State Road 131 from Russel Road to Sunset Avenue

Memorandum

To: **Brenda Christopher**

CC: **Caron Closer**
Derek Johnson
Jennifer Vicich

From: **Marc Woernle**

Date: **December 9, 2010 (Revised June 13, 2011)**

Subject: **Tree and Plant Community Survey Technical Memo**

Introduction:

Plant communities were mapped along an approximate 7-mile stretch of State Road (SR) 131. HNTB Biologists, Jennifer Vicich and Marc Woernle, mapped the areas from October 4 through 6, 2010. Wooded areas adjacent to SR 131 from Russel Road (Rd.) to Sunset Avenue (Ave.) were the focus of the biological survey. The Study Area was limited to the preferred alternative.

Methods:

Plant community mapping was based on the dominant canopy cover. All tree species within a community were first identified. A quick qualitative analysis produced the community name which was defined by the dominant woody species. The limits of each community were drawn as an open ended polygon on field maps. These polygons were usually established by sharply demarcated parcel boundaries where in most cases correlated with a dramatic shift of vegetation types and/or period of succession. For example, one polygon may have been dominated by Black Locust (*Robinia pseudoacacia*) due to the land owner selectively harvesting and inhibited the growth of other trees, while the adjacent landowner may have decided to cut all the oak trees leaving maples and ash, and the next may have managed the land altogether differently. Each community type was given an alphabetic symbol. Similar plant community types were assigned the same symbol.

In addition to the woody plants, all herbaceous plant species within a community were identified. Similar community types may have had herbaceous species that differed from one parcel to another. Since a plant community's identification was tied to the dominant

woody species, all herbaceous species within various polygons of the same community type were documented and listed under the same plant community type.

The average diameters at breast height (DBH) of the dominant trees within each community type were approximated in the field. Trees with a DBH of 24 inches or more occurring within a plant community and trees with a DBH of 36 inches or more occurring within a landscape setting were identified, documented and mapped with a GPS Unit (Trimble XT). These larger trees appeared to be above average and may be of special interest for the general setting of the project Study Area. Photographs exemplifying each community type and specific photos of each of the larger trees were taken (See attached). Additional photos depicting examples of several of the landscaped yards were also taken.

Results:

A total of 15 naturally occurring wooded plant communities within the Study Area were documented. Table 1 below lists the approximate acreage of each community type within the Study Area. This acreage is based on qualitative estimates and should not be considered an exact amount, implicating which plant communities are more common throughout the Study Area and likely to be impacted by the proposed project. The acreages were revised on June 2, 2011, and were based on the preferred alternative. An example photo of each community type is attached.

Table 1: Approximate Acreage of Plant Community Types within the Study Area

Community Type	Existing ROW (Acres)	Proposed ROW (Acres)	Temporary ROW (Acres)	Total Impact (Acres)
A	1.665	1.204	0.020	2.889
B	0.204	0.127	-	0.332
C	0.199	0.021	-	0.220
D	0.116	0.024	-	0.140
E	0.085	0.059	-	0.144
F	0.408	0.116	0.001	0.525
G	0.008	0.022	-	0.030
H	0.186	0.053	-	0.239
I	1.472	1.074	0.043	2.589
J	0.106	-	0.068	0.174
K	-	0.523	-	0.523
L	0.014	0.068	-	0.082
M	-	0.740	-	0.740
N	0.916	0.430	-	1.345
O	0.042	0.043	-	0.085

In addition, a total of 15 notable trees were documented within the Study Area. Table 2 below lists the tree species, their DBH, associated community type and location on the attached Plant Community Maps. Photos of the notable trees are attached.

