - Upland, Deciduous Woodland (10-50% canopy) - Upland, Deciduous Forest (> 50% canopy) - Wetland, Open Water, Agricultural Lands, and Urban Lands. Land Use/Land Cover is summarized in Appendix X and illustrated in Map 6.

The forest in the eastern arm of the preserve follows a tributary of Jacob's Creek. Although it appears that the area once served as a woods road, this section was forested or in shrubland as of the 1930s. The canopy consists of black cherry and sugar maple. No native herbs, nor any larger native woody regeneration was detected within the deer browse zone.

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The forested floodplain of Jacob's Creek is inhabited by willow, elm, black walnut, sycamore, ash, sugar maple, multiflora rose, Japanese stiltgrass, lesser celandine, white snakeroot, skunk cabbage, jack-in-the-pulpit, boneset, false nettle, hog peanut, jewelweed, clearweed, bottlebrush grass, sedges, Virginia creeper, white avens, and spicebush. Shrubs and herbaceous species were not abundant or robust.

Just north of the intersection of Jacob's Creek and its tributary, the preserve harbors a narrow band of 1930s forest. American beech, red oak, sugar maple, and ash compose the canopy. Small, non-flowering individuals of sedges, Indian pipe, spicebush, and white wood aster are in the understory layer.

The western arm of the preserve are former cropland or pastureland that is now ash, sassafras, red cedar, autumn olive, Japanese honeysuckle, black cherry, flowering dogwood (trace), garlic mustard, and white snakeroot (abundant).

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

The preserve has six soil types (see Map 5) with Klinesville channery loam, 18 to 35 percent slopes; Reaville silt loam, 2 to 6 percent slopes, eroded; and Rowland silt loam, 0 to 2 percent slopes, frequently flooded, being the three most common types. The preserve's soils are described in Appendix Y.

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 25-50%. See Appendix A for a description of ranking factors.

Forest and Woodland Communities: The forest serves as a buffer for Jacob's Creek and its tributary. The forest patch found on the Preserve and surrounding area is an important stop-over habitat (spring and fall resting and feeding) for migratory species. However, the patch size and lack of a woodland shrub layer reduces the value for nesting and successful breeding bird species.

Old forest: The preserve has 2.17 acres of 1930s forest along the eastern bank of Jacob's Creek and in the eastern arm of the preserve. The later forest was patchy, probably due to active forestry. See Map 2.

Early Successional Communities:

Shrublands: N/A

Meadows/Grasslands: N/A

Waterbodies: Jacob's Creek and a tributary intersect within the preserve.

Rare Species:

Rare Plants: Winged monkeyflower was observed along the Jacobs Creek. However, Natural Heritage grid data shows no species.

Rare Animals: Forested areas of the Preserve are identified as habitat for State Special Concern species. See Appendix L for a list of species.

THREATS

Deer: The understory is severely browsed. Regeneration of the shrub and canopy layer is nearly non-existent.

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Invasive species: In 2008 staff began walk-through surveys for emerging invasive species on all preserves. Mapping documented each species and its population size. Oriental photinia was 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: Garlic Mustard, Japanese Stiltgrass, Japanese Honeysuckle, Multiflora Rose, and Autumn Olive.

Other: N/A

STRATEGIES and ACTIONS

Forest and Woodland Habitat Stewardship: Annual surveys for and eradication of emerging invasive species is a high priority at this Preserve. Eradication of and survey for Oriental Photinia and yellow iris is the primary management goal.

No action is recommended for widespread invasive species. Reduced deer density will allow the native plant communities to recover and compete with the widespread invasive species on a long-term basis.

Early Successional Habitat Stewardship: N/A

Deer Management: The preserve is enrolled in the DMP with bow and gun hunting. See Map 8 for delineations of the 150' and 450' safety zones and hunting status.

Rare Species Management: Survey for winged monkeyflower. Maintain DMP goals to protect forest health and encourage recovery of herbaceous and shrub layers for improved nesting and foraging habitat.

Neighboring Lands: See Deer Management. See Map 7 for adjacent protected lands.

Waterbodies Management: Single yellow iris individual along Jacob's Creek should be eradicated. No eradication is recommended for the lesser celandine as infestations would reoccur as plant material is transported via the creek. No additional action is recommended for Jacob's Creek or its tributary.

Undesirable Activities Management: N/A

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

Recreational Opportunities Assessment: A through trail is being developed on this property. Parking in a gravel lot is available along the roadside. The Jacob's Creek trail will connect the preserve to the Logan easement to the north (across Pennington-Titusville Road).

