



U.S. Department
of Transportation

**Federal Highway
Administration**

Illinois Division

May 3, 2021

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In Reply Refer To:
HA-IL

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Subject: Environmental Assessment for improvements along Deerfield Road from
US 45 to Saunders Road in Lake County

Dear Mr. Tapas:

The Federal Highway Administration (FHWA) received your letter dated, March 23, 2021, requesting to issue an Environmental Assessment for the proposed improvements along Deerfield Road from US 45 to Saunders Road in Lake County, Illinois.

During the public review period, please ensure that an electric copy of the document is circulated to each agency that was involved in the NEPA-404 Merger Process.

If you have any questions, please contact Irene Pantoja, District 1, Transportation Engineer at Irene.Pantoja@dot.gov.

Sincerely,

JOHN HILL ROGERS JR

Digitally signed by JOHN HILL
ROGERS JR
Date: 2021.05.03 08:41:11 -05'00'

John Rogers
Engineering Team Leader

Enclosure

ecc: Mr. John Sherrill, Bureau of Design & Environment, IDOT
Mr. Jose Rios, Acting Region 1 Engineer, IDOT



ENVIRONMENTAL ASSESSMENT

DEERFIELD ROAD (FAU 1257)

IL 21/US 45 to SAUNDERS/RIVERWOODS ROAD

LAKE COUNTY, ILLINOIS



MARCH 2021

**DEERFIELD ROAD (CH 11, FAU 1257)
US 45/ IL 21 (Milwaukee Avenue) to Saunders/Riverwood Road
Sec. No. 15-00038-07-WR**

LAKE COUNTY, ILLINOIS

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332 (2)(c)
by the
U.S. Department of Transportation
Federal Highway Administration
and the
Illinois Department of Transportation

Cooperating Agencies

Illinois Department of Natural Resources; Illinois Historic Preservation Agency; U.S. Army Corps of Engineers –
Chicago District

MARCH 23, 2021
Date of Approval

May 3, 2021
Date of Approval



For IDOT

JOHN HILL ROGERS JR

For FHWA

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Abstract

This Environmental Assessment (EA) documents the impacts with the proposed action to reconstruct a two-mile section along Deerfield Road from US 45/ IL 21 (Milwaukee Avenue) to Saunders/Riverwoods Road within Lake County. The purpose of the project is to address capacity, safety, mobility, non-motorized and operational deficiencies. The existing roadway is one lane in each direction with open drainage ditches. The proposed action includes a third lane (flush median), curb and gutter, drainage improvements, Des Plaines River bridge widening/rehabilitation, multi-use path, utility relocations, auxiliary lane additions at two signalized intersections and through lane/auxiliary lane additions at one intersection.

Construction of the proposed action will require the acquisition of approximately 3.02 acres of right-of-way, 6.56 acres of permanent easement and 4.44 acres of temporary construction easements from 78 parcels. There will be no residential or building relocations, but there are 35 permanent parking stall impacts to commercial properties. There is no permanent acquisition from adjacent Forest Preserves, Nature Preserve, and Nature Preserve Buffers. There will be a small permanent impact to an Illinois Natural Areas Inventory (INAI) site (341 SF). A 0.32 acre temporary easement is proposed at the Cahokia Flatwoods Forest Preserve to access the Deerfield Road bridge abutment and piers.

Impacts to wetlands and unvegetated waters of the U.S. total 0.65 acres and 0.02 acres respectively. Replacement is proposed to be provided within the Des Plaines River watershed. The Preferred Alternative meets the requirements of the U.S. Army Corps of Engineers Regional Permit Program (RPP). The cumulative wetland/waters of the U.S. impact does not exceed 1.0 acre.

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VOLUME 2

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Introduction

This Environmental Assessment describes the environmental consequences for the proposed improvements to Deerfield Road from US 45/IL 21 to Saunders/Riverwoods Road in Lake County, Illinois to address existing and future capacity, safety, mobility, non-motorized and operational deficiencies. The project is located in the Village of Riverwoods, Village of Buffalo Grove and Village of Deerfield.

Deerfield Road as well as Saunders/Riverwoods Road are minor arterial roadways under the jurisdiction of Lake County Division of Transportation (LCDOT). US 45 / IL 21 (Milwaukee Avenue), at the west terminus, is a principal arterial roadway under the jurisdiction of the Illinois Department of Transportation (IDOT). Deerfield Road serves as a vital east-west regional route and has a partial interchange with I-94 adjacent to the project study area. Portwine Road is a north-south collector roadway under the jurisdiction of the Village of Riverwoods.

The project development process incorporated a Context Sensitive Solutions (CSS) project development approach. Through development of a Stakeholder Involvement Plan (SIP) for the project, stakeholders were provided a range of opportunities to be informed and provide input to the Project Study Group that was comprised of LCDOT, IDOT and the Federal Highway Administration (FHWA). These stakeholder involvement opportunities included two public meetings, one public hearing (scheduled for spring 2021), a Stakeholder Involvement Group (SIG), and multiple individual meetings with communities, agencies, organizations, business owners, property owners, and homeowners associations as discussed within this document.

For the purposes of alternative development, the Deerfield Road corridor was separated into two distinct sections that each have unique needs. Section A includes intersection improvements at Milwaukee Avenue and corridor improvements to Deerfield Road from Milwaukee Avenue to the Des Plaines River. Section B includes intersection improvements at Portwine Road and Saunders/Riverwoods Road, and corridor improvements to Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road intersection. A range of eleven (11) alternatives were developed for Section A and five (5) alternatives for Section B. Through a robust alternatives development and evaluation process, along with stakeholder outreach, a preliminary preferred alternative for each section was identified, and was presented at Public Information Meeting #2. The proposed action includes reconstruction of approximately 2 miles of Deerfield Road to meet the established project purpose and need. This includes a flush center turn lane at twelve feet wide, one eleven foot lane in each direction with three foot bike-friendly shoulder, curb and gutter and eight foot multi-use path, and closed drainage system. Intersection improvements are being made at three signalized intersections.

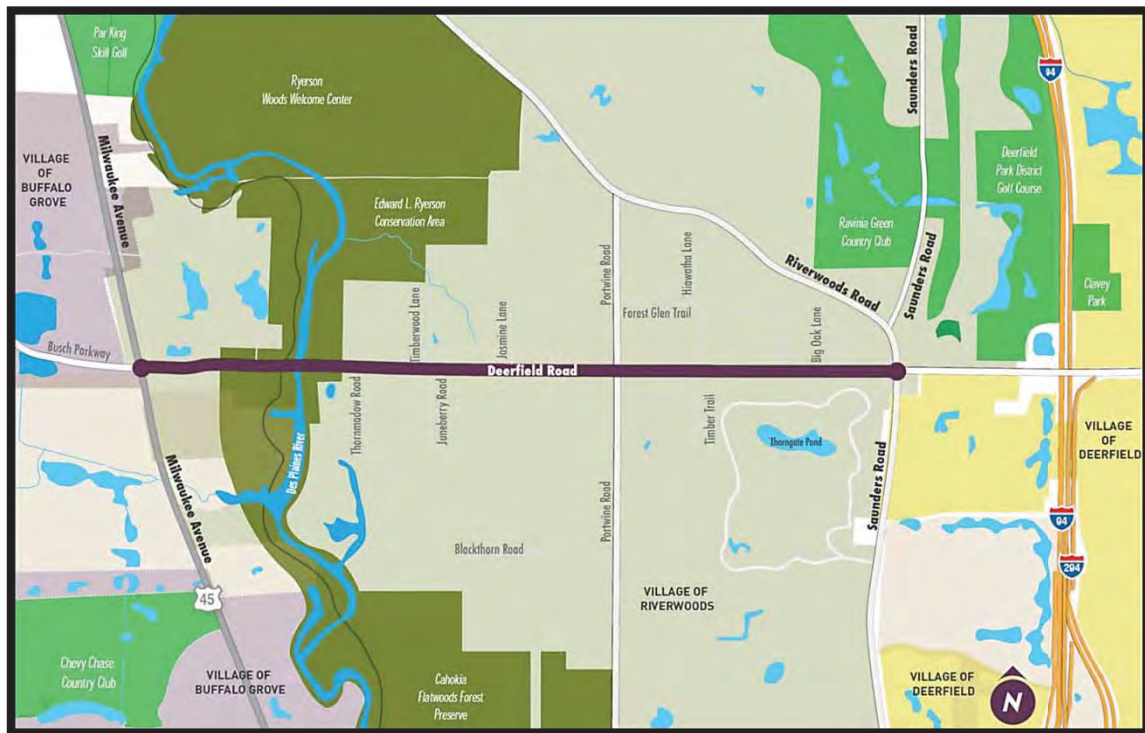
During development of the preferred alternative, a new regional traffic model was approved for the Chicago Metropolitan area for the design year 2050. The new traffic projections were utilized for development of air quality and traffic noise analysis and 2040 projections were maintained for traffic analysis evaluations.

1.0 Purpose and Need

1.1 Where is the Project Located?

Deerfield Road is County Highway 11 (CH 11) from IL 83 to Wilmot Road, a distance of approximately 5.7 miles. The project location is along Deerfield Road with a western terminus at Milwaukee Avenue (US 45/IL 21) and an eastern terminus at Saunders/ Riverwoods Road, a distance of approximately 2.0 miles. There is a partial interchange with I-94 (to/from south only) on Deerfield Road located east of Saunders/ Riverwood Road. Deerfield Road lies within the municipal boundaries of the Village of Riverwoods through a majority of the corridor from Milwaukee Avenue to Saunders/ Riverwoods Road. West of Milwaukee Avenue, Deerfield Road is within the municipal boundaries of Village of Buffalo Grove. East of Saunders/ Riverwoods Road, Deerfield Road is within the Village of Deerfield (see Figure 1-1 below). Refer to Appendix A (Section 1.1, page 1-3) for a detailed description of the project location.

Figure 1-1: Location Map



1.2 What is the Project's Background?

Deerfield Road is a 2-lane roadway within the study area and a 5-lane roadway section east and west of the study area. Improvements to this section of Deerfield Road are being studied due to steady increases in travel demand and congestion during peak AM and PM travel times resulting from growth in population and employment in the area.

LCDOT has identified Deerfield Road from Milwaukee Avenue to Saunders/ Riverwood Road in their 2040 Transportation Plan as a route widening and is included in the Federal Fiscal Year (FFY) 2019-2024 Transportation Improvement Program (TIP No. 10-03-0005) endorsed by the Policy Committee of the Chicago Metropolitan Agency for Planning (CMAP), the Metropolitan Planning Organization (MPO) for the region in which the project is located.

Deerfield Road is one of a few crossings of the Des Plaines River in southern Lake County, with the other crossings being Half Day Road (IL 22) 2.3 miles to the north and Lake Cook Road 1.0 mile to the south. Half Day Road and Lake Cook Road were previously widened in 2003 and 1994, respectively, and there are no plans to further widen either roadway across the Des Plaines River. Refer to Appendix A (Section 1.2, page 1-6) for a detailed description of the project's background.

1.3 What is the Need for the Proposed Project?

The needs for the project include capacity, safety, mobility, non-motorized and transit connections, and operational deficiencies.

- Capacity – Intersection and roadway sections experience unacceptable delays particularly during the evening peak hours. For example, Milwaukee Avenue Intersection with Deerfield Road experiences over two minutes of delay per vehicle in the evening peak hour. Over half of the project's roadway length requires 22 minutes to travel 1.3 miles in the evening peak hour, compared to less than 3 minutes to travel the same distance in the morning peak hour.
- Safety – Over a five-year period (2014-2018), there were 353 crashes and the predominant crash types were rear-end (47%) and left turning (26%).
- Mobility – There are 52 access points off Deerfield Road within the two (2) mile stretch from Milwaukee Avenue to Saunders/ Riverwoods Road. The access points consist of eleven (11) local streets, nine (9) commercial access drives and thirty-two (32) residential driveways. The large number of access points along the 2-lane stretch of roadway, in conjunction with the high travel demand, contributes to excessive wait times to and from side streets and entrances along Deerfield Road.
- Non-motorized and transit connections – Within the study area, Deerfield Road represents a gap in the Lake County regional trail network. Deerfield Road is one of the few Des Plaines River crossings that bicyclists can utilize since Half Day Road (IL 22) is approximately 2.3 miles north of the crossing and Lake Cook Road is approximately 1.0 mile south of the crossing. Pace bus routes and private shuttles operate along Deerfield Road and experience delays due to the capacity issues.
- Operational deficiencies – The underlying pavement was constructed in the 1960s and has signs of advanced deterioration with more frequent cycles of maintenance required. The existing roadway cross section on Deerfield Road from Milwaukee Avenue to Saunders/ Riverwoods Road is one through lane in

each direction with narrow shoulders and nearby potential roadside hazards (trees, berms, ditches, brick mailboxes, power line poles, steep side slopes, and culvert head walls) just off the shoulders on both sides of Deerfield Road and also multiple side streets.

Refer to Appendix A (Section 1.3, page 1-13) for a detailed description of the need for the proposed improvement.

1.4 What is the Purpose of the Proposed Project?

The purpose of the project is to provide an improved transportation system to address capacity, safety, mobility, and operational deficiencies along Deerfield Road and improve non-motorized accommodations from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods Road in Lake County, Illinois.

The project purpose and need received concurrence at the National Environmental Policy Act (NEPA)/404 coordination meeting on June 19, 2017.

2.0 Alternatives

This section describes the alternatives considered for Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. As discussed below, reasonable alternatives were evaluated based on their ability to satisfy the purpose and need for the project. Alternatives that did not satisfy the purpose and need for the project, or that would have unacceptable impacts in comparison to other alternatives were dismissed from further consideration as part of an alternatives development and evaluation process based on engineering evaluation and stakeholder input. The alternatives development and evaluation process was coordinated through the NEPA/404 Merger process. Refer to Appendix E for summaries of the NEPA/404 Merger meetings related to the alternatives development and evaluation process described below. A detailed description of the alternatives evaluation process can be found in Appendix B.

2.1 What Alternatives were considered?

Alternatives that were considered are summarized below and described in more detail within Appendix B (Section 2.1, page 1).

- 2040 No-Build: includes committed projects in the CMAP Transportation Improvement Program (TIP) and lane additions required for a private development recently constructed (2019) at the northwest corner of Milwaukee Avenue and Deerfield Road. This alternative was determined to not satisfy the purpose and need for the project.
- Transportation System Management (TSM) Consideration: The provisions of 23 Code of Federal Regulations (CFR) 450.320(a) and (b) places restrictions on the use of federal funds for projects in Transportation Management Areas (TMAs) designated as non-attainment for carbon monoxide and/or ozone. In these areas, federal funds may not be programmed for any project that will increase capacity for single occupancy vehicles (SOV) unless the project is addressed through a Congestion Management Process (CMP). For this project, it has been determined that stand-alone CMP alternatives will not satisfy the project purpose and need and, therefore, this undertaking is a warranted project for adding SOV capacity. As documented in the above information, this project results from the CMP for Northeastern Illinois as a warranted project for adding SOV capacity and all reasonable congestion management strategies have been incorporated into the project to sustain its effectiveness.
- Build Alternatives: Through the evaluation process, it became evident that Deerfield Road has two distinct “sections” within the corridor. Section A is composed of improvements related to the Milwaukee Avenue intersection within the west portion of the corridor. Section A is mostly commercial with high volume access driveways. Section B is the east portion of the corridor; from the Des Plaines River to and inclusive of the Saunders/Riverwoods Road intersection. Section B consists of large lot residential with many low volume

access driveways and streets. Due to the differing adjacent land use of Section A and Section B, each have unique transportation demands and needs, and therefore alternative concepts and a range of alternatives were developed for each.

- Section A: Section A alternatives are focused around the alternatives considered at the Milwaukee Avenue intersection. A range of 12 alternatives were developed and evaluated for Section A.
- Section B: Section B alternatives are focused around the corridor of Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road, including the Portwine Road and Saunders/Riverwoods Road intersections. A range of 6 alternatives were developed and evaluated for Section B.

2.2 What Alternatives were Eliminated and Why?

Alternatives for the two distinct sections within the Deerfield Road corridor, Section A and Section B, were evaluated through a comparative evaluation process, which is summarized below and described further within Appendix B (Section 2.2, page 7).

2.2.1 Section A Alternatives Comparative Evaluation

Based on traffic volumes and delays, a large intersection improvement is anticipated at the Deerfield Road and Milwaukee Avenue intersection. Specifically, on the east leg of Milwaukee Avenue intersection nearly 2,000 feet is needed for lane shifts, advanced warning distance, and lane drops related to added lanes at the intersection. Therefore, Section A alternatives are focused around the alternatives considered at the Milwaukee Avenue intersection.

Based on the alternative evaluation, which evaluated transportation performance, socio economic impacts and cost, the preferred intersection configuration is Alternative A1D: add a westbound right turn lane, extend the northbound right turn lane, add a third westbound thru lane, and add dual left turn lanes on both Deerfield Road approaches. The resulting recommendations are discussed in Appendix B (Section 2.2.1, page 7).

2.2.2 Section B Alternatives Comparative Evaluation

The Range of Alternatives for Section B was developed from the initial screening process and was conceptually developed and comparatively evaluated with respect to transportation performance, mobility, safety, environmental and socio-economic impacts, and cost. The range of alternatives consists of six alternatives. Each alternative was conceptually developed based on the typical roadway cross sections, based on applicable LCDOT and IDOT roadway design criteria.

Based on the range of alternative evaluation results, a clear preferred alternative arose. The alternatives to be carried forward included Alternative 3: 3-Lane Roadway Section with Curb and Gutter (the preferred alternative) and 2040 No-Build for more detailed development and comparative evaluation. Appendix B (Section 2.2.2, page 13) presents a

summary of the range of alternatives and key considerations of the evaluation results to arrive at a preferred alternative for the project.

2.3 What are the Alternatives to Be Carried Forward?

The alternatives to be carried forward include the No-Build and the combination of Alternative A1D from Section A and Alternative 3 from Section B (Preferred Alternative). The No-Build alternative consists of no additional geometric or capacity improvements to the project corridor and intersections within the 2040 planning horizon, and does not address the transportation performance, safety, mobility and operational deficiencies. The No-Build is carried forward as a baseline for comparison of impacts and benefits.

A comparative analysis of the No-Build and Preferred Alternative was performed with respect to transportation performance, mobility, safety, environmental resource impacts, socio-economic impacts, and design/cost considerations. The resulting Impact Evaluation is provided in Appendix B (Section 2.3, page 23).

2.4 What is the Preferred Alternative?

The preferred alternative is compared against the No-Build in Appendix B (Section 2.4, page 30). Notable benefits of the preferred alternative over the No-Build include:

- Improving capacity and congestion by decreasing the Deerfield Road at Milwaukee Avenue intersection delay by almost 70% (222 seconds/vehicle to 72 seconds/vehicle), and
- Decreasing Deerfield Road westbound total travel time through the corridor in the PM by 80% (36 minutes to 7 minutes).
- Improving mobility and accessibility as measured by side street access to Deerfield Road from zero to over 30 acceptable gaps for the PM peak hour.
- Improving safety by decreasing the injury crashes/year by over fifty percent.
- Improving non-motorized connections by implementing the off-road multi-use path along Deerfield Road with the project.
- Correcting operational deficiencies by reconstructing Deerfield Road to meet current standards.

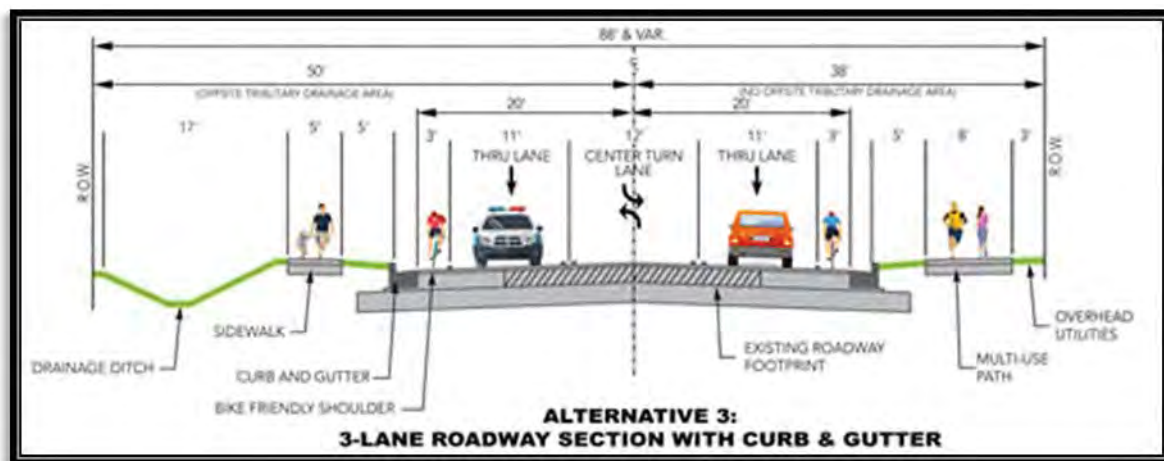
On the above basis, the preferred alternative meets the purpose and need for the project better than the No-Build. The Preferred Alternative is shown in Appendix C Figure C-1 and includes:

- An intersection improvement at Milwaukee Avenue, including two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach.

- An intersection improvement at Portwine Road, including an exclusive left turn lane on the northbound and southbound approaches.
- An intersection improvement at Saunders/Riverwoods Road, including a right turn lane on the northbound approach.
- The typical roadway section from Milwaukee Avenue to Saunders/ Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 feet wide two-way left turn lane and 3 feet wide bike friendly shoulders bounded by barrier curb and gutter. Figure 2-1 below shows the proposed typical section along Deerfield Road.
- A separate 8-foot wide multi-use path along the south side of the roadway from Milwaukee to Portwine Road and along the north side of the roadway from Portwine Road to Saunders/ Riverwoods Road. The multi-use path will be a part of the regional Lake County Trail network.
- A 5-foot wide sidewalk along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane, west side of Portwine Road from Deerfield Road south to Arrowwood Trail, and west side of Saunders Road from Deerfield Road to Thorngate HOA Park.
- A new closed drainage system.
- A new pavement structure.
- Widening and re-decking of the Deerfield Road bridge structure over the Des Plaines River.

The Alternatives Carried Forward and Preferred Alternative received concurrence at the NEPA/404 coordination meeting on June 21, 2018. The environmental resources, impacts, and mitigation associated with the Preferred Alternative are discussed in detail within Chapter 3.

Figure 2-1: Deerfield Road Proposed Typical Section



3.0 Environmental Setting, Impacts, and Mitigation

The project study area was inventoried for environmental resources. Figure C-2: Environmental Resources Map in Appendix C identifies the sensitive cultural, natural, physical, and socio-economic resources in the project study area. Resources potentially impacted by the proposed action or that require discussion pursuant to applicable laws and regulations are addressed in this chapter.

3.1 Social and Economic Factors

3.1.1 What community(ies) exist within the project study area?

Communities and demographic boundaries in the project study area are the Villages of Deerfield, Riverwoods, and Buffalo Grove. Deerfield and Riverwoods are located entirely within Lake County, Illinois. Buffalo Grove is located partially within Lake County and partially within Cook County, Illinois. The study area is within Block Groups 1, 2, and 4 of Census Tract 864505, Block Group 2 of Census Tract 864522, and Block Group 1 of Census Tract 864802 (see Figure C-3 in Appendix C).

Table 3-1 provides the populations of the project study area communities for Census years 2000, 2010 and 2018. Although Lake County has experienced population growth over the last decade, the Village of Riverwoods and Village of Buffalo Grove have experienced a population decline.

Table 3-1: Population Data

Demographic Boundary	2000	2010	2018 Estimate	Percent Change
Lake County	644,599	703,462	703,619	+9.2%
Village of Deerfield	18,420	18,225	18,930	+2.7%
Village of Riverwoods	3,843	3,660	3,562	-7.3%
Village of Buffalo Grove	42,909	41,496	40,494	-5.6%

Source: U.S. Census Bureau, 2010 Census Summary File; 2018: ACS 5-Year Estimates Data Profiles

The cohesion of the communities is not anticipated to change during or after the construction of the preferred alternative. No neighborhoods would be bisected or isolated, and access to local businesses, public facilities, and services and transportation modes would not be restricted. The Riverwoods Police Department and the Lincolnshire-Riverwoods Fire Protection District Station 52 are located on Saunders Road at the east end of the project. Neither will be impacted by the project.

3.1.2 Will the project impact Title VI, minority, or low-income populations?

The project’s potential for impacts to ethnic, racial, or religious minorities was considered in accordance with Title VI of the Civil Rights Act of 1964. Based on the 2010 Census, the largest racial minority populations in the project study area are Asian and Hispanic or Latino in Block Group 4 of Census Tract 864505 (see Table 3-2 and Figure C-3 in Appendix C). All other block groups in the project study area are predominately white (more than 80 percent). Information is not available regarding the religious status of local populations. The census data also indicate that Riverwoods has a higher population of elderly (persons greater than 64) than the other communities in the project study area (see Table 3-3). An environmental justice population of concern was not identified because the affected community is not more than 50 percent minority of low-income; and, the environmental justice population in the affected areas is not meaningfully greater than the minority or low-income population in Lake County.

No groups of individuals have been, or will be, excluded from participation in public involvement activities, denied the benefit of the project, or subjected to discrimination in any way on the basis of race, color, age, sex, national origin, disability, or religion.

Table 3-2: Racial and Ethnic Composition (Percent of Population) ¹

Demographic Boundary	White Alone ¹	Black or African American Alone ¹	Some Other Race Alone ²	Hispanic or Latino ³
Lake County	81.5%	7.5%	9.0%	21.9%
Village of Deerfield	94.3%	0.6%	4.2%	2.8%
Block Group 2, Census Tract 864505	85.0%	0.9%	12.2%	3.7%
Block Group 4, Census Tract 864505	75.1%	1.3%	20.5%	6.2%
Village of Riverwoods	93.2%	0.7%	5.4%	2.8%
Block Group 1, Census Tract 864505	91.6%	1.0%	4.6%	3.7%
Block Group 2, Census Tract 864522	94.3%	0.4%	4.2%	1.8%
Village of Buffalo Grove	72.8%	2.0%	20.9%	5.5%
Block Group 1, Census Tract 864802	93.4%	0.5%	5.3%	2.5%

Source: U.S. Census Bureau, 2010 Census Summary File

1. “Alone” following these racial categories signifies respondents who self-identify with one race. The remaining percentage of each demographic boundary include respondents who self-identify with more than one race.
2. “Some Other Race Alone” is American Indian and Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, or Some Other Race Alone.
3. “Hispanic or Latino” refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race. Hispanic or Latino is an ethnic identifier, not racial. People who identify their origin as Hispanic or Latino may be any race.

Table 3-3: Age Characteristics

Demographic Boundary	Under 18 (percent)	18-64 (percent)	Over 64 (percent)	Median Age (years)
Lake County	24.4%	61.9%	13.7%	36.7
Village of Deerfield	28.2%	55.9%	15.9%	41.9
Block Group 2, Census Tract 864505 ¹			9.7%	40.2
Block Group 4, Census Tract 864505 ¹			13.2%	38.7
Village of Riverwoods	25.9%	57.0%	17.1%	47.4
Block Group 1, Census Tract 864505 ¹			13.8%	45.6
Block Group 2, Census Tract 864522 ¹			15.3%	48.3
Village of Buffalo Grove	22.5%	63.4%	14.1%	41.4
Block Group 1, Census Tract 864802 ¹			14.0%	43.3

Source: U.S. Census Bureau, 2010 Census Summary File

- ^{1.} Age data for census tracts are provided in 5-year increments, including a 14-19-year-old age range. Therefore, the percentage of people specifically under 18 years old is unavailable for block groups, as this is within the 14-19-year-old age range.

The project study area was also evaluated in accordance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to determine if there is a potential for disproportionate and adverse impacts to low-income or minority populations. In addition to the racial and ethnic composition information above, census data was reviewed for income characteristics to identify potential low-income areas in the project study area (see Table 3-4), as well as disability population data (see Table 3-5). The Health and Human Services 2019 Poverty Guidelines indicate that the poverty level for a family of four is \$25,750, and the 2018 Census Poverty Threshold for a family of four is \$25,465. In accordance with Executive Order 12898, the proposed improvements will not have disproportionately high or adverse human health and environmental effects on minority and low-income populations.

The existing parking lot of the Brentwood North Health and Rehabilitation Center is located directly adjacent to the south side of the Deerfield Road right-of-way near the Des Plaines River crossing. Brentwood North Health and Rehabilitation Center provides short- and long-term rehabilitation care services to senior citizens. As a result of the proposed improvement and associated roadway widening, the front row of parking will be impacted along Deerfield Road. All impacted parking spaces will be replaced as part of this project with a different parking lot configuration.

Table 3-4: Income Characteristics

Demographic Boundary	Median Household Income (\$)	Percent Persons Below Poverty Level	Unemployment Rate
Lake County	\$86,244	8.3%	3.7%
Village of Deerfield	\$144,229	2.7%	2.0%
Village of Riverwoods	\$209,825	6.7%	4.2%
Village of Buffalo Grove	\$111,435	4.4%	3.0%

Source: U.S. Census Bureau, 2018: ACS 5-Year Estimates Data

Table 3-5: Disability Data

Demographic Boundary	Percentage of Population with a Disability
Lake County	8.9%
Village of Deerfield	7.0%
Village of Riverwoods	3.9%
Village of Buffalo Grove	7.6%

Source: U.S. Census Bureau, 2018: ACS 5-Year Estimates Data

3.1.3 Will the project have any change in travel patterns?

The preferred alternative will include a two-way left turn lane that spans the entirety of the project corridor. Drivers will utilize this lane for left turns onto any street or driveway along Deerfield Road. Travel times will decrease because drivers will not have to wait for left-turning vehicles in front of them to move before proceeding. The project will better accommodate increased projected traffic on Deerfield Road (see Table 3-6). This will also lead to fewer rear-end crashes. The decreased travel time will influence travel patterns by causing a greater number of drivers anticipated to use Deerfield Road.

Table 3-6: Deerfield Road Traffic Volumes & Level of Service (LOS)

Location	2016 ADT (Average Daily Traffic)	LOS		2040 No-Build ADT	LOS	
		AM	PM		AM	PM
Deerfield Road at Milwaukee Avenue						
North Leg (Milwaukee Ave.)	39,800	D	D	40,000	D	F
South Leg (Milwaukee Ave.)	38,200	F	F	39,000	F	F
West Leg (Deerfield Rd.)	15,700	F	C	16,300	D	E
East Leg (Deerfield Rd.)	19,550	C	F	20,200	F	F
Deerfield Road at Portwine Road						
North Leg (Portwine Rd.)	1,950	C	D	2,000	C	D
South Leg (Portwine Rd.)	2,150	E	F	2,200	E	F
West Leg (Deerfield Rd.)	19,450	B	A	20,200	C	B
East Leg (Deerfield Rd.)	19,450	A	B	20,200	B	D
Deerfield Road at Saunders/ Riverwoods Road						
North Leg (Saunders/ Riverwoods Rd.)	11,150	E	C	12,600	E	D
South Leg (Saunders/ Riverwoods Rd.)	15,450	C	D	16,500	C	E
West Leg (Deerfield Rd.)	19,450	B	C	20,200	C	C
East Leg (Deerfield Rd.)	25,150	A	D	26,100	B	B

Additional auxiliary lanes have been added to the intersections at Milwaukee Avenue, Portwine Road, and Saunders Road, which will reduce congestion and travel times. Dual-left turn lanes have been added to the east and west legs of the intersection of Deerfield Road and Milwaukee Avenue. A dedicated right turn lane has been added to the south and east legs. An additional through lane has been added to the east leg.

A dedicated left turn lane has been added to the north and south legs of the intersection of Deerfield Road and Portwine Road.

A dedicated right turn lane has been added to the south leg of the intersection of Deerfield Road and Saunders Road.

During construction of Deerfield Road, disruptions to traffic patterns will occur, however, two-way traffic is proposed to be maintained throughout construction. No detours are proposed during construction. The fire and police departments are coordinating with the project through the Stakeholder Involvement Group (SIG) to ensure that emergency vehicles will be accommodated.

3.1.4 Will the project change or impact any pedestrian, bicycle, or transit facilities?

On the south side of Deerfield Road, there is an existing bike path extending from the Des Plaines River Trail (DPRT) to Thornmeadow Road. On the north side of Deerfield Road, there is an existing multi-use path extending from Portwine Road to Saunders Road, which continues beyond the project limits. There will be temporary impacts to these facilities during construction.

The preferred alternative will improve pedestrian and bicycle facilities along the project corridor. A new 8-foot multi-use path will be constructed on the south side of Deerfield Road, from Milwaukee Avenue to the DPRT and from an existing multi-use path at Thornmeadow Road to Portwine Road. East of Portwine Road, a new 8-foot multi-use path will be constructed on the north side of Deerfield Road from Portwine Road to Saunders/Riverwoods Road. This will fill in existing gaps in the regional path network and increase accessibility to the DPRT. A 3-foot bike friendly shoulder is being provided along Deerfield Road to accommodate experienced cyclists, which utilize this corridor.

Several sections of sidewalk will be included, which requires participation by the local agency, the Village of Riverwoods. Sidewalk will be provided along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane, along the west side of Portwine Road from Deerfield Road to Arrowwood Trail, and along the west side of Saunders Road from Deerfield Road to Thorngate Park.

New crosswalks will be added on all legs of the intersection of Deerfield Road and Milwaukee Avenue. New crosswalks will be added on the south and east legs of the intersection of Deerfield Road and Portwine Road. New crosswalks will be added on all legs of the intersection of Deerfield Road and Saunders Road. Two new mid-block crossings of Deerfield Road will be added at Timberwood Land and Hoffman Lane.

Pace Bus Routes 234 and 272 go along Milwaukee Avenue past Deerfield Road. The project will not interfere with either route. There are also school bus routes along the corridor.

3.1.5 Will the project require any residential or business relocations?

This project has no residential or commercial relocations.

3.1.6 Will this project affect land use?

The existing and proposed land use will remain consistent. The land use around the project corridor is residential with commercial at the termini intersections, and this project will continue to support those land uses.

3.1.7 Will the project cause any economic impacts, economic growth, or economic development?

There are several businesses on the northeast quadrant of the intersection at Deerfield Road and Milwaukee Avenue, as well as a large grocery store on the northwest quadrant. There is construction on the southwest quadrant, and the land on the southeast quadrant is undeveloped.

A barrier median is proposed along the westbound dual left turn lanes on Deerfield Road. Access to the businesses in the northeast quadrant will be impacted and modified to right-in/right-out onto Deerfield Road due to the barrier median. Economic impacts to local businesses are not anticipated, as the right-in/right-out will be maintained on Milwaukee Avenue. The increased traffic that could travel down Deerfield Road as a result of the project could lead to economic development along the corridor.

There will be a total of 35 parking stalls impacted with the proposed improvement, 4 from the Shops of Buffalo Grove, 6 from Riverwoods Medical Center, and 25 from Colonial Court commercial property. The front row of parking along the Brentwood North Medical Center, 56 parking stalls, will be impacted and replaced as part of the project (i.e., no net loss of parking). These impacts are associated with the proposed improvement at the Milwaukee Avenue intersection.

3.2 Agricultural Resources

There are no agricultural resources (i.e., farmland) within the project study area. Based on a review of aerial photography, the closest farmland tracts were identified approximately 1.4 miles northwest of the Deerfield Road/Milwaukee Avenue intersection. The project is not anticipated to impact agricultural resources or interrupt local farming operations.

3.3 Cultural Resources

Historic properties are any properties that are on or eligible for listing in the National Register of Historic Places (NRHP), and include below ground resources, like archaeological sites, and above ground resources, such as buildings and bridges. These resources are protected by Section 106 of the National Historic Preservation Act (NHPA).

3.3.1 How were historic properties identified in the project study area?

Historic districts and buildings were identified using field reviews and historical record searches of previously documented historic sites located within the Area of Potential Effect (APE). The APE for this project was defined as the parcels bordering the proposed improvements. Potentially historic buildings were identified by compiling a photo log of all structures 40 years or older within the APE. The photo log was reviewed by IDOT’s cultural resources staff to determine if any structures could be considered eligible for the NRHP.

3.3.2 Do archaeological properties exist within the APE?

Based on a survey by the Illinois State Archaeological Survey, no archaeological sites were identified within the APE. One previously recorded site may fall within the APE, but the site has been impacted by development and could not be located. No impacts to archaeological properties are anticipated (see Appendix D-1).

What is the National Register of Historic Places?

The National Register of Historic Places (NRHP) is the official list of historic resources in the U.S. worthy of preservation. Listed places can include districts, sites, buildings, structures, and objects. For a place or property to be eligible for the NRHP, it must be significant for at least one of four main eligibility criteria related to an event, a person, distinctive characteristics of a method of construction (or the work of a master), or the property has yielded (or may be likely to yield) important historical information.

What is Section 106 of the NHPA?

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires federal agencies to consider the effects of federally-funded projects on historic properties.

3.3.3 Do historic architectural properties (buildings, bridges, or structures) exist within the APE?

According to IDOT's Historic Bridges of Illinois list (<http://historic-bridges.isas.illinois.edu/bridgelist.htm>) there are no historic bridges identified within the project study area.

Based on a memo from the IDOT Cultural Resources Unit, dated August 24, 2017, there is one architectural property located in the APE that is listed on the NRHP: Edward L. Ryerson Area Historic District at 21950 N. Riverwoods Road, Deerfield, Illinois. The 471-acre historic district is located north of Deerfield Road and adjacent to the Des Plaines River, entirely within the boundaries of the Edward L. Ryerson Conservation Area, which is owned by the Lake County Forest Preserve District (LCFPD) (see Figure C-2 in Appendix C and Appendix D-1). The Edward L. Ryerson Area Historic District was listed on the NRHP in 1996. There are ten buildings, one open space site, one corn crib structure, and three objects (i.e., a gate, a pump, and a sculpture) within the property that contribute to its historic listing (see Figure 3-1).

The property is significant due to its social history and architecture. Applicable NRHP criteria include: (1) the property is associated with events that have made a significant contribution to the broad patterns of our history; and (2) the property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

The memo from the IDOT Cultural Resources Unit also identified nine architectural resources within or immediately adjacent to the APE that warrant consideration for listing on the NRHP (see Figure C-2 in Appendix C and Appendix D-1).

3.3.4 Will the project impact historic architectural properties?

No historic bridges were identified within the project study area. The project will not impact historic bridges. Historic architectural properties were located within the APE. However, based on preliminary design, the proposed project will have no adverse effect on the Edward L. Ryerson Area Historic District (listed on the NRHP) or the nine architectural properties that warrant consideration for listing on the NRHP.

Figure 3-1: Smith River Cabin at the Edward L. Ryerson Area Historic District located approximately one-half mile north of Deerfield Road – not visible from the project corridor



Photograph by CBBEL, March 2019

To avoid impacts (including the acquisition of temporary and permanent easements) to the historic district and to the properties that warrant consideration for NRHP listing, the preliminary roadway design incorporates minimum lane widths (i.e., 11-foot wide in lieu of 12-foot wide) with curb and gutter, minimum lane addition (i.e., a two-way left turn lane instead of also adding a second through lane in each direction) through a majority of the residential portion of the Deerfield Road corridor, a slight southern alignment shift, retaining walls, minimum slope embankment (3H:1V), and a longitudinal box culvert located within existing Deerfield Road right-of-way between Hoffman Lane and Thorngate Creek in lieu of a larger conveyance ditch.

A review of the proposed improvements adjacent to historic architectural properties was completed by IDOT's Cultural Resources Unit. IDOT, in coordination with FHWA, has made a finding of "No Adverse Effect" for the proposed improvements. IDOT requested concurrence from the Illinois State Historic Preservation Officer (SHPO) that the proposed improvements would not adversely affect historic properties subject to protection under Section 106 of the NHPA. On August 28, 2020, the SHPO concurred with the "No Adverse Effect" finding (see Appendix D-1).

3.4 Air Quality

Air quality is protected by the Clean Air Act and air quality standards established by the U.S. Environmental Protection Agency (USEPA). Air quality was evaluated as part of this Phase I Study, including the following:

- Will carbon monoxide build-up from vehicles waiting at signalized intersections in the project study area be a health hazard?
- Does the project study area meet current air quality standards set by the USEPA?
- Will an increase in diesel emissions be an air quality concern as a result of this project?
- Will the project result in an increase of hazardous air pollutants or Mobile Source Air Toxics?
- How will construction activities affect air quality?

Appendix D-2 summarizes the air quality assessment that was completed for this project. Based on the assessment that was completed, this project will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant National Ambient Air Quality Standards. Potential air quality impacts are anticipated to be minimal or of short duration (e.g., during construction).

3.5 Noise

Sound is produced when pressure waves generated by a vibrating source travel through the air and are of sufficient strength to be capable of causing an auditory response in the human ear and brain. Sound is composed of a wide range of frequencies. However, the human ear is not uniformly sensitive to all frequencies. Therefore, the "A" weighted decibel scale was devised to correspond with the ear's sensitivity. The resulting unit of measurement is the dB(A).

Noise is unwanted sound that can adversely affect normal activities. The criteria used to evaluate noise impacts are contained in 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, and the IDOT *Highway Traffic Noise Assessment Manual* (2017 edition). This project is using federal funding for preliminary engineering and environmental studies. Federal funding is also anticipated to be used for subsequent phases of project development and construction. To be eligible for federal funds, traffic noise was analyzed for this project in accordance with IDOT *Departmental Policy D&E-06: Highway Traffic Noise Assessment Manual* (effective March 29, 2017). This project is considered a Type I noise project since the proposed improvements include roadway reconstruction with the addition of through traffic lanes at Milwaukee Avenue.

3.5.1 How is noise assessed for roadway projects?

Roadway noise depends on four main factors:

- The number of vehicles present;
- Traffic speed;
- The number of large trucks present; and
- How far the listener is from the roadway.

Traffic noise is predicted for Existing, future No-Build, and future Build conditions. Data and findings from traffic noise reporting are used to determine if traffic noise impacts will occur due to the proposed project, then methods to reduce noise for the listener (called noise abatement) are considered.

There are four steps in highway traffic noise analysis:

- 1) Identify places with similar noise and land use. This is done by determining Common Noise Environments (CNEs), which are a group of receptors with similar noise exposure, topography, traffic characteristics, and land use. CNEs are grouped by noise sensitivity based on FHWA Activity Categories (i.e., residential, parks, hotels, etc.). Assign one representative receptor per CNE, as the worst-case noise location in the CNE. A receptor is a location analyzed for noise impacts and is typically an exterior area of frequent human use (e.g., bench, patio).

- 2) Conduct noise modeling for each receptor. Existing, future No-Build, and future Build conditions are modeled using FHWA Traffic Noise Model 2.5 (TNM 2.5) for each representative receptor, using comparative field monitoring to ensure the model accurately represents the area’s noise characteristics.
- 3) Analyze representative receptors (one per CNE) for noise impacts. If the representative receptor is impacted, the entire CNE is considered to have a noise impact. There are two ways to identify noise impacts:
 - a) Compare modeled future Build noise levels to the FHWA Noise Abatement Criteria (NAC) to determine if noise impacts will occur (see Table 3-7 below). The NAC does the following:
 - Classifies where noise levels interfere with human speech;
 - Differs by land use; and
 - Establishes noise levels at which noise barriers need to be studied.

The CNE has a noise impact if future Build noise at the representative receptor is within one decibel, meets, or exceeds the NAC.

- b) For each representative receptor, the CNE has a noise impact if future Build noise is predicted to increase by 15 dB(A) or more at a representative receptor(s).

Table 3-7: Noise Abatement Criteria (NAC) Categories and Noise Levels Where Impact Occurs

Example Land Uses	FHWA Noise Abatement Category	FHWA NAC – Noise Level Where Impact Occurs (dB(A))
Residential	B	67
Recreation areas, cemeteries, hospitals, medical facilities, parks, places of worship, schools, trails	C	67
Hotels, motels, restaurants, bars, offices	E	72
Agriculture, airports, emergency services, industrial, manufacturing, retail facilities, utilities, warehousing	F	None
Undeveloped lands that are not permitted for development	G	None

4) Determine if noise abatement is feasible and reasonable for each impacted CNE. Noise abatement are measures taken to reduce traffic noise impacts (i.e., construction of berms or noise walls, shifting roadway alignment, etc.). For each CNE determined to be impacted by noise, noise abatement is assessed. Noise abatement must:

- Be feasible to construct;
- Effectively reduce noise;
- Be cost-effective; and
- Have a majority of those benefited by each abatement measure support its construction. This is called viewpoints solicitation, and depending on the project's characteristics, is completed in either preliminary engineering or after the final design has been approved.

3.5.2 Are there any noise sensitive areas within the project study area?

The project study area was reviewed, and potential noise-sensitive receptors were grouped into CNEs. Fifteen CNEs were identified along the project corridor. Each CNE was represented by one receptor. The 15 noise-sensitive receptors included a mixture of residential, restaurant, medical office, medical facility, and park/recreational uses. The approximate location of noise-sensitive receptors and CNEs are depicted at Figure C-4 in Appendix C.

3.5.3 Are there any noise impacts in the project study area?

FHWA TNM 2.5 was used to predict the Existing, future No-Build, and future Build traffic noise levels for representative receptors (see Table 3-8 and Figure C-4 in Appendix C).

Table 3-8: Traffic Noise Modeling Summary

Receptor Number	Receptor Description	FHWA NAC (db(A))	Existing Noise Level (2016) (db(A))	Future No-Build Noise Level (2050) (db(A))	Future Build Noise Level (2050) (db(A))	Noise Level Change (Build minus Existing) (db(A))	Impacted?
R1	Restaurant	72	62	63	63	1	No
R2	Residential	67	57	58	58	1	No
R3	Restaurant	72	62	63	63	1	No
R4	Restaurant and Medical Office	72	65	66	69	4	No
R5	Medical Facility	67	61	63	64	3	No
R6	Residential	67	59	61	63	4	No
R7	Residential	67	65	66	67	2	Yes
R8	Residential	67	64	66	66	2	Yes
R9	Residential	67	63	64	65	2	No
R10-3	Residential	67	58	59	60	2	No
R11	Residential	67	66	68	69	3	Yes
R12	Residential	67	62	64	65	3	No
R13	Restaurant	72	60	60	62	2	No
R14	Park	67	62	62	64	2	No
R15	Residential	67	59	60	61	2	No

Based on TNM, the predicted existing noise levels range from 57 dB(A) at R2 to 66 dB(A) at R11. The projected 2050 No-Build traffic noise levels range from 58 dB(A) at R2 to 68 dB(A) at R11. Generally, receptor noise levels increase an average of 1 dB(A) from the existing scenario to the No-Build scenario due to an increase in traffic volumes.

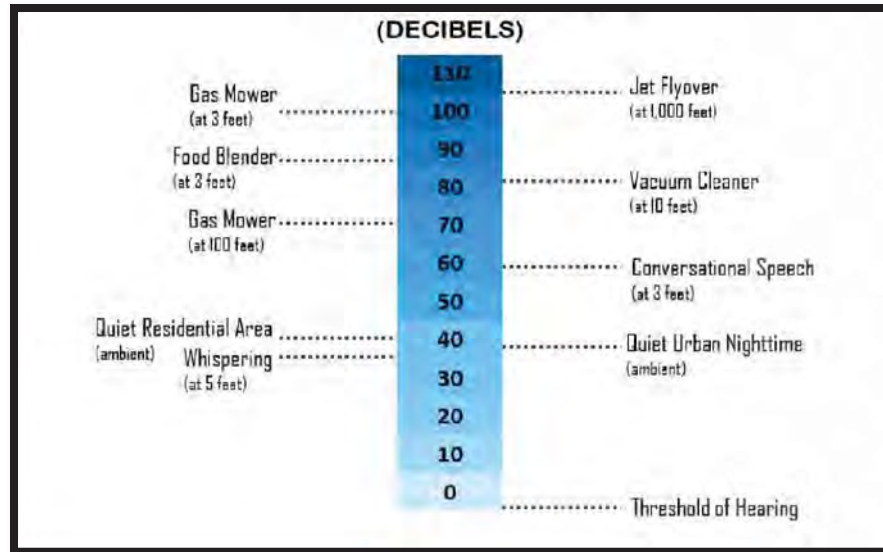
What is a perceptible change in sound?

- A **3 dB(A)** change is barely perceptible by the human ear.
- A **5 dB(A)** change is readily perceptible by the human ear.
- A **10 dB(A)** change is heard by the human ear as a doubling in sound.

The projected 2050 Build traffic noise levels range from 58 dB(A) at R2 to 69 dB(A) at R4 and R11. Generally, receptor noise levels increase an average of 2 dB(A) from the existing scenario due to an increase in traffic volumes and construction of additional traffic lanes. Three residential receptor locations (i.e., R7, R8, and R11) approach, meet, or exceed the FHWA NAC, and therefore warrant a noise abatement analysis. For residential receptors, the NAC are approached at a sound level of 66 dB(A), which is comparable to conversational speech at a distance of three feet (see Figure 3-2). The most feasible noise barrier for this project would be in the form of a noise abatement wall.

None of the receptors had a substantial increase in noise (i.e., an increase of 15 dB(A) or more from Existing to 2050 Build conditions).

Figure 3-2: Common Sound Levels



Source: IDOT *Highway Traffic Noise Assessment Manual* (2017 edition)

3.5.4 Would a noise barrier be feasible and reasonable?

The IDOT *Highway Traffic Noise Assessment Manual* (2017 edition) identifies general criteria that must be met before a noise barrier is recommended for implementation. These include the following:

- Noise barriers shall be evaluated to address the identified traffic noise impacts;
- Noise barriers shall be feasible (can be built and can achieve the traffic noise reduction feasibility criterion of at least 5 dB(A) for at least two impacted receptors);
- Noise barriers shall achieve the Noise Reduction Design Goal (NRDG) of at least 8 dB(A) for at least one benefited receptor (Reasonableness Criterion 1);
- Noise barriers shall be cost effective (i.e., may not exceed the allowable noise abatement cost) (Reasonableness Criterion 2); and
- Noise barriers shall be deemed desired by the benefited receptors (Reasonableness Criterion 3).

Noise abatement was considered at the three impacted receptors: R7, R8, and R11 (see Table 3-8).

Noise abatement was not considered feasible at R7 and R8 because under the 2050 Build condition, only one receptor was impacted in each respective CNE. Therefore, the traffic noise reduction feasibility criterion of at least 5dB(A) for at least two impacted receptors was not achieved within the CNE.

Noise abatement was considered feasible at R11 since a 5dB(A) traffic noise reduction was achieved for at least two impacted receptors. The location of the potential noise wall that was evaluated is shown at Figure C-5 in Appendix C. The R11 Barrier was considered reasonable with respect to the traffic NRDG of at least 8dB(A) for at least one benefited receptor and was also considered cost effective (see Table 3-9).

Table 3-9: Barrier R11 Summary

Benefited Receptors	Barrier Length (ft)	Average Barrier Height (ft)	Estimated Total Noise Wall Cost	Does the Barrier meet NRDG? ¹	Estimated Cost per Benefited Receptor	Average Allowable Cost per Benefited Receptor ²	Will the Barrier Likely be Implemented?
37	1,927	14.7	\$992,400	Yes	\$26,822	\$30,000	Yes

¹ There must be at least one benefited receptor that has noise levels reduced at least 8 dB(A) to meet the NRDG.

² The allowable cost is calculated based on the IDOT *Highway Traffic Noise Assessment Manual* (2017 edition).

The feasible and cost-effective noise wall being considered for CNE 11 was presented to the benefited receptors at a noise forum (i.e., public meeting summarizing the potential noise barrier to be voted on) on September 19, 2019 (see Appendix E). Viewpoints solicitation packages were provided to all benefited receptors via certified mail. Almost 90 percent of the vote responses were in favor of the potential noise wall (see Figure C-5 in Appendix C).

Based on the traffic noise analysis and noise abatement evaluation conducted, highway traffic noise abatement measures are likely to be implemented based on preliminary design. The noise barrier was determined to meet the feasibility and reasonableness criteria. If the project’s final design characteristics are different from the preliminary design, LCDOT (in coordination with IDOT) will determine if revisions to the traffic noise analysis are necessary. A final decision on noise abatement will not be made until the project’s final design is approved and the public involvement process is complete.

3.5.5 How will construction activities affect noise levels?

Trucks and machinery used for construction produce noise which may affect some land uses and activities during the construction period. Residents along the alignment will, at some time, experience perceptible construction noise from implementation of the project. To minimize or eliminate the effect of construction noise on these receptors, mitigation measures have been incorporated into IDOT’s *Standard Specifications for Road and Bridge Construction* as Article 107.35.

Construction methods to be used for proposed improvements are considered and determined in the final engineering design with the preparation of contract drawings and specifications. Depending on the construction methods and potential for construction noise impacts, there are several potential abatement options that might be considered if they are warranted.

Construction Staging

Options for minimizing noise impacts during construction could include installation of temporary barriers, such as temporary noise walls, temporary material stockpiles, or equipment enclosures for noisy equipment (e.g., shields or heavy curtains); routing construction equipment away from identified sensitive receptors; or operating equipment as far from any identified sensitive receptors as is practical and feasible.

Sequence of Operations

Options for minimizing noise impacts could include scheduling and conducting louder construction operations during the day (and not during the night, when people are much more sensitive to noise), or conducting multiple loud operations at one time. The total noise level from multiple activities would not substantially increase the overall noise level. Its effect is that it would reduce the total duration of that noise level in the defined area.

Alternative Construction Methods

Options for minimizing noise impacts include the evaluation of alternative pile driving methods as this is a major noise contributor and can generate vibration complaints. The project could also consider quieter demolition methods or pavement removal methods, such as using special muffler systems, shields (e.g., structural barriers), or enclosing equipment (e.g., portable curtains).

3.6 Natural Resources

3.6.1 Upland Plant Communities

Existing land use along the project study area consists primarily of residential, commercial, and open space. Land use along Milwaukee Avenue is almost exclusively commercial while areas on the north side of Deerfield Road are low density residential and higher density residential on the south side of Deerfield Road between Saunders Road and Timber Trail. A relatively large area of forested open space is located within forest preserve property to the north and south of Deerfield Road near the Des Plaines River crossing and at private property located between Hoffman Lane and Portwine Road on the north side of Deerfield Road. An additional open space parcel (owned by the Village of Riverwoods) is located to the northeast of the Riverwoods Road/Deerfield Road intersection. This open space area has a small pavilion, rain garden and mature woodland that appears to be actively managed. Table 3-10 summarizes the mapped land cover within the project study area as identified by the U.S. Geological Survey (USGS).

Table 3-10: Land Cover Mapped in the Project Study Area

Cover Type	Acreage ¹	Percent of Total within Project Study Area
Open Space		
Forest & Woodland	15.55	11.87
Introduced & Semi-Natural Vegetation	0.85	0.65
Shrub & Herb Vegetation	1.16	0.89
Open Water	3.02	2.31
<i>Total</i>	<i>20.58</i>	<i>15.72</i>
Urban and Built-up Land		
Developed Land	109.90	83.93
Recently Disturbed	0.47	0.36
<i>Total</i>	<i>110.37</i>	<i>84.28</i>
Grand Total	130.95	100.0

¹. Acreages are based on data from the USGS National Gap Analysis Program *Land Cover Data Viewer Map*.

3.6.1.1 What type of upland plant communities occur within the project study area?

The Village of Riverwoods and the Riverwoods Preservation Council (RPC) have characterized the existing natural plant communities within the Village of Riverwoods (<https://villageofriverwoods.com/woodland-ecology>) as follows along the project study area:

What is the Riverwoods Preservation Council?
The Riverwoods Preservation Council (RPC) is a non-profit group of resident volunteers that is dedicated to preserving the natural character of the community.

- Wet and wet-mesic floodplain forests: Wooded wetland communities in low-lying areas where flooding is frequent and prolonged during the growing season (see Figure 3-3).
- Northern flatwoods: Wooded wetland communities subject to extended seasonal inundation and ponding due to soil formation over an impervious clay layer which traps water and slows proper drainage.

Figure 3-3: Wet to Wet-Mesic Floodplain Forest



Photograph from INHS Botanical Survey Report, August 2018

- Mesic woodlands: Wooded areas with a well-balanced supply of moisture without ponding and extended periods of inundation where the soil is often moderately well-drained, and shading creates cooler landscape conditions.
- Dry-mesic woodlands: Wooded areas in higher landscape elevations with well-drained soils and not subject to repeated inundation or prolonged soil saturation.
- Mesic savannas: Well drained natural area communities with few trees (typically oaks) and little canopy cover leading to high sunlight, sporadic shading, and the dominance of an understory of prairie plants.

A botanical survey of the project study area was performed by the Illinois Natural History Survey (INHS) in July 2017, and May through August 2018. The botanical survey included a search for threatened and endangered species and an assessment of natural vegetation communities. Threatened and endangered species are discussed below in Section 3.6.3. In general, similar woodland community types were identified along the project study area by INHS and the Village of Riverwoods/RPC, with the exception of mesic savanna, which no longer exists within the project study area. INHS did not observe any prairie or savanna communities within the project study area. Per INHS, the majority of the project study area consists of maintained roadside ditches and lawns (including woodland lawns), or wooded roadsides densely populated with common buckthorn (*Rhamnus cathartica*) and other shrubs, including many planted ornamentals.

Many of the woodland lawns are associated with single family residential lots containing wooded frontage along Deerfield Road (see Figure 3-4). These wooded lots are primarily comprised of relatively large to moderately sized individual trees, shrub understory, and herbaceous ground cover containing either grasses and forbs or lawn grass. Immediately adjacent to Deerfield Road, woodland degradation has occurred due to urbanization and the encroachment and dominance of invasive weedy species such as black cherry (*Prunus serotina*), box elder (*Acer negundo*), common buckthorn, and honeysuckle (*Lonicera* spp.). The project study area also has a large number of dead standing trees that appear to be diseased green ash (*Fraxinus pennsylvanica*). The current dominance of these tree species and the repeated tree trimming under the power lines, have reduced the quality of the wooded areas immediately adjacent to Deerfield Road.

Figure 3-4: Deerfield Road wooded corridor looking east near Timberwood Lane



Photograph by CBBEL, March 2019

Landscape trees are found primarily at the commercial properties on the west side of the project study area and at some of the residential lots on the east side. In general, the

landscaped areas consist of primarily smaller trees that appear to have been planted for aesthetic purposes surrounded by manicured lawn grasses and ornamental vegetation. The landscape tree composition is dominated by evergreens and ornamentals, including: various spruce (*Picea* spp.), white cedar (*Thuja occidentalis*), crabapple (*Malus* spp.), and hawthorn (*Crataegus* spp.).

The Edward L. Ryerson Nature Preserve and the Herrmann Wildflower Farm Addition Nature Preserve Buffer are located along the project study area (see Section 3.12). Per INHS, the nature preserve and buffer contain high quality natural communities including dry-mesic upland forest, mesic upland forest, mesic floodplain forest, and northern flatwoods. Based on the INHS botanical survey, these high-quality natural communities do not extend into the project study area. However, the southern portion of the dry-mesic upland forest at the nature preserve buffer is near the project study area. Three additional wooded areas within the project study area are notable for containing natural communities whose structure and composition have remained fairly intact despite past disturbances and encroachment by woody invasive species. The wooded natural communities of notable quality are depicted at Figure C-6 in Appendix C.

Three forested blocks of 20 acres or more in size were identified along the project study area (see Figure C-6 in Appendix C). All three forested blocks extend beyond the project study area and include wooded natural communities of notable quality per INHS.

- Forested Block Area 1 is located at the Edward L. Ryerson Conservation Area/ Nature Preserve (LCFPD) to the north of Deerfield Road. It includes mesic to wet floodplain forest along Deerfield Road. The majority of this wooded community was evaluated by INHS to the south of Deerfield Road and is described below at Forested Block Area 2.
- Forested Block Area 2 is located at the Cahokia Flatwoods Forest Preserve (LCFPD) to the south of Deerfield Road. It includes mesic to wet floodplain forest and dry-mesic to mesic upland forest. The dry-mesic to mesic upland forest is dominated mainly by red oak (*Quercus rubra*) with basswood (*Tilia americana*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), and black cherry in the subcanopy.

The wetter portions of Areas 1 and 2 along the banks of the Des Plaines River are dominated by silver maple (*Acer saccharinum*) and eastern cottonwood (*Populus deltoides*), with box elder. Areas slightly higher in elevation also include common hackberry (*Celtis occidentalis*), swamp white oak (*Quercus bicolor*), basswood, American elm (*Ulmus americana*), and Siberian elm (*Ulmus pumila*). Several standing dead green ash are also present. The shrub layer is generally sparse, but a dense understory of common buckthorn occurs along the western banks of the Des Plaines River in Area 2. The mesic portions of the floodplain are dominated in the canopy by sugar maple, common hackberry, and basswood with bitternut hickory (*Carya cordiformis*), bur oak (*Quercus macrocarpa*), American elm, black

walnut (*Juglans nigra*), black cherry, and green ash. Sugar maple dominated the understory.

- Forested Block Area 3 is located on the north side of Deerfield Road between Hoffman Lane and Portwine Road within the privately-owned Herrmann Wildflower Farm Addition Nature Preserve Buffer and adjacent natural area. It includes a mosaic of northern flatwoods and dry-mesic upland forest (See Figure 3-5). Swamp white oak is the dominant species in the wetter northern flatwoods joined by eastern cottonwood, bur oak, pin oak (*Quercus palustris*), basswood, and slippery elm (*Ulmus rubra*). Numerous standing dead black ash (*Fraxinus nigra*) are also present. The canopy of the dry-mesic upland forest is mainly dominated by white oak with red oak, shagbark hickory (*Carya ovata*), basswood, and bur oak. Both communities are dominated by common buckthorn, glossy buckthorn (*Frangula alnus*), and black ash in the shrub and sapling layers.

Figure 3-5: Dry-mesic upland forest



Photograph from INHS Botanical Survey Report, August 2018

In October 2018 and January 2019, CBBEL completed a tree survey of the project study area. During the tree survey, data was collected including: tree species, condition (health), form (shape), and general comments (see Table C-7 and Figure C-8 in Appendix C). The tree survey data was shared with the Village of Riverwoods/RPC and the LCFPD.

Most of the trees identified within the project study area have typical condition and typical to above-average form with the exception of the trees identified under the power lines. In general, the closed woodland areas associated with the forest preserves and the wooded residential lots are of moderate quality and dominated by large and moderately sized stems, with most of the stems ranging in size from 10-24 inches in diameter at breast height (DBH). These areas also contain a number of trees located sporadically throughout the project study area with a DBH greater than 25 inches and higher quality condition and form.

3.6.1.2 Will the project impact any upland plant communities?

The project will not impact prairie or savanna communities. However, woodland impacts are unavoidable due to the proximity of the proposed improvements. Woodland impacts will be either direct or indirect.

- Direct woodland impacts include vegetation removal that would result from roadway construction, pavement widening, grading for drainage and the construction of stormwater management facilities.
- Indirect impacts could result from root zone encroachment due to adjacent construction activities, soil compaction, change in hydrology, and increased edge effect for remaining woodland.

Trees that are anticipated to be removed because of the proposed project are summarized in Table 3-11 and Table 3-12:

Table 3-11: Summary of Anticipated Tree Removals (not including LCFPD property)

Anticipated Number of Tree Removals ¹							
Village of Riverwoods Classification ²	Within Existing Right-of-Way	Within Proposed Right-of-Way	Within Proposed Temporary Easement	Within Proposed Permanent Easement	Total Removal by Species	Quantity with DBH ≥12-inches	Percent of Grand Total Removed (by Species)
Desirable Tree Species ²	183	92	72	23	370	215	36.3%
Other Tree Species	274	121	115	138	648	276	63.7%
Total	457	213	187	161	1,018	491	100%

^{1.} Includes trees with a DBH of 6-inches or greater not located on LCFPD property. Anticipated tree removals were based on tree location within existing or proposed right-of-way and proposed easement areas. See Table C-9 in Appendix C for a summary of anticipated tree removals by species.

^{2.} Includes a list of “desirable protected trees” and “highly desirable protected trees” based on Section 9-6-5 of the Village of Riverwoods *Tree and Woodland Protection Ordinance*.

Table 3-12: Anticipated Tree Removals on LCFPD Property

Common Name	Scientific Name	DBH (inches) ¹	Approximate Location
Siberian elm	<i>Ulmus pumila</i>	11	Proposed Temporary Easement at Cahokia Flatwoods Forest Preserve
Siberian elm	<i>Ulmus pumila</i>	13	Proposed Temporary Easement at Cahokia Flatwoods Forest Preserve

^{1.} Includes trees with a DBH of 1-inch or greater on LCFPD property.

A summary of anticipated tree removals by species is provided at Table C-9 in Appendix C. The tree species with the greatest number of anticipated removals are American elm (12.8%), red oak (10.8%), and dead stems of various species (10.3%), including diseased green ash. The removal and disposition of ash trees (*Fraxinus* spp.) will comply with U.S. Department of Agriculture (USDA)/ Illinois Department of Agriculture (IDOA) quarantine restrictions.

A more detailed tree impact evaluation is anticipated to occur during the design process.

3.6.1.3 How were impacts to upland plant communities avoided or minimized?

The Lake County Division of Transportation (LCDOT) recognizes the important function and value that trees and upland vegetation contribute to the roadside environment such as: aesthetic/wildlife values, screening, windbreaks for open rural areas, shading for urban heat reduction, and air quality enhancement.

The preferred alternative will update Deerfield Road to current roadway design standards. To maintain the existing Deerfield Road aesthetics and avoid/minimize direct and indirect woodland impacts to the extent practicable, the preliminary design incorporates minimum lane widths (i.e., 11-foot wide in lieu of 12-foot wide) with curb and gutter, minimum lane addition (i.e., a two-way left turn lane instead of also adding a second through lane in each direction) through a majority of the Deerfield Road corridor, a slight southern alignment shift, retaining walls, minimum slope embankment (3H:1V), and a longitudinal box culvert located within existing Deerfield Road right-of-way between Hoffman Lane and Thorngate Creek in lieu of a larger conveyance ditch. Higher quality upland plant communities at the nature preserve and nature preserve buffer will be avoided in their entirety. No forested blocks greater than 20 acres in size are being bisected or fragmented because of this project. However, there are a number of trees that will need to be removed that are located within or adjacent to the existing right-of-way, due to the close proximity of the trees to the existing edge of pavement, engineering constraints, detention and compensatory storage needs, and the need to maintain proper site drainage and treat stormwater runoff as part of the proposed improvements.

The vast majority of tree impacts would include removals at the edge of woodlands or wooded residential lots that extend offsite. In general, the woodland edges that would be impacted by the proposed project are degraded and appear to have been adversely affected by adjacent land uses and urbanization in the existing condition. Woodland edge does provide some wildlife habitat, windbreaks, shading, and air quality benefits. Existing vegetation not being removed will be protected and pruned for safety and equipment clearance during the construction phase, as necessary. Due to the adaptability and hardiness of tree species typically occurring at the woodland edge, remaining trees not directly impacted by the proposed project are likely to survive and continue to provide woodland functions in the post-construction condition. Avoidance and minimization measures will continue to be evaluated during final design. As practical and feasible, special effort will be made to preserve large diameter (greater than 10-inches DBH) trees, desirable tree species, trees with higher quality condition and form, and trees that function as screening.

What is a “desirable” tree species?

Section 9-6-5 of the Village of Riverwoods Tree and Woodland Protection Ordinance includes a list of “desirable protected trees” and “highly desirable protected trees”. Examples of these desirable tree species per the Village Ordinance, include (but are not limited to): black walnut, common hackberry, hawthorn species, hickories, and oaks.

3.6.1.4 How will the loss of trees be mitigated?

Roadside trees will be protected and preserved to the extent possible consistent with standards of highway safety. During the design phase of the project, additional tree impact evaluation will be completed as necessary to avoid/minimize impacts, and a tree mitigation plan will be developed. Tree mitigation will be guided by IDOT *Departmental Policy D&E-18: Preservation and Replacement of Trees*, where practicable and feasible. However, there is limited planting space within the proposed right-of-way and easement areas.

LCDOT has discussed potential tree mitigation with the RPC and LCFPD and will continue coordination with these organizations during final design of the project. The tree mitigation plan will consider the comments provided by these organizations and information in the RPC publication, *In Our Own Backyard*, and the Village of Riverwoods/RPC *Natural Plant Communities Map*. Where possible, at compensatory floodplain storage areas or other appropriate low-lying areas subject to inundation, trees suitable for establishment in wet-mesic floodplain forest or northern flatwoods will be utilized; at upland backslopes or well drained, upland open spaces and appropriate parkway locations, trees suitable for establishment in mesic woodland and dry-mesic woodland will be utilized.

The post-construction condition provides an opportunity to plant higher quality native replacement trees and increase tree diversity. Due to the presence of the emerald ash borer (*Agrilus planipennis*) in Illinois, including Lake County, no varieties of ash trees will be planted as replacement trees.

3.6.1.5 Are invasive plant species present in the project study area?

Noxious weeds and invasive species are plants that are not native to the project study area. Based on the USDA – NRCS *Noxious Weeds List for Illinois*, there are nine noxious weeds listed for Illinois. These include plants found within the project study area, including: Canada thistle (*Cirsium arvense*), common ragweed (*Ambrosia artemisiifolia*), giant ragweed (*Ambrosia trifida*), and sowthistle (*Sonchus arvensis*). Additional invasive plant species dominate plant communities in the project study area, such as common buckthorn, honeysuckle, and multiflora rose (*Rosa multiflora*) in upland habitats and reed canary grass (*Phalaris arundinacea*), common reed grass (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), and narrow-leaved cattail (*Typha angustifolia*) in the wetlands.

Approximately 36 percent of the deciduous tree species identified during the tree survey are considered invasive, weedy, or aggressive. This is in addition to evergreen trees such as red cedar (*Juniperus virginiana*), pines (*Pinus* spp.), spruces, and white cedar that are scattered throughout the wooded residential lots. The most common invasive trees were black locust (*Robinia pseudoacacia*) and Norway maple (*Acer platanoides*).

To the extent practicable, earthwork, erosion control, and landscaping will follow applicable sections of the IDOT *Standard Specifications for Road and Bridge Construction* and Chapter 59 of the *Bureau of Design and Environment Manual (Landscape Design)*. See Section 3.12.5 for Best Management Practices (BMPs) to be followed during construction activities adjacent to natural area(s). Seed mixes will be required to meet purity/noxious weed seed requirements. Herbicides and/or other weed control methods will be used to control invasive and noxious plant species within the rights-of-way during operation of the facility.

3.6.2 Wildlife Resources

Wildlife resources refer to terrestrial insects, amphibians, reptiles, birds, mammals, and their habitats. Available wildlife lists were obtained from the LCFPD for preserves located immediately adjacent to the project study area. The RPC publication, *In Our Own Backyard*, was also reviewed.

Based on these resources, 200 species of birds, 24 species of mammals, 12 species of reptiles, and nine species of amphibians have been observed in the vicinity of the project study area.¹ Of the recorded species, 39 birds, one mammal (muskrat [*Ondontra zibethicus*]), and three amphibians (blue-spotted salamander [*Ambystoma laterale*], spotted salamander [*Ambystoma maculatum*], and wood frog [*Lithobates sylvatica*]) are listed as “Species in Greatest Need of Conservation for Illinois.”² Of the 200 bird species, 154 are considered neotropical migrants.³ These include species such as the eastern bluebird (*Sialia sialis*), scarlet tanager (*Piranga olivacea*), wood thrush (*Hylocichla mustelina*), and several warbler species (genus names vary). The majority of the species recorded in the vicinity of the project study area are woodland or wetland species, but wildlife typically observed near urban/suburban areas are also included, such as: common garter snake (*Thamnophis sirtalis*), gray squirrel (*Sciurus carolinensis*), mourning dove (*Zenaida macroura*), striped skunk (*Mephitis mephitis*), and white-tailed deer (*Odocoileus virginianus*).

What are neotropical migrant birds?
Neotropical migrant birds nest in the U.S. and Canada and spend the winter months in tropical Mexico, Central and South America, and the Caribbean.

3.6.2.1 What type of wildlife habitat occurs within the project study area?

Various woodland community types, woody riparian habitat, wetlands, and open waters comprise the most important wildlife habitat within the project study area. The woodland habitat includes three forested blocks that are 20 acres or larger in size. Wildlife may use

¹ Terrestrial insects were not included in the LCFPD lists. *In Our Own Backyard* primarily discussed insects in general terms and listed insects that the IDNR considered to be beneficial – these are not summarized here.

² Based on Appendix I of *The Illinois Comprehensive Wildlife Conservation Plan & Strategy* (Illinois Wildlife Action Plan) (IDNR, 2005).

³ Based on a list of neotropical migrants from the Neotropical Migratory Bird Conservation Act <https://www.fws.gov/birdhabitat/grants/NMBCA/BirdList.shtm#t1>

the large forested blocks and woody riparian habitat as corridors to move between habitat patches. Under existing conditions, there is a bridge at Deerfield Road that crosses over the Des Plaines River and adjacent trail. This bridge allows wildlife passage under the roadway between two of the large forested blocks and allows access to other important habitat types.

3.6.2.2 Will the project impact wildlife habitat?

The existing Deerfield Road has caused some habitat fragmentation between the large forested blocks, within woody riparian habitat, and other wooded parcels located adjacent to the project study area. Due to this human influence, the wildlife species that use the edge habitat adjacent to the existing roadway are expected to be adapted to more urban conditions.

During the proposed roadway construction activities, there will be minor short-term direct negative impacts to wildlife associated with the disturbance of habitat for contractor access, demolition, clearing, and grading activities, as well as general construction-related noise. A relatively small loss of habitat due to the proposed project will displace wildlife from the project study area forcing relocation to suitable habitat. Many wildlife species would avoid harm due to construction operations, but some mortality is possible, especially to less mobile wildlife species that may be present in construction areas. Due to the relatively small amount of habitat being removed for this project compared to the acreage of adjacent available habitat, impacts to the overall wildlife resources in the area are expected to be minimal.

The Migratory Bird Treaty Act (16 USC 703-712) affords protection to migratory bird species native to the U.S. or its territories. Neotropical migrant birds may use the habitats found in (and adjacent to) the project study area (e.g., wetlands and woodlands) for breeding (see Figure 3-6). There would be some loss of bird nesting and foraging areas as a result of this project due to the loss of habitat within the roadway footprint. Large forested blocks are located adjacent to the project study area at forest preserves, nature preserves, and other natural areas (e.g., Illinois Natural Areas Inventory [INAI] sites). The nature preserves are being avoided in their entirety. Only minor

What is woody riparian habitat?

Woody riparian habitat is an area predominantly covered by trees or shrubs located adjacent to and up-gradient from streams and lakes. It provides cover for fish and other wildlife, keeps streams cool, slows erosion and stream flow, and adds organic material to the aquatic food chain.

Figure 3-6: Scarlet Tanager – A neotropical migrant that uses forested habitat



Photograph from USFWS, undated

impacts are anticipated near the edge of one forest preserve property and at one natural area – these impacts have been coordinated with the LCFPD and the Illinois Department of Natural Resources (IDNR), as required, and are discussed in more detail in Section 3.12 and Section 3.13. Forest edge does not provide quality nesting habitat for neotropical migrant birds, compared to forest interior habitat. The minor impacts at the edge of these large forested blocks are not anticipated to negatively affect the overall quality of the adjacent woods or neotropical migrant birds.

Roads can act as a barrier to wildlife and may pose a threat because of traffic volumes, vehicle speed, and the width of the roadway corridor. Traffic crash reports from 2014-2018 were reviewed to determine the number of reported deer-vehicle collisions along the project study area. During that time-period, 10 deer-vehicle collisions were recorded by local police. The collisions were relatively spread out along the project study area, with about three-fifths of the crashes occurring on Deerfield Road west of Portwine Road. The majority of the collisions occurred between November and January, and mainly in the late afternoon through evening when deer are more active and driver visibility is hindered. A relatively small number of deer-vehicle collisions occur within the project study area in the existing condition (i.e., less than 3 percent of the total crashes from 2014-2018); these types of collisions are anticipated to remain a safety concern in the proposed condition – albeit relatively small. Deer are relatively mobile, and their mobility exposes them to collisions with vehicles as the deer attempt to cross roadways. Deer are common in the vicinity of the project, and no negative impact to the overall deer population is expected.

Roadways do not pose barriers to all forms of wildlife equally. Small, terrestrial wildlife are more likely to be affected by barriers than birds and larger mammals (which tend to be more mobile). Most reptiles and amphibians identified in the vicinity of the project area are less mobile and rely on their immediate habitat. Reptiles and amphibians most likely would be affected by road improvements during breeding, nesting, and seasonal movements.

The proposed culvert at the Thorngate Creek crossing has been oversized/modified to accommodate the movement of small to medium sized terrestrial wildlife along the riparian corridor. At the request of the LCFPD, a potential culvert is also being evaluated within the riparian corridor on the east side of the Des Plaines River to provide a crossing under Deerfield Road for small to medium sized terrestrial wildlife and a connection between Wetland #1 (at Edward L. Ryerson Nature Preserve) and Wetland #15 (at Cahokia Flatwoods Forest Preserve). Additional coordination and a final decision regarding this culvert will occur during final design and permitting. There is an existing bridge over the Des Plaines River and adjacent trail and this crossing will remain in the proposed condition. Although impacts may occur, a negative net effect on the overall reptile, amphibian, or small mammal population in the area is not anticipated as a result of the proposed project.

3.6.3 Threatened and Endangered Species

The Federal Endangered Species Act (ESA) (16 USC 1531-1544) protects species of plants and animals that are threatened or endangered within the U.S. The Illinois Endangered Species Protection Act (520 ILCS 10) protects species of plants and animals that are listed under the federal act plus additional plants and animals. Both acts provide for the conservation of threatened and endangered species and the ecosystems upon which they depend.

What is the Endangered Species Act (ESA) of 1973?	What is the Illinois Endangered Species Protection Act?
<p>This is a federal law that protects threatened and endangered species from extinction. “Endangered species” are in danger of extinction within the foreseeable future throughout all or a significant portion of their range. “Threatened species” are likely to become endangered. The law prohibits a “taking” of a listed species and destruction of critical habitat. This law applies to projects that involve funding or approval from a federal agency.</p>	<p>This is a state law that protects species that are listed by the Illinois Endangered Species Protection Board as threatened or endangered. Consultation with the IDNR occurs for any federal, state, or local agency action that might affect a listed species.</p>

3.6.3.1 What federally threatened or endangered species potentially exist in the project study area?

Federally threatened or endangered species listed by the U.S. Fish and Wildlife Service (USFWS) for Lake County, Illinois, are included in Table 3-13.

Table 3-13: Federally Threatened or Endangered Species for Lake County, Illinois ¹

Common Name	Species	Group	Status
Eastern massasauga ²	<i>Sistrurus catenatus</i>	Reptile	Threatened
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	Flowering plant	Threatened
Karner blue butterfly	<i>Lycaeides melissa samuelis</i>	Insect	Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	Mammal	Threatened
Piping plover	<i>Charadrius melodus</i>	Bird	Endangered; Critical Habitat
Pitcher's thistle	<i>Cirsium pitcheri</i>	Flowering plant	Threatened
Rufa red knot	<i>Calidris canutus rufa</i>	Bird	Threatened
Rusty patched bumble bee	<i>Bombus affinis</i>	Insect	Endangered

- ¹ From <https://www.fws.gov/midwest/endangered/lists/illinois-cty.html> (last revised May 9, 2017) – see Appendix D-3. Appendix D-3 also includes an “official” list of threatened and endangered species that may occur in the project study area, and/or that may be affected by the proposed project (from USFWS, dated November 2, 2020).
- ² The eastern massasauga was not included in the USFWS list for Lake County, Illinois (last revised May 9, 2017). However, it was included in this table because there are known records of the eastern massasauga within the vicinity of the project study area.

3.6.3.2 Will the project affect federally threatened or endangered species?

Based on a review of the project study area and the suitable habitat of each federally threatened or endangered species, an effect determination is provided below:

- Eastern massasauga: See discussion below regarding state-listed species. This project will have no effect on the eastern massasauga.
- Eastern prairie fringed orchid: The eastern prairie fringed orchid (see Figure 3-7) can be found in moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie. The 2017 and 2018 INHS botanical surveys did not find any eastern prairie fringed orchid. This project will have no effect on the eastern prairie fringed orchid.
- Karner blue butterfly: Suitable habitat for the Karner blue butterfly includes pine barrens and oak savannas on sandy soils and containing wild lupine (*Lupinus perennis*), the only known food plant of the Karner blue butterfly larvae. The 2017 and 2018 INHS botanical surveys did not find wild lupine, pine barrens, or oak savannas on sandy soils in the project study area. The project will have no effect on the Karner blue butterfly.
- Northern long-eared bat: See discussion below regarding state-listed species. The proposed improvements are consistent with the activities analyzed in the USFWS Programmatic Biological Opinion, dated January 5, 2016. This project may affect the northern long-eared bat. However, any take that may occur as a result of the project is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o) (see Appendix D-3).
- Piping plover and critical habitat: Suitable habitat for the piping plover includes wide, open, sandy beaches with very little grass or other vegetation, which are not present within the project study area. The project will have no effect on the piping plover.
- Pitcher's thistle: Suitable habitat for the Pitcher's thistle is lakeshore dunes, which are not present in the project study area. The project will have no effect on the Pitcher's thistle.
- Rufa red knot: The USFWS has determined that only actions that occur along coastal areas or large wetland complexes during the migratory window of May 1 through September 30 would potentially impact the rufa red knot. Coastal areas and large wetland complexes are not present within the project study area. The project will have no effect on the rufa red knot.
- Rusty patched bumble bee: This project was evaluated using the USFWS guidance, dated March 21, 2017, titled "The Rusty Patched Bumble Bee (*Bombus affinis*), Interagency Cooperation under Section 7(a)(2) of the Endangered Species

Figure 3-7: Eastern Prairie Fringed Orchid



Photograph by M. Redmer, USFWS, undated

Act, Voluntary Implementation Guidance.” According to the guidance, if a project is outside of a “high potential zone” for the rusty patched bumble bee, then the USFWS advises that a no effect determination is appropriate. USFWS shapefiles were reviewed on November 2, 2020. This project is located outside of the “high potential zone”. Therefore, the project will have no effect on the rusty patched bumble bee.

3.6.3.3 What state threatened or endangered species have a recorded presence in the vicinity of the project study area?

The Illinois Endangered Species Protection Act requires IDNR consultation for state-listed threatened or endangered species (17 IAC 1075). Consultation for the project was initiated with the IDNR through the Ecological Compliance Assessment Tool (EcoCAT) on September 11, 2018 and was updated on January 8, 2020. Based on the consultation and a review of the Illinois Natural Heritage Database (INHD), the following state-listed threatened or endangered species were reported within the vicinity of the project study area (see Table 3-14):

Table 3-14: State Threatened or Endangered Species with a Recorded Presence in the Vicinity of the Project Study Area

Common Name	Species	Group	Status
Awnless graceful sedge	<i>Carex formosa</i>	Flowering plant	Endangered
Blackchin shiner	<i>Notropis heterodon</i>	Fish	Threatened
Black-crowned night heron	<i>Nycticorax</i>	Bird	Endangered
Bulrush	<i>Scirpus hattorianus</i>	Flowering plant	Endangered
Dwarf raspberry	<i>Rubus pubescens</i>	Flowering plant	Threatened
Eastern massasauga	<i>Sistrurus catenatus</i>	Reptile	Endangered
Grove bluegrass	<i>Poa alsodes</i>	Flowering plant	Endangered
Hairy white violet	<i>Viola blanda</i>	Flowering plant	Endangered
Iowa darter	<i>Etheostoma exile</i>	Fish	Threatened ¹
Marsh speedwell	<i>Veronica scutellata</i>	Flowering plant	Threatened
Mountain blue-eyed grass	<i>Sisyrinchium montanum</i>	Flowering plant	Endangered
Northern cranesbill	<i>Geranium bicknellii</i>	Flowering plant	Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	Mammal	Threatened
Purple fringed orchid	<i>Platanthera psycodes</i>	Flowering plant	Endangered
Tuberclad orchid	<i>Platanthera flava</i>	Flowering plant	Threatened
Tuckerman’s sedge	<i>Carex tuckermanii</i>	Flowering plant	Endangered

¹ Consultation with IDNR was initiated in 2018. The Iowa darter has since been removed from the Illinois List of Endangered and Threatened Species (Illinois Endangered Species Protection Board, effective May 28, 2020).

3.6.3.4 Will the project affect state threatened or endangered species?

Based on coordination with the IDNR, state threatened or endangered species impacts are unlikely for this project, except for the blackchin shiner. Additional information regarding specific species is provided below:

- **Blackchin shiner:** The blackchin shiner lives in glacial lakes that have many aquatic plants and in the streams that enter and leave these lakes. Based on coordination with the IDNR, the blackchin shiner was identified in the Des Plaines River at the Deerfield Road bridge in July 2018.

The proposed improvements will require in-stream construction to widen the existing Deerfield Road bridge to the south by extending two existing piers. It is anticipated that temporary causeways and cofferdams may be necessary during the in-stream construction, and streambank vegetation may be removed during construction activities, including access. The construction activities could potentially affect the blackchin shiner. LCDOT has committed to obtain an Incidental Take Authorization (ITA) from the IDNR for potential impacts to the blackchin shiner prior to the project going to Letting.

When may an ITA be issued?
An ITA may be issued when a "take" of a state-listed animal species is likely to occur, but is not the intention of the action. A "take" of an animal is defined as harm, hunt, shoot, pursue, lure, wound, kill, destroy, harass, gig, spear, ensnare, trap, capture, collect, or attempt to engage in such conduct.

- **Black-crowned night heron:** A black-crowned night heron record of occurrence is located approximately 0.7-mile northeast of the project study area. The black-crowned night heron nests in trees that surround wetlands. Per the INHS, there does not appear to be breeding habitat within the limits of the proposed improvements. Per the IDNR, potential impacts to the black-crowned night heron are unlikely as a result of the proposed improvements.
- **Eastern massasauga:** Based on the INHD, there are two records of the eastern massasauga (see Figure 3-8) within the vicinity of the project study area from 2009. These are the most recent records of occurrence near the project study area. Per INHS, the two eastern massasauga that were encountered in 2009 were relocated to the Lincoln Park Zoo for a captive propagation project.

Figure 3-8: Eastern Massasauga



Photograph by A.R. Kuhns, INHS Aquatic Survey Report, 2018

Suitable habitat for eastern massasauga includes graminoid dominated plant communities (i.e., fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands). On May 15, 2018, the INHS visited the project study area to determine if suitable eastern massasauga habitat is present and to search for the snake and crayfish/hibernation burrows. At the request of the IDNR, the INHS visited the project study area a second time on December 17, 2018, to search for crayfish/hibernation burrows. No eastern massasauga, crayfish/hibernation burrows, or their preferred habitat were documented during the INHS field surveys. Based on the results of the surveys, IDNR concurred that the eastern massasauga is unlikely to be present in the project study area and IDNR considers impacts to the eastern massasauga to be unlikely for this project.

- Iowa darter: The Iowa darter lives in clear lakes, sloughs, and creeks that have many aquatic plants. There is a record of the Iowa darter from a tributary to the Des Plaines River in the vicinity of the study area. However, per IDNR the proposed project is unlikely to have an impact on the species due to the distance between the proposed improvements and record of occurrence.

Consultation with IDNR was initiated in 2018. The Iowa darter has since been removed from the Illinois List of Endangered and Threatened Species (Illinois Endangered Species Protection Board, effective May 28, 2020).

- Northern long-eared bat: The northern long-eared bat (see Figure 3-9) hibernates in caves and mines - swarming in surrounding wooded areas in autumn. It roosts and forages in upland forests and woods. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). A northern long-eared bat maternity colony was recorded in the vicinity of the project study area in 2006. To minimize potential impacts to the northern long-eared bat, tree clearing will be restricted between the dates of April 1 and September 30. The IDNR concurred that this commitment would be sufficient to reduce the likelihood of impacts to the northern long-eared bat.
- Plant species: The INHS completed botanical surveys in July 2017 and May through August 2018. None of the plant species listed in Table 3-14 were observed by INHS in the project study area nor were any additional threatened

Figure 3-9: Northern Long-Eared Bat



Photograph by A. Hicks, New York Department of Environmental Conservation, undated

or endangered plant species observed by INHS during the botanical surveys. Per the IDNR, potential impacts to threatened or endangered plant species are unlikely as a result of the proposed improvements – assuming that all soil erosion and sediment control BMPs are followed and right-of-way limits are respected.

In a letter dated January 22, 2020, IDNR terminated consultation with respect to state threatened and endangered species (see Appendix D-3).

3.7 Surface Water Resources

Surface water resources include wetlands, streams, rivers, lakes, and ponds. Wetlands are discussed in Section 3.10. Surface water resources are protected by the Clean Water Act (CWA) (33 USC 1251).

3.7.1 What waterbodies exist in the project study area?

On July 25 and July 28, 2016, May 25, 2017, and September 26, 2018, Christopher B. Burke Engineering, Ltd (CBBEL) completed wetland and waters of the U.S. (WOUS) field investigations of the project study area. Twenty-four wetlands and WOUS, 12 detention areas, three roadside drainage ditches, and one man-made rain garden were identified. Their locations are depicted at Figure C-2 in Appendix C.

A preliminary jurisdictional determination (PJD) and boundary verification (BV) were completed by the Lake County Stormwater Management Commission (LCSMC) to determine which of the delineated wetlands and surface water resources appear to be jurisdictional under Section 404 of the CWA, isolated waters of Lake County (IWLC), or excluded under the Lake County Watershed Development Ordinance (WDO) (e.g., permitted excavations/impoundments and roadside ditches) (see Appendix D-4). The U.S. Army Corps of Engineers (USACE) accompanied LCSMC on the PJD field review. Based on the results of the PJD, the surface water resources, except wetlands, that appear to be jurisdictional are discussed below. Delineated surface water resources, except wetlands, that were found to be exempt from regulation are not discussed further. Wetlands are discussed in Section 3.10.

The surface water resources that appear to be USACE jurisdictional include: the Des Plaines River, Aptakisic Creek, Thorngate Creek, three detention areas, and two roadside ditches. The two roadside ditches are tributary to USACE jurisdictional WOUS/wetlands. The three detention areas are located at the west end of the project study area along the north and south sides of Deerfield Road and are either on-line with Aptakisic Creek or have a clearly discernable hydrologic connection. Two additional open water detention areas located east of the Deerfield Road/Portwine Road intersection were determined to be IWLC (i.e., subject to regulation under the WDO) and not USACE jurisdictional.

Over the past few decades, numerous organizations have monitored/sampled the water resources in the northern portion of the Des Plaines River watershed (including southern Kenosha County, Wisconsin; central Lake County, Illinois; and northern Cook County, Illinois). The Des Plaines River Watershed-Based Plan provides a summary of these monitoring/sampling efforts (see <http://www.lakecountyil.gov/2437/Watershed-Management-Plans>), including a recent study by the Des Plaines River Watershed Workgroup (DRWW).

A summary of the delineated streams, including information from the DRWW study, is provided below.

Des Plaines River

The Des Plaines River (see Figure 3-10) is a perennial stream that originates in southeast Wisconsin. It flows south for approximately 133 miles until its confluence with the Kankakee River where it forms the Illinois River. The Des Plaines River crosses under Deerfield Road approximately 2,200 feet east of Milwaukee Avenue near the west end of the project study area. The existing crossing structure at Deerfield Road is a 3-span bridge with two piers that are parallel to the flow of the river. Immediately adjacent and parallel to the south side of Des Plaines River bridge is a separate LCDOT shared use path bridge. The total drainage area at the Deerfield Road crossing is approximately 310 square miles. Based on data collected in 2016 during the DRWW study, habitat quality at the Deerfield Road sampling site was excellent (Qualitative Habitat Evaluation Index [QHEI] = 80.5). The macroinvertebrate assemblage quality was good, and the fish community was indicative of poor conditions (see Table C-10-1 in Appendix C).

Figure 3-10: Des Plaines River looking downstream of Deerfield Road



Photograph by CBBEL, July 2016

What is a Qualitative Habitat Evaluation Index (QHEI)?

The QHEI is a composite of six habitat metrics: substrate, in-stream cover, channel morphology, riparian zone and bank erosion, pool/glide and riffle/run quality, and stream gradient. Scores range from 0-100. A higher score represents more diverse and better quality habitat.

Aptakisic Creek

Near the project study area, Aptakisic Creek is a perennial stream that flows from northwest to southeast and is tributary to the Des Plaines River. Aptakisic Creek crosses under Milwaukee Avenue through a bridge located approximately 1,700 feet south of Deerfield Road. The total drainage area at the crossing is approximately 7.4 square miles.

Based on data collected in 2016 during the DRWW study, habitat quality from two sampling sites located between Deerfield Parkway and Milwaukee Avenue was fair

(QHEI = 46.0 and 52.0). The macroinvertebrate assemblage quality was fair, and the fish community was indicative of fair conditions (see Table C-10-1 in Appendix C).

Thorngate Creek

Thorngate Creek flows from southeast to northwest and is tributary to the Des Plaines River. Thorngate Creek crosses under Deerfield Road through a culvert located approximately 770 feet west of Hoffman Lane. The existing crossing structure is a single circular 48-inch reinforced concrete pipe (RCP) culvert with grated flared end sections. The total drainage area at the crossing is approximately 0.80 square miles (511 acres). Based on USGS mapping, Thorngate Creek is intermittent upstream of Deerfield Road and perennial downstream of the crossing.

Based on data collected in 2016 during the DRWW study, habitat quality north of Deerfield Road (downstream of the project study area) near Timberwood Lane was fair (QHEI = 59.0). The macroinvertebrate assemblage quality was fair, and the fish community was indicative of fair conditions (see Table C-10-1 in Appendix C).

3.7.2 Are there any waterbodies that the Illinois Environmental Protection Agency (IEPA) lists as impaired or fully supporting for a designated use?

The IEPA *Illinois Integrated Water Quality Report and Section 303(d) List* (CWA Sections 303[d], 305[b], and 314) (DRAFT November 14, 2018) was reviewed to determine the “Use Support” of each of the assessed surface water resources that are located within the project study area. At the Deerfield Road crossing, the Des Plaines River (i.e., Waterbody Segment IL_G-36) is listed as impaired and as non-supportive of aquatic life, fish consumption, and primary contact recreation (e.g., swimming). Aesthetic quality was not assessed. Potential causes of impairment include:

- aquatic algae;
- fecal coliform;
- mercury;
- other flow regime alterations;
- polychlorinated biphenyls (PCBs);
- total phosphorus

Potential sources of impairment include:

- atmospheric deposition – toxics;
- dam or impoundment;
- impacts from hydrostructure flow;
- municipal point source discharges;
- urban runoff/storm sewers;
- unknown sources

The other surface water resources that were identified within the project study area are not included in the IEPA *Illinois Integrated Water Quality Report and Section 303(d) List*. However, at the northeast quadrant of the Milwaukee Avenue and Deerfield Road intersection, two off-site lakes (i.e., Meadow Lake East [IL_WGL] and Meadow Lake West [IL_WGF]) have been assessed by IEPA and are listed as impaired (see Figure C-11 in Appendix C). Both of these lakes fully support aquatic life but are non-supportive of aesthetic quality. Fish consumption and primary contact recreation uses were not assessed. Potential causes of impairment include total phosphorus and total suspended

solids (TSS). Potential sources of impairment include runoff from forest/grassland/parkland, rural (residential areas), and urban runoff/storm sewers. Runoff from the proposed Deerfield Road improvements will not outlet into these lakes.

Similar to IEPA, a 2016 study by the DRWW also concluded that the Des Plaines River was impaired. The DRWW study also sampled Aptakisic Creek and Thorngate Creek and determined that these streams were impaired. Causes of impairment varied per stream, but included: bank erosion, channelization, chlorides, no riparian zone, organic enrichment, nutrients, and siltation. Impairment sources included: habitat and hydrologic alterations, urban runoff, and wastewater treatment plant effluent. Heavy siltation associated with habitat alterations and altered hydrology from urban and suburban runoff was the most prevalent stressor in the watershed (see Table C-10-2 in Appendix C for DRWW chemical data).

The project study area is primarily located in the Willow Creek - Des Plaines River Watershed (Hydrologic Unit Code [HUC] 0712000405) (see Figure C-11 in Appendix C). Within this watershed, Total Maximum Daily Loads (TMDLs) have been approved by USEPA for fecal coliform, total phosphorus, ammonia, carbonaceous biochemical oxygen demand, and chloride. The Des Plaines River mainstem was not addressed through these TMDLs and the surface water resources identified in the project study area were not targeted for TMDL development. The proposed improvements are not located within the subwatershed of any of the waterbodies that were targeted for TMDL development. Therefore, this TMDL will not be discussed further.

What is a Total Maximum Daily Load (TMDL)?
A TMDL is the greatest amount of a given pollutant that a waterbody can receive without violating water quality standards and designated uses. TMDLs set pollution reduction goals that are necessary to improve the quality of impaired waters. A TMDL takes a watershed approach. It includes the effects of seasonal variation and also takes into account a margin of safety, which reflects scientific uncertainty and future growth.

A small portion of the project study area at the far east end is located in the North Branch Chicago River - Sanitary and Ship Canal Watershed (HUC 0712000301) (see Figure C-11 in Appendix C). A TMDL has been prepared for the northern portion of this watershed (DRAFT for Public Review, dated September 2018). However, as part of this project, no improvements are proposed in this watershed. Therefore, this TMDL will not be discussed further.

3.7.3 Are there any streams in the project study area that have a special designation?

Within the project study area, none of the identified surface waters are listed as navigable WOUS under Section 10 of the River and Harbors Act of 1899; none of the surface waters have been designated by the Illinois Pollution Control Board (IPCB) as Outstanding Resource Waters; and none of the surface waters have been designated as Wild and Scenic Rivers under the Wild and Scenic Rivers Act (Public Law 90-542; 16 USC 1271 et seq.).

The segment of the Des Plaines River that crosses through the project study area is listed on the Nationwide Rivers Inventory (NRI) for its Outstandingly Remarkable Values (ORVs), including: "Scenery" and "Recreation." Thorngate Creek and Aptakisic Creek are not listed on the NRI. The NRI describes this segment of the Des Plaines River as an "interesting stream generally maintaining a wilderness character due to many parks, forest preserves and areas along its course. Heavily used for many recreational purposes."

This segment of the Des Plaines River is used for canoeing and is part of the regional Des Plaines River Water Trail. The Des Plaines River is not included as part of the National Water Trails System, administered by the National Park Service (NPS). Canoe access is available upstream at Wright Woods (LCFPD) near Illinois Route 60 (Townline Road) and downstream at Allison Woods (Forest Preserve District of Cook County) south of Palatine Road. Approximately 12 miles separates the two canoe launches. This distance can be shortened by using alternate take-out points along the canoe route.

The proposed improvements include widening the existing Des Plaines River bridge to the south approximately seven feet. In-stream construction is anticipated. Flow will be maintained during construction so that recreational activities (e.g., canoeing) are not prohibited. The water trail is anticipated to remain open during construction activities so that canoeing is not disrupted. Temporary impacts to scenery may be experienced. These impacts will be short-term and no permanent adverse effect to the Des Plaines River ORVs are anticipated because of the proposed improvement.

North of Deerfield Road, the Des Plaines River, Thorngate Creek, and adjacent wetland areas are mapped as Advanced Identification (ADID) Site 176. Based on the ADID summary sheets, the basis for the high functional value determination included biological values (i.e., presence of State threatened or endangered plant species, designation as an INAI site, and high-quality plant community) and water quality/hydrology values (i.e., shoreline/bank stabilization and sediment/toxicant retention). The Des Plaines River and Thorngate Creek also flow through the Edward L. Ryerson Nature Preserve. The portion of the Des Plaines River that is mapped as ADID is located approximately 60 feet upstream of the proposed improvements. The portion of Thorngate Creek that is mapped as ADID is located approximately 1,200 feet downstream of the proposed improvements. BMPs (as discussed later in this section) will be implemented to protect

What is the Nationwide Rivers Inventory (NRI)?

The NRI is a compilation of free-flowing rivers and river segments that appear to have one or more ORVs that could qualify them for inclusion in the National Wild and Scenic Rivers System. ORVs include criteria such as scenery, recreation, geology, fish/wildlife value, and historic/cultural significance. The NRI is managed by the National Park Service Rivers, Trails, and Conservation Assistance Program.

What is an Advanced Identification (ADID) site?

An ADID site is a mapped high-quality aquatic resource (e.g., wetland) identified by the USEPA and USACE based on biological, hydrological, and water quality functions. The ADID study was completed in 1992 to identify high quality sites in advance of specific permit requests.

the streams during construction, operation, and maintenance of Deerfield Road and no impacts are anticipated at the ADID portion of these streams.

At the project study area, none of the stream segments are listed as a Biologically Significant Streams in the IDNR Biological Stream Rating Report, *“Integrating Multiple Taxa in a Biological Stream Rating System”* (2008). The segment of the Des Plaines River that passes through the project study area has a “D” rating for diversity and a “D” rating for integrity. Aptakisic Creek and Thorngate Creek have not been rated by IDNR. The diversity and integrity scores fall within one of five ratings ranging from A to E, with A representing the highest biological integrity or diversity of evaluated stream segments.

3.7.4 How will water resources be impacted during construction of the project?

Roadway construction, including: demolition, vegetation removal, grading and other soil disturbance, drainage structure and utility installation/relocation, pavement installation, and other activities can have an impact on water resources. These impacts can be temporary or permanent.

The proposed Deerfield Road improvements would take place within an existing transportation corridor. As such, the permanent impacts to water resources would predominantly be associated with the installation or modification of drainage structures and the widening or lengthening of existing stream crossing structures. Temporary impacts could result from in-stream construction and construction-related erosion or sedimentation. Temporary impacts could vary based on the construction method used and will be coordinated with applicable regulatory agencies. Potential impacts would be minimized through the implementation of a Storm Water Pollution Prevention Plan (SWPPP), including soil erosion and sediment controls, good housekeeping practices, and other BMPs.

Anticipated impacts to unvegetated WOUS are summarized in Table 3-15.

Table 3-15: WOUS Impact Summary

WOUS Site	Existing Crossing	Permanent Impact (acre) ^{1, 2}	Temporary Fill (acre)	Description of Impact	Sheet Number ³
Des Plaines River – WOUS #W1	3-span bridge	0.001	0.09	<ul style="list-style-type: none"> Vegetation removal at the stream bank associated with construction activities, including access; In-stream construction to widen the existing Deerfield Road bridge to the south (extend two existing piers); Temporary fill for potential temporary causeways and cofferdams 	8
Thorngate Creek – WOUS #W17	48-inch RCP culvert	0.01	0.01	<ul style="list-style-type: none"> Vegetation removal at the stream bank associated with construction activities for widening of Deerfield Road, multi-use trail, and floodplain compensatory storage area adjacent to east bank of creek; 	10, 11

WOUS Site	Existing Crossing	Permanent Impact (acre) ^{1, 2}	Temporary Fill (acre)	Description of Impact	Sheet Number ³
				<ul style="list-style-type: none"> In-stream construction associated with culvert replacement (i.e., an embedded box culvert) and installation of outlet protection; Temporary fill for potential cofferdam 	
Roadside Ditch – WOUS #WR1	N/A	0.01	0.00	<ul style="list-style-type: none"> Ditch to be filled to widen Deerfield Road and construct potential noise wall 	18
Total =		0.02	0.10		

1. Impacts ≤ 0.005 acre were rounded to the nearest thousandth of an acre.

2. Impacts (0.003 acre) are anticipated at Detention Area #24. Detention Area #24 appears to be an IWLC and not a USACE regulated WOUS. Therefore, impacts are not included with the WOUS above.

3. See the Wetland Impact Evaluation Exhibits (Figure C-13 in Appendix C).

Efforts will be made to avoid and minimize impacts to water resources. When permanent impacts are unavoidable, waterway crossings would be bridged, enclosed in an embedded box culvert, or otherwise designed to prevent the restriction of expected high water flows; allow movement of aquatic biota; and not impede low water flows in order to minimize negative effects to the aquatic ecosystem.

In-stream construction may be required to replace the culvert at Thorngate Creek and to widen the existing bridge at the Des Plaines River. No improvements are anticipated at Aptakisic Creek. In-stream construction would follow standard practice (see IDOT *Standard Specification for Road and Bridge Construction*), including isolating the work area, as necessary. All required permits and approvals (see Section 3.7.8) would be obtained prior to any in-stream construction or other WOUS impacts (e.g., USACE regulated roadside ditch). Additional details regarding construction methodology would be provided during CWA and floodway construction permitting, as requested by permitting agencies. Flow would be maintained during construction by using dam and pumping, fluming, culverts, or other techniques, as necessary. Cofferdams, if necessary, would be constructed of non-erodible materials; earthen embankments or dikes would not be used as cofferdams. If dewatering is required to perform “work in the dry”, the dewatering would be only temporary in nature. All materials used for temporary construction activities would be moved to upland areas following completion of the construction activity. Temporarily disturbed areas would be restored to preconstruction conditions, including grading, where possible, to original contours and installation of erosion control as soon as practicable in accordance with permit requirements.

The means and methods to widen the two existing Deerfield Road bridge piers at the Des Plaines River have yet to be determined. Based on the methods of construction used for the adjacent existing LCDOT shared use path bridge completed in 2010, it is anticipated that building a temporary causeway from the closest riverbank may be necessary to access each pier. Construction methods and further minimization of temporary fill will be evaluated in more detail in Phase II, as part of final design and permitting (e.g., Section 404 of the CWA).

3.7.5 Will construction impacts to water resources be mitigated?

The preferred method of mitigation for the 0.02 acre of permanent WOUS impact is to purchase credits at a USACE approved mitigation bank located offsite, but within the same basin as the project (i.e., the Des Plaines River drainage basin). Banking will be the first method of mitigation considered during final design and permitting.

3.7.6 Will water resources be impacted during operation of the proposed project?

Operational impacts associated with roadways include the accumulation of pollutants on roadway surfaces and rights-of-way as a result of roadway use, natural contributions, and deposition of air pollution. These pollutants include solids, heavy metals (lead, zinc, copper), oil and grease, and nutrients. The concentrations of these pollutants are highly variable by site and are affected by numerous factors, such as traffic characteristics, climate, maintenance activities, and adjacent land use.

Potential water quality impacts may include short-term, localized acute loadings with few to no chronic effects.

The proposed project will add additional turn lanes at Milwaukee Avenue. The north leg of the Milwaukee Avenue/Deerfield Road intersection has an existing (2016) ADT of 39,800 vehicles per day (vpd). The projected traffic for the 2050 No-Build and 2050 Build alternative are both 42,000 vpd – an increase in 2,200 vpd. Because the No-Build and Build traffic volumes are the same, the increase in traffic along the north leg of Milwaukee Avenue is not directly attributed to the proposed improvements. The existing ADT along the south leg of the Milwaukee Avenue/Deerfield Road intersection decreases by 3,200 vpd from 38,200 vpd to 35,000 vpd under the 2050 Build alternative. When comparing existing ADT to the 2050 Build ADT, a net increase in traffic volume along Milwaukee Avenue in the vicinity of Deerfield Road is not anticipated. Milwaukee Avenue will not be discussed further with respect to water quality.

As part of the project, existing drainage patterns will be maintained. Currently, stormwater runoff along the proposed improvements is conveyed via sheet flow and roadside ditch. In the proposed condition, stormwater runoff will drain to curb and gutter and will be conveyed through storm sewer. Stormwater runoff will be routed through BMPs prior to discharge to wetlands or WOUS, to the extent practicable. These BMPs will slow stormwater velocity and allow settling and filtering of particulates. Vegetation on the right-of-way will further remove pollutants through biological processes. No stormwater discharge outfalls are proposed at the adjacent Edward L. Ryerson Nature Preserve or the Herrmann Wildflower Farm Addition Nature Preserve

What is a Mitigation Bank?

A mitigation bank is a site(s) where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved to provide compensatory mitigation for regulatory impacts. In general, a mitigation bank sells mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor.

Buffer located adjacent to the north side of Deerfield Road. The LCFPD, Illinois Nature Preserves Commission, and LCSMC are represented on the project SIG. Individual coordination has also occurred. Adverse impacts to the receiving waters are not anticipated during operation of Deerfield Road as a result of the proposed improvements.

3.7.7 Will water resources be impacted during maintenance of the proposed project?

BMPs will be used to protect water resources during winter maintenance activities after the proposed improvements are constructed. Deicing salt (sodium chloride) applied with blended liquids (e.g., salt brine, calcium chloride) and plowing are the main tools used during winter to control ice and snow on roadway surfaces (see Figure 3-11). Deicing salt helps to maintain traffic flow and safe roadways in the winter.

Road salt moves through the environment as runoff, splash, and spray. The salt is carried by melt water runoff to the roadway drainage swales, ditches, or storm sewers to a receiving stream or other water body. Salt is also transported by splash or spray generated by moving vehicles coming in contact with brine, slush, or dried residue. The amount of salt entering the environment depends on the number of snow storms per season, salting events per storm, and management practices implemented by the jurisdiction performing the roadway maintenance activities.

LCDOT follows a Snow and Ice Control Plan for roadways within its jurisdiction and emphasizes sensible salting in an effort to ensure that the proper amount of chemicals is used for each unique snow and ice event. Practices, such as pre-wetting, anti-icing, applying road salt, and plowing will be used as necessary in an efficient manner along Deerfield Road to provide the motoring public with safe roadways and the least amount of impact to the environment as possible.

In 2018, Lake County received the “Excellence in Snow and Ice Control Award” from the American Public Works Association (APWA). LCDOT accepted this award of national recognition for its innovative, safe, and environmentally friendly Snow and Ice Control Program, which includes, but is not limited to the following initiatives:

- LCDOT’s in-house liquid blending system allows for the adjustment of salt brine and beet juice ratios to meet various road conditions. This helps reduce the amount of salt used and allows the salt to be used more effectively.

Figure 3-11: Roadway Winter Maintenance



Photograph by LCDOT, undated

- In partnership with the LCSMC and the Lake County Health Department, Lake County hosts Annual Deicing Workshops to educate other public and private entities in the region on best practices.
- The Lake County Health Department partners with LCDOT to provide real-time river monitoring of chloride levels downstream from the LCDOT maintenance yard.
- Through the use of technology, LCDOT optimizes operations through real-time tracking of vehicle locations, deicing application rates, and reporting.
- LCDOT keeps the public informed through a comprehensive public outreach effort using social media ([Facebook](#) and [Twitter](#)) and [Lake County PASSAGE](#).
- 380 cameras in the Lake County PASSAGE System are also available to LCDOT snow and ice control management staff to aid in their decision-making processes and in managing snow and ice event(s).
- LCDOT subscribes to DTN, a weather service that provides 24-hour weather forecasts in Lake County and offers LCDOT 24-hour phone access to speak with a meteorologist to discuss the forecast and/or local storm system.

In Lake County, snow season officially runs from November 15 to April 15, but planning and preparation starts well before. The LCDOT maintenance staff spends several weeks testing and preparing the equipment, training drivers, and planning the snow removal response effort so that everything is ready when winter arrives. Outside of active snow season, the entire operation is evaluated and updated to respond to changing conditions, advancements in technology, and to better protect the environment.

3.7.8 What water-related permits will the project require?

Prior to construction, all necessary water related permits and certifications will be obtained, including but not limited to the following:

- **Section 404 CWA Permit:** Project that require the discharge of dredge or fill materials into jurisdictional WOUS (including wetlands) are subject to the requirements of Section 404 of the CWA and are reviewed by the USACE. Projects in northeastern Illinois that will have minimal individual and cumulative impacts on aquatic resources may be eligible for the Regional Permit Program. The proposed improvements meet the requirements of the USACE Regional Permit Program. A pre-application meeting will be scheduled with the USACE during Phase II to discuss the proposed improvements and confirm permit processing.
- **Section 401 CWA Water Quality Certification:** States are granted authority to review activities in WOUS (including wetlands) and to issue Section 401 CWA Water Quality Certification that the activity is not likely to violate state water quality standards. In Illinois, IEPA issues Section 401 CWA Water Quality

Certification. IEPA has granted Section 401 CWA Water Quality Certification for projects that qualify for the USACE Regional Permit Program.

- National Pollutant Discharge Elimination System (NPDES) Construction Permit (Section 402 CWA): It is anticipated this project will result in the disturbance of one or more acres of land. As a result, a NPDES permit for stormwater discharges from the construction site is required. Permit coverage for the project will be obtained either under the IEPA General Permit for Stormwater Discharges from Construction Site Activities (NPDES Permit No. ILR10) or under an individual NPDES permit. Requirements applicable to such a permit will be followed, including the preparation of a SWPPP. Such a plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site and shall describe and ensure the implementation of practices which will be used to reduce the pollutants in discharges associated with construction site activity and to assure compliance with the terms of the permit.
- Floodway Construction Permit: IDNR-Office of Water Resources (IDNR-OWR) issues construction permits for work within regulatory floodways and for the encroachment of regulatory floodplains serving a tributary area of 640 acres or more in an urban area and a tributary area of 6400 acres or more in a rural area. The proposed improvements involve work within the regulatory floodway of the Des Plaines River (see Section 3.9).
- Lake County Watershed Development Permit (WDP): A Lake County WDP is required for any regulated development (e.g., project located in a regulatory floodplain, a project that proposes to impact WOUS or IWLC), including a public road development, in Lake County, Illinois. The WDP application, including a soil erosion and sediment control plan and proposed BMPs, would be reviewed by LCSMC.

3.8 Groundwater

The project study area contains groundwater resources and aquifers within the surficial glacial deposits (unconsolidated system) and within the shallow and deep bedrock systems. Within the surficial deposits, the accessible shallow aquifers can be found in the lenses of sands and gravels of the glacial till.

The glacial drift deposits in Lake County vary in thickness from about 75 feet in the southeastern part of the county to more than 300 feet along the west-central portion of the county. Within the project study area, the bedrock is mapped as being 200 to 300 feet deep. Sand and gravel deposits are present in the glacial drift. Where these deposits are sufficiently thick, they offer potential for developing moderate to large quantities of water (100 to 1000 gallons per minute) from individual wells. Shallow outwash deposits are present along the Des Plaines River in the eastern part of the county. The buried sand and gravel deposits are present at most sites in the county.

Beneath the glacial deposits, the upper bedrock formations consist principally of beds of Silurian dolomite and shale, which dip easterly at about 10 to 15 feet per mile. The rock formations in Lake County range in age from Silurian to Precambrian.

3.8.1 Are any aquifer recharge areas, wellhead protection zones, or private and public water supply wells located in the project study area?

According to the IEPA Source Water Assessment and Protection Program, there are no identified Class III Special Resource Groundwater protection areas within or near the project study area.

Based on available well data, of the 60 total non-community water supply wells within 400 feet of the right-of-way, there are 54 wells, that are more than 100 feet deep that are finished in bedrock, and one more than 100 feet deep finished in sand and gravel and one in clay. There are four wells under 100 feet deep finished in sand and gravel; of these four wells, one appears to have been abandoned. Based on the IEPA Source Water Assessment and Protection Program, 34 non-community water wells were identified within 200 feet of the study limits. Three of which are finished at less than 100 feet deep; of these three wells, one appears to have been abandoned.

There are three Community Water Supply Wells that have groundwater protection zones of 200 feet that are located within 200 feet of the project limits. These wells are located northeast of the Deerfield Road and Milwaukee Avenue intersection. Two of the three wells are identified as “inactive” on the IEPA Source Water Assessment and Protection Program website. One of the wells is owned by the Village of Riverwoods and is identified as an “emergency” well.

3.8.2 Will there be any impacts to any aquifer recharge areas, wellhead protection zones, or private and public water supply wells?

According to the IEPA Source Water Assessment and Protection Program and Potential for Contamination of Shallow Aquifers in Illinois (Berg, 1984), there is a “Very High Potential” for shallow aquifer contamination within 20 feet of the ground surface to the west of Jasmine Lane associated with the Des Plaines River and associated floodplain. From just west of Jasmine Lane heading east there is a “Moderately High to Moderate” potential for recharge due to sand, silt and gravel deposits at the surface. However, in most instances, this shallow surface layer is not suitable to provide adequate water for operation of a well. No water supply wells within the project study area are finished within the upper 20 feet. Two wells are finished less than 100 feet deep at the southwest corner of Milwaukee Avenue and Deerfield Road. These wells were installed in 1929 and 1978, respectively. The property the wells is located on has been recently redeveloped and the wells have most likely been abandoned.

Based on the available well data, no “active” Community Water Supply Wells or non-community water supply wells will be directly impacted by the proposed project. One “inactive” Community Water Supply Well for the Village of Riverwoods is mapped within the project footprint at the Federal Life Insurance Company property located

northeast of the Deerfield Road and Milwaukee Avenue intersection. The Village of Riverwoods has confirmed that the well within the project footprint at this location has been sealed and is “inactive”.

This project will not create any new potential “routes” (i.e., dry wells, borrow pits) for groundwater pollution or any new potential “sources” (i.e., bulk road oil or deicing salt storage facilities) of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.). Accordingly, the project is not subject to compliance with the minimum setback requirements for Community Water Supply Wells or other potable water supply wells, as set forth in 415 ILCS 5/14, et seq. Since no LCDOT or IDOT facilities exist or are planned for this project, there should be no impact on the 200/400 foot setback zones around these wells as determined by the IEPA Division of Public Water Supplies.

Potential non-point source pollution as a result of this project is anticipated to be negligible. As part of this project, stormwater BMPs are proposed to minimize the potential impact of the proposed improvements on wetlands and other water resources. Additionally, direct impacts to WOUS, including wetlands, have been avoided or minimized to the extent practicable. Additional information regarding the treatment of stormwater runoff and protection of surface water resources can be found in Section 3.7.

There are expected to be minimal potential indirect impacts to groundwater because the project footprint has been minimized, stormwater storage and filtration will occur and no new routes, or Potential Routes (as defined by IDOT) for groundwater contamination are occurring as part of this project. Additionally, there are no Potential Secondary Sources (as defined by IDOT) for groundwater contamination that will be created due to this project.

3.8.3 Will the project impact karst topography?

Karst topography is characterized by numerous caves, sinkholes, fissures, and underground streams. Karst topography usually forms in regions of plentiful rainfall where bedrock consists of carbonate-rich rock (i.e., limestone, gypsum, or dolomite) that is easily dissolved. The project study area is not located within karst topography according to the IEPA Source Water Assessment and Protection Program. The nearest karst topography in Illinois is located along the Mississippi River in northwest and southwest Illinois, and at scattered locations between Dixon and Byron. No impact to karst topography is anticipated as a result of the proposed improvements.

3.8.4 Will the project impact the Mahomet Sole Source Aquifer?

The Mahomet Sole Source Aquifer is located in central Illinois. There are no Sole Source Aquifers, as designated under Section 1424(e) of the Safe Drinking Water Act, within the project study area.

3.8.5 Will the project impact seeps?

No seeps were identified during the wetland delineations completed for this project (see Section 3.10.1). No impact to seeps are anticipated as a result of the proposed improvements.

3.9 Floodplains

Floodplains are flat areas along streams and other water bodies that hold excess water after a storm. Executive Order 11988 states that impacts to floodplains should be avoided when possible.

3.9.1 How were floodplains identified in the project study area?

Based on the Flood Insurance Rate Maps (FIRM) of Lake County and Incorporated Areas (Panels 266 and 267, effective date: September 18, 2013), 100-year floodplains and a regulatory floodway are located within the project study area as shown on Figure C-2 in Appendix C. This includes the Des Plaines River floodplain covering the west end of the project with a regulatory floodway and the extension of the Des Plaines River floodplain up the Thorngate Creek waterway located between Juneberry Road and Jasmine Lane. Thorngate Creek flows south to north under Deerfield Road and then west to feed into the Des Plaines River just north of the Deerfield Road bridge. The Des Plaines River flows north to south under Deerfield Road.

3.9.2 Will the project impact any floodplains in the project study area?

Widening the Deerfield Road bridge and approaches is considered a transverse encroachment of the Des Plaines River floodplain, meaning an action within a floodplain that is perpendicular to the direction of river flow. The project would involve placing fill in the 100-year floodplain and regulatory floodway through the widening of piers and the approach roadway embankment. Impacts to the Des Plaines River 100-year floodplain and regulatory floodway are unavoidable to meet project roadway and bridge design standards.

Widening Deerfield Road and replacing the Thorngate Creek culvert is considered a transverse encroachment of the Des Plaines River floodplain at Thorngate Creek. The project would involve placing fill in the 100-year floodplain by replacing the guardrail and drop off with a traversable sloped embankment and longer culvert. The roadway profile is being raised at Thorngate Creek to accommodate a larger embedded culvert for wildlife crossing. Impacts to the Des Plaines River floodplain at Thorngate Creek are unavoidable to widen Deerfield Road, mitigate the roadside safety hazard, and provide a larger culvert opening.

3.9.3 How were impacts to floodplains minimized and mitigated?

Per IDNR-OWR requirements, fill within the Des Plaines River regulatory floodway must be compensated at a 1:1 ratio. This will be accomplished by bank excavation between the Deerfield Road and separated bike path bridges.

100-year floodplain fill will be mitigated at a 1.2:1 ratio per LCSMC requirements. There are two options for compensatory storage basins for fill within the Des Plaines River 100-year floodplain at the west end of the project. The first option is expanding the combined compensatory storage/detention basin located on the Federal Life Companies property along the north side of Deerfield Road just east of Milwaukee Avenue. The second option is expanding the storage capacity on the currently vacant property owned by the Village of Riverwoods located at the southeast corner of Deerfield Road and Milwaukee Avenue. Both properties are large enough to satisfy the compensatory storage/detention requirements, are hydraulically connected and equivalent, and have been discussed with the affected property owners. A final decision will be made during the land acquisition process depending on property owner negotiations. Either property will be maximized to provide additional detention volume within the basin for roadway improvements or potential future development.

There is one option for a compensatory storage basin for fill within the Des Plaines River 100-year floodplain near the middle of the project at the Thorngate Creek crossing. A proposed compensatory storage basin is located on the northeast (downstream) side of the Thorngate Creek crossing and has been discussed with the property owner to minimize property, tree, and wetland impacts. The provided 100-year floodplain and regulatory floodway mitigation is summarized in Table 3-16.

Table 3-16: 100-Year Floodplain and Regulatory Floodway Mitigation Summary

	Incremental Flood Stages	Fill (CY)	Required Compensatory Storage (CY) ¹	Provided Compensatory Storage (CY)
Des Plaines River Floodplain	Normal Water Level to 10-year	1,348	1,618	3,369 ^{2,3}
	10-year to 100-year	3,892	4,670	5,683 ^{2,3}
Des Plaines River Floodway	Normal Water Level to 10-year	135	135	135
	10-year to 100-year	1,201	1,201	1,201
Des Plaines River Floodplain at Thorngate Creek	Normal Water Level to 10-year	127	152	1,641
	10-year to 100-year	350	420	435

1. Required compensatory storage volumes listed at 1.2:1 ratio for floodplain, 1:1 ratio for floodway.
2. Excavation provided more than requirement to be reserved for future detention.
3. This table lists the compensatory storage volumes to be provided at the Federal Life Companies property (first option mentioned above). Compensatory storage volumes available at the Village-owned property (second option mentioned above) are slightly larger.

This project will not cause significant encroachment because there is no potential for interruption of the facility, there is no significant risk, and there are no significant adverse impacts on natural and beneficial floodplain values.

3.10 Wetlands

Wetlands are transitional areas between aquatic and terrestrial habitats where water occurs at or near the soil surface during the growing season. All wetlands are protected by the Illinois Interagency Wetlands Policy Act (IWPA) and some wetlands are protected by the CWA.

3.10.1 What wetlands were identified in the project study area?

CBBEL completed wetland field investigations on July 25 and July 28, 2016, May 25, 2017, and September 26, 2018 to determine the boundary, type, quality, and function of each identified wetland within the project study area. Wetland boundaries were delineated using the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (August 2010). Twenty-four wetland and WOUS areas, twelve detention areas, three roadside drainage ditches, one man-made rain garden were identified (see Figure C-2 in Appendix C). A PJD and BV were completed by LCSMC to determine which of the delineated wetlands and WOUS appear to be jurisdictional under Section 404 of the CWA, IWLC, or excluded under the WDO (e.g., permitted excavations/ impoundments and wetlands created incidental to construction grading) (see Appendix D-4). The USACE accompanied LCSMC on the PJD field review.

Wetlands with a Floristic Quality Index (FQI) of 20 or more or a native mean C-value of 3.5 (USACE)/4.0 (IWPA) or greater suggests that a site has evidence of native character and are considered High Quality Aquatic Resources (HQAR). Wetlands that are mapped as ADID sites or located within an INAI site are also considered HQAR by the USACE or IWPA, respectively. The five wetlands described below are considered HQAR.⁴ The majority of the remaining identified wetlands were determined to have low to fair natural area quality.

- Wetland #1 has a native FQI of 29.1 and a native mean C-value of 3.4. This wetland site is located within LCFPD property, nature preserve, INAI site, and overlaps with mapped ADID wetland. Wetland #1 is located immediately adjacent to the Des Plaines River. It also contains a forested depression on the north side of Deerfield Road that is connected by a small drainage swale to the

⁴ Wetland #30 is a man-made rain garden with a native mean C-value of 3.8. During the PJD, it was determined to be an IWLC (not regulated by the USACE) and excluded under the WDO. Therefore, Wetland #30 was not discussed with the HQAR below.

What is a wetland?
A wetland is an area of land that exhibits the following three criteria: 1) hydric soil; 2) prevalence of hydrophytic vegetation; and, 3) inundation/saturation by surface or groundwater long enough to support hydrophytic vegetation. Wetlands are a critical part of our natural environment. They reduce the impacts of floods, absorb pollutants, and improve water quality.
What is hydrophytic vegetation?
Hydrophytic vegetation includes plants that grow in water or that are adapted for life in saturated soil conditions.

Des Plaines River and adjacent overbank wetland. The wetland is dominated by a mixture of moderate quality, woody and herbaceous wetland plant species.

- Wetland #15 has a native FQI of 22.7 and a native mean C-value of 3.4. This wetland is located south of Deerfield Road within LCFPD property and consists of a large forested wetland depression. The wetland area was dominated by primarily trees in the overstory and a sparse coverage of shrubs in the mid-canopy.
- Wetland #17 has a native FQI of 19.5 and a native mean C-value of 2.9. This wetland site is located in the central portion of the project study area and to the west of Hoffman Lane. The northern portion of the delineated area is located within an INAI site. Wetland #17 is located adjacent to Thorngate Creek. The slopes of the creek contain a sparse mixture of lowland, hydrophytic, woody and herbaceous vegetation.
- Wetland #33 has a native FQI of 32.6 and a native mean C-value of 3.6. This wetland is located within an INAI site at the northeast corner of the Deerfield Road and Hoffman Lane intersection. The wetland site is characterized as a forested flatwoods wetland (see Figure 3-12). At the time of the field visit, the wetland was dominated by somewhat common woodland species, but also contained higher quality species.
- Wetland #34 has a native FQI of 11.5 and a native mean C-value of 2.4. This wetland is located within an INAI site on the north side of Deerfield Road, between Hoffman Lane and Portwine Road (immediately east of Wetland #33). At the time of the field visit, the wetland consisted of a small forested depression and was being invaded by aggressive weed species. In general, the vegetative composition of this wetland was low.

Figure 3-12: Flatwoods with dense shrub layer of common buckthorn and black ash



Photograph from INHS Botanical Survey Report, August 2018

What is a forested flatwoods wetland?

Flatwoods are a somewhat rare woodland, wetland community type that has formed in nearly level and gently undulating topography with a claypan layer underneath the topsoil which tends to prevent water from percolating downward. The soils are slowly permeable and poorly drained.

3.10.2 Will the project impact wetlands?

The proposed improvements will impact 11 wetlands totaling 0.65 acre (see Table C-12 and Figure C-13 at Appendix C). The majority of the wetland impacts affect forested wetlands. The forested wetlands within the project study area provide functions, such as: flood storage and conveyance, groundwater recharge, erosion and sediment control, pollution control, and wildlife habitat.

This project has been discussed at NEPA/404 Merger meetings with various federal and state regulatory/review agencies, including, but not limited to the USACE, USEPA, USFWS, IDNR, and IDNR-SHPO. Refer to Appendix E for meeting summaries. The USACE also participated in the PJD field review for this project.

Prior to construction, all necessary wetland permits and approvals will be obtained. The preferred alternative meets the requirements of the USACE Regional Permit Program. The proposed improvements are anticipated to have minimal individual and cumulative impacts on the aquatic environment. The cumulative wetland and WOUS impact does not exceed 1.0 acre. Except for the HQAR, the wetland impacts are based on the project's proposed right-of-way and easements and represent a worst-case scenario. Wetland impacts at HQAR were based on anticipated construction limits. Avoidance and minimization measures for wetlands throughout the project corridor will continue during the design and permitting process. It is anticipated that the impacts to federally regulated wetlands that are under USACE jurisdiction will be processed under Regional Permit #3 for Transportation Projects. A pre-application meeting will be scheduled with the USACE during Phase II to discuss the proposed improvements and confirm permit processing.

In Illinois, state activities (or activities accomplished with state funds) that impact wetlands require approval under the IWPA. Mitigation is required for all wetland impacts so that there is no overall net loss of the state's existing wetland acres or their functional value. This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetlands Action Plan since the project is on existing and contiguous alignment. IDOT has reviewed the potential wetland impacts based on the preliminary design. For additional information see Appendix D-4.

Because LCDOT is the lead agency for this project, a Lake County WDP will also be obtained from LCSMC prior to any wetland impacts. LCSMC has a representative on the project's SIG and there have also been separate meetings with LCSMC to discuss the project. Refer to Appendix E for meeting summaries. LCSMC also completed the PJD and BV for this project.

3.10.3 How were wetland impacts avoided and minimized?

Reasonable alternatives were discussed with regulatory/review agencies at NEPA/404 Merger meetings and with other project stakeholders and were evaluated based on their ability to satisfy the purpose and need for the project. Alternatives that did not satisfy the purpose and need for the project, or that would have unacceptable impacts in

comparison to other alternatives, were dismissed from further consideration as part the alternatives development and evaluation process.

The preferred alternative will update Deerfield Road to current design standards. To maintain the existing Deerfield Road aesthetics and avoid/minimize impacts to wetlands and other environmental resources to the extent practicable, the preliminary design incorporates a minimum lane width (i.e., 11-feet wide in lieu of standard 12-foot wide) with curb and gutter, minimum lane addition by adding a two-way left turn lane along Deerfield Road instead of also adding a second through lane in each direction, minimum bike path width of 8-feet instead of a standard 12-feet, minimum 5-foot separation between the bike path and roadway edge of pavement, a southern alignment shift in several locations, retaining walls in several locations, minimum slope embankment (3H:1V), and a longitudinal box culvert located within existing Deerfield Road right-of-way between Hoffman Lane and Thorngate Creek in lieu of a larger conveyance ditch. Several of the wetlands that were delineated along the project corridor are being avoided in their entirety. However, there are a number of delineated wetlands (including the HQAR) located within the existing right-of-way. The proposed improvements would take place along the existing Deerfield Road alignment. Due to the close proximity of the wetlands to the existing edge of pavement, the adjacent land use, engineering constraints, detention and compensatory storage needs, and the need to maintain proper site drainage and treat stormwater runoff, all wetland impacts could not be avoided.

Executive Order No. 11990 (EO 11990) states that the agency "...shall provide leadership and shall take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities." Additionally, pursuant to EO 11990, new construction should not take place in wetlands when there is a practicable alternative and all practicable measures to minimize harm should be taken.

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

3.10.4 How will mitigation for wetland loss be accomplished?

The preferred method of mitigation for the 0.65 acre of wetland impact at a 1.5:1 replacement ratio (or a 5.5:1 replacement ratio for impacts to wetlands with an FQI of 20 or more, or presence of an INAI site – see Table C-12 in Appendix C) is to purchase up to 1.74 acres of credit at a USACE, IDNR, and LCSMC

When does the IWPA require a mitigation ratio of 5.5:1?
<p>The IWPA requires a mitigation ratio of 5.5:1 for impacts to wetlands with at least one of the following situations present:</p> <ul style="list-style-type: none"> • Presence of a state or federally listed threatened or endangered species; • Presence of essential habitat of a state or federally listed threatened or endangered species; • Presence of an INAI site; or • Wetlands with a native FQI of 20 or more or a native mean C-value of 4.0 or greater.

approved wetland mitigation bank located offsite, but within the same basin as the project (i.e., the Des Plaines River drainage basin). The proposal that will be presented to the regulatory agencies during permitting is to provide the necessary wetland mitigation credit at the Buffalo Creek Forest Preserve Wetland Mitigation Bank in Long Grove, Illinois. Wetland banking will be the first method of mitigation considered during final design and permitting. For additional information see Appendix D-4.

3.11 Special Waste

In accordance with Section 20-12 (*Special Waste Procedures*) of the *Bureau of Local Roads and Streets Manual*, CBBEL completed a special waste screen for the project study area on September 22, 2016. As a result of the special waste screen, it was determined that a Preliminary Environmental Site Assessment (PESA) would be required for the project. IDOT is responsible for the PESA prepared for the state road portion of the project, and the local public agency (LPA) is responsible for the PESA prepared for the non-state road portion of the project. Two PESAs were prepared for the project study area. Under the direction of IDOT, one PESA was prepared by the Illinois State Geological Survey (ISGS) for the Milwaukee Avenue portion of the project study area, dated February 27, 2018. Milwaukee Avenue is under state jurisdiction and this portion of the project study area affects state right-of-way. A second PESA, dated July 24, 2017, was prepared by CBBEL (on behalf of the LPA) for the remainder of the project study area. The cover memo for each PESA is included in Appendix D-5.

3.11.1 Will the project involve any sites affected by special waste?

The PESA prepared by ISGS lists thirteen sites that were determined to contain Recognized Environmental Conditions (RECs) along the Milwaukee Avenue portion of the project study area (see Figure C-2 in Appendix C). These sites include gas stations and other commercial properties, medical buildings, storage facilities, vacant land, a creek, and office buildings (see Figure 3-13).

The thirteen sites with RECs identified by ISGS included the following conditions:

- evidence of chemical use (or former use) (at 6 REC sites);
- potential chemical use (or former use) (at 5 REC sites);
- potential drums (at 2 REC sites);
- former dumping (at 1 REC site);
- unknown fill (at 2 REC sites);
- Highway Authority Agreement (HAA) (at 1 REC site);

What is a Recognized Environmental Condition?
<p>A Recognized Environmental Condition (REC) indicates the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property under conditions that indicate an existing release, a past release, or a material threat of a future release into structures on the property or into the environment.</p>

- presence on the IEPA Bureau of Land (BOL) list (at 1 REC site);
- potential or former monitoring wells (at 6 REC sites);
- impacted soil and/or groundwater (at 6 REC sites);
- spills (at 2 REC sites);
- impacted surface water (at 1 REC site);
- former or potential underground storage tanks (USTs) (at 3 REC sites);
- USTs with documented releases (at 1 REC site);
- volatile organic compounds (VOCs) (at 1 REC site); and,
- VOCs, semi-volatile organic compounds (SVOCs), and metals (at 2 REC sites).

Figure 3-13: REC site located at southeast corner of Milwaukee Avenue / Deerfield Road



Photograph by CBBEL, July 2016

The most common conditions included REC sites with evidence of chemical use (or former use); potential or former monitoring wells; and impacted soil and/or groundwater.

The PESA prepared by CBBEL for the local roads portion of the project study area identified five sites with RECs and/or regulatory database information, including the following conditions (see Figure C-2 in Appendix C):

- previous hazardous materials incident(s) (at 3 REC sites);
- record of leaking underground storage tank (LUST) (at 3 REC sites); and,
- the recorded presence of a UST (at 4 REC sites).

The most common condition included REC sites with the recorded presence of a UST.

Construction of the proposed improvements will require right-of-way acquisition and easements. No building demolition is expected. Further studies, including a Preliminary Site Investigation (PSI) will be performed if the project requires land acquisition, easements, or excavation (including subsurface utility relocation) on or adjacent to a property with RECs. A PSI is performed to determine the nature and extent of contamination. It is the responsibility of Phase II to determine if any of the sites with RECs or right-of-way adjacent to the sites with RECs will be impacted with the proposed work and/or if any right-of-way will be required at any of the REC locations.

Special waste issues that may arise in the construction phase of the project will be managed in accordance with the IDOT *“Standard Specifications for Road and Bridge Construction”* and *“Supplemental Specifications and Recurring Special Provisions.”*

3.12 Special Lands

“Special lands” include state designated lands and properties that were acquired or developed with the assistance of IDNR administered grant funds. Types of special lands are discussed in more detail below.

3.12.1 Will the proposed improvements involve Section 6(f) properties?

Section 6(f) of the Land and Water Conservation (LAWCON) Fund Act requires that any property acquired or developed with the assistance of LAWCON funding be used for public outdoor recreation unless otherwise approved by the NPS. In Illinois, LAWCON funding is administered by the IDNR. Based on coordination with IDNR and the LCFPD, LAWCON funding has not been used for the acquisition or development of any land within the project corridor. However, a portion of the Des Plaines River Trail (DPRT) near its northern terminus used LAWCON funds.

The DPRT crosses under Deerfield Road near the western end of the project (see Figure 3-14 and Figure C-2 in Appendix C). The DPRT originates near Russel Road in Wadsworth, Illinois, and follows the Des Plaines River south for nearly the entire length of Lake County (i.e., 31.4 miles) to Lake Cook Road where it connects to the Cook County Forest Preserve Trail system and continues south for another 20 plus miles.

As part of the proposed project, periodic temporary daytime closures of the DPRT within the south right-of-way of Deerfield Road will be required for construction access and drainage improvements (see Section 3.13). At this location, the DPRT is managed by the LCFPD. The segment of the DPRT that crosses the project corridor was not acquired or developed using LAWCON funds. The proposed improvements will not result in a conversion of land to a non-recreational use. Improvements are being coordinated with the LCFPD. No impacts to Section 6(f) lands are anticipated as part of proposed improvements.

What grants are administered by the IDNR?

A list of grants administered by the IDNR can be found at:
<https://www.dnr.illinois.gov/grants/Documents/IDNRGrantOpportunitiesListing.pdf>

Figure 3-14: DPRT looking north at the Deerfield Road crossing



Photograph by CBBEL, November 2018

3.12.2 Will the proposed improvements involve Open Space Lands Acquisition and Development (OSLAD) properties or other properties that have received IDNR administered grant funds?

Open Space Lands Acquisition and Development (OSLAD) is a State-funded grant program with essentially the same compliance procedures as required for the LAWCON Section 6(f) grant program. However, because the OSLAD program is State-funded, concurrence of the NPS is not required for proposed conversion of OSLAD-assisted lands to other than public outdoor recreational use. Based on coordination with IDNR and LCFPD, there have been numerous grants over the years for the development of the DPRT, including, but not limited to OSLAD and the Illinois Bicycle Path Grant. However, the segment of the DPRT that crosses under Deerfield Road at the project corridor was not acquired or developed using OSLAD or other IDNR administered grant funds. No OSLAD or other IDNR administered grant funded parcels are known to be located within the project corridor or will be impacted by the proposed improvements.

3.12.3 Are there any state designated lands in the project study area?

State designated lands include INAI sites, Land and Water Reserves, Natural Heritage Landmarks, and Nature Preserves. The Illinois Natural Areas Preservation Act sets the criteria for these land designations to help protect Illinois' sensitive natural resources. The following state designated lands are located within one mile of the project study area: the Buffalo Grove Prairie INAI site, the Edward L. Ryerson Conservation Area INAI site, the Edward L. Ryerson Nature Preserve, the Herrmann Wildflower Farm Addition Nature Preserve Buffer, and the Herrmann's Woods INAI site. Of these five state designated land sites, four of them are located immediately adjacent to the north side of the proposed Deerfield Road improvements (see Figure C-2 in Appendix C). The Edward L. Ryerson Nature Preserve and INAI site are located adjacent to the Des Plaines River crossing at Deerfield Road. Separately located further east, at the northwest corner of Deerfield Road and Portwine Road, is the Herrmann Wildflower Farm Addition Nature Preserve Buffer and INAI site. Under Illinois law, a dedicated nature preserve buffer has similar status and protection as a nature preserve. The Illinois Natural Heritage Database does not include any records of Land and Water Reserves or Natural Heritage Landmarks within one mile of project study area.

Table 3-17 below provides a summary of the state designated lands located adjacent to the project study area.

Table 3-17: State Designated Land Summary

Site Name	Size (acres)	Ownership (Public or Private)	Basis for Significance
Edward L. Ryerson Nature Preserve (#NP040)	278.9	Public	See INAI #1007 below
Edward L. Ryerson Conservation Area INAI (#1007)	378.0	Public and Private	High-quality natural communities, including mesic floodplain forest, mesic and dry-mesic forest, and northern flatwoods; Recorded presence of a number of state-listed threatened and endangered species; State-dedicated nature preserve
Herrmann Wildflower Farm Addition Nature Preserve Buffer	9.4	Private	See INAI #0664 below
Herrmann’s Woods INAI (#0664)	22.2	Private	High-quality natural communities; State-dedicated nature preserve buffer

3.12.4 Will the project affect any state designated lands?

Based on preliminary engineering, impacts to the Buffalo Grove Prairie INAI site, the Edward L. Ryerson Conservation Area INAI site, the Edward L. Ryerson Nature Preserve, and the Herrmann Wildflower Farm Addition Nature Preserve Buffer will be avoided (i.e., proposed improvements are limited to existing right-of-way areas adjacent the state designated lands). A small impact within a privately-owned portion of the Herrmann’s Woods INAI site located at the northeast corner of the Deerfield Road and Hoffman Lane intersection will be necessary to complete drainage improvements. At the street corner, a temporary easement of 141 square feet is required for culvert installation/ construction activities and to re-establish existing drainage patterns. A permanent easement of 200 square feet is necessary for future anticipated culvert maintenance. At the intersection, the existing narrow right-of-way and the location of the existing culverts prohibits INAI site avoidance (see Figure 3-15). The distance from the existing edge of pavement to the existing right-of-way varies, but it gets as close as

approximately 5 feet and one of the existing culverts is located immediately adjacent to the perimeter of the INAI site. Any drainage improvements (including removal of the existing culvert) at this intersection as part of the proposed improvements would impact the INAI site.

Herrmann’s Woods (INAI# 0664) is a Category I (high quality natural community) and III (associated with a state-dedicated Nature Preserve) INAI site. Based on the INHS botanical surveys completed for this project, the high-quality natural community does not extend into the project study area.

Figure 3-15: INAI site at the northeast corner of Deerfield Road and Hoffman Lane – showing limited right-of-way



Photograph by CBBEL, November 2018

3.12.5 How were state designated lands avoided or impacts minimized?

Consultation for the project with respect to state designated lands was initiated with the IDNR through EcoCAT on September 11, 2018 and was updated on January 8, 2020. This project was also coordinated with the Illinois Nature Preserves Commission, LCFPD, and various other stakeholders (see Chapter 4.0 and Appendix E). Avoidance and minimization of impacts to state designated lands located immediately adjacent to the proposed improvements was achieved through the alternatives development process (Chapter 2.0 and Appendix B) and through the use of retaining walls, minimizing lane widths to 11-feet instead of a standard 12-feet, minimizing additional pavement area by adding a two-way left turn lane only instead of also adding a second travel lane in each direction through a majority of the Deerfield Road corridor, and a slight southern alignment shift.

In a letter dated January 22, 2020, the IDNR determined that impacts to the Buffalo Grove Prairie INAI site are unlikely. IDNR also provided the following recommendations to avoid or minimize impacts to the state designated lands located adjacent to the proposed improvements:

Edward L. Ryerson Nature Preserve and Edward L. Ryerson Conservation Area INAI

- Install fencing and signage to clearly delineate the boundaries of the Edward L. Ryerson Nature Preserve to ensure no disturbances occur within the Nature Preserve.
- Avoid parking and staging in areas adjacent to the Nature Preserve.
- Wash equipment before entering the work site next to the Edward L. Ryerson Nature Preserve and INAI site to prevent the transfer of non-native and invasive species into the Nature Preserve.
- Implement and properly maintain soil erosion and sediment control BMPs as required by the NPDES Permit No. ILR10 SWPPP.
- To the extent practicable, avoid temporary and permanent lighting near the boundary of the Edward L. Ryerson Nature Preserve to minimize adverse effects to nocturnal wildlife and to help preserve the integrity of the Nature Preserve. If temporary or permanent lighting is required, implement the following:
 - All lighting should be fully shielded fixtures that emit no light upward.
 - Only “warm-white” or filtered LEDs (CCT <3,000 K; S/P ratio <1.2)⁵ should be used to minimize blue emission.
 - Only light the exact space with the amount (lumens) needed to meet highway safety requirements.

⁵ LED = Light-Emitting Diode; CCT = Correlated Color Temperature; K = degrees Kelvin; S/P ratio = scotopic/photopic ratio

- If LEDs are to be used, avoid over-lighting based on the higher luminous efficiency of LEDs.

Herrmann's Woods INAI

- Clean all equipment (including, but not limited to: heavy machinery, hand tools, and boots) of all soil and debris prior to entering the INAI site.
- Treat any remaining stump/root complexes of any invasive species that are cleared (e.g., black locust, honeysuckle species, buckthorn, autumn olive) with appropriate herbicide(s) to avoid re-sprouting.
- Upon completion of construction disturbance to the INAI site, re-plant disturbed soil areas only with vegetation native to Lake County, Illinois.

Note: The above practices will be required to promote the integrity of the INAI site and to minimize the establishment of new invasive species in the area.

These recommendations have been incorporated into the project commitments at Section 3.16. In a letter dated January 22, 2020, IDNR closed consultation for this project (see Appendix D-3).

3.13 Section 4(f)

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (23 CFR 774) protects historic sites and publicly owned parks, recreational areas, and wildlife and waterfowl refuges.

3.13.1 Are there any Section 4(f) properties located in the project study area?

Within the project study area there are a number of Section 4(f) resources, including: Edward L. Ryerson Conservation Area and NRHP Historic District (LCFPD), Cahokia Flatwoods Forest Preserve (LCFPD), DPRT (LCFPD), the Des Plaines River Water Trail, Woodland Preserve (Village of Riverwoods), and Deerfield Golf Club and Learning Center (Deerfield Park District) (see Figure C-2 in Appendix C). In addition, nine architectural resources within or immediately adjacent to the project study area warrant consideration for listing on the NRHP (see Section 3.3).

3.13.2 Will any land from the Section 4(f) properties be needed for the project (either temporarily or permanently)?

Based on preliminary design, property acquisition (including temporary and permanent easements) from the Section 4(f) properties will not be needed for the project, except as described below.

The proposed project will require a temporary easement of 0.32 acre at the Cahokia Flatwoods Forest Preserve located adjacent to the south side of Deerfield Road to complete the following activities (see Appendix D-6):

- Construction access to widen the existing Deerfield Road bridge over the Des Plaines River - The construction access would take place at an existing LCFPD driveway and access road to minimize tree/brush removal and other potential impacts to forest preserve property (see Figure 3-16). The existing driveway connects the DPRT with the existing LCDOT shared use path (located parallel to the south side of Deerfield Road). The existing driveway would be replaced as part of the proposed improvements.

Figure 3-16: Access road at Cahokia Flatwoods Forest Preserve looking southeast towards the DPRT



Photograph by CBBEL, November 2018

- In-stream construction to widen the existing Deerfield Road bridge over the Des Plaines River - Two existing piers located in the Des Plaines River would be extended to the south to accommodate the bridge widening. The bridge widening will take place within existing Deerfield Road right-of-way. Approximately 0.09 acre of temporary fill is anticipated to complete the in-stream construction. The Des Plaines River Water Trail and in-stream construction methods are discussed in more detail in Section 3.7.
- Access and replace/upgrade two existing 15-inch corrugated metal pipes that convey stormwater runoff under the DPRT - The two existing metal pipes are located within the existing LCDOT right-of-way.

No permanent adverse physical impacts to the Section 4(f) resources are anticipated. The proposed Deerfield Road improvements will not interfere with the activities, features, or attributes of the adjacent Section 4(f) resources. Cahokia Flatwoods Forest Preserve is predominantly undeveloped. The temporary easement will be located along an existing access route at the north end of the preserve.

An existing access driveway is located at the northwest corner of Cahokia Flatwoods Forest Preserve. The access driveway will be accessible to connect with the existing LCDOT shared-use path (located on the south side of Deerfield Road) and the DPRT with periodic closures during construction. Detours will be posted for users during the anticipated short-term temporary closures of the DPRT for culvert replacement and other construction activities. The anticipated temporary closure of the DPRT would be located within the existing Deerfield Road right-of-way at approximately the same location as the temporary closure that took place during construction of the LCDOT shared-use path bridge. Construction of the LCDOT shared-use path and shared-use

path bridge was completed in 2010 and was designed with consideration of the future Deerfield Road improvements.

It is anticipated that causeways and cofferdams will likely be needed within the Des Plaines River to complete the Deerfield Road bridge widening. Flow within the Des Plaines River will be maintained during in-stream construction so that recreational activities (e.g., canoeing) are not prohibited. The water trail is anticipated to remain open during construction activities so that canoeing is not disrupted.

Temporary impact areas at the Cahokia Flatwoods Forest Preserve, the DPRT, and the Des Plaines River will be fully restored. Restoration of forest preserve property will be coordinated with the LCFPD. Disturbed areas within the temporary easement will be returned to existing contours and stabilized with vegetation approved by the LCFPD. The Des Plaines River is jurisdictional under Section 404 of the CWA. A Section 404 CWA Permit will be obtained from the USACE during Phase II for the bridge widening and in-stream construction. Restoration of the Des Plaines River will be completed in accordance with Section 404 CWA Permit requirements.

Based on coordination with FHWA and IDOT Central Bureau of Local Roads and Streets (CBLRS), the proposed Deerfield Road improvements are being considered a temporary occupancy of a Section 4(f) resource and is “so minimal as to not constitute a use within the meaning of Section 4(f).” The Section 4(f) Temporary Occupancy Evaluation (per 23 CFR 774.13(d)) completed for the Deerfield Road improvements is included in Appendix D-6.

The LCFPD is the Official with Jurisdiction over the Section 4(f) resources adjacent to the proposed Deerfield Road improvements. The LCFPD has a representative on the project’s SIG and there have also been three separate meetings with the LCFPD to gather their input on the project (see Chapter 4.0 and Appendix E).

LCDOT has coordinated with the LCFPD regarding the temporary occupancy of the Section 4(f) resources and has provided the LCFPD with the opportunity to review the Section 4(f) Temporary Occupancy Evaluation document prepared for the proposed improvements. Following the public hearing, LCDOT will seek concurrence from the LCFPD that the conditions of 23 CFR 774.13(d) have been met and that the temporary occupancy of the Section 4(f) resources by LCDOT is so minimal as to not constitute a “use” within the meaning of Section 4(f).

What is meant by a “use” of a Section 4(f) property?

Generally speaking, a “use” of a Section 4(f) property occurs when:

- Land is permanently incorporated into a transportation facility;
- A temporary occupancy of land is adverse in terms of preservation; or,
- There is a constructive use of the property.

A “constructive use” occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired.

3.14 Indirect and Cumulative Impacts

The sections above primarily consider the direct impacts of the proposed improvements. Direct impacts are caused by the construction of the project. However, impacts not directly related to the construction of the project, such as indirect and cumulative impacts, may also occur.

3.14.1 Will the proposed improvements result in indirect impacts?

Indirect impacts are caused by a project, but they occur later in time or in an area that is farther away from the project. Indirect impacts are “reasonably foreseeable,” or highly likely to occur after the project is built.

Based on existing traffic data, westbound Deerfield Road is extremely congested near the Milwaukee Avenue intersection in the afternoon. This congestion likely causes many drivers to avoid the roadway. The proposed improvements should relieve congestion and likely increase the use of Deerfield Road. In turn, this could increase the value of businesses near the Milwaukee Avenue intersection. However, the additional free flow traffic in the afternoon hours could also potentially result in deer-vehicle collisions (especially during October through December). Enforcement of the posted speed limit and driver vigilance would minimize the risk.

The majority of the property located in the vicinity of the proposed improvements is built-out or includes preserved open space. There is relatively little undeveloped land located near the project corridor. The existing land use is predominantly single family residential from the Des Plaines River to Saunders/Riverwoods Road with some open space, including forest preserves. West of the Des Plaines River and east of Saunders/Riverwoods Road, the land use is predominately retail/commercial and office/research parks with some open space. There are a few vacant parcels near the east and west project limits.

Over time, it is likely that nearby vacant parcels will be developed, and existing properties will be re-developed. Based on a review of local zoning maps and comprehensive plans, future land use near the project is anticipated to generally remain the same. However, retail/commercial is anticipated to expand along Milwaukee Avenue and additional office/research park development is anticipated along Saunders Road.

3.14.2 Will the proposed improvements result in cumulative impacts?

Cumulative socio-economic or environmental impacts can occur when the impacts from one project are added to the impacts from other past, present, and likely-to-occur projects. When added together, minor impacts from a number of individual and relatively small projects could result in a greater impact to the community and natural resources.

The proposed Deerfield Road improvements and development potentially induced by this project will be subject to applicable ordinance requirements, such as the Lake County WDO and municipal ordinances. The WDO requires that the developer incorporate BMPs into their site design to minimize increases in runoff rates, volumes, and pollutant loads. Preservation of natural resource features (e.g., wetlands, floodplains, and woodlands) on each development site must also be considered during project design. In accordance with these ordinances, potential cumulative impacts to natural resources are anticipated to be minimal.

LCSMC has taken the lead to prepare a Des Plaines River Watershed-Based Plan (dated June 2018/adopted November 2018). LCDOT contributed to the development of the watershed-based plan. This “umbrella” plan updates or completes watershed-based planning for several sub watersheds within the larger Des Plaines River basin, including the subwatershed where the proposed Deerfield Road improvements would occur. The purpose of this effort was to develop a plan to minimize water pollution and flood damage; restore lakes, streams, and wetlands in the watershed to a healthy condition; and provide opportunities for watershed stakeholders to have a role in the process. The watershed-based plan identifies a strategy and guides local stakeholders to implement water quality BMPs that are both cost effective and focused on treating surface water runoff and stormwater. Implementation of the watershed-based plan is anticipated to reduce potential cumulative environmental impacts.

3.15 Irretrievable and Irreplaceable Resources

Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services which are anticipated to outweigh the commitment of these resources.

3.16 Environmental Commitments

The following mitigation measures and commitments will be implemented during future phases of the project to minimize environmental impacts associated with the proposed improvements (See Table 3-18):

Table 3-18: Mitigation Measures and Commitments

Description	Responsible Party	Commitment To
Noise abatement measures are likely to be implemented at the southwest corner of the Deerfield Road and Saunders Road intersection. A final decision on noise abatement will not be made until the project's final design is approved and the public involvement process is complete.	LCDOT	IDOT
During the design phase of the project, additional tree impact evaluation will be completed as necessary to avoid/minimize impacts, and a tree mitigation plan will be developed. Impacted trees will be replaced where practicable and feasible. No varieties of ash trees will be planted as replacement trees.	LCDOT	Village of Riverwoods
An ITA shall be obtained from the IDNR for potential impacts to the blackchin shiner prior to the project going to Letting.	LCDOT	IDNR
No tree clearing shall occur between April 1 and September 30 to avoid impacts to the northern long-eared bat.	LCDOT	IDNR and USFWS
Accommodations for the movement of small to medium size terrestrial wildlife will be provided at the Thorngate Creek and Des Plaines River crossings, including the evaluation of a potential wildlife crossing between Wetland #1 and Wetland #15. The design, coordination, and final decision regarding wildlife crossings will continue during Phase II with final engineering and permitting.	LCDOT	Village of Riverwoods and LCSPD
Compensatory storage volume for fill placed in the regulatory floodway and 100-year floodplain of the Des Plaines River will be provided in proposed compensatory storage basins located west of the river and east of Milwaukee Avenue. Compensatory storage volume for fill placed in the 100-year floodplain of Thorngate Creek will be provided in a proposed compensatory storage basin located on the northeast (downstream) side of the Thorngate Creek crossing at Deerfield Road.	LCDOT	IDNR-OWR, IDOT, and LCSMC
Compensation for Wetland/WOUS impacts will be provided in accordance with Section 404 of the CWA, IWPA, and the Lake County WDP. The preferred method of wetland/WOUS mitigation is to purchase credits at a USACE, IDNR, and LCSMC approved wetland mitigation bank located in the Des Plaines River basin. Impact minimization measures will continue during the design and permitting process.	LCDOT	USACE, IDNR, and LCSMC
During Phase II (contract plan preparation and land acquisition) it will be determined if any of the REC sites or right-of-way adjacent to the REC sites will be impacted with the proposed work and/or if any right-of-way will be required at any of these locations. A PSI will be completed, if necessary.	LCDOT	IDOT

Description	Responsible Party	Commitment To
<p>To avoid/minimize impacts to the Edward L. Ryerson Nature Preserve and the Edward L. Ryerson Conservation Area INAI site:</p> <ul style="list-style-type: none"> • Install fencing and signage to clearly delineate the boundaries of the Edward L. Ryerson Nature Preserve to ensure no disturbances occur within the Nature Preserve. • Avoid parking and staging in areas adjacent to the Nature Preserve. • Wash equipment before entering the work site next to the Edward L. Ryerson Nature Preserve and INAI site to prevent the transfer of non-native and invasive species into the Nature Preserve. • Implement and properly maintain soil erosion and sediment control BMPs as required by the NPDES Permit No. ILR10 SWPPP. • To the extent practicable, avoid temporary and permanent lighting near the boundary of the Edward L. Ryerson Nature Preserve to minimize adverse effects to nocturnal wildlife and to help preserve the integrity of the Nature Preserve. If temporary or permanent lighting is required, implement the following: <ul style="list-style-type: none"> ○ All lighting should be fully shielded fixtures that emit no light upward. ○ Only “warm-white” or filtered LEDs (CCT <3,000 K; S/P ratio <1.2) should be used to minimize blue emission. ○ Only light the exact space with the amount (lumens) needed to meet highway safety requirements. ○ If LEDs are to be used, avoid over-lighting based on the higher luminous efficiency of LEDs. 	LCDOT	IDNR
<p>To promote the integrity of the Herrmann’s Woods INAI site and minimize the establishment of new invasive species in the area:</p> <ul style="list-style-type: none"> • The Contractor will be required to clean all equipment (including, but not limited to: heavy machinery, hand tools, and boots) of all soil and debris prior to entering the INAI site. • The Contractor will be required to treat any remaining stump/root complexes of any invasive species that are cleared (e.g., black locust, honeysuckle species, buckthorn, autumn olive) with appropriate herbicide(s) to avoid re-sprouting. • Upon completion of construction disturbance to the INAI site, the area will be replanted only with vegetation native to Lake County, Illinois. 	LCDOT	IDNR
<p>Section 4(f) resources affected by the temporary occupancy (i.e., the Cahokia Flatwoods Forest Preserve, the DPRT, and the Des Plaines River) will be fully restored. Restoration of forest preserve property will be coordinated with the LCFPD. Restoration of the Des Plaines River will be completed in accordance with Section 404 CWA Permit requirements.</p>	LCDOT	LCFPD and USACE

3.17 Permits/Certifications Required

The following permits and certifications will be required from the identified resource/regulatory agencies for this project:

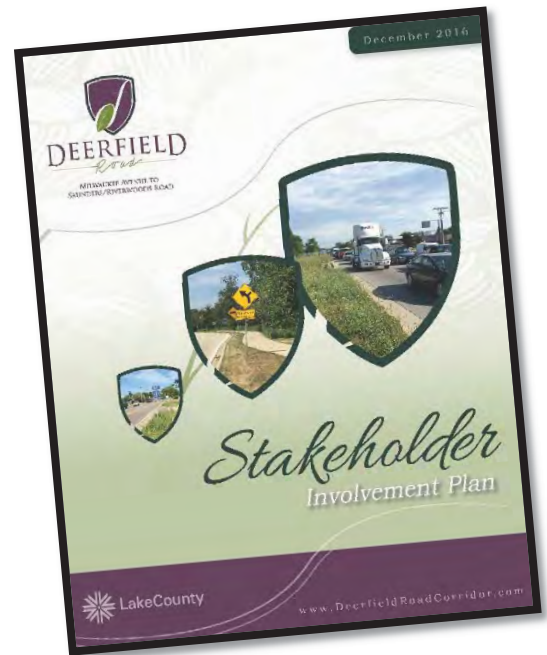
- ITA from IDNR (see Section 3.6.3.4)
- Section 401 CWA Water Quality Certification from IEPA (see Section 3.7.8)
- Section 402 CWA NPDES Construction Permit from IEPA (see Section 3.7.8)
- Section 404 CWA Permit from the USACE (see Sections 3.7.8 & 3.10.2)
- Floodway Construction Permit from IDNR-OWR (see Sections 3.7.8 & 3.9.3)
- IWPA approval from IDOT/IDNR (see Section 3.10.2)
- Lake County WDP from LCSMC (see Sections 3.7.8 & 3.10.2)

Additional information on these permits/certifications and affected resources can be found in Sections 3.6, 3.7, 3.9, and 3.10.

4.0 Comments and Coordination

LCDOT and IDOT provided regular opportunities for project stakeholders from the project area, local government officials, as well as state and federal agencies to participate in the Deerfield Road project through a structured coordination and communication program. The opportunity for participation was open with no persons excluded because of income, race, color, religion, national origin, sex, age, or handicap. This chapter summarizes the agency coordination and public involvement activities that occurred during project development, including the early coordination process, coordination activities with resource agency officials, and meetings with area officials, interested groups, and the public.

A Stakeholder Involvement Plan (SIP) was prepared which provided for a range of public involvement opportunities for this project. The SIP was used as a “blueprint” for defining methods and tools to educate project stakeholders and provide opportunities for stakeholder input as part of the project decision-making process. The SIP also established the Project Study Team that was made up of representatives from LCDOT and the project consultants. The Project Study Team was responsible for the ultimate project decisions made at each project development milestone based on stakeholder input as well as other factors such as transportation performance, design considerations, and environmental impacts. A copy of the SIP is available on the project website (www.DeerfieldRoadCorridor.com).



A detailed summary of coordination efforts, key issues, comments, and pertinent information obtained through the agency coordination and public involvement process is provided Appendix E.

5.0 Next Steps

Following the release of the Environmental Assessment (EA) for public review and comment, a public hearing will be held during the public comment period. The EA review and comment period will be a minimum of 30 days. The project team will then address comments and make any necessary changes to the proposed improvement and EA. To document the changes following the EA review, comment period and the public hearing, an Errata to the EA document will be prepared. Specifically, the EA Errata will:

- Reflect changes to the proposed improvement or mitigation measures resulting from comments received on the EA or at the public hearing, if one is held, and the effect of the changes;
- Include any necessary findings, agreements, or determinations for compliance with wetland requirements (see Section 3.10), historic/cultural regulations (Section 106 of the NHPA; see Section 3.3), and public lands/resources (Section 4(f)) regulations (see Section 3.13);
- Incorporate pertinent comments received on the EA and the responses to those comments;
- Include public hearing summary.

After the public comment period concludes, LCDOT and IDOT may recommend to the FHWA that a Finding of No Significant Impact (FONSI) be issued for the project. The FHWA will review the EA, comments submitted on the EA (in writing or at a public hearing or meeting), and other supporting documentation, as appropriate. If the FHWA agrees with the LCDOT and IDOT's recommendations, it will issue a separate written FONSI incorporating by reference the EA and any other appropriate environmental documents. If FHWA determines the project will have a significant impact on the environment, then an Environmental Impact Statement will be required.

APPENDIX A

DETAILED PURPOSE & NEED

DETAILED PURPOSE & NEED

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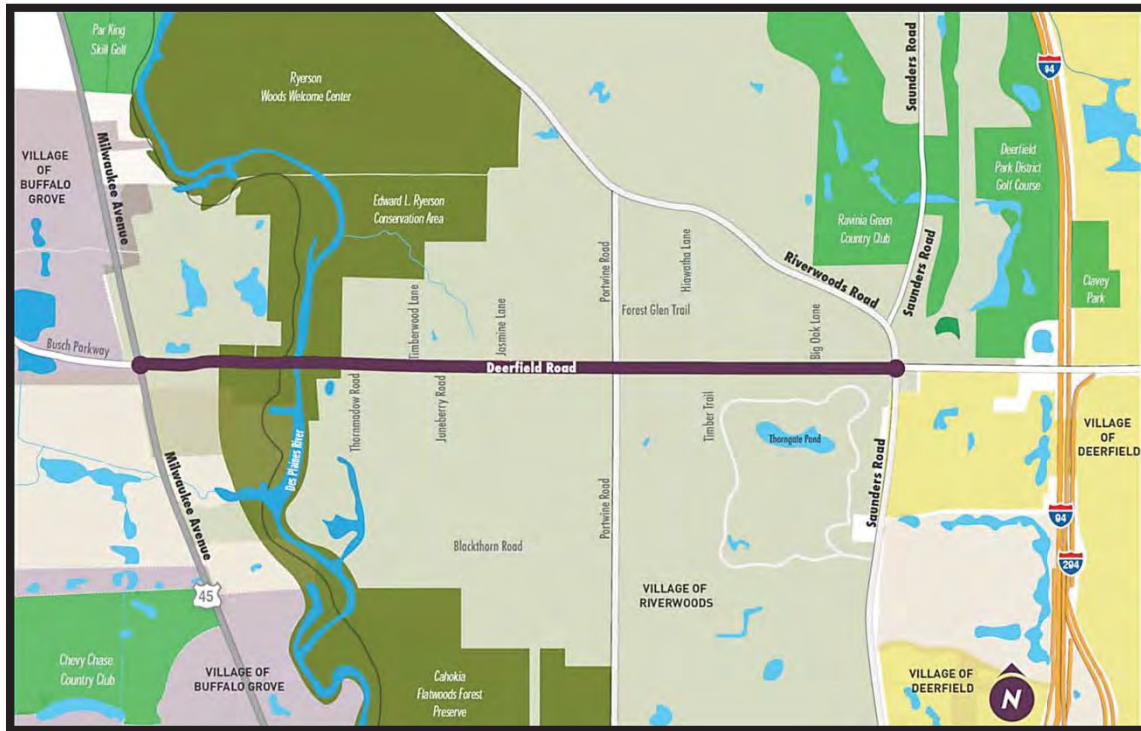
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1.0 Purpose and Need

The purpose of the project is to provide an improved transportation system to address capacity, safety, mobility, and operational deficiencies along Deerfield Road and improve non-motorized accommodations from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods Road in Lake County, Illinois (See Figure 1-1, below).

Figure 1-1: Location Map



1.1 Where is the Project Located?

Deerfield Road is County Highway 11 (CH 11) from IL 83 to Wilmot Road, a distance of approximately 5.7 miles. The project location is along Deerfield Road with a western terminus at Milwaukee Avenue and an eastern terminus at Saunders/ Riverwoods Road, a distance of approximately 2.0 miles. Both of the termini intersections are signalized. Deerfield Road is an existing two lane roadway (one 11 to 12 foot wide through lane in each direction) within the project limits typically with variable width paved or gravel shoulders and open ditch drainage as shown in Figure 1-2. The existing ROW varies between 72 feet and 100 feet wide between Milwaukee Avenue and Saunders/ Riverwoods Road. Deerfield Road is a five lane roadway (two through lanes in each direction) both west of Milwaukee Avenue and east of Saunders/ Riverwoods Road with curb and gutter. There is a partial interchange with I-94 (to/from south only) on Deerfield Road located east of Saunders/ Riverwood Road. This project has independent utility and will function without any requirements for additional improvements

elsewhere. The project will not restrict consideration of alternatives for other reasonably foreseeable transportation improvement initiatives to this facility or other adjacent facilities.

Deerfield Road lies within the municipal boundaries of the Village of Riverwoods through a majority of the corridor from Milwaukee Avenue to Saunders/ Riverwoods Road. West of Milwaukee Avenue, Deerfield Road is within the municipal boundaries of Village of Buffalo Grove. East of Saunders/ Riverwoods Road, Deerfield Road is within the Village of Deerfield.

Figure 1-2: Deerfield Road Between Thornmeadow Road and Juneberry Road Looking East



1.1.1 What is Deerfield Road’s Relationship to the Regional Transportation Network?

Deerfield Road and Saunders/ Riverwoods Road are classified as Minor Arterials and are under the jurisdiction of the Lake County Division of Transportation (LCDOT). Milwaukee Avenue is classified as an Other Principal Arterial and is under the jurisdiction of the Illinois Department of Transportation (IDOT). Milwaukee Avenue is also a Strategic Regional Arterial (SRA) roadway and is on the National Highway System (NHS), but is not a NHS Connector. These types of roadways are one step below the expressway system that typically carry both local and long distance trips, and higher amounts of truck traffic by virtue of their connection to the regional transportation system. Milwaukee Avenue is a designated Class II Truck Route. Deerfield Road also crosses Portwine Road approximately halfway through the project limits. Portwine Road is classified as a Major Collector and is under the jurisdiction of the Village of

Riverwoods. Deerfield Road, Saunders/ Riverwoods Road, and Portwine Road are not SRA roadways, on the NHS, or designated truck routes. The speed limit along Deerfield Road is 40 mph.

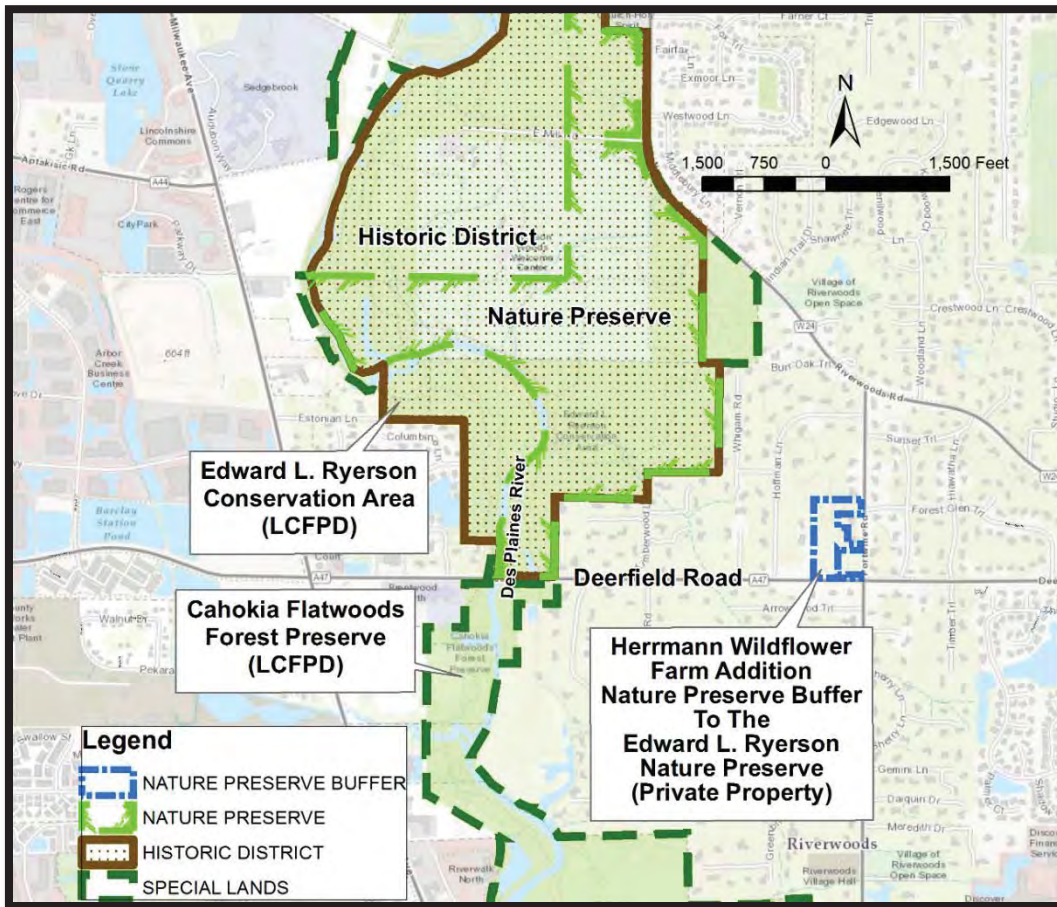
There are three signalized intersections within the project limits at Milwaukee Avenue, Portwine Road, and Saunders/ Riverwoods Road. There are 11 unsignalized intersections which are stop controlled on the cross street.

1.1.2 What is Deerfield Road's Environmental Setting?

The land use within the project area is predominantly residential with larger wooded lots from the Des Plaines River to Saunders/ Riverwoods Road. West of the Des Plaines River and east of Saunders/ Riverwoods, the land use is predominately commercial.

The Lake County Forest Preserve District (LCFPD) has two holdings adjacent to Deerfield Road near the Des Plaines River; the Edward L. Ryerson Conservation Area to the north and Cahokia Flatwoods to the south. Within the Edward L. Ryerson Conservation Area, there is a designated Illinois Nature Preserve (Edward L. Ryerson Nature Preserve, Doc. No. 1996651), and historic district listed on the National Register (Edward L. Ryerson Area Historic District, Ref. No. 201035), as shown in Figure 1-3. Separately located further east at the northwest corner of Deerfield Road and Portwine Road is the privately-owned Herrmann Wildflower Farm Addition Nature Preserve Buffer.

Figure 1-3: LCFPD Holdings Adjacent to Deerfield Road



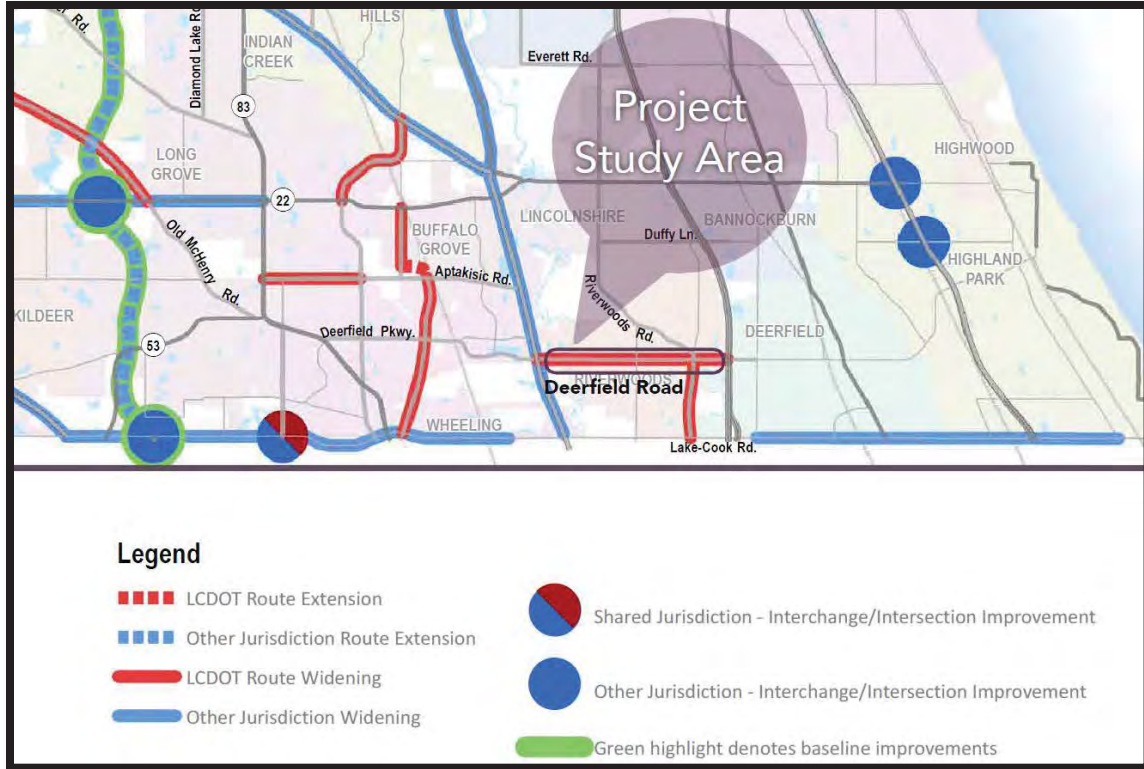
1.2 What is the Project's Background?

As previously described, Deerfield Road is a 2-lane roadway within the study area and a 5-lane roadway section east and west of the study area. Improvements to this section of Deerfield Road are being studied due to steady increases in travel demand and congestion during peak AM and PM travel times resulting from growth in population and employment in the area.

1.2.1 Regional Planning Context

LCDOT has identified Deerfield Road from Milwaukee Avenue to Saunders/ Riverwood Road in their 2040 Transportation Plan as a route widening, as shown in Figure 1-4. This project is included in the Federal Fiscal Year (FFY) 2019-2024 Transportation Improvement Program (TIP No. 10-03-0005) endorsed by the Policy Committee of the Chicago Metropolitan Agency for Planning (CMAP), the Metropolitan Planning Organization (MPO) for the region in which the project is located. The TIP number for this project is 10-03-0005, and the project has been conformed for air quality. The TIP includes funding for Phase II and ROW acquisition in FFY 2021.

Figure 1-4: LCDOT 2040 Transportation Plan



Source: LCDOT

1.2.2 How is the Region Anticipated to Grow?

CMAP prepared year 2040 population and employment projections for the northeastern Illinois region as part of the Go To 2040 comprehensive regional plans, based upon 2010 U.S. Census Bureau data and regional land use development information. The data for these projections is represented in a grid system (“zones”) throughout the region. Since municipal boundaries are irregular, they do not directly correlate to CMAP’s zone system. Therefore, CMAP’s municipal forecasts are based upon grouping the zones that have a central point within a municipality and associated planning areas. The zones that are grouped for the Village of Riverwoods versus the actual municipal boundary are shown in Figure 1-5.

Figure 1-5: CMAP Grouping of Subzones to Approximate Municipal Level for the Village of Riverwoods

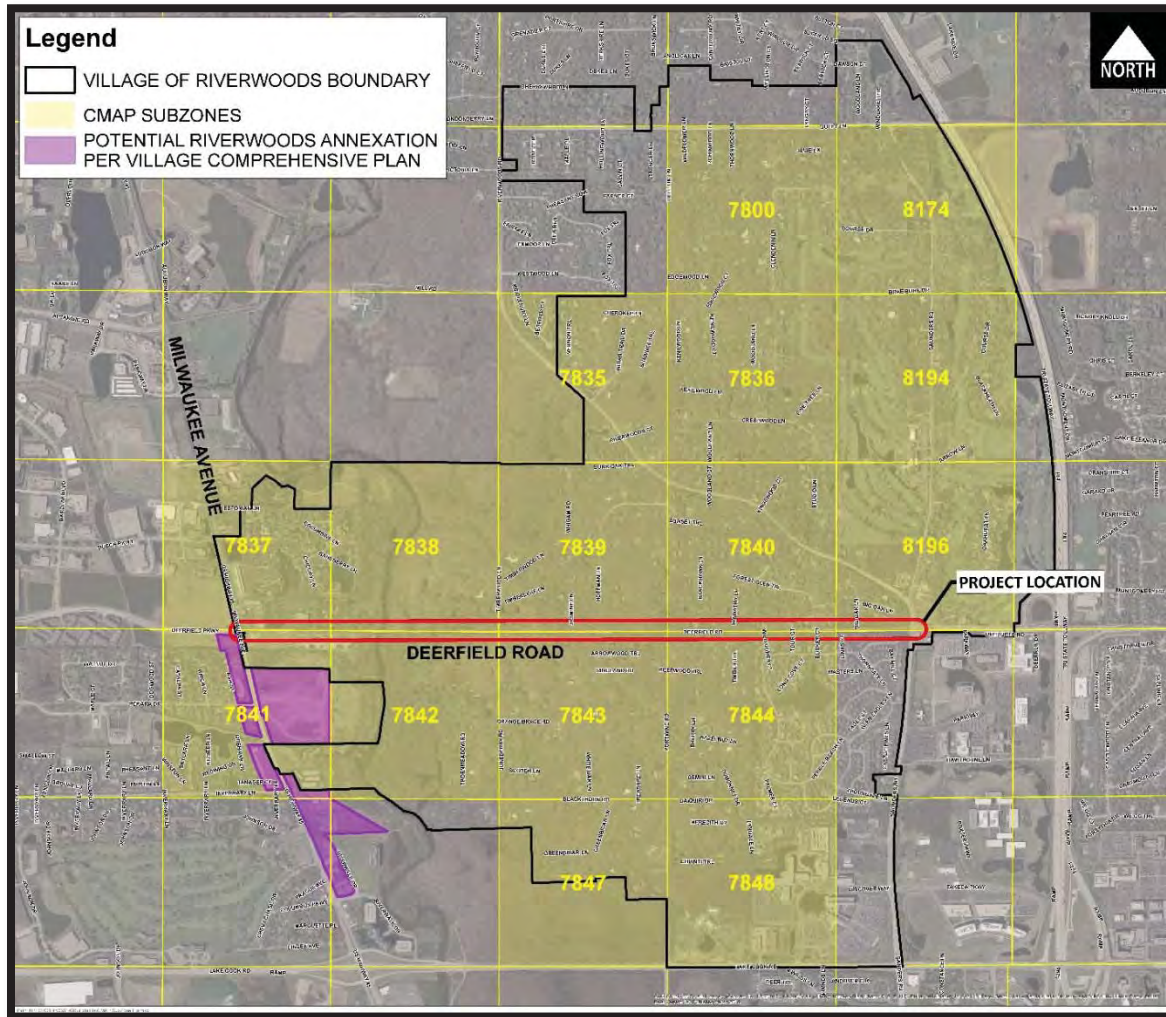


Table 1-1 shows year 2040 population and employment forecasts for Lake County and municipalities adjacent to or near the project study area.

Table 1-1: Projected Population and Employment Growth

Location/ Zone Grouping	Population Growth				Employment Growth			
	2010	2040	Growth	% growth	2010	2040	Growth	% growth
Lake County	682,753	896,341	213,588	31.3%	314,717	401,748	87,031	27.7%
Riverwoods	3,108	3,809	701	22.6%	7,370	8,798	1,428	19.4%
Buffalo Grove	42,527	50,475	7,948	18.7%	22,498	23,882	1,384	6.2%
Deerfield	19,082	25,777	6,695	35.1%	20,267	23,280	3,013	14.9%

Note: Employment data are CMAP 2010 estimates.

With respect to population and employment growth, it is the actual raw growth in persons and/or jobs that translates to trip generation. The Village of Riverwoods grouping of subzones is projected to grow by 22.6 percent (701 persons) in population and 19.4 percent (1,428 persons) in employment from the year 2010 to the year 2040. As seen in Figure 1-5, some of the subzones assigned to the Riverwoods grouping are partially outside of the Village municipal limits, which predominantly occurs along Milwaukee Avenue and includes portions of the Village of Buffalo Grove. Table 1-2 shows a comparison of the projected population growth for subzones either fully within or partially within the Riverwoods municipal boundary. The data for subzones fully within the Village of Riverwoods municipal limits may better reflect the projected population growth within the Village of Riverwoods municipal limits.

Table 1-2: Riverwoods Subzone Grouping for Projected Population Growth

Subzone	2010 Population	2040 Population	Raw Increase	% Increase
Fully within the Village	1991	2245	254	12.8%
Partially within the Village	1117	1564	447	40.0%
Total	3108	3809	701	22.6%

Although the Village of Riverwoods' population and employment are forecast to increase by 22.6 percent and 19.4 percent, respectively, the raw changes (701 persons and 1,428 persons) are modest. This is consistent with the (modest) forecasted growth in travel demand, which is further discussed in Section 1.3.1. Looking further at the Riverwoods Subzone grouping, for subzones fully within the Village municipal limits the growth decreases to 12.8 percent (254 persons) and for subzones that are partially within the Village municipal limits the growth increases to 40.0 percent (447 persons). For comparison, the percentage versus actual population growth for nearby Buffalo Grove and Deerfield, and the larger Lake County geographical area is 18.7 percent (7,948 persons), 35.1 percent (6,695 persons), and 31.3 percent (213,588 persons) respectively. For a corridor like Deerfield Road with good connectivity to the regional transportation system, the trips served can originate both locally and from adjacent areas. Based on the population and employment growth projected within Riverwoods and

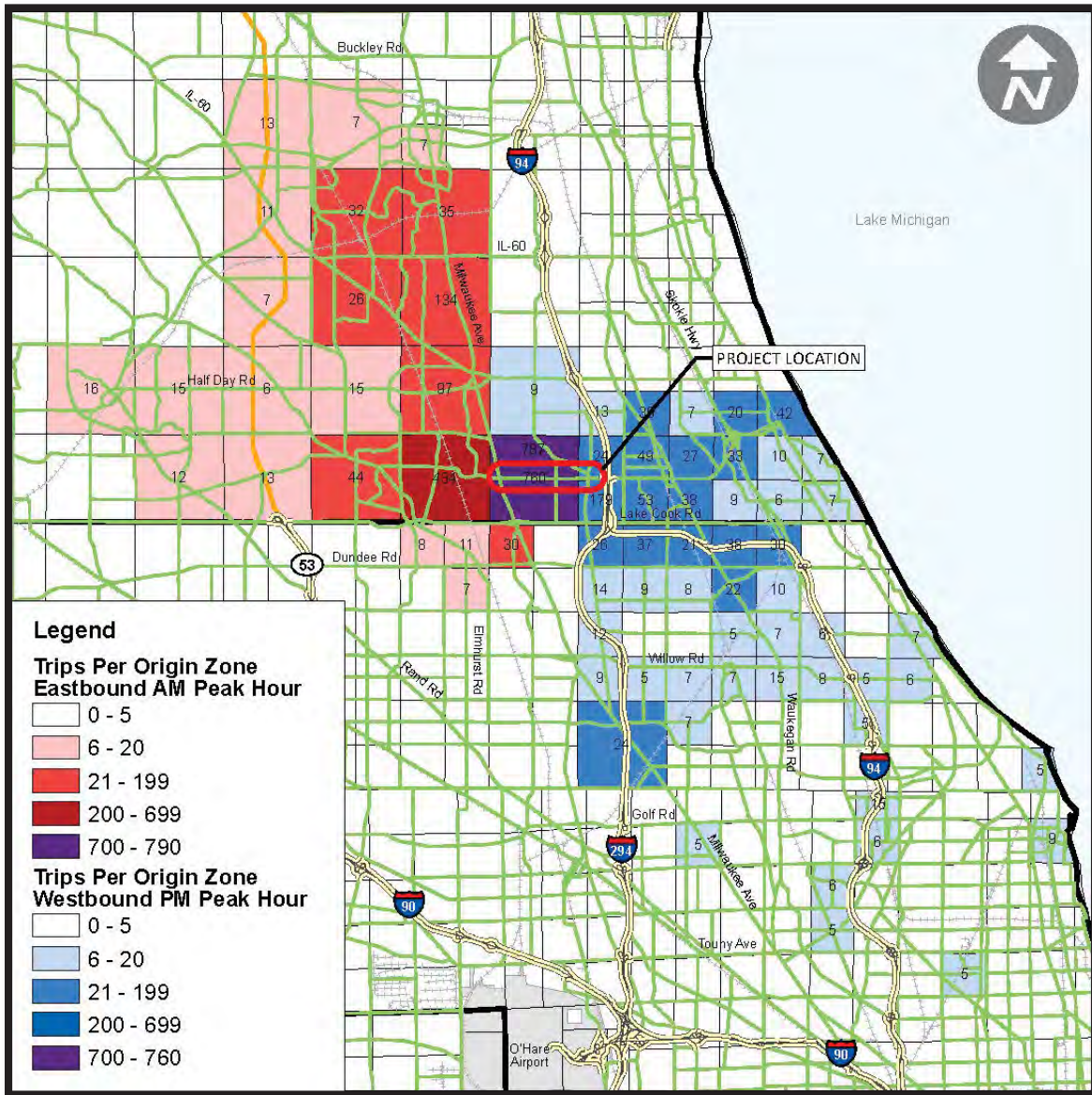
adjacent areas, and based on influences from the larger regional transportation network, travel demand is expected to increase by the year 2040.

1.2.3 How does Regional Growth Translate into Travel Demand?

Deerfield Road is an important link in both the local and regional transportation network with respect to personal travel and the delivery of goods and services. It is designated as County Highway 11 from IL 83 to Wilmot Road, with direct connection to I-94, and is classified as a minor arterial roadway. Deerfield Road also extends east of I-94 through the Village of Deerfield and City of Highland Park, with an interchange connection to US Route 41 (Skokie Highway), an SRA roadway. The roadway also serves larger population centers and connects to the arterial system to the west. This connectivity to the larger regional transportation system has an influence upon travel demand; trips are originating both locally and from adjacent areas, as shown in Figure 1-6, which specifically looks at the trips per origin subzone for eastbound AM peak hour (red) and westbound PM peak hour (blue).

Figure 1-6: CMAP Deerfield Road Trip Origin Zones

2040 No-Build Scenario AM Eastbound & PM Westbound Peak Hours



Deerfield Road is one of a few crossings of the Des Plaines River in southern Lake County, with the other crossings being Half Day Road (IL 22) 2.3 miles to the north and Lake Cook Road 1.0 mile to the south. Half Day Road and Lake Cook Road were previously widened in 2003 and 1994, respectively, and there are no plans to further widen either roadway across the Des Plaines River.

Based on increases in population and employment, as well as the local and regional trips served by Deerfield Road, traffic volumes along Deerfield Road have increased over the past several

decades, and remained steadily high since the 1990's as shown in Table 1-3. The travel trips served along Deerfield Road facilitate the movement of people, goods, and services connecting the nearby residential areas of Buffalo Grove and Riverwoods to the Buffalo Grove business park/office center northwest of the Milwaukee Avenue intersection and Deerfield corporate campuses southeast of the Saunders/Riverwoods intersection and along the Lake-Cook Road corridor, and also connection to commercial and employment areas regionally via interchanges with I-94. This has resulted in increased congestion on the roadway, and increased overall travel times.

Table 1-3: Deerfield Road Average Daily Traffic (ADT) in Vehicles per Day (VPD)

Year	ADT (vpd)
1953	1,450
1959	2,050
1963	2,350
1969	2,800
1974	6,500
1979	9,700
1983	9,500
1988	17,300
1992	18,700
1996	20,400
2000	22,000
2011	19,300
2016	19,450

Source: IDOT ADT except 2016 Traffic Count ADT

1.2.4 What Improvements Have Been Completed Recently within the Corridor?

LCDOT previously designed and constructed a separate bike path bridge over the Des Plaines River south of the existing Deerfield Road bridge structure to connect the Des Plaines River Trail (DPRT) to Thornmeadow Road, shown in Figure 1-7. That project was completed in 2010, and designed with consideration of future Deerfield Road improvements.

Figure 1-7: Deerfield Road Separated Bike Path Bridge over the Des Plaines River Looking East



In addition to the constructed bike path bridge, there are two previously approved Phase I Studies for multi-use paths along Deerfield Road, one by the Village of Riverwoods to connect the existing bike path terminus at Thornmeadow Road to Saunders Road, and the other by LCDOT to connect the existing bike path terminus at the DPRT to Milwaukee Avenue. As discussed further in Section 1.3.4, these projects are part of the Lake County 2040 Bike Plan. Further analysis of both projects will be incorporated into the Deerfield Road project to ensure the multi-use paths are designed correctly in consideration of future roadway improvements.

1.3 What is the Need for the Proposed Project?

The needs for the project include capacity, safety, mobility, non-motorized and transit connections, and Operational Deficiencies. Each of these categories is discussed in detail below.

1.3.1 What are the Capacity Needs?

Travel demand along Deerfield Road was evaluated for year 2016 and projected year 2040 conditions to determine existing and future travel performance. The 2016 traffic was obtained by actual field traffic counts in May 2016, and the 2040 traffic projections were prepared by CMAP based on the projected population and employment growth in the project area. A summary of the 2016 ADT and the projected 2040 (No-Build) ADT is included below in Table

1-4. The ADT represents the total traffic in both directions over a 24-hour period at a given location. The 2040 No-Build traffic volumes are the projected traffic volumes for the year 2040 with no improvements made to Deerfield Road. Based on the population and employment growth projected within Riverwoods and adjacent areas, and based on influences from the larger regional transportation network, the average daily traffic (ADT) volume along Deerfield Road within the project limits is projected to increase from approximately 19,550 vehicles per day (vpd) to 20,200 vpd for the year 2040 under the No-Build scenario. This is a relatively modest increase of 650 vpd (3.3%) over the next 22 years, which is consistent with the low growth projections in the area with the highest peak hour trip origins (Riverwoods), and higher growth projections in adjacent areas with lower peak hour trip origins (Buffalo Grove and Deerfield).