Table 2: Notable Trees Located within the Study Area

Specimen ID Number	Common Name	Scientific Name	DBH (inches)	Location	Figure Page #
1	Green Ash	*Fraxinus pennsylvanica*	31.0	Community A	6
2	Silver Maple	*Acer saccharinum*	24.5	Community A	6
3	Silver Maple	*Acer saccharinum*	37.0	Landscape	6
4	Silver Maple	*Acer saccharinum*	42.0	Landscape	7
5	Silver Maple	*Acer saccharinum*	37.0	Landscape	7
6	Eastern Cottonwood	*Populus deltoides*	31.0	Community A	6
7	American Elm	*Ulmus americana*	26.0	Community I	5
8	Black Walnut	*Juglans nigra*	30.0	Community I	4
9	Black Walnut	*Juglans nigra*	24.5	Community J	4
10	Bur Oak	*Quercus macrocarpa*	38.5	Community M	4
11*	Bur Oak	*Quercus macrocarpa*	32.5, 26.5, 22**	Community N	1
12	Bur Oak	*Quercus macrocarpa*	40.0	Community N	3
13	Bur Oak	*Quercus macrocarpa*	23.0	Community N	3
14	Black Oak	*Quercus velutina*	29.5	Community N	3
15*	Eastern Cottonwood	*Populus deltoides*	21, 22.5, 12**	Community O	4

* Outside Preferred Alternative
** Multiple Trunked tree

Each plant of the communities described below correlates with the attached maps. The maps consist of aerial imagery and the preliminarily preferred alternative overlaid with the specific plant communities encountered and the approximate location of the larger notable trees.

Plant Community A

This forested plant community is dominated by Green Ash (*Fraxinus pennsylvanica*), Silver Maple (*Acer saccharinum*), American Elm (*Ulmus americana*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 10 inches was observed for Green Ash and

Silver Maple trees in this community and American elm averaged 4 inches DBH. Other plant species observed in this community were Box Elder (*Acer negundo*), Honeysuckle (*Lonicera morrowii*), Black Walnut (*Juglans nigra*), White Mulberry (Morus alba), Virginia Creeper (*Parthenocissus quinquefolia*), Eastern Cottonwood (*Populus deltoides*), Grape (*Vitis riparia*), Rough Avens (*Geum laciniatum*), Virginia wild-rye (*Elymus virginicus*) and five species of Aster (*Aster ericoides, Aster pilosus, Aster sagittifolius, Aster novae-angliae,* and *Aster azureus*). Three notable trees including Green Ash, Silver Maple, and Eastern Cottonwood measuring 24-inch DBH or greater were documented within this plant community.

Plant Community B

This forested plant community is dominated by Green Ash (*Fraxinus pennsylvanica*), Black Cherry (*Prunus serotina*), American Elm (*Ulmus americana*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 8 inches was observed for Green Ash and Black Cherry trees in this community and American elm averaged 4 inches DBH. Other plant species observed in this community were Russian Olive (*Elaeagnus angustifolia*), Ninebark (*Physocarpus opulifolius*), Privet (*Ligustrum sinense*) Sunflower (*Helianthus maximiliani*), Canada Goldenrod (*Solidago canadensis*), Rosinweed (*Silphium integrifolium*), Grape (*Vitis riparia*), and four species of Aster (*Aster ericoides, Aster pilosus, Aster sagittifolius,* and *Aster novae-angliae*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community C

This forested plant community is dominated by Silver Maple (*Acer saccharinum*), American Elm (*Ulmus americana*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 10 inches was observed for Silver Maple and 6 inches DBH for American Elm. Other plant species observed in this community were Honeysuckle (*Lonicera morrowii*), Norway Maple (*Acer platanoides*), White Poplar (*Populus alba*), Grape (*Vitis riparia*), Asiatic Lily (*Lilium* sp) and four species of Aster (*Aster ericoides, Aster pilosus, Aster sagittifolius,* and *Aster novae-angliae*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community D

This forested plant community is dominated by Green Ash (*Fraxinus pennsylvanica*), Box Elder (*Acer negundo*), American Elm (*Ulmus americana*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 6 inches was observed for Green Ash and Box Elder trees in this community and American elm averaged 4 inches DBH. Other plant species observed in this community were Honeysuckle (*Lonicera morrowii*), White Mulberry (*Morus alba*), Tree of Heaven (*Ailanthus altissima*) Virginia Creeper (*Parthenocissus quinquefolia*), and Grape (*Vitis riparia*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community E