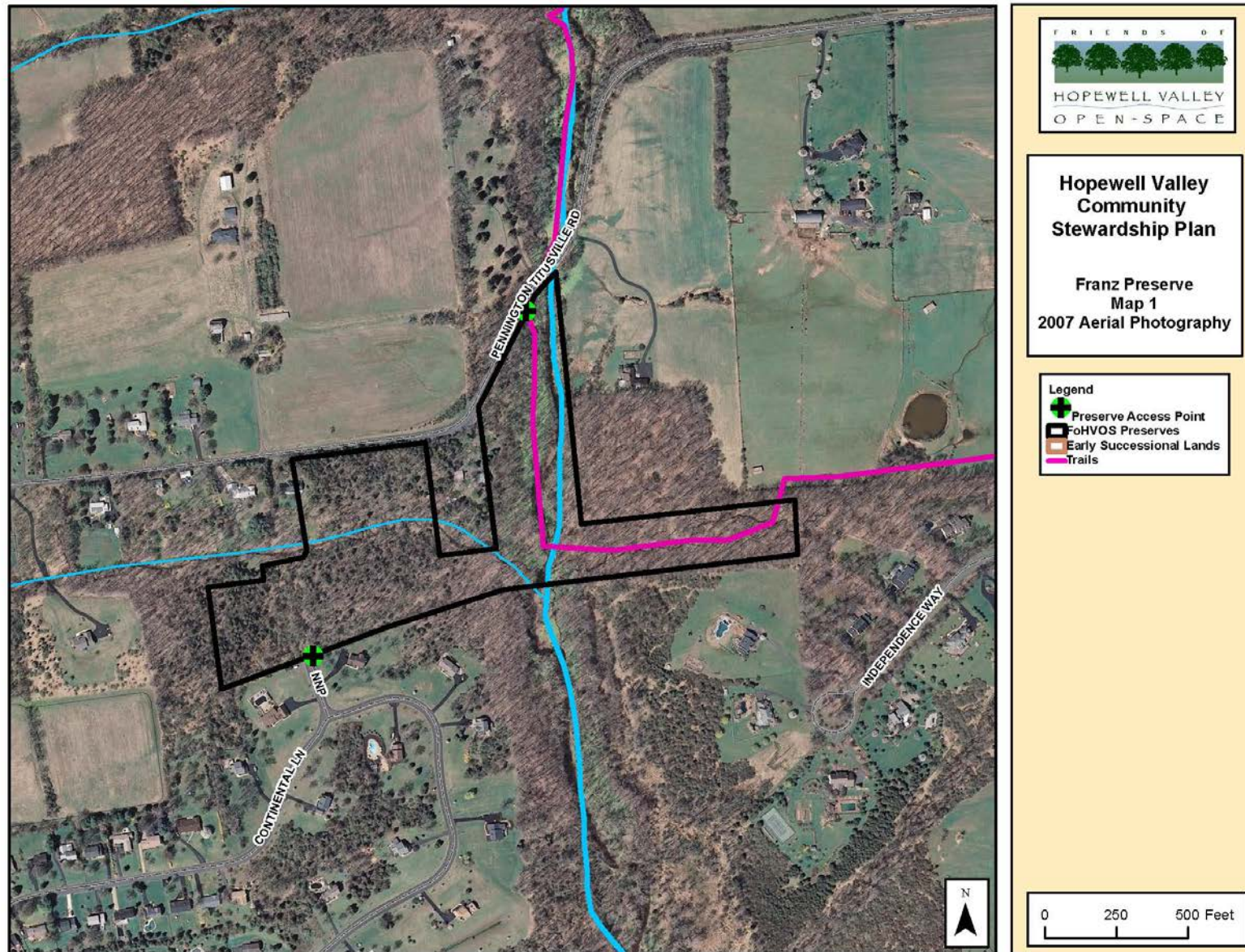
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Table 1. Invasive Plants – Species Abundance and Treatment Recommendations