Table 1-4: Deerfield Road Traffic Volumes (ADT)

Location	ADT	
	2016	2040 No-Build
Deerfield Road at Milwaukee Avenue		
North Leg (Milwaukee Ave.)	39,800	40,000
South Leg (Milwaukee Ave.)	38,200	39,000
West Leg (Deerfield Rd.)	15,700	16,300
East Leg (Deerfield Rd.)	19,550	20,200
Deerfield Road at Portwine Road		
North Leg (Portwine Rd.)	1,950	2,000
South Leg (Portwine Rd.)	2,150	2,200
West Leg (Deerfield Rd.)	19,450	20,200
East Leg (Deerfield Rd.)	19,450	20,200
Deerfield Road at Saunders/ Riverwoods Road		
North Leg (Saunders/ Riverwoods Rd.)	11,150	12,600
South Leg (Saunders/ Riverwoods Rd.)	15,450	16,500
West Leg (Deerfield Rd.)	19,450	20,200
East Leg (Deerfield Rd.)	25,150	26,100

Another factor in travel performance is the mix of vehicles utilizing any given roadway. Based on the traffic counts, the percentage of truck traffic utilizing Deerfield Road within the project area, as a combination of single unit (SU) and multi-unit (MU) trucks, ranges from approximately 3.3 percent to 4.7 percent depending on the time of day and the location. The Synchro computer program was used to analyze travel performance at the three existing signalized intersections and the two sections within the project limits, for the peak one-hour morning (AM) and evening (PM) travel periods. Residents have indicated that congestion is largely confined to the peak AM and PM travel periods. The Synchro software provides a measure of congestion called Level of Service (LOS). LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay a single vehicle experiences at an intersection as expressed in seconds per vehicle (see Table 1-5), or the average travel speed as a percentage of base free-flow speed a single vehicle experiences traveling along roadway sections (see Table 1-6).

Table 1-5: Intersection Level of Service (LOS) Definition

LOS	Average Delay (Sec/Vehicle)
A	≤ 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

Table 1-6: Section Level of Service (LOS) Definition

LOS	Travel Speed as a Percentage of Base Free-Flow Speed (%)
A	>85
B	> 67 - 85
C	> 50 - 67
D	> 40 - 50
E	> 30 - 40
F	≤ 30

* If volume-to-capacity ratio at downstream boundary intersection is ≤ 1.0

The IDOT Bureau of Local Roads and Streets requires a LOS C or better for urban two-way arterial reconstruction such as Deerfield Road and Saunders/ Riverwoods Road. Similarly, the IDOT Bureau of Design and Environment (BDE) manual requires a LOS C or better for an SRA roadway reconstruction such as Milwaukee Avenue. In some circumstances, LOS D may be allowed in urban areas based on unavoidable design constraints or substantial potential adverse socio-economic or environmental impacts.

The Synchro analysis was prepared for both year 2016 and projected year 2040 (No-Build) traffic volumes and vehicle mix (passenger cars and trucks), including side streets. Results are tabulated in Table 1-7 and Table 1-8, and are shown graphically in Figure 1-8.

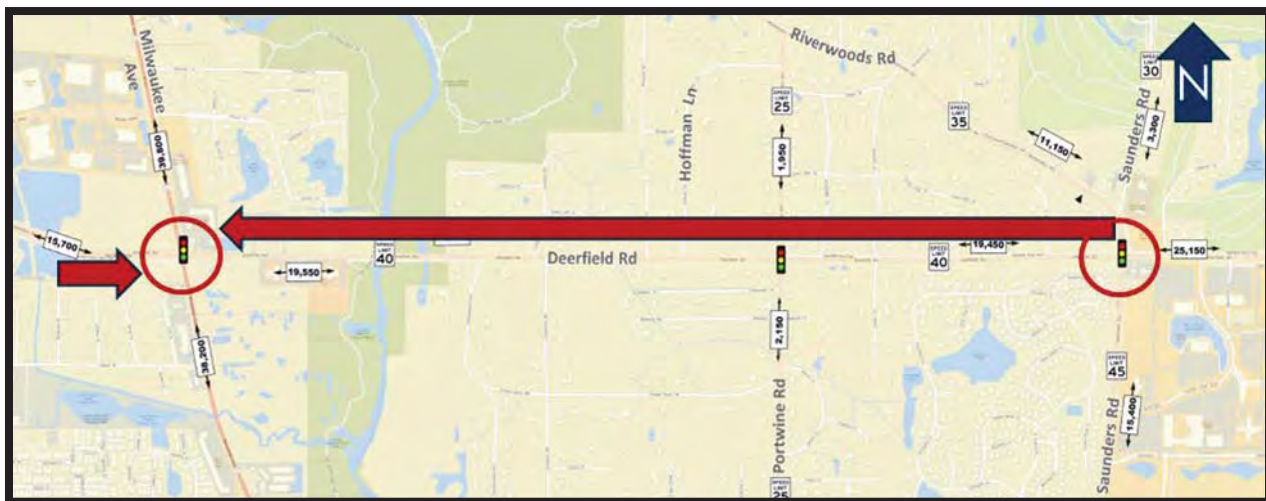
Table 1-7: Intersection Level of Service (LOS)

INTERSECTION	2016				2040 (No-Build)			
	LOS		DELAY (sec/vehicle)		LOS		DELAY (sec/vehicle)	
	AM	PM	AM	PM	AM	PM	AM	PM
Milwaukee Ave Intersection with Deerfield Road	E	F	68.8	128.0	E	F	76.7	137.1
Portwine Road Intersection with Deerfield Road	B	C	17.3	21.5	B	C	18.4	21.6
Saunders/ Riverwoods Road Intersection with Deerfield Road	C	C	25.2	31.0	C	D	29.1	37.2

Table 1-8: Section LOS for AM/PM Peak Hour Volume

DEERFIELD ROAD SECTION		2016				2040 (No-Build)			
		Travel Time (minutes)		LOS		Travel Time (minutes)		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
Milwaukee Avenue to Portwine Road (1.3 mi)	Eastbound	2.3	2.3	B	B	2.3	2.3	B	B
	Westbound	2.8	22.7	C	F	2.8	22.7	C	F
Portwine Road to Saunders/ Riverwoods Road (0.7 mi)	Eastbound	1.8	1.8	C	C	1.8	1.8	C	C
	Westbound	1.3	9.6	B	F	1.3	11.6	B	F

Figure 1-8: Deerfield Road Locations Worse Than LOS C for Year 2040 (No-Build)



As shown in Table 1-7, Milwaukee Avenue operates at LOS E and F for the AM and PM peak hours for the year 2016. While the 2040 traffic volume does not increase substantially, the intersection LOS and delays will worsen based on projected year 2040 (No-Build) conditions with the Saunders/ Riverwoods Road PM LOS degrading to a LOS D.

The Deerfield Road westbound sections from Saunders/ Riverwoods Road to Portwine Road, and Portwine Road to Milwaukee Avenue have a LOS F in the PM for 2016 and 2040 (No-Build) conditions. The travel pattern along Deerfield Road is predominantly eastbound in the AM and westbound in the PM. Therefore, in addition to the sections located within study area shown in Table 1-8, Figure 1-8 also shows a section LOS F just west of Milwaukee Avenue because the 2016 and 2040 (No-Build) AM eastbound through movement is over capacity with a vehicle to capacity (v/c) ratio greater than 1.0.

On this basis, if no improvements are made to Deerfield Road between Milwaukee Avenue and Saunders/ Riverwood Road, traffic congestion and motorist delay will continue to increase through the year 2040.

1.3.2 What are the Safety Needs?

Crashes that occurred along Deerfield Road within the project limits have been analyzed for the five-year study period from 2014 to 2018. Crashes have been tabulated by year, crash type, fatal and severe injuries, and roadway conditions to ascertain overall trends and determine if any particular statistical overrepresentation exists that would warrant special countermeasure consideration. The crash data is summarized in Table 1-9, and shown graphically in Figure 1-9.

Table 1-9: Overall Study Area Crash Summary
Deerfield Road; Milwaukee Avenue to Saunders/ Riverwoods Road

Year	Crash Type ¹									Total Crashes	Severe Crashes ²	
	Rear End	Angle	Side swipe	Turning Left	Turning Right	Head On	Animal	Fixed Object	Other		Type K	Type A
2014	33	2	3	13	2	1	1	2	1	58	0	2
2015	26	2	9	31	4	0	3	3	2	80	0	1
2016	31	4	8	8	1	0	1	3	1	57	0	1
2017	33	3	4	20	3	2	3	5	2	75	0	0
2018	43	3	9	19	3	2	2	2	0	83	0	1
Total	166	14	33	91	13	5	10	15	6	353	0	5
%	47.0	4.0	9.3	25.8	3.7	1.4	2.8	4.2	1.7			

¹ Crash Type definitions per Illinois Traffic Crash Report SR-1050.

Rear End: Collision between vehicles where vehicles have either front end damage and/or rear end damage.

Angle: Collision between vehicles at an angle where the intent of both vehicles is to go straight.

Side Swipe: Collision between vehicles approaching each other or traveling in the same direction and the contact results in damage to the sides of both motor vehicles.

Turning: Collision between vehicles with at least one unit performing a turning maneuver.

Head On: Collision between vehicles approaching each other and the contact results in frontal damage to both vehicles.

Animal: Collision involving an animal.

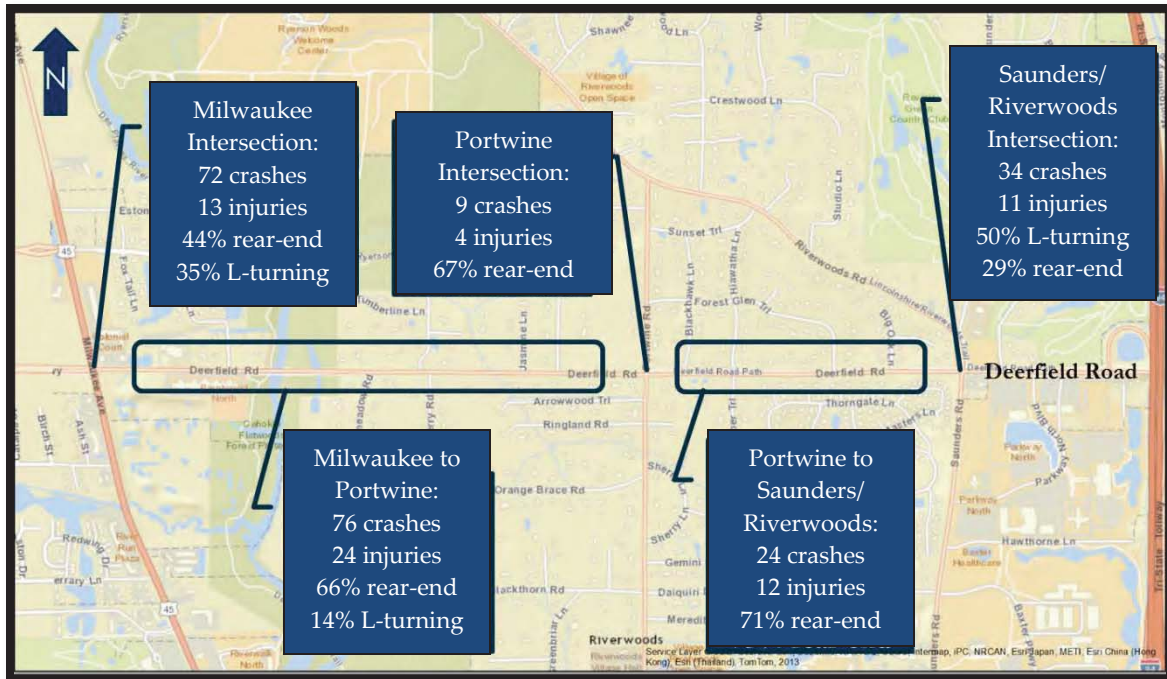
Fixed Object: Collision of a motor vehicle with a fixed object when no other vehicle or object has been struck.

² Injury Severity definitions per FHWA

Type K: Crash resulting in a fatality within 30 days due to the injury received in the collision.

Type A: Crash resulting in a non-fatal incapacitating injury.

Figure 1-9: Deerfield Road 2014-2018 Crash Locations



The crash data was obtained from the LCDOT Transportation Data Management System. The year 2014-2018 study period included a total of 353 crashes within the study area. Of the 353 total crashes, 128 crashes occurred at signalized intersections and 225 crashes occurred at midblock sections including unsignalized intersections. 72 crashes (20%) occurred at the Milwaukee Avenue signalized intersection, 9 crashes (2%) occurred at the Portwine Road signalized intersection, 34 crashes (10%) occurred at the Saunders/ Riverwoods Road signalized intersection, and 13 crashes (4%) occurred at the Parkway North signalized intersection. Including both unsignalized intersections and midblock sections, there were 15 crashes along Deerfield Road between Barclay Boulevard and Milwaukee Avenue, 76 crashes between Milwaukee Avenue and Portwine Road, 24 crashes between Portwine Road and Saunders/ Riverwoods Road, 7 crashes between Saunders/Riverwoods Road and Parkway North, and 12 crashes between Parkway North and I-94 southbound ramp. 34 crashes occurred just north of the Milwaukee Avenue intersection, 37 crashes occurred just south of the Milwaukee Avenue intersection, 2 crashes occurred just north of the Portwine Road intersection, 2 crashes occurred just south of the Portwine Road intersection, 5 crashes occurred just north of the Saunders/Riverwoods Road intersection, and 7 crashes occurred just south of the Saunders/Riverwoods road intersection.

Predominant crash types, as defined in Table 1-9 footnote 1, within the study area were rear-end (47%) and left turning (26%). For the section of Deerfield Road between Milwaukee Avenue and Portwine Road, and Portwine Road and Saunders/Riverwoods Road (100 total crashes), there is a higher incidence of rear-end crashes (67%) than the total project study area (47%). The higher incidence within this section of the project is an indication of general congestion, excessive queueing from intersection, absence of turning lanes, lack of adequate

gaps for main line and side road left turns, lane drops, and drivers not being aware of access points. No fatal crashes were reported during the study period. Five A-injury crashes were reported. The crash injury severity definitions are defined in Table 1-9 footnote 2.

The IDOT 5% locations are derived from crashes occurring on 5% of the total lane miles showing the greatest potential for safety improvements and focus primarily on fatal and A-injury crashes. 5% location maps are generated yearly with 2015 being the most recent year available. There are no 5% locations within the study area for year 2015. IDOT identified the intersection of Deerfield Road at Saunders/Riverwoods Road as a 5% location for the year 2014. The Saunders/ Riverwoods Road intersection had no fatal crashes, but one A-injury crash. The one A-injury crash was a turning left crash from westbound Deerfield Road to Saunders/Riverwoods Road.

Approximately 16 percent of the crashes occurred when the pavement was wet, 8 percent occurred when there was snowy or icy conditions, and 20 percent of the crashes occurred during night/dark conditions. These percentages are not considered to be an overrepresentation of these types of crash occurrence conditions such that specific countermeasures are warranted.

If no improvements are made to Deerfield Road, and travel demand increases, the annual crash rate is likely to increase. The IDOT Highway Safety Manual Prediction Tool Version 3.0 (IDOT HSM tool) will be utilized to establish a baseline for the predicted average crash frequency and predicted average fatal and injury crash frequency for existing and 2040 No-Build conditions. The IDOT HSM tool uses the FHWA HSM as a starting point and incorporates Illinois-specific calibration factors and crash distribution tables for IDOT District 1, which covers the Chicago Metropolitan area.

1.3.3 What are the Mobility Needs?

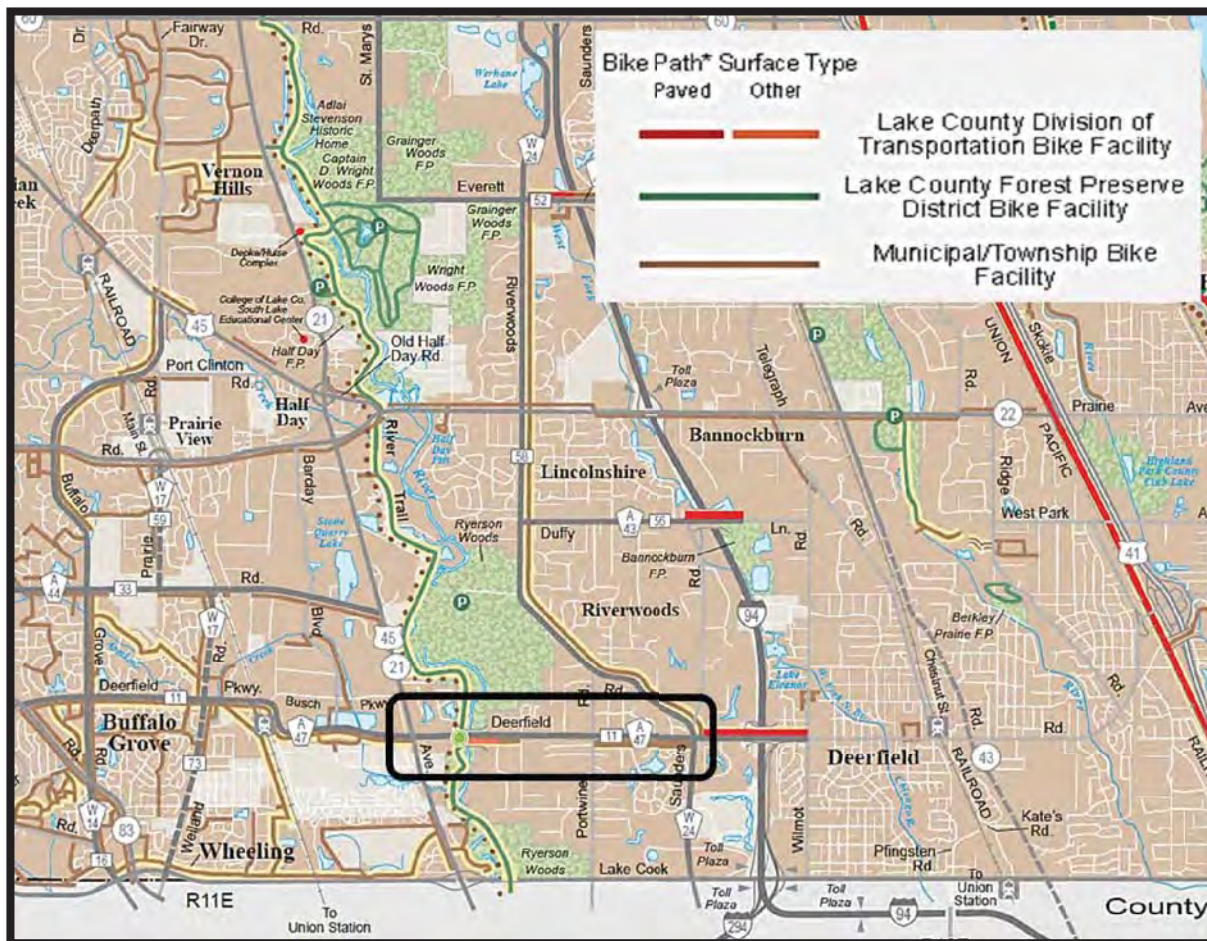
A key concern expressed by adjacent residential and commercial property owners is the poor access (ingress and egress) caused by the heavy congestion in the corridor. This is viewed as a daily quality of life concern, but also a concern with respect to emergency services and other public services that are adversely affected by current conditions.

There are 52 access points off Deerfield Road within the two (2) mile stretch from Milwaukee Avenue to Saunders/ Riverwoods Road. The access points consist of eleven (11) local streets, nine (9) commercial access drives and thirty-two (32) residential driveways. The large number of access points along the 2-lane stretch of roadway, in conjunction with the high travel demand, contributes to excessive wait times to and from side streets and entrances along Deerfield Road. If no improvements are made, with projected travel demand increases, access to adjacent residential and commercial properties will continue to be an issue along this section of Deerfield Road. Vehicular gap acceptance analysis will be utilized to evaluate mobility along Deerfield Road for existing and 2040 No-Build conditions.

1.3.4 What are the Non-Motorized and Transit Connections Needs?

Deerfield Road has existing multi-use paths outside of the project study area as described in the project history section and shown in the Lake County Bikeway Map, Figure 1-10. West of the study area, the Village of Buffalo Grove has an existing regional trail along the south side of Deerfield Parkway that terminates at Milwaukee Avenue. East of the study area, LCDOT has an existing regional trail along the north side of Deerfield Road that terminates at Saunders/Riverwoods Road. There is also a regional trail north along Riverwoods Road. Within the study area, Deerfield Road represents a gap in the regional trail network. LCDOT has a separated path over the Des Plaines River, and there is an intermittent existing municipal path in poor condition along the north side of Deerfield Road from Portwine to Saunders/Riverwoods Road. However, these paths are not connected to each other and do not connect to the adjacent regional paths.

Figure 1-10: Lake County Bikeway Map



Source: Lake County

The LCFPD DPRT runs along the west bank of the river and is part of the Grand Illinois Trail (GIT) which is a regional trail. The DPRT crosses under the Deerfield Road Bridge adjacent to

the river as shown in Figure 1-11. The roadway bridge has a low clearance and bicyclists are encouraged to dismount before passing under it. The recently constructed separate bike path bridge was constructed higher than the existing road above the 100-year floodplain, and does not present a clearance issue.

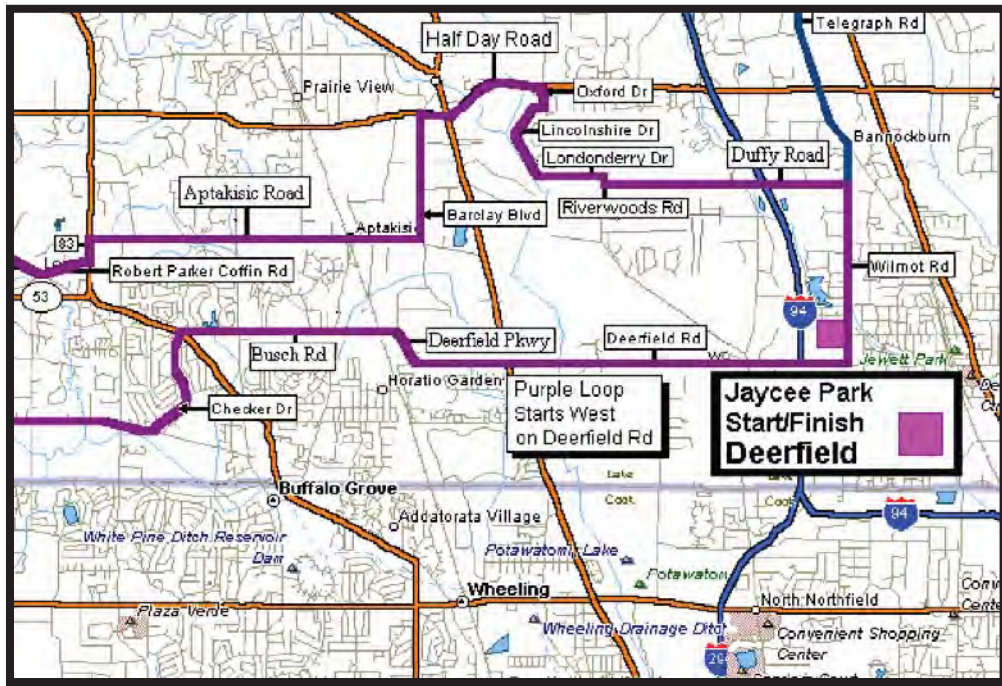
Figure 1-11: DPRT Underpass at Deerfield Road Looking North



In addition to the regional significance of the DPRT, Deerfield Road is one of the few Des Plaines River crossings that bicyclists can utilize since Half Day Road (IL 22) is approximately 2.3 miles north of the crossing and Lake Cook Road is approximately 1.0 mile south of the crossing. Vehicles and bicyclists must share the narrow roadway and limited shoulder. As shown in Figure 1-10, neither Half Day Road nor Lake Cook Road have on road bicycle accommodations. There is a separated bike path along the north side of Half Day Road.

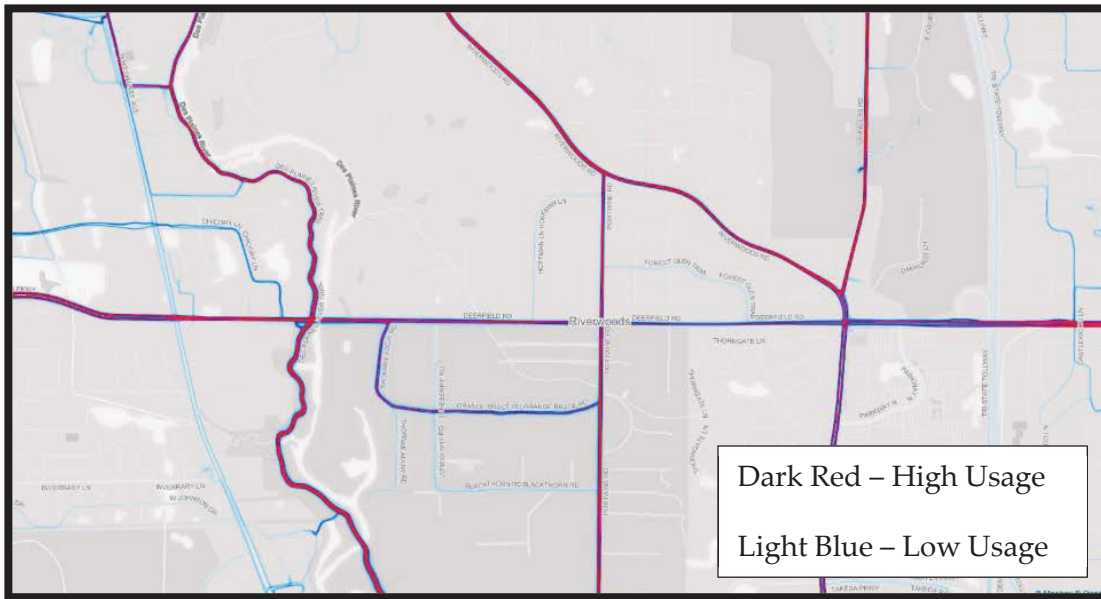
Deerfield Road is significant to on road bicyclists. The Velo Club Roubaix is primarily a road bike club, and their main route starts along Deerfield Road as shown in Figure 1-12. Bike club maps such as these are helpful in determining recommended best-available routes that users would like to use. STRAVA Labs produces "heat maps" indicating how more avid bicyclists and runners are currently using routes. Figure 1-13 shows high usage areas in red and less used areas in light blue. Routes west and east of the study area and along the DPRT are very heavily used, while sections of study area are more poorly used, especially east of the DPRT. This is likely attributed to the safety and connectivity issues previously described. As multi-modal roadway uses increases, conflicts between roadway users are anticipated to increase for projected 2040 (No-Build) conditions.

Figure 1-12: Deerfield Road Utilization by Regional Bike Club



Source: Velo Club Roubaix

Figure 1-13: Strava Bike/ Ped Heat Map



Source: STRAVA Labs Database

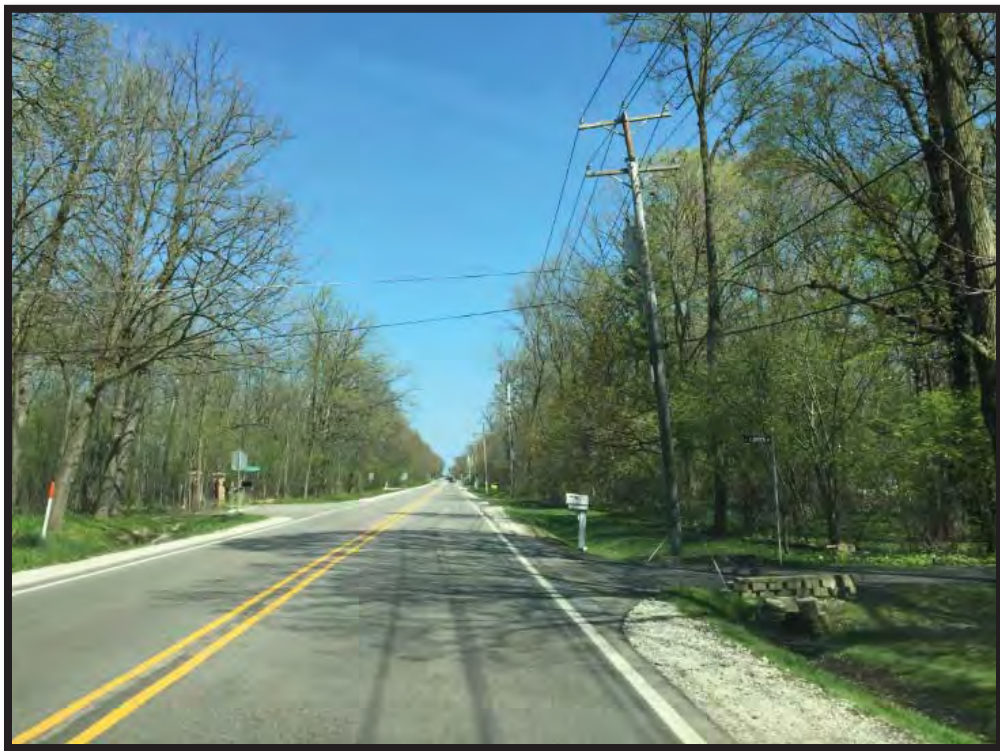
Pace Bus operates express service along Deerfield Road between the Buffalo Grove Metra Station and the CTA Yellow Line Dempster-Skokie Station for B-trips on Route 626. Once at the

Dempster-Skokie CTA Station, Route 626 transit users may transfer to the Pace Route 250 or CTA Routes 54A and 97. In addition to the Pace bus route, private shuttles operate from Aon Hewitt and Zebra Technologies (northwest of Deerfield Road and Milwaukee Avenue) to the Deerfield Metra Station or Highland Park Metra Station (both east of I-94) along Deerfield Road. These private shuttles cycle from the Metra stations to the worksite and back again for multiple trips in both the AM and PM peak hours. Moving through the corridor is crucial for these employees to be at work on time in the AM and making train connections in the PM. If no improvements are made, with projected travel demand increases, transit user delay could increase based on the projected increases in travel demand.

1.3.5 What are the Operational Deficiencies?

The existing roadway cross section on Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road is one through lane in each direction with narrow shoulders and nearby potential roadside hazards. Potential roadside hazards include trees, berms, ditches, and brick mailboxes just off the shoulders on both sides of Deerfield Road, and aerial power lines just off shoulders and side streets along the south side of the roadway. There are approximately 52 driveways and side streets along the 2-lane section of Deerfield Road with steep side slopes or block wall culverts that present potential roadway hazards in close proximity to the pavement. Figure 1-14 shows one example of driveways with ditches, culvert headwalls, mailbox, and powerlines close to the travel way.

Figure 1-14: Potential Roadside Hazards Example



The west portion of the roadway near the Des Plaines River and at the Milwaukee Avenue intersection is within the mapped floodplain. A resident noted the Deerfield Road pavement flooded near the Des Plaines River in 1986. The bridge was reconstructed in 1993, however the adjacent roadway approaches were not raised. Based on the Lake County 1-foot topography, portions of the west and east approaches are 1 foot or more below the base flood elevation of 645 feet. The roadway bridge low chord elevation is below the design high water elevation (DHWE), which does not meet the minimum clearance of 1 foot above the DHWE. Lake County Stormwater Management Commission (LCSMC) collects flood problem areas from local municipalities, and there is one recorded just west of Jasmine Lane and north of Deerfield Road near Thorngate Creek. There are no LCSMC recorded citizen flood complaints within the study area. A resident commented that further east, between Forest Glen Trail and Big Oak Lane the culvert under Deerfield Road backs up into adjacent properties. Hoffman Lane just north of Deerfield Road overtops with stormwater sheet flowing east to west.

The underlying pavement was constructed in the 1960's and is nearly 50 years old, with signs of advanced deterioration with more frequent cycles of maintenance required. During a 2014 resurfacing project, the exposed concrete pavement after milling the surface course was deteriorated. The LCDOT pavement management data shows almost 40% of the base/substructure to be in failing condition. There is some correlation with the poor subbase in the testing data and mapped hydric soils. As such, LCDOT views the roadway to be near the end of its life and the most cost-effective pavement management approach is to reconstruct the roadway, which typically requires the evaluation of capacity and safety needs, as well other drainage, non-motorized, and roadway needs.

1.4 What is the Purpose of the Proposed Project?

The purpose of the project is to provide an improved transportation system to address capacity, safety, mobility, and operational deficiencies along Deerfield Road and improve non-motorized accommodations from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods Road in Lake County, Illinois.

The project Purpose and Need received concurrence at the NEPA/404 coordination meeting on June 19, 2017.

APPENDIX B

DETAILED ALTERNATIVES ANALYSIS

DETAILED ALTERNATIVES ANALYSIS

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TABLES

No tables.

2.0 Alternatives

This section describes the alternatives considered for Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. As discussed below, reasonable alternatives were evaluated based on their ability to satisfy the purpose and need for the project. Alternatives that did not satisfy the purpose and need for the project, or that would have unacceptable impacts in comparison to other alternatives were dismissed from further consideration as part of an alternatives development and evaluation process based on engineering evaluation and stakeholder input. The alternatives development and evaluation process was coordinated through the National Environmental Policy Act (NEPA)/404 Merger process. Refer to Appendix E-2 for summaries of the NEPA/404 Merger meetings related to the alternatives development and evaluation process described below.

2.1 What Alternatives were considered?

2.1.1 What is the 2040 No-Build Alternative?

The 2040 No-Build includes committed projects in the CMAP Transportation Improvement Program (TIP) and lane additions required for a private development recently completed (2019) at the northwest corner of Milwaukee Avenue and Deerfield Road. The Milwaukee Avenue intersection improvements recently completed includes a second left turn lane on both northbound (NB) and southbound (SB) legs of Milwaukee Avenue, and a second eastbound (EB) through lane on Deerfield Road with a lane drop after the intersection.

What is the 2040 No-Build Alternative?

Beyond the private development intersection improvement plans, the No-Build Alternative consists of no additional geometric or capacity improvements to the project corridor and intersections within the 2040 planning horizon. Only routine maintenance to keep Deerfield Road serviceable would be provided.

Although the No-Build Alternative would not require acquisition of any right-of-way and would avoid impacts to the natural environment and to residential and commercial properties, the transportation performance and associated safety, mobility and operational deficiencies would not be addressed.

On this basis, the No-Build Alternative does not satisfy the purpose and need for the project.

2.1.2 Transportation System Management (TSM) Considerations

The provisions of 23 Code of Federal Regulations (CFR) 450.320(a) and (b) places restrictions on the use of federal funds for projects in Transportation Management Areas (TMAs) designated as non-attainment for carbon monoxide and/or ozone. In these areas, federal funds may not be programmed for any project that will increase capacity for single occupancy vehicles (SOV) unless the project is addressed through a

Congestion Management Process (CMP). The CMP is required to provide an appropriate analysis of alternatives to the proposal for adding SOV capacity, including all reasonable congestion management strategies. If the analysis demonstrates that other alternatives and/or congestion management strategies cannot fully satisfy the need for additional capacity and that, therefore, the additional SOV capacity is warranted, the CMP must identify all reasonable strategies that will maintain the functional integrity of the additional lanes.

Individual projects involving addition of SOV capacity were evaluated, selected, and prioritized in the course of developing the Federal Fiscal Year (FFY) 2019-2024 Transportation Improvement Plan (TIP) and the long range GO TO 2040 Comprehensive Regional Plan (CRP) for Northeastern Illinois. The development process for the TIP and CRP through the Chicago Metropolitan Agency for Planning (CMAP) constitutes the CMP for Northeastern Illinois. This process documents warranted projects for adding SOV capacity in Northeastern Illinois, and also documents that regional and/or project specific alternatives such as Transportation Demand Management (TDM) measures, High Occupancy Vehicle (HOV) measures, Transit Capital Improvements, Growth Management, Intelligent Transportation System (ITS) including traffic surveillance and incident management, would not obviate the need for adding SOV capacity. The Northeastern Illinois CMP is documented on the CMAP website at: <https://www.cmap.illinois.gov/mobility/roads/cmp> . For this project, it has been determined that stand-alone CMP alternatives will not satisfy the project purpose and need and, therefore, this undertaking is a warranted project for adding SOV capacity.

Reasonable project-specific CMP strategies, including Traffic Operational Improvements, Transit Operational Improvements, Non-motorized modes/measures (Pedestrian/Bicycle), ITS, and Access Management, have been incorporated into this project to the extent practical. Specific strategies incorporated include:

- An 8 feet wide multi-use path will be built along the south side of Deerfield Road from Milwaukee Avenue to Portwine Road and along the north side of Deerfield Road from Portwine Road to Saunders/ Riverwoods Road.
- Wider bike friendly shoulders will be incorporated per LCDOT roadway typical standards.

As documented in the above information, this project results from the CMP for Northeastern Illinois as a warranted project for adding SOV capacity and all reasonable congestion management strategies have been incorporated into the project to sustain its effectiveness.

2.1.3 What Build Alternatives Were Considered?

Public Information Meeting #1 was held on November 30, 2016. At this public meeting, as well as the initial agency scoping meetings and the initial Stakeholder Involvement Group (SIG) meetings, stakeholder input was gathered that led to the development of an initial range of alternatives. Several alternatives suggested by stakeholders were considered, but dismissed prior to the comparative evaluation and are described below.



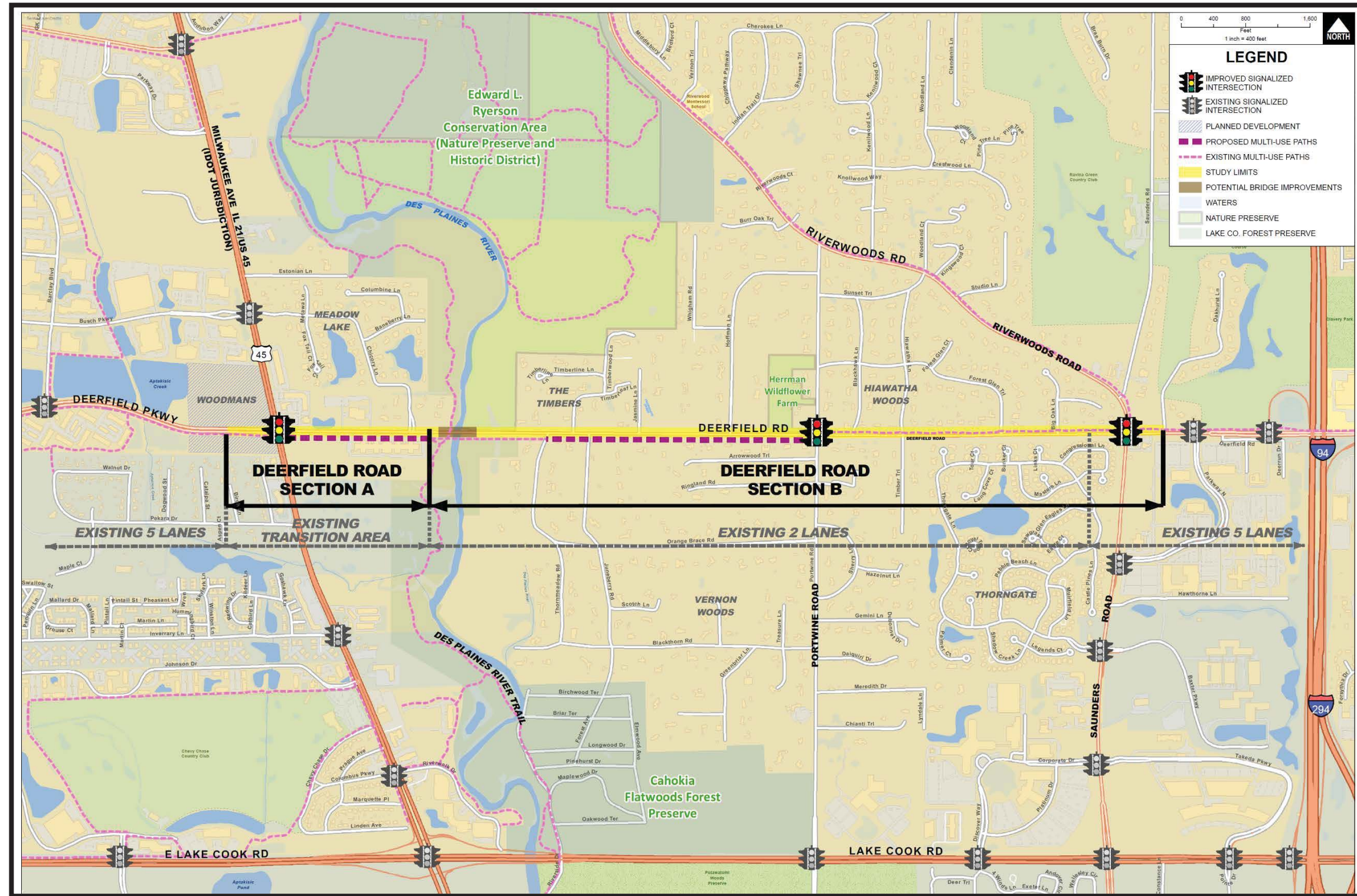
2.1.3.1 *Deerfield Road Section A and Section B*

Through the evaluation process, it became evident that Deerfield Road has two distinct “sections” within the corridor, shown in Figure 2-1. Section A is the west portion of the corridor inclusive of the Milwaukee Avenue intersection. Section A is mostly commercial with high volume access driveways. Section B is the east portion of the corridor; from the Des Plaines River to and inclusive of the Saunders/Riverwoods Road intersection. Section B consists of large lot residential with many low volume access driveways and streets. Due to the differing adjacent land use to Section A and Section B, each have unique transportation demands and needs, and therefore alternative concepts and a range of alternatives were developed for each.

Based on traffic volumes and delays at the Milwaukee Avenue intersection, a large improvement is anticipated. Specifically, the east leg of the Milwaukee Avenue intersection along Deerfield Road for up to 2,000 feet can be affected by the intersection improvement with lane shifts and lane drops. Therefore, Section A alternatives are focused around the alternatives considered at the Milwaukee Avenue intersection. Section 2.1.3.2 provides a discussion of the intersection concepts considered at the Milwaukee Avenue intersection, and Section 2.2.2 presents and discusses the range of alternatives that were developed and comparatively evaluated.

Initial concepts for Section B that were considered and dismissed are discussed in Section 2.1.3.3, and Section 2.2.2 presents and discusses the range of alternatives developed and comparatively evaluated.

Figure 2-1: Deerfield Road Section A and B Range of Alternatives Location Map



2.1.3.2 Section A Initial Concepts

This section provides a discussion of the Milwaukee Avenue intersection concepts considered.

Grade Separation

Some members of the Stakeholder Involvement Group (SIG) and resource agencies asked if a grade separation was under consideration. Due to the high traffic volume on both Milwaukee Avenue and Deerfield Road, a grade separation was considered at the intersection. However, like the Milwaukee Avenue and Lake Cook Road interchange located approximately one (1) mile south of the intersection, a large footprint needing up to 25 acres of additional ROW would be required and result in environmental and socio-economic impacts including impacts to

floodplain, floodway, high quality wetland, nature preserve, property impacts, and building displacements. The cost of a grade separation at over \$75M is prohibitively high, and there is little to no support from stakeholders for an improvement to this extent. Therefore, a grade separation was dismissed.



At-Grade Intersection

Configurations

None of the at-grade intersection configurations were dismissed prior to the comparative evaluation in Section 2.2.

2.1.3.3 Section B Initial Concepts

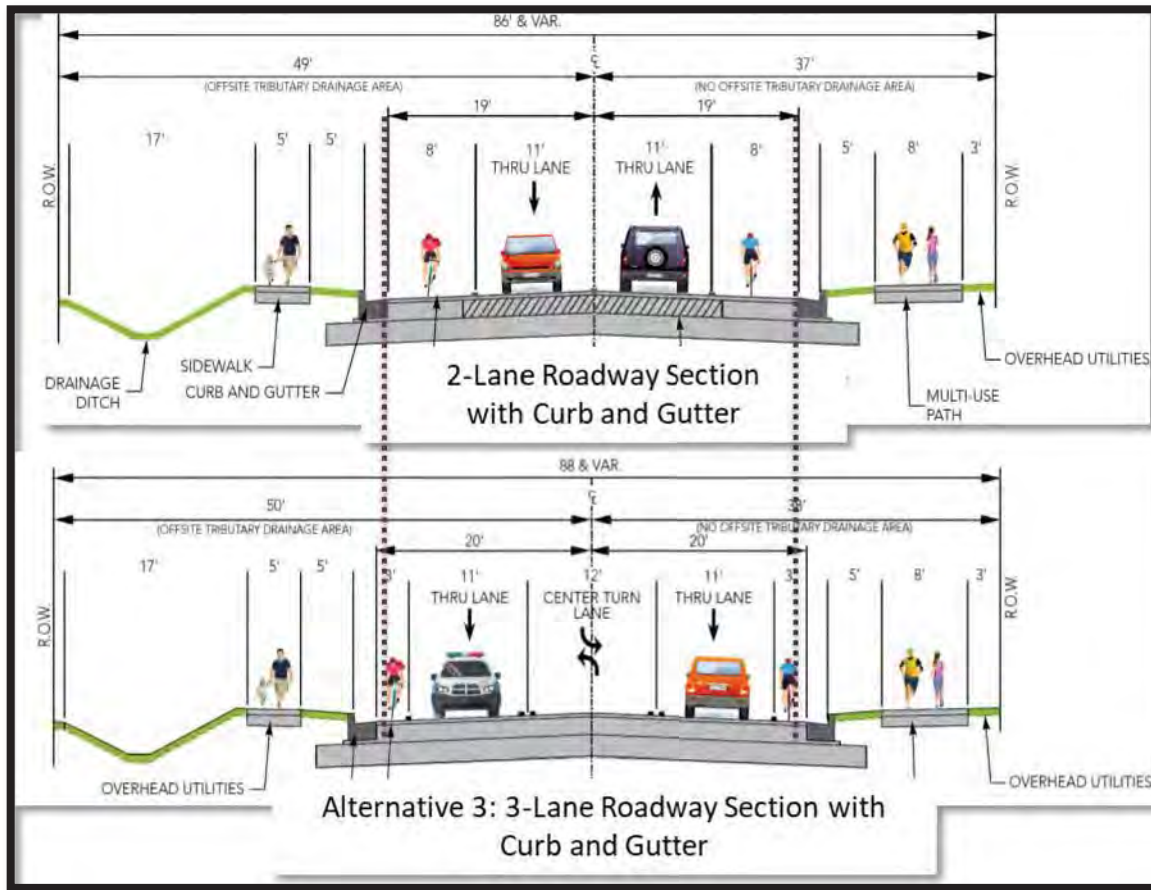
Typical roadway sections were identified based on initial project stakeholder coordination and agency scoping. These roadway typical sections were screened with respect to geometric requirements, and the alternatives carried forward for comparative evaluation are discussed in Section 2.2.2. A 2-lane with curb and gutter was not carried forward and is described below.

2-Lane with Curb and Gutter

Representatives from the Riverwoods Preservation Council (RPC), an active local group promoting environmental awareness and education, requested consideration of a 2-Lane Roadway Section with Curb and Gutter to minimize the roadway footprint. For 2-lane arterials, eight (8) foot wide shoulders are required per IDOT Bureau of Local Roads and Streets (BLRS) Figure 32-2D to accommodate emergency vehicles. This is not required for 3-lane arterials because emergency vehicles can utilize the center turn lane. As shown in Figure 2-2, the 2-lane with curb and gutter has 1 foot less of pavement width in each direction than the 3-lane with curb and gutter, for a total pavement width savings of two (2) feet (38 feet versus 40 feet, respectively). While the 2-lane roadway section with curb and gutter was considered, it was dismissed prior to the comparative evaluation because providing a center turn lane is a more effective use of the pavement area as it improves safety, mobility, and operations. A 2-lane roadway section with shoulder and ditch was evaluated as Alternative 1.



Figure 2-2: 2-Lane Roadway Section with Curb and Gutter Compared to a 3-Lane Roadway Section with Curb and Gutter



2.2 What Alternatives were Eliminated and Why?

2.2.1 Section A Alternatives Comparative Evaluation

Based on traffic volumes and delays, a large intersection improvement is anticipated at the Deerfield Road and Milwaukee Avenue intersection. Specifically, on the east leg of Milwaukee Avenue intersection nearly 2,000 feet is needed for lane shifts, advanced warning distance, and lane drops related to added lanes at the intersection. Therefore, Section A alternatives are focused around the alternatives considered at the Milwaukee Avenue intersection.

A range of 12 alternatives were developed and evaluated for Section A. Basic lane diagrams are shown in Figure 2-3, with the grey arrows being the 2040 No-Build and black arrows indicating the proposed lanes for the respective alternative. The following description of the alternatives include the specific improvements being made to the 2040 No-Build alternative, and include:

- 2040 No-Build
- Alternative A1A: Add a westbound (WB) right turn lane (RTL) and extend the northbound (NB) RTL
- Alternative A1B: Alt. A1A plus add a 3rd WB Thru Lane on Deerfield Road
- Alternative A1C: Alt. A1A plus add dual left turn lanes (LTLs) on Deerfield Road
- Alternative A1D: Alt. A1A plus add a 3rd WB Thru Lane and Dual LTLs on Deerfield Road
- Alternative A2A: Alt. A1A plus add NB and SB combined 3rd Thru/RTL on Milwaukee Avenue (Lane Drop Following Intersection)
- Alternative A2B: Alt. A1C plus add NB and SB combined 3rd Thru/RTL on Milwaukee Avenue (Lane Drop Following Intersection)
- Alternative A3A: Alt. A1A plus add a 3rd NB and SB Thru Lane on Milwaukee Avenue at Intersection (Lane Drop Following Intersection)
- Alternative A3B: Alt. A3A plus add Dual LTLs on Deerfield Road (Milwaukee Avenue Lane Drop Following Intersection)
- Alternative A3C: Alt. A3B plus add a 3rd WB Thru Lane on Deerfield Road (Milwaukee Avenue Lane Drop Following Intersection)
- Alternative A4A: Alt. A1A plus add a 3rd NB and SB Thru Lane on Milwaukee Avenue Extended to Logical Termini
- Alternative A4B: Maximum Deerfield Road and Extended Milwaukee Avenue Improvement (A1D plus A4A)

A summary of the key comparative results is provided in the sections below.

Based on the alternative evaluation, the preferred intersection configuration is Alternative A1D: add a westbound right turn lane, extend the northbound right turn lane, add a third westbound thru lane, and add dual left turn lanes on both Deerfield Road approaches. The resulting recommendations are discussed in 2.3.

Figure 2-3: Section A Evaluation Table

	2040 No-Build	Alternative A1a	Alternative A1b	Alternative A1c	Alternative A1d	Alternative A2a	Alternative A2b	Alternative A3a	Alternative A3b	Alternative A3c	Alternative A4a	Alternative A4b
Alternative and Description	Development Improvements Currently under Construction and 2040 Traffic Volumes	Add WB RTL, Extend NB RTL	Alt. A1A plus 3rd WB Thru on Deerfield Road	Alt. A1A plus Dual LTLs on Deerfield Road	Alt. A1A plus 3rd WB Thru and Dual LTLs on Deerfield Road	Alt. A1A plus NB and SB Combined 3rd Thru/RTL on Milwaukee Avenue (Lane Drop Following Intersection)	Alt. A1C plus NB and SB Combined 3rd Thru/RTL on Milwaukee Avenue (Lane Drop Following Intersection)	Alt. A1A plus 3rd NB and SB Thru Lanes on Milwaukee Avenue at Intersection (Lane Drop Following Intersection)	Alt. A3A plus Dual LTLs on Deerfield Road (Lane Drop on Milwaukee Avenue Following Intersection)	Alt. A3A plus Maximum Deerfield Road (Lane Drop on Milwaukee Avenue Following Intersection)	Alt. A1A plus 3rd NB and SB Thru Lanes on Milwaukee Avenue Extended to Logical Termini	Maximum Deerfield Road and Extended Milwaukee Avenue Improvement
Deerfield Road at Milwaukee Avenue Intersection Delay (PM, seconds/vehicle)	218.5	92.0	86.7	88.1	72.1	93.0	91.7	77.4	74.0	60.8	61.0	50.6
Deerfield Road Westbound Approach Delay (PM, seconds/vehicle)	530.3	85.8	92.0	98.0	69.7	76.3	77.9	85.5	77.8	55.6	76.0	55.5
Total Travel Time from Saunders/Riverwoods Road thru Milwaukee Avenue (PM, minutes)	31.7	11.7	7.9	11.8	6.7	10.8	9.9	13.2	9.7	6.7	12.1	6.7
Milwaukee Avenue Impacts	None	Minimal with No Added Thru Lane Capacity on Milwaukee Avenue				Adds approx. 1.8 AC of ROW and \$11.3M to Project with Combined 3rd Thru/RTL on Milwaukee Avenue at Intersection Only		Adds approx. 2.2 AC of ROW and \$18.9M to Project with Thru Lane Capacity Added on Milwaukee Avenue at Intersection Only			Adds approx. 8.3 AC of ROW and \$47M to Project with Extended Milwaukee Avenue Improvements	
Results	Dismissed	Carried as part of Preferred Alternative	Carried as part of Preferred Alternative	Carried as part of Preferred Alternative	Preferred Alternative	Dismissed	Dismissed	Dismissed	Dismissed	Dismissed	Dismissed	Dismissed

2.2.1.1 Alternative A1A

Introducing exclusive RTLs separates right turning vehicles from the thru movement, decreasing delay, total travel time, and queues. The alternative demonstrates that adding auxiliary lanes is effective in decreasing delay and total travel time for Deerfield Road and is carried forward as part of the preferred alternative.

2.2.1.2 Alternative A1B

In addition to Alternative A1A, a third WB thru lane is proposed to be added on the east approach of Deerfield Road which lines up with the three thru lanes on the west side of Milwaukee Avenue.

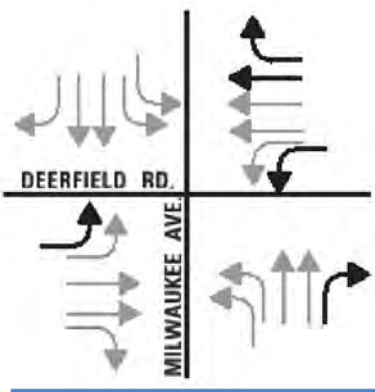
Adding a 3rd WB Thru lane improves overall intersection delay and westbound total travel time, but increases eastbound total travel time. Therefore, this alternative was dismissed.

2.2.1.3 Alternative A1C

Adding dual LTLs on Deerfield Road approaches improves overall intersection delay and total travel time compared to Alternative A1A, however this widens the west approach of Deerfield Road just reconstructed with the private development improvements, and increases adjacent property impacts. This alternative is carried forward as part of the preferred alternative.

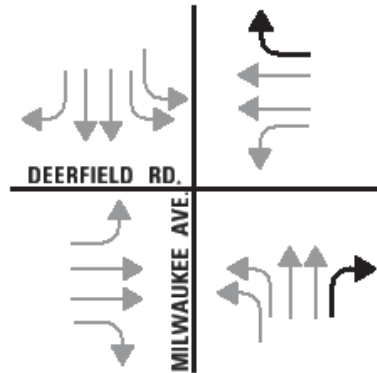
2.2.1.4 Alternative A1D

Alternative A1D

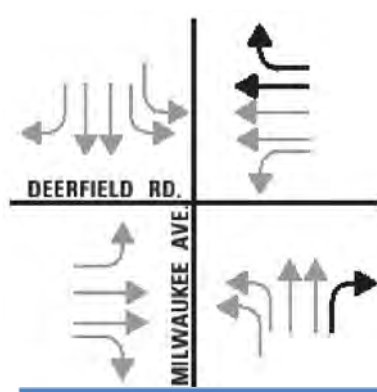


Adding the 3rd WB Thru lane and dual LTLs on Deerfield Road approaches improves intersection delay and total travel time compared to Alternative A1A. Alternative A1D maximizes improvements and transportation performance to the Deerfield Road legs of the intersection with this project, which sets up well for future improvements on the Milwaukee Avenue legs of the intersection (to be completed by IDOT) as no further improvements would be proposed on Deerfield Road. This is the preferred alternative.

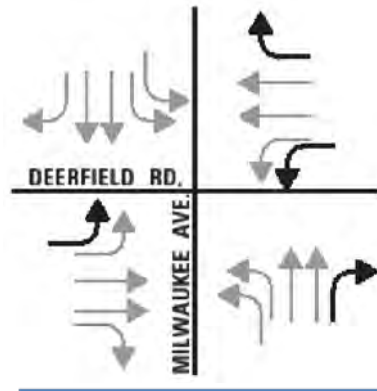
Alternative A1A



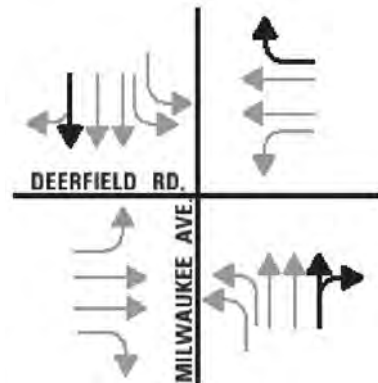
Alternative A1B



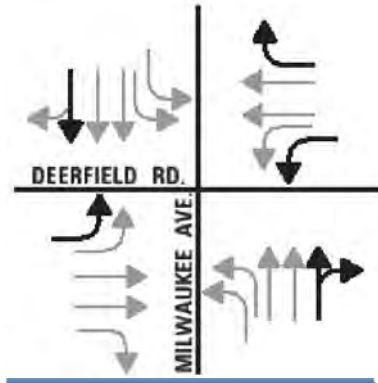
Alternative A1C



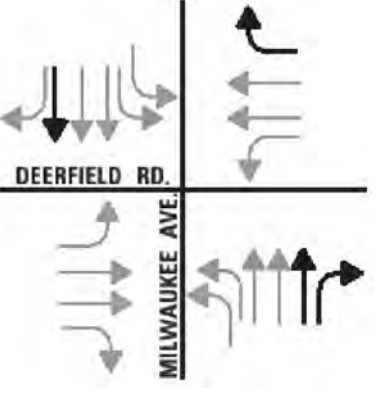
Alternative A2A



Alternative A2B



Alternative A3A



not substantial enough to justify an intersection only add-lanes on Milwaukee Avenue. Therefore, this alternative was dismissed.

2.2.1.5 Alternative A2A

Alternative A2A adds a WB RTL on Deerfield Road and a combined 3rd Thru/RTLs on the NB and SB approaches of Milwaukee Avenue. This alternative was dismissed as it does not provide a notable benefit over Alternative A1A, and results in approximately 1.8 AC of additional ROW and \$11.3M of additional cost to the project.

2.2.1.6 Alternative A2B

Adding dual LTLs on the Deerfield Road approaches slightly decreases some approach delays and total travel time compared to Alternative A2A, and specifically decreases EB approach delay substantially. However, the intersection and all other approach delays are similar to Alternative A2A and do not justify the additional ROW impacts on Deerfield Road. Therefore, this alternative was dismissed.

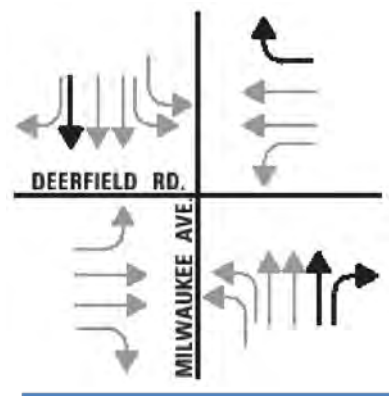
2.2.1.7 Alternative A3A

Adding the 3rd NB and SB thru lanes at the intersection only is not as effective at alleviating delay as if they were extended further south and north to Lake Cook Road and Aptakisic Road, respectively. As an extended Milwaukee Avenue improvement project is outside the scope for this Deerfield Road project, this alternative was dismissed.

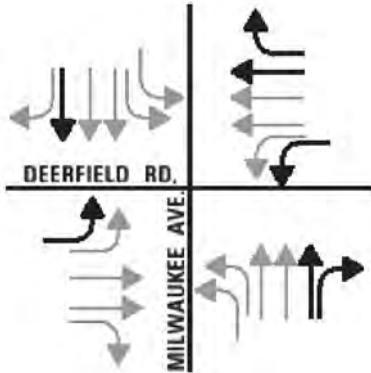
2.2.1.8 Alternative A3B

Adding dual LTLs on the Deerfield Road approaches improves overall intersection delay and total travel time compared to Alternative A3A, however the west approach of Deerfield Road is proposed to be widened, and this leg was just reconstructed with the private development improvements. While adding thru capacity on Milwaukee Avenue at the intersection slightly improves intersection delay and WB travel time compared to Alternative A1C and Alternative A2B, the benefit is

Alternative A3B



Alternative A3C



2.2.1.9 Alternative A3C

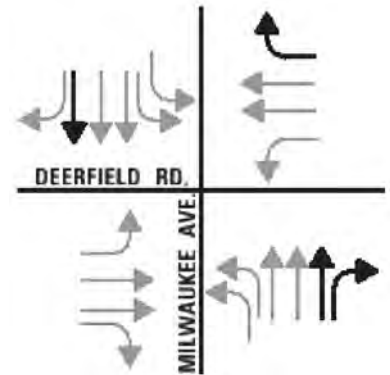
This alternative demonstrates the effect of adding the 3rd NB and SB thru lanes at the intersection only to the recommended Alternative A1D. The alternative was dismissed as it does not show an improvement to the EB and WB total travel time on Deerfield Road compared to Alternative A1D.

2.2.1.10 Alternative A4A

This alternative demonstrates the benefits to the intersection transportation performance by adding the 3rd NB and SB thru lanes on Milwaukee Avenue for an

extended distance to logical termini such as south to Lake Cook Road and north to Aptakisic Road. Adding a 3rd thru lane in each direction on Milwaukee Avenue was recommended as part of the IDOT SRA study, however the Deerfield Road study is a county project and substantial improvements to state routes are not anticipated without IDOT cost participation. If the county were to add a 3rd NB and SB thru lane on Milwaukee Avenue as part of the Deerfield Road improvements without IDOT cost participation, the proposed geometry would have lane drops following the intersection which does not perform as well. Therefore, this alternative was dismissed.

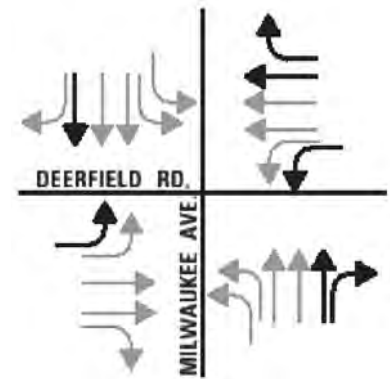
Alternative A4A



2.2.1.11 Alternative A4B

This alternative demonstrates the benefits to the intersection transportation performance by adding the 3rd NB and SB thru lanes on Milwaukee Avenue for an extended distance to logical termini such as south to Lake Cook Road and north to Aptakisic Road. Alternative A4B also maximizes Deerfield Road improvements which result in the lowest delay and total travel time of the Alternatives studied, but also the most impacts to properties adjacent to Deerfield Road and Milwaukee Avenue. The westbound approach delay is not substantially less than for other alternatives considering the additional ROW impacts. Therefore, this alternative was dismissed.

Alternative A4B



2.2.1.12 Intersection Alternatives Evaluation Conclusion

Alternative A1A demonstrates that adding two auxiliary lanes is effective at decreasing delays and total travel times for Deerfield Road. Alternative A1A is the minimum intersection improvement proposed, and is part of the preferred alternative, A1D.

Alternatives A1B, A1C, and A1D are various levels of improvement to Deerfield Road with no added thru capacity on Milwaukee Avenue. All show improvement to the overall intersection

and Deerfield Road transportation performance. Alternative A1D is the preferred alternative as it sets up well for future Milwaukee Avenue improvements to be completed by IDOT by maximizing Deerfield Road improvements. Alternative A1C is carried forward as part of the preferred alternative. Alternative A1B was dismissed as a stand-alone project as it increases the eastbound left turn lane delay.

Alternative A2A and A2B were dismissed due to the increased delay for the southbound approach over Alternative A1A.

Alternative A3A, A3B, and A3C have a lane drop following the intersection. These alternatives do not decrease the total travel time as compared to Alternative A1A and A1D, and were dismissed for additional ROW impacts to Milwaukee Avenue without comparable additional benefits.

Alternative A4B combines maximum Deerfield Road improvements with extended Milwaukee Avenue improvements. While transportation performance is best of all Alternatives, impacts are also the highest with over 8.3 acres of ROW and \$47M added for extended Milwaukee Avenue improvements. The preferred alternative (Alternative A1D) provides benefits as a stand-alone project, and sets up the intersection for the Alternative A4B future benefits as Deerfield Road improvements will already be maximized.

2.2.2 Section B Alternatives Comparative Evaluation

The Range of Alternatives was developed from the initial screening process and was conceptually developed and comparatively evaluated with respect to transportation performance, mobility, safety, environmental and socio-economic impacts, and cost. Based on the range of alternative evaluation results, a clear preferred alternative arose. The alternatives to be carried forward included Alternative 3: 3-Lane Roadway Section with Curb and Gutter (the preferred alternative) and 2040 No-Build for more detailed development and comparative evaluation. The following presents a summary of the range of alternatives and key considerations of the evaluation results to arrive at a preferred alternative for the project.

The range of alternatives consists of six alternatives and are shown as typical sections in Figure 2-4. Each alternative was conceptually developed based on the typical roadway cross sections, based on applicable LCDOT and IDOT roadway design criteria. Each of the alternatives was reviewed by LCDOT and IDOT to ensure an acceptable concept level design for comparative evaluation. The Section B range of alternatives consist of:

- 2040 No-Build
- Alternative 1 – 2-Lane with shoulder and ditch
- Alternative 2 – 3-Lane with shoulder and ditch
- Alternative 3 – 3-Lane with curb and gutter

- Alternative 4 – 4-Lane with curb and gutter
- Alternative 5 - 5-Lane with curb and gutter

The comparative evaluation was based on the following measurable criteria:

- Transportation Performance
- Mobility
- Safety
- Environmental Resource and Socio-Economic Impacts
- Construction Cost

Are Pedestrians and Bicycles Accommodated?

The Section B range of alternatives were developed with a multi-use path on one side of the roadway and opposing sidewalk. Deerfield Road is included on the 2040 County Bike Plan, and the proposed multi-use path will be built with this project. A sidewalk was included in the comparative evaluation, and ultimately will require a local agency sponsor to be included in this project. After the comparative evaluation, the Village of Riverwoods declined a sidewalk. The sidewalk was removed for the alternative carried forward discussion. A bike friendly shoulder is included for all alternatives based on the LCDOT typical roadway section.

The results of this comparative evaluation are presented in the Section B Range of Alternative Evaluation Table, Figure 2-5. To minimize the influence of Section A on the Section B comparative results, all Section B alternatives assumed the same Section A Alternative A1A improvement and no improvement at the Saunders/ Riverwoods Road intersection to be implemented. Each alternative also assumes a bike path along the south side of Deerfield Road from Thornmeadow Road to Portwine Road, and along the north side of Deerfield Road between Portwine Road and Saunders/Riverwoods Road. The signalized intersection at Portwine Road is assumed to remain in all alternatives with an added northbound and southbound left turn lane. The preferred alternatives for Section A (Alternative A1D) and Section B (Alternative 3: 3-Lane with Curb and Gutter) are combined in Section 2.3.

Figure 2-4: Section B Range of Alternatives Typical Sections

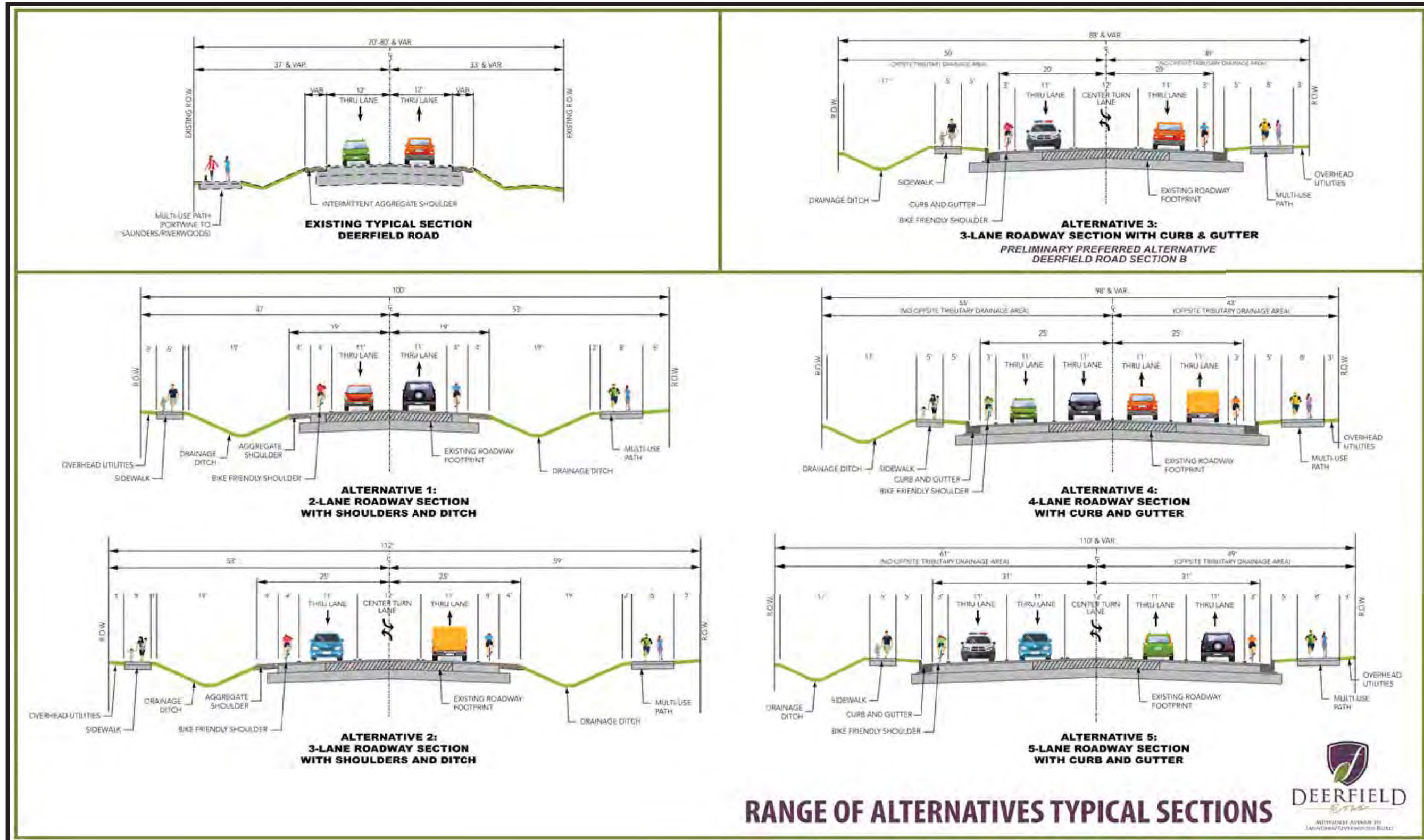
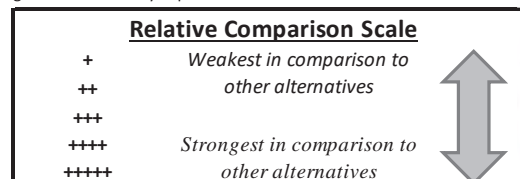


Figure 2-5: Section B Range of Alternatives Evaluation Table

Evaluation Criteria	Unit of Measure	No-Build 2040 Incorporating Private Development Lane Additions and Volumes		Range of Alternatives (Same Milwaukee Avenue and Saunders/Riverwoods Road Intersection Improvements Assumed)									
				Alternative 1 2 Lanes (Shldr & Ditch)		Alternative 2 3 Lanes (Shldr & Ditch)		Alternative 3 3 Lanes (Curb)		Alternative 4 4 Lanes (Curb)		Alternative 5 5 Lanes (Curb)	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Transportation Performance (Synchro Modeling)													
Deerfield Road Average Daily Traffic (ADT)		20,200		20,200		20,600		20,600		22,600		22,900	
Intersection Level of Service (LOS) and Average Delay¹													
Deerfield Road at Portwine Road Intersection	LOS (sec/veh)	C (25.7)	D (37.1)	C (24.5)	D (38.8)	C (25.0)	D (45.0)	C (25.0)	D (45.0)	A (9.6)	B (13.9)	B (10.3)	B (15.9)
Deerfield Road at Saunders/ Riverwoods Road	LOS (sec/veh)	C (29.9)	D (37.5)	C (29.3)	C (33.1)	C (29.2)	C (33.9)	C (29.2)	C (33.9)	C (32.4)	D (36.4)	C (33.1)	D (36.1)
Total Travel Time													
Deerfield Road Eastbound (Milwaukee Avenue to Saunders/Riverwoods Road)	minutes	6.5	6.8	7.1	7.4	6.5	6.7	6.5	6.7	5.9	6.5	5.9	6.6
Deerfield Road Westbound (Saunders/ Riverwoods Road to Milwaukee Avenue)	minutes	6.6	35.6	5.2	10.7	4.8	11.7	4.8	11.7	4.5	14.9	4.5	15.8
Mobility (Synchro Modeling)													
Roadway Section Average Vehicular Gap Acceptance													
Gaps Per Hour at Stop Controlled Intersections/Driveways (Reference location Timbewood Ln/Juneberry Rd)	# gaps (>8 seconds) per hour	52	0	60	33	53	31	53	31	73	31	74	38
Non-Motorized Accommodations													
Non-Motorized Accommodations	scale	-		++++		++++		++++		++++		++++	
Safety (Illinois Highway Safety Design Manual)													
Average Predicted Crashes - Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road)	% increase injury crashes/year	4.8%		4.8%		-51.4%		-51.4%		-38.2%		-48.6%	
Environmental Resources													
Added Net Pavement/Impervious Area	acres	-		5.88		7.23		6.92		9.24		10.51	
Floodplain Impact	acres	-		11.77		11.80		11.77		11.84		11.90	
Floodway Impact	acres	-		1.46		1.46		1.46		1.49		1.49	
Wetlands Impact	acres	-		0.57		0.60		0.52		0.54		0.56	
High Quality Wetlands Impact	acres	-		0.09		0.09		0.09		0.09		0.09	
Tree Impacts	acres	-		9.00		9.69		7.49		8.45		9.65	
Natural Area Impacts	acres	-		0.0		0.0		0.0		0.0		0.0	
Nature Preserve Impacts	acres	-		0.0		0.0		0.0		0.0		0.0	
Forest Preserve District Impacts	acres	-		0.0		0.0		0.0		0.0		0.0	
Socio-Economic Impacts													
Community Context & Character	scale	-		++++		+++		++++		++		+	
Residential/Commercial Structure Impacts	each	-		0		0		0		0		0	
Residential Right-of-Way Acquisition	acres	-		3.87		4.86		2.60		3.62		4.87	
Commercial Right-of-Way Acquisition	acres	-		0.45		0.45		0.45		0.45		0.45	
Parcels Impacted	each	-		72		80		55		65		75	
Cost													
Preliminary Estimate of Construction Cost ²	Dollars	-		\$23-26M		\$25-28M		\$25-28M		\$32-35M		\$35-38M	

1) LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection.

2) Includes the cost for property acquisition



2.2.2.1 Alternative 1: 2-Lane with Shoulder and Ditch

There is an improvement to the PM westbound total travel time for all build alternatives, and there is not a difference in the transportation performance between the build alternatives. From the 2040 No-Build to Alternative 1, the PM westbound total travel time improves from almost 36 minutes to about 11 minutes. This total travel time is within 1 minute of the preliminary preferred alternative. The intersection level of services (LOS) and delay are also similar between Alternative 1 and Alternative 3.

How is Access Being Addressed by the Project?

A key consideration for mobility within the study area is the ability to access Deerfield Road from side streets and access the side streets from Deerfield Road. Mobility was quantified based on how many acceptable gaps there are during the peak travel hour for side street users to access Deerfield Road. An acceptable gap is measured as an 8 second gap for side street vehicles turning onto Deerfield Road. All alternatives have improved mobility over the 2040 No-Build.

All alternatives have improved mobility over the 2040 No-Build. Based on the Synchro traffic model, side street access for the 2040 No-Build PM peak hour had no acceptable gaps. This improves to over 30 gaps per hour for all alternatives. AM peak hour gaps remains consistent.

Safety was analyzed using the Illinois Highway Safety Design Manual. The No-Build and Alternative 1 have a 5% increase in predicted injury crashes/year over existing conditions.

Alternative 2, 3, 4, and 5 show a reduction in the predicted injury crashes/year with the 3-lane alternatives (Alternative 2 and 3) having the greatest reduction in injury crashes/year at over 50%. These alternatives meet Purpose and Need objectives to improve safety better than the 2040 No-Build or Alternative 1.

Alternative 1 has a large number of access points from the Des Plaines River to Saunders/Riverwoods Road. Based on IDOT guidance (per BDE Section 48-4.01), a center turn lane is warranted based on the number of access points per mile in order to reduce left turning vehicles conflicting with through traffic, causing delay. Finally, the Alternative 1 footprint is larger than the Alternative 3 footprint (preferred alternative), as shown in Figure 2-6 (about 100 feet vs 90 feet wide), which leads directly to an increase in environmental and socio-economic impacts. The 10 additional feet results in about 40% greater private property (ROW) impacts.

Alternative 1 does not provide an overall greater benefit than Alternative 3 for transportation performance, mobility, and safety measures of effectiveness. However, it has greater impacts, and was dismissed.

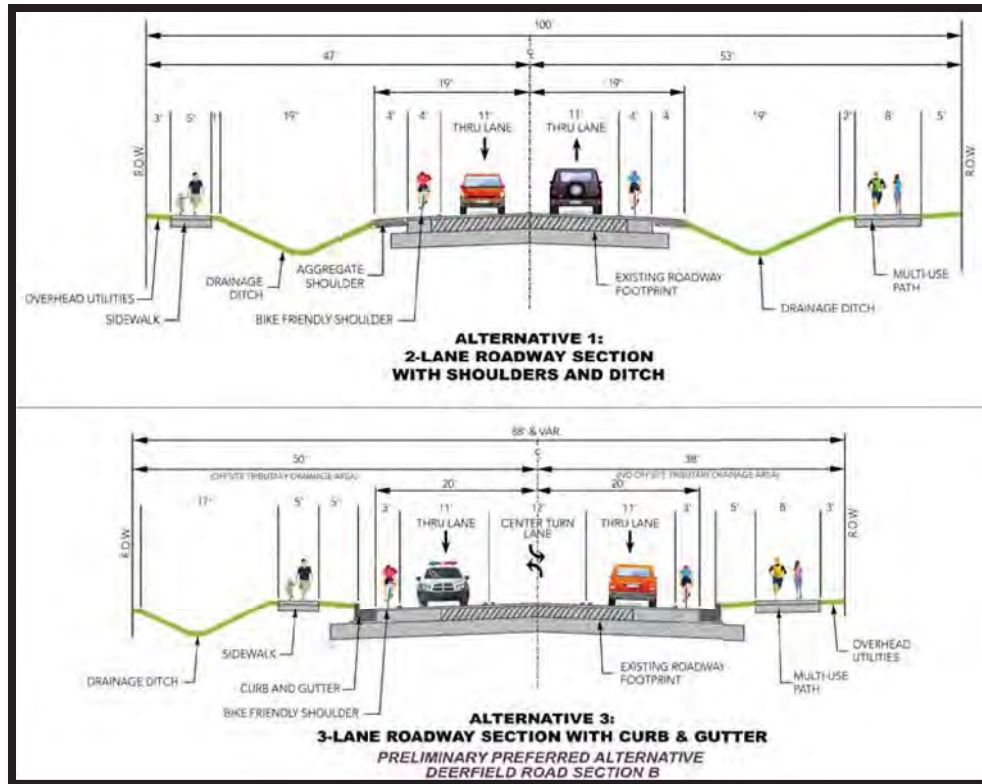


Figure 2-6: Alternative 1 Compared to Alternative 3 Footprint

2.2.2.2 Alternative 2: 3-Lane with Shoulder and Ditch

Alternative 2 and Alternative 3 are both 3-lane roadway sections, therefore the transportation performance, mobility, and safety are similar. The main differences are in the environmental resources and socio-economic impacts. The Alternative 3 footprint is approximately 90 feet wide versus the Alternative 2 footprint is approximately 110 feet wide, as shown in Figure 2-7, which directly correlates to higher environmental and private property impacts. The 20 additional feet results in about 75% greater private property impacts. While Alternative 2 may provide more community context and character based on stakeholder feedback desiring a more rural feel, this alternative was dismissed due to the additional impacts which include added impervious area, floodplain, wetland, and trees (see Figure 2-5).

Why is a Center Turn Lane Beneficial?

A center turn lane separates slowed or stopped left turning vehicles from through traffic, and improves delay, safety, and mobility. The 3-lane alternatives (Alternative 2 and 3) are predicted to have the greatest reduction in injury crashes/year at over 50% while the 2-lane alternative (Alternative 1) has a 5% increase in predicted injury crashes/year over existing conditions. Therefore, adding a center turn lane to a 2-lane roadway better meets Purpose and Need objectives to improve safety. In addition, a center turn lane is warranted for Deerfield Road based on the number of access points per mile to reduce left turning vehicles conflict with through traffic, causing delay.

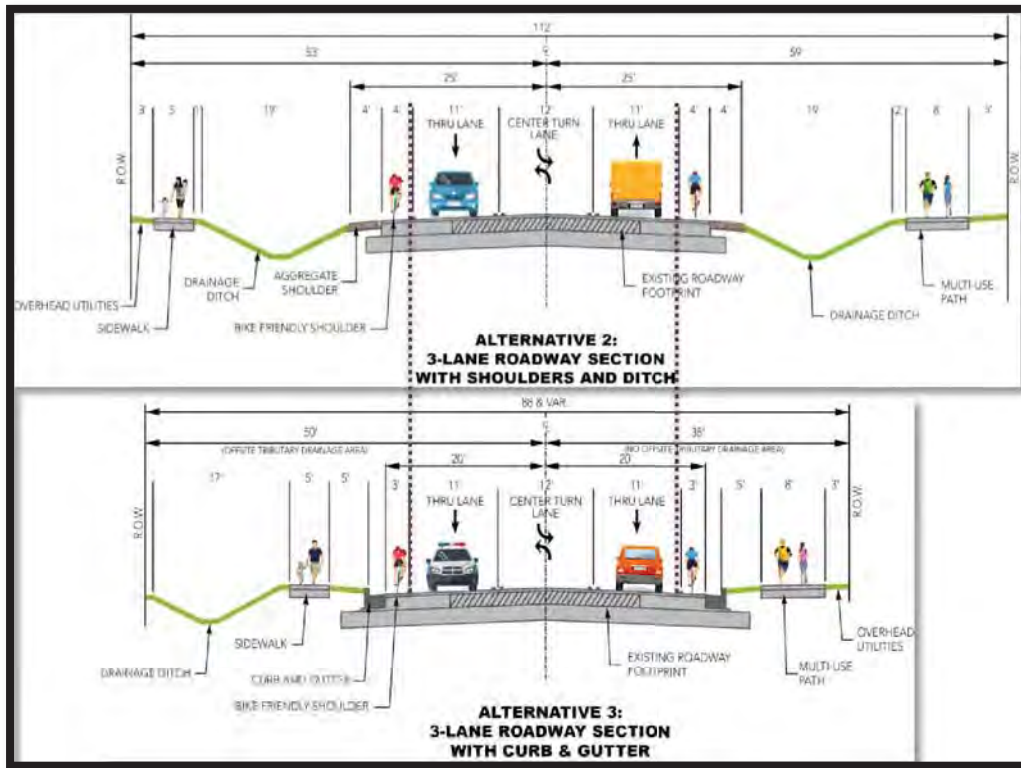


Figure 2-7: Alternative 2 compared to Alternative 3 Footprint

2.2.2.3 Alternative 3: 3-Lane with Curb and Gutter

There is an improvement to the PM westbound total travel time for all build alternatives. For Alternative 3, the PM westbound total travel time improves from almost 36 minutes to a little under 12 minutes.

How is the Long Queue Through the Corridor Being Addressed by the Project?
<p>There is an improvement to the PM westbound total travel time for all build alternatives. Specific to Alternative 3, the PM westbound total travel time is reduced to a third of the 2040 No-Build (from about 36 minutes to 12 minutes), resulting in less delay through the corridor and shorter queues at intersections.</p>

A key consideration for mobility is the ability to access Deerfield Road from side streets and access the side streets from Deerfield Road. Mobility was measured as 8 second gaps for side street vehicles turning onto Deerfield Road. All alternatives also have improved mobility over the 2040 No-Build. Based on the Synchro traffic model, side street access for the 2040 No-Build PM peak hour is zero acceptable gaps per hour. This improves to over 30 gaps per hour for all alternatives. AM peak hour gaps per hour remains consistent.

Alternative 3 has the smallest footprint at 90 feet which leads directly to smaller environmental and socio-economic impacts. Alternative 1 has a smaller amount of added impervious area. Otherwise, Alternative 3 has or ties for the lowest amount of

floodplain, floodway, wetlands, high quality wetlands, and tree impacts. All alternatives were designed to avoid natural area, nature preserve, forest preserve district, and building impacts, and Alternative 3 has the lowest amount of ROW acquisition.

2.2.2.4 Alternative 4: 4-Lane with Curb and Gutter

As shown in Figure 2-5, the WB and EB Total Travel Time is similar between Alternative 3 and Alternative 4 because the proposed termini intersection geometry is the same for all alternatives. The Portwine Avenue intersection LOS improves for Alternative 4 as compared to Alternative 3 due to the improved capacity of two thru lanes versus one thru lane. Mobility as measured by acceptable gaps per hour is similar between Alternative 3 and 4. Safety improves more for Alternative 3 than Alternative 4.

The Alternative 4 footprint is about 100 feet as compared to the Alternative 3 footprint of 90 feet, as shown in Figure 2-8. As previously described, the wider footprint directly correlates to higher environmental and property impacts. Alternative 4 results in 30% greater adjacent property (ROW) impacts than Alternative 3. Generally, Alternative 1 and Alternative 4 have similar footprints and impacts, with an exception that Alternative 4 has a greater amount of added pavement area which will result in higher detention requirements, which may be in ponds or pipes. Open space to provide any mitigation is very limited in this corridor. The cost estimate for Alternative 4 is approximately 30% higher than Alternative 3.

Alternative 4 does not provide an overall greater benefit to Alternative 3 for transportation performance, mobility, and safety measures of effectiveness. However, it has greater impacts, and was dismissed.

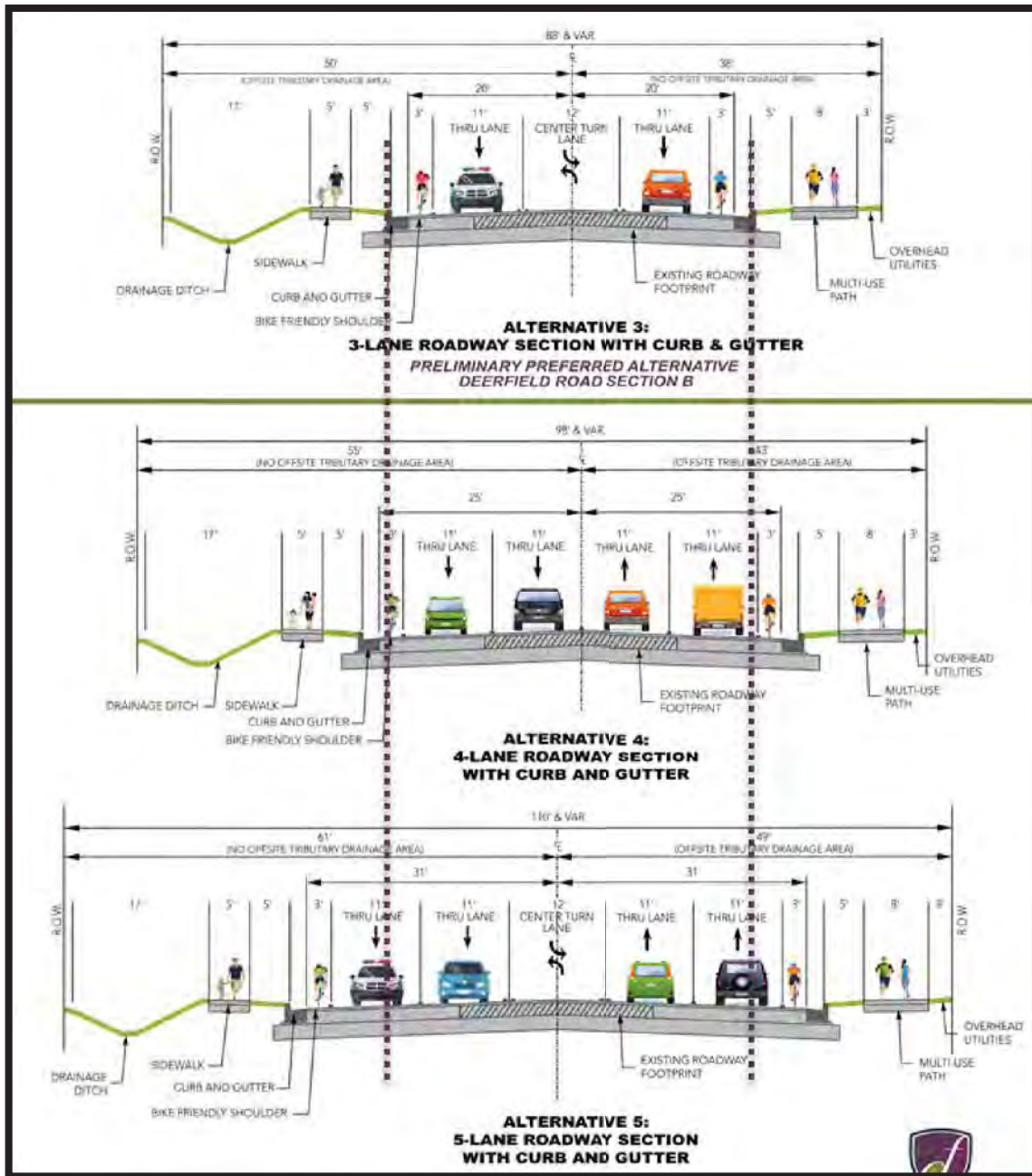


Figure 2-8: Alternative 3 Compared to Alternative 4 and 5 Footprints

2.2.2.5 Alternative 5: 5-Lane with Curb and Gutter

As shown in Figure 2-5, the WB and EB Total Travel Time is similar between Alternative 3 and Alternative 5 because the proposed termini intersection geometry is the same for all alternatives. The Portwine Avenue intersection LOS improves for Alternative 5 as compared to Alternative 3 due to the improved capacity of two thru lanes versus one

thru lane. Mobility as measured by acceptable gaps per hour is similar between Alternative 3 and 5. Safety improves more for Alternative 3 than Alternative 5.

The Alternative 5 footprint is about 110 feet as compared to the Alternative 3 footprint of 90 feet, as shown in Figure 2-8. As previously described, the wider footprint directly correlates to higher environmental and property impacts. Alternative 5 results in 75% greater adjacent property (ROW) impacts than Alternative 3. Generally, Alternative 2 and Alternative 5 have similar footprints and impacts, with an exception that Alternative 5 has a greater amount of added pavement area which will result in higher detention requirements, which may be in ponds or pipes. Open space to provide any mitigation is very limited in this corridor. The cost estimate for Alternative 5 is approximately 50% higher than Alternative 3.

Alternative 5 does not provide an overall greater benefit to Alternative 3 for transportation performance, mobility, and safety measures of effectiveness. However, it has greater impacts, and was dismissed.

2.2.2.6 Range of Alternative Evaluation Conclusions

In conclusion, Alternative 3, 3-Lane with Curb & Gutter was chosen as the preferred alternative because it provides:

- Best overall transportation performance improvement
- Good mobility improvement
- Greatest safety improvement
- Smallest roadway footprint
- Lowest environmental and socio-economic impacts
- Lower cost alternative

Alternative	Does the Alternative Meet the Purpose and Need?		Was the Alternative Carried Forward for Detailed Study?	
	Yes	If No, Why?	If No, Why?	Finalist
No-Build		Decreases transportation performance, mobility and safety	Yes	X
1		Decreases safety	No, decreases safety from existing conditions	
2	X		No, similar performance to Alt 3, but greater impacts	
3	X		Yes	X
4	X		No, similar performance to Alt 3, but greater impacts & cost	
5	X		No, similar performance to Alt 3, greater impacts & cost	

2.3 What are the Alternatives to Be Carried Forward?

The alternatives to be carried forward include the No-Build and the combination of Alternative A1D from Section A and Alternative 3 from Section B (Preferred Alternative). The No-Build alternative consists of no additional geometric or capacity improvements to the project corridor and intersections within the 2040 planning horizon, and does not address the transportation performance, safety, mobility and operational deficiencies. The No-Build is carried forward as a baseline for comparison of impacts and benefits.

The Preferred Alternative is shown in Figure 2-9. A comparative analysis of the No-Build and Preferred Alternative was performed with respect to transportation performance, mobility, safety, environmental resource impacts, socio-economic impacts, and design/cost considerations. The resulting Impact Evaluation is shown in Figure 2-10.

Figure 2-9: Preferred Build Alternative

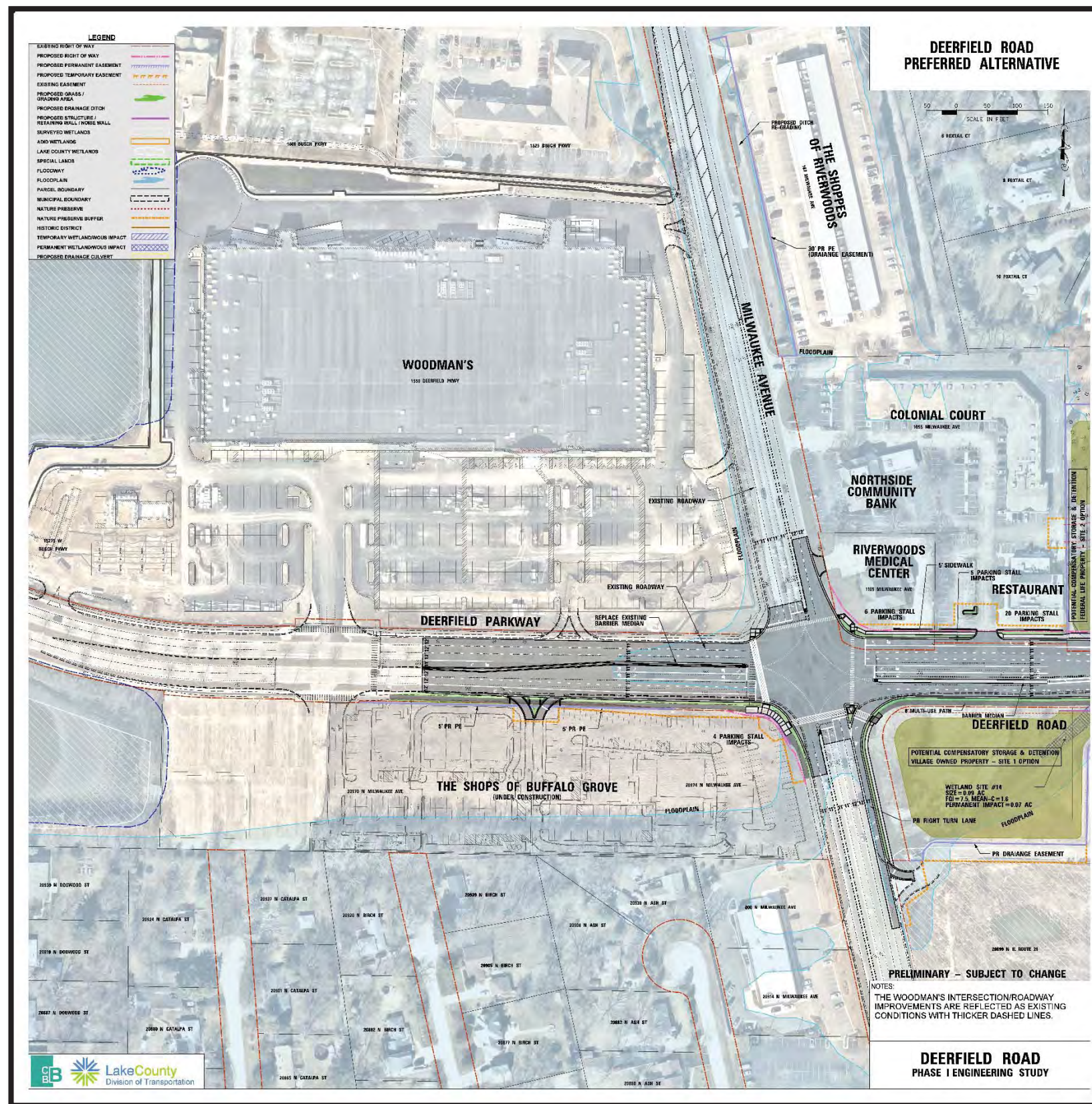


Figure 2-9: Preferred Build Alternative (con't)

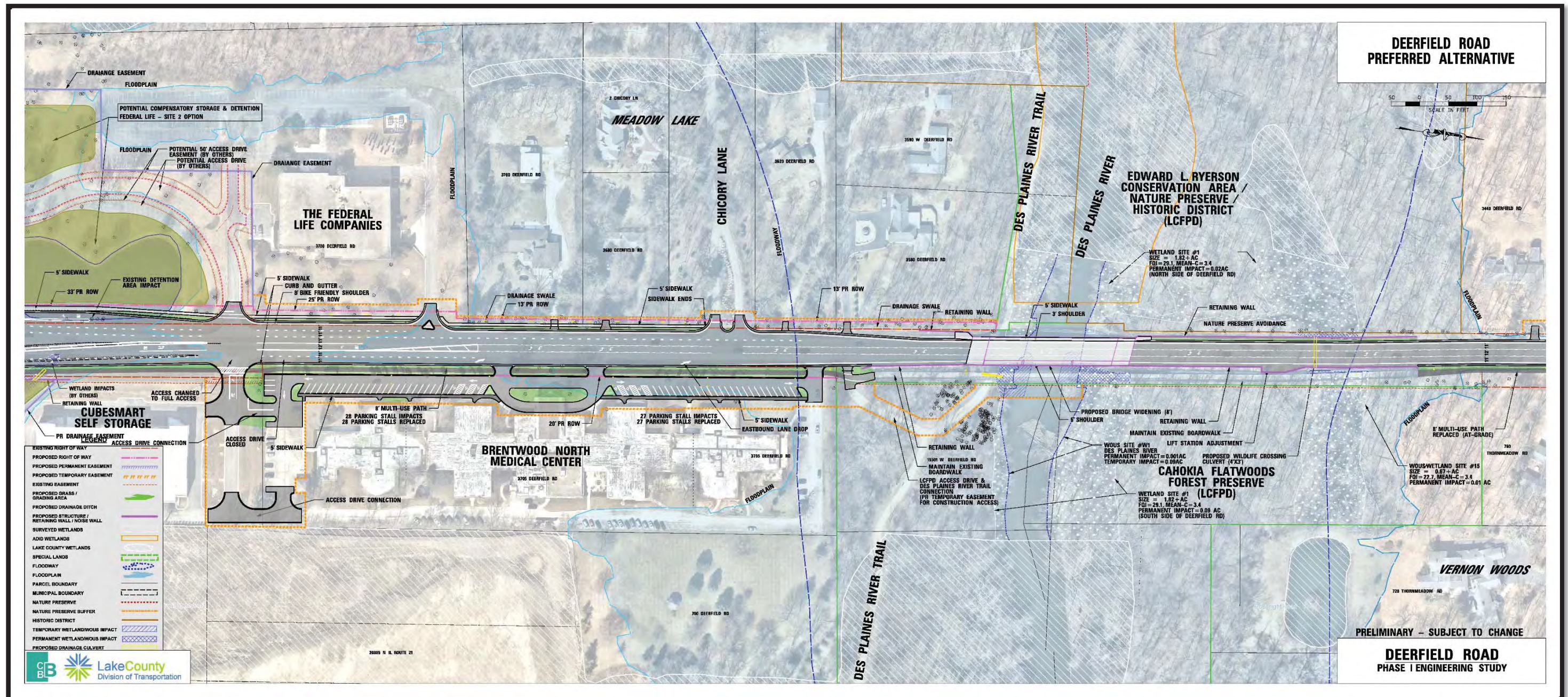


Figure 2-9: Preferred Build Alternative (con't)

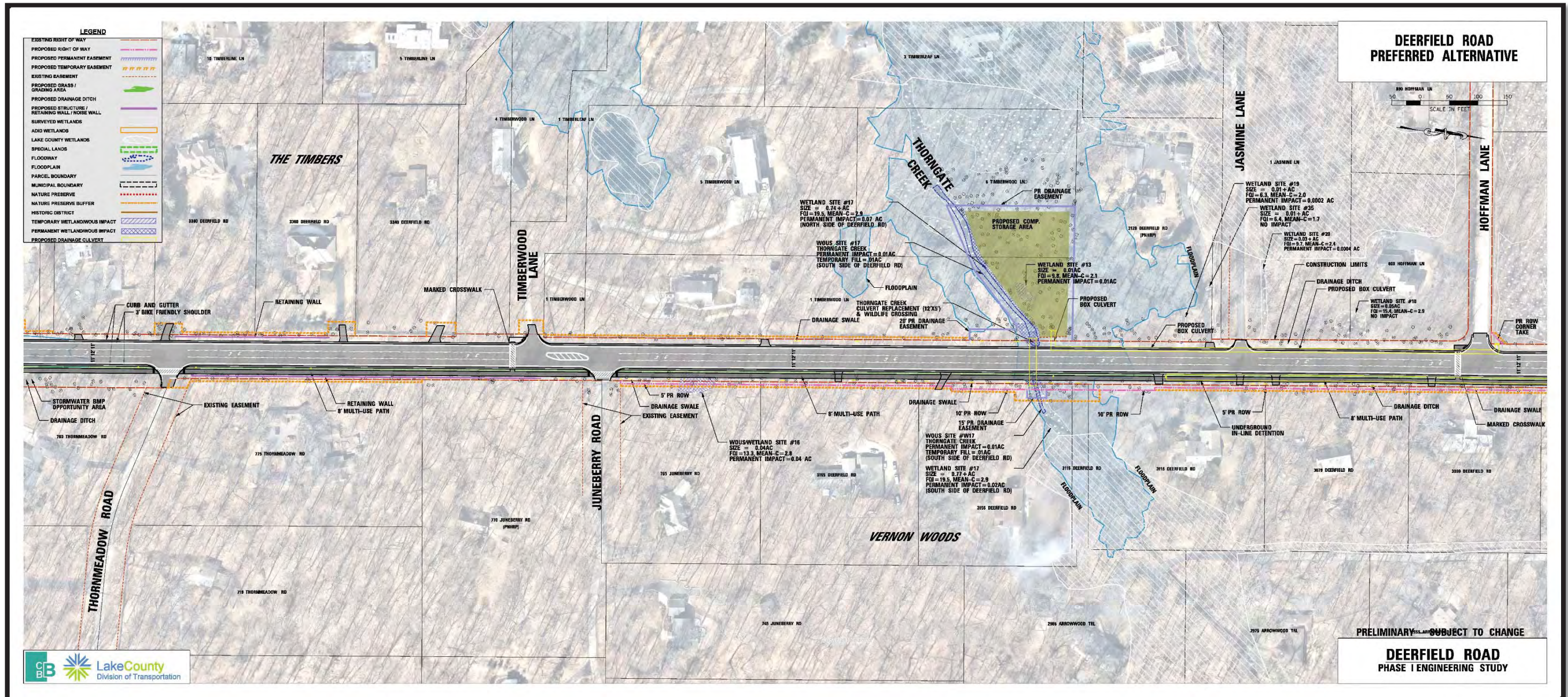


Figure 2-9: Preferred Build Alternative (con't)

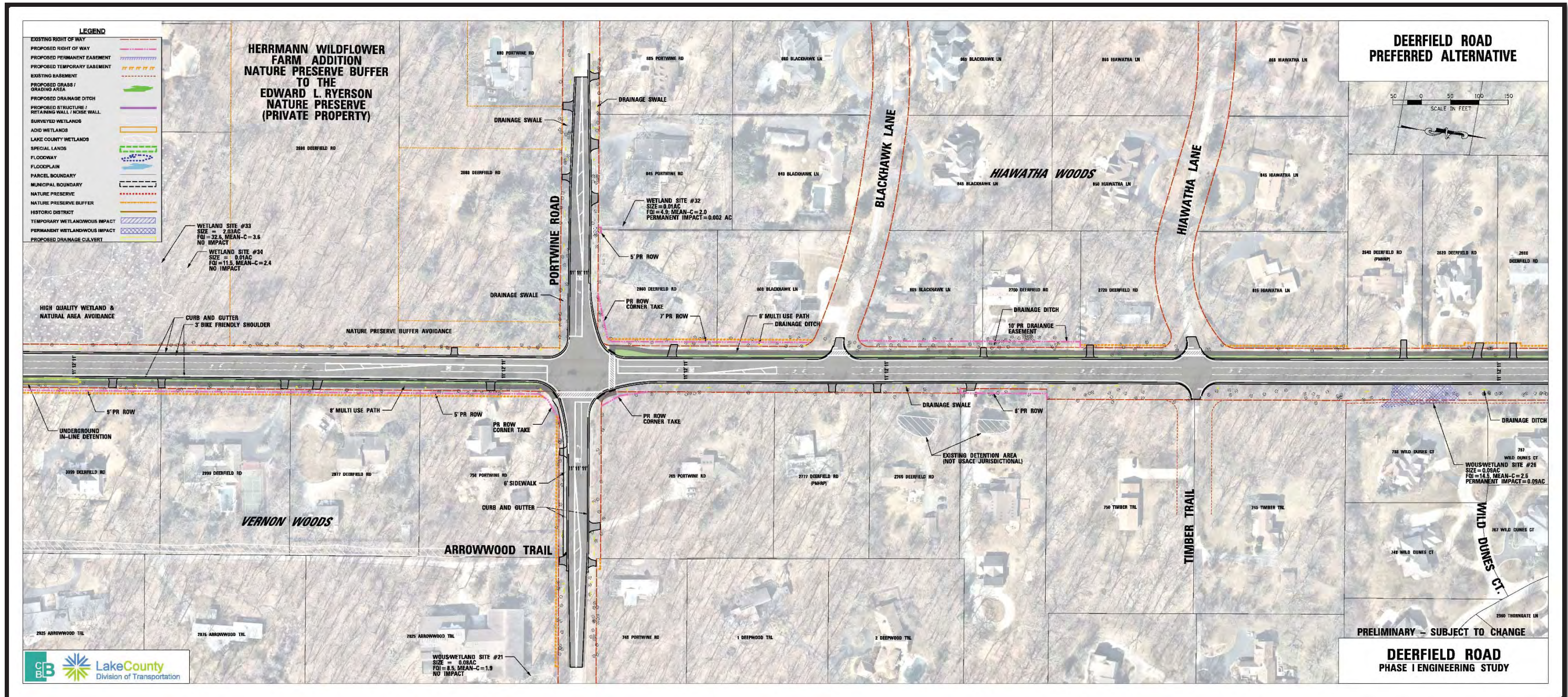


Figure 2-9: Preferred Build Alternative (con't)

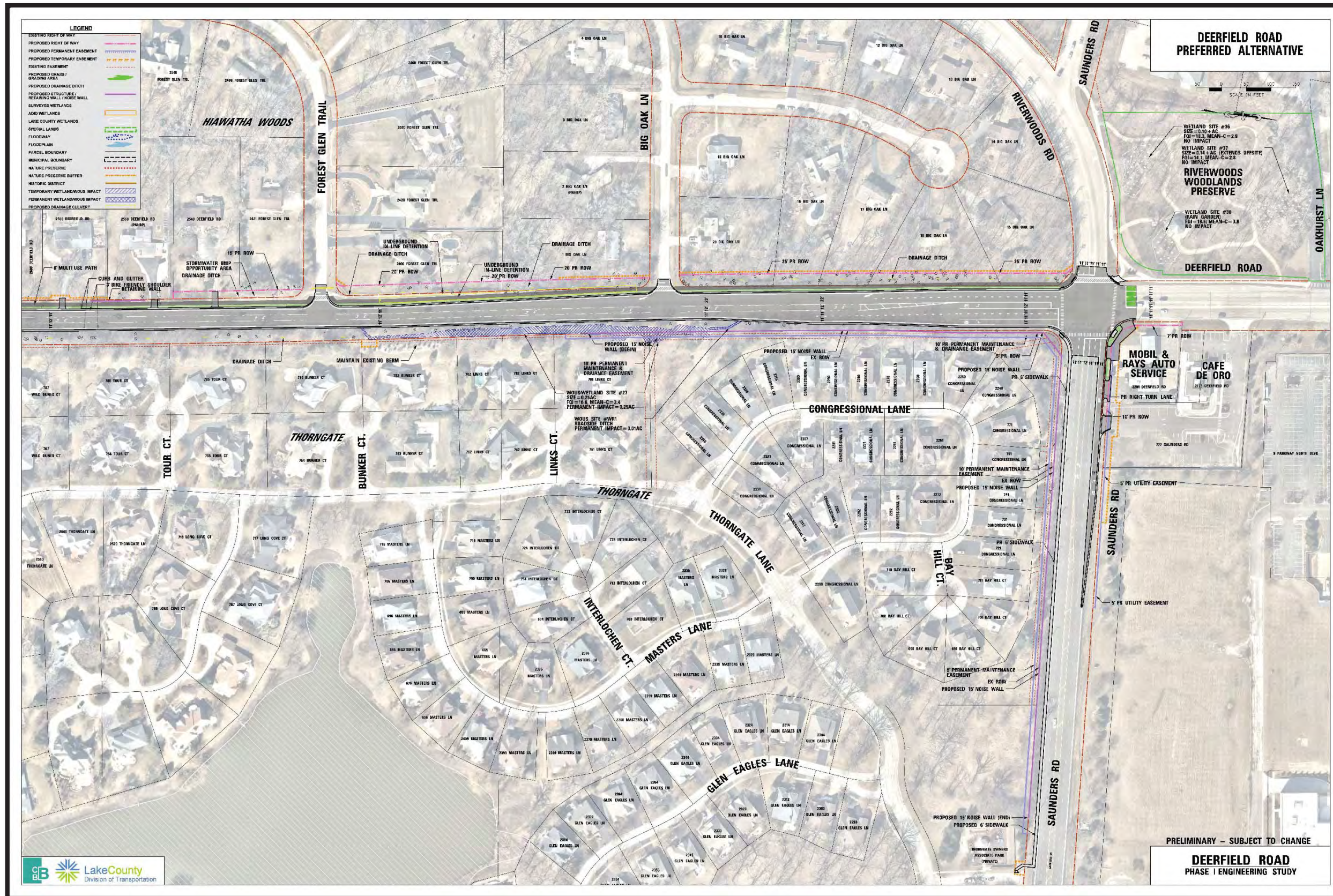
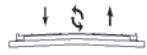


Figure 2-10: Finalist Alternatives Impact Evaluation

Evaluation Criteria	Unit of Measure	No-Build 2040 Incorporating Woodman's Development		Preferred Alternative	
					
Transportation Performance (Synchro Modeling)					
Deerfield Road Average Daily Traffic (ADT)		20,200		20,600	
Intersection Level of Service (LOS) and Average Delay ¹		AM	PM	AM	PM
Deerfield Road at Milwaukee Avenue Intersection	LOS (sec/veh)	E (66.7)	F (221.6)	D (44.0)	E (72.1)
Deerfield Road at Portwine Road Intersection	LOS (sec/veh)	C (25.7)	D (37.1)	C (24.8)	D (44.8)
Deerfield Road at Saunders/ Riverwoods Road	LOS (sec/veh)	C (29.9)	D (37.5)	C (27.2)	C (25.1)
Total Travel Time		AM	PM	AM	PM
Deerfield Road Eastbound (Milwaukee Avenue to Saunders/Riverwoods Road)	minutes	6.5	6.8	6.6	6.2
Deerfield Road Westbound (Saunders/ Riverwoods Road to Milwaukee Avenue)	minutes	6.6	35.6	4.7	7.4
Mobility (Synchro Modeling)					
Roadway Section Average Vehicular Gap Acceptance		AM	PM	AM	PM
Gaps Per Hour at Stop Controlled Intersections/Driveways (Reference location Timberwood Ln/Juneberry Rd)	#gaps >8 seconds per hour	52	0	53	31
Non-Motorized Accommodations					
Non-Motorized Accommodations	scale	-		+++++	
Safety (Illinois Highway Safety Design Manual)					
Average Predicted Crashes - Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road)	% increase injury crashes/year	4.8%		-51.4%	
Environmental Resources					
Added Net Pavement/Impervious Area	acres	-		6.95	
Floodplain Impact	acres	-		7.12	
Floodway Impact	acres	-		1.46	
Wetlands Impact	acres	-		0.59	
High Quality Wetlands Impact	acres	-		0.09	
Tree Impacts	acres	-		7.33	
Natural Area Impacts	acres	-		0.0	
Nature Preserve Impacts	acres	-		0.0	
Forest Preserve District Impacts	acres	-		0.0	
Socio-Economic Impacts					
Community Context & Character	scale	-		++++	
Residential/Commercial Structure Impacts	each	-		0	
Residential Right-of-Way Acquisition	acres	-		2.61	
Commercial Right-of-Way Acquisition	acres	-		1.25	
Parcels Impacted	each	-		55	
Cost					
Preliminary Estimate of Construction Cost ²	Dollars	-		\$25-28M	

1) LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection.

2) Includes the cost for property acquisition

2.4 What is the Preferred Alternative?

The preferred alternative is compared against the No-Build in Figure 2-10. Notable benefits of the preferred alternative over the No-Build include:

- Improving capacity and congestion by decreasing the Deerfield Road at Milwaukee Avenue intersection delay by almost 70% (222 seconds/vehicle to 72 seconds/vehicle), and
- Decreasing Deerfield Road westbound total travel time through the corridor in the PM by 80% (36 minutes to 7 minutes).
- Improving mobility and accessibility as measured by side street access to Deerfield Road from zero to over 30 acceptable gaps for the PM peak hour.
- Improving safety by decreasing the injury crashes/year by over fifty percent.
- Improving non-motorized connections by implementing the off-road multi-use path along Deerfield Road with the project.
- Correcting operational deficiencies by reconstructing Deerfield Road to meet current standards.

On the above basis, the preferred alternative meets the Purpose and Need for the project as compared to the No-Build. The Preferred Alternative is shown in Appendix C Figure C-1 and includes:

- An intersection improvement at Milwaukee Avenue, including two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach.
- An intersection improvement at Portwine Road, including an exclusive left turn lane on the northbound and southbound approaches.
- An intersection improvement at Saunders/Riverwoods Road, including a right turn lane on the northbound approach.
- The typical roadway section from Milwaukee Avenue to Saunders/ Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 feet wide two-way left turn lane and 3 feet wide bike friendly shoulders bounded by barrier curb and gutter.
- A separate 8-foot wide multi-use path along the south side of the roadway from Milwaukee to Portwine and along the north side of the roadway from Portwine to Saunders/ Riverwoods Road. The multi-use path will be a part of the regional Lake County Trail network.

- A 5-foot wide sidewalk along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane, west side of Portwine Road from Deerfield Road south to Arrowhead Trail, and west side of Saunders Road from Deerfield Road to Thorngate HOA Park.
- A new closed drainage system.
- A new pavement structure.
- Widening and re-decking of the Deerfield Road bridge structure over the Des Plaines River.

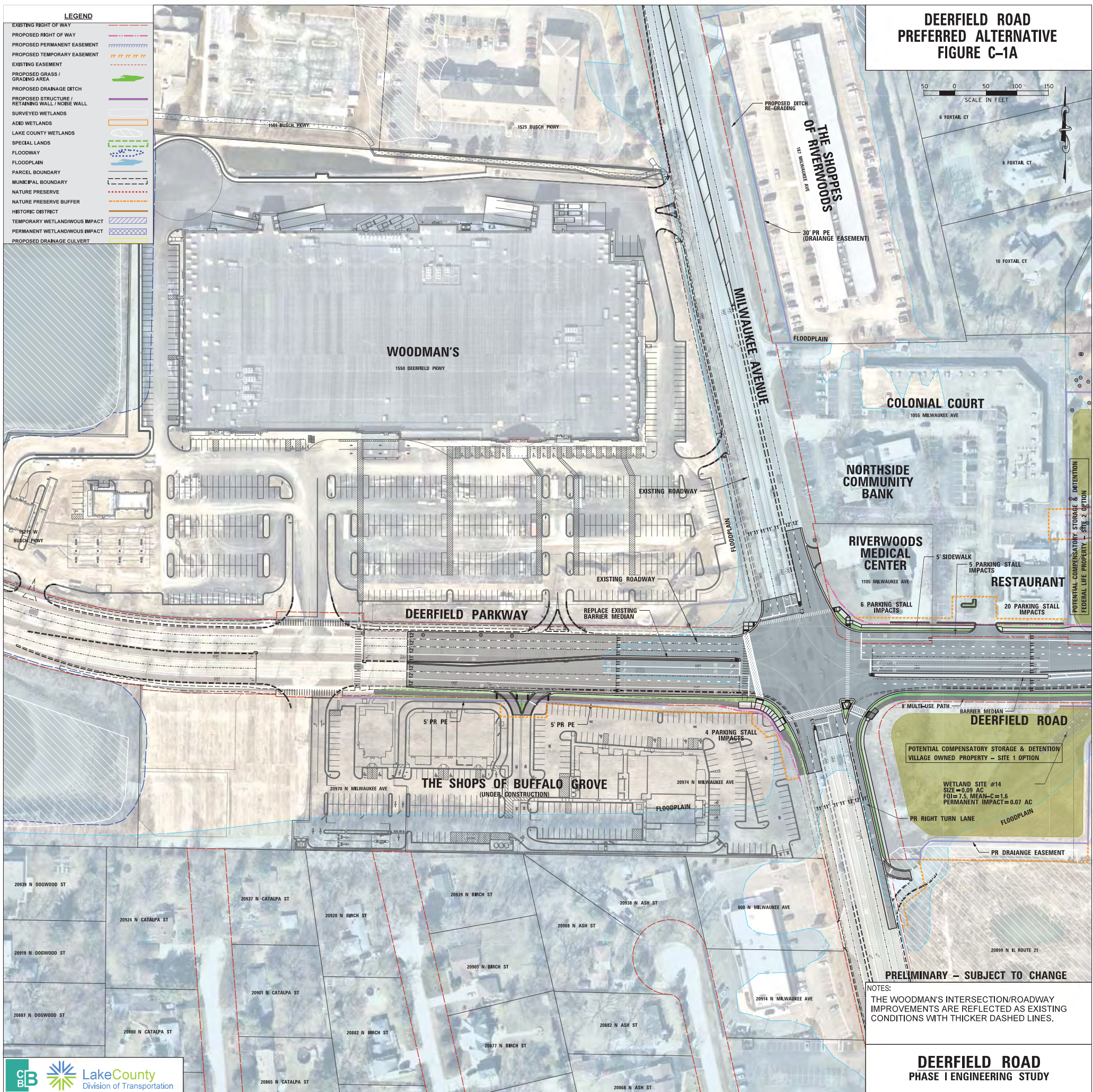
The environmental resources, impacts, and mitigation associated with the Preferred Alternative are discussed in detail within Chapter 3.

APPENDIX C

FIGURES & TABLES

LEGEND	
EXISTING RIGHT OF WAY	
PROPOSED RIGHT OF WAY	
PROPOSED PERMANENT EASEMENT	
PROPOSED TEMPORARY EASEMENT	
EXISTING EASEMENT	
PROPOSED GRASS / GRADING AREA	
PROPOSED DRAINAGE DITCH	
PROPOSED STRUCTURE / RETAINING WALL / NOISE WALL	
SURVEYED WETLANDS	
ACID WETLANDS	
LAKE COUNTY WETLANDS	
SPECIAL LANDS	
FLOODWAY	
FLOODPLAIN	
PARCEL BOUNDARY	
MUNICIPAL BOUNDARY	
NATURE PRESERVE	
NATURE PRESERVE BUFFER	
HISTORIC DISTRICT	
TEMPORARY WETLAND/VOUS IMPACT	
PERMANENT WETLAND/VOUS IMPACT	
PROPOSED DRAINAGE CULVERT	

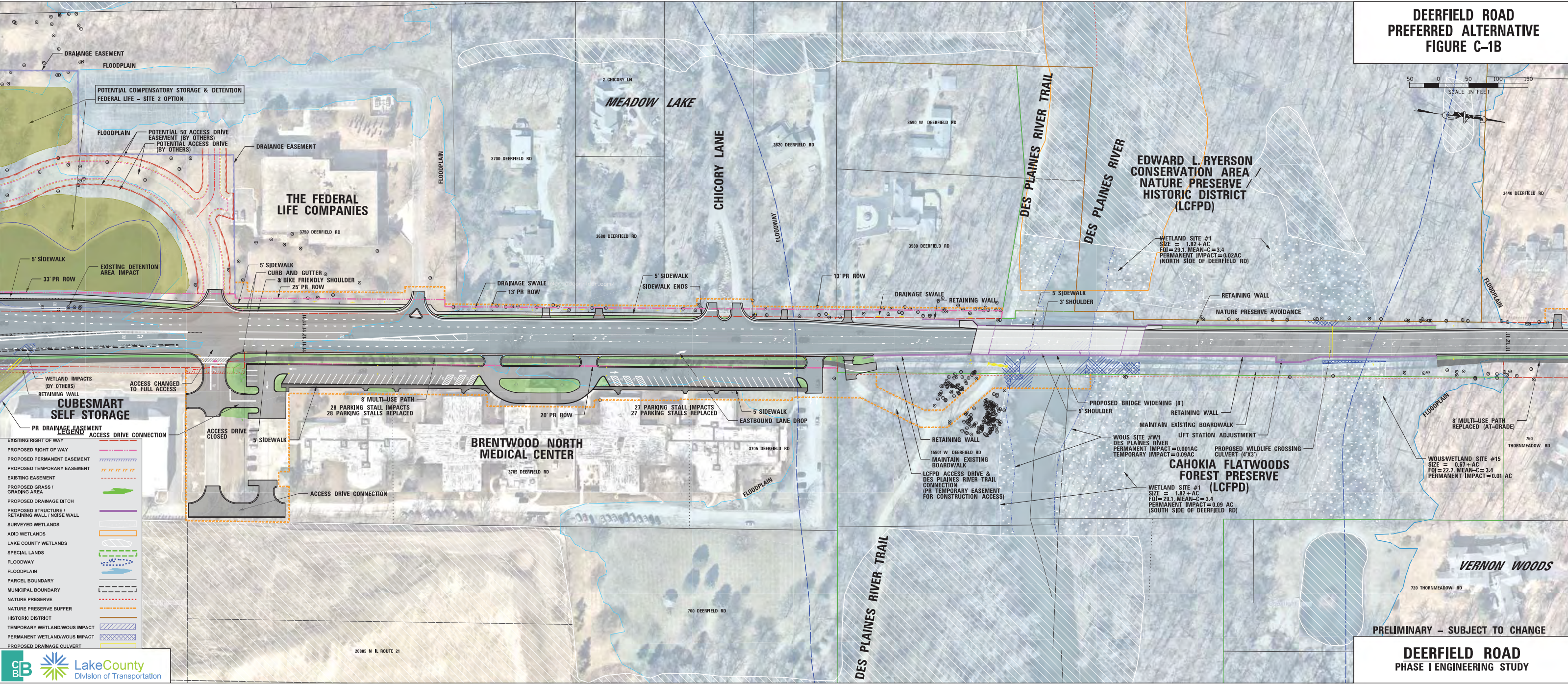
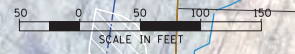
DEERFIELD ROAD PREFERRED ALTERNATIVE FIGURE C-1A



PRELIMINARY – SUBJECT TO CHANGE

NOTES:
THE WOODMAN'S INTERSECTION/ROADWAY IMPROVEMENTS ARE REFLECTED AS EXISTING CONDITIONS WITH THICKER DASHED LINES.

**DEERFIELD ROAD
PREFERRED ALTERNATIVE
FIGURE C-1B**



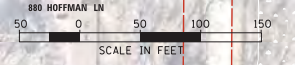
LEGEND

EXISTING RIGHT OF WAY	PROPOSED RIGHT OF WAY
PROPOSED PERMANENT EASEMENT	PROPOSED TEMPORARY EASEMENT
EXISTING EASEMENT	PROPOSED GRASS / GRADING AREA
PROPOSED DRAINAGE DITCH	PROPOSED STRUCTURE / RETAINING WALL / NOISE WALL
SURVEYED WETLANDS	ADD WETLANDS
LAKE COUNTY WETLANDS	SPECIAL LANDS
FLOODWAY	FLOODPLAIN
PARCEL BOUNDARY	MUNICIPAL BOUNDARY
NATURE PRESERVE	NATURE PRESERVE BUFFER
HISTORIC DISTRICT	TEMPORARY WETLAND/WOUS IMPACT
PERMANENT WETLAND/WOUS IMPACT	PROPOSED DRAINAGE CULVERT

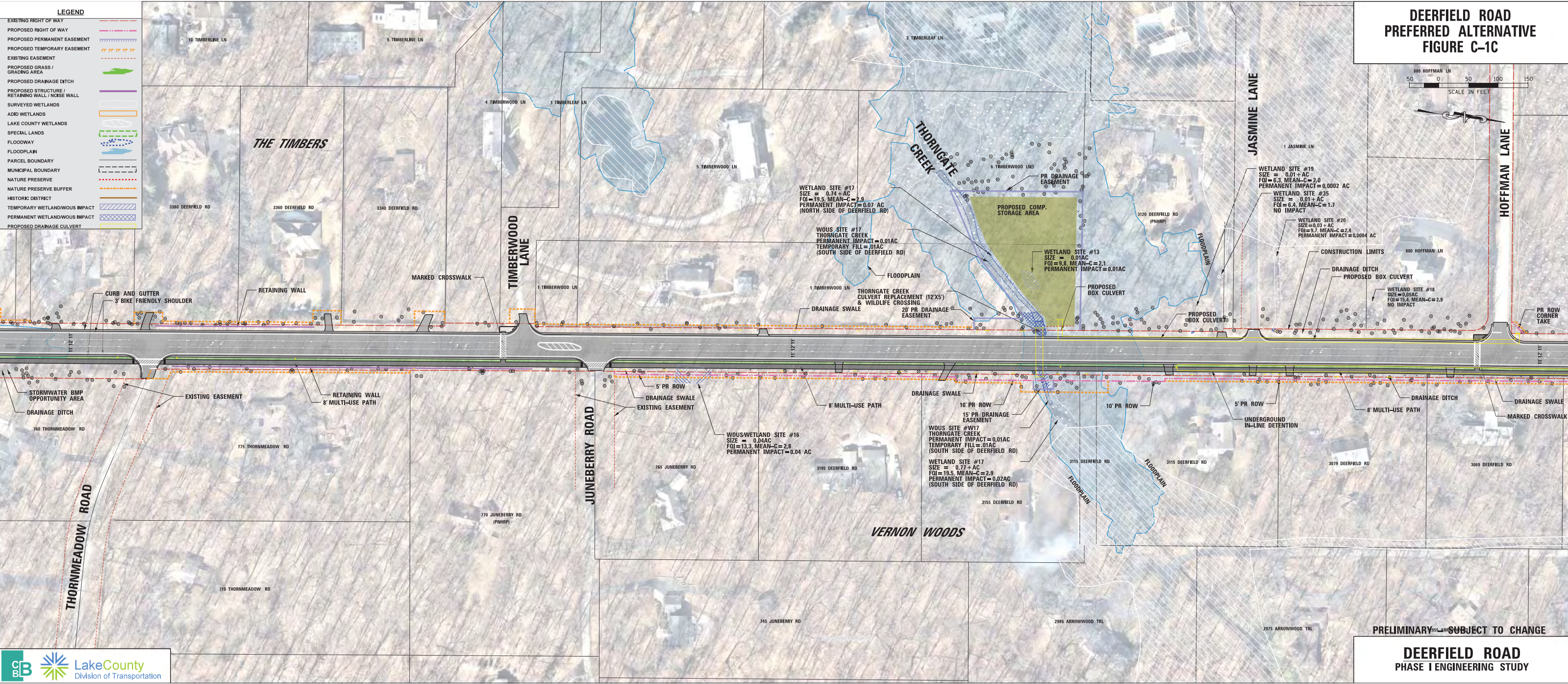
**DEERFIELD ROAD
PHASE I ENGINEERING STUDY**

PRELIMINARY - SUBJECT TO CHANGE

**DEERFIELD ROAD
PREFERRED ALTERNATIVE
FIGURE C-1C**



LEGEND	
EXISTING RIGHT OF WAY	(Red dashed line)
PROPOSED RIGHT OF WAY	(Blue dashed line)
PROPOSED PERMANENT EASEMENT	(Green hatched area)
PROPOSED TEMPORARY EASEMENT	(Yellow hatched area)
EXISTING EASEMENT	(Blue hatched area)
PROPOSED GRASS / GRADING AREA	(Green solid area)
PROPOSED DRAINAGE DITCH	(Blue dashed line)
PROPOSED STRUCTURE / RETAINING WALL / NOISE WALL	(Purple solid area)
SURVEYED WETLANDS	(Blue hatched area)
ADDITIONAL WETLANDS	(Blue hatched area)
LAKE COUNTY WETLANDS	(Blue hatched area)
SPECIAL LANDS	(Blue hatched area)
FLOODWAY	(Blue hatched area)
FLOODPLAIN	(Blue hatched area)
PARCEL BOUNDARY	(Black dashed line)
MUNICIPAL BOUNDARY	(Black dashed line)
NATURE PRESERVE	(Blue hatched area)
NATURE PRESERVE BUFFER	(Blue hatched area)
HISTORIC DISTRICT	(Blue hatched area)
TEMPORARY WETLAND/IMPACT	(Blue hatched area)
PERMANENT WETLAND/IMPACT	(Blue hatched area)
PROPOSED DRAINAGE CULVERT	(Blue hatched area)

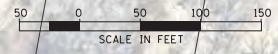


PRELIMINARY - SUBJECT TO CHANGE

**DEERFIELD ROAD
PHASE I ENGINEERING STUDY**



**DEERFIELD ROAD
PREFERRED ALTERNATIVE
FIGURE C-1D**



- LEGEND**
- EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - PROPOSED PERMANENT EASEMENT
 - PROPOSED TEMPORARY EASEMENT
 - EXISTING EASEMENT
 - PROPOSED GRASS / GRADING AREA
 - PROPOSED DRAINAGE DITCH
 - PROPOSED STRUCTURE / RETAINING WALL / NOISE WALL
 - SURVEYED WETLANDS
 - ADDED WETLANDS
 - LAKE COUNTY WETLANDS
 - SPECIAL LANDS
 - FLOODWAY
 - FLOODPLAIN
 - PARCEL BOUNDARY
 - MUNICIPAL BOUNDARY
 - NATURE PRESERVE
 - NATURE PRESERVE BUFFER
 - HISTORIC DISTRICT
 - TEMPORARY WETLAND/IMPACT
 - PERMANENT WETLAND/IMPACT
 - PROPOSED DRAINAGE CULVERT

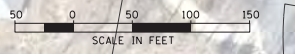
**HERRMANN WILDFLOWER
FARM ADDITION
NATURE PRESERVE BUFFER
TO THE
EDWARD L. RYERSON
NATURE PRESERVE
(PRIVATE PROPERTY)**



PRELIMINARY - SUBJECT TO CHANGE

**DEERFIELD ROAD
PHASE I ENGINEERING STUDY**

DEERFIELD ROAD
PREFERRED ALTERNATIVE
FIGURE C-1E



LEGEND

EXISTING RIGHT OF WAY	---
PROPOSED RIGHT OF WAY	---
PROPOSED PERMANENT EASEMENT	---
PROPOSED TEMPORARY EASEMENT	---
EXISTING EASEMENT	---
PROPOSED GRASS / GRADING AREA	---
PROPOSED DRAINAGE DITCH	---
PROPOSED STRUCTURE RETAINING WALL / NOISE WALL	---
SURVEYED WETLANDS	---
ADD WETLANDS	---
LAKE COUNTY WETLANDS	---
SPECIAL LANDS	---
FLOODPLAIN	---
PARCEL BOUNDARY	---
MUNICIPAL BOUNDARY	---
NATURE PRESERVE	---
NATURE PRESERVE BUFFER	---
HISTORIC DISTRICT	---
TEMPORARY WETLAND/WOUS IMPACT	---
PERMANENT WETLAND/WOUS IMPACT	---
PROPOSED DRAINAGE CULVERT	---



WETLAND SITE #36
SIZE=0.10+ AC
FOI=18.3, MEAN-C=2.9
NO IMPACT

WETLAND SITE #37
SIZE=0.14+ AC (EXTENDS OFFSITE)
FOI=14.7, MEAN-C=2.8
NO IMPACT

WETLAND SITE #30
(RAIN GARDEN)
FOI=18.6, MEAN-C=3.8
NO IMPACT

MOBIL & RAYS AUTO SERVICE
2201 DEERFIELD RD

CAFE DE ORO
2775 DEERFIELD RD

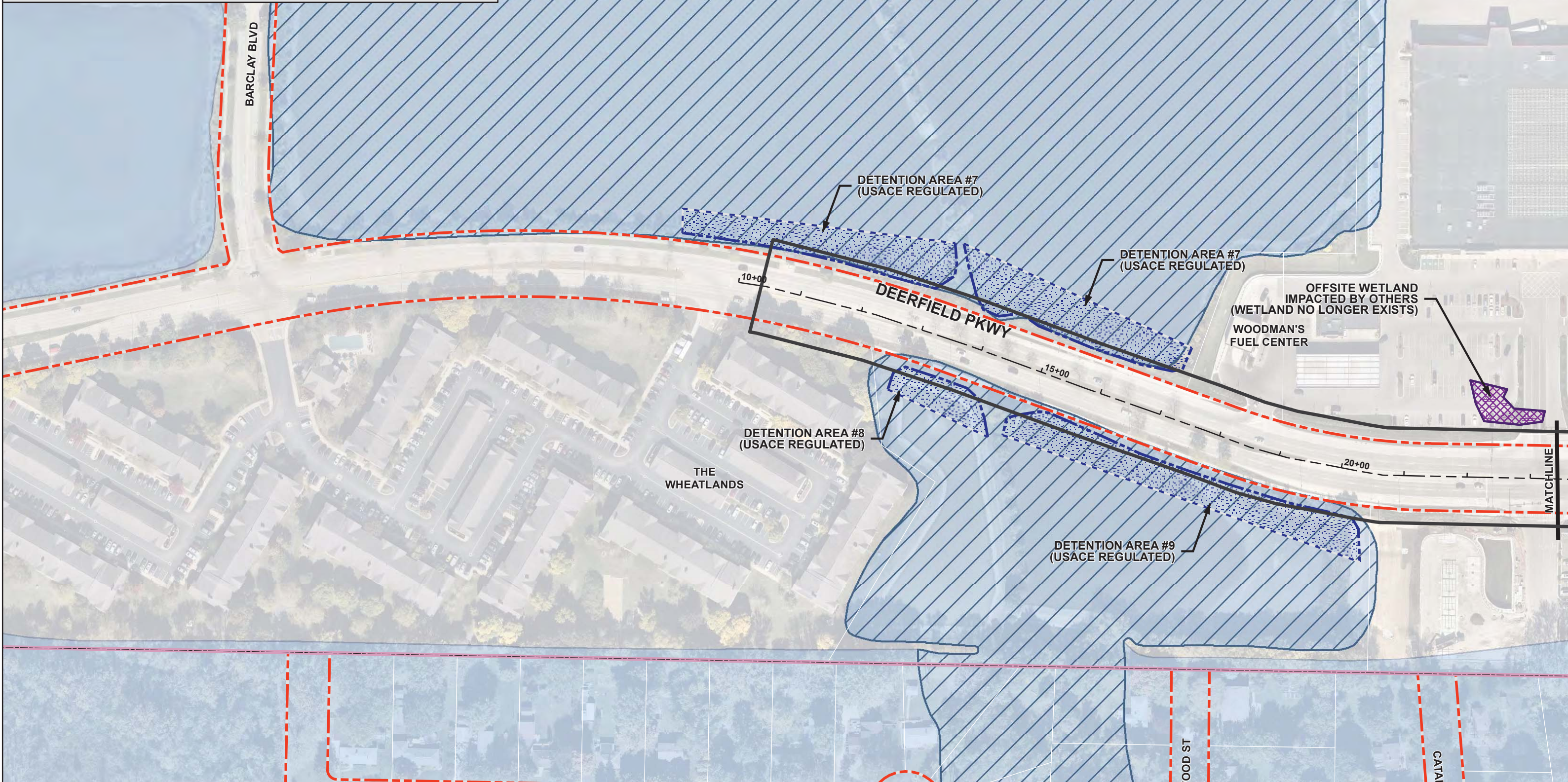
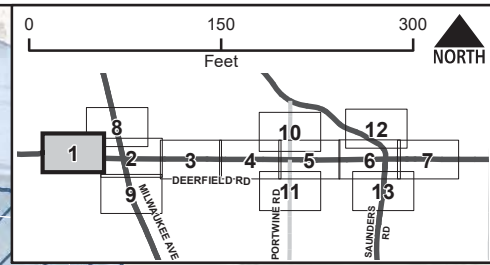
PRELIMINARY - SUBJECT TO CHANGE

DEERFIELD ROAD
PHASE I ENGINEERING STUDY



	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

NOTE: - ROADSIDE DITCHES AND OPEN WATER DETENTION AREAS ARE NOT U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATED, UNLESS OTHERWISE NOTED PER PRELIMINARY JURISDICTIONAL DETERMINATION (DATED 06/28/2017).
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 * SOURCE: IDNR, INPC, IL ENDANGERED SPECIES PROTECTION BOARD, AND NATURAL HERITAGE DATABASE (DATED 01/14/2021)
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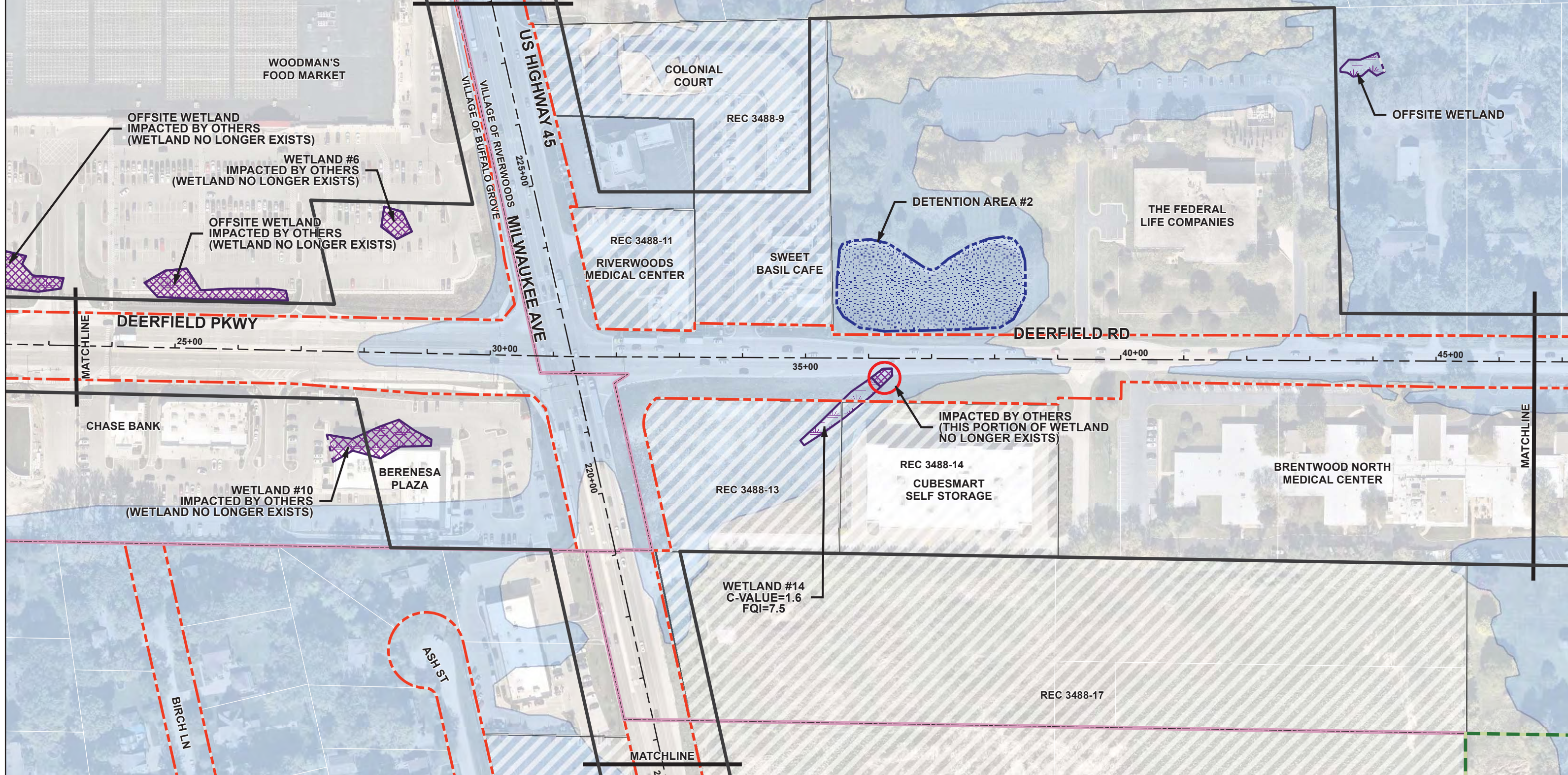
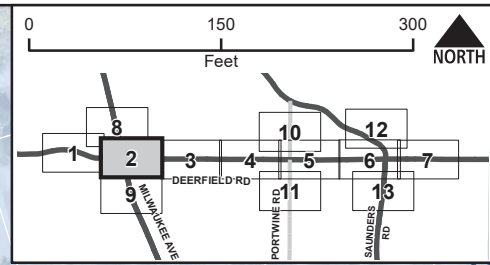
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WALNUT DR
 PATH: N:\LCDOT\150331\GIS\Exhibits\Environmental Resources Sheets 01262021 FIG C-2.mxd

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 1

	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

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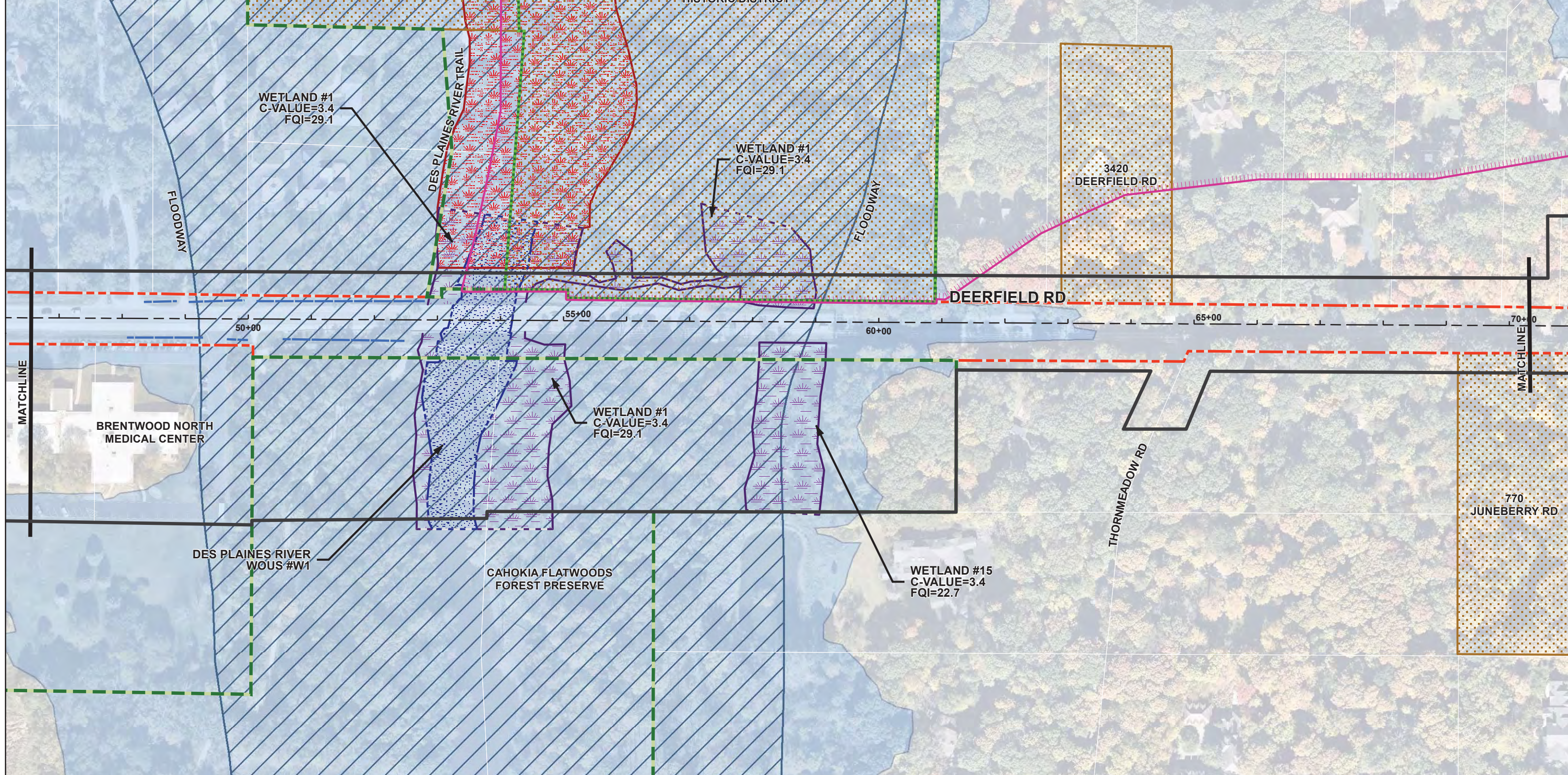
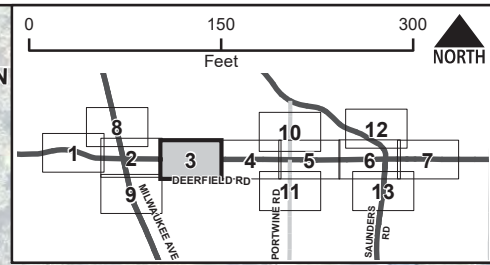
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REC 3488-16
 215+00
 MATCHLINE

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 2

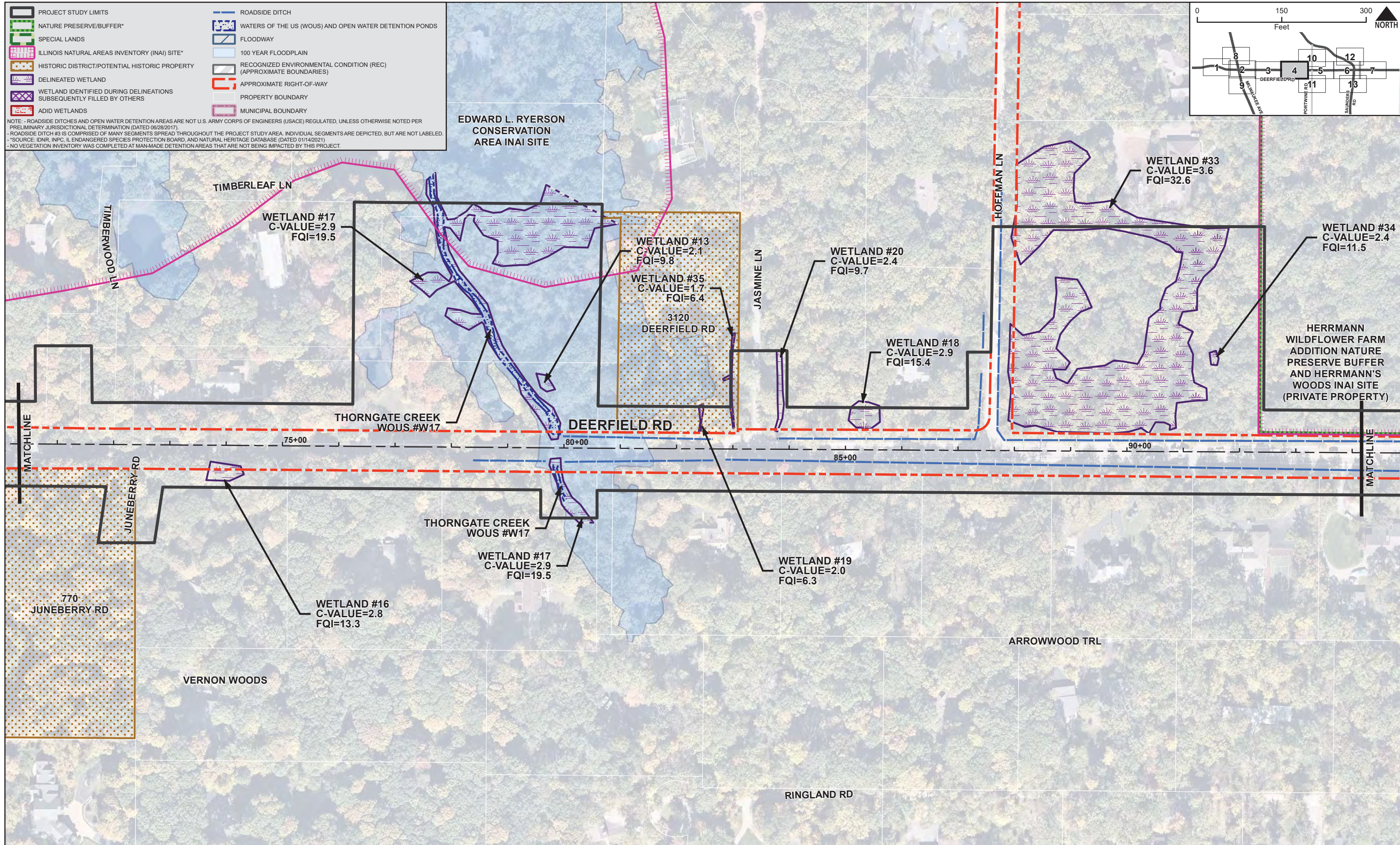
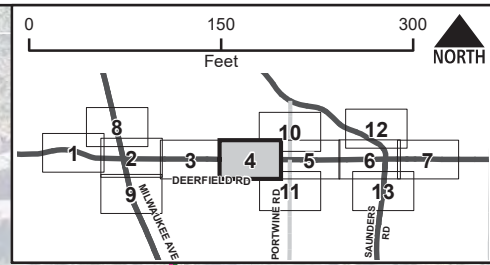
- PROJECT STUDY LIMITS
- NATURE PRESERVE/BUFFER*
- SPECIAL LANDS
- ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*
- HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY
- DELINEATED WETLAND
- WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS
- ADID WETLANDS
- ROADSIDE DITCH
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
- FLOODWAY
- 100 YEAR FLOODPLAIN
- RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
- APPROXIMATE RIGHT-OF-WAY
- PROPERTY BOUNDARY
- MUNICIPAL BOUNDARY

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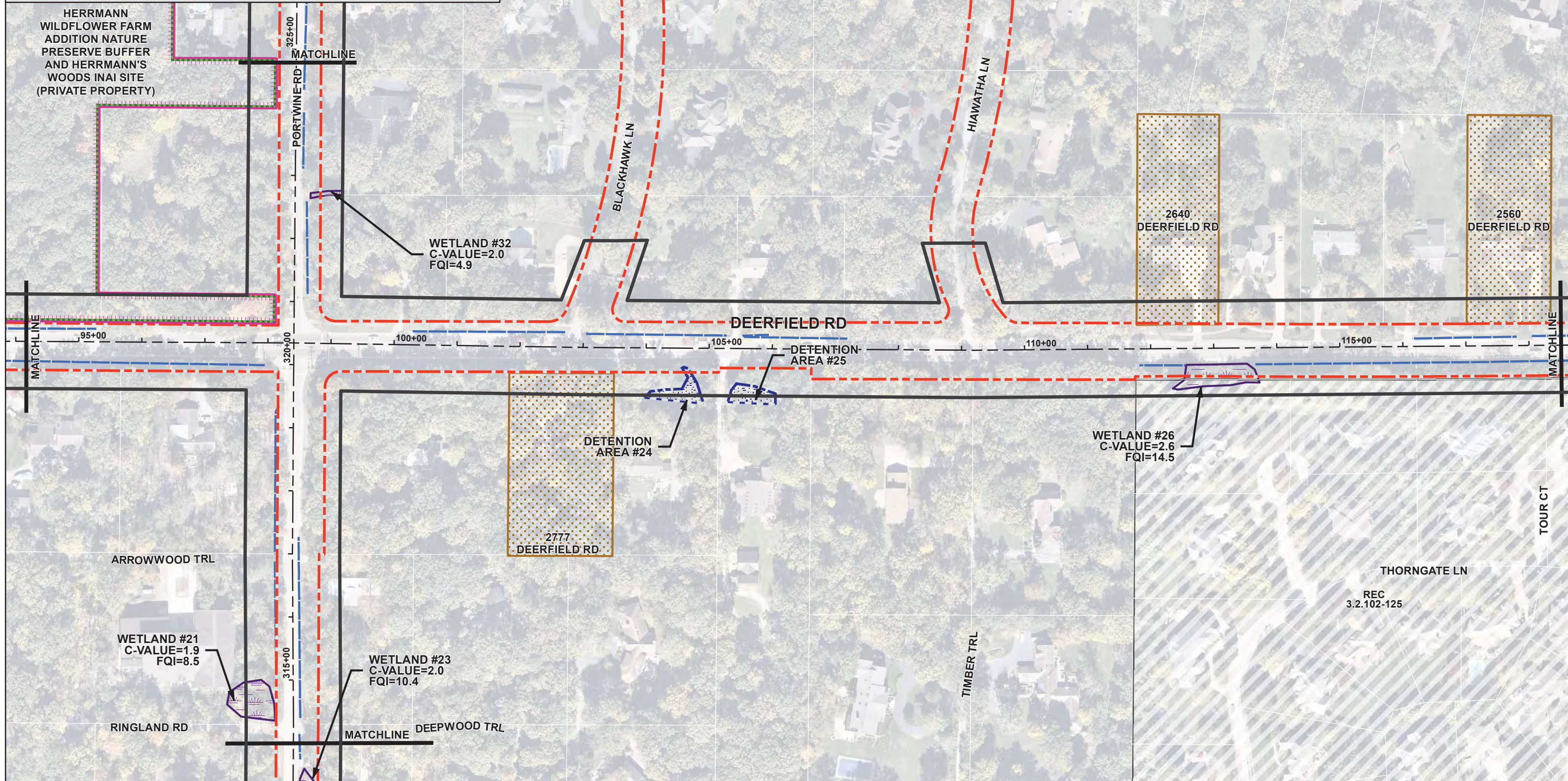
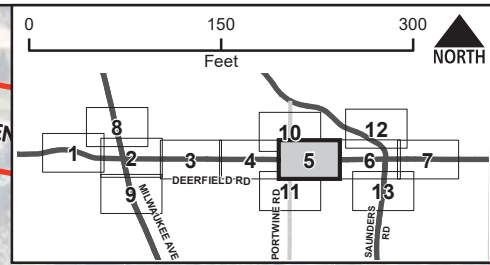
	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

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	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOU) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

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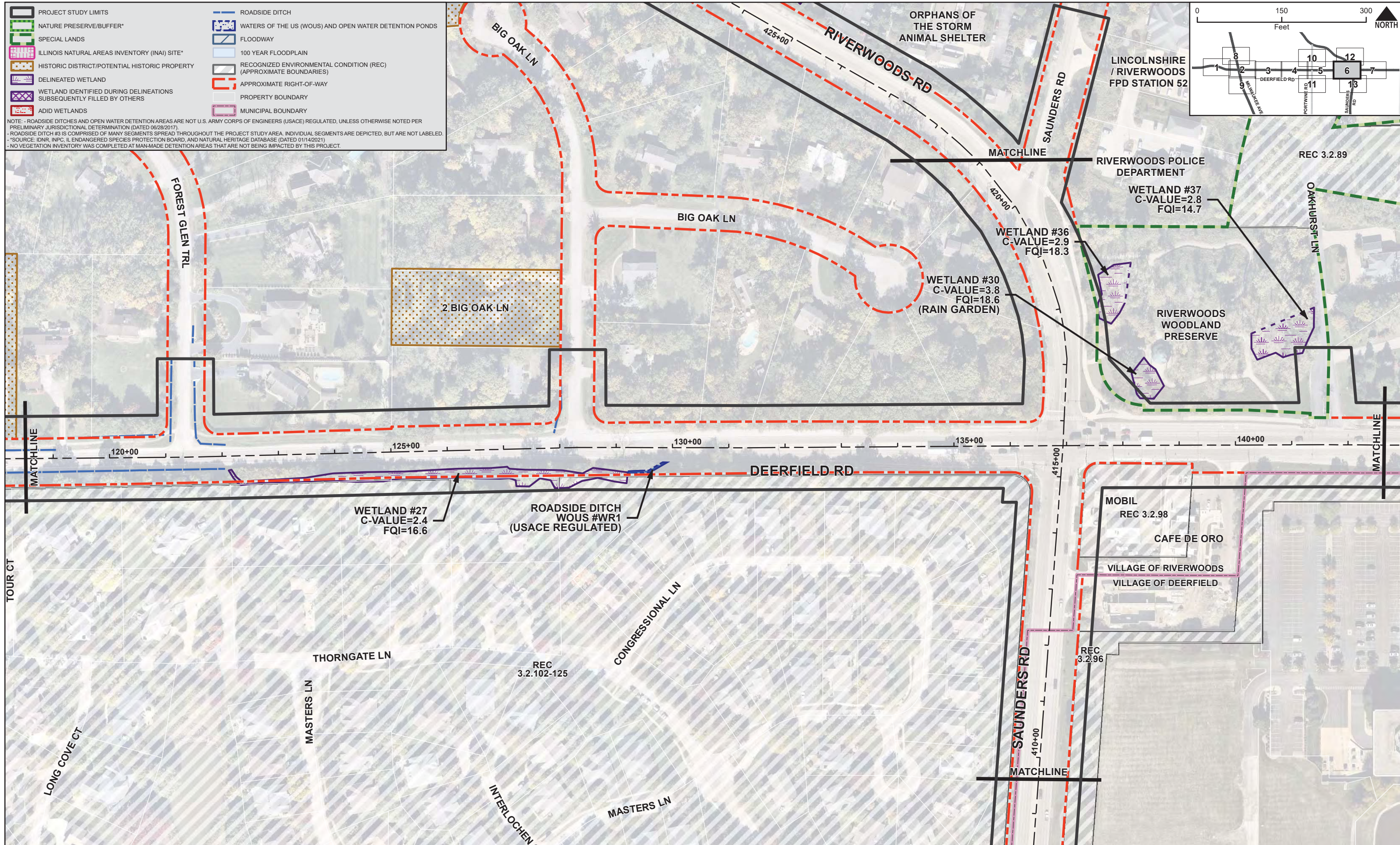
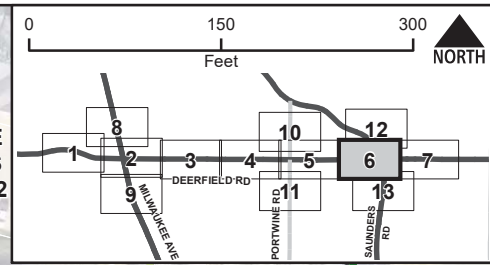
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PATH: N:\LCDOT\150331\GIS\Exhibits\Environmental Resources Sheets 01262021 FIG C-2.mxd

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 5

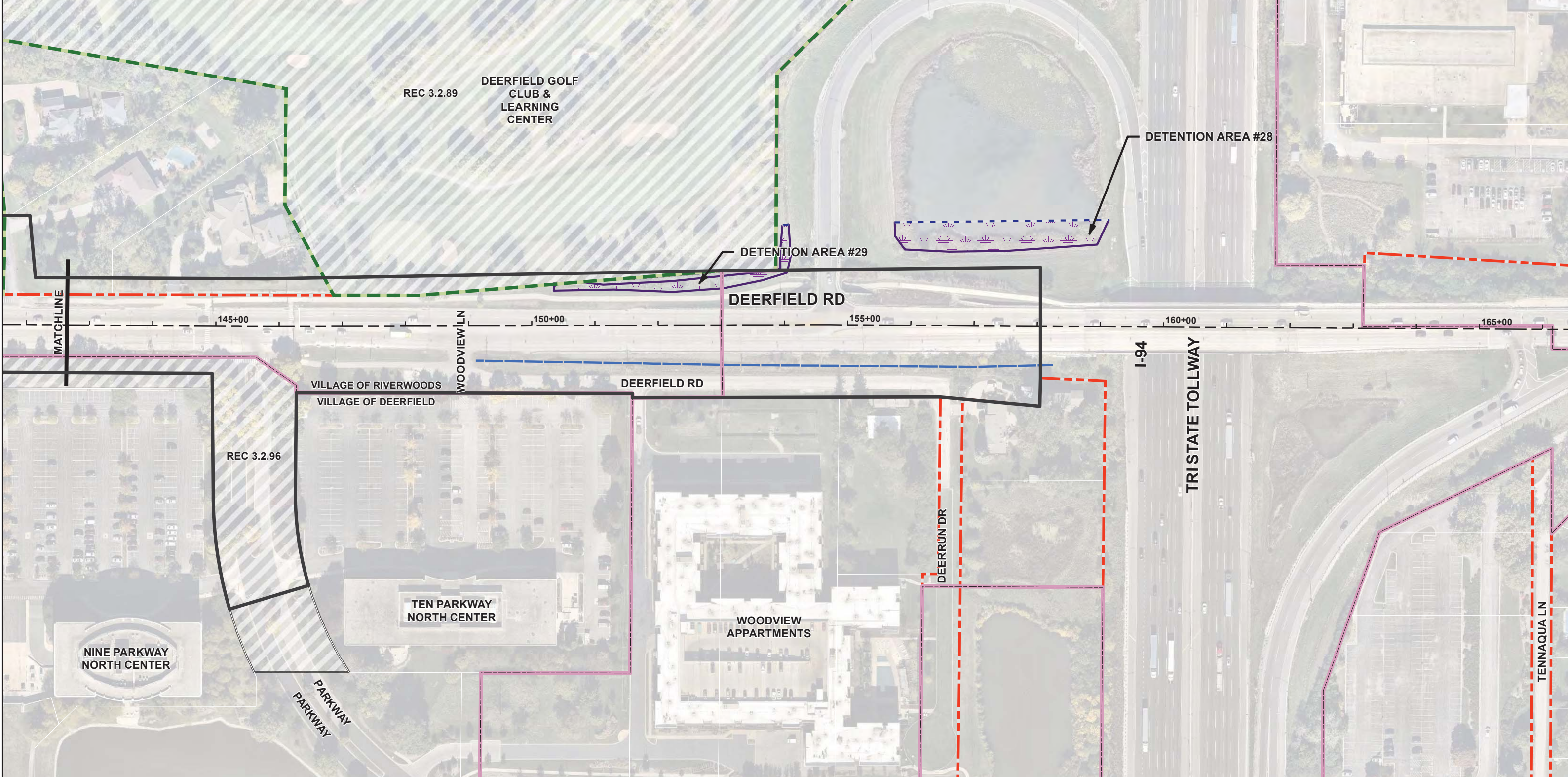
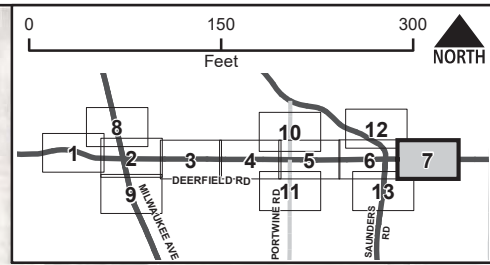
	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
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- PROJECT STUDY LIMITS
- NATURE PRESERVE/BUFFER*
- SPECIAL LANDS
- ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*
- HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY
- DELINEATED WETLAND
- WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS
- ADID WETLANDS
- ROADSIDE DITCH
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
- FLOODWAY
- 100 YEAR FLOODPLAIN
- RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
- APPROXIMATE RIGHT-OF-WAY
- PROPERTY BOUNDARY
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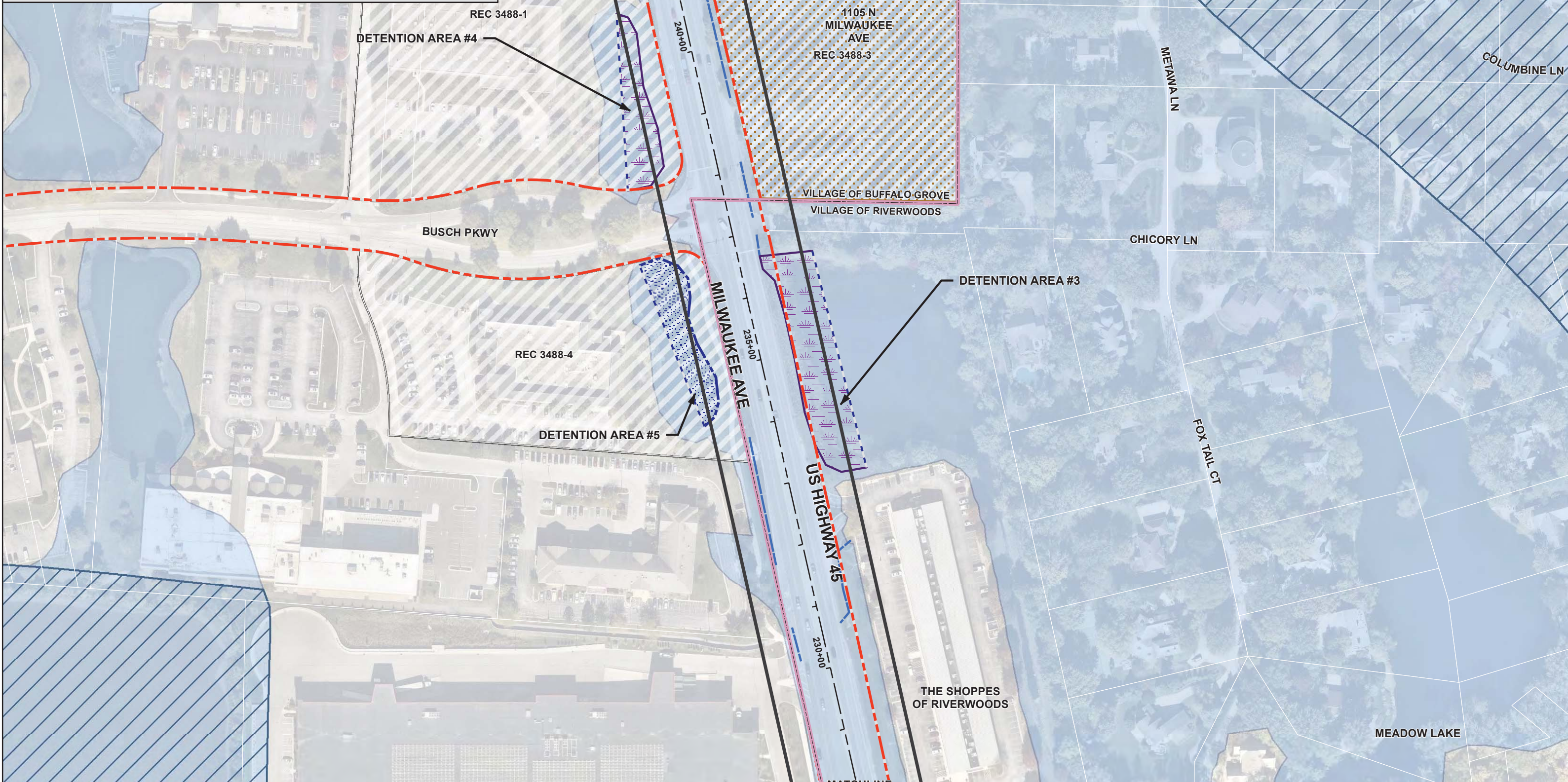
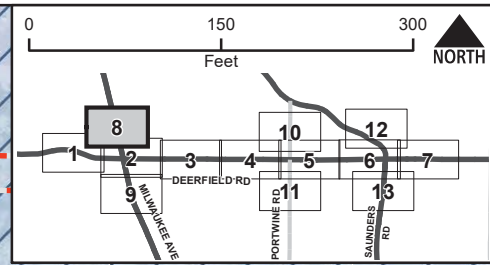


DEERFIELD
 ILLINOIS

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 7

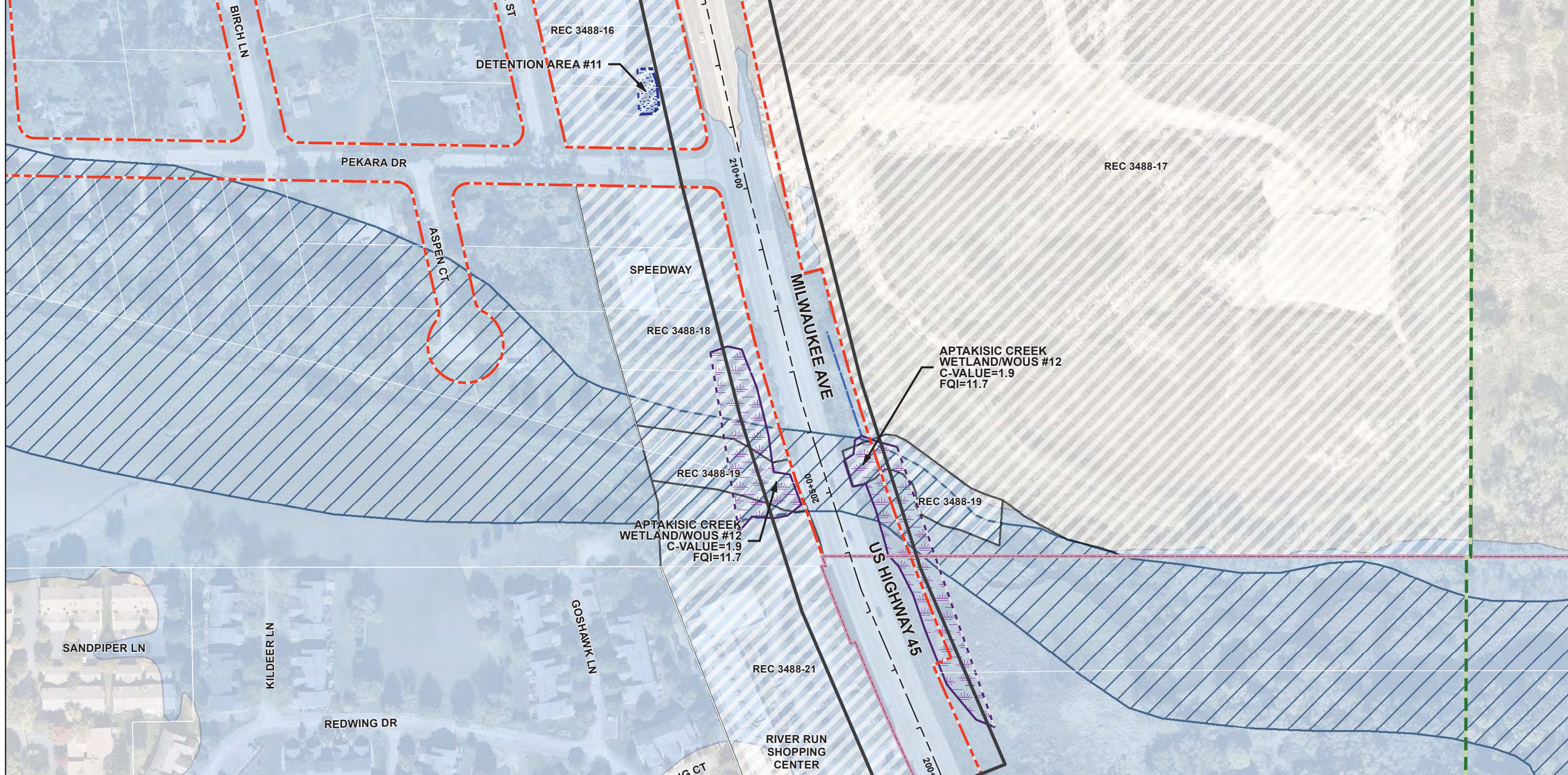
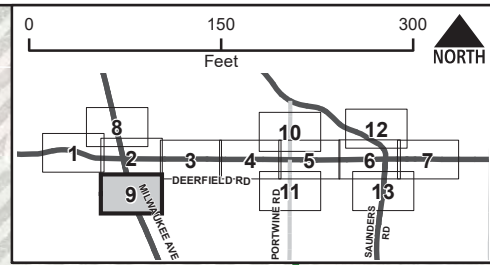
- PROJECT STUDY LIMITS
- NATURE PRESERVE/BUFFER*
- SPECIAL LANDS
- ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*
- HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY
- DELINEATED WETLAND
- WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS
- ADID WETLANDS
- ROADSIDE DITCH
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
- FLOODWAY
- 100 YEAR FLOODPLAIN
- RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
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- PROJECT STUDY LIMITS
- NATURE PRESERVE/BUFFER*
- SPECIAL LANDS
- ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*
- HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY
- DELINEATED WETLAND
- WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS
- ADID WETLANDS
- ROADSIDE DITCH
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
- FLOODWAY
- 100 YEAR FLOODPLAIN
- RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
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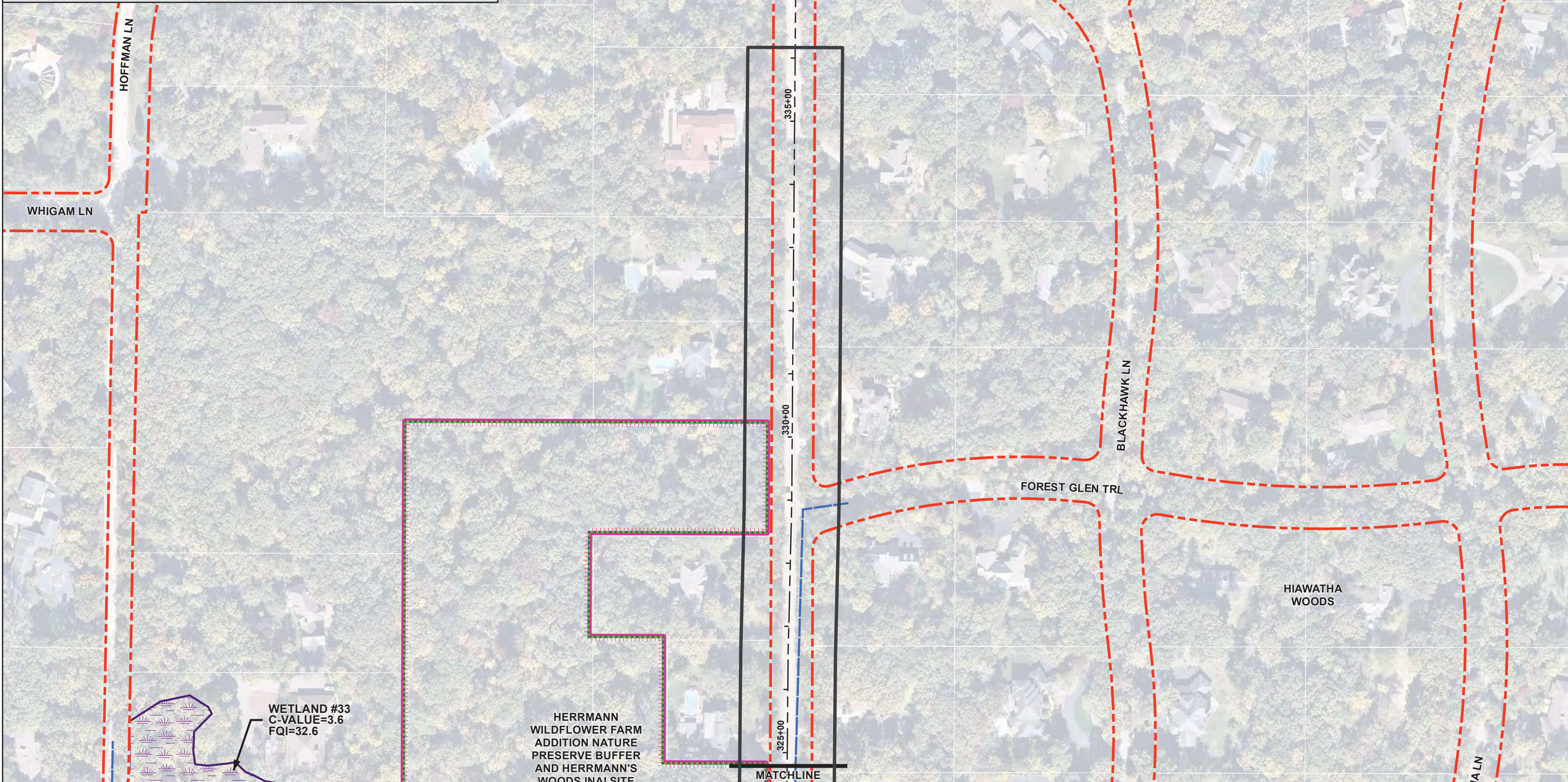
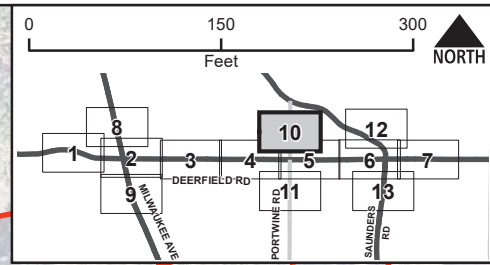
REC 3488-23

DEERFIELD

FIGURE C-2:
ENVIRONMENTAL RESOURCES MAP
SHEET 9

PROJECT STUDY LIMITS	ROADSIDE DITCH
NATURE PRESERVE/BUFFER*	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
SPECIAL LANDS	FLOODWAY
ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*	100 YEAR FLOODPLAIN
HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY	RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
DELINEATED WETLAND	APPROXIMATE RIGHT-OF-WAY
WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS	PROPERTY BOUNDARY
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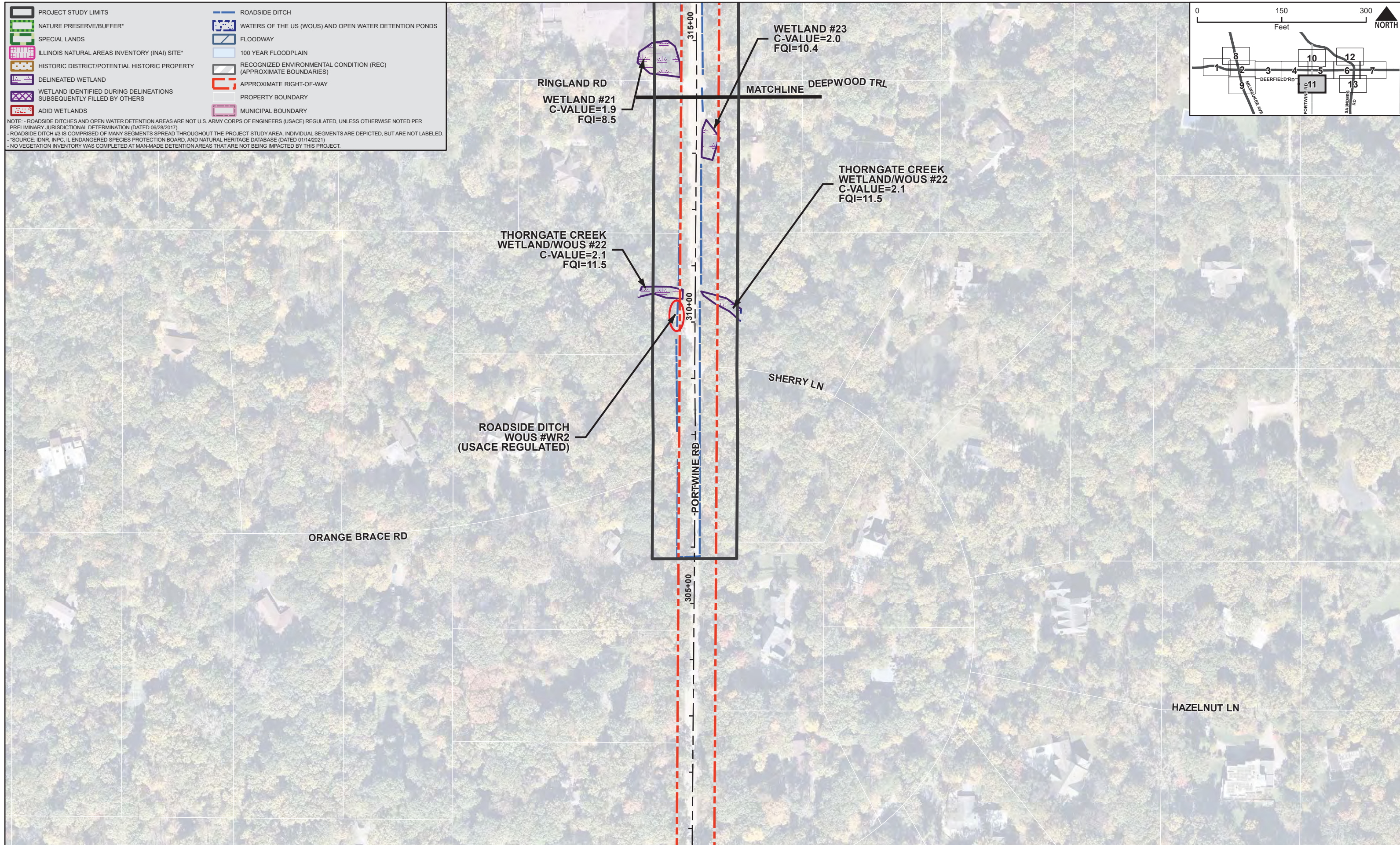
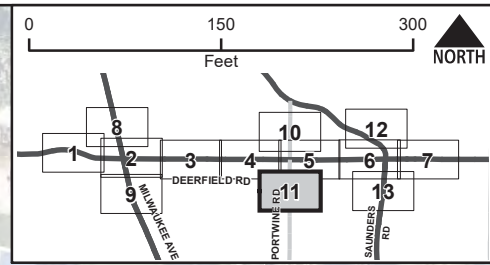
HERRMANN WILDFLOWER FARM ADDITION NATURE PRESERVE BUFFER AND HERRMANN'S WOODS INAI SITE (PRIVATE PROPERTY)

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 10

PATH: N:\LCDOT\150831\GIS\Exhibits\Environmental Resources Sheets 01\2021 FIG C-2.mxd

	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

NOTE: - ROADSIDE DITCHES AND OPEN WATER DETENTION AREAS ARE NOT U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATED, UNLESS OTHERWISE NOTED PER PRELIMINARY JURISDICTIONAL DETERMINATION (DATED 06/28/2017).
 - ROADSIDE DITCH #3 IS COMPRISED OF MANY SEGMENTS SPREAD THROUGHOUT THE PROJECT STUDY AREA. INDIVIDUAL SEGMENTS ARE DEPICTED, BUT ARE NOT LABELED.
 - *SOURCE: IDNR, INPC, IL ENDANGERED SPECIES PROTECTION BOARD, AND NATURAL HERITAGE DATABASE (DATED 01/14/2021)
 - NO VEGETATION INVENTORY WAS COMPLETED AT MAN-MADE DETENTION AREAS THAT ARE NOT BEING IMPACTED BY THIS PROJECT.

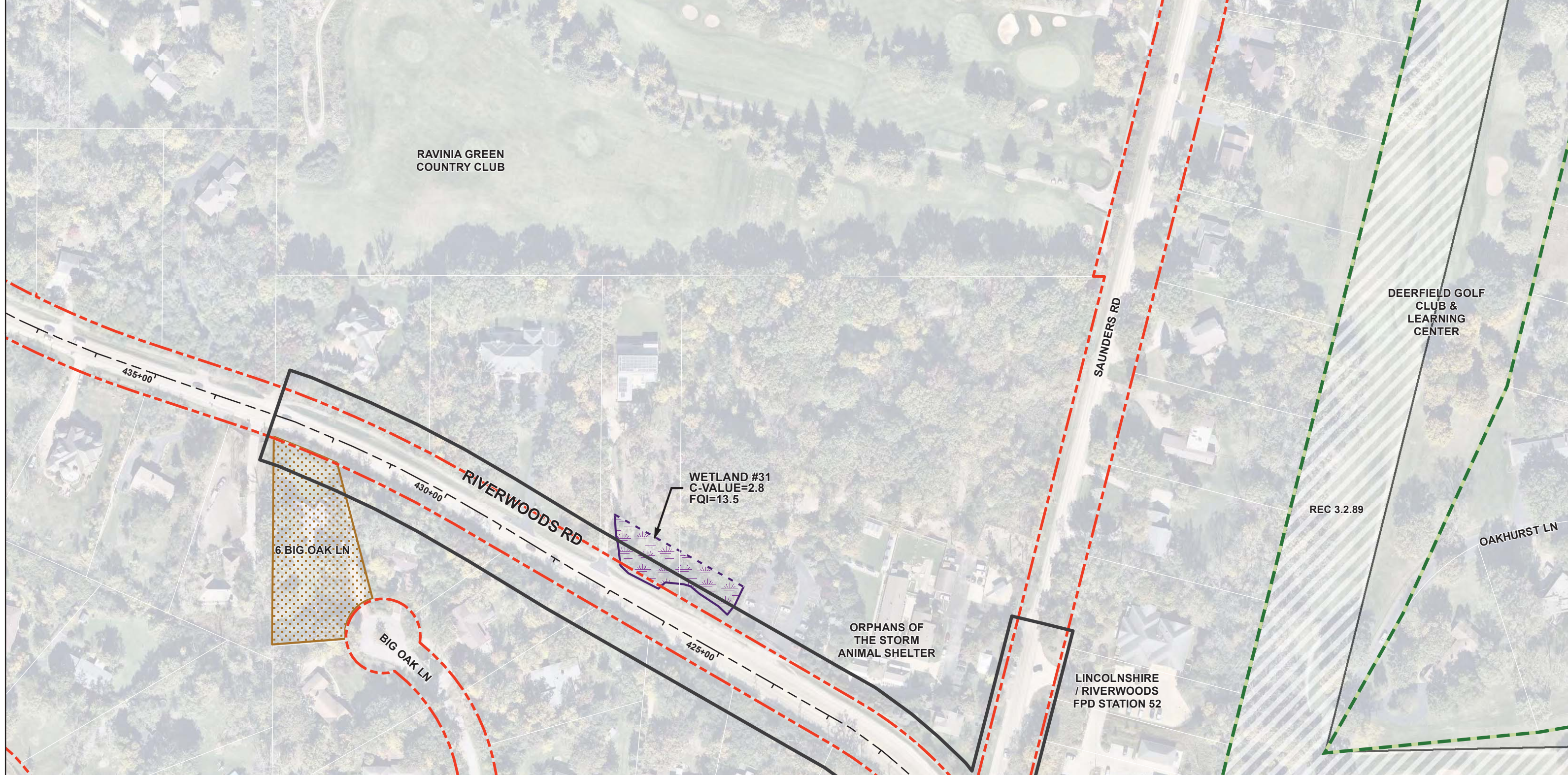
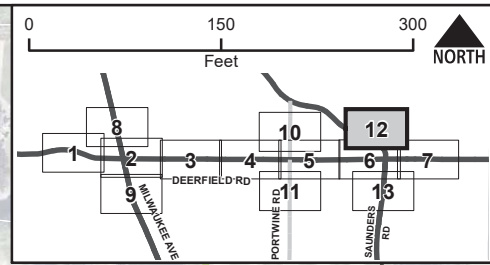


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FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 11

- PROJECT STUDY LIMITS
- NATURE PRESERVE/BUFFER*
- SPECIAL LANDS
- ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*
- HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY
- DELINEATED WETLAND
- WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS
- ADID WETLANDS
- ROADSIDE DITCH
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION PONDS
- FLOODWAY
- 100 YEAR FLOODPLAIN
- RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
- APPROXIMATE RIGHT-OF-WAY
- PROPERTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTE: - ROADSIDE DITCHES AND OPEN WATER DETENTION AREAS ARE NOT U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATED, UNLESS OTHERWISE NOTED PER PRELIMINARY JURISDICTIONAL DETERMINATION (DATED 06/28/2017).
 - ROADSIDE DITCH #3 IS COMPRISED OF MANY SEGMENTS SPREAD THROUGHOUT THE PROJECT STUDY AREA. INDIVIDUAL SEGMENTS ARE DEPICTED, BUT ARE NOT LABELED.
 - *SOURCE: IDNR, INPC, IL ENDANGERED SPECIES PROTECTION BOARD, AND NATURAL HERITAGE DATABASE (DATED 01/14/2021)
 - NO VEGETATION INVENTORY WAS COMPLETED AT MAN-MADE DETENTION AREAS THAT ARE NOT BEING IMPACTED BY THIS PROJECT.