This forested plant community is dominated by Bur Oak (*Quercus macrocarpa*), Green Ash (*Fraxinus pennsylvanica*), and Buckthorn (*Rhamnus cathartica*). An average DBH of 8 inches was observed for Bur Oak and Green Ash. Other plant species observed in

this community were Honeysuckle (*Lonicera morrowii*), Norway Maple (*Acer platanoides*), American Elm (*Ulmus americana*), Black Cherry (*Prunus serotina*), Pin Oak (*Quercus palustris*), and Grape (*Vitis riparia*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community F

This forested plant community is dominated by Green Ash (*Fraxinus pennsylvanica*), Buckthorn (*Rhamnus cathartica*) and Smooth Sumac (*Rhus glabra*). An average DBH of 6 inches was observed for Green Ash and 4 inches for Buckthorn. Other plant species observed in this community were Honeysuckle (*Lonicera morrowii*), Box Elder (*Acer negundo*), Red Cedar (*Juniperus virginiana*) and Grape (*Vitis riparia*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community G

This forested plant community is dominated by Norway Maple (*Acer platanoides*), Green Ash (*Fraxinus pennsylvanica*), and Buckthorn (*Rhamnus cathartica*). An average DBH of 6 inches was observed for Norway Maple and Green Ash. Other plant species observed in this community were Honeysuckle (*Lonicera morrowii*), and Grape (*Vitis riparia*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community H

This plant community is dominated by Black Locust (*Robinia pseudoacacia*). An average DBH of 8 inches was observed. The understory of this community has been removed and planted with a fescue species. No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community I

This forested plant community is dominated by Black Locust (*Robinia pseudoacacia*) and Buckthorn (*Rhamnus cathartica*). Depending on the location of the community Green Ash (*Fraxinus pennsylvanica*), American Elm (*Ulmus Americana*) or Silver Maple (*Acer saccharinum*) are also dominant species. An average DBH of 8 inches was observed for Burr Oak and Green Ash. Other plant species observed in this community include horticultural species of Norway Spruce (*Picea abies*) and Blue Spruce (*Picea pungens*) and Barberry (*Berberis* sp.) as well as Grape (*Vitis riparia*), Fescue (*Festuca arundinacea*) and four species of Aster (*Aster ericoides*, *Aster pilosus*, *Aster sagittifolius*, and *Aster novae-angliae*). Two notable trees, Black Walnut, measuring 24-inch DBH or greater were documented within this plant community.

Plant Community J

This forested plant community is dominated by Black Walnut (*Juglans nigra*), Buckthorn (*Rhamnus cathartica*) and Smooth Sumac (*Rhus glabra*). An average DBH of 10 inches was observed for Black Walnut and 2 inches for Buckthorn. Other plant species observed in this community were Box Elder (*Acer negundo*), Grape (*Vitis riparia*), Soloman's-seal (*Polygonatum commutatum*), Virginia Creeper (*Parthenocissus*

quinquefolia) and *Aster sagittifolius*. One notable tree, Black Walnut, measuring 24.5-inch DBH was documented within this plant community.

Plant Community K

This forested plant community is dominated by Northern Catalpa (*Catalpa speciosa*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 18 inches was observed for the Catalpa and 2 inches for Buckthorn. Other plant species observed in this community were Silver Maple (*Acer saccharinum)* and Fescue (*Festuca arundinacea*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community L

This forested plant community is dominated by White Poplar (*Populus alba*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 8 inches was observed for White Poplar and Buckthorn averaged 2 inches DBH. Other plant species observed in this community were Green Ash (*Fraxinus pennsylvanica*), and Canada Goldenrod (*Solidago Canadensis*). No notable trees measuring 24-inch DBH or greater were documented within this plant community.