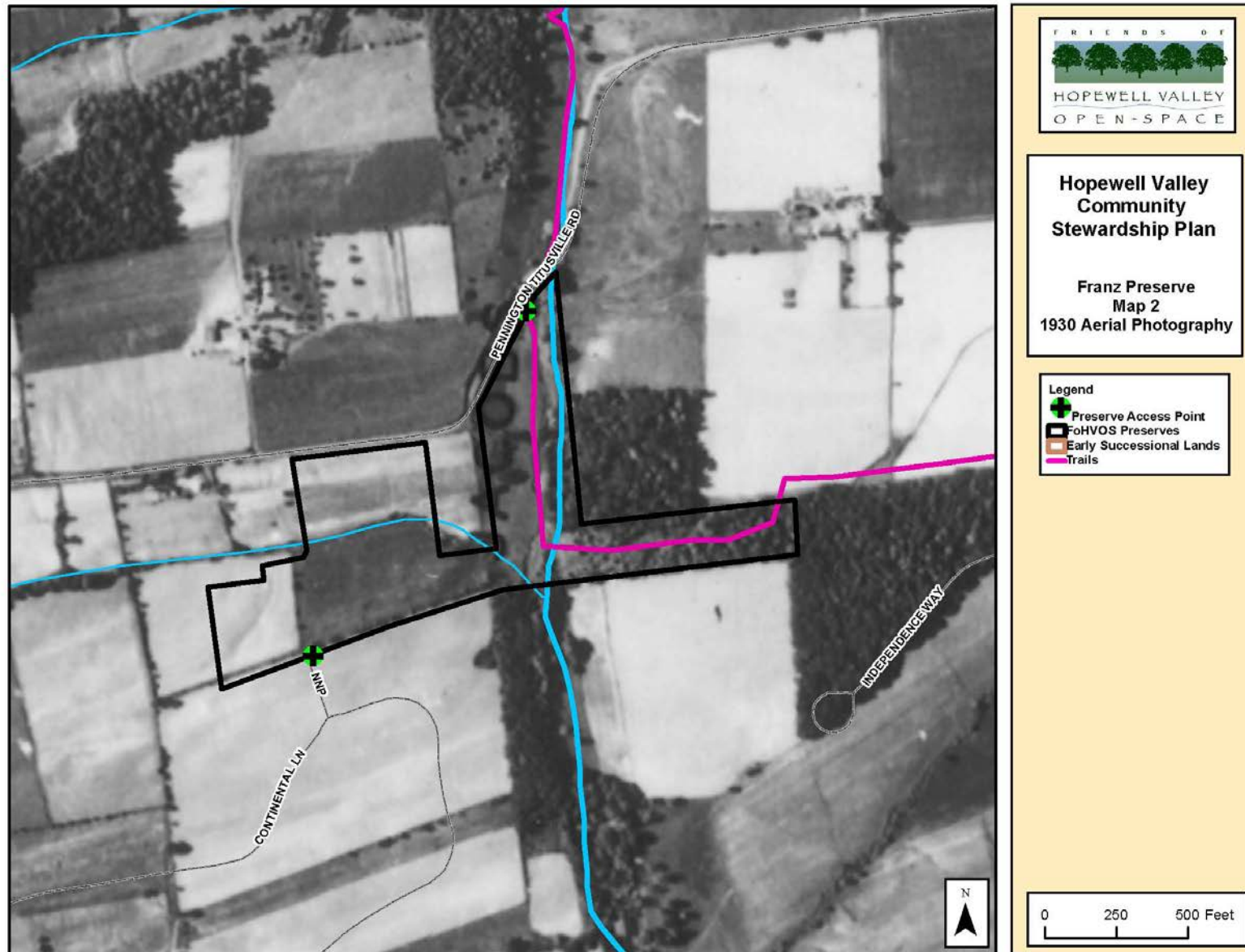
Scientific Name	Common Name	Infestation Index Score ¹	Total Acres Present	Percent of Preserve Area Present	Treatment Recommendation	LOE Estimate (Hours)	Acreage by Percent Ground Cover Categories						
							Category 0: 0%	Category: Trace	Category 1: 1-10%	Category 2: 10-25%	Category 3: 25-50%	Category 4: 50-75%	Category 5: 75-100%
<i>Acer palmatum</i>	Japanese Maple	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Acer platanoides</i>	Norway Maple	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.00	0.0	0.00	0.0
<i>Ailanthus altissima</i>	Tree-of-Heaven	0.1	0.0	0.1	None		19.89	0.0	0.0	0.0	0.0	0.02	0.0
<i>Alliaria petiolata</i>	Garlic Mustard	70.8	17.8	89.6	None		2.07	0.0	1.5	2.8	0.4	3.4	9.8
<i>Artemisia vulgaris</i>	Common Mugwort	0.1	0.0	0.1	None		19.89	0.0	0.0	0.0	0.0	0.02	0.0
<i>Arthraxon hispidus</i>	Small Carpgrass	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Berberis thunbergii</i>	Japanese Barberry	0.1	8.0	40.0	None		11.95	7.9	0.1	0.0	0.0	0.0	0.0
<i>Cardamine impatiens</i>	Narrow-leaved Bittercress	0.0	0.0	0.0	N/A		19.91	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		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.00	0.0	0.0
<i>Centurea sp.</i>	Knapweed sp.	0.0	0.0	0.0	N/A		19.91	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		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Dipsacus sylvestris</i>	Teasel	0.1	0.1	0.6	None		19.80	0.0	0.11	0.0	0.0	0.0	0.0
<i>Eleagnus umbellata</i>	Autumn Olive	17.9	9.3	46.5	None		10.66	0.0	5.7	1.4	0.0	1.5	0.7
<i>Euonymus alata</i>	Winged Burning Bush	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.00
<i>Iris pseudoacris</i>	Yellow Iris	0.0	0.3	1.7	Eradicate	Strategy 2A	19.58	0.3	0.0	0.0	0.0	0.0	0.0
<i>Lespedeza cuneata</i>	Chinese Bushclover	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ligustrum obtusifolium</i>	Border Privet	5.5	9.1	45.8	None		10.80	3.7	5.45	0.0	0.0	0.0	0.0