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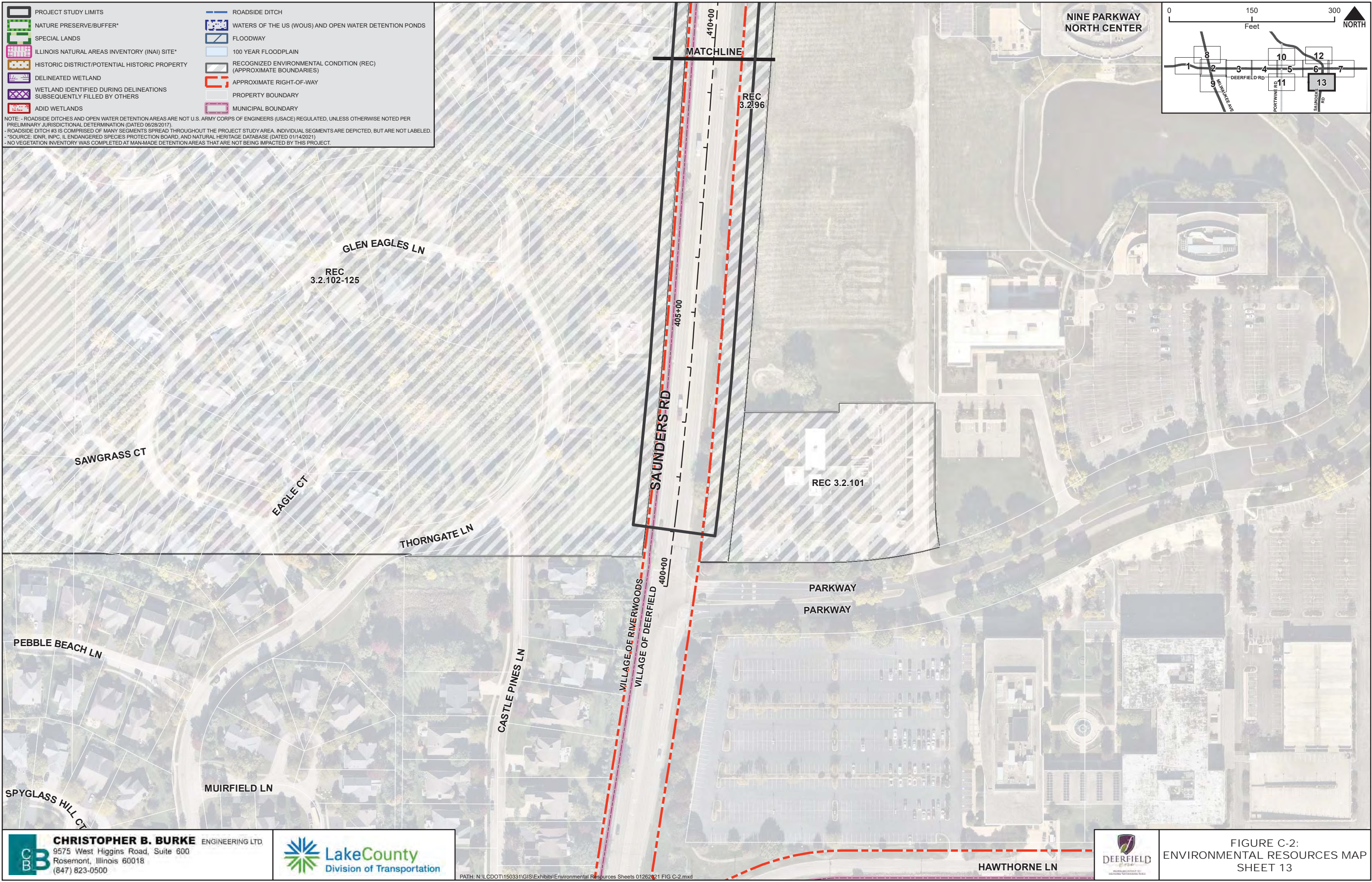
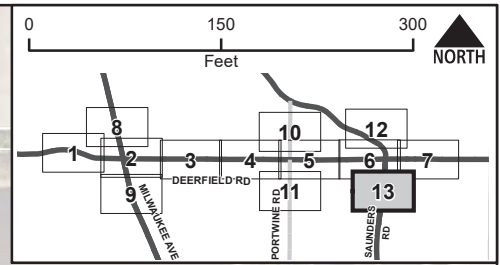
PATH: N:\LCDOT\150331\GIS\Exhibits\Environmental Resources Sheets 01262021 FIG C-2.mxd

DEERFIELD
 ILLINOIS

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 12

	PROJECT STUDY LIMITS		ROADSIDE DITCH
	NATURE PRESERVE/BUFFER*		WATERS OF THE US (WOU) AND OPEN WATER DETENTION PONDS
	SPECIAL LANDS		FLOODWAY
	ILLINOIS NATURAL AREAS INVENTORY (INAI) SITE*		100 YEAR FLOODPLAIN
	HISTORIC DISTRICT/POTENTIAL HISTORIC PROPERTY		RECOGNIZED ENVIRONMENTAL CONDITION (REC) (APPROXIMATE BOUNDARIES)
	DELINEATED WETLAND		APPROXIMATE RIGHT-OF-WAY
	WETLAND IDENTIFIED DURING DELINEATIONS SUBSEQUENTLY FILLED BY OTHERS		PROPERTY BOUNDARY
	ADID WETLANDS		MUNICIPAL BOUNDARY

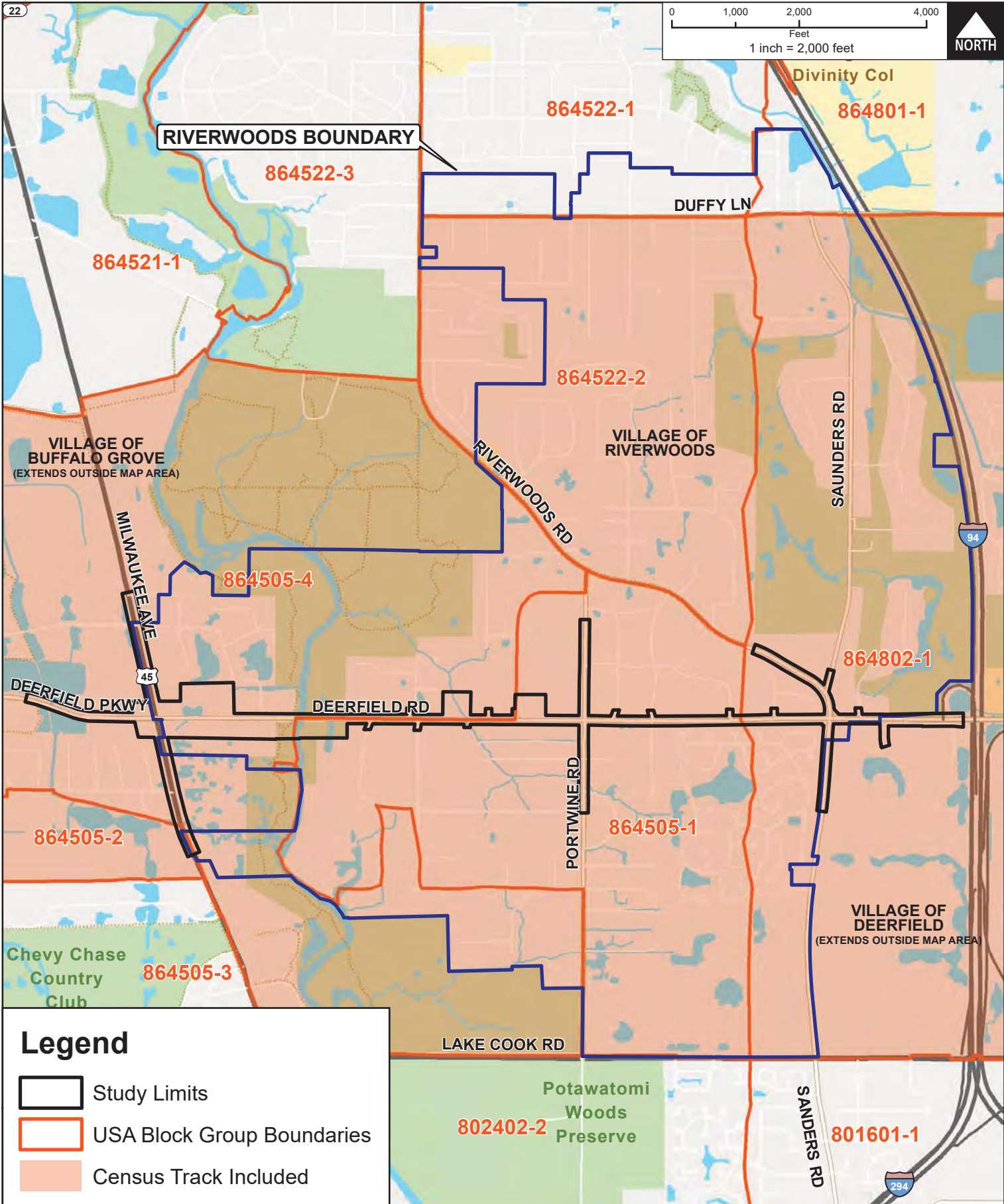
NOTE: - ROADSIDE DITCHES AND OPEN WATER DETENTION AREAS ARE NOT U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATED, UNLESS OTHERWISE NOTED PER PRELIMINARY JURISDICTIONAL DETERMINATION (DATED 06/28/2017).
 - ROADSIDE DITCH #3 IS COMPRISED OF MANY SEGMENTS SPREAD THROUGHOUT THE PROJECT STUDY AREA. INDIVIDUAL SEGMENTS ARE DEPICTED, BUT ARE NOT LABELED.
 - *SOURCE: IDNR, INPC, IL ENDANGERED SPECIES PROTECTION BOARD, AND NATURAL HERITAGE DATABASE (DATED 01/14/2021).
 - NO VEGETATION INVENTORY WAS COMPLETED AT MAN-MADE DETENTION AREAS THAT ARE NOT BEING IMPACTED BY THIS PROJECT.






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PATH: N:\LCDOT\150331\GIS\Exhibits\Environmental Resources Sheets 01262021 FIG C-2.mxd

FIGURE C-2:
 ENVIRONMENTAL RESOURCES MAP
 SHEET 13



Legend

-  Study Limits
-  USA Block Group Boundaries
-  Census Tract Included

CLIENT:



TITLE:

CENSUS TRACTS AND BLOCK GROUPS OF THE PROJECT STUDY AREA

PROJ. NO. 150331

DATE: 12/19/2019

SHEET 1 OF 1

DRAWING NO.



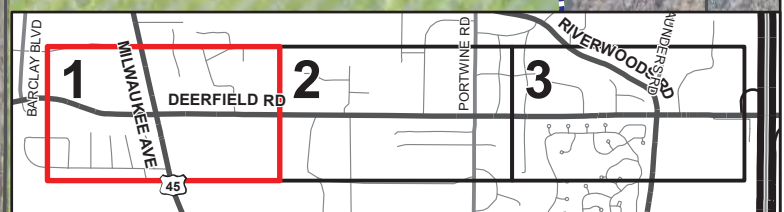
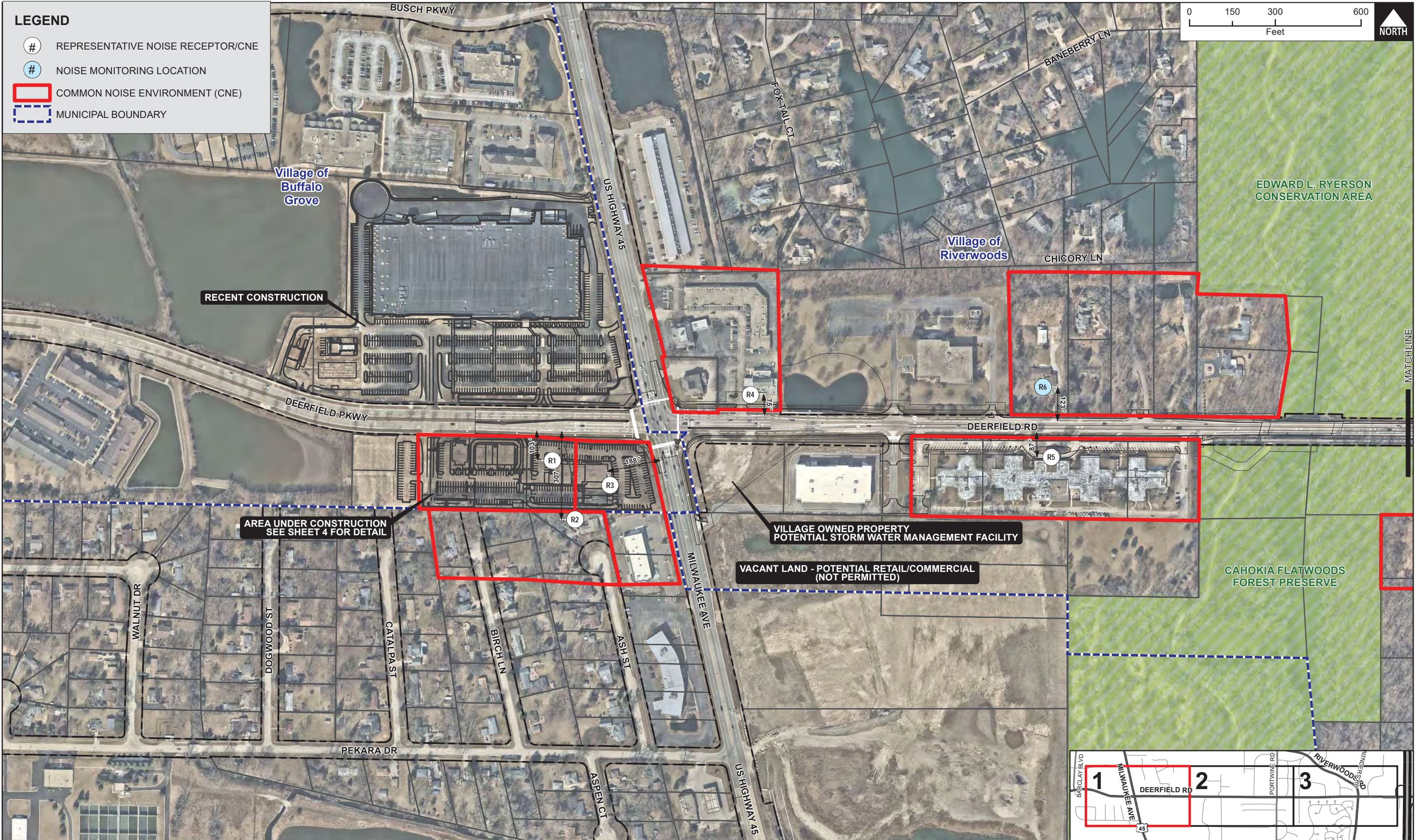
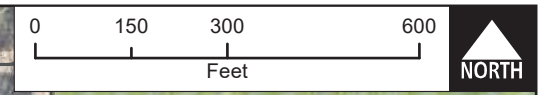
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DSGN.		SCALE:	1:24,000
DWN.	DRW.	AUTHOR:	
CHKD.		PLOT DATE:	12/19/2019
FILE:	Census - Block Data FIG C-3		

FIGURE C-3

LEGEND

- # REPRESENTATIVE NOISE RECEPTOR/CNE
- # NOISE MONITORING LOCATION
- COMMON NOISE ENVIRONMENT (CNE)
- MUNICIPAL BOUNDARY



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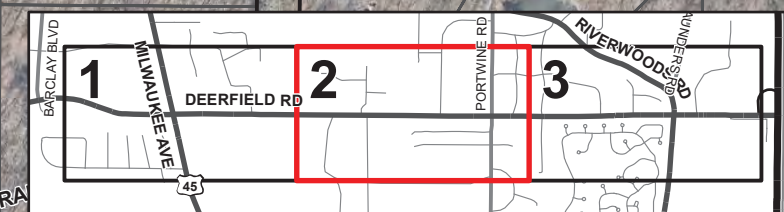
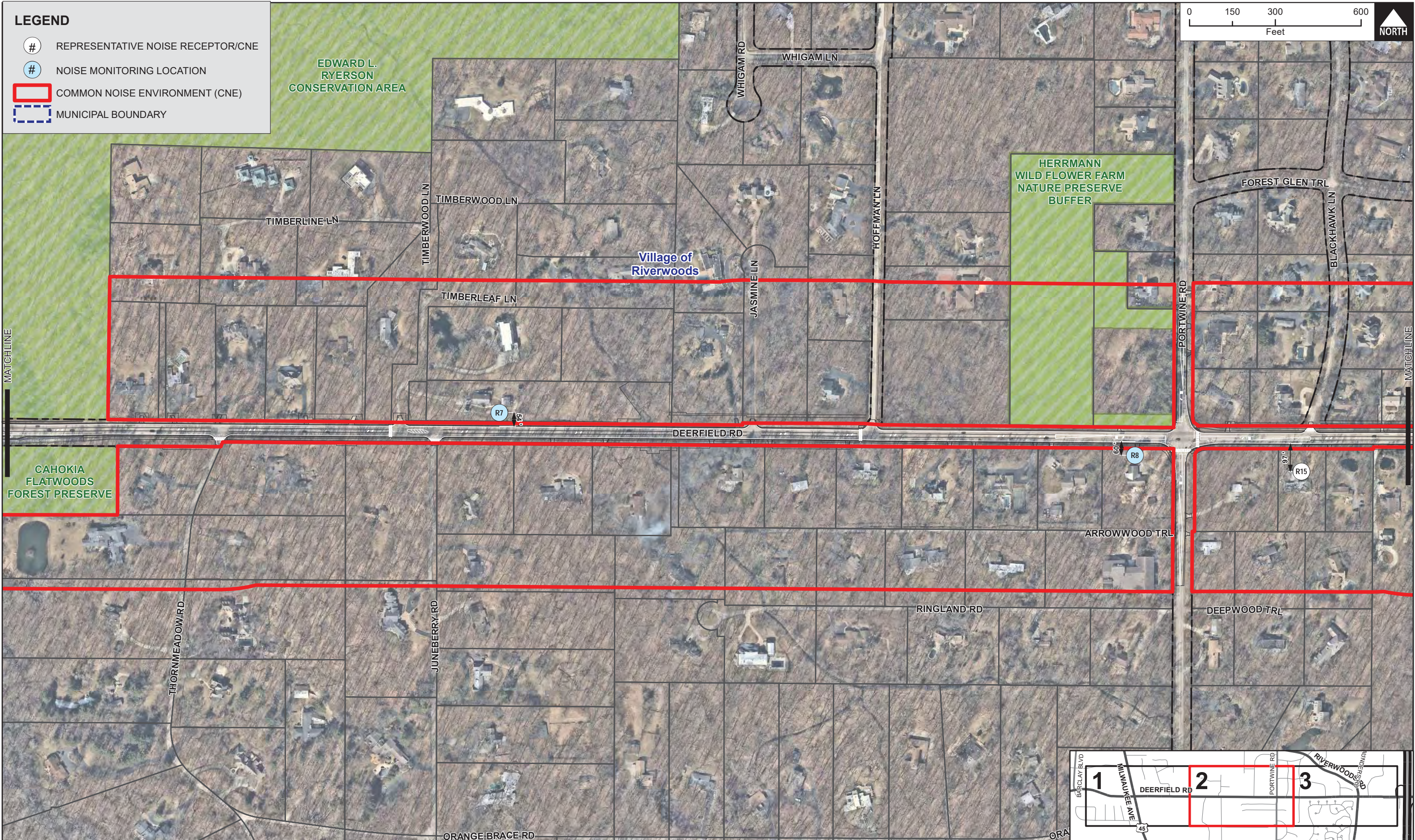


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CHKD.					
SCALE:	1:3,600				
MODEL:	ArcGIS 10.4.1				
PLOT DATE	12/19/2019				

PROJ. NO. 150331
 DATE: 4/13/2018
 SHEET 1 of 4
 DRAWING NO.
**FIGURE C-4:
 NOISE RECEPTOR LOCATIONS**
 SHEET 1

LEGEND

- # REPRESENTATIVE NOISE RECEPTOR/CNE
- # NOISE MONITORING LOCATION
- COMMON NOISE ENVIRONMENT (CNE)
- MUNICIPAL BOUNDARY



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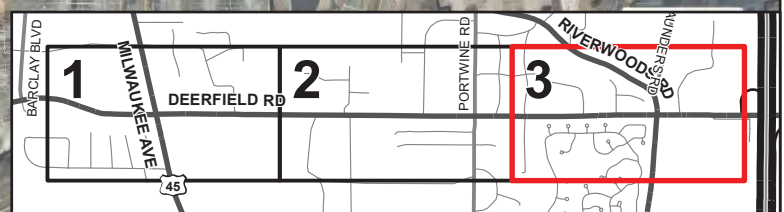
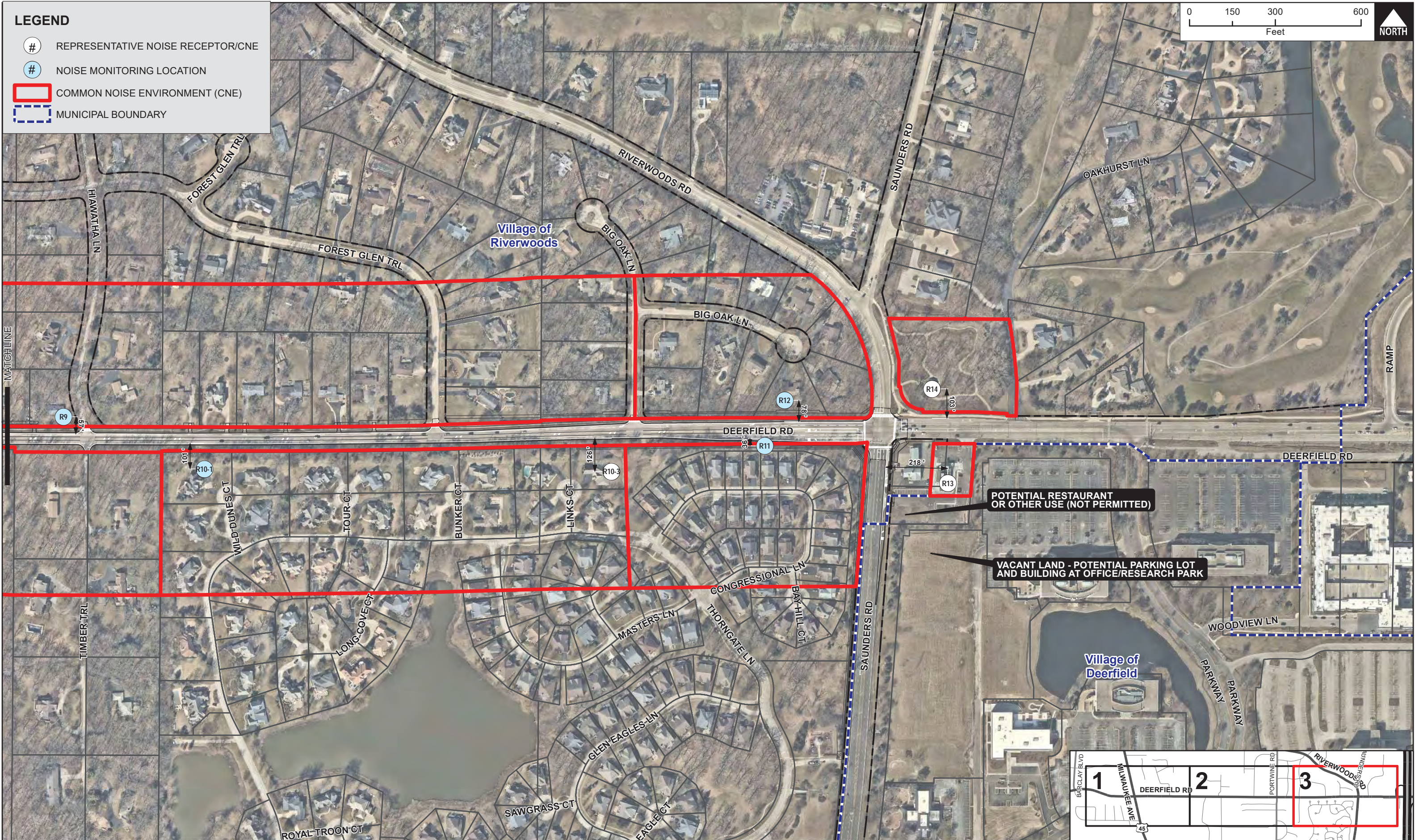
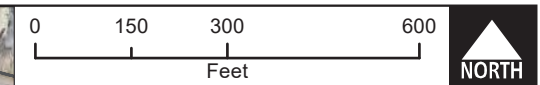
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DSGN.	DWN.	CHKD.	MODEL:	ArcGIS 10.4.1	
	DRW		PLOT DATE:	12/19/2019	

TITLE: **FIGURE C-4:
NOISE RECEPTOR LOCATIONS**

PROJ. NO. 150331
 DATE: 4/13/2018
 SHEET 2 of 4
 DRAWING NO.
SHEET 2

LEGEND

- REPRESENTATIVE NOISE RECEPTOR/CNE
- NOISE MONITORING LOCATION
- COMMON NOISE ENVIRONMENT (CNE)
- MUNICIPAL BOUNDARY



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CLIENT:

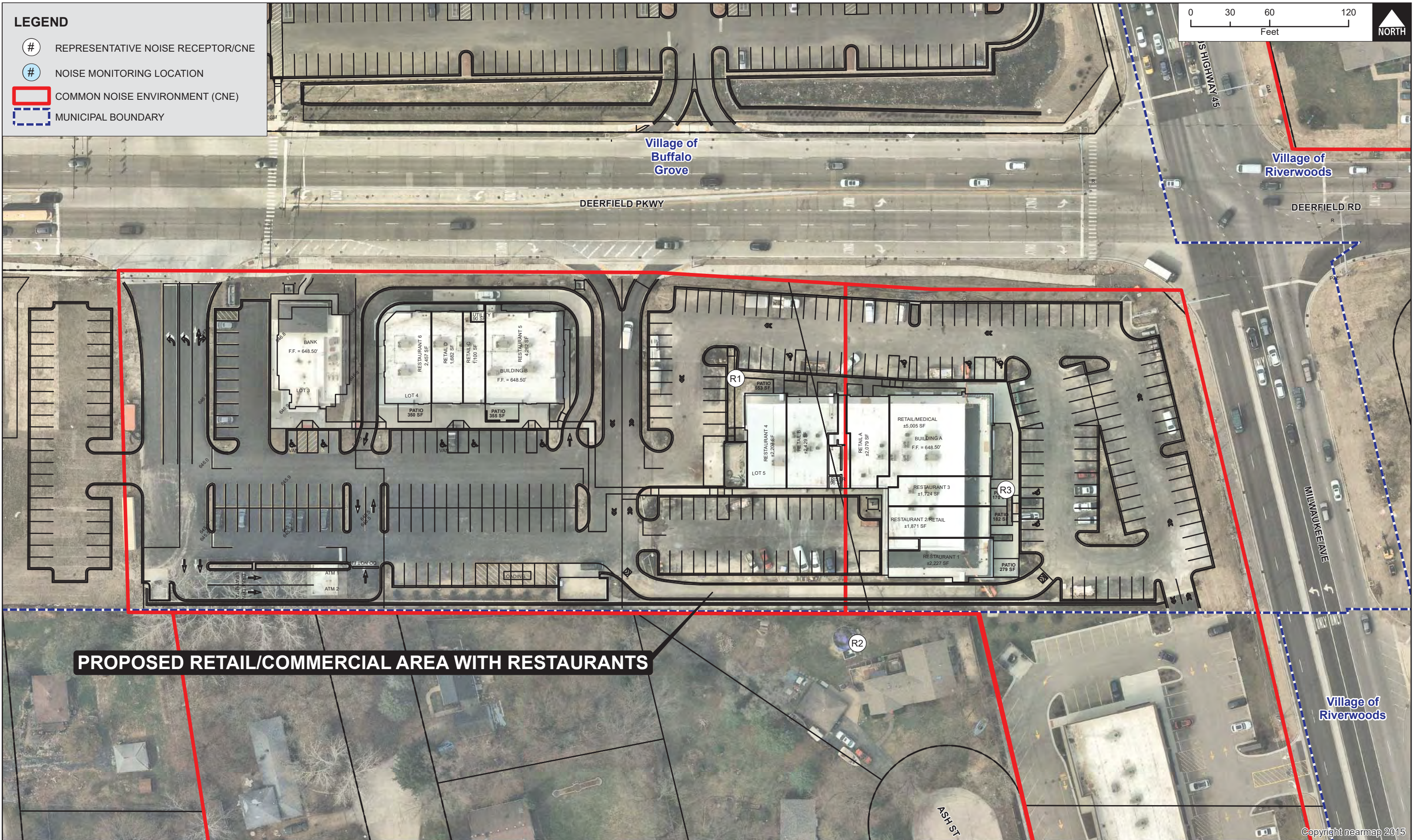
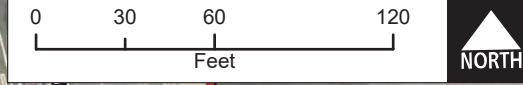
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PATH	N:\LCDOT\150331\GIS\Exhibits\Noise Receptor Locations FIG C-4.mxd		PLOT DATE	12/19/2019	

TITLE: **FIGURE C-4:
NOISE RECEPTOR LOCATIONS**

PROJ. NO. 150331
 DATE: 4/13/2018
 SHEET 3 of 4
 DRAWING NO.
 SHEET 3

LEGEND

- # REPRESENTATIVE NOISE RECEPTOR/CNE
- # NOISE MONITORING LOCATION
- COMMON NOISE ENVIRONMENT (CNE)
- MUNICIPAL BOUNDARY



PROPOSED RETAIL/COMMERCIAL AREA WITH RESTAURANTS

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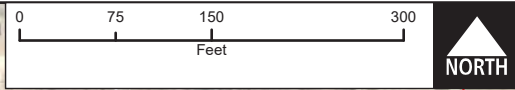
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PATH	N:\LCDOT\150331\GIS\Exhibits\Noise Exhibits\Noise Receptor Locations Inset Sheet 4 FIG C-4.mxd				

TITLE: **FIGURE C-4:
NOISE RECEPTOR LOCATIONS
INSET FROM SHEET 1**

PROJ. NO. 150331
 DATE: 4/13/2018
 SHEET 4 OF 4
 DRAWING NO.
 SHEET 4

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EXAMPLE NOISE WALL
(STYLE TO BE DETERMINED)

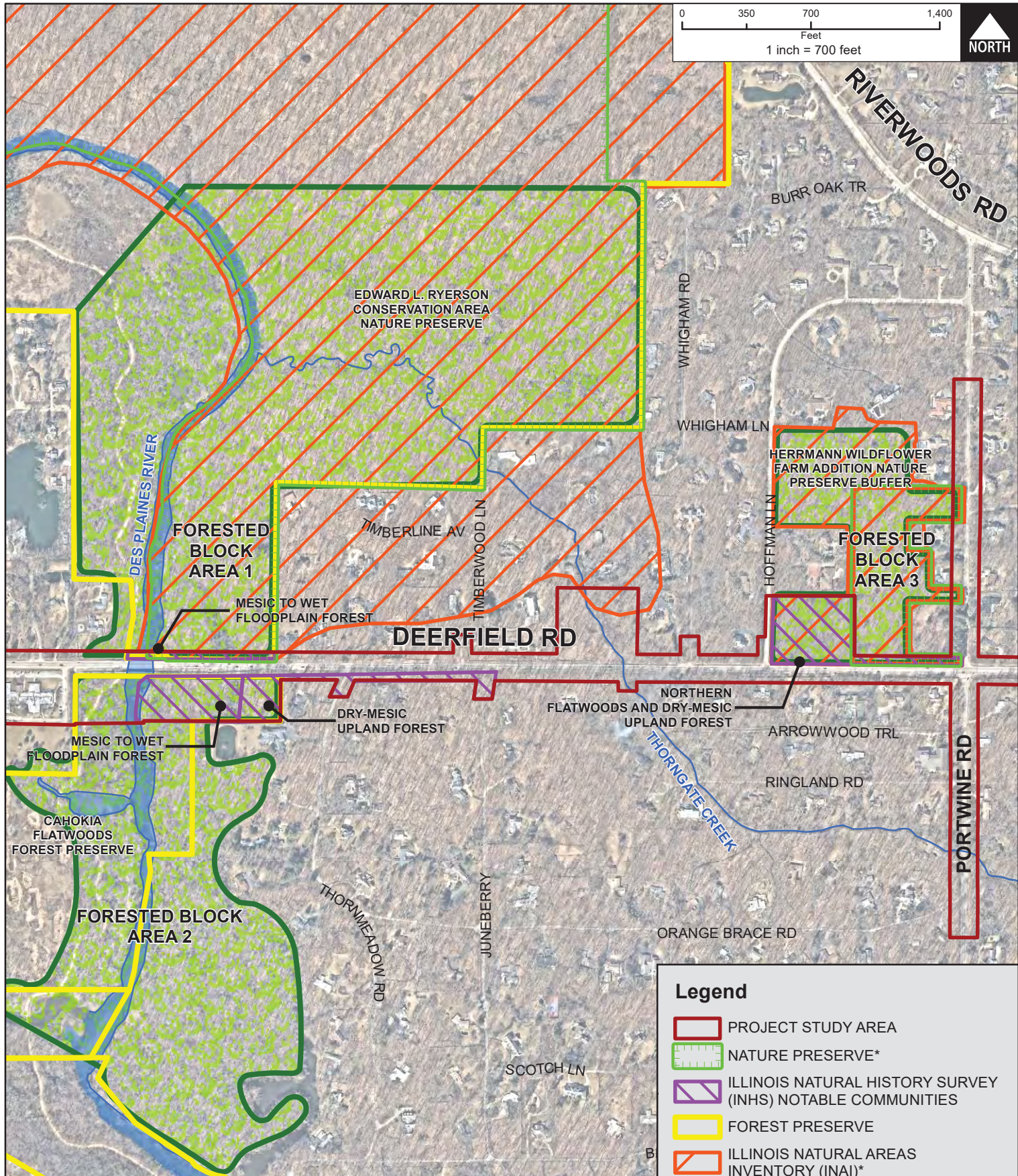
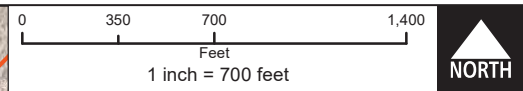
Legend

- EXISTING RIGHT-OF-WAY
- POTENTIAL NOISE WALL
- VOTED IN FAVOR OF WALL
- VOTED AGAINST WALL
- NO RESPONSE

More design information can be found on the project website:
<http://www.deerfieldroadcorridor.com>

Path: N:\LCDOT\150331\GIS\Exhibits\Noise Wall - Response FIG C-5.mxd

CLIENT:	TITLE: POTENTIAL NOISE WALL LOCATION AND VIEWPOINT SOLICITATION RESULTS	PROJ. NO. 150331 DATE: 12/19/2019 SHEET 1 OF 1 DRAWING NO.																
CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500		FIGURE C-5																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DSGN.</td> <td></td> <td>SCALE:</td> <td>1:1,800</td> </tr> <tr> <td>DWN.</td> <td>DRW</td> <td>AUTHOR:</td> <td>DWALTERS</td> </tr> <tr> <td>CHKD.</td> <td></td> <td>PLOT DATE:</td> <td>12/19/2019</td> </tr> <tr> <td>FILE:</td> <td colspan="3">Noise Wall - Response FIG C-5</td> </tr> </table>		DSGN.		SCALE:	1:1,800	DWN.	DRW	AUTHOR:	DWALTERS	CHKD.		PLOT DATE:	12/19/2019	FILE:	Noise Wall - Response FIG C-5			
DSGN.		SCALE:	1:1,800															
DWN.	DRW	AUTHOR:	DWALTERS															
CHKD.		PLOT DATE:	12/19/2019															
FILE:	Noise Wall - Response FIG C-5																	



Legend

- PROJECT STUDY AREA
- NATURE PRESERVE*
- ILLINOIS NATURAL HISTORY SURVEY (INHS) NOTABLE COMMUNITIES
- FOREST PRESERVE
- ILLINOIS NATURAL AREAS INVENTORY (INAI)*
- FORESTED BLOCK > 20AC

*SOURCE: IDNR, INPC, ILLINOIS ENDANGERED SPECIES PROTECTION BOARD, AND THE NATURAL HERITAGE DATABASE, JANUARY 14, 2021

CLIENT: **LakeCounty**
Division of Transportation

TITLE: **INHS NOTABLE COMMUNITIES AND LARGE FORESTED BLOCKS LOCATED ADJACENT TO THE PROJECT STUDY AREA**

PROJ. NO. 150331
DATE: 01/26/2021
SHEET 1 OF 1
DRAWING NO.

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DSGN.		SCALE:	1:8,400
DWN.	DRW	AUTHOR:	
CHKD.		PLOT DATE:	1/26/2021
FILE:	Environmental Resources 01262021 FIG C-6		

FIGURE C-6

Path: N:\LCDOT\150331\GIS\Exhibits\Environmental Resources 01262021\FIG C-6.mxd

Table C-7:
Deerfield Road Phase I Study
TREE INVENTORY LIST

During the tree survey, each tree was evaluated on a scale rating from 1 – 5. These ratings were based on general observations at the time of the inventory. A rating of 5 (poor) has the lowest value in terms of protection or preservation. A rating of 1 (excellent) has the highest value and are the highest quality trees found.

For example:

- A. (5 = worst condition) A rating of 5 was given to a tree that has significant deadwood, bad sweep or lean, disease or damage by insect pests and larvae, lightning damage, split, or other physical damage.
- B. (4 = bad condition) A rating of 4 was given to a tree that has some deadwood, minor sweep or lean, distorted shape, trunk or bark damage, multiple stems, or poor physical quality.
- C. (3 = typical condition) A rating of 3 was given to a tree that is average in condition, form, physical state, appearance, and health.
- D. (2 = above average) A rating of 2 was given to a tree that has little or no damage, sound, good shape and form, and is good in overall physical quality.
- E. (1 = excellent condition) A rating of 1 was given to a tree that is excellent in appearance, condition and form, balanced branching and healthy. In our opinion, a tree worth preserving.

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1	Siberian Elm	TREE	8	2	3	
2	Siberian Elm	TREE	12	2	3	
3	Sycamore	TREE	3	2	2	
6	Plum	TREE	2	2	2	
7	Plum	TREE	2	2	2	
8	Plum	TREE	2	2	2	
11	Plum	TREE	2	2	2	
14	Box Elder	TREE	24	2	3	
17	Honeylocust	TREE	24	1	1	
18	Honeylocust	TREE	26	1	1	
19	Bush	BUSH	0	0	0	Bush
20	Bush	BUSH	0	0	0	Bush
21	Bush	BUSH	0	0	0	Bush
22	Black Cherry	TREE	18	2	3	
24	Buckthorn	TREE	6	3	4	
25	White Spruce	TREE	13	3	3	
26	Norway Spruce	TREE	12	2	2	
27	Norway Spruce	TREE	12	2	2	
28	White Mulberry	TREE	6,6,6	3	3	
29	White Spruce	TREE	13	3	3	
30	White Spruce	TREE	12	3	3	
31	White Spruce	TREE	12	3	3	
32	Bush	BUSH	0	0	0	Bush
33	Dead	TREE	13	5	5	Dead
34	White Spruce	TREE	13	3	3	
35	Bush	BUSH	0	0	0	Bush
36	Silver Maple	TREE	18	2	2	
37	Scotch Pine	TREE	6	3	3	
38	White Spruce	TREE	16	3	3	
39	White Spruce	TREE	13	3	3	
40	White Spruce	TREE	12	3	3	
41	Hackberry	TREE	7	3	4	Topped
42	White Mulberry	TREE	12	3	4	Lean
43	White Mulberry	TREE	8	3	3	
44	White Spruce	TREE	11	3	3	
45	Norway Spruce	TREE	20	2	2	
46	Norway Spruce	TREE	20	2	2	
47	Norway Spruce	TREE	18	2	2	
48	Norway Spruce	TREE	18	2	2	
49	Norway Spruce	TREE	13	2	3	
50	Norway Maple	TREE	12	3	4	Topped
51	Honeylocust	TREE	22	1	1	
52	Black Cherry	TREE	13	4	5	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
53	Box Elder	TREE	6	3	3	
54	Box Elder	TREE	12	2	4	Lean
55	American Elm	TREE	17	2	2	
56	Scotch Pine	TREE	11	3	3	
57	Dead	TREE	12	5	5	Dead
58	American Elm	TREE	7	3	4	Topped
59	Dead	TREE	13	5	5	Dead
60	Dead	TREE	19	5	5	Dead
61	White Mulberry	TREE	18	3	3	
62	Box Elder	TREE	11	3	4	Lean
63	Red Cedar	TREE	8	2	2	
64	Crabapple	TREE	10	3	3	
65	Red Cedar	TREE	8	2	2	
66	American Elm	TREE	12	3	4	Topped
67	Norway Maple	TREE	8	2	2	
68	American Elm	TREE	9	3	4	Topped
69	American Elm	TREE	6	2	4	Topped
70	Hackberry	TREE	8	3	4	Topped
71	American Elm	TREE	6	3	3	
72	American Elm	TREE	6	3	3	
73	Dead	TREE	6	5	5	Dead
74	Black Cherry	TREE	11	3	3	
75	Dead	TREE	6	5	5	Dead
76	Dead	TREE	21	5	5	Dead
77	Dead	TREE	6	5	5	Dead
78	Silver Maple	TREE	14	2	2	
79	Silver Maple	TREE	10	2	2	
80	Norway Maple	TREE	15	2	2	
81	Black Walnut	TREE	13	2	3	
82	Dead	TREE	16	5	5	Dead
83	Silver Maple	TREE	15	2	2	
84	Dead	TREE	22	5	5	Dead
85	Norway Maple	TREE	6	2	3	
86	Norway Maple	TREE	20	2	2	
87	American Elm	TREE	16	2	2	
88	American Elm	TREE	6	2	3	
89	Basswood	TREE	6,6	2	3	
90	Black Cherry	TREE	17	4	5	
91	Black Cherry	TREE	24	3	4	Deadwood
92	Norway Maple	TREE	8	2	2	
93	Basswood	TREE	8	3	4	Lean
94	American Elm	TREE	16	2	2	
95	Norway Maple	TREE	8	2	2	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
96	Norway Maple	TREE	16	2	2	
97	Dead	TREE	11	5	5	Dead
98	White Mulberry	TREE	14	3	3	
99	Dead	TREE	13	5	5	Dead
100	Hawthorn	TREE	12	3	3	
101	White Pine	TREE	15	2	3	
102	White Pine	TREE	12	2	3	
103	White Pine	TREE	20	2	3	
104	Black Walnut	TREE	8	2	2	
105	American Elm	TREE	15	2	2	
106	White Pine	TREE	13	2	3	
107	Norway Maple	TREE	8	2	2	
108	Basswood	TREE	6	2	3	
109	American Elm	TREE	13	2	3	
110	Red Oak	TREE	13	3	3	
111	Dead	TREE	16	5	5	Dead
112	Black Cherry	TREE	17	3	3	
113	Dead	TREE	12	5	5	Dead
114	Dead	TREE	12	5	5	Dead
115	Basswood	TREE	12	2	4	Lean
116	Basswood	TREE	24	2	2	
117	Black Walnut	TREE	15	2	2	
118	Hophornbeam	TREE	8	3	3	
119	Dead	TREE	18	5	5	Dead
120	Yellowbud Hickory	TREE	16	2	2	
121	Black Cherry	TREE	18	3	3	
122	Norway Maple	TREE	15	2	3	Lean
123	Norway Maple	TREE	8	2	2	
124	Basswood	TREE	11	2	2	
125	Black Cherry	TREE	15	3	3	
126	Norway Maple	TREE	10	2	2	
127	Norway Maple	TREE	7	2	2	
128	Hophornbeam	TREE	10	2	2	
129	Hophornbeam	TREE	8	3	4	Topped
130	Basswood	TREE	12	3	4	Topped
131	Basswood	TREE	10	2	2	
132	Basswood	TREE	13	2	2	
133	Shagbark Hickory	TREE	6	2	2	
134	White Oak	TREE	6	2	2	
135	American Elm	TREE	15	2	2	
136	Norway Maple	TREE	11	2	2	
137	Norway Maple	TREE	8	2	2	
138	Red Oak	TREE	16,16	2	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
139	White Oak	TREE	14	2	2	
140	Basswood	TREE	6	2	2	
141	Hophornbeam	TREE	6	2	2	
142	Basswood	TREE	14	2	2	
143	White Pine	TREE	6	2	2	
144	Basswood	TREE	12,6	2	3	
145	Norway Maple	TREE	24	2	2	
146	Basswood	TREE	16	2	3	
147	Basswood	TREE	13	2	2	
148	American Elm	TREE	11	2	3	
149	American Elm	TREE	11	2	3	
150	Basswood	TREE	15,15	2	2	
151	Yellowbud Hickory	TREE	10	2	2	
152	Red Oak	TREE	13,11	2	2	
153	Black Cherry	TREE	6	3	3	
154	Norway Spruce	TREE	15	2	2	
155	Norway Spruce	TREE	11	2	3	
156	Norway Spruce	TREE	16	2	3	
157	White Pine	TREE	8	2	2	
158	Norway Spruce	TREE	11	2	3	
159	Norway Maple	TREE	19	2	2	
160	White Spruce	TREE	7	2	3	
161	Norway Spruce	TREE	11	2	2	
162	White Pine	TREE	7	4	4	Topped
163	Hophornbeam	TREE	6	2	2	
164	Red Oak	TREE	18	2	2	
165	Norway Maple	TREE	6	2	2	
166	Shagbark Hickory	TREE	12	2	2	
167	Red Oak	TREE	15	2	3	
168	Red Oak	TREE	12,12	2	3	
169	Black Cherry	TREE	18	2	2	
170	Hophornbeam	TREE	8	2	3	
171	Red Oak	TREE	17	2	2	
172	Hophornbeam	TREE	7	2	2	
173	Black Cherry	TREE	11	3	4	Lean
174	American Elm	TREE	6	3	3	
175	Basswood	TREE	8	2	3	Lean
176	American Elm	TREE	10	2	3	
177	Black Cherry	TREE	7	3	3	
178	Norway Maple	TREE	7	3	4	Topped
179	Basswood	TREE	12	2	3	
180	Dead	TREE	NA	5	5	Dead
181	Dead	TREE	NA	5	5	Dead

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

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CBBEL ID	Species	Description	DBH	Condition	Form	Comments
182	Basswood	TREE	8	2	2	
183	Norway Maple	TREE	12	2	2	
184	White Oak	TREE	22	2	2	
185	Black Cherry	TREE	11	3	3	
186	Hophornbeam	TREE	8,7	2	3	
187	American Elm	TREE	13	2	2	
189	Red Oak	TREE	13	2	3	
191	Norway Maple	TREE	22	2	2	
192	Black Cherry	TREE	13	2	3	Lean
193	Norway Maple	TREE	6	3	3	
194	White Ash	TREE	13	3	3	
195	Hophornbeam	TREE	6	2	3	
196	Basswood	TREE	9	2	3	
197	Norway Maple	TREE	6	3	3	
198	Red Oak	TREE	25	2	2	
199	Black Cherry	TREE	8	3	3	
200	Red Oak	TREE	22	2	2	
201	Red Oak	TREE	16	2	2	
202	Norway Maple	TREE	25	4	4	Deadwood
203	Red Oak	TREE	12	2	4	
204	Dead	TREE	12	5	5	Dead
205	American Elm	TREE	6	2	3	
206	Basswood	TREE	11	2	2	
207	Red Oak	TREE	17	2	2	
208	Red Oak	TREE	8	3	4	Lean
209	Norway Maple	TREE	7	4	4	Deadwood
210	Red Oak	TREE	17	2	3	
211	American Elm	TREE	8	3	3	
212	Dead	TREE	12	5	5	Dead
213	Red Oak	TREE	14	2	2	
214	Red Oak	TREE	14	3	3	
215	American Elm	TREE	14	3	4	Topped
216	Norway Maple	TREE	10	2	2	
217	American Elm	TREE	12	2	2	
218	Norway Maple	TREE	14	2	3	
219	Basswood	TREE	14	2	2	
220	Black Cherry	TREE	12	3	4	Lean
221	Dead	TREE	18	5	5	Dead
222	Norway Maple	TREE	10	3	3	
223	Dead	TREE	12	5	5	Dead
224	Red Oak	TREE	20	2	3	Lean
225	Stump	TREE	NA	5	5	Cut down
226	Dead	TREE	12	5	5	Dead

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

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CBBEL ID	Species	Description	DBH	Condition	Form	Comments
227	Stump	TREE	NA	5	5	Cut down
228	Norway Maple	TREE	6	2	2	
229	Norway Maple	TREE	6	2	2	
230	Norway Maple	TREE	7	2	2	
231	Norway Maple	TREE	15	2	3	
232	Norway Maple	TREE	19	2	2	
233	Dead	TREE	24	5	5	Dead
234	Norway Maple	TREE	14	2	2	
235	Norway Maple	TREE	12	2	2	
236	Black Cherry	TREE	8	3	4	Lean
237	Red Oak	TREE	11	2	3	
238	Red Oak	TREE	13,8,9,10	2	3	
239	Norway Maple	TREE	10	2	3	
240	Red Oak	TREE	15	2	3	
241	Basswood	TREE	16	2	4	Lean
242	Dead	TREE	14	5	5	Dead
243	Black Cherry	TREE	10	3	3	
244	Norway Maple	TREE	6	2	2	
245	White Oak	TREE	19	2	2	
246	Red Oak	TREE	15	2	2	
247	Hophornbeam	TREE	6	2	2	
248	Red Oak	TREE	20	2	2	
249	Red Oak	TREE	27	2	2	
250	Hophornbeam	TREE	6	2	2	
253	Norway Maple	TREE	8	2	2	
256	Norway Maple	TREE	8	2	3	
257	Norway Maple	TREE	25	2	2	
258	Basswood	TREE	8	2	2	
259	American Elm	TREE	6	2	3	
260	American Elm	TREE	6	2	2	
261	Norway Maple	TREE	27	2	2	
262	American Elm	TREE	14	2	2	
263	American Elm	TREE	11	2	3	Lean
264	Bur Oak	TREE	16	2	3	
265	Norway Maple	TREE	18	2	3	
266	Dead	TREE	19,19	5	5	Dead
267	Red Oak	TREE	14	2	2	
268	Hophornbeam	TREE	6	2	2	
269	Green Ash	TREE	10	4	4	Deadwood
270	American Elm	TREE	21	2	2	
271	White Oak	TREE	27	2	3	Lean
272	Shagbark Hickory	TREE	11	2	2	
273	Norway Maple	TREE	10	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
274	Hophornbeam	TREE	7	2	2	
275	American Elm	TREE	14	2	3	
276	Bur Oak	TREE	18	2	2	
277	Norway Maple	TREE	13	2	2	
278	White Oak	TREE	22	2	2	
279	Basswood	TREE	24	2	2	
280	American Elm	TREE	16	2	2	
281	Norway Maple	TREE	8	2	2	
282	American Elm	TREE	18	2	2	
283	Red Oak	TREE	15	2	2	
284	Norway Maple	TREE	15	3	3	
285	Dead	TREE	19	5	5	Dead
286	Red Oak	TREE	27	2	4	Lean
287	Norway Maple	TREE	6	2	2	
288	Norway Maple	TREE	12	2	2	
289	Black Cherry	TREE	16,15	3	3	
290	Norway Maple	TREE	13	2	2	
291	Black Cherry	TREE	15	3	3	
292	Basswood	TREE	17	2	3	
293	Norway Maple	TREE	9	2	2	
294	Dead	TREE	15	5	5	Dead
295	Dead	TREE	17	5	5	Dead
296	Norway Maple	TREE	9	2	2	
297	Dead	TREE	12	5	5	Dead
298	Dead	TREE	12	5	5	Dead
299	Dead	TREE	13	5	5	Dead
300	Basswood	TREE	12	2	2	
301	Basswood	TREE	11	2	2	
302	Bur Oak	TREE	23	2	2	
303	Silver Maple	TREE	15	2	3	
304	American Elm	TREE	6	2	2	
305	Silver Maple	TREE	10	3	3	
306	Silver Maple	TREE	24,15	3	3	
307	Silver Maple	TREE	8	2	2	
308	White Oak	TREE	14	2	2	
309	Red Oak	TREE	22,20,17	2	3	
310	Norway Maple	TREE	15	2	2	
311	Norway Maple	TREE	15, 12	2	3	
312	Norway Maple	TREE	14	2	2	
313	Norway Maple	TREE	25	2	2	
314	Red Oak	TREE	19,18	2	3	
315	Norway Maple	TREE	14	2	3	
316	Norway Maple	TREE	21	2	2	

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TREE INVENTORY

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CBBEL ID	Species	Description	DBH	Condition	Form	Comments
317	Dead	TREE	7	5	5	Dead
318	Red Oak	TREE	20	2	2	
319	Norway Maple	TREE	14	2	2	
320	Red Oak	TREE	30	3	3	Lean
321	Red Oak	TREE	17,17,15	2	2	
322	Norway Maple	TREE	14	2	2	
323	Norway Maple	TREE	6	2	2	
325	Norway Maple	TREE	11	2	3	
327	Norway Maple	TREE	6	2	2	
328	Norway Maple	TREE	6	2	2	
329	Black Cherry	TREE	15	3	3	
330	Norway Maple	TREE	13	2	2	
331	Norway Maple	TREE	15	2	2	
332	American Elm	TREE	8	2	3	
333	American Elm	TREE	12	2	2	
334	Norway Maple	TREE	16	2	2	
335	Basswood	TREE	16	2	2	
336	American Elm	TREE	11	2	2	
337	Dead	TREE	15	5	5	Dead
338	Black Cherry	TREE	18	3	3	
339	Norway Maple	TREE	11	2	3	
340	Red Oak	TREE	16, 21	2	3	
341	Norway Maple	TREE	8	2	2	
342	Norway Maple	TREE	7	2	2	
343	Red Oak	TREE	28	2	2	
344	Norway Maple	TREE	12	2	2	
345	Norway Maple	TREE	7	2	2	
346	Silver Maple	TREE	25	3	3	
347	Cottonwood	TREE	26	2	2	
348	American Elm	TREE	7	2	3	
349	Silver Maple	TREE	20	2	4	Lean
351	Black Cherry	TREE	6	3	3	
352	American Elm	TREE	10	2	3	
353	American Elm	TREE	9	2	3	
354	Cottonwood	TREE	40	3	3	
355	Basswood	TREE	14,12	2	3	
356	Silver Maple	TREE	16	2	2	
357	American Elm	TREE	11	2	4	
358	Bur Oak	TREE	16	2	2	
359	American Elm	TREE	8	3	3	
360	Silver Maple	TREE	24	2	2	
362	Silver Maple	TREE	27	2	3	
363	Dead	TREE	8	5	5	Dead

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
364	Norway Maple	TREE	15	3	4	Topped
366	Norway Maple	TREE	16	2	2	
368	Norway Maple	TREE	6	2	3	
369	Basswood	TREE	7	2	2	
370	Basswood	TREE	9,8,7	2	3	
371	Bur Oak	TREE	24	2	2	
372	Dead	TREE	12	5	5	Dead
373	Red Oak	TREE	22	2	2	
374	Hophornbeam	TREE	7	2	2	
375	Catalpa	TREE	14	2	3	
376	Bur Oak	TREE	26	2	2	
377	Silver Maple	TREE	13	2	2	
378	Silver Maple	TREE	6	2	3	
379	American Elm	TREE	13	2	3	
380	Basswood	TREE	12	2	2	
381	Red Oak	TREE	25	3	3	
382	Basswood	TREE	14	2	2	
383	Dead	TREE	8	5	5	Dead
384	Bur Oak	TREE	15	2	2	
385	Basswood	TREE	14	2	2	
386	Red Oak	TREE	18	2	2	
387	Basswood	TREE	11	2	3	Lean
388	Red Oak	TREE	20	2	2	
389	Norway Maple	TREE	9	2	2	
390	Bur Oak	TREE	26	2	2	
391	Red Oak	TREE	18	2	3	
392	American Elm	TREE	15	2	2	
393	Bur Oak	TREE	15	2	2	
394	Basswood	TREE	12	2	3	
395	Bur Oak	TREE	24	2	2	
396	American Elm	TREE	12	2	2	
397	Basswood	TREE	8	2	3	
398	Silver Maple	TREE	8	3	3	
400	Norway Maple	TREE	18	3	3	
401	Basswood	TREE	20	2	2	
402	Basswood	TREE	10	2	2	
403	Cottonwood	TREE	8	2	2	
404	Cottonwood	TREE	14	2	2	
405	Bur Oak	TREE	24	2	2	
406	Basswood	TREE	8	2	2	
407	Norway Maple	TREE	19	2	2	
408	Norway Maple	TREE	8	2	2	
409	Red Oak	TREE	15	2	4	Lean

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
410	Red Oak	TREE	27	2	2	
411	Norway Maple	TREE	10	2	2	
412	Red Oak	TREE	24	2	3	
413	Hophornbeam	TREE	8	3	3	
414	Basswood	TREE	10,6,6	3	4	
415	Black Cherry	TREE	12	3	3	
416	Basswood	TREE	15	3	3	
417	Bur Oak	TREE	26	2	2	
418	Red Oak	TREE	7	2	2	
419	Dead	TREE	16,13	5	5	Dead
420	Bur Oak	TREE	7	2	2	
421	Norway Maple	TREE	15	2	2	
422	White Pine	TREE	12	3	3	
423	Norway Maple	TREE	12	3	4	Topped
424	Basswood	TREE	11	2	3	
425	American Elm	TREE	7	2	2	
426	Norway Maple	TREE	13	2	2	
427	Basswood	TREE	14	2	4	Lean
428	American Elm	TREE	6	3	3	
429	Dead	TREE	18	5	5	Dead
430	Dead	TREE	15	5	5	Dead
432	Norway Maple	TREE	10	2	2	
433	Basswood	TREE	18	2	3	
434	Basswood	TREE	8,6	2	3	
435	American Elm	TREE	15	2	2	
436	Basswood	TREE	9	4	4	Topped
437	American Elm	TREE	8	3	3	
438	Basswood	TREE	8	4	4	Topped
439	Norway Maple	TREE	6	4	4	Topped
440	Basswood	TREE	8	4	5	Topped
441	Dead	TREE	10	5	5	Dead
442	Shagbark Hickory	TREE	15	2	2	
443	Bur Oak	TREE	6	3	3	
444	American Elm	TREE	10	2	3	
445	Bur Oak	TREE	6,7	2	2	
446	Dead	TREE	20	5	5	Dead
447	Red Oak	TREE	14	2	2	
448	Dead	TREE	23	5	5	Dead
449	American Elm	TREE	12	2	2	
450	Dead	TREE	14	5	5	Dead
451	Norway Maple	TREE	8	3	3	
452	Basswood	TREE	8	2	2	
453	Bur Oak	TREE	15	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
454	Bur Oak	TREE	6	2	2	
455	American Elm	TREE	7	3	3	
456	American Elm	TREE	8	3	3	
457	Dead	TREE	6	5	5	Dead
458	Dead	TREE	7	5	5	Dead
459	Shagbark Hickory	TREE	9	2	2	
460	American Elm	TREE	6	2	3	
461	Bur Oak	TREE	21	3	3	Deadwood
462	Basswood	TREE	18,9	2	3	
463	Bur Oak	TREE	16	2	2	
464	American Elm	TREE	14	2	3	
465	Basswood	TREE	6	3	3	
466	Norway Maple	TREE	6	2	3	
467	Norway Maple	TREE	6	2	2	
468	Dead	TREE	NA	5	5	Dead
469	Dead	TREE	6	5	5	Dead
470	Dead	TREE	7	5	5	Dead
471	Green Ash	TREE	12,10	4	4	Deadwood
472	Basswood	TREE	6	3	3	
473	Bur Oak	TREE	24	2	2	
474	Cottonwood	TREE	24	3	3	
475	Bur Oak	TREE	12	3	3	
476	Shagbark Hickory	TREE	10	2	2	
477	Shagbark Hickory	TREE	8	2	2	
478	Bur Oak	TREE	13	2	2	
479	Basswood	TREE	8	3	3	
480	Norway Maple	TREE	9	2	2	
481	Basswood	TREE	8	2	2	
482	Shagbark Hickory	TREE	8	2	2	
483	Dead	TREE	8	5	5	Dead
484	Bur Oak	TREE	11	2	3	
485	Bur Oak	TREE	10	2	2	
486	Bur Oak	TREE	8	2	3	
487	Shagbark Hickory	TREE	15	2	2	
488	Bur Oak	TREE	6	2	3	
489	Basswood	TREE	6	3	3	
490	Bur Oak	TREE	13	3	3	
491	Red Oak	TREE	15	2	2	
492	Dead	TREE	6	5	5	Dead
493	Red Oak	TREE	9	2	2	
494	Bur Oak	TREE	12,10	3	3	
495	Red Oak	TREE	14	2	2	
496	Dead	TREE	9	5	5	Dead

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
497	Dead	TREE	8	5	5	Dead
498	Dead	TREE	8	5	5	Dead
499	Bur Oak	TREE	19	2	2	
500	Red Oak	TREE	17,15	2	2	
501	Bur Oak	TREE	12	2	2	
502	Basswood	TREE	8	2	2	
503	Bur Oak	TREE	16	2	2	
504	Dead	TREE	9	5	5	Dead
505	Dead	TREE	6	5	5	Dead
506	Dead	TREE	12	5	5	Dead
507	Dead	TREE	10	5	5	Dead
508	Red Oak	TREE	8	2	2	
509	Dead	TREE	7	5	5	Dead
510	Red Oak	TREE	8	2	2	
511	Basswood	TREE	6	2	3	Lean
512	Red Oak	TREE	8	2	2	
514	Dead	TREE	6	5	5	Dead
515	Bur Oak	TREE	25	2	2	
516	Bur Oak	TREE	15	2	2	
517	Red Oak	TREE	18	2	3	
518	Red Oak	TREE	12	2	2	
519	Pin Oak	TREE	10	2	3	
520	American Elm	TREE	7	3	3	
521	Basswood	TREE	7	4	4	Deadwood
522	Bur Oak	TREE	6	2	2	
524	Bur Oak	TREE	11	2	2	
525	Bur Oak	TREE	8,7	2	2	
526	Bur Oak	TREE	17	2	2	
527	Basswood	TREE	6	4	4	
528	White Oak	TREE	10	3	4	Topped
529	Red Oak	TREE	15	2	2	
530	Bur Oak	TREE	19	2	2	
531	Bur Oak	TREE	7	2	2	
532	Basswood	TREE	8	3	3	
533	Basswood	TREE	8	2	2	
534	American Elm	TREE	6	3	3	
535	Bur Oak	TREE	18	2	2	
536	Shagbark Hickory	TREE	11	2	3	
537	Bur Oak	TREE	15	2	3	
538	Basswood	TREE	8	2	2	
539	White Oak	TREE	12	2	2	
540	American Elm	TREE	7	2	3	
541	White Oak	TREE	15	2	2	

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
542	Bradford Pear	TREE	4	2	2	
543	Shagbark Hickory	TREE	8	2	2	
544	Bur Oak	TREE	6	2	2	
545	Red Oak	TREE	9	2	2	
546	Basswood	TREE	8	4	4	Topped
547	Basswood	TREE	12,10,7	3	3	
548	Bur Oak	TREE	15	2	2	
549	Red Oak	TREE	6	3	3	
550	Basswood	TREE	10	3	4	Lean
551	Red Oak	TREE	8	2	2	
552	Shagbark Hickory	TREE	8	2	2	
553	White Oak	TREE	13	2	2	
554	White Oak	TREE	11	2	2	
555	White Oak	TREE	15,7	2	2	
556	Dead	TREE	6	5	5	Dead
557	Red Oak	TREE	9,10	2	2	
559	Pin Oak	TREE	12	4	4	Topped
560	Bur Oak	TREE	10	3	4	Topped
563	Dead	TREE	12	5	5	Dead
564	White Oak	TREE	11	2	2	
565	Dead	TREE	12	5	5	Dead
566	American Elm	TREE	8	2	3	
567	Basswood	TREE	8	2	3	
568	Red Oak	TREE	17	2	2	
569	Red Oak	TREE	12	3	3	
570	American Elm	TREE	6	2	2	
571	Bur Oak	TREE	6	2	3	
572	Shagbark Hickory	TREE	6	2	2	
574	American Elm	TREE	8	3	3	
575	Dead	TREE	12	5	5	Dead
576	White Oak	TREE	12	4	4	Topped
577	Red Oak	TREE	6	2	2	
578	Basswood	TREE	10, 6	2	3	
579	Red Oak	TREE	8	2	2	
580	White Oak	TREE	15	2	2	
581	Dead	TREE	6	5	5	Dead
582	Shagbark Hickory	TREE	9	2	2	
583	White Oak	TREE	15	2	2	
584	Shagbark Hickory	TREE	10	2	2	
585	Bur Oak	TREE	13	2	3	
586	Shagbark Hickory	TREE	9	2	2	
587	Basswood	TREE	8	2	2	
588	Bur Oak	TREE	24	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
589	Bur Oak	TREE	17	2	2	
590	Black Locust	TREE	6	2	2	
591	Red Oak	TREE	13	2	2	
592	American Elm	TREE	9	2	3	
593	White Oak	TREE	15	2	2	
594	American Elm	TREE	8	3	3	
595	American Elm	TREE	8	2	3	
596	Red Oak	TREE	15	3	4	Topped
597	Austrian Pine	TREE	14	3	4	
598	White Pine	TREE	12	3	4	Topped
599	Basswood	TREE	8	4	4	Topped
600	White Oak	TREE	9	3	4	Topped
601	Norway Maple	TREE	8	2	3	
602	Red Oak	TREE	16	2	2	
603	White Oak	TREE	15	3	3	
604	Austrian Pine	TREE	9	2	2	
605	Austrian Pine	TREE	11	2	3	
606	Austrian Pine	TREE	8	2	2	
607	Austrian Pine	TREE	10	2	3	
609	White Oak	TREE	24	2	2	
610	American Elm	TREE	12	2	3	
611	Dead	TREE	10	5	5	Dead
612	American Elm	TREE	10	2	2	
613	American Elm	TREE	8	2	2	
614	Red Oak	TREE	12	2	3	
616	White Pine	TREE	24	2	2	
617	American Elm	TREE	8	2	2	
618	American Elm	TREE	10	2	2	
619	American Elm	TREE	8	2	3	
620	American Elm	TREE	14	2	3	
621	White Pine	TREE	24	2	2	
622	White Pine	TREE	24	2	2	
623	Norway Maple	TREE	15	2	2	
624	White Pine	TREE	12	2	2	
625	Bur Oak	TREE	6	2	2	
626	Bur Oak	TREE	7	2	2	
627	Bur Oak	TREE	9	2	4	Topped
628	Shagbark Hickory	TREE	6	2	4	Topped
629	Dead	TREE	8	5	5	Dead
630	Bur Oak	TREE	12	2	3	
631	Bur Oak	TREE	36	2	2	
632	American Elm	TREE	6	3	3	
633	Shagbark Hickory	TREE	12	2	2	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
634	Dead	TREE	8	5	5	Dead
635	Bur Oak	TREE	18,12,12,10	2	2	
636	American Elm	TREE	13	2	2	
637	American Elm	TREE	8	3	4	Topped
638	Bush	BUSH	0	0	0	Bush
639	Hophornbeam	TREE	9	3	3	
641	Gone	TREE	0	0	0	Gone
642	Basswood	TREE	13,10,10,10,9	3	3	
643	Dead	TREE	6	5	5	Dead
644	Bur Oak	TREE	18	2	3	
645	White Oak	TREE	10	2	3	
646	White Oak	TREE	14	2	2	
647	Norway Maple	TREE	6	3	3	
648	Black Cherry	TREE	6	3	4	Topped
649	Red Oak	TREE	6	3	3	
650	White Oak	TREE	11	3	3	
651	American Elm	TREE	10	2	3	
652	Basswood	TREE	6	2	4	Topped
653	Red Oak	TREE	6	3	4	Topped
654	Bur Oak	TREE	15	3	4	Topped
655	Red Oak	TREE	13	3	4	Lean
656	White Oak	TREE	22	2	3	
657	Pin Oak	TREE	12	2	2	
658	American Elm	TREE	6	2	3	
659	American Elm	TREE	8	3	3	
660	American Elm	TREE	11	2	2	
661	White Oak	TREE	17	2	2	
662	White Oak	TREE	18	2	2	
663	White Oak	TREE	13	2	2	
664	White Oak	TREE	15	2	2	
665	White Oak	TREE	15	2	2	
666	White Oak	TREE	24	2	2	
667	Dead	TREE	10	5	5	Dead
668	Hophornbeam	TREE	6	2	2	
669	Hophornbeam	TREE	6,6	2	4	Topped
670	Hophornbeam	TREE	6	2	2	
671	White Oak	TREE	15	2	2	
672	American Elm	TREE	11	2	3	Lean
673	Dead	TREE	10	5	5	Dead
674	Dead	TREE	9	5	5	Dead
675	Green Ash	TREE	9	3	4	Lean
676	American Elm	TREE	15	2	3	
677	American Elm	TREE	6	3	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
678	American Elm	TREE	8	3	3	
679	American Elm	TREE	6	2	2	
680	Bur Oak	TREE	19	2	2	
681	American Elm	TREE	6,7	3	3	
682	American Elm	TREE	6	3	3	
683	Dead	TREE	15	5	5	Dead
684	Dead	TREE	13	5	5	Dead
685	Dead	TREE	14	5	5	Dead
686	Green Ash	TREE	13	4	4	Diseased
687	White Oak	TREE	25	1	1	
688	White Spruce	TREE	19	3	4	Deadwood
689	Dead	TREE	6	5	5	Dead
690	White Spruce	TREE	15	4	4	Deadwood
691	Hawthorn	TREE	6	3	4	
692	White Spruce	TREE	14	3	4	Deadwood
693	White Spruce	TREE	12	3	4	Deadwood
694	Dead	TREE	7	5	5	Dead
695	Bur Oak	TREE	24	2	2	
696	Bur Oak	TREE	23	2	3	
697	Dead	TREE	6	5	5	Dead
698	Shagbark Hickory	TREE	6	2	2	
699	Bur Oak	TREE	18	3	3	Deadwood
700	Bur Oak	TREE	16	3	3	Deadwood
701	Bush	BUSH	0	0	0	Bush
702	Bush	BUSH	0	0	0	Bush
703	Bush	BUSH	0	0	0	Bush
704	Bur Oak	TREE	22	2	2	
705	Bush	BUSH	0	0	0	Bush
706	Bush	BUSH	0	0	0	Bush
707	Bush	BUSH	0	0	0	Bush
708	Bush	BUSH	0	0	0	Bush
709	Bush	BUSH	0	0	0	Bush
710	Bush	BUSH	0	0	0	Bush
711	Bush	BUSH	0	0	0	Bush
712	Bush	BUSH	0	0	0	Bush
713	Bush	BUSH	0	0	0	Bush
714	Bush	BUSH	0	0	0	Bush
715	Bush	BUSH	0	0	0	Bush
716	Bush	BUSH	0	0	0	Bush
717	Bush	BUSH	0	0	0	Bush
718	Bush	BUSH	0	0	0	Bush
719	Bush	BUSH	0	0	0	Bush
720	Bur Oak	TREE	23	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
721	Bush	BUSH	0	0	0	Bush
722	Dead	TREE	8	5	5	Dead
723	Blue Spruce	TREE	6	2	2	
724	Plum	TREE	6	2	2	
725	Blue Spruce	TREE	8	2	2	
726	Bush	BUSH	0	0	0	Bush
727	Bush	BUSH	0	0	0	Bush
728	Bush	BUSH	0	0	0	Bush
729	Bush	BUSH	0	0	0	Bush
730	Dead	TREE	12	5	5	Dead
731	Basswood	TREE	14,12	3	4	Topped
732	Norway Spruce	TREE	8	2	2	
733	Cottonwood	TREE	7	2	2	
735	White Oak	TREE	18	3	3	
736	Hophornbeam	TREE	9	2	2	
737	White Oak	TREE	18	2	2	
738	White Oak	TREE	18	2	2	
739	White Oak	TREE	9,9	2	2	
740	White Oak	TREE	15	2	3	
741	White Oak	TREE	11	2	2	
743	White Oak	TREE	18	2	3	
744	White Oak	TREE	18	2	2	
745	White Oak	TREE	13	2	2	
746	White Oak	TREE	16	3	3	
747	American Elm	TREE	6	2	2	
749	American Elm	TREE	6	3	3	
750	Scotch Pine	TREE	11	3	3	
752	White Oak	TREE	22	2	2	
753	Hophornbeam	TREE	6	3	4	Lean
754	Dead	TREE	12	5	5	Dead
755	White Oak	TREE	21	2	2	
756	White Oak	TREE	15	2	2	
758	White Oak	TREE	18	2	2	
759	White Oak	TREE	13	2	3	
760	White Oak	TREE	13	2	2	
761	Bush	BUSH	0	0	0	Bush
762	Bush	BUSH	0	0	0	Bush
763	White Oak	TREE	19	2	2	
764	American Elm	TREE	6	2	2	
765	White Oak	TREE	15	2	2	
766	White Oak	TREE	15	2	2	
767	White Oak	TREE	15	2	3	
768	White Oak	TREE	18	2	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
769	Shagbark Hickory	TREE	17	1	1	
770	White Oak	TREE	17	2	3	
771	White Oak	TREE	15	2	2	
772	White Oak	TREE	15	1	2	
773	Bush	BUSH	0	0	0	Bush
774	Red Oak	TREE	14	2	3	
775	White Oak	TREE	15	2	3	
776	White Oak	TREE	15	2	3	
777	Shagbark Hickory	TREE	7	2	2	
778	Cottonwood	TREE	32	3	3	
779	Dead	TREE	25	5	5	Dead
780	Crabapple	TREE	7	3	3	
781	Shagbark Hickory	TREE	8	2	2	
782	Dead	TREE	6	5	5	Dead
783	White Oak	TREE	15	2	2	
784	White Oak	TREE	15	2	2	
785	White Oak	TREE	14	2	2	
786	Dead	TREE	9	5	5	Dead
787	White Oak	TREE	15	2	2	
788	White Oak	TREE	12	2	2	
789	White Oak	TREE	13	2	2	
790	White Oak	TREE	14	2	2	
791	White Oak	TREE	16	2	2	
792	Red Oak	TREE	8	2	3	
793	Shagbark Hickory	TREE	8	2	2	
794	Dead	TREE	8	5	5	Dead
795	White Oak	TREE	16	2	3	
796	White Oak	TREE	19	2	3	
797	White Oak	TREE	24	3	3	
798	Green Ash	TREE	6	2	2	
799	Dead	TREE	8	5	5	Dead
800	Dead	TREE	15	5	5	Dead
801	Honeylocust	TREE	14	3	4	
803	Dead	TREE	12	5	5	Dead
804	Shagbark Hickory	TREE	12	2	2	
805	Bush	BUSH	0	0	0	Bush
806	Hawthorn	TREE	6	3	4	
807	Bush	BUSH	0	0	0	Bush
808	Bush	BUSH	0	0	0	Bush
809	Bush	BUSH	0	0	0	Bush
810	Bush	BUSH	0	0	0	Bush
811	Honeylocust	TREE	18	3	3	
812	Honeylocust	TREE	8	3	3	

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
813	Honeylocust	TREE	15	3	3	
814	Honeylocust	TREE	15	3	3	
815	Honeylocust	TREE	6	3	3	
816	Honeylocust	TREE	15	3	3	
817	Honeylocust	TREE	15	3	3	
818	Honeylocust	TREE	15	3	3	
819	Honeylocust	TREE	13	3	3	
820	Honeylocust	TREE	12	3	3	
821	Honeylocust	TREE	12	3	3	
822	Honeylocust	TREE	15	3	3	
823	Honeylocust	TREE	12	3	3	
824	Honeylocust	TREE	14	3	3	
825	Honeylocust	TREE	14	3	3	
826	Dead	TREE	8	5	5	Dead
827	Honeylocust	TREE	9	3	3	
828	Honeylocust	TREE	18	3	3	
829	Honeylocust	TREE	15	3	3	
830	Honeylocust	TREE	12	3	3	
831	American Elm	TREE	8	3	3	
832	Honeylocust	TREE	15	3	3	
833	Honeylocust	TREE	18	3	3	
834	Honeylocust	TREE	14	3	3	
835	American Elm	TREE	6	3	3	
836	American Elm	TREE	8	3	3	
837	Red Oak	TREE	26	2	2	
838	Hawthorn	TREE	6	3	3	
839	Honeylocust	TREE	22	3	3	
840	Bur Oak	TREE	18	1	1	
841	Shagbark Hickory	TREE	8	2	2	
842	White Oak	TREE	6	1	2	
843	Honeylocust	TREE	15	3	3	
844	Honeylocust	TREE	18	3	3	
845	American Elm	TREE	12	3	4	Lean
846	Honeylocust	TREE	18	3	3	
847	American Elm	TREE	6	3	3	
848	American Elm	TREE	19	3	3	Lean
849	Hawthorn	TREE	6,6	3	3	
850	Buckthorn	TREE	6,6,6	3	4	
851	Hawthorn	TREE	10	3	3	
852	Silver Maple	TREE	11	3	4	Deadwood
853	Buckthorn	TREE	6,6,6	3	4	
854	Bush	BUSH	0	0	0	Bush
855	Bush	BUSH	0	0	0	Bush

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
856	Bush	BUSH	0	0	0	Bush
857	Bush	BUSH	0	0	0	Bush
858	Bush	BUSH	0	0	0	Bush
861	Blue Spruce	TREE	12	2	2	
862	Blue Spruce	TREE	9	2	2	
863	Blue Spruce	TREE	10	2	2	
864	Austrian Pine	TREE	12	2	2	
865	Cottonwood	TREE	27	3	4	Deadwood
866	Dead	TREE	8	5	5	Dead
867	Hawthorn	TREE	6	3	3	
868	Pin Oak	TREE	26	2	2	
869	Blue Spruce	TREE	6	2	2	
870	Weeping Willow	TREE	25	3	3	
871	Blue Spruce	TREE	6	2	2	
872	Blue Spruce	TREE	7	2	2	
873	Blue Spruce	TREE	7	2	2	
874	Dead	TREE	16	5	5	Dead
875	Black Willow	TREE	36	3	3	
876	Green Ash	TREE	8	3	3	
877	Dead	TREE	7	5	5	Dead
878	Honeylocust	TREE	20	3	3	
879	Honeylocust	TREE	12	4	4	Topped
880	Honeylocust	TREE	16	3	3	
881	Honeylocust	TREE	17	3	3	
882	Honeylocust	TREE	15	2	3	
883	Honeylocust	TREE	15	2	3	
884	American Elm	TREE	11	4	4	Topped
885	Honeylocust	TREE	15	3	3	
887	Hawthorn	TREE	13,13	3	3	
888	Crabapple	TREE	9,9,7	3	3	
889	Hawthorn	TREE	8	3	3	
890	Hawthorn	TREE	14	3	3	
891	Japanese Maple	TREE	12	2	4	Lean
892	Hawthorn	TREE	12	3	3	
893	Pin Oak	TREE	20	2	2	
894	Silver Maple	TREE	12,10	2	3	
895	White Mulberry	TREE	6	3	4	
896	Red Oak	TREE	21,14	2	3	Deadwood
897	Bur Oak	TREE	21	2	2	
898	Bur Oak	TREE	22	2	2	
899	Red Oak	TREE	18	2	2	
900	Bur Oak	TREE	16	2	2	
901	Hackberry	TREE	15	2	2	

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
902	Hackberry	TREE	15	2	3	
903	Hackberry	TREE	16	2	2	
904	Hackberry	TREE	11	2	3	
905	Hackberry	TREE	17	2	2	
906	Shagbark Hickory	TREE	6	2	2	
907	Silver Maple	TREE	25	3	3	
908	American Elm	TREE	25	3	3	
909	Bur Oak	TREE	26	2	2	
910	Dead	TREE	NA	5	5	Dead
911	Dead	TREE	NA	5	5	Dead
912	Green Ash	TREE	6,6	4	4	Topped
913	Norway Maple	TREE	8	2	2	
914	Shagbark Hickory	TREE	8	2	2	
915	Buckthorn	TREE	8	3	3	
916	Gone	TREE	0	0	0	Gone
917	Dead	TREE	9	5	5	Dead
918	Shagbark Hickory	TREE	6	2	2	
919	Dead	TREE	7	5	5	Dead
920	Red Cedar	TREE	10	3	3	
921	Red Cedar	TREE	9,6	2	3	
922	Red Cedar	TREE	9	2	3	
923	Bur Oak	TREE	12	2	2	
924	Shagbark Hickory	TREE	6	2	2	
925	Dead	TREE	8	5	5	Dead
926	Cottonwood	TREE	25	4	4	Deadwood
927	Dead	TREE	12	5	5	Dead
928	Red Oak	TREE	8	2	3	
929	Shagbark Hickory	TREE	14	2	2	
930	Shagbark Hickory	TREE	6	4	4	Topped
931	Shagbark Hickory	TREE	15	2	2	
932	Bur Oak	TREE	7	3	3	
933	Bur Oak	TREE	12	3	3	Deadwood
934	Bur Oak	TREE	10	2	2	
935	Shagbark Hickory	TREE	8	2	2	
936	Bur Oak	TREE	30	3	3	Deadwood
938	White Cedar	TREE	8,7	2	3	
939	White Cedar	TREE	8	2	3	
940	White Cedar	TREE	6	2	2	
941	White Cedar	TREE	10	2	2	
942	White Cedar	TREE	7,7,6	3	3	
943	Buckthorn	TREE	7	3	4	
944	Dead	TREE	12	5	5	Dead
945	Buckthorn	TREE	8	3	4	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
947	Shagbark Hickory	TREE	21	2	2	
951	Shagbark Hickory	TREE	11	2	2	
952	Red Oak	TREE	8	2	2	
953	Black Walnut	TREE	13	2	2	
954	Bur Oak	TREE	8	2	2	
955	Dead	TREE	10	5	5	Dead
956	Dead	TREE	6	5	5	Dead
957	Yellowbud Hickory	TREE	6	2	2	
958	Bur Oak	TREE	11	2	2	
959	Dead	TREE	6	5	5	Dead
960	Shagbark Hickory	TREE	8	2	2	
961	White Oak	TREE	10	2	2	
962	Bur Oak	TREE	6	2	2	
963	Dead	TREE	8	5	5	Dead
964	Basswood	TREE	11	2	3	
965	Dead	TREE	8	5	5	Dead
966	Bur Oak	TREE	24	2	2	
967	Dead	TREE	24	5	5	Dead
968	Shagbark Hickory	TREE	10	2	2	
969	Buckthorn	TREE	6	3	3	
970	Red Oak	TREE	9	2	2	
971	Bur Oak	TREE	24	2	2	
972	White Oak	TREE	27	2	2	
973	Red Oak	TREE	10	2	2	
975	Red Oak	TREE	12	2	2	
976	Red Oak	TREE	7	2	2	
977	Red Oak	TREE	15	2	2	
978	Red Oak	TREE	12	2	2	
979	Red Oak	TREE	18	2	2	
980	Red Oak	TREE	18	2	3	
981	Buckthorn	TREE	6	3	4	
982	Dead	TREE	8	5	5	Dead
983	Red Oak	TREE	10	2	2	
984	Bur Oak	TREE	9	2	2	
985	Red Oak	TREE	11	2	2	
986	Red Oak	TREE	12	2	2	
987	Red Oak	TREE	11	2	2	
988	Red Oak	TREE	12	2	3	
989	Red Oak	TREE	7	2	2	
991	Red Oak	TREE	10	2	2	
992	Red Oak	TREE	13	2	2	
993	Red Oak	TREE	12	2	2	
994	Red Oak	TREE	13	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
995	Red Oak	TREE	10	2	2	
996	Dead	TREE	13	5	5	Dead
997	Red Oak	TREE	9	2	3	Lean
998	Red Oak	TREE	12	2	2	
999	Red Oak	TREE	13	2	2	
1000	Red Oak	TREE	10	2	2	
1001	White Oak	TREE	15	2	2	
1002	Red Oak	TREE	8	2	2	
1003	Red Oak	TREE	8	2	2	
1004	Dead	TREE	8	5	5	Dead
1005	Red Oak	TREE	6	2	2	
1006	Dead	TREE	13	5	5	Dead
1007	Red Oak	TREE	8	2	2	
1008	Red Oak	TREE	12	2	2	
1009	Red Oak	TREE	8	2	2	
1010	Red Oak	TREE	8	2	3	
1011	Red Oak	TREE	12	2	2	
1012	Red Oak	TREE	9	2	2	
1013	Red Oak	TREE	15	2	2	
1014	Red Oak	TREE	11	2	2	
1015	Dead	TREE	6	5	5	Dead
1016	Dead	TREE	6	5	5	Dead
1017	Red Oak	TREE	11	2	2	
1018	Red Oak	TREE	16	2	2	
1019	Honeylocust	TREE	17	3	3	
1020	Honeylocust	TREE	18	3	3	
1021	Honeylocust	TREE	18	3	3	
1022	Pin Oak	TREE	16	2	2	
1023	Black Walnut	TREE	11	2	3	
1024	Bur Oak	TREE	10	2	2	
1025	Bur Oak	TREE	8	2	2	
1026	Dead	TREE	8	5	5	Dead
1027	Black Walnut	TREE	12	3	3	
1028	Black Walnut	TREE	11	3	3	
1029	Basswood	TREE	8	2	2	
1030	American Elm	TREE	12	2	2	
1031	Black Walnut	TREE	11	2	2	
1032	Red Oak	TREE	6	2	2	
1033	Honeylocust	TREE	14	2	3	
1034	Dead	TREE	18	5	5	Dead
1035	Dead	TREE	6	5	5	Dead
1036	Dead	TREE	9	5	5	Dead
1037	Dead	TREE	8	5	5	Dead

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1038	Dead	TREE	6	5	5	Dead
1039	Dead	TREE	15	5	5	Dead
1040	Dead	TREE	6	5	5	Dead
1041	Black Cherry	TREE	8	3	3	
1042	Dead	TREE	6	5	5	Dead
1043	Black Cherry	TREE	15	3	3	
1044	Dead	TREE	12	5	5	Dead
1045	Box Elder	TREE	10	3	3	
1046	Box Elder	TREE	10	3	3	
1048	Dead	TREE	11	5	5	Dead
1049	Dead	TREE	6	5	5	Dead
1050	American Elm	TREE	8	2	3	
1051	Black Walnut	TREE	18	2	2	
1052	Black Walnut	TREE	13	2	2	
1053	Dead	TREE	6	5	5	Dead
1054	Hawthorn	TREE	12	3	3	
1055	Bur Oak	TREE	12	2	2	
1056	Black Walnut	TREE	15	2	3	
1057	Norway Maple	TREE	8	3	4	Topped
1058	Norway Maple	TREE	10	3	4	Topped
1059	Norway Maple	TREE	6	2	2	
1060	Norway Maple	TREE	7	2	2	
1061	Norway Maple	TREE	8	2	2	
1062	Bur Oak	TREE	22	2	2	
1063	Dead	TREE	12	5	5	Dead
1064	Dead	TREE	13	5	5	Dead
1065	Dead	TREE	8	5	5	Dead
1066	Silver Maple	TREE	22	2	2	
1067	Dead	TREE	14	5	5	Dead
1068	Dead	TREE	12	5	5	Dead
1069	Basswood	TREE	10	2	3	
1070	Basswood	TREE	6	2	2	
1071	Norway Maple	TREE	13	2	2	
1072	Norway Maple	TREE	9	2	2	
1073	Norway Maple	TREE	11	2	2	
1074	Dead	TREE	18	5	5	Dead
1075	American Elm	TREE	10	2	2	
1076	Red Oak	TREE	24	2	3	Lean
1077	Norway Maple	TREE	15	2	2	
1078	Hophornbeam	TREE	6	3	3	
1079	Red Oak	TREE	18	2	2	
1080	Hophornbeam	TREE	6	3	3	
1081	Hophornbeam	TREE	6	2	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1082	Dead	TREE	15	5	5	Dead
1083	Red Oak	TREE	18	2	2	
1086	Hophornbeam	TREE	12	2	2	
1087	Norway Maple	TREE	18	2	2	
1088	Norway Maple	TREE	12	2	3	
1089	Dead	TREE	10	5	5	Dead
1090	Basswood	TREE	8	2	3	
1091	Basswood	TREE	7	2	3	
1092	Red Oak	TREE	15	4	4	Deadwood
1093	Red Oak	TREE	8	3	3	
1094	Basswood	TREE	12	3	4	Topped
1095	White Oak	TREE	14	2	2	
1096	American Elm	TREE	7	3	3	
1097	Dead	TREE	8	5	5	Dead
1098	American Elm	TREE	6	3	3	
1099	Red Oak	TREE	6	3	4	Topped
1100	White Oak	TREE	15	2	2	
1101	Red Oak	TREE	15	2	2	
1102	American Elm	TREE	15	2	2	
1103	Red Oak	TREE	22	2	3	
1104	Norway Maple	TREE	8	2	2	
1105	American Elm	TREE	8	2	3	
1106	American Elm	TREE	9	2	2	
1107	Basswood	TREE	8	2	2	
1109	American Elm	TREE	6	2	3	
1110	Bush	BUSH	0	0	0	Bush
1111	Bush	BUSH	0	0	0	Bush
1112	Bush	BUSH	0	0	0	Bush
1113	Red Oak	TREE	25	2	3	
1114	White Pine	TREE	6	2	2	
1115	White Oak	TREE	10	2	2	
1116	Dead	TREE	8	5	5	Dead
1117	Red Oak	TREE	9	2	3	Lean
1119	Bur Oak	TREE	6,6	2	3	
1120	Basswood	TREE	10	2	2	
1121	American Elm	TREE	6	4	4	Topped
1122	Basswood	TREE	8	2	2	
1123	Red Oak	TREE	15	2	2	
1124	Basswood	TREE	8	2	2	
1125	Basswood	TREE	7	2	2	
1126	Basswood	TREE	6	2	2	
1127	Basswood	TREE	12	2	2	
1128	Basswood	TREE	7,6,6	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1129	Red Oak	TREE	8	2	2	
1131	Bush	BUSH	0	0	0	Bush
1132	Bush	BUSH	0	0	0	Bush
1133	White Oak	TREE	9	2	2	
1134	White Oak	TREE	9	2	2	
1135	Red Oak	TREE	12	2	2	
1136	American Elm	TREE	10	2	3	
1137	Red Oak	TREE	13	2	2	
1138	Red Oak	TREE	6	3	3	
1139	American Elm	TREE	6	2	3	
1140	Red Oak	TREE	11,11	2	3	
1141	Honeylocust	TREE	5	2	2	
1142	Buckthorn	TREE	6	3	4	
1143	Buckthorn	TREE	6	3	4	
1144	Buckthorn	TREE	6	3	4	
1145	Dead	TREE	27	5	5	Dead
1146	Dead	TREE	8	5	5	Dead
1147	American Elm	TREE	15	3	4	Topped
1148	Dead	TREE	8	5	5	Dead
1149	Green Ash	TREE	6	4	4	
1150	Bur Oak	TREE	10	3	3	
1151	Bur Oak	TREE	6	3	3	
1152	Norway Spruce	TREE	27	1	1	
1153	Bur Oak	TREE	12	3	4	Topped
1154	Bur Oak	TREE	12	2	2	
1155	Bur Oak	TREE	15	2	2	
1156	Bur Oak	TREE	12	3	3	
1157	Bur Oak	TREE	8	2	4	Topped
1158	Bur Oak	TREE	8	3	4	Topped
1159	American Elm	TREE	10	2	2	
1160	Black Cherry	TREE	8	3	3	
1161	Red Oak	TREE	6	2	3	
1162	American Elm	TREE	8	2	2	
1163	Norway Spruce	TREE	16	2	3	
1164	Hawthorn	TREE	8	3	4	
1165	American Elm	TREE	15,7	2	2	
1166	American Elm	TREE	12	2	3	
1169	Shagbark Hickory	TREE	18	1	1	
1170	White Pine	TREE	6	2	2	
1171	American Elm	TREE	13	2	2	
1172	Bush	BUSH	0	0	0	Bush
1173	Norway Maple	TREE	10	3	3	
1174	Bush	BUSH	0	0	0	Bush

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1175	Bush	BUSH	0	0	0	Bush
1176	American Elm	TREE	12	2	3	
1177	Bush	BUSH	0	0	0	Bush
1178	Dead	TREE	6	5	5	Dead
1181	White Oak	TREE	24	2	2	
1182	Shagbark Hickory	TREE	6	2	2	
1183	American Elm	TREE	12	2	3	
1184	American Elm	TREE	6	2	3	
1185	Honeylocust	TREE	8	2	2	
1186	White Oak	TREE	8	2	2	
1187	Red Oak	TREE	15	2	2	
1188	Shagbark Hickory	TREE	6	2	2	
1191	White Pine	TREE	12	3	3	
1192	Basswood	TREE	12	2	3	
1193	White Pine	TREE	15	2	2	
1194	White Pine	TREE	30	2	2	
1195	Hemlock	TREE	10	2	2	
1197	Norway Spruce	TREE	24	2	2	
1198	White Pine	TREE	27	2	2	
1201	American Elm	TREE	8	2	2	
1202	Dead	TREE	8	5	5	Dead
1203	White Pine	TREE	18	2	2	
1204	Norway Maple	TREE	8	2	2	
1205	Norway Maple	TREE	10	2	3	
1207	Black Cherry	TREE	7	3	3	
1208	Red Oak	TREE	6	2	4	Topped
1209	Dead	TREE	0	5	5	Dead
1210	Bush	BUSH	NA	0	0	Bush
1211	Bush	BUSH	NA	0	0	Bush
1227	Crabapple	TREE	12,10,10,6	3	3	
1228	Norway Maple	TREE	20	1	1	
1229	Crabapple	TREE	12,10,10,10,8	3	3	
1230	Crabapple	TREE	10,8,8	3	3	
1231	Crabapple	TREE	12,12,10,10,8,6	3	3	
1232	Bur Oak	TREE	10	2	2	
1233	Hawthorn	TREE	10	3	3	
1234	Hawthorn	TREE	16	2	3	
1235	Hawthorn	TREE	8,8,6	2	3	
1236	Hawthorn	TREE	10,6	2	3	
1237	Hawthorn	TREE	6,6	2	2	
1238	Hawthorn	TREE	6,6	2	3	
1239	Hawthorn	TREE	8,8	2	3	
1240	Hawthorn	TREE	8,8	2	3	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
1241	American Elm	TREE	25	3	3	
1242	Norway Maple	TREE	13	2	2	
1243	Norway Maple	TREE	7	2	2	
1244	White Oak	TREE	20	2	2	
1245	American Elm	TREE	9	2	2	
1246	American Elm	TREE	21	2	2	
1247	White Oak	TREE	28	2	2	
1248	Basswood	TREE	7	3	4	Topped
1249	White Ash	TREE	7	3	3	
1250	Red Cedar	TREE	7	3	3	
1251	Crabapple	TREE	11	3	4	Deadwood
1252	Pin Oak	TREE	6	2	2	
1253	Red Oak	TREE	14	2	2	
1254	Norway Maple	TREE	12	2	2	
1255	Norway Maple	TREE	12	2	2	
1256	Cottonwood	TREE	30	2	2	
1257	Norway Maple	TREE	7	2	2	
1258	Silver Maple	TREE	13	2	3	
1259	Norway Maple	TREE	16	2	2	
1260	Silver Maple	TREE	7	3	3	
1261	Norway Maple	TREE	23	4	4	Deadwood
1262	Dead	TREE	7	5	5	Dead
1263	Red Oak	TREE	13	2	3	
1264	Basswood	TREE	6	4	5	Topped
1265	Red Oak	TREE	8	2	2	
1266	Bur Oak	TREE	12	2	2	
1267	Red Oak	TREE	6	2	3	Lean
1268	American Elm	TREE	7	3	4	Topped
1269	White Oak	TREE	14	2	3	
1270	Bur Oak	TREE	10	2	2	
1271	White Oak	TREE	7	2	2	
1272	White Oak	TREE	12	2	2	
1273	White Oak	TREE	14	2	2	
1274	White Oak	TREE	15	2	2	
1a	Box Elder	TREE	18	3	4	Lean
2a	Box Elder	TREE	14	3	4	Lean
3a	Black Cherry	TREE	9	3	3	
4a	Hackberry	TREE	6	2	2	
5a	Hackberry	TREE	11	2	2	
6a	Hackberry	TREE	6	2	2	
7a	Black Walnut	TREE	18	2	2	
8a	Hackberry	TREE	7	2	2	
9a	Black Walnut	TREE	16	2	2	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
10a	Hackberry	TREE	20	2	2	
11a	Hackberry	TREE	6	2	2	
12a	Hackberry	TREE	6	2	2	
13a	Hackberry	TREE	7	2	2	
14a	Hackberry	TREE	7	2	2	
15a	Black Cherry	TREE	6	3	3	
16a	Black Cherry	TREE	6	3	3	
17a	Crabapple	TREE	15	3	3	
18a	Crabapple	TREE	17	2	3	
19a	Crabapple	TREE	14	2	3	
20a	American Elm	TREE	8	2	2	
21a	Green Ash	TREE	10	4	4	Diseased
22a	Green Ash	TREE	9	4	4	Diseased
23a	Box Elder	TREE	9	3	3	Lean
24a	Box Elder	TREE	14	3	4	Lean
25a	Cottonwood	TREE	22	2	2	
26a	Black Cherry	TREE	6	2	2	
27a	Black Walnut	TREE	7	2	2	
28a	Box Elder	TREE	11	4	5	Deadwood
29a	Blue Spruce	TREE	3	1	1	Landscape
30a	Blue Spruce	TREE	3	1	2	Landscape
31a	Blue Spruce	TREE	2	2	2	Landscape
32a	Blue Spruce	TREE	3	1	2	Landscape
33a	Austrian Pine	TREE	15	3	3	
34a	Blue Spruce	TREE	3	2	2	Landscape
35a	Blue Spruce	TREE	6	2	2	
36a	Blue Spruce	TREE	6	2	2	
37a	Blue Spruce	TREE	3	2	2	Landscape
38a	Blue Spruce	TREE	3	2	2	Landscape
39a	Norway Spruce	TREE	6	2	2	
40a	Honeylocust	TREE	26	2	2	
41a	Honeylocust	TREE	28	2	2	
42a	Honeylocust	TREE	26	2	2	
43a	Austrian Pine	TREE	9	3	3	
44a	Austrian Pine	TREE	10	2	3	
45a	Honeylocust	TREE	28	2	2	
46a	Honeylocust	TREE	9	2	2	
47a	Swamp White Oak	TREE	12	2	2	
48a	Freeman Maple	TREE	3	2	2	Landscape
49a	Freeman Maple	TREE	3	2	2	Landscape
50a	Freeman Maple	TREE	3	2	2	Landscape
51a	Norway Spruce	TREE	12	2	2	
52a	Silver Maple	TREE	15	2	3	

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
53a	Basswood	TREE	15	2	3	
54a	Austrian Pine	TREE	8	3	4	Deadwood
55a	Austrian Pine	TREE	7	3	3	
56a	Freeman Maple	TREE	6	3	3	
57a	Austrian Pine	TREE	26	4	5	Deadwood
58a	Basswood	TREE	22	2	2	
59a	Austrian Pine	TREE	6	3	3	
60a	Austrian Pine	TREE	7	3	3	
61a	Basswood	TREE	20	2	2	
62a	Austrian Pine	TREE	17	3	4	
63a	Norway Spruce	TREE	18	2	2	
64a	Freeman Maple	TREE	7	2	2	
65a	Norway Spruce	TREE	16	2	2	
66a	Freeman Maple	TREE	9	2	2	
67a	Austrian Pine	TREE	15	4	4	Deadwood
68a	Norway Spruce	TREE	12	2	2	
69a	Norway Spruce	TREE	13	2	2	
70a	Honeylocust	TREE	10	2	2	
71a	Austrian Pine	TREE	7	4	4	Deadwood
72a	Cottonwood	TREE	17	2	3	
73a	Cottonwood	TREE	34	2	3	
74a	Cottonwood	TREE	27	2	3	
75a	Honeylocust	TREE	17	2	2	
76a	Basswood	TREE	14	3	3	Lean
77a	Norway Spruce	TREE	15	2	2	
78a	Norway Spruce	TREE	15	2	2	
79a	Norway Spruce	TREE	15	2	2	
80a	Basswood	TREE	13	2	2	
81a	Silver Maple	TREE	24	2	2	
82a	American Elm	TREE	6	2	3	
83a	Box Elder	TREE	6	4	4	Topped
84a	American Elm	TREE	7	3	3	
85a	American Elm	TREE	6	3	3	
86a	Box Elder	TREE	7	2	3	
87a	Box Elder	TREE	7	3	3	
88a	Honeylocust	TREE	15	2	2	
89a	Honeylocust	TREE	18	2	2	
90a	Honeylocust	TREE	17	2	2	
91a	Hawthorn	TREE	3,3,3,3,3	3	3	
92a	Hawthorn	TREE	5,5,3	3	3	
93a	Hawthorn	TREE	6,5,4,4,3	3	3	
94a	Hawthorn	TREE	7,6,5,5,4	3	3	
95a	Crabapple	TREE	7,6,6,6,5,5	3	3	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
96a	Crabapple	TREE	6,5,5,4,4,4	3	3	
97a	Crabapple	TREE	6,4,4,4	3	3	
98a	Blue Spruce	TREE	2	2	2	Landscape
99a	Honeylocust	TREE	25	2	2	
100a	Honeylocust	TREE	15	2	3	
101a	Honeylocust	TREE	20	2	2	
102a	Honeylocust	TREE	28	2	2	
103a	Honeylocust	TREE	24	2	2	
104a	Silver Maple	TREE	8	2	2	
105a	Basswood	TREE	7	2	2	
106a	Black Cherry	TREE	8	2	3	
107a	Red Oak	TREE	6	2	2	
108a	Silver Maple	TREE	7	2	2	
109a	Cottonwood	TREE	38	2	2	
110a	Green Ash	TREE	6	3	4	
111a	White Oak	TREE	34	2	2	
112a	American Elm	TREE	10	2	2	
113a	Basswood	TREE	13	2	3	Lean
114a	Red Oak	TREE	20	2	3	
115a	Green Ash	TREE	9	4	4	Diseased
116a	American Elm	TREE	6	2	3	
117a	American Elm	TREE	9	2	2	
118a	American Elm	TREE	13	2	2	
119a	American Elm	TREE	6	2	2	
120a	American Elm	TREE	6	3	3	
121a	Green Ash	TREE	10	4	4	Diseased
122a	American Elm	TREE	10	2	2	
123a	Norway Spruce	TREE	6	2	2	
124a	Basswood	TREE	13,6	2	3	
125a	White Oak	TREE	14	2	2	
126a	White Oak	TREE	28	2	2	
127a	White Oak	TREE	24	2	2	
128a	Norway Spruce	TREE	15	2	2	
129a	Basswood	TREE	11,7	2	3	
130a	White Oak	TREE	34	2	2	
131a	American Elm	TREE	6	3	3	
132a	Black Cherry	TREE	8	2	3	
133a	White Oak	TREE	30	2	2	
134a	Basswood	TREE	13,7	2	3	
135a	Red Oak	TREE	21	2	2	
136a	Red Oak	TREE	19	2	2	
137a	Shagbark Hickory	TREE	6	2	3	
138a	Basswood	TREE	7	2	3	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
139a	American Elm	TREE	7	4	4	Deadwood
140a	Silver Maple	TREE	7	2	3	
141a	American Elm	TREE	9	2	2	
142a	Silver Maple	TREE	7	2	2	
143a	Silver Maple	TREE	9	2	2	
144a	Cottonwood	TREE	32	2	3	
145a	American Elm	TREE	7	2	3	
146a	American Elm	TREE	8	2	2	
147a	Silver Maple	TREE	8	2	2	
148a	Green Ash	TREE	8	4	4	Diseased
149a	Silver Maple	TREE	8	2	3	Lean
150a	White Oak	TREE	28	2	2	
151a	Basswood	TREE	13,13,5	2	3	
152a	Silver Maple	TREE	6	2	3	
153a	American Elm	TREE	14	2	2	
154a	Silver Maple	TREE	7	2	2	
155a	Silver Maple	TREE	10	2	2	
156a	Silver Maple	TREE	18	2	2	
157a	American Elm	TREE	7	2	2	
158a	American Elm	TREE	8	2	3	
159a	Silver Maple	TREE	9	2	2	
160a	Norway Spruce	TREE	9	2	2	
161a	Silver Maple	TREE	6	2	2	
162a	Silver Maple	TREE	6	2	3	
163a	American Elm	TREE	7	2	2	
164a	Silver Maple	TREE	10	2	2	
165a	Silver Maple	TREE	7	2	2	
166a	Norway Spruce	TREE	18	2	2	
167a	Silver Maple	TREE	8,6,6	2	3	
168a	American Elm	TREE	6	2	2	
169a	American Elm	TREE	6	2	2	
170a	American Elm	TREE	6	2	3	
171a	Silver Maple	TREE	9	2	2	
172a	Basswood	TREE	18,7	2	2	
173a	American Elm	TREE	8	3	4	Deadwood
174a	Norway Spruce	TREE	17	2	2	
175a	Silver Maple	TREE	14	2	2	
176a	Norway Spruce	TREE	16	3	4	Split
177a	Norway Spruce	TREE	8	2	3	
178a	American Elm	TREE	6	3	3	
179a	Silver Maple	TREE	9	2	2	
180a	Norway Spruce	TREE	12	2	2	
181a	White Oak	TREE	34	2	2	

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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
182a	American Elm	TREE	12	2	2	
183a	Silver Maple	TREE	7	2	3	
184a	Silver Maple	TREE	6	3	3	
185a	American Elm	TREE	6	2	3	
186a	Silver Maple	TREE	13	2	2	
187a	Silver Maple	TREE	10	2	3	
188a	American Elm	TREE	6	3	3	
189a	American Elm	TREE	6	2	3	
190a	Silver Maple	TREE	8	2	2	
191a	Silver Maple	TREE	8	2	2	
192a	White Oak	TREE	42	2	2	
193a	American Elm	TREE	6	2	2	
194a	Silver Maple	TREE	6	2	3	
195a	Silver Maple	TREE	8	2	2	
196a	Silver Maple	TREE	23	4	4	Deadwood
197a	American Elm	TREE	6	3	3	
198a	American Elm	TREE	6	2	2	
199a	Silver Maple	TREE	10	2	2	
200a	American Elm	TREE	6	2	2	
201a	Silver Maple	TREE	27	2	2	
202a	American Elm	TREE	6	2	2	
203a	Silver Maple	TREE	19	2	2	
204a	American Elm	TREE	6	2	2	
205a	American Elm	TREE	7	2	2	
206a	American Elm	TREE	6	2	3	
207a	Silver Maple	TREE	17	3	3	
208a	American Elm	TREE	6	3	3	
209a	American Elm	TREE	7	2	2	
210a	American Elm	TREE	7	2	2	
211a	Silver Maple	TREE	17	2	3	
212a	Basswood	TREE	24	2	2	
213a	Red Oak	TREE	25	2	2	
214a	Silver Maple	TREE	28	2	3	
215a	Silver Maple	TREE	13	2	2	
216a	American Elm	TREE	6	2	2	
217a	Norway Spruce	TREE	13	2	3	
281a	Box Elder	TREE	10	2	3	
219a	Cottonwood	TREE	23,27	2	3	
220a	Silver Maple	TREE	19,18	2	3	
221a	American Elm	TREE	6	2	2	
222a	Silver Maple	TREE	15	4	4	Deadwood
223a	American Elm	TREE	6	2	2	
224a	Silver Maple	TREE	21	2	3	

Table C-7:
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TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
225a	Silver Maple	TREE	18	2	2	
226a	Green Ash	TREE	6	3	4	Lean
227a	American Elm	TREE	7	2	2	
228a	Green Ash	TREE	7	3	3	
229a	Green Ash	TREE	7	3	3	
230a	Norway Spruce	TREE	7	2	2	
231a	American Elm	TREE	6	2	2	
232a	Green Ash	TREE	7	4	4	Diseased
233a	American Elm	TREE	6	2	2	
234a	Silver Maple	TREE	9	2	2	
235a	American Elm	TREE	6	2	2	
236a	Silver Maple	TREE	9	2	3	
237a	American Elm	TREE	6	2	2	
238a	Silver Maple	TREE	25	3	4	Deadwood
239a	American Elm	TREE	8	2	3	
240a	American Elm	TREE	6,6	2	3	
241a	Norway Spruce	TREE	23	2	2	
242a	Green Ash	TREE	6	3	3	
243a	Silver Maple	TREE	27	2	2	
244a	American Elm	TREE	6	2	2	
245a	Green Ash	TREE	8	4	4	Diseased
246a	Silver Maple	TREE	7	2	2	
247a	Silver Maple	TREE	25	3	3	Lean
248a	Silver Maple	TREE	25	2	3	
249a	Silver Maple	TREE	29	4	4	Deadwood
250a	Silver Maple	TREE	16,9	2	2	
251a	American Elm	TREE	6	2	3	
252a	American Elm	TREE	24	2	2	
253a	American Elm	TREE	23	2	2	
254a	American Elm	TREE	6	2	2	
255a	Black Cherry	TREE	9	2	3	
256a	American Elm	TREE	12	2	3	
257a	Green Ash	TREE	6	3	3	
258a	American Elm	TREE	9	2	2	
259a	American Elm	TREE	13	3	3	
260a	American Elm	TREE	11	4	4	Deadwood
261a	Silver Maple	TREE	20	2	2	
262a	American Elm	TREE	6	2	3	
263a	Siberian Elm	TREE	7	3	3	
264a	Siberian Elm	TREE	9,4	3	3	
265a	Box Elder	TREE	1	2	2	
266a	Serviceberry	TREE	2	2	2	
267a	Hackberry	TREE	4	2	2	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
268a	Serviceberry	TREE	1	2	2	
269a	Serviceberry	TREE	2	2	2	
270a	Siberian Elm	TREE	3	2	2	
271a	Siberian Elm	TREE	3	2	2	
272a	Serviceberry	TREE	2	2	2	
273a	Box Elder	TREE	2	2	2	
274a	Box Elder	TREE	2	2	3	
275a	Box Elder	TREE	3	2	3	
276a	Box Elder	TREE	2	2	3	
277a	Box Elder	TREE	2	2	3	
278a	Box Elder	TREE	3	3	3	
279a	Box Elder	TREE	2	3	3	
280a	Box Elder	TREE	2	3	3	
281a	Box Elder	TREE	2	3	3	
282a	Siberian Elm	TREE	2	3	3	
283a	Box Elder	TREE	4,2	3	3	
284a	Box Elder	TREE	6	2	3	
285a	Box Elder	TREE	8	2	3	
286a	Box Elder	TREE	1	3	3	
287a	Box Elder	TREE	2	3	3	
288a	Green Ash	TREE	3	3	3	
289a	Green Ash	TREE	4	3	3	
290a	Siberian Elm	TREE	1	3	3	
291a	Siberian Elm	TREE	15	3	3	
292a	Austrian Pine	TREE	10	4	4	Deadwood
293a	Box Elder	TREE	4	3	3	
294a	Box Elder	TREE	3	3	3	
295a	Box Elder	TREE	10	4	4	Lean
296a	Serviceberry	TREE	1	3	3	
297a	American Elm	TREE	4	3	3	
298a	American Elm	TREE	4	3	3	
299a	Serviceberry	TREE	1	3	3	
300a	American Elm	TREE	2	3	3	
301a	American Elm	TREE	4	3	3	
302a	Serviceberry	TREE	2	3	3	
303a	Serviceberry	TREE	2	3	3	
304a	American Elm	TREE	3	3	3	
305a	American Elm	TREE	2	3	3	
306a	Serviceberry	TREE	1	3	3	
307a	Serviceberry	TREE	1	3	3	
308a	Siberian Elm	TREE	2	3	3	
309a	Siberian Elm	TREE	2	3	3	
310a	Serviceberry	TREE	2	3	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
311a	Siberian Elm	TREE	4	3	3	
312a	Serviceberry	TREE	1	3	3	
313a	Serviceberry	TREE	1	3	3	
314a	Serviceberry	TREE	1	3	3	
315a	Green Ash	TREE	13	3	3	
316a	Box Elder	TREE	1	3	3	
317a	Serviceberry	TREE	1	3	3	
318a	Black Locust	TREE	1	3	3	
319a	Black Locust	TREE	1	3	3	
320a	Black Locust	TREE	1	3	3	
321a	Black Locust	TREE	1	3	3	
322a	Black Locust	TREE	1	3	3	
323a	Black Locust	TREE	1	3	3	
324a	Black Locust	TREE	1	3	3	
325a	Black Locust	TREE	1	3	3	
326a	Black Locust	TREE	1	3	3	
327a	Black Locust	TREE	1	3	3	
328a	Black Locust	TREE	1	3	3	
329a	Black Locust	TREE	1	3	3	
330a	Black Locust	TREE	1	3	3	
331a	Black Locust	TREE	1	3	3	
332a	Black Locust	TREE	1	3	3	
333a	Black Locust	TREE	1	3	3	
334a	Black Locust	TREE	1	3	3	
335a	Black Locust	TREE	1	3	3	
336a	Black Locust	TREE	1	3	3	
337a	Black Locust	TREE	1	3	3	
338a	Black Locust	TREE	1	3	3	
339a	Black Locust	TREE	1	3	3	
340a	Black Locust	TREE	1	3	3	
341a	Black Locust	TREE	1	3	3	
342a	Black Locust	TREE	1	3	3	
343a	Black Locust	TREE	1	3	3	
344a	Black Locust	TREE	1	3	3	
345a	Black Locust	TREE	1	3	3	
346a	Black Locust	TREE	1	3	3	
347a	Black Locust	TREE	1	3	3	
348a	Black Locust	TREE	1	3	3	
349a	Black Locust	TREE	1	3	3	
350a	Black Locust	TREE	1	3	3	
351a	Black Locust	TREE	1	3	3	
352a	Black Locust	TREE	1	3	3	
353a	Black Locust	TREE	1	3	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
354a	Black Locust	TREE	1	3	3	
355a	Black Locust	TREE	1	3	3	
356a	Black Locust	TREE	1	3	3	
357a	Black Locust	TREE	2	3	3	
358a	Black Locust	TREE	1	3	3	
359a	Black Locust	TREE	1	3	3	
360a	Black Locust	TREE	1	3	3	
361a	Black Locust	TREE	1	3	3	
362a	Black Locust	TREE	1	3	3	
363a	Black Locust	TREE	1	3	3	
364a	Black Locust	TREE	1	3	3	
365a	Black Locust	TREE	1	3	3	
366a	Black Locust	TREE	1	3	3	
367a	Black Locust	TREE	1	3	3	
368a	Black Locust	TREE	1	3	3	
369a	Black Locust	TREE	1	3	3	
370a	Black Locust	TREE	1	3	3	
371a	Black Locust	TREE	1	3	3	
372a	Black Locust	TREE	1	3	3	
373a	Black Locust	TREE	2	3	3	
374a	Black Locust	TREE	1	3	3	
375a	Box Elder	TREE	2	3	3	
376a	Siberian Elm	TREE	3	3	3	
377a	Black Locust	TREE	2	3	3	
378a	Black Locust	TREE	1	3	3	
379a	Black Locust	TREE	1	3	3	
380a	Black Locust	TREE	1	3	3	
381a	Box Elder	TREE	6	3	3	
382a	Box Elder	TREE	3	3	3	
383a	Box Elder	TREE	3	3	3	
384a	Siberian Elm	TREE	2	3	3	
385a	Box Elder	TREE	6	3	4	
386a	Siberian Elm	TREE	3	3	3	
387a	Siberian Elm	TREE	2	3	3	
388a	Siberian Elm	TREE	1	3	3	
389a	Siberian Elm	TREE	2	3	3	
390a	Siberian Elm	TREE	2	3	3	
391a	Siberian Elm	TREE	3	3	3	
392a	Serviceberry	TREE	1	3	3	
393a	Siberian Elm	TREE	2	3	3	
394a	Siberian Elm	TREE	4	3	3	
395a	Siberian Elm	TREE	5	3	3	
396a	Box Elder	TREE	7	3	3	

Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

CBBEL ID	Species	Description	DBH	Condition	Form	Comments
397a	Siberian Elm	TREE	1	3	3	
398a	Siberian Elm	TREE	4	3	3	
399a	Serviceberry	TREE	1	3	3	
400a	Siberian Elm	TREE	2	3	3	
401a	Box Elder	TREE	3	3	3	
402a	Siberian Elm	TREE	2	3	3	
403a	Siberian Elm	TREE	4	3	3	
404a	Siberian Elm	TREE	3	3	3	
405a	Box Elder	TREE	2	3	3	
406a	Black Locust	TREE	1	3	3	
407a	Black Locust	TREE	1	3	3	
408a	Box Elder	TREE	1	3	3	
409a	Black Locust	TREE	1	3	3	
410a	Black Locust	TREE	1	3	3	
411a	Siberian Elm	TREE	3	3	3	
412a	Black Locust	TREE	2	3	3	
413a	Black Locust	TREE	2	3	3	
414a	Black Locust	TREE	1	3	3	
415a	Black Locust	TREE	1	3	3	
416a	Black Locust	TREE	1	3	3	
417a	Black Locust	TREE	1	3	3	
418a	Black Locust	TREE	1	3	3	
419a	Black Locust	TREE	1	3	3	
420a	Black Locust	TREE	1	3	3	
421a	Black Locust	TREE	1	3	3	
422a	Black Locust	TREE	1	3	3	
423a	Black Locust	TREE	1	3	3	
424a	Black Locust	TREE	1	3	3	
425a	Black Locust	TREE	1	3	3	
426a	Black Locust	TREE	1	3	3	
427a	Black Locust	TREE	1	3	3	
428a	Black Locust	TREE	1	3	3	
429a	Black Locust	TREE	1	3	3	
430a	Black Locust	TREE	1	3	3	
431a	Black Locust	TREE	1	3	3	
432a	Black Locust	TREE	1	3	3	
433a	Black Locust	TREE	1	3	3	
434a	Black Locust	TREE	1	3	3	
435a	Black Locust	TREE	1	3	3	
436a	Black Locust	TREE	1	3	3	
437a	Black Locust	TREE	1	3	3	
438a	Black Locust	TREE	1	3	3	
439a	Black Locust	TREE	1	3	3	

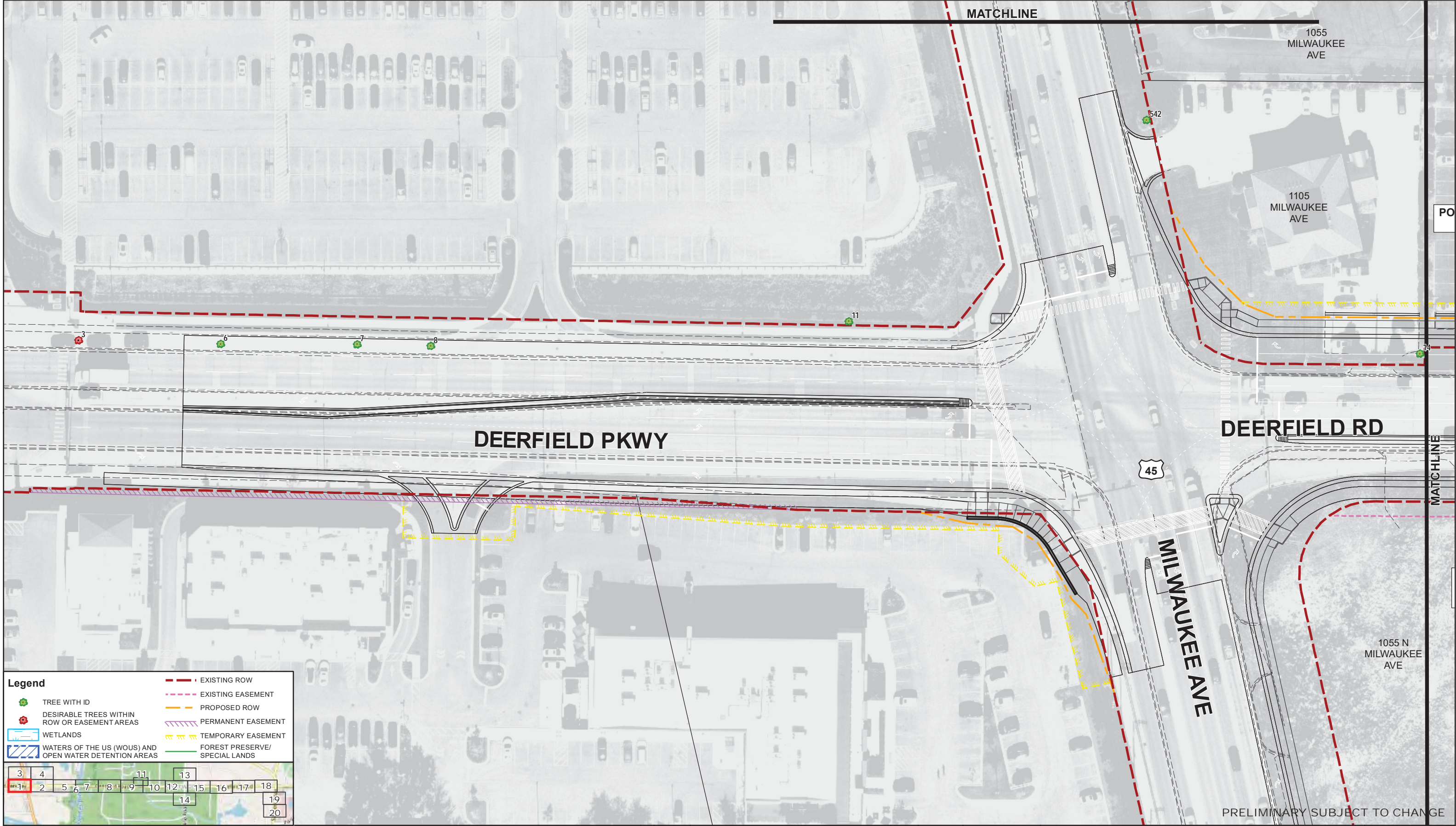
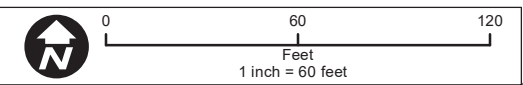
Table C-7:
Deerfield Road Phase I Study

TREE INVENTORY

1/25/2019

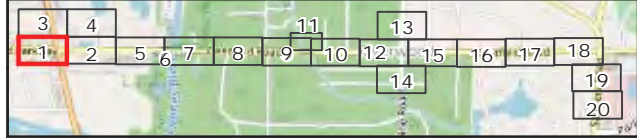
CBBEL ID	Species	Description	DBH	Condition	Form	Comments
440a	Black Locust	TREE	1	3	3	
441a	Black Locust	TREE	1	3	3	
442a	Black Locust	TREE	1	3	3	
443a	Black Locust	TREE	1	3	3	
444a	Black Locust	TREE	1	3	3	
445a	Black Locust	TREE	1	3	3	
446a	Siberian Elm	TREE	4	3	3	
447a	Box Elder	TREE	6	3	3	
448a	Siberian Elm	TREE	3	3	3	
449a	Siberian Elm	TREE	10	3	3	
450a	Siberian Elm	TREE	4	3	3	
451a	Black Locust	TREE	1	3	3	
452a	Black Locust	TREE	1	3	3	
453a	Black Locust	TREE	1	3	3	
454a	Box Elder	TREE	7	3	3	
455a	Black Locust	TREE	1	3	3	
456a	Black Locust	TREE	1	3	3	
457a	Black Locust	TREE	1	3	3	
458a	Black Locust	TREE	1	3	3	
459a	Black Locust	TREE	1	3	3	
460a	Black Locust	TREE	1	3	3	
461a	Black Locust	TREE	1	3	3	
462a	Black Locust	TREE	1	3	3	
463a	Serviceberry	TREE	1	3	3	
464a	Siberian Elm	TREE	1	3	3	
465a	Siberian Elm	TREE	1	3	3	
466a	Siberian Elm	TREE	13	2	2	
467a	Siberian Elm	TREE	11	2	2	

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		EXISTING EASEMENT
	WETLANDS		PROPOSED ROW
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		PERMANENT EASEMENT
			TEMPORARY EASEMENT
			FOREST PRESERVE/SPECIAL LANDS



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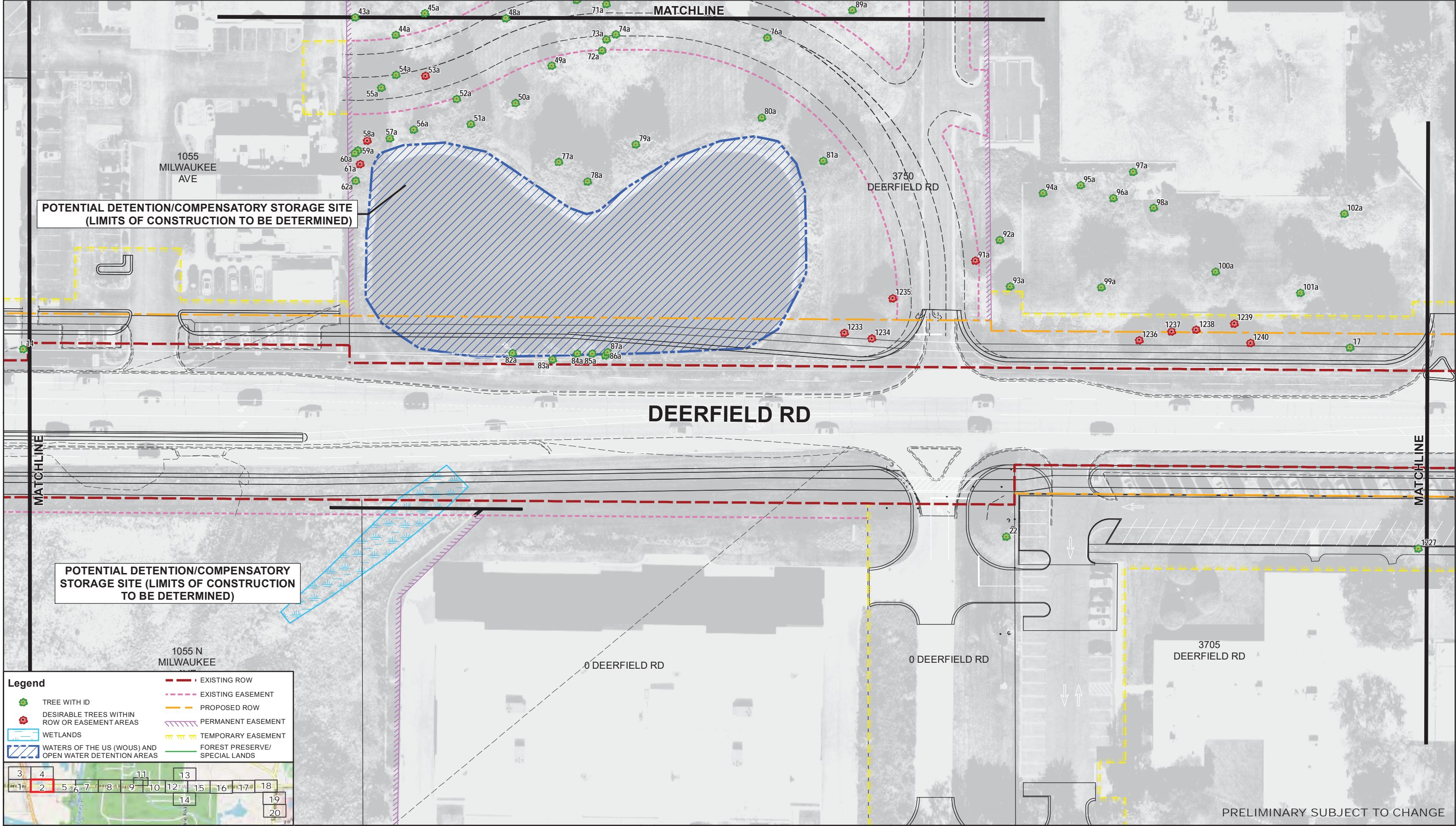
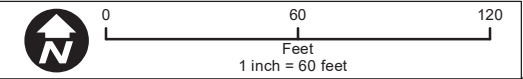
CLIENT: **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE	DWN:	dwalters
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					CHKD:	MJH
					SCALE:	1" = 60'
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						Friday, October 23, 2020
PATH:	N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd					

TITLE: **FIGURE C-8:
 TREE INVENTORY**

SHEET 1 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 1

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES, WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

- TREE WITH ID
- DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
- WETLANDS
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- FOREST PRESERVE/SPECIAL LANDS

PRELIMINARY SUBJECT TO CHANGE

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CLIENT:

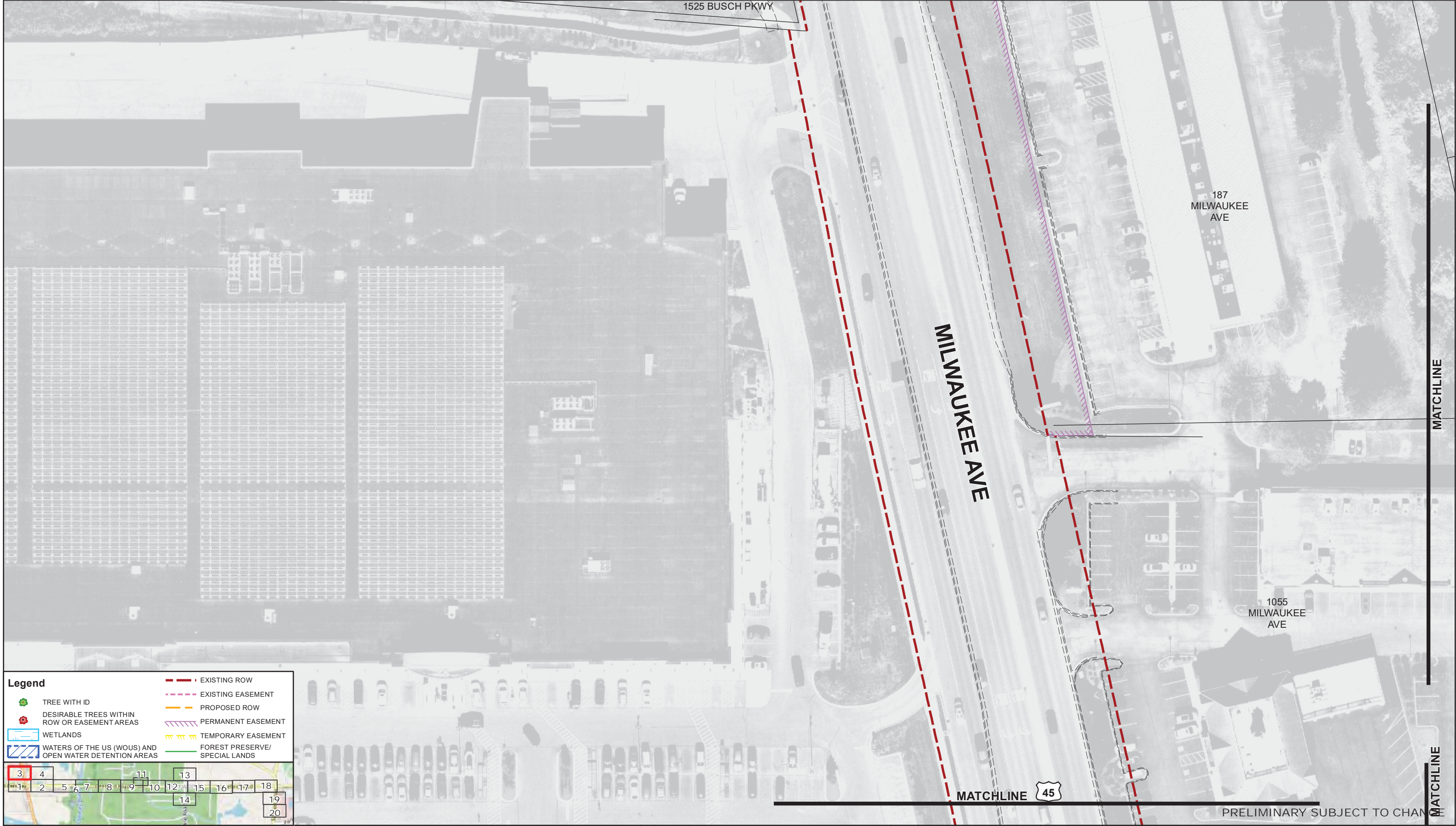
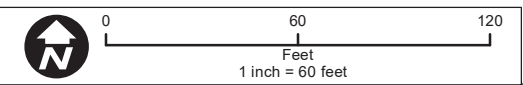
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DWN: dwalters
 DSGN: PMK
 CHKD: MJH
 SCALE: 1" = 60'
 MODEL: ARCGIS 10.6

TITLE: **FIGURE C-8:
 TREE INVENTORY**

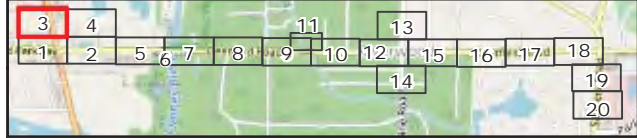
SHEET 2 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 2

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES, WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		EXISTING EASEMENT
	WETLANDS		PROPOSED ROW
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		PERMANENT EASEMENT
			TEMPORARY EASEMENT
			FOREST PRESERVE/SPECIAL LANDS



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CLIENT: **Lake County**
 Division of Transportation

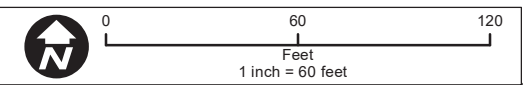
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TITLE: **FIGURE C-8:
 TREE INVENTORY**

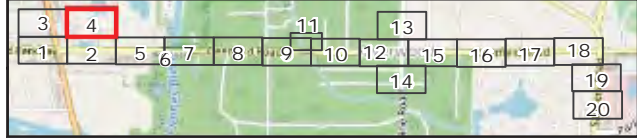
SHEET 3 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 3

PRELIMINARY SUBJECT TO CHANGE

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES, WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



- Legend**
- TREE WITH ID
 - DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
 - WETLANDS
 - WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
 - EXISTING ROW
 - EXISTING EASEMENT
 - PROPOSED ROW
 - PERMANENT EASEMENT
 - TEMPORARY EASEMENT
 - FOREST PRESERVE/SPECIAL LANDS



POTENTIAL DETENTION/COMPENSATORY STORAGE SITE
 (LIMITS OF CONSTRUCTION TO BE DETERMINED)

PRELIMINARY SUBJECT TO CHANGE

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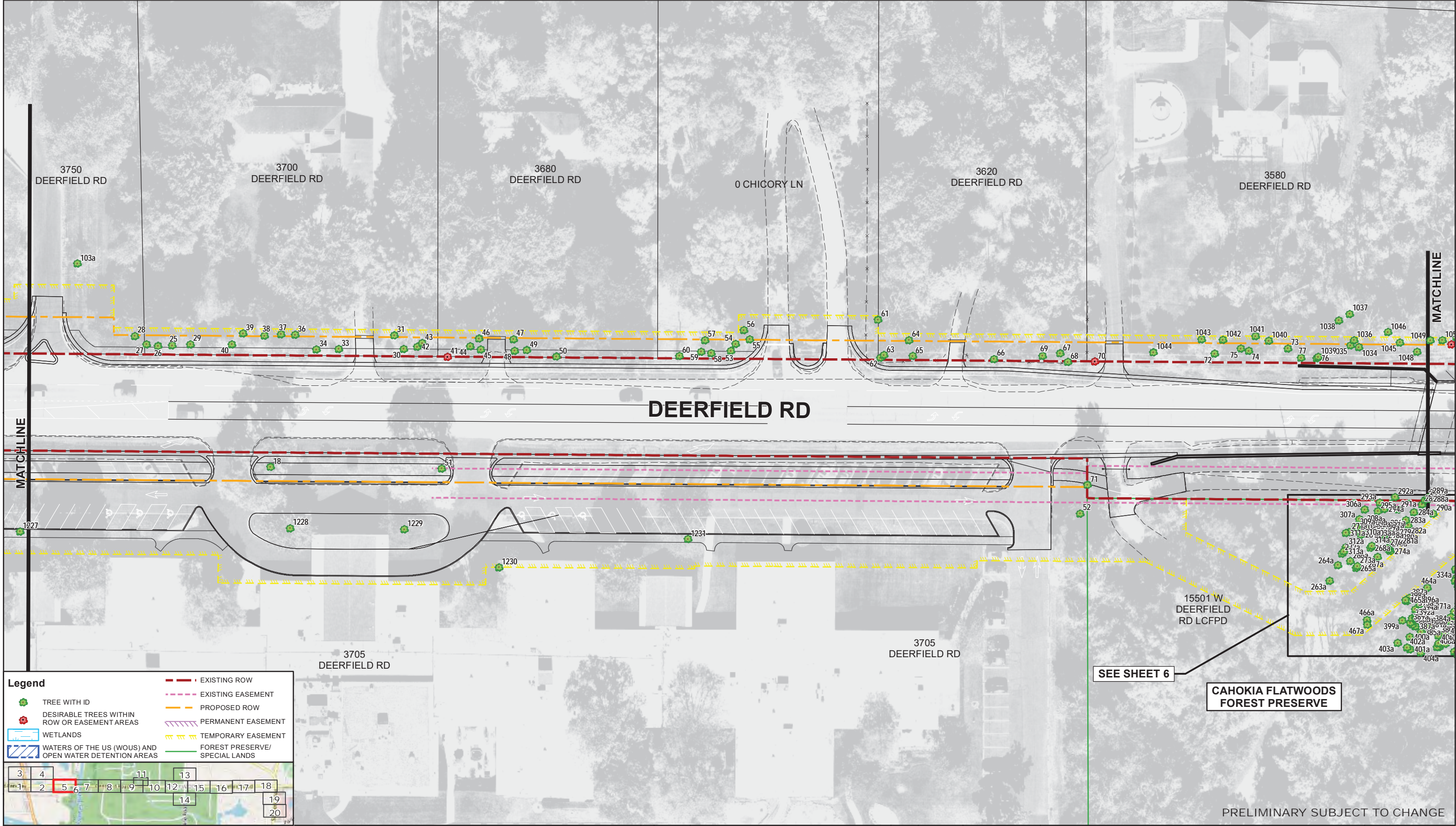
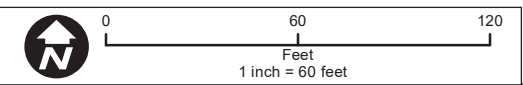
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PATH:				
DWN:	dwalters	DSGN:	PMK	
CHKD:	MJH	SCALE:	1" = 60'	
MODEL:	ARCGIS 10.6			

TITLE: **FIGURE C-8:
 TREE INVENTORY**

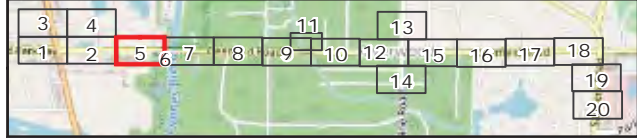
SHEET 4 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 4

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

- TREE WITH ID
- EXISTING ROW
- DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
- EXISTING EASEMENT
- WETLANDS
- PROPOSED ROW
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- FOREST PRESERVE/SPECIAL LANDS



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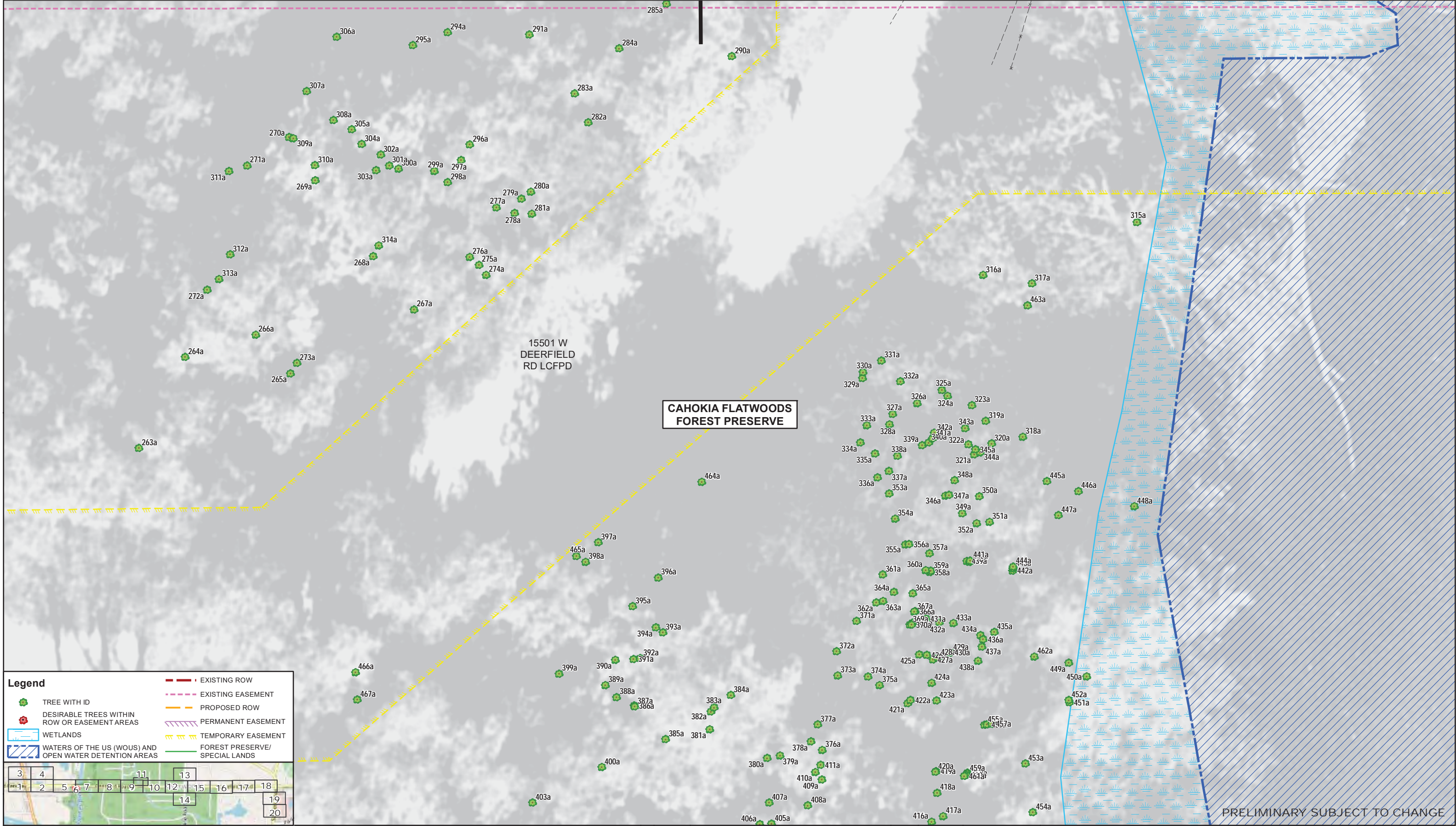
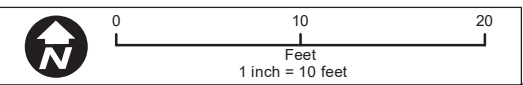
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						Friday, October 23, 2020
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TITLE: **FIGURE C-8: TREE INVENTORY**

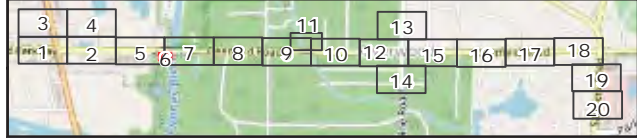
SHEET 5 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 5

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		EXISTING EASEMENT
	WETLANDS		PROPOSED ROW
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		PERMANENT EASEMENT
			TEMPORARY EASEMENT
			FOREST PRESERVE/SPECIAL LANDS



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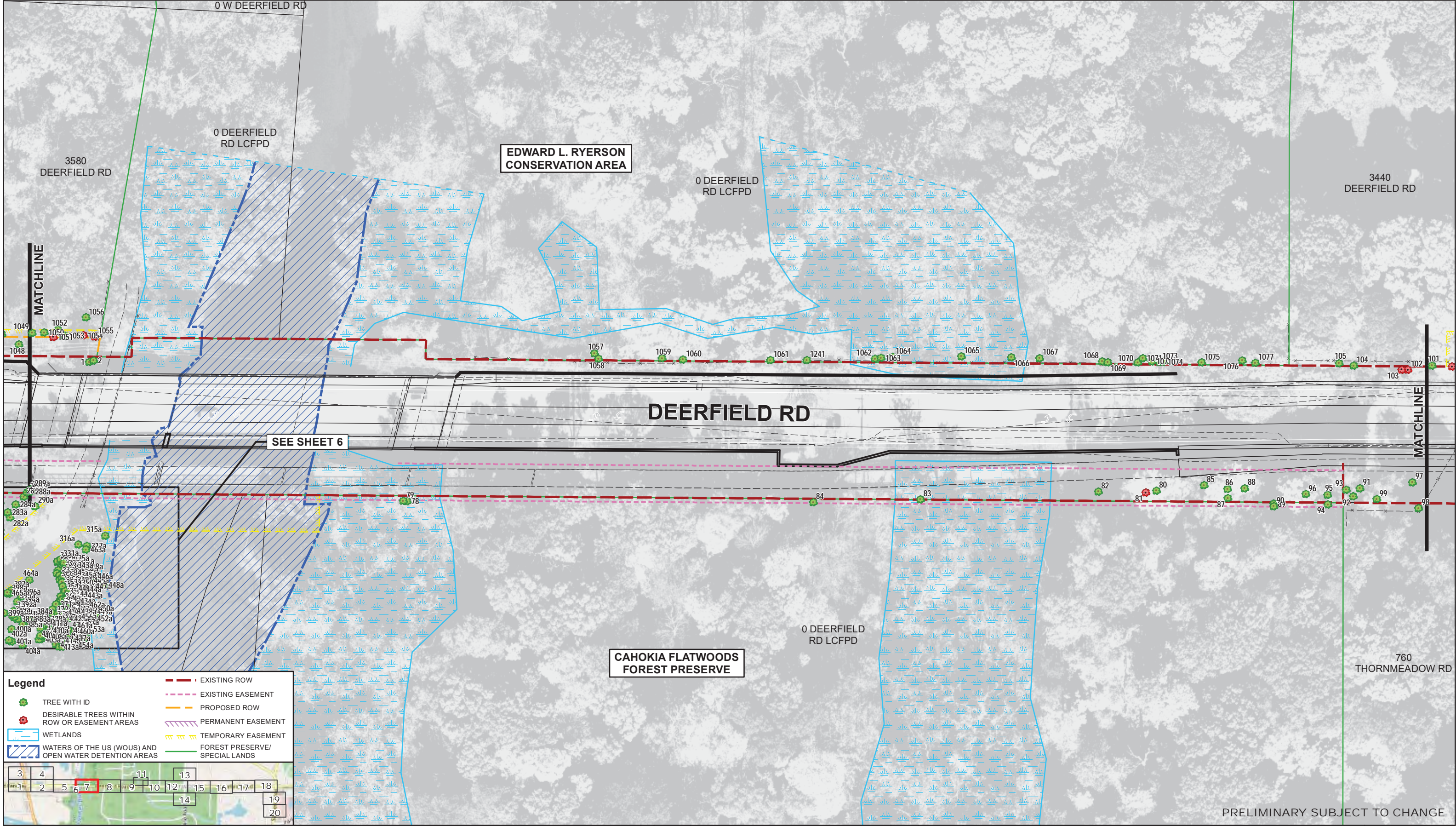
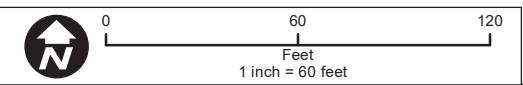
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FILE NAME:	Tree Inventory DESIRABLE.mxd		
PATH:	N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd		

TITLE: **FIGURE C-8:
TREE INVENTORY**

SHEET 6 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 6

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



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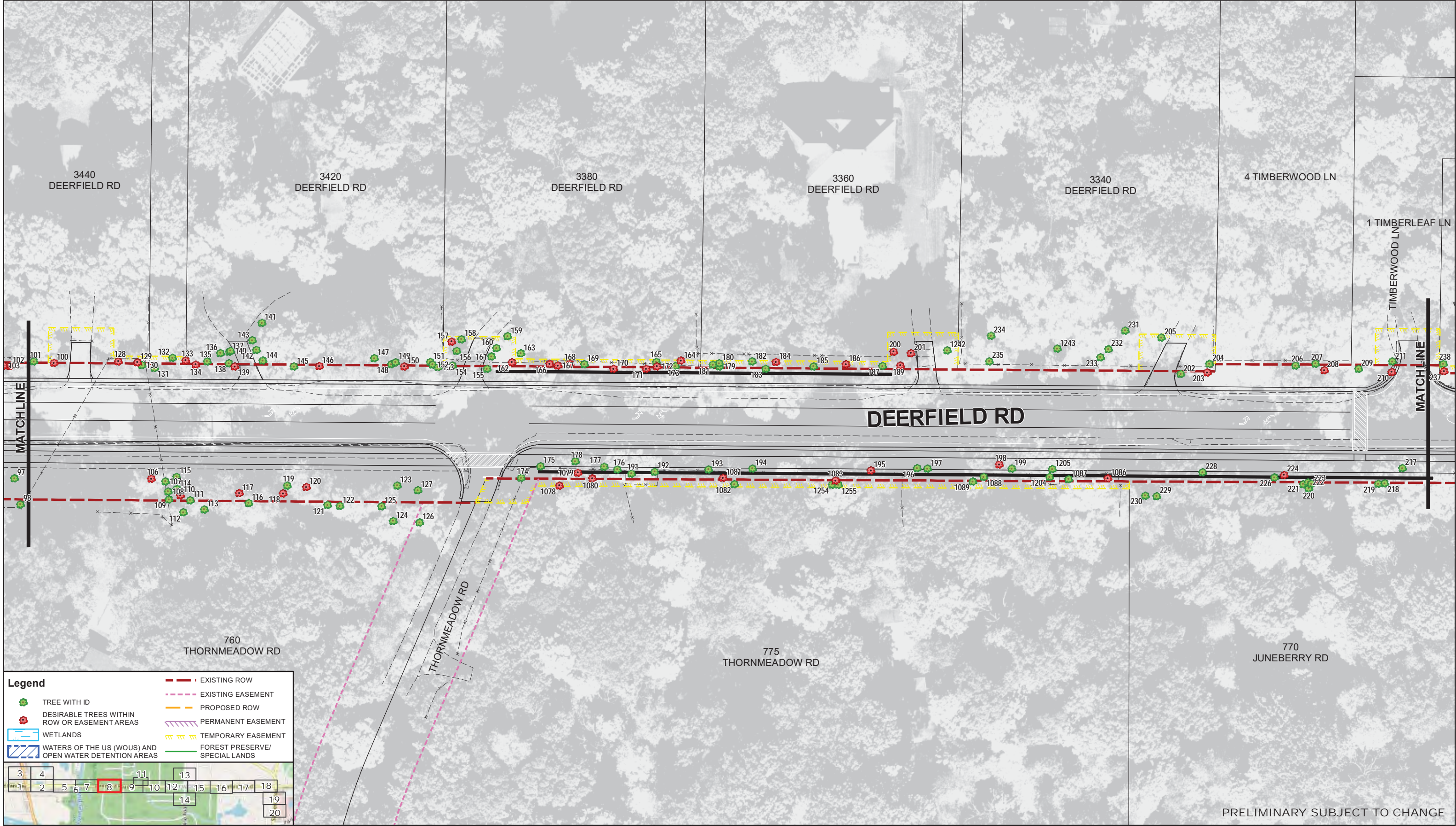
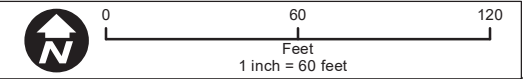
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FILE NAME:	Tree Inventory DESIRABLE.mxd			
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TITLE: **FIGURE C-8:
TREE INVENTORY**

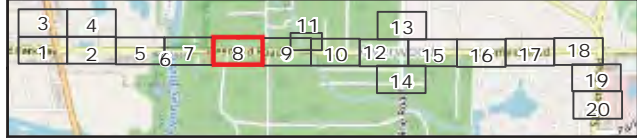
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 DSGN: PMK
 CHKD: MJH
 SCALE: 1" = 60'
 MODEL: ARCGIS 10.6

SHEET 7 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 7

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES, WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend	
	TREE WITH ID
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
	WETLANDS
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
	EXISTING ROW
	EXISTING EASEMENT
	PROPOSED ROW
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	FOREST PRESERVE/SPECIAL LANDS



PRELIMINARY SUBJECT TO CHANGE

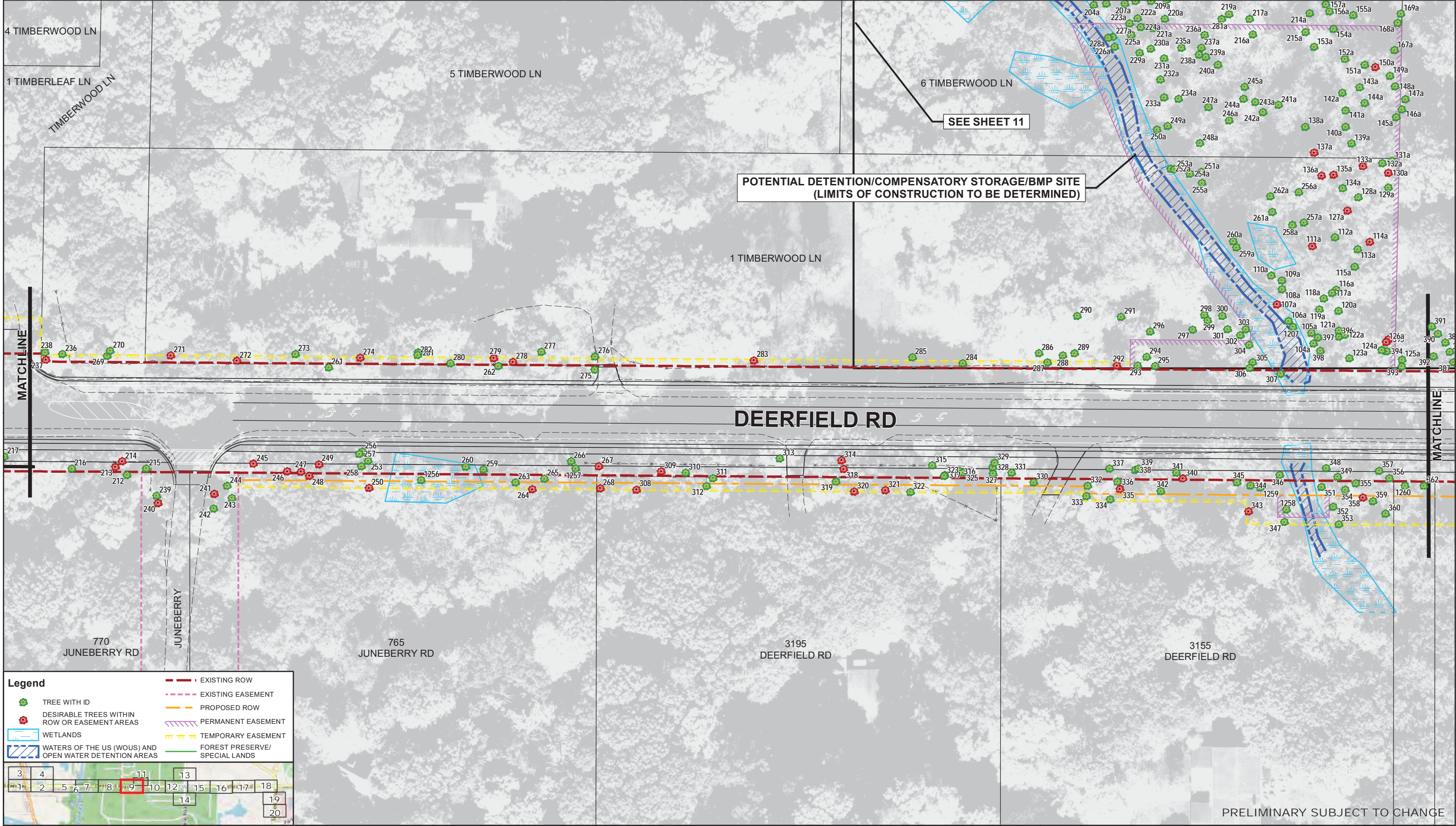
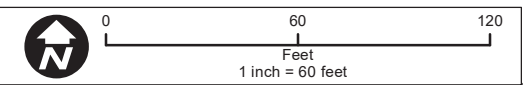
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 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT:

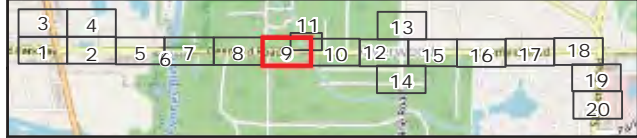
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DWN:	dwalters	TITLE:		
DSGN:	PMK	FIGURE C-8: TREE INVENTORY		
CHKD:	MJH	SHEET 8 of 20		
SCALE:	1" = 60'	CBBEL # 15-0331		
MODEL:	ARCGIS 10.6	DATE: 01/24/2019		

SHEET 8 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 8

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



- Legend**
- EXISTING ROW
 - TREE WITH ID
 - DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
 - WETLANDS
 - WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
 - EXISTING EASEMENT
 - PROPOSED ROW
 - PERMANENT EASEMENT
 - TEMPORARY EASEMENT
 - FOREST PRESERVE/SPECIAL LANDS



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CLIENT:

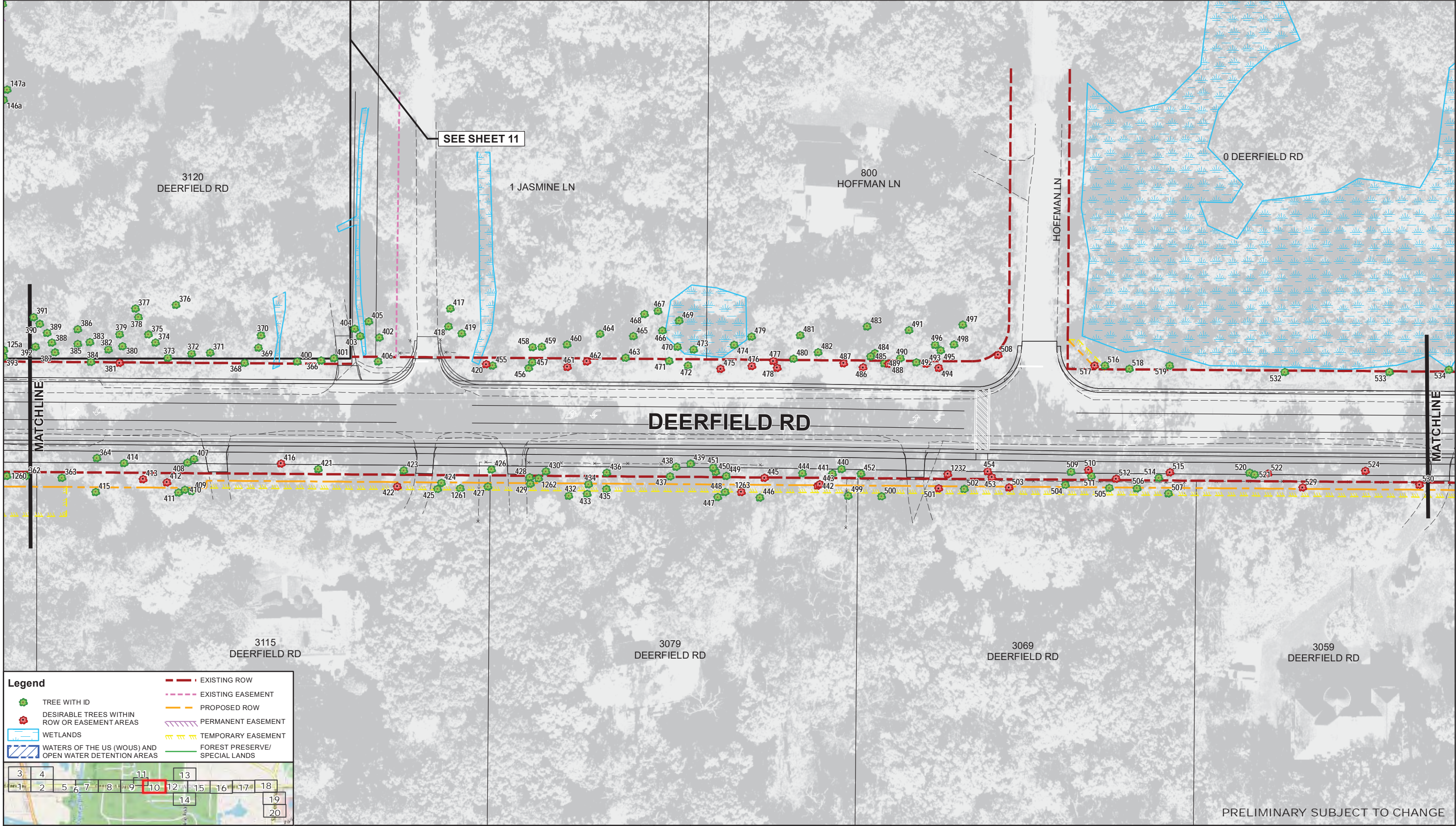
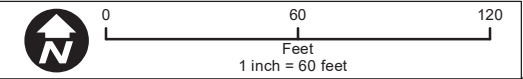
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DSGN:	PMK		
CHKD:	MJH		
SCALE:	1" = 60'		
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NO. DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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TITLE:

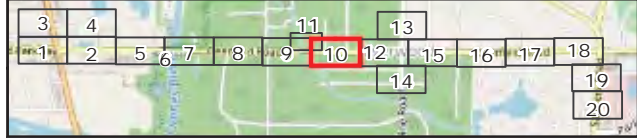
**FIGURE C-8:
TREE INVENTORY**

SHEET 9 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 9

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY, TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend	
	TREE WITH ID
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
	WETLANDS
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
	EXISTING ROW
	EXISTING EASEMENT
	PROPOSED ROW
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	FOREST PRESERVE/SPECIAL LANDS



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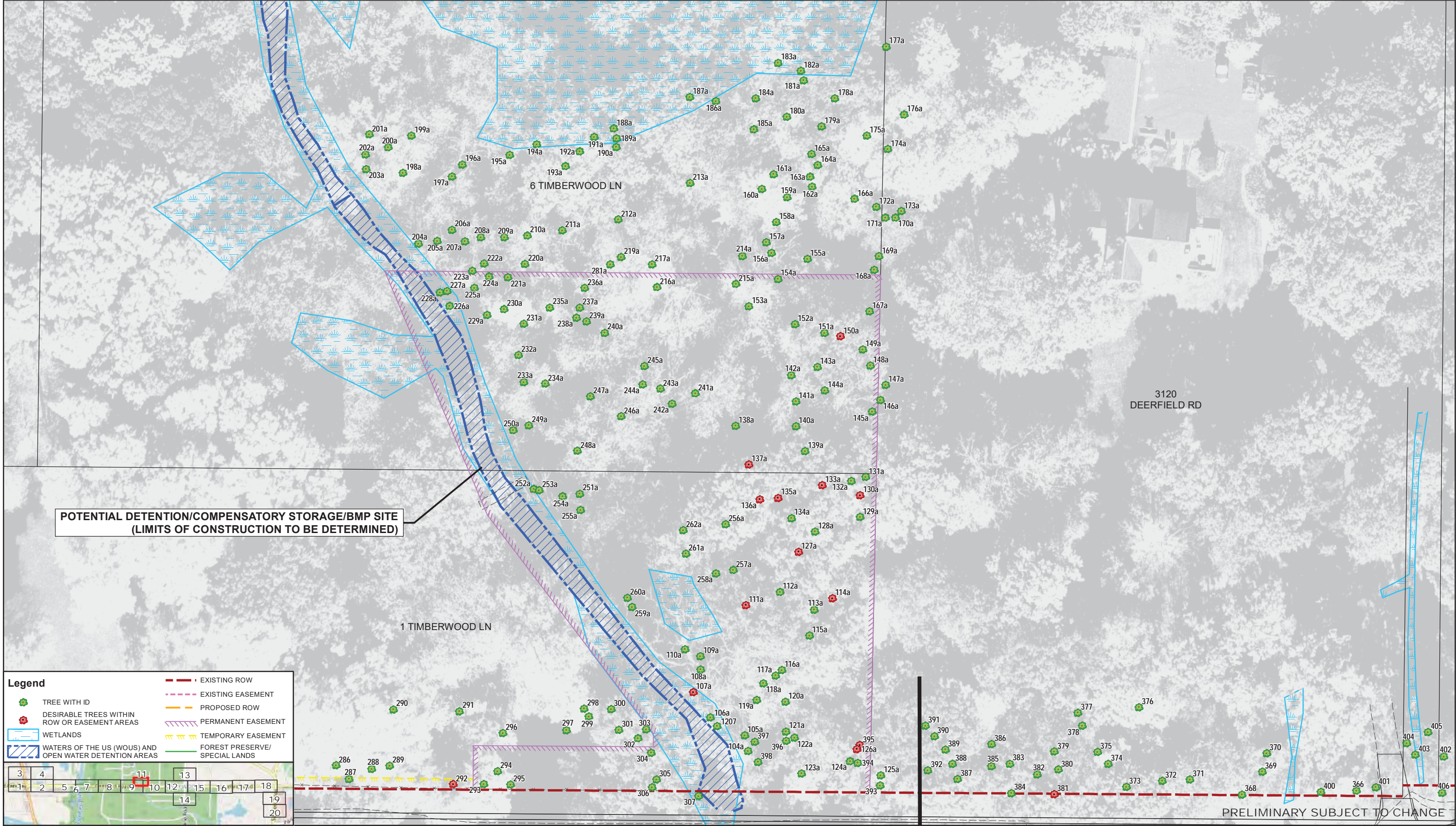
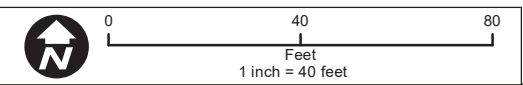
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TITLE: **FIGURE C-8:
TREE INVENTORY**

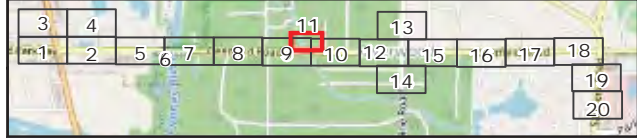
SHEET 10 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 10

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		EXISTING EASEMENT
	WETLANDS		PROPOSED ROW
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		PERMANENT EASEMENT
			TEMPORARY EASEMENT
			FOREST PRESERVE/SPECIAL LANDS



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CLIENT:

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 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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FILE NAME:		N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd		
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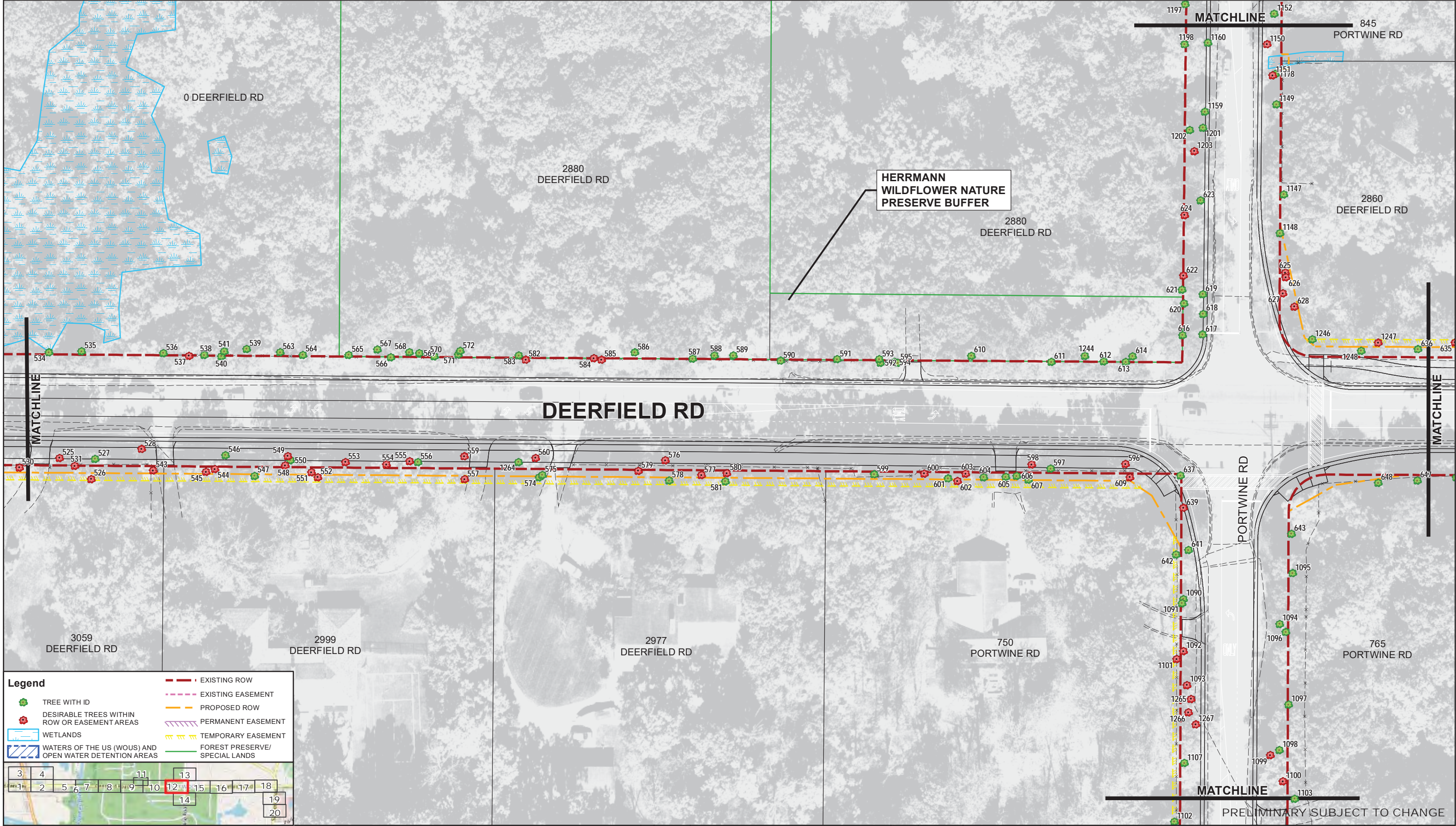
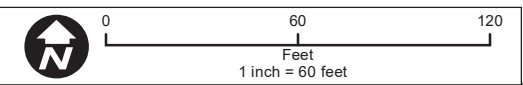
DWN: dwalters
 DSGN: PMK
 CHKD: MJH
 SCALE: 1" = 40'
 MODEL: ARCGIS 10.6

TITLE:

**FIGURE C-8:
 TREE INVENTORY**

SHEET 11 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 11

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



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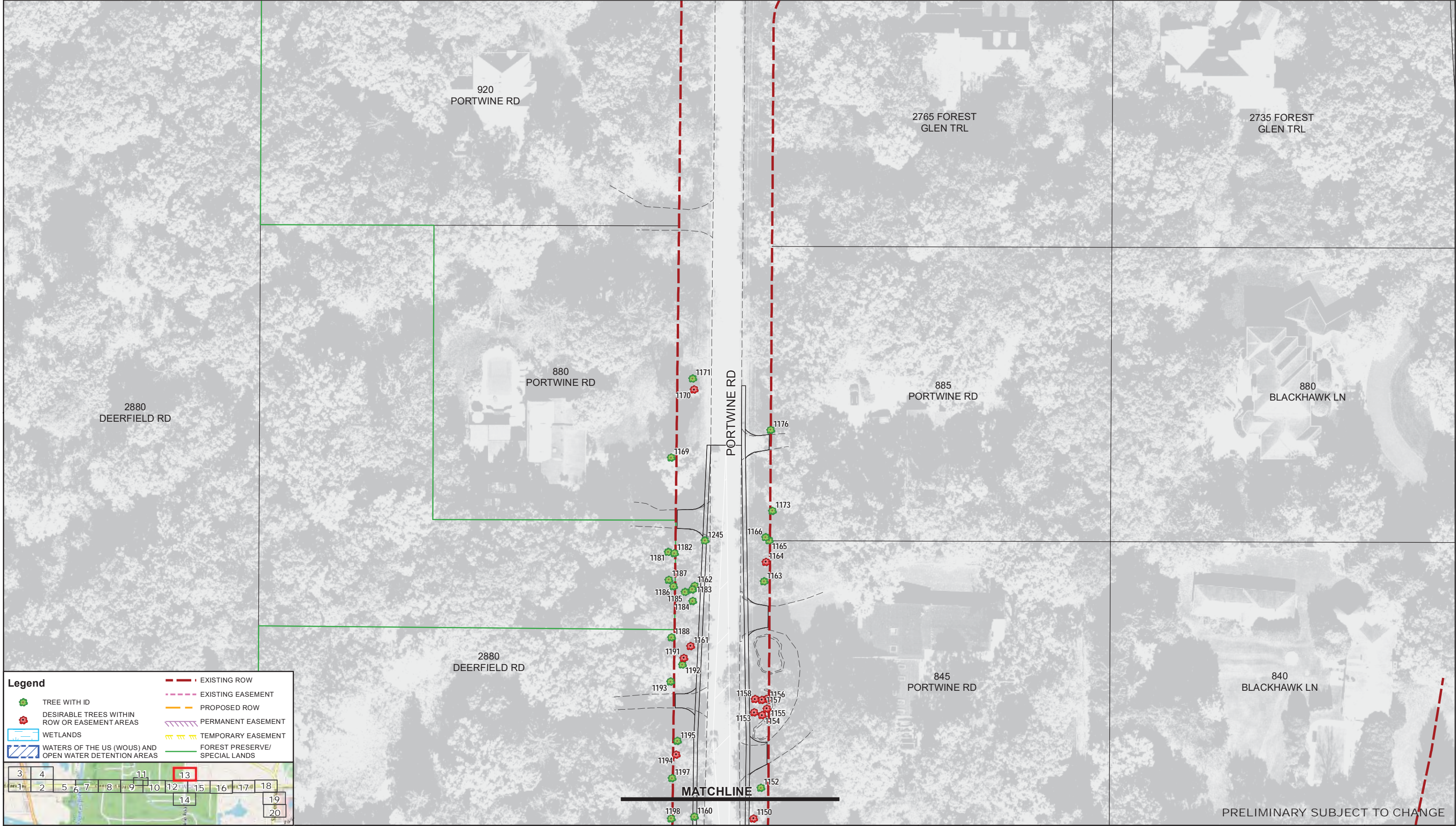
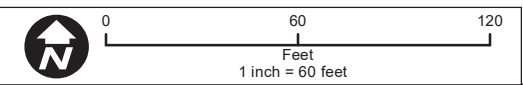
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CHKD:	MJH		
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FILE NAME:	Tree Inventory DESIRABLE.mxd		
PATH:	N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd		

TITLE: **FIGURE C-8: TREE INVENTORY**

SHEET 12 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 12

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY, TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



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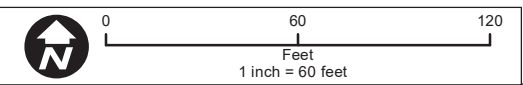
CLIENT: **Lake County**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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FILE NAME:	Tree Inventory DESIRABLE.mxd			
PATH:	N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd			

TITLE: **FIGURE C-8:
 TREE INVENTORY**

SHEET 13 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 13

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY, TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
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 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

- TREE WITH ID
- DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
- WETLANDS
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- FOREST PRESERVE/SPECIAL LANDS

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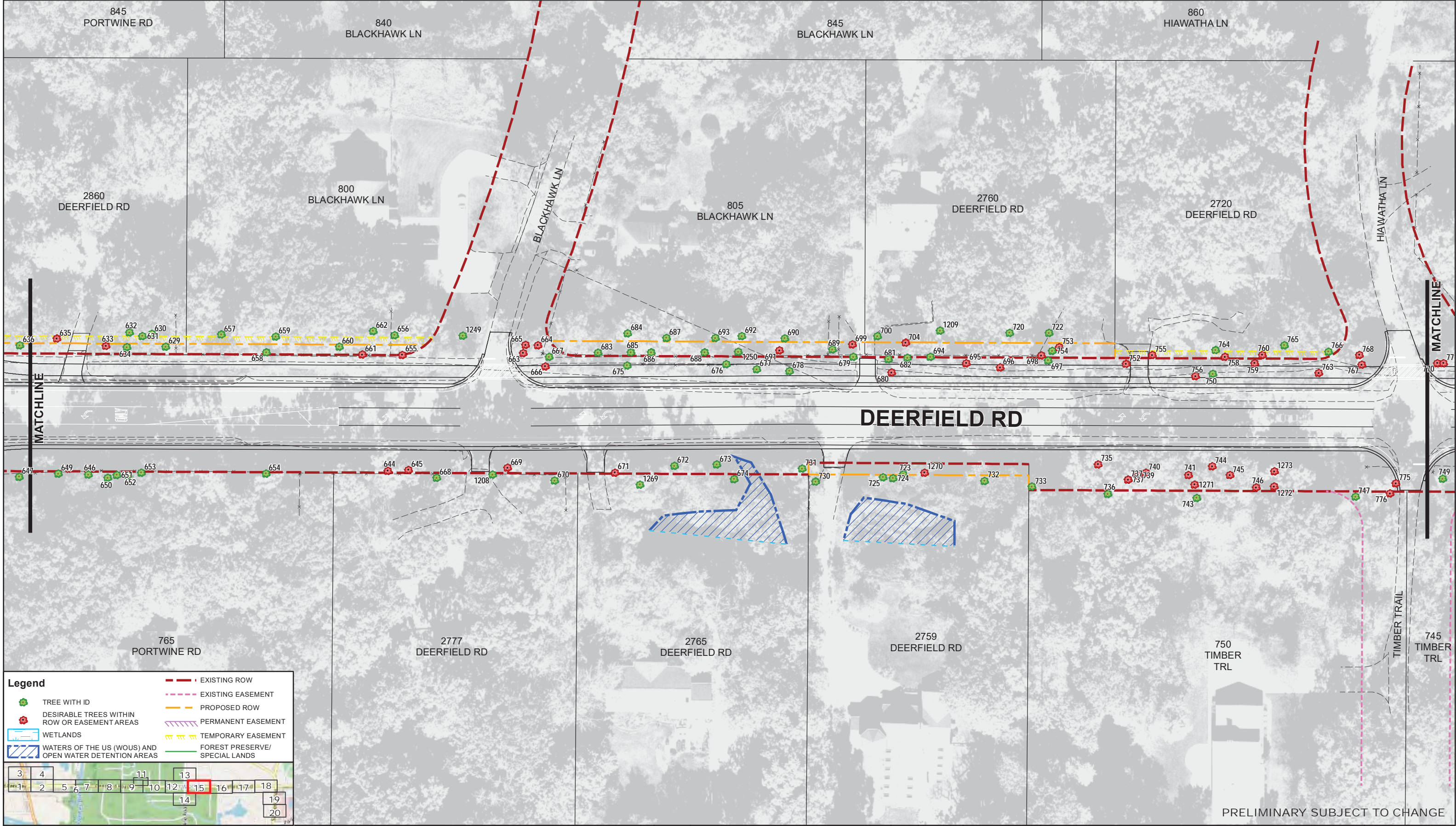
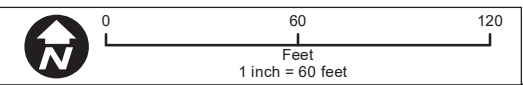
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TITLE: **FIGURE C-8:
TREE INVENTORY**

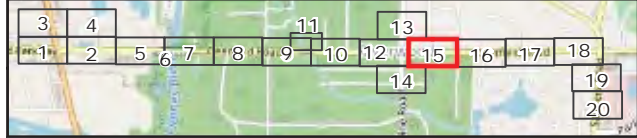
SHEET 14 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 14

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY, TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
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 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		PROPOSED ROW
	WETLANDS		PERMANENT EASEMENT
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		TEMPORARY EASEMENT
	FOREST PRESERVE/SPECIAL LANDS		



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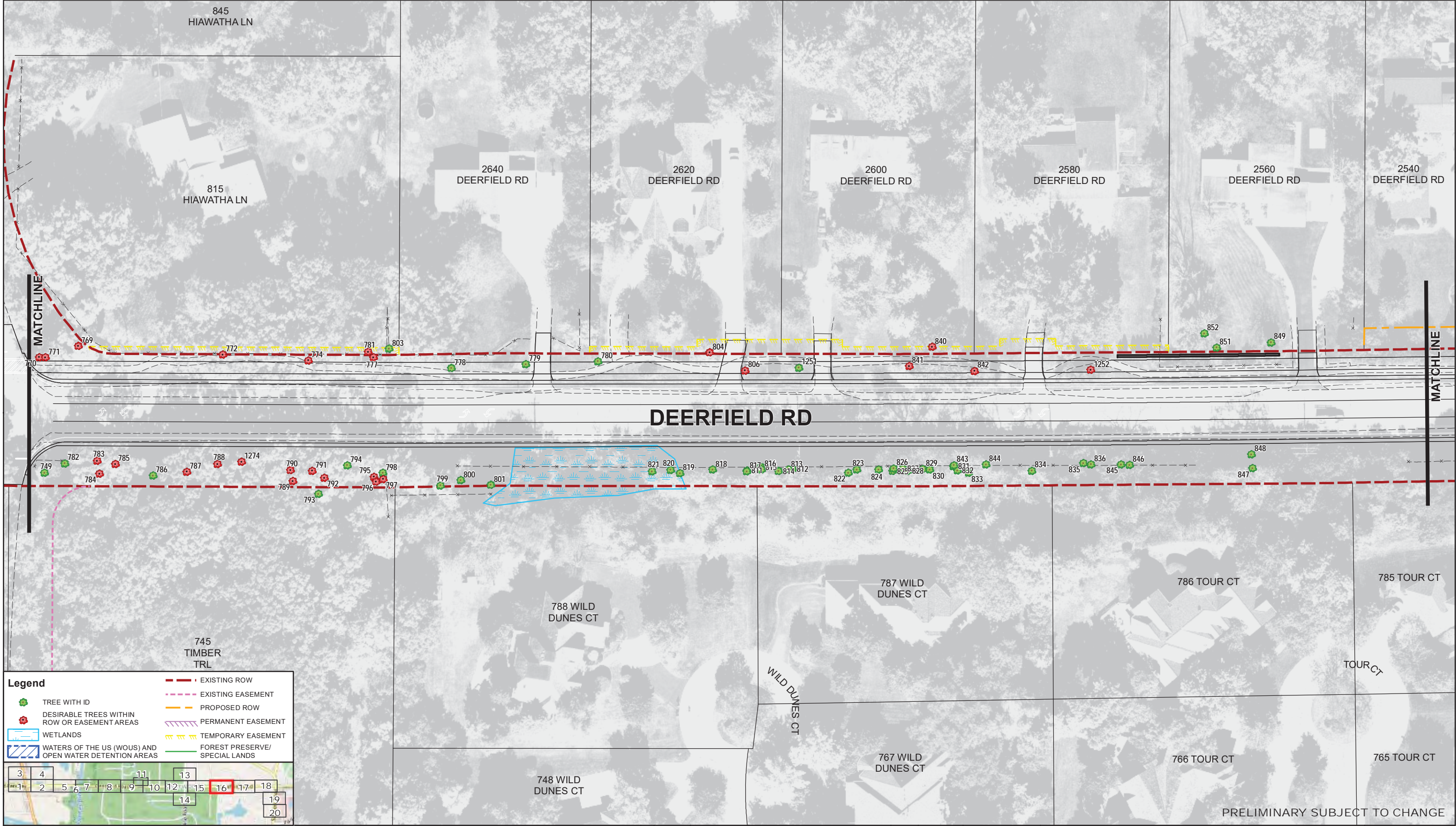
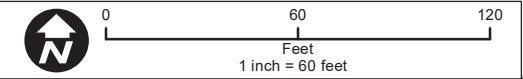
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DSGN:	PMK		
CHKD:	MJH		
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NO. DATE	NATURE OF REVISION	CHKD. PLOT DATE	Friday, October 23, 2020
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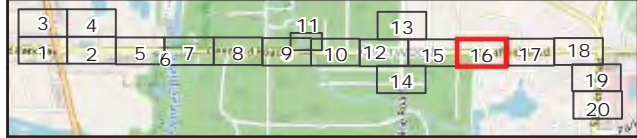
TITLE: **FIGURE C-8:
TREE INVENTORY**

SHEET	15 of 20
CBBEL #	15-0331
DATE:	01/24/2019
SHEET 15	

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
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- Legend**
- EXISTING ROW
 - TREE WITH ID
 - DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
 - WETLANDS
 - WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
 - EXISTING EASEMENT
 - PROPOSED ROW
 - PERMANENT EASEMENT
 - TEMPORARY EASEMENT
 - FOREST PRESERVE/SPECIAL LANDS



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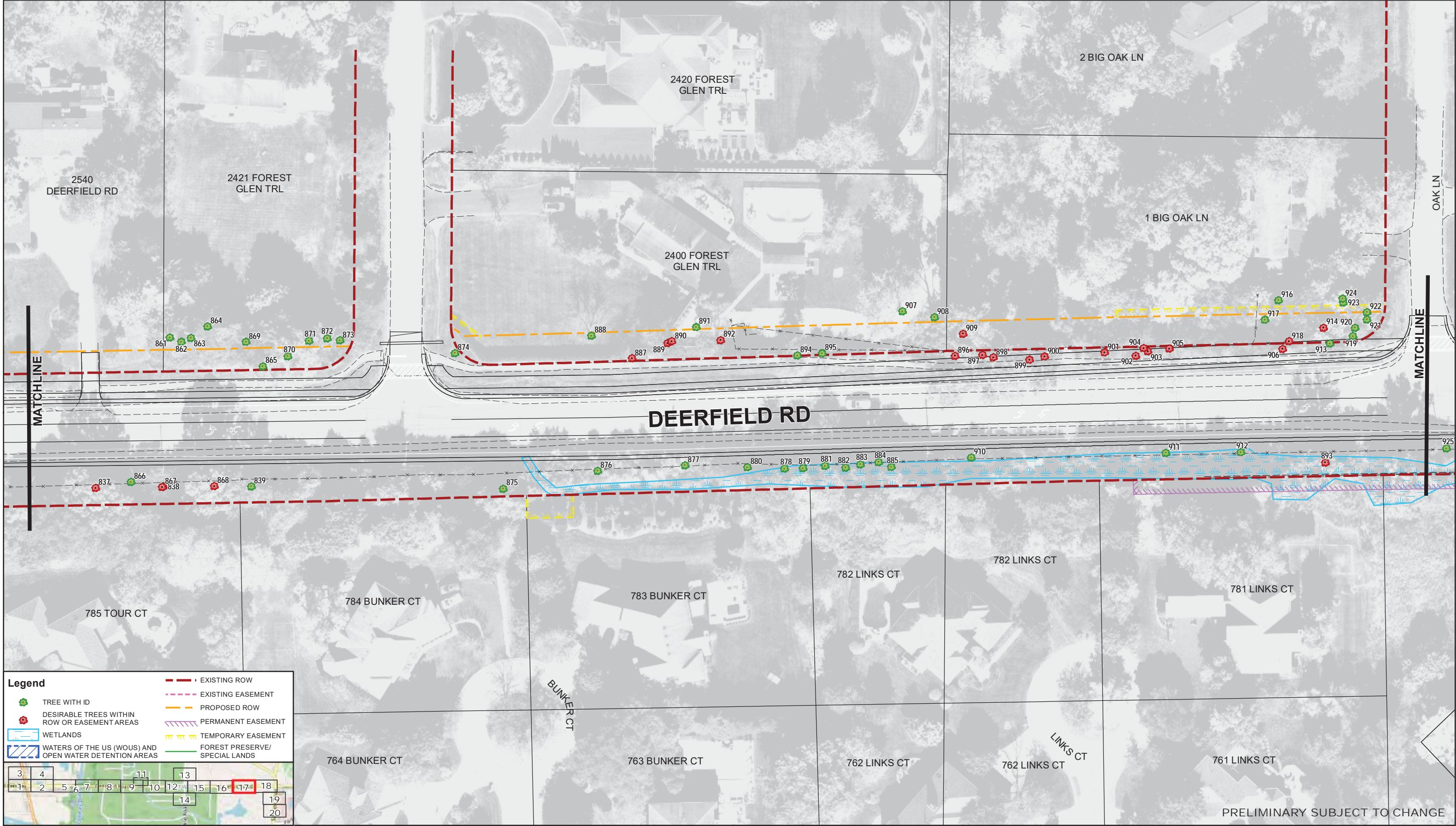
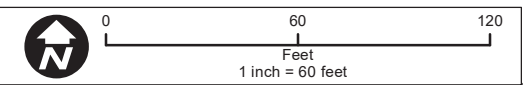
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TITLE: **FIGURE C-8: TREE INVENTORY**

SHEET 16 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 16

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

- TREE WITH ID
- DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
- WETLANDS
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- FOREST PRESERVE/SPECIAL LANDS

PRELIMINARY SUBJECT TO CHANGE

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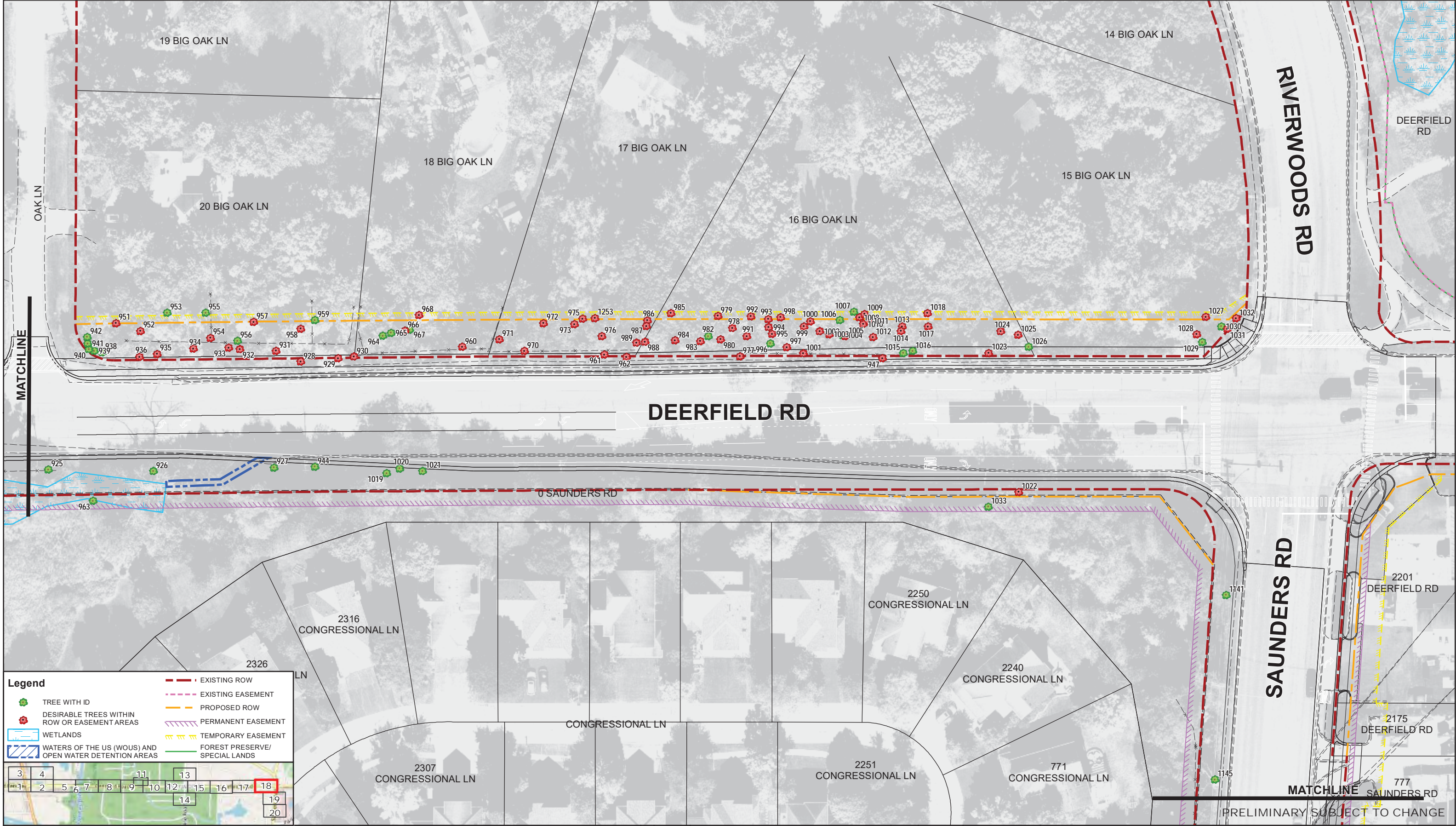
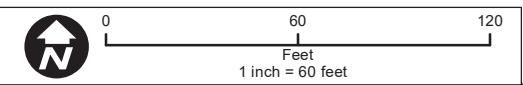
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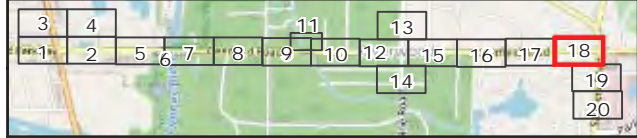
TITLE: **FIGURE C-8:
TREE INVENTORY**

SHEET 17 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 17

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
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 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



- Legend**
- TREE WITH ID
 - DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
 - WETLANDS
 - WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
 - EXISTING ROW
 - EXISTING EASEMENT
 - PROPOSED ROW
 - PERMANENT EASEMENT
 - TEMPORARY EASEMENT
 - FOREST PRESERVE/SPECIAL LANDS



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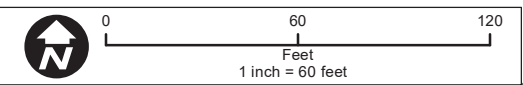
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DSGN:	PMK		
CHKD:	MJH		
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CHKD:	PLOT DATE Friday, October 23, 2020		
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TITLE: **FIGURE C-8: TREE INVENTORY**

PRELIMINARY SUBJECT TO CHANGE

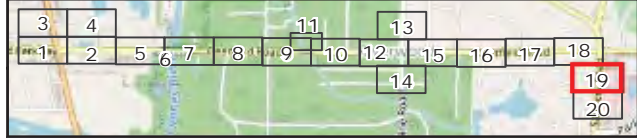
SHEET 18 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 18

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES. WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

	TREE WITH ID		EXISTING ROW
	DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS		EXISTING EASEMENT
	WETLANDS		PROPOSED ROW
	WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS		PERMANENT EASEMENT
			TEMPORARY EASEMENT
			FOREST PRESERVE/SPECIAL LANDS



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 Division of Transportation

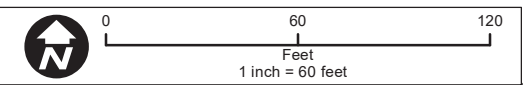
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DSGN:	PMK
CHKD:	MJH
SCALE:	1" = 60'
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CHKD:	PLOT DATE
	Friday, October 23, 2020
NO. DATE	NATURE OF REVISION
FILE NAME:	Tree Inventory DESIRABLE.mxd
PATH:	N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd

TITLE: **FIGURE C-8:
 TREE INVENTORY**

SHEET 19 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019

SHEET 19

NOTE: 1. AERIAL PHOTOGRAPH TAKEN FROM NEARMAP, DATED: 3/8/2020
 2. THIS FIGURE DEPICTS LOCATIONS OF SURVEYED TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) ≥6-INCHES, WITHIN FOREST PRESERVE PROPERTY. TREES WITH A DBH ≥1-INCH WERE INVENTORIED.
 3. ANTICIPATED TREE REMOVALS ARE NOT SHOWN. FOR THE ENVIRONMENTAL ASSESSMENT, TREES LOCATED WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND PROPOSED EASEMENT AREAS WERE ASSUMED TO BE IMPACTED.
 4. ADDITIONAL TREE IMPACT EVALUATION IS ANTICIPATED TO OCCUR DURING PHASE II.