Plant Community M

This forested plant community is dominated by Shagbark Hickory (*Carya ovata*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 8 inches was observed for Shagbark Hickory and Buckthorn averaged 3 inches DBH. Other plant species observed in this community were Bur Oak (*Quercus macrocarpa*), Box Elder (*Acer negundo*), Black Cherry (*Prunus serotina*), Choke Cherry (*Prunus virginiana*) and Grape (*Vitis riparia*). One notable tree, Bur Oak, measuring 38.5-inch DBH was documented within this plant community.

Plant Community N

This forested plant community is dominated by Bur Oak (*Quercus macrocarpa*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 18 inches was observed for Bur Oak and Buckthorn averaged 3 inches DBH. Other plant species observed in this community were Box Elder (*Acer negundo*), Green Ash (*Fraxinus pennsylvanica*), Black Locust (*Robinia pseudoacacia*), Norway Maple (*Acer*), White Mulberry (*Morus alba*), Fescue (*Festuca arundinacea*), Bloodroot (*Sanguinaria canadensis*) and Asiatic Lily (*Lilium* sp). Four notable Bur Oak trees, measuring 24-inch DBH or greater were documented within this plant community.

Plant Community O

This forested plant community is dominated by Eastern Cottonwood (*Populus deltoides*), Box Elder (*Acer negundo*) and Buckthorn (*Rhamnus cathartica*). An average DBH of 10 inches was observed for the Cottonwood, 6 inches for the Box Elder and 2 inches for Buckthorn. Other plant species observed in this community were Green Ash (*Fraxinus pennsylvanica*), Grape (*Vitis riparia*) and Asiatic Lily (*Lilium* sp). One notable tree,

Eastern Cottonwood, having a multiple trunk measuring 21, 22.5, and 12-inches DBH was documented within this plant community.

Discussion:

In conclusion, a total of 15 plant communities and 15 notable trees were recorded within the study area. Approximately 10.06 acres of wooded plant communities will be impacted, of this, 0.13 acre will be temporarily impacted while the remaining 9.93 acres will be considered permanent impacts. Two of the 15 trees (#11, a Bur Oak, and #15, a Cottonwood) will not be impacted as they are located outside the Preferred Alternative construction limits.

State Route 131
Plant Comunities

Mapbook 1 of 7

KENOSHA COUNTY - STATE OF WISCONSIN

LAKE COUNTY - STATE OF ILLINOIS

N

Lynndale

11

Illinois Route 131

F

9th

Source:
Orthophotography-
2005 Chicago Urban Area Orthophotography
Lake County

Map Area
Shown In Red

Legend

- Notable Trees

Plant Communities By Type

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

- County Boundaries
- Existing Right of Way
- Proposed Right of Way
- Temporary Right of Way