<i>Lonicera japonica</i>	Japanese Honeysuckle	35.8	13.9	69.9	None		5.99	0.2	1.6	3.3	7.4	1.3	0.0
<i>Lonicera maackii</i>	Amur Honeysuckle	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	8.8	8.7	43.9	None		11.17	4.5	1.6	0.7	1.94	0.0	0.0
<i>Lysimachia nummularia</i>	Moneywort	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Lythrum salicaria</i>	Purple Loosestrife	0.0	1.1	5.7	None - Check for biocontrol agent		18.77	1.1	0.0	0.0	0.0	0.0	0.0
<i>Malus toringo</i>	Toringo Crabapple	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Microstegium vimineum</i>	Japanese Stiltgrass	43.8	14.6	73.1	None		5.36	1.0	0.7	3.7	3.2	3.7	2.3
N/A	Non-native, cool season grass	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Phalaris arundinacea</i>	Reed Canary Grass	4.8	2.1	10.7	None		17.78	0.7	0.6	0.0	0.0	0.3	0.6
<i>Phragmites australis</i>	Common Reed	0.0	0.0	0.0	N/A		19.91	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		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygonum perfoliatum</i>	Mile-a-Minute	0.0	0.0	0.0	N/A		19.91	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		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Ranunculus ficaria</i>	Lesser Celandine	14.4	3.4	17.0	None		16.52	0.0	0.0	0.9	0.0	0.0	2.5
<i>Robinia pseudoacacia</i>	Black Locust	0.0	0.0	0.0	N/A		19.91	0.0	0.0	0.0	0.0	0.0	0.0
<i>Rosa multiflora</i>	Multiflora Rose	19.4	15.9	80.0	None		3.98	3.8	8.1	2.2	0.6	1.3	0.0
<i>Rubus phoenicolasius</i>	Wineberry	9.0	7.6	38.0	None		12.34	0.6	5.9	0.6	0.0	0.5	0.0
<i>Securigera varia</i>	Crown vetch	0.0	0.0	0.0	N/A		19.91	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		19.91	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		19.91	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		19.91	0.0	0.0	0.0	0.0	0.0	0.0
Total LOE						0							