Legend

- TREE WITH ID
- DESIRABLE TREES WITHIN ROW OR EASEMENT AREAS
- WETLANDS
- WATERS OF THE US (WOUS) AND OPEN WATER DETENTION AREAS
- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- FOREST PRESERVE/SPECIAL LANDS

PRELIMINARY SUBJECT TO CHANGE

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CLIENT: **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE	DWN:	dwalters
		Tree Inventory DESIRABLE.mxd		Friday, October 23, 2020	DSGN:	PMK
					CHKD:	MJH
					SCALE:	1" = 60'
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PATH:			N:\LCDOT\150331\GIS\Exhibits\Tree Inventory DESIRABLE.mxd			

TITLE: **FIGURE C-8:
 TREE INVENTORY**

SHEET 20 of 20
 CBBEL # 15-0331
 DATE: 01/24/2019
SHEET 20

Table C-9: Summary of Anticipated Tree Removals (not including LCFPD property)

Common Name	Scientific Name	Anticipated Number of Tree Removals ¹						Percent of Grand Total Removed (by Species)
		Within Existing Right-of-Way	Within Proposed Right-of-Way	Within Proposed Temporary Easement	Within Proposed Permanent Easement	Total Removal by Species	Quantity with DBH ≥12-inches	
Desirable Tree Species ²								
American sycamore	<i>Platanus occidentalis</i>	1	0	0	0	1	0	0.1%
Basswood (≥15-inch DBH only)	<i>Tilia americana</i>	4	1	2	3	10	10	1.0%
Black walnut	<i>Juglans nigra</i>	2	3	2	1	8	4	0.8%
Bur oak	<i>Quercus macrocarpa</i>	36	23	8	1	68	38	6.7%
Common hackberry	<i>Celtis occidentalis</i>	7	0	0	0	7	4	0.7%
Hawthorn	<i>Crataegus spp.</i>	4	9	5	2	20	6	2.0%
Hophornbeam/ Ironwood	<i>Ostrya virginiana</i>	9	2	8	0	19	1	1.9%
Pin oak	<i>Quercus palustris</i>	4	1	0	0	5	4	0.5%
Red oak	<i>Quercus rubra</i>	42	35	26	7	110	65	10.8%
Shagbark hickory	<i>Carya ovata</i>	11	10	9	1	31	9	3.0%
Swamp white oak	<i>Quercus bicolor</i>	0	0	0	1	1	1	0.1%
White oak	<i>Quercus alba</i>	52	8	8	6	74	62	7.3%
White pine	<i>Pinus strobus</i>	10	0	3	1	14	10	1.4%
Yellowbud hickory	<i>Carya cordiformis</i>	1	0	1	0	2	1	0.2%
	Total	183	92	72	23	370	215	36.3%
Other Tree Species								
American elm	<i>Ulmus americana</i>	64	15	20	31	130	34	12.8%
Austrian pine	<i>Pinus nigra</i>	2	4	0	11	17	5	1.7%
Basswood (<15-inch DBH only)	<i>Tilia americana</i>	34	5	13	8	60	20	5.9%
Black cherry	<i>Prunus serotina</i>	8	2	10	4	24	11	2.4%
Black locust	<i>Robinia pseudoacacia</i>	1	0	0	0	1	0	0.1%
Black willow	<i>Salix nigra</i>	1	0	0	0	1	1	0.1%
Blue spruce	<i>Picea pungens</i>	0	1	4	9	14	1	1.4%

Common Name	Scientific Name	Anticipated Number of Tree Removals ¹						Quantity with DBH ≥12-inches	Percent of Grand Total Removed (by Species)
		Within Existing Right-of-Way	Within Proposed Right-of-Way	Within Proposed Temporary Easement	Within Proposed Permanent Easement	Total Removal by Species			
Box elder	<i>Acer negundo</i>	2	7	1	1	11	2	1.1%	
Bradford pear	<i>Pyrus calleryana</i>	1	0	0	0	1	0	0.1%	
Crabapple	<i>Malus pumila</i>	2	1	5	0	8	3	0.8%	
Dead	Various spp.	42	36	23	4	105	40	10.3%	
Eastern cottonwood	<i>Populus deltoides</i>	3	3	1	5	12	11	1.2%	
Eastern hemlock	<i>Tsuga canadensis</i>	1	0	0	0	1	0	0.1%	
Freeman maple	<i>Acer freemanii</i>	0	0	0	6	6	0	0.6%	
Green ash	<i>Fraxinus pennsylvanica</i>	8	1	1	11	21	2	2.1%	
Honeylocust	<i>Gleditsia triacanthos</i>	39	3	0	11	53	46	5.2%	
Norway maple	<i>Acer platanoides</i>	50	11	17	1	79	39	7.8%	
Norway spruce	<i>Picea abies</i>	3	7	4	12	26	21	2.6%	
Plum	<i>Pyrus spp.</i>	3	0	0	0	3	0	0.3%	
Red cedar	<i>Juniperus virginiana</i>	0	5	1	0	6	0	0.6%	
Scotch pine	<i>Pinus sylvestris</i>	1	0	2	0	3	0	0.3%	
Siberian elm	<i>Ulmus pumila</i>	2	0	0	0	2	1	0.2%	
Silver maple	<i>Acer saccharinum</i>	5	3	4	24	36	22	3.5%	
Weeping willow	<i>Salix babylonica</i>	0	1	0	0	1	1	0.1%	
White ash	<i>Fraxinus americana</i>	2	0	0	0	2	1	0.2%	
White cedar	<i>Thuja occidentalis</i>	0	5	0	0	5	0	0.5%	
White mulberry	<i>Morus alba</i>	0	4	2	0	6	3	0.6%	
White spruce	<i>Picea glauca</i>	0	7	7	0	14	12	1.4%	
	Total	274	121	115	138	648	276	63.7%	
	Grand Total	457	213	187	161	1,018	491	100%	

1. Includes trees with a DBH of 6-inches or greater not located on LCFPD property. Anticipated tree removals were based on tree location within existing or proposed right-of-way and proposed easement areas. Common buckthorn removals are not included in the table.
2. Includes a list of “desirable protected trees” and “highly desirable protected trees” based on Section 9-6-5 of the Village of Riverwoods *Tree and Woodland Protection Ordinance*.

Table C-10-1: Biological Characteristics of Project Study Area Streams ¹

Stream	Site ID	Sampling Location	Number of Fish Species Present	Number of Intolerant Fish Species	Dominant Fish Species	Percent of Tolerant Fish Species	Fish Index of Biotic Integrity (fIBI) ²	Macroinvertebrate Index of Biotic Integrity (mIBI) ²	Ephemeroptera, Plecoptera, and Trichoptera (EPT) Richness (Percent)
Des Plaines River	16-3	Deerfield Road	21	1	Spotfin shiner (<i>Cyprinella spiloptera</i>) Bluntnose minnow (<i>Pimephales notatus</i>)	13.2	18.5	57.4	11 (27.0)
Thorngate Creek	16-9	Timberleaf Lane	8	0	Largemouth bass (<i>Micropterus salmoides</i>)	37.5	35.0	41.4	4 (2.5)
Aptakisic Creek	18-1	Aspen Road	12	1	Green sunfish (<i>Lepomis cyanellus</i>) Bluegill sunfish (<i>Lepomis macrochirus</i>)	33.3	24.0	23.0	0 (0)
Aptakisic Creek	18-2	Pekara Drive	19	1	White sucker (<i>Catostomus commersonii</i>) Bluntnose minnow (<i>Pimephales notatus</i>)	33.3	26.0	30.7	3 (6.2)

^{1.} Sources: *Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries, 2016* (Midwest Biodiversity Institute, 2017); DRWW *Interactive Monitoring Data Web Application* (<http://www.drww.org/>).

^{2.} Attainment status is based on IEPA Aquatic Life Use Support Thresholds:

Status	fIBI	mIBI
Full Support	≥ 41	≥ 41.8
Non-Support Fair	20 < x < 41	20.9 ≤ x < 41.8
Non-Support Poor	≥ 20	< 20.9

Table C-10-2: Chemical Data for the Project Study Area Streams ^{1,2}

Parameter	Sample Year 2015			Sample Year 2016			Sample Year 2017			General Use Water Quality Standards ³
	Des Plaines River at Deerfield Road (Site 16-3)	Aptakistic Creek at Aspen Road (Site 18-1)	Aptakistic Creek at Pekara Drive (Site 18-2)	Des Plaines River at Deerfield Road (Site 16-3)	Aptakistic Creek at Aspen Road (Site 18-1)	Aptakistic Creek at Pekara Drive (Site 18-2)	Des Plaines River at Deerfield Road (Site 16-3)	Aptakistic Creek at Aspen Road (Site 18-1)	Aptakistic Creek at Pekara Drive (Site 18-2)	
Chloride (mg/L)	144.3	240.0	195.0	160.3	256.4	235.9	131.9	221.5	187.5	500 mg/L
Dissolved Oxygen (mg/L)	---	---	---	8.41	8.65	8.85	7.49	8.61	6.73	3.5 mg/L minimum (August - February) 5 mg/L minimum (March - July)
Dissolved Zinc (mg/L)	---	---	---	---	0.0092	---	---	---	---	0.073 mg/L chronic; 0.273 mg/L acute ⁴
Hardness (as CaCO ₃) (mg/L)	---	311	---	---	231	---	---	256	---	No numeric standard ⁵
pH (s.u.)	---	---	---	8.0	8.0	8.1	7.7	7.8	8.0	6.5 - 9.0
Total Phosphorus (mg/L)	0.57	1.61	0.05	0.68	2.11	0.07	0.52	1.85	0.43	Not applicable ⁶
Turbidity (NTU)	12.1	4.5	12.4	11.4	5.8	18.4	18.1	---	18.7	No numeric standard ⁵
Water Temperature (°C)	---	---	---	17.38	17.99	17.38	17.31	18.43	19.11	16°C maximum (December - March) 32°C maximum (April - November)

^{1.} Sources: DRWW *Interactive Monitoring Data Web Application* (<http://www.drww.org/>); *Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries, 2016* (Midwest Biodiversity Institute, 2017). Data from the website are averages of each of the samples taken at a site in a given year.

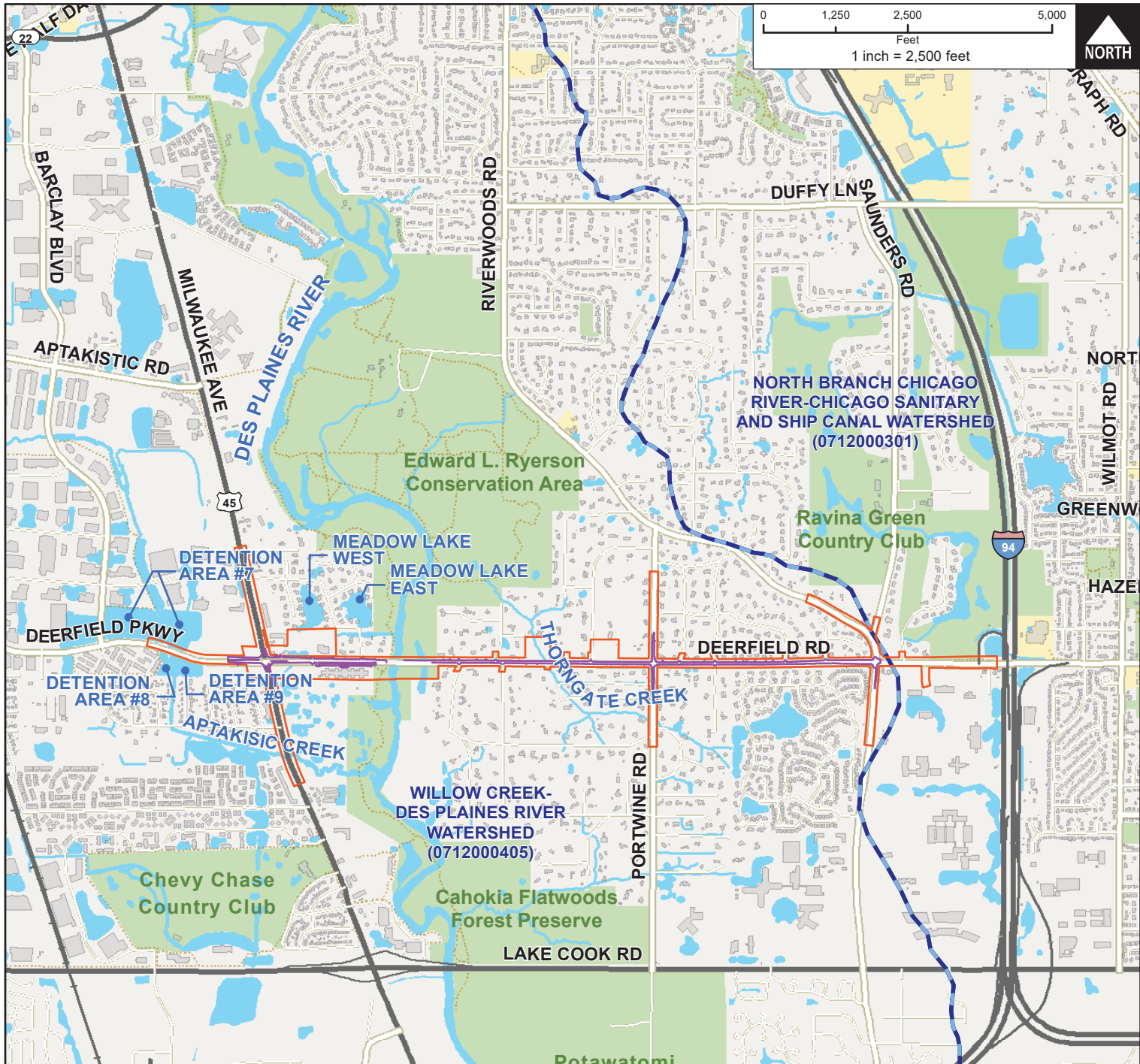
^{2.} Thorngate Creek at Timberleaf Lane (Site 16-9) was not sampled for chemistry data.

^{3.} Water Quality Standards are from Illinois Administrative Code (IAC) Part 302 Subpart B, unless otherwise noted.

^{4.} Hardness dependent metals shown at 300mg/L total hardness per DRWW report (see IAC Part 302 for formulae).

^{5.} No numeric General Use Water Quality Standard is provided in the IAC for hardness or turbidity (NTU).

^{6.} Not applicable for the project study area stream sampling sites. The water quality standard particularly applies to lakes and reservoirs with a surface area of ≥20 acres, or in streams at the point of entry into these lakes and reservoirs.



Legend

- Project Study Area
- Proposed Improvement
- Surface Water
- Watershed Boundary
- Park or Open Space

CLIENT:



TITLE:

**WATERSHEDS AND WATER RESOURCES
LOCATED NEAR THE
PROJECT STUDY AREA**

PROJ. NO. 150331

DATE: 12/19/2019

SHEET 1 OF 1

DRAWING NO.



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DSGN.		SCALE:	1:30,000
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	12/19/2019
FILE:	Water Resources FIG C-11		

**FIGURE
C-11**

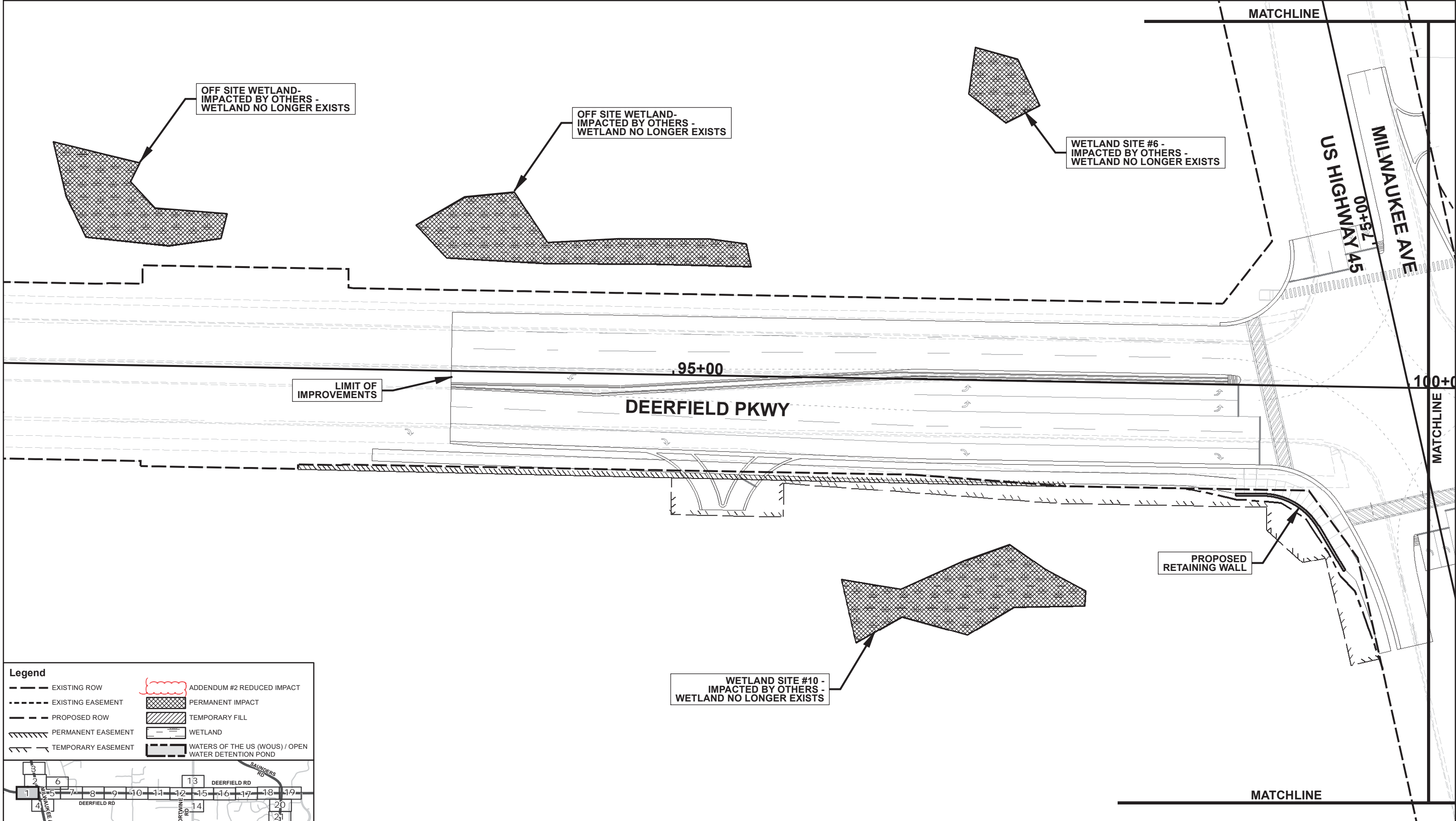
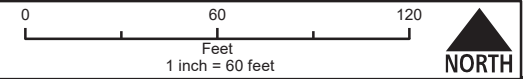
Path: N:\LCDOT\150331\GIS\Exhibits\Water Resources FIG C-11.mxd

Table C-12: Wetland Impact Summary

Wetland Site	Wetland Type	FQI	Mean C-Value	Total Size (acres) ¹	Total Impact (acres) ²	Under USACE Jurisdiction per PJD	Mitigation Ratio ³	Mitigation Required (acres)	Comments ⁴	Sheet Number ⁵
Wetland #1	Forested	29.1	3.4	1.82 +	0.11	Yes	5.5:1	0.605	HQAR	8
Wetland #13	Forested	9.8	2.1	0.01	0.01	Yes	1.5:1	0.015		11
Wetland #14	Marsh	7.5	1.6	0.08	0.07	No	1.5:1	0.105	IWLC determined by LCSMC to be excluded under the WDO; A portion of this wetland (0.01 acre) has been filled by others as part of a separate project	5
Wetland #15	Forested	22.7	3.4	0.67 +	0.01	No	5.5:1	0.055	HQAR	8
Wetland #16	Forested	13.3	2.8	0.04	0.04	No	1.5:1	0.060	IWLC; portion of wetland within 25 feet of outer edge of road pavement determined by LCSMC to be excluded under the WDO as a roadside ditch	10
Wetland #17	Forested	19.5	2.9	0.74 +	0.07	Yes	5.5:1	0.385	HQAR	10, 11
Wetland #19	Ditch	6.3	2.0	0.01 +	<0.001 (11 SQ FT)	No	1.5:1	0.0005		11
Wetland #20	Ditch	9.7	2.4	0.03 +	<0.001 (20 SQ FT)	No	1.5:1	0.0008		11
Wetland #26	Marsh	14.5	2.6	0.09	0.09	No	1.5:1	0.135	IWLC determined by LCSMC to be excluded under the WDO	16
Wetland #27	Wet Meadow	16.6	2.4	0.25	0.25	Yes	1.5:1	0.375		17, 18
Wetland #32	Ditch	4.9	2.0	0.01	0.002	No	1.5:1	0.003	IWLC determined by LCSMC to be excluded under the WDO	15
Total					0.653			1.739		

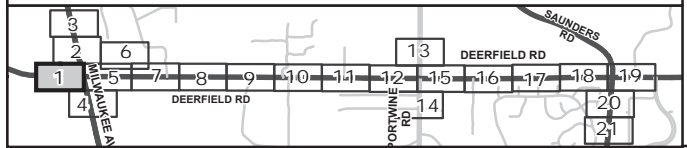
1. "+" = The wetland extends beyond the project study area. The total size represents the area delineated and may not represent the entire size of the wetland.
2. Impacts ≤0.005 acre were rounded to the nearest thousandth of an acre.
3. Compensation is based on the mitigation ratios in the IWPA (Programmatic Review Action and mitigation located offsite within basin). The ratios above may vary per regulatory agency.
4. All wetland areas (including those that are not jurisdictional under Federal or County regulations) are jurisdictional under the IWPA.
5. See the Wetland Impact Evaluation Exhibits at Figure C-13, Appendix C.

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
 2. IMPACTS <0.005 ACRE WERE ROUNDED TO THE NEAREST THOUSANDTH OF AN ACRE.
 3. MOWED TURF/UNVEGETATED ROADSIDE DITCHES THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PRELIMINARY JURISDICTIONAL DETERMINATION (PJD), DATED 6-28-17) ARE NOT SHOWN.
 4. IMPACTS TO OPEN WATER DETENTION AREAS THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PJD) ARE NOT SHOWN. THE OPEN WATER DETENTION AREAS WERE ALSO CONSIDERED EXEMPT UNDER THE IWPA.



Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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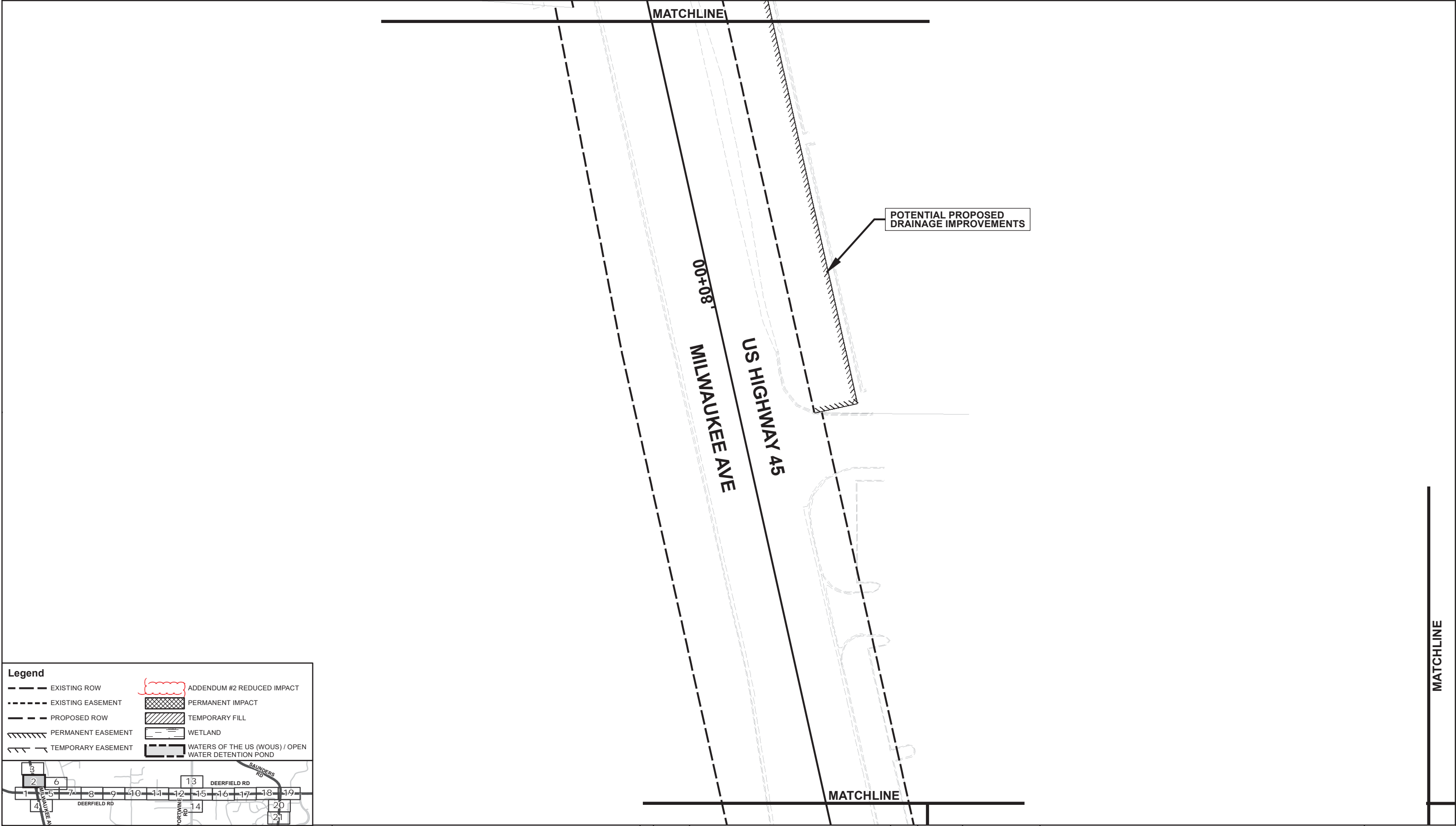
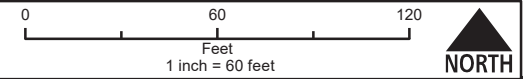
CLIENT:  **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE	DWN:	dwalters
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

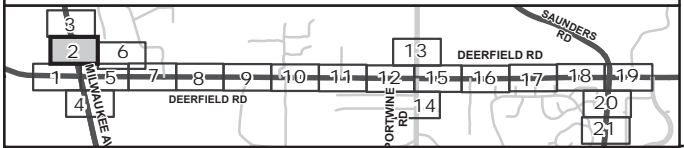
SHEET 1 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 1

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
 2. IMPACTS <0.005 ACRE WERE ROUNDED TO THE NEAREST THOUSANDTH OF AN ACRE.
 3. MOWED TURF/UNVEGETATED ROADSIDE DITCHES THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PRELIMINARY JURISDICTIONAL DETERMINATION (PJD), DATED 6-28-17) ARE NOT SHOWN.
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Legend

---	EXISTING ROW		ADDENDUM #2 REDUCED IMPACT
----	EXISTING EASEMENT		PERMANENT IMPACT
- - - -	PROPOSED ROW		TEMPORARY FILL
====	PERMANENT EASEMENT		WETLAND
- - - -	TEMPORARY EASEMENT		WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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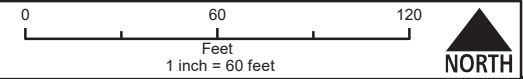
CLIENT: **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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DSGN:		PMK		
CHKD:		MJH		
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 2 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 2

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ADDENDUM #1 - NEW SITE
 OPEN WATER DETENTION AREA #5
 NOT USACE JURISDICTIONAL

ADDENDUM #1 - NEW SITE
 DETENTION AREA #3
 TOTAL SIZE 0.57+AC
 NO IMPACT - WETLAND LOCATED BEYOND LIMIT OF IMPROVEMENTS
 (NO VEGETATION INVENTORY COMPLETED)

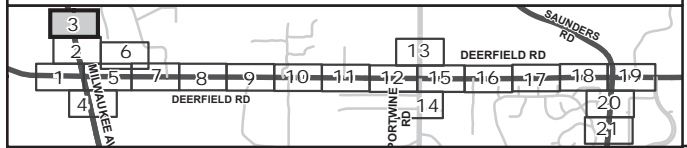
POTENTIAL PROPOSED
 DRAINAGE IMPROVEMENTS

MILWAUKEE AVE
 00+58'
 US HIGHWAY 45

MATCHLINE

Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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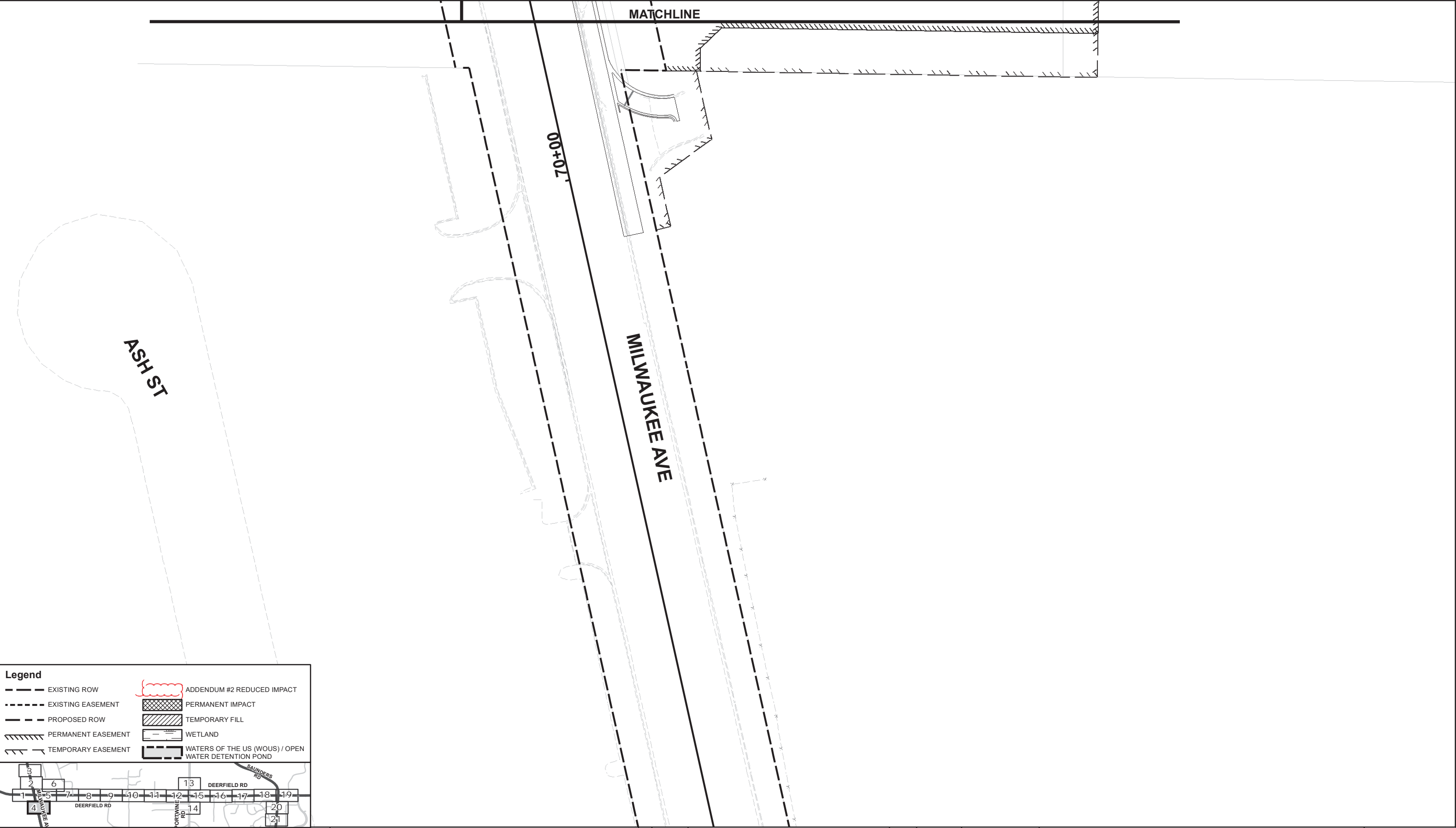
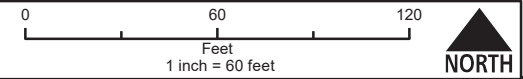
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TITLE:

**FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

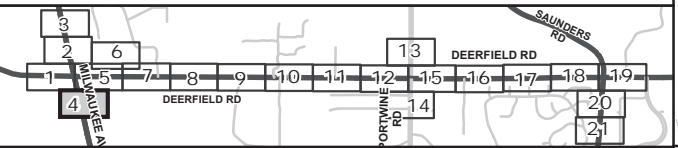
SHEET 3 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 3

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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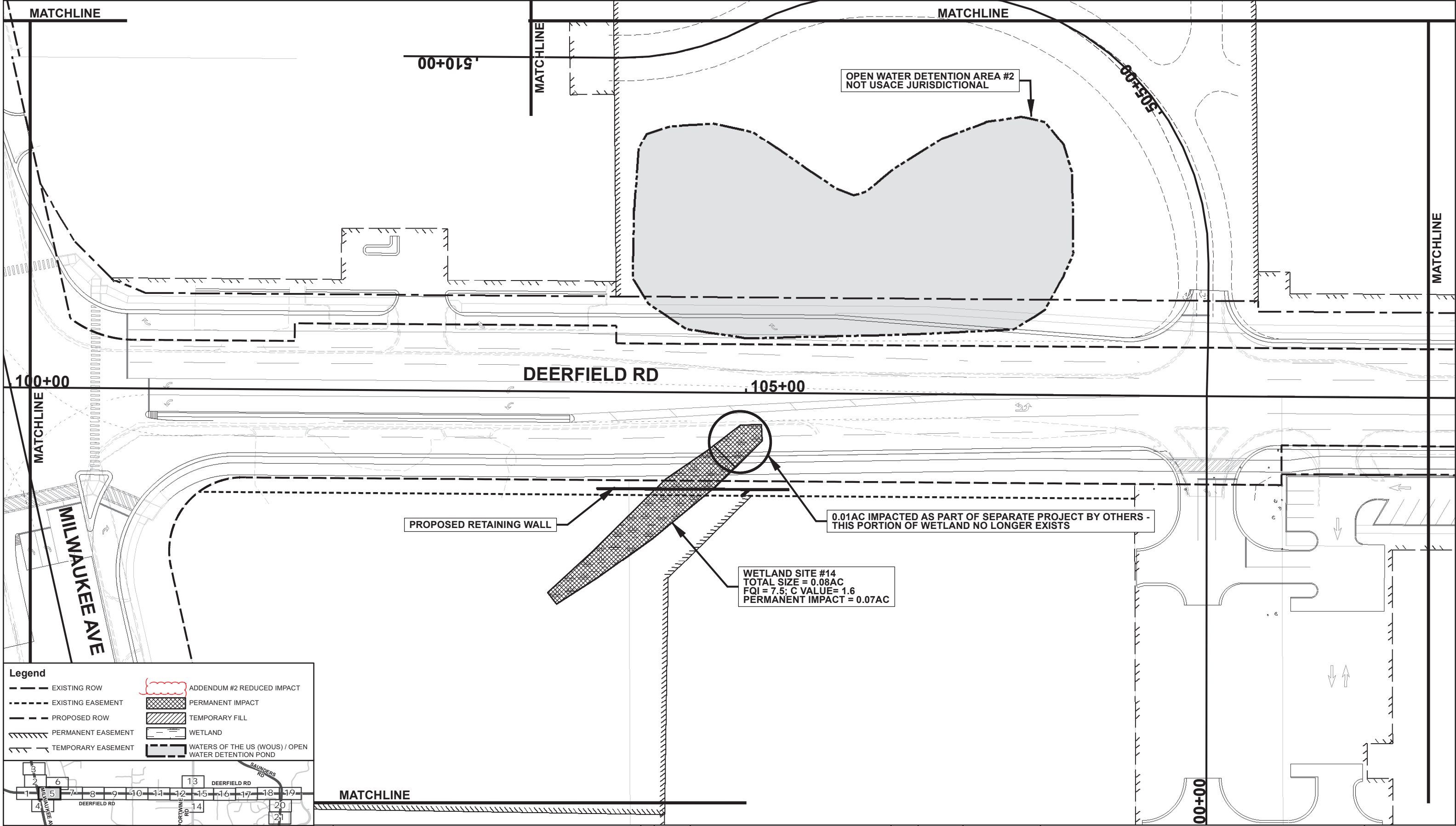
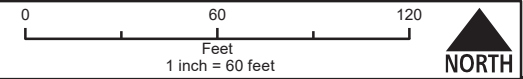
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DSGN:	PMK			
CHKD:	MJH			
SCALE:	1" = 60'			
MODEL:	ARCGIS 10.6			
				Thursday, July 09, 2020

TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

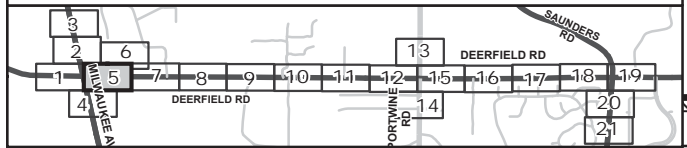
SHEET	4	of	21
CBBEL #	15-0331		
DATE:	07/07/2020		
SHEET 4			

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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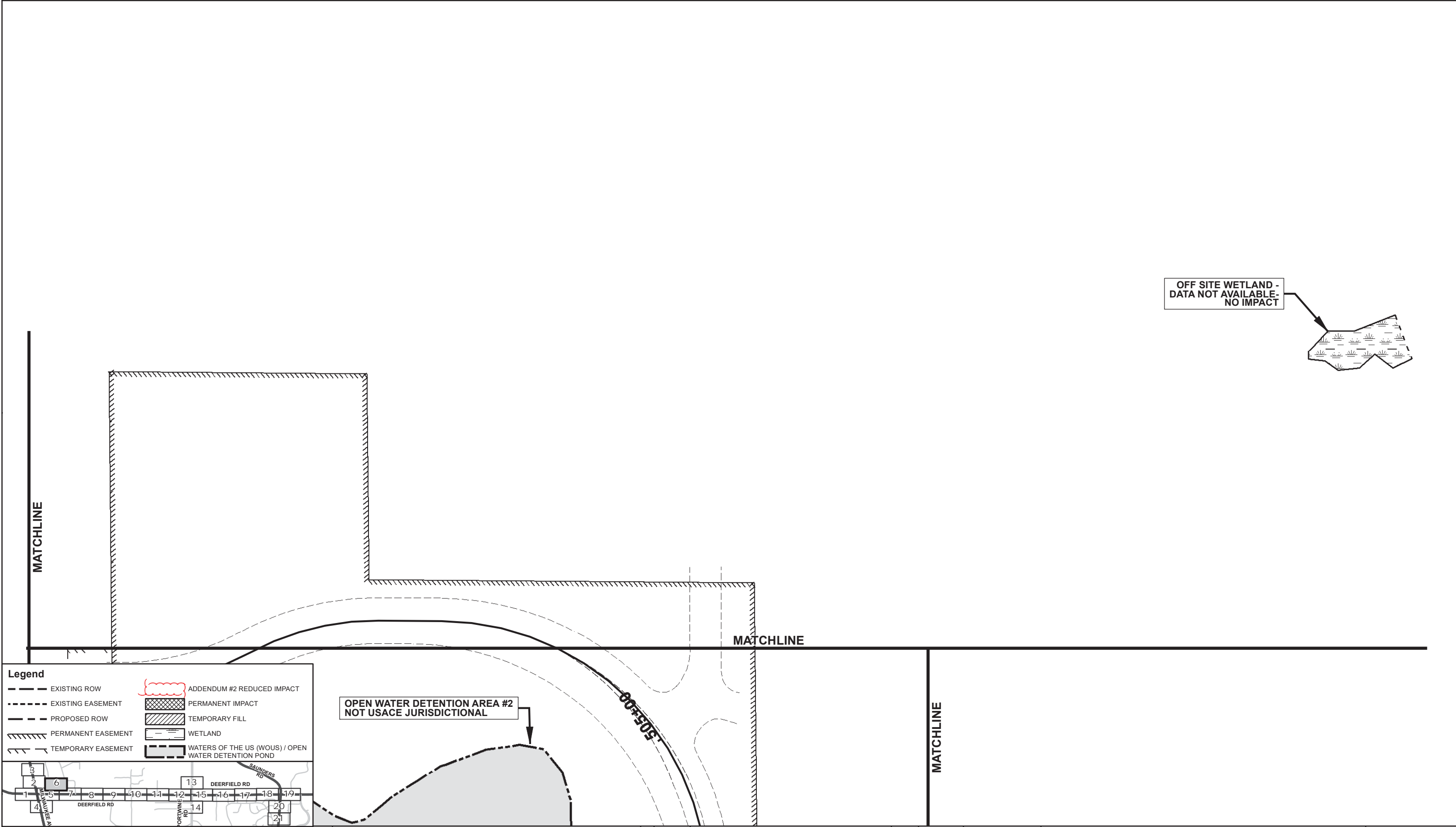
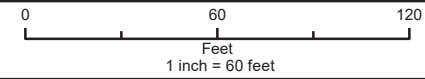
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NO. DATE	NATURE OF REVISION	CHKD. PLOT DATE	Thursday, July 09, 2020
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 5 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 5

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND

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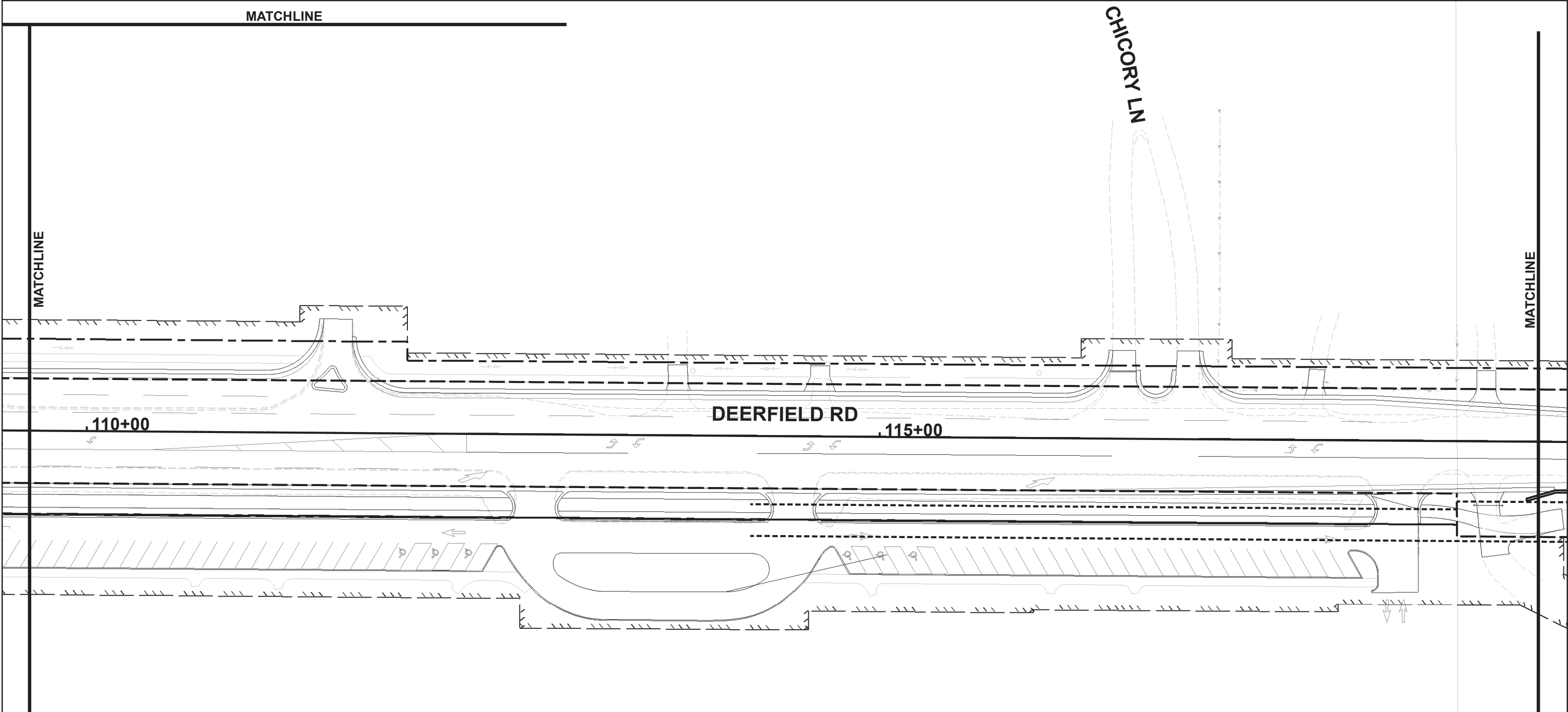
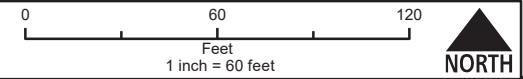
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NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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DWN:		dwalters	TITLE:	
DSGN:		PMK	FIGURE C-13: WETLAND IMPACT EVALUATION EXHIBITS- ADDENDUM #2	
CHKD:		MJH	SHEET 6 of 21	
SCALE:		1" = 60'	CBBEL # 15-0331	
MODEL:		ARCGIS 10.6	DATE: 07/07/2020	
PATH:		N:\LCDOT\150331\GIS\Exhibits\Wetland Impacts Addendum 2 FIG C-13.mxd	SHEET 6	

FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2

SHEET 6 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
 SHEET 6

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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Legend

- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- ADDENDUM #2 REDUCED IMPACT
- PERMANENT IMPACT
- TEMPORARY FILL
- WETLAND
- WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND

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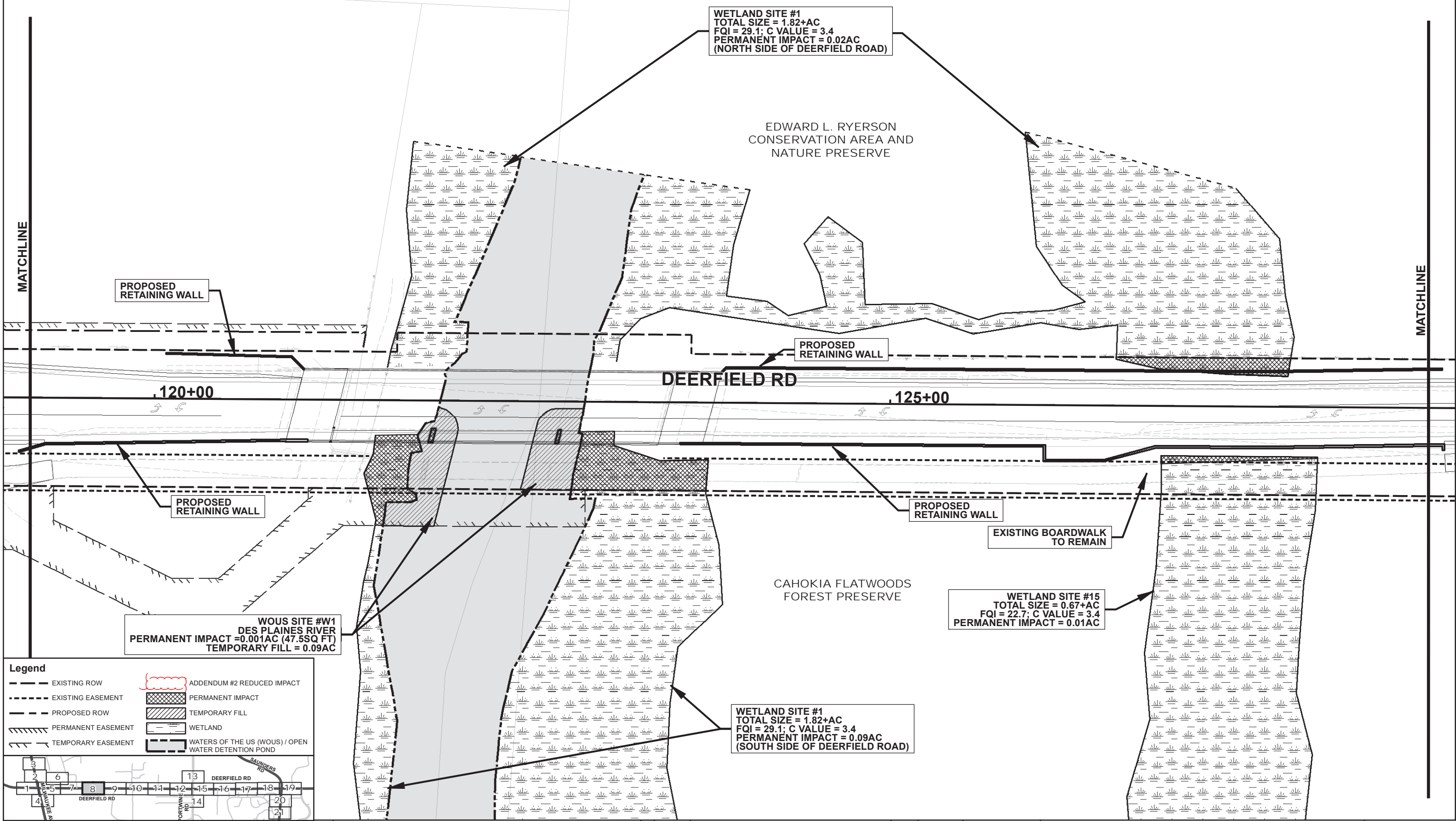
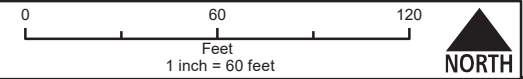
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**FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 7 of 21
 CBBEL # 15-0331
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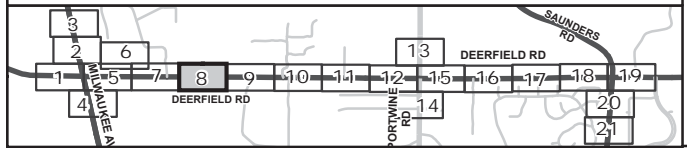
SHEET 7

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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Legend

---	EXISTING ROW		ADDENDUM #2 REDUCED IMPACT
---	EXISTING EASEMENT		PERMANENT IMPACT
---	PROPOSED ROW		TEMPORARY FILL
---	PERMANENT EASEMENT		WETLAND
---	TEMPORARY EASEMENT		WATERS OF THE US (WOV) / OPEN WATER DETENTION POND



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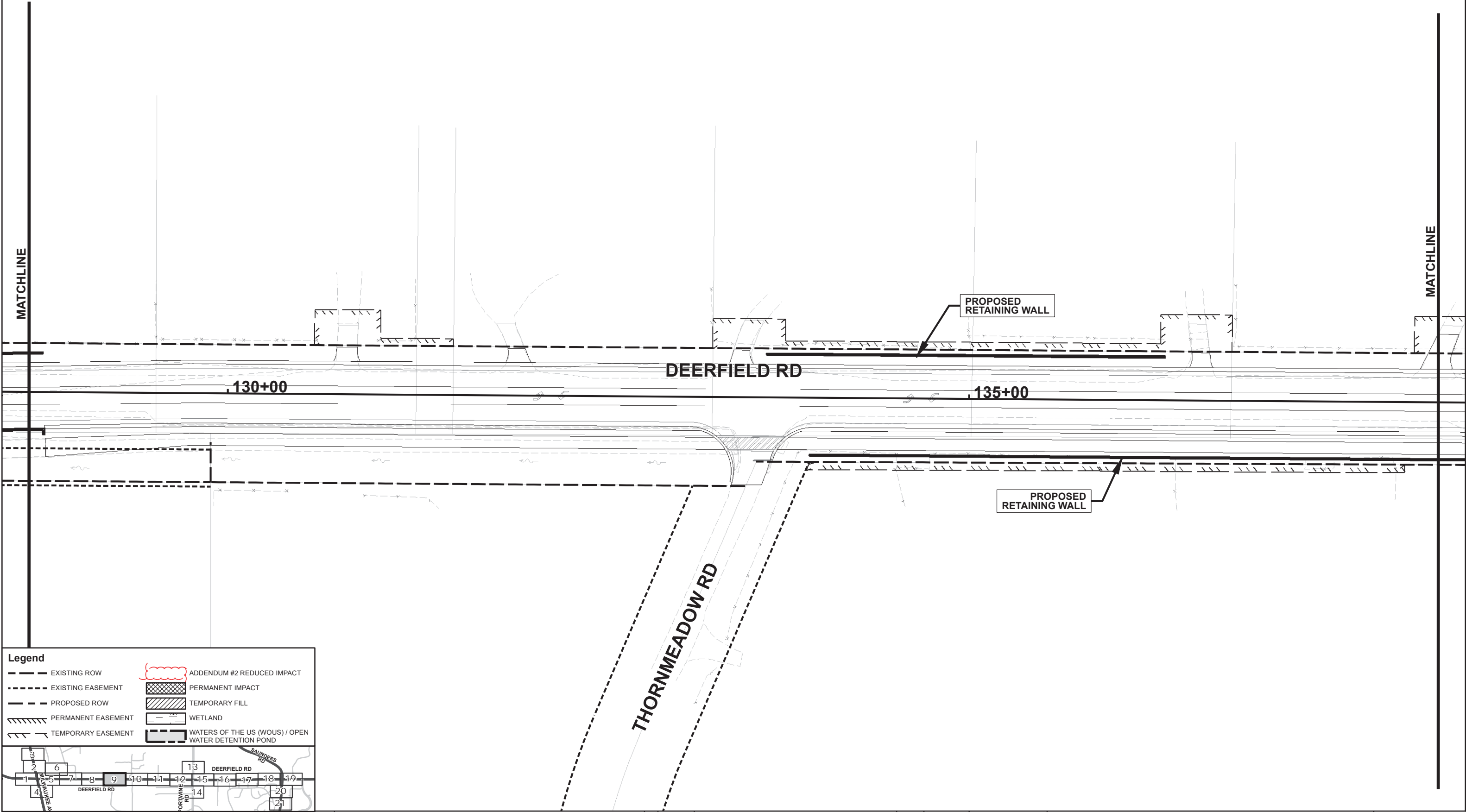
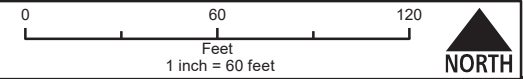
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 8 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020

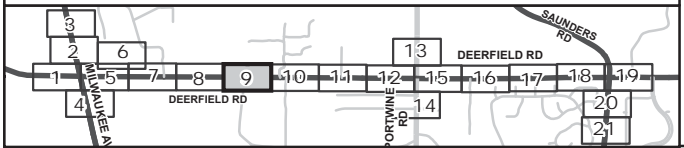
SHEET 8

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Legend

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--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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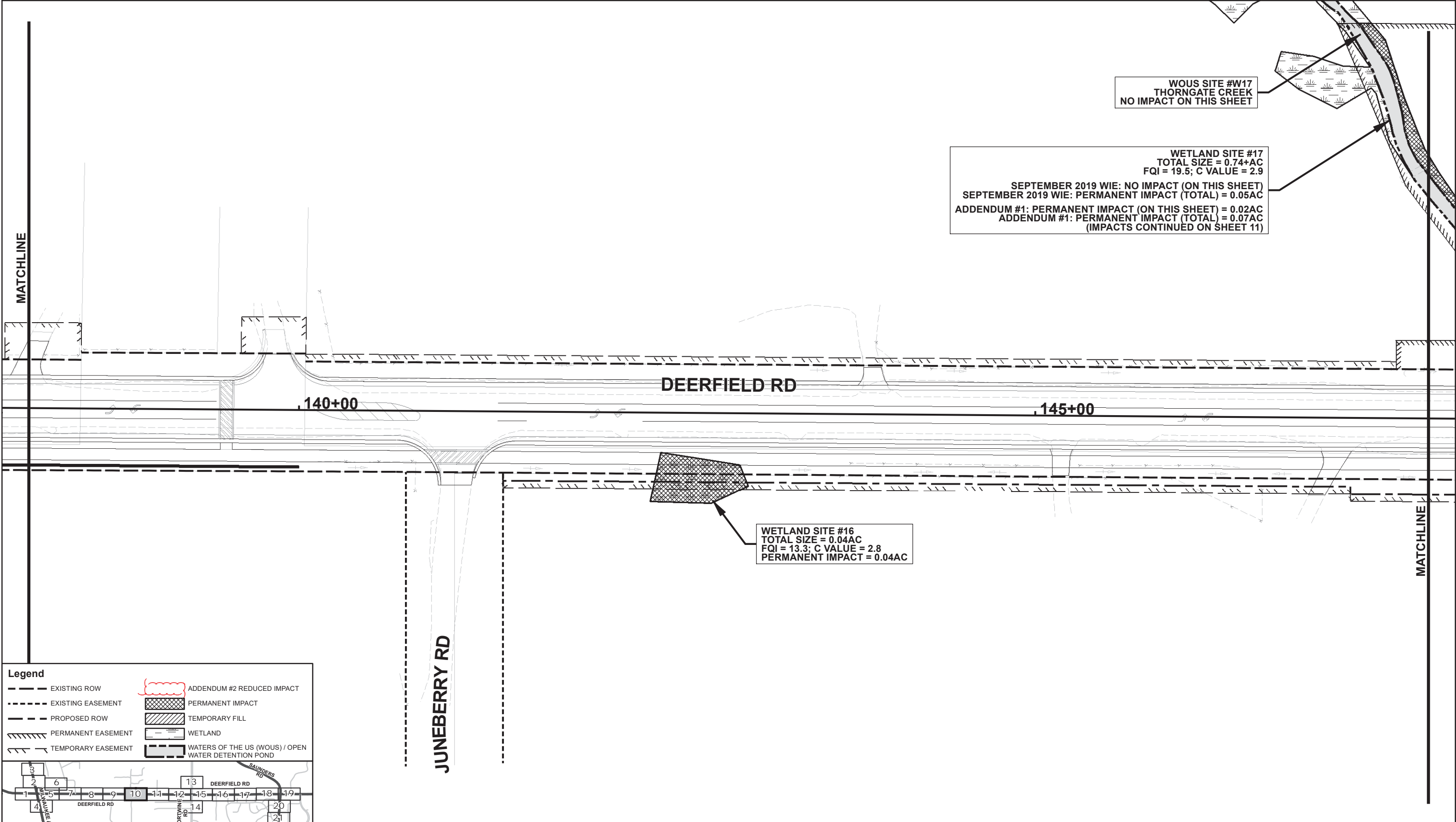
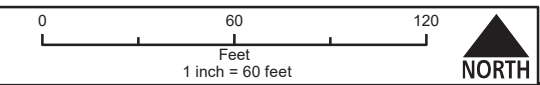
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DWN: dwalters		TITLE:		
DSGN: PMK		FIGURE C-13: WETLAND IMPACT EVALUATION EXHIBITS-ADDENDUM #2		
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SHEET 9 of 21
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SHEET 9

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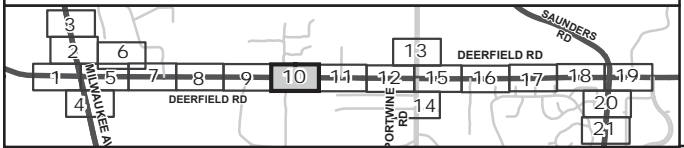
WOVS SITE #W17
 THORNGATE CREEK
 NO IMPACT ON THIS SHEET

WETLAND SITE #17
 TOTAL SIZE = 0.74+AC
 FQI = 19.5; C VALUE = 2.9
 SEPTEMBER 2019 WIE: NO IMPACT (ON THIS SHEET)
 SEPTEMBER 2019 WIE: PERMANENT IMPACT (TOTAL) = 0.05AC
 ADDENDUM #1: PERMANENT IMPACT (ON THIS SHEET) = 0.02AC
 ADDENDUM #1: PERMANENT IMPACT (TOTAL) = 0.07AC
 (IMPACTS CONTINUED ON SHEET 11)

WETLAND SITE #16
 TOTAL SIZE = 0.04AC
 FQI = 13.3; C VALUE = 2.8
 PERMANENT IMPACT = 0.04AC

Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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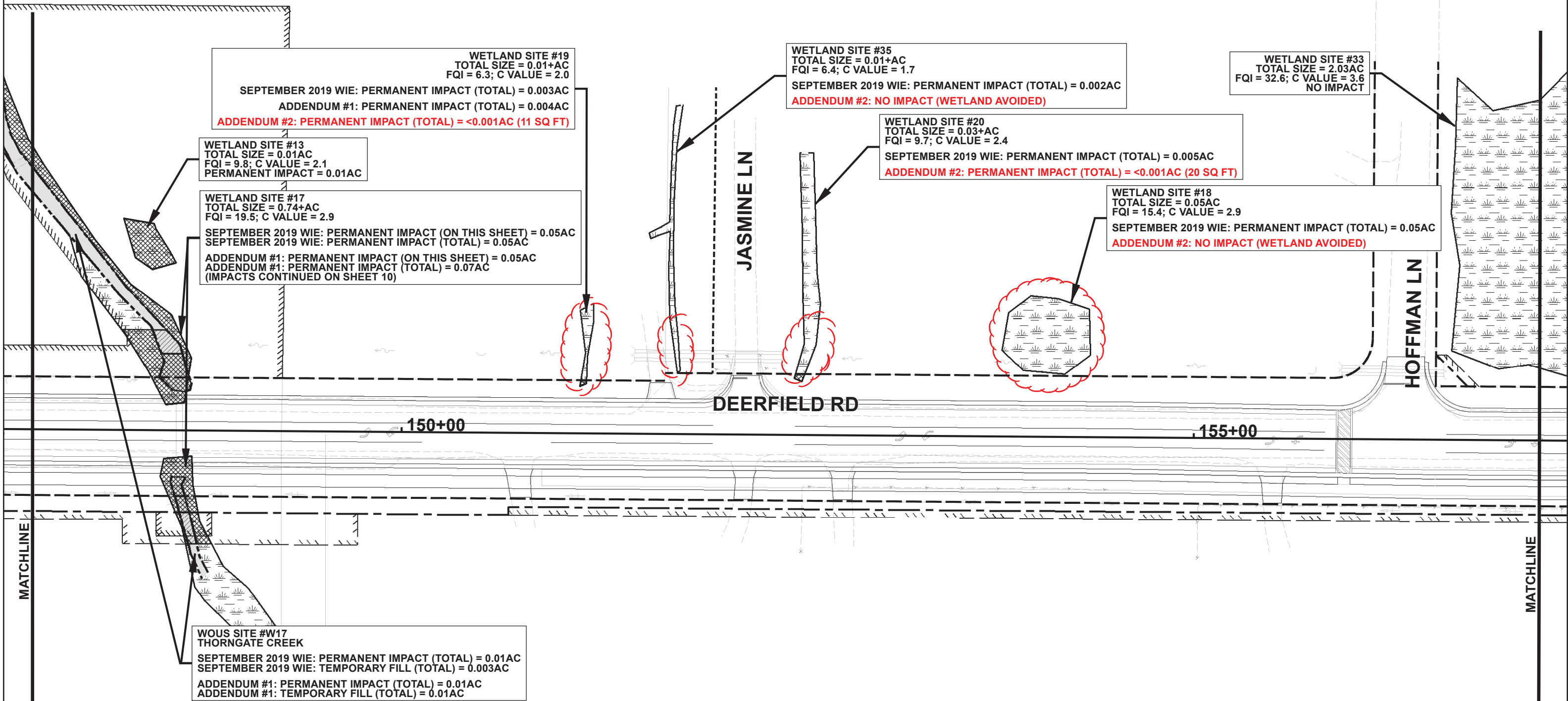
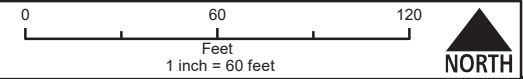
CLIENT:  **LakeCounty**
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

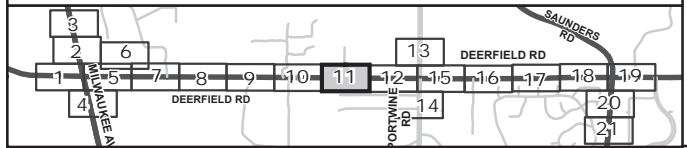
SHEET 10 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 10

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
 2. IMPACTS <0.005 ACRE WERE ROUNDED TO THE NEAREST THOUSANDTH OF AN ACRE.
 3. MOWED TURF/UNVEGETATED ROADSIDE DITCHES THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PRELIMINARY JURISDICTIONAL DETERMINATION (PJD), DATED 6-28-17) ARE NOT SHOWN.
 4. IMPACTS TO OPEN WATER DETENTION AREAS THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PJD) ARE NOT SHOWN. THE OPEN WATER DETENTION AREAS WERE ALSO CONSIDERED EXEMPT UNDER THE IWPA.



Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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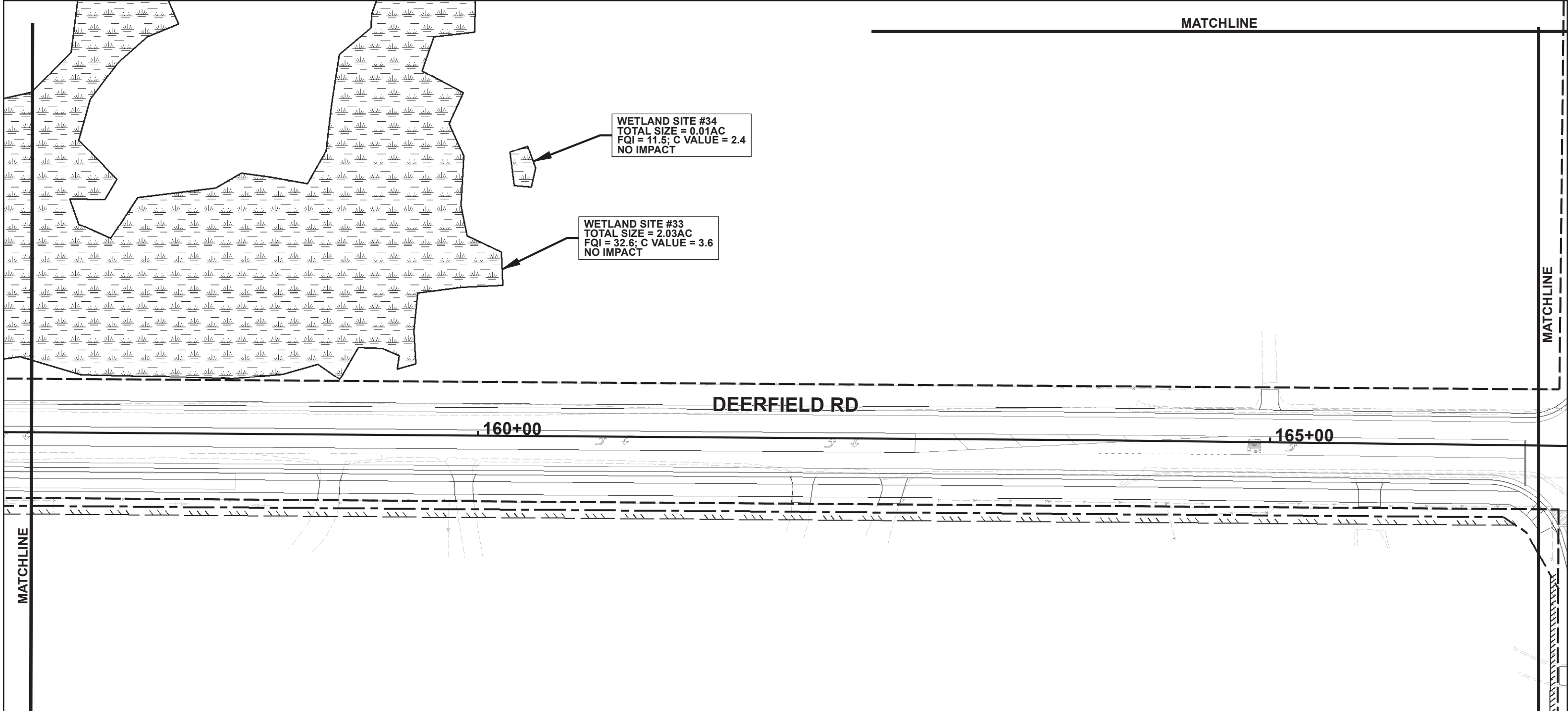
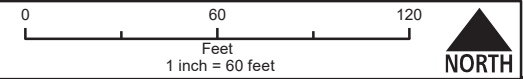
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TITLE: **FIGURE C-13: WETLAND IMPACT EVALUATION EXHIBITS- ADDENDUM #2**

SHEET 11 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020

SHEET 11

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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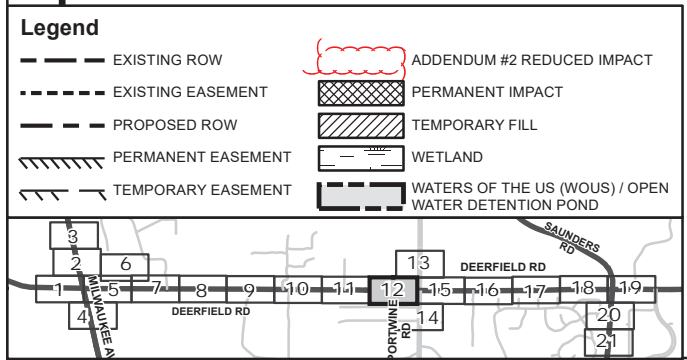
WETLAND SITE #34
 TOTAL SIZE = 0.01AC
 FQI = 11.5; C VALUE = 2.4
 NO IMPACT

WETLAND SITE #33
 TOTAL SIZE = 2.03AC
 FQI = 32.6; C VALUE = 3.6
 NO IMPACT

DEERFIELD RD

160+00

165+00



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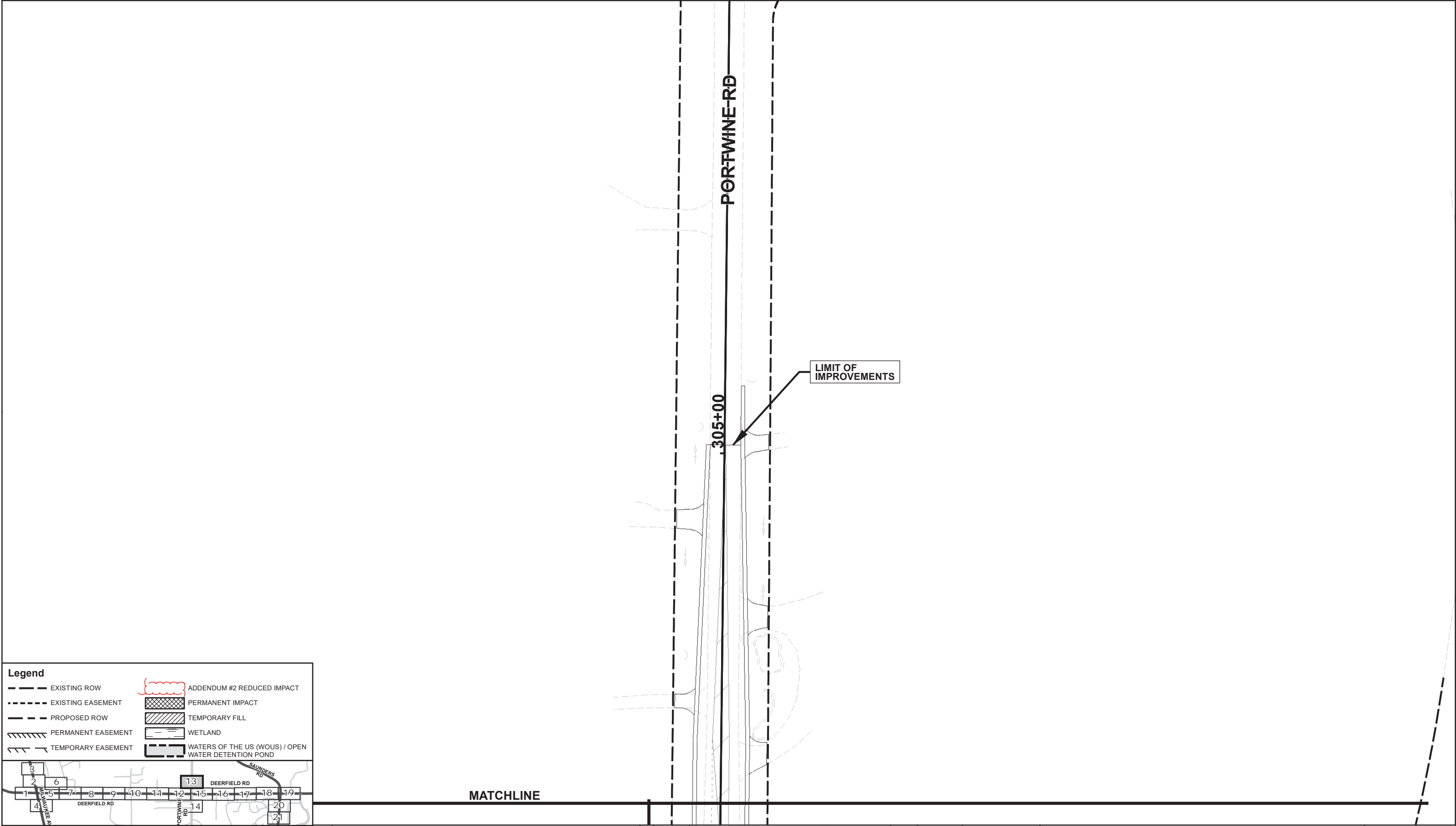
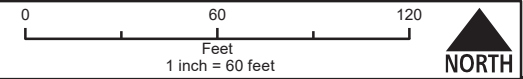
CLIENT:  **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE	DWN:	dwalters
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

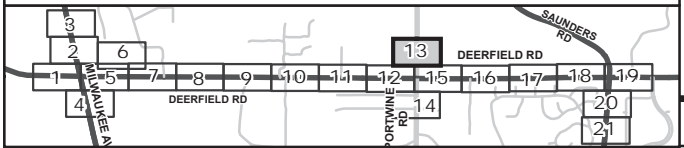
SHEET 12 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 12

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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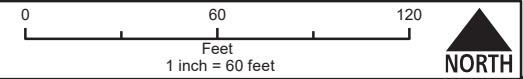
CLIENT:  **LakeCounty**
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NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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DWN:		dwalters		
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 13 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 13

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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MATCHLINE

ARROWWOOD TRL

295+00

WETLAND SITE #21
 TOTAL SIZE = 0.08AC
 FQI = 8.5; C VALUE = 1.9
 NO IMPACT -
 WETLAND LOCATED
 BEYOND LIMIT OF IMPROVEMENTS

LIMIT OF IMPROVEMENTS

RINGLAND RD

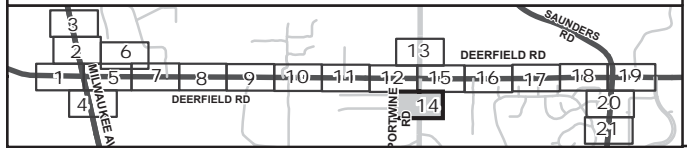
PORTWINE RD

DEEPWOOD TRL

WETLAND SITE #23
 TOTAL SIZE = 0.03AC
 FQI = 10.4; C VALUE = 2.0
 NO IMPACT -
 WETLAND LOCATED
 BEYOND LIMIT OF IMPROVEMENTS

Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



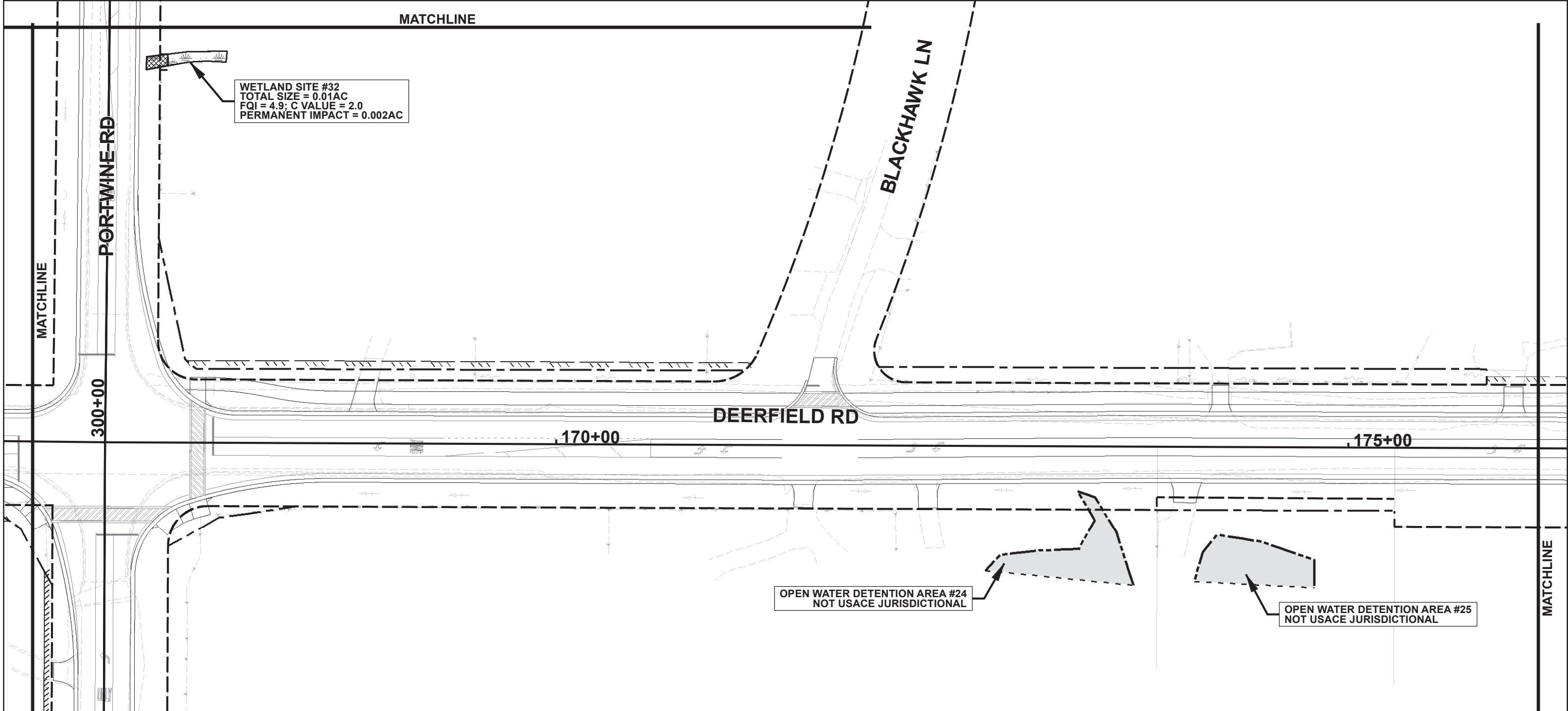
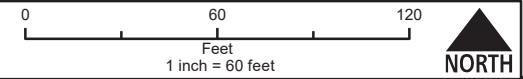
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		Wetland Impacts Addendum 2 FIG C-13.mxd		Thursday, July 09, 2020
FILE NAME:		N:\LCDOT\150331\GIS\Exhibits\Wetland Impacts Addendum 2 FIG C-13.mxd		
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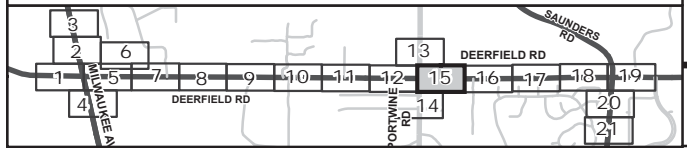
TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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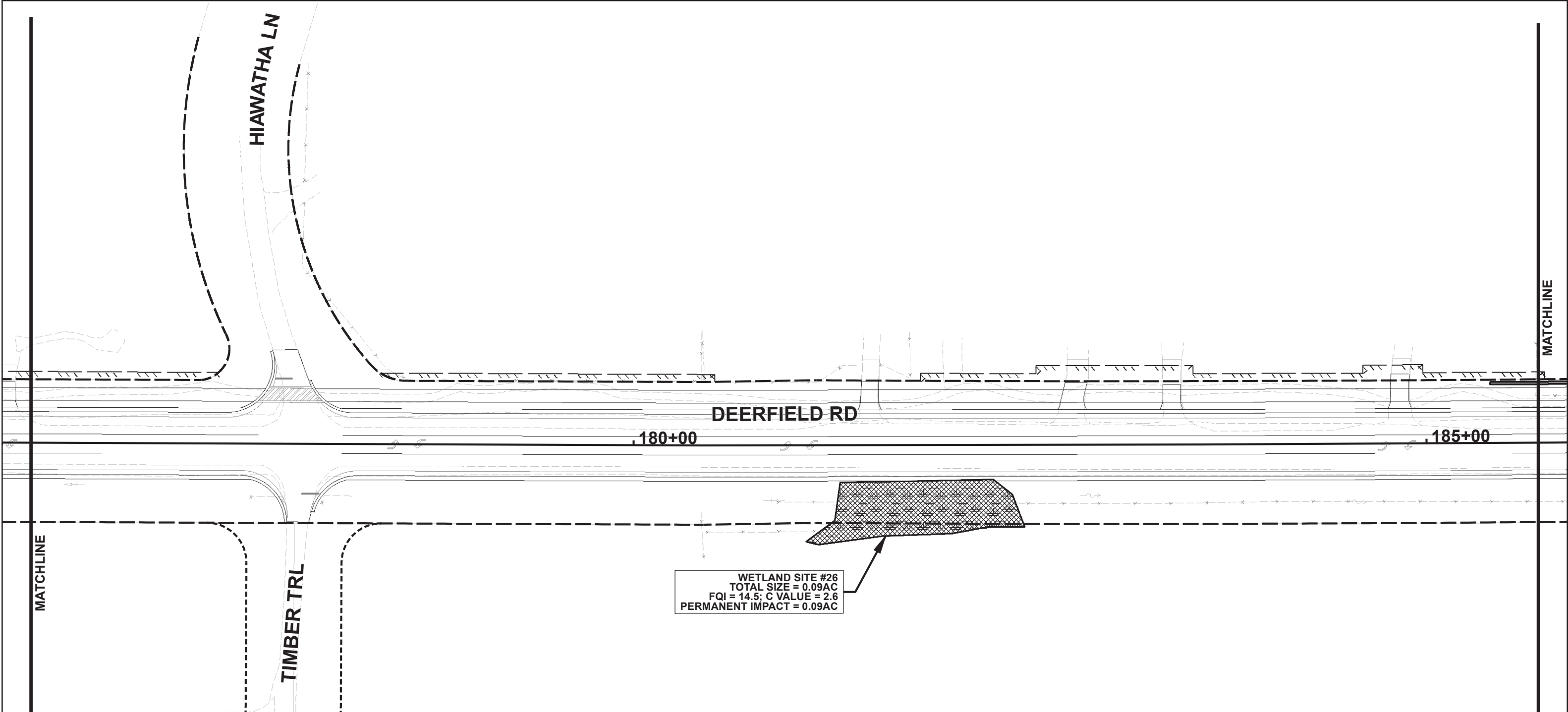
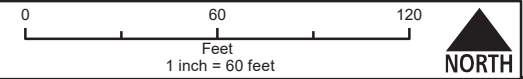
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TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 15 of 21
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 DATE: 07/07/2020
SHEET 15

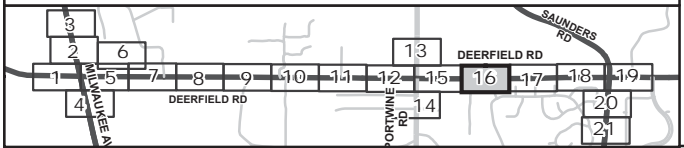
NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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WETLAND SITE #26
 TOTAL SIZE = 0.09AC
 FQI = 14.5; C VALUE = 2.6
 PERMANENT IMPACT = 0.09AC

Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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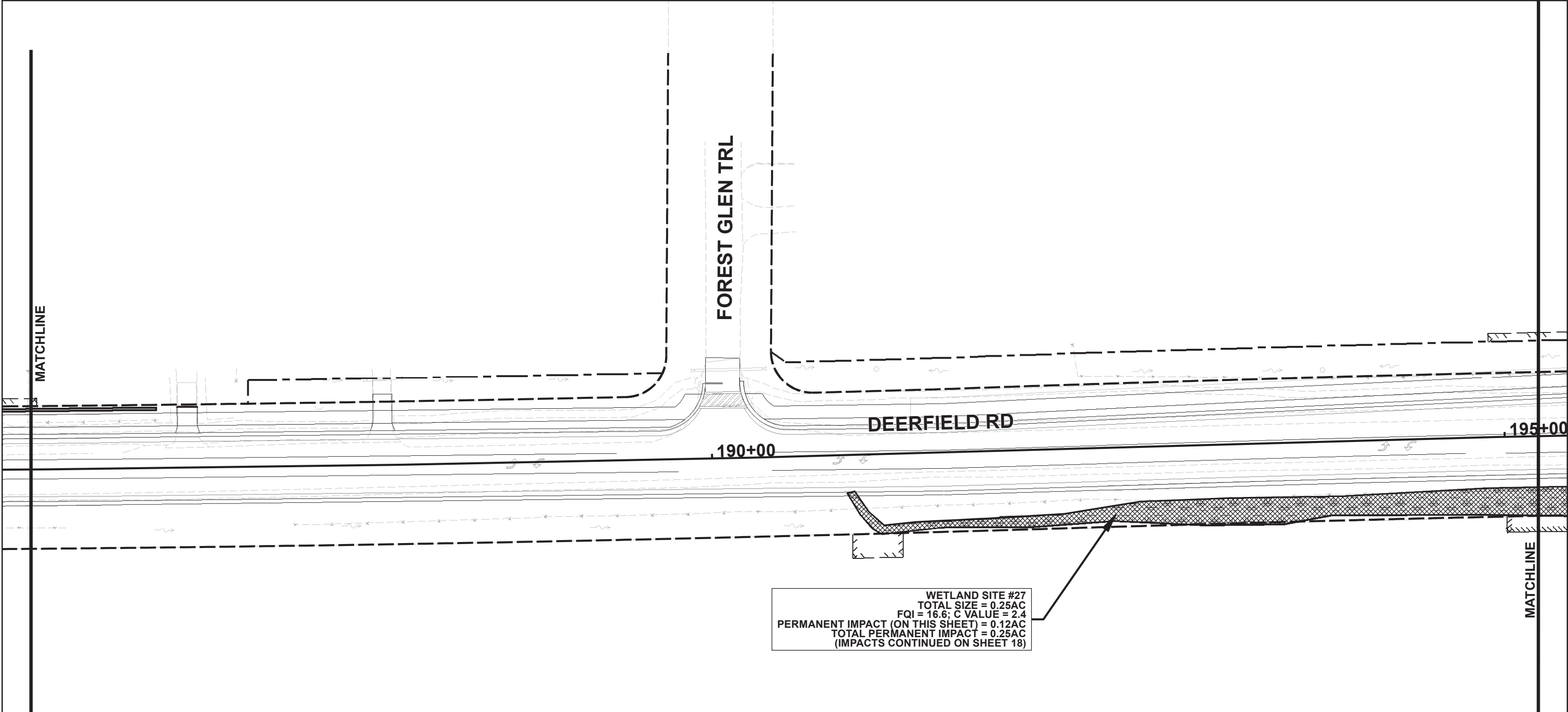
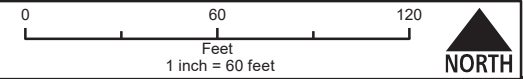
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NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
		Wetland Impacts Addendum 2 FIG C-13.mxd		Thursday, July 09, 2020
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DWN:	dwalters	DSGN:	PMK	
CHKD:	MJH	SCALE:	1" = 60'	
MODEL:	ARCGIS 10.6			

TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 16 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 16

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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WETLAND SITE #27
 TOTAL SIZE = 0.25AC
 FQI = 16.6; C VALUE = 2.4
 PERMANENT IMPACT (ON THIS SHEET) = 0.12AC
 TOTAL PERMANENT IMPACT = 0.25AC
 (IMPACTS CONTINUED ON SHEET 18)

Legend

- EXISTING ROW
- EXISTING EASEMENT
- PROPOSED ROW
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- ADDENDUM #2 REDUCED IMPACT
- PERMANENT IMPACT
- TEMPORARY FILL
- WETLAND
- WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND

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		Wetland Impacts Addendum 2 FIG C-13.mxd		Thursday, July 09, 2020
DWN:		dwalters		
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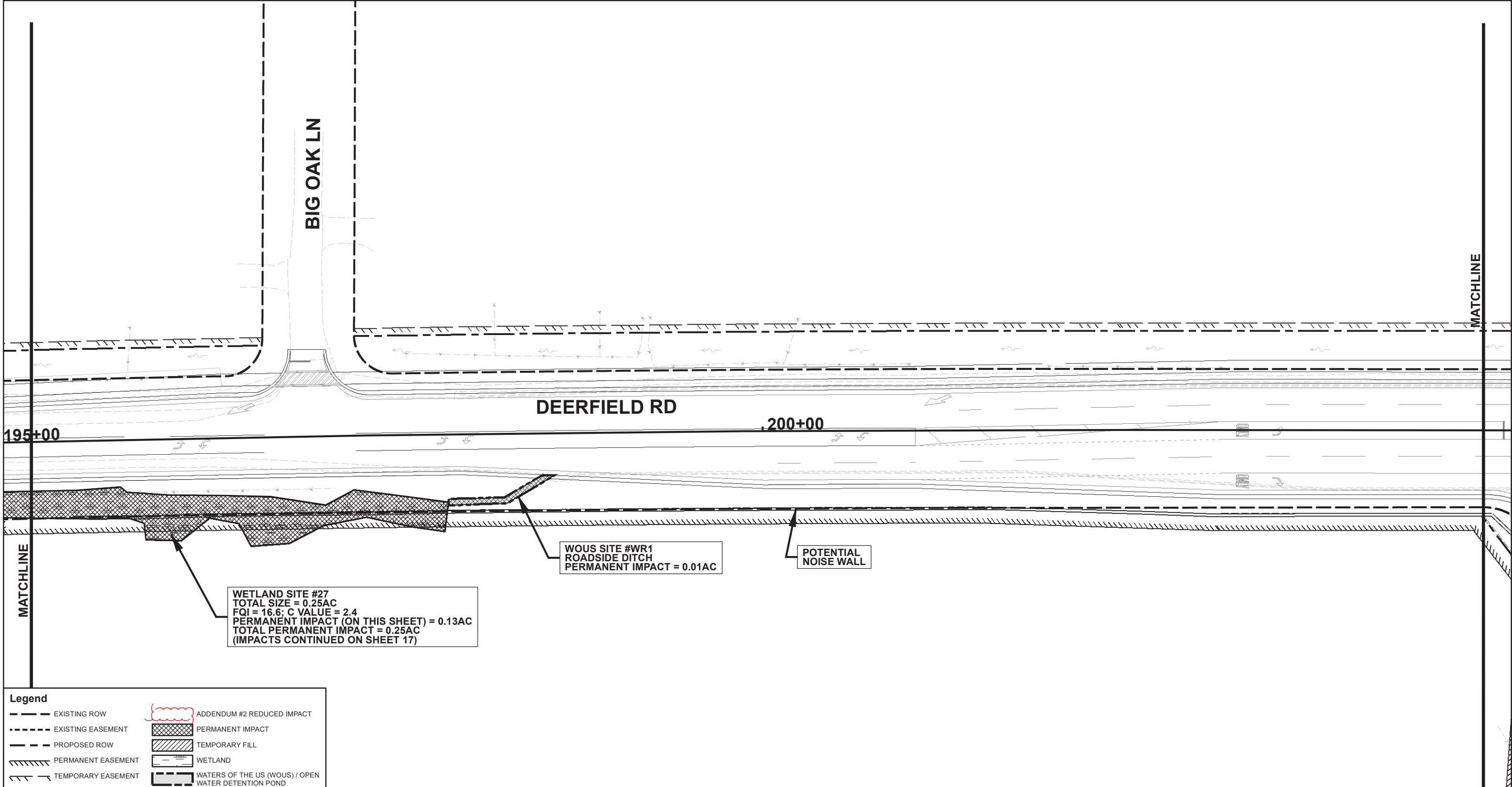
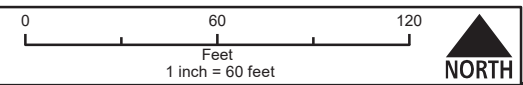
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**FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 17 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020

SHEET 17

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOUS.
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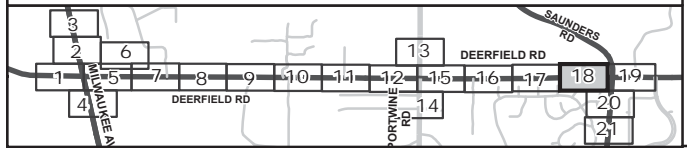


MATCHLINE

MATCHLINE

Legend

---	EXISTING ROW		ADDENDUM #2 REDUCED IMPACT
----	EXISTING EASEMENT		PERMANENT IMPACT
- - - -	PROPOSED ROW		TEMPORARY FILL
====	PERMANENT EASEMENT		WETLAND
- . - . -	TEMPORARY EASEMENT		WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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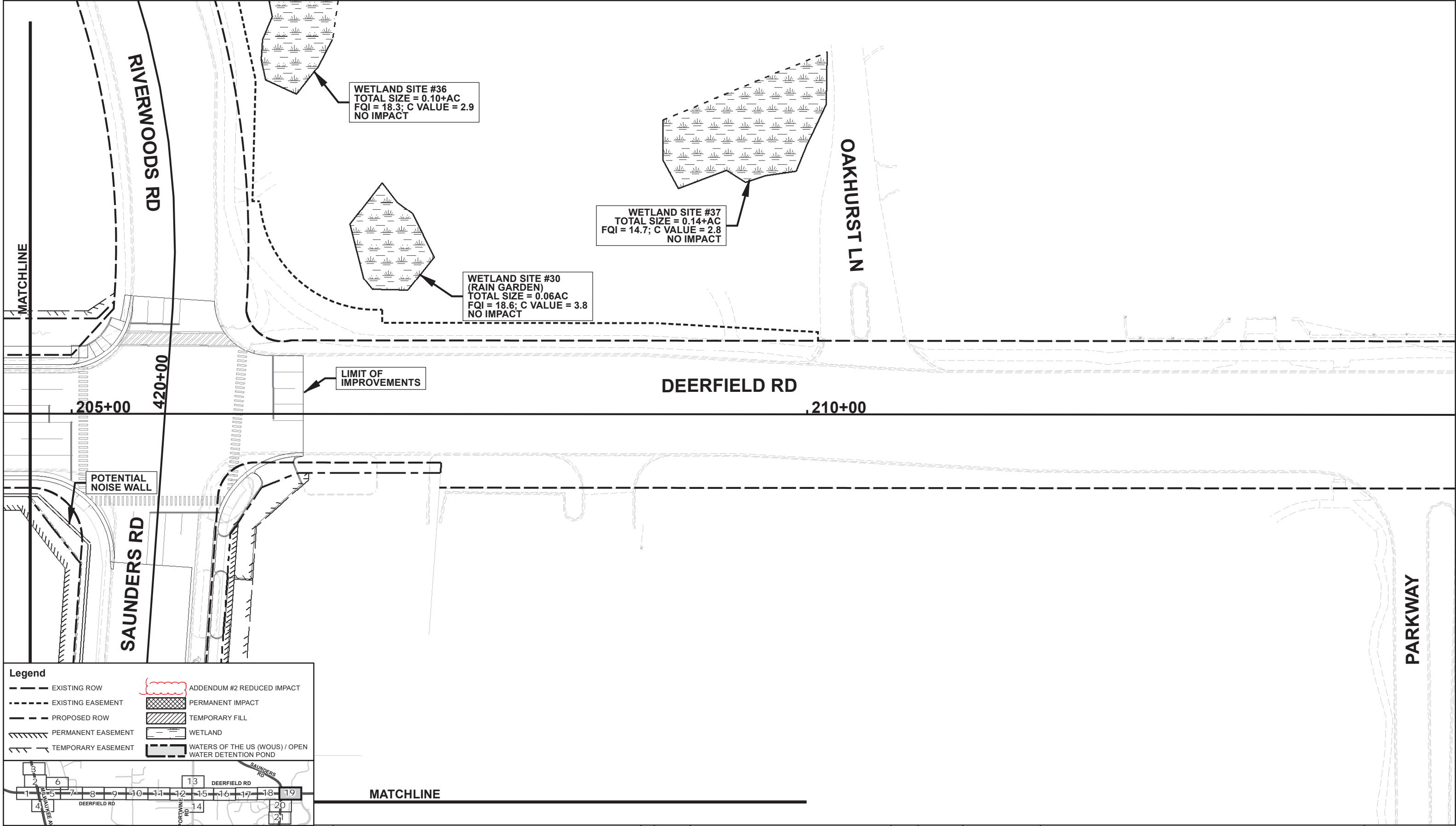
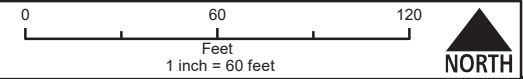
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TITLE:

**FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

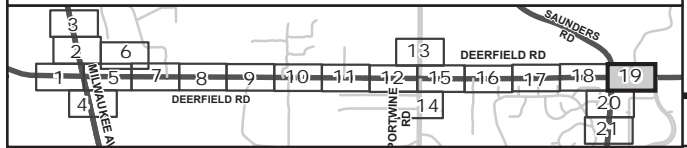
SHEET 18 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 18

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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



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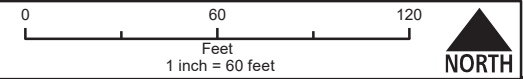
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NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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DSGN: PMK		FIGURE C-13: WETLAND IMPACT EVALUATION EXHIBITS- ADDENDUM #2		
CHKD: MJH		SHEET 19 of 21		
SCALE: 1" = 60'		CBBEL # 15-0331		
MODEL: ARCGIS 10.6		DATE: 07/07/2020		
PATH: N:\LCDOT\150331\GIS\Exhibits\Wetland Impacts Addendum 2 FIG C-13.mxd		SHEET 19		

FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2

SHEET 19 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
 SHEET 19

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
 2. IMPACTS <0.005 ACRE WERE ROUNDED TO THE NEAREST THOUSANDTH OF AN ACRE.
 3. MOWED TURF/UNVEGETATED ROADSIDE DITCHES THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PRELIMINARY JURISDICTIONAL DETERMINATION (PJD), DATED 6-28-17) ARE NOT SHOWN.
 4. IMPACTS TO OPEN WATER DETENTION AREAS THAT WERE DETERMINED TO BE NOT USACE REGULATED (DURING THE PJD) ARE NOT SHOWN. THE OPEN WATER DETENTION AREAS WERE ALSO CONSIDERED EXEMPT UNDER THE IWPA.



MATCHLINE

POTENTIAL NOISE WALL

SAUNDERS RD

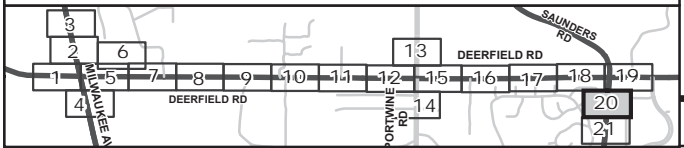
415+00

LIMIT OF ROADWAY IMPROVEMENTS

MATCHLINE

Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOVS) / OPEN WATER DETENTION POND



CB **CHRISTOPHER B. BURKE ENGINEERING LTD.**
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT:

LakeCounty
 Division of Transportation

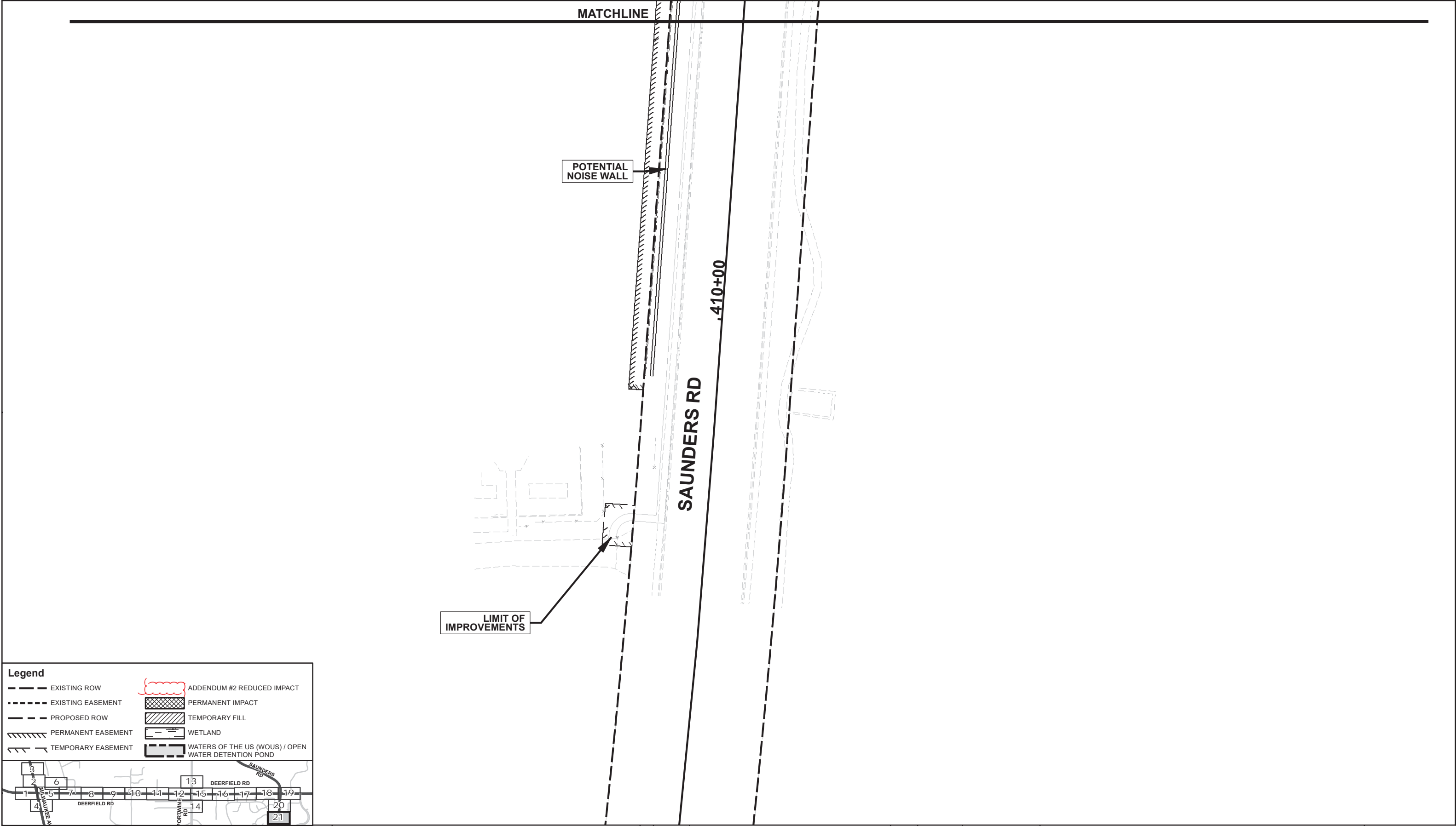
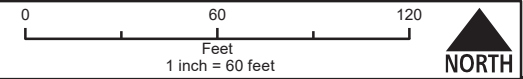
NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
		Wetland Impacts Addendum 2 FIG C-13.mxd		Thursday, July 09, 2020
FILE NAME:		N:\LCDOT\150331\GIS\Exhibits\Wetland Impacts Addendum 2 FIG C-13.mxd		
PATH:				

TITLE:

**FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

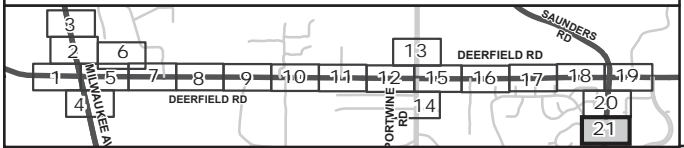
SHEET	20 of 21
CBBEL #	15-0331
DATE:	07/07/2020
SHEET 20	

NOTE: 1. "+" = THE TOTAL ACREAGE OF THE WETLAND EXTENDS BEYOND THE STUDY LIMITS AND WAS NOT DETERMINED. THE TOTAL ACREAGE WAS ALSO NOT DETERMINED FOR UNVEGETATED LINEAR WOVS.
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Legend

--- EXISTING ROW	ADDENDUM #2 REDUCED IMPACT
--- EXISTING EASEMENT	PERMANENT IMPACT
--- PROPOSED ROW	TEMPORARY FILL
--- PERMANENT EASEMENT	WETLAND
--- TEMPORARY EASEMENT	WATERS OF THE US (WOUS) / OPEN WATER DETENTION POND



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 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT:  **LakeCounty**
 Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
		Wetland Impacts Addendum 2 FIG C-13.mxd		Thursday, July 09, 2020
DWN:		dwalters		
DSGN:		PMK		
CHKD:		MJH		
SCALE:		1" = 60'		
MODEL:		ARCGIS 10.6		
PATH: N:\LCDOT\150331\GIS\Exhibits\Wetland Impacts Addendum 2 FIG C-13.mxd				

TITLE: **FIGURE C-13:
 WETLAND IMPACT
 EVALUATION EXHIBITS-
 ADDENDUM #2**

SHEET 21 of 21
 CBBEL # 15-0331
 DATE: 07/07/2020
SHEET 21

APPENDIX D

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

APPENDIX D-1

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

CULTURAL RESOURCE REVIEW/CLEARANCE

resources but in the coordination of this project with the Illinois State Historic Preservation Officer.

This memorandum is not a project clearance. As the project is in its early stages and has a possibility of widening the existing two-lane roadway and its bridges, it has the potential to greatly affect these historic resources. Efforts must be taken to avoid impacting these historic properties. Trees and/or right-of-way should not be taken at these locations if at all possible.

Please submit the project's preliminary plans and verify each property's avoidance or impacts with the Cultural Resources Unit and we will then begin coordination with the State Historic Preservation Officer.

If there are any questions concerning this project review, please contact Emilie Land at Emilie.Land@illinois.gov or 618-346-3824.

Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design and Environment

BK:el



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

RECEIVED
SEP - 1 2017
008090117
Preservation Services

September 1, 2017

Lake County
Buffalo Grove, Riverwoods, Deerfield
FAU 1257 (Deerfield Road)
Roadway Improvements/Widening
Section: 15-00038-07-WR
Sequence #20261
ISAS Log #16157

IHPA REVIEW

H/A _____
AC Comer P
AR _____
File _____

9/1/17

FEDERAL 106 PROJECT

CONDITIONAL NO ADVERSE EFFECT

Dr. Rachel Leibowitz
Deputy State Historic Preservation Officer
Illinois Department of Natural Resources
Office of Land Management
Illinois State Historic Preservation Office
1 Natural Resources Way
Springfield, IL 62702



Dear Dr. Leibowitz:

The enclosed Environmental Survey Request concerns a roadway improvement undertaking along Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road in Buffalo Grove, Riverwoods, and Deerfield. A review of potential impacts to historical, archaeological, and architectural properties within the Area of Potential Effects (APE) has been completed by IDOT's Cultural Resources staff. The APE for this undertaking is defined as the parcels bordering the proposed work area.

Enclosed are copies of the survey report completed by Illinois State Archaeological Survey personnel concerning archaeological and historical resources potentially impacted by the above referenced undertaking. Survey of the 117.21-acre APE resulted in the identification of no archaeological sites. One previously recorded site (11L9) may fall within the APE, but the site could not be relocated. The site, recorded in 1957 as a "campsite," has been significantly impacted by development.

Within the APE there is one architectural property listed on the National Register of Historic Places: Edward L. Ryerson Area Historic District at 21950 N. Riverwoods Road in Deerfield. Other architectural resources within and adjacent to the APE warrant NRHP consideration (see attached memo). However, potential impacts to these resources cannot be fully assessed until preliminary plans have been developed.

In coordination with the Federal Highway Administration (FHWA) and in accordance with the *Programmatic Agreement for Minor Projects of the Federal Aid Highway Program in Illinois*, IDOT requests the concurrence of the State Historic Preservation Officer in our determination that the proposed project will not adversely affect historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966 provided that the preliminary plans will be reviewed and approved by the State

Historic Preservation Officer to ensure adherence to the Secretary of the Interior's
Standards for Rehabilitation.

In accordance with 36 CFR Part 800.3(c)(4), the FHWA will proceed to the next step in the
Section 106 process if we do not receive a response from your office within 30 days.

Sincerely,



Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design & Environment

BK:el

CONCUR

By: Rachel Leibowitz
Deputy State Historic Preservation Officer

Date: 9-20-17



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

RECEIVED
JUL 30 2020

July 30, 2020

Lake County
Buffalo Grove, Riverwoods, Deerfield
FAU 1257, Deerfield Road
Roadway Improvements / Widening
Section # 15-0038-07-WR
IDOT Sequence # 20261
SHPO Log # 008090117

Preservation Services

IHPA REVIEW

H/A _____
AC _____
AR _____
File _____

FEDERAL – SECTION 106 PROJECT

No Adverse Effect

Ms. Carol J. Wallace
Cultural Resources Coordinator
Illinois State Historic Preservation Office
Illinois Department of Natural Resources
1 Old State Capitol Plaza
Springfield, IL 62701

RB
8/28/2020
concur

Dear Ms. Wallace:

In continuing consultation with your office for the above referenced undertaking, please find attached the Phase I / Preliminary Plans for the proposed widening of Deerfield Road by the Lake County Transportation Agency, the Illinois Department of Transportation (IDOT), and the Federal Highway Administration (FHWA). Identification efforts were completed in 2017 and coordinated with your office in September 2017. One archaeological site and eight historic architectural properties were identified in the Area of Potential Effect (APE). On September 1, 2017, your office concurred that the undertaking would have no effect to archaeological sites and no adverse effect to architectural historic properties, conditioned on your review of the design preliminary plans. Please note that one historic property, the House at 2 Big Oak Lane, is no longer in the APE because work along this roadway is no longer proposed.

As shown on the attached preliminary plans annotated with the locations of identified historic properties, the design has been minimized to avoid any right-of-way (ROW), easements, or tree removal from the seven historic properties in the APE. The roadway will be widened, and a new multi-use path constructed along its south edge. The APE is located along a suburban roadway (Deerfield Road) in which the non-commercial properties are large, wooded lots with deep building setbacks from the street. Because Deerfield Road will be widened principally within its current ROW, the proposed work will cause no alterations in the character or use of features within the setting of historic properties in the APE.

In coordination with the FHWA, we request the concurrence of the State Historic Preservation Officer (SHPO) in our finding that the proposed undertaking will not adversely affect historic resources subject to protection under Section 106 of the National Historic Preservation Act of 1966.

If the SHPO does not object to this "No Adverse Effect" finding in writing within 30 days, FHWA's responsibilities under Section 106 are fulfilled (36 CFR 800.4 (d)(1)(i)).

Sincerely,



Brad H. Koldehoff, RPA
Cultural Resources Unit Chief
Bureau of Design & Environment

BK:br

CONCUR

By: Robert Appleman
Deputy State Historic Preservation Officer

Date: 8/28/2020

APPENDIX D-2

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

**AIR QUALITY ANALYSIS
(COSIM 4.0 PRE-SCREEN RESULTS)**

Deerfield Road Phase I Study

Air Quality Assessment

Air quality is protected by the Clean Air Act and air quality standards established by the U.S. Environmental Protection Agency (USEPA).

Information included in this section was obtained from:

- National Ambient Air Quality Standards
- IDOT Bureau of Design and Environment (BDE) Manual Chapter 26

A. Will carbon monoxide build-up from vehicles waiting at signalized intersections in the project study area be a health hazard?

The build-up of carbon monoxide from vehicle exhaust can be a potential health hazard at signalized intersections, especially in areas having high traffic volumes. In accordance with the IDOT-Illinois Environmental Protection Agency (IEPA) "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design year approach volume on the busiest leg of the intersection is less than 5,000 vehicles per hour or 62,500 Average Daily Traffic (see the COSIM Attachment at the end of this Air Quality Assessment). Thus, no measurable health hazard due to carbon monoxide would be expected.

B. Does the project study area meet current air quality standards set by the USEPA?

The National Ambient Air Quality Standards (NAAQS), established by the USEPA, set maximum allowable concentration limits for six criteria air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (PM_{2.5} and PM₁₀), and sulfur dioxide. Areas in which air pollution levels persistently exceed the NAAQS may be designated as "nonattainment." States where a nonattainment area is located must develop and implement a State (air quality) Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS. Areas that had been designated as nonattainment, but that have attained the NAAQS for the criteria pollutant(s) associated with the nonattainment designation, will be designated as maintenance areas.

What are PM_{2.5} and PM₁₀?

The size of solid particles and liquid droplets found in the air is directly linked to their potential for causing health problems. USEPA is concerned about particulate matter that is 10 micrometers or smaller in diameter (PM₁₀) because these particles have the potential to be inhaled, reach deep into the lungs, and cause serious health problems.

"Fine inhalable particles," such as those found in smoke and haze, are 2.5 micrometers in diameter or smaller (PM_{2.5}). These particles can form when gases emitted from power plants, industries, and automobiles react in the air.

All areas of Illinois currently are in attainment of the standards for five of the six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, particulate matter, and sulfur dioxide.

For the eight-hour ozone, Cook, DuPage, Kane, Lake, McHenry, and Will Counties, as well as Aux Sable and Goose Lake Townships in Grundy County and Oswego Township in Kendall County, have been designated as marginal nonattainment areas. Jersey, Madison, Monroe, and St. Clair Counties in the St. Louis area also have been designated as marginal nonattainment areas for the eight-hour ozone standard.

This project is included in the Fiscal Year (FY) 2019-2024 Transportation Improvement Program (TIP) endorsed by the Metropolitan Planning Organization Policy Committee of CMAP for the region in which the project is located. Projects in the TIP are considered to be consistent with the 2050 regional transportation plan endorsed by CMAP. The project is within the fiscally constrained portion of the plan.

On October 24, 2018, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the 2050 regional transportation plan conforms with the SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments. On October 24, 2018, the FHWA and the FTA determined that the TIP also conforms with the SIP and the Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*.

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments.

The TIP number for this project is 10-03-0005.

C. Will an increase in diesel emissions be an air quality concern as a result of this project?

The exhaust from diesel engines (e.g., trucks) contains a mixture of gases and very small particles that can create a health hazard when not properly controlled.

This project is not an air quality concern under 40 CFR 93.123(b)(1). Based on 2016 traffic counts, the percentage of truck traffic utilizing Deerfield Road within the project limits, as a combination of single unit (SU) and multi-unit (MU) trucks, ranges from approximately 3.3 percent to 4.7 percent depending on the time of day and the location. The annual average daily traffic (AADT) volume along Deerfield Road within the project limits is projected to increase from approximately 19,550 vehicles per day (vpd) (based on 2016 traffic counts) to 23,000 vpd for the year 2050 under the preferred alternative.

The proposed project will add additional turn lanes at Milwaukee Avenue. Traffic along Milwaukee Avenue is greater than Deerfield Road for both existing and year 2050 conditions. The north leg of the Milwaukee Avenue/Deerfield Road intersection has an existing (2016) AADT of 39,800 vpd. The projected traffic for the 2050 No-Build and 2050

Build alternative are both 42,000 vpd – an increase in 2,200 vpd. Because the No-Build and Build traffic volumes are the same, the increase in traffic along the north leg of Milwaukee Avenue is not directly attributed to the proposed improvements. The existing AADT along the south leg of the Milwaukee Avenue/ Deerfield Road intersection decreases by 3,200 vpd from 38,200 vpd to 35,000 vpd under the 2050 Build alternative. When comparing existing AADT to the 2050 Build AADT, a net increase in traffic volume along Milwaukee Avenue in the vicinity of Deerfield Road is not anticipated.

Since this project is absent any site-specific truck traffic growth factors (e.g., new intermodal site within the project limits or industrial developments), the percentage of truck traffic along Deerfield Road within the project limits is anticipated to remain at less than five percent. Because this project does not have a significant number of, or a significant increase in diesel vehicles, it was determined that the project will not cause or contribute to any new localized PM_{2.5} or PM₁₀ violations.

Furthermore, on December 27, 2018, the USEPA approved Illinois' request to revise the state's designation for PM_{2.5} from unclassifiable to unclassifiable/attainment. Illinois is also in attainment for the PM₁₀ 1987 standard. Therefore, transportation conformity project-level qualitative Hot-Spot analysis is not required.

What is a Hot-Spot Analysis?

A Hot-Spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized PM_{2.5} or PM₁₀ pollutant concentrations, and a comparison of those concentrations to the relevant air quality standards. A Hot-Spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area. The analysis is a means of demonstrating that a transportation project meets Clean Air Act conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts.

D. Will the project result in an increase of hazardous air pollutants or Mobile Source Air Toxics?

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics (also known as hazardous air pollutants) defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

USEPA Role

The USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The USEPA continually assesses human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects.” IRIS can be accessed through the USEPA website. Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Role of Other Organizations

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Several HEI studies are summarized in Appendix D of FHWA’s *“Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents”*. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings, cancer in animals, and irritation to the respiratory tract (including the exacerbation of asthma). Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease. See research reports available through the HEI website.

Problems with Modeling Methodologies

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts. Each step in the process builds on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates over that time frame because such information is not available.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposures near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

MSAT Toxicity Estimates

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. USEPA and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

Level of Risk

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by USEPA, as provided by the Clean Air Act, to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards (e.g., benzene emissions from refineries). The decision framework is a two-step process. The first step requires USEPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million. In some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the US Court of Appeals for the District of Columbia Circuit upheld USEPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Conclusions

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits (e.g., reducing traffic congestion, crash rates, and fatalities plus improved access for emergency response) that are better suited for quantitative analysis.

Qualitative Analysis

For the Build Alternative carried forward in this Environmental Assessment, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT). The VMT estimated for the Build Alternative carried forward is slightly higher than that for the No-Build Alternative because the additional capacity increases the efficiency of the roadway and attracts re-routed trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor and a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. According to USEPA’s MOVES 2014 model, emissions of all of the priority MSAT decrease as speed increases.

Regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA’s national control programs that are projected to reduce annual MSAT emissions by more than 90 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes and businesses. Therefore, under the Build Alternative carried forward there may be localized areas where ambient concentrations of MSAT could be higher than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built at the signalized intersections (i.e., Milwaukee Avenue, Portwine Road, and Saunders/Riverwoods Road). However, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts.

In summary, where a highway is widened, the localized level of MSAT emissions for the Build Alternative carried forward could be higher relative to the No-Build Alternative, but this could be offset due to increases in speeds and reductions in congestion, which are associated with lower MSAT emissions. Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover will, over time, cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

E. How will construction activities affect air quality?

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project study area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, transportation of materials, and during high wind conditions.

The Department's *Standard Specifications for Road and Bridge Construction* include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and the Department will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any significant, short-term particulate matter air quality impacts.

COSIM Attachment

Peter Knysz

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Househ, Alex <Alex.Househ@illinois.gov>

Sent: Thursday, February 7, 2019 3:08 PM

To: Matthew Huffman <mhuffman@cbbel.com>

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Raffensperger, William

Sent: Thursday, February 7, 2019 2:58 PM

To: Househ, Alex <Alex.Househ@illinois.gov>

Subject: RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Mr. Househ -

Based on the information provided and in accordance with BDE Section 26-14.03(c) this project is exempt from a project level CO air quality analysis.

In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design-year approach volume on the busiest leg of the intersection is less than 5,000 vph or 62,500 ADT.

Please ensure that a copy of the COSIM worksheets and this email are inserted in to the project development report when it is submitted for review.

If you have any questions, please call,

William Raffensperger, PE, PTOE, PTP
Project Development Engineer

Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764

Work hours: 7:00 am to 3:00 pm.

(O) 217-785-1676

(C) 217-720-2787

(F) 217-782-3971

william.raffensperger@illinois.gov

From: Househ, Alex

Sent: Thursday, February 07, 2019 2:54 PM

To: Raffensperger, William <William.Raffensperger@illinois.gov>

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Matthew Huffman <mhuffman@cbbel.com>
Sent: Thursday, February 7, 2019 6:05 AM
To: Househ, Alex <Alex.Househ@illinois.gov>
Cc: Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>; Peter Knysz <pknysz@cbbel.com>
Subject: [External] RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Alex,
Per prior direction, we are resubmitting the COSIM pre-screen worksheet for 2050 traffic for the Deerfield Road at Milwaukee Avenue intersection.

Thank you,
Matt

Matthew J. Huffman, PE, M.ASCE
Project Manager - Phase I Engineering Department
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Office: (847) 823-0500 Cell: (847) 804-7615 Fax: (847) 823-0520
E-Mail: mhuffman@cbbel.com
www.cbbel.com

"You cannot escape the responsibility of tomorrow by evading it today."
- Abraham Lincoln

From: Househ, Alex <Alex.Househ@illinois.gov>
Sent: Monday, October 1, 2018 1:51 PM
To: Matthew Huffman <mhuffman@cbbel.com>
Cc: Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>
Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Matt,
Please see below.
Thanks,
Alex

From: Raffensperger, William
Sent: Monday, October 01, 2018 1:47 PM
To: Househ, Alex <Alex.Househ@illinois.gov>
Cc: Veile, Janel M <Janel.Veile@illinois.gov>; Stitt, Scott E <Scott.Stitt@illinois.gov>
Subject: RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Mr. Househ –

Based on the information provided and in accordance with BDE Section 26-14.03(c) this project is exempt from a project level CO air quality analysis.

In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design-year approach volume on the busiest leg of the intersection is less than 5,000 vph or 62,500 ADT.

Please ensure that a copy of the COSIM worksheets and this email are inserted in to the project development report when it is submitted for review.

If you have any questions, please call,

William Raffensperger, PE, PTOE, PTP
Project Development Engineer

Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764

Work hours: 7:00 am to 3:00 pm.

(O) 217-785-1676

(C) 217-720-2787

(F) 217-782-3971

william.raffensperger@illinois.gov

Sent from laptop

From: Matthew Huffman <mhuffman@cbbel.com>

Sent: Friday, September 28, 2018 4:00 PM

To: Househ, Alex <Alex.Househ@illinois.gov>; Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>

Cc: Emily Anderson <eanderson@cbbel.com>; Peter Knysz <pknysz@cbbel.com>

Subject: [External] Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Alex and Gerardo,

Please find attached our COSIM prescreen worksheet for the subject project for processing. Please let us know if you need any additional information.

Regards,

Matt

Matthew J. Huffman, PE, M.ASCE

Project Manager - Phase I Engineering Department

Christopher B. Burke Engineering, Ltd.

9575 W. Higgins Road, Suite 600 Rosemont, IL 60018

Office: (847) 823-0500 Cell: (847) 804-7615 Fax: (847) 823-0520

E-Mail: mhuffman@cbbel.com

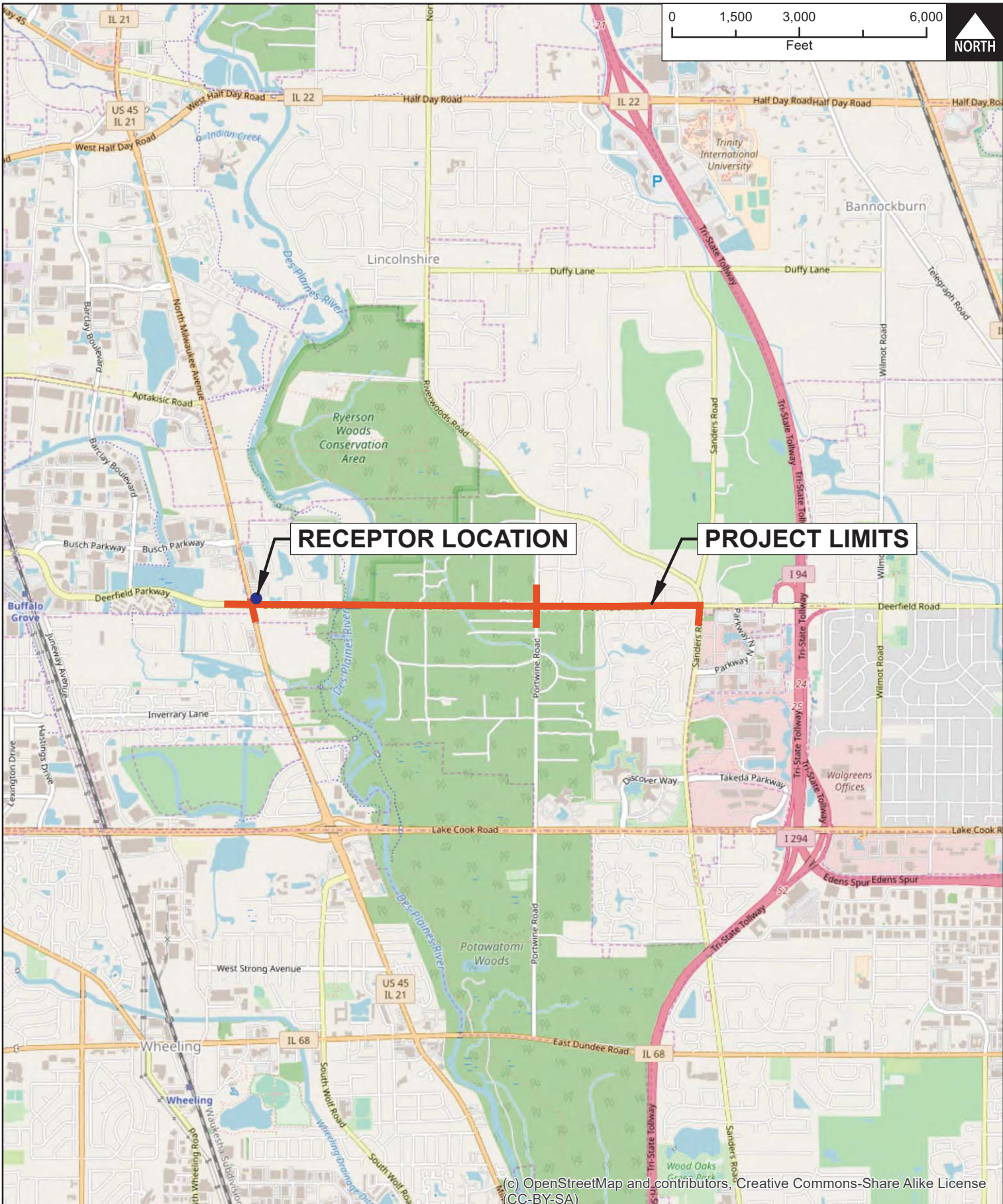
www.cbbel.com

"You cannot escape the responsibility of tomorrow by evading it today."

- **Abraham Lincoln**

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RECEPTOR LOCATION

PROJECT LIMITS

(c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

CLIENT:



TITLE:

**COSIM PRE-SCREEN ANALYSIS
LOCATION MAP**

PROJ. NO. 150331

DATE: 09/28/2018

SHEET 1 OF 1

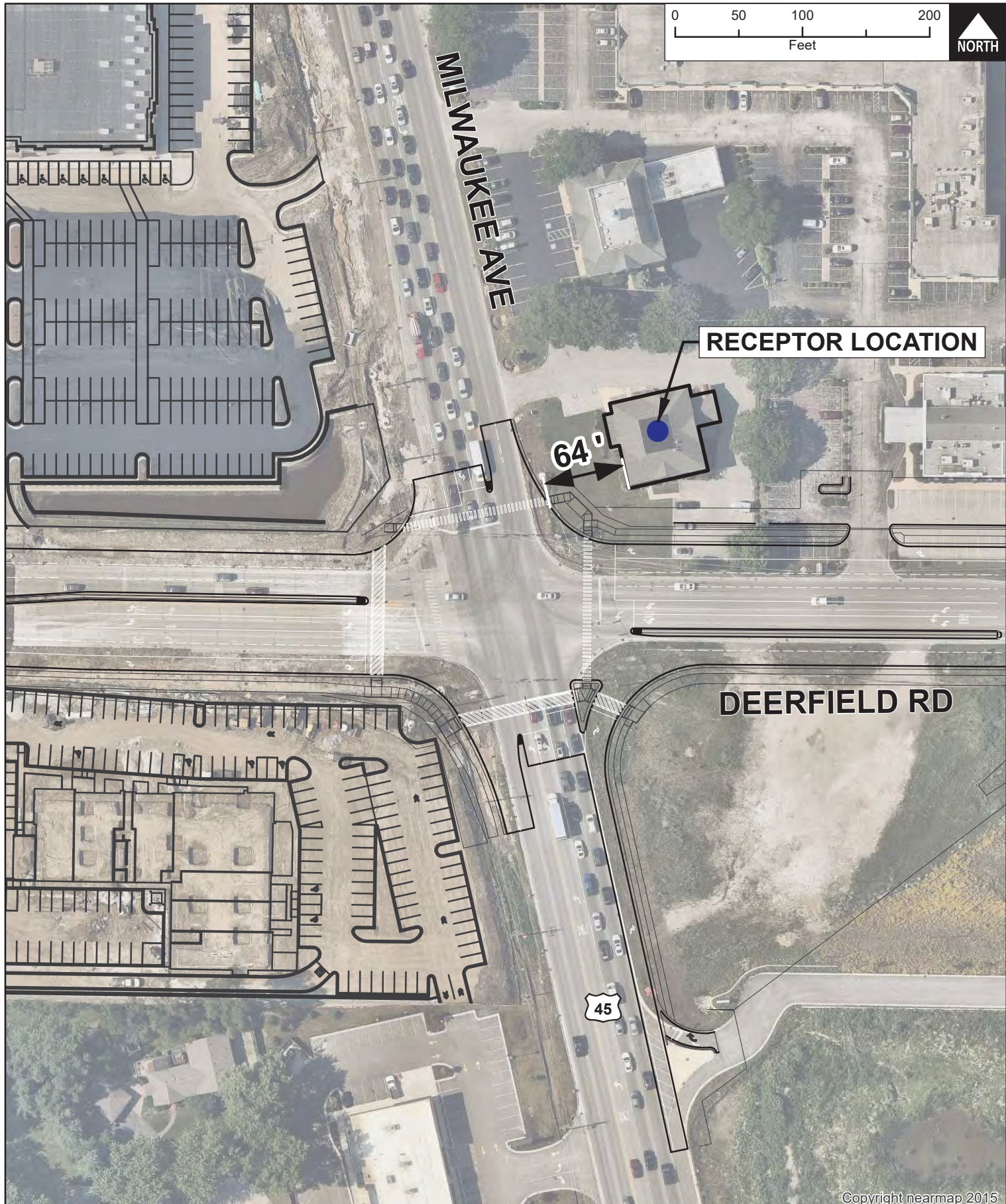
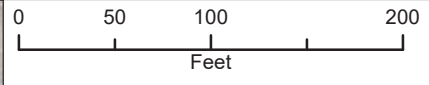
DRAWING NO.



CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:36,000
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	9/28/2018
FILE:	COSIM Prescreen Location Map		

EXH 1




Copyright nearmap 2015

CLIENT:  **Lake County**
Division of Transportation

TITLE: **COSIM PRE-SCREEN ANALYSIS
RECEPTOR LOCATION**

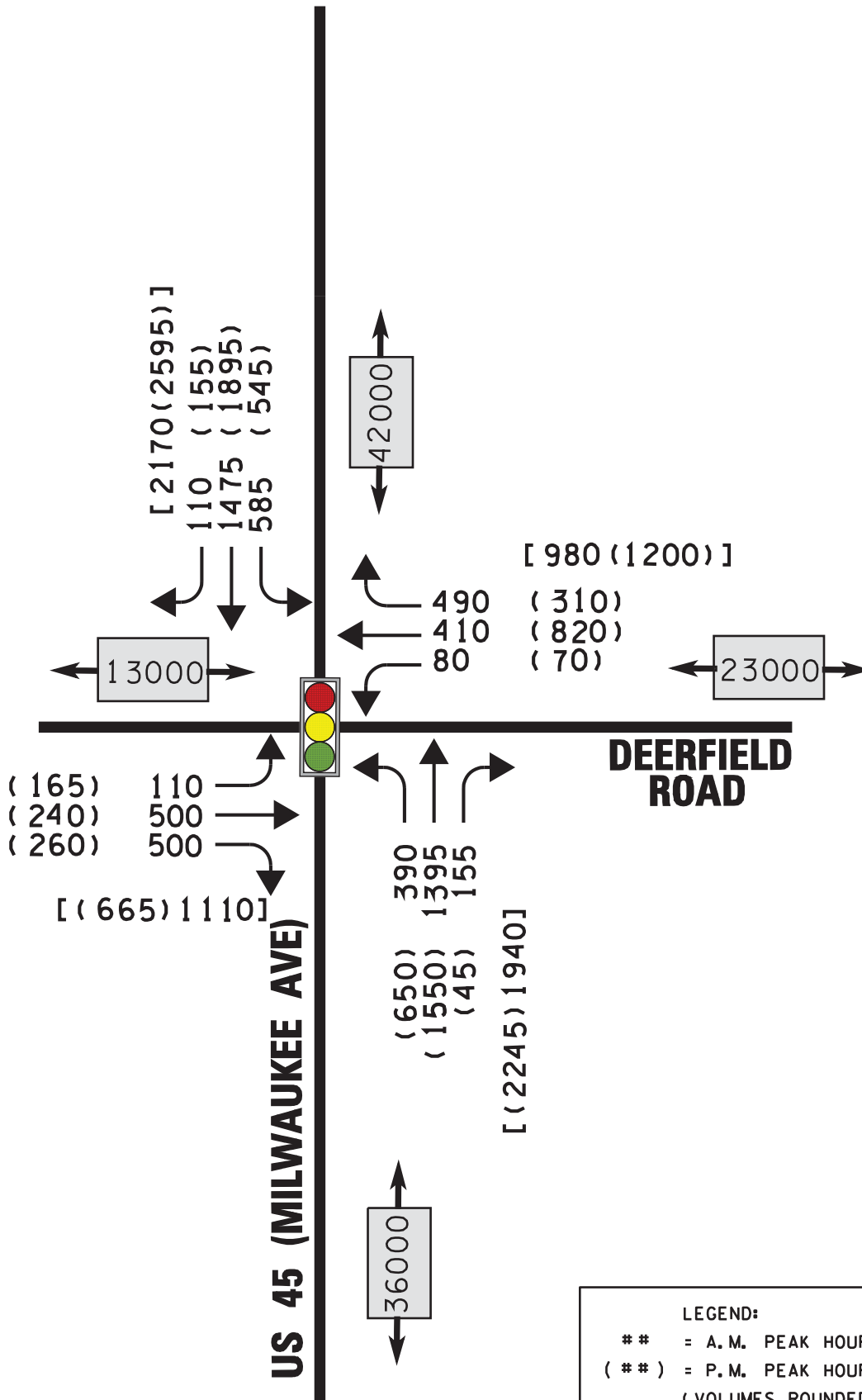
PROJ. NO. 150331
DATE: 09/28/2018
SHEET 1 OF 1
DRAWING NO.

 **CHRISTOPHER B. BURKE ENGINEERING, LTD.**
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:1,200
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	9/28/2018
FILE:	COSIM Prescreen Aerial Exhibit		

EXH 2

Path: N:\L\CDOT\150331\GIS\Exhibits\COSIM Prescreen Aerial Exhibit .mxd



Path: N:\LCDOT\150331\GIS\Exhibits\COSIM\Presscreen\ADT.mxd

CLIENT:



TITLE:

COSIM PRE-SCREEN ANALYSIS
 2050 PROJECTED A.M. (P.M.) PEAK HOUR TRAFFIC

PROJ. NO. 150331

DATE: 02/06/2019

SHEET 1 OF 1

DRAWING NO.



CHRISTOPHER B. BURKE ENGINEERING, LTD.
 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:8
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	2/6/2019
FILE:	COSIM Presscreen ADT		

EXH 3

APPENDIX D-3

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

BIOLOGICAL RESOURCE REVIEW/CLEARANCE

Illinois County Distribution

Federally Endangered, Threatened, and Candidate Species

List Revised May 9, 2017

County	Species	Status	Habitat
Adams Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Higgins eye pearlymussel <i>Lampsilis higginsii</i>	Endangered	Mississippi River; Rock River to Steel Dam
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Alexander Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion, Illinois 62959 Phone: (618) 997-3344, ext. 340 FAX: (618) 997-8961 e:mail Marion@fws.gov	Gray bat (<i>Myotis grisescens</i>)	Endangered	Caves and mines; rivers & reservoirs adjacent to forests
	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Least tern (<i>Sterna antillarum</i>)	Endangered	Bare alluvial and dredged spoil islands
	Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	Large rivers
	Rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)	Threatened	Ohio River
	Sheepnose mussel (<i>Plethobasus cyphus</i>)	Endangered	Shallow areas in larger rivers and streams
Bond Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion, Illinois 62959 Phone: (618) 997-3344, ext. 340 FAX: (618) 997-8961 e:mail Marion@fws.gov	Indiana bat (<i>Myotis sodalis</i>)	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Piping plover <i>Charadrius melodus</i>	Endangered	May be present in Bond County during migration.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Mesic to wet prairies	
Boone Field Office to Contact: U.S. Fish and Wildlife	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)

Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Sheepnose mussel <i>Plethobasus cyphus</i>	Endangered	Shallow areas in larger rivers and streams
	Rattlesnake-master borer moth <i>Papaipema eryngii</i>	Candidate	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master (<i>Eryngium yuccifolium</i>).
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Kendall Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Knox Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Eastern massasauga <i>Sistrurus catenatus</i>	Threatened	Graminoid dominated plant communities (fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands)
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Lake Field Office to Contact: Chicago Field Office 230 South Dearborn St., Suite 2938 Chicago, Illinois 60604 Phone: 312-216-4720 e:mail Chicago@fws.gov Cathy_Pollack@fws.gov	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Piping plover <i>Charadrius melodus</i>	Endangered	Wide, open, sandy beaches with very little grass or other vegetation
	Piping plover <i>Charadrius melodus</i>	Critical Habitat	Wide, open, sandy beaches with very little grass or other vegetation

	Rufa Red knot <i>Calidris canutus rufa</i>	Threatened	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Pine barrens and oak savannas on sandy soils and containing wild lupines (<i>Lupinus perennis</i>), the only known food plant of the larvae
	Rusty patched bumble bee <i>Bombus affinis</i> Note for project proponents: this bee is not known to occur throughout the entire county. To determine if your project or ongoing action is within an area that is likely to have the rusty patched bumble bee, use our online tool at https://ecos.fws.gov/ipac/	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i> Go here for specific guidance on how to determine whether this species is present on a site.	Threatened	Moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie
	Pitcher's thistle <i>Cirsium pitcheri</i>	Threatened	Lakeshore dunes
La Salle Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)
	Indiana bat <i>Myotis sodalis</i>	Critical Habitat designated	Blackball Mine
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Decurrent false aster <i>Boltonia decurrens</i>	Threatened	
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
	Leafy-prairie clover <i>Dalea foliosa</i>	Endangered	Prairie remnants on thin soil over limestone
Lawrence	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)
Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion,			



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chicago Ecological Service Field Office
U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938
Chicago, IL 60604-1507
Phone: (312) 485-9337 Fax:

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

In Reply Refer To:

November 02, 2020

Consultation Code: 03E13000-2021-SLI-0058

Event Code: 03E13000-2021-E-00156

Project Name: Deerfield Rd EA (seq. no. 20261)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Please note! For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

For all other projects, continue the Section 7 Consultation process by going to our Section 7 Technical Assistance website at <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. If you are familiar with this website, you may want to go to Step 2 of the Section 7 Consultation process at <http://www.fws.gov/midwest/endangered/section7/s7process/step2.html>.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and

completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chicago Ecological Service Field Office

U.s. Fish And Wildlife Service Chicago Ecological Services Office

230 South Dearborn St., Suite 2938

Chicago, IL 60604-1507

(312) 485-9337

Project Summary

Consultation Code: 03E13000-2021-SLI-0058

Event Code: 03E13000-2021-E-00156

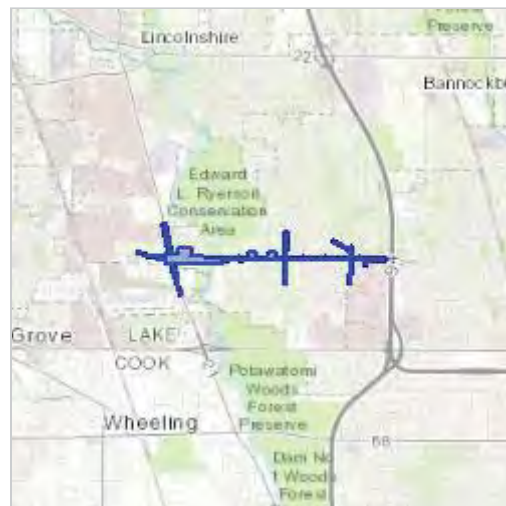
Project Name: Deerfield Rd EA (seq. no. 20261)

Project Type: TRANSPORTATION

Project Description: The existing roadway is one lane in each direction with open drainage ditches. The proposed action includes a third lane (flush median), curb and gutter, drainage improvements, Des Plaines River bridge widening/rehabilitation, multi-use path, utility relocations, auxiliary lane additions at two signalized intersections and through lane/auxiliary lane additions at one intersection

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.167452905505755N87.89900123121456W>



Counties: Lake, IL

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Endangered
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Insects

NAME	STATUS
Karner Blue Butterfly <i>Lycaeides melissa samuelis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6656	Endangered

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Follow the guidance provided at https://www.fws.gov/midwest/endangered/section7/s7process/plants/epfos7guide.html Species profile: https://ecos.fws.gov/ecp/species/601 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/984/office/31131.pdf	Threatened
Pitcher's Thistle <i>Cirsium pitcheri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8153	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chicago Ecological Service Field Office
U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938
Chicago, IL 60604-1507
Phone: (312) 485-9337 Fax:

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

In Reply Refer To:

November 02, 2020

Consultation Code: 03E13000-2021-TA-0058

Event Code: 03E13000-2021-E-00160

Project Name: Deerfield Rd EA (seq. no. 20261)

Subject: Verification letter for the 'Deerfield Rd EA (seq. no. 20261)' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Felecia Hurley:

The U.S. Fish and Wildlife Service (Service) received on November 02, 2020 your effects determination for the 'Deerfield Rd EA (seq. no. 20261)' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Eastern Prairie Fringed Orchid, *Platanthera leucophaea* (Threatened)
- Karner Blue Butterfly, *Lycaeides melissa samuelis* (Endangered)
- Piping Plover, *Charadrius melodus* (Endangered)
- Pitcher's Thistle, *Cirsium pitcheri* (Threatened)
- Red Knot, *Calidris canutus rufa* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

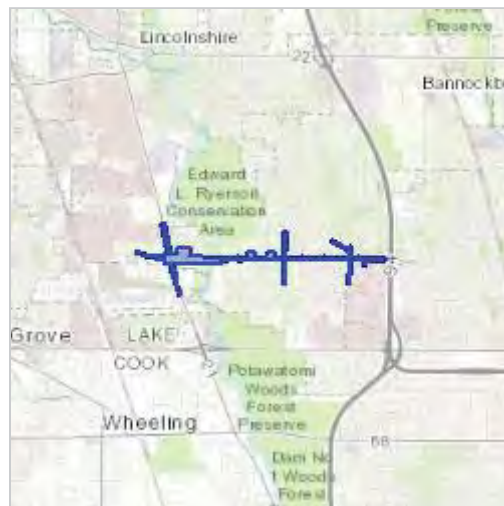
Deerfield Rd EA (seq. no. 20261)

2. Description

The following description was provided for the project 'Deerfield Rd EA (seq. no. 20261)':

The existing roadway is one lane in each direction with open drainage ditches. The proposed action includes a third lane (flush median), curb and gutter, drainage improvements, Des Plaines River bridge widening/rehabilitation, multi-use path, utility relocations, auxiliary lane additions at two signalized intersections and through lane/auxiliary lane additions at one intersection

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.167452905505755N87.89900123121456W>



Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")
No
3. Will your activity purposefully **Take** northern long-eared bats?
No
4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?
Automatically answered
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

7. Will the action involve Tree Removal?

Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

12

2. If known, estimated acres of forest conversion from April 1 to October 31

12

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

Applicant: Illinois Department of Transportation
Contact: Felecia Hurley
Address: 2300 Dirksen Parkway
Springfield, IL 62764

IDNR Project Number: 1902795
Date: 09/11/2018
Alternate Number: 20261

Project: Deerfield Rd EA (seq. no. 20261)
Address: Deerfield Rd, Buffalo Grove

Description: The Preferred Alternative includes an extensive intersection improvement at Milwaukee Avenue, adding a center turn lane through the Deerfield Road corridor, and adding a northbound right turn lane at Saunders/ Riverwood Road. The proposed Milwaukee Avenue intersection configuration includes two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach. The proposed Saunders/ Riverwood Road intersection configuration includes two thru lanes, an exclusive left turn lane and an exclusive right turn lane on all approaches. The typical roadway section for the Preferred Alternative from Milwaukee Avenue to Saunders/ Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 feet wide two-way left turn lane, 3 feet wide bike friendly shoulders, accommodations for an 8 feet wide bike path along the south side of the roadway from Milwaukee to Portwine and along the north side of the roadway from Portwine to Saunders/ Riverwoods Road, and a five feet wide sidewalk along the opposing side of the roadway dependent on local cost participation.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Buffalo Grove Prairie INAI Site
Edward L. Ryerson Conservation Area INAI Site
Herrman's Woods INAI Site
Edward L. Ryerson Nature Preserve
Black-Crowned Night Heron (*Nycticorax nycticorax*)
Bulrush (*Scirpus hattorianus*)
Iowa Darter (*Etheostoma exile*)
Massasauga (*Sistrurus catenatus*)
Mountain Blue-Eyed Grass (*Sisyrinchium montanum*)
Northern Long-Eared Myotis (*Myotis septentrionalis*)

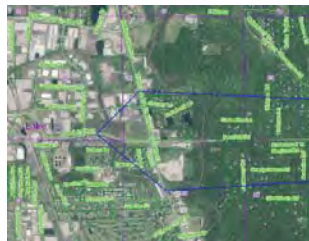
An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Lake

Township, Range, Section:
43N, 11E, 25



43N, 11E, 26
43N, 11E, 27
43N, 11E, 34
43N, 11E, 35
43N, 11E, 36
43N, 12E, 30
43N, 12E, 31

IL Department of Natural Resources
Contact
Nathan Grider
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Department of Transportation
Felecia Hurley
2300 S. Dirksen Pkwy
Springfield, Illinois 62764

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

December 21, 2018

Felecia Hurley
Illinois Department of Transportation
2300 Dirksen Parkway
Springfield, IL 62764

RE: Deerfield Rd EA (seq. no. 20261)
Project Number(s): 1902795 [20261]
County: Lake

Mrs. Hurley,

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and *Title 17 Illinois Administrative Code Part 1075*. Additionally, the Department may offer advice and recommendations for species covered under the *Fish & Aquatic Life Code* [515 ILCS 5, et seq.]; the *Illinois Wildlife Code* [520 ILCS 5, et seq.]; and the *Herptiles-Herps Act* [510 ILCS 69].

The proposed action being reviewed in this letter consists of extensive intersection improvement at Milwaukee Avenue and Deerfield Rd in Buffalo Grove, IL (EcoCAT submittal #1902795). EcoCAT has indicated three Illinois Natural Areas Inventory (INAI) sites, a dedicated Nature Preserve, and multiple state-listed threatened and endangered plant and animal species, all within the vicinity of the proposed project footprint.

The Department has determined that impacts to the **Buffalo Grove Prairie** and **Edward L. Ryerson Conservation Area** INAI sites; the **Edward L. Ryerson** Nature Preserve; the **black-crowned night heron** (*Nycticorax nycticorax*), the **Iowa darter** (*Etheostoma exile*), and the listed plant species identified, are unlikely for this project. The Department considers these impacts unlikely, assuming all soil and erosion control BMPs are followed and ROWs are respected. Construction personnel should be aware that it is unlawful for debris, soil, fuel, trash, etc. to enter a dedicated Nature Preserve.

Documents reviewed indicate the project will impact, at maximum, a 27' x 20' square of the southwest corner of the **Herrmann's Woods** INAI site. In order to promote the ecological integrity of the INAI site, the Department offers the following recommendations for the project:

- The Department recommends all equipment (including but not limited to heavy machinery, hand tools, and boots) should be cleaned of all soil and debris prior to entering the INAI site, to avoid establishing new invasive species in the area.
- Any remaining stump/root complexes of any invasive species that are cleared (e.g. black locust, honeysuckle species, buckthorn, autumn olive) should be treated with appropriate herbicides to avoid re-sprouting.
- Upon completion of construction disturbance to the INAI site, the Department recommends the area be re-planted only with vegetation native to Lake county, Illinois.

Documents reviewed indicate IDOT commits to restrict tree clearing between the dates of April 1 and September 30 to avoid potential impacts to the state-listed threatened **northern long-eared bat** (*Myotis septentrionalis*). The Department concurs with this commitment as being sufficient to reduce the likelihood of impacts to the northern long-eared bat.

In correspondence with IDOT and INHS, the Department requested further information to demonstrate no suitable **eastern Massasauga rattlesnake** (*Sistrurus catenatus*) foraging or hibernation habitat existed within the proposed project footprint, where instream work is likely for the project. Documents reviewed indicate eastern Massasauga rattlesnakes are not likely to be present in the area. On-site surveillance (visual encounter survey) for snakes within potential foraging habitat (scoped by review of aerial photography for open areas) and a survey for potential hibernation burrows (along an unnamed tributary nearby to the most previous Massasauga record) was conducted. Both survey efforts support the likelihood that no eastern Massasauga rattlesnakes are in the area. The Department concurs with this finding, and considers impacts to the eastern Massasauga rattlesnake to be unlikely for this project.

Consultation on the part of the Department is closed unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed

action.

Please contact me if you have questions regarding this review.

A handwritten signature in black ink that reads "Justin Dillard". The signature is written in a cursive style with a large, sweeping initial "J".

Justin Dillard

Resource Planner, Consultation Services

Illinois Dept. of Natural Resources

(217) 557-6723

Justin.Dillard@Illinois.gov

Applicant: Illinois Department of Transportation - CO
Contact: Felecia Hurley
Address: 2300 S. Dirksen Parkway
 Springfield, IL 62764

IDNR Project Number: 2005382
Date: 01/08/2020
Alternate Number: 20261, 1902795

Project: Deerfield Road EA
Address: Deerfield Rd, Buffalo Grove

Description: The preferred alternative includes an extensive intersection improvement at Milwaukee Avenue, adding a center turn lane through the Deerfield Road corridor, and adding a northbound right turn lane at Saunders/Riverwood Road. The proposed Milwaukee Avenue intersection configuration includes two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach. The proposed Saunders/Riverwood Road intersection configuration includes two thru lanes, an exclusive left turn lane and an exclusive right turn lane on all approaches. The typical roadway section for the preferred alternative from Milwaukee Avenue to Saunders/Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 foot wide two-way left turn lane, 3 feet wide bike friendly shoulders, accommodations for an 8 foot wide bike path along the south side of the roadway from Milwaukee to Portwine and along the north side of the roadway from Portwine to Saunders/Riverwoods Road, and a five foot wide sidewalk along the opposing side of the roadway dependent on local cost participation.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

- Buffalo Grove Prairie INAI Site
- Edward L. Ryerson Conservation Area INAI Site
- Herrmann's Woods INAI Site
- Edward L. Ryerson Nature Preserve
- Black-Crowned Night Heron (*Nycticorax nycticorax*)
- Bulrush (*Scirpus hattorianus*)
- Eastern Massasauga (*Sistrurus catenatus catenatus*)
- Iowa Darter (*Etheostoma exile*)
- Mountain Blue-Eyed Grass (*Sisyrinchium montanum*)
- Northern Cranesbill (*Geranium bicknellii*)
- Northern Long-Eared Myotis (*Myotis septentrionalis*)

An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Lake

Township, Range, Section:
 43N, 11E, 25



43N, 11E, 26
43N, 11E, 27
43N, 11E, 34
43N, 11E, 35
43N, 11E, 36
43N, 12E, 30
43N, 12E, 31

IL Department of Natural Resources
Contact
Bradley Hayes
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Department of Transportation
Felecia Hurley
2300 S. Dirksen Parkway
Springfield, Illinois 62764

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Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

January 22, 2020

Felecia Hurley
Environment Section
Illinois Department of Transportation
Bureau of Design and Environment
2300 South Dirksen Parkway
Springfield, Illinois 62764

**RE: Deerfield Rd EA, Seq. no. 20261
Consultation Program
EcoCAT Review #2005382
Lake County**

Dear Ms. Hurley,

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 860 and Part 1075. Additionally, the Department may offer advice and recommendations for species covered under the *Fish & Aquatic Life Code* [515 ILCS 5, *et seq.*]; the *Illinois Wildlife Code* [520 ILCS 5, *et seq.*]; and the *Herptiles-Herps Act* [510 ILCS 69].

The proposed action being reviewed in this letter consists of extensive intersection improvements at Milwaukee Avenue and Deerfield Rd in Buffalo Grove, IL.

EcoCAT has indicated three Illinois Natural Areas Inventory (INAI) sites, a dedicated Nature Preserve, and multiple state-listed threatened and endangered plant and animal species, all within the vicinity of the proposed project footprint.

The State-listed **blackchin shiner** (*Notropis heterodon*) was identified at the Deerfield Road Bridge in July of 2018. Due to the nature of instream work required to complete this project, the Department recommends Illinois Department of Transportation (IDOT) seek an Incidental Take Authorization (ITA) pursuant to *Part 1080* and *Section 5.5* of the *Illinois Endangered Species Protection Act*.

Documents reviewed indicate IDOT commits to restrict tree clearing between the dates of April 1 and September 30 to avoid potential impacts to the state-listed threatened **northern long-eared bat** (*Myotis septentrionalis*). The Department concurs with this commitment as being sufficient to reduce the likelihood of impacts to the northern long-eared bat.

In correspondence with IDOT and INHS, the Department requested further information to demonstrate no suitable **eastern Massasauga rattlesnake (*Sistrurus catenatus*)** foraging or hibernation habitat existed within the proposed project footprint, where instream work is likely for the project. Documents reviewed indicate eastern Massasauga rattlesnakes are not likely to be present in the area. On-site surveillance (visual encounter survey) for snakes within potential foraging habitat (scoped by review of aerial photography for open areas) and a survey for potential hibernation burrows (along an unnamed tributary nearby to the most previous Massasauga record) was conducted. Both survey efforts support the likelihood that no eastern Massasauga rattlesnakes are in the area. The Department concurs with this finding and considers impacts to the eastern Massasauga rattlesnake to be unlikely for this project.

The Department has determined that impacts to the **black-crowned night heron (*Nycticorax nycticorax*)**, the **Iowa darter (*Etheostoma exile*)**, and the listed plant species identified, are unlikely for this project.

The project is adjacent to the **Edward L. Ryerson Conservation INAI** and **Edward L. Ryerson Nature Preserve**. Plans and documents indicate all work is staying within right-of-way (ROW) along the border of the Nature Preserve, including the Herrmann Wildflower Farm Addition. The Department recommends the following to avoid impacts to Edward L. Ryerson Nature Preserve:

- Fencing and signage clearly delineating the boundaries of the Nature Preserve should be installed to ensure no disturbances occur within the Nature Preserve.
- Parking and staging in areas adjacent to the Nature Preserve should also be avoided.
- Equipment should be washed before entering the work site to prevent the transfer of non-native and invasive species into the Nature Preserve.
- Soil erosion and sediment control BMP's should be implemented and properly maintained.

The Department also requests that temporary and permanent lighting be avoided near the boundary of Edward L. Ryerson Nature Preserve to minimize adverse effects to nocturnal wildlife and to help preserve the integrity of the Nature Preserve. If temporary or permanent lighting is required, the Department recommends the following to minimize adverse effects to wildlife:

- All lighting should be fully shielded fixtures that emit no light upward.
- Only “warm-white” or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) should be used to minimize blue emission.
- Only light the exact space with the amount (lumens) needed to meet highway safety requirement.
- If LEDs are to be used, avoid the temptation to over-light based on the higher luminous efficiency of LEDs.

If for any reason, access or disturbance to Edward L. Ryerson Nature Preserve is anticipated, further coordination with the Illinois Nature Preserves Commission is required. Please be aware, adverse impact to an Illinois Nature Preserve or Illinois Land and Water Reserve are prohibited, pursuant to the *Illinois Natural Areas Preservation Act [525 ILCS 30/21-23]*. Violations under this Act can carry significant penalties.

Documents reviewed indicate the project will impact, at maximum, a 27' x 20' square of the southwest corner of the **Herrmann's Woods INAI** site. In order to promote the ecological integrity of the INAI site, the Department offers the following recommendations for the project:

- The Department recommends all equipment (including but not limited to heavy machinery, hand tools, and boots) should be cleaned of all soil and debris prior to entering the INAI site, to avoid establishing new invasive species in the area.
- Any remaining stump/root complexes of any invasive species that are cleared (e.g. black locust, honeysuckle species, buckthorn, autumn olive) should be treated with appropriate herbicides to avoid re-sprouting.
- Upon completion of construction disturbance to the INAI site, the Department recommends the area be re-planted only with vegetation native to Lake county, Illinois.

The Department has determined that impacts to the **Buffalo Grove Prairie INAI** site are unlikely.

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

Please contact me with any questions about this review.

Sincerely,



Bradley Hayes
Resource Planner
Office of Realty & Capital Planning
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271
bradley.hayes@illinois.gov
Phone: (217) 782-0031

APPENDIX D-4

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

WETLAND/WATERS OF THE U.S. REVIEW/CLEARANCE

Wetlands

Submittal Date: 09/22/2016	Sequence No: 20261
District: 1	Requesting Agency: Local LCDOT
Contract #:	Job No.: P-91-159-16
Counties: Lake	
Route: FAU 1257	Marked:
Street: Deerfield Road	Section: 15-00038-07-WR
Municipality(ies): Buffalo Grove, Riverwoods, Deerfield	Project Length: 3.2187 km 2 miles
FromTo (At): Milwaukee Avenue to Saunders/Riverwoods Road	
Quadrangle: Wheeling	Township-Range-Section: see Part G below
Anticipated Design Approval: 05/01/2018	Cleared for Design Approval: 10/01/2019
Cleared for Letting: 10/01/2019	Mitigation:

Wetland Impacts Evaluation

Submittal Date:	05/01/2019	Submitted By:	
Does the project have wetland impacts?	Yes <input type="checkbox"/>	Type:	Both <input type="checkbox"/>
Briefly describe the measures considered to avoid and minimize adverse impacts to the wetlands:	The preliminary design incorporates minimum lane widths (e.g., 11-foot wide through lanes), minimum lane addition, a slight southern alignment shift, and retaining walls.		
Summarize briefly why there are no practicable alternatives to the use of the wetland(s):	Due to the close proximity of wetlands to both sides of Deerfield Rd and adjacent land use (e.g., developed corridor, nature preserve, forest preserve, INAI), all build alternatives would impact wetlands.		
Wetland mitigation is being proposed:	wetland bank site <input type="checkbox"/>	<input type="checkbox"/> Reviewed	
Submittal Date:	07/08/2020	Submitted By:	
Does the project have wetland impacts?	Yes <input type="checkbox"/>	Type:	Permanent <input type="checkbox"/>
Briefly describe the measures considered to avoid and minimize adverse impacts to the wetlands:	Preliminary design incorporates minimum lane widths (e.g., 11-foot wide through lanes) with curb & gutter, minimum lane addition, a slight southern alignment shift, and retaining wall.		
Summarize briefly why there are no practicable alternatives to the use of the wetland(s):	Due to the close proximity of wetlands to both sides of Deerfield Rd and adjacent land use (e.g., developed corridor, nature preserves, forest preserve, INAI), all build alternatives would impact wetlands.		
Wetland mitigation is being proposed:	wetland bank site <input type="checkbox"/>	<input checked="" type="checkbox"/> Reviewed	

Memo Date:	08/13/2020	Memo By:	Felecia Hurley
Memo:	<p>The May 2019 WIE stated that there would be 0.05 acre of impact to wetland site 18, 0.003 acre of impact to wetland site 19, 0.005 acre of impact to wetland site 20, and 0.002 acre of impact to wetland site 35. The July 8, 2020 WIE updates the impact to these wetlands. There is no impact to wetland sites 18 and 35 and there will be 0.0003 acre of impact to wetland site 19 and 0.0005 acre of impact to wetland site 20.</p> <p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetland Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.6258 acre from eleven wetlands and a total of 1.7392 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	07/08/2020	Memo By:	Pete Knysz (CBBEL)

Memo:	(1) Since the December 2019 WIE Addendum #1 submittal, cultural resource coordination has resulted in avoidance measures adjacent to potential historic properties. WIE Addendum #2 includes revised wetland impacts as a result of these measures. The WIE form includes wetlands with "revised impact totals" only. (2) Wetland impacts have been reduced at Sites # 19 & 20. No impacts are anticipated at Sites #18 or 35. See WIE Exhibit Sheet 11. (3) There have been no changes to the Wetland Report or ESR limits. (4) In addition to those mentioned above, avoidance/minimization measures include: minimum slope embankment (3H:1V) and a longitudinal box culvert located in existing ROW in lieu of a larger conveyance ditch.		
Memo Date:	02/03/2020	Memo By:	Felecia Hurley
Memo:	<p>The impacts to wetlands have been updated. The original WIE stated there would be 0.05 acre of impact to wetland site #17 and the impacts are now 0.07 acre. The original WIE stated there would be 0.003 acre of impact to wetland site #19 and the impacts are now 0.004.</p> <p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetlands Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.713 acres from thirteen wetlands and a total of 1.83 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	12/16/2019	Memo By:	Pete Knysz (CBBEL)
Memo:	<p>(1) Since the Sept 2019 WIE, additional studies have resulted in the need for additional ROW/easements. WIE Addendum #1 includes: (a) revised impacts (the WIE form includes impact totals for the affected wetlands); and (b) wetlands depicted on new exhibit Sheets 2, 3, & 4 that were added to the WIE. (2) There have been no changes to the Wetland Report or ESR limits. (3) Site # 17 is a HQAR wetland. Sites #17 and W17 also overlap with an INAI site. No impacts within the INAI site. (4) Temp WOUS impacts are anticipated at Site #W17 (0.01 ac). (5) During the PJD, open water Detention Area #5 was determined to be isolated and not USACE jurisdictional. It is no included above. (6) Detention Area #3 is located beyond improvement limits. No impact is anticipated. No vegetative inventory/FQI was completed.</p>		
Memo Date:	10/01/2019	Memo By:	Felecia Hurley
Memo:	<p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetlands Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.692 acres from thirteen wetlands and a total of 1.718 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	05/01/2019	Memo By:	Pete Knysz
Memo:	<p>(1) HQAR wetlands include: Site #1, 15, 17, 33 and 34. Site #1 and #W1 also overlap with mapped ADID. No impacts at mapped ADID portion. (2) Site #W1 (Des Plaines River) is listed on the NRI for: Recreation and Scenery. It is also listed as a 303(d) impaired water. (3) Temp WOUS impacts also anticipated at Site #W1 (0.09 ac) and Site #W17 (0.003 ac). No impacts at Site #21, 23, 30, 33, 34, 36 and 37. (4) Lake Co SMC completed a PJD for this project (with the USACE). The following wetlands were determined to be isolated (not USACE jurisdictional) and were also determined to be excluded under the Lake Co Watershed Development Ordinance: Site #14, 26, 30 and 32. These wetland sites are permitted excavations/impoundments or were created incidental to construction grading.</p>		

Wetland Impacts and Mitigation Required

Site No.	Type	T&E	Nature Preserve	Natural Area	Essential Habitat	Size (acres)	Acres of Impact	Ratio	Acres of Compensation
1	Forested	No	Yes	Yes	No	1.82	.110	5.5	.605
Basin	07120004	Quadrangle	Wheeling		FQI	29.1	Addendum		
Describe the work:		Fill							
13	Forested	No	No	No	No	0.01	.010	1.5	.015
Basin	07120004	Quadrangle	Wheeling		FQI	9.8	Addendum		
Describe the work:		Excavation							
14	Marsh	No	No	No	No	0.08	.070	1.5	.105
Basin	07120004	Quadrangle	Wheeling		FQI	7.5	Addendum		
Describe the work:		Fill							
15	Forested	No	No	No	No	0.67	.010	5.5	.055
Basin	07120004	Quadrangle	Wheeling		FQI	22.7	Addendum		
Describe the work:		Fill							
16	Forested	No	No	No	No	0.04	.040	1.5	.060
Basin	07120004	Quadrangle	Wheeling		FQI	13.3	Addendum		
Describe the work:		Fill							
17	Forested	No	No	Yes	No	0.77	.070	5.5	.385
Basin	07120004	Quadrangle	Wheeling		FQI	19.5	Addendum		
Describe the work:		Fill							
18	Forested	No	No	No	No	0.05	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	15.4	Addendum		
Describe the work:		Fill							
19	Wet Mead	No	No	No	No	0.01	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	6.3	Addendum		
Describe the work:		Fill							
20	Wet Mead	No	No	No	No	0.03	.001	1.5	.001
Basin	07120004	Quadrangle	Wheeling		FQI	9.7	Addendum		
Describe the work:		Fill							
26	Marsh	No	No	No	No	0.09	.090	1.5	.135
Basin	07120004	Quadrangle	Wheeling		FQI	14.5	Addendum		
Describe the work:		Fill							
27	Wet Mead	No	No	No	No	0.25	.250	1.5	.375
Basin	07120004	Quadrangle	Wheeling		FQI	16.6	Addendum		
Describe the work:		Fill							
32	Wet Mead	No	No	No	No	0.01	.002	1.5	.003
Basin	07120004	Quadrangle	Wheeling		FQI	4.9	Addendum		
Describe the work:		Fill							
35	Wet Mead	No	No	No	No	0.01	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	6.4	Addendum		
Describe the work:		Fill							
Total							.653		1.739



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

Revised: September 23, 2019

August 26, 2016

Lake County Division of Transportation
600 W. Winchester Road
Libertyville, IL 60048

Attention: Chuck Gleason - Project Manager

Subject: Wetland and Waters of the U.S. Assessment for the Deerfield Road
Study Area in Lake County, Illinois
(CBBEL Project No. 150331)

Dear Mr. Gleason:

As requested, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a Waters of the U.S./wetland assessment for the Deerfield Road study area in Lake County, Illinois. Seventeen wetlands, twelve detention areas, three roadside drainage ditches, one man-made rain garden and seven Waters of the U.S./wetland areas consisting of a portion of the Des Plaines River, several tributaries and several partially vegetated swales were identified and flagged at the time of our site visit using the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010). An aerial photograph delineation showing the GPS sub-meter accuracy wetland, Waters of the U.S and detention area limits is included as Exhibit 7.

The U.S. Army Corps of Engineers (USACE) no longer has jurisdiction over isolated wetlands with no surface water connection to navigable waterways. Wetlands with direct surface water connections to navigable waterways will be federally regulated by the USACE under Section 404 of the Clean Water Act. Any identified wetlands found to be isolated and not federally regulated, will be regulated as Isolated Waters of Lake County by the Lake County Stormwater Management Commission (LCSMC) under the Lake County Watershed Development Ordinance.

Because the proposed project will use State of Illinois funding, coordination will be necessary with the Illinois Department of Natural Resources (IDNR) regarding Interagency Wetland Policy Act (IWPA) requirements. In our opinion, wetlands regulated by the USACE and LCSMC will also be regulated under the IWPA. However, the IWPA does not regulate unvegetated Waters of the U.S. channels and should not regulate the

following: man-made open water detention areas or mowed turf/unvegetated roadside drainage ditches.

As shown in Tab 1, LCSMC completed a Preliminary Jurisdictional Determination and wetland boundary confirmation for the identified areas. The Preliminary Jurisdictional Determination indicates which wetlands and Waters of the U.S. are federally regulated, which ones are classified as Isolated Waters of Lake County and regulated under the Lake County Watershed Development Ordinance and which areas are exempt.

The following table summarizes the findings from our field investigation and the results of the Preliminary Jurisdictional Determination.

	Wetland Type	Native Mean C-Value ³	Native FQI ³	Size (ac.) ¹	USACE Regulated	Lake County Regulated	IDNR Regulated ²	Exempt ²
Waters of the U.S./Wetland #1	Open Water/Forested	3.4	29.1	1.86	X		X	
Detention Area #2	Detention Area	NA	NA	0.18				X
Detention Area #3	Detention Area	NA	NA	0.40			X	
Detention Area #4	Detention Area	NA	NA	0.11			X	
Detention Area #5	Detention Area	NA	NA	0.07				X
Wetland #6	Wet Meadow	2.3	8.3	0.04			X	
Detention Area #7	Detention Area	NA	NA	0.12	X			
Detention Area #8	Detention Area	NA	NA	0.03	X			
Detention Area #9	Detention Area	NA	NA	0.11	X			
Wetland #10	Wet Meadow	1.7	7.6	0.08			X	
Detention Area #11	Detention Area	NA	NA	Off-site				X
Waters of the U.S./Wetland #12	Open Water/Wet Meadow	1.9	11.7	0.63	X		X	
Wetland #13	Forested	2.1	9.8	0.01	X		X	
Wetland #14	Marsh	1.6	7.5	0.09			X	
Wetland #15	Forested	3.4	22.7	0.67		X	X	
Wetland #16	Forested	2.8	13.3	0.03		X	X	
Waters of the U.S./Wetland #17	Open Water/Forested	2.9	19.5	0.76	X		X	
Wetland #18	Forested	2.9	15.4	0.04	X		X	
Waters of the U.S./Wetland #19	Mudflat/Wet Meadow	2.0	6.3	0.01		X	X	
Waters of the U.S./Wetland #20	Mudflat/Wet Meadow	2.4	9.7	0.03		X	X	
Wetland #21	Forested	1.9	8.5	0.06	X		X	
Waters of the U.S./Wetland #22	Open Water/Forested	2.1	11.5	0.04	X		X	
Wetland #23	Forested	2.0	10.4	0.03	X		X	
Detention Area #24	Detention Area	NA	NA	0.03		X		
Detention Area #25	Detention Area	NA	NA	0.02		X		
Wetland #26	Marsh	2.6	14.5	0.09			X	
Waters of the U.S./Wetland #27	Wet Meadow	2.4	16.6	0.24	X		X	

	Wetland Type	Native Mean C-Value ³	Native FQI ³	Size (ac.) ¹	USACE Regulated	Lake County Regulated	IDNR Regulated ²	Exempt ²
Detention Area #28	Detention Area	NA	NA	Off-site			X	
Detention Area #29	Detention Area	NA	NA	0.11			X	
Rain Garden #30	Wet Meadow/Forested	3.8	18.6	0.002			X	
Wetland #31	Forested	2.8	13.5	0.09	X		X	
Waters of the U.S./Wetland #32	Mudflat/Wet Meadow	2.0	4.9	0.01			X	
Wetland #33	Forested	3.6	32.6	1.57	X		X	
Wetland #34	Forested	2.4	11.5	0.006	X		X	
Waters of the U.S./Wetland #35	Mudflat/Wet Meadow	1.7	6.4	0.003		X	X	
Wetland #36	Forested	2.9	18.3	0.006	X		X	
Wetland #37	Forested	2.8	14.7	0.003	X		X	
Roadside Ditch #1	Roadside Ditch	NA	NA	NA	X			
Roadside Ditch #2	Roadside Ditch	NA	NA	NA	X			
Roadside Ditch #3	Roadside Ditch	NA	NA	NA				X

¹ Represents wetland or Waters of the U.S. area located within the study area limits only.

² Man-made open water detention areas and mowed turf/unvegetated roadside drainage ditches that are not regulated by the USACE or Lake County were also found to be exempt from IDNR IWPA wetland jurisdiction. These areas did not appear to meet the definition of "State Jurisdictional Wetland" in the IWPA.

³ Represents vegetation identified within and immediately adjacent to the study area limits. NA indicates no vegetation inventory completed in man-made detention areas.

The attached report describes the identified wetlands and waters and presents the methodology and reference material used to assist in the assessment. The Midwest Region Wetland Determination Data Forms, required by the USACE, are also included. This assessment is based on field conditions at the time of the CBBEL site visit and our understanding of current federal, state and local regulations. An evaluation of historic site conditions was not performed.

Please contact our office should you have any additional questions or if we can be of further assistance.

Sincerely,



Thomas G. McArdle
 Manager, Environmental Resources Department
 LC-CWS #C-019

**WETLAND ASSESSMENT REPORT
DEERFIELD ROAD STUDY AREA
LAKE COUNTY, ILLINOIS
CBBEL Project No. 150331**

WETLAND DELINEATION

On July 25 and July 28, 2016, May 25, 2017 and September 26, 2018, Christopher B. Burke Engineering, Ltd. (CBBEL) completed wetland and Waters of the U.S. field investigations of the subject site to determine on-site wetland and Waters of the U.S. boundaries. This report was prepared to document our findings. The study area includes Deerfield Road and surrounding area between Interstate 94 and west of Route 21 in Lake County, Illinois, as shown on Exhibit 1. The project site also includes area surrounding portions of Sanders Road, Riverwoods Road, Saunders Road, Portwine Road and Route 21 to the north and south of Deerfield Road. Identified wetland and Waters of the U.S. boundaries were delineated using the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010). The GPS sub-meter accuracy wetland and Waters of the U.S. limits are shown on Exhibit 7. The Midwest Region Wetland Determination Data Forms, required by the USACE, are also included.

METHODOLOGY

The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010), identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a jurisdictional wetland are hydrophytic vegetation, hydric soils and wetland hydrology as described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

- (1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;
- (2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;
- (3) Facultative plants (FAC) are equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%);
- (4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands; and
- (5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

Four procedures completed in the following order are used to determine if hydrophytic vegetation is present:

- 1) Rapid Test: The Rapid Test for hydrophytic vegetation is met if all dominant species across all strata are OBL or FACW, or a combination of the two based on a visual assessment.
- 2) Dominance Test: Using the 50/20 Rule, if greater than 50% of the plants present are FAC, FACW, or OBL, the subject area meets the hydrophytic vegetation criterion.
- 3) Prevalence Index: Each plant species in a sampling plot is assigned a numeric value (OBL=1; FACW=2; FAC=3; FACU=4; UPL=5). Based on the sampling data, the absolute cover is calculated for each species in each stratum and using the specified formula, if the Prevalence Index is 3 or less, hydrophytic vegetation is present.
- 4) Morphological Adaptations: Various species may develop physical characteristics after growing in wetland areas such as multi-stemmed trunks, shallow roots and buttressed stems. Hydrophytic vegetation is present if an adaptation is observed in more than 50% of FACU species growing in an area that contains hydric soil and wetland hydrology.

Hydric Soils: Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators of hydric soil are found in the NTCHS Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service 2006b or current version).

Wetland Hydrology: The wetland hydrology criterion is often the most difficult to determine. Typically, the presence of water for a portion of the growing season creates anaerobic conditions. Anaerobic conditions lead to the prevalence of wetland plants. Morphological adaptations of plants, driftlines and watermarks are examples of wetland hydrology field indicators.

RESULTS AND DISCUSSION

STUDY AREA

The study area includes Deerfield Road and surrounding area between Interstate 94 and west of Route 21 in Lake County, Illinois, as shown on Exhibit 1. The project site also includes area surrounding portions of Sanders Road, Riverwoods Road, Saunders Road, Portwine Road and Route 21 to the north and south of Deerfield Road. The study area contains roadside right-of-way, commercial uses, woodland, old fields, roadway pavement, seventeen wetlands, twelve detention areas, three roadside drainage ditches, one man-made rain garden and seven Water's of the U.S./wetland areas consisting of a portion of the Des Plaines River, several tributaries and several partially vegetated swales. An aerial photograph delineation showing the GPS sub-meter accuracy wetland, Water's of the U.S and detention area limits is included as Exhibit 7.



STORMWATER MANAGEMENT COMMISSION

June 28, 2017

Mr. Chuck Gleason
 Lake County Division of Transportation
 600 West Winchester Rd.
 Libertyville IL 60048

Subject: SMC #: 17-83-009
USACE #: LRC-2017-166
Deerfield Road Improvements, west of IL-21 east to I-94, Villages of Buffalo Grove and Riverwoods, Lake County, Illinois
PRELIMINARY WETLAND JURISDICTIONAL DETERMINATION/BOUNDARY VERIFICATION - REVISED

Dear Mr. Gleason:

This letter supersedes and replaces the April 28, 2017, letter previously issued for the above-referenced project corridor and reflects a shift in jurisdiction for one site (i.e., Wetland #14) based on supplemental information issued by the U.S. Army Corps of Engineers (USACE) under LRC-2014-351 and provided to SMC by the Village of Riverwoods on June 20, 2017. The wetlands/waters referenced in this letter are depicted on the enclosed EXH 7: *Approximate Wetland Delineation* by CBBEL, plotted on 8/11/17, with SMC notes dated 4/28/17.

Based on our findings, 19 wetland/waters within the corridor appear to be *Waters of the United States* (WOUS) subject to regulation by the USACE under Section 404 of the federal Clean Water Act and 21 areas may be *Isolated Water of Lake County* (IWLC) subject to regulation by the SMC under the Lake County Watershed Development Ordinance (WDO). Jurisdiction for each wetland/water is as follows:

Apparent WOUS	Apparent IWLCs
Detention Area #7	Detention Area #2
Detention Area #8	Detention Area #3
Detention Area #9	Detention Area #4
WOUS/Wetland #1	Detention Area #5
WOUS/Wetland #12	Detention Area #11
Wetland #13	Detention Area #24
WOUS/Wetland #17	Detention Area #25
Wetland #18	Wetland #6
Wetland #21	Wetland #10
WOUS/Wetland #22	Wetland #14
Wetland #23	Wetland #15
WOUS/Wetland #27	Wetland #16
Wetland #31	WOUS/Wetland #19
Wetland #33	WOUS/Wetland #20
Wetland #34	Wetland #26
Wetland #36	Detention Area #28
Wetland #37	Detention Area #29
Ditch 1	Rain Garden #30
Ditch 2	WOUS/Wetland #32
	Wetland #35
	Ditch 3

Each apparent WOUS has a clearly discernible hydrologic connection to the traditionally navigable Des Plaines River (via the Aptakisic Creek or Lower Des Plaines River sub-watersheds) or the North Branch Chicago River (via the West Branch sub-watershed). This determination does not include a field verification of the delineated WOUS boundaries. You may request a boundary verification from the USACE (SMC is not authorized to verify WOUS boundaries).

Each apparent IWLC may be subject to regulation by SMC under the WDO as an IWLC. These areas lack a clearly discernible hydrologic connection to navigable waters, are features constructed in non-hydric soils, or the USACE considered them to be roadside conveyance and did not take jurisdiction over them. SMC will address the requested BV separately from this PJD letter.

This PJD has been approved by SMC's Chief Engineer and the findings are valid for a period of three (3) years from the date of this letter, unless new information warrants a revision before the expiration date. If you disagree with the findings of this PJD, you may request a final (approved) JD from the USACE.

For your information, SMC determined the jurisdiction of potential WOUS based on guidance provided in the EPA/USACE Memorandum entitled "Clean Water Act Jurisdiction following the U.S. Supreme Court's decision in Rapanos v. United States & Carabell v. United States," dated June 5, 2007 (revised December 2, 2008), and the USACE's *Jurisdictional Determination Form Instructional Guidebook* dated May 30, 2007.

Permitting Considerations

This letter satisfies the requirement for a written jurisdictional determination under Article 10, Section 1001 of the Lake County Watershed Development Ordinance (WDO) for the indicated wetlands/waters. A Watershed Development Permit (WDP), including isolated wetlands approval, is required for the proposed public road development. Please coordinate with Mr. Robert Gardiner, SMC's Permit Engineer, at 847-377-7704 for the appropriate permit application form and procedures with respect to the WDO Standard Provisions. Please note that a survey of the field-verified wetland boundaries will need to be included on the project plans for permitting purposes.

In support of the exclusion request for this multi-jurisdictional project, please submit to SMC an IWLC exclusion worksheet (electronic copy previously provided for your convenience) and supporting documentation for each apparent IWLC for which exclusion is requested (except Wetland #6 and Wetland #10, for which SMC already has documentation). SMC will then coordinate with the EO for unincorporated Lake County and the EOs for the villages of Buffalo Grove, Deerfield, and Riverwoods as appropriate to document which apparent IWLCs qualify for exclusion.

If the EO confirms a detention facility or waterway as an IWLC, then SMC's written approval will be required for any impacts to that feature from the proposed development, and you should coordinate with Juli Crane, SMC's Principal Wetland Specialist, at 847-377-7708 for approval of the project with respect to the WDO Isolated Wetland Provisions. Conversely, if the EO determines a detention facility and/or waterway meets the exclusion criteria under the definition of IWLC in Appendix A of the WDO, then no wetland impact approval will be required from the SMC for those features.

Because the proposed development appears to impact WOUS, a separate wetland permit from the USACE will be required. Please refer to the USACE-Chicago District's web site for the permit application submittal requirements: <http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/AppChecklist.aspx>. The USACE may require SMC's technical review/approval of the proposed soil erosion and sediment control plan (SE/SC) for the development as a condition of the USACE permit. We will advise you if our SE/SC review/approval is required.

Mr. Chuck Gleason
June 28, 2017
SMC #17-83-009
Page 3 of 3

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please call our office at 847-377-7708 or e-mail Juli Crane at jcrane@lakecountyil.gov. If you have any additional concerns that have not been addressed by the regulatory staff, you may contact Chief Engineer Kurt Woolford kwoolford@lakecountyil.gov or Executive Director Michael Warner mwarner@lakecountyil.gov at 847-377-7700.

Sincerely,
LAKE COUNTY STORMWATER MANAGEMENT COMMISSION



Kurt Woolford, P.E., CFM
Chief Engineer



Juli E. Crane, PWS, CWS, CFM
Principal Wetland Specialist



Enclosure: EXH 7 – *Approximate Wetland Delineation* (CBEL, plotted 4/11/17), with SMC notes dated 4/28/17

xc: Kathy Chernich/Mike Murphy, U.S. Army Corps of Engineers
Bob Gardiner, SMC
Darren Monico, EO for Village of Buffalo Grove
Barbara Little, EO for Village of Deerfield
Patrick Glenn, Gewalt Hamilton Associates, EO for Village of Riverwoods
Matthew Meyers, EO for Unincorporated Lake County
Dan Krill, CWS for Unincorporated Lake County
Tom McArdle/Jedd Anderson, CBBEL

This document was digitally transmitted. Please print out a copy of the document and retain for your records. If you are unable to print the document, or desire a hard copy mailed to you, please notify SMC at your earliest convenience.



STORMWATER MANAGEMENT COMMISSION

July 24, 2017

Mr. Chuck Gleason
Lake County Division of Transportation
600 West Winchester Rd.
Libertyville Il 60048

Subject: SMC #: IWLC-17-047
Deerfield Road Improvements, approx. 1,000 ft. west of Milwaukee Ave. eastward to I-94, Villages of Buffalo Grove and Riverwoods and Unincorporated Lake County, Illinois
IWLC EXCLUSION DETERMINATION & BOUNDARY VERIFICATION

Dear Mr. Gleason:

This letter provides a follow-up to our preliminary wetland jurisdictional determination (PJD) letter for the subject corridor, dated April 28, 2017, and revised on June 28, 2017 in response to supplemental information provided by the Village of Riverwoods regarding jurisdiction of the area identified as Wetland #14. This letter specifically responds to LCDOT's request for field verification of *isolated waters of Lake County* (IWLC) boundaries, as submitted on your behalf by Christopher B. Burke Engineering, Ltd. (CBBEL) and received by the Lake County Stormwater Management Commission (SMC) on February 23, 2017, with supplemental information received on April 12, 2017. Village of Riverwoods deferred boundary verification (BV) in areas of their jurisdiction to SMC for this project as documented in email correspondence dated May 24, 2017.

SMC revisited the project corridor to perform the IWLC field boundary verification on May 25, 2017, in the company of Mr. Tom McArdle of CBBEL. However, prior to finalizing the BV call and associated review fees, SMC conferred with the enforcement officers (EOs) on IWLC exclusion determinations for their respective areas of authority, with supplemental information received on July 24, 2017. Based on coordination with the EOs, various apparent IWLCs identified in the PJD letter qualify for exclusion as follows:

- ❖ **Criterion a(1) – Excavations/impoundments that have received a permit from the appropriate jurisdictional authority:** Detention Area #2, Detention Area #3, Detention Area #4, Detention Area #5, Detention Area #11, Detention Area #28, and Rain Garden #30.
- ❖ **Criterion a(2) – Excavations/impoundments permitted by right prior to being a regulated activity and 40% or more non-hydric soil:** Detention Area #29, Wetland #14 and Wetland #32.
- ❖ **Criterion a(3) – Wetlands created incidental to construction grading on development sites::** Wetland #6, Wetland #10, and Wetland #26.
- ❖ **Criterion a(4) – Roadside ditch:** area of Wetland #16 within 25 feet of outer edge of road pavement and Ditch 3.

If you disagree with this exclusion determination, you may submit a written appeal to the respective EO having jurisdiction.

The remaining sites meet the definition of IWLCs: **Detention Area #24, Detention Area #25, Wetland #15, Wetland #16, WOUS/Wetland #19, WOUS/Wetland #20, and WOUS/Wetland #35).** For those

seven (7) sites, SMC concurs with the flagged boundaries as delineated by CBBEL and as generally depicted on the enclosed exhibit entitled EXH 7: *Approximate Wetland Delineation* by CBBEL, plotted on 8/11/17, with SMC notes dated 7/24/17. This IWLC boundary verification is valid for a period of three (3) years from the date of this letter, unless new information warrants a revision before the expiration date. Please note that the surveyed wetland boundaries will need to be included on the project plans for permitting purposes.

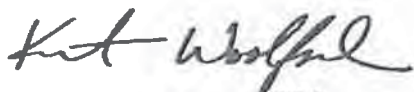
Permitting Considerations

A Watershed Development Permit (WDP), including isolated wetlands approval, is required for the proposed public road development. Please coordinate with Mr. Robert Gardiner, SMC's Permit Engineer, at 847-377-7704 for the appropriate permit application form and procedures with respect to the WDO Standard Provisions. Please note that a survey of the field-verified wetland boundaries will need to be included on the project plans for permitting purposes. For sites that the EO confirmed as IWLC, SMC's written approval is required for any impacts related to the proposed development. You should coordinate with Juli Crane, SMC's Principal Wetland Specialist, at 847-377-7708 for approval with respect to the WDO Isolated Wetland Provisions. Conversely, for sites that were excluded by the EO, no wetland impact approval is required from the SMC.

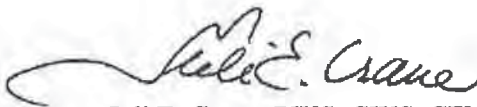
Because the proposed development appears to impact WOUS, a separate wetland permit from the USACE will be required. Please refer to the USACE-Chicago District's web site for the permit application submittal requirements: <http://www.lrc.usace.armv.mil/Missions/Regulatory/Illinois/AppChecklist.aspx>. The USACE may require SMC's technical review/approval of the proposed soil erosion and sediment control plan (SE/SC) for the development as a condition of the USACE permit. We will advise you if our SE/SC review/approval is required.

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please call our office at 847-377-7708 or e-mail Juli Crane at jcrane@lakecountyl.gov. If you have any additional concerns that have not been addressed by the regulatory staff, you may contact Chief Engineer Kurt Woolford kwoolford@lakecountyl.gov or Executive Director Michael Warner mwarner@lakecountyl.gov at 847-377-7700.

Sincerely,
LAKE COUNTY STORMWATER MANAGEMENT COMMISSION



Kurt Woolford, P.E., CFM
Chief Engineer



Juli E. Crane, PWS, CWS, CFM
Principal Wetland Specialist



Enclosure: EXH 7 – *Approximate Wetland Delineation* (CBEL, plotted 4/11/17), with SMC notes dated 7/24/17

xc: Bob Gardiner, SMC
Darren Monico, EO for Village of Buffalo Grove
Patrick Glenn, Gewalt Hamilton Associates, EO for Village of Riverwoods
Matthew Meyers, EO for Unincorporated Lake County
Dan Krill, CWS for Unincorporated Lake County
Tom McArdle/Jedd Anderson, CBBEL

This document was digitally transmitted. Please print out a copy of the document and retain for your records. If you are unable to print the document, or desire a hard copy mailed be to you, please notify SMC at your earliest convenience.

APPENDIX D-5

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

SPECIAL WASTE

IDOT Sequence #: 20261
IDOT Job #: P91-159-16

ISGS: 3488
IDOT District #: 1

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FINAL REPORT

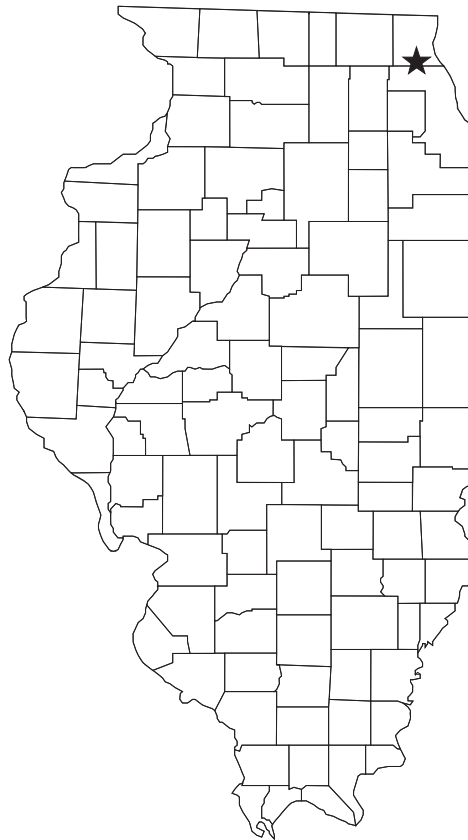
DATE: February 27, 2018

IDOT DESIGN DATE: May 1, 2018

SURVEY TARGET DATE: May 1, 2018

DATE REQUEST RECEIVED: October 23, 2017

LOCATION: FAU 1257 (Deerfield Road), Milwaukee Avenue to Saunders/Riverwoods Road, Buffalo Grove, Riverwoods, and unincorporated Vernon Township, Lake County; Wheeling quadrangle (USGS 7.5-minute topographic map), T43N, R11E, Sections 26, 27, and 35.



**PRELIMINARY
ENVIRONMENTAL SITE ASSESSMENT**

for

**Deerfield Road – Milwaukee Avenue to Saunders/Riverwoods Road,
Lake County, Illinois**

Prepared for:

Lake County Division of Transportation
600 W. Winchester Road
Libertyville, IL 60048

Prepared by:

Christopher B. Burke Engineering, Ltd.

July 24, 2017

CBBEL Project No. 150331

APPENDIX D-6

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

SECTION 4(f) TEMPORARY OCCUPANCY EVALUATION DOCUMENTATION

Section 4(f) Temporary Occupancy Evaluation (per 23 CFR 774.13(d))

Summary Table

Date:	June 24, 2020
IDOT Region:	District 1
Project:	Deerfield Road from Milwaukee Avenue to Saunders Road
Project Description:	Proposed roadway widening, sidewalk, and shared-use path
Section 4(f) Resource:	Cahokia Flatwoods Forest Preserve, Des Plaines River Trail, Des Plaines River Water Trail* *The three resources are at one common location
Type of 4(f) Resource:	Forest preserve, recreational multi-use trail, regional water trail (canoe route)
Impact on 4(f) Resource:	Construction access to widen the existing Deerfield Road bridge over the Des Plaines River (including in-stream construction); Replacement of an existing access driveway at Cahokia Flatwoods Forest Preserve; Replacement of an existing culvert under the Des Plaines River Trail
Official with Jurisdiction:	Alex Ty Kovach, Executive Director, Lake County Forest Preserve District (LCFPD)

Describe how the conditions for Temporary Occupancy are met:

1. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land.

Duration will be temporary and limited to the time necessary to complete construction activities at the Deerfield Road bridge over the Des Plaines River and culvert replacement at the Des Plaines River Trail. Construction within the Section 4(f) resources will be less than the duration of the proposed Deerfield Road widening project. A temporary easement for access through the forest preserve property is needed to complete the construction activities. However, the bridge widening and culvert replacement will take place within existing Deerfield Road right-of-way that is owned and used for transportation purposes by the Lake County Division of Transportation (LCDOT). There will be no change in ownership of land.

2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes of the Section 4 (f) property are minimal.

The proposed project will require a temporary easement of 0.32 acre at the Cahokia Flatwoods Forest Preserve. The Cahokia Flatwoods Forest Preserve is approximately 221 acres in size. It is located immediately adjacent to the south side of the existing Deerfield Road right-of-way and on the east and west sides of the Des Plaines River. Near the project, the Des Plaines River Trail parallels the west bank of the Des Plaines River (see attached exhibits).

The temporary easement is needed to complete the following activities:

- Construction access to widen the existing Deerfield Road bridge over the Des Plaines River - The construction access would take place at an existing LCFPD driveway and access road to minimize tree/brush removal and other potential impacts to forest preserve property. The existing driveway connects the Des Plaines River Trail with the existing LCDOT shared-use path (located parallel to the south side of Deerfield Road). The existing LCFPD driveway would be replaced as part of the proposed improvements.

- In-stream construction to widen the existing Deerfield Road bridge over the Des Plaines River - Two existing piers located in the Des Plaines River would be extended to the south to accommodate the bridge widening. The bridge widening will take place within existing Deerfield Road right-of-way. The means and methods to widen the two existing bridge piers have yet to be determined. Based on the methods of construction used for the adjacent existing LCDOT shared-use path bridge completed in 2010, it is anticipated that building a temporary causeway from the closest river bank may be necessary to access each pier. Approximately 0.09 acre of temporary fill is anticipated to complete the in-stream construction. In-stream construction methods will be evaluated in more detail in Phase II, as part of final design and permitting (e.g., Section 404 Clean Water Act).
- Access and replace/upgrade two existing 15-inch corrugated metal pipes that convey stormwater runoff under the Des Plaines River Trail - The two existing metal pipes are located within the existing LCDOT right-of-way.

3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.

No permanent adverse physical impacts to the Section 4(f) resources are anticipated. The proposed Deerfield Road improvements will not interfere with the activities, features, or attributes of the adjacent Section 4(f) resources. Cahokia Flatwoods Forest Preserve is predominantly undeveloped. The temporary easement will be located along an existing access route at the north end of the preserve.

An existing access driveway is located at the northwest corner of Cahokia Flatwoods Forest Preserve. The access driveway will be accessible to connect with the existing LCDOT shared-use path (located on the south side of Deerfield Road) and the Des Plaines River Trail with periodic closures during construction. Detours will be posted for users during the anticipated short-term temporary closures of the Des Plaines River Trail for culvert replacement and other construction activities. The anticipated temporary closure of the Des Plaines River Trail would be located within the existing Deerfield Road right-of-way at approximately the same location as the temporary closure that took place during construction of the LCDOT shared-use path bridge. Construction of the LCDOT shared-use path and shared-use path bridge was completed in 2010 and was designed with consideration of the future Deerfield Road improvements.