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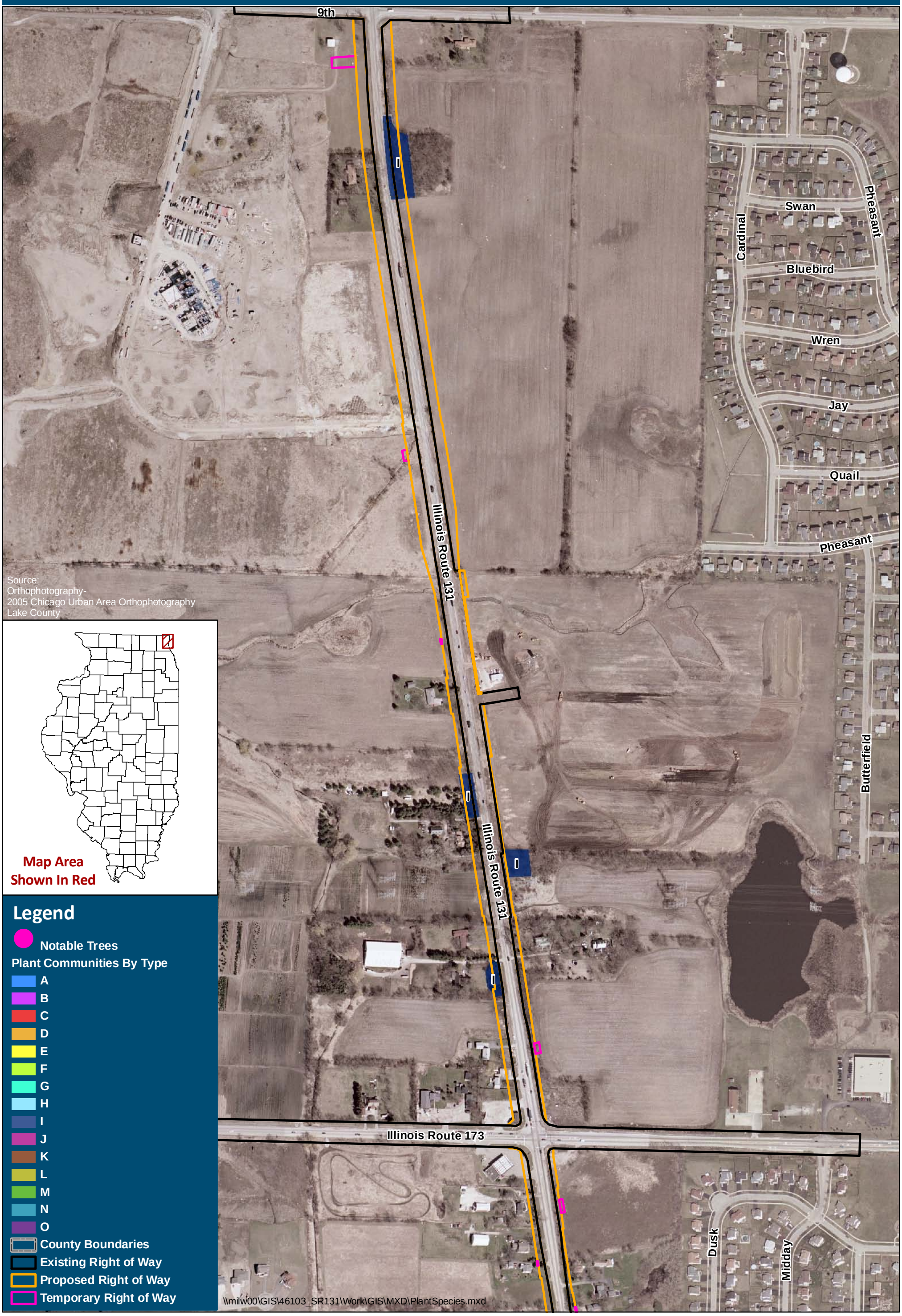
State Route 131
Plant Comunities

Mapbook 2 of 7



Source:
Orthophotography-
2005 Chicago Urban Area Orthophotography
Lake County

Map Area
Shown In Red

Legend

- Notable Trees

Plant Communities By Type

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

- County Boundaries
- Existing Right of Way
- Proposed Right of Way
- Temporary Right of Way

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State Route 131
Plant Comunities

Mapbook 3 of 7

Taylor
Daybreak
Dawn
Midday
Daybreak
Dawn
21st
A
Waverly
A
Cornell
Illinois Route 131
Van
Kenosha
12
13
N
14
N
A
Green
7th

Source:
Orthophotography-
2005 Chicago Urban Area Orthophotography
Lake County

Map Area Shown In Red

Legend

- Notable Trees

Plant Communities By Type

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

- County Boundaries
- Existing Right of Way
- Proposed Right of Way
- Temporary Right of Way