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.

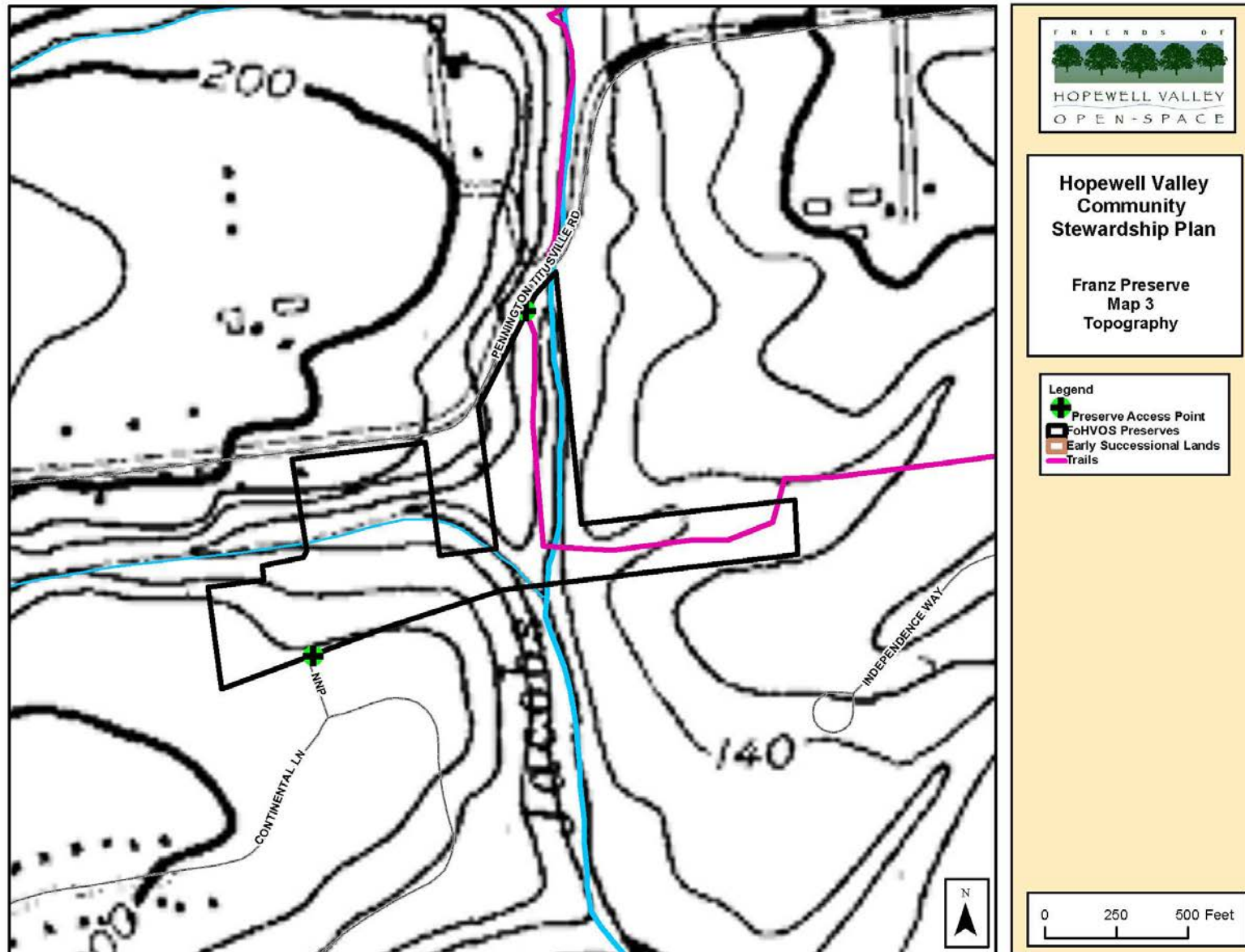
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