It is anticipated that causeways and cofferdams will likely be needed within the Des Plaines River to complete the Deerfield Road bridge widening. Flow within the Des Plaines River will be maintained during in-stream construction so that recreational activities (e.g., canoeing) are not prohibited. The water trail is anticipated to remain open during construction activities so that canoeing is not disrupted.

4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project.

Temporary impact areas at the Cahokia Flatwoods Forest Preserve, the Des Plaines River Trail, and the Des Plaines River will be fully restored. Restoration of forest preserve property will be coordinated with the LCFPD. Disturbed areas within the temporary easement will be returned to existing contours and stabilized with vegetation approved by the LCFPD. The Des Plaines River is jurisdictional under Section 404 of the Clean Water Act (CWA). A Section 404

CWA permit will be obtained from the US Army Corps of Engineers (USACE) during Phase II for the bridge widening and in-stream construction. Restoration of the Des Plaines River will be completed in accordance with Section 404 CWA permit requirements.

5. There must be documented agreement of the official(s) with jurisdiction over the section 4(f) resource regarding the above conditions.

Throughout the Phase I Engineering Study, this project has been coordinated with the LCFPD (i.e., official with jurisdiction over the Section 4(f) resource). A summary of the coordination follows:

- a) Initial coordination meeting with the LCFPD and the Lake County Stormwater Management Commission: August 24, 2016
- b) Public Meetings - LCFPD was invited to attend and provide comments on materials
 - i. Public Meeting #1 (Issues and Needs): November 30, 2016
 - ii. Public Meeting #2 (Preliminary Preferred Alternative): October 30, 2018
- c) Stakeholder Involvement Group (SIG) Meetings - LCFPD is a member of the SIG and has provided input throughout the project development process
 - i. SIG Meeting #1: March 2, 2017
 - ii. SIG Meeting #2: June 28, 2017
 - iii. SIG Meeting #3: January 25, 2018
 - iv. SIG Meeting #4: Offered and not held per concurrence from SIG
- d) Coordination meeting with the LCFPD and the Riverwoods Preservation Council: January 4, 2019
- e) Coordination meeting with the LCFPD and the Riverwoods Preservation Council: January 4, 2019
- f) Coordination meeting with the LCFPD: January 29, 2020
- g) Public Hearing (anticipated for Fall 2020) - LCFPD will be invited to attend and provide comment at the Public Hearing
- h) Documented agreement (i.e., signature) of the official with jurisdiction (i.e., LCFPD) regarding the conditions above will take place following the Public Hearing (see attached LCFPD Signature Page)

Deerfield Road Improvement
Milwaukee Avenue to Saunders Road
Lake County, Illinois

LCFPD Signature Page

Based on the attached analysis, the conditions of 23 CFR 774.13(d) have been met and the temporary occupancy of the Section 4(f) resources by LCDOT is so minimal as to not constitute a use within the meaning of Section 4(f).

Concur: Yes No

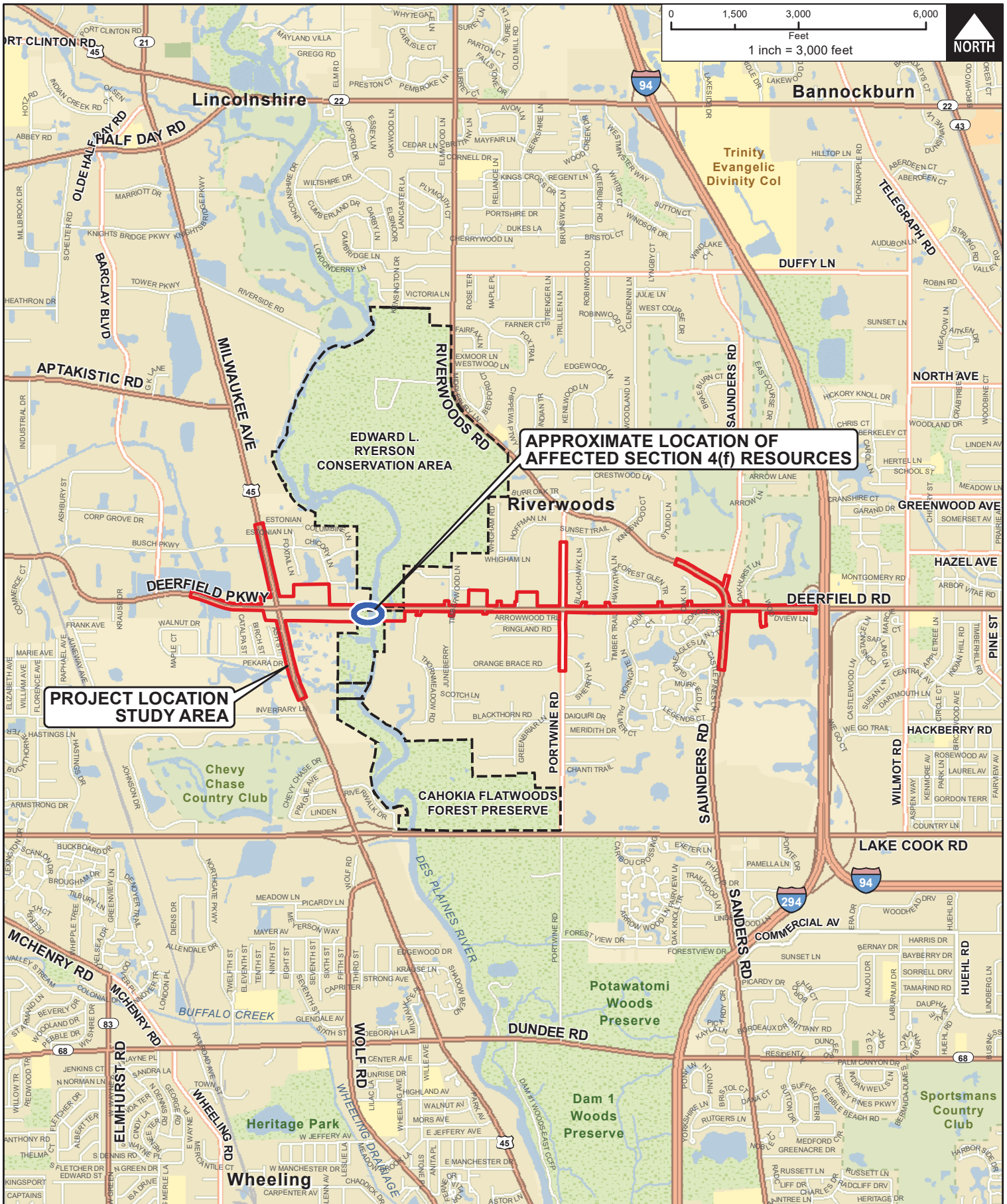
Print Name: _____

Signature: _____

Title: _____
(Official with Jurisdiction - Authorized Representative)


Date: _____

Comments: _____

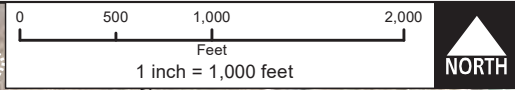


APPROXIMATE LOCATION OF AFFECTED SECTION 4(f) RESOURCES

PROJECT LOCATION STUDY AREA

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		PROJECT LOCATION MAP		DATE: 03/01/2019	
				SHEET 1 OF 1	
 CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500		DSGN:		SCALE:	1:36,000
		DWN:	DRW	AUTHOR:	DWALTERS
		CHKD:		PLOT DATE:	8/8/2019
		FILE:	Location Map Attachment A		
				ATTACHMENT:	
				A	

Path: N:\L\CDOT\150331\GIS\IS\Exhibits\Location Map Attachment A.mxd

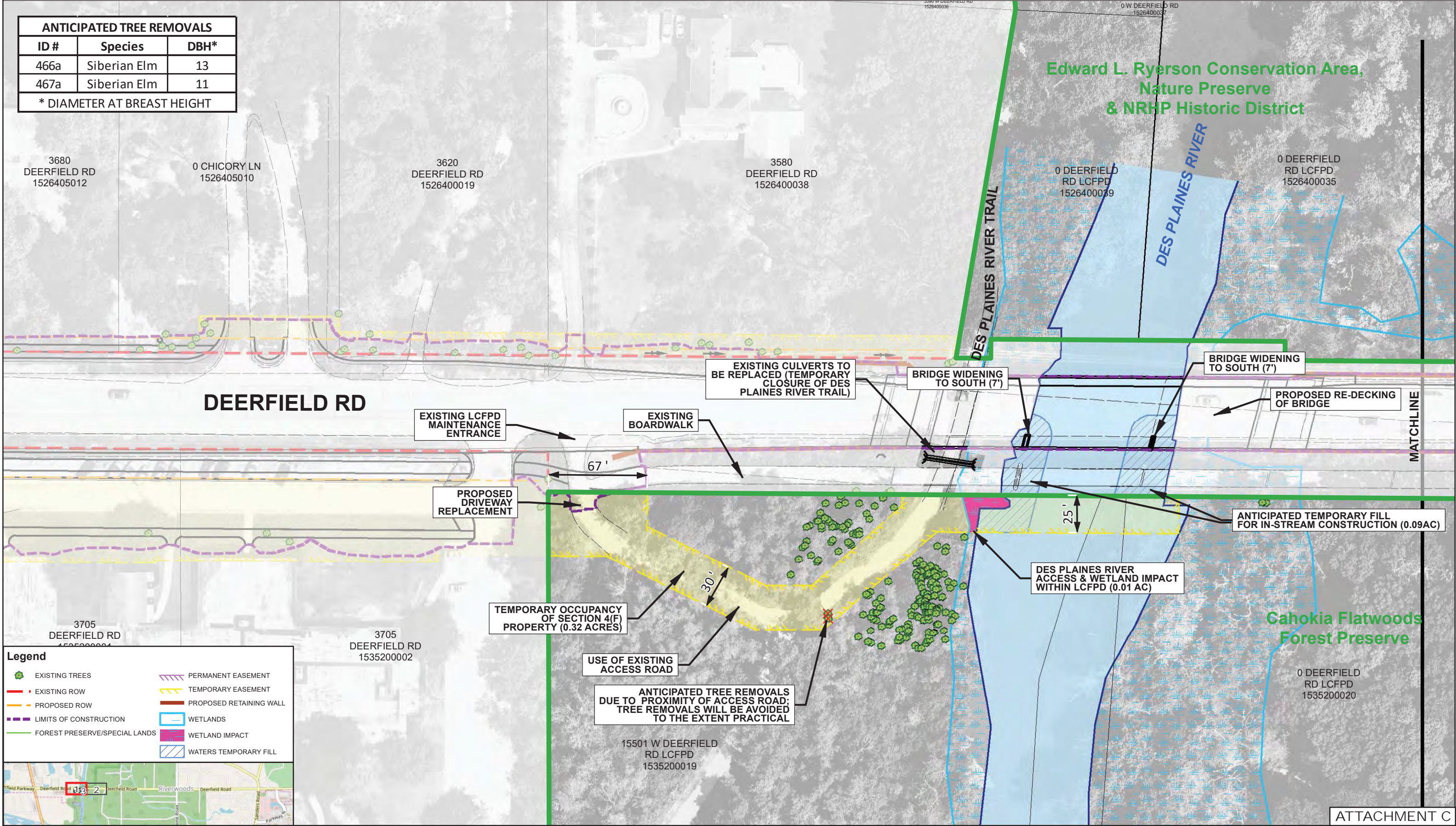


Copyright nearmap 2015

CLIENT: 	TITLE: AERIAL MAP	PROJ. NO. 150331																
		DATE: 08/07/2019																
		SHEET 1 OF 1																
		ATTACHMENT: <div style="text-align: center; font-size: 2em; font-weight: bold;">B</div>																
 CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500		<table border="1"> <tr> <td>DSGN.</td> <td></td> <td>SCALE:</td> <td>1:12,000</td> </tr> <tr> <td>DWN.</td> <td>DRW</td> <td>AUTHOR:</td> <td>DWALTERS</td> </tr> <tr> <td>CHKD.</td> <td></td> <td>PLOT DATE:</td> <td>8/8/2019</td> </tr> <tr> <td>FILE:</td> <td colspan="3">Aerial Map Attachment B</td> </tr> </table>	DSGN.		SCALE:	1:12,000	DWN.	DRW	AUTHOR:	DWALTERS	CHKD.		PLOT DATE:	8/8/2019	FILE:	Aerial Map Attachment B		
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CHKD.		PLOT DATE:	8/8/2019															
FILE:	Aerial Map Attachment B																	

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ANTICIPATED TREE REMOVALS		
ID #	Species	DBH*
466a	Siberian Elm	13
467a	Siberian Elm	11
* DIAMETER AT BREAST HEIGHT		



Legend

EXISTING TREES	PERMANENT EASEMENT
EXISTING ROW	TEMPORARY EASEMENT
PROPOSED ROW	PROPOSED RETAINING WALL
LIMITS OF CONSTRUCTION	WETLANDS
FOREST PRESERVE/SPECIAL LANDS	WETLAND IMPACT
	WATERS TEMPORARY FILL



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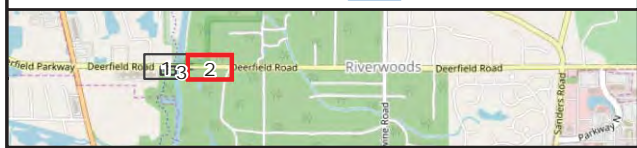
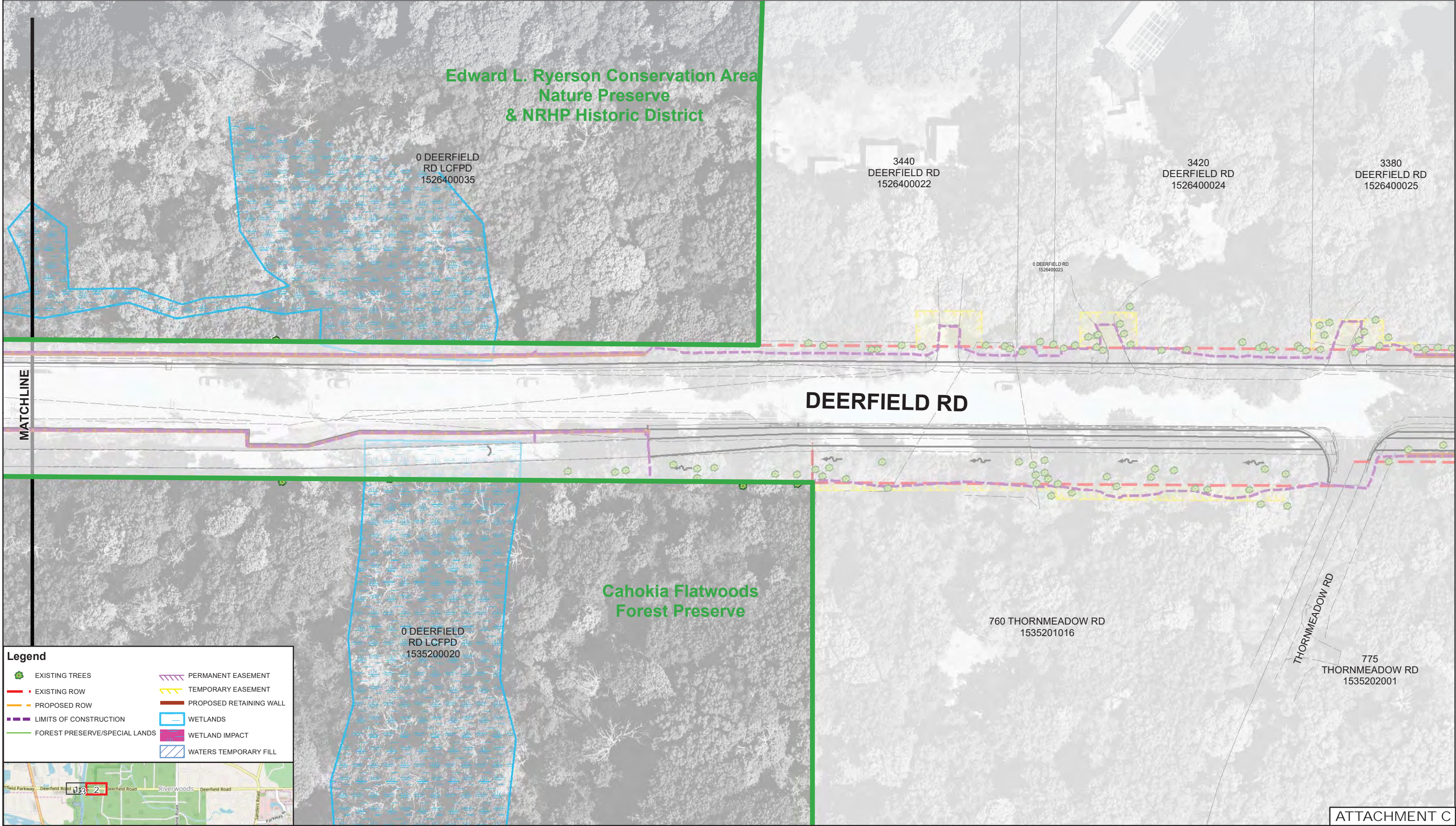
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TITLE: SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD

ATTACHMENT C

SHEET	1 of 3
CBBEL #	15-0331
DATE:	02/07/2019
SHEET 1	



ATTACHMENT C

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CLIENT:

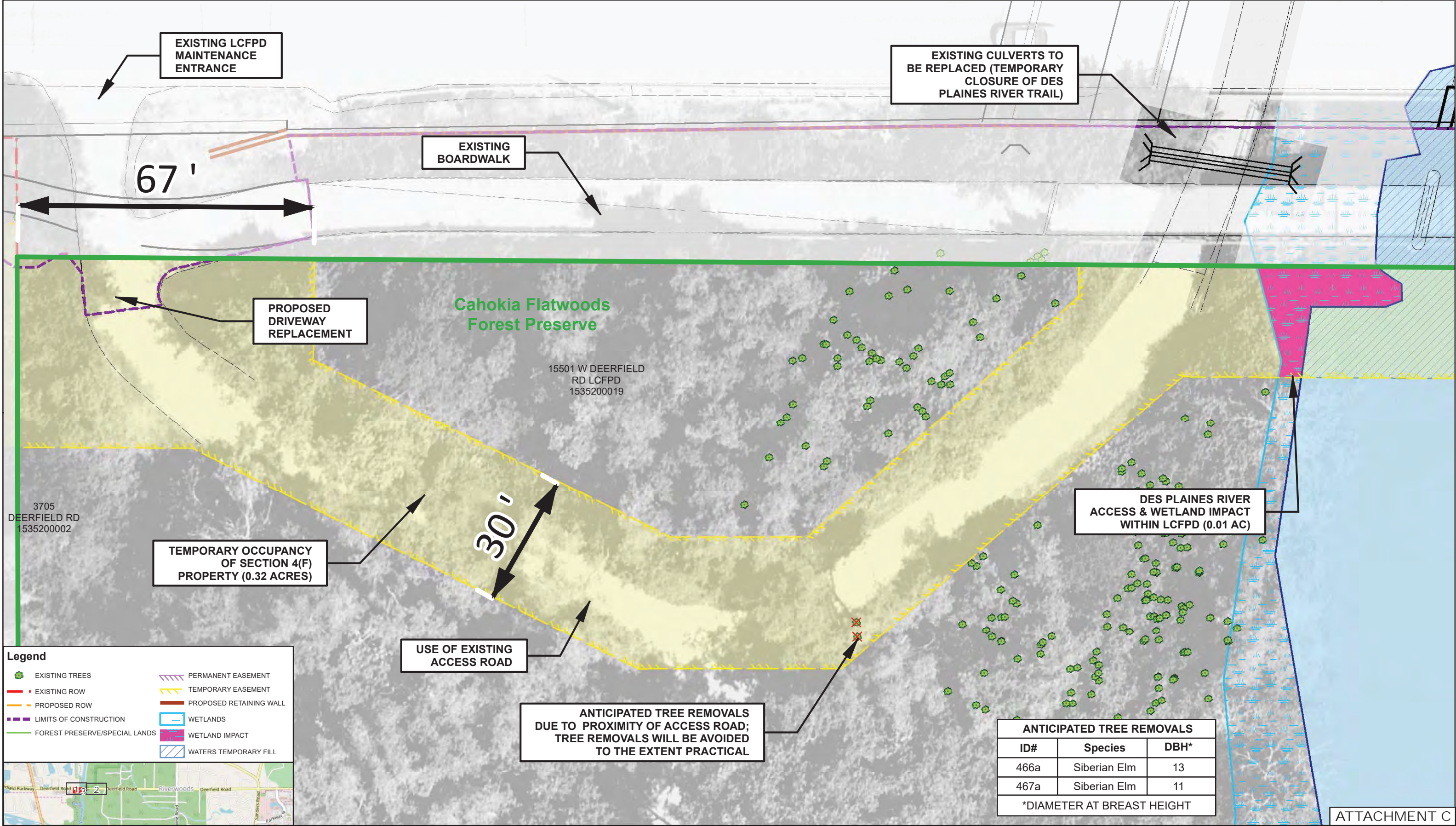
Lake County
Division of Transportation

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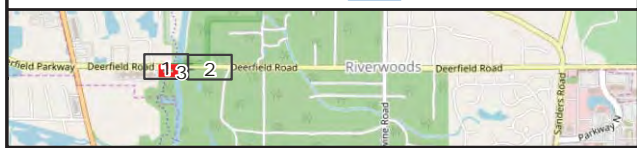
**SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD**

SHEET	2 of 3
CBBEL #	15-0331
DATE:	02/07/2019
SHEET 2	



Legend

EXISTING TREES	PERMANENT EASEMENT
EXISTING ROW	TEMPORARY EASEMENT
PROPOSED ROW	PROPOSED RETAINING WALL
LIMITS OF CONSTRUCTION	WETLANDS
FOREST PRESERVE/SPECIAL LANDS	WETLAND IMPACT
	WATERS TEMPORARY FILL



ANTICIPATED TREE REMOVALS

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*DIAMETER AT BREAST HEIGHT

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT:

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TITLE: SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD

ATTACHMENT C

SHEET	3 of 3
CBBEL #	15-0331
DATE:	02/07/2019

SHEET 3

APPENDIX E

AGENCY AND PUBLIC COORDINATION

DETAILED COMMENTS & COORDINATION

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4.1.2	NEPA/404 Merger Process	1
4.1.3	Individual Agency Meetings and Correspondence	2
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FIGURES

No figures.

TABLES

Table 4-1:	NEPA/404 Coordination Meetings.....	2
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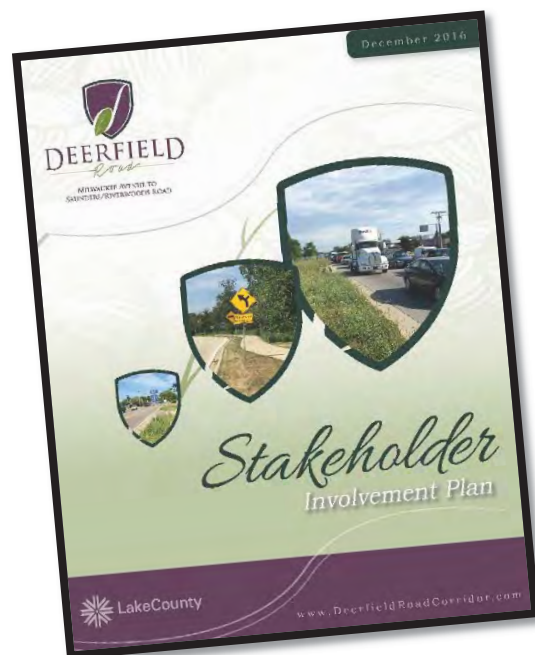
APPENDIX E – AGENCY AND PUBLIC COORDINATION

- E-1: Cooperating Agency Correspondence
- E-2: NEPA/404 Merger Meetings
- E-3: Public Meeting #1 Summary
- E-4: Public Meeting #2 Summary
- E-5: Traffic Noise Forum
- E-6: Stakeholder Involvement Group
- E-7: Frequently Asked Questions
- E-8: Village of Riverwoods
- E-9: Lake County Forest Preserve District & Lake County Stormwater Management Commission
- E-10: Riverwoods Preservation Council
- E-11: Other Stakeholders

4.0 Comments and Coordination

LCDOT and IDOT provided regular opportunities for project stakeholders from the project area, local government officials, as well as state and federal agencies to participate in the Deerfield Road project through a structured coordination and communication program. The opportunity for participation was open with no persons excluded because of income, race, color, religion, national origin, sex, age, or handicap. This chapter summarizes the agency coordination and public involvement activities that occurred during project development, including the early coordination process, coordination activities with resource agency officials, and meetings with area officials, interested groups, and the public.

A Stakeholder Involvement Plan (SIP) was prepared which provided for a range of public involvement opportunities for this project. The SIP was used as a “blueprint” for defining methods and tools to educate project stakeholders and provide opportunities for stakeholder input as part of the project decision-making process. The SIP also established the Project Study Team that was made up of representatives from LCDOT and the project consultants. The Project Study Team was responsible for the ultimate project decisions made at each project development milestone based on stakeholder input as well as other factors such as transportation performance, design considerations, and environmental impacts. A copy of the SIP is available on the project website (www.DeerfieldRoadCorridor.com).



A summary of coordination efforts, key issues, comments, and pertinent information obtained through the agency coordination and public involvement process is provided below.

4.1 What coordination has occurred with local, state, and federal agencies?

4.1.1 Cooperating Agencies

On April 19, 2017, the FHWA sent invitations to State and Federal resource agency requesting cooperating agency participation in the Deerfield Road Environmental Assessment review. State and Federal resource agencies that agreed to serve as cooperating agencies for the project include: IDNR, USEPA, and USACE. Refer to Appendix E-1 for this correspondence.

4.1.2 NEPA/404 Merger Process

The project was developed through the NEPA/404 merger process. All Illinois highway projects needing FHWA action under the National Environmental Policy Act (NEPA) and an individual Section 404 CWA Permit from the USACE are eligible for this concurrent merger processing. This integrated NEPA/404 merger process ensures appropriate consideration of the concerns of the

regulatory and resource agencies at key decision points in the project development. The resource agencies involved were the USACE, USEPA, USFWS, IDNR and the Illinois Historic Preservation Agency (IHPA). Refer to Appendix E-2 for documentation of this coordination process. This process involved regular NEPA/404 Merger meetings, as well as supplemental meetings, to discuss the project as shown in Table 4-1 below.

Table 4-1: NEPA/404 Coordination Meetings

NEPA/404 Coordination Date	Summary of Coordination
February 22, 2017	Project Introduction; Results of Public Informational Meeting; Scoping.
June 19, 2017	Purpose and Need Concurrence; Range of Alternatives Typical Sections.
September 20, 2017	Updated Purpose and Need Confirmation, Range of Alternatives, Alternative Evaluation Criteria
February 8, 2018	Range of Alternatives Evaluation Results, Preliminary Preferred Alternative
June 21, 2018	Alternatives Carried Forward and Preferred Alternative Concurrence Point

4.1.3 Individual Agency Meetings and Correspondence

Meetings were held individually with several different agencies to coordinate project issues pertaining to each agency. Several meetings with each agency were held to discuss the issues during the development of the project. Meetings included:

- LCFPD and LCSMC, August 24, 2016
- Village of Riverwoods, September 13, 2016
- Village of Riverwoods, December 19, 2017
- RPC, January 16, 2018
- Meadow Lake HOA, February 14, 2018
- Village of Riverwoods, February 27, 2018
- Village of Riverwoods, August 28, 2019
- LCSMC, September 26, 2018
- RPC, October 12, 2018
- RPC, November 19, 2018
- Village of Riverwoods, December 11, 2018
- LCFPD and RPC, January 4, 2019
- Village of Riverwoods, May 14, 2019
- Village of Riverwoods & Thorngate HOA, July 30, 2019

- Village of Riverwoods, August 27, 2019
- Village of Riverwoods, December 16, 2019
- LCFPD, January 29, 2020
- Village of Riverwoods, June 4, 2020

These agencies and more were also included on Stakeholder Involvement Group (SIG) further described in the following section.

4.2 How has the public been involved with the project?

4.2.1 Stakeholder Involvement Group (SIG)

A SIG was formed to directly engage key stakeholders to gain valuable community input, identify and address local concerns, and build public interest and involvement in the project’s decision-making process. The SIG consists of a balanced representation of community leaders from the study area and stakeholders with expertise or technical interest in environmental, land use, transportation, and economic development that are affected by the study, as well as other representative stakeholders with intimate knowledge of the study area.

Below is a summary of the topics covered at each SIG meeting. Refer to Appendix E-5 for full SIG meeting summaries.

What Groups Were Represented on the SIG?	
Village of Buffalo Grove	Meadow Lake Owners Association
Village of Riverwoods	Federal Life Insurance Company
Village of Deerfield	Thorngate Homeowners Association
Riverwoods Preservation Council	Hiawatha Woods Association
Riverwoods Police Department	Active Transportation Alliance
TMA - Lake Cook	Vernon Woods Owners Association
Vernon Woods Owners Association	Lake County Forest Preserve District
Timbers Homeowners Association	Riverwoods Residents
Brentwood Medical Center - Health & Home Management, Inc.	Lake County Stormwater Management Commission
Lincolnshire-Riverwoods Fire Protection District - Station 51	IL Nature Preserves Commission AARP Driver Safety Program Instructor

4.2.1.1 SIG Meeting #1 (March 2, 2017)

SIG Meeting #1 started with a presentation which provided a project overview, discussed the overall project development process and public involvement process, and summarized the Public Information Meeting #1. An opportunity was provided for Q&A, followed by three interactive workshops:

- Workshop Part #1: Large group session to discuss transportation related issues and concerns. This discussion was an extension of the input sought at PIM #1;
- Workshop Part #2: A small group session followed in which the SIG broke out in three smaller groups to identify and prioritize project goals; and
- Workshop Part #3: A large group session in which the SIG refined the draft Problem Statement.



Input received from the SIG was used to develop the preliminary Purpose and Need.

Following, SIG Meeting #1, the draft Purpose and Need document was provided to the SIG for review on April 3, 2017. Seven comments were received and addressed, and are included in Appendix E-5 following SIG #1 Summary.



4.2.1.2 SIG Meeting #2 (March 2, 2017)

The objective of SIG Meeting #2 was to discuss the status of the Purpose and Need Statement, the range of alternatives to be developed, the alternatives evaluation process, and build the alternatives evaluation criteria. Each of these main topics included a presentation followed by a question and answer session or large group discussion. Based on the large amount of information presented and discussed, SIG members requested additional time to review meeting material independently, and provided additional comments after the meeting. Input received from the SIG was used to develop the range of alternatives and build the evaluation criteria.

4.2.1.3 SIG Meeting #3 (January 25, 2018)

The meeting focused on the range of alternatives development and evaluation for the east section of the project from the Des Plaines River to the Saunders/Riverwoods Road intersection. One alternative clearly distinguishing itself from the others, a *3-Lane Roadway Section with Curb & Gutter*



(Alternative 3), and was identified as the preliminary preferred alternative for the east section of the project. The meeting included a presentation and associated question and answer sessions for the first hour. The second hour was an open house to provide SIG members and the attending public the opportunity to review exhibits and discuss any additional questions with project team members. Input received from the SIG was used to develop detailed design of the preliminary preferred alternative for further evaluation.



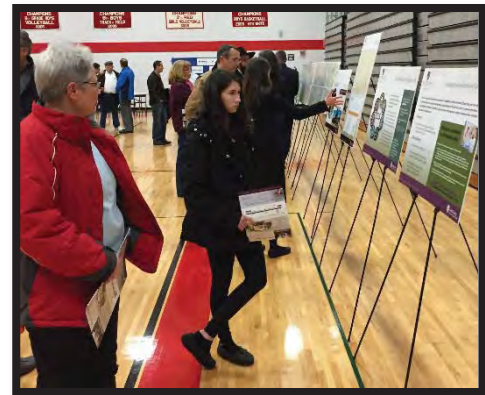
4.2.1.4 SIG Meeting #4

SIG Meeting #4 was offered prior to the Public Information Meeting #2 in October 2018, however, the SIG did not feel it necessary to meet. The purpose of the meeting would have been a preview to Public Information Meeting #2.

4.2.2 Public Meetings

4.2.2.1 Public Information Meeting #1

The Public Information Meeting (PIM) #1 for the Deerfield Road Phase I Study was held on Wednesday, November 30, 2016 between 6:00 and 8:00 p.m. in an open house format at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to explain the project objective, the Phase I Engineering process, and to seek public input on the transportation issues and needs within the Deerfield Road study area, as well as solicit membership to the SIG.



LCDOT and the study team provided information regarding the study schedule, project process, data collection, and the public involvement opportunities. Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. All material presented at the PIM were posted to the project website (www.DeerfieldRoadCorridor.com) immediately following the meeting.



The meeting was attended by 132 people. A total of 60 comments were received by the close of the 2-week comment period, December 14, 2016. Additional location-specific comments were provided on roll plots, and category-specific comments were provided on a hanging display. Topics included:

- Users' experience with substantial congestion and delay along the corridor
- Bike/ Pedestrian safety and desire to improve non-motorized facilities
- Concern for property, community, and environmental impacts
- Property access and safety concerns (potential for increased traffic, speed, decreased access, etc.)
- Design recommendations at specific locations
- Location-specific drainage and flooding issues
- Construction costs, and other issues

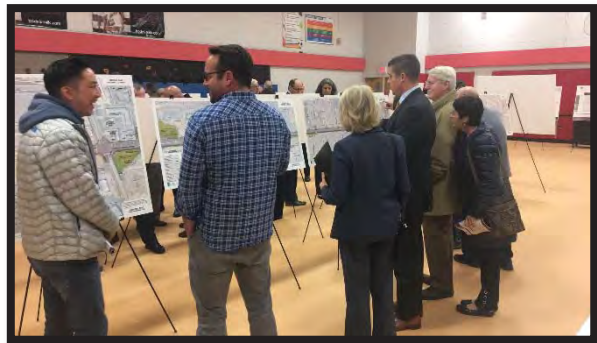


A more detailed summary of PIM #1 is included in Appendix E-3.

4.2.2.2 Public Information Meeting #2

The Public Information Meeting (PIM) #2 for the Deerfield Road Phase I Study was held on Wednesday, October 30, 2018 between 6:00 and 8:00 p.m. in an open house format at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to show the preferred alternative and to seek public input on the transportation issues and needs within the Deerfield Road study area.

LCDOT and the study team provided information contained within 6 stations: Project Overview, Public Involvement, Range of Alternatives, Preferred Alternative, Visualizations, and Comments. Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. A newsletter was provided to meeting attendees. All material presented at the PIM were posted to the project website (www.DeerfieldRoadCorridor.com) immediately following the meeting.



The meeting was attended by 105 people. A total of 33 comments were received by the close of the 2-week comment period, November 16, 2019. Topics included:

- Drainage concerns along the project corridor at a variety of locations.
- Provide pedestrian and bicycle accommodations, including mid-block crossings at Timberwood Lane and Juneberry Road.
- Accessibility concerns to Shoppes of Riverwoods and Colonial Court.
- Concerned about tree impacts.
- Address the flooding issues at Thorngate Creek.
- Concerned about property impacts along the corridor.
- Install bicycle detection at the Portinwe Road intersection.
- Concern about accessibility onto/off of Deerfield Road during rush hour.



A more detailed summary of PIM #2 is included in Appendix E-4.

4.2.2.3 Traffic Noise Forum

A Noise Forum was held for the proposed installation of a noise wall at the southwest corner of Deerfield Road and Saunders Road intersection in conjunction with the planned roadway improvements. The Noise Forum for the proposed noise wall was held on Thursday, September 19, 2019, between 7:00 and 9:00 p.m. with a formal PowerPoint presentation, Q&A and open house at Village of Riverwoods Village Hall, 300 Portwine Road, Riverwoods, IL 60015. The purpose of the meeting was to inform residents of the Thorngate subdivision that are benefitted by the wall about the traffic noise analysis process and have an opportunity to ask questions. This is the only noise wall proposed with the project. Viewpoint solicitation packages were not provided at the meeting and were sent out via certified mail on October 4, 2019.

This meeting was part of the overall Phase I Engineering Study process which LCDOT is currently conducting for the proposed federally-funded improvement of Deerfield Road from Milwaukee Avenue to Saunders Road, Lake County, Illinois. The improvements include reconstruction and widening Deerfield Road to provide a center two-way left turn lane, new shared-use path, new sidewalks (select locations), and intersection improvements at Milwaukee Avenue, Portwine Road, and Saunders Road. The proposed improvements will address capacity, safety, mobility, and operational deficiencies, and improve non-motorized accommodations and connectivity in the region. Construction is anticipated to begin in 2023.

LCDOT and the study team made a formal PowerPoint presentation that covered highway traffic noise fundamentals, policies, the noise analysis methodology, and findings for this project. A Q&A session was held following the presentation to answer any questions. Exhibits were on display following the formal presentation and Q&A and LCDOT/project team members were available to discuss the findings of the traffic noise analysis and proposed improvement in more detail. A comment form was available for attendees to provide comments. All material presented at the Noise Forum were posted to the project website (www.deerfieldroadcorridor.com) immediately following the meeting.

A total of 41 invited letters were sent out to tenants/owners of the 37 benefitted receptor properties. The meeting was attended by 11 people representing 9 properties. Village of Riverwoods President John Norris was present during the meeting. A total of 0 formal written comments were received at or following the meeting, however, numerous questions were asked during the meeting.

4.2.2.4 Public Hearing

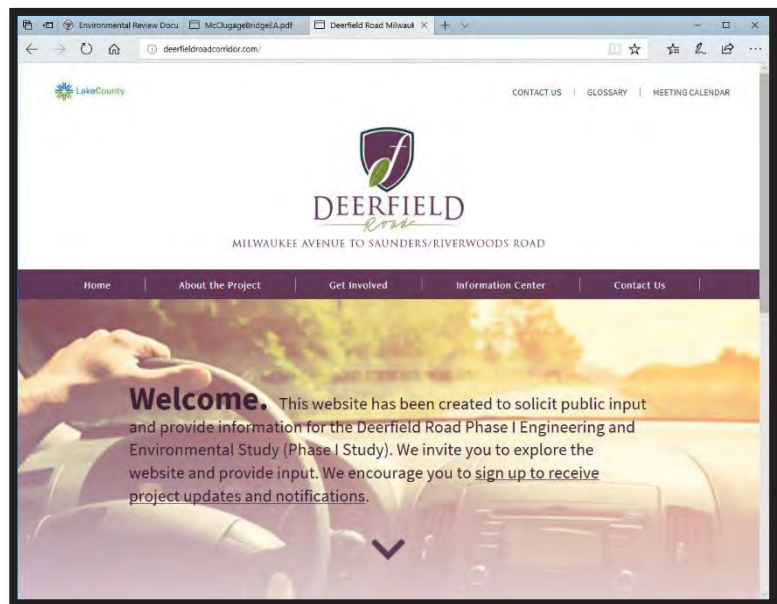
A public hearing is anticipated to be held in early 2021 to provide information to the public on the preferred alternative and the results of the Environmental Assessment. Attendees will be able to provide comments, and an official transcript of the hearing will be prepared.

4.2.3 Outreach and Informational Materials

A project website was established and has been updated throughout the project development process with new project information as it became available. The project website can be found at: www.DeerfieldRoadCorridor.com

The following materials were developed and maintained during the project to support public involvement activities:

- Project website
- Fact Sheets
- FAQ Documents (Appendix C-7)
- Postcard Mailings
- Press Advisories and Releases
- Social Media (LCDOT website)
- Riverwoods Village Voice Newsletter (bi-monthly)
 - Jan./Feb. 2017; March/ April 2017; May/June 2017; July/ Aug. 2017; Sept./Oct. 2017; Nov./Dec. 2017; Jan./Feb. 2018; March/ April 2018; May/June 2018; July/ Aug. 2018; Sept./Oct. 2018; Nov./Dec. 2018; March/ April 2019; Nov./Dec 2019; Jan./Feb 2020; March/ April 2020; September/October 2020; November/December 2020; January/February 2021.
- Project Mailing List
- Project Email Address (Field Project Related Comments & Questions)



APPENDIX E-1

AGENCY AND PUBLIC COORDINATION

Cooperating Agency Correspondence



U.S. Department
of Transportation

**Federal Highway
Administration**

Illinois Division

April 19, 2017

3250 Executive Park Dr.
Springfield, IL 62703
(217) 492-4640
www.fhwa.dot.gov/ildiv

In Reply Refer To:
HPER-IL

Mr. Sheldon Fairfield
Illinois Department of Natural Resources
1 Natural Resource Way
Springfield, IL 62702-1271

Subject: Deerfield Road, Village of Riverwoods, Lake County, Illinois
Environmental Assessment – Invitation for Cooperating Agency Status

Dear Mr. Fairfield:

The Federal Highway Administration (FHWA) is requesting your agency to become a cooperating agency for an Environmental Assessment (EA) evaluating improvements to Deerfield Road (CH 11) between Milwaukee Avenue (US 45/IL 21) and Saunders/ Riverwoods Road (CH 58). Please respond to our office at the above listed address in writing, with an acceptance or denial of this invitation to be a cooperating agency on or before May 22, 2017.

THE PROJECT

The FHWA, in cooperation with the Illinois Department of Transportation (IDOT) and Lake County Division of Transportation, is initiating an EA for Deerfield Road from Milwaukee Avenue to Saunders/ Riverwoods Road. Deerfield Road is located in Lake County, Illinois and is within the municipal boundaries of the Village of Riverwoods through a majority of the corridor. West of Milwaukee Avenue, Deerfield Road is within the municipal boundaries of Village of Buffalo Grove. East of Saunders/ Riverwoods Road, Deerfield Road is within the Village of Deerfield. See enclosed map.

The study area is approximately two miles in length along Deerfield Road, and the surrounding land use is predominately residential with large wooded lots. At the Milwaukee Avenue and Saunders/ Riverwoods Road intersections, the land use is predominately commercial. Deerfield Road crosses over the Des Plaines River approximately one half mile east of Milwaukee Avenue. The Lake County Forest Preserve District has two holdings adjacent to Deerfield Road near the Des Plaines River; the Edward L. Ryerson Conservation Area to the north and Cahokia Flatwoods to the south. Within the Edward L. Ryerson Conservation Area, there is a designated Illinois Nature Preserve and National Register Historic District. Separately, located further east at the northwest corner of Deerfield Road and Portwine Road is the privately-owned Herrmann Wildflower Farm Addition Nature Preserve Buffer.

The EA will include an evaluation of transportation system needs across the entire study area. Technical tools utilized for this study include traffic demand modeling, traffic capacity analysis and simulation, Interactive Highway Safety Design Model analysis, Geographic Information Systems data compilation, topographic survey and right-of-way determination, and computer aided design analysis.

COOPERATING AGENCY

In accordance with 40 CFR 1501.6 of the Council on Environmental Quality's regulations for implementing the procedural provisions of the National Environmental Policy Act, FHWA is required to invite agencies with jurisdiction by law or with special expertise with respect to environmental issues to be cooperating agencies.

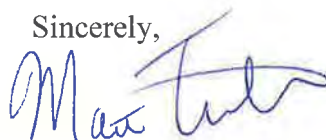
We propose that your agency's role in the development of the above project should include the following as they relate to your area of expertise or jurisdiction by law:

- provide meaningful and early input on defining the purpose and need, determining the range of alternatives to be carried forward, and the methodologies and level of detail required in the alternatives analysis; and
- participate in coordination meetings and joint field reviews, as appropriate.

To consider your agency as a cooperating agency, FHWA must receive a written response from your agency within the stated deadline agreeing to engage in the project in this role. If your agency declines to be a cooperating agency, please indicate the reason for declining this request and provide a copy to CEQ pursuant to 40 CFR 1501.6(c).

If you have any questions or would like to discuss in more detail the study or our agencies' respective roles and responsibilities during the preparation of this EA, please contact Matt Fuller (Matt.Fuller@dot.gov) or William Raffensperger (William.Raffensperger@illinois.gov).

Thank you for your cooperation and interest in this project.

Sincerely,


Matt Fuller
Environmental Programs Engineer

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 21 2017

REPLY TO THE ATTENTION OF:

E-19J

Matthew Fuller
Federal Highway Administration
3250 Executive Park Drive
Springfield, Illinois 62703

RE: Cooperating Agency Invitation: Deerfield Road Improvements – Village of Riverwoods, Lake County, Illinois

Dear Mr. Fuller:

EPA has received your correspondence dated April 19, 2017, in which the Federal Highway Administration (FHWA) has invited EPA to be a cooperating agency in the environmental review process for the above-referenced project. We understand that FHWA, in cooperation with two additional joint lead agencies (the Illinois Department of Transportation and the Lake County Division of Transportation), plans to develop an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). The proposed project will investigate improvements to Deerfield Road (CH 11) between Milwaukee Avenue (US 45/IL 21) and Saunders/Riverwoods Road (CH 58). The EA will include an evaluation of transportation system needs across the entire study area, which is approximately two miles long.

EPA agrees to be a cooperating agency for this project as staff time and resources allow. As a cooperating agency, EPA agrees to provide project-related input in areas of our expertise. We agree to provide input on impact assessment methodologies; participate in coordination meetings, webinars/conference calls, and field visits; and provide comments on preliminary information developed for the EA. Specifically, we plan to provide information on project purpose and need, alternatives considered and the range of alternatives to be carried forward, anticipated impacts, and mitigation. We do not, however, commit to assume any responsibility for developing information or preparing any environmental analyses, including authoring any portions of future NEPA documents. EPA retains its independent review and comment function for NEPA documents under Section 309 of the Clean Air Act. During the formal NEPA document comment periods, we will submit comments on this project, as time allows.

We request that EPA be provided with at least a two-week advance notice of all meetings, webinars/conference calls and receipt of documents for our review regarding this project. In addition, we request that all project information for our review be sent to us in both hardcopy and CD format, and that two copies of all documents be provided.

Thank you for the invitation to be a cooperating agency for this project. We look forward to working with you and reviewing future NEPA documents prepared for this project. Liz Peloso of my staff will be EPA's lead NEPA reviewer for this project. If you have any questions about this letter, she may be reached at 312-886-7425 or via email at peloso.elizabeth@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Cc (via email):

Soren Hall, USACE
Julie Rimbault, USACE
Shawn Cirton, USFWS
Kimberly Murphy, IDOT
John Baczek, IDOT
William Raffensperger, IDOT
Sheldon Fairfield, IDNR



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS 60604-1437

April 26, 2017

Technical Services Division
Regulatory Branch
LRC-2017-00166

SUBJECT: NEPA/404 Merger Process Cooperating Agency in the Review of the Environmental Assessment for Deerfield Road (CH 11) between Milwaukee Avenue (US 45/IL 21) to Saunders/Riverwoods Road (CH 58), Village of Riverwoods, Lake County, Illinois

Matt Fuller
Federal Highway Administration
3250 Executive Park Drive
Springfield, Illinois 62703

Dear Mr. Fuller:

This office is in receipt of your April 19, 2017 correspondence requesting the participation of the Chicago District U.S. Army Corps of Engineers as a cooperating agency in the review of the environmental assessment for the project titled, Deerfield Road (CH 11) between Milwaukee Avenue (US 45/IL 21) to Saunders/Riverwoods Road (CH 58). The Corps cordially accepts the invitation to participate as a cooperating agency in the review of the EA for the above-referenced project and looks forward to working closely with Federal and other lead state agencies in completing a comprehensive review of supporting documentation pertaining to the project.

If you have any questions, please contact Julie Rimbault of my staff by telephone at (312) 846-5542, or email at Julie.C.Rimbault@usace.army.mil.

Sincerely,

Kathleen G. Chernich
Chief, East Section
Regulatory Branch

Copy Furnished:

U.S. Environmental Protection Agency (Ken Westlake)

U.S. Fish and Wildlife Service (Shawn Cirton)

Illinois Department of Natural Resources (Sheldon Fairfield)

Federal Highway Administration (Catherine Batey)

Illinois Department of Transportation (William Raffensperger)



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

April 19, 2017

Mr. Matt Fuller
Environmental Programs Engineer
U.S. Department of Transportation
Federal Highway Administration, Illinois Division
3250 Executive Park Drive
Springfield, IL 62703

RE: Deerfield Road, Village of Riverwoods, Lake County, Illinois
Invitation for Cooperating Agency Status

Dear Mr. Fuller:

The Illinois Department of Natural Resources accepts your invitation to be a cooperating agency with this project.

Sincerely,

A handwritten signature in black ink that reads "Sheldon R. Fairfield". The signature is written in a cursive style with a large, prominent "S" and "F".

Sheldon R. Fairfield
Impact Assessment Section
Illinois Department of Natural Resources
Phone: (217) 782-0031

APPENDIX E-2

AGENCY AND PUBLIC COORDINATION

NEPA/404 Merger Meetings

**Illinois NEPA/404 Merger Meeting
February 22, 2017
Day 1 – District 1 Projects**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

12th Floor – Lake Ontario Room

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

9:30 am – 12 noon

- Interstate 80 from Ridge Road to US 30 (District 1, Will County) (60 min)
 - Concurrence – alternatives to be carried forward
- Interstate 88 and IL 47 Interchange (District 1, Kane County) (60 min)
 - Concurrence – alternatives to be carried forward
- Quentin Road from Dundee Road (IL Route 68) to Lake Cook Road (District 1, Cook County) (30 min)
 - Information – alternatives to be carried forward

12 noon - 1:30 pm

LUNCH

1:30 pm – 3:00 pm

- Deerfield Road (IL 21 to Saunders Road), District 1, Lake County (30 min)
 - Information – project introduction
- North Lake Shore Drive (District 1, Cook County) (60 min)
 - Information – Lake shore protection

Sign-in Sheet
NEPA-404 Merger Meeting
February 22, 2017

District 1 - Deerfield Road from IL 21 to Saunders Road (Lake County)
Information: project introduction

Name	Agency	e-mail address	Participation Location
Matt Fuller	FHWA	matt.fuller@dot.gov	Chicago, IL
John Sherrill	IDOT	John.Sherrill@illinois.gov	Chicago, IL
Emily Anderson	CBBEL	eanderson@cbbel.com	Chicago, IL
Mike Matkovic	CBBEL	mmatkovic@cbbel.com	Chicago, IL
Peter Knysz	CBBEL	pknysz@cbbel.com	Chicago, IL
Emily Karry	Lake County DOT	ekarry@lakecountyil.gov	Chicago, IL
Chuck Gleason	Lake County DOT	cgleason@lakecountyil.gov	Chicago, IL
Sam Mead	IDOT	sam.mead@illinois.gov	Chicago, IL
Julie Rimbault	USACE	julie.c.rimbault@usace.army.mil	Chicago, IL
Soren Hall	USACE	soren.g.hall@usace.army.mil	Chicago, IL
Mike Sedlacek	USEPA	sedlacek.michael@epa.gov	Chicago, IL
Ken Westlake	USEPA	westlake.kenneth@epa.gov	Chicago, IL
Omar Qudus	FHWA	omar.qudus@dot.gov	Springfield, IL
Ken Runkle	IDOT	ken.runkle@illinois.gov	Springfield, IL
Sheldon Fairfield	IDNR	sheldon.fairfield@illinois.gov	Springfield, IL
William Raffensperfer	IDOT	william.raffensperger@illinois.gov	Springfield, IL
David Halpin	IHPA	david.halpin@illinois.gov	Springfield, IL

**IDOT District 1, Lake County
Deerfield Road (CH 11) from Milwaukee Ave (US 45/IL 21) to Saunders/Riverwoods Road
(CH 58)
Environmental Assessment
Information – project introduction**

DECISIONS:

No decisions were requested. This was the introductory presentation of the project.

NEXT STEPS:

- 3/2/2017 – Stakeholder Involvement Group (SIG) Meeting #1. Workshop will be held to obtain SIG input on the preliminary Purpose and Need.
- 3/17/2017 – Submit Preliminary Purpose and Need Statement to IDOT and FHWA for concurrent review.
- 6/2017 – NEPA/404 Merger meeting. Request Purpose and Need concurrence.
- 2/2018 – Alternatives Carried Forward concurrence.
- 9/2018 – Preferred Alternative concurrence.

DISCUSSION:

This was the first presentation of the project to the NEPA/404 Merger team. The purpose of the presentation was to introduce the project and provide a discussion of the preliminary Purpose and Need, environmental setting, and public involvement program. An initial Public Information Meeting was held on November 30, 2016, and SIG Meeting #1 is planned for March 2, 2017 to introduce the project and elicit stakeholder input on issues and concerns, as well as the project Purpose and Need. The Purpose and Need will be submitted to FHWA/ BDE shortly after SIG Meeting #1. The Purpose and Need concurrence is anticipated to be requested at the June 2017 NEPA/404 Merger meeting.

The Lake County Division of Transportation (LCDOT) is the lead agency for this project since Deerfield Road is a county highway (CH 11). The presentation was conducted by the Phase I consultant, Christopher B. Burke Engineering, Ltd. (CBBEL). Printed copies of the presentation slides were distributed to attendees. Additional copies of the information packet provided prior to the meeting were made available to interested attendees. The information packet distributed in advance and provided at the meeting included the following project information:

- Information Sheet
- Project Location Map
- Average Daily Traffic Map
- Environmental Resources Map
- Public Information Meeting #1 Newsletter
- Preliminary Purpose and Need

Mike Matkovic of CBBEL started with general introductions, the meeting agenda, and a general overview of the project area and preliminary Purpose and Need. Phase I Engineering

and Environmental studies will evaluate capacity improvements for this two-mile section of Deerfield Road. The existing roadway consists of two lanes (1 in each direction) undivided with narrow shoulders and open drainage. This section of Deerfield Road is bordered by 5-lane sections west of Milwaukee Avenue and east of Saunders/ Riverwoods Road. Deerfield Road is included in the Lake County 2040 Transportation Plan as a route widening project. The roadway has a TIP #10-03-0005, and is to be conformed in the future as the construction year is beyond the current FFY 2014-2019 TIP.

The preliminary Purpose and Need document is included in the information package. Traffic volumes along Deerfield Road have increased considerably over the years due to regional growth in population and employment. A comparison between the 2010 census data and 2040 CMAP projections indicate that the population and employment growth will continue to grow up to 30 percent by the year 2040 in the surrounding communities. The design capacity of the roadway has been exceeded since the 1990's based on the BLRS geometric design criteria for urban two-way arterials. The result is severe congestion along this section of Deerfield Road, which also results in poor accessibility. Based on CMAP population and employment projections for Lake County and the larger Chicago Metropolitan Region, increases in travel demand are expected to continue out to the year 2040 which was shown on a graph in the presentation.

The crash data was obtained from the LCDOT online crash database, and included a total of 355 crashes within the study area from 2010 to 2014. The high incidence of rear-end and turning crashes (49 percent of all crashes) is an indication of general congestion, excessive queueing at signalized intersections, absence of turning lanes, and lack of adequate gaps for mainline and side road left turns.

An existing multi-use path was recently completed by LCDOT to connect the Des Plaines River Trail (DPRT) to Thornmeadow Lane. There are proposed multi-use paths along this section of Deerfield Road that will connect to existing facilities east and west of the study area. Completing this gap in non-motorized accommodations along Deerfield Road is included in the Lake County 2040 Non-Motorized Plan. The corridor has heavy bike usage as it is the only east-west crossing of the Des Plaines River from Half Day Road (north) to Lake-Cook Road (south), a distance of approximately 3.3 miles.

Pete Knysz of CBBEL briefly explained the Environmental Resource Inventory Map (previously provided to attendees and posted on the wall of the meeting room) and described the known environmental resources along the project corridor based on data collection efforts completed to date. The Lake County Forest Preserve District (LCFPD) has two holdings adjacent to Deerfield Road near the Des Plaines River: the Edward L. Ryerson Conservation Area to the north and Cahokia Flatwoods to the south. Within the Edward L. Ryerson Conservation Area, there is a designated Illinois Nature Preserve and a National Registered Historic District. Separately located further east at the northwest corner of Deerfield Road and Portwine Road is the privately-owned Herrmann Wildflower Farm Nature Preserve Buffer. Both the Nature Preserve and Buffer boundaries reach to the Deerfield Road north right-of-way line. Adjacent to the LCFPD holdings, the Village of Riverwoods is a wooded community.

Lake County ADID wetlands are mapped just north of the project area within the Edward L. Ryerson Conservation Area along the Des Plaines River. The ADID wetlands were mapped

in the 1990's. Wetland delineation fieldwork was performed for the project area in July 2016 as a lead project task. Field delineated wetlands/waters of the US are depicted on the Environmental Resources Inventory Map (along with floristic inventory summary data). Wetlands with relatively high floristic quality were identified near the Des Plaines River and at the northeast corner of Deerfield Road and Hoffman Lane. A request for a Preliminary Jurisdictional Determination (PJD) has been submitted to the Lake County Stormwater Management Commission (LCSMC). The segment of the Des Plaines River at Deerfield Road is included on the Illinois Environmental Protection Agency (IEPA) 303(d) list as impaired for fecal coliform, mercury, total phosphorus, and PCBs. Mapped 100-year floodplain and floodway are associated with the Des Plaines River at the study area. Mapped 100-year floodplain is also associated with Thorngate Creek at the study area.

Emily Anderson of CBBEL described the likely range of alternatives, stakeholder coordination and next steps. A full range of alternatives will be evaluated including No-Build and variations of 3-, 4-, and 5-lane sections. The initial range of alternatives will be screened and finalist alternatives will be identified that meet the project Purpose and Need. A detailed comparison will be completed for the finalist alternatives and a preferred alternative will be selected. The preferred alternative will be refined and documented in the final engineering and environmental reports.

Context Sensitive Solutions (CSS) project development principles are being followed. In addition to the NEPA/404 Merger process, a Stakeholder Involvement Group (SIG) was formed for this project to facilitate frequent and strategic stakeholder coordination at critical project development milestones. A project website has been established at www.DeerfieldRoadCorridor.com. The Stakeholder Involvement Plan (SIP) which describes the public involvement in greater detail is included on the project website. An initial Public Information Meeting (PIM) was held on November 30, 2016 and the SIG #1 Meeting will be held on March 2, 2017 to gain stakeholder input on the preliminary Purpose and Need.

The next steps in the project development process were discussed as noted above.

At the end of the presentation, the following additional topics were discussed:

- 1) The agencies asked about status of the cooperating agency letters. The project team indicated that they are being prepared and will be coordinated with FHWA for distribution in the near future.
- 2) USACE (Rimbault) requested the status of the PJD. CBBEL stated that the original PJD was submitted to LCSMC in September 2016. CBBEL recently requested the status from LCSMC. Additional coordination is necessary.
- 3) IDNR (Fairfield) asked if the mercury impairment was based on fish tissue samples. Post meeting, CBBEL reviewed the IEPA Integrated Water Quality Report and Section 303(d) List. The segment of the Des Plaines River at the Deerfield Road crossing is impaired for mercury and does not meet the "Fish Consumption" designated use. "The assessment of fish consumption use is based on (1) water body-specific fish-tissue data and (2) fish-consumption advisories issued by the Illinois Fish Contaminant Monitoring Program."
- 4) USEPA (Westlake) asked if the residents along the corridor were on well and septic. CBBEL is still collecting data, but believes that the residents along the corridor are on

well and septic.

- 5) USACE (Rimbault) asked for additional information on the Historic District. CBBEL explained that the portion of the Historic District located near the proposed improvements is open space (e.g., wooded area). The historic structures are located to the north and are not in the vicinity of the proposed improvements.

**Illinois NEPA/404 Merger Meeting
June 19, 2017**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

12th Floor – Lake Ontario Room

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

10 am – 12 noon

- Interstate 88 and IL 47 Interchange (District 1, Kane County) (60 min)
 - Concurrence – preferred alternative
- Deerfield Road (IL 21 to Saunders Road), District 1, Lake County (30 min)
 - Concurrence – purpose and need

Sign-in Sheet
NEPA-404 Merger Meeting
June 19, 2017

District 1 - Deerfield Road from IL 21 to Saunders Road (Lake County)
Concurrence: Purpose and Need

Name	Agency	e-mail address	Participation Location
Matt Fuller	FHWA	matt.fuller@dot.gov	Chicago, IL
Steve Schilke	IDOT	Steven.Schilke@illinois.gov	Chicago, IL
John Sherrill	IDOT	john.sherrill@illinois.gov	Chicago, IL
Vanessa Ruiz	IDOT	Vanessa.Ruiz@illinois.gov	Chicago, IL
Sam Mead	IDOT	sam.mead@illinois.gov	Chicago, IL
Julie Rimbault	USACE	julie.c.rimbault@usace.army.mil	Chicago, IL
Soren Hall	USACE	soren.g.hall@usace.army.mil	Chicago, IL
Ken Westlake	USEPA	westlake.kenneth@epa.gov	Chicago, IL
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**IDOT District 1, Lake County
Deerfield Road (CH 11) from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods
Road (CH 58)
Environmental Assessment
Concurrence - Purpose and Need**

DECISIONS:

Concurrence on the purpose and need was provided by USACE, USEPA, IDNR, IHPA, IDOA, and USFWS. Concurrence from USACE, USEPA, and USFWS was provided with the understanding that the transportation agencies would provide a revised purpose and need to the agencies to reflect changes discussed at the meeting.

NEXT STEPS:

Provide revised purpose and need to the resource and regulatory agencies with the modifications discussed at the merger meeting.

Concurrence on alternatives carried forward will be sought in February 2018.

The second SIG meeting is being held on June 28, 2017 and will focus on seeking input on the range of alternatives and the alternative evaluation process and criteria. A full range of alternatives will be developed and evaluated. The third SIG meeting is anticipated for October 2017 to seek SIG input on alternatives to be carried forward. The second Public Information Meeting is anticipated for December 2017.

- 6/28/2017 – Stakeholder Involvement Group (SIG) Meeting #2. Workshop will be held to solicit SIG input on the range of alternatives to be studied and the alternative evaluation process and criteria.
- 7/14/2017 – Submit revised Purpose and Need Statement to IDOT and FHWA incorporating comments received at 6/28/2017 meeting.
- 9/2017 – Informational only presentation (Project update and range of alternatives)
- 2/2018 – Alternatives Carried Forward concurrence.
- 9/2018 – Preferred Alternative concurrence.

DISCUSSION:

This was the second presentation of the project to the NEPA/404 Merger team. The purpose of the presentation was to seek Purpose and Need concurrence. The prior presentation was made on February 22, 2017 and presented the preliminary Purpose and Need, environmental setting, and public involvement program.

An informational packet was distributed in advance of the meeting, and included the following documents:

- PowerPoint presentation slides
- Purpose and Need dated April 18, 2017

Mike Matkovic of Christopher B. Burke Engineering (CBBEL) utilized a PowerPoint presentation to facilitate the meeting discussion. A brief recap was provided for the February 2017 introductory presentation, which consisted of a project overview, environmental setting,

preliminary purpose and need, Public Meeting #1 summary, and likely range of alternatives. Phase I Engineering and Environmental studies will evaluate capacity improvements for this two-mile section of Deerfield Road, a minor arterial County Highway (CH 11), from Milwaukee Avenue (US 45 / IL 21) on the west to Saunders/ Riverwoods Road (CH 58) on the east. The existing roadway consists of two lanes (1 lane in each direction) undivided with narrow shoulders and open drainage. This section of Deerfield Road is bordered by 5-lane sections west of Milwaukee Avenue and east of Saunders/ Riverwoods Road. The purpose of the project is to address capacity, safety, accessibility and non-motorized connection deficiencies. USACE (Hall) asked what the existing right-of-way width was. CBBEL (Matkovic) stated the right-of-way width varied throughout the corridor and is between 70 and 100 feet, and is typically around 80 feet.

The need for the proposed action was presented. The primary purpose and need points include congestion/capacity, safety, accessibility, and non-motorized connections. A graph depicting the PM peak hour and midday hour traffic volumes for Deerfield Road with bi-directional capacity threshold ranges for 2-lane (0 vph – 1,250 vph) and 4-lane (1,250 vph – 2,050 vph) roadways was shown. From the graph, it is observed that the PM peak hour volumes along Deerfield Road from Milwaukee Avenue to Saunders Riverwoods Road are within the 4-lane threshold range and the midday hour is within the 2-lane threshold range. IDOT BLR (Raffensperger) and USEPA (Peloso) requested that the AM peak hour be included in the graph. CBBEL agreed and will add the AM peak hour to the graph for future use.

Additional need points include clear zone deficiencies such as trees, berms, ditches, brick mailboxes, overhead power lines, and roadside hazards (steep side slopes and culvert walls). Roadway drainage is another need point, related to the Des Plaines River floodway and floodplain. The final need point is roadway infrastructure condition, as the pavement is more than 50-year old with advanced deterioration and frequent maintenance cycles. Approximately 40 percent of the substructure is in failing condition and reconstruction of the roadway is recommended.

The preliminary Purpose and Need was discussed at the first SIG meeting held on March 2nd, 2017 and was provided to the SIG for review from April 3rd through the 10th. Five SIG members provided comments and applicable comments were addressed and incorporated into the April 18th version of the Purpose and Need. Responses were provided to the SIG comments that were received. Further discussion on the Purpose and Need will occur at the second SIG meeting being held on June 28th, 2017. USACE (Hall) asked if a questionnaire was provided on the issues and needs for the project. CBBEL (Matkovic) said that a comment sheet was provided at the first Public Information Meeting and there was a workshop at the first SIG meeting to solicit input on the issues and needs. Overall input received to date on the project mostly acknowledges that something needs to be done about the congestion, but there is concern by the Riverwoods community about impacts to the natural environment along the corridor, especially the tree communities, associated with widening the road.

Matthew Huffman from CBBEL reviewed the comments, responses, and Purpose and Need modifications from the fourteen comments received from USACE and USEPA. Comments were received on June 5, 2017 from IDOT/FHWA on the preliminary Purpose and Need. A comment response letter dated June 16th, 2017 was prepared and a revised version of the Purpose and Need dated June 19th, 2017 was provided to IDOT and FHWA on June 16th, 2017 to forward onto the resource agencies prior to the meeting. Track changes was utilized to

document the modifications made to the Purpose and Need from the version provided in the advanced materials for the meeting. Hard copies of the comment response letter and revised Purpose and Need were provided to meeting attendees. CBBEL (Huffman) went through the fourteen comments proposed responses and associated modification to the Purpose and Need.

USACE Comments

Comment 1: When safety is used as an element of purpose and need, suggest that it only be an element if it requires a difference in alternatives. If the safety issues are related to congestion, and no changes in design, then not necessary to include as P&N element.

Response 1: Based on the existing crash data, there are distinguishable crash patterns within the project study area, which are not purely related to congestion. The range of alternatives will target addressing the identified crash patterns and there will be differences in safety performance amongst the range of alternatives. As such, we plan to keep safety as a purpose and need element of this project. Some narrative has been modified in the safety section to further elaborate. The IDOT HSM crash prediction tool will be utilized to evaluate existing conditions, 2040 no-build, and the range of alternatives.

Discussion 1: No additional discussion or comments from IDOT, FHWA and the resource agencies.

Comment 2: Has the updated sampling for the JD been completed? Some areas were evaluated outside the growing season and have those been re-examined during the growing season? If so, please provide the information (USEPA would also like a copy).

Response 2: The updated sampling for the JD is planned to occur within the next month. Lake County Stormwater Management Commission (LCSMC) and CBBEL have met in the field to review the wetland/WOUS boundaries. Some boundary revisions were requested by LCSMC, and the wetland boundaries have been revised. LCSMC is currently working on the Preliminary Jurisdictional Determination/Boundary Verification (PJD/BV) and exclusion letter. CBBEL will complete the data collection (i.e., vegetative inventory) and is expected to be completed following receipt of the PJD/BV and exclusion letter from LCSMC (anticipated in the next month or so). Once complete, the revised wetland delineation report will be submitted to IDOT Bureau of Local Roads for appropriate processing.

Discussion 2: No additional discussion or comments from resource agencies.

USEPA Comments

Comment 3: Page 2 – purpose section- why no “need” section?

Response 3: Section 2.0 “Need for the Proposed Action” starts on page 10 of the purpose and need document. An introductory sentence has been added to the beginning of Section 2.0 to describe the main need points to be analyzed and discussed.

Discussion 3: USEPA (Pelloso) clarified that summary narrative should be added after Section 2.0, similar to Section 1.0. CBBEL stated they will incorporate the requested change. No other discussion or comments from the resource agencies.

Comment 4: Page 2 – Section 1.1 – the project location is sparse in information. What is the

lane width, shoulder width (paved/unpaved)? Lane dimensions, ROW width?

Response 4: Revised as suggested. Lane, shoulder, and existing ROW widths have been added to Section 1.1.

Discussion 4: No changes were requested to the added narrative. USEPA (Westlake) requested the added narrative be moved up further in Section 1.1. CBBEL stated they will incorporate the requested change. No other discussion or comments from the resource agencies.

Comment 5: Page 4 – top of page, three signalized intersections, 11 un-signalized on the minor leg -- -what does that mean (minor leg)?

Response 5: Narrative revised to change “minor leg” to “cross street”.

Discussion 5: No additional discussion or comments from resource agencies.

Comment 6: Page 6 – TIP discussion – the TIP includes Phase II and ROW acquisition, not currently conformed...how does this play out in the future TIP?

Response 6: The project is not in the current 5-year plan. Subsequent phases of engineering and right-of-way acquisition is programmed by LCDOT and is now conformed in the TIP as an add-lanes project (4-lanes), which occurred in early 2017. The text has been revised accordingly.

Discussion 6: No additional discussion or comments from resource agencies.

Comment 7: Page 7 – Section 1.2.3, travel demand – increased congestion, and overall travel times, and costs...generic statement...where are people coming from, what are the goods flow? Need to provide more information here if possible.

Response 7: Section 1.2.3 has been revised to include more discussion on the connections to the regional network similar to Section 1.1 (Project Location). References to specific destinations has been added.

Discussion 7: USEPA (Peloso) requested that more detail be provided regarding the description and location of the commercial and employment areas. CBBEL stated they will incorporate the requested change.

Comment 8: Page 8 – Section 1.2.4 corridor improvements – bike path construction – when designed and constructed.

Response 8: Narrative revised to state the construction year 2010.

Discussion 8: No additional discussion or comments from IDOT, FHWA and the resource agencies.

Comment 9: Page 10 – Section 2.1 – capacity – field traffic counts were taken – when?

Response 9: The narrative has been revised to add the time of the field counts were conducted (May 2016).

Discussion 9: No additional discussion or comments from IDOT, FHWA and the resource agencies.

Comment 10: Table 2-1, Deerfield road traffic volumes, n/s/e/w legs – no definition of

what these “legs” are referring to.

Response 10: The table labels were updated to define n/s/e/w.

Discussion 10: No additional discussion or comments from IDOT, FHWA and the resource agencies.

Comment 11: Page 13 – Table 2.6 – crash summary – crash type, severe types, definition of the types not included.

Response 11: Table 2.6 was modified to include footnotes clarifying crash type, severity, and definition.

Discussion 11: No additional discussion or comments from IDOT, FHWA and the resource agencies.

Comment 12: Page 14 – second full paragraph, last sentence - definition of the crash types need to be included.

Response 12: Footnotes were added to Table 2.6 to define crash types and severity. References to B-, C-, and property damage only crashes were removed.

Discussion 12: USEPA (Peloso) requested the reference to Table 2.6 regarding the crash types and severity be added in the narrative. Also, USEPA (Westlake) requested the years should be provided for the crash analysis data. CBBEL stated they will incorporate the requested change.

Comment 13: Page 14 – last paragraph, first sentence – was the 5% location the most recent year (2014)? How often are those figures?

Response 13: The 5% location maps are generated yearly with 2015 being the most recent year available. There are no 5% locations within the study area for year 2015. The narrative has been revised with this additional information.

Discussion 13: USEPA (Peloso) requested that additional narrative should be included clarifying that 2015 is the latest available information and that the Saunders/Riverwoods Road intersection was not a 5% location in 2015. CBBEL stated they will incorporate the requested change.

Comment 14: Page 19 – Section 2.5 – last sentence on page – figure 2-7 – desired clear zone is not defined.

Response 14: The clear zone discussion was generally reworded to “roadside hazards” for better document readability.

Discussion 14: No additional discussion or comments from IDOT, FHWA and the resource agencies.

IDOT, FHWA and the resource agencies gave concurrence on the Purpose and Need pending incorporation of the discussed changes.

**Illinois NEPA/404 Merger Meeting
September 20, 2017**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

12th Floor – Lake Ontario Room

10 am – 12 noon

- Il 83/137, (IL Route 132 to east of US Highway 45), District 1, Lake County (45 min)
 - Concurrence – preferred alternative
- Deerfield Road (IL 21 to Saunders Road), District 1, Lake County (60 min)
 - Information (Project update and range of alternatives)
- I-55 at IL 59, District 1, Will County (30 min)
 - Information (Project introduction)

12 noon – 1:30 pm

LUNCH

1:30 pm – 4:00 pm

- I-80 from Ridge Road to US Route 30, District 1, Will County (45 min)
 - Information (Project update)
- North Lake Shore Drive from East Grand Ave to West Hollywood Ave, District 1, Cook County (60 min)
 - Information
- Chicago, Roadway Improvements to Support the Update to the South Lakefront Framework Plan.
 - Information - Potential roadway improvements in and around Jackson Park to support the update to the South Lakeshore Framework Plan, which includes the proposed Obama Presidential Center and Jackson Park Golf Course. The proposed scope of work includes roadway closures and improvements to adjacent roadways.

**Sign-in Sheet
NEPA-404 Merger Meeting
September 20, 2017**

**District 1 - Deerfield Road from IL 21 to Saunders Road (Lake County)
Information: Project update and range of alternatives**

Name	Agency	e-mail address	Participation Location
Matt Fuller	FHWA	matt.fuller@dot.gov	Chicago, IL
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**IDOT District 1, Lake County
Deerfield Road (CH 11) from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods
Road (CH 58)
Environmental Assessment
Information – project update and range of alternatives**

DECISIONS:

No concurrence was sought as the presentation was for informational purposes pertaining to Purpose and Need updates, second Stakeholder Involvement Group (SIG) meeting, environmental coordination, range of alternatives, and alternatives evaluation criteria. All resource/regulatory agencies in attendance agreed that the updates to the Purpose and Need would not require Concurrence Point #1 to be revisited (i.e., Purpose and Need concurrence remains valid).

NEXT STEPS:

FHWA will distribute the revised Purpose and Need document (dated September 15, 2017) to the resource and regulatory agencies for review and comment. The third SIG meeting is tentatively scheduled for November/December 2017 and will focus on seeking input on the range of alternatives, alternatives evaluation, and the alternatives to be carried forward. The second Public Information Meeting is anticipated for early 2018. Concurrence on “Alternatives Carried Forward” will be sought in February 2018 and concurrence on the “Preferred Alternative” will be sought in September 2018.

DISCUSSION:

This was the third presentation of the project to the NEPA/404 Merger team. Lake County Division of Transportation (LCDOT) is the lead agency for the project with Christopher B. Burke Engineering, Ltd (CBBEL) as the lead consulting engineer. Matthew Huffman of CBBEL utilized a PowerPoint presentation to facilitate the meeting presentation and discussion.

An informational packet was distributed in advance of the meeting, and included a project information sheet, project location map, second SIG meeting summary, range of alternative typical sections, traffic projections exhibit, and draft alternative evaluation table. Project related material was provided at the meeting and included:

- Informational packet
- PowerPoint presentation slides
- Purpose and Need dated September 15, 2017
- CD with wetland delineation report (revised August 7, 2017)

A recap was provided for the June 2017 meeting, which consisted of describing the SIG input on the preliminary Purpose and Need and discussing the responses to agency comments on the Purpose and Need. Concurrence was received by all regulatory and resource agencies pending

minor comments to address following the meeting. A revised version of the Purpose and Need was provided on June 22, 2017 to IDOT and FHWA for distribution to the regulatory and resource agencies.

Further discussion on the Purpose and Need occurred at the second SIG meeting held on June 28, 2017. The SIG requested clarification on the CMAP population and employment growth projections for Riverwoods because higher percent growths (22.6% and 19.4%, respectively) were projected than anticipated for a fully built-out community. The project team coordinated with CMAP to request additional information and a Technical Memorandum was prepared to address the comments and questions on the population, employment, and travel demand projections. Additional information was added to the Purpose and Need in Section 1.2.2 Regional Growth, Section 1.2.3 Travel Demand, and Section 2.1 Capacity. The revised Purpose and Need (in “track changes”) was provided and the additional information that was reviewed in detail. No narrative from the June 22nd version of the Purpose and Need (which received concurrence from the regulatory and resource agencies) was removed or revised. USEPA asked whether any of the data within the Purpose and Need changed. CBBEL replied that no data or results changed; the latest revisions provide more detailed data and clarification. The agencies confirmed that the Purpose and Need concurrence point does not need to be revisited.

At the second SIG meeting, the range of alternatives, the alternative evaluation process, and the alternative evaluation criteria were presented and discussed via a large group workshop. General comments and input from the SIG included a desire to minimize the footprint width to minimize property and tree impacts. Therefore, a landscaped barrier median is undesirable due to the width, and some SIG members were advocates for looking at an intersection-only improvement (at Deerfield Road and Milwaukee Avenue). There were also concerns for safety and speed with alternatives that included additional lanes. Water quality concerns were raised if an urban section with curb and gutter is implemented. The next SIG meeting is planned for late 2017 with the objective to share the range of alternatives and evaluation results, and recommendation on the alternatives to be carried forward. Public Information Meeting #2 is targeted for early 2018.

The wetland delineation report has been revised with the preliminary jurisdictional determination/boundary verification (PJD/BV) completed through coordination with the Lake County Stormwater Management Commission (LCSMC) and the USACE. There is a total of 17 wetlands/waters of the US along Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road with a high concentration near Thorngate Creek and the Des Plaines River. The USACE stated that even though a PJD/BV has been completed, their review (with respect to NEPA) will consider all wetlands/waters of the US within the corridor unless a final jurisdictional determination is submitted. CBBEL stated that the USACE (Mike Murphy) participated in the PJD/BV and that a final jurisdictional determination is not anticipated to be submitted during Phase I Engineering. If necessary, a request for a final jurisdictional determination would be submitted during Phase II Engineering.

Cultural coordination SHPO resulted in one National Register Historic Place (NHRP) historic district within the Ryerson Nature Preserve at the Des Plaines River and nine buildings that warrant NHRP consideration. The Eastern Prairie Fringed Orchid survey was completed this

summer. USEPA asked what resulted from the survey. CBBEL stated that the results of the biological surveys have not been provided to the project team yet. The project team will share the results once available. CBBEL indicated that they are approaching the alternatives development with the intent to avoid, as best as possible, the Ryerson Nature Preserve and historic district, and high-quality wetland resources. It was recognized by the project team that symmetrical widening would not be appropriate for this corridor and alignment shifts will be investigated.

The range of alternatives to be studied include a rural (shoulder and ditch) 2-lane, rural 3-lane, urban (curb and gutter) 3-lane, urban 4-lane, and urban 5-lane. Additional design elements include an 8-foot wide multi-use path, opposing sidewalk for all alternatives, and 11-foot travel lanes. Intersection improvements will be investigated at the three signalized intersections. A large intersection improvement is anticipated at Milwaukee Avenue. A development project is proposed at the northwest and southwest quadrants of the Milwaukee Avenue intersection. The developer is making improvements at the Milwaukee Avenue intersection as a part of the LCDOT and IDOT permits. From the traffic modeling being conducted with our study additional through lanes are likely on Milwaukee Avenue. USEPA asked who is reviewing the development. CBBEL stated the Village of Buffalo Grove is reviewing the site plans, LCDOT will approve the access permit to Deerfield Road, and IDOT will approve the access permit to Milwaukee Avenue. Improvements at Portwine Road are dependent on the alternative, and improvements at Saunders/ Riverwood Road are anticipated to be minimal.

Traffic projections were obtained from CMAP for Deerfield Road including 2040 No-Build (20,200), 3-lane (20,600), 4-lane (23,100) and 5-lane (23,300) alternatives. There is about a 12 percent increase in projected traffic by adding a second through lane along Deerfield Road. USEPA asked why a 2-lane alternative is included in the range of alternatives if the traffic volumes require a 4-lane roadway section based on highway standards. CBBEL stated that while the traffic volumes are within the range to provide a 4-lane roadway section, a 2-lane roadway alternative is being evaluated to understand how improving the signalized intersections will improve the capacity and performance of Deerfield Road. Additionally, the SIG supports this alternative to be evaluated as an “intersection-only” improvement where Deerfield Road is rebuilt in kind and improvements are made at the intersections, specifically the Milwaukee Avenue intersection.

IDOT asked if the bike friendly shoulder being incorporated for all alternatives is a marked bike lane and if it would be safe for users. CBBEL explained that the bike friendly shoulder is currently included in the LCDOT county highway standards to provide on-road accommodations for experienced cyclists. The bike friendly shoulder is not a marked bike lane. It is anticipated that less experienced bicyclists would use the proposed off-road multi-use path.

The alternatives evaluation criteria were presented, which consists of a table to be utilized to summarize the results for the range of alternatives. This table will be used as a tool to evaluate how each alternative performs relative to one another. The main categories of the alternative evaluation criteria are transportation, mobility, safety, non-motorized, environmental resources, socio-economic, and cost.

USEPA asked when the preferred alternative would be chosen and the Environmental Assessment (EA) distributed. CBBEL stated that a preferred alternative is likely a year away with the Public Hearing proposed in late 2018. The EA would be finalized after the Public Hearing in early 2019, with a spring 2019 Phase I completion anticipated. IDOT-BDE asked if the wetland report has been submitted to Central Office. CBBEL will follow up with IDOT-BLRS to see if the report was forwarded to BDE.

**Illinois NEPA/404 Merger Meeting
February 8, 2018**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

12th Floor – Lake Ontario Room

9 am – 12 noon (CST)

- Obama Presidential Center Mobility Improvements to Support the South Lakefront Framework Plan (60 min)
 - Information – Describe decision-making process and purpose and need overview
- Deerfield Road (IL 21 to Saunders Road), District 1, Lake County (60 min)
 - Information – range of alternatives and recap of public involvement
- Tri-County Access Project, District 1, Lake County (60 min)
 - Information – Project introduction

12 noon – 1:00 pm (CST)

LUNCH

1:00 pm – 3:00 pm (CST)

- I-80 from Ridge Road to US Route 30, District 1, Will County (60 min)
 - Concurrence – Preferred alternative
- I-55 at IL 59, District 1, Will County (60 min)
 - Concurrence – Purpose and Need

Sign-in Sheet
NEPA-404 Merger Meeting
February 8, 2018

District 1 - Deerfield Road (IL 21 to Saunders Road) - (Lake County)
Information: range of alternatives and recap of public involvement

Name	Agency	e-mail address	Participation Location
Matt Fuller	FHWA	matt.fuller@dot.gov	Springfield, IL
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**IDOT District 1, Lake County
Deerfield Road (IL 21 to Saunders Road)
Environmental Assessment
Information – range of alternatives and recap of public involvement activities**

DECISIONS:

No concurrence points were requested. All resource agencies agreed that the Alternatives Carried Forward and Preferred Alternative concurrence points can be requested concurrently.

NEXT STEPS:

Alternatives Carried Forward and Preferred Alternative Concurrence will be sought in June 2018. The preliminary preferred alternative will be shown at Stakeholder Involvement Group (SIG) Meeting #4 and the second Public Information Meeting, anticipated in Summary 2018. The Environmental Assessment and Engineering Reports are anticipated to be presented in late 2018 or early 2019 at SIG Meeting #5 and a Public Hearing.

DISCUSSION:

This was the fourth presentation of the project to the NEPA/404 Merger team. Lake County Division of Transportation (LCDOT) is the lead agency for the project with Christopher B. Burke Engineering, Ltd (CBBEL) as the lead consulting engineer. Matthew Huffman and Emily Anderson of CBBEL utilized a PowerPoint presentation to facilitate the meeting presentation and discussion.

An informational packet was distributed in advance of the meeting, and included a project information sheet, meeting agenda, project location map, environmental resources exhibit, average daily traffic and turning movements exhibit, range of alternatives typical sections, alternatives summary location map, comparative evaluation table for the Deerfield Road Range of Alternatives, and the Milwaukee Avenue Intersection Alternatives Transportation Analysis. Project related material was provided at the meeting and included:

- Informational packet
- PowerPoint presentation slides
- Alternatives Development Summary Location Map
- Range of Alternatives Typical Sections
- Range of Alternatives Comparative Evaluation

Project Location & Meeting Objective

The project location was briefly reviewed and meeting objective covered.

The Deerfield Road corridor has two distinctive sections:

- Section A (Milwaukee Avenue to the Des Plaines River) – All developed and

predominantly commercial land use with higher volume access points.

- Section B (Des Plaines River to Saunders/Riverwoods Road) – Fully built out large lot residential with a high density of low volume access points and several natural areas.

The objective of the meeting is to present the range of alternative and evaluation results for Deerfield Road Section B and the identification of a preliminary preferred alternative, a 3-lane urban roadway cross section (i.e. Alternative 3).

Project Update

A project update was made covering the prior NEPA/404 Merger Meeting (September 2017), recent stakeholder/agency coordination, and third Stakeholder Involvement Group (SIG) meeting. A recap of the prior NEPA/404 Merger Meeting (September 2017) was provided, which was an information only presentation regarding environmental surveys and range of alternatives development.

Recent stakeholder coordination included the Village of Buffalo Grove and the Woodman's Developer regarding their site development at the northwest quadrant and permit improvements to the Milwaukee Avenue intersection. Coordination also occurred with the Illinois Nature Preserve Commission regarding the Herrmann Wildflower Nature Preserve Buffer, and they were also added to the project's SIG. A number of other coordination meetings have been held which include:

- Two meetings with the Federal Highway Administration and IDOT in October 2017 and January 2018, to discuss the environmental components of the project and the alternative development process and identification of the preliminary preferred alternative.
- Two meetings with IDOT to discuss the overall project development progress and the Milwaukee Avenue intersection.
- A meeting with the Village of Riverwoods to update them on the project development, range of alternatives development/evaluation, and the identification of the preliminary preferred alternative.
- A meeting with the Riverwoods Preservation Council, a local group of residents interested in preserving the ecological heritage of the Riverwoods community, to discuss their questions on the purpose and need and provide an update on the alternatives development, evaluation, and identification of a preliminary preferred alternative.

A summary of the third SIG meeting was provided, which was held on January 25, 2018. 21 out of our 25 SIG members attend along with an additional 21 other public attendees. The objective of this meeting was to present the range of alternatives and evaluation results for Deerfield Road Section B, and the identification of the preliminary preferred alternative. The meeting consisted of a formal PowerPoint presentation with an open house following. 8 written comment were received during the comment period following the SIG meeting. Overall, there is general support for the preliminary preferred alternative of the 3-lane roadway section with curb and gutter and improvement at the Milwaukee Avenue intersection. The fourth SIG meeting is planned for Summer 2018 to present the preliminary preferred alternative design and fifth SIG meeting is planned for late 2018/early 2019 to

preview the public hearing.

Range of Alternatives – Development Approach

The range of alternatives development, evaluation, and results were presented. The overall range of alternatives develop approach consisted of separating the Deerfield Road corridor into two distinct sections, which both have unique needs. Section A includes intersection improvements at Milwaukee Avenue and corridor improvements to Deerfield Road from Milwaukee Avenue to the Des Plaines River. Section B includes intersection improvements at Portwine Road and Saunders/Riverwoods Road, and corridor improvements to Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road intersection. Through the transportation analysis, it was clear each section had unique and distinct transportation needs. Filling in two gaps in the multi-use path network are included in all alternatives. The bridge over the Des Plaines River will be widened to a 3-lane section at a minimum and further hydraulic study is required.

Range of Alternatives – Section A & Milwaukee Avenue Intersection

An update on the Milwaukee Avenue intersection and Section A was provided. The design of Section A is predominantly driven by improvements at the Milwaukee Avenue intersection. The Deerfield Road corridor alternative does not have a significant effect on the Milwaukee Avenue intersection alternatives as the change in projected traffic is minimal between the corridor build alternatives (i.e. No-Build, 3-lane, 4-lane, 5-lane).

All Milwaukee Avenue intersection alternatives assume the permit intersection improvements the Woodman’s Developer is making to the intersection, which consists of a second left turn lane on Milwaukee (northbound/southbound) and a second eastbound through lane on Deerfield Road. IDOT-BDE asked if there was an approved Traffic Impact Study (TIS) for the Woodman’s development. CBBEL responded that there is an approved TIS for both the NW and SW developments, and the study has been approved by both IDOT and LCDOT. The 2040 projected traffic volumes and peak hour site generated traffic were incorporated into this Phase I study.

A total of 11 intersection alternatives were evaluated. The transportation modeling indicated that a capacity improvement is needed on Milwaukee Avenue (i.e. third through lane) from north of Busch Parkway to Lake Cook Road, a distance of approximately 1.5 miles. An add-lanes improvement to Milwaukee Avenue was evaluated as part of the intersection alternatives, and was determined to be outside the scope of this project. A minimum of a 5-lane section is needed on Deerfield Road at the intersection, which would extend through Section A where it would transition to a 3-Lane section at the Des Plaines River bridge. A maximum of 8-lanes at the Milwaukee Avenue intersection was studied.

The project team has identified a preliminary preferred alternative for the Milwaukee Avenue intersection and Section A, which consists of adding northbound and westbound right turn lanes, a third westbound through lane, and dual left turn lanes on the westbound and eastbound approaches on Deerfield Road, with Deerfield Road east of the intersection (i.e. Section A) as a 5-lane section transition to a 3-lane section at the Des Plaines River bridge. IDOT coordination and review is ongoing and concurrence on the preliminary preferred alternative is anticipated this spring.

Range of Alternatives – Section B & Saunders/Riverwoods Road Intersection

A description of the Section B range of alternatives, evaluation, and identification of the preliminary preferred alternative was provided. Five (5) alternatives were evaluated for Section B, and Alternative 3, a 3-lane with curb and gutter, surfaced as the preliminary preferred alternative based on the evaluation table results. The east terminus intersection, Saunders/Riverwoods Road, had four alternatives evaluated. With all legs at the intersection already being a minimum of five lanes, minimal improvements were investigated which consisted of various auxiliary lane combinations. The preliminary preferred intersection alternative identified includes adding a northbound right turn lane.

The Section B range of alternatives were presented and typical sections discussed:

- Alternative 1 is a 2-Lane with shoulder and ditch, resulting in about a 100-foot proposed ROW.
- Alternative 2 is a 3-Lane with shoulder and ditch, resulting in about a 110-foot proposed ROW.
- Alternative 3 is a 3-Lane with curb and gutter, resulting in about a 90-foot proposed ROW.
- Alternative 4 is a 4-Lane with curb and gutter, resulting in about a 100-foot proposed ROW.
- Alternative 5 is a 5-Lane with curb and gutter, resulting in about a 110-foot proposed ROW.

Generally, offsite water flowing from northwest to southwest, so a drainage ditch is conservatively still shown on the north side of the three curb and gutter alternatives to capture offsite flow. A multi-use path will be included in all alternatives and sidewalk is current being evaluated, but implementation is contingent on a local agency sponsor per Lake County non-motorized policy.

There were several alternatives that were considered and dismissed early on during the range of alternatives development, a 2-Lane with curb and gutter and also grade separation at the Milwaukee Avenue intersection. The 2-Lane with curb and gutter was dismissed as it would require 8-foot shoulders and therefore have a pavement width of only two feet less than the 3-Lane with curb and gutter alternative. For Section B, there is a density of 30 access points per mile and a center turn lane is a more effective use of the pavement area than shoulders, as a center turn lane improves safety, mobility, and operations. A 2-lane with shoulder and ditch was evaluated as Alternative 1. A grade separation alternative was dismissed due to excessive socio-economic impacts and fitting in with local agency comprehensive plans.

Five alternatives carried forward for further evaluation and results summarized in a comparative evaluation table. Across the top are the scenarios studied for the comparative evaluation starting with existing conditions, then existing conditions incorporating the Woodman's development traffic volumes and Milwaukee Avenue intersection permit improvements (anticipated 2018 construction). The gray vertical band separates existing conditions from the 2040 traffic projections. First, the 2040 No-Build scenario, which also incorporates the Woodman's traffic volumes and intersection improvements, then the five alternatives. Down the rows are the evaluation criteria studied including transportation performance, mobility, non-motorized accommodations, safety, environmental resources, socio-economics, and a concept level cost estimate.

The project team presented the key takeaways for each evaluation criteria. The area under the brown band on the evaluation table describes the transportation performance derived from the Synchro traffic modeling. The Woodman's permit improvements at the Milwaukee Avenue intersection includes adding a second eastbound thru lane and maintaining the existing exclusive right turn lane as well as adding a second northbound and southbound left turn lane. The effect of this improvement on the intersection, as shown in the evaluation table, addresses the existing AM traffic delay by reducing the total eastbound travel time from Milwaukee Avenue to Saunders/Riverwoods Road from 23 minutes to 6 minutes. The existing PM delay is slightly improved from 38 minutes to 27.5 minutes, but excessive queues and delays remain.

To evaluate the Section B Alternatives, a minimum base improvement was used for Section A and the termini intersections, which includes a 5-Lane roadway section for Section A, an additional northbound and westbound right turn lane at Milwaukee Avenue intersection, and no improvements at the Saunders/Riverwoods intersection. A separate intersection alternatives evaluation was conducted at the Milwaukee Avenue intersection and Saunders/Riverwoods intersection. The design for Section A is dictated by the Milwaukee Avenue intersection alternative. The transportation analysis for all alternatives showed significant improvement to the PM westbound total travel time. For the preliminary preferred alternative (Alternative 3), the PM westbound total travel time improves from almost 36 minutes to a little under 12 minutes. There is not a discernible transportation benefit to Alternative 4 and 5, which include two eastbound/westbound through lanes, over Alternative 3, which has one eastbound/westbound through lane, however these alternatives cost about 30%-50% more, respectively. Additionally, Alternatives 4 and 5 have about a 20% higher delay at the Milwaukee Avenue intersection and have a 12% increase in Deerfield Road Average Daily Traffic (ADT) as compared to Alternative 3. All build alternatives address the transportation Purpose and Need objectives, with Alternative 3 having the best overall transportation performance.

The area under the purple band describes the vehicular mobility derived from the Synchro traffic modeling. This evaluates the ease of ingress/egress from local side-streets or driveways. Mobility was evaluated by counting 8 second gaps between vehicles for a car to make a left-hand turn onto Deerfield Road. All alternatives also have improved mobility over the 2040 No-Build, which has zero acceptable gaps during the peak PM hour. This improves to over 30 gaps per hour for all alternatives. AM peak hour gaps per hour remains consistent with gaps in the 50 to 70 range. All build alternatives address the mobility Purpose and Need objectives, with Alternatives 4 and 5 having slightly better mobility during the AM peak hour.

Another key takeaway regarding mobility is there is 30 access points per mile within Section B. From IDOT design guidance, a center turn lane is warranted based on the existing density of access points, which will reduce left turning vehicles conflict with through traffic. Alternatives 1 and 4 do not include a center turn lane. It should be noted that the traffic model does not factor in any residential driveways, and therefore is not accounted for within the transportation travel time or mobility measures of effectiveness.

The area under the pink band shows the safety analysis associated with each alternative, which was evaluated using the Illinois Highway Safety Design Manual crash prediction tool. The No-Build and 2-lane have a 5% increase in predicted injury crashes/year over

existing conditions. The 3- (Alternatives 2 and 3), 4- (Alternative 4), and 5-lane (Alternative 5) show a significant reduction in the predicted injury crashes/year with the 3-lane having the greatest reduction in injury crashes/year over 50%. Alternative 1 does not meet the safety Purpose and Need objective, with the other alternatives meeting the safety objectives, with Alternative 2 and 3 performing better than Alternatives 4 and 5.

The area under the green band shows the environmental resources impacts and the area under the gray band shows the socio-economic impacts. The Alternative 3 footprint is approximately 90 feet wide versus the Alternative 2 footprint is approximately 110 feet wide. The 20 additional feet results in about 75% greater private property impacts. While Alternative 2 may provide more community context and character based on stakeholder feedback desiring a more rural feel, this alternative was dismissed as a result of the additional impacts to environmental resources and private property. The Alternative 1 footprint is larger than the Alternative 3 footprint (100 feet vs 90 feet) which leads directly to an increase in environmental and socio-economic impacts. The Alternative 4 footprint is about 100 feet and the Alternative 5 footprint is about 110 feet as compared to the Alternative 3 90-foot footprint. As previously described, the wider footprint directly correlates to higher environmental and property impacts. Generally, Alternative 1 and Alternative 4 have similar footprints and impacts, and Alternative 2 and Alternative 5 have similar footprints and impacts. The main exception to similar impacts is that Alternative 4 and 5 have the greatest amount of added pavement area which will result in higher detention requirements. Open space to provide detention is very limited in this corridor.

Cost was evaluated for each alternative, with Alternatives 1-, 2-, and 3- have similar costs in the \$23 to \$28 million-dollar range, while Alternatives 4- and 5- are in the \$32 to \$38 million-dollar range.

In conclusion, Alternative 3, 3-Lane with Curb & Gutter clearly surfaced as the preliminary preferred alternative for Section B because it provides:

- Best overall transportation performance improvement
- Good mobility improvement
- Greatest safety improvement
- Smallest roadway footprint
- Lowest environmental and socio-economic impacts
- Lower cost alternative

There were no objections raised regarding the Section B Range of Alternatives or the Preliminary Preferred Alternative. There was discussion on granting concurrence for Alternatives Carried Forward, however, it was decided that more information is needed for Section A, which was not presented in detail during the meeting.

Next Steps

A review of the next steps was provided. After discussion, the resource agencies agreed that substantial progress has been made with the Range of Alternatives and Development, and that the Alternatives Carried Forward and Preferred Alternative Concurrence Points can be requested at the June 2018 NEPA/404 Merger Meeting.

Questions/Comments:

- USEPA asked if a grade separation at Milwaukee Avenue was considered. CBBEL noted that it was considered to do the high volume on both roadways, however it was dismissed early on due to the prohibitive cost and impacts associated with a grade separation as well as stakeholder feedback.
- USEPA asked what was happening to the Des Plaines River bridge. CBBEL noted it would likely be a 3-lane section across the bridge to match the preliminary preferred alternative, however it was not known yet the extent of bridge improvements (i.e.; widening only or complete reconstruction, etc.). An existing separate bike path bridge is offset south from the roadway, and would not be impacted as part of any bridge improvements as a widening of Deerfield Road was anticipated when determining the lateral offset from the existing Deerfield Road bridge.
- USACE asked whether concurrence points would be separate for Section A and Section B. The project team indicated that we would pursue the concurrence points for Section A and Section B together. The project team has identified the preliminary preferred alternative for Section A and is going through a review/approval process with IDOT since the Milwaukee Avenue intersection is under their jurisdiction.

**Illinois NEPA/404 Merger Meeting
June 21, 2018**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

12th Floor – Lake Ontario Room

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

9 am – 12 noon

- Roadway improvements in and near Jackson Park, District 1, Cook County (60 min)
 - Information – Preferred Alternative
- North Lake Shore Drive from Grand Avenue to Hollywood Avenue, District 1, Cook County (60 min)
 - Information only
- Deerfield Road (Milwaukee Ave to Saunders/Riverwoods Road), District 1, Lake County (60 min)
 - Concurrence – Alternatives to be Carried Forward
 - Concurrence – Preferred Alternative

12 noon – 1:00 pm

LUNCH

1:00 pm – 4:00 pm

- Illinois Route 62 from IL 25 to IL 68, District 1, Cook and Kane counties
 - Concurrence – Purpose and Need
- I-55 at IL 59 Access Project (I-55 at IL 59), District 1, Will County
 - Concurrence – Alternatives to be Carried Forward
- Tri-County Access Project, District 1, McHenry and Lake counties, IL and Kenosha County, WI
 - Information Only

**Sign-in Sheet
NEPA-404 Merger Meeting
June 21, 2018**

**District 1 - Deerfield Road (Milwaukee Ave to Saunders/Riverwoods Rd) - Lake County
Concurrence - Alternatives to be carried forward
Concurrence -Preferred alternative**

Name	Agency	e-mail address	Participation Location
Matt Fuller	FHWA	matt.fuller@dot.gov	Chicago
Pete Harmet	CBBEL	pharmet@cbbel.com	Chicago
Matt Huffman	CBBEL	mhuffman@cbbel.com	Chicago
John Sherrill	IDOT	john.sherrill@illinois.gov	Chicago
William Raffensperger	IDOT	william.raffensperger@illinois.gov	Chicago
Dwayne Ferguson	IDOT	dwayne.ferguson@illinois.gov	Chicago
Mike Murphy	USACE	Michael.J.Murphy@usace.army.mil	Chicago
Liz Pelloso	USEPA	pelloso.elizabeth@epa.gov	Chicago
Tony Elsberry	USEPA	tony.elsberry@epa.gov	Chicago
Ken Westlake	USEPA	westlake.kenneth@epa.gov	Chicago
Natalia Jones	IDNR	natalia.jones@illinois.gov	teleconference
Chris Byars	FHWA	chris.byars@dot.gov	teleconference

**IDOT District 3, Lake County Division of Transportation
Deerfield Road (CH 11) from Milwaukee Avenue (US 45/ IL 21) to Saunders/ Riverwoods
Road (CH 58)
Environmental Assessment
Concurrence Point #2 – Alternatives to be Carried Forward
Concurrence Point #3 – Preferred Alternative**

DECISIONS:

Concurrence on the alternatives carried forward was provided by USACE, USEPA, and IDNR.
Concurrence on the preferred alternative was provided by USACE, USEPA, and IDNR.

USFWS provided concurrence on alternatives carried forward and preferred alternative via email on June 26, 2018.

NEXT STEPS:

Detailed engineering will continue for the preferred alternative. The preferred alternative design and associated impacts will be shown at Stakeholder Involvement Group (SIG) Meeting #4 and the second Public Information Meeting, anticipated in Summer 2018. The Environmental Assessment and Engineering Reports are anticipated to be presented in early 2019 at SIG Meeting #5 and a Public Hearing. The NEPA process is anticipated to be completed in Spring 2019.

DISCUSSION:

This was the fifth presentation of the project to the NEPA/404 Merger team. Lake County Division of Transportation (LCDOT) is the lead agency for the project with Christopher B. Burke Engineering, Ltd (CBBEL) as the lead consulting engineer. Matthew Huffman of CBBEL utilized a PowerPoint presentation to facilitate the meeting presentation and discussion.

The advanced material packet was distributed in advance of the meeting, and included a project information sheet, photo log, project location map, environmental resources exhibit, wetland delineation report, biological survey request information, cultural resource results, Purpose and Need document, Alternatives Memorandum, and preliminary preferred alternative exhibit.

Project related material were provided at the meeting and included PowerPoint presentation slides and Alternatives Memorandum.

Project Location & Meeting Objective

The project location was briefly reviewed. The objective of the meeting is to seek agreement on alternatives carried forward concurrence point and preferred alternative concurrence point for Deerfield Road Section A and Section B.

The Deerfield Road corridor has two distinctive sections:

- Section A (Milwaukee Avenue to the Des Plaines River) – All developed and predominantly commercial land use with higher volume access points.
- Section B (Des Plaines River to Saunders/Riverwoods Road) – Fully built out large lot residential with a high density of low volume access points and several natural areas.

Project Update

A recap of the prior NEPA/404 Merger Meeting (February 2018) was provided, which was an information only presentation regarding Deerfield Road Section B Range of Alternatives and identification of the Preliminary Preferred Alternative. A brief summary of the Deerfield Road Section A alternatives was also provided.

Recent stakeholder coordination included the Village of Buffalo Grove and the Woodman's Developer regarding their site development at the northwest quadrant and permit improvements to the Milwaukee Avenue intersection. An Intersection Alternatives Technical Memorandum and preliminary Intersection Design Study for the Milwaukee Avenue intersection was submitted to the Illinois Department of Transportation (IDOT) for review. Coordination with the Village of Riverwoods has been ongoing to provide them project updates. A number of coordination meetings have been held regarding the Deerfield Road Section A Preliminary Preferred Alternative, which include:

- A meeting with the President and Vice President of the Meadow Lake Home Owners Association, which focused on accessibility to Deerfield Road.
- A meeting with the Village of Riverwoods to seek input on the detailed geometric plan of the Section A Preliminary Preferred Alternative.
- Two meetings with Brentwood North Healthcare Center regarding the impacts to their front parking lot and the proposed mitigation plan.

The Stakeholder Involvement Group (SIG) has been communicated with following the third meeting held on January 25, 2018 and the meeting summary has been posted to the project website. The public outreach approach was discussed with the SIG regarding Section A and that individual coordination meetings would be held with the various property owners to seek their input on the preliminary preferred alternative. Since the last NEPA/404 Merger Meeting, no public comments in opposition to the project or preliminary preferred alternative have been received. The project website has been kept up to date with project updates and a project update is provided in the Village of Riverwoods bi-monthly newsletter. The fourth SIG meeting is planned for Summer 2018 to present the preferred alternative design and fifth SIG meeting is planned for early 2019 to preview the Public Hearing.

Alternatives Development – Development Approach

The overall range of alternatives develop approach consisted of separating the Deerfield Road corridor into two distinct sections, which both have unique needs. Section A includes intersection improvements at Milwaukee Avenue and corridor improvements to Deerfield Road from Milwaukee Avenue to the Des Plaines River. Section B includes intersection improvements at Portwine Road and Saunders/Riverwoods Road, and corridor improvements to Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road intersection. Through the transportation analysis, it was clear each section had unique and distinct transportation needs. Filling in two gaps in the multi-use path network are included in all alternatives. The bridge over the Des Plaines River will be widened to a 3-lane section and further hydraulic study ongoing. A sidewalk will not be included with this project, as the Village of Riverwoods has declined to cost-share and take maintenance responsibilities per the Lake County Non-Motorized Policy. As such, the sidewalk has been removed from the proposed improvement design.

Alternatives Development – Deerfield Road Section A

The design of Section A is predominantly driven by improvements done at the Milwaukee Avenue intersection. The distance from the Milwaukee Avenue intersection to the Des Plaines River is approximately 2,400 feet.

The Woodman's permit intersection improvements are ongoing in 2018 and include adding a second left turn lane on Milwaukee (northbound/southbound) and a second eastbound through lane on Deerfield Road. These improvements are included in the 2040 No-Build Alternative.

A grade-separated diamond interchange concept was considered and dismissed early on the alternatives development. The diamond interchange would be similar to the one at Milwaukee Avenue and Lake-Cook Road, and would need up to 25 acres of additional right-of-way and have an approximate cost of \$75 million dollars. There was little to not support from the SIG on this initial concept alternative and was dismissed for excessive impacts and cost.

A total of 11 intersection alternatives were evaluated. The transportation modeling indicated that a capacity improvement is needed on Milwaukee Avenue (i.e. third through lane) from north of Busch Parkway to Lake Cook Road, a distance of approximately 1.5 miles. Additional capacity is also needed for westbound Deerfield Road. The preliminary preferred alternative identified includes added capacity for westbound Deerfield Road with a third exclusive through lane, dual eastbound/westbound left turn lanes, an exclusive westbound right turn lane, and an exclusive northbound right turn lane. This alternative best met the purpose and need of the project as compared to the other alternatives considered.

The Section A Milwaukee Avenue Intersection Range of Alternatives were each reviewed. A comparative evaluation table was utilized to compare each of the alternatives for transportation performance and impacts. The added impacts along Deerfield Road for the range of alternatives were very similar and were not documented in the evaluation table for comparison purposes. The added impacts along Milwaukee Avenue and approximate cost were evaluated for the range of alternatives and included in the evaluation table.

The intersection range of alternatives are organized into four groups:

- Group 1 – Evaluated various build improvements on Deerfield Road only
- Group 2 – Evaluated added through capacity on Milwaukee Avenue using shared through/right lanes
- Group 3 – Evaluated added exclusive through capacity on Milwaukee Avenue at the intersection only (i.e. third lane added/dropped prior/following intersection)
- Group 4 – Evaluated exclusive through capacity on Milwaukee Avenue to logical beginning and end points

As discussed in the Purpose and Need, the PM westbound movement has nearly a 35-minute delay from the Milwaukee Avenue intersection east through the Deerfield Road corridor to Saunders/Riverwoods Road, a distance of approximately 2-miles. The AM eastbound delays are being addressed with the Woodmans intersection permit improvement with the addition of a second exclusive eastbound through lane. The 2040 No-Build Alternative has an overall intersection delay of 218.5 second/vehicle in the PM peak period with a westbound approach delay of 530 seconds/vehicle and westbound travel time of 31.7 minutes. All alternatives evaluated include an exclusive northbound right turn land and westbound right

turn lane (Alt. A1). All the alternatives evaluated provided an improvement as compared to the 2040 No-Build Alternative.

The results of the Group 1 alternatives analysis clearly showed the need for the third westbound through lane (Alt. A1B) and dual eastbound left turn lanes (Alt. A1C). Alternative A1B and A1C were combined to form A1D, which provided an overall intersection delay of 72.1 seconds/vehicle with a westbound approach delay of 69.7 seconds/vehicle and westbound travel time of 6.7 minutes. Alternative A1D was identified as the preliminary preferred alternative and Alternatives A1A, A1B and A1C were dismissed due to comparative transportation performance.

The Group 2 alternatives analysis showed that adding the combined shared/right turn lane on Milwaukee Avenue did not provide better performance than Group 1 Alternative A1D and added approximately 1.8 acres of right-of-way acquisition and \$11.3 million dollars in cost. Alternatives A2A and A2B were therefore dismissed.

The Group 3 alternatives analysis showed there is some minimal benefit to adding a third exclusive through lane on Milwaukee Avenue at the intersection only. Alternative A3C, which includes the improvements being made in Alternative A1D, provides an overall intersection delay of 60.8 seconds/vehicle with a westbound approach delay of 55.6 seconds/vehicle and westbound travel time of 6.7 minutes. The overall intersection delay decreased by 11.3 seconds/vehicle as compared to Alternative A1D, but westbound travel time remained the same at 6.7 minutes. Group 3 Alternatives add approximately 2.2 acres of right-of-way acquisition and \$18.9 million dollars in cost. Alternatives A3A and A3B were dismissed due to comparative transportation performance. Alternative A3C has better overall intersection performance by decreasing intersection delay by 11.3 seconds/vehicle as compared to the preliminary preferred alternative but was dismissed due to the added impacts and cost, and not providing added transportation benefit for the westbound travel time.

The Group 4 alternatives analysis showed there is benefit to adding a third exclusive through lane on Milwaukee Avenue through the entire corridor. Alternative A4B, which includes the improvements being made in Alternative A1D, provides an overall intersection delay of 50.6 seconds/vehicle with a westbound approach delay of 55.5 seconds/vehicle and westbound travel time of 6.7 minutes. The overall intersection delay decreased by 21.5 seconds/vehicle as compared to Alternative A1D, but westbound travel time remained the same at 6.7 minutes. Group 4 Alternatives add approximately 8.3 acres of right-of-way acquisition and \$47 million dollars in cost. Alternative A4A was dismissed due to comparative transportation performance. Alternative A4B provides the best overall intersection performance by decreasing intersection delay by 21.5 seconds/vehicle as compared to the preliminary preferred alternative but was dismissed due to the added impacts and cost, and not providing added transportation benefit for the westbound travel time.

Alternative A1D was identified as the preliminary preferred intersection alternative for the Milwaukee Avenue intersection.

Alternatives Development – Deerfield Road Section B

The Section B range of alternatives and identified preliminary preferred alternative were presented in detail at the February 2018 NEPA/404 Merger Meeting. A brief recap was provided. Five (5) alternatives were evaluated for Section B, and Alternative 3, a 3-lane with curb and gutter, surfaced as the preliminary preferred alternative based on the evaluation table results.

The Section B range of alternatives were presented and typical sections briefly discussed:

- Alternative 1 is a 2-Lane with shoulder and ditch, resulting in about a 100-foot proposed ROW.
- Alternative 2 is a 3-Lane with shoulder and ditch, resulting in about a 110-foot proposed ROW.
- Alternative 3 is a 3-Lane with curb and gutter, resulting in about a 90-foot proposed ROW.
- Alternative 4 is a 4-Lane with curb and gutter, resulting in about a 100-foot proposed ROW.
- Alternative 5 is a 5-Lane with curb and gutter, resulting in about a 110-foot proposed ROW.

The preliminary preferred intersection alternative at the east terminus intersection had not been identified at the February 2018 NEPA/404 Merger Meeting. With all legs at the intersection already being a minimum of five lanes, minimal improvements were investigated which consisted of various auxiliary lane combinations. A range of four intersection alternatives were evaluated. The preliminary preferred intersection alternative identified includes adding a northbound right turn lane.

The preliminary preferred alternative for Deerfield Road Section B is Alternative 3, 3-Lane with Curb & Gutter, and clearly separated itself from the other Section B alternatives evaluated because it provides:

- Best overall transportation performance improvement
- Good mobility improvement
- Greatest safety improvement
- Smallest roadway footprint
- Lowest environmental and socio-economic impacts
- Lower cost alternative

Alternatives Carried Forward

The alternatives carried forward are the No-Build Alternative and the combination of Section A Alternative A1D and Section B Alternative 3. Through the alternatives development and evaluation for Section A and Section B, one alternative clearly distinguished itself from the range of alternatives considered. Therefore no other alternatives were carried forward for further evaluation.

Preferred Alternative

The preferred alternative is the combination of Section A Alternative A1D and Section B Alternative 3. An alternative evaluation table was shown comparing the 2040 No-Build and the Preferred Alternative were shown. The preferred alternative decreases the PM westbound travel time from 35.6 minutes to 6.7 minutes, an 80% reduction. Congestion at the Milwaukee Avenue intersection is decreased by 70%. The mobility improved from 0 acceptable gaps to 30 acceptable gaps in the PM peak period. Injury crashes are reduced by 50%. There are no forest preserve or nature preserve impacts. There are 0.59 acres of wetland impacts, 2.61 acres of residential impacts, 1.25 acres of commercial impacts, 55 impacted parcels and a cost of \$28 million dollars.

Questions/Comments:

- USACE asked what the plan is for detention. CBBEL noted that detention is anticipated to be in basins within Section A and in-pipe for Section B. Added impervious area was quantified during the alternatives evaluation process to comparatively assess detention requirements.
- IDOT CBLRS stated that the noise analysis must include all legs of the termini intersections. CBBEL stated they will be included in the noise analysis.

- USEPA asked what the total wetland impacts are for the preliminary preferred alternative. CBBEL noted that the total wetland impact is 0.59 acres and that the high-quality wetlands are avoided.
- USEPA asked if there were any other alternatives that should have been carried forward. CBBEL noted that through the alternative evaluation process for Section A and Section B, one alternative clearly stood out from the others and no other alternatives warranted being carried forward for further evaluation.

Next Steps

The next steps for the project include completing the detailed design of the preferred alternative. The fourth SIG meeting and second Public Meeting will be held to seek input on the preferred alternative design and associated impacts. The draft Environmental Assessment is anticipated in Fall 2018 and fifth SIG meeting and Public Hearing in early 2019. The NEPA process is anticipated to be completed in Spring 2019.

From: Househ, Alex
To: [Matthew Huffman](mailto:Matthew.Huffman)
Subject: FW: [EXTERNAL] FW: Decision Register and sign-in sheets from 6/21 NEPA-404 Merger Meeting
Date: Thursday, June 28, 2018 1:09:42 PM

fyi

From: Raffensperger, William
Sent: Thursday, June 28, 2018 7:10 AM
To: Brown, Lori S. <Lori.S.Brown@Illinois.gov>; Househ, Alex <Alex.Househ@illinois.gov>
Subject: FW: [EXTERNAL] FW: Decision Register and sign-in sheets from 6/21 NEPA-404 Merger Meeting

Please see below for an email from Matt Fuller.

William Raffensperger, PE, PTOE, PTP
Project Development Engineer
Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764
O - 217.785.1676
C - 217.720.2787
Sent from laptop

From: Fuller, Matt (FHWA) [<mailto:Matt.Fuller@dot.gov>]
Sent: Thursday, June 28, 2018 7:07 AM
To: Sherrill, John <John.Sherrill@Illinois.gov>; Raffensperger, William <William.Raffensperger@illinois.gov>
Cc: Kohler, Jon-Paul <Jon-Paul.Kohler@dot.gov>; Piland, Janis <Janis.Piland@dot.gov>; Stevenson, Jerry <Jerry.Stevenson@dot.gov>
Subject: FW: [EXTERNAL] FW: Decision Register and sign-in sheets from 6/21 NEPA-404 Merger Meeting

John & Bill – Can you please forward to the appropriate project teams from the 6/21 merger meeting? Thanks.

Matt

From: Cirton, Shawn [mailto:shawn_cirton@fws.gov]
Sent: Tuesday, June 26, 2018 3:43 PM
To: Fuller, Matt (FHWA) <Matt.Fuller@dot.gov>
Subject: Re: [EXTERNAL] FW: Decision Register and sign-in sheets from 6/21 NEPA-404 Merger Meeting

Matt,

Please accept this email as concurrence for all projects that sought concurrence during the

June 21, 2018, NEPA-404 Merger Meeting.

Sincerely,

Shawn Cirton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Chicago Illinois Field Office
230 South Dearborn Street, Suite 2938
Chicago, IL 60604
(312)216-4728

On Fri, Jun 22, 2018 at 10:20 AM, Fuller, Matt (FHWA) <Matt.Fuller@dot.gov> wrote:

Hi Shawn – Can you provide concurrence from USFWS on the projects that were presented yesterday? Thanks.

Matt

From: Fuller, Matt (FHWA)

Sent: Friday, June 22, 2018 8:26 AM

To: 'abby.monroe@cityofchicago.org' <abby.monroe@cityofchicago.org>; 'anna.kutryn@illinois.gov' <anna.kutryn@illinois.gov>; 'brian.connor@jacobs.com' <brian.connor@jacobs.com>; 'Bryan.wagner@getipass.com' <Bryan.wagner@getipass.com>; 'bsroufe@civiltechinc.com' <bsroufe@civiltechinc.com>; Byars, Chris (FHWA) <Chris.Byars@dot.gov>; 'creed@knightea.com' <creed@knightea.com>; 'csommer@knightea.com' <csommer@knightea.com>; 'dwayne.ferguson@illinois.gov' <dwayne.ferguson@illinois.gov>; 'felecia.hurley@illinois.gov' <felecia.hurley@illinois.gov>; 'gruddy@jolietcity.org' <gruddy@jolietcity.org>; 'jacob.roth@illinois.gov' <jacob.roth@illinois.gov>; 'James.Skvarla@illinois.gov' <James.Skvarla@illinois.gov>; 'janel.veile@illinois.gov' <janel.veile@illinois.gov>; 'jeff.frantz@jacobs.com' <jeff.frantz@jacobs.com>; 'jessica.feliciano@illinois.gov' <jessica.feliciano@illinois.gov>; 'jjones@metrostrategiesinc.com' <jjones@metrostrategiesinc.com>; 'jnovak@huffnhuff.com' <jnovak@huffnhuff.com>; 'john.sadler@cityofchicago.org' <john.sadler@cityofchicago.org>; 'john.sherrill@illinois.gov' <john.sherrill@illinois.gov>; 'jrose@epsteinglobal.com' <jrose@epsteinglobal.com>; 'julie.c.rimbault@usace.army.mil' <julie.c.rimbault@usace.army.mil>; 'Kimberly.Murphy@illinois.gov' <Kimberly.Murphy@illinois.gov>; 'Ksmorynski@instrastructure-eng.com' <Ksmorynski@instrastructure-eng.com>; 'Lori.S.Brown@illinois.gov' <Lori.S.Brown@illinois.gov>; 'lpilecky@ch2m.com' <lpilecky@ch2m.com>; 'mfolkening@civiltechinc.com' <mfolkening@civiltechinc.com>; 'mhuffman@cbbel.com' <mhuffman@cbbel.com>; 'Michael.J.Murphy@usace.army.mil' <Michael.J.Murphy@usace.army.mil>; 'mmaestranzi@knightea.com' <mmaestranzi@knightea.com>; Mary L. Young, P.E., PTOE (MYoung@civiltechinc.com) <MYoung@civiltechinc.com>; 'natalia.jones@illinois.gov' <natalia.jones@illinois.gov>; 'nathan.roseberry@cityofchicago.org' <nathan.roseberry@cityofchicago.org>; Qudus, Omar <omar.qudus@dot.gov>; 'osman.baker@illinois.gov' <osman.baker@illinois.gov>; 'pelloso.elizabeth@epa.gov' <pelloso.elizabeth@epa.gov>; 'peter.foernssler@getipass.com' <peter.foernssler@getipass.com>; 'pharmet@cbbel.com' <pharmet@cbbel.com>; 'preinhofer@v3co.com' <preinhofer@v3co.com>; 'randres@civiltechinc.com'

<randres@civiltechinc.com>; 'Sarah.gelder@chicagoparkdistrict.com'
<Sarah.gelder@chicagoparkdistrict.com>; 'sarcher@jacobs.com' <sarcher@jacobs.com>;
'stacie.dovalovsky@clarkdietz.com' <stacie.dovalovsky@clarkdietz.com>;
'Steven.Schilke@illinois.gov' <Steven.Schilke@illinois.gov>; 'steven_culver@nps.gov'
<steven_culver@nps.gov>; 'tony.elsberry@epa.gov' <tony.elsberry@epa.gov>;
'vanessa.ruiz@illinois.gov' <vanessa.ruiz@illinois.gov>; 'westlake.kenneth@epa.gov'
<westlake.kenneth@epa.gov>; 'william.raffensperger@illinois.gov'
<william.raffensperger@illinois.gov>; 'zubair.haider@illinois.gov'
<zubair.haider@illinois.gov>

Cc: Cassem, Craig (FHWA) <craig.cassem@dot.gov>; Kohler, Jon-Paul (FHWA) <Jon-Paul.Kohler@dot.gov>; Piland, Janis (FHWA) <Janis.Piland@dot.gov>; Stevenson, Jerry (FHWA) <Jerry.Stevenson@dot.gov>

Subject: Decision Register and sign-in sheets from 6/21 NEPA-404 Merger Meeting

Good morning all – Attached are sign-in sheets from the 6/21/2018 NEPA-404 merger meeting and the “decision register” from the projects that presented yesterday. Draft meeting summaries will be distributed to all participants in early July for review.

PROJECT TEAMS – please be sure to provide draft summaries no later than 7/2/2018.
Thanks!

Matt Fuller
Environmental Programs Engineer
Federal Highway Administration
3250 Executive Park Drive
Springfield, IL 62703
217-492-4625

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.

APPENDIX E-3

AGENCY AND PUBLIC COORDINATION

Public Meeting #1



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Public Information Meeting #1 Summary

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1 EXECUTIVE SUMMARY

The Public Information Meeting (PIM) #1 for the Deerfield Road Phase I Study was held on Wednesday, November 30, 2016 between 6:00 and 8:00 p.m. in an open house format at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to explain the project objective, the Phase I Engineering process, and to seek public input on the transportation issues and needs within the Deerfield Road study area, as well as solicit membership to the Stakeholder Involvement Group (SIG).

The Lake County Division of Transportation (LCDOT) is the lead agency for the Engineering and Environmental Phase I Study to address the need for transportation related improvements to Deerfield Road from Milwaukee Avenue on the west, to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

LCDOT and the study team provided information regarding the study schedule, project process, data collection, and the public involvement opportunities, including the opportunity to sign-up for consideration to serve on the project's Stakeholder Involvement Group (SIG). Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. All material presented at the PIM were posted to the project website (www.deerfieldroadcorridor.com) immediately following the meeting.

The meeting was attended by 132 people. A total of 60 comments were received by the close of the 2-week comment period, December 14, 2016.

2 MEETING NOTIFICATIONS

2.1 DISPLAY ADS AND 3RD PARTY OUTREACH

LCDOT posted announcements on their changeable message signs along Deerfield Road the week before the Public Information Meeting.



In addition, an announcement was included on the LCDOT website:

[view as a webpage](#)



**LAKE COUNTY
TRANSPORTATION
UPDATES**



Deerfield Road Corridor, Public Meeting Nov. 30

The Lake County Division of Transportation (LCDOT) is hosting a Public Information Meeting for the Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road Phase I Engineering and Environmental Study. The purpose of this meeting is to introduce the project and inform stakeholders on the planning process, schedule, and public involvement opportunities. Meeting attendees will have the opportunity to provide feedback about existing conditions and concerns in the study area and ask questions of the project study team. [Project Website](#).

Date: Wednesday, Nov. 30, 2016
Time: 6 p.m. to 8 p.m.
Location: Aptakisic Junior High School, 1231 Weiland Road, Buffalo Grove

The public information meeting will be conducted in an open house format, so the public may attend any time between 6 and 8 p.m. Exhibits will be on display and project team members will be available to discuss the project and answer questions.



Packets were sent to 3rd party outlets such as libraries and the Chambers of Commerce to request help to share information with residents and businesses. A list of these 3rd party outlets and the letter is included in Attachment A.

The following Classified Ad ran in the Buffalo Grove Countryside Deerfield Review and Lincolnshire Review (Chicago Tribune) on November 17, and November 24, 2016. The display ad certification of publication is included as Attachment B.

The Village of Riverwoods does not have a community review in the regional newspaper, so a notification was provided in the individual community newsletter: the Riverwoods Village Voice (November/ December issue). The Village notice is included in Attachment C.



The Lake County Division of Transportation has scheduled a

Public Information Meeting
for
Deerfield Road from Milwaukee Avenue to
Saunders/Riverwoods Road

The Lake County Division of Transportation (LCDOT) invites you to attend the first Public Information Meeting for the launch of a Phase I Engineering and Environmental Study for Deerfield Road from the Milwaukee Avenue intersection to the Saunders/Riverwoods Road intersection, a distance of approximately 2 miles. The study area is within the municipal limits of the Village of Riverwoods between Milwaukee Avenue and Saunders/Riverwoods Road, the Village of Buffalo Grove west of Milwaukee Ave, and the Village of Deerfield east of Saunders/Riverwoods Road. Deerfield Road crosses over the Des Plaines River east of Milwaukee Avenue, which will be included in this study. The purpose of this meeting is to present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs within the project study area. The details of the initial Public Information Meeting are as follows:

Date: November 30, 2016
Time: 6:00 p.m. to 8:00 p.m.
Location: Aptakisic Jr High School

1231 Weiland Road
Buffalo Grove, IL 60089

Open House Format

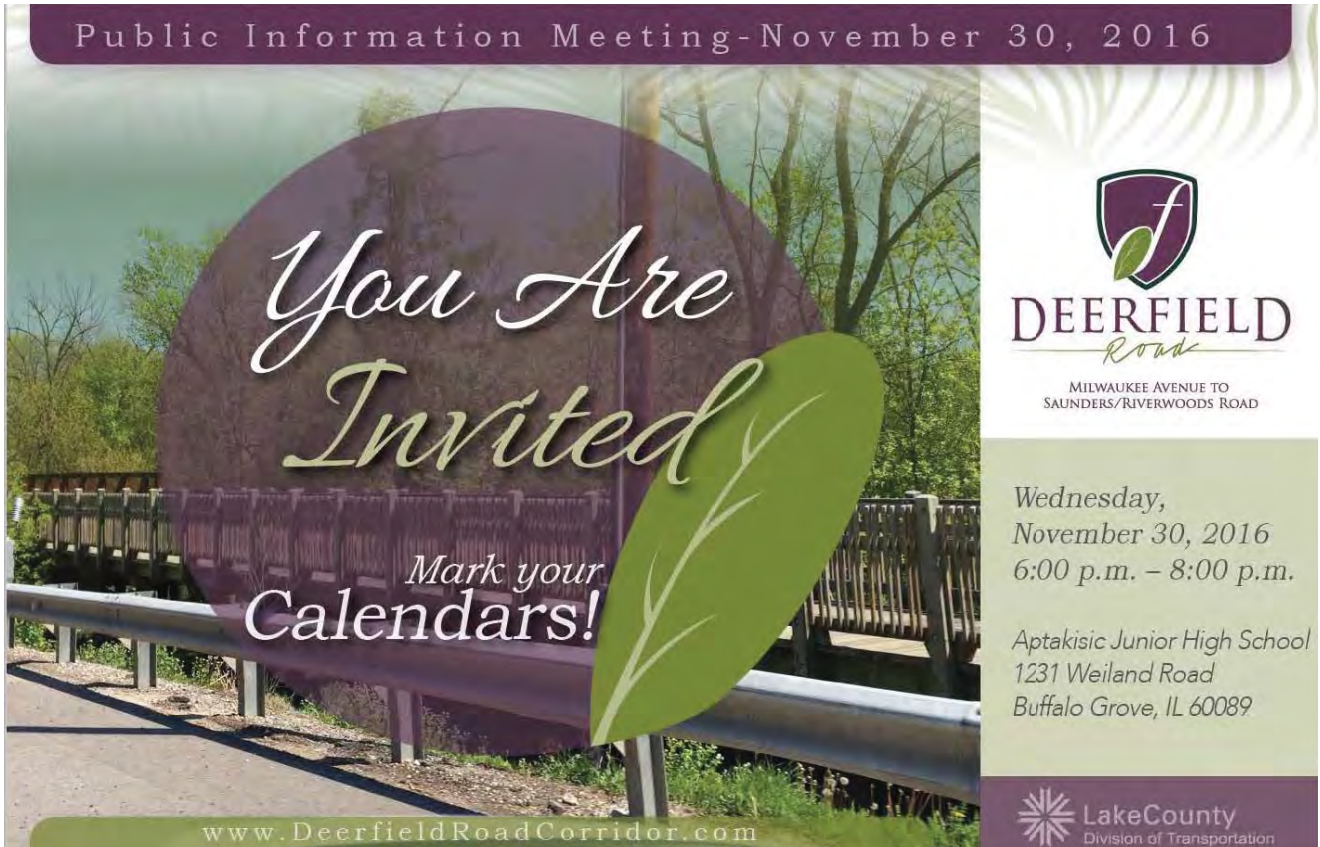
The meeting will be conducted in an open house format and interested persons may attend at any time between 6:00 pm and 8:00 pm. Attendees will have the opportunity to review exhibits, provide input on transportation issues and needs in the study area, and meet with LCDOT and project study team representatives.

For additional information, please visit the project website at,
www.DeerfieldRoadCorridor.com
or contact: Chuck Gleason,
Project Manager, at
CGleason@lakecountyil.gov, or
(847) 377-7400

**This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Lisa Mentzer at (630) 812-1724. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TTD number (800) 526-0844/or 711; TTY users (Spanish) (800) 501-0864/or 711; and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.*

2.2 POSTCARD

A postcard was sent to property owners near the project corridor as well as other interested stakeholders. 1,800 postcards were sent out the week of November 14, 2016.





Lake County Division of Transportation
600 W. Winchester Road
Libertyville, Illinois 60048

Lake County Division of Transportation (LCDOT) is hosting the first public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to introduce the project to the public and present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs.

The Public Information Meeting will be held:

**Wednesday,
November 30, 2016
6:00 p.m. – 8:00 p.m.**

Aptakisic Junior High School
1231 Weiland Road
Buffalo Grove, IL 60089

The meeting will be conducted in an open house format and interested persons may visit anytime between **6:00 p.m. and 8:00 p.m.** Attendees will have the opportunity to review exhibits, provide input on transportation issues and needs in the project study area, and meet with LCDOT and project team representatives.

We encourage comments throughout the course of the study. **Comments received by December 14, 2016,** will specifically be added to this public meeting record.

If you are unable to attend the public information meeting, you may view the meeting materials, and submit comments via the project website, 24 hours after the meeting at www.DeerfieldRoadCorridor.com.

All correspondence regarding this project should be sent to:
Chuck Gleason, Project Manager
Lake County Division of Transportation
600 W Winchester Road, Libertyville, IL 60048
Phone: (847) 377-7400

*This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Lisa Mentzer at (630) 812-1724. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TDD number (800) 526-0844/or 711, TTY users (Spanish) (800) 501-0864/or 711, and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.

Printed using soy based ink on recycled paper.



2.3 E-BLAST/ PROJECT WEBSITE

An email invitation (E-Blast), shown below, was sent to all stakeholders included on the stakeholder mailing list with email addresses. The project website (www.deerfieldroadcorridor.org) went live on November 7, 2016 and included an announcement of Public Information Meeting #1. The website also includes all study documents shown at the meeting.



Lake County Division of Transportation (LCDOT) is hosting the first public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to introduce the project to public and present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs.

The Public Information Meeting will be held:

**Wednesday,
November 30, 2016
6:00 p.m. – 8:00 p.m.**

**Aptakisic Junior High School
1231 Weiland Road
Buffalo Grove, IL 60089**

> Add to my calendar



The meeting will be conducted in an open house format and interested persons may visit anytime between **6:00 p.m. and 8:00 p.m.** Attendees will have the opportunity to review exhibits, provide input on transportation issues and needs in the project study area, and meet with LCDOT and project study team representatives.

We encourage comments throughout the course of the study. **Comments received by December 14, 2016**, will specifically be added to this public information meeting record.

If you are unable to attend the public information meeting, you may view the meeting materials and submit comments on the project website, 24 hours after the meeting at www.DeerfieldRoadCorridor.com.

All correspondence regarding this project should be sent to:
Chuck Gleason, Project Manager
Lake County Division of Transportation
600 W Winchester Road, Libertyville, IL 60048
Phone: (847) 377-7400

**This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Lisa Mentzer at (630) 812-1724. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TTD number (800) 526-0844/or 711; TTY users (Spanish) (800) 501-0864/or 711; and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.*

  [Lake County Division of Transportation](http://www.LakeCountyDivisionofTransportation.com)

www.DeerfieldRoadCorridor.com

2.4 PERSONALIZED LETTERS TO LOCAL ELECTED OFFICIALS

Informational letters were sent to public officials within the study area by mail and to Lake County Board members electronically on November 7, 2016. An example letter follows:





Lake County Board members included:

Mr.	Aaron	Lawlor	Chairman
Mr.	Brent	Paxton	District 4
Ms.	Linda	Pedersen	District 1
Ms.	Diane	Hewitt	District 2
Mr.	Tom	Weber	District 3
Ms.	Bonnie	Thomson Carter	District 5
Mr.	Jeff	Werfel	District 6
Mr.	Steve	Carlson	District 7
Mr.	Bill	Durkin	District 8
Ms.	Mary	Ross Cunningham	District 9
Mr.	Charles	Bartels	District 10
Mr.	Steven W.	Mandel	District 11
Mr.	S. Michael	Rummel	District 12
Ms.	Sandra	Hart	District 13
Ms.	Audrey	Nixon	District 14
Ms.	Carol	Calabresa	District 15
Mr.	Terry	Wilke	District 16
Mr.	Nick	Sauer	District 17
Mr.	Craig	Taylor	District 19
Mr.	Sidney	Mathias	District 20
Ms.	Ann B.	Maine	District 21

Public Officials included:

Honorable	Beverly	Sussman	Village of Buffalo Grove	Village President
Mr.	Jeffrey	Berman	Village of Buffalo Grove	Trustee
Ms.	Joanne	Johnson	Village of Buffalo Grove	Trustee
Mr.	Lester A.	Ottenheimer III	Village of Buffalo Grove	Trustee
Mr.	Andrew	Stein	Village of Buffalo Grove	Trustee
Mr.	Steven	Trilling	Village of Buffalo Grove	Trustee
Mr.	David	Weidenfeld	Village of Buffalo Grove	Trustee
Honorable	Harriet	Rosenthal	Village of Deerfield	Mayor
Mr.	Alan L.	Farkas	Village of Deerfield	Trustee
Mr.	Thomas L.	Jester	Village of Deerfield	Trustee
Mr.	Robert D.	Nadler	Village of Deerfield	Trustee
Mr.	William "Bill"	Seiden	Village of Deerfield	Trustee
Mr.	Dan C.	Shapiro	Village of Deerfield	Trustee
Ms.	Barbara	Struthers	Village of Deerfield	Trustee
Honorable	John	Norris	Village of Riverwoods	Mayor



Mr.	Michael	Baumann	Village of Riverwoods	Trustee, Drainage, Stormwater, Environmental Committees
Ms.	Cheryl	Chamberlain	Village of Riverwoods	Trustee, Finance and Forestry Committees
Ms.	Kris	Ford	Village of Riverwoods	Trustee, Parks Committee
Mr.	Michael	Haber	Village of Riverwoods	Trustee, Water Committee
Mr.	Richard	Hamerson	Village of Riverwoods	Trustee, Building and Zoning Committees
Mr.	Kevin	O'Donnell	Village of Riverwoods	Trustee, Sewer, Roads, and Bike Path Committees
Ms.	Barbara	Little	Village of Deerfield	Director of Public Works and Engineering
Mr.	Kent	Street	Village of Deerfield	Village Manager
Mr.	Patrick	Glenn	Village of Riverwood	Village Engineer
Mr.	Darren	Monico	Village of Buffalo Grove	Village Engineer
Ms.	Jennifer	Maltas	Village of Buffalo Grove	Deputy Village Manager/Economic Development
Mr.	Dane	Bragg	Village of Buffalo Grove	Village Manager
Mr.	Scott	Saewert	Wheeling Township	Highway Commissioner
Ms.	Kathy	Penner	Wheeling Township	Supervisor
Ms.	Josephine	Stellato	Wheeling Township	Director of Finance and Administrator
Ms.	Alyson M.	Feiger	West Deerfield Township	Supervisor
Ms.	Suzanne	Zupec	Lake County Transportation Alliance	President
Mr.	Michael	Stevens	Lake County Partners, Inc.	President and CEO
Ms.	Brooke	Hooker	Lake County Division of Transportation	Communications Coordinator
Mr.	Michael	Warner, P.E., CFM	Lake County Stormwater Management Commission	Executive Director
Mr.	Peter	Kolb, PE	Lake County Public Works	Director of Public Works
Mr.	Eric	Waggoner	Lake County Planning, Building and Development	Director
Mr.	Alex "Ty"	Kovach	Lake County Forest Preserve District	Executive Director
Mr.	Randall	Seebach	Lake County Forest Preserve District	Director, Planning & Land Preservation

3 PUBLIC INFORMATION MEETING SUMMARY

The Public Information Meeting #1 for the Deerfield Road Phase I Study was held on Wednesday, November 30, 2016 between 6:00 and 8:00 p.m. at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to explain the project objective, the Phase I Engineering process, and to seek public input on the transportation issues and needs within the Deerfield Road study area. The meeting was conducted in an open house format. Two sets of exhibits were provided along either side of the gymnasium with 3 sets of aerial roll plots provided in the center of the room to add comments focusing on issue and need areas within the study area. Tables and chairs were set up in the front of the room for attendees to write their comments and submit to the comment boxes. A two week comment period was provided.

The Lake County Division of Transportation (LCDOT) is the lead agency for the Engineering and Environmental Phase I Study to address the need for transportation related improvements to Deerfield Road from Milwaukee Avenue on the west, to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

LCDOT and the study team provided information regarding the study schedule, project process, data collection, and the public involvement opportunities, including the opportunity to sign-up for consideration to serve on the project's Stakeholder Involvement Group (SIG). Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. A newsletter was provided to meeting attendees and is included in Attachment D. All PIM material was posted to the project website following the meeting.

3.1 ATTENDEES

The meeting was attended by 132 people including public officials, local business representatives, residents along the corridor and within adjacent neighborhoods, roadway users, and involved agencies and organizations. The following public officials were in attendance:

- John Norris, Village of Riverwoods Mayor
- Cheryl Chamberlain, Village of Riverwoods Trustee
- Rick Jamerson, Village of Riverwoods Trustee
- Jeffrey Berman, Village of Buffalo Grove Trustee, President, Pro Tem
- Beverly Sussman, Village of Buffalo Grove Trustee
- Sidney Mathias, Lake County Board Member

A number of businesses were represented including:

- Federal Life Insurance
- Brentwood North Healthcare and Rehabilitation Center
- Quadrangle Development Company
- Shorewood Development Group
- Veterinary Specialty Center

Additional agencies and organizations represented included:

- Village of Riverwoods Engineer, Patrick Glenn
- Village of Buffalo Grove Engineer, Darren Monico
- Village of Deerfield Public Works Director, Barbara Little
- Buffalo Grove Police Department, Anthony Goldstein, Traffic Sergeant
- Pace Bus, Timothy Dilsaver
- Lake County Forest Preserve District, Jeffrey Sloom
- Lake County Planning, Bldg. & Dev., Daniel Krill
- Active Transportation Alliance, Elliot Rossen
- Transportation Management Association of Lake Cook, Tim Grzesiakowski

3.2 MEDIA

Media represented include:

- Steve Sadin, Pioneer Press
- Ronnie Wachter, Pioneer Press

A news article was published in the Daily Herald on December 8, 2016 regarding the Public Information Meeting, and is included as Attachment F.

3.3 PHOTOGRAPHS

Photographs from the Public Information Meeting:









4 COMMENTS

A total of 60 written comments were received by the close of the 2-week comment period, December 14, 2016. Additional location-specific comments were provided on roll plots, and category-specific comments were provided on a hanging display. Topics included:

- Users' experience with significant congestion and delay along the corridor
- Bike/ Pedestrian safety and desire to improve non-motorized facilities
- Concern for property, community, and environmental impacts
- Property access and safety concerns (potential for increased traffic, speed, decreased access, etc.)
- Design recommendations at specific locations
- Location-specific drainage and flooding issues
- Construction costs, and other issues

Comments are included as Attachment E.

ATTACHMENT A

The Village of Deerfield, IL
850 Waukegan Road
Deerfield, IL 60015

Village of Riverwoods
300 Portwine Rd
Riverwoods, IL 60015

Village of Buffalo Grove
50 Raupp Blvd
Buffalo Grove, IL 60089

Indian Trails Public Library District
355 Schoenbeck Rd
Wheeling, IL 60090

Deerfield Public Library
920 Waukegan Rd
Deerfield, IL 60015

DBR Chamber of Commerce
405 Lake Cook Rd
Deerfield, IL 60015

ATTACHMENT A



MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

www.DeerfieldRoadCorridor.com

November 22, 2016

Lake County Division of Transportation (LCDOT) is hosting the first public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to introduce the project to the public and present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs.

We would appreciate your help sharing information about the Public Information Meeting with residents and businesses. Enclosed you will find postcards to place in municipal buildings or other locations as you see most appropriate.

The Public Information Meeting will be held:

Wednesday, November 30, 2016
6:00 p.m. – 8:00 p.m.
Aptakisic Junior High School
1231 Weiland Road
Buffalo Grove, IL 60089

If you have any questions, please feel free to call me at 630-510-3944 x115 or email Leisa.Niemotka@imagesinc.net.

Thank you,

Leisa Niemotka
Deerfield Road Project Team – Public Involvement

Enclosure

Sold To:
Images Inc - CU00036406
1250 E Diehl Rd Ste 401
NAPERVILLE, IL 60563

Bill To:
Images Inc - CU00036406
1250 E Diehl Rd Ste 401
NAPERVILLE, IL 60563

Certificate of Publication:

Order Number: 4563275
Purchase Order: Attn: Leisa Niemotka

State of Illinois - Lake

Chicago Tribune Media Group does hereby certify that it is the publisher of the Barrington Courier Review, Buffalo Grove Countryside, Lake Zurich Courier. The Barrington Courier Review, Buffalo Grove Countryside, Lake Zurich Courier is a secular newspaper, has been continuously published Weekly for more than fifty (50) weeks prior to the first publication of the attached notice, is published in the County of Lake, State of Illinois, is of general circulation throughout that county and surrounding area, and is a newspaper as defined by 715 IL CS 5/5.

This is to certify that a notice, a true copy of which is attached, was published 2 time(s) in the Barrington Courier Review, Buffalo Grove Countryside, Lake Zurich Courier on Nov 17, 2016, Nov 24, 2016.

This notice was also placed on a statewide public notice website as required by 5 ILCS 5/2.1.

PUBLICATION DATES: Nov 17, 2016, Nov 24, 2016.

Barrington Courier Review, Buffalo Grove Countryside, Lake Zurich Courier

Executed at Chicago, Illinois on this

_____ Day of NOV 28 2016, by
Day Month Year

Chicago Tribune Media Group

Deidra Durham

Notary Public



The Lake County Division of Transportation has scheduled

a Public Information Meeting for Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road

The Lake County Division of Transportation (LCDOT) invites you to attend the first Public Information Meeting for the launch of a Phase I Engineering and Environmental Study for Deerfield Road from the Milwaukee Avenue intersection to the Saunders/Riverwoods Road intersection, a distance of approximately 2 miles. The study area is within the municipal limits of the Village of Riverwoods between Milwaukee Avenue and Saunders/Riverwoods Road, the Village of Buffalo Grove west of Milwaukee Ave, and the Village of Deerfield east of Saunders/Riverwoods Road. Deerfield Road crosses over the Des Plaines River east of Milwaukee Avenue, which will be included in this study. The purpose of this meeting is to present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs within the project study area. The details of the Initial Public Information Meeting are as follows:

Date: November 30, 2016
Time: 6:00 p.m. to 8:00 p.m.
Location: Aptakisc Jr High School
1231 Welland Road
Buffalo Grove, IL 60089

Open House Format

The meeting will be conducted in an open house format and interested persons may attend at any time between 6:00 pm and 8:00 pm. Attendees will have the opportunity to review exhibits, provide input on transportation issues and needs in the study area, and meet with LCDOT and project study team representatives.

For additional information, please visit the project website at www.DeerfieldRoadCorridor.com or contact: Chuck Gleason, Project Manager, at CGleason@lakecountyil.gov, or (847) 377-7447

*This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Lisa Mentzer at (630) 812-1724. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TTD number (800) 526-0844/or 711; TTY users (Spanish) (800) 501-0864/or 711; and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.
11/17, 11/24/2016 4563275

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Purchase Order: Attn: Leisa Niemotka

State of Illinois - Lake

Chicago Tribune Media Group does hereby certify that it is the publisher of the Deerfield Review, Highland Park News, Lake Forester, Libertyville Review, Lincolnshire Review, Mundelein Review, Vernon Hills Review. The Deerfield Review, Highland Park News, Lake Forester, Libertyville Review, Lincolnshire Review, Mundelein Review, Vernon Hills Review is a secular newspaper, has been continuously published Weekly for more than fifty (50) weeks prior to the first publication of the attached notice, is published in the County of Lake, State of Illinois, is of general circulation throughout that county and surrounding area, and is a newspaper as defined by 715 IL CS 5/5.

This is to certify that a notice, a true copy of which is attached, was published 2 time(s) in the Deerfield Review, Highland Park News, Lake Forester, Libertyville Review, Lincolnshire Review, Mundelein Review, Vernon Hills Review on Nov 17, 2016, Nov 24, 2016.

This notice was also placed on a statewide public notice website as required by 5 ILCS 5/2.1.

PUBLICATION DATES: Nov 17, 2016, Nov 24, 2016.

Deerfield Review, Highland Park News, Lake Forester, Libertyville Review, Lincolnshire Review, Mundelein Review, Vernon Hills Review

Executed at Chicago, Illinois on this

_____ Day of NOV 28 2016, by
Day Month Year

Chicago Tribune Media Group

Deidra Durham



The Lake County Division of Transportation has scheduled

a Public Information Meeting for Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road

The Lake County Division of Transportation (LCDOT) invites you to attend the first Public Information Meeting for the launch of a Phase I Engineering and Environmental Study for Deerfield Road from the Milwaukee Avenue intersection to the Saunders/Riverwoods Road intersection, a distance of approximately 2 miles. The study area is within the municipal limits of the Village of Riverwoods between Milwaukee Avenue and Saunders/Riverwoods Road, the Village of Buffalo Grove west of Milwaukee Ave, and the Village of Deerfield east of Saunders/Riverwoods Road. Deerfield Road crosses over the Des Plaines River east of Milwaukee Avenue, which will be included in this study. The purpose of this meeting is to present the study schedule, planning process, existing conditions, stakeholder involvement opportunities, and seek input on the transportation issues and needs within the project study area. The details of the initial Public Information Meeting are as follows:

Date: November 30, 2016
Time: 6:00 p.m. to 8:00 p.m.
Location: Aptakisic Jr High School
1231 Welland Road
Buffalo Grove, IL 60089

Open House Format

The meeting will be conducted in an open house format and interested persons may attend at any time between 6:00 pm and 8:00 pm. Attendees will have the opportunity to review exhibits, provide input on transportation issues and needs in the study area, and meet with LCDOT and project study team representatives.

For additional information, please visit the project website at www.DeerfieldRoadCorridor.com or contact: Chuck Gleason, Project Manager, at CGleason@lakecountyil.gov, or (847) 377-7447

*This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Lisa Mentzer at (630) 812-1724. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TTD number (800) 526-0844/or 711; TTY users (Spanish) (800) 501-0864/or 711; and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.
11/17, 11/24/2016 4563235

4563235



RIVERWOODS
VILLAGE VOICE

Riverwoods Village Voice is published bimonthly by the Village of Riverwoods. The purpose is to provide a communication forum and information for residents. The views expressed in the newsletter are not necessarily those of the Mayor or members of the Board of Trustees.

Editor: Jackie Borchew.

Any resident wishing to become a newsletter staff volunteer please call the Village Hall at 847-945-3990 and leave your name and phone number.



SEND IN THOSE
LETTERS!

Letters from residents and Riverwoods homeowners' associations are invited and encouraged. Preferred length: approximately 250 words or less, typed. All letters must include the author's name, address and phone number. Letters may be printed, space permitting, but may be edited for grammar, clarity and length. If controversial topics are addressed, the editor will seek opposing viewpoints for balance.

Deadline for the January/February 2017 issue: December 20, 2016

Send to:
Editor
Riverwoods Village Voice
300 Portwine Road
Riverwoods, IL 60015
Jackie@borchew.com

MAYOR'S LETTER

Just a brief note for this issue of the Village Voice, as I have caught one of those early season chest colds and am running way behind. There are some things, however, that need to be said.

First, a deep and heartfelt "thank you" to former trustee Michael Baumann,

who recently left the Board of Trustees. Michael is an incredible intelligent and tireless worker. His contributions to the Board advanced the interests



of the Village and its residents in a myriad of ways. He will be sorely missed and we wish him well.

Second, a thank you to Jackie Borchew for another wonderful Village Halloween Party. We had more people attend than ever (despite the Cubs playing a World Series game that evening) and everyone had a great time.

Finally, elsewhere in this issue is an article setting forth an idea as to what to do with the campus area around the new Village Hall. These particular ideas come from the Riverwoods Preservation Counsel. It is only a concept. Its appearance in the Village Voice is not meant to be taken as an endorsement of this concept. It is meant to get the question of what to do with the Village-owned property before the residents. We would like to hear other residents' ideas as well. While I would like to have other proposals published in future editions of the Village Voice, even if you don't write an article we want to hear from you. We plan to have meetings with the residents to hear what you think. This campus area is a valuable resource and we want to get this right.

Let me close by wishing you all a Happy Thanksgiving and a joyous holiday season.

John W. Norris
Mayor, Village of Riverwoods

ATTACHMENT C

2017 RIVERWOODS VILLAGE
ELECTION

Candidate Selection Process Update

On April 4, 2017, the mayor, village clerk, and three trustees will be elected to the Riverwoods Village Board. These positions are for four years.

On December 5, 2016 at 7:30pm at Wolters Kluwer, 2700 Lake Cook Road, Riverwoods, the Riverwoods Caucus Party will elect its candidates from among the Nominating Committee selections and any other candidates who apply. All residents registered to vote in Riverwoods are encouraged to attend this meeting and participate in the selection process. For further information, contact the Caucus Party at RiverwoodsNomCom@gmail.com.

VILLAGE NOTICES

Hazard Tree Survey – The Village Forester/Certified Arborist has completed the Hazard Tree Survey. Our final letter with locations will be mailed mid November. Hazardous trees must be removed by January 13, 2017. After that final deadline, the Village will remove remaining trees and charge-back our costs plus 10% to each resident that has not complied.



Toys For Tots Drive – The Village of Riverwoods is doing its second annual Toys for Tots. Please bring new, unwrapped gifts to our temporary Village Hall at 320 Portwine Road now through December 20. Any questions please call 847-945-3990. Thank you and Happy Holidays!

Compost Pick Up – Are you aware that LakeShore Recycling Systems offers a weekly compost pick up service? There is a nominal fee for stickers and a bin. For more information call LakeShore at 773-685-8811.

Lake County Division of Transportation – (LCDOT) is hosting a public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. Wednesday, November 30 from 6-8pm at Aptakisic Junior High School, 1231 Weiland Road in Buffalo Grove. Attendees will have the opportunity to review exhibits, provide input on transportation issues and meet with LCDOT and project team representatives. For more information go to www.deerfieldroadcorridor.com

Public Involvement OPPORTUNITIES

LCDOT is committed to providing opportunities for public involvement throughout the process. Here are some of the different ways you can participate and stay up-to-date on project milestones:

- Public Meetings
- Public Hearing
- Newsletters
- Project Website
- Stakeholder Involvement Group Meetings
- Individual Stakeholder Meetings

Stay Involved

PROJECT WEBSITE: www.DeerfieldRoadCorridor.com

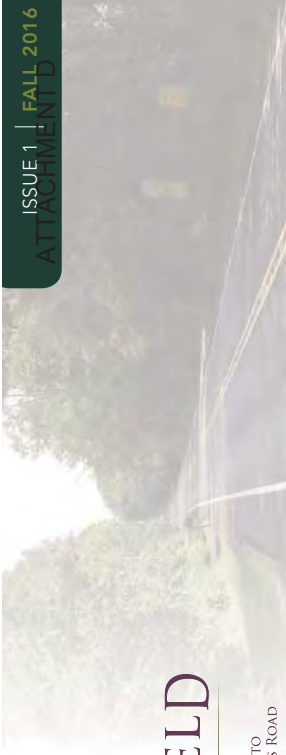
Public involvement is a key component of the Deerfield Road Project, and the project website will be an important resource to keep you connected as the project moves along. The website will be a collection point for all of the project information, reports and publications. On the project website you will be able to sign-up for email notifications, find meeting dates, find contact information for the study team, and provide comments. Visit the project website to get involved and stay informed.

All public meeting materials will be posted to the website within 24 hours of the meeting.



What are we studying?

The Deerfield Road Phase I Engineering and Environmental Study will investigate improvements to Deerfield Road to address existing capacity, drainage & roadway flooding, infrastructure deficiencies, safety, non-motorized accommodations and projected future travel demand. The intersections of Milwaukee Avenue, Portwine Road, and Saunders/Riverwoods Road, and the Des Plaines River Bridge are included in this study.



DEERFIELD ROAD

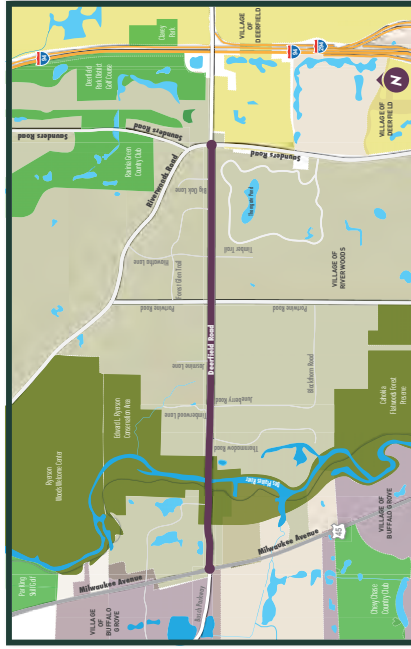
MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD

PHASE I ENGINEERING STUDY

Study is launched!
WE WELCOME YOUR FEEDBACK

The Lake County Division of Transportation (LCDOT) has initiated the Deerfield Road Phase I Preliminary Engineering and Environmental Study;

The Deerfield Road study area is from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles. The study area is within the municipal limits of the Village of Riverwoods between Milwaukee Avenue and Saunders/Riverwoods Road, the Village of Buffalo Grove west of Milwaukee Avenue and the Village of Deerfield east of Saunders/Riverwoods Road. Deerfield Road crosses over the Des Plaines River east of Milwaukee Avenue. The Lake County Forest Preserve District has two holdings adjacent to Deerfield Road near the Des Plaines River; Edward L. Ryerson Conservation Area to the north and Cahokia Flatwoods to the south.



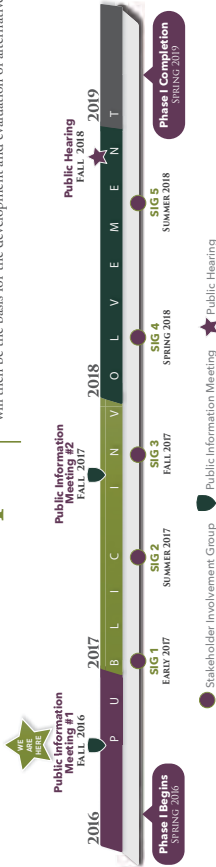
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Over the next few months, the study team will meet with stakeholders, gather input and data, and develop the project purpose and need. This groundwork will then be the basis for the development and evaluation of alternatives.

What Are The Next Steps?



Please Share Your Comments!

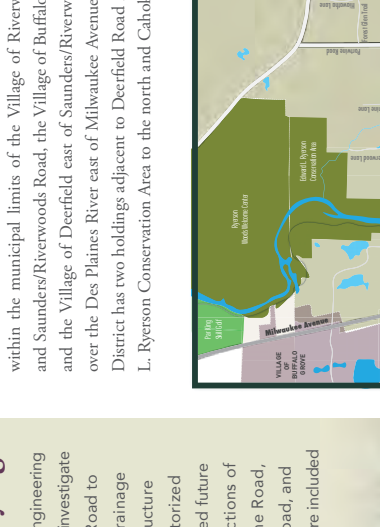
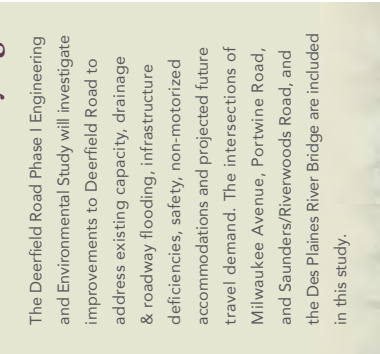
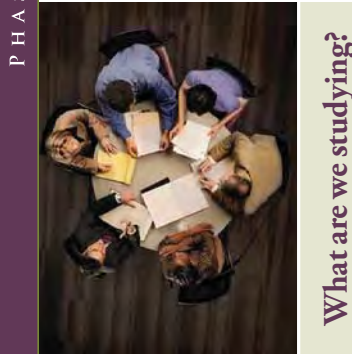
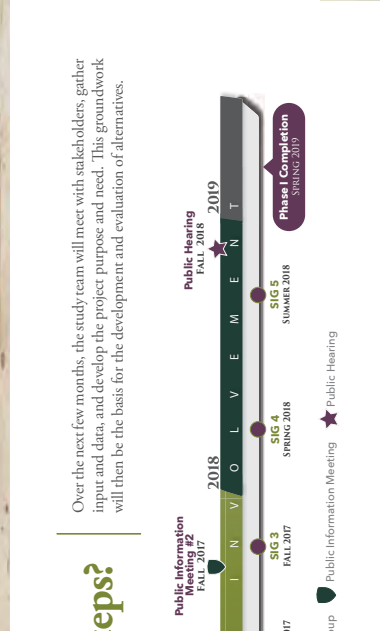
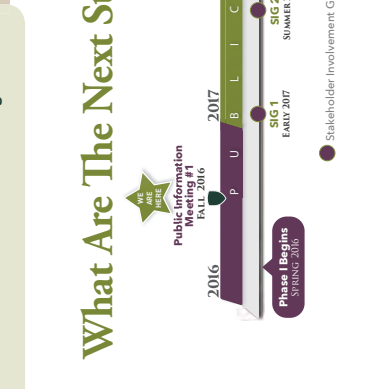
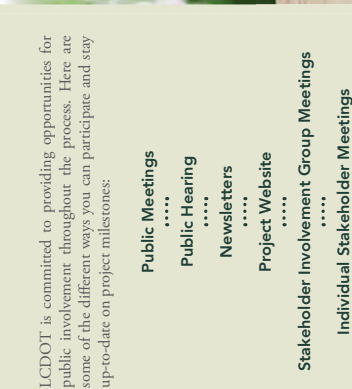


What are the transportation issues and needs on the Deerfield Road corridor? Your input is valuable and it is our commitment to include stakeholders in this process.

The project study team is seeking input on the transportation issues and needs within the project study area. Comments submitted by Wednesday, December 14, 2016 will be included in the first public information meeting record. Provide comments in one of the following ways:

- Fill out a comment form at the meeting tonight
- Submit comments through the project website
- Mail your comments directly to LCDOT
- Email your comments directly to DeerfieldRoadCorridorComment@cbbel.com

Lake County Division of Transportation
ATTN: Chuck Gleason, Project Manager
600 W Winchester Road • Libertyville, IL 60048
847-377-7447



Environmental Assessment

The Deerfield Road Phase I Study will follow the National Environmental Policy Act and will be processed as an Environmental Assessment. Following this process will allow the study team to balance the need for safe and efficient transportation improvements with any potential impacts to the human and natural environment. The study team will consider a variety of factors that may have an impact on the environment and submit the final findings to the Federal Highway Administration and to the public for review.

Some of the environmental aspects included in the study will be: Socio-economic, cultural resources, air quality, noise, water quality, wetlands and more.

Project Study Team

The LCDOT is the lead agency for this project and will make final project decisions. Christopher B. Burke Engineering Ltd. is the lead project consultant and oversees a team of sub-consultants. The Illinois Department of Transportation Bureau of Local Roads and the Federal Highway Administration oversee the project development process and have final approval authority. Following the federal project development process allows the project to be eligible for possible federal funding in the future.

Public Involvement

A Stakeholder Involvement Plan (SIP) has been developed for this study and will be used as a guide for encouraging stakeholder participation. The SIP is the blueprint for engaging the public during the study process, and ensures stakeholders have a variety of opportunities to be informed and participate as the study progresses. A draft of this plan is available for review at the Public Information Meeting, and any updates to the plan will be posted on the project website at www.DeerfieldRoadCorridor.com.

Collaborative Approach

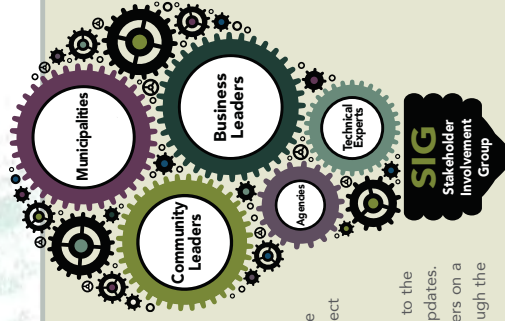
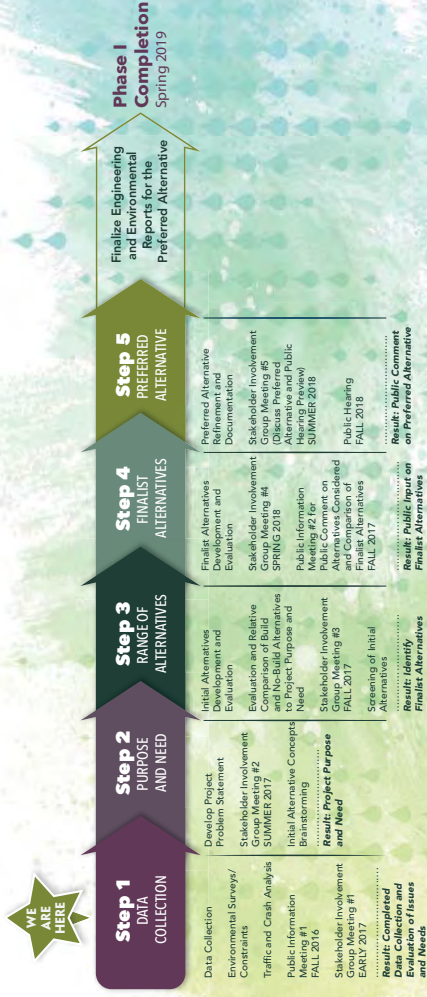
LCDOT is developing the study using the principles of Context Sensitive Solutions (CSS). CSS is a collaborative approach where

we gather and consider input from all stakeholders in the development of a transportation solution. The goal is to provide safety and mobility enhancements that fit into the surroundings and preserves scenic, aesthetic, historic, and environmental resources. Taking this approach encourages design flexibility to incorporate environmental and community values as well as meet transportation objectives.

Public involvement is a key component of CSS and is strongly encouraged during the study. Stay up-to-date with project meetings and other opportunities for participation on the project website.



Preliminary Engineering AND ENVIRONMENTAL STUDY PROCESS



Stakeholder Involvement Group (SIG)

LCDOT is forming a Stakeholder Involvement Group (SIG) to assist with gathering input throughout the project development process. The SIG will help the study team identify the transportation issues and needs, and provide input into the development and evaluation of project alternatives. The SIG will consist of community members and leaders from the study area, and stakeholders with expertise or technical interest in environmental, land use, drainage, transportation, and economic development. Individuals wishing to be considered for the SIG should submit a SIG membership form during the two-week comment period following the first Public Information Meeting. Five SIG meetings are currently planned and will be scheduled to correspond with key project milestones.

Other stakeholders and interested residents that are not part of the SIG will be added to the project mailing list to receive electronic meeting invitations, newsletters, and study updates. The study team will also be available to meet with organizations and other stakeholders on a one-on-one basis throughout the project. Comments and input can be submitted through the project website throughout the entire project duration.



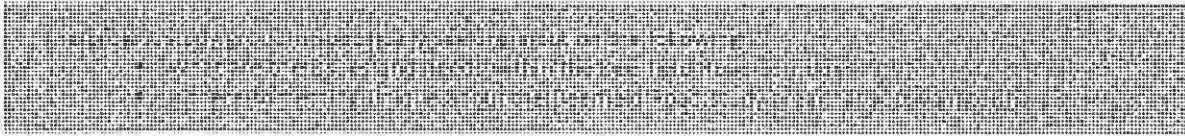
November 30, 2016
Public Information Meeting #1
Comment Form



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Your input is valuable and it is our commitment throughout this study to include stakeholders, such as yourself, in this process. The purpose of the first Public Information Meeting is to introduce the project to the public and identify the issues and needs for this section of Deerfield Road. The project study team is seeking your thoughts on this corridor. Please place your comment forms in the box marked COMMENTS; or fax to (847) 823-0520; or scan and email to deerfieldroadcorridorcomment@cbbel.com; or fold in thirds, tape closed, place a stamp and mail.

To be included in the meeting record, please send comments by Wednesday, December 14, 2016.



Please widen the road. Every night, it can take 30 minutes or more to travel from Riverwoods Road to Milwaukee Ave during rush hour. It has been getting worse over the years, and as Buffalo Grove plans to build more homes, more traffic will be coming.

Deerfieldrd is a main road to access I-94, and should be built properly to handle this traffic (e.g. more lanes)

The bike paths from Buffalo Grove to Deerfield need to connect as well.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

- I would like to receive e-mails regarding the Deerfield Road project
- I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



November 30, 2016
Public Information Meeting #1
Comment Form



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② Increasing to 4 lanes makes Deerfield Road into a speedway/highway. The noise level will absolutely increase. ③ Riverwoods will no longer be the peaceful community that it is. ④ Try fixing the intersection of Deerfield Rd + Milwaukee first - that will be a great improvement. ⑤ If you're widening because of a Sam's Club and a supermarket, ask them to pay. ⑥ Property value in Riverwoods will decrease - the higher value houses will no longer have their value + overall value in Riverwoods will decrease. Building roads in people's driveways or in their backyards is RUDE, UNSAFE + UNSIGHTLY. No one would choose to live that way thus selling will never be possible. ⑦ Traffic will make it unsafe for children at bus stops. ⑧ The construction alone will cause so much traffic that the children will be late or travel time to schools will triple during peak hours. ⑨ Turning from your driveway into a 4 lane roadway is absolutely more difficult and UNSAFE - engineers can plan + say it will be "easier," but they need to live it and be the aging property owner and then make a determination. Come on! ⑩ Riverwoods is a tree village and by making a 4 lane roadway, you will make a huge mess by removing trees + the intimacy of that wooded area. ⑪ People are suggesting medians, with trees + plantings, but I still see the nature being spoiled. ~~just~~ Be careful not to make our community a highway. Noise, safety, nature, property value - all compromised because Sam's club is moving to Buffalo Grove? Remember to put yourselves into the mindset of the community - you'll make better decisions that way.

(Optional, Please Print)

Name /Affiliation _____
 Address _____ 12 _____
 City/State _____ R _____
 Phone No. _____

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Turning left from businesses on 21 and Deerfield back onto D Deerfield Rd. Other than turning left from Flame Charhouse there isn't a safer alternative unless one were to turn right from the Shopper at Riverwoods and travel around to Rt. 22 and back down Riverwoods Rd to get back. Even at the moment turning left is challenging due to the proximity to the intersection of Deerfield and 21 because of the ease of turning right from 21 onto Deerfield, the timing of turning left from 21 to Deerfield, and having intermittent to cut through a lane of traffic and an open left hand turn lane that people speed around without usually warning. When shall I patronize these businesses? They close at 6pm. Four lanes would increase the challenge to support local businesses.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



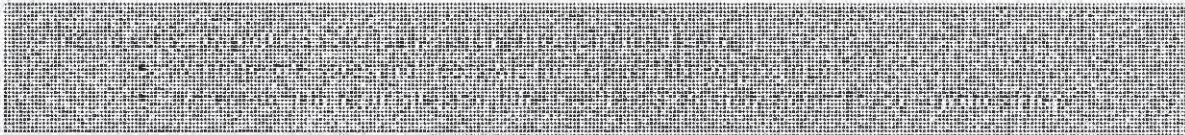
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We are AGAINST OFF MAKING THE ROAD WIDER,
BECAUSE IT WILL INCREASE TRAFFIC, MAKE MORE
NOISE WHICH WILL BE HEARD IN THE HOUSE, THIS
WILL DECREASE HOME VALUE.

IT IS ALREADY DIFFICULT TO CROSS THE DEERFIELD RD
AND PULL OUT FROM DRIVEWAY ON SMALL ROAD TO
DEERFIELD ROAD. MORE LANES WILL MAKE IT
IMPOSSIBLE. IT ALSO WILL BE ADDITIONAL
HABITAT FOR WILD LIFE.

(Optional, Please Print)

Name /Affiliation _____

Address 8 _____

City/State _____

Phone No. 8 _____

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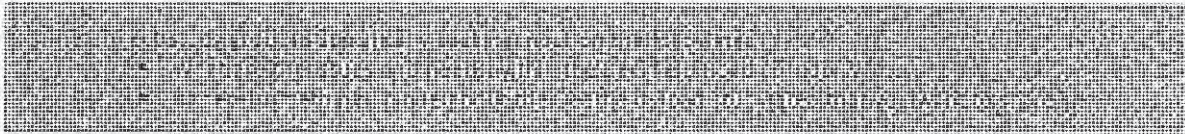
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My primary concern is creation of a safe biking path through this area. Currently there is no safe way to travel west from the recently completed underpass at the I-94 on-ramp on Deerfield Road with only a partial sidewalk and no shoulder, biking on Deerfield Road west of Saunders is dangerous.

I fully support plans to improve non-motorized accommodations along this area.

(Optional, Please Print)

Name /

Address

City/Sta

Phone /

I would like to receive e-mails regarding the Deerfield Road project

I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



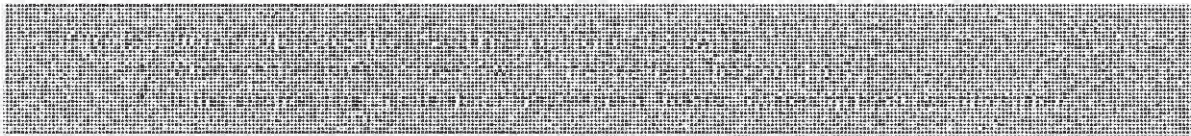
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Alternative should be made
to increase traffic on
Lake Cook and Hillday Rd
(21) a lot by building
another 4 lane highway
through Green Areas,
wildlife, + flood ways

(Optional, Please Print)

Name /Affilia

Address

City/State

Phone No.

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Deerfield Road is essential to bicycle Access
Across the Des Plaines River. The Evanston bicycle
club uses this road for rides to Long Grove,
Cuba Road Barrington, and Lake Zurich.
For cyclists, riding at 15+ mph, the safest option
would be to have bike lanes or paved shoulders
This way cyclists are visible to motorists and
fit in with other traffic.

(Optional. Please Print)

Name /

Address

City/Sta

Phone #

- I would like to receive e-mails regarding the Deerfield Road project
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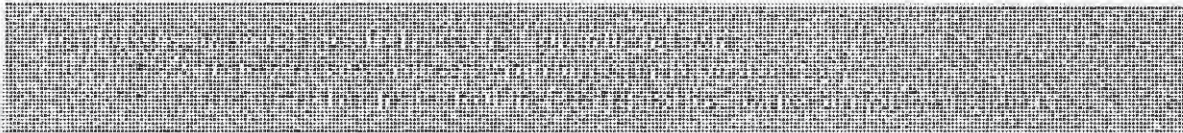
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My family resides on Deerfield Rd between Portwine & Milwaukee Ave. We know how busy Deerfield Rd. is between 6+8 AM in the am and 5+6:30 pm however, there is not much of a traffic during the day and on weekends. We don't think that widening of Deerfield Road would benefit our neighborhood. The traffic will endanger wild life that suffers enough ~~from~~ already. Riverwoods is a unique suburb and it can't be treated from the convenience of the "driver" stand point.

(Optional, Please Print)

Name /Affiliation _____

Address _____

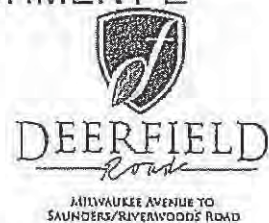
City/State _____

Phone No. _____

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There is no need to widen this -
adjust the Mil/DF road lights -
Put a Rt turn lane in -
Add a SAFE Bike path from
Mil to Saunders.

It is only backed up 60-90 minutes
M-F going West. Have the
BO people pay for this!

(Optional, Please Print)

Name /Affiliation _____

Address _____

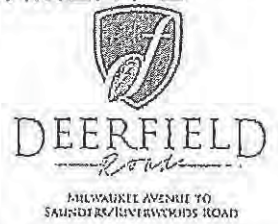
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I am concerned that LCDOT is looking at transportation only from the perspective of simply building more roads, widening highways, etc. I do not believe widening the road, particularly to 4 lanes, will alleviate traffic. Instead, it is more likely to draw more cars off the highways and create traffic issues for the side streets.

In addition, I am concerned about the loss to our woodland ecosystem - both flora and fauna. Once removed, it cannot be replaced. Riverwoods is an extremely unique village with rare woodland (flora and fauna). Widening the road will drastically change the character of our village.

If some widening is a must, please consider minimizing the impact.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. 8 _____

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Having grown up my entire life in Deerfield, and now coming back here to raise my children, I have witnessed Deerfield change drastically in the last 25 years. Some things are fantastic, others aren't too great. But one thing that has not changed is the enormous amount of traffic both east & west on Deerfield Road through Riverwoods. It is a beautiful roadway - picture perfect. But it needs to be widened to change with the needs of the community. I feel for the home owners who live on that street - I do!!! But with the continued economic development in the area which is bringing more traffic, the road is worse than the Kennedy during rush hour!!! We hope the widening goes as planned.

(Optional, Please Print)

Name /A/s

Address _

City/State

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Widening will bring more traffic. It cuts our community in half. It's only congested in the evening rush hour. Close the Tollway exit at Deerfield Road. Don't allow trucks on Deerfield Road between Saunders and ~~the~~ Milwaukee. Access to Juneberry should be closed at Deerfield Rd

(Optional, Please Print)

Name (A/I)

Address

City/State

Phone No.

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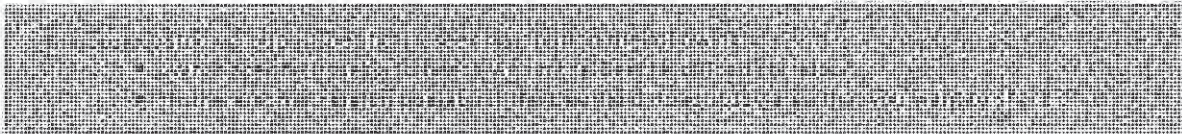
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Our village of Riverwoods is unique and small in terms of area & population. We value our wooded area.

1. The problem with Deerfield Rd is it has many houses and lanes that intersect it.
2. A four lane road is not the answer, it would destroy the character of our village and bring in more traffic.
3. The recommended alternative is what Deerfield did with it's portion of the road from the RR Bridge to Walnut Rd. They had a very similar situation to ours.
4. The best solution is a three lane Rd with a center lane for turns. This ^{will} alleviate many of the problems and afford easier entrance and exit for residents, will not attract more vehicles.
5. For the bike path, let's keep the existing 4' bike path on the ~~north~~ ^{north} side and let the village construct the south side from Portwine to the river. This would enable the village to better safeguard our trees.

(Optional, Please Print)

Name /Affiliation

Address

City/S

Phone

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Concerns about over development. SW corner of MILW & Deerfield PKwy used to feed two large birds of prey, which are still around trying to wake, and two huge owls. We do not need more banks or gas stations. I am concerned also about our water supply. We are getting our water from wells that are connected to the ~~retention~~ ~~ponds~~ ~~at~~ taskic creek. And the retention ponds on the SW and SE corners of Milwaukee & Deerfield roads. I cannot make a left hand turn onto Milwaukee without a real plan. And I do not want any expansion of the roads. I am concerned also about protecting our water source.

(Optional, Please Print)

Name /A

Address

City/State

Phone No

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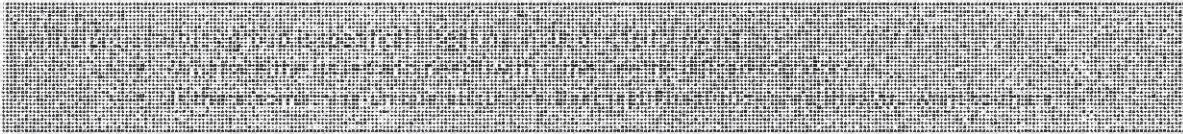
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What if you just dead-end Deerfield Road at Milwaukee? That would dramatically reduce rush hour traffic on Deerfield Road, but still allow Riverwoods residents access.

(Optional, Please Print)

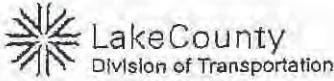
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Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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I don't agree with widening Deerfield Road for these reasons! 1) Loss of trees, 2) Trend Line is showing that traffic is decreasing 3) extensive work has been done to understand geotechnics from the nearby companies, many of which are little known jobs as laying pipe off, widening the road & will bring even more traffic to our residential area, which we don't want. 4) I don't see a lot of residential growth happening in our community, 5) Property values along Deerfield Road will be negatively impacted 6) Sounds like a solution is being proposed without all the homework being done, sorry.

Lastly, it is not clear about decision rights we have as citizens.

(Optional, Please Print)

Name
Addr.
City/
Phon

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Stoplight at Chicago & Deerfield

(Optional)

Name /A

Address

City/State

Phone No.

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This 2 mile stretch is more than a traffic pattern. The urbanization of this area will split the unique habitat which Riverwoods has tried to preserve for decades. There are woodland trees, wet land, flood plains which residents have called home and adapted to this natural space to mitigate habitat fragmentation. There comes a critical point where humans can't have it all because there is no space for bike lanes, extra car traffic. Traffic accidents are they due to distractions in peoples vehicles, timing of lights, poor flow of cars @ intersections or too many vehicles. What affects will this have on property value for those right on DF road? What will the pollution, noise, congestion be with more lanes. Where will the deer go they get hit already with 2 lanes. Once the special land is gone it is gone.

(Optional, Please Print)

Name /Affiliation

Riverwoods Resident

Address

City/State

Zip Code

Phone No.

E-Mail Address

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PRESERVATION OF NATURAL WOODLAND ENVIRONMENT,
INCLUDING NATURAL TREES ALONG DEERFIELD ROAD
AND THE SENSE OF COMMUNITY WITHIN THE VILLAGE,
IS A HIGH PRIORITY.

PREDICTABLE AND RELIABLE WALKER TRAILS AS
VEHICLES BECOME AUTOMATED AND ARE ABLE TO
TRAVEL MORE DENSELY, HOWEVER, A WALKER ROAD WILL
NOT BE NECESSARY.

RIVERWOODS IS A RARE NATURAL ENVIRONMENT WHICH
AN OPENING DEERFIELD ROAD WILL BRING AND
DISRUPT, COMPLICATING MOVEMENT NORTH-SOUTH
WITHIN THE VILLAGE AND DIMINISHING THE
CULTURE AS WELL AS ENVIRONMENTAL INTEGRITY
AND CONTINUITY OF THE VILLAGE.

(Optional, Please Print)

Name /A/

Address

City/State

Phone No

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There was a statement that there were numerous accidents along the proposed improved route. It can be assumed that most of these accidents were minor accidents. By increasing the amount of lanes, speeds would increase and accidents would be more severe. Especially with the numerous side streets feeding the Riverwoods community

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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AS RESIDENTS OF BUFFALO GROVE
MY WIFE AND I ARE BEYOND
(FREQUENT) USERS OF DEERFIELD
ROAD.

FROM MID AFTERNOON TO
EARLY EVENING WE ABSTAIN FROM
ATTEMPTING TO TRAVEL WEST
ON THE ROAD, IT BECOMES
TOTALLY CLOGGED BY THE EMPLOYEES
HEADING HOME FROM NEARBY
OFFICES' MOST NOTABLY VERON
SAUNDERS ROAD BETWEEN DEERFIELD
ROAD AND COOL. THIS IS
AGGRAVATED BY MOTORISTS
COMING OFF OF THE TOLLWAY

(Optional, Please Print)

Name /Affiliation

PLEASE SEE CONTINUATION ON
REVERSE SIDE
MORTEN SANDERSON, ART DRIER STREET
PROGRAM

- A
- C
- F

I would like to receive additional e-mails /correspondence from Lake County Division of Transportation

SEE REVERSE SIDE

Comment Form

2, DEERFIELD ROAD IS A
 FAVORITE ROAD FOR ~~BI~~
 BICYCLE RIDERS.
 ILLINOIS LAW REQUIRE
 DRIVERS TO KEEP A DISTANCE
 OF THREE FEET FROM
 BICYCLE RIDERS.
 SINCE THE ENTIRE LENGTH
 OF THE ROAD BEARS A
 SOLID YELLOW ~~PAINT~~

place
 stamp
 here

Lake County Division of Transportation
 Mr. Chuck Gleason
 Project Manager
 600 West Winchester Road
 Libertyville, IL 60048

MID-LINE, BOTH SAFETY
 AND THE LAW OFTEN
 CAUSES MOTORISTS TO
 RIDE BEHIND BICYCLISTS
 UNTIL AN INTERSECTION
 IS REACHED.

NY,
 30, 2016



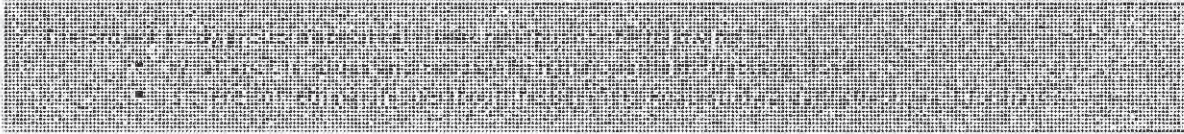
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Deerfield road is extremely congested
both in the AM & PM rush hours —

We need to add more lanes so that the
congestion is remedied —

We live in Buffalo Grove & use
Deerfield Rd to get to the tollway

We need to add more lanes to lessen
congestion

(Optional, Please Print) D 1 R.T. - -

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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This project will have only negative effects on the Village of Riverwoods. Widening J. Deerfield Rd will further divide Riverwoods in two. It will be harder to cross Deerfield Rd after the road becomes four lanes. Widening the road will result in more vehicle traffic, and more air pollution (and noise pollution). Traffic will move too fast at night after rush hour (see Lake-Cook Road at night). Roadwork will kill old trees, too.

Lake-Cook was widened and the evening rush hour through Buffalo Grove is very congested.

Riverwoods is a beautiful, quiet, wooded community. This road project will tear out its heart, for the benefit of non-residents who want to race through it to get to the toll road or other communities!

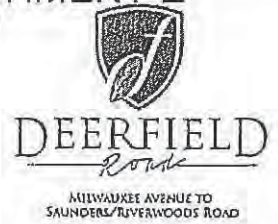
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Ci _____
Pl _____

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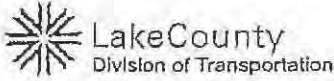
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Primary concern is ~~the~~ destruction of mature oak trees along Deerfield rd. Riverwoods is, and remains, deeply committed to the preservation of natural environment - How many trees will be removed? What kind of reforestation will be implemented? How will line of sight for driveways entering Deerfield Rd. be preserved, and will this necessitate additional ~~at~~ degradation?
Will proposed roadway be 3 or 4 or 4+ median lanes? What will impact of additional impervious surface be on ground water & flooding?

(Optional, Please Print)

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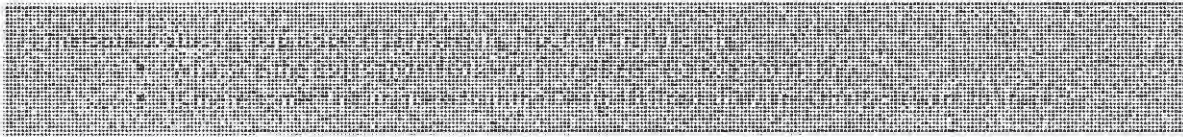
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• THERE ARE CONCERNS ABOUT RIGHT IN/ RIGHT OUT RESTRICTIONS ON THE SIDESTREETS SUCH AS HOFFMAN, JUNE BERRY, THORNMEADOW ETC.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____ E-MAIL ADDRESS _____

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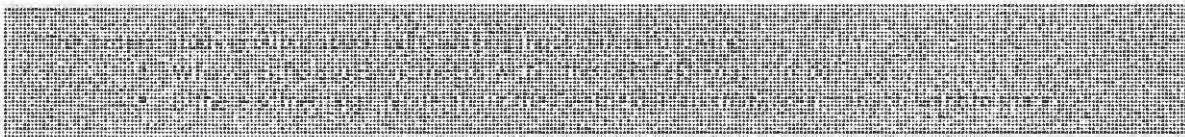
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People are cutting thru to
Forest Glen to come out on
Riverwoods. at the end of the day.

[Handwritten signature]

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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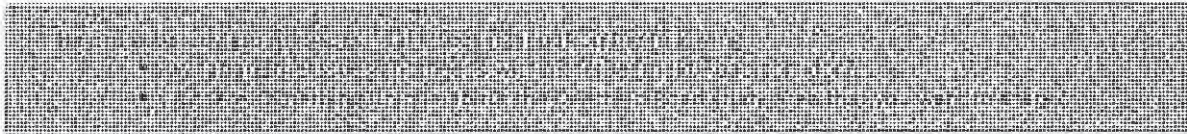
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1. My concern is to be sure to have the bike path extended from Portwiner Rd. on west to access the West Plainses River Trail.

2. We live off Timberwood Rd. which is the only access point to Deerfield Rd. from our housing area of 15 houses. We are particularly concerned for a safe and easy access to Deerfield Rd. during heavy traffic particularly.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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1) How does this study address the properties around/in proximity to Deerfield Road.

2) How are the opinions of residents being considered?

3) Who is paying for the road and who benefits from the actual construction of the road?

4) Is there a Public Opinion Weight to the decision to increase traffic on the road?

5) Noise increase/abatement?

6) Pollution increases.

7) Speed increases with the new development as well as road noise will affect property values.

8) ~~No~~ There is absolutely no benefit to the residents around/in proximity to the

9) Ecological study/ No benefit - net loss of views.

10) Intersection improvements

11) Is this a "make work" project?

12) The overwhelming majority of residents are opposed to this project!

(Optional, Please Print)

Name /Affilic _____

Address _____

City/State _____

Phone No. _____

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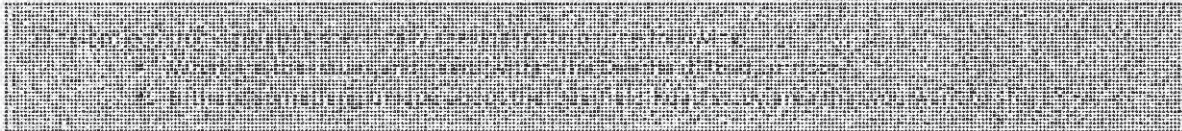
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I understand the problems of traffic congestion, however:
As a Riverwoods resident I feel a strong need
to preserve the character of our Village which is deeply
rooted in our NATIVE environment.

There are sensitive plant communities, including trillium
ferns, cow ~~parsnips~~ parsnips, not to mention giant oaks
that should be given the utmost respect and careful
handling. Please reach out to residents who might be able
to relocate or rescue plants which may be "in the way."

In addition there are animals whose crossing of
Deerfield will be hampered as the highway grows. Can there
be underpasses for some of them? Can you identify crossing
points for large animals and at least provide cautionary
signage?

I would hope that expert biologists and environmentalists from
The Lake Co. Forest Preserve would consult to ensure the least environmental
damage/degradation.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. 8 _____

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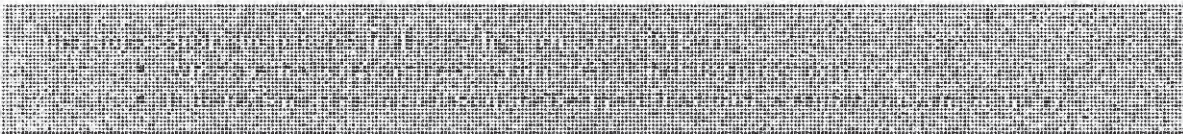
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RIVERWOODS IS A UNIQUE ENVIRONMENT, WHICH IS WHY WE BUILT OUR HOME HERE. ALTHOUGH WE UNDERSTAND THE NEED TO MOVE TRAFFIC SAFELY AND EFFICIENTLY, WE'RE CONCERNED ABOUT THE IMPACT OF A WIDENED DEERFIELD RD.

ALREADY THERE ARE NUMEROUS VEHICLE/ANIMAL ACCIDENTS, WHICH ARE ALWAYS FATAL TO THE ANIMAL AND COSTLY, FINANCIALLY AND SOMETIMES PHYSICALLY, TO THE DRIVER. WILDLIFE NEEDS TO BE CONSIDERED IN THIS PROCESS.

RIVERWOODS RESIDENTS ARE WELL-AWARE OF THE IMPORTANCE OF NATIVE PLANTINGS. ANY post-construction LANDSCAPING SHOULD BE DONE WITH ONLY NATIVE PLANTINGS.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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- Is there something unique about the Deerfield Road study area that you want to share?

improvements needed for
Drainage / Shoulders

- No widening
- increase traffic
- increase pollution
- increase noise
- decrease property value
- change character of Riverwoods village
- destroy wetlands
- destroy woodlands
- will not keep anyone in Riverwoods - only Buffalo Grove residents
- they should improve Lakeview

(Optional, Please Print)

Name /Affiliation in Buffalo Grove if they

Address want better traffic

City/State pattern Zip Code _____

Phone No. _____ E-Mail Address _____

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Want widening Deerfield Rd.
increase traffic on Portwine?
I think people will be attracted
to a potentially faster road.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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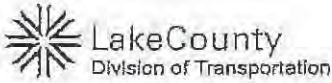
As a 15 year residence of Riverwoods I am greatly concerned how this will effect a large part of the community. I see it actually attracting more traffic to this area, as people will cut through Portwine Rd to from Lake Cook + Riverwood Rd in order to get on Deerfield Rd. The traffic only backs up westbound during the evening rush hour only. It seems that a simple right turn lane at the corner of Milwaukee/DF Rd would keep the traffic flow going. I feel other options such as this should be tried before a widening.

(Optional, Please Print)

Name
Address
City
Phone

1111
2111

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The entire 2 mile stretch from Saunders to Milwaukee needs to be widened to 4 lanes. The traffic load, especially during rush hours, is already too heavy to justify anything less.

It is absurd that it would take up to 30 minutes to travel only 2 miles, when there are no accidents, stalls, or weather conditions.

Residents along that stretch who have resisted the widening are being short-sighted. The traffic volume and accidents are harmful to property values not only along this corridor but for all those who depend on it to get to/from major arteries.

(Optional, Please Print)

1. 7

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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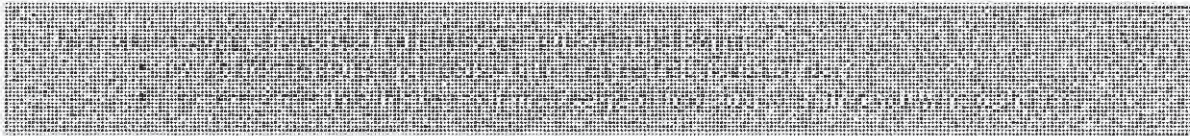
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This is a terrible idea, ~~that~~ we will be inviting even more traffic through a residential neighborhood especially when Milwaukee Ave gets developed.

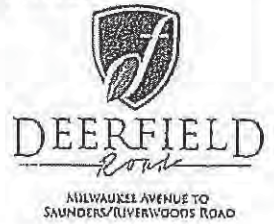
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- A
- A
- C
- F

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The traffic going ~~westbound~~ east bound in the a.m. has a much better flow than the west bound ~~traffic~~ traffic - would assume the #'s are approximately the same. The big difference is that @ DE/Saunders has 6 dedicated turn lanes with appropriate signals. It would be justified to have the developers pay for improvements and then determine if there is any additional need.