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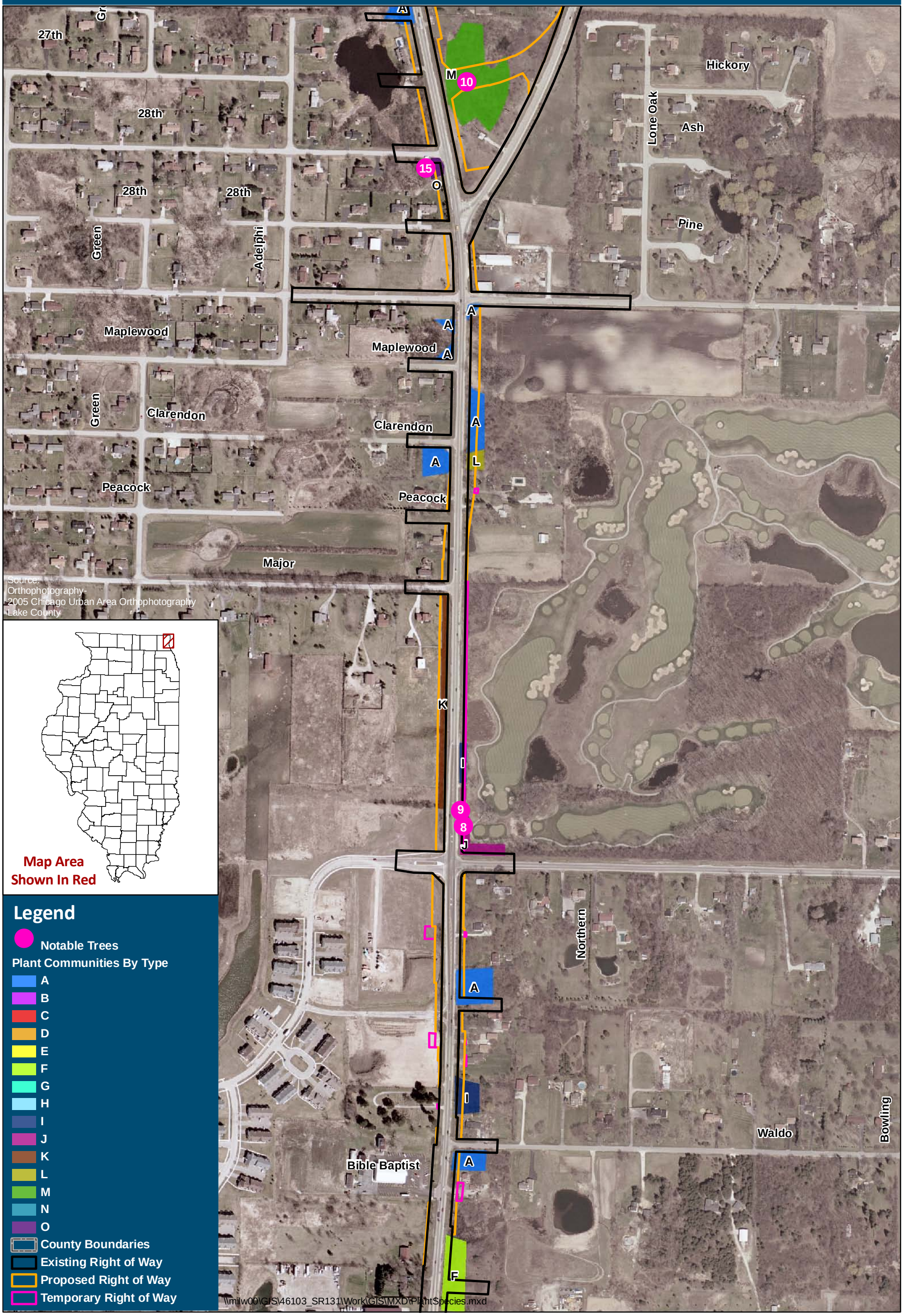
State Route 131
Plant Comunities

Mapbook 4 of 7



Legend

- Notable Trees

Plant Communities By Type

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

- County Boundaries
- Existing Right of Way
- Proposed Right of Way
- Temporary Right of Way