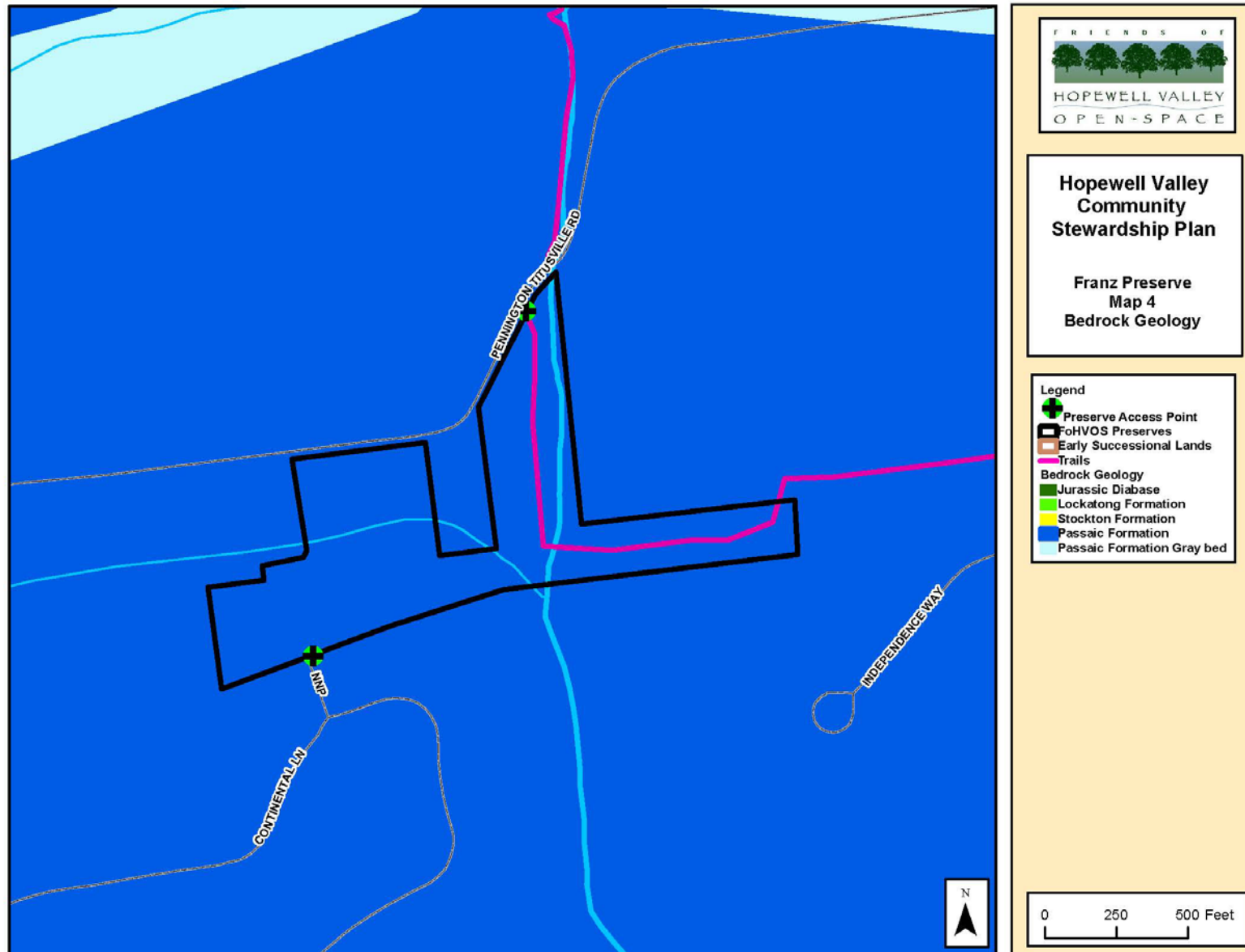
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Map 5: Soils