(Optional, Please Print)

Name /Affiliation _____

Address _____

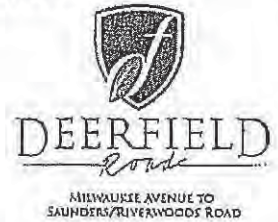
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- 1) DONT WIDEN THIS BEAUTIFUL ROAD.
- 2) WHILE CONGESTED AT PEAK HOUR IT IS TO NICE TO WIDEN. PLEASE DONT.
- 3) REQUIRE ^{DEVELOPER} WOODMANS TO IMPROVE MILWAUKEE DEERFIELD INTERSECTION WITH FOUR THROUGH LANES AND FULL LEFT TURNS FROM DEERFIELD. WIDEN ~~DEERFIELD~~ DEERFIELD ONLY LEFT TO NURSING HOME. ALSO REQUIRE DEVELOPER TO CONSTRUCT RIGHT TURN LANE FROM WEST BOUND DEERFIELD TO NORTH BOUND MILWAUKEE, THIS WOULD HELP A LOT.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

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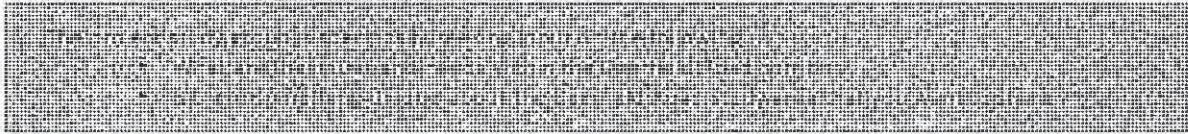
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FOCUS
~~FOCUS~~ ON QUEWEN NORTH OF RANS.
WENT TO A MEETING IN 2009 AND STILL
NOTHING.

(Optional, Please Print)

Name /Affiliation _____

Address _____

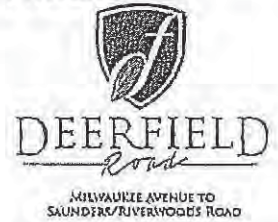
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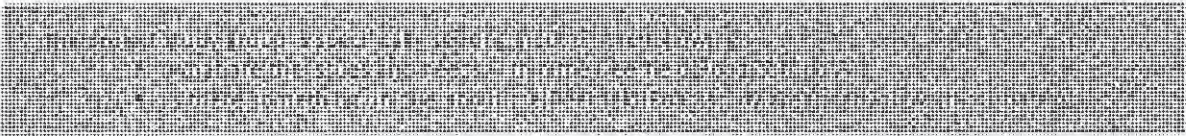
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Please install a dedicated bike/run/walk path, preferably paved from Milwaukee to Sanders/Saunders Rd.

Currently the bike path does not extend from Milwaukee to Saunders bikers/runners have to use the road, which is dangerous

40 MPH seems too slow, maybe increase to 45 mph

The road is pretty dark at night, perhaps additional street lights

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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- Is there something unique about the Deerfield Road study area that you want to share?

I see no reason to disrupt a tranquil residential and wild life area for another 4 lane or more highway especially since it is within blocks of Lake Cook Road.

I see no benefit to any resident of Riverwoods.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Phone No. _____

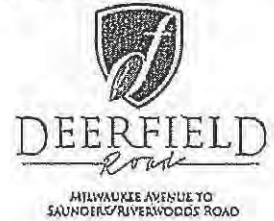
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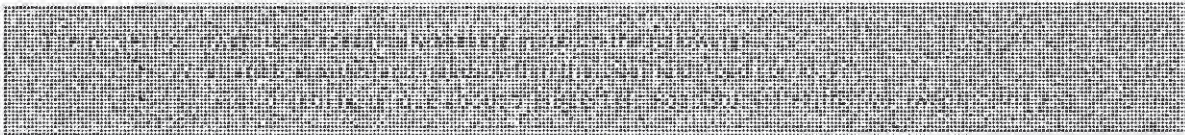
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AS A STAKEHOLDER THAT IS A CYCLIST WHO USES THIS ROAD WITH A CYCLING GROUP FREQUENTLY, I WOULD LIKE TO SUGGEST THAT WHAT EVER FINAL # OF ROAD LANES THAT IS REQUIRED, THAT A WIDE SHOULDER BE INSTALLED ON BOTH SIDES OF THE ROAD SO THAT CARS & CYCLISTS CAN BE KEPT APART.

THE ADDITION OF A SEPARATE UNATTACHED BIKE PATH MIGHT BE USEFUL TO A SELECTION OF CYCLISTS, BUT MANY CYCLIST RIDE TO FAST TO SAFELY USE A MULT-USE PATH WITH A VARIETY OF INDIVIDUALS GOING AT DIFFERENT SPEEDS. A WIDE SHOULDER ROAD SHOULD BE PART OF THE FINAL DESIGN IN MY OPINION!

(Optional, Please Print)

Name /Affiliation _____
Address _____
City/State _____
Phone No. _____

- I would like to receive e-mails regarding the Deerfield Road project
- I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



November 30, 2016
Public Information Meeting #1
Comment Form



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FOR PARKING AT BENTWOOD NORTH, WE UTILIZE OUR
PROPERTY FROM DEERFIELD RD. WE CANNOT USE
OUR PARKING AS PART OF THIS PROJECT.

(Optional, Please Print)

Name /A

Address

City/State

Phone No

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Most of the congestion occurs westbound on Deerfield Rd. between 4-6 p.m. on weekdays. It seems by putting turn lanes at Milwaukee + Deerfield we could alleviate the traffic and prevent widening ~~the~~ Deerfield Rd which would save money, make residents happy and be better for the environment.

If you look at eastbound traffic on Deerfield in the morning, it does not get backed up and there is a turn lane there. Seems like a ~~win-win~~ win-win for all to add ~~turn lanes~~ turn lanes ~~onto~~ onto to Milwaukee - maybe them in as far back as the new storage place or the insurance company to keep the flow going.

(Optional, Please Print)

Name /Affiliation

Address

City/State

Phone No.



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I FREQUENTLY RIDE MY ROAD BIKE ON DEERFIELD ROAD, I BELIEVE WIDE PAVED SHOULDERS, IN ADDITION TO A BIKE PATH, ARE NEEDED.

(Optional, Please Print)

Name /Aff

Address

City/State

Phone No.

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I DEPLYMENT SUPPORT WIDENING DEERFIELD ROAD AS THIS SPECIFIC AREA IS A HORRIBLE CHOKE POINT DURING BUSY HOUR. I HAVE LIVED IN RIVERWOODS AND BUFFALO GROVE FOR THE LAST 25+ YEARS.

(Optional, Please Print)

Name

Address

City/State

Phone

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I drive round-trip daily for work from Buffalo Grove (roughly at the fire station) to Highland Park. Deerfield through Riverwoods needs to be widened to 4 lanes there is room. It is an unnecessary bottleneck. Both BG & Deerfield do their part to make improvements & foster good traffic flow given the available space. Each community needs to do their part. Cars sitting in traffic causes a lot of air pollution, as well as other related issues. This needs to be studied so glad to see the start

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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RIVERWOODS IS A SMALL VILLAGE, AND I WOULD
LIKE TO PRESERVE ITS SMALL VILLAGE ENVIRONMENT.
MOVING A LOT OF CARS THROUGH THE VILLAGE QUICKLY IS
LESS OF A PRIORITY.
MY CONCERN IS THAT A WIDER DEERFIELD ROAD WILL
SIMPLY ATTRACT MORE CARS.
PLEASE DO EVERYTHING POSSIBLE TO PRESERVE THE TREES
ALONG DFR.
EVERY TREE IS PRECIOUS.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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- Lake County has been very aware of multiple users of its road ways. Wide shoulders, trail maintenance, etc are very good.
- There are limited E/W roads that can accommodate cyclists. Lake/Cook - No; Route 72 yes, but only when traffic is light.
- Deerfield road when traffic is light is used by cyclists, but can be problematic. As a road cyclist wide shoulders are fine. Paths such as that on redwood Peterson are great - if maintained. However, bridges, such as that currently on Deerfield, with wooden planks can be very dangerous, especially when wet. They become as slick as ice. If a bike trail is to incorporate this bridge make sure you have good insurance to pay for the damage caused by falls.

(Optional, Please Print)

Name /Affiliation _____

Address 173 _____

City/State _____

Phone No. _____

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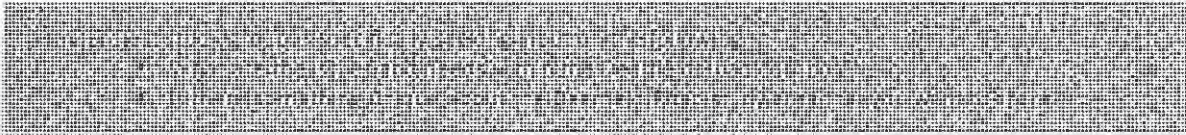
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7) I Do not believe Deerfield Road should be widened
It would change the whole character of Riverwoods
Traffic on Deerfield Road is only heavy between
5 d 6 PM All other times it is very light
Do Not widen Deerfield Road.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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I have a radical idea. I have fretted about a widened Deerfield Road ever since moving to Riverwoods in 1985. We moved to Riverwoods to avoid traffic + the bustle of congestion + traffic. The forest + river make the community an environmental + ecologic gem among the noisy + clutter surrounds. I always thought the best solution (found in other local communities as well) was to close Deerfield Road at Milwaukee Ave + have access to Riverwoods only with access from Saunders, Port + Wine + Hoffman Lane. Deerfield Road + Riverwoods should remain a 2 lane highway

(Optional, Please Print) 1 11 1

Name /Affilic _____

Address _____

City/State _____

Phone No. _____

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In 1986 Deerfield Road
Flooded at several spots
Along its route through
Riverwoods including
areas near Thorngate Road
at the Des Plaines River

The Impact of a Four Lane Highway
through Riverwoods will
increase flooding & inhibit
drainage. This will increase
shore home owners now in
the flood plain & storm way.

(Optional, Please Print)

/ / /

Name /A/

Address _

City/State

Phone No.

I would like to receive e-mails regarding the Deerfield Road project

2016

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I am a bicyclist and occasionally ride my bike 15 miles to work between Half Day Rd in Highland Park to Lake Cook and Arlington Heights Rd in Buffalo Grove. I have stopped riding because over the past 3 years I have had too many near misses,

Putting a bike path along side Deerfield Rd. is a step in the right direction because it connects to the (N/S) Des Plaines River Trail. Unfortunately west of Milwaukee there is no bike path (or is there?) so it won't help people get to the metro station.

Busy intersections such as Milwaukee and Deerfield are where my near misses have been. If you do do a bike path, its pay attention to how cyclists will cross these busy intersections and stay away from traffic.

(Optional, Please Print)

Name /A

Address

City/State

Phone No

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I do not want to see this road widened due to the environmental impact to the woodland areas on each side. Also, this is a peaceful place to drive and it would be sad to lose that.

The documentation shown at this meeting regarding the causes of the crashes along this section of Deerfield disregards one major cause of rear-end crashes & other traffic incidents: the use of cell phones & the texting that many drivers do can account for a number of the incidents. Widening this road will not change that.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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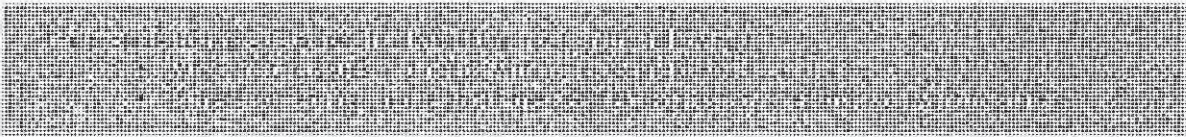
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Years ago Deerfield Rd was considered unsuitable for expansion; hence the Rt. 22 widening in Lincolnshire. The biggest problem here is the very large number of private residents accessing DF Road vs. the number in Lincolnshire. In addition, it is very difficult to re-route traffic on private roads south of Deerfield Rd, as they are not much wider than a lane and a half. This makes it very hard to create right turn only ingress/egress to roads such as Pinaberry and Thornmeadow.

I use the bike path in my area for walking several days a week and would hate to lose that option. The Village received a Community Award from Gov. Thompson in the 80's for our bike path initiatives. I was a Trustee and Mayor at that time.

(Optional) Name /Address

Name /A

Address

City/State

Phone No

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ATTACHMENT E

Matthew Huffman

From:
Sent:
To:
Cc:
Subject:
Attachments:

I am an attorney and the president of the Riverwoods Meadowlake HOA. Meadowlake is a 57 home development just north and west of the intersection of Deerfield Rd and Milwaukee Ave. Our main entrance is on Deerfield Road. We also have a gated entrance at Chicory and Milwaukee. When Deerfield Road is widened from Milwaukee to the Des Plaines River bridge, we will need a means of access to Deerfield Road. Our preference is a stop light of some sort that will allow access onto Deerfield Road when a car is waiting at the entrance or when other lights on the stretch are red Brian Meltzer.



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- Is there something unique about the Deerfield Road study area that you want to share?

TRAFFIC CONTROLLED SIGNAL AT THE INTERSECTION OF
MILWAUKEE AND DEERFIELD WILL HELP THE
MILWAUKEE RESIDENTS

(Optional, Please Print)

Name _____

Address _____

City/State _____

Phone _____

I would like to receive e-mails regarding the Deerfield Road project

I would like to receive additional e-mails /correspondence from Lake County Division of Transportation

Matthew Huffman

From:
Sent:
To:
Subject:

Categories:

I recently attended the public meeting and would like to share my thoughts on the needs of the study area. But first, I think it's important to understand my background as it allows me to provide important, balanced input across many areas:

- I use several different transportation modes impacted by decisions in the subject area: driving, road biking, mountain biking
- I have been a board member of the Active Transportation Alliance for several years and bring foresight from that group to thinking about and executing against key project goals
- I am a member of the Highland Park Bike-Walk Advisory Group, which is charged with ensuring that Highland Park consider its Complete Streets policy when evaluating infrastructure options and in supporting progress against the Highland Park Bike Walk 2030 Plan; in addition, I was instrumental in gaining approval of the Complete Streets policy for our community
- Lastly, my cycling club, VCR, rides out of Jaycee Park and often uses this stretch of Deerfield Road so I am keenly aware of its character and its challenges for motorists, cyclists, and pedestrians

My specific comments about needs of the area:

- I see four key need areas to consider: motorized vehicles, general pedestrian mobility, cyclists using that road section, and cyclists or pedestrians needing access to the DPRT
 - Motorized vehicles
 - Clearly there are issues that need to be addressed, including congestion, especially bad during certain day parts, and accidents which occur as a result
 - Even during off-peak times, the road is a potentially dangerous one with cars traveling well beyond the posted speed limits and with distracted driving influencing safety
 - Pedestrian mobility
 - I don't believe there are sidewalks along this entire section of Deerfield Road; the shoulder doesn't lend itself to safe and comfortable usage for walking
 - I'm not sure the extent of this need and if it could potentially be addressed
 - Road cycling
 - Riding on Deerfield Road is often terrifying even early on a Saturday or Sunday morning when recreational cyclists tend to ride
 - There is virtually no shoulder on most stretches of this road
 - In our group, we always ride 1 abreast (even though state law allows for 2 abreast) to leave as much room as possible for cars but even so cars are not acting smart or respectful when they pass; they are very impatient and don't assess the overall situation before starting to pass and they often underestimate the speed of a cycling group (which increases the time it takes to pass)
 - I have seen cars pass us without proper space to pass and actually force cars off the road who are coming in the opposite direction.
 - Cars pass us closer than 3 feet away which is in violation of state law

ATTACHMENT E

- Expanding the road to 2 lanes in each direction, as was done on Route 22 would provide for a much safer road for cyclists as well as drivers
- DPRT access and usage
 - I think it would be great to extend the trail that goes east from the DPRT to better serve the community there, all the way to Saunders Road if possible
 - This would support cyclists, hikers and pedestrians as I believe there is no sidewalk there
 - However, this is a lower priority for me

Other considerations:

- There is a shortage of good east-west routes for car and bicycle traffic; conditions need to be improved for all modes to address this
- Traffic congestion will only get worse unless we take a multi-modal approach to transportation solutions. Many communities have included cycling in plans to address these issues.
- It is not safe or fair to expect road cyclists to use an off-road trail for navigating this section; they travel to fast and when in groups would disrupt people on off-road paved trails

I'd be happy to discuss any of these points in detail if that would be helpful to you.

Thank you for considering my comments:

Matthew Huffman

From:
Sent:
To:
Subject:

Hello,

As someone who lives and works near this portion of Deerfield Road and drives on it frequently, I have an important comment. It seems as though west bound traffic during the evening rush hour is backed up for the entire 2 mile stretch from Saunders/Riverwoods all the way to Milwaukee Avenue, but opens up west of the Milwaukee Avenue traffic light. Wouldn't the changing of the timing of the traffic light for westbound traffic at the Milwaukee Avenue light reduce the backup for westbound Deerfield Road traffic? If Milwaukee Avenue isn't backing up for 2 miles during the evening rush, wouldn't it make sense to change the timing and then assess whether widening the lanes is necessary, or perhaps only widening near the Milwaukee Avenue intersection? Thank you.

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Matthew Huffman

From:
Sent:
To:
Subject:

Categories:

Please add a bike lane to the proposed corridor.

Matthew Huffman

From:
Sent:
To:
Subject:

Categories:

Hi,

I work at Deerfield and Saunders. Traffic has gotten worse every year. It takes me an hour just to get out of the complex when it snows! If this project entails widening Deerfield Rd, would it begin after the Lake-Cook road construction project beginning in March 2017, is complete or would it run concurrently?

Traffic is already terrible during rush hours, but it's going to be gridlocked when the new grocery store opens.

Drainage

*Drainage Problem 2400 Forest
Glen
just east of Forest Glen &
Deerfield Rd.

Unique Characteristics

Maintain all directional
turns on crossing
residential side streets

A RARE Road that Cyclists
CAN use to cross the Des Plaines
River!

You don't live here
You don't PAY very
high taxes to live in
the middle of the
woods we do

You are stealing
our woods from
us.
You don't understand
How to replace trees

We are being
FORCED to
lose our lovely
wooded area

Environmental

A smaller footprint
is best for our
community. How sad
to lose our heritage
of the trees

Companies who do
studies do not care
about replacing our
ENVIRONMENT. All the
NATURAL understory will
be affected and gone

Replace trees
along the Road
Do a nice job. We want
it to look wild and
NATURAL

Safety

Reduce
accidents!

It's important to maintain
and expand the non-motorized
paths along Deerfield Rd. There's
so little already, let's not limit
it!

Location Specific Comments on Roll Plots

ATTACHMENT E

Comment	Approximate Location
Heavy left turn backup Southbound Milwaukee at Deerfield. Additional delay by cars in left turn lane turning into strip mall. Summertime huge backup with landscaping trucks with trailers.	21122-21252 N Milwaukee Ave, Riverwoods, IL 60015
Fix this light + increase turning lanes. Lots of problems would be solved (deerfield + Milwaukee)	20831-20875 N Milwaukee Ave, Riverwoods, IL 60015
Heavy backup during morning rush hours going eastbound at Milwaukee. Wait for numerous traffic light cycles to get through. (eastbound-Deerfield at Milwaukee)	20976 N Milwaukee Ave, Riverwoods, IL 60015
Must add a right turn lane going from Milwaukee northbound onto Deerfield Rd Eastbound.	20977 N Milwaukee Ave, Riverwoods, IL 60015
Please widen. It takes 30-40 minutes during the evening rush hour to move from Riverwoods RD to Milwaukee Ave.	3301-3515 Deerfield Rd, Riverwoods, IL 60015
Safety for the children waiting for the school busses need to be addressed. Also the noise level will increase Widening will create a byway and ultimately we will have more residents.	3301-3515 Deerfield Rd, Riverwoods, IL 60015
No sidewalks for pedestrians	3440 Deerfield Rd, Riverwoods, IL 60015
Please connect all of the bike paths	3420 Deerfield Rd, Riverwoods, IL 60015
Drainage is a very big problem and will only get worse	3340 Deerfield Rd, Riverwoods, IL 60015
Timberwood Ln is the single entrance and exit to Deerfield RD for 15 homes. (SSA 22)	3420 Deerfield Rd, Riverwoods, IL 60015
No road shoulders for cars, postal truck, waste management, delivery trucks to pull over. This makes cars pull into oncoming traffic lanes to pass.	3420 Deerfield Rd, Riverwoods, IL 60015
Drainage on Thorngate Creek needs to be deepened and/or widened	3126-3152 Deerfield Rd, Riverwoods, IL 60015
I'm worried about Thorngate Creek. Since the culvert was enlarged, flooding has stopped. Make sure you don't mess that up.	3126-3152 Deerfield Rd, Riverwoods, IL 60015
Need wide shoulders for road bicyclists.	3126-3152 Deerfield Rd, Riverwoods, IL 60015
Need off road bike path between Saunders Rd and Des Plaines River.	3126-3152 Deerfield Rd, Riverwoods, IL 60015
More lighting needed on the stretch. Right now it's very dark, and a lot of wildlife run in the road at night.	3028-3098 Deerfield Rd, Riverwoods, IL 60015
Recommend light intersection in this location.	3756 Deerfield Rd, Riverwoods, IL 60015
Stoplight	3701 Deerfield Rd, Riverwoods, IL 60015
Bicycle access - Bike lane or paved shoulder - especially from Portwine through Milwaukee. This is one of the few roads that can be used by cyclists to cross Desplaines River to go to Long Grove, Cuba Rd, etc.	3440-3466 Deerfield Rd, Riverwoods, IL 60015
If current bridge for bikes is to be used the wooden planks can be like ice when wet. Not very conducive For road bikes in particular wide paved shoulder better.	3440-3466 Deerfield Rd, Riverwoods, IL 60015
Deerfield Road flooded in 1986 (over the surface) at the Desplaines River, At the hind bridge as well (Near bridge space)	3440-3466 Deerfield Rd, Riverwoods, IL 60015
Concerns of turning left onto deerfield from side streets.	3198-3230 Deerfield Rd, Riverwoods, IL 60015
It is very difficult to enter Deerfield Road from Juneberry, especially during rush hour. I recommend Juneberry be closed at Deerfield Rd.	3196 Deerfield Rd, Riverwoods, IL 60015
These woods can't be replaced we have rare swamp oaks which could be effected by the widening.	3154-3196 Deerfield Rd, Riverwoods, IL 60015
Wetland area dumps lots of rain water over Hoffman and flows west to Thorngate Creek. Drainage and large amounts of water issues here.	3098 Deerfield Rd, Riverwoods, IL 60015

Location Specific Comments on Roll Plots

ATTACHMENT E

Fix the light + turning lanes at Deerfield + Milwaukee Rds - a lot of trouble will be reduced.	20831 N Milwaukee Ave, Riverwoods, IL 60015
Update the flow of cars through this intersection to reduce the 5-6:30 back up on DF Road.	20831 N Milwaukee Ave, Riverwoods, IL 60015
Seems the interchange @ DF Rd and Sanders handles the traffic flow - upgrading the Milwaukee / Deerfield exchange would alleviate that. (if not all of the backup)	20831 N Milwaukee Ave, Riverwoods, IL 60015
Deerfield Road flooded over in 1986 at the bridge.	3468-3498 Deerfield Rd, Riverwoods, IL 60015
What are the causes of rear ending accidents? Distractions? Does DF Rd east have similar accident pattern?	3154-3196 Deerfield Rd, Riverwoods, IL 60015
Please connect the bike paths	2862-2880 Deerfield Rd, Riverwoods, IL 60015
No safe non-motorized access from this point west to the Des Plaines River. Cross walks. Drainage of stormwater down Portwine to DF - bigger culverts to collect	2850 Deerfield Rd, Riverwoods, IL 60015
Please widen. Takes 30 minutes each night to go from Riverwoods to Milwaukee.	2701-2745 Deerfield Rd, Riverwoods, IL 60015
Need bike path North side of Deerfield Rd from Saunders West.	2500-2540 Deerfield Rd, Riverwoods, IL 60015
I 2nd that wider bike path. Safer/wider bike path.	2300-2498 Deerfield Rd, Riverwoods, IL 60015
Very difficult to enter DF Rd E from big oak Ln during rush hour	1 Big Oak Ln, Riverwoods, IL 60015
Safety of vehicular merge westbound.	2200-2230 Deerfield Rd, Riverwoods, IL 60015
Need pedestrian "walk" signal NW corner Deerfield + Saunders	806-840 Riverwoods Road Trail, Riverwoods, IL 60015
Are there protected species in Riverwoods that would be impacted by these changes?	2862-2880 Deerfield Rd, Riverwoods, IL 60015
Are there any plans to add non-motorized capacity west of Portwine Rd? It's important.	2871-2897 Deerfield Rd, Riverwoods, IL 60015
Drainage issue	2800-2822 Deerfield Rd, Riverwoods, IL 60015
Non-motorized path east of Portwine needs to be upgraded to bike path standards.	2640-2698 Deerfield Rd, Riverwoods, IL 60015
Will the project diminish the non-motorized path along this segment? Hopefully not!	2500-2540 Deerfield Rd, Riverwoods, IL 60015
Major drainage problem.	2300-2498 Deerfield Rd, Riverwoods, IL 60015
Make the bike path much better AND SAFER! It's uneven and not smooth at all.	2300-2498 Deerfield Rd, Riverwoods, IL 60015
Drainage issues on south side of Deerfield Rd	2300-2498 Deerfield Rd, Riverwoods, IL 60015
When the bike path/sidewalk disappears it is a rough + dangerous to access the D.P.R. Trail from the east.	2862-2880 Deerfield Rd, Riverwoods, IL 60015
Big drainage issues here. Often floods in yards and at times goes over the road at this point.	2300-2498 Deerfield Rd, Riverwoods, IL 60015
What about sewers that run up Deerfield? Should they be replaced now? Yes who pays	2266-2280 Deerfield Rd, Riverwoods, IL 60015
Improve this intersection.	20945 Saunders Rd, Deerfield, IL 60015

Officials look toward Deerfield Road expansion

Residents complain of overcrowded afternoon traffic

BY STEVE SADIN
Pioneer Press

Improvements to the frequently congested section of Deerfield Road between Milwaukee Avenue and Saunders Road are on the agenda at the Lake County Department of Transportation.

The department gathered input from residents of communities that will be impacted by the future work at an open house on Nov. 30 at Aptakisic Junior High School in Buffalo Grove. The feedback is part of a study that's being conducted during the initial engineering phase of the project.

When a thoroughfare has average daily traffic of more than 15,000 vehicles, it is



STEVE SADIN/PIONEER PRESS

Area residents attend an open house on the possible expansion of Deerfield Road on Nov. 30 in Buffalo Grove.

time to look at ways to ease the flow, according to Chuck Gleason, the project's manager.

"That's the red flag," Gleason said. "The average traffic here is almost 20,000. That's the sign we have to do something."

Gleason said the possibilities include everything

ing the first hour, officials said.

Sid Mathias, a Buffalo Grove resident and member of the Lake County Board, said residents from his town use Deerfield Road to access the Interstate 94. The road often comes to a crawl during rush hour, he said.

"It's bumper-to-bumper every afternoon," Mathias said. "When they cross Milwaukee Avenue it opens up."

Deerfield Parkway, the name of the road once it goes west of Milwaukee Avenue, became four lanes along that stretch years ago, said Lake County Treasurer David Stolman.

Stolman, a Buffalo Grove resident, said those living in the middle of the village must go north to Half Day Road or south to Lake Cook Road for tollway access if they want to avoid the traffic on Deerfield Road.

Mathias said taking Deer-

field Road to Interstate 94 also provides better access for Buffalo Grove residents to the Edens Expressway, by using the spur ramp to access the Edens.

"They don't have to deal with all the lights on Lake Cook Road that way," Mathias said.

Riverwoods Mayor John Norris, who was also at the open house, wants to see the wooded tranquility of his village preserved as much as possible, but recognizes the fact that change is most likely imminent.

"I'd like to find a way to keep it a two-lane wooded road and get rid of the traffic," Norris said. "Some of my residents can't get in and out of their driveways. Something has to be done."

For Norris, the solution is to work with the county to lessen the environmental impact of any road widening.

While Mathias talks After that, detailed plans will be drawn and necessary land acquired. If things go according to schedule, construction could take place in 2022, Gleason said.

Steve Sadin is a freelance reporter for Pioneer Press.



Peak season arrives at Lake County Christmas tree farms

BY YADIRA SANCHEZ
OLSON
News-Sun

Norene Keefer has sold live Christmas trees to her customers long enough to watch their kids grow up and continue the tradition in their own homes.

Having worked at her family's business since high school, Keefer remembers

Farm has been transformed from cornfield to Christmas tree farm for the past three years, selling balsam, Fraser and Canaan firs.

"People who like the pine scent will go for the balsams, but if you want the needles to hold longer, the Fraser is the way to go," Kroll said.

The Canaan, Kroll added, is a bit of a combination of the balsam and the Fra-

The open house drew more than 100 people dur-

APPENDIX E-4

AGENCY AND PUBLIC COORDINATION

Public Meeting #2



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Public Information Meeting #2 Summary



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1 EXECUTIVE SUMMARY

The Public Information Meeting (PIM) #2 for the Deerfield Road Phase I Study was held on Wednesday, October 30, 2018 between 6:00 and 8:00 p.m. in an open house format at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to show the preferred alternative and to seek public input on the transportation issues and needs within the Deerfield Road study area.

The Lake County Division of Transportation (LCDOT) is the lead agency for the Engineering and Environmental Phase I Study to address the need for transportation related improvements to Deerfield Road from Milwaukee Avenue on the west, to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

LCDOT and the study team provided information regarding the study schedule, project process, data collection, and the public involvement opportunities. Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. All material presented at the PIM were posted to the project website (www.deerfieldroadcorridor.com) immediately following the meeting.

The meeting was attended by 105 people. A total of 33 comments were received by the close of the comment period, November 16, 2018.

2 MEETING NOTIFICATIONS

2.1 DISPLAY ADS AND 3RD PARTY OUTREACH


LCDOT posted announcements on their changeable message signs along Deerfield Road the week before the Public Information Meeting.

Packets were sent to 3rd party outlets such as libraries and the Chambers of Commerce to request help to share information with residents and businesses. A list of these 3rd party outlets and the letter is included.

An announcements was include don the LCDOT website and e-blast to their list-serv:

[view as webpage](#)

Lake County Transportation Updates



Deerfield Road Corridor, Public Meeting Oct. 30


The Lake County Division of Transportation (LCDOT) is hosting the second Public Information Meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to present the Preferred Alternatives and seek public comment.

Date: Tuesday, Oct. 30, 2018
Time: 6 p.m. to 8 p.m.
Location: Aptakisic Junior High School, 1231 Weiland Road, Buffalo Grove

The public information meeting will be conducted in an open house format, so the public may attend any time between 6 and 8 p.m. Exhibits will be on display and project team members will be available to discuss the project and answer questions.

The next steps in the study include preparation of the Environmental Assessment and the final public hearing which will be held in Spring 2019. [Project Website](#).

Deerfield Road Corridor study area map



The following article ran in the Buffalo Grove Countryside Deerfield Review and Lincolnshire Review (Chicago Tribune) on October 25, 2018.

10 NEWS

LNR Thursday, October 25, 2018 | A Chicago Tribune Publication

Residents now can send feedback on Deerfield Road widening project

By Phil Rockrohr
Pioneer Press

Lake County transportation officials are encouraging residents to weigh in on a proposed widening of Deerfield Road — a project meant to alleviate traffic going west through Riverwoods.

The addition of lanes between Milwaukee Avenue and Saunders/Riverwoods roads would reduce travel times during the evening rush hour by 30 percent, from 35 minutes to under 7 minutes, said Chuck Gleason, project manager for the Lake County Division of Transportation (LCDOT).

A new two-way turning lane between Saunders/Riverwoods roads and the Des Plaines River, where Deerfield Road only is two

lanes wide, as well as three westbound lanes at the Milwaukee Avenue intersection, also is estimated to have the smallest effect throughout the Deerfield Road corridor, Gleason said.

"That's the key," he said. "It's the smallest impact to address the needs. People in Riverwoods are concerned about trees and environmental things."

As planning for the project ramps up, LCDOT is hosting a public open house from 6 to 8 p.m. Oct. 30 at Aptakisne Junior High School, 1231 Wetland Road, Buffalo Grove.

Officials with LCDOT will present exhibits detailing the proposal, and be on hand to answer questions from residents and hear their feedback on the new

road project, Gleason said.

"We'll show some of the ideas we looked at and why we chose the preferred alternative," he said. "The exhibits will illustrate why the others basically dropped out. The main part of the meeting is to get that out there, to have people come in and look at it. People can offer comments and talk to anyone related to the project."

County transportation officials initially considered adding one lane in each direction, along with the two-way turning lane, Gleason said.

"But the numbers show it is not needed at this time. And there is no reason to build it if there is no need for it," he said.

The Illinois Department

of Transportation and the Federal Highway Administration also have agreed with the county's preferred construction proposal, Gleason said.

Going forward, LCDOT will return in spring 2019 to present a final proposal to the public before engineering plans are prepared, he said. At that time, costs for the project also will be presented.

As of now, the plan also would add one through lane, one right-turn lane and one left turn lane going west on Deerfield Road at Milwaukee Avenue, Gleason said.

It also calls for the installation of new storm sewers along the entire stretch and the construction of a bike path on the south side of Deerfield Road, from Mil-



PIONEER PRESS FILE PHOTO

Buffalo Grove officials support a proposal to widen Deerfield Road near the village.

waukee Avenue to Portwine Road, and on the north side of Deerfield Road, from Portwine to Saunders, he said.

Buffalo Grove Village President Beverly Sussman said she plans to attend the upcoming public meeting.

She said rush-hour traffic on Deerfield Road affects many Buffalo Grove residents who live immediately west of the proposal.

Evening rush-hour traffic usually backs up for 2 miles along the 34-mile stretch,

according to Christopher B. Burke Engineering, which is working as a consultant on the project.

"I'm sure many of those could be Buffalo Grove residents waiting in that traffic lane," Sussman said. "Anything that eliminates traffic and cars and residents waiting for that amount of time and can be shortened to that amount of time, I think, can be a good thing."

Phil Rockrohr is a freelance reporter for Pioneer Press.

2.2 POSTCARD

A postcard was sent to property owners near the project corridor as well as other interested stakeholders. 1,800 postcards were sent out the week prior to the public meeting on October 30, 2018.





You're INVITED

Lake County Division of Transportation (LCDOT) is hosting the second public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/ Riverwoods Road. The purpose of this meeting is to present the Preferred Alternatives and seek public comment on:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/ Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

The meeting will be conducted in an open house format and interested persons may visit anytime between **6:00 PM and 8:00 PM**. There will be exhibits which will display the proposed right-of-way and property impacts. LCDOT representatives, along with project team members, will be available to answer questions regarding the project.

Written comments will be accepted during the meeting and through the U.S. mail or via the project website at DeerfieldRoadCorridor.com. All comments received by November 16, 2018 will be summarized within the Public Information Meeting record. If you are unable to attend the public meeting, you are encouraged to view the meeting materials and provide your comments via the project website.

All correspondence regarding this project should be sent to:
Chuck Gleason, Project Manager
Lake County Division of Transportation
600 W Winchester Road, Libertyville, IL 60048
Phone: (847) 377-7447

THE SECOND PUBLIC INFORMATION MEETING WILL BE HELD:

TUESDAY, OCT. 30, 2018
6:00-8:00 PM

APTAKISIC JUNIOR HIGH SCHOOL
1231 Welland Road
Buffalo Grove, IL 60089

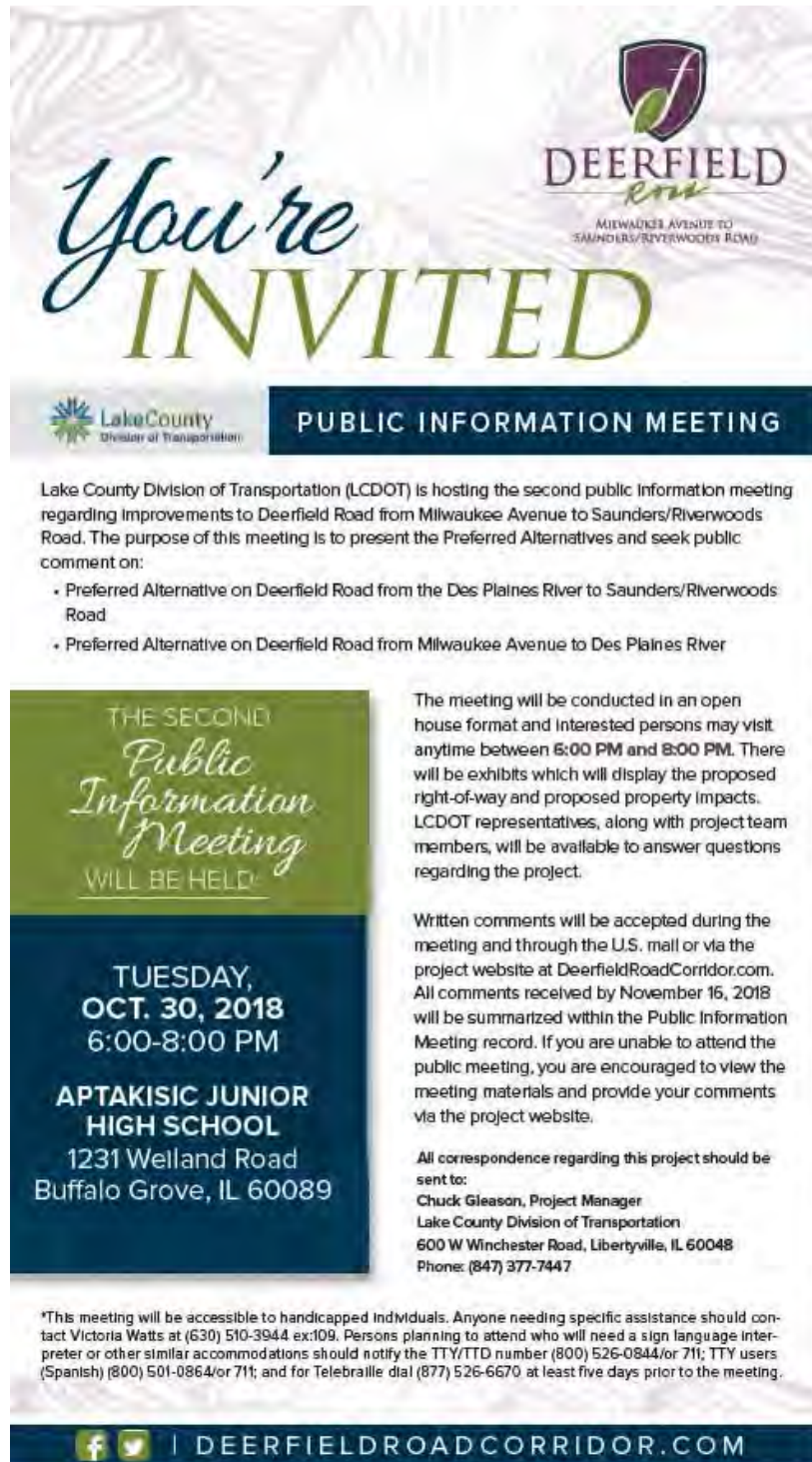
Lake County
Division of Transportation
Lake County Division of Transportation
600 W. Winchester Road
Libertyville, Illinois 60048

Printed using soy based inks on recycled paper.

*This meeting will be accessible to handicapped individuals. Anyone needing specific assistance should contact Victoria Watts at (630) 510-3944 ext-109. Persons planning to attend who will need a sign language interpreter or other similar accommodations should notify the TTY/TTD number (800) 526-0844 ext 711, TTY users (Spanish) (800) 501-0864 ext 711, and for Telebraille dial (877) 526-6670 at least five days prior to the meeting.


2.3 E-BLAST/ PROJECT WEBSITE

An email invitation (E-Blast), shown below, was sent to all stakeholders included on the stakeholder mailing list with email addresses. The project website (www.deerfieldroadcorridor.org) went live on November 7, 2016 and included an announcement of Public Information Meeting #2 on October 11, 2018. The website also includes all study documents shown at the meeting.



DEERFIELD
Road
MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

You're INVITED

 **Lake County**
Division of Transportation

PUBLIC INFORMATION MEETING

Lake County Division of Transportation (LCDOT) is hosting the second public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to present the Preferred Alternatives and seek public comment on:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

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**TUESDAY,
OCT. 30, 2018
6:00-8:00 PM**



**APTAKISIC JUNIOR
HIGH SCHOOL
1231 Welland Road
Buffalo Grove, IL 60089**

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  | DEERFIELDROADCORRIDOR.COM

2.4 PERSONALIZED LETTERS TO PROPERTY OWNERS ADJACENT TO CORRIDOR

Letters were sent to all property owners adjacent to the project corridor and were sent out October 17, 2018. An example letter follows and mailing list included:





PIN NUMBER	Prefix	Name	Office Address	City	State	Zip Code
15-25-300-012		ASHUR & DIANE JOSEPH	880 PORTWINE RD	RIVERWOODS	IL	60015-2429
15-25-300-014		JAMES W THOMAS	3120 DEERFIELD RD	RIVERWOODS	IL	60015-3769
15-25-300-015		TOM & JACQUELINE FOURKAS	1 TIMBERWOOD LN	RIVERWOODS	IL	60015-2463
15-25-300-019		ANDREW G ERICKSON	27 ARCHER AVE	SPRINGFIELD	IL	62704-5315
15-25-300-021		RAND ROEL	PO BOX 775	LAKE ZURICH	IL	60047-0775
15-25-300-022		RAND ROEL	PO BOX 775	LAKE ZURICH	IL	60047-0775
15-25-301-025		ALBERT L & SHERRIE ROSE WEISS	1 TIMBERLEAF LN	RIVERWOODS	IL	60015-2442
15-25-301-034		GARY R & KATHRYN A WAITZMAN	800 HOFFMAN LN	RIVERWOODS	IL	60015-2422
15-25-301-039		THE GRADITOR FAMILY LLC	880 HOFFMAN LN	RIVERWOODS	IL	60015-2422
15-25-301-041		INDEPENDENCE ASSET LLC	32263 SANDPIPER DR	MILLSBORO	DE	19966-4452
15-25-407-026		SOL & BETH SNYDERMAN	2400 FOREST GLEN TRL	RIVERWOODS	IL	60015-2408
15-25-408-002		DAVID V & NANCY J FENCL	885 PORTWINE RD	RIVERWOODS	IL	60015-2428
15-25-408-003		COMMUNITY SAVINGS BANK	4801 W BELMONT AVE	CHICAGO	IL	60641
15-25-408-004		SHIELA J & FERDINANDO A ROSSIGNUOLO	2860 DEERFIELD RD	RIVERWOODS	IL	60015-3812
15-25-408-008		MARILYN & RICH MERRIFIELD	800 BLACKHAWK LN	RIVERWOODS	IL	60015-2403
15-25-409-007		VIRGINIA LEE ADDINGTON, TRUSTEE	805 BLACKHAWK LN	RIVERWOODS	IL	60015
15-25-409-008		ANTHONY & CHERYL WONG	2760 DEERFIELD RD	RIVERWOODS	IL	60015-3810
15-25-409-009		MIKE & NANCY SCHALL	21275 W LAKEVIEW CT	MUNDELEIN	IL	60060-9636
15-25-410-004		MICHAEL D & SUSAN F GREEN	815 HIAWATHA LN	RIVERWOODS	IL	60015-2415
15-25-410-011		VINCENT & BARBARA RACIOPPO	2640 DEERFIELD RD	RIVERWOODS	IL	60015-3808
15-25-410-012		VLADIMIR GORDIN	2620 DEERFIELD RD	RIVERWOODS	IL	60015-3808
15-25-410-013		BO R & CHERYL J WIDMAN	2600 DEERFIELD RD	RIVERWOODS	IL	60015-3808
15-25-410-014		MARLENE L ALOMIA	2580 DEERFIELD RD	RIVERWOODS	IL	60015-3807
15-25-410-015		EDSON MURADPEJOHI	2560 DEERFIELD RD	RIVERWOODS	IL	60015
15-25-410-016		THE EUGENIE V ROTMAN TRUST	4425 N SEMINOLE DR	GLENVIEW	IL	60026-7308
15-25-410-017		BARBARA VALERIO	2421 FOREST GLEN TRL	RIVERWOODS	IL	60015-2427
15-26-300-019		FEDERAL LIFE INSURANCE COMPANY	3750 DEERFIELD RD	RIVERWOODS	IL	60015-3565
15-26-300-021		TOM KLEIN	1105 MILWAUKEE AVE	RIVERWOODS	IL	60015-3512
15-26-300-041		GORDANA HASANIC	3700 DEERFIELD RD	RIVERWOODS	IL	60015-3557
15-26-300-052		DEERWALKEE REAL ESTATE LP	3315 AL GONQUIN RD STE 600	ROLLING MEADOWS	IL	60008
15-26-307-012		WOODMAN'S FOOD MARKET INC	2631 LIBERTY LN	JANESVILLE	WI	53545
15-26-400-019		ALEKSANDR & SOPHIA DOMNENKO	3620 DEERFIELD RD	RIVERWOODS	IL	60015-3539
15-26-400-022		KENNETH R & RAMONA A OLSON	3440 DEERFIELD RD	RIVERWOODS	IL	60015-3781
15-26-400-023		HARLEY H SHIMBERG	3420 DEERFIELD RD	RIVERWOODS	IL	60015-3781
15-26-400-024		HARLEY H SHIMBERG	3420 DEERFIELD RD	RIVERWOODS	IL	60015-3781
15-26-400-025		ARKADY & MARGARITA LIVITZ	3380 DEERFIELD RD	RIVERWOODS	IL	60015-3780
15-26-400-026		RAJAT RAI	3360 DEERFIELD RD	RIVERWOODS	IL	60015
15-26-400-027		EDWARD A & COLLEEN HEIN	3340 DEERFIELD RD	RIVERWOODS	IL	60015-3780
15-26-400-028		TOM FOURKAS	1 TIMBERWOOD LN	RIVERWOODS	IL	60015-2463
15-26-400-035		LAKE COUNTY FOREST PRESERVE DISTRICT	1899 W WINCHESTER RD	LIBERTYVILLE	IL	60048
15-26-400-038		ALEXANDER & LIANA VERDE	3580 DEERFIELD RD	RIVERWOODS	IL	60015-3537
15-26-400-039		LAKE COUNTY FOREST PRESERVE DIST	1899 W WINCHESTER RD	LIBERTYVILLE	IL	60048
15-26-402-007		MICHAEL W & KRISTINE L FORD	4 TIMBERWOOD LN	RIVERWOODS	IL	60015-2400
15-26-405-010		VILLAGE OF RIVERWOODS	300 PORTWINE RD	RIVERWOODS	IL	60015-3831
15-26-405-012		CASIMIR & OLGA SKORA	2 O HICORY LN	RIVERWOODS	IL	60015-3544
15-35-100-003		BRENTWOOD HEALTHCARE REAL ESTATE LLC	5454 FARGO AVE	SKOKIE	IL	60077-3210
15-35-100-286		RIVERWOODS LAND VENTURES LLC	500 N DEARBORN ST, STE 400	CHICAGO	IL	60654
15-35-103-024		MJR BUFFALO GROVE REAL ESTATE HOLDING CO LLC	790 ESTATE DR STE 100	DEERFIELD	IL	60015-4884
15-35-103-028		SDG BUFFALO GROVE LLC	2150 E LAKE COOK RD, STE 820	BUFFALO GROVE	IL	60089-8222
15-35-103-029		SDG BUFFALO GROVE LLC	2150 E LAKE COOK RD, STE 820	BUFFALO GROVE	IL	60089-8222
15-35-105-002		VILLAGE OF RIVERWOODS	300 PORTWINE RD	RIVERWOODS	IL	60015-3831
15-35-105-003		CURES.MART LP	PO BOX 320099	ALEXANDRIA	VA	22320-4099
15-35-105-004		BRUCE R HUWARD	630 DUNDEE RD STE 120	NORTHBROOK	IL	60062
15-35-200-001		BRENTWOOD HEALTHCARE REAL ESTATE LLC	5454 FARGO AVE	SKOKIE	IL	60077-3210
15-35-200-002		BRENTWOOD HEALTHCARE REAL ESTATE LLC	5454 FARGO AVE	SKOKIE	IL	60077-3210
15-35-200-019		LAKE COUNTY FOREST PRESERVE DISTRICT	1899 W WINCHESTER RD	LIBERTYVILLE	IL	60048
15-35-200-020		LAKE COUNTY FOREST PRESERVE DISTRICT	1899 W WINCHESTER RD	LIBERTYVILLE	IL	60048
15-35-201-016		MARIO R POULET TRUSTEE	760 THORNMEADOW RD	RIVERWOODS	IL	60015-3753
15-35-202-001		DAVID & SANDRA DELISLE	775 THORNMEADOW RD	RIVERWOODS	IL	60015-3752
15-35-202-004		CAROL TOSIC, TRUSTEE	770 JUNEBERRY RD	RIVERWOODS	IL	60015
15-36-100-002		DEANNA I KLOPPER TRUST	4044 DUNDEE RD	NORTHBROOK	IL	60062-2128
15-36-100-008		MICHAEL CASPI	2825 ARROWWOOD TRL	RIVERWOODS	IL	60015
15-36-101-001		BRUCE B & PATRICIA P BERKSON	765 JUNEBERRY RD	RIVERWOODS	IL	60015-3719
15-36-101-002		DANIEL GRANICK	3195 DEERFIELD RD	RIVERWOODS	IL	60015-3768
15-36-101-003		Y RABINOVITCH N VOOVTCHEENKO	3155 DEERFIELD RD	RIVERWOODS	IL	60015-3768
15-36-102-001		DEANNA I KLOPPER TRUST	4044 DUNDEE RD	NORTHBROOK	IL	60062-2128
15-36-102-002		YEGOR AZAROV & LESYA BLYZNIUK	3079 DEERFIELD RD	RIVERWOODS	IL	60015-3709
15-36-102-003		JO ANNE T INGEBRIGTSEN-KEPLINGER, TRUSTEE	3069 DEERFIELD RD	RIVERWOODS	IL	60015-3709
15-36-102-004		SHANKAR & TEJOMAI VUJYURU	3059 DEERFIELD RD	RIVERWOODS	IL	60015-3709
15-36-102-005		SIHANA MALLIN	2999 DEERFIELD RD	RIVERWOODS	IL	60015-3707
15-36-102-006		TED FALKIEWICZ	2977 DEERFIELD RD	RIVERWOODS	IL	60015-3707
15-36-102-007		AUREN EPSTEIN	750 PORTWINE RD	RIVERWOODS	IL	60015-3765



PIN NUMBER	Prefix	Name	Office Address	City	State	Zip Code
15-36-200-001		LESTER I WALLACE TRUSTEE	2759 DEERFIELD RD	RIVERWOODS	IL	60015-3809
15-36-200-003		RICHARD A & ANGELA F MEIER	745 PORTWINE RD	RIVERWOODS	IL	60015-3705
15-36-201-003		JENNIFER & PICHAYA J PATARAMEKIN	2777 DEERFIELD RD	RIVERWOODS	IL	60015-3809
15-36-201-004		JOHN I & E B ROSBERG	2765 DEERFIELD RD	RIVERWOODS	IL	60015-3809
15-36-201-009		DAVID SCHOENFELD	765 PORTWINE RD	RIVERWOODS	IL	60015-3705
15-36-202-001		ROBERT F BERENSON	1775 SHERWOOD RD	HIGHLAND PARK	IL	60035
15-36-202-005		CLARENE J PONTICELLI	745 TIMBER TRL	RIVERWOODS	IL	60015-3848
15-36-202-009		COLE TAYLOR BANK	350 E DUNDEE RD	WHEELING	IL	60090
15-36-202-010		RYAN DAU	788 WILD DUNES CT	RIVERWOODS	IL	60015-3832
15-36-202-016		NICHOLAS J & PHYLLIA C STRATIGAKES	787 WILD DUNES CT	RIVERWOODS	IL	60015-3832
15-36-202-018		AMY S SCHECHTMAN, TRUSTEE	786 TOUR CT	RIVERWOODS	IL	60015
15-36-202-020		JASON GOODMAN	785 TOUR CT	RIVERWOODS	IL	60015-3830
15-36-202-022		EILEEN ROBISO	784 BUNKER CT	RIVERWOODS	IL	60015-3824
15-36-202-024		PANAGIOTIS N & EFTHYMIA GOUNTANIS	783 BUNKER CT	RIVERWOODS	IL	60015-3824
15-36-202-026		RONALD R TOMASZEWSKI & LINDA L MAGILL	782 LINKS CT	RIVERWOODS	IL	60015-3820
16-30-303-006		WAYNE JI	1 BIG OAK LN	RIVERWOODS	IL	60015-2401
16-30-303-016		ALICIA GRZYCH	20 BIG OAK LN	RIVERWOODS	IL	60015-2401
16-30-303-017		STEPHEN KATZ, TRUSTEE	18 BIG OAK LN	RIVERWOODS	IL	60015
16-30-303-018		THOMAS F & CHRISTINA AUER	17 BIG OAK LN	RIVERWOODS	IL	60015-2401
16-30-303-019		JULIE GRACE	16 BIG OAK LN	RIVERWOODS	IL	60015
16-30-303-020		JAMES R & LUCIFERNE Y MULVIHILL	15 BIG OAK LN	RIVERWOODS	IL	60015-2401
16-31-100-002		BUCHANAN ENERGY (N), LLC	7315 MERCY RD	OMAHA	NE	68124-2313
16-31-100-003		ANIL K ABBOTT	1 VERNON TRL	RIVERWOODS	IL	60015-1600
16-31-100-032		ANIL & UPASANA ABBOTT	780 SAUNDERS RD	DEERFIELD	IL	60015-2524
16-31-101-046		PARKWAY NORTH OWNERS ASSOCIATION	1 N WACKER DR STE 2400	CHICAGO	IL	60606
16-31-107-001		COLE TAYLOR BANK	350 E DUNDEE RD	WHEELING	IL	60090
16-31-107-002		RONALD R TOMASZEWSKI & LINDA L MAGILL	782 LINKS CT	RIVERWOODS	IL	60015-3820
16-31-107-004		JOSE RODRIGUEZ	781 LINKS CT	RIVERWOODS	IL	60015-3820
16-31-107-006		FOSTER/PREMIER, INC	750 W LAKE COOK RD STE 190	BUFFALO GROVE	IL	60089

2.5 PERSONALIZED LETTERS TO LOCAL ELECTED OFFICIALS

Informational letters were sent to public officials within the study area by mail and to Lake County Board members electronically on October 1, 2018. An example letter follows:



Division of Transportation

Shane E. Schneider, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1181
Phone 847.377.7400
Fax 847.984.5388

October 1, 2018

Ms. Linda Pedersen
District 1
Lake County Board
18 N. County Street
Waukegan, IL 60085

Dear Ms. Pedersen,

The Lake County Division of Transportation (LCDOT) is hosting the second public information meeting regarding improvements to Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. The purpose of this meeting is to present Preferred Alternatives and seek public comment on the Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road and the Preferred Alternative on Deerfield Road from Milwaukee Avenue to the Des Plaines River.

The next steps in the study include preparation of the Environmental Assessment and the final Public Hearing which will be held in Spring 2019.

The details of the second Public Information Meeting are as follows:

Date:	Tuesday, October 30, 2018
Time:	6:00-8:00 p.m.
Location:	Aptakisic Junior High School 1231 Welland Road Buffalo Grove, IL 60089

The meeting will be conducted in an open house format and interested persons may visit anytime between 6:00 and 8:00 p.m. There will be exhibits which will display the proposed right-of-way and proposed property impacts. LCDOT representatives, along with project team members, will be available to answer questions regarding the project.

Written comments will be accepted during the meeting, as well as after the meeting, and through the U.S. mail or via the project website at DeerfieldRoadCorridor.com. All comments received by November 16, 2018 will be summarized within the Public Information Meeting record. If you are unable to attend the public meeting, you are encouraged to view the meeting materials and provide your comments via the project website.

If you have any questions or need additional information, please contact Chuck Gleason, Project Manager, at cgleason@lakecountyil.gov or (847) 377-7447.

Sincerely,



Kevin J. Carrier, P.E.
Director of Planning and Programming



Lake County Board members included:

Mr.	Aaron	Lawlor	Chairman
Mr.	Brent	Paxton	District 4
Ms.	Linda	Pedersen	District 1
Ms.	Diane	Hewitt	District 2
Mr.	Tom	Weber	District 3
Ms.	Bonnie	Thomson Carter	District 5
Mr.	Jeff	Werfel	District 6
Mr.	Steve	Carlson	District 7
Mr.	Bill	Durkin	District 8
Ms.	Mary	Ross Cunningham	District 9
Mr.	Charles	Bartels	District 10
Mr.	Steven W.	Mandel	District 11
Mr.	S. Michael	Rummel	District 12
Ms.	Sandra	Hart	District 13
Ms.	Audrey	Nixon	District 14
Ms.	Carol	Calabresa	District 15
Mr.	Terry	Wilke	District 16
Mr.	Nick	Sauer	District 17
Mr.	Craig	Taylor	District 19
Mr.	Sidney	Mathias	District 20
Ms.	Ann B.	Maine	District 21

Public Officials included:

Honorable	Beverly	Sussman	Village of Buffalo Grove	Village President
Mr.	Jeffrey	Berman	Village of Buffalo Grove	Trustee
Ms.	Joanne	Johnson	Village of Buffalo Grove	Trustee
Mr.	Lester A.	Ottenheimer III	Village of Buffalo Grove	Trustee
Mr.	Andrew	Stein	Village of Buffalo Grove	Trustee
Mr.	Steven	Trilling	Village of Buffalo Grove	Trustee
Mr.	David	Weidenfeld	Village of Buffalo Grove	Trustee
Honorable	Harriet	Rosenthal	Village of Deerfield	Mayor
Mr.	Alan L.	Farkas	Village of Deerfield	Trustee
Mr.	Thomas L.	Jester	Village of Deerfield	Trustee
Mr.	Robert D.	Nadler	Village of Deerfield	Trustee
Mr.	William "Bill"	Seiden	Village of Deerfield	Trustee
Mr.	Dan C.	Shapiro	Village of Deerfield	Trustee
Ms.	Barbara	Struthers	Village of Deerfield	Trustee



Honorable	John	Norris	Village of Riverwoods	Mayor
Mr.	Michael	Baumann	Village of Riverwoods	Trustee, Drainage, Stormwater, Environmental Committees
Ms.	Cheryl	Chamberlain	Village of Riverwoods	Trustee, Finance and Forestry Committees
Ms.	Kris	Ford	Village of Riverwoods	Trustee, Parks Committee
Mr.	Michael	Haber	Village of Riverwoods	Trustee, Water Committee
Mr.	Richard	Hamerson	Village of Riverwoods	Trustee, Building and Zoning Committees
Mr.	Kevin	O'Donnell	Village of Riverwoods	Trustee, Sewer, Roads, and Bike Path Committees
Ms.	Barbara	Little	Village of Deerfield	Director of Public Works and Engineering
Mr.	Kent	Street	Village of Deerfield	Village Manager
Mr.	Patrick	Glenn	Village of Riverwood	Village Engineer
Mr.	Darren	Monico	Village of Buffalo Grove	Village Engineer
Ms.	Jennifer	Maltas	Village of Buffalo Grove	Deputy Village Manager/Economic Development
Mr.	Dane	Bragg	Village of Buffalo Grove	Village Manager
Mr.	Scott	Saewert	Wheeling Township	Highway Commissioner
Ms.	Kathy	Penner	Wheeling Township	Supervisor
Ms.	Josephine	Stellato	Wheeling Township West Deerfield	Director of Finance and Administrator
Ms.	Alyson M.	Feiger	Township Lake County	Supervisor
Ms.	Suzanne	Zupec	Transportation Alliance Lake County Partners,	President
Mr.	Michael	Stevens	Inc. Lake County Division of	President and CEO
Ms.	Brooke	Hooker	Transportation Lake County Stormwater	Communications Coordinator
Mr.	Michael	Warner, P.E., CFM	Management Commission	Executive Director
Mr.	Peter	Kolb, PE	Lake County Public Works	Director of Public Works
Mr.	Eric	Waggoner	Lake County Planning, Building and Development	Director
Mr.	Alex "Ty"	Kovach	Lake County Forest Preserve District	Executive Director
Mr.	Randall	Seebach	Lake County Forest Preserve District	Director, Planning & Land Preservation

3 PUBLIC INFORMATION MEETING SUMMARY

The Public Information Meeting #2 for the Deerfield Road Phase I Study was held on Tuesday, October 30, 2018 between 6:00 and 8:00 p.m. at Aptakisic Junior High School Gymnasium, 1231 Weiland Road, Buffalo Grove, IL 60089. The purpose of the meeting was to show the preferred alternative and to seek public input on the transportation issues and needs within the Deerfield Road study area. The meeting was conducted in an open house format. The meeting contained 6 stations: Project Overview, Public Involvement, Range of Alternatives, Preferred Alternative, Visualizations, and Comments. Exhibit boards were on display to show the preferred alternative design to solicit input/comments from meeting attendees. Tables and chairs were set up in the front of the room for attendees to write their comments and submit to the comment boxes. The comment period was open until November 16.

The Lake County Division of Transportation (LCDOT) is the lead agency for the Engineering and Environmental Phase I Study to address the need for transportation related improvements to Deerfield Road from Milwaukee Avenue on the west, to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

LCDOT and the study team provided information regarding the study schedule, project process, data collection, and the public involvement opportunities. Attendees had the opportunity to review exhibits, provide comments, and meet with LCDOT and project study team representatives. A newsletter was provided to meeting attendees and is included as an Attachment. All PIM material was posted to the project website following the meeting.

3.1 ATTENDEES

The meeting was attended by 105 people including public officials, local business representatives, residents along the corridor and within adjacent neighborhoods, roadway users, and involved agencies and organizations. The following public officials were in attendance:

- Cheryl Chamberlain, Village of Riverwoods Trustee
- Rick Jamerson, Village of Riverwoods Trustee
- Henry Hollander, Village of Riverwoods Trustee
- Sidney Mathias, Lake County Board Member
- Alvaro Melara, Office of Congressman Brad Schneider

A number of businesses were represented including:

- King Shabu Shabu Restaurant
- Northside Community Bank
- Ravinia Plumbing and Heating

- Veterinary Specialty Center

Additional agencies and organizations represented included:

- Lake County Sheriff's Office, Kyle Brown
- Openlands, Sarah Surroz
- Vernon Woods Owners Association, David Shimberg
- Timbers Residents Association, Tim and Sandra Buzard
- Evanton Bicycle Club, Peter Glaser & Tom Witt

3.2 MEDIA

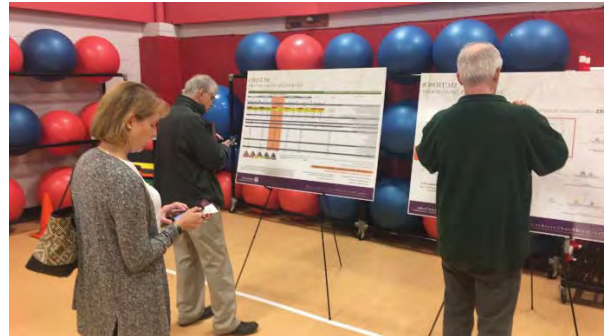
Media represented include:

- Steve Sadin, Pioneer Press

3.3 PHOTOGRAPHS

Photographs from the Public Information Meeting:





4 COMMENTS

A total of 33 written comments were received by the close of the 2-week comment period, November 16, 2018. General topics included:

- Drainage concerns along the project corridor at a variety of locations
- Restructuring/reconfiguration of drainage system west of Forest Glen Trail
- In favor of buttons to activate walk signal at traffic lights
- Mid-block crossing at Timberwood to Juneberry to provide access from the neighborhood to the north to the multi-use path on the south side of Deerfield Road
- Concerned with bike safety at night; how much room will be allowed for cyclists to exist alongside traffic without collision, especially at night.
- Concern with access to eastbound Deerfield Road from the Shoppes at Riverwoods
- Concern with visibility turning east out of Chicory Lane during rush hours.
- Would like to see speed limit reduced
- Concerned with tree impacts
- Concerned with property impacts such as fencing and drainage
- Desire no improvements to Deerfield Road
- Do not add the left turn lane on Portwine Road because it will encourage people to use Portwine as a cut-through
- Support for project due to growing/developing area around Deerfield Road
- Include multi-use path from Milwaukee Avenue to the Des Plaines River Trail to provide access to the path network in Buffalo Grove
- Accessibility onto/off of Deerfield Road from side streets will be challenging
- Accessibility to Colonial Court/Shoppes of Riverwoods
- Desired signal at Chicory Lane
- Why not extend 4-lanes between Milwaukee and Saunders/Riverwoods Road; was 2 westbound lanes and one eastbound lane studied?
- Consider dredging Thorngate Creek, which has accumulated a large amount of silt
- Thorngate Creek backs up and overflows, and needs to be addressed with this project.
- Consider installing bicycle detection at the Portwine Road intersection for NB and SB movements.
- Can animals be funneled to certain locations using a fence so they can cross at specific locations of Deerfield Road that could be signed?

Comments are included as an Attachment.

PHASE I ENGINEERING STUDY

*A Preferred Alternative
has been Identified*

WE WELCOME YOUR INPUT

The project team worked with the Stakeholder Involvement Group (SIG), Illinois Department of Transportation and Federal Resource Agencies to develop a full range of project alternatives. During the alternative development and evaluation process, a Preferred Alternative for the project was identified. At the second Public Information Meeting, the public will have the opportunity to learn more about this process and provide feedback on the initial design of the preferred alternative.

DEERFIELD ROAD: ALTERNATIVE DEVELOPMENT APPROACH

Through the evaluation process, it became evident that Deerfield Road has two distinct “sections” within the corridor. Section A is the west portion of the corridor inclusive of the Milwaukee Avenue intersection and mostly commercial with high volume access driveways. Section B is the east portion of the corridor; from the Des Plaines River to and inclusive of the Saunders/Riverwoods Road intersection. Section B consists of large lot residential with many low volume access driveways and streets. Due to differing adjacent land use to Section A and Section B, each have unique transportation demands and needs, and therefore alternative concepts and a range of alternatives were developed for each.

SECTION A: MILWAUKEE AVENUE TO DES PLAINES RIVER

Twelve alternatives were considered and evaluated for Section A. The Preferred Alternative was selected for being the most efficient alternative in addressing the transportation needs along Deerfield Road while having the lowest relative impacts and cost.

A substantial improvement is needed to the east leg of the Deerfield Road and Milwaukee Avenue intersection to address the nearly two-mile long PM westbound backup that takes about 35 minutes to drive. Alternative A1D, reduces the 35-minute travel time to 7-minutes, and includes adding three lanes to the east leg (Deerfield Road) of the intersection, a second left turn lane on the west leg (Deerfield Parkway) and right turn lane on the south leg (Milwaukee Avenue). Additionally, about 2,000 feet of Deerfield Road east of the intersection is needed to accommodate the intersection improvement related lane additions and lane drops, which ends prior to the Des Plaines River bridge, the start of Section B.



SECTION B: DES PLAINES RIVER TO SAUNDERS/RIVERWOODS ROAD

Five alternatives were developed and evaluated for Section B with respect to transportation performance, mobility, safety, environmental and socio-economic impacts, and cost. Alternative 3, a 3-Lane roadway with curb, has been selected as the Preferred Alternative.

Alternative 3 provides the most efficient transportation improvement with the lowest comparative footprint which leads to the least environmental and socio-economic impacts; has the lowest amount of floodplain, floodway, wetlands, and vegetation/tree impacts; and has the lowest amount of property acquisition.



PHASE I STUDY PROCESS & TIMELINE

PHASE I COMPLETION: SUMMER 2019



NEXT STEPS:

The Public Information Meeting #2 summary will be posted to the project website in late November following the close of the comment period on November 16th. A Frequently Asked Questions (FAQ) document will be prepared and posted to the project website in early December to address commonly asked questions. The FAQ will be updated as needed to facilitate communication with our project stakeholders.

Factoring in design-related input received at the Public Information Meeting, the project team will make detailed design revisions. Preparation of the detailed design plans, engineering reports, and Environmental Assessment will occur over the next several months, and a Public Hearing is anticipated in Spring 2019 to present the results. Project updates will continue to be posted on the home page of the project website.

WAYS TO COMMENT:

We encourage comments throughout the course of the study, however, comments received by **NOVEMBER 16, 2018** will be specifically added to this public information meeting record.

Fillout a form or submit online via DeerfieldRoadCorridor.com.

All correspondence regarding this project should be sent to:

CHUCK GLEASON, Project Manager
 Lake County Division of Transportation
 600 W Winchester Road
 Libertyville, IL 60048



October 30, 2018
Public Information Meeting #2
Comment Form



The Lake County Division of Transportation (LCDOT) is conducting the second Public Information Meeting concerning the Deerfield Road Phase I Preliminary Engineering and Environmental Study. The Deerfield Road study area is from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

Your input is valuable and it is our commitment throughout this study to include stakeholders, such as yourself, in this process. The purpose of the second Public Information Meeting is to present the Preferred Alternatives and seek public comment. Please place your comment forms in the box marked COMMENTS; or fax to (847) 984-5888; scan and email to cgleason@lakecountyil.gov; or fold in thirds, tape closed, place a stamp and mail.

To be included in the meeting record, please send comments by Friday, November 16, 2018.

The project study group is specifically seeking input on the following:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Emily Anderson and I had a conversation about restructuring the drainage just west of Forest Glen trail. Instead of taking out the berm, ^{on the corner} putting drainage just west of the 2540 Deerfield driveway to capture water there instead. Please try to grade front in order to place drainage in corner ^{where} near driveway meets bike/walking path.

I would like to receive e-mails on this project

I would like to receive additional e-mails /correspondence from Lake County



October 30, 2018
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 - Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Talked with Emily Anderson

About: not removing our berm because of the drainage.

She feels that the berm does not have to be removed. The low point appears to be one lot west of us.

(Optional, Please Print)



- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County



October 30, 2018
Public Information Meeting #2
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The project study group is specifically seeking input on the following:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Can you consider adding a button to activate the traffic signal when a cyclist is riding southbound on Portwine and which is Deerfield Rd?

Alternately, can you add a plate in the roadway for a car going southbound to trigger that signal?

The issue is that currently cyclists (in groups, groups of 2) need to queue up in a small space & wait a car from the other side of the intersection to trigger the signal.

Thank you.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County



October 30, 2018

Public Information Meeting #2

Comment Form



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- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Please consider adding a flashing cross walk from Timberwood to Juneberry. This will help so much and allow us to use the new sidewalk, bike path

- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County

October 30, 2018
Public Information Meeting #2
Comment Form

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- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Spoke to Ilene Daley from Project regarding flooding, drainage, and water flow at corner Hoffman Lane and ~~Riverwoods Rd~~ Deerfield Rd

The property at 800 Hoffman Lane takes on water from N. Hoffman East Deerfield, and Jasmine Lane with water flooding the yard up to the window wells. The water does not flow well through the current culverts and ditches and even flows over Hoffman from E to W into our yard. The current ditches large in size have a difficult time holding all the water.

Someone from the team is welcome to walk my property with me to describe the above situation since the plan will take significant footage

- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County



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The project study group is specifically seeking input on the following:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

Don't do either plan. Don't change Deerfield Road. Leave it as it is. No alternative is good.

PT

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County



October 30, 2018 Public Information Meeting #2 Comment Form



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- The project study group is specifically seeking input on the following:
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 - Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

I am disappointed that you are proposing widening (adding a turn lane) ~~on~~ Portwine Rd. This will further encourage people to use Portwine as a cut through



- I would like to receive e-mails on this project
- I would like to receive additional e-mails /correspondence from Lake County



October 30, 2018 Public Information Meeting #2 Comment Form



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With all the construction that is ongoing in the area West/North of Riverwoods, I think it is vitally important that this project proceed.

I could imagine that my neighbors in Riverwoods do not want the construction, but the congestion is there now.

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Please included the proposed multi-use path between Milwaukee and the Des Plaines River Trail. This pathway is needed to provide safe access to the DPRT.

(Optional, Please Print)



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I OWN THE 4 ACRES ON THE NORTHEAST CORNER OF HOFFMAN AND DEERFIELD. EVERY TIME YOU WORK OVER THE CORNER OF DEERFIELD AND HOFFMAN YOU REMOVE MY FENCE AND GRADE OUT THE SURVEY STAKE AND CREATE A BERM ALONG THE DITCH THAT HOLDS BACK MY STORM WATER RUNOFF AND MAKES MY LAND A WETLAND. WHEN I DIG THRU THE BERM TO DRAIN INTO THE DITCH IT ONLY LASTS A SHORT TIME TILL SOMEONE REGRADES THE DITCH. LEAVE MY FENCES ~~ALONE~~ AND PUT MY SURVEY STAKES BACK. THE FENCE YOU TOOK OUT IS STILL LAYING WHERE YOU PUT IT.

Alf Erickson

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I support this 3 lane driver. 2 lanes w/
a center lane for Deerfield Rd.

My main concern is bicycle/car interaction.

Will there be bike lanes w/ clearance from the
driving space? The road is often too dark
and I want to avoid collision w/ bikes.

Also, is there a way to minimize deer collisions?
I have been here 20+ years + had many close calls
with deer crossing Deerfield Rd.

Thank

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Please leave the road alone! I live in Meadowlark. How do you think I'm going to get out of Meadowlark onto Deerfield Rd? I'm 92 yrs old - I have lived in RW for 63 yrs. 32 yrs in Meadowlark. I'm sure the issue is cut & dried - that you are not thinking of the residents. My taxes are very high. Real Estate values are down - my home will be worthless. It's a beautiful area & you are destroying it. Road kill will go up - snow plowing & rain in culverts - it is a horror show -





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Why can't you just do the ~~A~~ changes to the road from Chickery Lane westward first. That by itself would have a large impact. Once you do those changes then come back and see how much of ~~a~~ a problem remains. You would spend a lot less and impact very little of the road.



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So Why had to see this big project. The impact on residents so that other people passing through during rush hours is infuriating to contemplate. The hours not morning rush and evening rush are quiet and easy to traverse along Deerfield Rd.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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- OUR PRIMARY CONCERN IS ACCESS TO EASTBOUND DEERFIELD ROAD FROM THE SHOPPES OF RIVERWOODS. WITH THE PREFERRED ALTERNATIVE ADDING TWO LEFT TURN LANES ON SOUTHBOUND MILWAUKEE AVE FROM WESTBOUND DEERFIELD ROAD A MEDIAN CURB IS PROPOSED. THIS CURB WILL PREVENT ANY SOUTH OR EASTBOUND ACCESS FROM THE SHOPPES OF RIVERWOODS.
- OUR SECONDARY CONCERN IS OF MORE IMPORTANCE IMMEDIATELY. EASTBOUND ACCESS TO DEERFIELD ROAD IS OFTEN TIMES BLOCKED BY WESTBOUND DRIVERS. CAN THE COUNTY PLEASE STRIPE DEERFIELD ROAD TO PREVENT DRIVERS FROM BLOCKING THE DRIVEWAY.
- THIRD CONCERN IS INSTALLATION OF A "NO RIGHT TURN ON RED" SIGN ON WESTBOUND DEERFIELD ROAD AT MILWAUKEE AVENUE. U-TURNING FROM SOUTHBOUND MILWAUKEE AVE TO NORTHBOUND MILWAUKEE AVE ARE THE ONLY ACCESS TO THE SHOPPES OF RIVERWOODS IN THE FUTURE.

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1) Please find an alternative water storage location for excess water in a place that is not west of Jasmine Lane. The creek fills up fast and that water will flood the property just west of Jasmine Lane.

2) Please go ahead with the 3 lane alternative for Section B.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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Please consider making the potential comp. storage area away from the property lines of 3120 Deerfield Road. You are creating the potential to continually flood the property at 3120 Deerfield Road and severely decrease the property value.

Please consider ^{saving} ~~removing~~ the large oak trees in along Deerfield Road. ~~able to~~

~~Please consider planting the easement.~~

Please stick with the 3 lane alternative for section B.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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WHEN TURNING EAST OUT OF CITICORY LANE DURING MORNING AND EVENING RUSH HOURS, IT IS IMPOSSIBLE TO SEE EASTBOUND TRAFFIC WEST OF CITICORY LANE. SINCE THE PROJECT DOES NOT PROVIDE FDL ANY SIGHT IMPROVEMENT, A MOTION DETECTED STOP LIGHT COMING OUT OF MEADOW LAKE, DURING RUSH HOURS WOULD ALLEVIATE THIS POTENTIAL CRASH AREA.

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It seems somewhat insure to do this alternate without widening the road all the way to Saunders. The traffic is there already. Will we ~~be~~ have the same discussion in 20 years to widen the road from Saunders to the bridge? There are no good east west options in southern lake county. This seems to a missed opportunity to alleviate the congestion by widening to 4 lanes all the way. Why wasn't 2 west bound lanes with one east bound lane studied?

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

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1) Please consider dredging the Tran gate creek. There is a large accumulation of silt, leaves and plant materials in the creek.

2) Please keep the 3 lane alternative for section B.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

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1) According to our property plat, the south boundary of our property is in the middle of existing Deerfield Rd. According to proposed alternative map, the suggested property acquisition is 10' from the existing property fence which is not the documented property line. How will this be negotiated for property acquisition?

2) There is a big pine tree in the way of proposed temporary easement, the roots of which could be damaged in the process.

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The Village of Riverwoods needs to address the Thonngate creek. It overflows and backs up. It needs to be looked at by the engineers to get the water flowing at a faster rate. Right now it drains too slowly.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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On NB and SB Portwine at Deerfield Road,
please consider installing bicycle detection for the
traffic signal. Alternatively, a button on the west-side
of SB Portwine is needed to complement the pedestrian
buttons on the east side crosswalk.

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When will the speed limit on Deerfield Rd between Saunders & Milwaukee Rds be reduced to 35?

Does this have to wait for completion of the construction?

There are many driveways & streets that exit onto Deerfield Rd. in that section of ~~Des Plaines~~ Riverwoods, and the speed limit should be the same as it is through Deerfield (from the tollway east to Waukegan Rd).

-
- I would like to receive e-mails on this project
-
-
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HOW ARE ANIMALS GOING TO SAFELY CROSS
AN ENLARGED DEERFIELD ROAD? CAN FENCING
BE USED TO AT LEAST FUNNEL THEM TOWARDS
AN AREA OR AREAS MARKED WITH "ANIMAL
CROSSING" SIGNS?

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

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1. We need the bike path W to East

2. There needs to be a way for cyclists going south on Portwine at JDF rd to trigger the light - like sensor in the road or a crossing button to change the light

3. Water Damage - if you are working on ~~the road~~ Portwine North of JDF
★ The 3 properties on the east side (845 885 + 1st property on Forest Glen) have drainage issues when there is a heavy rain. The current culverts + ditches cannot carry the amount of water quick enough - we are losing our driveway and have water running through the garage

(Optional, Please Print)

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I THINK YOUR SOLUTION IS VERY GOOD. KEEPING THE ROAD 3 LANE IS A GOOD ONE. GETTING TRAFFIC THROUGH MILWAUKEE RD INTERSECTION IS NEEDED. REDUCING TRAFFIC ON DEERFIELD RD COULD BE DONE (A LITTLE) BY INCREASING TRAIN SERVICE TO BUFFALO GROVE. SOME PEOPLE GO TO DEERFIELD TRAIN STATION BECAUSE IT HAS BETTER / MORE TRAINS PER DAY

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The Lake County Division of Transportation (LCDOT) is conducting the second Public Information Meeting concerning the Deerfield Road Phase I Preliminary Engineering and Environmental Study. The Deerfield Road study area is from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

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To be included in the meeting record, please send comments by Friday, November 16, 2018.

The project study group is specifically seeking input on the following:

- Preferred Alternative on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road
- Preferred Alternative on Deerfield Road from Milwaukee Avenue to Des Plaines River

1) I AM VERY CONCERNED THAT THE BEAUTIFUL TREE-LINED CANOPY WHICH REPRESENTS OUR COMMUNITY WILL BE FOREVER DESTROYED! THOSE OAKS ARE NOT REPLACEMENTABLE.

2) ~~AND~~ I WILL BE LOSING 12 FT OF PROPERTY AND ALL THE TREES THAT FACE DEERFIELD ROAD. I WILL BE EXPOSED TO A GREAT DEAL OF NOISE BOTH BECAUSE OF THE ILL-ADVISED & USELESS BIKE PATH THAT NO ONE WILL USE AND BECAUSE OF THE LOSS OF SOUND BARRIER. I HOPE THAT THIS LOSS WILL BE CONSIDERED AND THAT SOMEONE WILL CALL US TO DISCUSS THIS FURTHER.

3) ON THE POSITIVE SIDE, I AM GRATEFUL THAT IT IS 3 LANES NOT 5.

4) THE BIKE PATH SHOULD BE RE-EVALUATED. PEOPLE WILL NOT USE IT BECAUSE THEY NEED TO STOP AT PORTWINE & WAIT FOR 2 LIGHTS. PEOPLE WON'T DO IT THEY WILL GO ON THE STREET & WE WILL LOSE THE TREES FOR NOTHING.

ALSO, WOODMAN'S WIDENING HAS ALLEVIATED THE TRAFFIC ISSUE - A STUDY SHOULD BE DONE

I would like to receive e-mails on this project

I would like to receive additional e-mails /correspondence from Lake County

Comment Form

place
stamp
here

Lake County Division of Transportation
Mr. Chuck Gleason
Project Manager
600 West Winchester Road
Libertyville, IL 60048

⑤ We will have a loss of privacy. We have a large pool and the loss of our fence is a safety issue in addition to the loss of privacy and impossible noise conditions. We will need to evaluate with our insurance carrier about the implications.

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1 WE BELIEVE THAT THE 3-LANE APPROACH IS BEST AND SEEMS TO HAVE THE LEAST PHYSICAL EFFECT ON OUR PROPERTY - HOWEVER:

1. IT LOOKS LIKE OUR PROPERTY WILL BE AFFECTED BY THE LOSS OF APPROXIMATELY 7' OF PROPERTY SO - WE WILL LOSE QUITE A FEW LARGE TREES - WILL THEY BE REPLACED?

2 WILL WE HAVE OUR FENCE REPLACED?

3 HOW WILL WE BE COMPENSATED - BOTH FOR THE ACTUAL PROPERTY TAKEN AND FOR NON-TANGIBLE ITEMS (IT IS POSSIBLE THAT OUR SMALLER PROPERTY WILL BE LESS THAN AN ACRE - MAYBE NON-CONFORMING FOR ZONING AND OUR SIDE SETBACK WILL BE LESS THAN CODE, THESE THINGS FEEL LIKE THEY MIGHT AFFECT OUR PROPERTY VALUE.)

(over)

(Optional, Please Print)

N
A
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P



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Comment Form

place
stamp
here

Lake County Division of Transportation
Mr. Chuck Gleason
Project Manager
600 West Winchester Road
Libertyville, IL 60048

4. OVERALL IMPACT ON "VISUAL" ASPECT OF TREE CANOPY -
LINED STREET - CAN WE TRY TO SAVE AS MANY TREES (OAKS)
AS POSSIBLE IN THE LANDSCAPE ZONE ?

5. WE APPRECIATE THE COMPLEXITY OF THE PROJECT AND THE
PROCESS AND DO WANT TO THANK YOU FOR YOUR EFFORTS -
NOT EASY OR POSSIBLE TO MAKE EVERYONE HAPPY...

6. ALTHOUGH ITS NOT PART OF YOUR PROCESS (A SEPARATE BUT
RELATED PROJECT) WE DO QUESTION THE LOCATION & SIZE OF
THE BIKE PATH. WE REALLY DON'T THINK IT WILL BE USED,
BUT IF THE THOUGHT OF PUTTING IT ON THE SOUTH SIDE OF
DEERFIELD ROAD COULD BE RECONSIDERED...

Affix tape here



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NO RIGHT TURN LANE ON PORTWINE
LEFT TURN LANE NOT NECESSARY ON PORTWINE. EVERYONE
GETS THROUGH THE LIGHT AND IT DOES NOT GET THAT
BACKED UP. I LIVE THERE, I KNOW.
NO SIDEWALKS ON PORTWINE ROAD. THAT IS NONSENSE
NO BIKE PATH. THERE IS A PATH ON RIVERWOODS RD.
BARELY USED AND BIKERS USE THE ROAD IN LIEU OF



- I would like to receive e-mails on this project
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NO RIGHT TURN LANE FROM PORTWINE TO DEERFIELD RD
LEFT TURN LANE (NOT NECESSARY)
NO SIDEWALK ON PORTWINE RD

LOWER SPEED LIMIT ON DEERFIELD RD

NO ONE RIDES ON A BIKE PATH

DONT CUT DOWN OUR TREES

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*CPRA, But
do it soon*



Phone No. _____ E-Mail Address _____

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PREFERRED ALTERNATIVE FOR SECTION A IS ACCEPTABLE

PREFERRED ALTERNATIVE IS FOR SECTION B FAILS SHORT OF EXPECTATIONS

1. EASTBOUND TRAVEL TIME HAS NO AM IMPROVEMENT

ONLY SECOND PM IMPROVEMENT

ADT HAS ONLY ~~12%~~ 2% IMPROVEMENT

ALTERNATIVE B SEEMS MUCH BETTER CHOICE

ADT 12% IMPROVED GRADE A/B FOR LOS



I would like to receive e-mails on this project

I would like to receive additional e-mails /correspondence from Lake County

From: [REDACTED]
To: [Deerfield Road Corridor Comment](#)
Subject: Deerfield Road project
Date: Friday, October 26, 2018 12:34:57 PM

Have you ever tried to go east on Deerfield rd in the morning rush hour???

The other day I sat through at least seven lights before I could cross Milwaukee ave. How can you in good conscience want to improve the road and not make it four lanes two in each direction. With what they have done already seems pretty useless. They added an extra lane going east but just until the storage facility. Then it will bottleneck again. It is like you are constantly bandaiding the problem instead of fixing it once and for all. Why isn't there a right turn lane only going west at Milwaukee??

I worked in Deerfield for twenty three years. I commuted from Buffalo Grove. Do you have any idea how many times they did construction on that road during that time? They would do something and then two years later they redid what they had just finished.

The Riverwoods residents should just get use to the idea of Deerfield rd being four lanes. Just like they did with Lake Cook rd(which is three in each direction) and Half day rd (rte 22). I've lived in Buffalo Grove and wheeling before that for 44 years. Can you imagine the congestion change in all those years. The saddest part is we pay ridiculous taxes and still have to suffer with the awful Deerfield rd gridlock. Enough!

[REDACTED]

Sent from my iPad

From: [REDACTED]
To: [Deerfield Road Corridor Comment](#)
Subject: Property acquisition
Date: Thursday, November 1, 2018 7:52:22 PM

Hello,

I am renting a house on 2720 Deerfield Road in Hiawatha Woods area. Is this property scheduled for acquisition?

Thanks,

[REDACTED]

From: [REDACTED]
To: [Deerfield Road Corridor Comment](#)
Cc: [REDACTED]
Subject: Deerfield Road Stakeholder Involvement Group COMMENT
Date: Saturday, November 10, 2018 12:13:34 PM

Chuck

I just visited the SIG section of the website. If there is a location to submit comments, it is certainly not intuitive to me.

My comments are as follows:

1. Per the email below *"The focus of the meeting was to present the alternative development process and the Preferred Alternative design, which consists of: -Additional lanes at the Milwaukee Avenue intersection to address the 35-minute, 2-mile evening rush hour backup"*

I would be remiss if I did not again dispute this data point for the records. The evening rush is really only relevant 4 days per week, as Fridays are generally less impacting. So, we are asking the taxpayers to fund via Federal funding 35mins * 4 days which is less than 2 1/3 hours per week (out of 168 hours per week or less than 1.5% of the week), with minimal growth projected over the next 20 years

2. At the public event, the proposed maps indicate a sidewalk on the south west side of Sanders Road extending from Deerfield Road. I do not know if this sidewalk has been socialized or presented to the Thorngate Community. It ends at a park that is currently local to that community only. While I understand that Sanders Road is under County control, and Portwine Road is under Riverwoods control, it would be far more logical (to me) if there was an investment in a walkway along the west side of Portwine Rd ending at Village Hall and supplying the planned "campus improvements." Even if the costs of a Portwine walkway is higher due to drainage ditches, some of those costs could be offset by the reallocating the Sanders Road sidewalk spend. Politics of jurisdictions should not be the barrier to logic and better serving the community.
3. I still do not see a plan to mitigate the storm water impact from the removal of highly valuable and critical woodlands along the entire corridor. Even if some form of water retention use can be negotiated with the Village property at the SW corner of Deerfield Rd and Milwaukee Ave, I will assume, based on prior conversations with Lake County Stormwater management, it will have minimal impact. As one explores current commercial development within 1/2 mile east and west of Milwaukee Rd from Deerfield Road going north in Lake County along the Des Plaines River (not even including FoxConn in WI impact), and we examine recent rainfall events in Lake County, we are being naïve at best, and a better adjective would be "irresponsible" to the home owners in the flood plain. Let's be an example for solving problems now, and not be an enabler of "kicking the can" for future generations to resolve.

Regards

[REDACTED]

From: Deerfield Road Corridor Project Team [mailto:info@deerfieldroadcorridor.com]

Sent: Wednesday, November 07, 2018 9:08 AM

To: [REDACTED]

Subject: Deerfield Road Stakeholder Involvement Group Update

November 7, 2018

Dear Stakeholder Involvement Group Member:

The second Public Information Meeting for the Deerfield Road project was held for the project on October 30, 2018 and 105 people attended. The focus of the meeting was to present the alternative development process and the Preferred Alternative design, which consists of:

- Additional lanes at the Milwaukee Avenue intersection to address the 35-minute, 2-mile evening rush hour backup
- A 3-lane curbed roadway from the river to Saunders/Riverwoods Road to improve accessibility/mobility and traffic flow.

Additional design details are shown on the Preferred Alternative design exhibits, such as environmental resources, multi-use path location, sidewalk, key drainage features, construction limits, and temporary/permanent property acquisition. All information shown at the second Public Information Meeting is posted on the project website at www.deerfieldroadcorridor.com.

One of the key outcomes from the second Public Information Meeting is to obtain design related input and comments from stakeholders. Factoring in design-related input and comments received at the second Public Information Meeting, the project team will make design revisions. Preparation of the detailed design plans, engineering reports, and Environmental Assessment will occur over the next several months, and the final SIG meeting is anticipated to be held prior to the Public Hearing (to present the results) and is anticipated in Spring 2019. During this time, the project team will be coordinating with affected property owners regarding temporary and permanent impacts associated with the project, which includes some of our SIG members. Project updates will continue to be emailed out to the SIG and also periodic updates will be posted on the home page of the project website.

As a SIG member, you are encouraged to visit the website and review the Preferred Alternative and provide your comments by November 16, 2018. Comments can be submitted electronically via the project website. Following the comment period, a formal Public Information Meeting summary will be prepared and posted to the project website. To address commonly asked project related questions, a Frequently Asked Questions (FAQ) document will be prepared and posted to the project website in early December. Please let us know if there are specific questions you would like addressed in the FAQ. The FAQ will be updated as needed to facilitate communication with our project stakeholders.

Please watch your e-mail for the next SIG meeting to be announced (early spring). Until then,

if you have questions or comments, please email the project team at deerfieldroadcorridorcomment@cbbel.com or call Chuck Gleason at (847) 377-7447.

Sincerely,

Deerfield Road Project Study Team

www.deerfieldroadcorridor.com

From: [Gleason, Chuck L.](#)
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Deerfield Road alternatives
Date: Tuesday, November 13, 2018 8:42:19 AM
Attachments: [image001.png](#)

[REDACTED]

Sorry to get back to you so late. We at LCDOT are understanding of your concerns and agree that something needs to be done with access along Milwaukee Avenue. With the installation of the new median, it's going to be difficult for IDOT to cut the median and provide access that you are asking for. The most reasonable choice is to try to get the most northerly access to be full or three-quarter. This would allow someone from the north to turn left into the shopping areas. In either case, it appears as though the Village is working with Mr. Flanagan and IDOT to try and resolve this matter. If, at some point, the Village would like us to get involved, we will be supportive. We will be moving forward, on the Deerfield Road improvement, with the plan that was presented at the public meeting and not preclude any advancement in the proposed intersection by Federal Life and Brentwood. As I have mentioned before, this proposed intersection would greatly help access to the shops, but keep in mind that there are several parties involved to make this happen.

Thanks, Chuck

From: [REDACTED]
Sent: Friday, November 02, 2018 10:32 AM
To: Gleason, Chuck L. <CGleason@lakecountyil.gov>
Subject: Deerfield Road alternatives

Chuck, we met the other night at the public informational meeting, and you explained what was under consideration for the intersection changes to Deerfield Road and Milwaukee Ave. My purpose in e-mailing you is to suggest that without immediate consideration to the plight and proposed plight of the NE corner businesses (Colonial Court and the strip center directly north) (CC), that more will close, and prevent new businesses from opening.

Problems-getting in

- With the barrier built on Milwaukee, no left turns can be made into CC, so everyone from the North has to turn left onto Deerfield road heading east, and then cross 3 lanes of oncoming traffic which is usually backed up, to turn in. When the double turn lanes open from Milwaukee, it will feed too much traffic into that one lane which will be a problem. I see that another partial feed lane is to be built, but right turns off of Northbound Milwaukee will also feed into traffic heading east on Deerfield Road. This is a real problem, could be head on collisions from the left hand turn lane from people heading west, or rear end collisions from the double turn lane traffic coming off Milwaukee not expecting turning traffic right away.
- In the future, plans for a barrier extending past the CC south entrance totally cuts off entry from anyone coming from the north trying to turn left into CC.

People right now are misusing traffic patterns to get in any way they can, it won't be too long before a serious accident occurs.

Problems –getting out

- Right now the only way to get out of CC heading toward east toward the tollway and Deerfield/Highland Park is to use the south driveway, hold up the 3 lanes of traffic stopped at the light westbound, watch for oncoming traffic from A) the left turn lane(s) from Milwaukee, straight traffic from Deerfield road heading east, and people turning from Milwaukee on a right hand turn. This is the balance of risk I take every night home, any driver does heading that way from CC going east.
- In the future, the barrier planned on Deerfield road totally completely cuts off anyone leaving the (cc) centers from getting out heading toward the tollway or Deerfield. There is no way without a convoluted series of entry and exit from private businesses to do it.

Our bank employees and customers are being negatively affected now by the Milwaukee barrier, and in the future will be very negatively affected if the new design goes thru. As we have been here for 20 years, that is hard to accept, as the new business opening in Buffalo Grove have been given what they need.

Solutions possible

- Reduce the Milwaukee barrier so that left turns off Milwaukee can enter the NE strip center driveway currently not allowed, so that CC can be entered. That would be a very minimal physical change, affecting only a very small section of the Milwaukee road barrier, and widening the right turn only small island to allow access in at that spot. Its not perfect, but the alternative is a dead section of business on the NE corner and beyond.
- If u-turns are to be allowed on Milwaukee from North to southbound lanes, then the Deerfield road right turns in the morning heading North should be red arrow, otherwise, I don't see how u- turns could be safe. (this is a bad second alternative as I think u-turns in that intersection are a bad idea to begin with, but CC needs something.

As the new roads open and people start increasing their speeds again, risk will increase as well all over the intersection area, with limited access from the business close to the intersection, as people hunt for a way in where they are going. Should the speed limit be reduced through this area????

Thanks for the opportunity to comment.





This email contains information, which is confidential, is intended solely for the use of the addressee(s) named above and may also be a legally privileged communication. If you are not the intended recipient, or a person responsible for delivering it thereto, you are hereby notified that any disclosure, copying, dissemination or distribution of this email, or taking of any action in reliance on its contents is strictly prohibited.

From: [REDACTED]
To: cgleason@lakecountyil.gov
Cc: [REDACTED]
Subject: Deerfield Corridor Project
Date: Wednesday, November 14, 2018 12:01:16 PM

Chuck,

My family and I live at 2270 Congressional Lane in Thorngate, just off of Saunders Rd. Our backyard backs up to Deerfield Road, quite close to the intersection of DF and Saunders. I recently attended the Deerfield Corridor Project Meeting at the school to learn more about how this project would affect my home. At this meeting, I spent time talking with Matt Huffman and Michael Burke regarding my property and how the project would affect us personally. It seems that the road/curb will be pushing 5 feet closer to my home which is already too close to the road. I'm concerned about the noise, especially because I was told all of the brush/trees along the road were going to be cleared during construction. We have some serious concerns about this as there is currently very little separating my children from the road (only a deer fence), my trees keep dying from the salt spray (verified by Davey), and the noise level which will increase.

My husband and I would like you or somebody on your team to come to our home and physically stand in the backyard with us to explain exactly what will be happening. The displays at the meeting were unclear as that particular location on your display was blown up to be "Figure A", I believe it was called. We were trying to use the blueprints to understand the impact but it was a bit confusing. My husband can work from home on the following dates: Nov 28 (Wed), Dec 4 (Tues) or Dec 7 (Fri). Please let me know if any of these dates work for you.

Thank you,

[REDACTED]

From: [REDACTED]
To: [Deerfield Road Corridor Comment](#)
Subject: Deerfield Road Project
Date: Friday, November 16, 2018 4:42:08 PM

Hello,

Hope you are well.

There is great concern that a median on Deerfield Road, just east of Milwaukee Ave, will cause issues for tenants and customers to gain access to the retail centers Colonial Court and Shoppes of Riverwoods for east bound Deerfield Road traffic. With the median on Milwaukee Ave cutting off access for south bound Milwaukee Ave traffic, this median on Deerfield will even further prohibit ease of access to both retail centers.

Sincerely,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

For more information, updates and useful links, please visit our website: [REDACTED] and take a look at our Social Media posts by connecting with us on LinkedIn, Facebook, Google+ and more!

Like Us on Facebook: [REDACTED]



Hon. Shane Schneider, Director
Mr. Chuck Gleason, Project Manager
Lake County Department of
Transportation
600 W. Winchester Road
Libertyville, IL 600048

Hon. Joseph C. Szabo, Executive Director
Chicago Metropolitan Agency for
Planning
233 S. Wacker Drive, Suite 800
Chicago, IL 60606

Re: Widening Deerfield Road between Saunders Road and Milwaukee Road,
Riverwoods, IL

Gentlemen:

While I realize that the widening project is a done deal and there is little hope for a “No-Build” alternative, I think that the LCDOT and CMAP should know that there are still many people who disagree with the conclusion that the road must be widened, and who think that the damage caused to the environment and properties in and surrounding Riverwoods by the widening project will greatly outweigh any of the benefits supposedly to be derived from it.

I enclose an article from the Summer, 2018 issue of ActiveTrans, a publication of the Active Transportation Alliance. The article is entitled “Local Highway Expansion Must Stop”, and it presents a cogent argument against needless road expansion.

The points raised in the article are entirely applicable to the present plan to widen Deerfield Road between Saunders Road and Milwaukee Road. As pointed out in the article, more people in the Chicago area are driving to work than in 1980, which has led to more traffic accidents and fatalities. In fact, the amount of driving in the area has grown approximately 4 times faster than the population, with about 69% more car traffic compared to about 18% more people. One very important reason for this increase in driving has been the unavailability of alternate means of transportation. People are forced to drive, most often with only one person to a car, because there is little if any public transit to their jobs or shopping. The analysis of this issue by the Alliance shows that the effort to solve traffic congestion by building or expanding roads has been a failure and has only worsened the congestion. Roadway expansion in urban areas only exacerbates congestion in the long run by inducing more driving, which in turn leads to more congestion.

The conclusion of the study is, not surprisingly, that investments in public transit, biking and walking carry greater long-term benefits at a much lower cost. For example, the analysis states that the planned expansion of I-294, I-290 and I-55 would cost a combined

\$7.4 billion, while all of Chicago's 100 miles of new bikeways from 2011 to 2015 were built for only \$12 million.

Deerfield Road between Saunders Road and Milwaukee Road is lightly traveled for most of the day. In fact, sometimes during the day there are almost no cars on it at all. It is only during morning and evening rush hours that the road is crowded and traffic slows to a crawl. This situation persists for only 2 hours or so in each period, however, and, while without doubt annoying to the motorists, exists for only the 1 or 1 ½ mile stretch of the road. The issue becomes whether it is worth spending many millions of dollars to widen the road when the benefits do not outweigh the disadvantages.

The widening will entail the destruction of many mature trees, the construction of several water retention facilities on private or municipally owned property, and the discharge into the DesPlaines River of run-off water from the road, which will most probably contain road salt, dirt, and other contaminants. It is hard to agree that the road should be widened under these circumstances, especially when the average daily traffic volume along the Road within the project limits is projected to increase from approximately 19,500 vehicles per day to only 20,200 for the year 2040 under the No-Build scenario (Project Memorandum of August 9, 2017 from LCDOT to the SIG, calling the increase "relatively modest"). This increase of 650 vehicles per day within the next 22 years should be called "extremely modest", not "relatively modest".

The countervailing environmental considerations should clearly outweigh the dubious advantages of the widening. For example, on just one private property along Deerfield Road, the owner estimates he will lose 20-21 mature trees, along with a wide strip of land along the road, apparently for an easement. These kinds of losses will occur all along the length of the project. There also is the question of water retention. The current plan apparently calls for the creation of a large retention facility north of Deerfield Road along the east side of Thorngate Creek. A representative of LCDOT stated at the October 30, 2018 open house that the retention will be excavated to a depth of 3 feet, which apparently will create a large pond on private property. Whether 3 feet is a sufficient depth to prevent the pond from overflowing, or seeping, into the creek, and contaminating it, is an open question for many, aside from the issue of prescriptively taking private residentially zoned property for easements and a water retention facility which apparently will be at least several hundred square feet in size.

In return for all of this, motorists will save, for a while, perhaps 15-20 minutes of travel time on their commute. This saving will be ephemeral, however, because, as the Alliance's analysis points out, the widened road will attract more motorists and the travel time on the road will return to a crawl. Millions of dollars will have been spent for nothing, while a improved PACE system along the road and in the area would have given a much greater benefit for a much lower cost.

I urge LCDOT, the County Board, and CMAP to resist the inertial forces that have led to the almost automatic expansion of local roads. A decision not to widen Deerfield Road and to support more public transit, in the Deerfield-Riverwoods area and elsewhere,

would be a step away from our over-dependence on private automobiles and a great step towards a healthier and more environmentally friendly society.



Copies to:
Hon. Aaron Lawler, Chairman, and
Ann Maine, 21st District, Lake County Board;
Hon. John Norris, Mayor, and
Members of the Board of Trustees and
other residents in Riverwoods, IL

Local highway expansion must stop

By Kyle Whitehead

For decades, regional planning leaders have urged cities and villages across metropolitan Chicago to build communities in ways that reduce driving and increase walking, bicycling and public transit ridership. But our new analysis shows that the region has only grown more car dependent.



More people in Chicagoland are driving to work today than in 1980, and this rapid growth in driving has led to more traffic congestion, crashes, injuries and fatalities, as well as more air pollution, flooding and chronic disease due to physical inactivity. It's also made it more difficult for people to access jobs and other destinations without a car, worsening economic hardship for low-income residents.

The Active Transportation Alliance's 2018 Regional Mode Share Report analyzes commuting trends in the city and suburbs, breaking down the data by transportation mode, county and demographics (read the entire report at activetrans.org/modeshare). It finds that the amount of driving in the region has grown approximately 4 times faster than the population since 1980, with about 69 percent more car traffic compared to 18 percent more people (see graph on next page).

Road expansion = more congestion

This rapid growth in driving has been spurred in large part by the pairing of car-centric suburban sprawl and roadway expansion that necessitates driving and makes walking, bicycling and transit less viable. Between 1996 and 2015 alone, the region spent billions of dollars to add more than 1,000 miles of new roads that was purported to reduce congestion. Despite relatively slow population growth during this period, traffic congestion in metro Chicago has become much worse.

According to the Texas A&M Transportation Institute, the average Chicagoland commuter lost 31 hours per year to traffic congestion in 1982 and 61 hours in 2014.

Active Trans' analysis demonstrates the region's efforts to build its way out of traffic congestion has only worsened our traffic congestion. The data is consistent with research showing that roadway expansion in urban areas only exacerbates traffic congestion in the long run by inducing more driving that over time fills in the additional roadway space, with congestion rebuilding to previous levels.

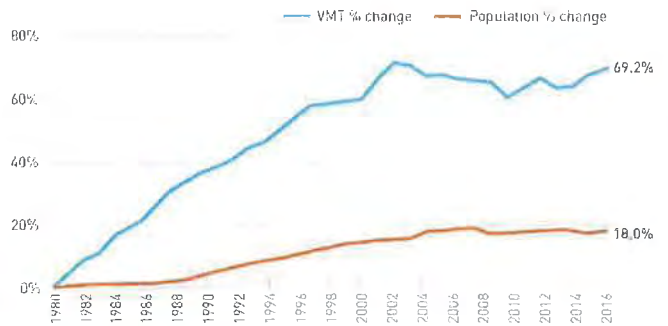
Remove road expansion projects from plans

In releasing this report, Active Trans and our partners called for a moratorium on highway expansion. In letters to the Chicago Metropolitan Agency for Planning (CMAP) and Illinois Department of Transportation (IDOT), we said the region should stop wasting money on roads that don't relieve congestion beyond the short-term and spend the money instead on effective strategies like walking, biking and transit that are also more healthy and sustainable.

The letters called for excluding highway expansion projects from the new comprehensive regional plan called "ON TO 2050"

Regional Percent Change of Vehicle Miles Traveled (VMT) and Population Growth since 1980

Between 1980 and 2017, regional VMT grew nearly four times faster than population.



and IDOT's 5-year plan. We also asked for inclusion of a policy acknowledging that highway expansion leads to more driving that offsets congestion relief, and we urged these agencies to prioritize lasting, cost-effective congestion relief with strategies like better public transportation and rush-hour demand management.

Fighting congestion the right way

While more two-income households have contributed to the growth in driving, the analysis finds that the main cause is that most people don't have an effective way to get to work and other destinations without a car, especially in the suburbs. For suburban residents, the percentage of work trips by car increased from 84 percent in 1980 to 86 percent in 2016, while the percentage of suburban work trips by walking, biking and transit decreased from 14.1 to 8.1 percent over the same years. In the city of Chicago, 58 percent of residents drove to work in 1980. The number increased to 65 percent in 2000 before falling back to 58 percent in 2016. Walking, biking and transit accounted for 40.4 percent of Chicago work trips in 1980 and 36.5 percent in 2016.

Even if roads are expanded with car pool lanes or tolled lanes as proposed by the Illinois Department of Transportation for I-55 and I-290, the result would be more driving and cars, not less. Investments in transit, biking and walking carry greater long-term benefits at a much lower cost. The planned expansions of I-294, I-290 and I-55 would cost a combined \$7.4 billion. All of Chicago's 100 miles of new bikeways from 2011 to 2015 were built with \$12 million.

The Active Transportation Alliance is partnering with peer advocates and community-based organizations across the region to fight for these changes in the development of the regional plan and beyond. Active Trans' Walk and Roll the Vote campaign will highlight these issues by educating voters and candidates in the upcoming 2018 statewide elections and 2019 municipal elections.

Kyle Whitehead is managing director of public affairs for Active Trans.

Regional Bike/Walk/Transit Commuter Trends

Percent of people walking, bicycling and taking public transit to work



Sources: US Decennial Census, American Community Survey, Illinois Department of Transportation

Safer biking and walking for kids



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APPENDIX E-5

AGENCY AND PUBLIC COORDINATION

Stakeholder Involvement Group



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Stakeholder Involvement Group

Meeting #1 Summary



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Executive Summary

The first Stakeholder Involvement Group (SIG) meeting for the Deerfield Road Phase I Study was held on Thursday, March 2, 2017 between 6:00 and 8:00 p.m. at Brentwood North Health Care Center, 3705 Deerfield Road, Riverwoods, IL 60015. The main objective of this SIG meeting was to provide a project overview and develop a list of the project goals and objectives. A total of 23 SIG members were invited, and 21 attended with 2 substitutes. A list of meeting attendees is provided within this meeting summary.

The meeting kicked off with introductions (10 minutes), followed by a PowerPoint presentation (45 minutes) which provided a project overview, discussed the overall project development process and public involvement process, and summarized the Public Information Meeting #1. The PowerPoint presentation is included as Attachment A. An opportunity was provided for Q&A before a short break (5 minutes). Following the break, three interactive workshops were conducted (50 minutes):

- Workshop Part #1 (10 minutes): Large group session to discuss transportation related issues and concerns. This discussion was an extension of the input sought at PIM #1;
- Workshop Part #2 (30 minutes): A small group session followed in which the SIG broke out in three smaller groups to identify and prioritize project goals; and
- Workshop Part #3 (10 minutes): A large group session in which the SIG refined the draft Problem Statement.

A detailed summary of the breakout sessions are provided within this meeting summary. Input received from the SIG will be used by LCDOT and the project team to help develop the preliminary Purpose and Need, which is the first component of the Environmental Assessment.

The next steps for the project were discussed (5 minutes). The project team will compose a draft SIG #1 summary and will provide to the SIG for review and comment. The preliminary Purpose & Need Statement will be finalized and sent out to the SIG for review and comment. After comments are received, the preliminary Purpose and Need will be modified as appropriate and submitted to Illinois Department of Transportation and Federal Highway Administration for review. The second SIG meeting is planned for summer 2017 and will focus on preliminary alternatives and alternative evaluation criteria. An opportunity was provided at the end of the meeting for any additional questions.

Numerous project related materials were on-hand from PIM #1 for SIG viewing and information. All SIG #1 materials are posted on the project website (www.deerfieldroadcorridor.com). Hard copies of the Stakeholder Involvement Plan (SIP) were available. Several exhibits were displayed as additional back-up information which included the Environmental Assessment, Safety, Existing Average Daily Traffic, and Environmental Resources boards. These exhibits are included as Attachment B.



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Meeting Participants

Project Team Attendance

- Emily Karry, Lake County Division of Transportation
- Chuck Gleason, Lake County Division of Transportation
- Michael Matkovic, Christopher B. Burke Engineering
- Matthew Huffman, Christopher B. Burke Engineering
- Emily Anderson, Christopher B. Burke Engineering
- Ryan Duffy, Christopher B. Burke Engineering
- Leisa Niemotka, Images, Inc.
- Lisa Mentzer, Images, Inc.

Stakeholder Involvement Group (SIG) Member Attendance

- Jeffrey Berman, Village of Buffalo Grove Trustee
- Patrick Glenn, Village of Riverwoods Village Engineer
- Deputy Chief Scott Knesley, Lincolnshire-Riverwoods Fire Protection District – Station 51
 - Substitute for Chief Tom Krueger, Lincolnshire-Riverwoods Fire Protection District – Station 51.
Either Krueger or Knesley will attend SIG meetings
- Mike Clayton, Riverwoods Preservation Council
- Daniel Glenner, Brentwood Medical Center – Health and Home Management, Inc.
- Brian Meltzer, Meadow Lake Owners Association
- Sol Snyderman, Riverwoods Resident
- Will Green, Timbers Homeowners Association
- Rick Jamerson, Village of Riverwoods Trustee
- Darren Monico, Village of Buffalo Grove Village Engineer
- Jeff Sloat, Lake County Forest Preserve District
- Timothy Grzesiakowski, TMA – Lake Cook
- Pericles (Perry) Galanopoulos, Timbers Homeowners Association
 - Substitute for Albert Weiss, Timbers Homeowners Association; Forsythe Technologies, Inc.
- Sandy DeLisle, Riverwoods Resident
- Kathryn Romanelli, Thorngate Homeowners Association
- Barbara Little, Village of Deerfield Director of Public Works
- Chief Bruce Dayno, Riverwoods Police Department
- Robert Gardiner, Lake County Stormwater Management Commission
- Elliot Rossen, Active Transportation Alliance
- Anders Raaum, Federal Life Insurance Company
- David Shimberg, Vernon Woods Owners Association
- Phillip Rosenthal, Hiawatha Woods Association
- Mortin Skidelski, AARP Driver Safety Program Instructor



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

PowerPoint Presentation

A summary of the main highlights from the PowerPoint presentation are provided below. The SIG Meeting #1 PowerPoint presentation is provided as Attachment A.

A brief opening statement was made by Chuck Gleason from Lake County Division of Transportation (LCDOT) to kick off the meeting. Introductions (name and group/agency representing) were made by the project team members and the SIG members. Mike Matkovic, from Christopher B. Burke Engineering (CBBEL), reviewed the project agenda and discussed the project team. The lead agency for this project is LCDOT and hired CBBEL as the lead consultant for the Phase I Engineering Study. Images, Incorporated is a sub consultant who will be assisting with the public involvement. Illinois Department of Transportation (IDOT) and Federal Highway Administration (FHWA) have overall review and approval authority for this project since it is utilizing federal funding.

This Phase I Engineering Study is for Deerfield Road from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east. Both termini intersections are included in this study for evaluation. Some key existing conditions within the project study area include the Edward L. Ryerson Nature Preserve, the Des Plaines River, high density of trees, numerous wetlands, commercial areas at termini intersections, and connection of Deerfield Road to I-94 east of the project study area. Portions of the environmental resources exhibit were reviewed to highlight particular areas along Deerfield Road. The environmental resources exhibit is continuously updated throughout the project due to additional data collection and coordination with resource agencies.

The overall project development process for any federally funded transportation project includes three different phases. Phase I consists of Preliminary Engineering and Environmental Studies, which is anticipated for 36 months. Phase II consists of contract plan preparation and land acquisition, and Phase III is construction. The project development process for Phase I consists of environmental studies, engineering analysis, and public involvement. This project is following the National Environmental Policy Act (NEPA), which is a federal requirement for all projects to be eligible for federal funds. Overall, NEPA includes a comprehensive environmental review and analysis, and will be documented as an Environmental Assessment for this project. Depending on the complexity of a project, different levels of environmental review and analysis are required. The Environmental Assessment is the middle level, with a Categorical Exclusion being the lowest and Environmental Impact Statement being the highest. Engineering requirements will follow County and State guidelines. The specific Phase I Study process consists of data collection, developing the project purpose and need, identifying a range of alternatives, screening the range of alternatives down to a preferred alternative, and then obtaining design approval from IDOT and FHWA.

Leisa Niemotka from Images, Inc. continued the presentation with describing the public involvement components of the project. Context Sensitive Solutions (CSS) is a public outreach approach that seeks to involve all stakeholders throughout the duration of the Phase I Study process. Stakeholder input is considered, however no decisions are made by voting. Everyone may not agree on decisions, but everyone's voice will be



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

heard. The CSS project development approach is described in the Stakeholder Involvement Plan (SIP). The SIP identifies the roles and responsibilities of participants and establishes the timing of public involvement activities compared to Phase I Study activities. As the project develops, the SIP can change to adapt to any project development modifications. The following is the anticipated SIG meeting schedule to seek stakeholder input:

- Meeting #1: Purpose and Need input (transportation issues and concerns, project goals and objectives);
- Meeting #2: Identification of initial alternatives and discussion of evaluation criteria;
- Meeting #3: Screening of initial alternatives and identification of finalist alternatives;
- Meeting #4: Evaluation of finalist alternatives;
- Meeting #5: Preferred alternative design elements.

LCDOT will utilize stakeholder input throughout the project development process as indicated by the SIG Meeting schedule above as well as public information meetings, and the Public Hearing. As this project is going through the federal process, final project decisions will be made by LCDOT. IDOT and FHWA have approval authority.

A summary of Public Information Meeting #1, which was held on November 30, 2016, was provided. At this meeting input was sought on issues and concerns within the project study area. Major themes included users' experience with congestion on the roadway, concern for property, environmental, and community impacts, desire to improve non-motorized accommodations, and adjacent property access issues. All PIM #1 information (Summary, PowerPoint, and Exhibit Boards) is available on the project website (www.deerfieldroadcorridor.com).

Emily Anderson from CBBEL provided information on the preliminary Purpose and Need Statement for the project. The Purpose and Need Statement is the first section within the formal NEPA document, which is an Environmental Assessment for this project. The Purpose and Need Statement establishes the purpose of and the need for the transportation project. Any alternatives under consideration must meet the project Purpose and Need to be carried forward for further evaluation and consideration. The "No-Build" alternative is also carried forward and evaluated. Three elements are used to develop the Purpose and Need:

- Data collection
- Technical Analysis
- Stakeholder Input

The data collection and technical analysis completed for the preliminary Purpose and Need was presented. Population and employment growth collected from the 2010 census data, and CMAP 2040 projected data indicate that the Villages (Riverwoods, Buffalo Grove, and Deerfield) and Lake County have grown and will continue to grow by the year 2040. This translates into traffic growth along the Deerfield Road corridor. Historically, travel demand has increased significantly along Deerfield Road since the 1970's. While travel demand has varied over time, the design capacity of a 2-lane roadway has been exceeded since the 1990's.



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Technical analysis was performed for vehicular capacity, safety, and non-motorized facilities. This section of Deerfield Road operates as a 2-lane “bottleneck” between 5-lane sections at Milwaukee Avenue and Saunders/Riverwoods Road. Specifically, the eastbound movement has substandard performance in the AM, and the westbound movement in the PM peak travel periods. Stakeholder input indicated 2-mile long backups for westbound roadway users in the PM peak period. This results in access deficiencies for adjacent properties and emergency vehicles. Crash analysis was performed for a 5-year period (2010-2014) and showed that 49% of the 355 crashes within the study area are rear end type crashes. These type of crashes are generally attributed to excessive queuing, absence of turn lanes, lack of gaps, and numerous access points. Non-Motorized facilities were discussed. Off-road non-motorized facilities exist west of Milwaukee Avenue, from Des Plaines River Trail to Thornmeadow Road, and east of Saunders/Riverwoods Road. The Des Plaines River Trail runs underneath Deerfield Road adjacent to the Des Plaines River. There are non-motorized gaps between Milwaukee Avenue and the Des Plaines River Trail, and from Thornmeadow Road to Saunders/Riverwoods Road. Numerous comments were received at PIM #1 indicating that Deerfield Road is an important east/west route for non-motorized users and has high relative usage compared to other nearby east/west routes, including Lake Cook Road and IL 22.

An opportunity for questions was provided. A break was provided to review material prior to the interactive group workshops.

The PowerPoint was utilized to help facilitate the three interactive group workshops:

- Workshop Part #1 (10 minutes): Large group session to discuss transportation related issues and concerns. This discussion was an extension of the input sought at PIM #1;
- Workshop Part #2 (30 minutes): A small group session followed in which the SIG broke out in three smaller groups to identify and prioritize project goals; and
- Workshop Part #3 (10 minutes): A large group session in which the SIG refined the draft Problem Statement.

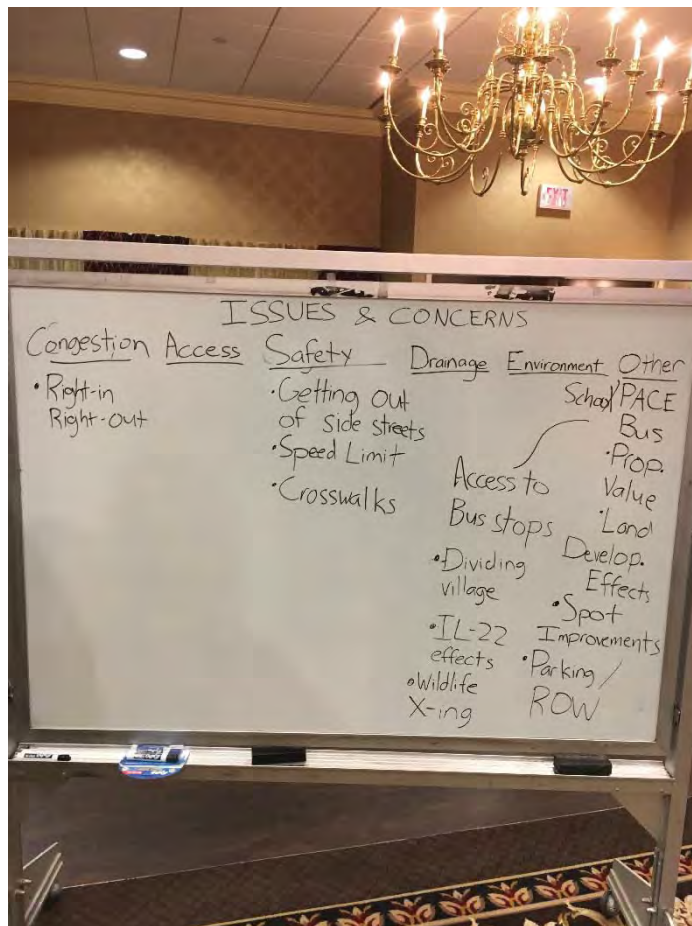
A detailed summary of the breakout sessions are provided below. Input received from the SIG will be used by LCDOT and the project team to aid in developing the preliminary Purpose and Need Statement, which is the first component of the Environmental Assessment.

Interactive Large Group Workshop #1: Additional Issues & Concerns

Group Facilitator: Matthew Huffman

Group Scribe: Ryan Duffy

The purpose of the large group session was for the SIG to identify additional project issues and concerns. This discussion was an extension of the input sought at PIM #1. Prior to the discussion, a brief summary of the issues and concerns heard at PIM #1 was provided. A picture of the board documented by the scribe is provided to the right with a bullet point summary below:



- Concern for potential improvement resulting in *Right-in/Right-out* only for side streets
- Concern for potential improvement making *Getting out of side streets* more difficult
- Concern for *Speed limit* increase
- Desire to add *Crosswalks* to safely access the regional bike trails
- Concern for reduced *Access to School/ PACE bus stops*
- Concern for reduced *Property Value*
- *Land development effects* on traffic mobility
- Question on whether smaller *Spot improvements* would solve congestion
- Concern for impacts to *Parking* specifically to the northeast corner of Deerfield Road and Milwaukee Avenue and general to *ROW* along Deerfield Road
- Concern for potential improvements *Dividing village*
- *IL-22 improvement effects* on Deerfield Road traffic may lessen need for improvements
- Concern for *Wildlife crossing* a potentially wider corridor

Interactive Small Group Workshop #2: Prioritize Project Goals

The purpose of the small group breakout session was to discuss how to address identified issues and concerns discussed in Workshop #1, and then prioritize their relative importance. The SIG broke out into three small groups, each with a project team facilitator and scribe to document the small group discussion. The Environmental Resources exhibit roll plots of the corridor were used to facilitate discussion. Information was provided on-screen to help guide the discussion, which listed the main topic areas of the preliminary Purpose and Need Statement: congestion mitigation, improve safety (vehicles & ped/bike), improve mobility and accessibility, ped/bike accommodations, and address roadway operational deficiencies. A picture of the flip chart that summarizes the discussion within each group is provided below along with a bullet point summary. Following the small group discussion, each group reported out their discussion to the entire SIG.

Blue Group – Project Goals & Relative Importance

Table Facilitator:

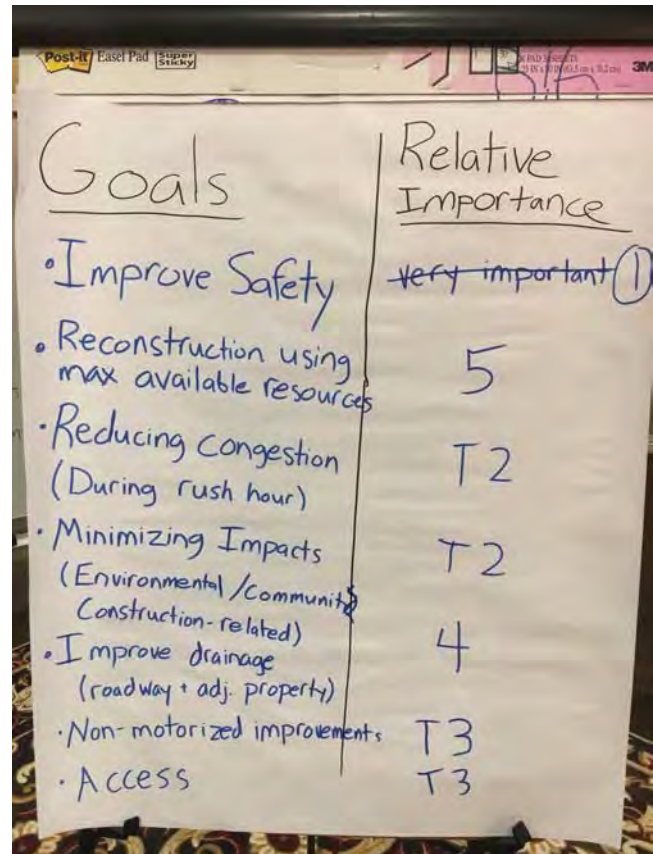
- Facilitator: Michael Matkovic
- Scribe: Ryan Duffy
- Report Out: Mike Clayton

Table Participants:

- Jeffrey Berman
- Patrick Glenn
- Deputy Chief Scott Knesley
- Mike Clayton
- Daniel Glenner
- Brian Meltzer
- Sol Snyderman
- Will Green

Goals & Relative Importance:

- Improving safety – 1
- Reducing congestion (during rush hour) – Tie for # 2
- Minimizing Impacts (environmental/community/construction-related) – Tie for #2
- Non-motorized improvements – Tie for #3
- Access – Tie for #3
- Improve drainage (roadway and adjacent property) – 4
- Reconstruction using maximum available resources – 5



Green Group – Project Goals & Relative Importance

Table Facilitator:

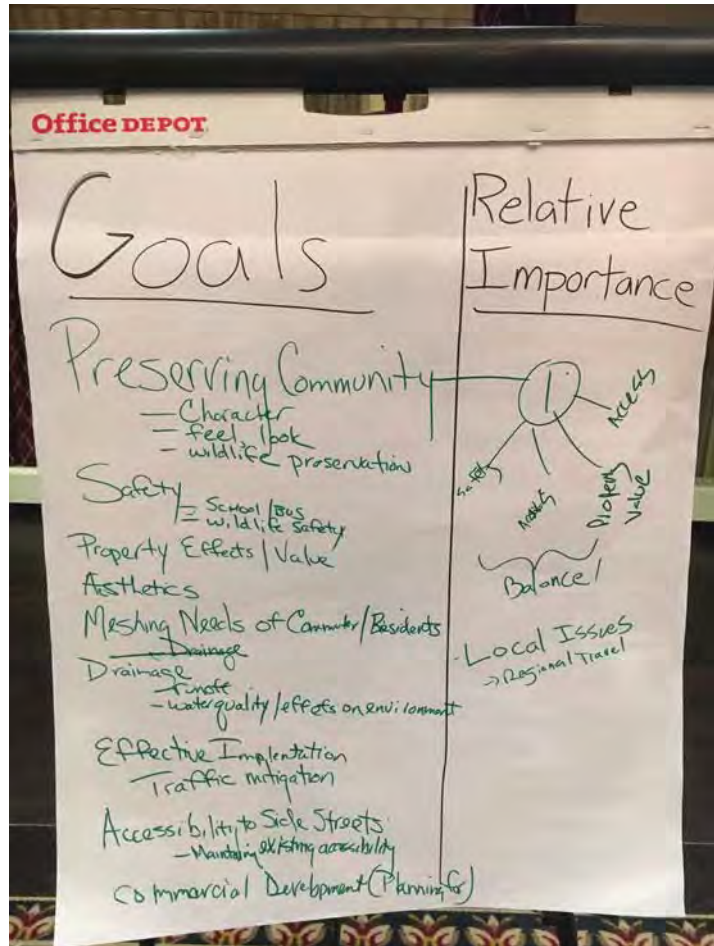
- Facilitator: Matthew Huffman
- Scribe: Lisa Mentzer
- Report Out: Matthew Huffman

Table Participants:

- Rick Jamerson
- Darren Monico
- Jeff Sloat
- Timothy Grzesiakowski
- Perry Galanopoulos
- Sandy DeLisle
- Kathryn Romanelli

Goals & Relative Importance:

- Preserving community (character/feel, look/wildlife preservation) – 1
- Safety (school/bus/wildlife safety) - 2
- Property effects/value - 2
- Aesthetics - 2
- Meshing needs of commuters and residents - 2
- Drainage (runoff/water quality/effects on environment) - 2
- Effective implementation (traffic mitigation) - 2
- Accessibility to side streets (maintaining existing accessibility) - 2
- Commercial development (planning for) - 2
- Building appropriate road/considering connection to Des Plaines River Trail - 2



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Red Group – Project Goals & Relative Importance

Table Facilitator:

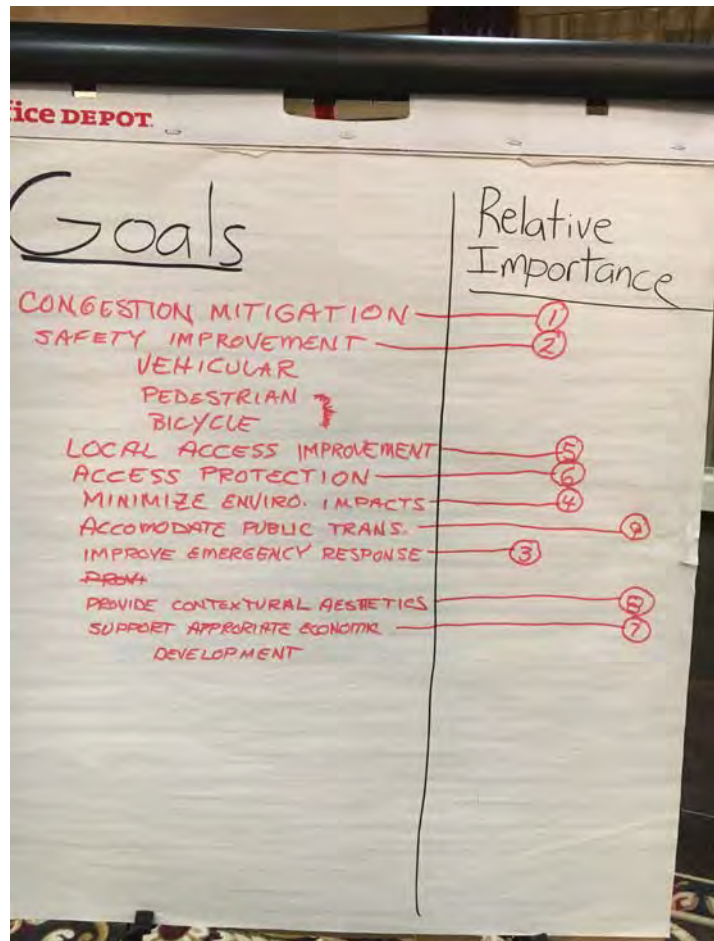
- Facilitator: Emily Anderson
- Scribe: Barbara Little
- Report Out: Bob Gardiner

Table Participants:

- Barbara Little
- Chief Bruce Dayno
- Bob Gardiner
- Elliot Rossen
- Anders Raaum
- David Shimberg
- Phillip Rosenthal
- Mortin Skidelski

Goals:

- Congestion mitigation – 1
- Safety improvement (vehicular/pedestrian/bicycle) – 2
- Improve emergency response – 3
- Minimize environmental impacts – 4
- Local access improvement – 5
- Access protection – 6
- Support appropriate economic development – 7
- Provide contextual aesthetics – 8
- Accommodate public transportation – 9





Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Interactive Large Group Workshop #3: Draft Problem Statement

Based on stakeholder input received at Public Information Meeting #1, one-on-one meetings with the Villages and resource agencies, data collection, and technical analysis completed thus far, a draft Problem Statement was created by the project team. The purpose of this large group session was to discuss and refine the draft Problem Statement as a large group. The draft Problem Statement was provided on the overhead screen and live edited during the workshop. Also, the draft Problem Statement is provided within this meeting summary for any additional comments from the SIG. The finalized Problem Statement will be provided at SIG Meeting #2. A screenshot of the edited draft Problem Statement is provided below with the resulting text provided afterward.

**Workshop Part #3
Draft Problem Statement**

The purpose of this project is: *to solve motorized and non-motorized transportation problems for existing and future conditions along and adjacent to Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road.*

Problems to be solved include: *vehicular congestion and mobility during peak travel periods, operational deficiencies, motorized and non-motorized safety, non-motorized connections, accessibility to side streets/businesses/homes, and drainage issues.*

Additional key considerations for this project include: *maintaining the existing community character/context, minimize impacts to the ecosystem, minimizing adjacent property impacts, while considering the effect of other planned roadway improvements and minimize impacts to and preserving the natural environment.*

www.deerfieldroadcorridor.com Lake County Division of Transportation

The purpose of this project is to solve motorized and non-motorized transportation problems for existing and future conditions along and adjacent to Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road.

Problems to be solved include vehicular congestion and mobility during peak travel periods, operational deficiencies, motorized and non-motorized safety, non-motorized connections, accessibility to side streets/businesses/homes, and drainage issues.

Additional key considerations for this project include maintaining the existing community character/context, minimizing adjacent property impacts while considering the effect of other planned roadway improvements and minimize impacts to and preserving the natural environment.



Stakeholder Involvement Group Meeting #1 Summary March 2, 2017

Next Steps

The next steps for the project were discussed (5 minutes). The project team will compose a draft SIG #1 summary and will provide to the SIG for review and comment. The preliminary Purpose & Need Statement will be finalized and sent out to the SIG for review and comment. After comments are received, the preliminary Purpose and Need will be modified accordingly and submitted to Illinois Department of Transportation and Federal Highway Administration for review. The second SIG meeting is planned for summer 2017 and will focus on preliminary alternatives and alternative evaluation criteria. An opportunity was provided at the end of the meeting for any additional questions.

Post Meeting Note (March 15, 2017)

Following SIG #1, the project team coordinated with FHWA regarding inclusion of a section in the preliminary Purpose and Need Statement titled *Additional Considerations*. This section would include some of the additional items discussed at SIG #1, such as maintain community character/context and minimize socio-economic and environmental impacts. FHWA indicated that these additional considerations should be documented in the alternatives section of the Environmental Assessment, and that the Purpose and Need Statement section should focus on the transportation need for an improvement. Additional key considerations are included in the Project Problem Statement (Workshop #3).



Welcome!

Deerfield Road Phase I

Engineering and Environmental Study

Stakeholder Involvement Group Meeting #1

6:00 PM March 2, 2017

www.deerfieldroadcorridor.com



Meeting Agenda

- **Introductions**
- **Project Overview and Project Development Process**
- **Public Involvement Process & Public Information Meeting #1 Summary**
- **Preliminary Purpose and Need**
- **Interactive Workshops**
- **Next Steps & Schedule**



www.deerfieldroadcorridor.com





Project Team



SIG Representation

- | | |
|---|--|
| <ul style="list-style-type: none"> Meadow Lake Owners Association Vernon Woods Owners Association Timbers Homeowners Association Hiawatha Woods Association Thorngate Homeowners Association Riverwoods Residents Brentwood Medical Center Federal Life Insurance Company Lincolnshire-Riverwoods Fire Protection District Riverwoods Police Department | <ul style="list-style-type: none"> Riverwoods Preservation Council Lake County Forest Preserve District Lake County Stormwater Management Commission Transportation Management Association of Lake Cook Active Transportation Alliance AARP Driver Safety Program Village of Riverwoods and Buffalo Grove Officials Village of Riverwoods, Buffalo Grove, Deerfield Engineering/Public Works |
|---|--|



PROJECT OVERVIEW AND PROJECT DEVELOPMENT PROCESS

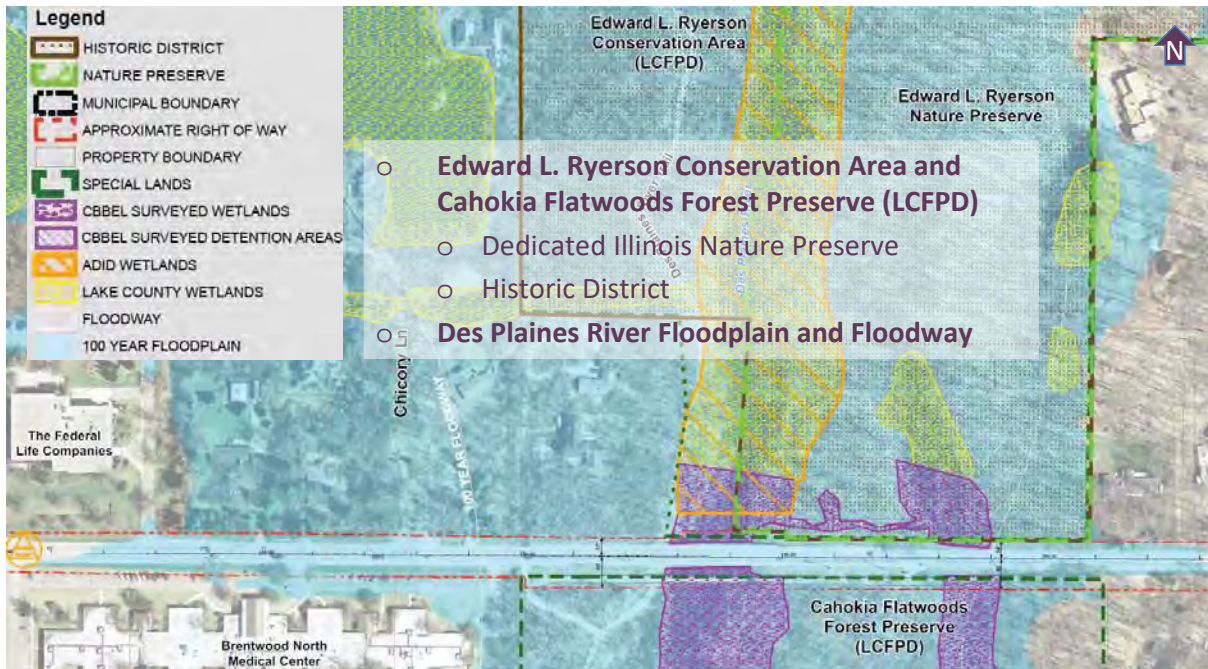
www.deerfieldroadcorridor.com



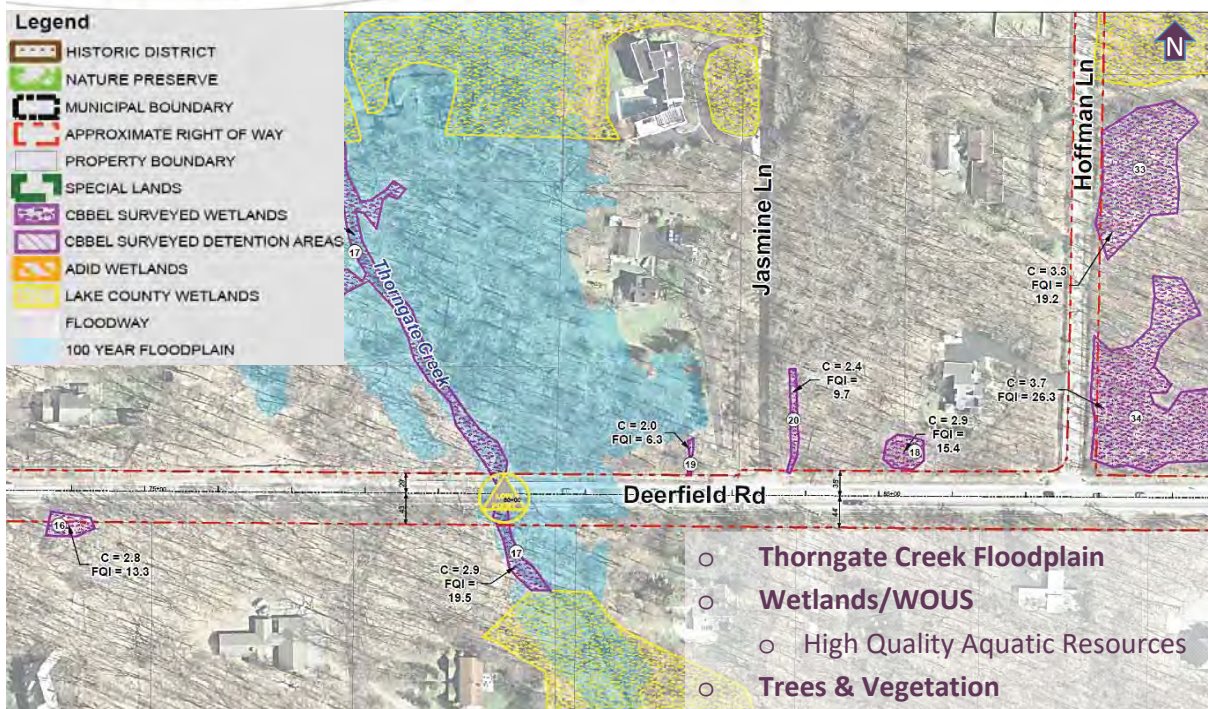
Project Overview



Environmental Resources

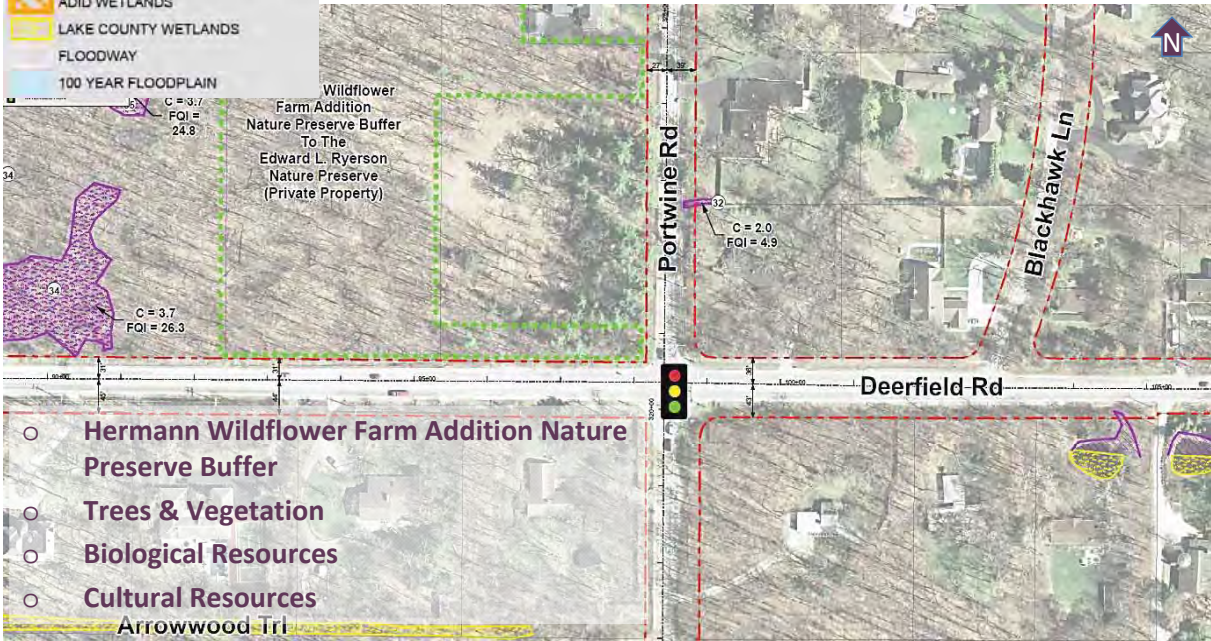


Environmental Resources



Environmental Setting

- Legend**
-  HISTORIC DISTRICT
 -  NATURE PRESERVE
 -  MUNICIPAL BOUNDARY
 -  APPROXIMATE RIGHT OF WAY
 -  PROPERTY BOUNDARY
 -  SPECIAL LANDS
 -  CBBEL SURVEYED WETLANDS
 -  CBBEL SURVEYED DETENTION AREAS
 -  ADID WETLANDS
 -  LAKE COUNTY WETLANDS
 -  FLOODWAY
 -  100 YEAR FLOODPLAIN



Project Development Process



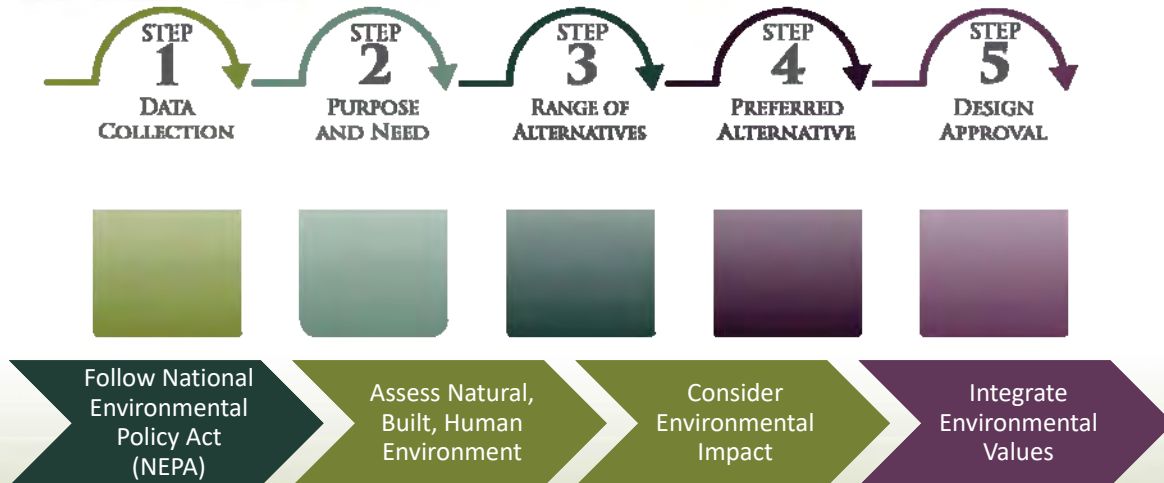


Project Development Process Phase I Engineering

- **Environmental Requirements**
 - National Environmental Policy Act (NEPA) - Federal Requirement
 - Define Project Purpose and Need
 - Full range of reasonable alternatives, including “no build” must be considered
 - Comprehensive environmental review (avoid, minimize, mitigate)
 - Environmental Assessment documentation
- **Engineering Requirements**
 - Lake County DOT Design Guidelines
 - IDOT Bureau of Local Roads and Streets Manual
- **Public Involvement – Context Sensitive Solutions (CSS)**
- **IDOT and FHWA Project Review and Approval**



Phase I Study Process



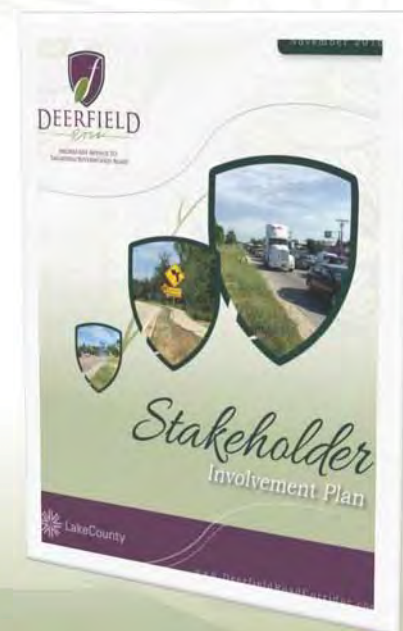
What is CSS? Project Outreach

- CSS is an interdisciplinary project development approach that seeks effective, transportation facilities that fit into and reflect the project's surroundings – its "context"
- No decisions by voting
- No guarantee that everyone will agree, but everyone's voice will be heard



Stakeholder Involvement Plan

- **Blueprint for defining outreach tools and methods**
 - Living document
- **Identifies roles and responsibilities of participants**
- **Establishes timing of public involvement activities**
- **Available on the project website www.DeerfieldRoadCorridor.com**





Stakeholder Involvement Group (SIG)



Responsibility:

- Commit to attend 5 planned meetings
- Collaborate with Project Consultant Team, providing input as part of project decision points

SIG Meeting Plan:

Meeting #1 - Purpose and Need Input. Transportation issues and concerns, project goals and objectives

Meeting #2 - Identification of initial alternatives and discussion of evaluation criteria

Meeting #3 - Screening of initial alternatives and identification of finalist alternatives

Meeting #4 - Evaluation of finalist alternatives

Meeting #5 - Preferred alternative design elements



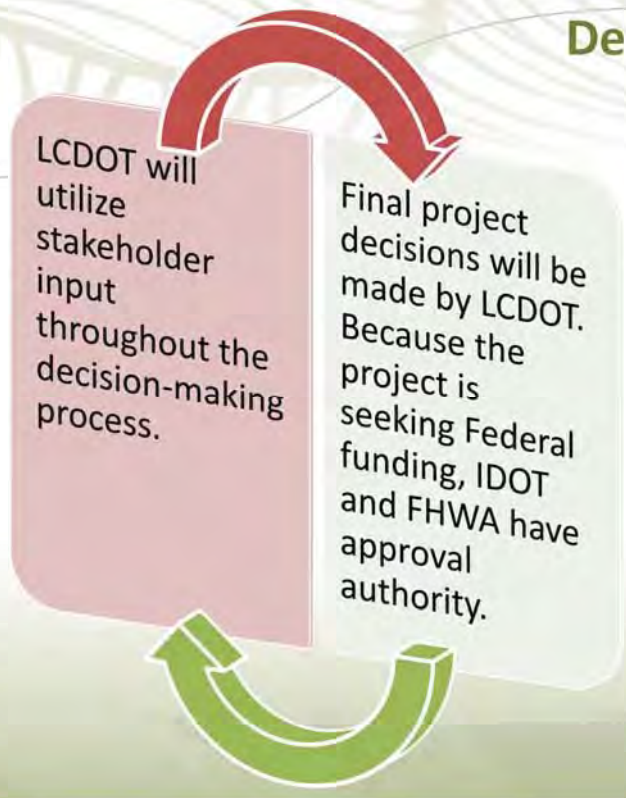
Membership Expectations

- Agree to act as a team in a spirit of collaboration
- Candidly communicate local issues
- Respect all opinions
- Pass on information to constituents/neighbors
- Provide timely reviews of all submittals with constituent feedback





Decision Making



PUBLIC INFORMATION MEETING #1



Public Information Meeting # 1 Recap

Held on November 30, 2016

132 attendees

What did we hear?

- **Wide cross-section of views and interests**
- **General recognition of improvement needs**
- **Concern for property and environmental impacts**
- **Desire for improved non-motorized accommodations**



Public Information Meeting # 1 Recap

What did we hear?

- **Significant congestion during peak travel hours**
- **Adjacent property access is difficult during peak hours, but functions well outside of peak periods**
- **Queuing and vehicles accessing adjacent property creates sudden stops and slow downs**





Public Information Meeting # 1 Recap

What did we hear?

- Strong bicycle community presence
- Unsafe non-motorized conditions with narrow shoulders and intermittent existing path in poor condition
- Drainage concerns
- Maintain community character



DEVELOP PRELIMINARY PURPOSE AND NEED

- Data Collection
- Technical Analysis
- Stakeholder Input

Purpose and Need Statement



- Formal NEPA document that establishes the purpose for and the need for the transportation project
- Address project history, and compares existing conditions and future “No-Build” conditions with respect to mobility/ capacity, safety, and operational deficiencies
- Comprised of technical analysis and Stakeholder Input
- Sets the stage for identification of a full and reasonable range of alternatives, and alternatives evaluation relative to transportation performance
- Alternatives must meet the project Purpose and Need to be carried forward
- The “No-Build” alternative must be carried forward and evaluated in the Environmental Assessment



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Population and Employment Growth

Projected by Year 2040

Location	Population Growth			Employment Growth		
	2010 Census	2040 CMAP Projections	% growth	2010 Census	2040 CMAP Projections	% growth
Lake County	682,753	896,341	31.3%	314,717	401,748	27.7%
Riverwoods	3,108	3,809	22.6%	7,370	8,798	19.4%
Buffalo Grove	42,527	50,475	18.7%	22,498	23,882	6.2%
Deerfield	19,082	25,777	35.1%	20,267	23,280	14.9%

- Village of Riverwoods: 22.6% population, 19.4% employment projected increase
- Village of Buffalo Grove: 18.7% population, 6.2% employment projected increase
- Village of Deerfield: 35.1% population, 14.9% employment projected increase
- Lake County’s population and employment has grown and will continue to grow by the year 2040

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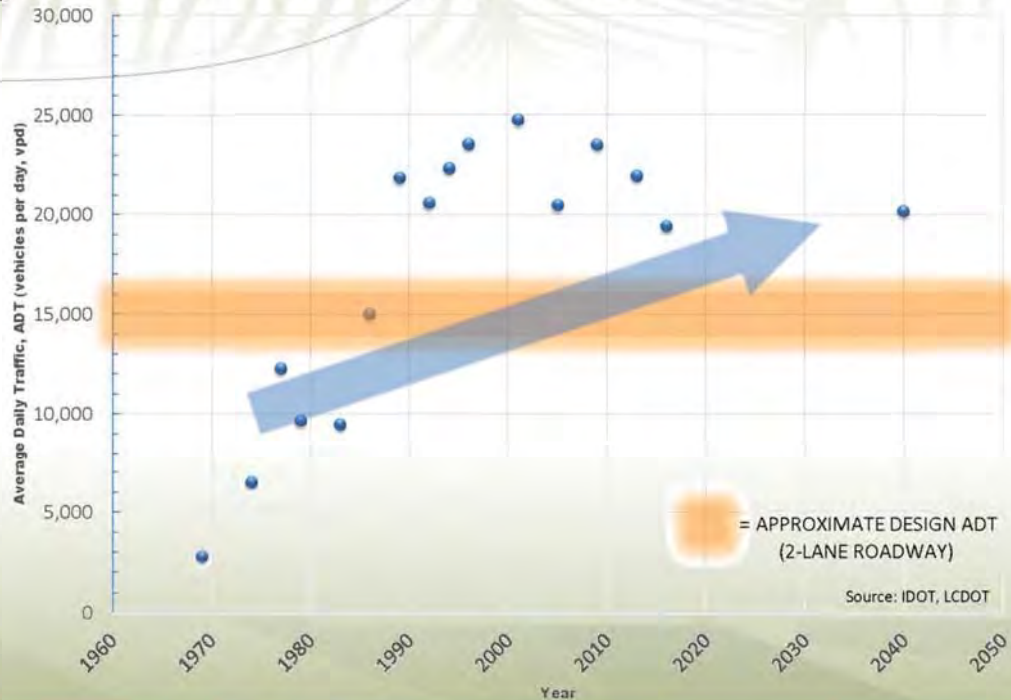


Traffic Growth



Historical Deerfield Road Average Daily Traffic

Travel Demand has varied over time
But, has exceeded design capacity since 1990

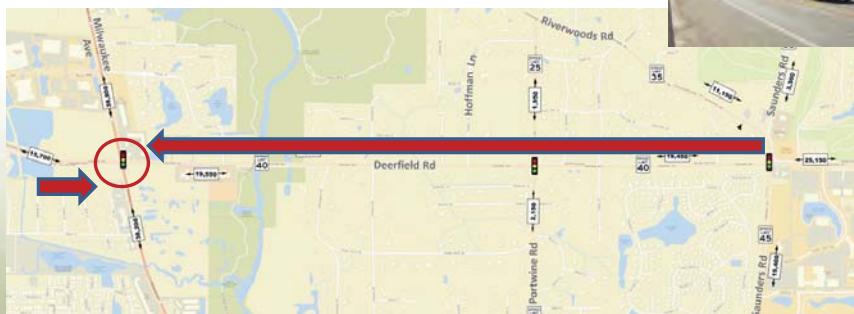


Source: IDOT, LCDOT

Operational Deficiencies



- 2-lane “bottleneck” between 5-lane sections west of Milwaukee Ave. and west of Saunders/ Riverwoods Road
- Deerfield Road at Milwaukee intersection
 - AM eastbound and PM westbound LOS F
- Saunders/Riverwoods to Milwaukee segment
 - Nearly 2-mile backup – PM westbound
- Access deficiencies during peak travel periods





- 355 crashes within study area in 5 year period (2010-2014)
- 49% rear end crashes
- Attributed to congestion, excessive queueing, absence of turn lanes, lack of gaps, lane drops, and access points
- 2 mile long section with 50 access points



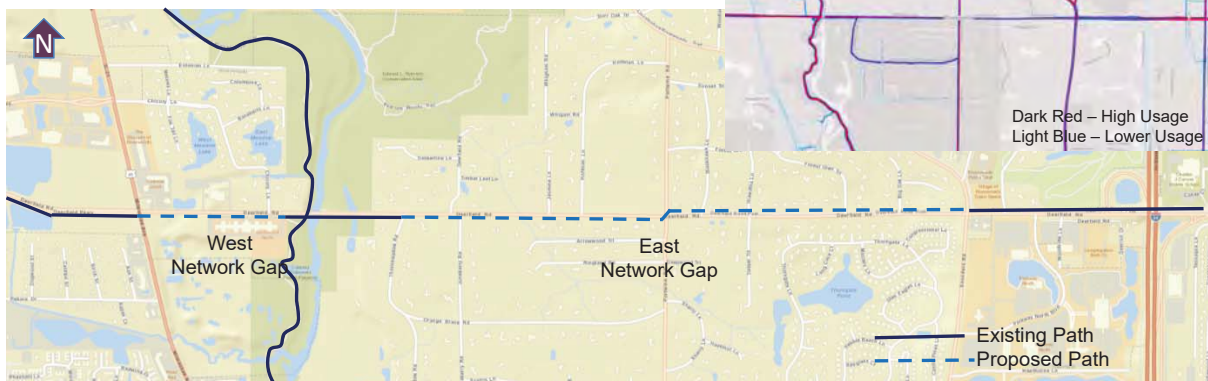
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Non-Motorized Connections



- Existing path by LCDOT connecting Des Plaines River Trail (DPRT) to Thornmeadow Ln
- Proposed paths to connect to existing paths to east and west
- Lake County 2040 Non-Motorized Plan
- Heavy Bike Clubs and Recreational Usage



5 Minute Break



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INTERACTIVE GROUP WORKSHOPS (45 MINUTES)

Part #1 - Additional Issues and Concerns – 10 minutes

Full group discussion

Part #2 - Prioritize Project Goals – 30 minutes

Small group breakout session (20 min)
Report out to full group (10 min)

Part #3 - Draft Problem Statement – 10 minutes

Full group discussion
Live document edit

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Workshop Part #1 Additional Issues and Concerns (Full Group Discussion)

What transportation related issues & concerns did we hear at PIM #1?

- Significant congestion (peak AM &PM hours)
- Accessibility to adjacent streets & properties (peak AM &PM hours)
- Lack of non-motorized accommodations (on and off road)
- Drainage concerns
- Vehicular & bicyclist/pedestrian safety
- Concern for property and environmental impacts
- Maintain community character

SIG Discussion Additional Issues & Concerns (10 minutes)



Workshop Part #2 Prioritize Project Goals

- How can we address the issues and concerns just discussed?
- What are the goals/objectives of this project?
- What is the relative importance?
- SIG Purpose and Need input





Workshop Part #2 Prioritize Project Goals

WHAT GOALS ARE IMPORTANT TO YOU?

General Topics Includes:

- Congestion Mitigation
- Improve Safety (vehicles & ped/bike)
- Improve Mobility & Accessibility
- Ped/Bike Accommodations
- Address roadway operational deficiencies
- Other

Relative Importance?

**Small Group
Discussion
(20 minutes)**

**Report Out
(10 Minutes)**



Workshop Part #3 Draft Problem Statement

- Based on what we have heard thus far a Preliminary Problem Statement has been crafted.
- Refine this statement as a group based on what was discussed today.
- Incorporate input into the project Purpose and Need

**SIG Discussion
(10 minutes)**



Workshop Part #3 Draft Problem Statement

The purpose of this project is: *to solve motorized and non-motorized transportation problems for existing and future conditions along Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road.*

Problems to be solved include: *vehicular congestion and mobility during peak travel periods, operational deficiencies, motorized and non-motorized safety, non-motorized connections, accessibility to side streets/businesses/homes, and drainage issues.*

Additional key considerations for this project include: *maintaining the existing community character/context, minimize impacts to the ecosystem, minimizing adjacent property impacts, and preserving the natural environment.*

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Next Steps

COMPLETE THE NEXT STEPS:

- **SIG #1 Summary**
- **Finalize Preliminary Purpose & Need Statement**
- **SIG Review and Comment on Preliminary Purpose & Need**
- **SIG #2 Meeting TBD**
 - **SIG input on preliminary alternatives and evaluation criteria**



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Thank You!

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>Welcome!

DEERFIELD ROAD PHASE I

ENGINEERING AND ENVIRONMENTAL STUDY





MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

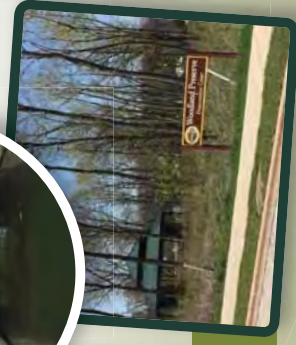
ENVIRONMENTAL ASSESSMENT

The Deerfield Road Phase I Study will follow the Federal National Environmental Policy Act (NEPA) for project development and will be processed as an Environmental Assessment (EA). Following this is process will allow the study team to balance the need for safe and efficient transportation improvements with any potential impacts to the human and natural environment. The study team will consider a variety of factors that may have an impact on the environment and submit the final finding to the Federal Highway Administration (FHWA) and to the public for review.

Some of the Environmental Aspects included in the study will be:

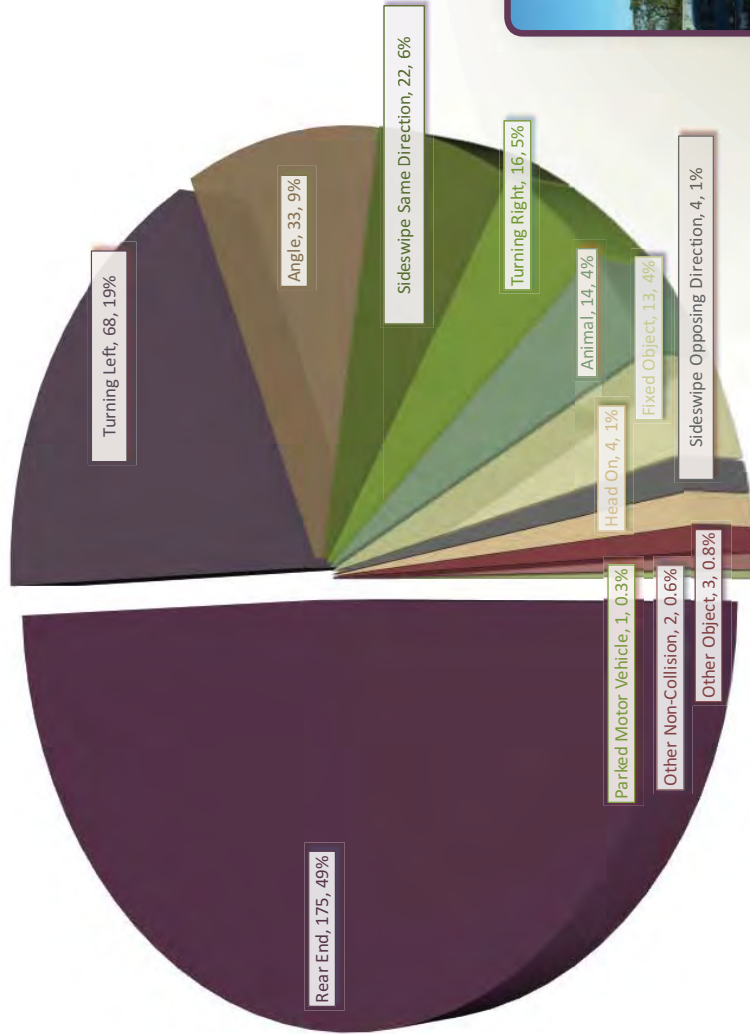
Socio-economic, Cultural Resources, Air Quality, Noise, Water Quality, Wetlands, and more

AVOID, MINIMIZE, AND MITIGATE IMPACTS



SAFETY

Project Study Area Crash Type Summary 355 Total Crashes (2010-2014)



355 crashes in five year period (2010 - 2014) resulting in **97** injuries.

49% (175) of crashes within the study area are rear end crash type

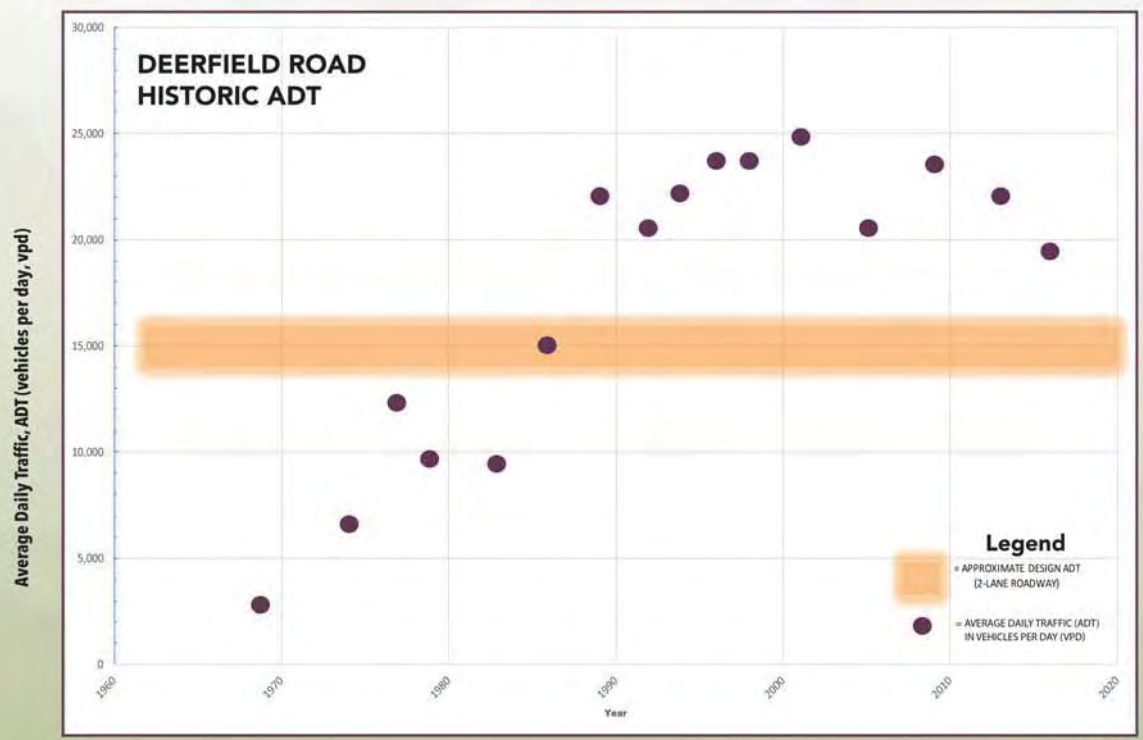
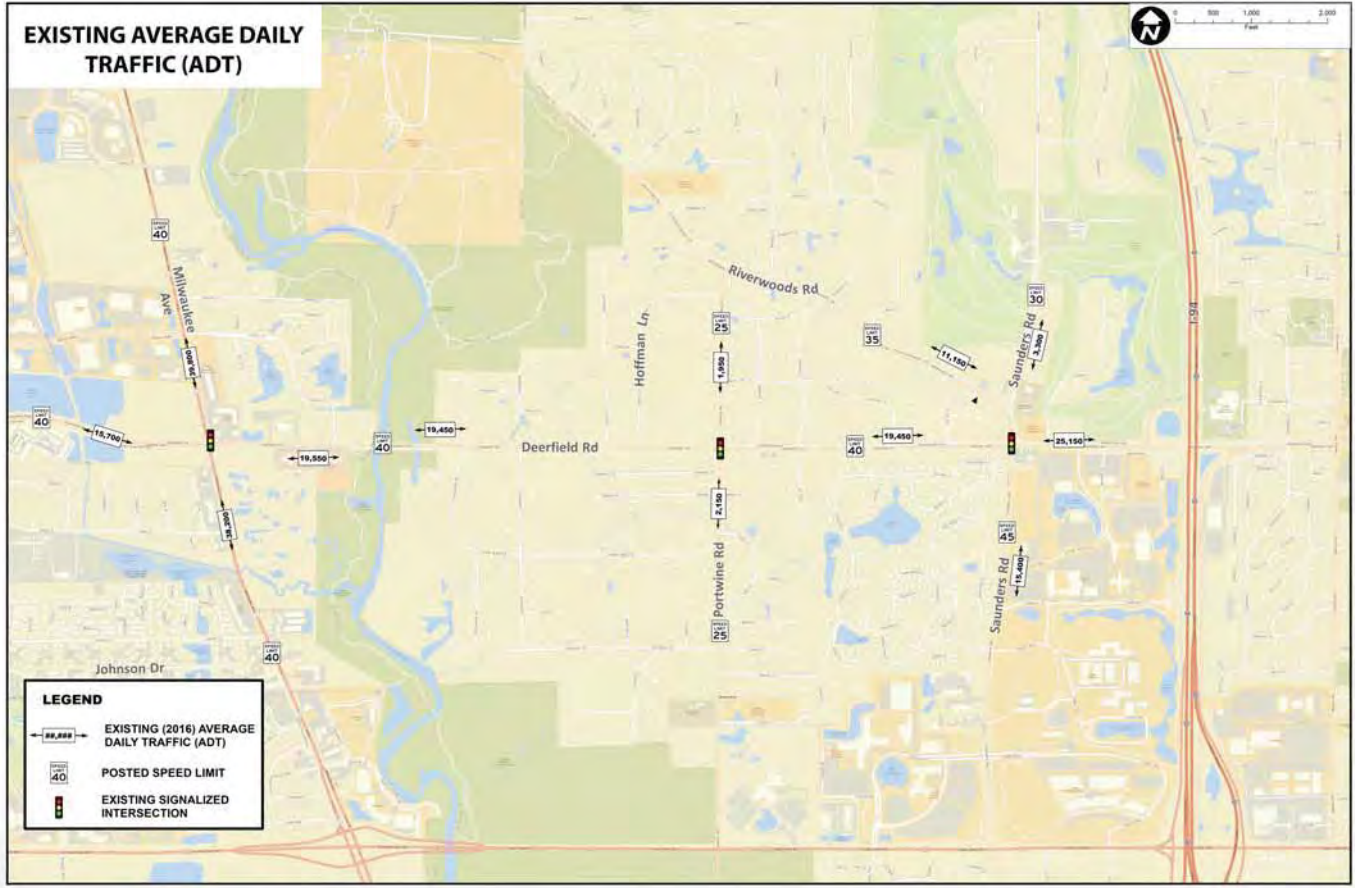
Rear end crashes within the study area can be attributed to congestion, excessive queueing from intersections, absence of the turning lanes, lack of adequate gaps for main line and side road left turns, lane drops, and drivers not being aware of access points.





MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD

TRAFFIC



Source IDOT, LCDOT

From: Deerfield Road Corridor Project Team
To: [Matthew Huffman](#)
Subject: Your feedback is requested: Deerfield Road SIG #1 Summary and Preliminary Purpose and Need
Date: Monday, April 03, 2017 8:34:24 AM
Attachments: [Preliminary Deerfield Rd PURPOSE AND NEED 032217.pdf](#)

Dear Stakeholder Involvement Group Member:

Please find the preliminary Purpose and Need document attached for comment. Please note that the full SIG #1 Summary, the SIG #1 Powerpoint presentation and all back-up exhibits are available on the study website in the [Information Center](#). The preliminary Purpose and Need has been submitted to IDOT and FHWA for concurrent review, and is attached in its entirety.

As discussed at SIG Meeting #1, we will contact you again in the next couple months to schedule SIG Meeting #2 which will focus on preliminary alternatives and alternative evaluation criteria.

Please email deerfieldroadcorridorcomment@cbbel.com with comments or call Chuck Gleason at (847) 377-7447 with questions by April 10, 2017.

Sincerely,

Deerfield Road Project Study Team

www.deerfieldroadcorridor.com

Emily Anderson

From: Albert Weiss <aweiss@forsythe.com>
Sent: Tuesday, April 04, 2017 3:13 PM
To: Deerfield Road Corridor Comment
Subject: Comments on Deerfield Rd. purpose and need document

Follow Up Flag: Follow up
Flag Status: Flagged

I believe a comment should be added to Section 2.3 on page 13 that also expresses concern by residents impacted by a widening of Deerfield Rd. with respect to making it more difficult to exit onto Deerfield Rd. This can be mitigated with intelligent traffic signals and additional traffic signals on this stretch of Deerfield Rd. I can also be mitigated with an extra lane (for only turning onto Deerfield Rd. to allow for waiting for traffic to clear in the direction the driver is headed.

Albert L. Weiss

Executive Vice President & CFO
p | (847) 213-7585 c | (847) 687-9625

aweiss@forsythe.com

Eileen Taber

Executive Administrator
p | (847) 213-7571 c | (773) 991-6258

etaber@forsythe.com

FORSYTH



Emily Anderson

From: Grzesiakowski, Tim <tim_grzesiakowski@baxter.com>
Sent: Thursday, April 06, 2017 11:11 AM
To: Deerfield Road Corridor Comment
Subject: Comments on Deerfield Road Purpose and Need Document

Follow Up Flag: Follow up
Flag Status: Flagged

Hello:

My comments are attached below:

Section 1.11 Transportation Setting (P3): The three signalized intersections at Milwaukee Avenue, Portwine Rd, and Saunders/Riverwoods Rd. should be coordinated with each other, as that may help on moving traffic through the area:

Section 1.23 Travel Demand (p7): Travel demand dropped slightly from 2000 through 2011, and began to increase slightly from 2011 to 2016. Are there any short term estimates on what travel demand will be (5 years or less), especially, as VMT has been starting to rise area wide in general?

Section 1.24 Corridor Improvements (P8): The bike paths need to be connected along Deerfield Road. (I realize it's probably a funding issue.) Is there a projected timetable for when they will be completed?

Section 2.1 Capacity: (P10): Table 2-4 Intersection Level of Service (LOS) shows Milwaukee and Deerfield at levels E or F in morning and evening rush hour, and with the 2040 No-Build Option. Clearly, that intersection needs improvements today to alleviate that situation.

Section 2.1 Table 2.5 (Section LOS for AM/PM Peak Hour Volume) (P11): Westbound Deerfield Rd from Saunders/Portwine to Milwaukee Avenue have LOS F as of 2016 in the evening, and 2040 under the No-Build Option. Yet, eastbound AM traffic in the same section is only at LOS B. Any idea why traffic is so heavy in the evening rush, but not so in the morning rush?

Section 2.2 Safety: (P12): Table 2-6 Overall Study Area Crash Summary: The amount of rear end crashes, and left turn crashes appears to be very high.

Section 2.3 Mobility (P 13) Residents need to be made aware that the high number of access points along the study area as well as the high travel volumes, will impact their access. From the first SIG meeting, I don't know if they realize that.

Section 2.4 Non-Motorized Connections (P13) As mentioned above, connecting the bike paths should be a priority for Deerfield Road, given funding availability.

Section 2.4 Bus Transit (p16): Please don't forget about public and private bus service that operates along this stretch of Deerfield Road. Some Pace Route 626 reverse commute trips, as well as private shuttles from Aon Hewitt and Zebra Technologies use Deerfield Road to reach the Deerfield (and in some cases) Highland Park Metra Stations. There may be other private shuttles using Deerfield Road as well. I would also imagine that school buses and possibly dial a ride service use that section of Deerfield Road. Having managed Aon Hewitt's Commuter Program from 2000 to 2011, those buses need to cycle from the Metra Stations to the worksite in the morning for multiple trips, and from the worksite to the train stations in the evening. Moving through that corridor is crucial. Those employees need to be at work on time, especially in the case of Aon Hewitt's call center workers, who can receive disciplinary action up

to termination if they are not logged in on time. In the evening, making train connections is important, as many of those riders are travelling long distances.

Thanks for giving me the opportunity to comment, and let me know if you have any questions.

Regards,
Tim

Tim Grzesiakowski
Executive Director
TMA of Lake Cook
1 Baxter Parkway
Deerfield, IL 60015
224-948-4024
tim_grzesiakowski@baxter.com

The TMA of Lake Cook is a business association whose mission is to improve employees' commutes and work for a better quality of life in northeastern Illinois. The TMA works pro-actively with elected officials, communities, and transportation agencies to provide a voice for the business community for better transportation planning, highway improvements and transit service. The TMA also manages the successful Shuttle Bug program in cooperation with Pace and Metra. For further information on the TMA, visit www.tmalakecook.org.

Emily Anderson

From: Michael Clayton <mclayton@marauder.net>
Sent: Monday, April 10, 2017 9:18 AM
To: Deerfield Road Corridor Comment
Cc: John Norris; Patrick Glenn; David Shimberg; Rick Jamerson
Subject: Comments on "Purpose and Need for Action" Statement
Attachments: Deerfield Rd. Assessment Commentary.doc

Follow Up Flag: Follow up
Flag Status: Flagged

Per your 4/3 email, attached are comments on the provided "Purpose and Need for Action Statement"

Michael Clayton
President,
Riverwoods Preservation Council
P.O. Box 122
Deerfield IL 60015

3030 Blackthorn Rd.
Riverwoods, IL 60015
847-867-0947 (cell)

**DEERFIELD ROAD CORRIDOR PROJECT
STAKEHOLDER INVOLVEMENT GROUP**

**COMMENTS ON BURKE ENGINEERING “PURPOSE AND NEED FOR ACTION”
STATEMENT**

**By:
Michael Clayton and Riverwoods Preservation Council
April 7, 2017**

The “Purpose and Need for Action” statement fails to make a compelling case for a Deerfield Road expansion project. It does not account fully for many issues, such as traffic safety, Riverwoods resident quality of life, effective use of tax dollars, and environmental impact. The data that actually is presented does not support the projections.

Our reasons for reaching this conclusion are detailed in the comments below that follow the outline of the original document.

1.0 Purpose of the Project

Bias. Page 2, paragraph 1: The purpose statement has serious shortcomings in that it is phrased solely in terms of vehicle transit through Riverwoods and omits any reference to community considerations within Riverwoods or preservation of area-wide natural resources.

1.1 Project Location

Description Error. It is incorrect to state that the study area “is the only section of two lane roadway along Deerfield Road.” Deerfield Road still has two-lane segments in the Village of Deerfield which abuts the Village of Riverwoods.

1.1.1 Transportation Setting

Signal Coordination Definition. Page 3, paragraph 2: Coordination of traffic signals, rather than widening of Deerfield Road, may reduce peak- hour roadway congestion and traffic accidents. This alternative was not explored in the report.

Alternatives: In addition to the benefits of signal coordination, no other transportation setting alternatives are even mentioned. For example, unreferenced in the report is the lack of a dedicated right turn lane westbound on Deerfield at the Milwaukee intersection and the potential benefits of adding one.

1.1.2 Environmental Setting

Inadequate Consideration of Unique Riverwoods Environment. Page 4: The Riverwoods environment is unique in its predominance of large, heavily wooded residential lots and a strong culture of environmental preservation, supported by residents and by the Village government. Deerfield Road bisects the community, but because it is only two lanes wide, and because it bears only light traffic beyond rush hour, it does not serve as a barrier to movement of people or wildlife from one portion of the community to another. The Village government and community volunteers, in cooperation with organizations such as Conserve Lake County and Morton Arboretum, work to maintain green infrastructure along Deerfield Road. The report does not appear to place any weight on such matters.

Broad Scale Environmental Issues Undefined and Unaddressed. Page 4, paragraph 3, sentence 1: The reference to “broad scale” evaluation of environmental issues is meaningless without explanation. In any event, the report appears to include no such “broad scale” environmental evaluation.

1.2 Project History

Negative Impact on Riverwoods Unaddressed; Project Addresses Only 2-3 Hours on Workdays. It is disappointing that this document does not present a neutral picture of the issues at stake. In this section, the document aggressively advocates widening Deerfield Road. For example, use of the term “bottleneck” displays a bias toward larger roadways, since it adopts the perspective of the non-resident inter-town commuter rather than of the Riverwoods resident whose community is being adversely affected. During approximately 94% of any weekday, and 100% of weekend days, the traffic flow on Deerfield Road through Riverwoods is uncongested and at the speed limit. This point should be explicitly stated in the report and should be added to any cost-benefit analysis of the project. It bears repeated emphasis that this project, which will aggravate the bisection of Riverwoods, is primarily for the benefit of non-resident commuters for a maximum of 2-3 hours on workdays.

Furthermore, there is nothing in the report that supports the general description of the Riverwoods portion of Deerfield Road as a “bottleneck”. Such a statement is meaningless without valid traffic studies.

1.2.2 Regional Growth

Assumptions Underlying Population and Employment Data Are Flawed. Page 6: This section addresses a nonexistent problem by anticipating an unlikely future. CMAP apparently projects that the Village will grow by 22.6% in population from 2010 to 2040. The basis for that projection is unclear, since there is essentially no buildable vacant land zoned Residential in the community. Presumably much of that increase in population would be children. Whether those children would increase the burden on Deerfield Road, or increase the dangers of a widened Deerfield Road, is a matter of speculation.

Although the document speculates about changes in population over a 30-year time span, it is silent about changes in modes of transportation and in modes of communication that reduce roadway needs. Forecasters have predicted that the accelerated growth of services such as Uber and Lyft, of autonomous commuter vehicles that will serve as mini-buses for multiple passengers, and of the ability to work from home, will greatly reduce traffic congestion. Vast changes in transportation and communication technology make reliance on historic trends highly tenuous and make future projections unreliable.

Further, Deerfield Road is not the only pathway to Deerfield and Buffalo Grove. The location of employment growth is not specified, and the location of population growth in the surrounding communities is not specified. For those reasons, the last sentence of this section is not supported by the data. Based on the comments below, this section should be stricken from the document.

1.2.3 Travel Demand

Data Does Not Support Conclusion. Page 6: The data in Table 1-2 is revealing and does not support an argument that traffic demand will increase significantly in the future. Traffic does appear to have increased from the mid-1950s to the 1980s, but the data shows that traffic has decreased since 2000 and is now at approximately 1996 levels. The data is thus inconsistent with the 2010 estimated data in section 1.2.2 (Table 1-1).

Confidence Limits Are Missing. Page 7: It is proper engineering practice to provide confidence limits around projections. Given the questionable nature of, and lack of specificity in, the underlying population and employment projections, it is important to know confidence limits when assessing the traffic growth projections.

2.1 Capacity

Inadequate and Potentially Flawed Data. Pages 9-10, last paragraph and Tables: The data needs more explanation to be understandable. What were the inputs to the Synchro model? Was the present delay

data based on actual measurements? If so, what were the times of day and locations where the measurements were taken? Specifically:

- Why is there no LOS table for times of day other than the peak periods?
- What does an Intersection LOS mean in the context of traffic lights? There are no traffic-backup delays at any of the intersections in the study area except for the morning peak period from approximately 7:30AM to 8:30AM and the afternoon peak period from approximately 4:30PM to 5:45 PM. Further, the projected increased delays between 2016 and 2040 (No-Build) in Table 2-4 are miniscule (e.g., Milwaukee Avenue intersection increase in morning peak delay between 2016 and 2040 is 7.7 seconds). The data does not support the need for this project, which would have a substantial potential adverse socioeconomic or environmental impact on Riverwoods. Other than the peak periods, the Intersection LOS and Section LOS grade should be A, unless there is data proving otherwise.
- The Section LOS for the Peak Hour is inaccurate based on resident experience. How have delays of 25 minutes going westbound on Deerfield Rd. between Portwine and Milwaukee been measured? The eastbound AM data also is inconsistent with actual experience.
- If the base data is not accurate, then the projections may not be accurate. What are the confidence intervals on the projections? Based on the data in this report, it is inappropriate to conclude that “traffic congestion and motorist delay will continue to increase through the year 2040.”

2.2 Safety

The Project Is Likely to Result in More Serious, High-Speed Crashes. Pages 12-13: The report notes that nearly half of the traffic accidents in the study area are rear-end collisions (largely at the Milwaukee Avenue intersection), and argues that these crashes are “an indication of” congestion, excessive queueing, absence of turning lanes, lack of traffic gaps, lane drops and unaware drivers. Because of congestion (especially at the Milwaukee Avenue intersection), many of these accidents are low-speed collisions. Widening Deerfield Road will increase speeds and increase the likelihood of more serious, possibly fatal, collisions. Further, the report states that 30% of crashes occur at night or under dark conditions. This is not necessarily the same as peak hour traffic times. At what times have the accidents occurred?

To say that absent Deerfield Road improvements, crash incidents “could increase over time” is mere speculation offered without support, and also a particularly weak statement given that the underlying population and employment growth projections are questionable and traffic growth has been flat.

2.3 Mobility

Conclusion is Speculative. Page 13: Have the police and fire departments expressed concerns about being able to provide adequate emergency services at all times of day? Does the crash data support concerns about frustrated residents crossing travel lanes with inadequate gaps? It is unreasonable to conclude that a wider, faster, more-used Deerfield Road will help residents exit their neighborhoods during peak times. Further, there is a pile-up of speculative statements in the final sentence that is not data-based; i.e., that drivers “*may* become more frustrated and attempt to cross travel lanes in inadequate gaps and *potentially* increase crashes and injuries” [italics added to emphasize the point].

No Consideration of Difficulties in Pedestrian or Bicycle Crossing; Project Would Irrevocably Divide a Closely-Knit Residential Community. Mobility is addressed only in the context of vehicular traffic, not pedestrian or bicycle traffic attempting to cross a widened Deerfield Road. Many Riverwoods residents know one another and interact with one another at Village Board meetings and at various village-wide events throughout the year. The existing two-lane road is easily crossed on foot and on bicycle. A four- or five-lane highway would be as impassible by foot and bike traffic as Lake Cook Road. Widening Deerfield Road would significantly disrupt the peace and quiet of the community and the consolidated residential character of the Village.

Absence of Opposing Resident Comments. The report includes references to comments by Riverwoods residents that could be construed as supporting widening Deerfield Road, but is silent concerning the overwhelming objection to the widening project by residents. The lack of neutrality in the report makes conclusions inherently suspect.

2.4 Non-Motorized Connections

Bike Path Gap is Not a Justification for a Massive Road Widening Project. Pages 13-15: The report notes that the unconnected locations of bicycle paths along Deerfield Road present a gap in the regional trail network. It would be much more sensible and cost-effective to directly remedy the bicycle path connections than to address the bicycle paths as a mere adjunct to a much larger, much more expensive, and much more disruptive road widening project.

2.5 Operational Deficiencies.

Road Reconstruction Due to End of Life. Pages 17-18: This roadway widening project is not necessary to reconstruct the aging Deerfield Road pavement.

Additional General Comments Particularly Relevant to the Riverwoods Community:

Project Fragments Woodlands and Creates Barrier for Natural Movement of Deer, Coyotes and other Wild Animals

A widened Deerfield Road would alter the basic character of the village in a fundamental way. Riverwoods fosters wildlife. Riverwoods is adjacent to highly valuable natural areas, e.g., the Edward Ryerson Conservation Area and the Cahokia Flatwoods Forest Preserve. Riverwoods serves both as a habitat for wildlife and as a corridor for movement between adjacent natural areas. A four- or five-lane Deerfield Road would create a barrier to the movement of wildlife, fragmenting habitat and threatening their continued existence. In addition, the intimate, constant presence of wildlife in the Riverwoods area is very important to the human residents as well. Disrupting wildlife could result in irreparable injury to the fundamental character of the Village.

Conclusion.

The “Purpose and Need for Action” statement should reflect professional engineering practice based upon:

- Inclusion of all relevant factors
- Reasonable underlying assumptions
- Proficient projection methodologies
- Unbiased assessment of alternatives

We believe this statement does not meet this standard. A dispassionate assessment of a “need for action” would point to a tax efficient solution to a 2-3 hour traffic situation that is safer, consistent with community values and character, and more environmentally responsible than a road widening.

Emily Anderson

From: David Gmail <dshimberg@gmail.com>
Sent: Monday, April 10, 2017 9:43 AM
To: 'Michael Clayton'; Deerfield Road Corridor Comment
Cc: 'John Norris'; 'Patrick Glenn'; 'Rick Jamerson'
Subject: RE: Comments on "Purpose and Need for Action" Statement

Follow Up Flag: Follow up
Flag Status: Flagged

I support all comments provided by Mr. Clayton in the Statement.

I would add, it is my perspective that the “purpose and need for action” is designed to justify the spend and ignore the impact on the Riverwoods community. A significant fact supported in Mr. Clayton’s comments are the assumed growth of Riverwoods. The Village supports a unique ecologically friendly community, where there is no buildable land for population growth, native woodlands to protect and flood plains to mitigate. My opinion is that there are alternatives to the Deerfield Road expansion that should and must be considered.

David Shimberg

From: Michael Clayton [mailto:mclayton@marauder.net]
Sent: Monday, April 10, 2017 9:18 AM
To: deerfieldroadcorridorcomment@cbbel.com
Cc: John Norris <jnorris@riverwoods-il.net>; Patrick Glenn <pglenn@gha-engineers.com>; David Shimberg <dshimberg@gmail.com>; Rick Jamerson <Rick@jbelectric.com>
Subject: Comments on "Purpose and Need for Action" Statement

Per your 4/3 email, attached are comments on the provided “Purpose and Need for Action Statement”

Emily Anderson

From: Rick Jamerson <rjamerson@riverwoods-il.net>
Sent: Monday, April 10, 2017 6:15 PM
To: Deerfield Road Corridor Comment; John Norris
Subject: Comments on Preliminary Purpose and Need report

Follow Up Flag: Follow up
Flag Status: Flagged

Section 1.2 -

It should be noted that the congestion is confined to 2 hours in the afternoon westbound and, to a much lesser extent, about an hour and a half in the morning eastbound.

1.2.2 Regional Growth

It seems highly unlikely that the population growth in Riverwoods will be 22.6% when there is a total of 4 lots that currently exist without homes on them. Employment growth in Riverwoods would only happen in the area on Lake Cook Road and those areas would most likely not direct traffic down Deerfield Road.

1.2.3 Travel Demand

Based on the traffic data cited, the traffic trend is actually down over the last 20 years.

2.1 Capacity (Need)

Based on Table 2-1, the worst case increase in traffic on Deerfield Road between Saunders and Milwaukee for the 2040 No-Build is 750 cars over a 24 hour period. And, this is based on population and employment increases that are questioned above.

2.2 Safety

Once again, the data presented in Table 2-6 shows a decrease in accidents over the period shown. Since 41% of the crashes have happened at the Deerfield/Milwaukee intersection, it appears that improvements to that intersection would significantly decrease the recorded accidents along the corridor. Unfortunately, the data presented does not seem to isolate the accidents on Deerfield Road. Were all of the accidents listed on Deerfield, or were some on Saunders and Milwaukee at Deerfield?

The final statement that accidents could increase is probably not justified and should be stricken.

2.3 Mobility

Access from side streets and driveways is actually better when the traffic is moving slow and/or stop and go. Since the congestion is only in one direction, most motorists on Deerfield will create a gap for cross traffic because they are not moving at the posted speed. Contrary to the conclusion in this section, it is actually safer as it is now. I know, I turn westbound from northbound Juneberry several nights a week between 4:30 and 6:00 PM. Having to negotiate turning across two lanes of traffic at 40 MPH will be inherently more dangerous.

2.5 Operational Deficiencies

Many roadside hazards are listed and it is unclear what will be done to "redirect vehicles leaving the roadway". Mail boxes will still be required alongside all of the driveways, so that hazard will remain. Unless

clear cutting of the trees is being suggested, there will still be trees along the roadway, and if the ditches are removed, a clear path to those trees will be available unless some other obstruction, such as guardrails are placed along the roadway.

The cited flooding that occurred in 1986 was long before many flood control projects in the area were constructed. Thirty year old flood data that "residents noted" is hardly something that should be in this report. I do not believe the road was flooded in 2013 when the river crested at 16.36 feet. The culvert backup discussed at Forest Glen is more do to lack of maintenance than anything else.

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June 15, 2017

Michael Clayton
President
Riverwoods Preservation Council
P.O. Box 122
Deerfield IL 60015

Dear Mr. Clayton:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study. A response to your comments is provided below.

Please note that the Purpose and Need statement is the initial section of the Environmental Assessment (EA) and is subject to review and approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) in accordance with federal project development procedures. The Purpose and Need statement is intended to establish the reasons for considering transportation improvements within the Deerfield Road corridor. It does not discuss potential alternatives, impacts or mitigation measures, which are subsequent parts of the project development process that will be documented in separate sections of the EA. The Purpose and Need statement has been modified per comments received as applicable, and is currently under review by IDOT and FHWA. An updated version of the Purpose and Need will be provided after the agency coordination meeting to be held on Monday, June 19, 2017.

Comment 1: The "Purpose and Need for Action" statement fails to make a compelling case for a Deerfield Road expansion project. It does not account fully for many issues, such as traffic safety, Riverwoods resident quality of life, effective use of tax dollars, and environmental impact. The data that actually is presented does not support the projections.

Response 1: Existing conditions with respect to traffic safety are discussed in Section 2.2 of the Purpose and Need statement. Discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process, and second section of the Environmental Assessment.

Comment 2: 1.0 Purpose of the Project

Bias. Page 2, paragraph 1: The purpose statement has serious shortcomings in that it is phrased solely in terms of vehicle transit through Riverwoods and omits any reference to community considerations within Riverwoods or preservation of area-wide natural resources.

Response 2: As noted above, the Purpose and Need statement establishes the reasons for considering transportation improvements within the Deerfield Road corridor. Discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 3: 1.1 Project Location

Description Error. It is incorrect to state that the study area “is the only section of two lane roadway along Deerfield Road.” Deerfield Road still has two-lane segments in the Village of Deerfield which abuts the Village of Riverwoods.