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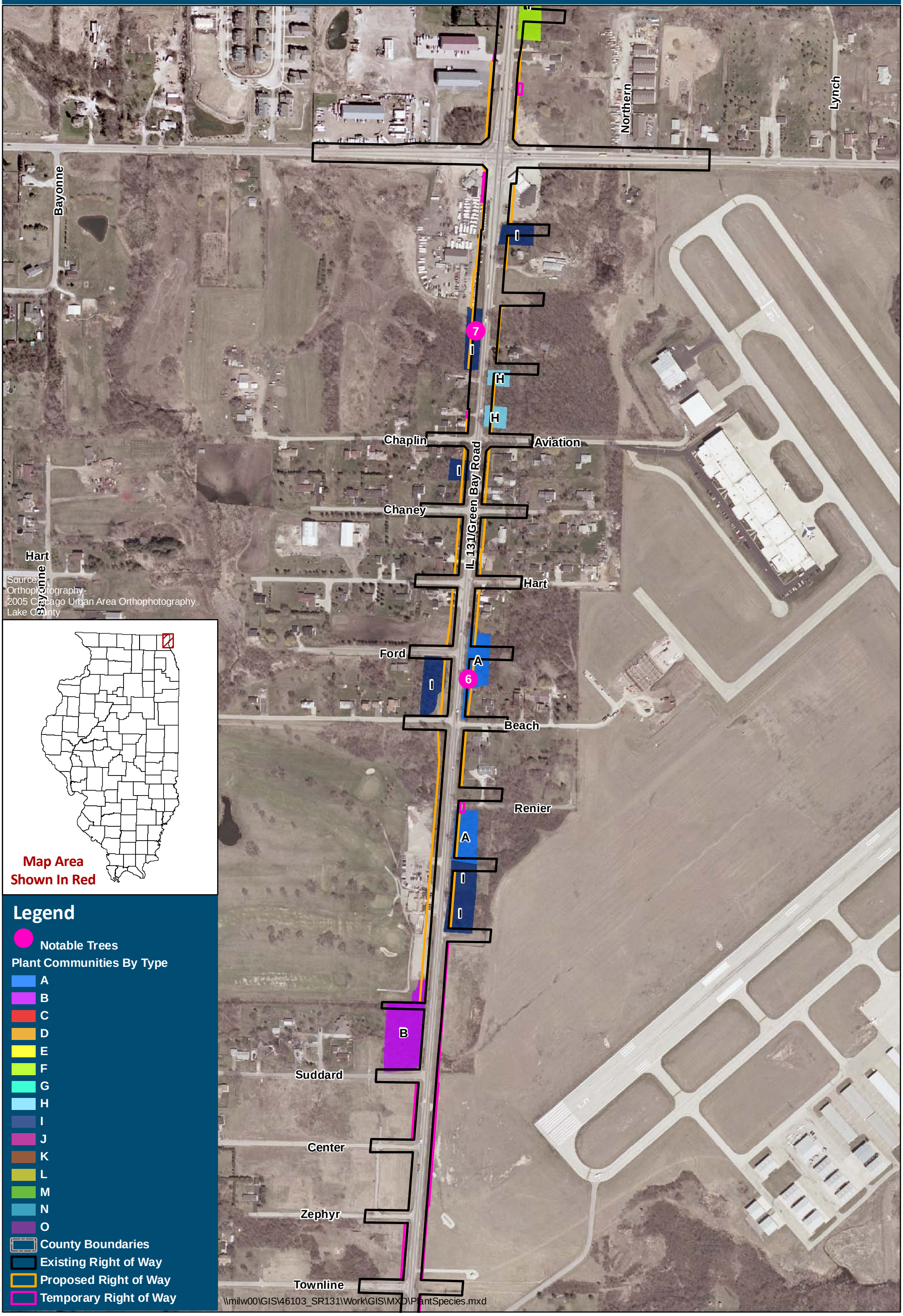
State Route 131
Plant Comunities

Mapbook 5 of 7



State Route 131
Plant Comunities

Mapbook 6 of 7

Source:
Orthophotography-
2005 Chicago Urban Area Orthophotography
Lake County

Map Area
Shown In Red

Legend

- Notable Trees

Plant Communities By Type

- A
- B
- C
- D
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State Route 131
Plant Comunities

Mapbook 7 of 7