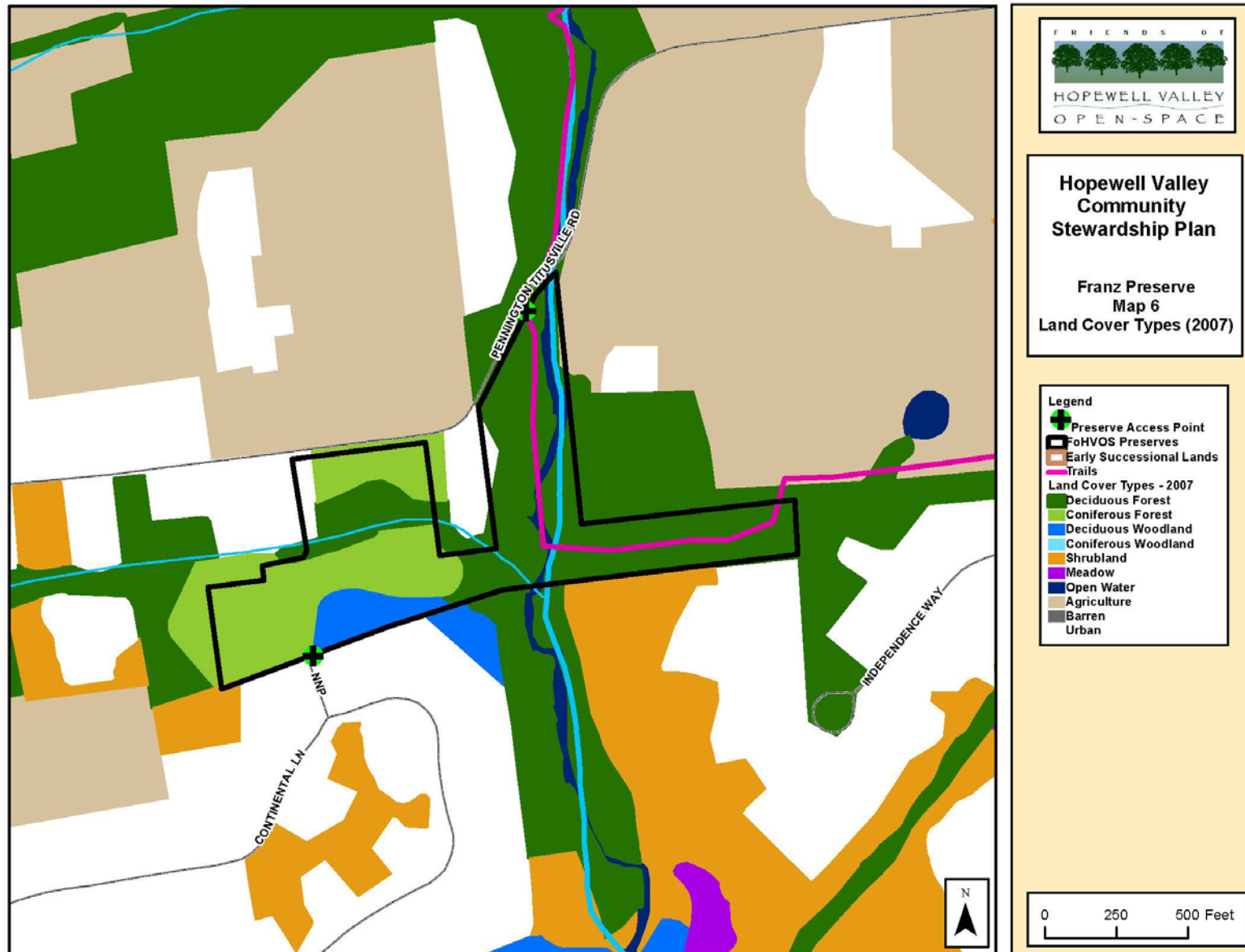
Legend

- Preserve Access Point
- FohVOS Preserves
- Early Successional Lands
- Trails

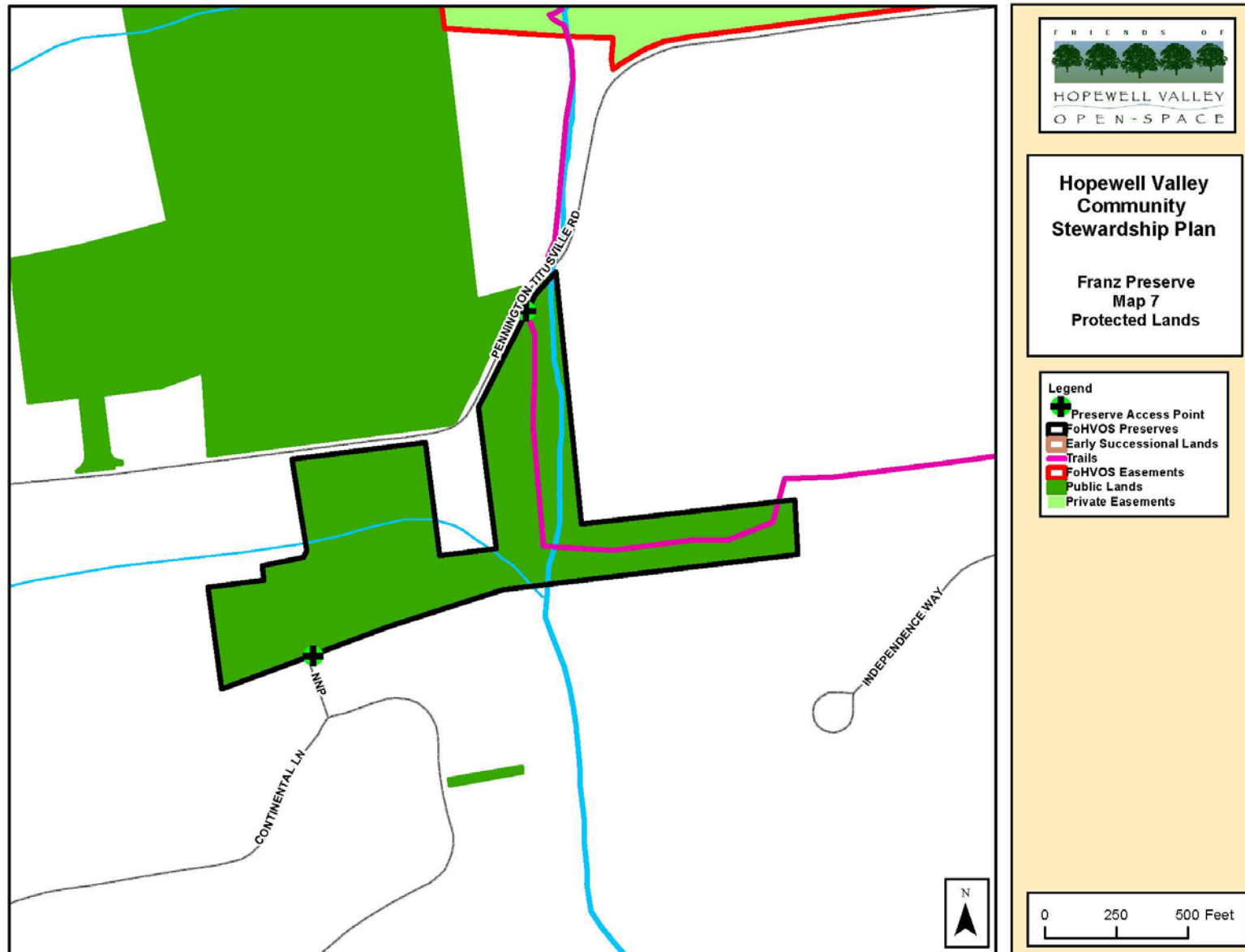