Response 3: This section has been revised to clarify that Deerfield Road is a two-lane roadway within the project limits and a five-lane roadway west of Milwaukee Avenue and east of Saunders/ Riverwoods Road.

Comment 4: 1.1.1 Transportation Setting

Signal Coordination Definition. Page 3, paragraph 2: Coordination of traffic signals, rather than widening of Deerfield Road, may reduce peak-hour roadway congestion and traffic accidents. This alternative was not explored in the report.

Response 4: As noted, discussion of potential alternatives is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 5: Alternatives: In addition to the benefits of signal coordination, no other transportation setting alternatives are even mentioned. For example, unreferenced in the report is the lack of a dedicated right turn lane westbound on Deerfield at the Milwaukee intersection and the potential benefits of adding one.

Response 5: As noted, discussion of potential alternatives is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 6: 1.1.2 Environmental Setting

Inadequate Consideration of Unique Riverwoods Environment. Page 4: The Riverwoods environment is unique in its predominance of large, heavily wooded residential lots and a strong culture of environmental preservation, supported by residents and by the Village government. Deerfield Road bisects the community, but because it is only two lanes wide, and because it bears only light traffic beyond rush hour, it does not serve as a barrier to movement of people or wildlife from one portion of the community to another. The Village government and community volunteers, in cooperation with organizations such as Conserve Lake County and Morton Arboretum, work to maintain green infrastructure along Deerfield Road. The report does not appear to place any weight on such matters.

Response 6: As noted, discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 7: Broad Scale Environmental Issues Undefined and Unaddressed. Page 4, paragraph 3, sentence 1: The reference to “broad scale” evaluation of environmental issues is meaningless without explanation. In any event, the report appears to include no such “broad scale” environmental evaluation.

Response 7: This sentence has been removed.

Comment 8: 1.2 Project History

Negative Impact on Riverwoods Unaddressed; Project Addresses Only 2-3 Hours on Workdays. It is disappointing that this document does not present a neutral picture of the issues at stake. In this section, the document aggressively advocates widening Deerfield Road. For example, use of the term "bottleneck" displays a bias toward larger roadways, since it adopts the perspective of the non-resident inter-town commuter rather than of the Riverwoods resident whose community is being adversely affected. During approximately 94% of any weekday, and 100% of weekend days, the traffic flow on Deerfield Road through Riverwoods is uncongested and at the speed limit. This point should be explicitly stated in the report and should be added to any cost-benefit analysis of the project. It bears repeated emphasis that this project, which will aggravate the bisection of Riverwoods, is primarily for the benefit of non-resident commuters for a maximum of 2-3 hours on workdays.

Furthermore, there is nothing in the report that supports the general description of the Riverwoods portion of Deerfield Road as a "bottleneck". Such a statement is meaningless without valid traffic studies.

Response 8: The phrase "bottleneck" has been removed. Deerfield Road is an important link in both the local and regional transportation network. It is designated as County Highway 11 from IL 83 to Wilmot Road, with direct connection to I-94, and is classified as a minor arterial roadway. The County Highway designation will extend to US 41 when the improvements in Deerfield and Highland Park are completed. While it is understood that traffic volumes are lower during off-peak periods, evaluation of the movement of people, goods, and services during peak morning and evening travel periods is required by LCDOT, IDOT, and FHWA as part of the transportation planning process.

Comment 9: 1.2.2 Regional Growth

Assumptions Underlying Population and Employment Data Are Flawed. Page 6: This section addresses a nonexistent problem by anticipating an unlikely future. CMAP apparently projects that the Village will grow by 22.6% in population from 2010 to 2040. The basis for that projection is unclear, since there is essentially no buildable vacant land zoned Residential in the community. Presumably much of that increase in population would be children. Whether those children would increase the burden on Deerfield Road, or increase the dangers of a widened Deerfield Road, is a matter of speculation.

Response 9: The population and employment data is provided by the Chicago Metropolitan Agency for Planning (CMAP), and is based on geographical subzones that are assigned to municipalities and townships based on the proximity of each subzone's central point, and is not intended to predict the exact growth within the corporate boundaries of any one community. Clarification has been added to the section to indicate the population and employment growth is at the approximate aggregated municipal level since municipal boundaries are not coincident with census tract boundaries.

Comment 10: Although the document speculates about changes in population over a 30-year time span, it is silent about changes in modes of transportation and in modes of communication that reduce roadway needs. Forecasters have predicted that the accelerated growth of services such as Uber and Lyft, of autonomous commuter vehicles that will serve as mini-buses for multiple passengers, and of the ability to work from home, will greatly reduce traffic congestion. Vast changes in transportation and communication technology make reliance on historic trends highly tenuous and make future projections unreliable.

Response 10: CMAP does consider potential future mode shift with their travel demand projections. In discussion with CMAP, it is also possible that autonomous commuter vehicles may increase the number of vehicles on roadways since some large truck-type bus services may be replaced by a greater number of smaller vehicles. Working from home may reduce the longer distance commuting trip (home to work and vice versa) but may increase the number of smaller local trips due to convenience and flexibility factors. Changes in retail habits may also reduce home-to-retail trips but increased levels of parcel and service delivery traffic.

Comment 11: Further, Deerfield Road is not the only pathway to Deerfield and Buffalo Grove. The location of employment growth is not specified, and the location of population growth in the surrounding communities is not specified. For those reasons, the last sentence of this section is not supported by the data. Based on the comments below, this section should be stricken from the document.

Response 11: Increases in population and employment typically result in additional travel trips which is expected to have some effect on travel demand along Deerfield Road, which is shown and further discussed in Section 2.1 (Capacity).

Comment 12: 1.2.3 Travel Demand

Data Does Not Support Conclusion. Page 6: The data in Table 1-2 is revealing and does not support an argument that traffic demand will increase significantly in the future. Traffic does appear to have increased from the mid-1950s to the 1980s, but the data shows that traffic has decreased since 2000 and is now at approximately 1996 levels. The data is thus inconsistent with the 2010 estimated data in section 1.2.2 (Table 1-1).

Response 12: Although travel demand is not projected to grow significantly as noted in Section 2.1, it is currently above the capacity threshold of a two-lane roadway based on LCDOT and IDOT design guidelines.

Comment 13: Confidence Limits Are Missing. Page 7: It is proper engineering practice to provide confidence limits around projections. Given the questionable nature of, and lack of specificity in, the underlying population and employment projections, it is important to know confidence limits when assessing the traffic growth projections.

Response 13: As with population and employment projection data, traffic projection data is also provided by CMAP, who is the regional planning authority for the 7-county Chicago Metropolitan area, including Lake County.

Comment 14: 2.1 Capacity

Inadequate and Potentially Flawed Data. Pages 9-10, last paragraph and Tables: The data needs more explanation to be understandable. What were the inputs to the Synchro model? Was the present delay data based on actual measurements? If so, what were the times of day and locations where the measurements were taken? Specifically:

- Why is there no LOS table for times of day other than the peak periods?
- What does an Intersection LOS mean in the context of traffic lights? There are no traffic-backup delays at any of the intersections in the study area except for the morning peak period from approximately 7:30AM to 8:30AM and the afternoon peak period from approximately 4:30PM to 5:45 PM. Further, the projected increased delays between 2016 and 2040 (No-Build) in Table 2-4 are miniscule (e.g., Milwaukee Avenue intersection increase in morning peak delay between 2016 and 2040 is 7.7 seconds). The data does not support the need for this project, which would have a substantial potential adverse socioeconomic or environmental impact on Riverwoods. Other than the peak periods, the Intersection LOS and Section LOS grade should be A, unless there is data proving otherwise.
- The Section LOS for the Peak Hour is inaccurate based on resident experience. How have delays of 25 minutes going westbound on Deerfield Rd. between Portwine and Milwaukee been measured? The eastbound AM data also is inconsistent with actual experience.
- If the base data is not accurate, then the projections may not be accurate. What are the confidence intervals on the projections? Based on the data in this report, it is inappropriate to conclude that "traffic congestion and motorist delay will continue to increase through the year 2040."

Response 14: As noted above, it is understood that traffic volumes are lower during off-peak periods, however, an evaluation of the movement of people, goods, and services during peak morning and evening travel periods is required by LCDOT, IDOT and FHWA as part of the transportation planning process. Synchro is a widely accepted

traffic modeling computer program by LCDOT, IDOT, and FHWA. The existing conditions Synchro model was calibrated to actual observed field conditions during peak hour travel periods to establish an accurate baseline condition analysis. The conclusion is that current travel conditions are already above the capacity threshold for two-lane roadway design guidelines, and will not improve in the future.

Comment 15: 2.2 Safety

The Project Is Likely to Result in More Serious, High-Speed Crashes. Pages 12-13: The report notes that nearly half of the traffic accidents in the study area are rear-end collisions (largely at the Milwaukee Avenue intersection), and argues that these crashes are “an indication of” congestion, excessive queueing, absence of turning lanes, lack of traffic gaps, lane drops and unaware drivers. Because of congestion (especially at the Milwaukee Avenue intersection), many of these accidents are low-speed collisions. Widening Deerfield Road will increase speeds and increase the likelihood of more serious, possibly fatal, collisions. Further, the report states that 30% of crashes occur at night or under dark conditions. This is not necessarily the same as peak hour traffic times. At what times have the accidents occurred?

Response 15: Crashes have occurred throughout a 24-hour day, however a majority of the rear-end type crashes occurred during peak AM and PM travel periods. A key project need point is to improve roadway safety, which will be an important part of the alternatives evaluation process.

Comment 16: To say that absent Deerfield Road improvements, crash incidents “could increase over time” is mere speculation offered without support, and also a particularly weak statement given that the underlying population and employment growth projections are questionable and traffic growth has been flat.

Response 16: Although crash rates can vary year to year, there is a general correlation between travel safety, travel conditions, and traffic volumes. If Deerfield Road remains unchanged (no improvements), and travel demand increases, the annual crash rate is likely to increase as well.

Comment 17: 2.3 Mobility

Conclusion is Speculative. Page 13: Have the police and fire departments expressed concerns about being able to provide adequate emergency services at all times of day? Does the crash data support concerns about frustrated residents crossing travel lanes with inadequate gaps? It is unreasonable to conclude that a wider, faster, more-used Deerfield Road will help residents exit their neighborhoods during peak times. Further, there is a pile-up of speculative statements in the final sentence that is not data-based; i.e., that drivers “*may* become more frustrated and attempt to cross travel lanes in inadequate gaps and *potentially* increase crashes and injuries” [italics added to emphasize the point].

Response 17: The concerns expressed for community and emergency service access were received from residents at the initial Public Meeting, and were related to concerns for this access during peak travel periods. This sentence has been revised to state that if no improvements are made, access to adjacent residential and commercial properties will continue to be an issue along this section of Deerfield Road.

Comment 18: No Consideration of Difficulties in Pedestrian or Bicycle Crossing; Project Would Irrevocably Divide a Closely-Knit Residential Community. Mobility is addressed only in the context of vehicular traffic, not pedestrian or bicycle traffic attempting to cross a widened Deerfield Road. Many Riverwoods residents know one another and interact with one another at Village Board meetings and at various village-wide events throughout the year. The existing two-lane road is easily crossed on foot and on bicycle. A four- or five-lane highway would be as impassible by foot and bike traffic as Lake Cook Road. Widening Deerfield Road would significantly disrupt the peace and quiet of the community and the consolidated residential character of the Village.

Response 18: Section 2.4 describes non-motorized and transit connections. Non-motorized and transit connections, accessibility, and safety will be evaluated as part of the alternatives development and evaluation process.

Comment 19: Absence of Opposing Resident Comments. The report includes references to comments by Riverwoods residents that could be construed as supporting widening Deerfield Road, but is silent concerning the overwhelming objection to the widening project by residents. The lack of neutrality in the report makes conclusions inherently suspect.

Response 19: As noted, the Purpose and Need establishes the reasons to consider improvements to Deerfield Road. The mobility concerns expressed by residents at the Public Meeting is part of the need to consider improvements to Deerfield Road. The Public Information Meeting summary includes written resident comments received and is available on the project website.

Comment 20: 2.4 Non-Motorized Connections

Bike Path Gap is Not a Justification for a Massive Road Widening Project. Pages 13-15: The report notes that the unconnected locations of bicycle paths along Deerfield Road present a gap in the regional trail network. It would be much more sensible and cost-effective to directly remedy the bicycle path connections than to address the bicycle paths as a mere adjunct to a much larger, much more expensive, and much more disruptive road widening project.

Response 20: As stated, the purpose of the project is to evaluate both motorized and non-motorized travel deficiencies, for which a range of alternatives will be considered as part of the alternatives development and evaluation process.

Comment 21: 2.5 Operational Deficiencies

Road Reconstruction Due to End of Life. Pages 17-18: This roadway widening project is not necessary to reconstruct the aging Deerfield Road pavement.

Response 21: LCDOT has included reconstruction of Deerfield Road as part of their 2040 Transportation Plan. The purpose of the current Phase I Study is to determine the extent of motorized and non-motorized improvements to Deerfield Road that will be included as part of the planned reconstruction project.

Comment 22: Additional General Comments Particularly Relevant to the Riverwoods Community:

Project Fragments Woodlands and Creates Barrier for Natural Movement of Deer, Coyotes and other Wild Animals

A widened Deerfield Road would alter the basic character of the village in a fundamental way. Riverwoods fosters wildlife. Riverwoods is adjacent to highly valuable natural areas, e.g., the Edward Ryerson Conservation Area and the Cahokia Flatwoods Forest Preserve. Riverwoods serves both as a habitat for wildlife and as a corridor for movement between adjacent natural areas. A four- or five-lane Deerfield Road would create a barrier to the movement of wildlife, fragmenting habitat and threatening their continued existence. In addition, the intimate, constant presence of wildlife in the Riverwoods area is very important to the human residents as well. Disrupting wildlife could result in irreparable injury to the fundamental character of the Village.

Response 22: Comments are noted. As noted previously, discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 23: Conclusion.

The "Purpose and Need for Action" statement should reflect professional engineering practice based upon:

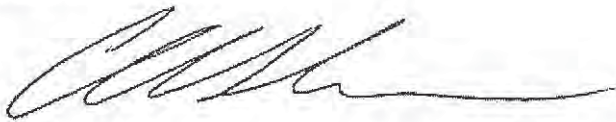
- Inclusion of all relevant factors
- Reasonable underlying assumptions
- Proficient projection methodologies
- Unbiased assessment of alternatives

We believe this statement does not meet this standard. A dispassionate assessment of a "need for action" would point to a tax efficient solution to a 2-3 hour traffic situation that is safer, consistent with community values and character, and more environmentally responsible than a road widening.

Response 23: As noted above, the Phase I Engineering project development process is following the requirements set forth by LCDOT, IDOT, and FHWA.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. Your views are an important part of this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,



Chuck Gleason
Project Manager
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June 15, 2017

Tim Grzesiakowski
Executive Director
TMA of Lake Cook
1 Baxter Parkway
Deerfield, IL 60015

Dear Mr. Grzesiakowski:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study. A response to your comments is provided below.

Please note that the Purpose and Need statement is the initial section of the Environmental Assessment (EA) and is subject to review and approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) in accordance with federal project development procedures. The Purpose and Need statement is intended to establish the reasons for considering transportation improvements within the Deerfield Road corridor. It does not discuss potential alternatives, impacts or mitigation measures, which are subsequent parts of the project development process that will be documented in separate sections of the EA. The Purpose and Need statement has been modified per comments received as applicable, and is currently under review by IDOT and FHWA. An updated version of the Purpose and Need will be provided after the agency coordination meeting to be held on Monday, June 19, 2017.

Comment 1: Section 1.11 Transportation Setting (P3): The three signalized intersections at Milwaukee Avenue, Portwine Rd, and Saunders/Riverwoods Rd. should be coordinated with each other, as that may help on moving traffic through the area:

Response 1: Signal coordination will be considered as part of the alternatives evaluation process. Discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.

Comment 2: Section 1.23 Travel Demand (p7): Travel demand dropped slightly from 2000 through 2011, and began to increase slightly from 2011 to 2016. Are there any short term estimates on what travel demand will be (5 years or less), especially, as VMT has been starting to rise area wide in general?

Response 2: While Chicago Metropolitan Agency for Planning (CMAP) provides traffic projections for the design year of 2040, it is common to interpolate 5 years out from the existing 2016 traffic volumes and proposed 2040 traffic volumes. Assuming a straight interpolations, the year 2021 ADT east of Milwaukee Avenue is projected to be approximately 19,700 vpd.

Comment 3: Section 1.24 Corridor Improvements (P8): The bike paths need to be connected along Deerfield Road. (I realize it's probably a funding issue.) Is there a projected timetable for when they will be completed?

Response 3: The Lake County 2040 Non-Motorized Plan identifies Deerfield Road as a planned bikeway, and those improvements would be included in this Phase I Study. Bikeways identified in the 2040 Non-Motorized Plan have more regional significance and are paid for by the County, and do not require a local agency match per the Lake County non-motorized policy. It is possible to construct the bike path separately, however, for this specific project the bike path would likely be constructed as part of the Deerfield Road construction, which is currently targeted for 2021.

Comment 4: Section 2.1 Capacity: (P10): Table 2-4 Intersection Level of Service (LOS) shows Milwaukee and Deerfield at levels E or F in morning and evening rush hour, and with the 2040 No-Build Option. Clearly, that intersection needs improvements today to alleviate that situation.

Response 4: Improvements to the Milwaukee Avenue intersection will be evaluated as part of the alternatives evaluation process.

Comment 5: Section 2.1 Table 2.5 (Section LOS for AM/PM Peak Hour Volume) (P11): Westbound Deerfield Rd from Saunders/Portwine to Milwaukee Avenue have LOS F as of 2016 in the evening, and 2040 under the No-Build Option. Yet, eastbound AM traffic in the same section is only at LOS B. Any idea why traffic is so heavy in the evening rush, but not so in the morning rush?

Response 5: From the raw traffic counts obtained with this study, the number of vehicles traveling eastbound in the morning peak hour (1,035) is nearly the same as the vehicles traveling westbound in the evening peak hour (1,020). The traffic is not heavier, but is more congested for westbound traffic versus eastbound traffic between Milwaukee Avenue and Saunders/Riverwoods Road. The comparison to look at is the morning peak hour traffic on the west leg (eastbound traffic) of the Milwaukee Avenue intersection versus the evening peak hour traffic on the east leg (westbound traffic) of the Milwaukee Avenue intersection. From that data, you will find that those two movements have similar capacity issues, with the PM being worse, which results from heavier traffic on Milwaukee Avenue in the PM.

Comment 6: Section 2.2 Safety: (P12): Table 2-6 Overall Study Area Crash Summary: The amount of rear end crashes, and left turn crashes appears to be very high.

Response 6: From the crash analysis, there are identifiable crash patterns throughout the project study area. Countermeasures are identified during the crash analysis and then considered/investigated during the alternatives development. It is common that for congested segments of roadways and intersections that rear end crashes are the most prevalent crash type.

Comment 7: Section 2.3 Mobility (P 13) Residents need to be made aware that the high number of access points along the study area as well as the high travel volumes, will impact their access. From the first SIG meeting, I don't know if they realize that.

Response 7: Further discussions regarding accessibility will occur during the upcoming SIG meetings.

Comment 8: Section 2.4 Non-Motorized Connections (P13) As mentioned above, connecting the bike paths should be a priority for Deerfield Road, given funding availability.

Response 8: Please refer to the response for comment 3. Additionally, please note that once the Phase I Study is completed, various parts of the project can be broken out for advancement into Phase II Engineering and subsequently construction. This may include individual intersection improvements, bike paths, etc. The challenge

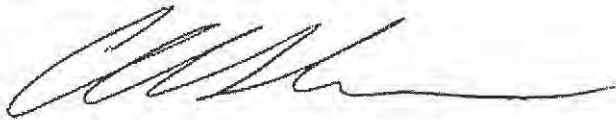
of advancing the bike path project forward as a separate project, is that the placement of the path would need to be compatible with the proposed Deerfield Road improvement, which may require right-of-way to be acquired and/or may have challenges being compatible with the design roadway improvement (i.e. if the roadway is being raised or lowered).

Comment 9: Section 2.4 Bus Transit (p16): Please don't forget about public and private bus service that operates along this stretch of Deerfield Road. Some Pace Route 626 reverse commute trips, as well as private shuttles from Aon Hewitt and Zebra Technologies use Deerfield Road to reach the Deerfield (and in some cases) Highland Park Metra Stations. There may be other private shuttles using Deerfield Road as well. I would also imagine that school buses and possibly dial a ride service use that section of Deerfield Road. Having managed Aon Hewitt's Commuter Program from 2000 to 2011, those buses need to cycle from the Metra Stations to the worksite in the morning for multiple trips, and from the worksite to the train stations in the evening. Moving through that corridor is crucial. Those employees need to be at work on time, especially in the case of Aon Hewitt's call center workers, who can receive disciplinary action up to termination if they are not logged in on time. In the evening, making train connections is important, as many of those riders are travelling long distances.

Response 9: Section 2.4 has been expanded to include non-motorized and transit connections.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. Your views are an important part of this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,



Chuck Gleason
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June 15, 2017

Rick Jamerson
Trustee
Building, Zoning, Police
The Village of Riverwoods
320 Portwine Riverwoods, IL 60015

Dear Mr. Jamerson:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study. A response to your comments is provided below.

Please note that the Purpose and Need statement is the initial section of the Environmental Assessment (EA) and is subject to review and approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) in accordance with federal project development procedures. The Purpose and Need statement is intended to establish the reasons for considering transportation improvements within the Deerfield Road corridor. It does not discuss potential alternatives, impacts or mitigation measures, which are subsequent parts of the project development process that will be documented in separate sections of the EA. The Purpose and Need statement has been modified per comments received as applicable, and is currently under review by IDOT and FHWA. An updated version of the Purpose and Need will be provided after the agency coordination meeting to be held on Monday, June 19, 2017.

Comment 1: Section 1.2 - It should be noted that the congestion is confined to 2 hours in the afternoon westbound and, to a much lesser extent, about an hour and a half in the morning eastbound.

Response 1: Clarification has been added to the third paragraph in Section 2.1 "Capacity" that the traffic analysis is for the AM and PM peak one-hour travel periods, and that congestion is largely confined to these peak travel periods. While it is understood that traffic volumes are lower during off-peak periods, evaluation of the movement of people, goods, and services during peak morning and evening travel periods is required by LCDOT, IDOT, and FHWA as part of the transportation planning process.

Comment 2: 1.2.2 Regional Growth - It seems highly unlikely that the population growth in Riverwoods will be 22.6% when there is a total of 4 lots that currently exist without homes on them. Employment growth in Riverwoods would only happen in the area on Lake Cook Road and those areas would most likely not direct traffic down Deerfield Road.

Response 2: The population and employment data is provided by the Chicago Metropolitan Agency for Planning (CMAP), and is based on geographical subzones that are assigned to municipalities and townships based on the proximity of each subzone's central point, and is not intended to predict the exact growth within the corporate boundaries of any one community. Clarification has been added to the section to indicate the population and employment growth is at the approximate aggregated municipal level since municipal boundaries are not coincident with census tract boundaries.

Comment 3: 1.2.3 Travel Demand - Based on the traffic data cited, the traffic trend is actually down over the last 20 years.

Response 3: While travel demand trended lower based on capacity improvements to parallel arterial routes, IL 22 and Lake-Cook Road, no additional nearby east-west capacity improvements are planned, and future demand is anticipated to trend upward moving forward based on CMAP traffic projections. The traffic model that CMAP utilizes to generate the traffic projects includes all planned projects, which can be viewed on their website (<https://etip.cmap.illinois.gov>).

Comment 4: 2.1 Capacity (Need) - Based on Table 2-1, the worst case increase in traffic on Deerfield Road between Saunders and Milwaukee for the 2040 No-Build is 750 cars over a 24 hour period. And, this is based on population and employment increases that are questioned above.

Response 4: As noted, traffic demand is not projected to grow significantly as existing traffic demand is above the capacity threshold of two-lane roadway design guidelines. When looking at the average daily traffic for a roadway (24-hour period), it is also important to understand the distribution of traffic throughout the day. While there is a lower anticipated increase in traffic from existing conditions, the added 750 vehicles are likely traveling through the corridor during the am and pm rush hours, since this corridor is predominantly utilized by traffic to access commercial areas east, west and south of the study area.

Comment 5: 2.2 Safety - Once again, the data presented in Table 2-6 shows a decrease in accidents over the period shown. Since 41% of the crashes have happened at the Deerfield/Milwaukee intersection, it appears that improvements to that intersection would significantly decrease the recorded accidents along the corridor. Unfortunately, the data presented does not seem to isolate the accidents on Deerfield Road. Were all of the accidents listed on Deerfield, or were some on Saunders and Milwaukee at Deerfield?

Response 5: As suggested, Section 2.2 "Safety" has been expanded to isolate accidents along Deerfield Road between the intersections versus at the intersection.

Comment 6: The final statement that accidents could increase is probably not justified and should be stricken.

Response 6: Although crash rates can vary year to year, there is a general correlation between travel safety, travel conditions, and traffic volumes. If Deerfield Road remains unchanged (no improvements), and travel demand increases, the annual crash rate is likely to increase as well.

Comment 7: 2.3 Mobility - Access from side streets and driveways is actually better when the traffic is moving slow and/or stop and go. Since the congestion is only in one direction, most motorists on Deerfield will create a gap for cross traffic because they are not moving at the posted speed. Contrary to the conclusion in this section, it is actually safer as it is now. I know, I turn westbound from northbound Juneberry several nights a week between 4:30 and 6:00 PM. Having to negotiate turning across two lanes of traffic at 40 MPH will be inherently more dangerous.

Response 7: As part of the alternative evaluation process, a traffic model will be generated for each alternative, which allows the project team to evaluate capacity/mobility of all the access roads along Deerfield Road. Safety will be evaluated as part of the alternative analysis for each alternative considered. The Illinois Highway Safety Design Manual will be used to evaluate each alternative and perform crash prediction analysis.

When assessing crashes, it is also important to consider the severity of crashes that are occurring and the associated trends.

Comment 8: 2.5 Operational Deficiencies - Many roadside hazards are listed and it is unclear what will be done to "redirect vehicles leaving the roadway". Mail boxes will still be required alongside all of the driveways, so that hazard will remain. Unless clear cutting of the trees is being suggested, there will still be trees along the roadway, and if the ditches are removed, a clear path to those trees will be available unless some other obstruction, such as guardrails are placed along the roadway.

Response 8: Section 2.5 Curb and gutter is one roadside treatment that provides a narrower overall roadway footprint as well as some redirection to vehicles straying from the through lane of traffic, and will be considered as part of the alternatives analysis process. However, since alternatives are not discussed as part of the Purpose and Need statement, this comment has been removed from the Operational Deficiencies discussion.

Comment 9: The cited flooding that occurred in 1986 was long before many flood control projects in the area were constructed. Thirty year old flood data that "residents noted" is hardly something that should be in this report. I do not believe the road was flooded in 2013 when the river crested at 16.36 feet. The culvert backup discussed at Forest Glen is more due to lack of maintenance than anything else.

Response 9: The flood discussion paragraph has been expanded to clarify that there are no recent flood records.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. Your views are an important part of this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,



Chuck Gleason
Project Manager
Lake County Division of Transportation
cgleason@lakecountyil.gov
847.377.7447



Division of Transportation

Paula J. Trigg, PE
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone: 847.377.7400
Fax: 847.984.5888

June 15, 2017

David Shimberg
Vernon Woods Owners Association
Board of Directors Secretary
410 Thornmeadow Lane
Riverwoods, IL 60015
dshimberg@gmail.com

Dear Mr. Schimberg:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study. A response to your comments is provided below.

Please note that the Purpose and Need statement is the initial section of the Environmental Assessment (EA) and is subject to review and approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) in accordance with federal project development procedures. The Purpose and Need statement is intended to establish the reasons for considering transportation improvements within the Deerfield Road corridor. It does not discuss potential alternatives, impacts or mitigation measures, which are subsequent parts of the project development process that will be documented in separate sections of the EA. The Purpose and Need statement has been modified per comments received as applicable, and is currently under review by IDOT and FHWA. An updated version of the Purpose and Need will be provided after the agency coordination meeting to be held on Monday, June 19, 2017.

Comment 1: I support all comments provided by Mr. Clayton in the Statement.

I would add, it is my perspective that the "purpose and need for action" is designed to justify the spending and ignore the impact on the Riverwoods community. A significant fact supported in Mr. Clayton's comments are the assumed growth of Riverwoods. The Village supports a unique ecologically friendly community, where there is no buildable land for population growth, native woodlands to protect and flood plains to mitigate. My opinion is that there are alternatives to the Deerfield Road expansion that should and must be considered.

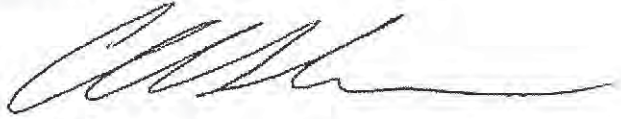
Response 1: Discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process. The subsequent sections of the Environmental Assessment will address range of alternatives, preferred alternative, and environmental impacts. In those sections, the specific impacts to the natural and man-made environment will be evaluated and documented. As stated in the project problem statement, there are numerous key considerations for this project, which include community character and the environment.

The population and employment data is provided by the Chicago Metropolitan Agency for Planning (CMAP), and is based on geographical subzones that are assigned to municipalities and townships based on the proximity of each subzone's central point, and are not intended to predict the exact growth within the corporate boundaries of any one community. Clarification has been added to the section to indicate the population and employment growth

is at the approximate aggregated municipal level since municipal boundaries are not coincident with census tract boundaries.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. Your views are an important part of this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chuck Gleason', with a long horizontal flourish extending to the right.

Chuck Gleason
Project Manager
Lake County Division of Transportation
cgleason@lakecountyil.gov
847.377.7447



Division of Transportation

Paula J. Trigg, PE
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone: 847.377.7400
Fax: 847.984.5888

June 15, 2017

Albert Weiss
Forsythe Solutions Group
7770 Frontage Road
Skokie, Illinois 60077

Dear Mr. Weiss:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study. A response to your comments is provided below.

Please note that the Purpose and Need statement is the initial section of the Environmental Assessment (EA) and is subject to review and approval by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) in accordance with federal project development procedures. The Purpose and Need statement is intended to establish the reasons for considering transportation improvements within the Deerfield Road corridor. It does not discuss potential alternatives, impacts or mitigation measures, which are subsequent parts of the project development process that will be documented in separate sections of the EA. The Purpose and Need statement has been modified per comments received as applicable, and is currently under review by IDOT and FHWA. An updated version of the Purpose and Need will be provided after the agency coordination meeting to be held on Monday, June 19, 2017.

Comment 1: I believe a comment should be added to Section 2.3 on page 13 that also expresses concern by residents impacted by a widening of Deerfield Rd. with respect to making it more difficult to exit onto Deerfield Rd. This can be mitigated with intelligent traffic signals and additional traffic signals on this stretch of Deerfield Rd. It can also be mitigated with an extra lane (for only turning onto Deerfield Rd. to allow for waiting for traffic to clear in the direction the driver is headed).

Response 1: Discussion of potential alternatives, potential impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process. Existing access concerns are included in Section 2.3, and proposed access concerns will be included for consideration in the alternatives development process.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. Your views are an important part of this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chuck Gleason', with a long horizontal flourish extending to the right.

Chuck Gleason
Project Manager
Lake County Division of Transportation
cgleason@lakecountvil.gov
847.377.7447



Division of Transportation

Shane E. Schneider, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone 847 377 7400
Fax 847 984 5888

October 3, 2017

Michael Clayton
President
Riverwoods Preservation Council
P.O. Box 122
Deerfield IL 60015

Dear Mr. Clayton:

Thank you for your comments regarding the preliminary Purpose and Need statement and Year 2040 Population, Employment, and Travel Demand Projections Technical memorandum for the Deerfield Road Phase I Engineering Study. Responses to your comments and questions are provided below.

Comment 1: Is it possible to validate the forecast model using historical data? I would think this shouldn't be difficult. Using the historically available data up to the last decade as the independent variables, how well would the model have predicted the actual traffic growth during the last decade? Can you graph the actual versus predicted? If the model predicts growth as opposed to the actual static/declining traffic, to what do you attribute the difference?

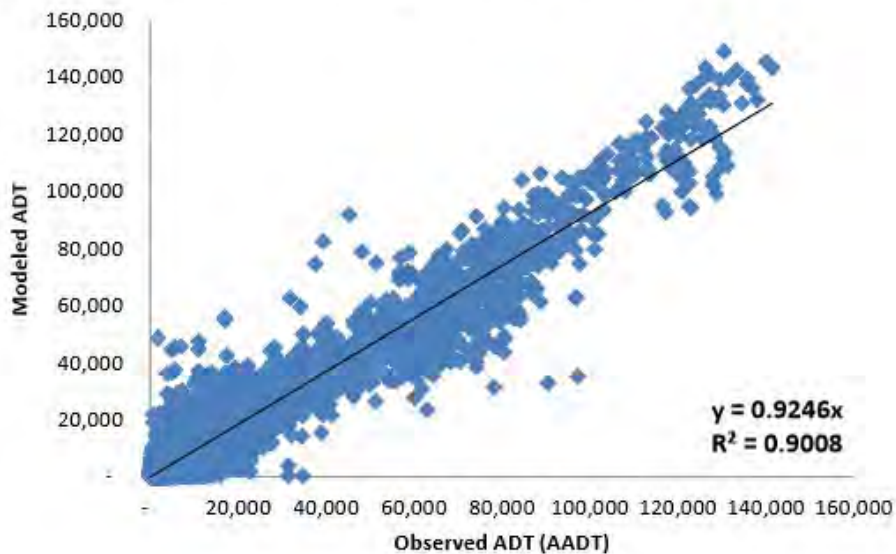
Response 1: While past forecast data specific to Deerfield Road is not available to compare to actual data, the Chicago Metropolitan Agency for Planning (CMAP) validates model data with observed link volumes for their forecasts. CMAP periodically generates and updates a model validation report, and the most recent version, dated February 2017, is available here:

http://www.cmap.illinois.gov/documents/10180/15634/CMAP_trip-based_model_validation_report_20170207.pdf/ea62fba4-007a-46b6-836e-da61e919be5d

More specifically, the figure below is an excerpt from the report which shows the observed versus modeled average daily link volumes within the CMAP planning region. The blue data points represent the modeled ADT (vertical y-axis) plotted against the observed ADT (horizontal x-axis) for roadway links within the CMAP planning region. Per the report, the graph shows a strong relationship between the modeled and observed data sets, with the modeled ADT at approximately 92% of the observed ADT on average as represented by the black line.

From the report's executive summary, CMAP's trip-based travel demand model uses a traditional four-step method that consists of trip generation, trip distribution, mode choice, and traffic assignment. Developed for each of the four steps, validation tests compare modeled and observed data. Given the nature of modeling, modeled and observed data will not match perfectly. Therefore, the basis for evaluation of the tests is whether the differences between the modeled and observed data are "reasonable". The model validation report has shown that CMAP's trip-based travel demand model yields reasonable results when compared to observed data based on Federal Highway Administration (FHWA) validation guidance.

Figure 8. Observed vs. modeled average daily link volumes



Comment 2: How was the data in Figure 2 determined? I’m sorry if this is a naive question, but it isn’t immediately obvious, to us at least, how one would determine such a thing down to the number of vehicles. Just to be clear, no one is arguing that all the traffic originates or terminates in Riverwoods. Is it possible to get the exact same data for Lake Cook Road and Half Day Road?

Response 2: CMAP determined the “trips per origin subzone” for the selected Deerfield Road link based on a percentage distribution of vehicles daily, and for the A.M. and P.M. peak hour. CBBEL provided CMAP with the hourly traffic counts collected, and CMAP applied the percentage distribution to the provided traffic counts collected to determine an approximate number of vehicles per origin subzone. Therefore, the result is a set of specific volumes that are used for planning.

Several factors influence the travel demand on a specific roadway link including socioeconomic data described in detail in the Population, Employment, and Travel Demand Technical Memorandum, but also travel survey data (i.e.; household interview surveys and the “Travel Tracker Survey” most recently initiated in 2007), the highway network (i.e.; roadway link supply/capacity), transit network, zone systems, analysis network (i.e.; interaction between data sets), and ancillary data input files (i.e.; site-specific interaction between transit and roadway data like park-and-ride availability). The “trips per origin subzone” distribution was generated based on analyzing these data sets, and this data is ultimately used to determine the modeled ADT for specific roadway links.

Regarding IL 22 and Lake Cook Road, while gathering traffic count and projection data for these routes may be interesting, it is outside the scope of the Deerfield Road Phase I Engineering Study and would not provide any additional insights regarding traffic and travel patterns related to Deerfield Road. Therefore, the County will not be requesting this data from CMAP.

We appreciate your thorough review of the Purpose and Need Statement and Technical Memorandum. Additions have been made to the Purpose and Need statement as attached to this response letter. We are in the process of completing traffic modeling and alternative analysis and evaluation. A SIG meeting is being targeted before the end of the year to present the result of the alternative analysis.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chuck Gleason', with a long horizontal flourish extending to the right.

Chuck Gleason
Project Manager
Lake County Division of Transportation
cgleason@lakecountyil.gov
847.377.7447

From: Laurie
To: [Deerfield Road Corridor Comment](#)
Subject: Comments Regarding 9-15-17 Purpose and Need for Action Statement
Date: Wednesday, November 22, 2017 2:57:31 PM
Attachments: [RPC Comments to LCDOT Purpose & Need for Action Dated 9-15-17 \(FINAL 11-20-17\).pdf](#)

I have attached the comments of the Riverwoods Preservation Council regarding LCDOT's revised Purpose and Need for Action statement dated September 15, 2017.

Sincerely,
Laurie Breitkopf
Riverwoods Preservation Council
Vice President & Director

**DEERFIELD ROAD CORRIDOR PROJECT
STAKEHOLDER INVOLVEMENT GROUP**

**COMMENTS ON BURKE ENGINEERING REVISED “PURPOSE AND NEED FOR ACTION”
STATEMENT DATED SEPTEMBER 15, 2017**

By:

Laurie Breitkopf and Riverwoods Preservation Council

November 20, 2017

On April 7, 2017, the Riverwoods Preservation Council (RPC) filed extensive comments regarding the initial draft of Lake County Division of Transportation’s (LCDOT’s) Purpose and Need for Action statement dated March 22, 2017. In reviewing LCDOT’s revised Purpose and Need for Action statement dated September 15, 2017, the RPC continues to conclude that LCDOT has not supported an argument for expansion of Deerfield Road from Milwaukee Avenue east to Saunders Road (the “project area”). We reiterate our comments of April 7. The following comments relate to the revised sections of the Purpose and Need for Action statement dated September 15, 2017, as well as items not addressed in our April 7 response and new information arising since our April 7 response.

1.2.2 Regional Growth

1.2.3 Traffic Demand

2.1 Capacity

Potential Expansion Privileges Rush Hour Commuters at Expense of Residents. LCDOT clarified the basis for its conclusion that regional growth in population and employment outside Riverwoods will increase substantially between 2016 and 2040 and that “travel demand is expected to increase by the year 2040.” It is clear that the widening of Deerfield Road, which will aggravate the bisection of Riverwoods, is primarily for the benefit of non-resident rush hour commuters seeking “good connectivity to the regional transportation system” (Sections 1.2.2 and 1.2.3). It bears repeating that LCDOT’s conclusions about Deerfield Road capacity and traffic delays stem solely from westbound rush hour periods of 1-2 hours on some weekday afternoons. These delays do not occur at any other time.

Significantly, LCDOT acknowledges that traffic demand along Deerfield Road is not expected to increase significantly between 2016 and 2040:

“... the average daily traffic (ADT) volume along Deerfield Road within the project limits is projected to increase from approximately 19,550 vehicles per day (vpd) to 20,200 vpd for the year 2040 under the No-Build scenario. This is a relatively modest increase of 650 vpd (3.3%) over the next 22 years, which is consistent with the low growth projections in the area with the highest peak hour trip origins (Riverwoods), and higher growth projections in adjacent areas with lower peak hour trip origins (Buffalo Grove and Deerfield)” (Section 2.1).

Capacity Conclusions Reflect Ephemeral Traffic Delays that Do Not Warrant a Multimillion-Dollar Expansion Along Two Miles of Deerfield Road. We reiterate that the projected increased delays between 2016 and 2040 (No-Build), as detailed in Table 2-4, are miniscule (e.g., Milwaukee Avenue intersection increase in morning peak delay is estimated to be 7.9 seconds; in the afternoon it is 9.1 seconds). We continue to maintain that, at most, the only issue to be resolved in the project area is traffic leading to the intersection of Milwaukee Avenue and Deerfield Road during westbound weekday afternoon rush hour, a potential inconvenience for rush hour commuters during a tiny portion of the week. LCDOT’s own data further supports this conclusion by showing a small increase in peak hour travel time solely for estimated westbound travel between Saunders and Portwine Roads under a “No- Build” option between 2016 and

2040 (Table 2-5). No travel time difference between 2016 and 2040 is shown for the other travel sections evaluated in Table 2-5.

As for the Level of Service (LOS) congestion analysis, only LOS F is appropriate to discuss, and that designation is given solely for westbound rush hour traffic leading to the Milwaukee Avenue intersection with Deerfield Road. (Please see Tables 2-4 and 2-5.) Table 2-4 indicates one locale of LOS D projected for 2040 (intersection of Saunders/Riverwoods Road and Deerfield Road), and the remainder of the analysis cites an IDOT-acceptable LOS C or better at the specified locations. LCDOT reports that State guidelines allow LOS D based on “substantial potential adverse socio-economic or environmental impacts,” which is precisely the case in the project area and specified locale. See the RPC’s response in our April 7, 2017 comments in Section 1.1.2 and Additional General Comments. Again, the problem is the intersection of Milwaukee Avenue and Deerfield Road; any project area improvements should be addressed solely to this locale.

2.3 Mobility

Conclusion Is Speculative. The Riverwoods Police Chief and the Lincolnshire/Riverwoods Fire Department Assistant Chief have refuted LCDOT’s speculative concern about access of adequate emergency services at any time of day via Deerfield Road. In addition, there are many reputable studies that show widening or increasing the capacity of roadways induces traffic demand and does not solve traffic blockage or traffic flow issues. See, for example, <http://plazaperspective.com/road-widening> and <https://bicycleuniverse.info/transpo/roadbuilding-futility.html>. The Purpose and Need for Action statement ignores such studies.

2.4 Non-Motorized and Transit Connections

Bike/Multi-use Path. Regarding an expanded bike path or multi-use path along Deerfield Road, there is growing opposition in Riverwoods to the LCDOT proposal of location for such a path, and the County should not assume that the installation of a bike/multi-use path is desired by the Riverwoods community. However, if after Riverwoods Town Meetings residents want such a path, it could be added when Deerfield Road is reconstructed.

Public Transit and Private Employer Shuttles. We favor and encourage the use of shuttle services between public transit and places of employment. However, the conclusion that “If no improvements are made ... transit user delay could increase” is premised on layers of questionable assumptions (e.g., significantly increased projected travel demand; “improvements” will make transit time faster; significantly increased projected travel delays through the year 2040).

We believe that the County should encourage the further use of public transit and private shuttles to fill current and future transit gaps. The increased use of public transit and private shuttles is another area which LCDOT has not dialed into its analysis of future traffic demand. (See above comments regarding Sections 1.2.3 and 2.1.) Additional public transit and private shuttles will decrease the need for cars and will decrease traffic demand in the project area.

2.5 Operational Deficiencies

Absence of Opposing Resident Comments. The Purpose and Need for Action statement continues to exclude comments from Riverwoods residents who overwhelmingly object to a widening project. At the Riverwoods Town Meeting held on August 8, 2017, which approximately 100 residents attended, virtually all of the more than 25 speakers objected to widening Deerfield Road through Riverwoods, citing flooding concerns, traffic increase (number of vehicles and speed), human and wildlife safety, noise, pollution and tree destruction. Most of the speakers do not live along the project area, so they were not arguing to protect their properties along the project route. Many urged fixing only the Milwaukee

Avenue-Deerfield Road intersection and suggested studying the feasibility of installing an underpass or flyover at that intersection.

Potential Roadside Hazards. LCDOT cites as “potential roadside hazards” the many driveways, side streets, side slopes, block wall culverts, brick mailboxes, aerial power lines, trees, berms and ditches along Deerfield Road. In addition to the fact that these structures have not been an issue and there is no reason to assume they will become an issue, it is illogical to argue that the widening of Deerfield Road will lessen such “potential roadside hazards.” The reverse is true. Widening Deerfield Road will bring increased traffic at increased speeds that will result in increased danger to residents attempting to exit their driveways onto Deerfield Road. Increased traffic and increased speeds also may create a greater hazard from structures along Deerfield Road cited by LCDOT.

Conclusion

We urge LCDOT to address the Milwaukee Avenue-Deerfield Road intersection problem, and not waste taxpayer funds on an unnecessary, dangerous and environmentally insensitive two-mile expansion of Deerfield Road through Riverwoods. If Deerfield Road needs to be reconstructed, reconstruct the road as it now is with Milwaukee Avenue intersection improvements.

Respectfully submitted,

RIVERWOODS PRESERVATION COUNCIL



By: Laurie Breitkopf, Vice President & Director



Division of Transportation

Shane E. Schneider, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone 847 377 7400
Fax 847 984 5888

December 29, 2017

Laurie Breitkopf
Vice President & Director
Riverwoods Preservation Council
P.O. Box 122
Deerfield IL 60015

Dear Ms. Breitkopf:

Thank you for your comments regarding the preliminary Purpose and Need statement for the Deerfield Road Phase I Engineering Study, dated November 20, 2017. Please find a response to your comments below.

As noted in the first response letter to comments received from the Riverwoods Preservation Council (RPC), dated June 15, 2017, the Purpose and Need statement establishes the basis for considering transportation improvements by specifically identifying the transportation needs within the Deerfield Road corridor, including the termini intersections of Milwaukee Avenue and Saunders/Riverwoods Road. The Purpose and Need does not make any conclusions regarding what improvements address the identified transportation needs, such as expansion/capacity improvements to the Deerfield Road corridor or intersections, nor does it identify potential impacts of any future improvements. This project is following the federal National Environmental Policy Act (NEPA) and is being processed as an Environmental Assessment (EA). The second chapter of the Environmental Assessment studies a full range of alternatives and evaluates each alternative against the identified needs established in the Purpose and Need. The project team is currently at this step of the project development process.

The project team has solicited input and feedback from the Stakeholder Involvement Group (SIG) on the Purpose and Need, which resulted in adding more detailed information regarding the population, employment, and traffic growth projections. The September 15, 2017 version of the Purpose and Need statement has been concurred to by the Federal Highway Administration (FHWA), Illinois Department of Transportation (IDOT), and other State/Federal resource agencies. As such, further modifications to the Purpose and Need statement are not anticipated. However, if new information becomes available prior to completion of Phase I Engineering, such as changes to the design year (currently 2040), more current crash data, etc., the Purpose and Need statement will be updated at that time.

Regarding the specific comments raised in your November 20th letter, a full range of alternatives has been developed to address the identified project needs. As stated in the last paragraph of the Purpose and Need, the existing Deerfield Road pavement needs to be reconstructed since resurfacing the roadway is no longer a cost-effective pavement management approach. Per Federal requirements, when a roadway project of this size and potential for impacts is reconstructed, evaluation of a full range of alternatives is required. The specific alternative identified in your letter, reconstruction of a 2-lane roadway (one lane each direction) with improvements at the Milwaukee Avenue intersection, is one of the alternatives being considered. However, current design standards will apply for all alternatives considered. For example, for the 2-lane alternative, the corridor will be brought up to current Lake County and Federal roadway design standards, which includes standard 12-foot lane widths, 8-foot shoulders and roadside ditches. Additionally, an 8-foot multi-use path will be included in this project as identified by two prior Phase I Engineering Studies and the Lake County 2040 Non-Motorized Plan. A 5-foot side walk is being considered and evaluated on the opposing the multi-use path.

A comparative evaluation of all alternatives is ongoing with respect to transportation performance (e.g. capacity), safety, mobility, non-motorized accommodations, environmental resources, socio-economic impacts (e.g. property impacts), and cost. This technical evaluation, in conjunction with stakeholder input, is used to narrow the range of alternatives and ultimately identify the preferred alternative. The project team is willing to meet with the RPC board of directors to adequately address the comments raised, answer your questions and to talk about the overall NEPA project development process. If you wish to meet, please reach out to me or the project team with several dates and times the RPC board of directors are available. We would like to have our meeting prior to the third Stakeholder Involvement Group (SIG) meeting being held on January 25, 2018.

Thank you again for your comments and participation as part of the Stakeholder Involvement Group for this project. If you have any further questions or concerns, please feel free to contact me at (847) 377-7447.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chuck Gleason', written in a cursive style.

Chuck Gleason
Project Manager
Lake County Division of Transportation
cgleason@lakecountyil.gov
847.377.7447

CC: Michael Clayton – Riverwoods Preservation Council - President
Matthew Huffman- Christopher B. Burke Engineering – Project Manager



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Stakeholder Involvement Group

Meeting #2 Summary

June 28, 2017



Stakeholder Involvement Group Meeting #2 Summary June 28, 2017

Executive Summary

The second Stakeholder Involvement Group (SIG) meeting for the Deerfield Road Phase I Study was held on Wednesday, June 28, 2017 between 6:00 and 8:00 p.m. at Brentwood North Health Care Center, 3705 Deerfield Road, Riverwoods, IL 60015. The objective of this SIG meeting was to discuss the status of the Purpose and Need Statement, the range of alternatives to be developed, the alternatives evaluation process, and build the alternatives evaluation criteria. Each of these main topics included a presentation followed by a question and answer session or large group discussion. A total of 24 SIG members were invited, and 19 attended with 1 substitute. A list of meeting attendees is provided within this meeting summary.

The meeting kicked off with introductions and opening remarks from LCDOT, followed by a PowerPoint presentation and associated question and answer sessions. The presentation and discussion topics included:

1. Where we are in the project study process
2. Traffic, safety, and mobility considerations in developing the range of alternatives
3. Alternative design elements
4. Evaluation process and criteria
5. Next Steps

The PowerPoint presentation is included as Attachment A. A more detailed summary of the discussion topics is provided within this meeting summary. Based on the large amount of information presented and discussed, SIG members requested additional time to review meeting material independently and provide additional comments after the meeting. Comments scribed on flip charts during the meeting are included in Attachment B. All comments received by July 21, 2017 are included in the SIG #2 summary as Attachment C.

Numerous project related materials were on-hand for SIG viewing and information. All SIG #2 material is posted on the project website (www.deerfieldroadcorridor.com). Hard copies of the presentation, Purpose and Need Statement, Design Elements Toolkit, NEPA Summary (handout) and draft Evaluation Criteria Matrix were provided. The NEPA Summary, Design Elements Toolkit, and draft Evaluation Criteria Matrix are included in Attachment A. Several exhibits were displayed as additional back-up information which included the LCDOT 2040 Roadway and Bikeway Plans, Environmental Assessment summary board, Safety, Existing Average Daily Traffic, and Environmental Resources boards. These exhibits are included on the project website.



Stakeholder Involvement Group Meeting #2 Summary June 28, 2017

Meeting Participants

Project Team Attendance

- Paula Trigg, Lake County Division of Transportation
- Chuck Gleason, Lake County Division of Transportation
- Michael Matkovic, Christopher B. Burke Engineering, Ltd.
- Matthew Huffman, Christopher B. Burke Engineering, Ltd.
- Emily Anderson, Christopher B. Burke Engineering, Ltd.
- Leisa Niemotka, Images, Inc.

Stakeholder Involvement Group (SIG) Member Attendance

- Henry Hollander, Village of Riverwoods Trustee
- Patrick Glenn, Village of Riverwoods Village Engineer
- Deputy Chief Scott Knesley, Lincolnshire-Riverwoods Fire Protection District – Station 51
- Mike Clayton, Riverwoods Preservation Council
- Brian Meltzer, Meadow Lake Owners Association
- Sol Snyderman, Riverwoods Resident
- Will Green, Timbers Homeowners Association
- Rick Jamerson, Vernon Woods Owners Association
- Darren Monico, Village of Buffalo Grove Village Engineer
- Timothy Grzesiakowski, TMA – Lake Cook
- Pericles (Perry) Galanopoulos, Timbers Homeowners Association
 - Substitute for Albert Weiss, Timbers Homeowners Association; Forsythe Technologies, Inc.
- Sandy DeLisle, Riverwoods Resident
- Kathryn Romanelli, Thorngate Homeowners Association
- Barbara Little, Village of Deerfield Director of Public Works
- Chief Bruce Dayno, Riverwoods Police Department
- Robert Gardiner, Lake County Stormwater Management Commission
- Elliot Rossen, Active Transportation Alliance
- Anders Raaum, Federal Life Insurance Company
- David Shimberg, Vernon Woods Owners Association
- Mortin Skidelski, AARP Driver Safety Program Instructor

1. Where we are in the Study Process Presentation and Discussion

A summary of the PowerPoint presentation and discussion are provided below.

An opening statement was made by Chuck Gleason from Lake County Division of Transportation (LCDOT) to kick off the meeting. Introductions (name and group/agency representing) were made by the project team members and the SIG members. LCDOT explained that Deerfield Road is a county highway and this project is going through the standard federal process for roadway project development. LCDOT indicated this project in their 2040 Roadway Plan and they are committed to reconstructing the roadway, but it is not yet known what the roadway reconstruction will include as this will be determined through the Phase I Study process. In accordance with federal procedures, the Phase I Engineering and Environmental Study kicked off with a Public Information Meeting on November 30, 2016 to seek public input on the transportation issues and concerns within the Deerfield Road study area. SIG #1 was held on March 2, 2017 to help develop the Purpose and Need for the project. SIG #2 will help to define a range of alternatives and the evaluation process. Therefore, questions on alternatives to be considered and potential impacts will start to be addressed as the study continues to be developed over the next year. However, no decisions have been made yet, and it will take time to get to a preferred alternative.

Mike Matkovic reviewed the meeting agenda, project development work that has occurred since the SIG #1 meeting, gave more detail on the National Environmental Policy Act (NEPA) Process, and summarized the status of the project Purpose and Need statement.

Project development work completed since SIG #1 includes the roadway and stream survey, wetland delineation and agency coordination, IDOT environmental survey request coordination,





Stakeholder Involvement Group Meeting #2 Summary June 28, 2017

Purpose and Need statement review and concurrence, traffic model existing conditions and year 2040 “No-Build” development and calibration for field conditions.

Mike provided additional information on the NEPA Process that must be followed, since it was discussed quickly at SIG #1 and there have been numerous process related questions from the SIG and other stakeholders. A NEPA Process hand out was provided to all meeting attendees and is also posted to the project website. NEPA Process is a federal requirement for all projects to be eligible for federal funds. The stepped NEPA Process includes:

- Define the Purpose and Need for the project
- Evaluate a full range of reasonable alternatives
- Assessment of potential social, economic, and environmental impacts with hierarchical consideration of avoid, minimize, and mitigate impacts
- Mitigate environmental impacts to the extent practical and feasible
- Interagency coordination and consultation
- Public involvement opportunities to participate and comment
- NEPA documentation and disclosure (Environmental Assessment)

LCDOT will utilize stakeholder input throughout the project development process as indicated by the SIG Meeting schedule above as well as public information meetings, and the Public Hearing. As this project is going through the federal process, final project decisions will be made by the Project Study Group (as defined in the Stakeholder Involvement Plan – SIP) which includes LCDOT, IDOT, and FHWA.

The Purpose and Need Statement establishes the purpose of and the need for the transportation project. Alternatives must meet the project Purpose and Need. The “No-Build” alternative is required to be carried forward and evaluated for comparison.

Purpose and Need elements were discussed at SIG #1. The Purpose and Need was drafted and provided for SIG review on April 3, 2017. Responses were provided to SIG comments received, and SIG comments were incorporated as applicable. The document was provided to the resources agencies for review as part of the required NEPA/404 Merger coordination process. In addition to FHWA, IDOT Bureau of Design and Environment, and IDOT District One review, resource agency reviewers included the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Services (USFWS), U.S. Environmental Protection Agency (USEPA), Illinois Historic Preservation Agency (IHPA), and the Illinois Department of Natural Resources (IDNR). After the agency review period, document updates, and discussion, the resources agencies concurred with the Purpose and Need at the June 19th, 2017 NEPA coordination meeting. A hard copy of the updated version of the Purpose and Need was provided to the SIG and is also posted on the project website. The Purpose and Need is a living document that will continue to be updated if additional data becomes available such as 2015 crash data which recently became available.

A SIG member questioned the population and employment growth. Purpose and Need Section 1.2.2 describes the regional growth surrounding Deerfield Road. CMAP prepared population and employment projections for



Stakeholder Involvement Group Meeting #2 Summary June 28, 2017

the northeastern Illinois region based on 2010 U.S. Census Bureau data and regional land use development information by aggregating and assigning census tract subzone data and growth to an approximate municipal level. The Riverwoods aggregation is projected to grow by 22.6 percent in population and 19.4 percent in employment from the year 2010 to the year 2040. Members of the SIG questioned the projected growth based on the limited buildable land within the municipal boundaries of the Village of Riverwoods. The project team indicated that the CMAP procedures for growth projections do factor in local agency comprehensive plans (as available). The aggregation of data can include areas adjacent to and outside of the municipal boundary, which could include higher growth areas. The project team agreed to provide further information to clarify the projections.

Similarly, members of the SIG also questioned the projected year 2040 traffic volumes if limited growth within Riverwoods is project to occur. Clarification was requested because the projected traffic volumes do not increase in line with the projected percentage growth in population and employment. Further, the historic travel demand table shown in Section 1.2.3 shows an overall downward trend from year 2000. A SIG member indicated that this is not the only roadway that has experience some decline as Lake-Cook Road and Half Day Road also have lower current ADTs than some of the historic ADTs listed on the IDOT website (www.gettingaroundillinois.com). The project team indicated that the decline can be explained by the recent economic recession causing a reduction in work-related travel demand which was a trend in many parts of the region. As the economic outlook continues to improve (and as shown in the projected increases in population and employment previously discussed), the travel demand is anticipated to be likewise affected. In addition, Lake-Cook Road was widened in 1994 and Half Day road was widened in 2003, relieving some travel demand pressure to Deerfield Road. However, even accounting for adjacent improvements, existing travel demand along Deerfield Road is above the desired capacity of a two-lane roadway based on IDOT guidelines. A SIG member indicated that more weight should be given to existing conditions. The project team indicated that IDOT and FHWA require roadway projects to be planned for projected 2040 traffic volume to effectively utilize federal money for today and future needs.

CMAP year 2040 travel demand projections for any roadway link take into account population and employment projections, roadway capacity, and other planned roadway improvements per the Go to 2040 Comprehensive Regional Plan. A SIG member questioned whether CMAP travel demand projections account for technological advancements such as autonomous cars and remote office capabilities. CMAP does consider potential future mode shift with their travel demand projections to the extent they can, but there are many unknowns. In discussion with CMAP, autonomous cars do not necessarily equate to lower travel demand. It is also possible that autonomous commuter vehicles may increase the number of vehicles on roadways since some large truck-type services may be replaced by a greater number of smaller vehicles. Working from home may reduce the longer distance commuting trip (home to work and vice versa) but may increase the number of smaller local trips due to convenience and flexibility factors. Changes in retail habits may also reduce home-to-retail trips but increased levels of parcel and service delivery traffic.



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2. Traffic, Safety, and Mobility Considerations in Developing the Range of Alternatives

Matt Huffman reviewed traffic, safety, and mobility considerations in developing the range of alternatives. The basic range of alternatives planned to be evaluated includes:

- 2-lane (one through lane in each direction without a center turn lane)
- 3-lane (one through lane in each direction with a center turn lane)
- 4-lane (two through lanes in each direction without a center turn lane)
- 5-lane (two through lanes in each direction with a center turn lane)

Variations to these basic alternatives can be based on location and design elements. Variations for design elements within the basic roadway section include such things as median type and width, lane widths, drainage systems, on-road and off-road bike accommodations, and sidewalk width/offsets.

The group recognized that the Milwaukee Avenue and Deerfield Road intersection requires a major improvement. Various intersection lane configurations will be investigated to move traffic as effectively as possible.

A SIG member questioned if retiming the Milwaukee Avenue intersection and signal coordination could alleviate the westbound PM queue. This will be considered in developing the alternatives, however Milwaukee Avenue is an IDOT Strategic Route Arterial (SRA) with very high traffic volumes. Therefore, it is unlikely that changing the timing to give more priority to Deerfield Road at the cost of Milwaukee Avenue traffic flow would be acceptable. Various Portwine Road and Saunders/Riverwoods Road intersection configurations will also be studied to efficiently move vehicles.

Matt described why additional lanes are being considered along Deerfield Road. A graphic was shown with the AM, PM, and Midday peak hour traffic volumes along Deerfield Road against the geometric design guidelines from the IDOT Bureau of Local Roads Manual. Roadways are designed to the peak hour traffic volume (vehicles per hour), and the Deerfield Road peak AM and PM traffic volume are within the range to consider two through lanes in each direction (4-lane or 5-lane section).

Matt described why a center turn lane is being considered along Deerfield Road. From a mobility standpoint, there are many access points along this section of Deerfield Road without exclusive left or right turn lanes. The heavy westbound traffic demand during PM peak periods blocks access points and creates sight distance issues for crossing traffic. The heavy eastbound traffic demand during AM peak periods also slows or breaks down traffic when vehicles attempt to turn from the single through lane. Turning from the through lane is also a safety issue. From a safety standpoint, the predominate crash types are rear-ends, left-turning, and angle crashes. Adding a center turn lane would likely reduce these types of crashes and improve mobility because left turning vehicles would be removed from the through lane.



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A SIG member asked what the Woodman's roadway improvements are and how that may impact this Phase I Study. The Woodman's development at the northwest corner and the commercial development at the southwest corner of the Milwaukee Avenue intersection are currently in the permitting process with IDOT for access to Milwaukee Avenue and LCDOT for access to Deerfield Road. The project team indicated that it is not yet known what improvements will be completed at the intersection because the developments' Traffic Impact Study and Intersection Design Study have not been finalized. A SIG member responded that site permit plans are getting closer to approval. Traffic volumes from the Traffic Impact Study will be added into the Deerfield Road Phase I Study once their construction permit has been obtained.

Proposed developments, like Woodman's, are only required to modify the intersection to mitigate for traffic volume impacts caused by their development. Developments are not required to make roadway improvements needed for travel demand not specifically generated by the development. Therefore, it is unlikely that intersection improvements associated with the development would address study area needs.

3. Alternative Design Elements

Matt discussed the potential variations for design elements within the basic roadway section that can include such things as median type and width, lane widths, drainage systems, on-road and off-road bike accommodations, and sidewalk width/offsets. The alternative design element presentation and handout were used to discuss pros and cons of individual elements. Matt explained each of the following potential design element variations and requested SIG member thoughts, comments:

- Shoulder and ditch versus curb and gutter
- Flush two-way left turn lane versus landscaped barrier curb
- Roadway lane width 12-foot wide per design standards versus 11-foot wide minimum
- Bike path location north versus south side of Deerfield Road (previous designed for south side from Milwaukee Avenue to Portwine Road and north side from Portwine Road to Saunders/Riverwoods Road)
- Bike path width 10-foot wide per design standards versus 8-foot wide minimum
- Bike path distance from roadway with 5-foot as a minimum
- Provide standard on-road bike accommodations (4-foot of the 8-foot shoulder is paved or 3-foot shoulder between driving lane and curb) versus increase the width to provide 6-foot minimum dedicated bike lane
- Optional sidewalk depending on local agency cost participation
- Sidewalk width and distance from roadway wider and more comfortable versus minimum



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A summary of the SIG comments received during the meeting is as follows. Refer to Attachment B for copies of the comments as recorded on flip sheets. As noted, SIG members were encouraged to further review after the meeting, and share with their constituents (as applicable) and provide any additional comments to the project team. Written comments received by July 21, 2017 are provided in Attachment C.

- A SIG member suggested combining a 3- and 5-lane section across the corridor (i.e.; 5-lanes west of the Des Plaines River Bridge, 3-lanes east of the Des Plaines River Bridge)
- A SIG member suggested staging improvements to minimize impact of construction (i.e.; intersection, west versus east, etc.)
- A SIG member suggested choosing design elements with the least impact possible
- A SIG member expressed concern that curb and gutter would provide less impact, but would decrease water quality benefits of a shoulder and ditch section. Storm sewers would directly outlet salty water to the Des Plaines River rather than through ditches like today.
- A SIG member expressed concern that maintenance of a curb and gutter section would be higher than for a shoulder and ditch section
- A SIG member expressed concern that a landscaped median would impact access. Several SIG members did not want access to turn into right-in-right-out only.
- A SIG member expressed concern that there was an increased safety issue of a two-way center left turn lane over dedicated left turn lanes
- A SIG member suggested a 3-lane reversible lane to alleviate the directional traffic congestion, however this would be difficult to sign and residents would likely be opposed to the electronics required
- A SIG member suggested 11-foot wide lanes over 12-foot wide lanes due to concern that opening the roadway would increase traffic speeds
- A SIG member suggested one multi-use path instead of a bike path and sidewalk to minimize impacts
- A SIG member suggested evaluating a speed limit reduction to improve safety
- A SIG member suggested evaluating intersection-only improvements
- A SIG member suggested evaluating two westbound lanes and one eastbound lane
- A SIG member suggested evaluating a separate express roadway or 2-deck roadway, however these would likely be very expensive and result in significant impacts
- A SIG member suggested evaluating an interchange at Milwaukee Avenue, however this would likely be very expensive and result in significant impacts



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4. Evaluation Process and Criteria

Matt described the general process by which the range of alternatives will be evaluated. The “Comparative Evaluation of Deerfield Road Range of Alternatives” handout was used to discuss anticipated evaluation criteria. Screenshots of meeting notes are provided.

Transportation performance will be evaluated using the Synchro traffic model. Evaluation criteria includes intersection level of service (LOS) and roadway section LOS. LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection of the average travel speed as a percentage of posted speed along a roadway section. Locations by which LOS will be used to compare alternatives includes the Milwaukee Avenue, Portwine Road, and Saunders/ Riverwoods Road intersections, and the eastbound and westbound Milwaukee Avenue to Portwine Road and Portwine Road to Saunders/ Riverwoods Road roadway sections. A SIG member suggested including signal optimization to improve transportation performance

A SIG member expressed concern over the existing traffic model calibration. The existing traffic model indicates that for the westbound PM peak hour it takes approximately 10 minutes to travel from Saunders/ Riverwoods Road to Portwine Road and 20 minutes from Portwine Road to Milwaukee Avenue. Some SIG members thought this was too long. However, it was acknowledged that the queue does extend along the entire corridor from Milwaukee Avenue to Saunders/ Riverwoods Road at times. The existing traffic model was calibrated and field verified to reflect this observed queue.

Mobility will also be evaluated using the Synchro traffic model. The model can be used to measure the number of acceptable gaps per hour and the total acceptable gap time within the corridor. A SIG member expressed concern that it is difficult to enter Deerfield Road from side streets. It was clarified that gaps are generally considered as 8 second or longer in which both directions are clear to provide vehicles on the side street desiring to turn left onto Deerfield Road enough time to make the decision, turn, and accelerate.

Non-motorized accommodations will be evaluated based on their presence level.

Safety will be evaluated using the Illinois Highway Safety Design Manual (IHSDM). Evaluation criteria includes the average predicted crashes in crashes per year at the three signalized intersections and along the two roadway sections previously described. A SIG member expressed concern that roadway improvements could increase speed and therefore increase the number and severity of crashes. CBBEL indicated the No-Build scenario would also be carried forward for evaluation, and the evaluation criteria would show a comparison of the predicted crashes for the range of alternatives against the no-build.

There was also a question on whether the model accounts for improvements in technology. For example, the rise of collision avoidance systems and autonomous vehicles. FHWA and IDOT are studying the effects of these technologies, but the IHSDM is the best available methodology currently approved by FHWA and IDOT for comparing the range of alternatives safety.



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A concern was expressed for including wildlife crossing crashes. Animal crashes are one of the categories in the IHSDM predicted crashes per year, however there are many variables such as animal population and density that requires additional investigation.

Environmental Resources will be evaluated by assessing impacts to resources including:

- Added net pavement/ impervious area
- Floodplain impacts
- Floodway impacts
- Wetland impacts
- High quality wetland impacts
- Tree impacts
- Natural area impacts
- Forest preserve district impacts

A SIG member recommended to include noise impacts. This and several other environmental resources such as air and water quality will be evaluated and mitigated once a preferred alternative is determined. However, these will not be used in screening the range of alternatives as the impacts are anticipated to be relatively similar for alternatives on the same alignment. Once a preferred alternative is determined, all environmental impact will be further defined and addressing impacts in a hierarchical structure:

- Avoid
- Minimize
- Mitigate

A SIG member recommended including wildlife impacts. As this is difficult to quantify and is correlated to habitat impacts, wildlife impacts are anticipated to be assessed as part of tree impacts and right-of-way acquisition.

Socio-Economic impacts will be evaluated by assessing right-of-way acquisition. Right-of-way acquisition is separated into residential and commercial subcategories as the impacts are perceived slightly differently. From a residential property owner's perspective, right-of-way acquisition could result in not only a concern for functionality and property value, but also a concern for aesthetics. A discussion arose whether community context could be added in a quantifiable, meaningful fashion to reflect the unique nature of the Deerfield Road landscape. Community cohesion may be added as a qualitative evaluation criteria under socio-economic impacts.

A planning level cost estimate including the cost for property acquisition will be evaluated.



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5. Next Steps

Mike provided an overview of the next steps for the project. The project team will compose a draft SIG #2 summary and will provide to the SIG for review and comment. Next steps include the development of concept alternatives, traffic modeling, and safety analysis. The third SIG meeting is planned for fall 2017 and will focus on screening the range of alternatives to be carried forward for detailed analysis.

Welcome!

Deerfield Road Phase I Engineering and Environmental Study

Stakeholder Involvement Group Meeting #2 June 28th, 2017

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Meeting Agenda

- ❖ **Progress Since SIG #1 in March**
- ❖ **Where we are in the NEPA Process**
- ❖ **Status of the Purpose and Need**
- ❖ **Range of Alternatives**
 - **Traffic, Safety, and Mobility Considerations**
 - **Alternative Design Features**
 - **Group Discussion**
- ❖ **Break**
- ❖ **Alternatives Evaluation Criteria**
 - **Evaluation Process and Criteria**
 - **Group Discussion**
- ❖ **Next Steps**



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Progress Since SIG #1 in March

- ❖ SIG #1 Summary distributed and finalized
- ❖ Completed roadway and stream survey
- ❖ Completed wetland delineations & agency coordination
- ❖ IDOT environmental survey coordination
- ❖ Purpose & Need development and review
 - SIG review, IDOT/FHWA review, and other resource agency review
- ❖ Existing conditions traffic model and calibration for field conditions
- ❖ Project website updates
- ❖ Project update in Village Voice Newsletter

National Environmental Policy Act (NEPA) Process

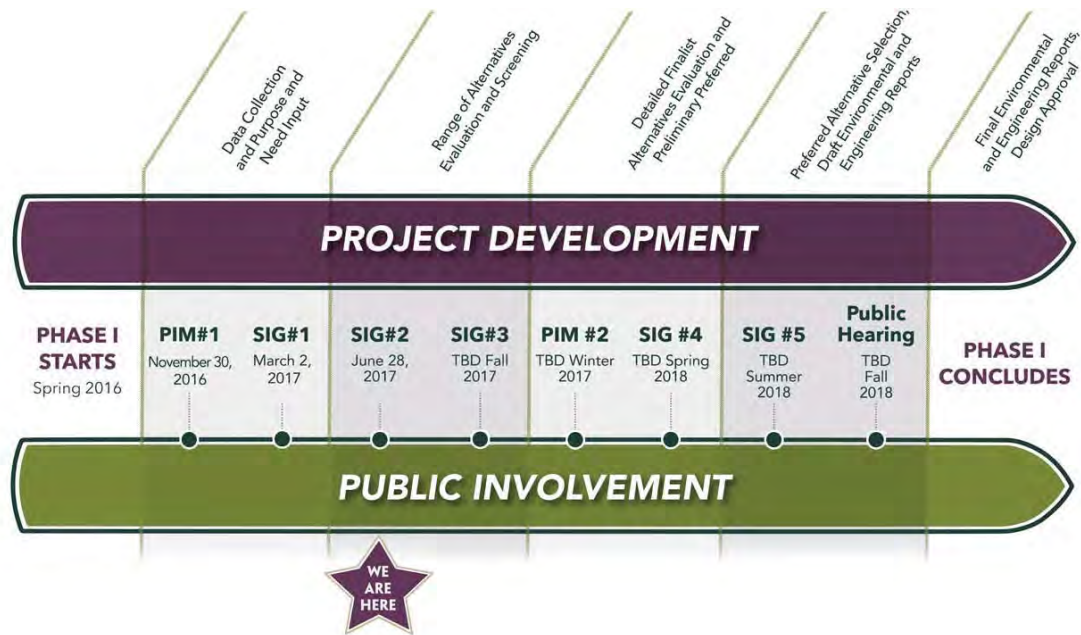
Where we are in the NEPA Process:



- ❖ Define the Purpose and Need for the project
- ❖ Evaluate a full range of reasonable Alternatives
- ❖ Assessment of potential social, economic, and environmental impacts with hierarchal consideration of avoid, minimize, and mitigate impacts
- ❖ Mitigate environmental impacts to the extent practical and feasible
- ❖ Interagency coordination and consultation
- ❖ Public Involvement including opportunities to participate and comment
- ❖ NEPA documentation and disclosure (Environmental Assessment)



Where we are in the NEPA Process:



Status of the Purpose and Need

- ❖ Purpose and Need elements were discussed at the 1st SIG Meeting on March 2nd
- ❖ The preliminary Purpose and Need was provided for SIG review and comment on April 3rd
- ❖ Responses have been provided to SIG comments received.
- ❖ SIG comments have been incorporated into the current version of the Purpose and Need as applicable.
- ❖ The resource agencies concurred with the Purpose and Need at the June 19th NEPA/404 Meeting
- ❖ This is a living document that will continue to be updated as data becomes available (i.e.; 2015 crash data)



Status of the Purpose and Need

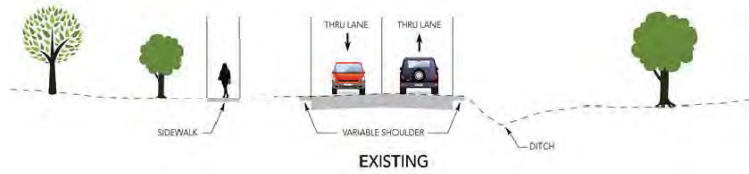
Several SIG comments received were on alternatives to be considered:

- ❖ The Purpose and Need statement is Chapter 1 of the Environmental Assessment, and establishes the reasons for considering transportation improvements within the Deerfield Road corridor, and is the basis for evaluation of alternatives.
- ❖ Discussion of potential alternatives, impacts, and mitigation measures is not part of the project Purpose and Need statement and will be addressed as part of the alternatives development and evaluation, which is the next step in the project development process.
- ❖ Questions on Purpose and Need?

RANGE OF ALTERNATIVES

Section Alternatives:

- ❖ **3-Lane, 4-Lane, 5-Lane**
 - Location variations & combinations
- ❖ **Design elements variations:**
 - Median type and width
 - Lane widths
 - Drainage system
 - On-road and off-road bike accommodations
 - Sidewalk widths/offsets



Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

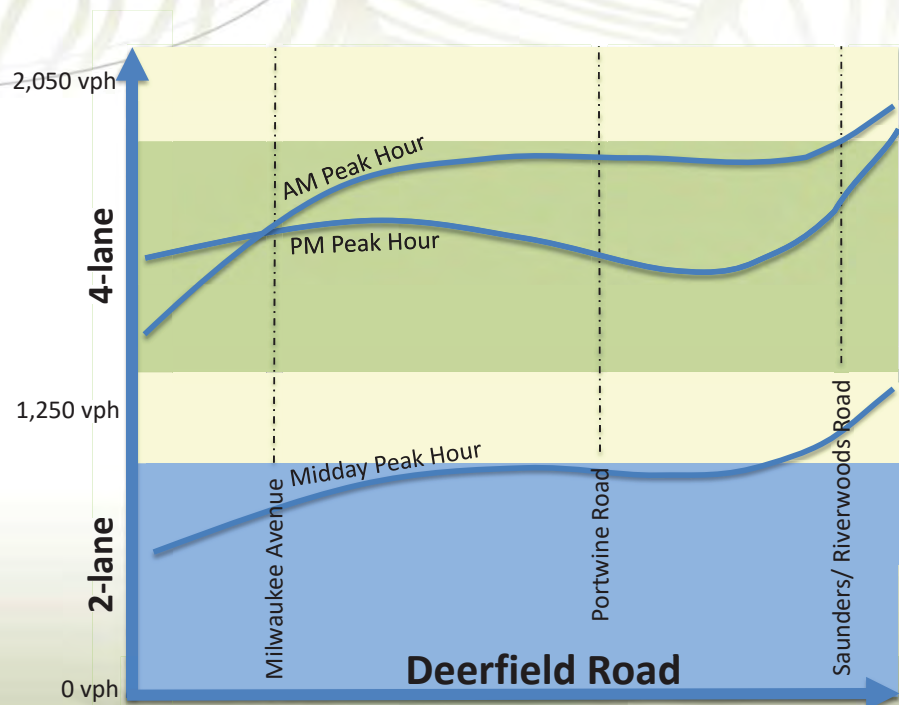
Signalized Intersection Alternatives:

- ❖ Milwaukee Avenue major intersection improvement
- ❖ Evaluate alternatives at Portwine and Saunders/Riverwoods

Why consider additional lanes?

Purpose and Need Point - Capacity:

- ❖ AM & PM Peak Hour traffic volumes along Deerfield Road exceed the design capacity of a 2-lane roadway
- ❖ High traffic volumes on Milwaukee Avenue – traffic signal priority given to the State Route
- ❖ Continued growth in traffic volumes are projected by Chicago Metropolitan Agency for Planning



* Geometric Design Guidelines for Urban Two-Way Arterials per IDOT BLR Manual Fig. 32-2D

Purpose and Need Point - Mobility:

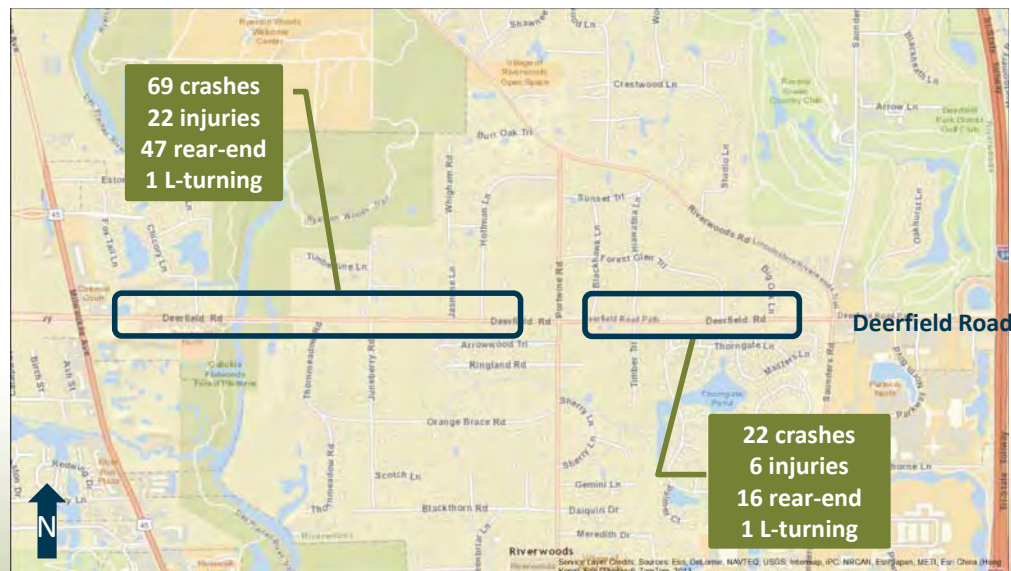
- ❖ 2 mile long section with 52 access points
 - No auxiliary turn lanes
- ❖ High westbound traffic demand during PM peak period
 - Westbound queue blocking access points
 - Sight distance issues crossing traffic
- ❖ High eastbound traffic demand during AM peak period
 - Example: AM left turning restriction at Hoffman Lane



Purpose and Need Point – Safety:

Project Study Area

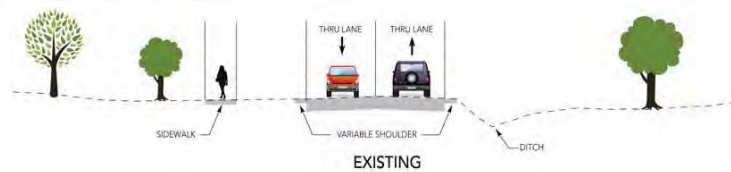
- ❖ 2010-2014 Crash Data
- ❖ 355 Total Crashes
- ❖ 97 Injuries
- ❖ Predominant Crash Types
 - Rear-Ends
 - Left-Turning
 - Angle



Alternative Design Elements

❖ Shoulder and Ditch

- 8-foot width standard (4 feet paved; 4 feet aggregate)
 - Fully paved at mail-box turnouts
- 2-foot deep ditch behind shoulder
 - Typically 18 foot total width
- Ditch design options
- Water quality benefits



❖ Curb and Gutter

- 2.5-foot width standard
- 3-foot bike friendly shoulder between travel lane and curb
- Depressed curb for mailbox turnout with 4-foot paved shoulder
- Storm sewer system to collect water
- Ditches may be needed depending on roadway elevation and topography

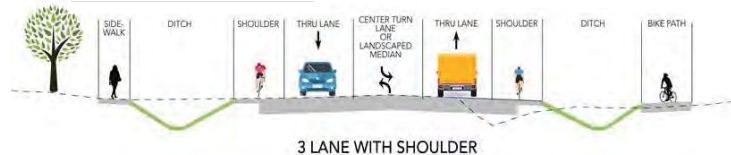


Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

Alternative Design Elements

❖ Median

- Flush median
 - Standard 12 foot width
 - Range 10 feet to 14 feet
 - Allows two-way left turn lane or dedicated left turn lanes
- Landscaped barrier curb median
 - Standard 18 foot width
 - Dedicated left turn lanes at cross streets
 - Left turn restrictions between cross streets
 - U-turns would require bump-outs



Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

Alternative Design Elements

❖ Bike Path

- Being incorporated with this project as Lake County facility
- Prior bike path engineering studies:
 - South side from Milwaukee to Des Plaines River Trail
 - South side from Thornmeadow to Portwine
 - North side from Portwine to Saunders/Riverwoods
- 10-foot standard width
 - 8-foot minimum width
- Distance from roadway options
 - 5-foot minimum (curb section)
 - 10-foot minimum (shoulder section)
- Multi-Use Path if no sidewalk
 - Consider larger width

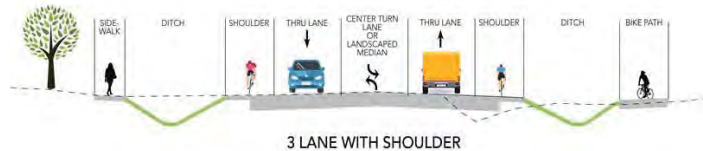
❖ On-Road Bike Accommodations

- If shoulder present then 4 feet of the 8-foot shoulder is paved
- If curb present then 3-foot shoulder between driving lane and curb
- Dedicated 6-foot bike lane (option)

Shoulder section



Curb section



Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

Alternative Design Elements

❖ Sidewalk

- Optional implementation depending on local agency cost participation
 - Lake County non-motorized policy
- Standard 5-foot width
 - 4-foot minimum width
- Distance from roadway options (curb)
 - Directly adjacent to roadway
 - 3-foot buffer between sidewalk and curb
 - Larger buffer distance
- Distance from roadway options (shoulder)
 - 3-foot buffer between sidewalk and shoulder
 - Larger buffer distance

Shoulder section



Curb section



Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

DESIGN ELEMENTS DISCUSSION

Discussion Item Design Elements

18

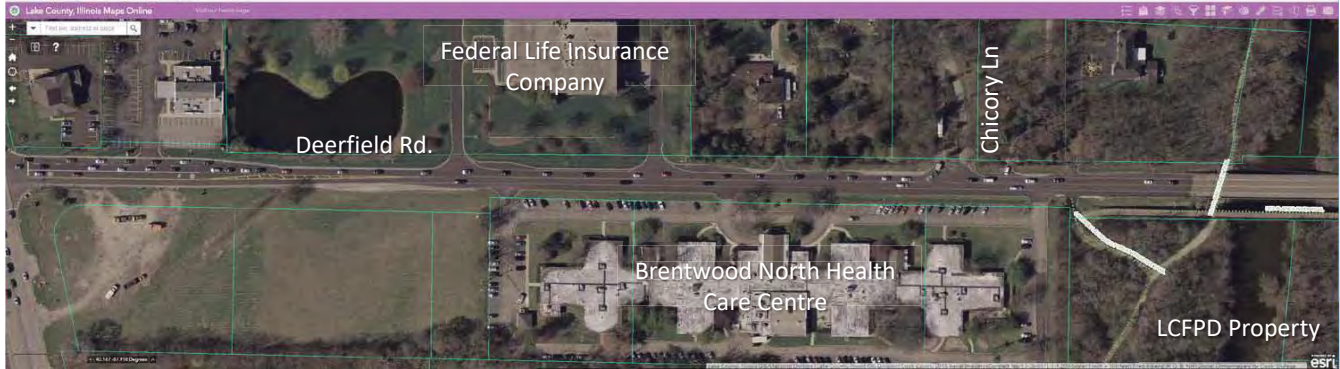
- ❖ **Shoulder and Ditch versus Curb and Gutter**
- ❖ **Median options**
 - Flush median vs. landscaped barrier curb median
- ❖ **Roadway Lanes Widths**
 - 11 foot versus 12 foot width
- ❖ **Bike Path**
 - Location (North vs. South)
 - 10 foot versus 8 foot width
 - Offset (close to road versus further from road)
- ❖ **Sidewalk**
 - Sidewalk incorporation in project
 - 5 foot versus 4 foot width
 - Offset (close to road versus further from road)
- ❖ **On-Road Bike Accommodations**
 - Bike friendly shoulder versus dedicated bike lane
- ❖ **Other**



❖ Use design element handout to discuss applicability of design elements

- Shoulder and Ditch
- Curb and Gutter
- Median

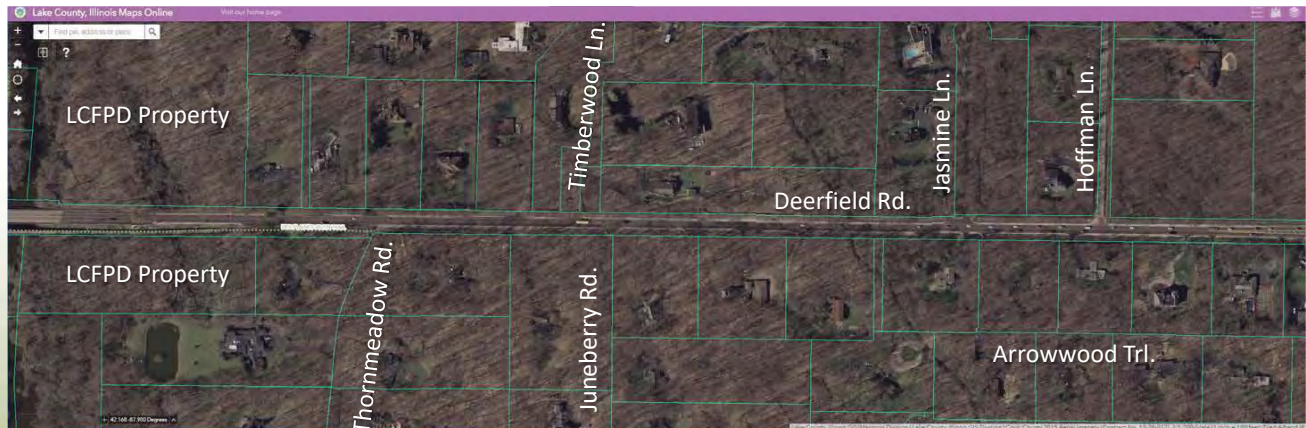
- Roadway Lane Width
- Bike Path
- On-Road Bike Accommodations
- Sidewalk



❖ Use design element handout to discuss applicability of design elements

- Shoulder and Ditch
- Curb and Gutter
- Median

- Roadway Lane Width
- Bike Path
- On-Road Bike Accommodations
- Sidewalk



Un-Signalized Intersections

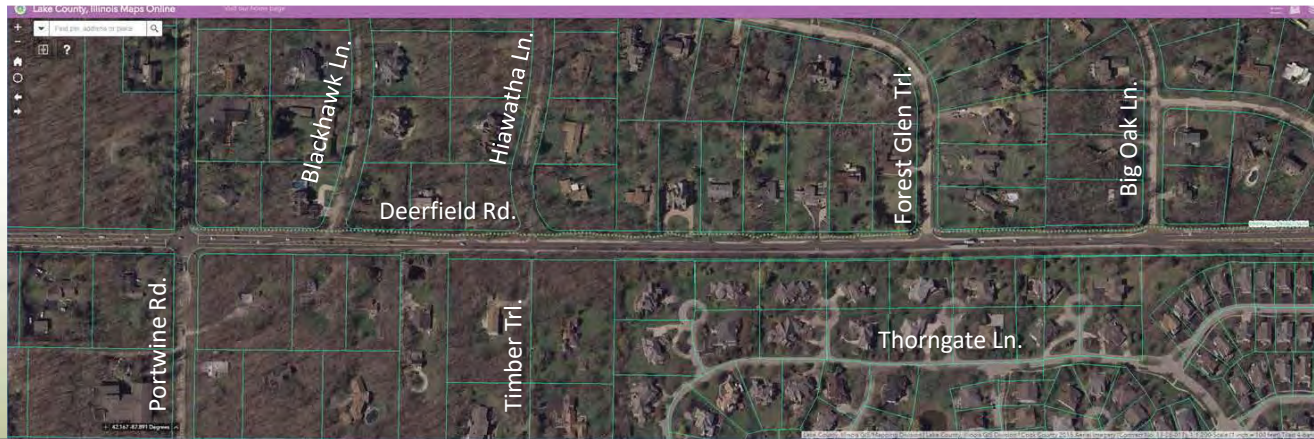
Portwine Road to Saunders/Riverwoods



❖ Use design element handout to discuss applicability of design elements

- Shoulder and Ditch
- Curb and Gutter
- Median

- Roadway Lane Width
- Bike Path
- On-Road Bike Accommodations
- Sidewalk



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5 MINUTE BREAK

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ALTERNATIVES EVALUATION

Alternatives Evaluation Process

General Process:

- ❖ Corridor modeling
 - Traffic Analysis
 - Safety Analysis
 - Mobility Analysis
 - Compare against 2040 No-Build
- ❖ Concept alternative design
 - Environmental impacts
 - Socio economic impacts
 - Cost Analysis
- ❖ Comparative Evaluation
 - Compiled into summary evaluation table (see next slide)

Deerfield Road Traffic Analysis – 2040 No-Build Synchro Model



LCDOT Aptakisic Road Phase I Study - Concept Alternative Design



❖ Example Alternative Comparative Evaluation Summary Table

➤ Colors show relative comparison to one another

Aptakits Road; IL Route 83 to Buffalo Grove Road
Existing, 2040 No-Build, and 2040 Build Alternatives
Preliminary Impact Evaluation Matrix
SIG 2 - April 25, 2013

ANALYSIS CRITERIA	UNIT OF MEASUREMENT	EXISTING 2012	2040 NO-BUILD	Build Alternatives			
				2040 5-LANE		2040 3-LANE	
Annual Daily Traffic Volume	vehicles/day	14200	17000	23000	18000		
I. Transportation Performance							
Network Measures of Effectiveness							
Network Average Delay - Eastbound ¹	sec/veh	AM	PM	AM	PM	AM	PM
Network Average Delay - Westbound ¹	sec/veh	70	38	45	47	31	25
Network Average Delay - Southbound ¹	sec/veh	74	32	40	43	28	24
Network Average Travel Time - Southbound ²	sec/veh	182	140	109	106	105	106
Network Average Travel Time - Westbound ²	sec/veh	173	133	102	100	99	100
Capacity Performance - Signalized Intersections							
Intersecting LOS Delay - Brookwood Lane ³	sec/veh	C - 94.5	C - 29.1	B - 23.4	C - 14.0	C - 21.1	C - 23.4
Capacity Performance - Stop-Controlled Intersections							
Brookwood Lane (Southbound) ⁴	sec/veh	E - 46.5	D - 27.0	B - 24.2	B - 21.3	C - 11.2	C - 12.8
Willow Road (Southbound) ⁴	sec/veh	E - 42.9	F - 27.0	F - 42.0	F - 10.0	C - 12.8	C - 9.9
Tran Oaks (Eastbound) (Southbound) ⁴	sec/veh	D - 29.3	F - 1180.0	F - 112.0	F - 180.0	B - 14.2	C - 21.9
Gap Analysis - Peak AM Period (IL 83 to Brookwood)							
Queue (in Feet) ⁵	ft	39,640	3.4 w/ 100 ft	22,600	1,200 ft	22,600	217,000 ft
Total Accessible Gap Time ⁶	sec/ft	318	318	318	318	318	318
II. Environmental Resources (Scoring are relative comparison of 2040 5-Lane & 2040 3-Lane)							
Water Resources							
Impervious Area Increase	acres			0.01	0.01	0.01	0.01
Floodplain Impact	acres			0.07	0.07	0.07	0.07
Floodway Impact	acres			0.03	0.03	0.03	0.03
Stream Impact	acres			0.004	0.004	0.004	0.004
Biological Resources							
Forest & Wetlands	acres			0.004	0.004	0.004	0.004
Special Land	acres			0.004	0.004	0.004	0.004
Park Districts (or Public Land) Impacts	acres			0.05	0.05	0.05	0.05
Conservation / State Department (or) Impacts	acres			0.03	0.03	0.03	0.03
III. Socio-Economic Impacts							
Total #ROW Acquisitions ⁷	acres			1.34	0.36	1.34	0.36
Public (Part of other Public) Lands	acres			0.05	0.05	0.05	0.05
Responsible/Communities	acres			1.00	0.00	1.00	0.00

Notes:

- ¹ Uses Highway Capacity Software (HCS)
- ² Uses Synchro Traffic Modeling Software
- ³ LOS Delay for the minor leg. Calculated using Synchro traffic modeling software
- ⁴ Gap Analysis conducted using SimTraffic model (Output from Synchro)
- ⁵ Does not include potential commuter-destination trips

MATRIX KEY	TRANSPORTATION PERFORMANCE RELATIVE COMPARISON
Red	> 5 seconds from existing conditions
Yellow	> 2.5 seconds from existing conditions
Green	< 2.5 seconds from existing conditions
White	No Significant Difference

MATRIX KEY	ENVIRONMENTAL & SOCIO-ECONOMIC RELATIVE COMPARISON
Red	Relatively Weak in Comparison
Yellow	Relatively Strong in Comparison
Green	No Significant Difference

2040 No-Build, 2040 5-Lane, & 2040 3-Lane compared against existing

Comparison between 2040 5-Lane & 2040 3-Lane

Alternatives Evaluation Criteria

❖ Transportation Performance

- Method: Synchro Modeling
- Intersection Delay & Level of Service (LOS)
 - Milwaukee Avenue, Portwine Road, Saunders/Rivewoods Road
- Section Delay (LOS)
 - Milwaukee Avenue to Portwine Road
 - Portwine Road to Saunders/Riverwoods Road



Synchro Model (2040 No-Build PM peak period)
Milwaukee Avenue Intersection



❖ Mobility

- Method: Synchro Modeling
- Number of acceptable gaps per hour
 - Acceptable gap time (> 8 seconds between subsequent vehicles)
 - Number of gaps per hour at stop controlled intersections/driveways
- Total acceptable gap time (sec/hour)

Synchro Model (2040 No-Build PM peak period)
Chicory Lane Intersection



❖ Non-Motorized Accommodations

- Qualitative comparative analysis

❖ Safety

- Method: Illinois Highway Safety Manual
- Intersection Average Predicted Crashes per Year (Total Crashes & Injury/Fatal Crashes)
- Roadway Sections Average Predicted Crashes per Year (Total Crashes & Injury/Fatal Crashes)

❖ Environmental Resources

- Added Net Pavement/ Impervious Area
- Floodplain Impact
- Floodway Impacts
- Wetlands and High Quality Wetlands Impacts
- Tree Impacts
- Natural Areas & Forest Preserve Impacts

❖ Socio-Economic Impacts

- Residential Right-of-Way Acquisition
- Commercial Right-of-way Acquisition

❖ Cost

- Estimated Construction Cost
 - Includes planning-level estimate only for ROW acquisition



LCDOT Aptakisic Road Phase I Study - Concept Alternative Design

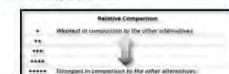
EVALUATION CRITERIA DISCUSSION

Alternatives Evaluation Criteria

Comparative Evaluation of Deerfield Road Range of Alternatives

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative 1		Alternative 2	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹									
Deerfield Road at Milwaukee Avenue Intersection	LOS - AM/PM								
Deerfield Road at Portwine Road Intersection	LOS - AM/PM								
Deerfield Road at Saunders/Riverwoods Road	LOS - AM/PM								
Roadway Section Level of Service (LOS)¹									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance									
Gaps Per Hour at Stop Controlled Intersections/Driveways (Milwaukee Avenue to Portwine Road)	# GPH (D-B) (seconds) per hour								
Gaps Per Hour at Stop Controlled Intersections/Driveways (Portwine Road to Saunders/Riverwoods Road)	# GPH (D-B) (seconds) per hour								
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	seconds								
Non-Motorized Accommodations									
Open-Market Accommodations	square feet								
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes									
Deerfield Road at Milwaukee Avenue Intersection	Total Crashes								
Deerfield Road at Portwine Road Intersection	Total Crashes								
Deerfield Road at Saunders/Riverwoods Road Intersection	Total Crashes								
Roadway Section Average Predicted Crashes									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	Total Crashes								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	Total Crashes								
Environmental Resources									
Added Net Pavement/Impervious Area	sq ft								
Floodplain Impact	sq ft								
Floodway Impact	sq ft								
Wetlands Impact	sq ft								
High Quality Wetlands Impact	sq ft								
Tree Impacts	sq ft								
Natural Area Impacts	sq ft								
Forest Preserve District Impacts	sq ft								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	sq ft								
Commercial Right-of-Way Acquisition	sq ft								
Cost	Dollars								
Preliminary Estimate of Construction Cost¹									

- ❖ Transportation Performance
- ❖ Mobility
- ❖ Non-Motorized
- ❖ Safety
- ❖ Environmental Resources
- ❖ Socio-Economic
- ❖ Cost



Comparative Evaluation of Deerfield Road Range of Alternatives

❖ Transportation Performance

- Intersection LOS & delay (sec/vehicle)
- Section LOS & delay

❖ Questions/Discussion

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative 1		Alternative 2	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹									
Deerfield Road at Milwaukee Avenue Intersection	LOS - sec/veh								
Deerfield Road at Portwine Road Intersection	LOS - sec/veh								
Deerfield Road at Saunders/Riverwoods Road	LOS - sec/veh								
Roadway Section Level of Service (LOS) ¹									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh								
Non-Motorized Accommodations									
Non-Motorized Accommodations	None								
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Injury/Fatal Crashes
Deerfield Road at Milwaukee Avenue Intersection	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.00/Year
Deerfield Road at Portwine Road Intersection	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.00/Year
Deerfield Road at Saunders/Riverwoods Road Intersection	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Roadway Section Average Predicted Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Injury/Fatal Crashes
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Environmental Resources									
Added Net Pavement/Impervious Area	ACFIS								
Floodplain Impact	ACFIS								
Floodway Impact	ACFIS								
Wetlands Impact	ACFIS								
High Quality Wetlands Impact	ACFIS								
Tree Impacts	ACFIS								
Natural Area Impacts	ACFIS								
Forest Preserve District Impacts	ACFIS								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	ACFIS								
Commercial Right-of-Way Acquisition	ACFIS								
Cost	Dollars								
Preliminary Estimate of Construction Cost ²	Dollars								

Comparative Evaluation of Deerfield Road Range of Alternatives

❖ Mobility

- Number of gaps per hour
- Total acceptable gap time (seconds/hour)

❖ Questions/Discussion

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative 1		Alternative 2	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹									
Deerfield Road at Milwaukee Avenue Intersection	LOS - sec/veh								
Deerfield Road at Portwine Road Intersection	LOS - sec/veh								
Deerfield Road at Saunders/Riverwoods Road	LOS - sec/veh								
Roadway Section Level of Service (LOS) ¹									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance	# gaps (1-8 seconds) per hour								
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	8 gaps (1-8 seconds) per hour								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	8 gaps (1-8 seconds) per hour								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	8 gaps (1-8 seconds) per hour								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	8 gaps (1-8 seconds) per hour								
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	sec/hr								
Non-Motorized Accommodations									
Non-Motorized Accommodations	None								
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Injury/Fatal Crashes
Deerfield Road at Milwaukee Avenue Intersection	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.21/Year	0.00/Year	0.00/Year
Deerfield Road at Portwine Road Intersection	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.23/Year	0.00/Year	0.00/Year
Deerfield Road at Saunders/Riverwoods Road Intersection	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Roadway Section Average Predicted Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Injury/Fatal Crashes
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.24/Year	0.00/Year	0.00/Year
Environmental Resources									
Added Net Pavement/Impervious Area	ACFIS								
Floodplain Impact	ACFIS								
Floodway Impact	ACFIS								
Wetlands Impact	ACFIS								
High Quality Wetlands Impact	ACFIS								
Tree Impacts	ACFIS								
Natural Area Impacts	ACFIS								
Forest Preserve District Impacts	ACFIS								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	ACFIS								
Commercial Right-of-Way Acquisition	ACFIS								
Cost	Dollars								
Preliminary Estimate of Construction Cost ²	Dollars								

Comparative Evaluation of Deerfield Road Range of Alternatives

- ❖ Non-Motorized Accommodations
- ❖ Questions/Discussion

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative		Alternative	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹									
Deerfield Road at Milwaukee Avenue Intersection	LOS - AM/PM								
Deerfield Road at Portwine Road Intersection	LOS - AM/PM								
Deerfield Road at Saunders/Riverwoods Road	LOS - AM/PM								
Roadway Section Level of Service (LOS) ¹									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance									
Gaps Per Hour at Stop-Controlled Intersections/Oneways (Milwaukee Avenue to Portwine Road)	# gaps (D=8 seconds) per hour								
Gaps Per Hour at Stop-Controlled Intersections/Oneways (Portwine Road to Saunders/Riverwoods Road)	# gaps (D=8 seconds) per hour								
Non-Motorized Accommodations									
Non-Motorized Accommodations									
Intersection Average Predicted Crashes									
Deerfield Road at Milwaukee Avenue Intersection	Crashes/Year	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road at Portwine Road Intersection	Crashes/Year								
Deerfield Road at Saunders/Riverwoods Road Intersection	Crashes/Year								
Roadway Section Average Predicted Crashes									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	Crashes/Year	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	Crashes/Year								
Environmental Resources									
Added Net Pavement/Impervious Area									
Floodplain Impact	FEFES								
Floodway Impact	WFES								
Wetlands Impact	WFES								
High Quality Wetlands Impact	WFES								
Tree Impacts	WFES								
Natural Area Impacts	WFES								
Forest Preserve District Impacts	WFES								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	WFES								
Commercial Right-of-Way Acquisition	WFES								
Cost	Dollars								
Preliminary Estimate of Construction Cost ¹									
Dollars									

Comparative Evaluation of Deerfield Road Range of Alternatives

- ❖ Safety
 - Intersection average predicted crashes
 - Section average predicted crashes
 - Total crashes & Injury/Fatal crashes
- ❖ Questions/Discussion

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative		Alternative	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹									
Deerfield Road at Milwaukee Avenue Intersection	LOS - AM/PM								
Deerfield Road at Portwine Road Intersection	LOS - AM/PM								
Deerfield Road at Saunders/Riverwoods Road	LOS - AM/PM								
Roadway Section Level of Service (LOS) ¹									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance									
Gaps Per Hour at Stop-Controlled Intersections/Oneways (Milwaukee Avenue to Portwine Road)	# gaps (D=8 seconds) per hour								
Gaps Per Hour at Stop-Controlled Intersections/Oneways (Portwine Road to Saunders/Riverwoods Road)	# gaps (D=8 seconds) per hour								
Non-Motorized Accommodations									
Non-Motorized Accommodations									
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes									
Deerfield Road at Milwaukee Avenue Intersection	Crashes/Year	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road at Portwine Road Intersection	Crashes/Year								
Deerfield Road at Saunders/Riverwoods Road Intersection	Crashes/Year								
Roadway Section Average Predicted Crashes									
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	Crashes/Year	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	Crashes/Year								
Environmental Resources									
Added Net Pavement/Impervious Area									
Floodplain Impact	FEFES								
Floodway Impact	WFES								
Wetlands Impact	WFES								
High Quality Wetlands Impact	WFES								
Tree Impacts	WFES								
Natural Area Impacts	WFES								
Forest Preserve District Impacts	WFES								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	WFES								
Commercial Right-of-Way Acquisition	WFES								
Cost	Dollars								
Preliminary Estimate of Construction Cost ¹									
Dollars									

Comparative Evaluation of Deerfield Road Range of Alternatives

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative		Alternative	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM
Deerfield Road at Milwaukee Avenue Intersection	LOS - sat/veh								
Deerfield Road at Portwine Road Intersection	LOS - sat/veh								
Deerfield Road at Saunders/Riverwoods Road	LOS - sat/veh								
Roadway Section Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - mix/veh								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - mix/veh								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - mix/veh								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - mix/veh								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance		AM	PM	AM	PM	AM	PM	AM	PM
Gaps Per Hour at Stop-Controlled Intersections/Driveways (Milwaukee Avenue to Portwine Road)	# gaps (D-B seconds) per hour								
Gaps Per Hour at Stop-Controlled Intersections/Driveways (Portwine Road to Saunders/Riverwoods Road)	# gaps (D-B seconds) per hour								
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	sec/hr								
Non-Motorized Accommodations									
Non-Motorized Accommodations	None								
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road at Milwaukee Avenue Intersection	0.21crashes/year								
Deerfield Road at Portwine Road Intersection	0.24crashes/year								
Deerfield Road at Saunders/Riverwoods Road Intersection	0.24crashes/year								
Roadway Section Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	0.24crashes/year								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	0.24crashes/year								
Environmental Resources									
Added Net Pavement/Impervious Area	acres								
Floodplain Impact	acres								
Floodway Impact	feet								
Wetlands Impact	acres								
High Quality Wetlands Impact	acres								
Tree Impacts	acres								
Natural Area Impacts	acres								
Forest Preserve District Impacts	acres								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	acres								
Commercial Right-of-Way Acquisition	acres								
Cost	Dollars								
Preliminary Estimate of Construction Cost ²	Dollars								

- ❖ Environmental Resources
 - Added net pavement/impervious
 - Floodplain impact
 - Floodway impact
 - Wetland impact
 - High Quality wetland impact
 - Tree impacts
 - Natural area impacts
 - Forest Preserve Impacts
- ❖ Questions/Discussion

Comparative Evaluation of Deerfield Road Range of Alternatives

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives			
		AM	PM	AM	PM	Alternative		Alternative	
Transportation Performance (Synchro Modeling)									
Intersection Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM
Deerfield Road at Milwaukee Avenue Intersection	LOS - sat/veh								
Deerfield Road at Portwine Road Intersection	LOS - sat/veh								
Deerfield Road at Saunders/Riverwoods Road	LOS - sat/veh								
Roadway Section Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - mix/veh								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - mix/veh								
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - mix/veh								
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - mix/veh								
Mobility (Synchro Modeling)									
Roadway Section Average Vehicular Gap Acceptance		AM	PM	AM	PM	AM	PM	AM	PM
Gaps Per Hour at Stop-Controlled Intersections/Driveways (Milwaukee Avenue to Portwine Road)	# gaps (D-B seconds) per hour								
Gaps Per Hour at Stop-Controlled Intersections/Driveways (Portwine Road to Saunders/Riverwoods Road)	# gaps (D-B seconds) per hour								
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	sec/hr								
Non-Motorized Accommodations									
Non-Motorized Accommodations	None								
Safety (Illinois Highway Safety Design Manual)									
Intersection Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road at Milwaukee Avenue Intersection	0.21crashes/year								
Deerfield Road at Portwine Road Intersection	0.24crashes/year								
Deerfield Road at Saunders/Riverwoods Road Intersection	0.24crashes/year								
Roadway Section Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	0.24crashes/year								
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	0.24crashes/year								
Environmental Resources									
Added Net Pavement/Impervious Area	acres								
Floodplain Impact	acres								
Floodway Impact	feet								
Wetlands Impact	acres								
High Quality Wetlands Impact	acres								
Tree Impacts	acres								
Natural Area Impacts	acres								
Socio-Economic Impacts									
Residential Right-of-Way Acquisition	acres								
Commercial Right-of-Way Acquisition	acres								
Cost	Dollars								
Preliminary Estimate of Construction Cost ²	Dollars								

- ❖ Socio-Economic
 - Residential right-of-way acquisition
 - Commercial right-of-way acquisition
- ❖ Questions/Discussion

Comparative Evaluation of Deerfield Road Range of Alternatives

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives				
		AM	PM	AM	PM	Alternative 1		Alternative 2		
Transportation Performance (Synchro Modeling)										
Intersection Level of Service (LOS) ¹										
Deerfield Road at Milwaukee Avenue Intersection	LOS - AM/PM									
Deerfield Road at Portwine Road Intersection	LOS - AM/PM									
Deerfield Road at Saunders/Riverwoods Road	LOS - AM/PM									
Roadway Section Level of Service (LOS) ¹										
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM									
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - AM/PM									
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM									
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - AM/PM									
Mobility (Synchro Modeling)										
Roadway Section Average Vehicular Gap Acceptance										
Gaps Per Hour at Stop Controlled Intersections/Overlays (Milwaukee Avenue to Portwine Road)	# gaps (D=8 seconds) per hour									
Gaps Per Hour at Stop Controlled Intersections/Overlays (Portwine Road to Saunders/Riverwoods Road)	# gaps (D=8 seconds) per hour									
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	hrs/yr									
Non-Motorized Accommodations										
Non-Motorized Accommodations	None									
Safety (Illinois Highway Safety Design Manual)										
Intersection Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	
Deerfield Road at Milwaukee Avenue Intersection	0.21/0.13/yr									
Deerfield Road at Portwine Road Intersection	0.23/0.13/yr									
Deerfield Road at Saunders/Riverwoods Road Intersection	0.24/0.14/yr									
Roadway Section Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	0.24/0.13/yr									
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	0.24/0.14/yr									
Environmental Resources										
Added Net Pavement/Impervious Area	sqft/yr									
Floodplain Impact	sqft/yr									
Floodway Impact	sqft/yr									
Wetlands Impact	sqft/yr									
High Quality Wetlands Impact	sqft/yr									
Tree Impacts	sqft/yr									
Natural Area Impacts	sqft/yr									
Forest Preserve District Impacts	sqft/yr									
Socio-Economic Impacts										
Residential Right-of-Way Acquisition	sqft/yr									
Commercial Right-of-Way Acquisition	sqft/yr									
Cost										
Preliminary Estimate of Construction Cost ²	Dollars									

- ❖ Cost
 - Preliminary estimate of construction cost
 - Includes cost of right-of-way acquisition
- ❖ Questions/Discussion

Next Steps

- ❖ Traffic Modeling of Alternatives (Intersections & Sections)
- ❖ Concept Alternatives Development
- ❖ Alternatives Evaluation and Comparison
- ❖ SIG Meeting #3 (Fall) – Alternatives Evaluation and Screening
- ❖ Public Information Meeting #2 (Winter) – Finalist Alternatives Carried Forward



❖ **Communicate with constituents on range of alternatives, design elements, and evaluation criteria**

- **Project team will provide an email for you to forward out with more specific information and links to documents on the project website**
 - SIG #2 PowerPoint
 - Design elements handout and draft Alternative Evaluation Table
 - Summary of National Environmental Policy Act (NEPA) document
 - Frequently Asked Questions document
- **Comment through the website**
 - Please provide comments/input by July 14th

❖ **Review SIG #2 Meeting Summary**

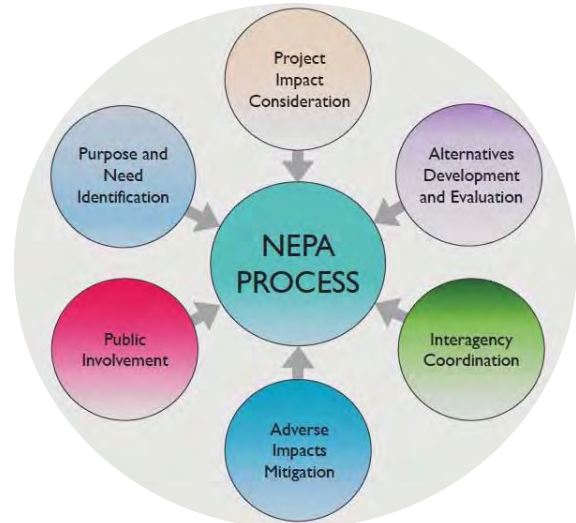
- **Project team will send out SIG #2 meeting summary for SIG review**
- **Once reviewed by SIG, the summary will be posted to the project website**

Thank You!

Summary of the National Environment Policy Act (NEPA)

The National Environmental Policy Act (NEPA) was signed into Law on January 1, 1970. NEPA requires the examination of potential impacts to the natural and human environment when considering approval of proposed federally funded transportation projects by the Federal Highway Administration (FHWA).

FHWA adopted the policy of managing the NEPA project development and decision making process as an "umbrella" under which all applicable environmental laws, executive orders, and regulations are considered and addressed prior to the final project decision and approval. The FHWA NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. During the process, a wide range of partners including the public, businesses, interest groups, and agencies at all levels of government, provide input into project and environmental decisions. In accordance with NEPA, it is the policy of the FHWA that the essential elements of the project development process include:



- *Define the Purpose and Need for the project*
- *Evaluate a full range of reasonable Alternatives*
- *Assessment of potential social, economic, and environmental impacts with hierarchal consideration of avoid, minimize, and mitigate impacts*
- *Mitigate environmental impacts to the extent practical and feasible*
- *Interagency coordination and consultation*
- *Public Involvement including opportunities to participate and comment*
- *NEPA documentation and disclosure*

Purpose and Need

The purpose and need of a project is essential in establishing a basis for the development of the range of reasonable alternatives to be considered and assists with the identification and eventual selection of a preferred alternative. The following items are typically described in the purpose and need statement, as applicable, for a proposed action:

- *Project Status - Briefly describe the proposed action's history and relationship to local and statewide transportation plans*
- *System Linkage - Discuss how the proposed action fits into the local and regional transportation system*
- *Mobility - Discuss the capacity of the existing facility*
- *Transportation Demand - Discuss the traffic projections for the project area*
- *Safety - Explain existing or potential safety hazard(s) to be addressed by the proposed action*
- *Social Demands or Economic Development - Describe how the action will foster new employment and benefit schools, land use plans, recreation facilities, etc.*
- *Modal Connections - Explain how the proposed action will interface with and complement other multi-modal plans, including mass transit, pedestrian and bicycle accommodations*
- *Roadway Deficiencies - Explain if the proposed action is necessary to correct existing roadway deficiencies*

Alternatives Development and Evaluation

The identification, consideration, and analysis of alternatives are key to the NEPA process and the goal of objective decision making. Consideration of a full and reasonable range of alternatives leads to a balanced solution that satisfies the project purpose and need, and protects environmental and community resources to the extent practical and feasible. The alternatives development and evaluation process under NEPA is required to:

- *Rigorously explore and objectively evaluate all reasonable alternatives*
- *Evaluate alternatives carried forward in detail within the draft environmental document so that reviewers may evaluate their comparative merits*
- *Include the alternative of No-Action*
- *Identify the preferred alternative in the draft environmental document*
- *Include appropriate mitigation measures*

As a rule, if an alternative does not satisfy the purpose and need for the action, it should not be included in the analysis as a reasonable alternative. Beyond the requirement to evaluate all reasonable alternatives, there are other requirements for analyzing alternatives. These requirements fall under Section 4(f), the Executive Orders on Wetlands and Floodplains, and the Section 404(b)(1) guidelines. The use of land from a Section 4(f) protected property (publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site) may not be approved unless a determination is made that there is no feasible and prudent alternative for such use, and/or a *de minimis* impact finding is granted.

Many factors exist that could render an alternative "not prudent," including cost and environmental impacts. If an alternative does not meet the action's purpose or need, then the alternative is not prudent. If a proposed action is to be located in a wetland or significantly encroaches upon a floodplain, a finding must be made that there is no practicable alternative to the wetland take or floodplain encroachment. To ensure a meaningful evaluation of alternatives, and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated shall:

- *Connect logical termini and be of sufficient length to address environmental matters on a broad scale*
- *Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made*
- *Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements*

Determining and Mitigating Environmental Impacts

The direct, indirect, and cumulative environmental impacts and effects of the proposed action must be addressed and considered in satisfying the requirements of the NEPA process. Impacts and effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the effect will be beneficial. The determination of significance with respect to impacts and effects is a function of both context and intensity. To determine significance, the severity of the impact must be examined in terms of the type, quality and sensitivity of the resource involved; the location of the proposed project; the duration of the effect (short- or long-term) and other considerations of context.

The mitigation of unavoidable impacts must be considered. Agencies are required to identify and include in the action all relevant and reasonable mitigation measures that could improve the action. In this regard, mitigation is typically defined as:

- *Avoiding the impact altogether by not taking a certain action or parts of an action*
- *Minimizing impacts by limiting the degree or magnitude of the action and its implementation*
- *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment*
- *Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action*
- *Compensating for the impact by replacing or providing substitute resources or environment*

This ordered approach to mitigation is known as "sequencing" and involves understanding the affected environment and assessing transportation effects throughout project development.

Agency Coordination and Public Involvement

As lead Federal agency in the NEPA process, FHWA is responsible for scoping, inviting cooperating agencies, developing consensus among a wide range of stakeholders with diverse interests, resolving conflict, and ensuring that quality transportation decisions are fully explained in the environmental document. These responsibilities force the FHWA to balance transportation needs, costs, environmental resources, safety, and public input in order to arrive at objective and responsible transportation decisions. Project development procedures must provide for:

- *Public involvement activities and public hearings throughout the entire NEPA process*
- *Early and continuing opportunities during project development for the public to be involved in the identification of social, economic, and environmental impacts*
- *One or more public hearings to be held at a convenient time and place for any Federal-aid project which requires significant amounts of right-of-way, substantially changes the layout or functions of connecting roadways or of the facility being improved, has a substantial adverse impact on abutting property, or otherwise has a significant social, economic, environmental or other effect*

Documentation

Transportation projects vary in complexity and the potential to affect the natural and human environment. An [Environmental Assessment \(EA\)](#) is prepared for actions in which the significance of the environmental impact is not clearly established. Should environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment, a [Finding of No Significant Impact \(FONSI\)](#) is issued.

Further information on NEPA and the Federal Project Development Process can be obtained at: <http://www.environment.fhwa.dot.gov/projdev/index.asp>

ALTERNATIVE DESIGN ELEMENTS TOOLKIT

❖ Shoulder and Ditch

- 8-foot width standard (4 feet paved; 4 feet aggregate)
 - Fully paved at mail-box turnouts
- 2-foot deep ditch behind shoulder (typically 18 feet total width)
- Ditch design options
- Water quality benefits



❖ Curb and Gutter

- 2.5-foot width standard
- 3-foot bike friendly shoulder between travel lane and curb
- Depressed curb for mailbox turnout with 4-foot paved shoulder
- Storm sewer system to collect water
- Ditches may be needed depending on roadway elevation and topography



❖ Median

- Flush median
 - Standard 12 feet width (10-14 feet optional)
 - Allows two-way left turn lane or dedicated left turn lanes
- Landscaped barrier curb median
 - Standard 18 feet width
 - Dedicated left turn lanes at cross streets
 - Left turn restrictions between cross streets
 - U-turns would require bump-outs



Note: The above roadway cross sections show a range of design elements and are not specific proposed alternatives for the project.

❖ Roadway Lane Width

- 12-foot standard versus 11-foot min.

❖ Bike Path

- Being incorporated with this project as a Lake County facility
- Prior bike path engineering studies:
 - South side from Milwaukee to Des Plaines River Trail
 - South side from Thornmeadow to Portwine
 - North side from Portwine to Saunders/Riverwoods
- 10-foot standard width (8-foot min.)
- Distance from roadway (5-foot min.)
- Multi-Use Path if no sidewalk
 - Consider larger width

❖ On-Road Bike Accommodations

- If shoulder present then 4 feet of the 8-foot shoulder is paved
- If curb present then 3-foot shoulder between driving lane and curb
- Dedicated bike lane (option, 6-foot min.)

❖ Sidewalk

- Optional implementation depending on local agency cost participation
 - Lake County non-motorized policy
- Standard 5-foot width (4-foot min.)
- Distance from roadway options (difference between shoulder vs. curb)

Example Landscaped Median



Example Bike Path with Greater Separation and Shoulder



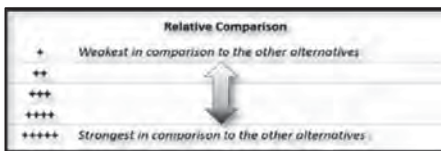
Example Bike Path with Minimum Separation and Bike Friendly Shoulder between Travel Lane and Curb and Gutter

Comparative Evaluation of Deerfield Road Range of Alternatives

Evaluation Criteria	Unit of Measure	Existing 2016		No-Build 2040		Range of Alternatives				
		AM	PM	AM	PM	Alternative		Alternative		
Transportation Performance (Synchro Modeling)										
Intersection Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM	
Deerfield Road at Milwaukee Avenue Intersection	LOS - sec/veh									
Deerfield Road at Portwine Road Intersection	LOS - sec/veh									
Deerfield Road at Saunders/ Riverwoods Road	LOS - sec/veh									
Roadway Section Level of Service (LOS) ¹		AM	PM	AM	PM	AM	PM	AM	PM	
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh									
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	LOS - min/veh									
Deerfield Road Eastbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh									
Deerfield Road Westbound (Portwine Road to Saunders/Riverwoods Road)	LOS - min/veh									
Mobility (Synchro Modeling)										
Roadway Section Average Vehicular Gap Acceptance		AM	PM	AM	PM	AM	PM	AM	PM	
Gaps Per Hour at Stop Controlled Intersections/Driveways (Milwaukee Avenue to Portwine Road)	# gaps (> 8 seconds) per hour									
Gaps Per Hour at Stop Controlled Intersections/Driveways (Portwine Road to Saunders/Riverwoods Road)	# gaps (> 8 seconds) per hour									
Total Acceptable Gap Time (Milwaukee Avenue to Saunders/Riverwoods Road)	sec/hr									
Non-Motorized Accommodations										
Non-Motorized Accommodations	scale									
Safety (Illinois Highway Safety Design Manual)										
Intersection Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	
Deerfield Road at Milwaukee Avenue Intersection	crashes/year									
Deerfield Road at Portwine Road Intersection	crashes/year									
Deerfield Road at Saunders/ Riverwoods Road Intersection	crashes/year									
Roadway Section Average Predicted Crashes		Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	Total Crashes	Injury/Fatal Crashes	
Deerfield Road Eastbound (Milwaukee Avenue to Portwine Road)	crashes/year									
Deerfield Road Westbound (Milwaukee Avenue to Portwine Road)	crashes/year									
Environmental Resources										
Added Net Pavement/Impervious Area	acres	-		-						
Floodplain Impact	acres	-		-						
Floodway Impact	acres	-		-						
Wetlands Impact	acres	-		-						
High Quality Wetlands Impact	acres	-		-						
Tree Impacts	acres	-		-						
Natural Area Impacts	acres	-		-						
Forest Preserve District Impacts	acres	-		-						
Socio-Economic Impacts										
Residential Right-of-Way Acquisition	acres	-		-						
Commercial Right-of-Way Acquisition	acres	-		-						
Cost										
Preliminary Estimate of Construction Cost ²	Dollars	-		-						

1) LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection or the average travel speed as a percentage of posted speed along a roadway section.

2) Includes the cost for property acquisition





SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



Lake County
Division of Transportation

DESIGN ELEMENT	INPUT
<p>SHOULDER AND DITCH VS. CURB & GUTTER</p>	<ul style="list-style-type: none"> • Combine 3- and 5-lane across corridor • Stage Stage improvements <ul style="list-style-type: none"> • intersections / west vs east, etc • least impact possible • Curb + gutter less impact but concern for salty water • Curb + gutter maintenance higher than shoulder • would like to further discuss at next SIG meeting



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



DESIGN ELEMENT

MEDIAN OPTIONS:
FLUSH TWO-WAY LEFT TURN LANE VS.
LANDSCAPED BARRIER CURB

INPUT

- landscaped median would impact access
- ~~at least~~ least impact possible
- do not want to turn access to right-in-right out only
- safety issue with thru vs. dedicated left-turn lane?
- 3-lane reversible lane?



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



Lake County
Division of Transportation

DESIGN ELEMENT	INPUT
ROADWAY LANE WIDTH: 11-FOOT VS. 12-FOOT WIDE	• Concern that opening roadway will allow increased traffic



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



DESIGN ELEMENT	INPUT
<p>BIKE PATH: LOCATION (NORTH VS. SOUTH SIDE)</p> <p>WIDTH (10-FOOT STANDARD VS. 8-FOOT MINIMUM)</p> <p>OFFSET TO ROADWAY (AS CLOSE AS POSSIBLE VS. FARTHER AWAY FOR DRAINAGE, LANDSCAPING, ETC.)</p>	<p>prefer multi-use path some</p>



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



Lake County
Division of Transportation

DESIGN ELEMENT

INPUT

ON-ROAD BIKE ACCOMMODATIONS:
PROVIDE MORE THAN STANDARD?
(i.e.; DEDICATED BIKE LANE?)



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



Lake County
Division of Transportation

DESIGN ELEMENT	INPUT
<p>SIDEWALK: WIDTH (5-FOOT STANDARD VS. 4-FOOT MINIMUM)</p> <p>OFFSET (COMFORTABLE BUFFER VS. 3-FOOT MINIMUM; 6-FOOT WIDTH REQUIRED IF LOCATED AT BACK OF CURB)</p>	<p><i>preference to 1 multi-use path than separate facilities</i></p>



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



DESIGN ELEMENT	INPUT
Separate express road 2-deck road	expensive, impactful " " "



SIG MEETING #2
JUNE 28, 2017

RANGE OF ALTERNATIVES DISCUSSION



Lake County
Division of Transportation

MILWAUKEE - DES PLAINES RIVER SECTION



DESIGN ELEMENT

INPUT

Speed limit

2-lanes Westbound/
1-lane Eastbound?

in this section - only improvements

would like speed reduction



SIG MEETING #2
JUNE 28, 2017
RANGE OF ALTERNATIVES DISCUSSION



LakeCounty
Division of Transportation

SAUNDERS INTERSECTION	DESIGN ELEMENT	INPUT
		50% location (safety)

SIG MEETING #2
 JUNE 28, 2017
 ALTERNATIVES EVALUATION
 CRITERIA DISCUSSION

EVALUATION CRITERIA	INPUT
TRANSPORTATION PERFORMANCE: INTERSECTION AND SECTION LOS	Open <ul style="list-style-type: none"> include signal optimization flyover of Deerfield over Milwaukee concern over existing traffic model calibration
SAFETY: INTERSECTION APPROACH	existing
MOBILITY: NUMBER OF GAPS PER HOUR AND TOTAL ACCEPTABLE GAP TIME	<ul style="list-style-type: none"> difficulty entering Deerfield Road from side streets

SIG MEETING #2
JUNE 28, 2017
ALTERNATIVES EVALUATION
CRITERIA DISCUSSION

EVALUATION CRITERIA	INPUT
<p>NON-MOTORIZED</p> <p>ACCOMODATIONS</p> <p>ADDED NET</p> <p>PAVEMENT/IMPERVIOUS</p> <p>FLOODPLAIN</p> <p>SAFETY:</p> <p>INTERSECTION AVERAGE</p> <p>PREDICTED CRASHES AND</p> <p>TOTAL CRASHES &</p> <p>INJURY/FATAL CRASHES</p>	<p>• improvements in vehicles could reduce crashes (automation of cars, etc.)</p> <p>• wildlife crossing crashes</p> <p>• does modeling account for technology-current studies ongoing</p>

SIG MEETING #2
JUNE 28, 2017
ALTERNATIVES EVALUATION
CRITERIA DISCUSSION

EVALUATION CRITERIA	INPUT
ENVIRONMENTAL RESOURCES: ADDED NET PAVEMENT/IMPERVIOUS	· wildlife impacts qualitative? · noise noise impacts?
FLOODPLAIN IMPACTS	
FLOODWAY IMPACTS	
WETLAND IMPACTS	
HIGH QUALITY WETLAND IMPACTS	
TREE IMPACTS	
NATURAL AREA IMPACTS	
FOREST PRESERVE IMPACTS	

SIG MEETING #2
JUNE 28, 2017
ALTERNATIVES EVALUATION
CRITERIA DISCUSSION

ATTACHMENT B

EVALUATION CRITERIA	INPUT
<p>SOCIO-ECONOMIC:</p> <p>RESIDENTIAL RIGHT-OF-WAY</p> <p>COMMERCIAL RIGHT-OF-WAY</p>	<p>aesthetics</p> <p>concern for property value</p> <p>community context cohesion (qualitative)</p> <p>concern for lighting? (no plans for lighting) not anticipated)</p>
<p>COST:</p> <p>PRELIMINARY ESTIMATE OF CONSTRUCTION COST</p>	

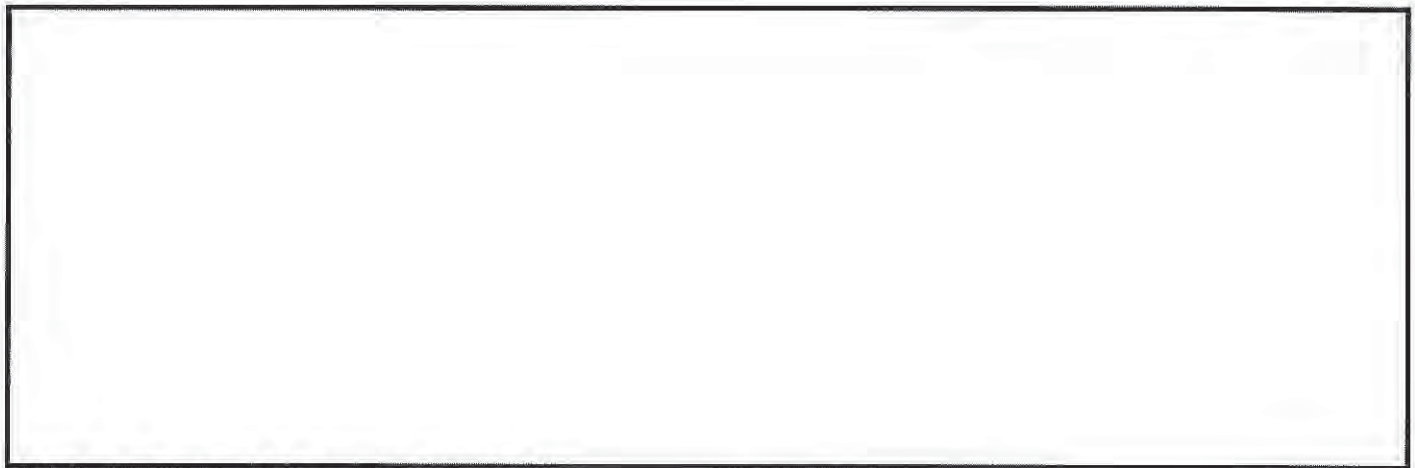
Matthew Huffman

From: Gleason, Chuck L. <CGleason@lakecountyil.gov>
Sent: Monday, June 12, 2017 6:52 AM
To: Matthew Huffman; Emily Anderson
Subject: FW: Riverwoods Ecosystem in Jeopardy

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Deerfield Road II

FYI



Subject: Re: Riverwoods Ecosystem in Jeopardy

Thank you for your note. Yes, I am aware that the widening of Deerfield Road is a county initiative. In fact, when this was under consideration years ago, I spoke out against widening at a County Board meeting. Again, I advocated for addressing expansion of Lake Cook Road which links western Lake County with eastern Lake County. Since Lake Cook Road straddles 2 counties, cost would presumably be shared by the 2 counties. It has always seemed grossly inefficient in terms of capital expenditure to expand a small stretch of road with a concomitant deleterious impact on environment.



"I cannot emphasize enough the importance of a good teacher." Temple Grandin

On Fri, Jun 9, 2017 at 9:04 PM [redacted] te:

Thank you for your email expressing your concern about Lake County's program that may call for the widening of Deerfield Road. I have passed it on to the Board of Trustees.

You should know that no one on the Village government has called for this project and the current Board shares your desire that the Road not be widened. This project is, however, a county project, not a Village project. Accordingly, I have also forwarded your email to the appropriate officials in Lake County government.

The Village will continue to seek alternatives to widening Deerfield Rd. in residential areas; if the road must be widened, to strive to limit any widening to the narrowest area possible; and to work to have streetscaping and landscaping designed and constructed to lessen the impact of any widening that does occur.

We plan to have a series of Village meetings on this. At the first meeting, we plan to have the entire state/county road planning and construction process outlined. That will give you a better idea of who to contact, when to do so, and what might be most effective to say. We hope to have a date for this meeting selected within the next week and the meeting itself scheduled to occur for a date not later than some time in July.

[redacted]

wrote:

Widening Deerfield Road goes beyond preserving the character of the village. It is a matter of preserving the Des Plaines River ecosystem at a time when sea levels are rising, putting pressure on inland waterways.

It is foolhardy to even contemplate the widening of Deerfield Road and removing the trees which are integral to preventing flooding of the adjacent flood plain and beyond. Those trees that line Deerfield Road are an integral part of the Des Plaines River ecosystem and to remove them would spawn an environmental nightmare and place most of the homes west of the river at risk for flooding. I have lived in Riverwoods long enough to have experienced serious flooding, and frankly, I would rather not experience it again.

It is much more economically efficient to widen Lake Cook Road - which is a major artery - than remove the only defense against flooding that the homes on Deerfield Road has, its trees.

There is plenty of peer-reviewed research to provide support to this ecosystem claim.



"I cannot emphasize enough the importance of a good teacher." Temple Grandin

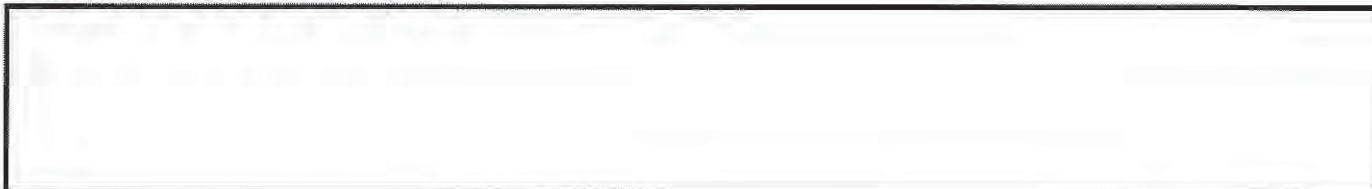
Matthew Huffman

From: Gleason, Chuck L. <CGleason@lakecountyil.gov>
Sent: Wednesday, June 28, 2017 11:17 AM
To: Matthew Huffman
Subject: FW: Object to Widening Deerfield Road


Categories: Deerfield Road II

FYI

From: Trigg, Paula J.
Sent: Tuesday, June 27, 2017 3:19 PM



Carol

Yes, I will have the project manager, Chuck Gleason, contact 

Thanks
Paula



Paula J. Trigg, P.E.
County Engineer | Director of Transportation
Lake County Division of Transportation
600 W Winchester Road, Libertyville, Illinois 60048
www.lakecountyil.gov | 847.377.7444 direct | 847.984.5888 fax



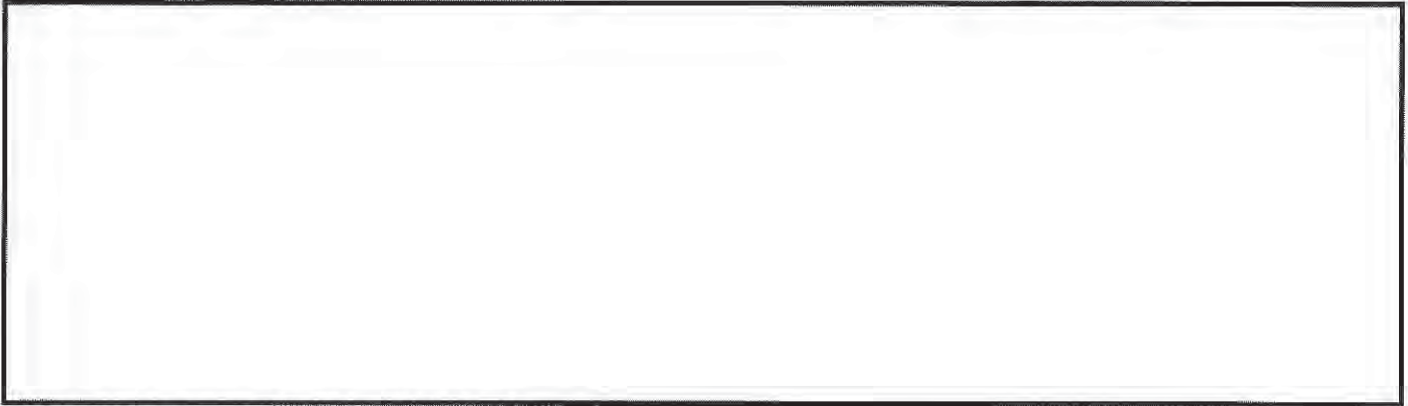
From: Calabresa, Carol J.
Sent: Friday, June 23, 2017 10:47 AM
To: Trigg, Paula J. <PTrigg@lakecountyil.gov>
Subject: Fw: Object to Widening Deerfield Road

Paula,

Could you please respond to



Thanks,



Subject: Object to Widening Deerfield Road

Dear Trustee Board,

I wanted to you know I object to the widening of Deerfield Road. I have lived in Riverwoods for 20 years and my brother and sister-in-law have lived here for over 30 years. I feel wudening the road will change the character of our village. Right now people are discouraged to use Deerfield Road at rush hour by the fact that it backs up. Widening it will only make for 4 lanes of backed of traffic like parts of Rt 22, Lake Cook Road, or Dundee Road at that same time. If we keep it small they will hunt for alternative routes that aren't through the Lake County Forest Preserve, wild life habitat and our unique residential areas. Widening the road would only serve the commuters on either side of our town but do nothing positive for the residence of Riverwoods.

Sincerely,





June 28, 2017
Stakeholder Involvement Group
Meeting #2
Comment Form



The Lake County Division of Transportation (LCDOT) has initiated the Deerfield Road Phase I Preliminary Engineering and Environmental Study. The Deerfield Road study area is from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

Your input is valuable and it is our commitment throughout this study to include stakeholders, such as yourself, in this process. The purpose of the first Public Information Meeting is to introduce the project to the public and identify the issues and needs for this section of Deerfield Road. The project study team is seeking your thoughts on this corridor. Please place your comment forms in the box marked COMMENTS; or fax to (847) 823-0520; or scan and email to deerfieldroadcorridorcomment@cbbel.com; or fold in thirds, tape closed, place a stamp and mail.

Please send comments by Wednesday July 12, 2017.

The project study group is specifically seeking input on the following:

- What are the issues and needs within the Deerfield Road corridor?
- Is there something unique about the Deerfield Road study area that you want to share?

The Village of Riverwoods identifies itself by the natural woodlands that this project impacts. Natural understory plants such as fields of white trillium, line the road on both sides. The impact of road widening is immense - basically in order to accommodate growth in our adjacent neighbors, our most valuable village asset will be negatively impacted or not destroyed. How many mature oak & hickory trees will be destroyed to accommodate about 3 hours of traffic congestion 5 days a week?

A tiny village will be truncated by a ribbon of concrete. One of the last remaining old growth oak/hickory forests will be decimated. If this must occur - (and I hope it won't) the least impact on the woods must be applied. Do your research - how many oak/hickory forests remain in northern Illinois?

(Optional, Please Print)

Name /A




Address

City/State

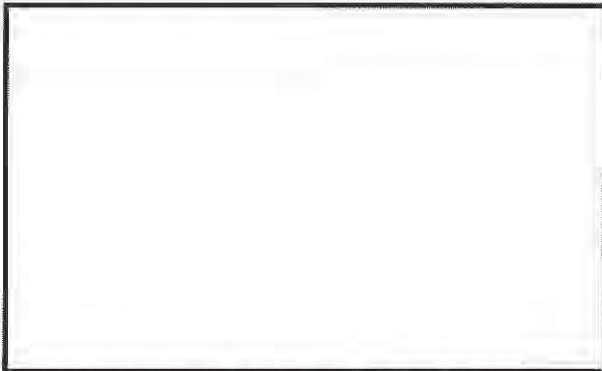
Phone N

I would like to receive e-mails regarding the Deerfield Road project


I would like to receive additional e-mails /correspondence from Lake County Division of Transportation

From: 
To: 
Cc: 
Subject: Deerfiled/Milwaukee Intersection
Date: Friday, June 30, 2017 4:13:57 PM


As a resident of Meadowlake, it seems to me that one way to help alleviate the backup going west on Deerfield at Milwaukee (and ease the ability of cars to get out of Chicory onto Deerfield Rd) would be to install a dedicated right turn lane at the intersection so that traffic coming west on Deerfield can more easily turn north on Milwaukee and westbound traffic can more easily continue west of Milwaukee. If this were to be done along with the other planned improvements at the intersection, the effect of that improvement would become quickly apparent and may help the decision making on what other improvements may be needed. This may not fit into the plan to figure everything out before anything is done, but it seems to me that the extra expense to do this work along with the rest of the improvements being done at the intersection would be far less than if it were done later. This work will most likely be needed no matter what is finally done on Deerfield Road, so it may as well be done now.



CIRCULAR 230 DISCLOSURE. TO ASSURE COMPLIANCE WITH TREASURY REGULATIONS (31 CFR, SUBTITLE A, PART 10, SEC. 10.35) THIS WRITING IS NEITHER INTENDED NOR WRITTEN TO BE USED FOR THE PURPOSE OF AVOIDING PENALTIES THAT MAY BE IMPOSED ON THE TAXPAYER UNDER THE INTERNAL REVENUE CODE, OR CAN IT BE USED BY ANY TAXPAYER FOR SUCH PURPOSE. NOTICE: This e-mail message and all attachments transmitted with it may contain legally privileged and confidential information intended solely for the use of the addressee. If the reader of this message is not the intended recipient, you are hereby notified that any reading, dissemination, distribution, copying, or other use of this message or its attachments is strictly prohibited. If you have received this message in error please notify the sender immediately by telephone (847-330-2400) or by electronic mail and delete this message and all copies and backups thereof. Thank you.

From: 
To:
Cc:
Subject: Fwd: Deerfield Road corridor
Date: Sunday, July 2, 2017 11:01:48 PM

Begin forwarded message:

From: 
Subject:
Date:
To:

Good morning,

I am a resident of Riverwoods and I have attended all the meetings, read the material and listened carefully to the presentations. I have come to the following conclusions and have the following questions.

1. It would appear that the Deerfield Road/Milwaukee Ave. intersection is responsible for the only back-up we have on the proposed corridor between Sanders Rd and Milwaukee Ave. There is virtually no back-up going east and traffic going west is only backed up during the afternoon rush hour. The waiting time at that intersection at that time seems to be very inflated.
2. Common sense would indicate the the project should be tabled until the proposed construction at the Milwaukee Rd. intersection is completed and the affect that construction would have on traffic going west is evaluated. It is illogical to me as a tax payer and a Village resident that anyone would propose completely tearing up a perfectly good road and putting a virtual highway down a residential street without assessing the need more thoroughly. From what we heard, the "need" was assessed by CMAP and is based on questionable data which nobody seems to be questioning. Burke Engineering seemed to have no interest whatever in telling us WHEN the report was assembled and how the results were determined. Both these seem critical to evaluating the report. However, no one is evaluating the report. Accepting it on faith is a poor way to spend tax payers money.
3. Just because this project is in somebody's master plan is not a valid reason for proceeding with it.
4. It is also abundantly clear that, although residents and people with a stake in the project are invited to give opinions, these opinions are clearly being ignored. It's very interesting to debate median strips vs. and curbs and ditches when there doesn't seem to be anybody questioning the need for the project in the first place. Burke Engineering repeated several times that a "no build" option was being continuously evaluated when it was obvious they were not considering that a viable alternative.

5. A cost-benefit analysis of this project is this. It's going to be very expensive. It will put a highway in the middle of a residential neighborhood. It would do irreparable harm to the oaks and other trees along the route. The benefit isn't even clear, because there is no data on the wait time after Milwaukee Rd. is restructured.

Thank you for listening. I do hope you're listening.



From:
 To:
 Subject: Re: Deerfield Road Corridor Input
 Date: Thursday, July 6, 2017 7:53:25 AM

Sorry, that email got away fro me before I could sign off. :) When I was copying and pasting the table, I accidentally hit send.

At any rate, I do hope the County will consider making the improvement at the Milwaukee Road intersection before doing anything else.

Thank you,

Hi everyone,

After our meeting last week, it seems to me that we should not be considering widening Deerfield Road at this juncture. There are two reasons I believe this to be true:

1. It seems very likely that the backups on Deerfield Road during the peak hours could be brought to at least a C Level of Service (LOS) with an improvement of the Milwaukee intersection, which is what we were told is an appropriate level for a roadway. Why would we tear up our community, endanger wildlife and ecosystems and decrease property values if this alternative could solve the issue of delays on Deerfield Road during peak hours? Just because there is federal funding for this project doesn't mean we need to spend it.
2. In the last several years, the volume of traffic has decreased on the three main east/west roads: Lake Cook, Half Day and Deerfield Roads. This is according to information provided by Burke Engineering and found on the website www.gettingaroundillinois.com. In fact, based on the site, I created this table:

Year	Count	Increase / (decrease)
Half Day Road (west of 294)		
2005	30700	
2007	29300	-5%
2009	23100	-21%
2011	30200	31%
2013	32200	7%
2015	20700	-36%

Lake Cook Rd (west of Portwine)		
2002	39300	
2006	48800	24%
2010	47500	-3%
2014	46700	-2%

Deerfield Rd (west of Portwine)		
2007	14400	
2011	19200	33%

2015 16300 -15%





June 28, 2017
Stakeholder Involvement Group
Meeting #2
Comment Form



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Please send comments by Wednesday July 12, 2017.

The project study group is specifically seeking input on the following:

- What are the issues and needs within the Deerfield Road corridor?
- Is there something unique about the Deerfield Road study area that you want to share?

1. The issue is, ^{afternoon} rush hour backup on westbound Deerfield Road at the intersection of Deerfield Road and Milwaukee Avenue. The problem is that intersection, not the two miles of Deerfield Road running from Milwaukee Ave. to Sanders Road through the heart of quiet, ecologically-sensitive Riverwoods. Fix the intersection problem first, ~~then~~ ^{and} see if the problem disappears.

There are two immediate potential fixes. The first, which can be accomplished at no cost and can be done immediately, is to lengthen the green "go" stoplights eastbound in an rush hour at Milwaukee & Deerfield, and westbound in pm rush hour at that intersection. The length of the current ^{green} stoplights is exceedingly short. Very few vehicles pass through the green lights each cycle! Lengthen the green lights to let 20+ vehicles pass.

(continued next page)

(Optional, Please Print)

Name /Aff

Address

City/State

Phone No.

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Page 2

The second fix is to create a right-turn-only lane westbound on Deerfield Road at Milwaukee Avenue going northbound. This could be restricted to pm rush hour traffic, if necessary. Again, the problem at issue is afternoon backup going westbound on Deerfield Rd. at Milwaukee, 1-1 1/2 hours, 5 days a week only. The problem is not the two miles of Deerfield Rd. through Riverwoods, and taxpayer resources should not be wasted on unnecessary and environmentally harmful infrastructure construction.

2. There are many studies that show widening/increasing capacity of roadways induces traffic demand and does not solve traffic blockage or traffic flow issues. See <http://plaza.perspective.com/road-widening/>; <https://bicycleuniverse.info/transpo/roadbuilding-futility.html>

(Optional, Please Print)

(continued next page)

Name /Aff

Address

City/State

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Page
3

3. Burke Engineering and LCDOT have not addressed the impact of new vehicle collision avoidance technology that will dramatically reduce traffic accidents. The NTSB thinks this new technology is so significant that it recommends collision avoidance systems become standard equipment on all new passenger and commercial vehicles. This technology will virtually end rear end collisions on Deerfield Rd. For studies, see <https://www.nts.gov/news/press-releases/Pages/PR20150608b.aspx>; <http://www.iihs.org/iihs/news/desktopnews/crashes-avoided-front-crash-prevention-slashes-police-reported-rear-end-crashes>

4. LCDOT was unaware of the Milwaukee Ave. intersection changes submitted by the Woodman's development.

(Optional, Please Print)

(Continued next page)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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June 28, 2017
Stakeholder Involvement Group
Meeting #2
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Page 4

4. continued:

It is inconceivable that the expert overseeing the Deerfield Rd. project was unaware of the major traffic changes that are proposed for the very intersection at issue here.

Further, the Deerfield Road Corridor project should cease its evaluation until new traffic patterns have had a chance to develop after the construction of Woodman's. Any evaluation conducted now may be irrelevant in two years. That would be an objectionable waste of taxpayers' money, in addition to being illogical.

(Optional, Please Print)


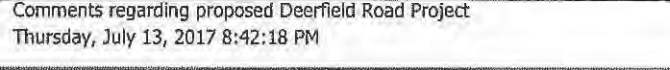
Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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From: 
To: 
Subject: Comments regarding proposed Deerfield Road Project
Date: Thursday, July 13, 2017 8:42:18 PM

To the Project Team,

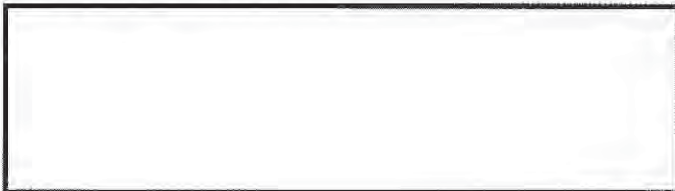
This is another perspective on the Deerfield Road project. During this week not one area of Deerfield Road had standing water. Vegetation was added to Peterson Road apparently for watershed purposes whereas Deerfield Road through Riverwoods has abundant vegetation. One wonders how curbs and underground pipes might affect water flow on Deerfield Road. Wednesday morning the Buffalo Grove side of Milwaukee Ave just north of Deerfield Road was under water. The Buffalo Grove Police were out with plastic cones diverting traffic. The east, Riverwoods side (with the ditch and I don't recall a curb) did not appear to have half as much standing water.

In addition, it seems to make more sense to try immediate strategies to improve what some believe is a traffic problem such as:

- Lengthen the green "go" stoplights on Deerfield Road at the Milwaukee Avenue intersection going eastbound during the morning rush hour and westbound during the evening rush hour. The length of the current green lights is extremely short, with only 5-10 vehicles passing through the light during each cycle. This is a fix that can be implemented immediately at little or no cost.
- Create a right-turn-only lane going westbound on Deerfield Road at the Milwaukee Avenue intersection. The new lane should be several hundred yards long to accommodate the many vehicles turning northbound onto Milwaukee Avenue.
- Lower the speed limit on Deerfield Road to discourage speeding and help prevent accidents (although new collision avoidance technology in vehicles should significantly decrease rear end collisions).

Lastly, common sense would lead to postponing the evaluation of the Deerfield Road project until after Woodman's proposed Milwaukee Avenue/Deerfield Road intersection changes have been implemented in order to study any new traffic patterns and needs.

I hope the project team takes these kinds of things into consideration prior to requesting and spending more county, state and federal taxpayer money.





Comments re: Deerfield Road Corridor Project after June 28, 2017
SIG Mtg. #2

My comments address what I believe to be the unique characteristics of the 2 mile length of road between Saunders/Riverwoods Rd. and Milwaukee Rd.

1. Much of this land is old growth, oak forest wetland, which is irreplaceable.
2. Alteration of the drainage system would effect flora and fauna of the area i.e. blue spotted salamanders require marshy habitat with minimal pollution.
3. Widening of the road means more impermeable pavement covering land, and causing increased flooding with polluted run off draining into the DesPlaines River.
4. A recently reported study by Harvard University and reported in the 7/2/17 Chicago Tribune found that higher air pollution caused by ozone particulates contained in auto exhaust causes increased early mortality among senior citizens and decreased lifespan for others.
5. Trees have been studied and proven to reduce air pollution.
6. There is a noticeable decrease in temperature when driving along this stretch of road, during warm weather.
7. Increased noise, especially from traffic, is being studied because it contributes to sleep difficulties and increased anxiety and irritability. Green space is finally being recognized as an important factor for promoting and maintaining good health, to the point that some practitioners will actually prescribe a daily amount of outdoor time.
8. Since canopy thinning by Lake County Forest Preserve, red headed woodpeckers and a pair of rarely sighted pileated woodpeckers have been observed in Ryerson Woods. These bird species require large areas of old growth oak forests, widening the road further fragments the habitat necessary for these birds, just as we are seeing a return to this area.
9. Habitat fragmentation and loss leads to increased wildlife/human encounters which are often not positive for wildlife or humans.
10. Increased light pollution is harmful for people, causing shorter, less restful sleep cycles and is also detrimental to wildlife.

11. Fragmentation of the village of Riverwoods for its residents has a harmful effect on village cohesion and sense of community and community identity. The philosophy of Riverwoods, if a village can be said to have a philosophy, has been for residents to exist in harmony with the environment, and to preserve , protect, and restore the natural environment. The village actually has a cost sharing program to help fund preservation and restoration of native habitat. Residents of Riverwoods realize what a privilege it is to live in this environment because we know when it's gone, it's gone forever. Preserving this unique environment is more important than the estimated economic growth of this corridor between now and 2040.

12. Based on an article in the business section of the 7/12/17 Chicago Tribune, a large percentage of today's jobs will disappear in the next few years due to automation and off shoring; therefore current economic projections in this corridor study may be less reliable .

Thank you for inviting my comments .





June 28, 2017
Stakeholder Involvement Group
Meeting #2
Comment Form



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Please send comments by Wednesday July 12, 2017.

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- Is there something unique about the Deerfield Road study area that you want to share?

Riverwoods is unique, Deerfield Road cuts through our village. Deer cross at night and feed cross during the day, a slower speed limit will benefit all, less accidents, less deer hit and will be safer for our children.

Preserve the uniqueness of our village and keep the old growth mature trees. We are a Tree City USA. It takes a long time to grow a tree. We don't cut them down and neither should you.

You need to remember we are not a pass through for suburbs west of us. We are a unique village that doesn't want to be cut in half.

Please leave us be in peace.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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To Whom It May Concern,
Please consider not widening Deerfield Road. It is a beautiful road now and any changes will change our village forever.

If you have to widen it, which we don't want, please only put in 3 lanes. The cars will drive too fast if we have more lanes, and lower the speed limit to 30 mph. because the automobiles already drive 55 mph now, which endangers my grandchildren and the beautiful wildlife.

My forest and native plants are very important. Please don't cut down the trees especially the old beauties/grandfather trees which are irreplaceable. Will you please plant new trees that you cut down as we are here in the village of Riverwoods.

(Optional, Please Print) Name /Affiliation also, the water from the storms has increased due to climate change. Please engineer a 30 storm system to plan for the future and manage the zip code area so it is truly an improvement if you must
Address make the road bigger
City/State zip code area
Phone No. make the road bigger

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Thank you!



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Chuck,

If you have to widen the Deerfield Road, do it so the residents benefit. Make it safe for the kids to cross. Bury the ugly power lines. Put in a multi use path. Don't do planted medians or brick medians but do let us drive over the medians.

3 lanes would be least intrusive, make the speed 25 mph.

Manage the water. We live in wetlands. Improve the storm drainage. Plan it for 2040 to hold 5 times the water that that it gets now. Storms are so much more intense. Plan for that.

Dig at the little creek and dig at the Des Plaines River so the water flows better.

Finally, no lights. Don't light it up!

Thanks for listening.

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Zip Code _____

Phone No. _____

E-Mail Address _____

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DEERFIELD ROAD IDEAS:
 KEEP RIVERWOODS UNIQUE,
 WE HAVE OLD GROWTH THAT ARE IRREPLACEABLE,
 DON'T CUT THEM DOWN,
 PUT IN A MULTI USE PATH.
 LOWER SPEED LIMIT
 EXPAND THE MILWAUKEE INTERSECTION +
 REEVALUATE TRAFFIC STUDIES.
 NOTE: DATA FROM CHAP IS WRONG. R
 - RIVERWOODS NOT DRAWING AT 19'1" - BS
 - TAKES 12 MINUTES FROM SAUNDERS TO MILWAUKEE
 FIND ANOTHER ROAD PROJECT
 LEAVE US ALONE.

(Optional, Please Print)

Name /Affiliation _____
 Address _____
 City/State _____ Zip Code _____
 Phone No. _____ E-Mail Address _____

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Leake County Appreciation

IF you build a Super-
highway thru our town of Riverwoods
How will we visit our friends on
the opposite side of the Village?

Don't change the Village!
Give us 3 lanes, no medians
and a signaled crosswalk
for us to cross Deerfield Road.

Keep the deer alive and
part of our everyday life. Slow
the cars down, Take a
small approach one step at a
time. Best,





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We moved to Riverwoods for the tranquility + beauty
+ wild life. We don't want a big newly expanded
road running through our village. No expansion
would be best.

If you must expand, 3 lanes only including a
middle turning lane, buried power lines, bike path
curbs + gutters w/ below ground storm drainage
will make the least impact on our beloved village.
We'd prefer you didn't expand the Deerfield Road.
Thank you!

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Zip Code _____

Phone No. _____

E-Mail Address _____

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Dear Lake County Rep,

We know you want to widen the road.
We'd like to stand in the way of what
you'd like to call progress. No expansion
is BEST!

You can fix the water issues and put
in storm and drains so we don't
flood. That would be great. Get
rid of the water as fast as possible.

You could work with the engineers
and improve the water flow down
Deerfield Rd.

You could expand the intersection
at Milwaukee and maybe even
build a bridge over Deerfield Rd
at Milwaukee Avenue. That would
back up traffic. But do the least
amount of damage to Riverwoods.

No expansion is BEST!



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No lights on the new Deerfield Road.

3 lanes only.

Drive over medians.

Manage water - curbs + gutters.

below ground storm drains

Buy power lines.

If possible, don't "improve" it at all!

leave it as it is. They can spend 10 minutes driving thru our town - what is the rush?!

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

I would like to receive e-mails regarding the Deerfield Road project

I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



June 28, 2017
Stakeholder Involvement Group
Meeting #2
Comment Form



The Lake County Division of Transportation (LCDOT) has initiated the Deerfield Road Phase I Preliminary Engineering and Environmental Study. The Deerfield Road study area is from Milwaukee Avenue on the west to Saunders/Riverwoods Road on the east, a distance of approximately 2 miles.

Your input is valuable and it is our commitment throughout this study to include stakeholders, such as yourself, in this process. The purpose of the first Public Information Meeting is to introduce the project to the public and identify the issues and needs for this section of Deerfield Road. The project study team is seeking your thoughts on this corridor. Please place your comment forms in the box marked COMMENTS; or fax to (847) 823-0520; or scan and email to deerfieldroadcorridorcomment@cbbel.com; or fold in thirds, tape closed, place a stamp and mail.

Please send comments by Wednesday July 12, 2017.

The project study group is specifically seeking input on the following:

- What are the issues and needs within the Deerfield Road corridor?
- Is there something unique about the Deerfield Road study area that you want to share?

Dear Lake County,
No expansion is needed on Deerfield Road,
Don't wreck our village!
You are going to change our village
forever!
You are depreciating our Village for
Buffalo Grove.
We don't want restrictions on where
we can cross the road!

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

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The main issues are:

1) We need to maintain the character of Riverwoods
We are a Tree City USA and have protected our
trees to preserve the character of the village

Please

If you must widen the Deerfield Road,
make it 3 lanes with drive thru
medians so the residents can go east
or west out of their driveways.
curbs + gutters and buried storm drainage
with 16 foot wide lanes would create
the smallest footprint + environmental
impact.

Don't forget about the safety of our kids
we need a signaled crosswalk for
the safety of our kids

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____

Zip Code _____

Phone No. _____

E-Mail Address _____

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Please send comments by Wednesday July 12, 2017.

The project study group is specifically seeking input on the following:

- What are the issues and needs within the Deerfield Road corridor?
- Is there something unique about the Deerfield Road study area that you want to share?

We attended the meeting and want Deerfield Road to have the following if you widen it:

- Bury Power Lines
- Medians you can drive thru
- curbs and gutters
- Below ground storm drains
- Don't cut down the bigger trees
- Create a way for kids to cross safely
- Multi-use path
- 3 Lanes

(Optional, Please Print)

Name /Affiliation _____

Address _____

City/State _____ Zip Code _____

Phone No. _____ E-Mail Address _____

- I would like to receive e-mails regarding the Deerfield Road project
- I would like to receive additional e-mails /correspondence from Lake County Division of Transportation



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Stakeholder Involvement Group

Meeting #3 Summary

January 25, 2018



Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

Executive Summary

The third Stakeholder Involvement Group (SIG) meeting was held on January 25, 2018 at Riverwoods Village Hall. The meeting focused on the range of alternatives development and evaluation for the east section of the project from the Des Plaines River to (and including) the Saunders/Riverwoods Road intersection. The alternative evaluation for process resulted in one alternative clearly distinguishing itself from the others, a *3-Lane Roadway Section with Curb & Gutter* (Alternative 3), and has been identified as the preliminary preferred alternative for the east section of the project that will be advanced for more detailed design and evaluation. As compared to the other alternatives that were developed and evaluated, Alternative 3 has:

- Best overall transportation improvement
- Smallest footprint (i.e; Proposed ROW)
- Comparable mobility (i.e. turning onto and off Deerfield Road)
- Greatest predicted crash reduction
- Lowest environmental and private property impacts
- One of the lowest cost alternatives

A total of 25 SIG members were invited, and 21 attended with 1 substitute. There were an additional 21 attendees from the public. A list of meeting attendees is provided within this meeting summary. The meeting kicked off with introductions and opening remarks from LCDOT, followed by a PowerPoint presentation and associated question and answer sessions for the first hour. The second hour was an open house to provide SIG members and the attending public the opportunity to review exhibits and discuss any additional questions with project team members. The presentation and discussion topics included:

1. Federal NEPA Process and Project Update Since SIG #2
2. Range of Alternatives Development Approach, and
3. Design and Evaluation Summary and Conclusion

The PowerPoint presentation is included as Attachment A. A more detailed summary of the discussion topics is provided within this meeting summary. Numerous project related materials were on-hand for SIG viewing and information. All SIG #3 material is posted on the project website (www.deerfieldroadcorridor.com). The key information displayed at the meeting included an Alternative Development Summary Exhibit, Range of Alternatives Typical Sections, and Range Alternative Comparative Evaluation, and are included in Attachment B. Several exhibits were displayed as additional back-up information which included the LCDOT 2040 Roadway and Bikeway Plans, Environmental Assessment summary board, Safety, and Environmental Resources boards. These exhibits are included on the project website. All comments received by February 5, 2018 are included in the SIG #3 summary as Attachment C.

Meeting Participants

Project Team Attendance

- Kevin Carrier, Lake County Division of Transportation
- Chuck Gleason, Lake County Division of Transportation
- Michael Matkovic, Christopher B. Burke Engineering, Ltd.
- Matthew Huffman, Christopher B. Burke Engineering, Ltd.
- Emily Anderson, Christopher B. Burke Engineering, Ltd.
- Leisa Niemotka, Images, Inc.



Stakeholder Involvement Group (SIG) Member Attendance

- Mike Clayton, Riverwoods Preservation Council
- Chief Bruce Dayno, Riverwoods Police Department
- Sandy DeLisle, Riverwoods Resident
- Robert Gardiner, Lake County Stormwater Management Commission
- Patrick Glenn, Village of Riverwoods Village Engineer
- Daniel Glenner, Brentwood Medical Center – Health and Home Management, Inc.
- Will Green, Timbers Homeowners Association
- Timothy Grzesiakowski, TMA – Lake Cook
- Henry Hollander, Village of Riverwoods Trustee
- Rick Jamerson, Vernon Woods Owners Association
- Barbara Little, Village of Deerfield Director of Public Works
- Andrew Lapin, Substitute for Brian Meltzer, Meadowwoods Homeowners Association
- Darren Monico, Village of Buffalo Grove Village Engineer
- Anders Raaum, Federal Life Insurance Company
- Kathryn Romanelli, Thorngate Homeowners Association
- Elliot Rossen, Active Transportation Alliance
- David Shimberg, Vernon Woods Owners Association
- Mortin Skidelski, AARP Driver Safety Program Instructor
- Sol Snyderman, Riverwoods Resident
- Albert Weiss, Timbers Homeowners Association; Forsythe Technologies, Inc.



Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

PowerPoint Presentation

A summary of the PowerPoint presentation and discussion are provided below.

An opening statement was made by Chuck Gleason from Lake County Division of Transportation (LCDOT) to kick off the meeting. Introductions (name and group/agency representing) were made by the project team members and the SIG members.

Project Update

Matt Huffman reviewed the meeting agenda, meeting objective, federal NEPA process update, project update since SIG #2, and the range of alternatives development approach.

The Deerfield Road corridor was broken into two sections, Section A is from Milwaukee Avenue to the Des Plaines River, and Section B is from the river to Saunders/ Riverwoods Road as development of Section A is lagging Section B. The main meeting

objective was to present the Range of Alternatives and Evaluation Results for Section B. A preliminary preferred alternative has been identified which is Alternative 3, a 3-Lane Roadway Section with Curb and Gutter.

The project is using the federal National Environmental Policy Act (NEPA) project development process, which is a process to involve State and Federal resource agencies in the project development process. FHWA organizes and leads the meetings, with other agencies attending, including: USEPA, USFWS, USACE, USDOA, IDNR, IEPA, and IDOT. At the September 2017 meeting, the Purpose and Need Statement updates were approved again and the range of alternatives was introduced. At the next coordination meeting in February 2018, an update on the range of alternatives evaluation results will be presented.





Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

Since the last SIG meeting (June 28, 2017), the wetland delineations were finalized with the Lake County Stormwater Management Commission (SMC) and the Army Corps of Engineers, potentially eligible historic properties were identified, and the boundary and level of protection for the Herrmann Wildflower Nature Preserve Buffer was confirmed. Coordination that has occurred since the last SIG meeting includes CMAP for year 2040 build traffic volume projections, Buffalo Grove and Woodman's Developer regarding their site development and their proposed improvements to the Milwaukee Avenue intersection, and the Illinois Nature Preserve Commission regarding the Herrmann Wildflower Nature Preserve Buffer.

Recent meetings include the NEPA/404 coordination meeting in September 2017 as previously discussed, two FHWA and IDOT coordination meetings who oversee the project development, and separate project status meetings with the Village of Riverwoods and the Riverwoods Preservation Council to discuss comments and questions. Additional individualized and small stakeholder meetings are anticipated for the west part of the project from Milwaukee Avenue to the river in the coming months.

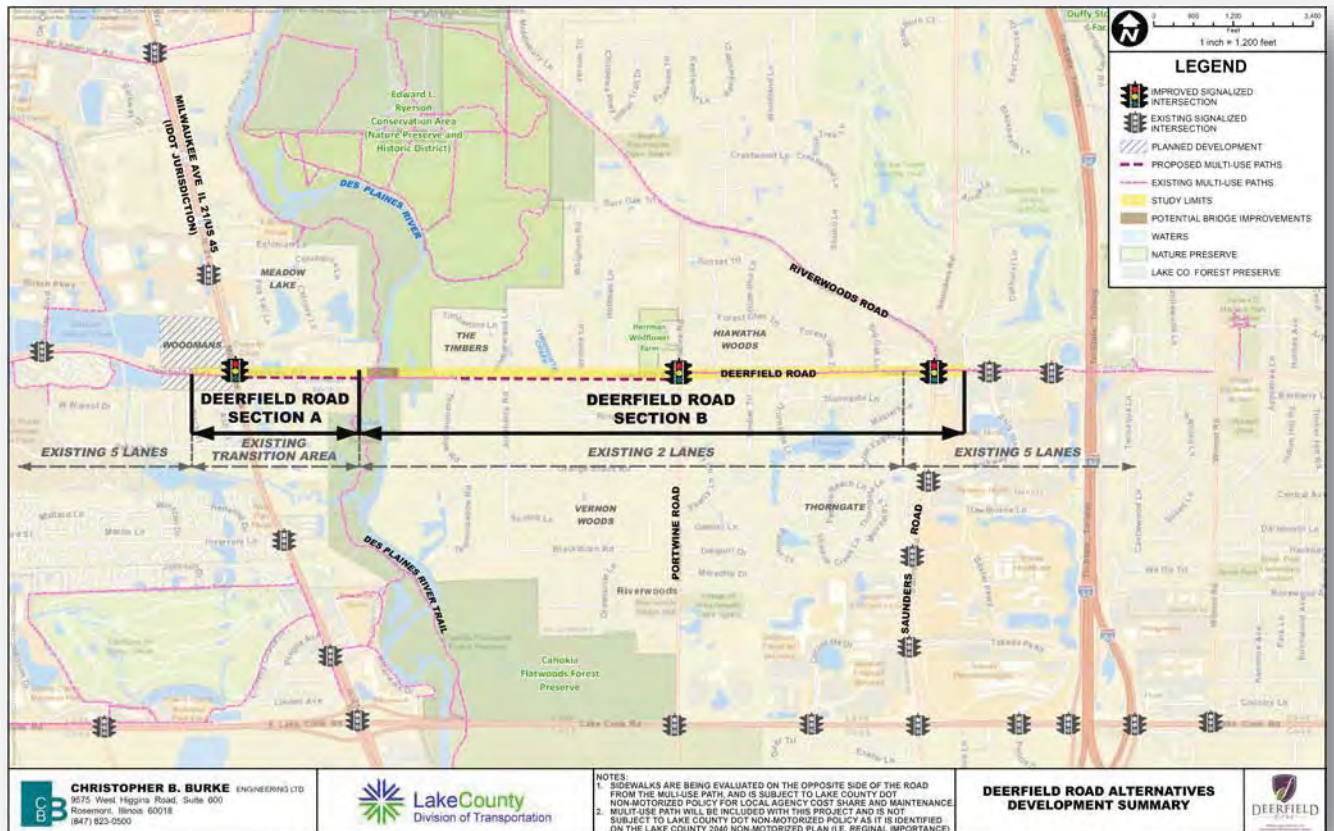
Range of Alternatives

The development approach to the Deerfield Road differed between the more commercial west portion of the corridor (Section A) and the more residential east portion of the corridor (Section B) as the needs for these sections are different. Section A from Milwaukee Avenue to the river is predominately commercial with higher volume access points which Section B from the river to Saunders/Riverwoods Road is residential with numerous smaller volume side streets.

Matt Huffman of CBBEL provided an update on the Milwaukee Avenue intersection and Section A development and evaluation progress. The design of Deerfield Road Section A, from Milwaukee Avenue to the River, is predominantly driven by what is done at the Milwaukee Avenue intersection. The Milwaukee Avenue Intersection and Deerfield Road Section A, are several months behind in identifying the Preliminary Preferred Alternative due a more elaborative design and coordination with IDOT. All alternatives assume the improvements Woodman's is making to the intersection, which are a second left turn lane on Milwaukee, and a second eastbound through lane on Deerfield Road. Eleven (11) intersection alternatives were evaluated including the Woodman's improvement as existing condition. IDOT coordination and review is ongoing and we anticipate a preliminary preferred alternative to be identified this spring.

The project team previously reached out to the Village and some of the adjacent property owners to inform them we didn't have any conclusions to share this evening for Section A, and will be reaching out to them further over the next several months to discuss improvements to Milwaukee Avenue and Deerfield Road Section A.

Stakeholder Involvement Group Meeting #3 Summary January 25, 2018



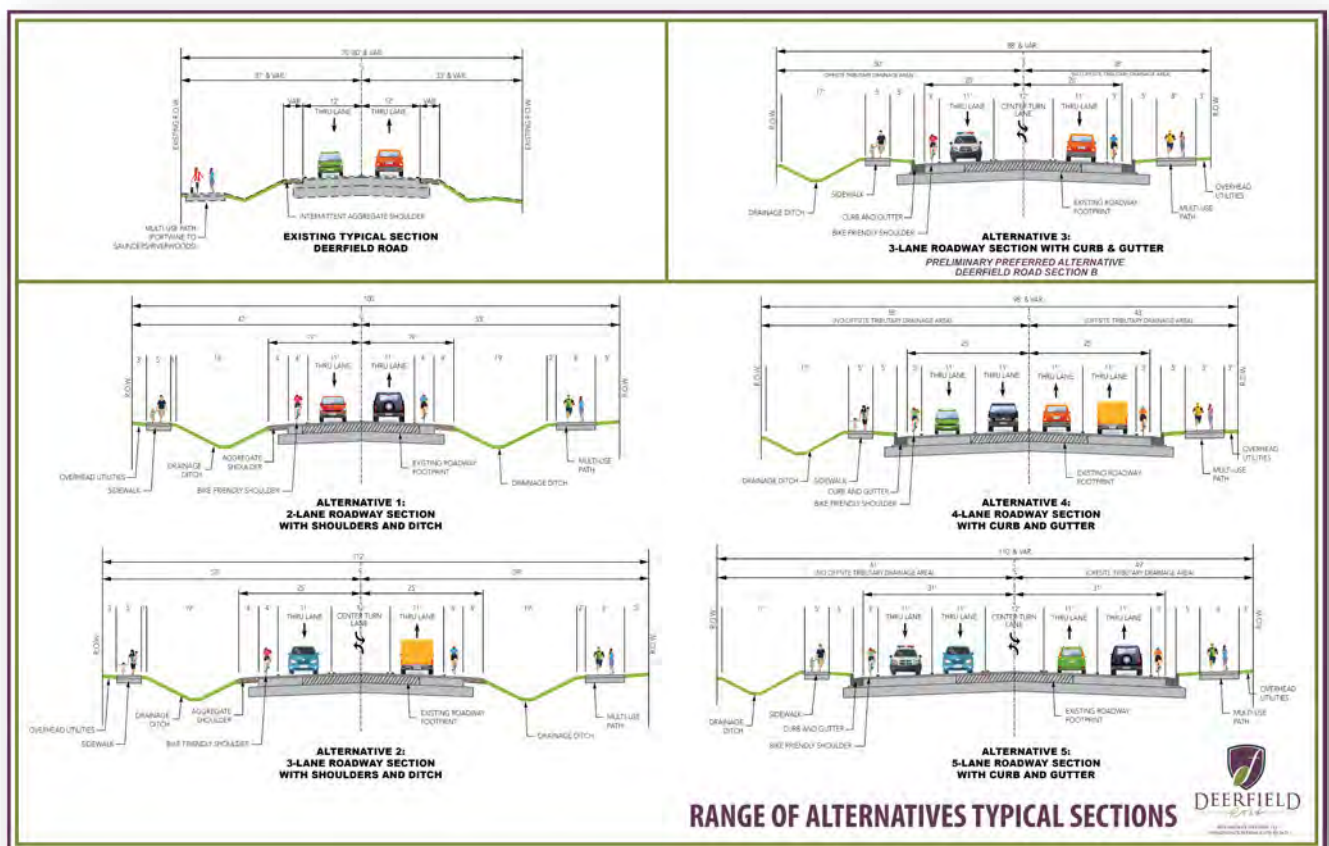
Emily Anderson of CBBEL described the Section B range of alternatives development and evaluation. Five (5) roadway section alternatives were evaluated, and Alternative 3, a 3-lane with curb and gutter, surfaced as the preliminary preferred alternative based on the evaluation table results. The main focus of this portion of the presentation is to discuss the key takeaways from the evaluation and how Alternative 3 arose as the clear preliminary preferred alternative.

At the east project termini, the Saunders/Riverwoods Road intersection is already fully built out with 2 through lanes in each direction, so minimal improvements are anticipated at the intersection. The range of alternatives include adding a northbound right turn lane up to adding dual left turn lanes at the northbound, southbound, and westbound approaches. Selection is anticipated this spring.

The range of alternatives evaluated was shown and was also provided as one of the handouts. The existing roadway section is shown at the top left for comparison purposes and how the existing roadway fits within the 70-80 foot existing ROW. All alternatives with 11-foot travel lanes and a bike-friendly shoulder. All

Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

alternatives have a multi-use path on one side and opposing sidewalk. While the multi-use path is going in with this project, the sidewalk is being evaluated and will require a local agency sponsor in order for it to be included in this project. A 12-foot center turn lane is proposed for alternatives which have one. Alternative 1 is a 2-Lane with shoulder and ditch, resulting in about a 100-foot proposed ROW. Alternative 2 is a 3-Lane with shoulder and ditch, resulting in about a 110-foot proposed ROW. Alternative 3 is a 3-Lane with curb and gutter, resulting in about a 90-foot proposed ROW. Alternative 4 is a 4-Lane with curb and gutter, resulting in about a 100-foot proposed ROW. Alternative 5 is a 5-Lane with curb and gutter, resulting in about a 110-foot proposed ROW. Generally, offsite water flowing from NE to SW, so a drainage ditch is conservatively still shown on the north side of the 3 curb and gutter sections to capture offsite flow.



The Riverwoods Preservation Commission asked if a 2-lane with curb and gutter was possible. It was looked at, however 8-foot shoulders are required for 2-Lane arterials to accommodate emergency vehicles. Therefore, a 2-lane with curb and gutter would only save 1 foot on each side from a 3-lane with curb and gutter, and a



Stakeholder Involvement Group Meeting #3 Summary

January 25, 2018

center turn lane is a more effective use of the pavement area as it improves safety, mobility, and operations. While the 2-lane with curb and gutter was dismissed prior to evaluation, the 2-lane with shoulder and ditch was evaluated as Alternative 1.

The range of alternatives comparative evaluation table was previously discussed at the last meeting, and is now filled out and provided as one of the meeting handouts. Across the top are the scenarios studied for the comparative evaluation starting with existing conditions, then existing conditions incorporating the Woodman's development traffic volumes and intersection improvements. The gray band separates existing conditions from the 2040 traffic projections. First, the 2040 No-Build scenario incorporating the Woodman's traffic volumes and intersection improvements, then the 5 alternatives discussed. Down the rows are the evaluation criteria studied including transportation performance, mobility, non-motorized accommodations, safety, environmental resources, socio-economics, and a concept level cost estimate.

Evaluation Criteria	Unit of Measure	Existing 2018	Existing 2018 Incorporating Woodman's Development	Range of Alternatives <small>(All Assume the Same Improvements of Milwaukee Avenue and Saunders/Riverwoods Road Intersections)¹</small>																
				No-Build 2040 Incorporating Woodman's Development					Alternative 1 <small>2 Lanes (Shoulder and Ditch)</small>			Alternative 2 <small>3 Lanes (Curb)</small>			Alternative 3 <small>4 Lanes (Curb)</small>			Alternative 4 <small>3 Lanes (Curb)</small>		
				20,000	30,000	30,600	30,600	32,600	32,900	I	T	I	S	T	I	S	T	I	S	T
Transportation Performance (Synchro Modeling)																				
Deerfield Road Average Daily Traffic (ADT)		19,450	19,450	20,200	30,200	30,600	30,600	30,600	32,600	32,900										
Intersection Level of Service (LOS) and Average Delay²																				
Deerfield Road at Milwaukee Avenue Intersection	LOS (per/veh)	E (68.8)	F (128.0)	D (43.6)	F (122.9)	F (66.7)	F (221.6)	D (42.8)	F (94.8)	D (42.8)	F (92.0)	D (42.8)	F (92.0)	D (46.3)	F (110.8)	D (46.4)	F (108.7)			
Deerfield Road at Portway Road Intersection	LOS (per/veh)	B (17.5)	C (21.7)	C (21.0)	C (25.2)	C (25.7)	D (37.1)	C (24.5)	D (38.8)	C (25.0)	D (45.0)	D (45.0)	A (9.6)	B (13.9)	B (10.3)	B (15.9)				
Deerfield Road at Saunders/Riverwoods Road	LOS (per/veh)	C (25.2)	C (31.3)	C (28.9)	C (32.7)	C (29.9)	D (37.5)	C (29.3)	C (33.1)	C (29.2)	C (33.9)	C (29.2)	C (33.9)	C (32.4)	D (36.4)	C (33.1)	D (36.1)			
Total Travel Time	minutes																			
Deerfield Road Eastbound (Milwaukee Avenue to Saunders/Riverwoods Road)	minutes	22.9	4.5	5.9	6.0	6.5	6.8	7.1	7.4	6.5	6.7	6.5	6.7	5.9	6.5	5.9	6.6			
Deerfield Road Westbound (Saunders/Riverwoods Road to Milwaukee Avenue)	minutes	5.6	38.0	5.4	27.5	6.6	35.6	5.2	10.7	4.8	11.7	4.8	11.7	4.5	14.9	4.5	15.8			
Mobility (Synchro Modeling)																				
Roadway Section Average Vehicular Gap Acceptance																				
Gaps Per Hour at Stop Controlled Intersections/Driveways (Reference location Timberwood Ln/Sunberry Rd)	# gaps (≥ 8 seconds) per hour	65	0	68	1	32	0	60	35	35	31	53	31	78	31	74	38			
Non-Motorized Accommodations																				
Non-Motorized Accommodations	ICAP%						++++		++++		++++		++++		++++		++++			
Safety (Illum Highway Safety Design Manual)																				
Average Predicted Crashes - Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road)	% Increase (Yearly Total/Year)					4.8%		-4.8%		-51.4%		-51.4%		-38.2%		-48.6%				
Environmental Resources																				
Added Net Pavement/Impervious Area	sq ft						5,88		7,23		6,92		9,24		10,51					
Floodplain Impact	sq ft						11,77		11,80		11,77		11,84		11,90					
Floodway Impact	sq ft						1,46		1,46		1,46		1,49		1,49					
Wetlands Impact	sq ft						0,57		0,60		0,52		0,54		0,56					
High Quality Wetlands Impact	sq ft						0,09		0,09		0,09		0,09		0,09					
Tree Impact	sq ft						9,00		9,68		7,49		8,45		9,65					
Natural Area Impacts	sq ft						0,0		0,0		0,0		0,0		0,0					
Nature Preserve Impacts	sq ft						0,0		0,0		0,0		0,0		0,0					
Forest Preserve District Impacts	sq ft						0,0		0,0		0,0		0,0		0,0					
Socio-Economic Impacts																				
Community Context & Character	sq ft						++++		+++		+++		++		+					
Residential/Commercial Structure Impacts	sq ft						0		0		0		0		0					
Residential Right-of-Way Acquisition	sq ft						3,87		4,36		2,60		3,62		4,87					
Commercial Right-of-Way Acquisition	sq ft						0,45		0,45		0,45		0,45		0,45					
Parcels Impacted	sq ft						72		80		55		65		75					
Cost	Dollars						\$25-26M		\$25-28M		\$25-28M		\$32-35M		\$35-38M					
Preliminary Estimate of Construction Cost³																				



Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

The existing and 2040 no-build traffic projections were presented at the last SIG meeting, and the build scenarios were presented at SIG #3. The 3-Lane ADT is 20,600 vpd, the 4-lane ADT is 22,600 vpd, and the 5-lane ADT is 22,900, so about a 10% increase with added capacity. The take away is that the ADTs are close and will not affect the intersection design between alternatives.

(Reference location east of Portwine Road)	
Deerfield Road	Average Daily Traffic (Vehicles Per Day)
Existing	19,450
No-Build 2040 / 2-Lane Build	20,200
3-Lane Build	20,600
4-Lane Build	22,600
5-Lane Build	22,900

As previously presented, based on IDOT criteria for traffic volumes, additional through lanes are required. However, using this evaluation table as justification, we were able to get concept approval from IDOT and FHWA for the 3-lane alternative. We still need to discuss the preliminary preferred alternative at the upcoming NEPA/404 coordination meeting in February.

Transportation Performance

The area under the brown band on the evaluation table describes the transportation performance derived from the Synchro traffic modeling. It was asked at the previous meeting whether Woodman's improvements would address the existing traffic issues. They are adding the 2nd eastbound thru lane, and the AM total travel time through the corridor improves from 23 minutes to 6 minutes. However, no improvements are proposed on the east leg of the intersection, and therefore westbound total travel time remains unaddressed. For this project, the modeling assumed the minimum base improvement at termini intersections, so performance would only get better with additional intersection improvements. There is a significant improvement to the PM westbound total travel time for all alternatives. For the preliminary preferred alternative, the PM westbound total travel time improves from almost 36 minutes to a little under 12 minutes. There is not a discernible transportation benefit to Alternative 4 and 5 over Alternative 3, however these alternatives cost about 30%-50% more, respectively.

Mobility

The area under the purple band describes the transportation performance derived from the Synchro traffic modeling. We looked at the ability to access Deerfield Road from side streets and access the side streets from Deerfield Road. Mobility was measured as 8 second gaps for side street vehicles turning onto Deerfield Road. All alternatives also have improved mobility over the 2040 No-Build. Based on the Synchro traffic model, side street access for the 2040 No-Build PM peak hour is zero acceptable gaps per



Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

hour. This improves to over 30 gaps per hour for all alternatives. AM peak hour gaps per hour remains consistent.

Safety

The area under the pink band shows the safety analysis associated with each alternative. Safety was analyzed using the Illinois Highway Safety Design Manual. The No-Build and 2-lane have a 5% increase in predicted injury crashes/year over existing conditions. The 3-, 4-, and 5-lane show a significant reduction in the predicted injury crashes/year with the 3-lane having the greatest reduction in injury crashes/year over 50%. These alternatives better meet Purpose and Need objectives to improve safety.

Another key point against Alternative 1 is the large number of access points from the Des Plaines River to Saunders/Riverwoods Road. Based on IDOT guidance, a center turn lane is warranted based on the number of access points per mile in order to reduce left turning vehicles conflict with through traffic, causing delay. Finally, the Alternative 1 footprint is larger than the Alternative 3 footprint (100 feet vs 90 feet) which leads directly to an increase in environmental and socio-economic impacts.

Environmental Resources and Socio-Economic Impacts

The area under the green band shows the environmental resources impacts and the area under the gray band shows the socio-economic impacts. The Alternative 3 footprint is approximately 90 feet wide versus the Alternative 2 footprint is approximately 110 feet wide. The 20 additional feet results in about 75% greater private property impacts. While Alternative 2 may provide more community context and character based on stakeholder feedback desiring a more rural feel, this alternative was dismissed as a result of the additional impacts to environmental resources and private property.

The Alternative 4 footprint is about 100 feet and the Alternative 5 footprint is about 110 feet as compared to the Alternative 3 90-foot footprint. As previously described, the wider footprint directly correlates to higher environmental and property impacts. Generally, Alternative 1 and Alternative 4 have similar footprints and impacts, and Alternative 2 and Alternative 5 have similar footprints and impacts. The main exception to similar impacts is that Alternative 4 and 5 have the greatest amount of added pavement area which will result in higher detention requirements, which may be in ponds or pipes. Open space to provide any mitigation is very limited in this corridor.

Evaluation Conclusions

In conclusion, Alternative 3, 3-Lane with Curb & Gutter chosen because it provides:

- Best overall transportation performance improvement
- Good mobility improvement
- Greatest safety improvement

Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

- Smallest roadway footprint
- Lowest environmental and socio-economic impacts
- Lower cost alternative

Next Steps

Section A is under IDOT review, and we will proceed forward with detailed development of the preliminary preferred alternative for Section B. The detailed design of the preferred alternative will be shown at the next SIG Meeting #4 which will function as a preview to a public meeting anticipated this summer. Ultimately, once we have received all approvals, we plan on presenting the Environmental Assessment and Engineering Reports at a SIG Meeting #5 preview and Public Hearing in late 2018 or early 2019.

Following the presentation, questions were answered for SIG members and an open house was provided for the SIG and attending public to view the range of alternatives evaluation results, preliminary preferred alternative, and ask any additional questions.

Open House

All SIG members received a comment form they could fill out and return to the comment box that evening or send into the project team via mail or email. All comments received by the February 5, 2018 deadline are included in Attachment C. Two sets of exhibits were provided in the council chamber and one set of exhibits was provided in the lobby. The project team was available for any additional questions or discussion.





Stakeholder Involvement Group Meeting #3 Summary January 25, 2018

General Comments/Input Received

Eight (8) written comments were received by the end of the comment period. Some themes discussed at the open house and in comments included:

- General support for the preliminary preferred alternative (Alternative 3: 3-lane with curb and gutter)
- Support for an improvement at the Milwaukee Avenue intersection
- Desire to advance the westbound to northbound right turn lane at the Milwaukee Avenue intersection to alleviate westbound travel delay
- Interest in how the preliminary preferred alternative will be aligned horizontally and vertically to minimize adjacent property impacts
- Concern about raising the roadway and its impacts to the Des Plaines River overflow through the Meadowlake Subdivision
- Concern about water quality and interest in cleaning method
- Support for non-motorized accommodations with both a multi-use side path and on-road bike friendly shoulder
- Interest in tree impacts and landscape restoration



DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

ATTACHMENT A

1

Welcome!