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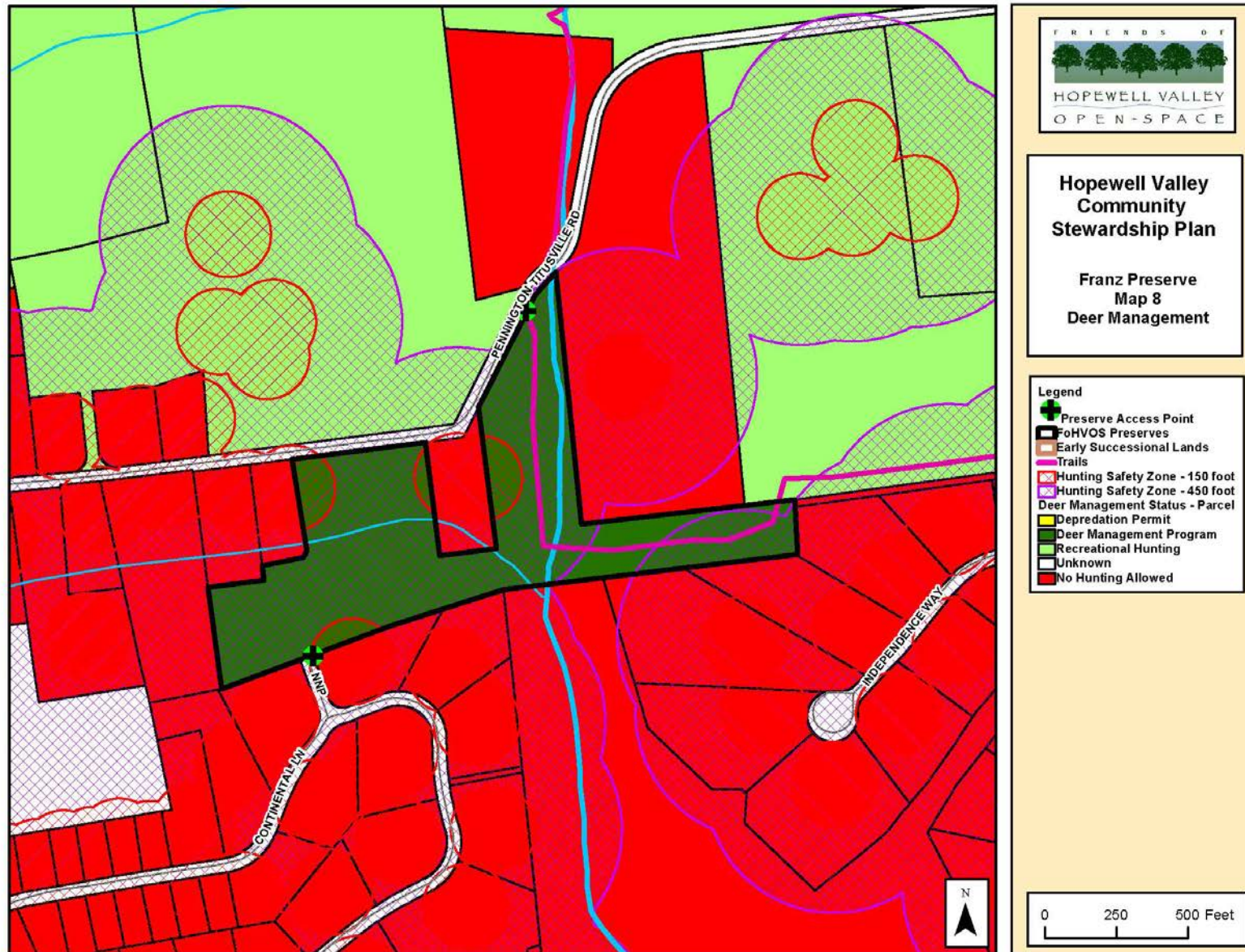


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