Deerfield Road Phase I

Engineering and Environmental Study

Stakeholder Involvement Group Meeting #3

January 25th, 2018

www.deerfieldroadcorridor.com



LakeCounty
Division of Transportation

- ❖ **Introductions**
- ❖ **Meeting Objective**
- ❖ **Federal NEPA Process Update**
- ❖ **Project Update Since SIG #2**
 - Environmental Resources
 - Agency/Stakeholder Coordination
- ❖ **Range of Alternatives**
 - Development Approach
 - Design & Evaluation Update - *Milwaukee Avenue Intersection & Deerfield Road Section A*
 - Design & Evaluation Summary - *Saunders/Riverwoods Intersection & Deerfield Road Section B*
 - Evaluation Conclusion – *Deerfield Road Section B*
- ❖ **Next Steps**
- ❖ **Open House**





DEERFIELD
Road

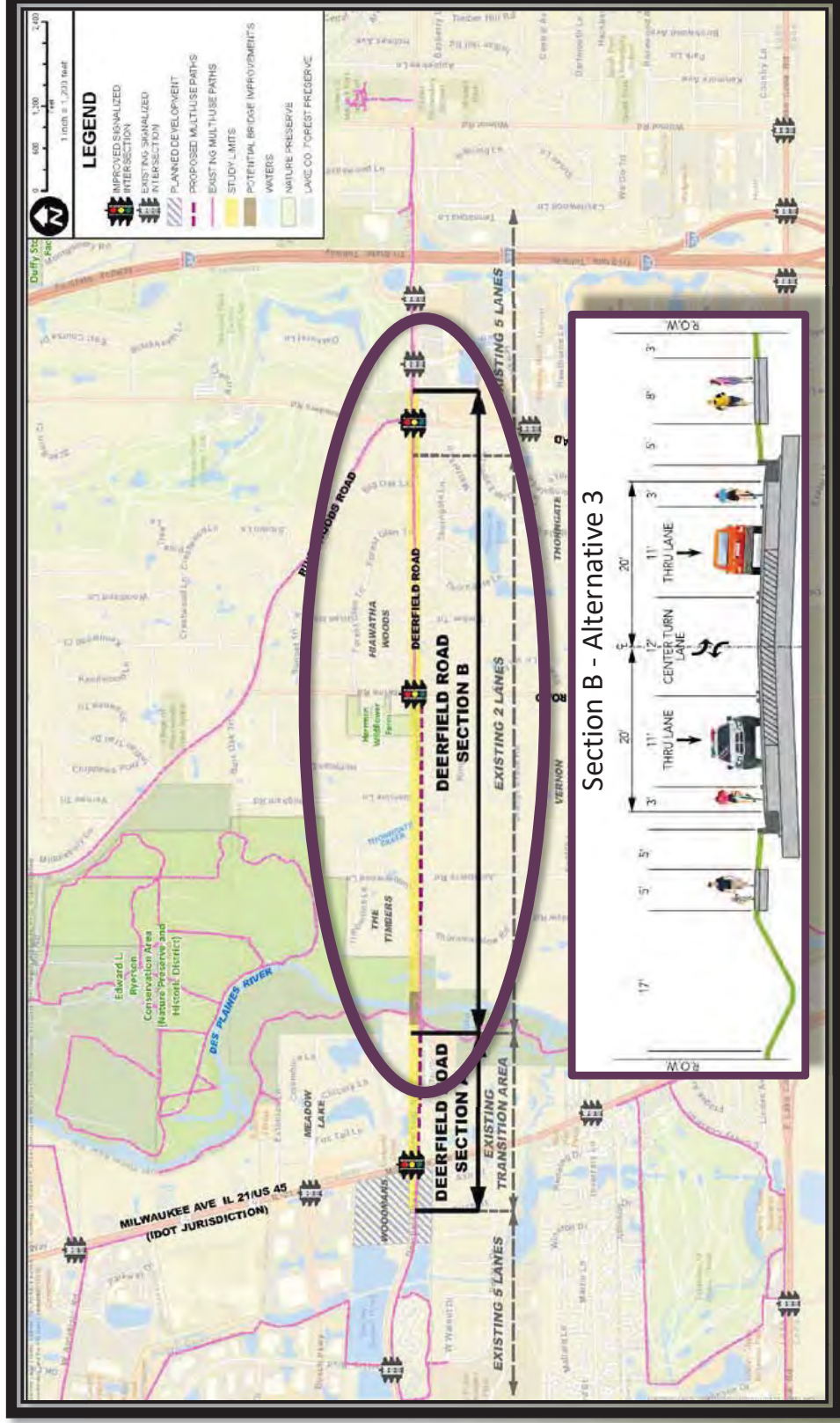
MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

MEETING OBJECTIVE

ATTACHMENT A

Present the Range of Alternatives and Evaluation Results for Section B:

Preliminary Preferred Alternative Identified - *Alternative 3, 3-Lane with Curb & Gutter*



Where we are in the NEPA Process:



- ❖ Currently nearing the end of Step 3
- ❖ September 2017 NEPA/404 Coordination Meeting – Approval of Step 2 and Introduction of Step 3
 - No further Purpose and Need changes are being evaluated
- ❖ In Step 3, a full range of alternatives were developed for the Deerfield Road sections and termini intersections
- ❖ The range of alternatives were all evaluated for potential environmental, social, and economic impacts, with hierarchal consideration of avoid, minimize, and mitigate impacts
- ❖ Attending February 2018 NEPA/404 Coordination Meeting to provide an update on Step 3 - Range of alternatives and evaluation, that Alternative 3 surfaced from our range of alternative evaluation as the preliminary preferred alternatives





DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

PROJECT UPDATE



Project Update Since SIG #2

Environmental

- ❖ Wetland delineations finalized (purple)
- ❖ Cultural/historic properties identified
- ❖ Herrmann Wildflower Nature Preserve Buffer Boundary Confirmation (Northwest corner Portwine Rd Intersection)



Project Update Since SIG #2

Agency/Stakeholder Coordination

Coordination

- ❖ Chicago Metropolitan Agency for Planning (CMAP) – Traffic Projections
- ❖ Buffalo Grove / Woodmans Development - Milwaukee Avenue Intersection Improvements
- ❖ Illinois Nature Preserve Commission (INPC) – Herrmann Wildflower Nature Preserve Buffer

Meetings

- ❖ NEPA/404 Coordination Meeting – September 20, 2017
- ❖ Federal Highway Administration/IDOT Meeting – October 17, 2017
- ❖ IDOT Meeting – November 17, 2017
- ❖ Village of Riverwoods – December 19, 2017
- ❖ IDOT Meeting – January 4, 2018
- ❖ Federal Highway Administration/IDOT Meeting – January 9, 2018
- ❖ Riverwoods Preservation Council – January 16, 2018



DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

RANGE OF ALTERNATIVES





DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

ATTACHMENT A

Range of Alternatives Development Approach

Deerfield Road Corridor (Section A & Section B) & Termini Intersections



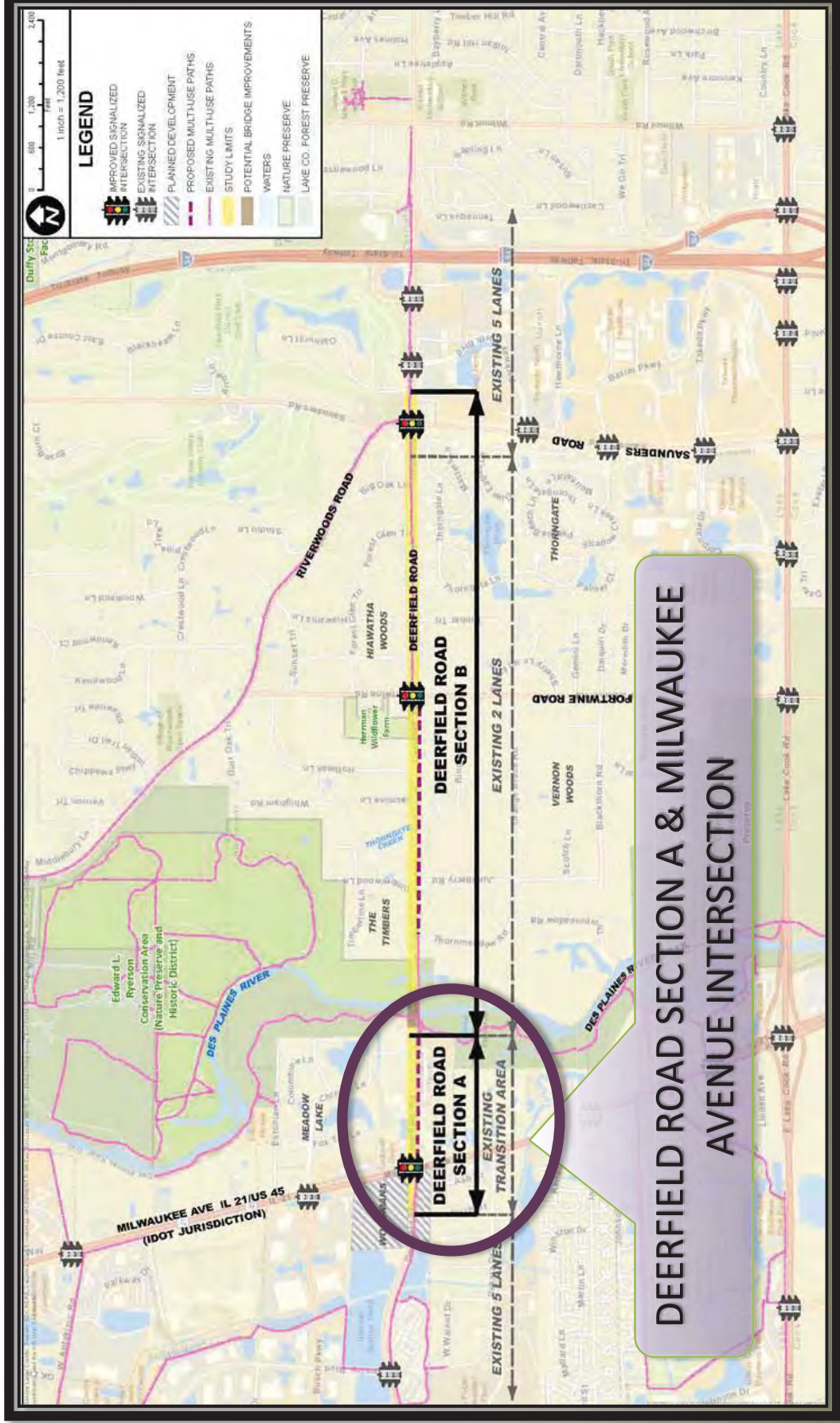


DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

Range of Alternatives Design & Evaluation Update

Deerfield Road Section A & Milwaukee Avenue Intersection

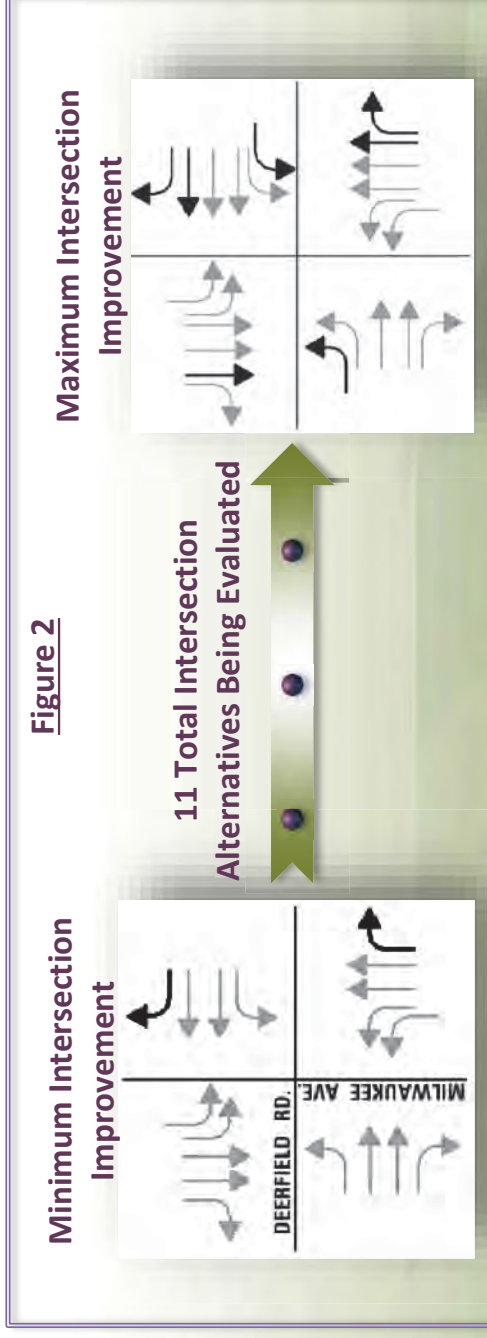
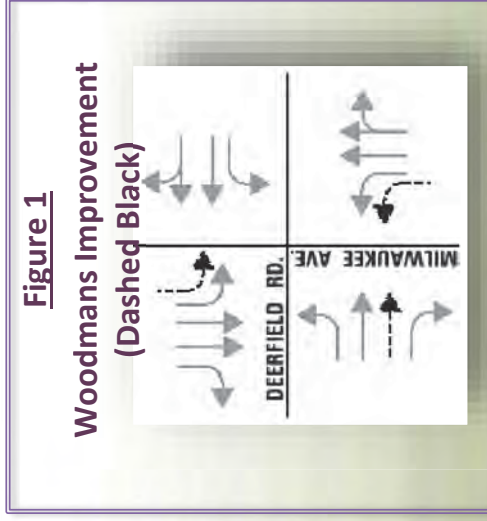


Lake County
Division of Transportation

Range of Alternatives Design & Evaluation Update

Deerfield Road Section A & Milwaukee Avenue Intersection

- ❖ Deerfield Road Section A driven by Milwaukee Avenue Intersection Design
- ❖ Full Range of Milwaukee Avenue Intersection Alternatives Being Evaluated
 - All Alternatives Assume Woodman's Intersection Improvements In Place (Figure 1)
 - 11 Total Milwaukee Avenue Intersection Alternatives Being Evaluated (Figure 2)
 - IDOT Coordination & Review Ongoing
 - Section A & Milwaukee Avenue Preliminary Preferred Alternative Selection Anticipated In Spring 2018



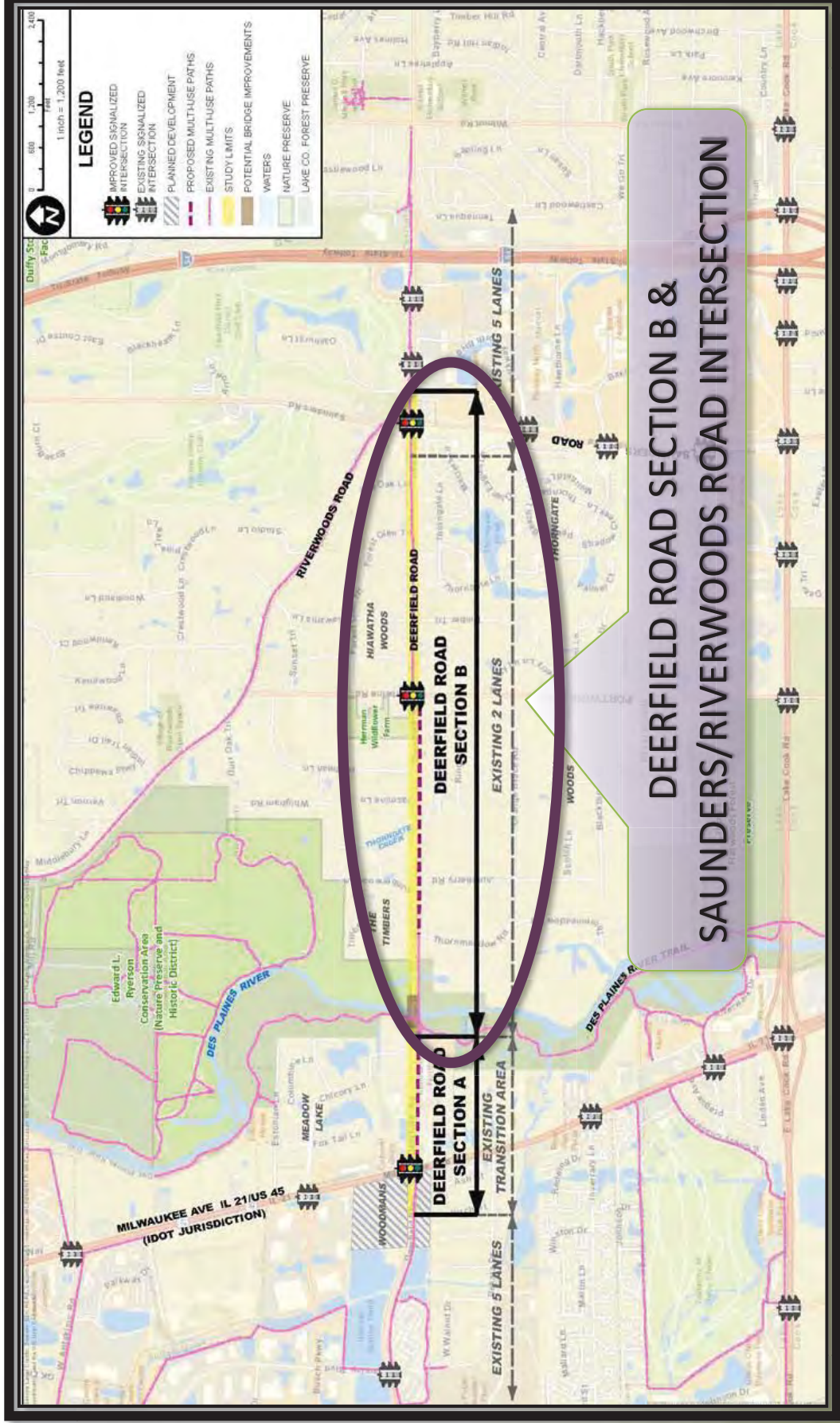


DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

Range of Alternatives Design & Evaluation

Deerfield Road Section B & Saunders/Riverwoods Road Intersection



DEERFIELD ROAD SECTION B & SAUNDERS/RIVERWOODS ROAD INTERSECTION

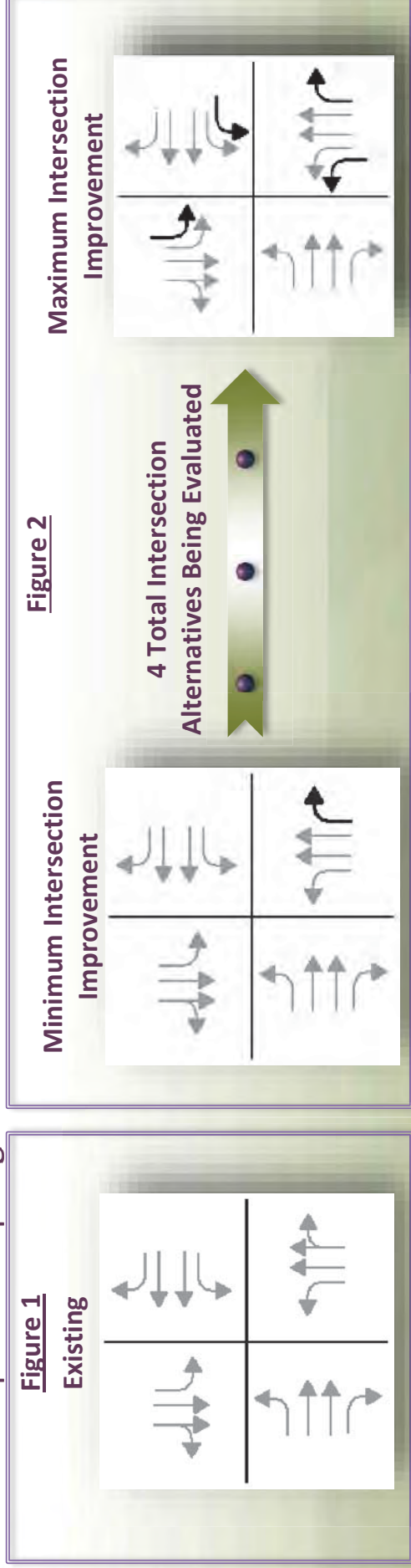


Lake County
Division of Transportation

Range of Alternatives Design Summary

Deerfield Road Section B & Saunders/Riverwoods Road Intersection

- ❖ Deerfield Road Section B – 5 Total Alternatives Evaluated
 - Alternative 3 Surfaced As Preliminary Preferred Alternative (3-Lane with Curb & Gutter)
- ❖ Saunders/Riverwoods Road Alternatives
 - All Legs Currently Have Minimum 5-lane Cross Section (Figure 1)
 - 4 Total Intersection Alternatives Evaluated (Figure 2)
 - Lake County Division of Transportation Review Ongoing
 - Saunders/Riverwoods Road Intersection Preliminary Preferred Alternative selection anticipated in Spring 2018



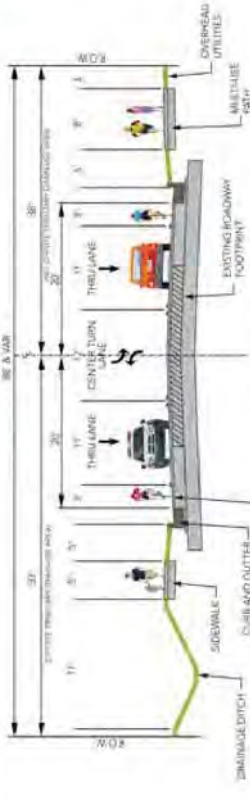
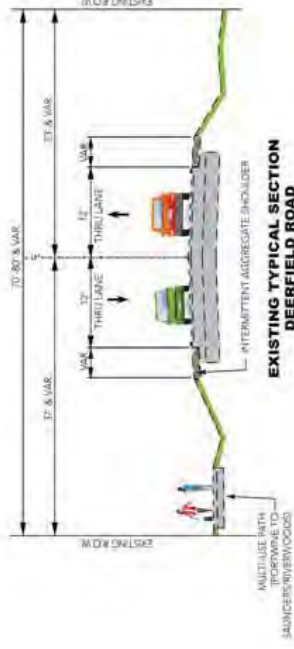


DEERFIELD
Road

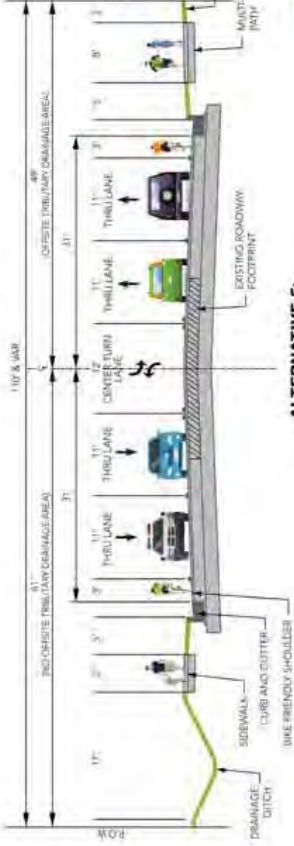
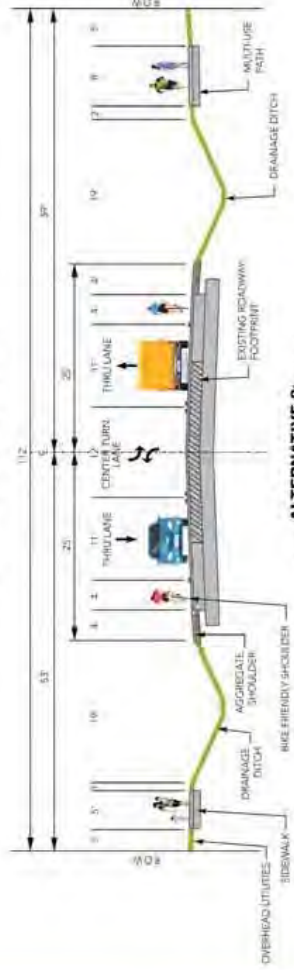
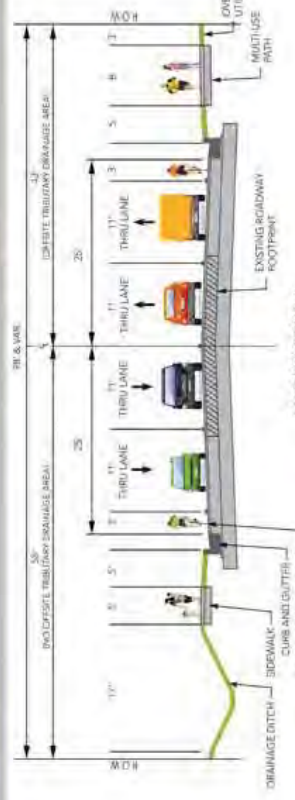
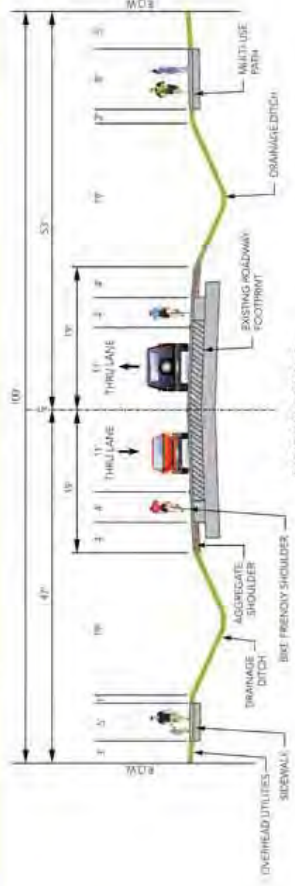
Deerfield Road Section B Range of Alternatives

Range of Alternatives

Design Summary



Preliminary Preferred Alternative



RANGE OF ALTERNATIVES TYPICAL SECTIONS



DEERFIELD
Road

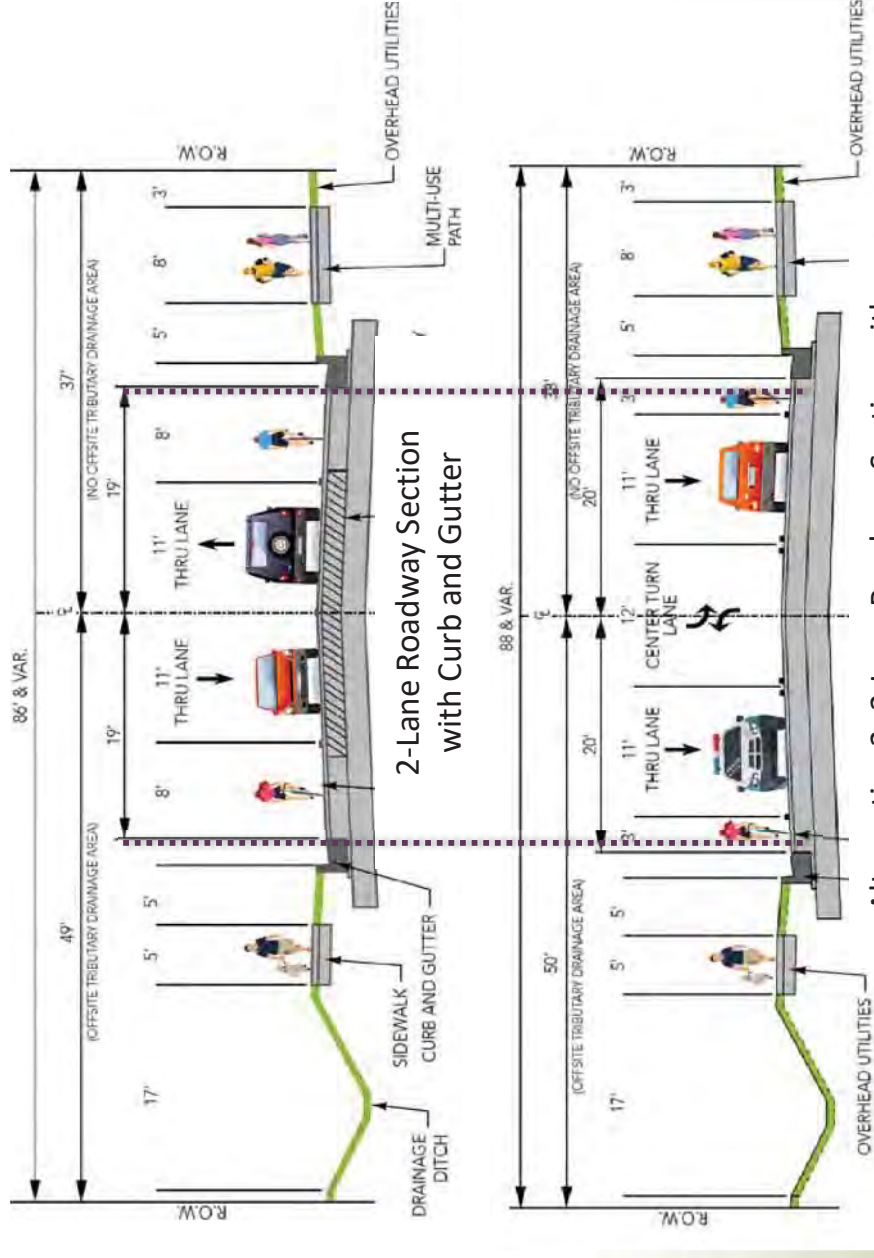


Range of Alternatives

Design Summary

2-Lane Roadway Section with Curb & Gutter Consideration

- ❖ *Dismissed* Prior to Alternative Comparative Evaluation:
 - 8-foot Shoulder Required
 - 2-feet Less Pavement Area (38' vs. 40')
 - Opportunity for shoulders to be illegally used for passing
 - Providing center turn improves safety, mobility and traffic operations
 - Shoulders less effective use of pavement area





DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

16 Range of Alternatives Evaluation Summary

Evaluation Criteria	Units of Measure	Existing 2016	Existing 2016 Incorporating Transportation Development	No-Build 2016 Incorporating Transportation Development	Range of Alternatives (All Assume the Same Improvements at Milwaukee Avenue and Saunders/Riverwoods Road Intersections) ¹					
					Alternative 1 2 Lanes (Shoulder and 2nd)	Alternative 2 3 Lanes (Shoulder and 2nd)	Alternative 3 3 Lanes (Curb)	Alternative 4 4 Lanes (Curb)	Alternative 5 5 Lanes (Curb)	
Transportation Performer (Synchro Modeling)										
Deerfield Road Average Daily Traffic (ADT)		19,450	19,450	20,200	20,200	20,600	20,600	22,600	22,900	
Intersection Level of Service (LOS) and Average Delay ²										
Deer-Hill Road at Milwaukee Avenue Intersection	LOS (sec/veh)	E (68.8)	F (128.0)	D (43.6)	F (122.9)	D (42.8)	F (92.0)	D (46.3)	F (108.8)	D (46.4)
Deerfield Road at Pezomine Road Intersection	LOS (sec/veh)	B (17.5)	C (21.7)	C (21.0)	C (29.2)	D (25.0)	D (45.0)	A (9.6)	B (13.9)	B (15.9)
Deerfield Road at Saunders/Riverwoods Road	LOS (sec/veh)	C (25.2)	C (31.3)	C (28.9)	C (32.7)	C (29.3)	C (33.9)	C (32.4)	C (33.1)	D (36.1)
Total Travel Time	minutes	22.9	4.5	5.9	6.0	6.5	6.7	5.9	6.5	5.9
Deerfield Road Eastbound (Milwaukee Avenue to Saunders/Riverwoods Road)	minutes	5.6	38.0	5.4	27.5	4.8	11.7	4.5	14.9	4.5
Deerfield Road Westbound (Saunders/Riverwoods Road to Milwaukee Avenue)	minutes									
Mobility Synchro Modeling										
Roadway Section Average Vehicular Gap Acceptance										
Gaps Per Hour at Stop Controlled Intersections/Driveways Reference location Timberwood Ln (Juneberry Rd)	# gaps (+/- seconds) per hour	65	0	66	3	53	31	73	31	74
Non-Motorized Accommodations										
Safety (Illinois Highway Safety Design Manual)	% increase injury crashes/year			4.8%		4.8%		-51.4%		-48.6%
Environmental Resources										
Added Net Pavement/Impervious Area	acres					5.88	7.23	6.92	9.24	10.51
Floodplain Impact	acres					11.77	11.80	11.77	11.84	11.90
Wetlands Impact	acres					1.46	1.46	1.46	1.49	1.49
High Quality Wetlands Impact	acres					0.57	0.60	0.52	0.54	0.56
Tree Impacts	acres					0.09	0.09	0.09	0.09	0.09
Natural Area Impacts	acres					9.00	9.69	7.49	8.45	9.65
Forest Preserve District Impacts	acres					0.0	0.0	0.0	0.0	0.0
Socio-Economic Impacts						0.0	0.0	0.0	0.0	0.0
Community Context & Character						+++++	+++	+++++	++	+
Residential/Commercial Structure Impacts	scale each					0	0	0	0	0
Residential Right-of-Way Acquisition	acres					3.87	4.86	2.60	3.62	4.87
Commercial Right-of-Way Acquisition	acres					0.45	0.45	0.45	0.45	0.45
Parcels Impacted	each					72	80	55	65	75
Cost	Dollars					\$23-26M	\$25-28M	\$25-28M	\$32-35M	\$35-38M

¹ LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection.

² LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay experienced at an intersection.

³ Milwaukee Avenue & Riverwoods/Saunders Road Intersection Geometry

Deerfield Road Intersection Diagram



RANGE OF ALTERNATIVES COMPARATIVE EVALUATION



Range of Alternatives

Evaluation Summary

Key Takeaways - Transportation

- ❖ Average Daily Traffic (ADT) (i.e.; vehicles per day)
 - CMAP Provides Traffic Projections
- ❖ Roadway Design Criteria for an Arterial Roadway Requires additional through lanes*
- ❖ Concept Approval from IDOT and FHWA
- ❖ NEPA/404 Coordination Meeting in February 2018

(Reference location east of Portwine Road)	
Deerfield Road	Average Daily Traffic (Vehicles Per Day)
Existing	19,450
No-Build 2040 / 2-Lane Build	20,200
3-Lane Build	20,600
4-Lane Build	22,600
5-Lane Build	22,900

* Per IDOT BLRS Fig. 32-2E

Range of Alternatives Evaluation Summary

Key Takeaways - Transportation

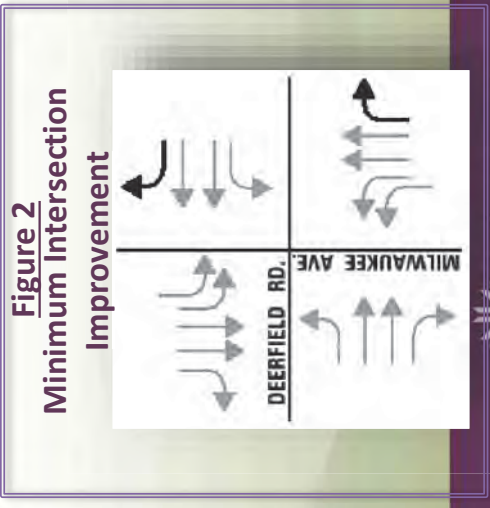
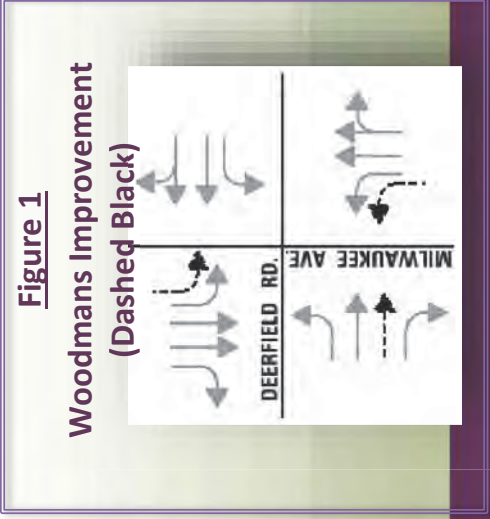
- ❖ Woodman’s Milwaukee Avenue Improvement (Figure 1)
 - Addresses AM Eastbound Delay at Milwaukee Avenue, reducing the existing AM Total Travel time by almost 75% (about 23 minutes to 6 minutes)
 - Does not address PM Westbound Delay at Milwaukee Avenue
- ❖ Same minimum base improvement assumed at termini intersections (Figure 2)
 - Final Design of Milwaukee Avenue Intersection & Section A Could Improve Further

❖ All Alternatives provide significant improvement

- Alternative 3 reduces the 2040 No-Build PM Westbound Total Travel Time in third (about 36 minutes to under 12 minutes)

❖ Overall, not a significant transportation benefit to Alternative 4 and 5 over Alternative 3

- 30% - 50% increased cost, respectively



Range of Alternatives Evaluation Summary

Key Takeaways - Mobility

❖ Mobility

- Part of mobility is the ability to access the main road from side streets and driveways (and visa versa)
- Measured as 8 second gaps between vehicles at a reference location (Timberwood Lane/ Juneberry Road) to turn onto Deerfield Road
- All alternatives increase the number of gaps over 2040 No-Build (over 30 gaps/hour vs. zero gaps for PM peak travel period)

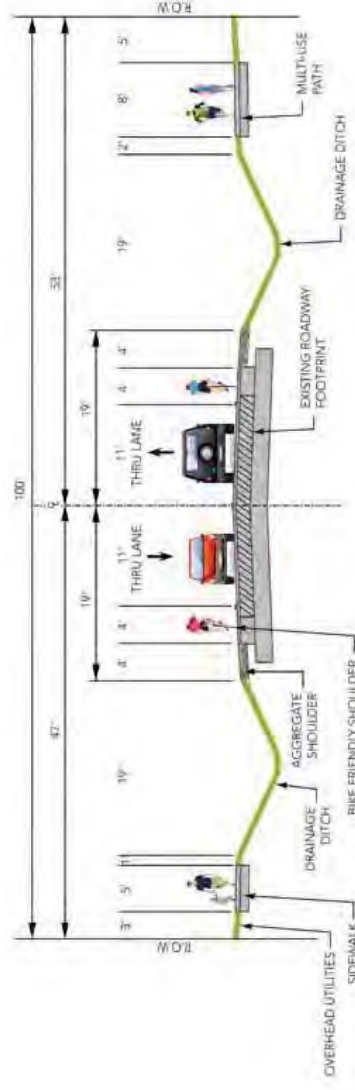
Range of Alternatives

Evaluation Summary

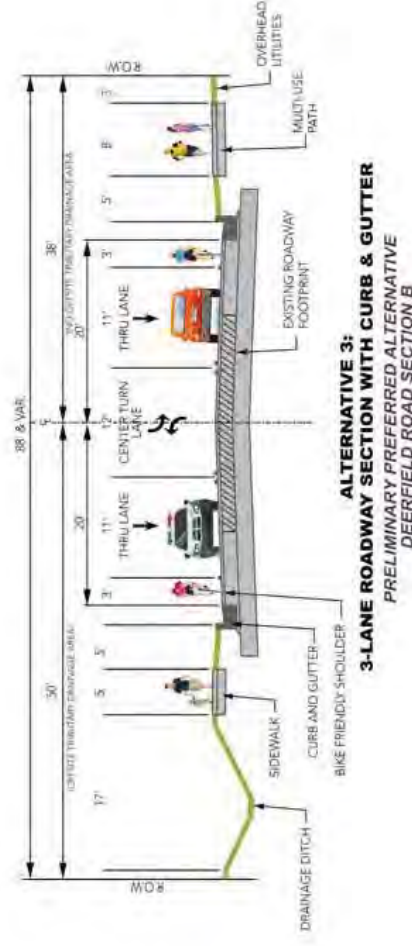
Key Takeaways - Safety

- ❖ **Alternative 1 vs. Alternatives 2, 3, 4, & 5:**
 - 5% increase vs. 50% decrease in predicted injury crashes/year
 - Other alternatives better address Purpose and Need safety objectives
 - Lack of a center turn lane means left turning vehicles conflict with through traffic and cause delay
 - Center turn lane is warranted for 2-lane roadway based on number of access point*
 - Des Plaines River to Saunders/Riverwoods Road 42 access points in 1.4 miles
 - Overall footprint 100 feet vs. 90 feet

* Per IDOT BDE Section 48-4.01



**ALTERNATIVE 1:
2-LANE ROADWAY SECTION
WITH SHOULDERS AND DITCH**



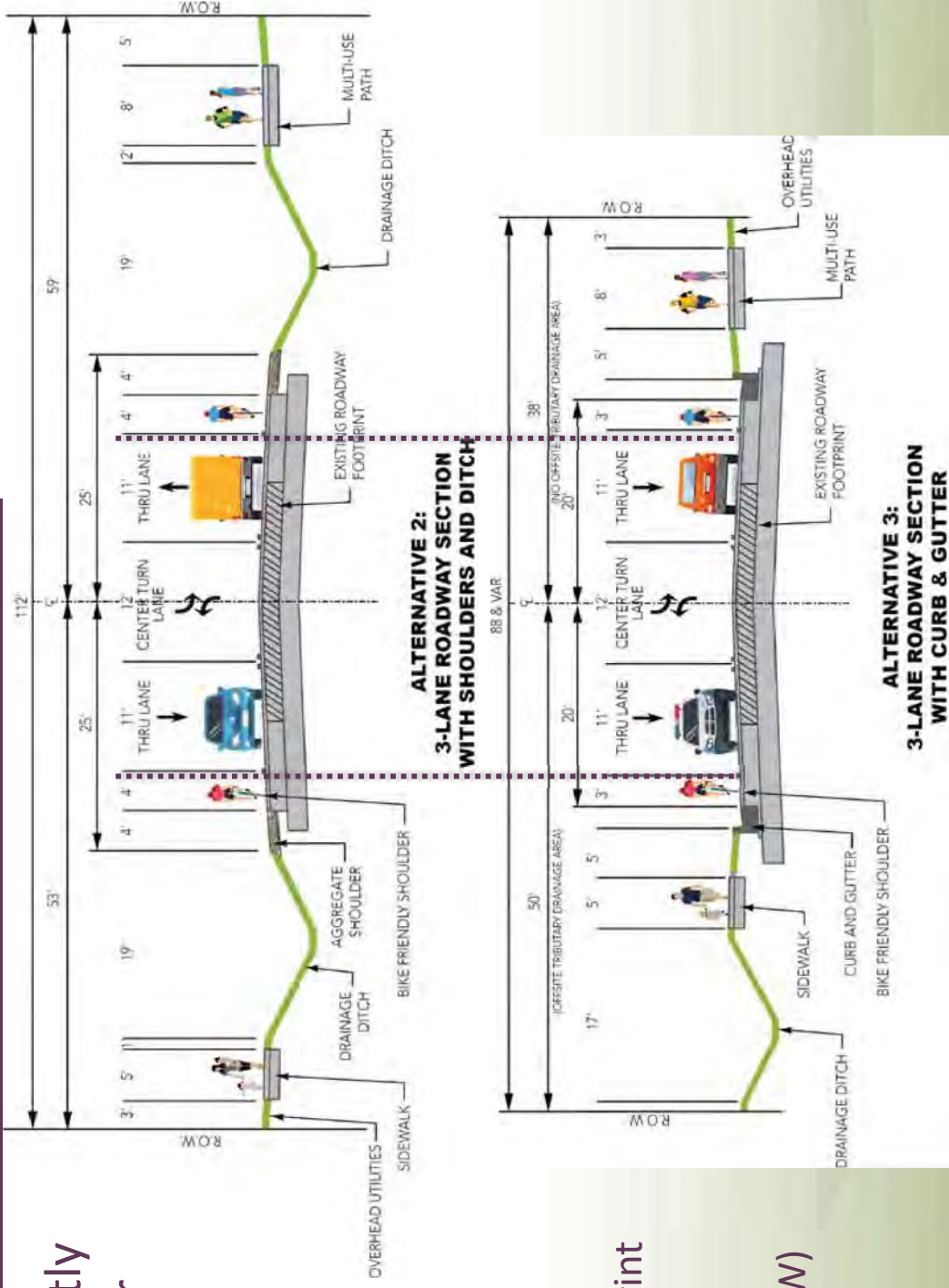
**ALTERNATIVE 3:
3-LANE ROADWAY SECTION WITH CURB & GUTTER
PRELIMINARY PREFERRED ALTERNATIVE
DEERFIELD ROAD SECTION B**

Range of Alternatives

Evaluation Summary

Key Takeaways – Environmental and Socio-Economic Impacts

- ❖ Wider footprint directly correlates with higher environmental and property impacts
- ❖ Alternative 2 vs. Alternative 3:
 - Same transportation, mobility, and safety performance
 - Wider roadway footprint (110 feet vs. 90 feet)
 - 75% greater adjacent property impacts (ROW)





DEERFIELD
Road

MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

ATTACHMENT A

Range of Alternatives Evaluation Conclusion

Evaluation Criteria	Unit of Measure	Existing 2016	Existing 2016 Incorporating Woodman's Development	No-Build 2040 Incorporating Woodman's Development	Range of Alternatives 2040 (All Assume the Same Improvements at Milwaukee Avenue and Saunders/Riverwoods Road Intersections ¹)								
					Alternative 1 2 Lanes (Shoulder and Ditch)	Alternative 2 3 Lanes (Shoulder and Ditch)	Alternative 3 3 Lanes (Curb)	Alternative 4 4 Lanes (Curb)	Alternative 5 5 Lanes (Curb)				
Transportation Performance (Synchro Modeling)													
Deerfield Road Average Daily Traffic (ADT)													
Intersection Level of Service (LOS) and Average Delay ¹													
Deerfield Road at Milwaukee Avenue Intersection	LOS (sec/veh)												
Deerfield Road at Portwine Road Intersection	LOS (sec/veh)												
Deerfield Road at Saunders/Riverwoods Road	LOS (sec/veh)												
Total Travel Time													
Deerfield Road Eastbound (Milwaukee Avenue to Saunders/Riverwoods Road)	minutes												
Deerfield Road Westbound (Saunders/ Riverwoods Road to Milwaukee Avenue)	minutes												
Mobility (Synchro Modeling)													
Roadway Section Average Vehicular Gap Acceptance													
Gaps Per Hour at Stop Controlled Intersections/Driveways (Reference location Timberwood Ln/Juneberry Rd)	# gaps (> 8 second) per hour												
Non-Motorized Accommodations													
Non-Motorized Accommodations	scale												
Safety (Illinois Highway Safety Design Manual)													
Average Predicted Crashes - Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road)	% Increase in crashes/veh												
Environmental Resources													
Added Net Pavement/Impervious Area	acres												
Floodplain Impact	acres												
Floodway Impact	acres												
Wetlands Impact	acres												
High Quality Wetlands Impact	acres												
Tree Impacts	acres												
Natural Area Impacts	acres												
Nature Preserve Impacts	acres												
Forest Preserve District Impacts	acres												
Socio-Economic Impacts													
Community Context & Character	scale												
Residential/Commercial Structure Impacts	each												
Residential Right-of-Way Acquisition	acres												
Commercial Right-of-Way Acquisition	acres												
Parcels Impacted	each												
Cost													
Preliminary Estimate of Construction Cost ²	Dollars												

❖ **Alternative 3, 3-Lane with Curb & Gutter**

- Preliminary Preferred Alternative
- Best overall transportation performance improvement
- Mobility improvement
- Greatest safety improvement
- Smallest roadway footprint
- Lowest Environmental and Socio-Economic Impacts
- Lower Cost Alternative

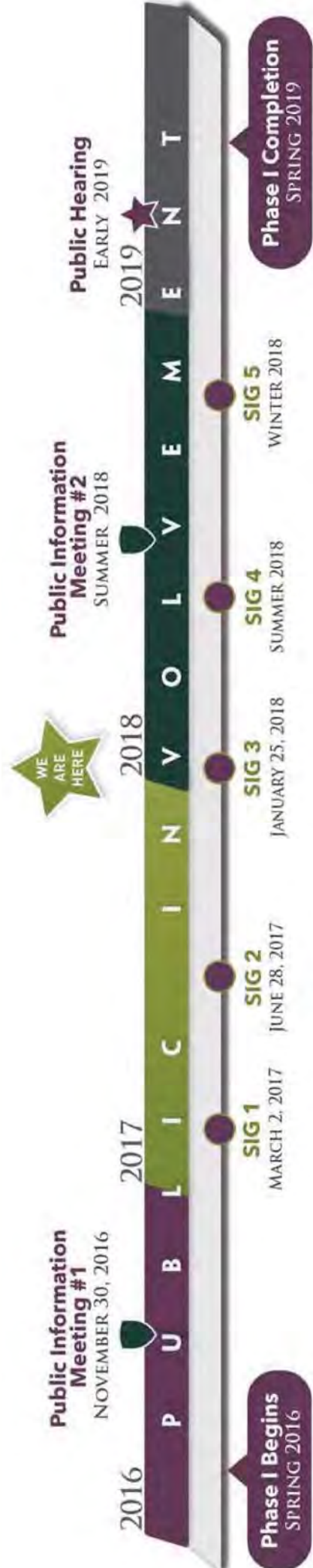
Preliminary Preferred Alternative





ATTACHMENT A Next Steps

- ❖ **Open House (Tonight)**
- ❖ **SIG #3 Comment Period Closes February 5th, 2018**
- ❖ **IDOT Review of Milwaukee Avenue Intersection / Section A**
- ❖ **Detailed Preliminary Preferred Alternative Developing**
- ❖ **SIG Meeting #4 and Public Information Meeting #2 (Summer 2018)**
- Preferred Alternative Design
- ❖ **SIG Meeting #5 and Public Hearing (Late 2018/ Early 2019)**
- Present Environmental Assessment & Engineering Reports



● Stakeholder Involvement Group ● Public Information Meeting ★ Public Hearing



OPEN HOUSE

- ❖ **Range of Alternative Exhibits**
 - 2 Sets In Council Chamber & 1 Set in Lobby
 - Project Team Available for Questions
- ❖ **Lake County & General Project Exhibits in Lobby**
- ❖ **Comment Station in Conference Room**
 - SIG #3 Comment Period Closes February 5th, 2018
 - Project Email (also on the comment form):
DeerfieldRoadCorridorComment@cbbel.com



DEERFIELD
Road

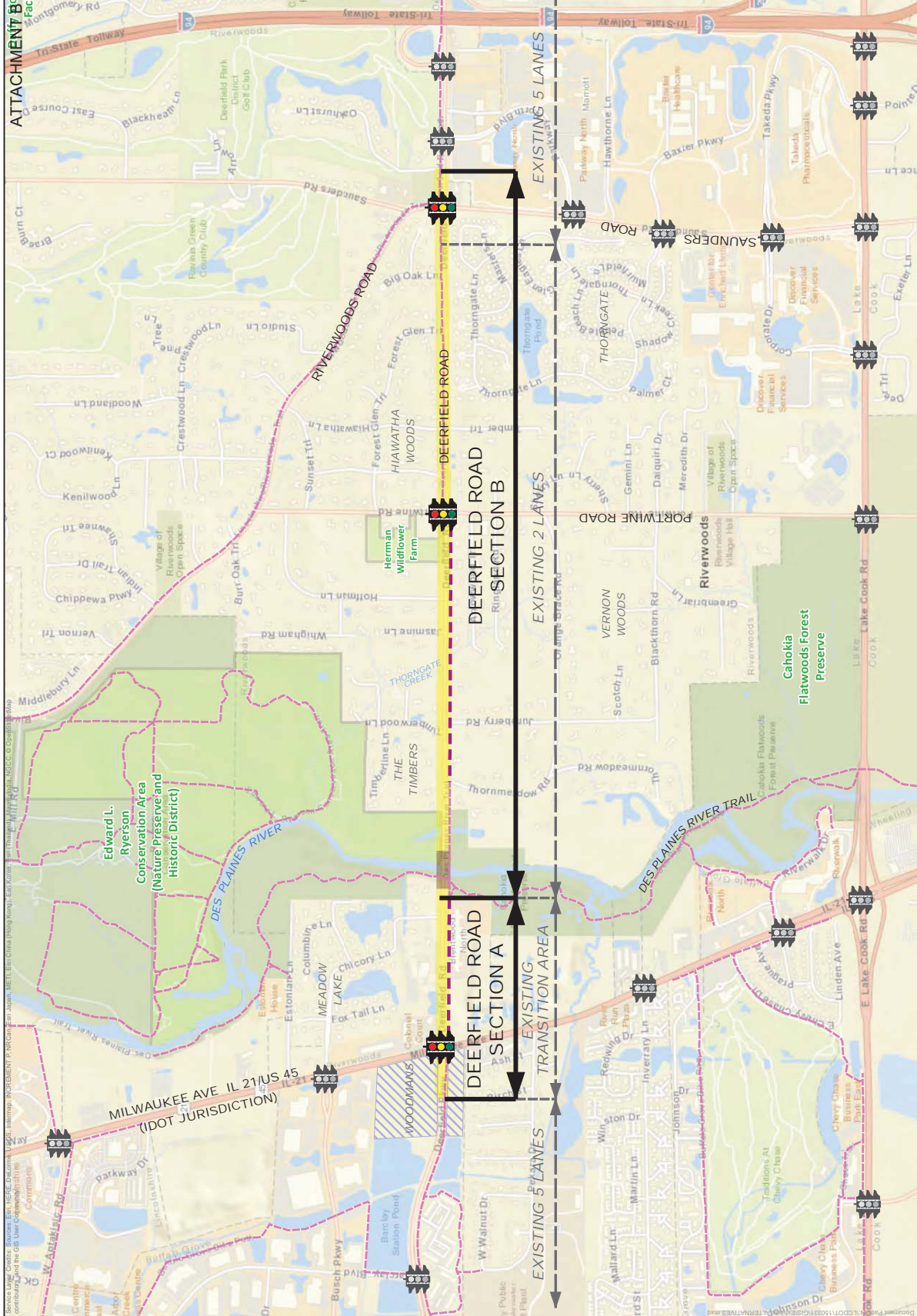
MILWAUKEE AVENUE TO
SAUNDERS/RIVERWOODS ROAD

Thank You!



LEGEND

- IMPROVED SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION
- PLANNED DEVELOPMENT
- PROPOSED MULTI-USE PATHS
- EXISTING MULTI-USE PATHS
- STUDY LIMITS
- POTENTIAL BRIDGE IMPROVEMENTS
- WATERS
- NATURE PRESERVE
- LAKE CO. FOREST PRESERVE



DEERFIELD ROAD ALTERNATIVES DEVELOPMENT SUMMARY

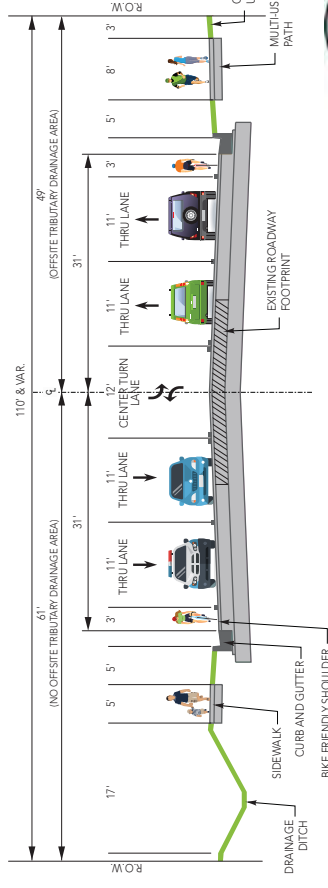
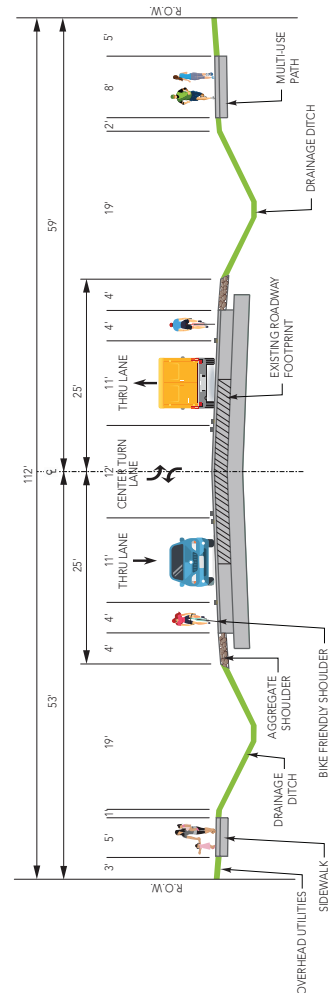
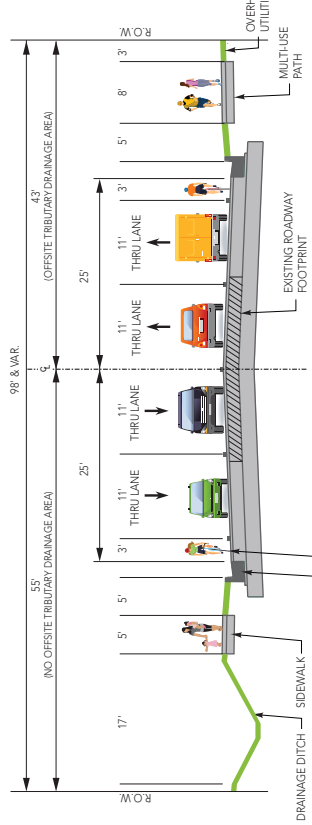
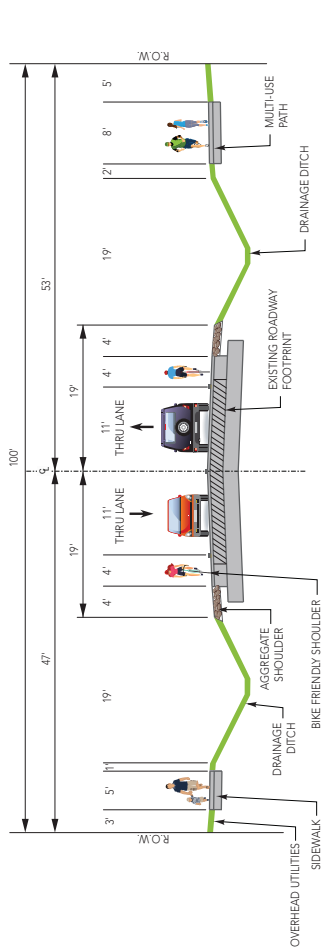
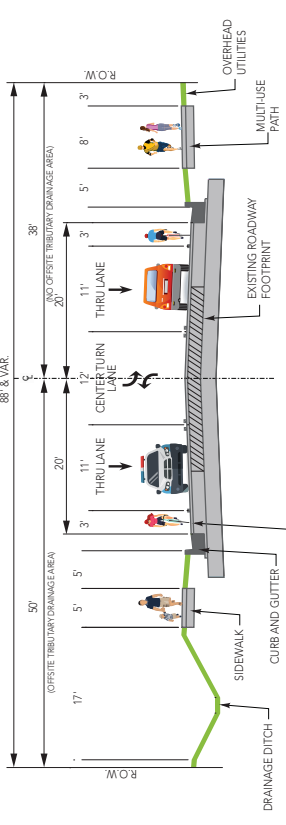
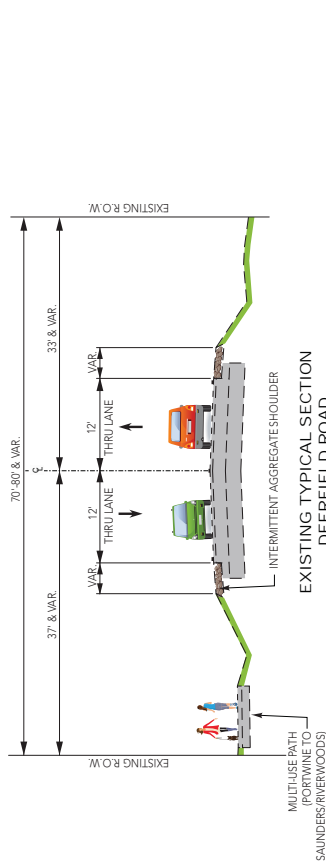
NOTES:

- SIDEWALKS ARE BEING EVALUATED ON THE OPPOSITE SIDE OF THE ROAD FROM THE MULTI-USE PATH, AND IS SUBJECT TO LAKE COUNTY DOT POLICY AND WILL BE INCLUDED WITH THIS PROJECT AND IS NOT IDENTIFIED.
- MULTI-USE PATHS WILL BE INCLUDED WITH THIS PROJECT AND IS NOT IDENTIFIED.
- SUBJECT TO LAKE COUNTY DOT NON-MOTORIZED POLICY AS IT IS IDENTIFIED ON THE LAKE COUNTY 2040 NON-MOTORIZED PLAN (I.E. REGINAL IMPORTANCE)



CHRISTOPHER B. BURKE ENGINEERING LTD
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

ATTACHMENT B



RANGE OF ALTERNATIVES TYPICAL SECTIONS

From: Deerfield Road Corridor Project Team
To: [Matthew Huffman](#)
Subject: Deerfield Road SIG Update and Public Information Meeting #2 Announcement
Date: Wednesday, October 3, 2018 11:38:57 AM

October 3, 2018

Dear Stakeholder Involvement Group Member:

We know it has been some time and apologize for the delay in communicating with you. The Project Study Team has made a lot of progress over the summer months with development of the Preferred Alternative for Section A and Section B of the project:

- Section A – From and including the Milwaukee Avenue intersection to the Des Plaines River.
- Section B – From the Des Plaines River to and including the Saunders/Riverwoods intersection.

At the third Stakeholder Involvement Group (SIG) meeting on January 25, 2018, Section B was the predominant focus with reviewing range of alternatives development, evaluation process, and identification of the preliminary preferred alternative, a 3-Lane Roadway Section with Curb & Gutter (Alternative 3). An e-mail was sent out to the SIG members on April 19, 2018 which provided a status update of Section A. At that time, Lake County Division of Transportation had identified a Section A preliminary preferred alternative and was under review by IDOT. As presented at the January SIG meeting, the range of alternatives considered for Section A centered around the Milwaukee Avenue intersection, which is under IDOT jurisdiction. The preferred intersection improvement selected at the Milwaukee Avenue intersection includes adding four lanes on Deerfield Road (3 westbound/1 eastbound) and one lane on Milwaukee Avenue (1 northbound), which received IDOT concurrence in late August. The preliminary preferred alternative for the project, consisting of Section A and Section B together, received federal resource agency concurrence over the summer, a major project milestone. Since then, further design has ensued for the preferred alternative.

Our public involvement schedule planned for SIG Meeting #4 prior to Public Meeting #2 to discuss the Section A Preferred Alternative and preview the public meeting materials. The Project Study Team has decided that SIG Meeting #4 will not be held prior to the upcoming public meeting due to the extensive individual coordination meetings held with applicable SIG members and affected stakeholders to discuss the Section A Preferred Alternative. Based on the progress made in the roadway design for the Preferred Alternative (Section A & Section B) and incorporating stakeholder input received at SIG Meeting #3 and individual coordination meetings, the Public Meeting #2 has been scheduled to present the Preliminary Preferred Alternative design.

Please mark your calendars for Tuesday, October 30, 2018 (6:00 - 8:00 PM) for Public Information Meeting #2 at Aptakisic Junior High School. The focus of the upcoming public

information meeting will be to display the preferred alternative design, review the alternatives development and evaluation, and seek public input. The meeting will be conducted in an open house format and interested persons may visit anytime. Attendees will have the opportunity to review exhibits, provide feedback, and meet with project team representatives. Postcard invites will be sent out to the project mailing list and individual letters will be sent to affected property owners along the corridor. We would ask that please inform your constituents.

Following Public Information Meeting #2, the Project Study Team will make design refinements to the Preferred Alternative. The Environmental Assessment and Engineering Reports will be prepared, which will be presented at a final SIG meeting and Public Hearing, both anticipated for Spring 2019.

As always, your input is welcomed throughout the entire project, so if new questions, ideas or comments arise, please [email the Project Study Team](#) or call Chuck Gleason at (847) 377-7447.

Sincerely,

Deerfield Road Project Study Team

APPENDIX E-6

AGENCY AND PUBLIC COORDINATION

Noise Forum



DEERFIELD ROAD PHASE I ENGINEERING STUDY

(MILWAUKEE AVENUE TO SAUNDERS/RIVERWOODS ROAD)

Noise Forum



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- 2 *Meeting Notifications*.....2
- 2.1 *Mailing*2
- 3 *Attachments*.....3

1 SUMMARY

A Noise Forum was held for the proposed installation of a noise wall at the southwest corner of Deerfield Road and Saunders Road intersection in conjunction with the planned roadway improvements. The Noise Forum for the proposed noise wall was held on Thursday, September 19, 2019, between 7:00 and 9:00 p.m. with a formal PowerPoint presentation, Q&A and open house at Village of Riverwoods Village Hall, 300 Portwine Road, Riverwoods, IL 60015. The purpose of the meeting was to inform residents of the Thorngate subdivision that are benefitted by the wall about the traffic noise analysis process and have an opportunity to ask questions. This is the only noise wall proposed with the project. Viewpoint solicitation packages were not provided at the meeting and were sent out via certified mail on October 4, 2019.

This meeting was part of the overall Phase I Engineering Study process which LCDOT is currently conducting for the proposed federally-funded improvement of Deerfield Road from Milwaukee Avenue to Saunders Road, Lake County, Illinois. The improvements include reconstruction and widening Deerfield Road to provide a center two-way left turn lane, new shared-use path, new sidewalks (select locations), and intersection improvements at Milwaukee Avenue, Portwine Road, and Saunders Road. The proposed improvements will address capacity, safety, mobility, and operational deficiencies, and improve non-motorized accommodations and connectivity in the region. Construction is anticipated to begin in 2023.

LCDOT and the study team made a formal PowerPoint presentation that covered highway traffic noise fundamentals, policies, the noise analysis methodology, and findings for this project. A Q&A session was held following the presentation to answer any questions. Exhibits were on display following the formal presentation and Q&A and LCDOT/project team members were available to discuss the findings of the traffic noise analysis and proposed improvement in more detail. A comment form was available for attendees to provide comments. All material presented at the Noise Forum were posted to the project website (www.deerfieldroadcorridor.com) immediately following the meeting.

A total of 41 invited letters were sent out to tenants/owners of the 37 benefitted receptor properties. The meeting was attended by 11 people representing 9 properties. Village of Riverwoods President John Norris was present during the meeting. A total of 0 formal written comments were received at or following the meeting, however, numerous questions were asked during the meeting.

2 MEETING NOTIFICATIONS

2.1 MAILING

LCDOT sent our 41 letters to tenants/owners of 37 benefitted receptor properties. The mailing package was provided to Thorngate Homeowners Association (HOA) President Kathryn Romanelli to alert the remainder of the Thorngate subdivision. Village of Riverwoods Mayor Norris, Village of Riverwoods Trustee Hollander and Village Engineering Pat Glenn were notified of the meeting.



August 27, 2019

«Taxpayer__First_Name» «Taxpayer__Last_Name»
«Property_Address__Street_Number»
«Property_Address__City», «Property_Address__State» «Property_Address__Zip_Code»

Property Index Number (PIN): «PIN»

RE: Noise Wall Information Meeting – **September 19, 2019 at 7:00 PM**
Deerfield Road Improvements from Milwaukee Avenue to Saunders Road

Dear «Taxpayer__First_Name» «Taxpayer__Last_Name»:

The Lake County Division of Transportation (LCDOT) cordially invites you to attend a special meeting to discuss the potential installation of a noise wall at the southwest corner of the Deerfield Road and Saunders Road intersection in conjunction with the planned roadway improvements. **You are highly encouraged to attend as your opinion, along with others benefited by the potential noise wall, will determine whether or not the noise wall is recommended for installation as part of the Deerfield Road improvements.**

You are invited to an upcoming special meeting regarding the traffic noise analysis:

Date: September 19, 2019
Time: 7:00 PM to 9:00 PM
Location: Village of Riverwoods
300 Portwine Road
Riverwoods, Illinois 60015

At this meeting, you will learn more about the traffic noise analysis process, have the opportunity to ask questions and provide a viewpoint (i.e. vote) on the potential noise wall. A short presentation will be provided that covers highway traffic noise fundamentals, policies, the noise analysis methodology, and findings for this project. Exhibits will be on display. LCDOT and consultant representatives will be available to discuss the findings and answer questions. Additional project study information can be found at: <http://deerfieldroadcorridor.com/>

Background

LCDOT is currently conducting Preliminary Engineering and Environmental (Phase I) studies for the proposed federally-funded improvement of Deerfield Road from Milwaukee Avenue to Saunders Road, Lake County, Illinois. The improvements include reconstruction and widening Deerfield Road to provide a center two-way left turn lane, new shared-use path, new sidewalks (select locations), and intersection improvements at Milwaukee Avenue, Portwine Road, and Saunders Road. The proposed improvements will address capacity, safety, mobility, and operational deficiencies, and improve non-motorized accommodations and connectivity in the region. Construction is anticipated to begin in 2023.

Highway Traffic Noise Analysis

As part of the environmental study for this project following the federal project development process, traffic noise was evaluated along Deerfield Road. Based on applicable state and federal noise policies, noise walls were determined to be feasible and reasonable at one location within the project study area. The location of the potential noise wall is shown on the attached exhibit with an inset of an example noise wall rendering to show relative height. Your property is identified on the attached exhibit by its address and PIN (listed near the top of this letter).

Solicitation of Viewpoints of Benefited Receptors

This letter has been provided to all property owners and tenants who would be “benefited receptors.” A property is benefited by a noise wall when the potential wall results in a noticeable reduction in noise level, which is defined as five decibels or more. Please know that only “benefited” property owners and tenants can submit viewpoints. Village ordinances or HOA rules have no effect on whether or not the noise wall will be installed. Additional guidance regarding viewpoint solicitation will be provided at the special meeting on September 19, 2019. If you cannot attend the special meeting, the viewpoint solicitation will also be sent to you via certified mail. Based on the consensus of the viewpoints received, the noise wall may or may not be included with this project.

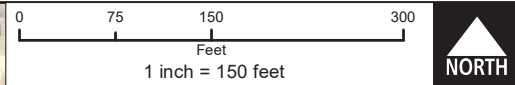
If you are unable to attend this meeting, please contact me at cgleason@lakecountyil.gov or 847-377-7447. Please include your full name and address in any correspondence you provide.

Sincerely,



Chuck Gleason
Project Manager
Lake County Division of Transportation

Enclosure



EXAMPLE NOISE WALL
(STYLE TO BE DETERMINED)

Legend

- EXISTING RIGHT-OF-WAY
- POTENTIAL NOISE WALL
- BENEFITTED RECEPTORS

NOISE WALL LENGTH +/- 1,927 FT
APPROXIMATE HEIGHT 15 FT

POTENTIAL 15 FOOT TALL
NOISE WALL - END

PROPOSED
SIDEWALK

More design information can be
found on the project website:
<http://www.deerfieldroadcorridor.com>

CLIENT: **LakeCounty**
Division of Transportation

TITLE: **POTENTIAL NOISE WALL
LOCATION**

PROJ. NO.	150331
DATE:	8/22/2019
SHEET	1 OF 1
DRAWING NO.	

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:1,800
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	8/22/2019
FILE:	Noise Wall		

EXH

Path: N:\LCDOT\150331\GIS\Exhibits\Noise Exhibits\Noise Wall.mxd

PIN	Property Address - Street Number	Property Address - City	Property Address - State	Property Address - Zip Code	Taxpayer - First Name	Taxpayer - Middle Initial or Second Name	Taxpayer - Last Name	Taxpayer - Street Number	Taxpayer - City	Taxpayer - State	Taxpayer - Zip Code
1631107004	781 LINKS CT	RIVERWOODS	ILL	60015	JOSE		RODRIGUEZ	781 LINKS CT	RIVERWOODS	IL	60015-3820
1631107005	761 LINKS CT	RIVERWOODS	ILL	60015	MICHAEL &	JOSEPHINE	LEPORE	761 LINKS CT	RIVERWOODS	IL	60015-3820
1631107007	2346 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3806	VERA		SMOLOV	2346 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3806
1631107008	2336 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	JAMES M &	SUZANNE M	SANTOS	2336 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3806
1631107009	2326 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	PHILLIP	E	LAYDEN	2326 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3806
1631107010	2316 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	SHERYLE	N	TRAYBER	2316 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3806
1631107011	2300 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	DANNY	S	DONLEY	1013 Maleventum Way	Springhill	TN	37174
							CURRENT RESIDENT	2300 CONGRESSIONAL LN	RIVERWOODS	ILL	60015
1631107012	2290 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	BRIAN T &	CHRISTINE A	BRADFORD	2290 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3803
1631107013	2280 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	LINYI FAN & NI MA			2550 WATERVIEW DR	NORTHBROOK	IL	60062
1631107013	2280 CONGRESSIONAL LN	RIVERWOODS	ILL	60015			CURRENT RESIDENT	2280 CONGRESSIONAL LN	RIVERWOODS	ILL	60015
1631107014	2270 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3803	SHAUN		GOLDFARB	245 Park Lane	Deerfield	IL	60015
1631107015	2260 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3803	YOUSSEF &	PARICHEHR	YOMTOOB	2384 GLEN EAGLES LN	RIVERWOODS	IL	60015-3895
1631107015	2260 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3803			CURRENT RESIDENT	2260 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3803
1631107016	2250 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-3803	SHIRLEY		KATZ	2250 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3803
1631107017	2240 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	PAUL	& LAUREN	BROWN	2240 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3803
1631107018	771 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-5704	MICHAEL &	LINDSEY	BONGIORNO	771 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5704
1631107019	751 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	MATTHEW &	HEATHER	ADAMS	751 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5704
1631107020	741 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	TOM		DENISON	741 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5704
1631107021	731 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	RONALD &	NATALIE	MOY	731 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5704
1631107022	721 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	GLANNIE	A	CHAN	721 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5704
1631107023	711 BAY HILL CT	RIVERWOODS	ILL	60015	LEV &	YULIA	GURMAN	711 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631107024	2299 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-5705	ROBERT	V	JOSEPH	2299 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5705
1631107025	710 BAY HILL CT	RIVERWOODS	ILL	60015	ALAN &	CARON	BLITZ	710 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631107026	700 BAY HILL CT	RIVERWOODS	ILL	60015	JOHN R &	SUSAN E	JENSEN	700 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631107027	690 BAY HILL CT	RIVERWOODS	ILL	60015	SUSAN		COREN	690 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631107028	691 BAY HILL CT	RIVERWOODS	ILL	60015	JASON		DILLAS	691 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631107029	701 BAY HILL CT	RIVERWOODS	ILL	60015	ADAM &	MELISSA	JOFFE	701 BAY HILL CT	RIVERWOODS	IL	60015-3870
1631108001	2337 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	MARK &	NANCY	HELLER	2337 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3811
1631108002	2327 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	ANDREW	N	EVANS	2327 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3811
1631108003	2307 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	KEVIN &	JESSICA	BERGER	2307 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3811
1631108004	2281 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	JORDAN D &	ALEXA L	GILMAN	2281 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3871
1631108005	2271 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	ANATOLIY		YUDOVICH	2271 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3871
1631108006	2261 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	ROMAN &	SVETLANA	BERGER	2261 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3871
1631108007	2251 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	YUVAL &	DROR	ROTH	2251 CONGRESSIONAL LN	RIVERWOODS	IL	60015-3871
1631108008	2312 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	DAVID A &	LISA E	HAAS	2312 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5707
1631108009	2302 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	RODNEY V &	DAWN	PYE	2302 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5707
1631108010	2292 CONGRESSIONAL LN	RIVERWOODS	ILL	60015-5706	MELINDA	J	LA FLAMME	2292 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5706
1631108011	2282 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	JOHN	& JAMI	DONOHUE	2282 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5706
1631108012	2272 CONGRESSIONAL LN	RIVERWOODS	ILL	60015	CYNTHIA	G	WOLF	2272 CONGRESSIONAL LN	RIVERWOODS	IL	60015-5706

1631107013 = Owner varies from Tenant



3 ATTACHMENTS



DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD) PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Noise Forum
MEETING DATE: September 19, 2019
MEETING TIME: 7:00 PM
LOCATION: Village of Riverwoods

NAME	PROPERTY ADDRESS	E-MAIL ADDRESS
1) YOUSSEF YOMTOOB	2260 Congressional Ln.	[REDACTED]
2) Suman Santos	2336 Congressional Dr.	
3) Kathryn Romanelli	2314 Glen Ardele Lane	
4) Bob Levy	2270 Congressional	
5) Shirley Katz	2250 Congressional	
6) Cindy Wolf	2272 Congressional	
7) Caron Blitz	710 Bay Hill Ct.	
8) Alan Blitz	710 Bay Hill Ct.	



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520



DEERFIELD

DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD) PHASE I ENGINEERING STUDY

SIGN-IN SHEET

NAME	PROPERTY ADDRESS	E-MAIL ADDRESS
53) 9 Christine Bradford	2290 Congressional Ln	[REDACTED]
54) 10 Brian Bradford	"	
55) 11 Roman Benzger	2261 Congress	
56)		
57)		
58)		
59)		
60)		
61)		
62)		
63)		

Welcome!

Deerfield Road Phase I Engineering and Environmental Study

Noise Forum
September 19, 2019

www.deerfieldroadcorridor.com

Meeting Agenda

- ❖ Presentation (7:00 – 7:45pm)
 - Introductions
 - Project Purpose & Limits
 - Preliminary Preferred Improvement
 - Traffic Noise Study Overview
 - Project Schedule & Next Steps
- ❖ Q & A (7:45 – 8:00pm)
- ❖ Open House (8:00 – 9:00pm)



LCDOT

- ❖ Kevin Carrier, Director of Planning and Programming
- ❖ Chuck Gleason, Project Manager

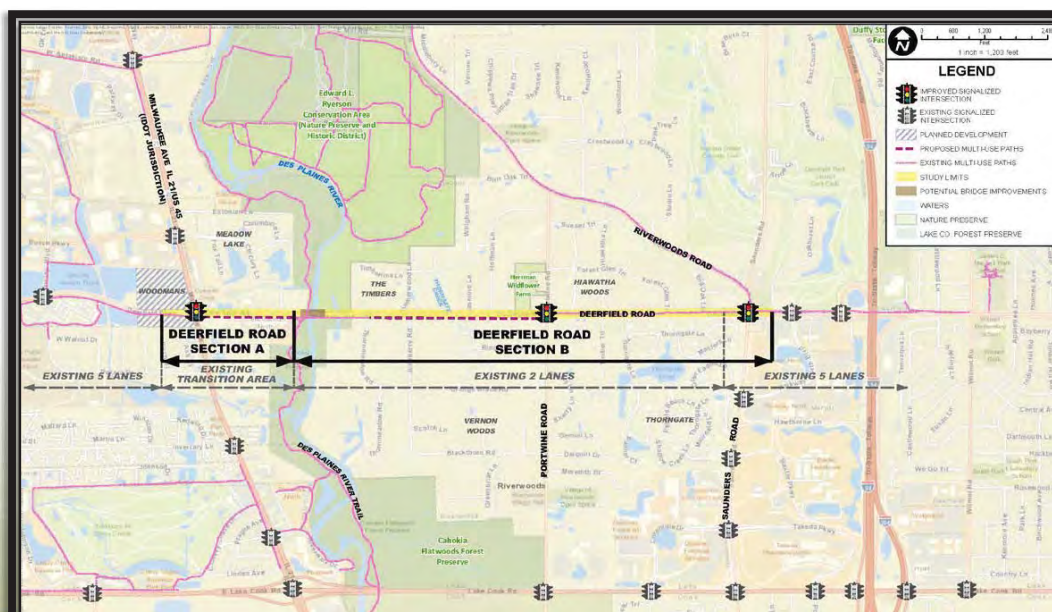
Project Consultants

- ❖ Matt Huffman (CBBEL)
- ❖ Pete Knysz (CBBEL)
- ❖ Ryan Duffy (CBBEL)

3

Project Purpose & Limits

The project purpose is to address capacity, safety, accessibility, and non-motorized connection deficiencies along Deerfield Road between Milwaukee Avenue (US 45/IL 21) and Saunders/Riverwoods Road.



4

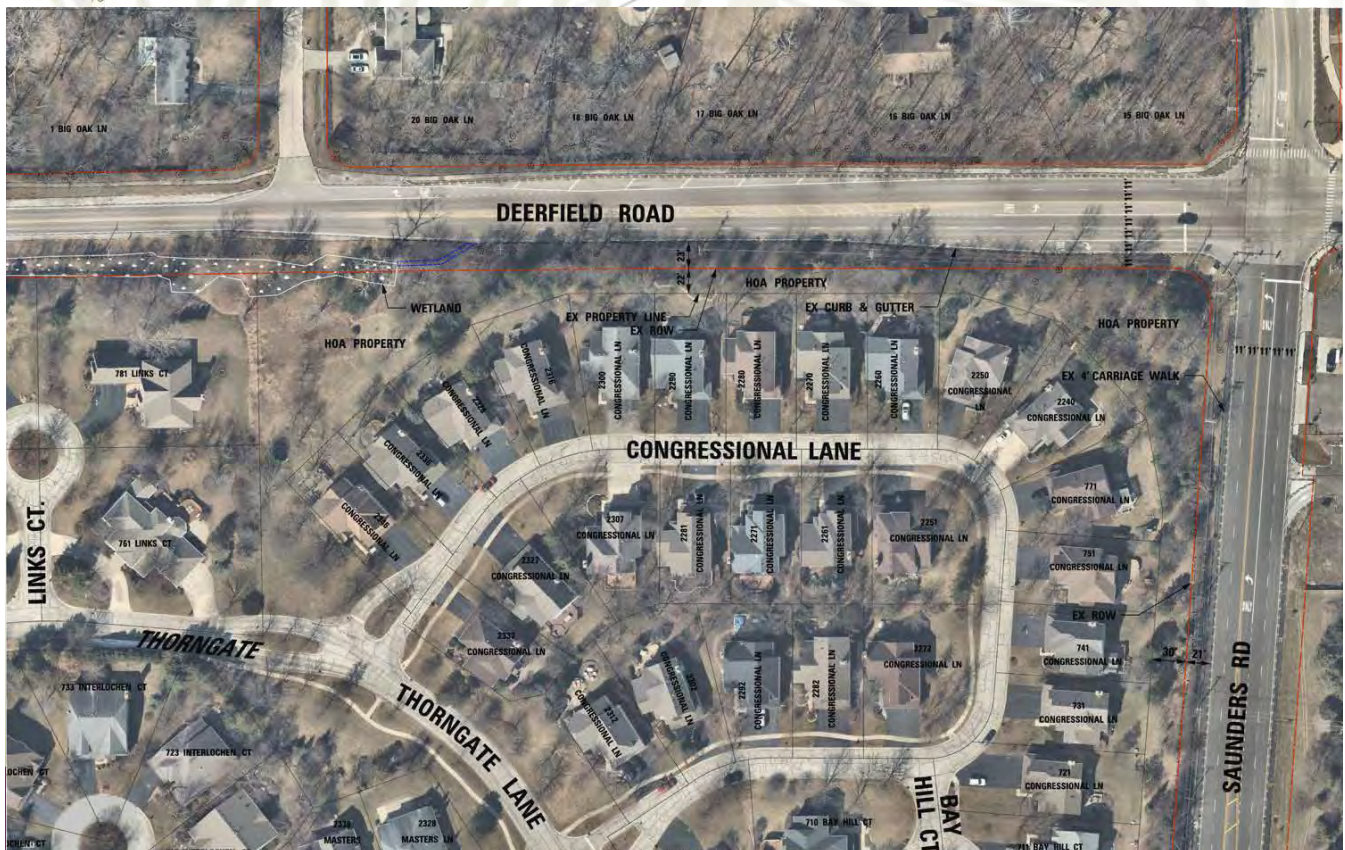
Preliminary Preferred Improvement Deerfield Road Near Saunders Road

- ❖ Focus On East End of Project near Saunders/Riverwoods & Deerfield Road Intersection
- ❖ Deerfield Road Improvements
- ❖ Saunders Road Improvements
- ❖ Potential Noise Wall



5

Preliminary Preferred Improvement Deerfield Road Near Saunders Road – Existing Conditions

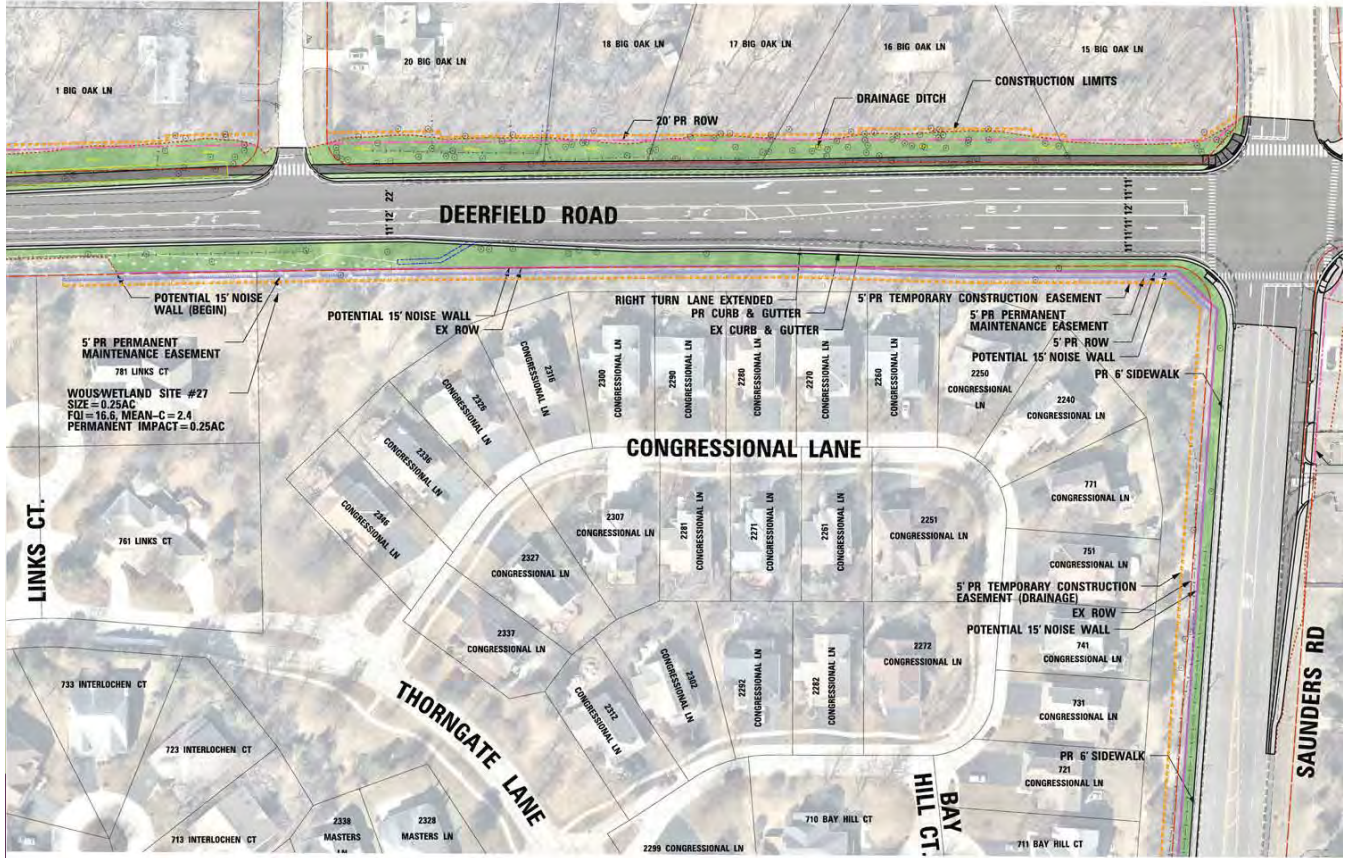




DEERFIELD

Preliminary Preferred Improvement

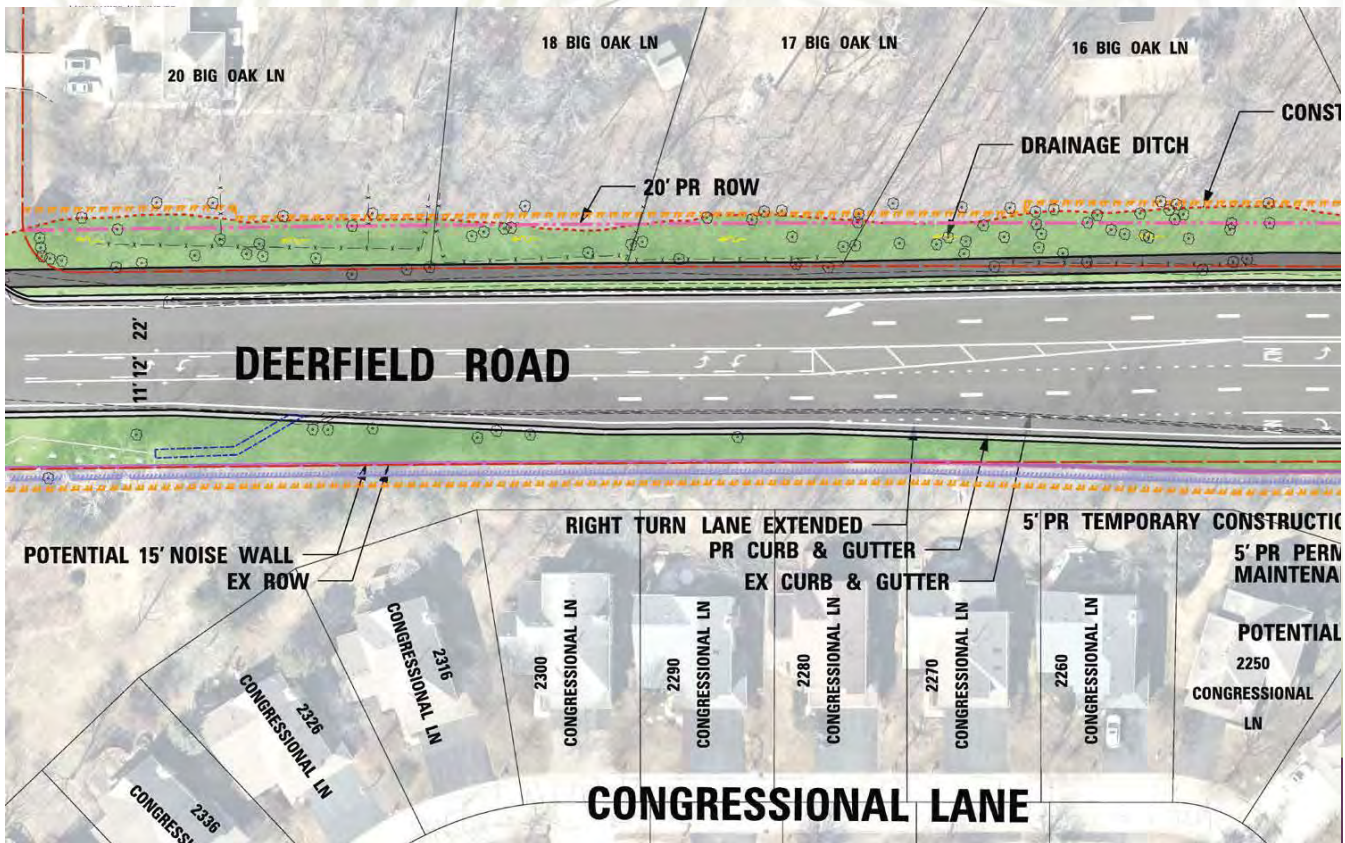
Deerfield Road Near Saunders Road – Proposed Improvement



DEERFIELD

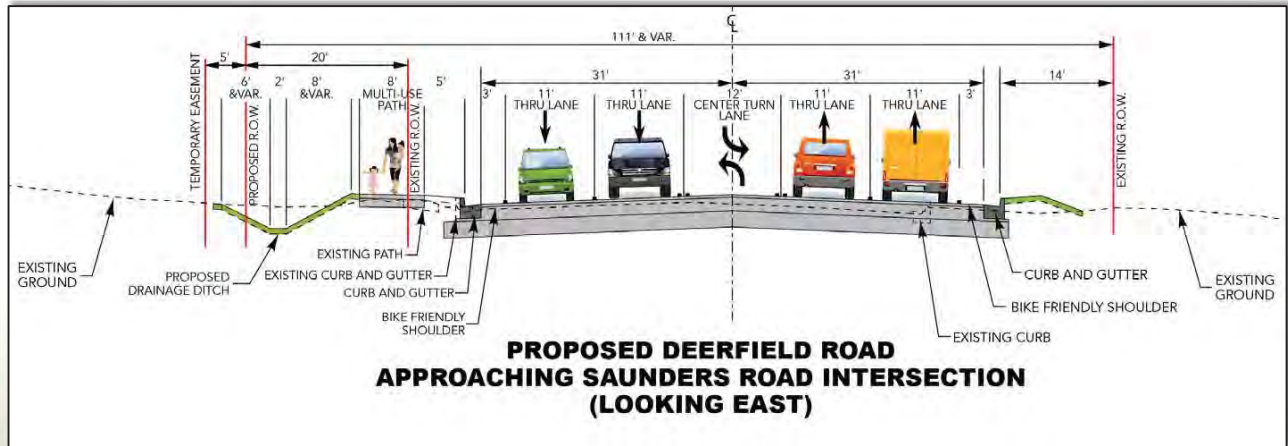
Preliminary Preferred Improvement

Deerfield Road Near Saunders Road – Proposed Improvement



Preliminary Preferred Improvement

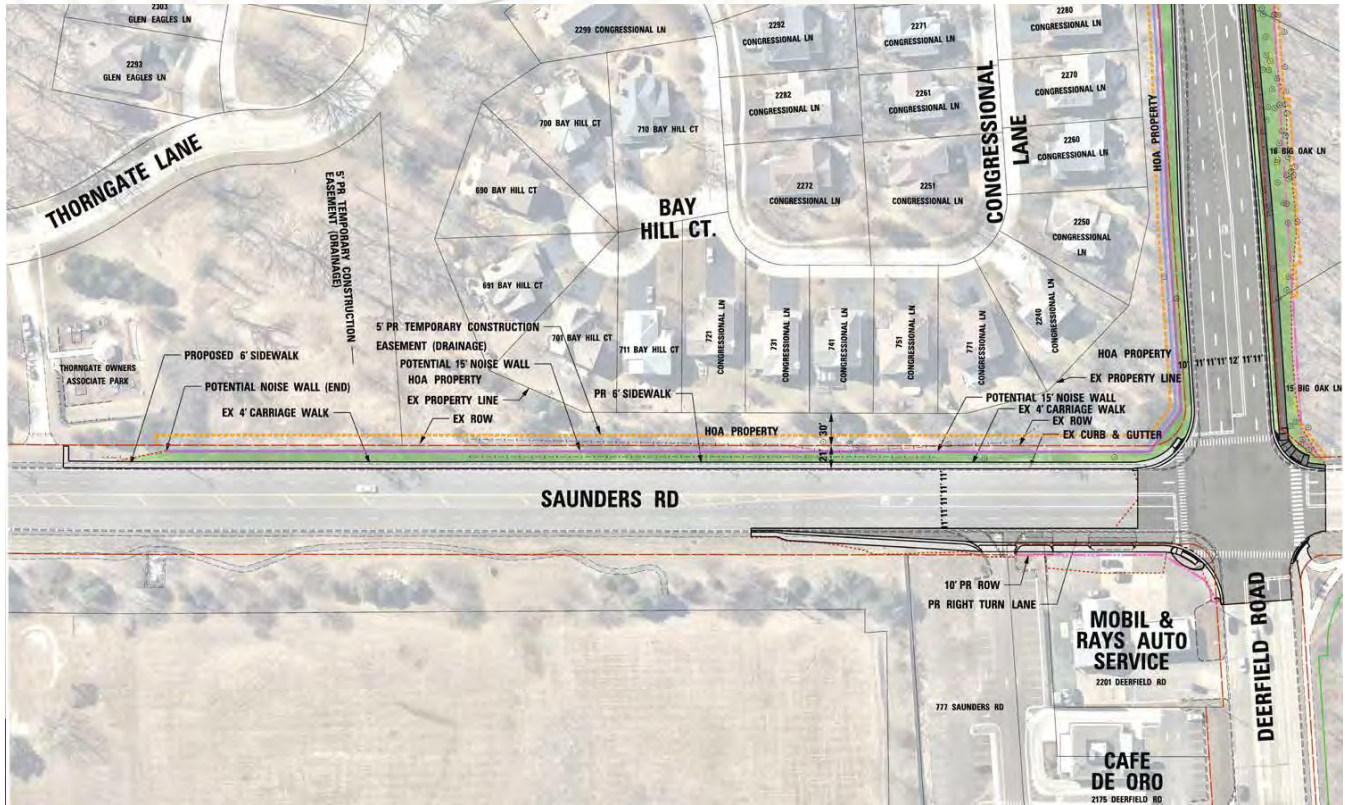
Deerfield Road Typical Section



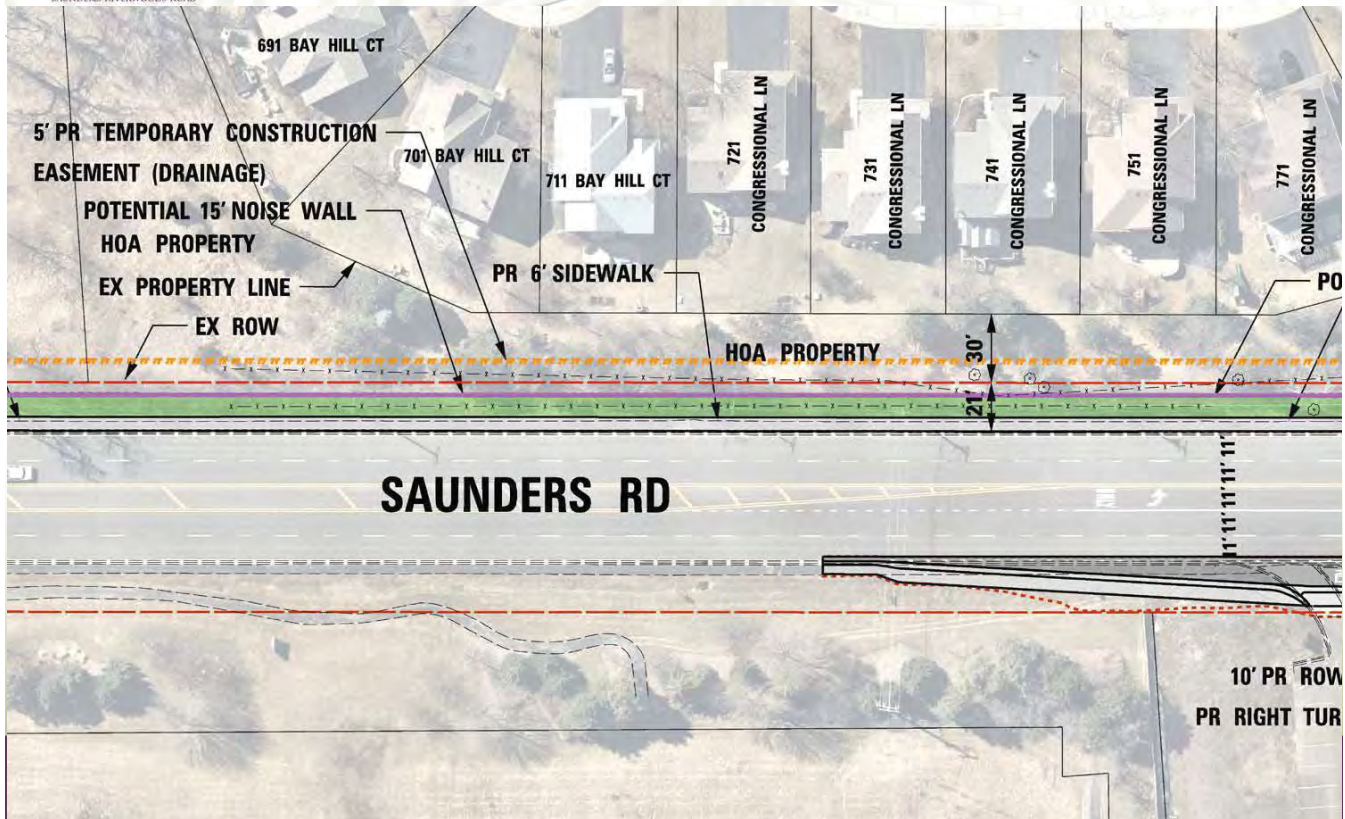
Preliminary Preferred Improvement Saunders Road Near Deerfield Road – Existing Conditions



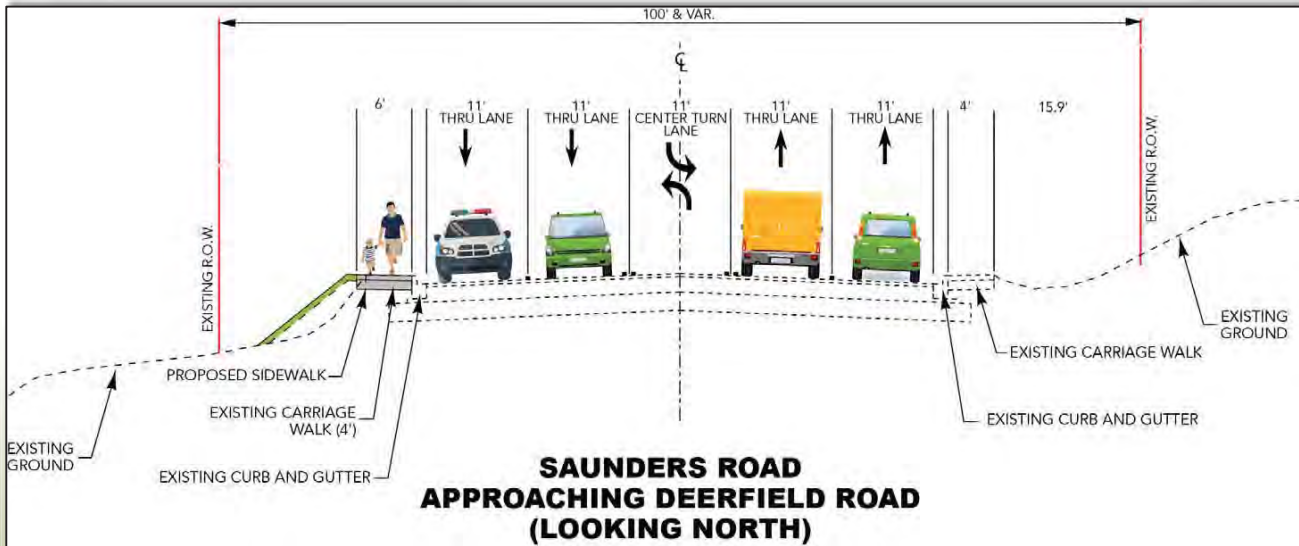
Preliminary Preferred Improvement Saunders Road Near Deerfield Road – Proposed Improvement



Preliminary Preferred Improvement Saunders Road Near Deerfield Road – Proposed Improvement



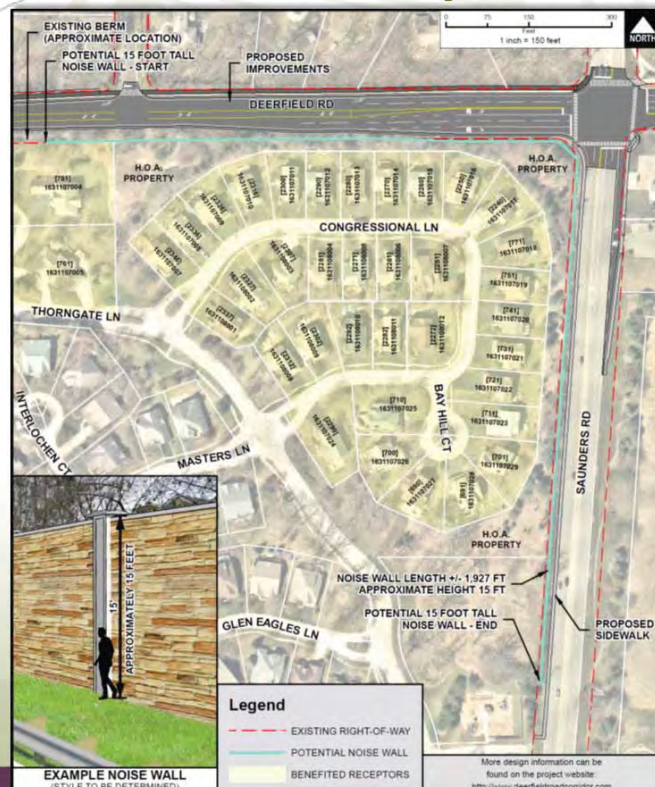
Saunders Road Typical Section



13

Meeting Agenda – Traffic Noise Study Overview

- ❖ Policy & Procedures
- ❖ Results
- ❖ Potential Noise Walls
- ❖ Viewpoint Solicitation (i.e., Voting)



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Purpose of a Traffic Noise Study

- ❖ Comply with IDOT and FHWA policy
- ❖ Required if adding a travel lane or a significant alignment or elevation change
- ❖ Predict worst hour traffic noise conditions
- ❖ Identify and evaluate potential traffic noise impacts for the entire project area
- ❖ Evaluate feasibility and reasonableness of potential traffic noise reduction techniques



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Traffic Noise Studies

- ❖ Identify Common Noise Environments (CNEs) and noise receptors
- ❖ Conduct noise monitoring and validate existing model
- ❖ Perform computer modeling
- ❖ Complete traffic noise abatement analysis
- ❖ Determine traffic noise abatement feasibility and reasonableness per IDOT and FHWA policy
- ❖ Obtain benefited receptor viewpoints



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CNEs/Receptor Locations

- ❖ Review land use
- ❖ Divide corridor into CNEs based on FHWA Activity Categories
- ❖ CNE = Group of receptors with:
 - Similar land use
 - Similar traffic characteristics (e.g., traffic volume, traffic mix)
 - Same basic topography

EXISTING LAND USE

	Government and Institutional		Retail/Commercial
	Industrial		Transportation
	Office and Research Parks		Utility/Waste Facilities
	Public and Private Open Space		Water
	Residential		



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FHWA Noise Abatement Criteria (NAC) – Used to identify CNEs and determine impacts

Activity Category	dB(A)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance
B	67 (Exterior)	Residential *
C	67 (Exterior)	Cemeteries, day care centers, hospitals, libraries, medical facilities, parks/recreation areas, picnic areas, places of worship, schools
D	52 (Interior)	Day care centers, hospitals, libraries, medical facilities, places of worship, schools (only when no exterior activities) – not for residential
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands not included in Categories A-D or F
F	---	Agriculture, industrial, maintenance facilities, manufacturing, retail facilities, warehousing
G	---	Undeveloped lands that are not permitted

* Noise abatement is considered when the noise level, at a given receptor, approaches [within 1 dB(A)], meets, or exceeds the NAC in the Build Condition

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Traffic Noise Study Overview – Policy & Procedures



FHWA Noise Abatement Criteria is 67 dB(A) for Residential Area

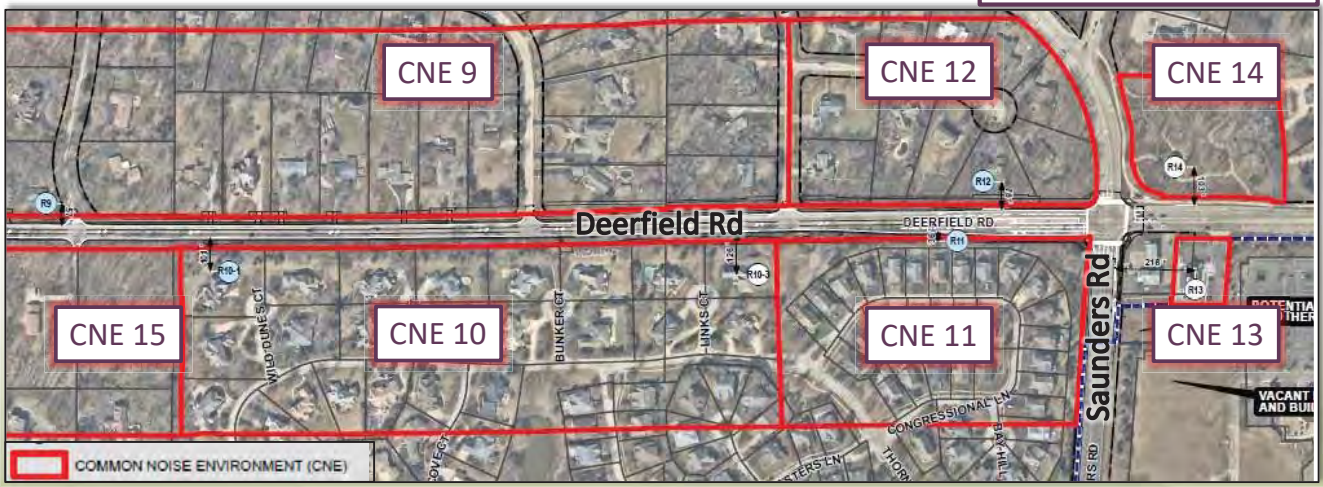
Similar to Conversational Speech at 3 feet

Traffic Noise Study Overview – Policy & Procedures

CNEs/Receptor Locations

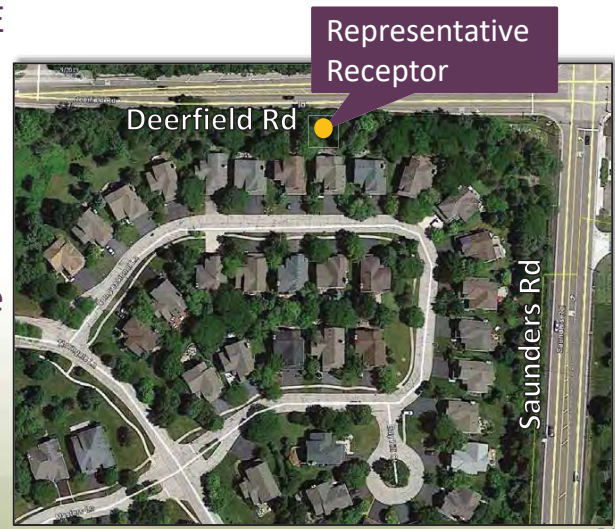
❖ 15 CNEs were identified along the Project Corridor

Portions of 7 CNEs are shown below



Common Noise Environment Receptor Location #11

- ❖ One representative receptor per CNE
- ❖ Typically – Exterior location of frequent human use
- ❖ Represents the worst case noise condition for the CNE
- ❖ This receptor is studied to determine if there is an impact



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Noise Monitoring

- ❖ Used to validate Existing Condition Traffic Noise Model
- ❖ At 25-50% of Representative Receptors
- ❖ Measure existing sound levels for 8-15 minutes
- ❖ Record weather data
- ❖ Collect traffic data (e.g., traffic counts and approx. speed)



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Traffic Noise Model

- ❖ Input
 - Traffic volumes, speed, and composition
 - Roadway alignment (horizontal and vertical)
 - Receptor location and elevation
 - Terrain lines
 - Traffic control devices (e.g., traffic signals)
- ❖ Scenarios Modeled
 - Existing Condition
 - Year 2050 Traffic with No Improvement (No-Build Condition)
 - Year 2050 Traffic with Improvement (Build Condition)

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- ❖ Impact = NAC is
 - Approached (within 1 dB(A))
 - Met
 - Exceeded
 - B = Residential; Impact = 66 dB(A)
- ❖ Impact pertains to Build Condition
- ❖ 3 CNEs impacted under Build Condition (★)
- ❖ R11 “approached” NAC under Existing Condition

CNE/ Receptor #	Activity Category/ NAC	Noise Level at the Representative Receptor dB(A)		
		Existing	No-Build (Year 2050)	Build (Year 2050)
R1	E/72	62	63	63
R2	B/67	57	58	58
R3	E/72	62	63	63
R4	E/72	65	66	69
R5	C/67	61	63	64
R6	B/67	59	61	63
R7	B/67	65	66	67 ★
R8	B/67	64	66	66 ★
R9	B/67	63	64	65
R10-3	B/67	58	59	60
R11	B/67	66	68	69 ★
R12	B/67	62	64	65
R13	E/72	60	60	62
R14	C/67	62	62	64
R15	B/67	59	60	61

No Wall

Thorngate
Subdivision

24

How much of a Change?

Change in Noise Level	Perception of Change
±3 dB(A)	Barely Perceivable Change
±5 dB(A)	Readily Perceivable Change
±10 dB(A)	Doubling/Halving Noise Loudness

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Traffic Noise Study Overview – Potential Noise Wall

❖ Earth Berms

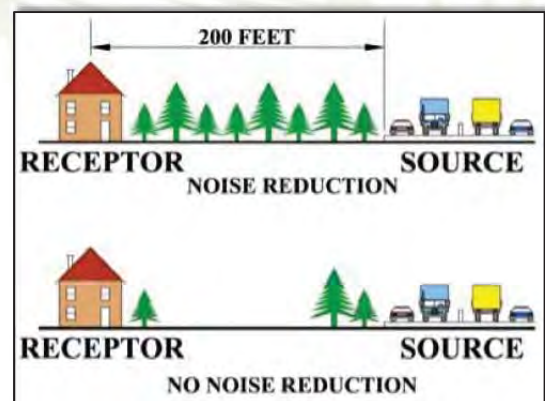
- Earth berms require a large footprint
- 15 ft high = ~90 ft footprint (3H:1V slope)
- Not feasible due to property impact

❖ Landscaping (Vegetation)

- Not recognized by FHWA as noise abatement
- Generally, 100-200 feet wide; 16-18 feet tall; and dense understory

❖ Noise Walls

- Most effective when close to the road or homes
- Loses effectiveness with breaks for driveways/side roads
- Much smaller footprint (~1 ft wide) than an earth berm



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Abatement is considered for residential receptors with traffic noise levels ≥ 66 dB(A) in the Build Condition

- ❖ Feasible
 - Noise barrier can be built, and
 - Achieve at least 5 dB(A) reduction for at least 2 impacted receptors

- ❖ **Noise barrier feasible at 1 CNE (R11)**

- ❖ Noise barrier not feasible at 2 CNEs (R7 and R8)

27

How much of a Change?

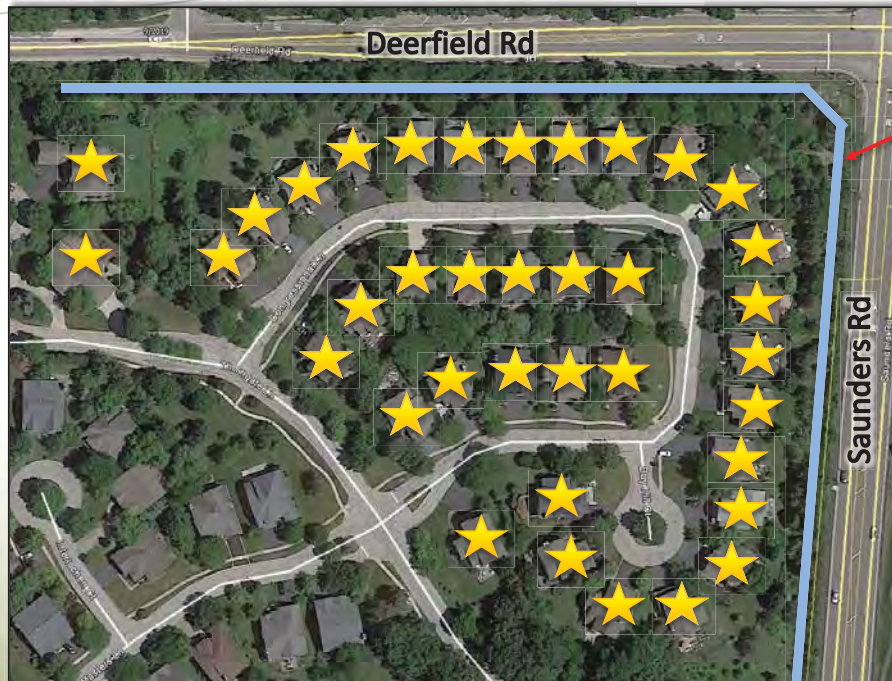
Change in Noise Level	Perception of Change
± 3 dB(A)	Barely Perceivable Change
± 5 dB(A)	Readily Perceivable Change
± 10 dB(A)	Doubling/Halving Noise Loudness

- ❖ **Benefited Receptor**
 - Receives ≥ 5 dB(A) noise reduction
 - Does not need to be impacted

28

Traffic Noise Study Overview – Potential Noise Wall

37 Benefited Receptors (★)



Potential
Noise
Wall
(approx. location –
not to scale)

29

Traffic Noise Study Overview – Potential Noise Wall

❖ Reasonable

- At least 8 dB(A) reduction for at least 1 benefited receptor
- Cost effective (IDOT policy - \$30,000/benefited receptor), and
- Desired by the majority of benefited receptors

❖ Abatement will reduce noise levels...but noise will still be present

30

Traffic Noise Study Overview – Potential Noise Wall

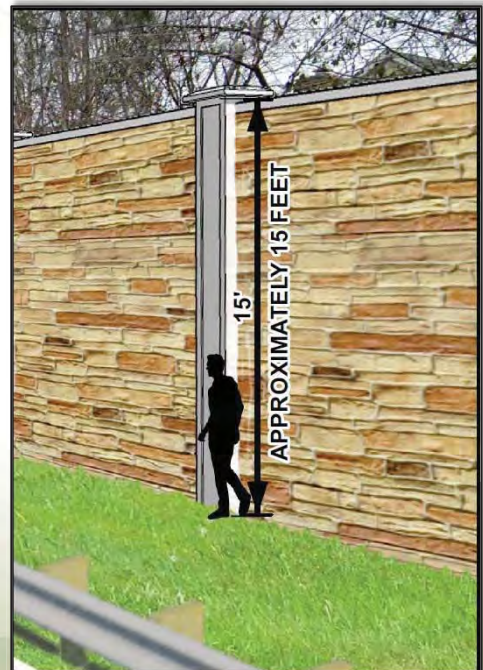
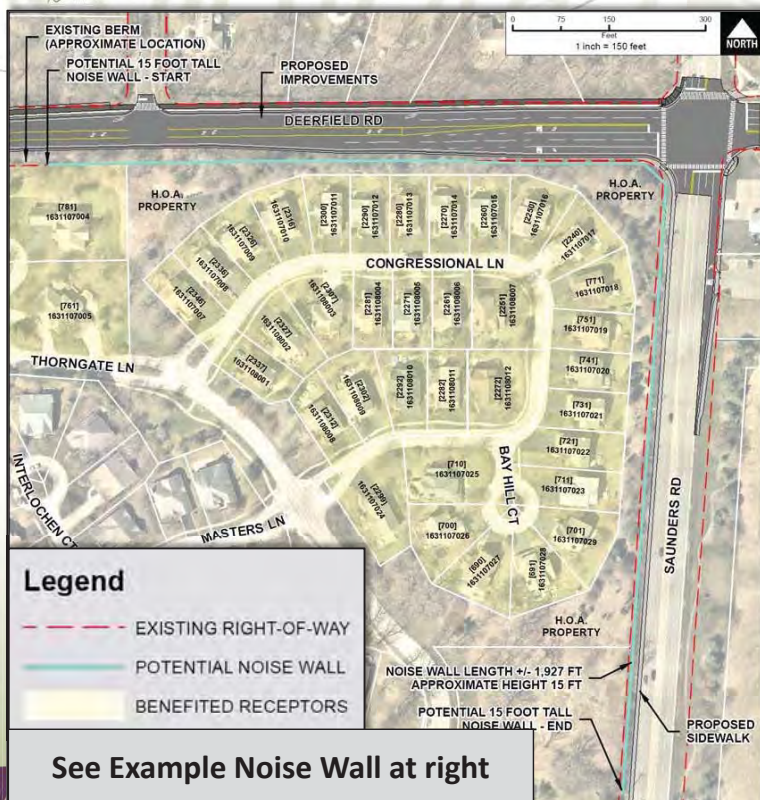
CNE 11

Estimated Total Noise Wall Cost (including ROW/ easement) = \$992,400	Estimated Cost per Benefited Receptor = \$26,822	Adjusted Allowable Cost per Benefited Receptor = \$30,000
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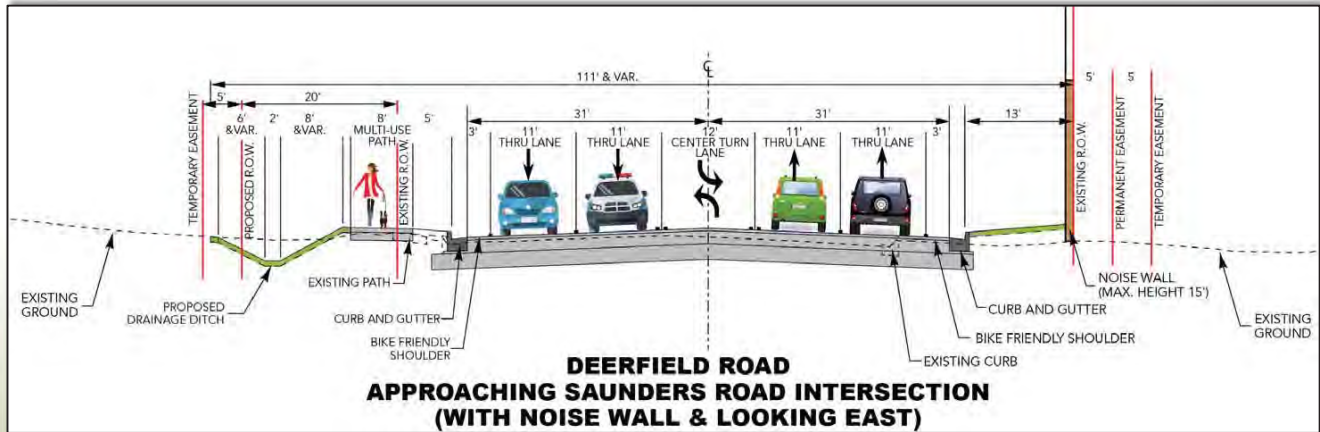
❖ A noise wall is considered feasible and reasonable for CNE 11 since the estimated cost does not exceed the adjusted allowable cost per benefited receptor...pending viewpoint solicitation

Traffic Noise Study Overview – Potential Noise Wall



EXAMPLE NOISE WALL
(STYLE TO BE DETERMINED)

View looking east along Deerfield Road



33

Deerfield Road looking east



For informational purposes only – Dimensions are approximate; Style to be determined

34

Traffic Noise Study Overview – Potential Noise Wall

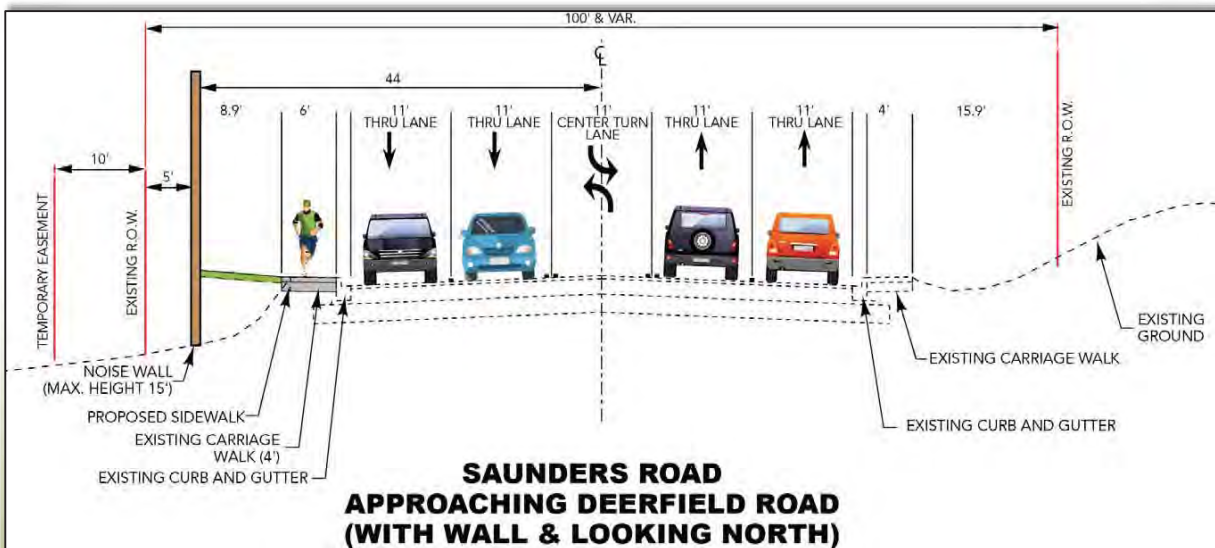


Sample Noise Wall Panel - For informational purposes only – Style to be determined

35

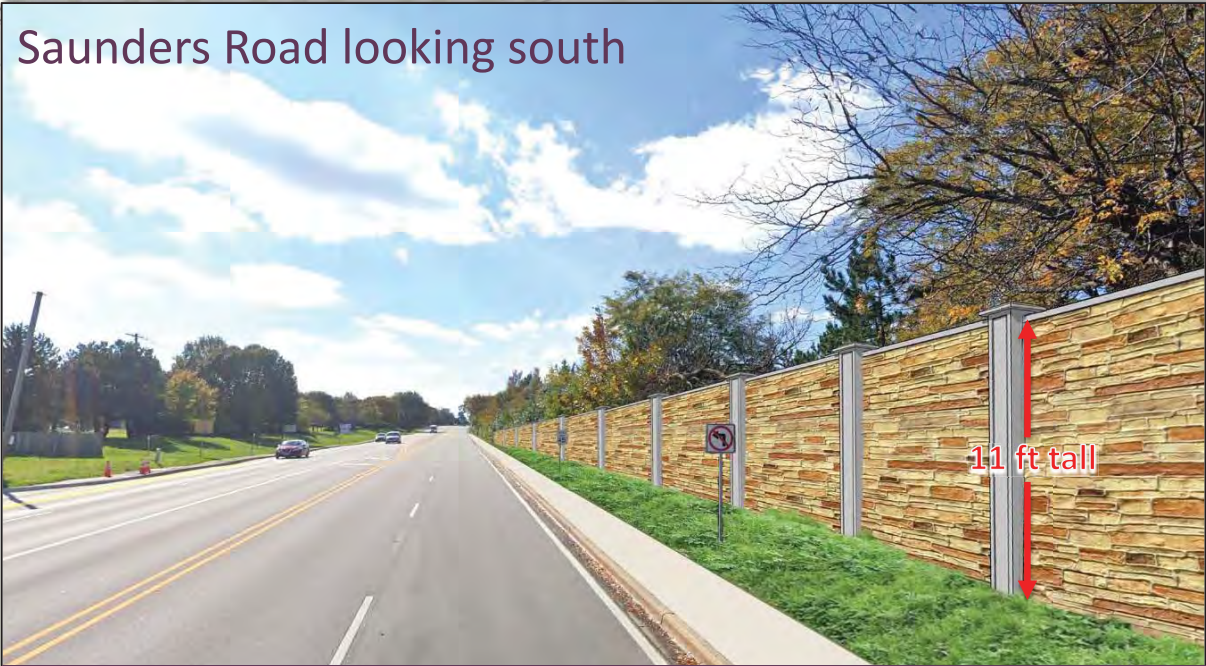
Traffic Noise Study Overview – Potential Noise Wall

View looking north along Saunders Road



36

Saunder Road looking south



For informational purposes only – Dimensions are approximate; Style to be determined

Note: From roadway perspective, Noise Wall is ±11 ft tall along road and ±15 ft tall behind wall (see Typical Section)

37

From Rear Yard of Residential Home Along Deerfield Road

Before Noise Wall



After Noise Wall



For informational purposes only – Dimensions are approximate; Style to be determined

38

Traffic Noise Study Overview – Viewpoint Solicitation (i.e., Voting)

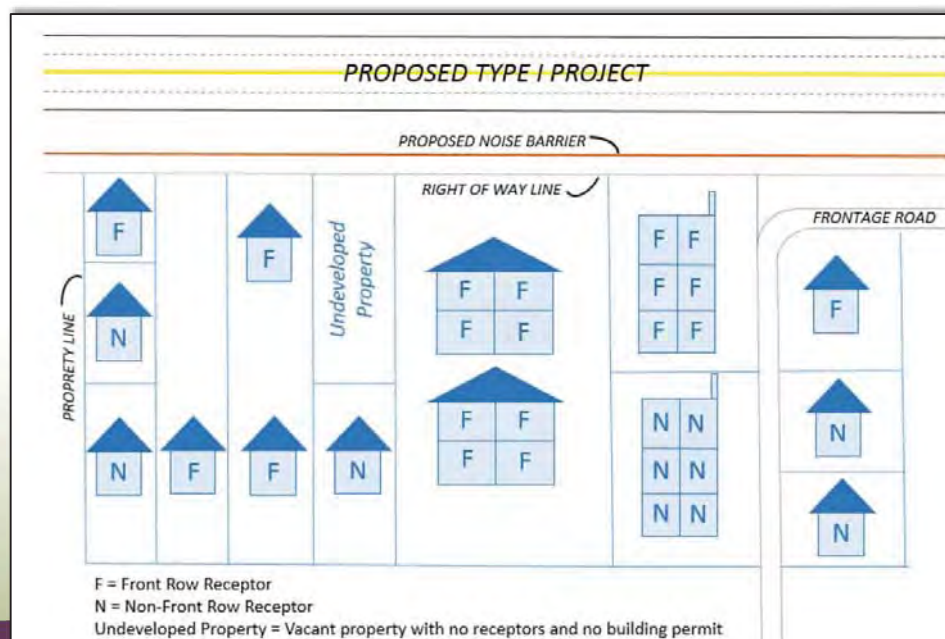
- ❖ Benefited Receptors Vote (LCDOT and Village do not vote)
- ❖ Goal is to obtain at least 1/3 of potential vote points
- ❖ Up to two attempts (mailings) to achieve goal
- ❖ If 1/3 vote points are not received after 2 attempts...use results received
- ❖ **Do not double count...only allowed to vote once**
- ❖ Results are based on the majority of vote points received
- ❖ If no votes are received...noise wall will not be recommended
- ❖ **If greater than 50% of the vote points received are in favor of the noise wall, it will be recommended for construction**

39

Traffic Noise Study Overview – Viewpoint Solicitation (i.e., Voting)

Votes are Weighted

- ❖ Front Row versus Non-Front Row
- ❖ Front Row property is adjacent to the potential noise wall



- ❖ **You will receive Viewpoint Solicitation Form when Voting Period begins (waiting for IDOT approval)**
- ❖ Votes must be received within 2 weeks (after start of voting period - 1st Attempt)
- ❖ If necessary, 2nd Attempt to obtain 1/3 of potential vote points
- ❖ Submit Traffic Noise Report (with voting results to IDOT): October/early November 2019 (anticipated)
- ❖ Public Hearing: Late 2019/Early 2020
- ❖ Anticipated Phase I Design Approval: Spring 2020
- ❖ Based on available funding...Construction could begin in 2023

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Question and Answer Session



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Thank You!

Visit the Project Website at:
www.deerfieldroadcorridor.com

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APPENDIX E-7

AGENCY AND PUBLIC COORDINATION

Frequently Asked Questions



Frequently Asked Questions

This document provides responses to the frequently asked questions pertaining to Deerfield Road; Milwaukee Avenue to Saunders/ Riverwoods Road.

Below is a list of frequently asked questions. These summary questions combine various questions received at Public Information Meeting (PIM) #1 held November 30, 2016, Stakeholder Involvement Group (SIG) Meetings, and through the project email: deerfieldroadcorridorcomment@cbbel.com.

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1. Why is the County studying Deerfield Road?

Deerfield Road is an important link in both the local and regional transportation network. It is designated as County Highway 11 from IL 83 to Wilmot Road, with direct connection to I-94, and is classified as a minor arterial roadway. The County Highway designation will extend to US 41 when the improvements in Deerfield and Highland Park are completed. Deerfield Road is a five lane roadway (two through lanes in each direction) both west of Milwaukee Avenue and east of Saunders/ Riverwoods Road, and a two lane roadway (one through lane in each direction) within the project limits. Improvements to this section of Deerfield Road have been contemplated due to steady increases in travel demand and congestion in the area. LCDOT identified Deerfield Road from Milwaukee Avenue to Saunders/ Riverwood Road in their 2040 Transportation Plan as a route widening; however, it is not known at this time what the preferred alternative will be.

2. What is a Phase I Study and when will construction begin?

The roadway project development process includes three phases:

- Phase I is preliminary engineering, environmental studies, and public coordination, and is planned to take 36 month for completion.
- Phase II is contract plan preparation and land acquisition, and typically takes 24 months.
- Phase III is roadway construction, and typically takes 12-24 months.

The Deerfield Road Phase I Study will follow the Federal National Environmental Policy Act (NEPA) for project development to be eligible for federal funds. Following this process will allow the study team to balance the need for safe and efficient transportation improvements with any potential impact to the human and natural environment. The specific Phase I Study process consists of data collection, developing the project purpose and need, identifying a range of alternatives, screening the range of alternatives down to a preferred alternative, and then obtaining design approval from IDOT and FHWA. Phase I and Phase II are included in the Federal Fiscal Year (FFY) 2014-2019 Transportation Improvement Program (TIP). Phase III (construction) is not programmed in the current TIP. At earliest, construction would occur in year 2021 depending on funding availability.

3. What happened to the previous Phase I studies for bike paths?

LCDOT previously designed and constructed a separate bike path bridge over the Des Plaines River south of the existing Deerfield Road bridge structure to connect the Des Plaines River Trail (DPRT) to Thornmeadow Road. That project was completed in 2010, and designed with consideration of future Deerfield Road improvements. In addition to the constructed bike path bridge, there are two previously



approved Phase I Studies for multi-use paths along Deerfield Road, one by the Village of Riverwoods to connect the existing bike path terminus at Thornmeadow Road to Saunders Road, and the other by LCDOT to connect the existing bike path terminus at the DPRT to Milwaukee Avenue. These projects are part of the Lake County 2040 Bike Plan, and further analysis of both projects will be incorporated into the Deerfield Road project.

4. How will public input be taken into consideration?

Stakeholder involvement is critical to project success, and the involvement process strives to achieve the following:

- Understand stakeholders' key issues and concerns.
- Obtain stakeholder feedback in the decision-making process early and often.
- Address all modes of transportation.
- Apply flexibility in design to address stakeholders' concerns whenever possible.

Public involvement for the Deerfield Road project started with the PIM #1 (November 30, 2016) where the public helped to define the project purpose and need. In addition, a Stakeholder Involvement Group (SIG) was formed, which is comprised of a balanced representation of community leaders from the study area, stakeholders with expertise or technical interest in environmental, land use, transportation, and economic development that are affected by the study, as well as other representative stakeholders. The SIG first met March 2, 2017 to discuss the PIM #1 Summary, the project development process, the public involvement process, and provide input for the preliminary project Purpose and Need statement. Alternatives carried forward must meet the project Purpose and Need. SIG #2 was held on June 28, 2017 to discuss the status of the Purpose and Need Statement, the range of alternatives to be developed, the alternatives evaluation process, and the alternatives evaluation criteria. Stakeholder input will continue to be considered throughout the project development process. SIG #3 is anticipated in Fall 2017 to screen the range of alternatives to be carried forward for detailed analysis. The public involvement process is described in more detail in the Stakeholder Involvement Plan (SIP) provided on the project website (www.deerfieldroadcorridor.com). Final project decisions will be made by the Lake County Division of Transportation (LCDOT) in consultation with the Illinois Department of Transportation Bureau of Local Roads and the Federal Highway Administration.

5. What is the Purpose and Need statement?

An Environmental Assessment (EA) is a concise public document for which the significance of impacts is determined for a transportation project. The Purpose and Need statement is the first chapter of the EA, and establishes the reasons for considering transportation improvements within the Deerfield Road



corridor. Any alternatives under consideration must meet the project Purpose and Need to be carried forward for further evaluation and consideration. The “No-Build” alternative is also carried forward and evaluated.

6. How is the range of alternatives being developed and analyzed?

Traffic, safety, and mobility considerations were discussed at SIG Meeting #2 in developing the range of alternatives. The basic range of alternatives to be evaluated include:

- 2-lane (intersection only improvements)
- 3-lane (one through lane in each direction with a center turn lane)
- 4-lane (two through lanes in each direction without a center turn lane)
- 5-lane (two through lanes in each direction with a center turn lane)

Variations to these basic alternatives can be based on location and design elements. Variations for design elements within the basic roadway section include such things as median type and width, lane widths, drainage systems, on-road and off-road bike accommodations, and sidewalk width/offsets.

A comparative evaluation of the Deerfield Road range of alternatives will be completed using several evaluation criteria including:

- Transportation Performance,
- Mobility,
- Safety,
- Environmental Resources,
- Socio-Economic,
- Non-Motorized Accommodations, and
- Cost

Transportation performance and mobility measure of effectiveness are evaluated using the Synchro traffic model. Safety measures of effectiveness are evaluated using the Illinois Highway Safety Design Manual. Environmental resources and socio-economic impacts are evaluated based on area of impact. Non-motorized accommodations and cost are evaluated based on relative scale. The comparative evaluation will be used to screen the range of alternatives to finalist alternatives to be carried forward for detailed analysis.



7. Why are traffic analyses based in peak travel periods only?

Evaluation of the movement of people, goods, and services during peak morning and evening travel periods is required by LCDOT, IDOT, and FHWA as part of the transportation planning process.

8. How is the Deerfield Road project being funded?

The Phase I Engineering and Environmental Study is locally funded by LCDOT. A Phase I Study is being completed for the project to be eligible for federal funds in future phases. It has not been determined yet whether federal funds will be used for Phase II (Contract Plan Preparation and Land Acquisition) or Phase III (Construction). If federal funds are secured, cost sharing is typically distributed between local funds at 20% to federal funds at 80%. If federal funds are not secured, LCDOT intends to fund the project using local funds.

9. What are the plans for pedestrian and bicycle accommodations?

A proposed bike path along Deerfield Road is included in the County's 2040 Bike Plan, and will be implemented with this project as a County Facility. A proposed sidewalk along the opposite side of Deerfield Road would become a Village of Riverwoods facility, and may be implemented with this project depending on cost participate and maintenance by the Village of Riverwoods, and stakeholder feedback indicating desire for the sidewalk.

10. How will environmental impacts be evaluated as part of this project?

As described in Question 6, a comparative preliminary evaluation of certain environmental impacts will be used to screen the range of alternatives to finalist alternatives to be carried forward for detailed analysis. Once a preferred alternative is determined, all environmental impact will be further defined and addressed in a hierarchal structure:

- Avoid
- Minimize
- Mitigate

Evaluation of potential environmental impacts include floodplain, floodway, wetlands, high quality wetlands, trees, natural areas, Forest Preserve District, parks, noise, air quality, and water quality. Efforts will be made to avoid impacts, however if impacts are unavoidable, then impacts will be minimized as reasonably feasible and mitigated as required.



11. How will the Deerfield Road project affect property values?

The effect of a roadway project on property values is difficult to discern since there are a number of factors that could lead to an individual's perception including improved transportation and accessibility, proximity, or other factors. LCDOT, IDOT, and FHWA do not reimburse or collect from property owners for any positive or negative changes to property values which may or may not have been caused by roadway projects.

12. Can retiming the Deerfield Road at Milwaukee Avenue intersection and signal coordination alleviate traffic congestion?

Retiming Milwaukee Avenue and coordinating the signals along Deerfield Road will be considered in developing alternatives. Milwaukee Avenue is an IDOT Strategic Route Arterial (SRA) with very high traffic volumes; therefore, significantly changing the timing to give Deerfield Road enough "green time" to reduce queues would not be feasible because transportation performance along Milwaukee Avenue would be impacted. Retiming the intersection would be feasible if accompanied by lane capacity improvements (i.e; adding a third through lane along Milwaukee Avenue at the intersection) to improve transportation performance along both routes. A 2-lane "intersection only" improvement is being considered to determine if study area needs may be addressed by improvements to the three intersections only.

13. What improvements are proposed at the Milwaukee Avenue intersection?

While a preferred alternative has not been determined, the Milwaukee Avenue intersection requires a major improvement and those improvements are anticipated to be similar between the range of alternatives. At the north and south approaches along Milwaukee Avenue, three through lanes, dual left turn lanes, and an exclusive right turn lane are anticipated. At the west and east approaches along Deerfield Road, two through lanes, at least one exclusive left turn lane, and an exclusive right turn lane are anticipated. Additional coordination and analysis is necessary to determine if dual left turn lanes are necessary on the west and east approaches along Deerfield Road. The east approach will tie back into the proposed 2-, 3-, 4-, or 5-lane alternatives along Deerfield Road based on design standards.

In the near term, proposed developments at the northwest and southwest corners of the Milwaukee Avenue intersection are only required to modify the intersection to mitigate for traffic volume impacts caused by their development. These developments are not required to make roadway improvements needed for travel demand not specifically generated by the development. For example, a westbound right turn lane at the northeast corner of the intersection is not required to be built by developments constructed at the northwest and southwest corners. These developments are in the permitting process.



with IDOT for an access permit to Milwaukee Avenue, and with LCDOT for an access permit to Deerfield Road. IDOT is not requiring the developments to construct three through lanes in each direction along Milwaukee Avenue. Traffic volumes from the Traffic Impact Study will be added into the Deerfield Road Phase I Study once their construction permit has been obtained.



Frequently Asked Questions

This document provides responses to the frequently asked questions pertaining to the proposed improvements and the potential noise wall adjacent to the Thorngate Subdivision associated with the Phase I Engineering Study of Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road. Project information, including information shared at the Noise Forum Meeting, can be found on the project website www.deerfieldroadcorridor.com. Please review this information, as it will help inform you of the traffic noise process and results. This document will also be posted on the project website.

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1. Why is the County studying Deerfield Road?

Through the Lake County Division of Transportation (LCDOT) planning process, Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road has been identified to have transportation deficiencies as documented in the Lake County 2040 Transportation Plan (2040 Plan). The 2040 Plan is a long range plan adopted in June 2014 that identifies deficiencies and recommends improvements necessary to address the future transportation needs of Lake County including roadway, transit, and non-motorized modes of travel. More information regarding the Lake County 2040 Transportation Plan can be found on their website. From the long range plan, the County develops a 5-year Highway Improvement Program to schedule projects, which includes various phases of engineering and construction.



In addition to transportation deficiencies identified within this portion of Deerfield Road, LCDOT pavement management data shows almost 40% of the base/substructure of the pavement to be in failing condition. As such, LCDOT views the roadway to be near the end of its life and the most cost-effective pavement management approach is to reconstruct the roadway. When a roadway is reconstructed, the entire pavement structure is removed (typically nearly 2 to 3 feet in depth) and rebuilt, which requires a significant financial investment. As such, when a roadway is reconstructed a full evaluation of capacity, safety, drainage, non-motorized accommodations, and roadway design elements are required. The specific needs identified for this project are documented in the Purpose and Need statement located on the project website at: https://deerfieldroadcorridor.com/info_center/project_reports.aspx

2. What is a Phase I Study and when will construction begin?

The roadway project development process includes three phases:

- Phase I is preliminary engineering, environmental studies, and public coordination, and is planned to take 36 months for completion.
- Phase II is contract plan preparation and land acquisition, and typically takes 24 months.
- Phase III is roadway construction, and typically takes 12-24 months.

The Deerfield Road Phase I Study will follow the federal National Environmental Policy Act (NEPA) for project development to be eligible for federal funds. Following this process will allow the study team to balance the need for safe and efficient transportation improvements with any potential impact to the human and natural environment. The specific Phase I Study process consists of data collection, developing the project purpose and need, identifying a range of alternatives, screening the range of alternatives down to a preferred alternative, determining the potential impacts the proposed improvement may have on the environment, and then obtaining design approval from the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA). Phase I and Phase II are included in the Federal Fiscal Year (FFY) 2019-2024 Transportation Improvement Program (TIP). Phase III (construction) is not programmed in the current TIP. Construction is anticipated to start in 2023.

3. What is the proposed improvement for Deerfield Road between the Des Plaines River and Saunders/Riverwoods Road?

The proposed improvement for this section of Deerfield Road consists of a 3-lane roadway that includes a center bi-directional turn lane, curb and gutter, and 8 foot multi-use path (south side up to Portwine Road; north side up to Saunders/Riverwoods Road). As Deerfield Road approaches the Saunders/Riverwoods Road intersection, the same number of lanes will be provided on Deerfield as currently exists today (5). In this area, there will be some modifications that will require the existing south curb line to move between 4 and 11 feet to the south. The reason for this is to accommodate a lengthening of the eastbound right turn lane by 60 feet to meet intersection design standards, provide a 3 foot “bike friendly” shoulder, and 2.5 foot wide curb and gutter.



4. What is the proposed improvement for Saunders Road?

The proposed improvement on Saunders Road includes a new northbound right turn lane and 6 foot sidewalk along the west side of Saunders Road directly behind the existing curb. The Saunders Road intersection will be modernized with new signal equipment and cross walks on all legs of the intersection. The proposed sidewalk will extend south to the Thorngate HOA Park.

5. Why was a Traffic Noise Study completed?

A traffic noise assessment was required to comply with State and Federal regulations because Federal funds are being used for this project and due to the project scope. The scope of this project includes proposed roadway reconstruction with the addition of through traffic lanes at Milwaukee Avenue and the addition of a center turn lane throughout the length of the Deerfield Road corridor. If any part of the project meets the requirements for a noise analysis, the entire project must be evaluated for traffic noise according to the IDOT Highway Traffic Noise Assessment Manual (2017). A copy of the manual is located on the project website (Information Center/Project Reports). The entire project area was evaluated for traffic noise and based on the analysis, only one location warranted noise abatement (i.e., noise wall) per the IDOT Noise Policy.

6. What are the criteria that must be met for noise mitigation to be considered for a project?

A noise barrier may be proposed when a traffic noise impact occurs, and a noise barrier is determined to be feasible and reasonable.

Based on the IDOT Noise Policy, for a residential area, a traffic noise impact occurs when the design year (2050) build condition traffic noise levels are predicted to be 66dB(A) or greater. A traffic noise impact also occurs if the design year (2050) build condition traffic noise levels are predicted to substantially increase (15 dB(A) or greater) over existing conditions. Traffic noise levels are determined by computer modeling.

A noise barrier is determined to be feasible if it achieves at least a 5 dB(A) traffic noise reduction for at least two impacted receptors. A traffic noise reduction of ± 5 dB(A) is a readily perceivable change in noise.

A noise barrier must also be reasonable, which includes the following three criteria:

- It must meet the noise reduction design goal of achieving at least an 8 dB(A) reduction for at least one benefited receptor. A benefited receptor is the recipient of an abatement measure that receives a noise reduction of 5 dB(A) or greater. A benefited receptor does not need to be an impacted receptor.
- The estimated build cost per benefited receptor must be less than or equal to the allowable cost per benefited receptor. The base allowable cost is \$30,000 per benefited receptor. The allowable cost may be adjusted based on a number of factors. Refer to the IDOT Highway Traffic Noise Assessment Manual (2017) for additional information.

For example, if a noise barrier will benefit 10 residences, and the total cost of the noise barrier is \$270,000, then the cost per benefited receptor would be \$27,000 (which is less than the allowable cost of \$30,000 per benefited receptor) and the noise barrier would be considered economically reasonable.



- If noise abatement measures are determined to be feasible and achieve the first two reasonableness criteria, the benefited receptor viewpoints must be considered. If the majority of the viewpoints are in favor of the noise barrier, then the noise barrier would be considered “likely to be implemented.”

If a noise barrier is not considered feasible or reasonable for an area, the noise barrier abatement measure will not be implemented as part of the project.

7. Can a berm be used instead of a noise wall?

Earth berms can be considered for noise abatement. However, the use of berms depends on the space available. For maintenance reasons, the slope of the berm should not be steeper than 3(H):1(V). For this project, there is limited available space to build a berm that would achieve the necessary noise reduction. The potential noise wall for this project would be 15 feet tall. Comparatively, a 10-15 feet tall berm would be about 60-90 feet wide. The available area for noise abatement would need to accommodate this base width.

8. Can vegetation be used as noise mitigation?

Landscaping (vegetation) is not recognized by the FHWA as a traffic noise abatement measure. However, landscaping can provide traffic noise reductions if it is sufficiently wide, dense (e.g., evergreen trees), and tall such that it cannot be seen through or over. Generally, the vegetation needs to be between 100 and 200 feet in width, 16 to 18 feet tall, and with dense understory growth to obtain a perceivable noise reduction of 5 dB(A). Vegetation/trees can potentially help screen the traffic from view, but it is generally not feasible to plant this number of trees or have available sufficient right-of-way for this to be a prudent abatement measure.

9. What property would be needed for the potential noise wall adjacent to the Thorngate Subdivision?

If the noise wall is included with this project, additional property acquisition will be required. The noise wall would be installed on property that is owned by Lake County. Permanent and Temporary Easements would be required for construction and future maintenance of the noise wall. All property acquisition would be from the Thorngate HOA property adjacent to the Deerfield Road and Saunders Road right-of-way. There is one exception (781 Links Court) where acquisition would be required directly from the property owner. Refer to the proposed improvement exhibit on the project website showing the potential noise wall location and associated property acquisition.

A summary of the proposed property acquisition is provided below. If the noise wall is not included with the project, the property acquisition associated with the noise wall can be eliminated.

- Along Deerfield Road, 5 feet of right-of-way will be needed adjacent to the eastbound right turn lane; a 5 foot permanent easement would be needed along the entire Thorngate Subdivision for future maintenance of the wall; a 5 foot temporary construction easement would be needed to construct the wall (predominantly for clearing vegetation/trees and grading).
- Along Saunders Road, a 10 foot temporary construction easement would be needed to construct the wall (predominantly for clearing vegetation/trees and grading).

Deerfield Road cannot be shifted to the north to avoid property acquisition to the Thorngate Subdivision.



10. How is property that is needed for the project acquired?

This project is using federal funds and therefore a certain process must be followed for property acquisition, which includes preparation of a plat of highway, appraisal, review appraisal, an offer made, and a negotiation with the property owner. Compensation is provided for permanent and temporary acquisition based on the appraisals and any other damages to the remainder of the property. This process is anticipated to begin when Phase II Engineering commences in mid 2020.

11. Where is my property line?

Property lines are shown on the detailed proposed improvement exhibits and noise wall exhibit. The roadway right-of-way, which is owned by Lake County, is depicted as a thick dashed red line style and is approximately 13 feet (adjacent to the eastbound right turn lane) to 25 feet (west of the right turn lane) from the existing roadway curb. The existing power lines and existing wire fence are located within the Lake County roadway right-of-way. Beyond the roadway right-of-way, is HOA property, which is a minimum of 22 feet (and is higher closer to Saunders/Riverwoods Road intersection) from the roadway right-of-way to private property parcels. Many residents adjacent to Deerfield Road and Saunders Road currently have landscaped this area or located other items such as playgrounds within the HOA property. The parcel lines are typically shown as black, solid lines on the project exhibits.

12. Will there be any additional costs for property owners or the HOA to construct the noise wall?

No. All costs for land acquisition and construction of the noise wall will be paid for by Lake County as part of the project.

13. Where would the potential noise wall be located?

The potential noise wall would be located approximately 17 feet (adjacent to eastbound right turn lane) to 23 feet (west of eastbound right turn lane) from the existing roadway curb along Deerfield Road and approximately 17 feet from the existing roadway curb along Saunders Road. The approximate location is shown on the noise wall exhibit. Another reference point is the existing wire fence located near the rear of the residential lots. **Along Deerfield Road, the potential noise wall would be located approximately 6 feet from the wire fence to the south (towards the homes); along Saunders Road, the potential noise wall would be located approximately between the two wire fences.**

14. What would the potential the noise wall look like?

The potential noise wall would have a form liner that would look like natural stone. An example picture is included in the Noise Forum Meeting PowerPoint presentation located on the project website (Information Center/Meeting Materials). The potential noise wall would be 15 feet tall.



15. How was the height of the wall determined?

As part of the traffic noise analysis, a computer noise model was used to evaluate different wall heights. As part of the analysis, many iterations are run to determine a noise wall height that meets the feasibility and reasonableness requirements mentioned above. Based on the analysis completed for this project, the potential noise wall would be 15 feet tall. A lower wall did not meet the feasibility and reasonableness requirements.

16. What will happen to the existing vegetation and landscaping between the roadway and residential homes?

If the noise wall is constructed, it would require the removal of many of the existing trees and other vegetation currently located between the roadway and the residential homes. The noise wall would be 15 feet tall and would also require trimming of tree branches that extend towards the wall. A rendering of what the potential noise wall would look like from a back yard perspective is provided in the Noise Forum meeting PowerPoint presentation located on the project website. Landscaping behind the noise wall will not be provided as part of this project. Since the property directly behind the noise wall is owned by the HOA, any plantings immediately adjacent to the noise wall would be HOA responsibility. Grass would be planted between the noise wall and the roadway. Detailed landscaping will be determined during Phase II Engineering.

17. How much noise reduction would be achieved with the noise wall?

Based on computer modeling, the vast majority of the 37 benefited receptors would receive a noise reduction of between 5 and 11 dB(A) in the 2050 future build condition with the implementation of a noise wall. More than half of these benefited receptors would be on the lower end of that range (i.e., between 5 and 7 dB(A)). Three of the receptors would receive a slightly higher than 11 dB(A) noise reduction due to the receptor location/area of frequent outdoor activity, such as a playset, being located immediately adjacent to the potential noise wall.

Please note that based on computer modeling (and confirmed by field monitoring), the worst case receptor for the Thorngate Subdivision has an existing traffic noise level of 66 dB(A), which would be considered an impact in the build condition. Based on computer modeling, under the 2050 future build condition, the worst case receptor for the Thorngate Subdivision has a predicted noise level of 69 dB(A). **This is a difference of 3 dB(A) from existing to build condition. A change of ± 3 dB(A) is a barely perceivable change in noise.**

18. What is this vote for?

The vote you are casting is only for the potential noise wall to be recommended for implementation as part of the project. The roadway project will proceed regardless of the vote results.

19. Who is allowed to vote?

Only benefited receptors of the noise wall are allowed to vote. For this potential noise wall, there are 37 benefited receptors. The benefited receptor locations are depicted on the Noise Wall Exhibit. To be a benefited receptor, a noise reduction of at least 5 dB(A) must be obtained with the proposed noise wall under future 2050 traffic conditions. Benefited receptors include property owners and renters/lesers residing on the benefited property. In the case of rental properties, both the property owner and renter are allowed to vote.

APPENDIX E-8

AGENCY AND PUBLIC COORDINATION

Village of Riverwoods



MEETING SUMMARY

Meeting Date: September 13, 2016 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Rick Jamerson	Riverwoods – Village Trustee	rjamerson@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com
Emily Anderson	CBBEL – Project Engineer	eanderson@cbbel.com

A coordination meeting was held on September 13, 2016 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce the project to the Village of Riverwoods (Village). Darren Monico, from the Village of Buffalo Grove, was invited to the meeting, but was unable to attend. A meeting agenda was distributed and included: introductions, project background, project startup & data collection, anticipated scope of work & termini, Deerfield Road corridor issues & needs, project development & schedule, public involvement, and other discussion. An existing conditions aerial exhibit was displayed for discussion purposes.

Below is a summary of meeting discussion points, with any action items noted:

- 1) Project background was provided. This project includes Phase I engineering and environmental studies for Deerfield Road from US 45/IL 21 (Milwaukee Avenue) to Saunders Road/Riverwoods Road in Lake County, Illinois. The project is located within the Villages of Buffalo Grove and Riverwoods. The project is adjacent to predominantly forested, large lot, residential properties and also LCFPD property at the Des Plaines River crossing.
- 2) LCDOT designed and constructed a separate multi-use path and bridge over the Des Plaines River connecting the Des Plaines River Trail (DPRT) to Thornmeadow Road. The bridge was offset from the existing Deerfield Road bridge to allow for a future widening of Deerfield Road. The low chord of the bike path bridge is above the 100-year flood plain elevation. East of the bridge abutment there is a timber boardwalk. CBBEL was the engineering consultant for the project.
- 3) There are two approved Phase I Studies for multi-use paths along Deerfield Road that were stopped during Phase II Engineering, one by the Village (Thornmeadow Road to Saunders/Riverwoods Road) and the other by LCDOT (Milwaukee Avenue to DPRT). These Phase I designs will be incorporated into this project and designs modified based on the proposed roadway improvement along Deerfield Road. The Village multi-use path connects to the existing LCDOT multi-use path at Thornmeadow Road and goes east along the south side of Deerfield Road to Portwine Road where it crosses to the north side of Deerfield Road, and then connects to the existing path at Saunders/Riverwoods Road. This multi-use path would be

maintained by LCDOT as it is in the 2040 Non-Motorized Plan. The Village asked if mid-block pedestrian crossings could be incorporated to provide access for residents living on the opposite side of the proposed multi-use path. LCDOT indicated for this project they will likely only include crossings at signalized intersections, but the Village could apply for mid-block crossings through the County's permitting process. A parallel sidewalk or other accommodation on the opposite side of the multi-use path will be looked at with the project.

The LCDOT multi-use path connects the existing Buffalo Grove Path at the west side of Milwaukee Avenue south of Deerfield Road and goes east to the existing connecting to the LCDOT multi-use path and DPRT. Both projects were stopped in the engineering process to assure that proposed improvements to Deerfield Road do not affect them, such as the proposed roadway width, vertical profile adjustments, and right-of-way acquisition.

Action Item: LCDOT/CBBEL to consider pedestrian accommodations on the opposite side of the roadway from the multi-use path.

- 4) The DPRT is open to horseback riding and is a shared multi-use trail within the project study area. The Village confirmed that there are several properties with horses within the Thornmeadow neighborhood, east of the Des Plaines River. Currently the LCDOT multi-use path and bridge is being used, which connects Thornmeadow Road on the east to the DPRT on the west side of the Des Plaines River. LCDOT policy does not allow equestrian use on their non-motorized facilities. The Village agreed that horses on the proposed multi-use path along Deerfield Road is not appropriate and indicated they would like to work with LCFPD separately for making a new connection from the Thornmeadow neighborhood to the DPRT.
- 5) CBBEL/LCDOT is currently collecting data for the project, including: topographic survey, wetland delineations, traffic counts/projections, crash data, and historical roadway/development plans. CBBEL requested if the Village had additional information to share within the project study area. The Village indicated they have historical roadway flooding information and Thorngate sub development plans. The other neighborhoods were established before current detention and drainage design practices.

Action Item: The Village to provide CBBEL with pavement flood records, drainage issues, and Thorngate sub development plans.

- 6) Proposed developments at the Deerfield Road and Milwaukee Avenue intersection were discussed. Currently, a Woodman's Food Market is planned for the northwest corner of the intersection with a gas station / car wash / convenience store at the southwest corner of the intersection. Both of these developments are within the municipal limits of the Village of Buffalo Grove. The project is currently in the permitting process within LCDOT and IDOT. It is unknown at this time what LCDOT and IDOT will require on Deerfield Road and Milwaukee Avenue.

At the southeast quadrant of the intersection, there are three parcels, two of which are Village owned and one is being developed as a Public Storage. The eastern most parcel is planned for a future roadway with a new intersection with Deerfield Road. This roadway would provide access to the parcels south of Deerfield Road. A Public Storage facility is under construction at one of the two available parcels and will have a right-in-right-out driveway on Deerfield Road.

Discussion occurred regarding the planned/ongoing developments and relation to this project. The Deerfield Road Phase I is currently anticipated to be completed in 2019, a 36 month schedule. The project is funded for Phase II Engineering and construction by LCDOT, but federal funding will be sought for the project. Phase II Engineering and land acquisition is anticipated to take approximately 2 years. Construction is anticipated in 2022 at the earliest. Therefore, it is likely that the developments at northwest, southwest and southeast corners will be constructed prior to Deerfield Road improvement, which will include improvements to all legs of the Deerfield Road and IL 21 intersection. The developments will only be responsible for

addressing traffic generated by their developments and not future projected traffic (year 2040) that the LCDOT project will consider.

- 7) The Village would like confirmation from LCDOT that the future Deerfield Road project will not preclude a full access intersection at the future Village roadway just west of the Brentwood property. Currently, projected traffic and intersection analysis has not yet been determined for the Deerfield Road and IL 21 intersection. Once the traffic projections are obtained, preliminary geometric concepts could be initiated to understand what will likely be needed at the Deerfield Road and IL 21 intersection, and extent of any barrier medians.

Action Item: Once traffic projections are finalized, LCDOT will complete a preliminary intersection analysis and concept level design for the east leg of the Deerfield Road and IL 21 intersection. LCDOT will coordinate with the Village on the results of the analysis.

- 8) The Village asked if it is possible to construct a westbound right turn lane at the Deerfield Road and IL 21 intersection to provide some congestion relief at the intersection for the PM peak hour which experiences backups east beyond Portwine Road. Discussion occurred regarding possible project development/implementation methods to construct the right turn lane in the near term. The results of the conversation concluded that the quickest way to construct a right turn lane would be to have it incorporated into any roadway work as a part of the adjacent developments. The Village could pursue necessary right-of-way acquisition from the northeast parcel and dedicate it to LCDOT.

Action Item: LCDOT to discuss internally the recommended plan to advance a WB to NB RTL prior to the Deerfield Road improvements. This may be either through an access requirement for the SE development or a land dedication from the Village to the County.

- 9) The Village inquired when a determination would be made regarding raising the proposed roadway elevation out of the regulatory floodplain at the Deerfield Road and IL 21 intersection. CBEL stated that this will likely not be determined for a while. The existing drainage plan will begin once topographic survey is completed, which is anticipated for early October. The project team will need to investigate further and coordinate accordingly with IDOT regarding future roadway elevation.
- 10) The purpose of the project is to address capacity and safety issues along Deerfield Road. The anticipated scope of work includes pavement reconstruction and add lanes with urban cross section with signal upgrades/modernization, closed drainage system, separate non-motorized facilities, and Des Plaines River bridge improvements. A variety of roadway cross section alternatives will be evaluated.
- 11) The project schedule is 36 months. The federal project development process is being followed through IDOT Bureau of Local Roads and Streets. The project is being processed as an Environmental Assessment.
- 12) The project will have a Stakeholder Involvement Group (SIG) that will be composed of local agencies, business owners, and residents. The Village will provide contact information for the homeowners associations and Riverwoods Preservation Council. A Public Information Meeting is being targeted for November 30, 2016 and SIG membership will be solicited. There are a limited number of locations that the meeting can be held. The Village suggested Charles J Caruso Middle School or Wilmot Elementary School, just east of I-94 off Deerfield Road. The Village stated the new Village Hall is scheduled to be completed in April 2017 and would be available to hold SIG meetings after that date.

Action Item: Images to contact the schools for availability on November 30, 2016 for the Public Information Meeting. Village to provide contact information for homeowners associations adjacent to Deerfield Road.

13) The Village puts out a newsletter approximately every 2 months, "Village Voice", and will include a link to the project website in the newsletter and on the Village website when available.

The meeting adjourned at approximately 12:15 p.m.

Submitted by: Emily T. Anderson, PE, CFM (CBBEL)

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MEETING SUMMARY

Meeting Date: December 19, 2017 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Ann Maine	Lake County Board	amaine@lakecountyil.gov
Shane Schneider	LCDOT	SSchneider@lakecountyil.gov
Kevin Carrier	LCDOT	KCarrier@lakecountyil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Leisa Niemotka	Images Inc. - Director	leisa.niemotka@imagesinc.net
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com
Emily Anderson	CBBEL – Project Engineer	eanderson@cbbel.com

A coordination meeting was held on December 19, 2017 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study with the Village of Riverwoods. The purpose of the meeting was to provide a project status update and discuss the alternatives evaluation process, range of alternatives, and alternative evaluation results.

Below is a summary of meeting discussion points, with any action items noted. The meeting agenda is included as an attachment:

1. CBBEL provided an overview of the NEPA/404 merger process, stakeholder coordination since SIG #2, and an update of the environmental surveys. Regarding the purpose and need of the project, the Village indicated that the stakeholder concern seems to be how significant is the need for an improvement to Deerfield Road is. When reviewing the environmental resources exhibit, the Village indicated there is a 5-foot conservation easement on the Thorngate subdivision plat, and they could send it along.
2. The traffic projections were reviewed, which included the Build 3-Lane, 4-Lane and 5-Lane. There was a 12% increase in traffic from the 3-Lane to 4-Lane and 5-Lane. The traffic analysis for all the alternatives incorporated the Woodmans permit improvements at the intersection as well as their site generated traffic during the peak hours.
3. The range of alternatives were reviewed and typical sections presented for each. There are five alternatives that were developed and evaluated. The Village asked questions if a 2-lane curbed roadway section could be considered. The project team stated this was considered early on, but dismissed as the pavement width is two feet narrower than the 3-lane curbed roadway section, which utilizes the pavement more efficiently with a center turn lane instead

of 8-foot paved shoulders. The Village recommended that the 2-lane curbed roadway typical section be developed and discussed at the upcoming SIG meeting as many residents will ask about this alternative.

4. While discussing the typical sections, the Village asked about burying utilities, and LCDOT responded this could happen at cost to the Village. The County also noted that any directional boring associated with burying utilities could also result in the loss of trees.
5. The project team is still developing the range of intersection alternatives for the Milwaukee Avenue intersection. At a minimum a westbound right turn lane will be added at the intersection. All alternatives that are being considered impact the NE parcel at Milwaukee Avenue. The Village is interested in installing a traffic signal at the Federal Life access drive and Cube Storage access drive (on Village property) to provide better accessibility to adjacent properties. The Village is also investigating making a connection to the Shoppes of Riverwoods and Colonial Court to the Federal Life property. With improvements being made to the Milwaukee Avenue intersection, including barrier medians, the Village expressed concern regarding accessibility to the northeast quadrant of the intersection. The project team stated that the Deerfield Road alternatives would not preclude a traffic signal at that location. The project team will continue coordination with the Village.
6. In reviewing the Comparative Evaluation of Deerfield Road Range of Alternatives, the Village recommended highlighting the appropriate column to be used for comparison purposes because it is easy to default to the first column (existing conditions) versus the 3rd column (2040 No-Build).
7. Based the alternative evaluation conducted to date, which is still ongoing, one alternative (Des Plaines River to Saunders/Riverwoods Road) has distinguished itself from the others, Alternative 3 - 3-lane roadway section with curb and gutter. Coordination meetings have been set for January/February 2018 with IDOT-BLRS, FHWA/IDOT, and the environmental resources groups (NEPA/404 Merger Meeting) to discuss the alternative evaluation and preliminary preferred alternative. Depending on the outcome of the meetings, the project team is anticipating to announce the preliminary preferred alternative at SIG #3 on January 25, 2018. In addition, a meeting is planned with the Riverwoods Preservation Council (RPC) prior to SIG #3. The Village supported the meeting with the RPC.

The meeting adjourned at approximately 12:45 p.m.

Submitted by: Matthew Huffman, PE (CBBEL) and Emily T. Anderson, PE, CFM (CBBEL)

Attachments:

1. Meeting Agenda



Deerfield Road (IL 21 to Saunders/Riverwoods Road)

Phase I Engineering

Village of Riverwoods Coordination Meeting

December 19, 2017 at Village of Riverwoods

Meeting Agenda

I. Project Status Update

- a. NEPA/404 Merger Process
- b. Stakeholder Coordination
- c. Environmental Coordination & Surveys

II. Comparative Evaluation of Deerfield Road Corridor Range of Alternatives

- a. Existing Conditions
- b. 2040 No-Build (Woodman's Development factored in)
- c. Range of Build Alternatives

III. Comparative Evaluation of IL 21 at Deerfield Road Intersection Alternatives

- a. Existing Conditions
- b. 2040 No-Build (Woodman's Development factored in)
- c. Range of Build Alternatives
- d. IDOT Coordination

IV. Ongoing and Future Development Projects

V. Public Involvement Next Steps

- a. SIG #3 (January 25, 2018) at Village Hall
- b. Public Meeting #2

VI. Other



DEERFIELD

DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD) PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Village of Riverwoods Coordination Meeting
 MEETING DATE: December 19, 2017
 MEETING TIME: 10:30 am
 LOCATION: Village of Riverwoods – Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. Kevin Carrier	Air. Planning	LC DOT	Kcarrier@lccountyil.gov
2. Leisa Niemotka	Director	Imagis	leisa.niemotka@Imagis-TW.net
3. EMILY ANDERSON	PROJ. ENGINEER	CB&E	eanderson@cbel.com
4. MATT HUFFMAN	PROJ. MANAGER	"	m.huffman@cbel.com
5. CHUCK GLEASON	LC DOT PM	LC DOT	CGLEASON@LCCOUNTYIL.GOV
6. SHANE SCHNEIDER	COUNTY ENGINEER	LC DOT	SSCHNEIDER@LCCOUNTYIL.GOV
7. Bruce Hurard	Village Attorney	Riverwoods	bhurard@csklegal.com
8. DAN BZIMKOWSKI	GM	BURWOODS	dburkman@gha-engineers.com
9. PATRICK GLENN	GM/VOA	RIVERWOODS	Pgleann@gha-engineers.com
10. JOHN MORRIS	MAYOR/VOA	RIVERWOODS	jmorris@riverwoods-il.net



DEERFIELD
ENGINEERING

DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY

SIGN-IN SHEET

	NAME	TITLE	REPRESENTING	EMAIL ADDRESS
11.	KENNY HOLLANDER	TWITTER	RIVERWOODS	HOLLANDER@riverwoodsi.net
12.	Ann Maine	County Board Member	Lake County	
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

MEETING SUMMARY

Meeting Date: February 27, 2018 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Terry Bleck	ComEd	terry.bleck@ComEd.com
Darren Boundy	ComEd	darren.boundy@ComEd.com
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com
Emily Anderson	CBBEL – Project Engineer	eanderson@cbbel.com

A coordination meeting was held on February 27, 2018 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study with the Village of Riverwoods. The purpose of the meeting was to provide a project status update and discuss the Milwaukee Avenue intersection preliminary preferred alternative in concert with the Village of Riverwoods site improvement plans at the northeast and southeast corners of the intersection.

Below is a summary of meeting discussion points, with any action items noted. The meeting agenda is included as an attachment:

1. Representatives from ComEd were invited to the meeting so the Village could ask more details about burying utilities. ComEd and the Village are meeting with representatives from Woodman’s after the meeting to discuss relocating two poles within the Village of Riverwoods at the northeast corner of Milwaukee Avenue and Deerfield Road due to the roadway improvements associated with the Woodman’s development. Proposed ROW is required at the northeast corner for the Deerfield Road Improvement, however the ROW has not been obtained yet and will likely will not be until Phase I is completed. While preferable to relocate poles to their ultimate location, ComEd would be required to obtain an easement from private property if done now. Therefore, it is likely that the 2 poles will need to be relocated twice: once as part of the ongoing Woodman’s roadway improvements and once again as part of the Deerfield Road roadway improvement.
2. Discussion occurred regarding burying the overhead ComEd lines. Utility coordination usually occurs in Phase II when plans are approximately 30% - 60% complete. Therefore, it is difficult for ComEd to provide a good estimate of the relocation vs. burying project cost. ComEd will provide a high-level programming level estimate for the rate hike per customer based on their resident data and cost data for the Village of Riverwoods. ComEd also mentioned that discussion would be needed with Comcast and AT&T who also have their utilities located overhead. Additionally, ComEd mentioned that residential connections would be required if buried and another cost to burying the

lines, which would be passed onto the owner. If the overhead lines are double circuited, two ducts would be needed. Chuck Gleason briefly reviewed their utility relocation procedures for their projects and indicated that they do not direct the utility company where to relocate.

3. The Village is considering a Village-owned road at the Federal Life entrance to connect north and then west to the Colonial Court development. The south leg of the intersection would be on Village owned property and is the location of the recently constructed access to the Lock Up Storage. Brentwood North could tie into the south leg and would also provide future access if the undeveloped property south of Brentwood and Lock Up Storage is developed. The Village desires a signal at this location. Lake County said they would consider a signal at this location when warrants are met. As part of the ongoing Deerfield Road project, this intersection will be setup for a future potential signal and will continue to work with the Village in this regard. Currently, this signal would be for private benefit since there is no dedicated right-of-way on the north/south legs.
4. Village is open to combining detention needs for the Village-owned access roadway and the LCDOT Deerfield Road project. The southeast corner of Milwaukee Avenue and Deerfield Road is owned by the Village. There is potential that the Federal Life detention facility could be relocated and combined with the LCDOT and Village detention at the southeast Village-owned parcel.

Action Item: CBBEL to complete detention requirement calculations for Deerfield Road to start exploring potential detention locations.

5. LCDOT intends to hold a business owner meeting with the property owners between Milwaukee Avenue and the river to discuss their internal site plans relationship to Deerfield Road. The Village agreed this made sense and would like to be invited as well.
6. The Village requested that the range of alternatives typical sections be updated to remove the bicyclist within the “bike friendly shoulder” to avoid confusion.

Action Item: CBBEL to update the Range of Alternatives typical sections to remove the bicyclist within bike friendly shoulder.

7. Implementing a sidewalk with the project requires a local sponsor (i.e.; the Village). At this time, the Village does not support the sidewalk, and requested that the sidewalk be removed from the roadway improvement plan and typical sections. While the previous comparative range of alternatives will not be updated, moving forward the finalist alternatives and preferred alternative will be designed without sidewalks. The multi-use path will remain as this is a regional path.

Action Item: LCDOT/ CBBEL to update the Preferred Alternative to provide no sidewalk per Village direction.

The meeting adjourned at approximately 12:30 p.m.

Submitted by: Matthew Huffman, PE (CBBEL) and Emily T. Anderson, PE, CFM (CBBEL)



DEERFIELD

DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Village of Riverwoods Coordination Meeting

MEETING DATE: February 27, 2018

MEETING TIME: 10:30 am

LOCATION: Village of Riverwoods - Village Hall

ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. Matt Hoffman	Pis. Mgr.	CBSEL	MattHoffman@cbtel.com
2. Emily Anderson	Proj. Engineer	"	eamerson@cbtel.com
3. Henry Hildebrand	Township Village Engineer	Riverwoods	henry@hildebrand.com
4. Patrick Green		Riverwoods	patrick@green-engineers.com
5. Terri Black	COMED PE	COMED	TERRI.BLACK@COMED.COM
6. Chuck Gleason	Project Manager	CCDOT	CGleason@ccdot.com
7. Bruce Howard	Village Attorney	Riverwoods	bhoward@rwhl.com
8. John Norris	Mayor	RIVERWOODS	john@riverwoods.il.net
9. Darren Boudry	COMED AFFAIRS	COMED	darren-boudry@comed.com
10.			

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MEETING SUMMARY

Meeting Date: August 28, 2019 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #4

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Rick Jamerson	Riverwoods – Village Trustee	rjamseon@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Kevin Carrier	LCDOT – Planning & Programming	kcarrier@lakecountyil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Ilene Dailey	CBBEL – Drainage Project Manager	idailey@cbbel.com
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com

A fourth coordination meeting was held on August 28, 2018 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study with the Village of Riverwoods. The purpose of the meeting was to provide a project status update and discuss/present the existing drainage plan, proposed roadway/drainage plan, ongoing/future development projects, and public involvement next steps.

Below is a summary of meeting discussion points, with any action items noted:

1. A project status update was provided by the project team regarding the NEPA/404 merger process update and overall project development process/schedule.
2. CBBEL presented the existing drainage plan for discussion and comment.
3. CBBEL presented the proposed roadway and drainage plan.
 - a. A summary of the design approach was presented.
 - b. The Milwaukee Avenue to Des Plaines River roadway and intersection design was recapped. The Village provided a status of Woodman's development and associated intersection improvements. The project team is incorporating the proposed permit improvements into the intersection design. Pat Glenn stated there is an XPSWMM drainage model for this intersection; CBBEL stated they will obtain this for factoring into the roadway drainage design.
 - i. The Village discussed the Village owned parcel at the southeast corner of the Milwaukee Avenue intersection. Development opportunities were shared with the project team along with possible controlled access to a future signal west of the site at the east drive to the CubeSmart Self-Storage, which is located on Village owned property. LCDOT stated that vehicle warrants must be met for a signal to go in with this project. Currently volume warrants would not be met given the existing traffic of Federal Life, CubeSmart and potentially Brentwood.

- ii. The Village inquired about use of the Riverwoods Medical Center and/or old Flame Chare House as possible detention locations. The project team stated that these sites are not desirable due to their size and location to the roadway. Detention facilities adjacent to State and County Routes must have certain offset requirements, which would significantly affect the potential size of the sites and would deem them not feasible. Additionally, the existing access drive from Colonial Court would need to remain, which would also affect possible size of the detention site.
- iii. The detention and compensatory storage was summarized, and concept plan for location on Federal Life property. An open detention and compensatory storage basin will be located at the existing detention/comp site. The project team reviewed the concept design.
- c. Coordination with Brentwood North was recapped. The project team has made progress with solidifying the parking lot replacement plan. There was discussion about future connection from the Brentwood North site to potential future Village Roadway and full access intersection with Deerfield Road.
- d. A sidewalk from Milwaukee Avenue to Meadow Lake subdivision was discussed and the Village stated they would respond if they would like incorporated into the project. LCDOT stated this would call under the Counties non-motorized policy for cost sharing and maintenance
- e. The Des Plaines River bridge improvements were reviewed. Accommodation of a sidewalk across the bridge was discussed. The Village stated they would not like a sidewalk across the bridge, however, the Village asked if the bridge could widening could be constructed to allow for a future sidewalk to be installed without additional widening. The County stated they will discuss the bridge deign and future non-motorized accommodations with CBBEL.
- f. A sidewalk or path south along Portwine Road was discussed. Desirable the Village would like to connect the Deerfield Road multi-use path to the new Village Hall. LCDOT stated they would look at possible limits for a sidewalk or path to the south and will report back to the Village.
- g. The Village expressed desire for a sidewalk from Saunders/Riverwoods Road intersection down the west side of Saunders Road to the existing Thorngrate Park. LCDOT stated this would fall under the County non-motorized policy for cost share and maintenance. There is an existing carriage walk behind the curb now and the likely non-motorized accommodation would be a 6-foot sidewalk behind the back of curb; the project team will evaluate this and report back to the Village.
- h. LCDOT will follow-up via a letter to the Village to confirm desired sidewalk to be incorporated into the project.
- i. For the section of Deerfield Road from the Des Plaines River to Saunders Riverwoods Road, the roadway and drainage design was reviewed. Generally, detention is being provided in-line (i.e. in pipe) and compensatory storage is proposed along Thorngrate Creek north of Deerfield Road.
 - i. Two possible mid-block crossings were discussed and desired by the Village at Timberwood Lane and Hoffman Lane. Potential use of RRFB

was discussed. The County explained their policy and they the Village would need to pay for and maintain them. Further discussion with the County would be needed if the Village desires to pursue these.

- ii. The Village asked about potentially split phasing the Portwine Road signal with a shared left/through lane and right turn lane. The project team stated this would not be feasible because it would not align with the southbound lane configuration. The project team stated they would evaluate a split phase and follow-up with the Village.
 - iii. The Village stated that the existing curb cut from the Fourkas property to Deerfield Road was not permitted and should be removed from the proposed plan. The project team stated they would investigate their records.
- j. The Forest Glenn crossing was discussed. CBBEL will be coordinating with GHA regarding the details of this crossing.
 - k. The Village stated that the parcel north of the Fourkas property is zone residential and currently undeveloped. It has been for sale numerous times but has not generated much interest due to Thonrgate Creek bisecting the parcel and most of it is in the floodplain. There is access via permanent access easement on the wester adjacent residential property. The Village will provide more information on the parcel for consideration of the project team for potential use for compensatory storage.
4. Discussion occurred regarding tree survey and impacts. The Village desires natural and native plantings where restoration work is planned. The project team stated they are conducting the detailed tree survey for the project and will provide that information to the Village when available.
 5. The project team inquired about ongoing and future development projects.
 6. The next steps for the project include offering a fourth Stakeholder Involvement Group meeting prior the upcoming second Public Meeting to display the preliminary preferred alternative for public comments.

The meeting adjourned at approximately 12:30 p.m.

Submitted by: Matthew Huffman, PE (CBBEL) and Emily T. Anderson, PE, CFM (CBBEL)

MEETING SUMMARY

Meeting Date: December 11, 2018 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #5

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Kevin Carrier	LCDOT – Planning & Programming	kcarrier@lakecountyiil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com

A fifth coordination meeting was held on December 11, 2018 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study with the Village of Riverwoods. The purpose of the meeting was to provide recap of the second public meeting, provide status of design modifications and environmental assessment (EA) preparation, recap Riverwoods Preservation Council meeting on November 19th, discuss/seek input on various design items, and discuss next steps.

Below is a summary of meeting discussion points, with any action items noted:

1. A summary of the second public meeting was provided. Over 100 people attended and over 30 comments received. Generally, the comments were across the board, and some general themes were addressing drainage issues and minimizing environmental/tree impacts.
2. CBBEL will be in the process of making design modifications following the public information meeting and coordination with the Village.
3. The project team is initiating preparation of the environmental chapter of the EA. Some of the initial items are preparation of the Traffic Noise Report, environmental surveys (IDOT), and assessment of environmental impacts. The schedule for completion of the draft EA will take some time and will be contingent upon IDOT reviews.
 - a. Details regarding the Traffic Noise Report process were explained. The Village inquired about what type of pavement surface will be utilized. The County stated that asphalt will likely be used, which the Village prefers.
 - b. Trustee Hollander explained the Villages desire to appropriately restore the areas affect by the project and said the Village may be willing to cost-share in elements above and beyond what is typically completed with roadway projects. The Mayor stated that creating the right impression/feel/context with the restoration adjacent to the roadway improvements is important. Further discussions will occur with the Village regarding this and if agreements are worked out between the Village the County, that commitments could be included in the EA or CDR.

4. A recap was provided of the November 19, 2018 RPC meeting. At the meeting the project team reviewed in detail all 20 sections of the EA Chapter 3 – Environmental Setting, Impacts, and Mitigation. Overall the biggest discussion was regarding the impacts to the natural resources, such as trees, areas for tree mitigation and restoration plantings.
5. There are numerous areas of the project design that the project team would like to inform and discuss with the Village for their input, and are summarized below:
 - a. The Milwaukee Avenue intersection design study was resubmitted to IDOT for review. Typically, IDOT takes 2 to 3 months to conduct a review.
 - b. The two detention/compensatory storage options were presented and discussed for the west portion of the project. Option 1 is located on the Village owned site at the southeast corner of the Milwaukee Avenue intersection. Option 2 is on the Federal Life property and would expand their existing basin.
 - i. The Village stated that this parcel is zoned for commercial and that they have had some interest over the years, however, it is a challenging site to develop due to the floodplain and accessibility. The Village stated the size of the parcel would accommodate about a 4,000-sf building.
 - ii. The Village desires to provide/plan for an access road from the western Federal Life access driveway to Colonial Court. This may be a private or public roadway. The project team will conduct an initial design for the future access roadway to be design around.
 - iii. The project team stated there were no significant comments regarding the detention/compensatory storage options as presented at the public meeting.
 - c. The project team inquired about Village's desire to cost participate in a sidewalk from Milwaukee Avenue to Chicory Lane. The County's non-motorized policy was explained, which is a 20 percent cost share, however, if federal funding is obtained the Village's cost share would be four percent. It was decided by the Village to proceed with a sidewalk at this location.
 - d. The Village provided direction that they do not want a sidewalk from Chicory Lane to the Des Plaines River bridge. If possible, the Village asked if space could be provided for a future sidewalk across the bridge, but not on either side. The County stated they would consider this request, and will report back at subsequent coordination meetings, including potential cost share responsibilities.
 - e. The Village stated they do not desire a sidewalk from the Des Plaines River to Portwine Road or from Portwine Road to Saunders/Riverwoods Road.
 - f. The Village desires a sidewalk or path south along Portwine Road to the Village Hall. The ultimate plan would be to have a path connecting the Deerfield Road multi-use path to the Village Hall. The County stated they would discuss and get back to the Village on what they would incorporate with this project. It was stated that the project's Environmental Survey limit does not go down to Village Hall. Additionally, the additional of a path or walk would likely require additional right-of-way and potential conversion of the typical section from rural to urban (with closed drainage system).

- g. The Village desires a sidewalk south along the west side of Saunders Road to the Thorngate park. A 6-foot sidewalk at the back of curb would be adequate. There is currently a 3-foot asphalt carriage walk behind the back of curb. The Village would provide local cost share per the County's non-motorized policy.
 - h. Discussion occurred regarding mid-block crossings along the corridor. Possible locations were discussed and two surfaced from conversation, one at Timberwood Lane and the other at Hoffman Lane. A discussion occurred regarding how to control these crossings and use of RRFB's. The County stated that compliance with RRFBs by motorists is 40-60%. If the Village desires a RRFB they will need to apply for a permit to install them at these locations and will be 100% Village cost and future maintenance. The County will discuss the proposed mid-block crossings and will provide a response back to the Village about incorporation into the project.
6. The Thorngate Creek compensatory storage site was reviewed. The Village had no comments at this time.
 7. The Portwine Road intersection was discussed. Previously it was mentioned to split phasing the signal. CBBEL will investigate this alternative and report back to the Village.
 8. The Village asked if a southbound U-turn is accommodated with the current intersection improvements at Milwaukee Avenue. The project team stated that the radius return would need to be modified to provide adequate throat width for a passenger car to make a U-turn. This will be evaluated by the project team and will report back to the Village.
 9. Pat Glenn stated that they will be assisting with a traffic study when Woodman's is completed to evaluate a three quarters access at the northern most Shoppes of Riverwoods driveway.
 10. The next steps for the project include a potential SIG meeting in Spring 2019 and Public Hearing mid-2019. Other next steps include further coordination with GHA regarding the drainage design, the project team making design changes and preparation of draft Environmental Assessment.

The meeting adjourned at approximately 12:30 p.m.

Submitted by: Matthew Huffman, PE (CBBEL)

MEETING SUMMARY

Meeting Date: May 14, 2019 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #6

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Mike Clayton	Riverwoods -Trustee	mclayton@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Kevin Carrier	LCDOT – Planning & Programming	kcarrier@lakecountyiil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Mike Burke	LCDOT- Project Engineer	Mburke@lakecountyiil.gov
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com

A sixth coordination meeting was held on May 14, 2019 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study with the Village of Riverwoods. The purpose of the meeting was to provide a project status update, review draft environmental assessment (EA) items, discuss proposed improvement design items, public involvement next steps and other next steps.

Below is a summary of meeting discussion points, with any action items noted:

1. A project status update was provided:
 - a. Design modification and refinement is ongoing by the project team. Substantial progress has been made.
 - b. Riverwoods Preservation and LCFPD meeting was held in early January 2019. At that meeting numerous items were discussed, including wildlife crossings and tree impacts. A separate tree survey spreadsheet and supporting tree location exhibits were provided to the LCFPD and RPC for review and comment. The project team received little comment back from both agencies regarding the tree impacts. LCFPD stated that rootzones need to be factored in when determining likely impacted trees. The RPC requested that trees 1-inch and above be surveyed; currently the project team only surveyed 6-inch and above, which is standard practice.
 - c. An IDOT drainage meeting was held in April 2019 regarding the Milwaukee Avenue intersection.
 - d. The Milwaukee Avenue intersection design study was resubmitted to IDOT for review in April 2019.
 - e. The draft Combined Design Report and draft Environmental Assessment are targeting submittal to IDOT by the end of May.

- f. The Illinois State Water Survey issued new rainfall data and update to Bulletin 70. Per the updated rainfall data, the 100-year, 24-hour storm event increases from approximately 6.5 inches to 8.5 inches, which is a significant increase. LCMSC has not officially adopted this and modified the WDO. The Village stated their desire for this project to accommodate the new rainfall data and also factor in proposed water surface elevations along the Des Plaines River related to the Foxconn Development. The project team they will start by evaluating the existing system for design flexibility to increase size of storm sewer pipes, compensatory storage basins and detention basins. The County stated that they will be determining how they plan to address the new Bulletin 70 data and LCSMC interim guidance for all their projects that have engineering studies ongoing. The County will follow-up with the Village.
2. The status of the draft EA was discussed:
 - a. The Traffic Noise Report and analysis has been completed and is under review. The project team talked through the process and next steps. There is a possible 15-foot wall near Thorngate subdivision. All other area of the project did not meet feasible and reasonable requirements for noise mitigation. The next step will be to complete review of the TNR by the County and subsequently IDOT. Then the project team would hold a viewpoint solicitation with the benefitted receptors of the proposed noise mitigation wall.
 - b. The Village and RPC had inquired about results of the environmental surveys conducted by IDOT. The project team helped facilitate dialogue between the Village and IDOT to obtain available information. IDOT provided available information to the Village and RPC.
 - c. Tree impacts have been tabulated. The mitigation approach was discussed. The County will mitigate trees in feasible locations within their right-of-way or easements. The Village asked for trees to be surveyed 1-inch and above. The Project team stated that they would defer any further tree surveys to Phase II Engineering. Per documentation requirements by IDOT, trees 6-inches and above are surveyed. The design will likely change in Phase II and evaluation of trees less than 6-inches at this point will not dictate design changes or modifications. The high-quality tree cluster sites were presented and discussed. The project team will take measures to minimize impacts in these areas, which requires modification to the drainage design.
 - d. The project currently has 0.70 acres of wetland impacts associated with the project.
 - e. IDOT has confirmed that a pollutant loading analysis is not required for the project related to Thorngate Creek.
 - f. Wildlife crossings are being considered at two locations that will accommodate small to medium sized animals and amphibians. A new box culvert would be constructed east of the Des Plaines River within the right-of-way that would connect the two forest preserve properties. The second wildlife crossing would be increasing the size and design of the currently proposed box culvert conveying Thorngate Creek. LCDOT is continuing conversations with the LCFPD about the wildlife crossings.

- g. The proposed temporary construction easement on the LCFPD district was shown. This is to utilize their existing access road to construct the bridge widening along the south side of Deerfield Road.
3. A discussion occurred regarding numerous design items:
- a. Mailbox turnouts were removed from the project design along the entire corridor to reduce the pavement area and simplify the design. The thought was that with B-6.24 curb and gutter, 3-foot bike friendly shoulder and center turn lane, vehicles would have space to maneuver around the mail truck.
 - b. The Milwaukee Avenue intersection was discussed:
 - i. The intersection design study was submitted to IDOT in April 2019; the project team is awaiting comments.
 - ii. From IDOT drainage coordination meeting, IDOT raised a drainage issue at the outfall from the Woodman's Development near the Shoppes of Riverwoods driveway. The Village is aware of this issue.
 - iii. The Village will be collecting traffic counts at various driveways within Shoppes of Riverwoods and Colonial Court, to investigate access modification to the north Shoppes driveway to three-quarter access or full access. The Village wanted to wait until the signal optimization was completed by IDOT. This would help with accessibility issues that were created from the barrier median that was installed along Milwaukee Avenue with the Woodman's Development intersection permit improvements.
 - iv. The detention and compensatory storage were discussed at the intersection. The County informed the Village they are continuing to pursue two options for the detention and compensatory storage at the west end of the project. The future access road is being planned for on the Federal Life property to connect to Colonial Court.
 - c. The project team provided an update on the bridge design. The Deerfield Road bridge will be widened approximately 8 feet to the south. A sidewalk will be included on the north, with new parapet wall and 3-foot shoulder to edge line. The south side will include a 5-foot shoulder to the new parapet wall. West and east of the bridge, there will be space for a 6-foot sidewalk behind the curb to the new retaining walls; this area will be grassed. The Village had no comments on the design.
 - d. The Thorngate Creek compensatory storage site was discussed.
 - e. The project team will be including a sidewalk from Deerfield Road south along the west side of Portwine Road the first street south (Arrowwood Trail).
 - f. The Village confirmed their interest in mid-block crossings at Timberwood Lane and Hoffman Lane. These will be added into the project design, but control/signage will be determined later.
 - g. A sidewalk south along the west side of Saunders Road was added in, which is a 6-foot walk at the back of curb.



- h. The County briefly discussed the cost sharing items and that a spreadsheet will be prepared to summarize costs for the project. This will be provided with the design is further along.
4. Next steps for the project include:
 - a. Further property coordination meetings with Brentwood, Federal Life, Mr. Fourkas, Thorngate HOA, Mobil gas station, Big Oaks and Hiawatha Woods.
 - b. SIG #4 will be planned for Summer 2019 and Public Hearing for Fall 2019.
 - c. The draft EA and CDR will be submitted to IDOT at the end of May for initial review.

The meeting adjourned at approximately 12:30 p.m.

Submitted by: Matthew Huffman, PE (CBBEL)

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MEETING SUMMARY

Meeting Date: August 27, 2019 – 10:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #7

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jinorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Mike Clayton	Riverwoods – Trustee	mclayton@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pqlenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Steve Zimmerman	Riverwoods – Village Ecologist	stevez@appliedeco.com
Kevin Carrier	LCDOT – Planning & Programming	kcarrier@lakecountyyil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyyil.gov
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com
Pete Knysz	CBBEL – Environmental Lead	pknysz@cbbel.com

A seventh coordination meeting with the Village of Riverwoods was held on August 27, 2019 at 10:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to provide a project status update, discuss the draft environmental assessment of the proposed improvements, and outline next steps. The discussion focused on the following topics: proposed sidewalks; drainage design and Bulletin 70 updates; tree impacts/mitigation; and the draft Traffic Noise Analysis results, potential noise abatement, noise forum, and viewpoint solicitation.

Below is a summary of meeting discussion points, with any action items noted:

Project Status Update

1. The estimated construction cost to complete the proposed improvements is approximately \$31 million. LCDOT recently received additional federal funding. LCDOT currently has obtained approximately \$20 million in federal funding for construction of the project. Based on an 80/20 split of County funding versus Federal dollars, LCDOT needs to come up with an additional \$4 million to obtain a maximum federal match. The County has this project in their multi-year program.
2. Based on available funding, it is anticipated that construction for this project could begin in 2023.
3. LCDOT will be funding and maintaining an 8-foot multi-use path along Deerfield Road from Milwaukee Avenue to Saunders/Riverwoods Road as part of this project. Sidewalk will be included if the Village of Riverwoods commits to cost participation and future maintenance. A formal agreement between LCDOT and the Village will take place during Phase II Engineering to finalize Village costs.

The Project Team explained that the proposed sidewalk locations were the result of previous coordination efforts with the Village. The following proposed sidewalk and crossing locations were discussed:

- a. From Deerfield Road south along the west side of Portwine Road to Arrowwood Trail (placing the sidewalk on the east side of Portwine Road would result in design challenges due to limited available space and the existing steep roadside ditches located parallel to the existing roadway). The Village mentioned the desire to include a path from Village Hall to the path along Deerfield Road. Design changes would be needed to include a path along Portwine Road that require roadway modifications (curb and gutter), drainage (storm sewer) and right-of-way acquisition;
- b. South along the west side of Saunders Road to the Thorngate Park;
- c. The Deerfield Road bridge will be widened approximately 8 feet to the south. A sidewalk will be included on the north side of the bridge, with a new parapet wall. The south side will include a 5-foot shoulder to the new parapet wall. West and east of the bridge, there will be space for a 6-foot sidewalk behind the curb to the new retaining walls; this area will be grassed.
- d. From Milwaukee Avenue to Chicory Lane. Potential coordination with the Meadow Lake residents was discussed.
- e. Mid-block crossings at Timberwood Lane and Hoffman Lane.

Action Item:

- **The Village is to let LCDOT know of any suggested changes to the proposed sidewalk location(s).**
 - **CBBEL is to provide the Village with a copy of the latest improvement plan exhibits.**
4. The Village stated there is a new tenant in the Colonial Court development.
 5. Discussion occurred regarding the future signal at the Lock Up Storage and Federal Life driveways. The Project Team stated they are not precluding a signal at this location. If development changes occur during the design process, modifications can be made accordingly.
 6. The Illinois State Water Survey has issued new rainfall data and an update to Bulletin 70. At the current time, the Lake County Stormwater Management Commission (LCMSC) has not officially adopted the updates or modified the Watershed Development Ordinance (WDO). LCDOT follows the WDO requirements. The Project Team has had internal discussions on how to best address the Bulletin 70 updates. The Project Team will start by evaluating the drainage system for design flexibility. The Village Engineer recommended designing the storm sewer in accordance with the Bulletin 70 updates to protect the roadway from flooding. The Project Team is also looking for opportunities to install water quality Best Management Practices (BMPs) with native plantings.

Based on the Bulletin 70 updates, required detention volumes may increase by as much as 50%. The Des Plaines River compensatory storage volumes will not be affected by the updates. However, a new Base Flood Elevation (BFE) will be required for Thorngate Creek. Potential detention and compensatory storage locations were discussed.

- a. At the west end of the project (near the Deerfield Road and Milwaukee Avenue intersection), the Project Team will continue to pursue two options for the detention and compensatory storage as part of Phase I design. The two locations include: (1) Village owned land at the southeast corner of the intersection; (2) the Federal Life Insurance Company property on the north side of Deerfield Road. A second detention/compensatory site north of the future Village access road is being considered to accommodate for increased detention volume requirements. The Village had no objections to the approach for detention/compensatory storage. The objective is to provide flexibility in Phase II to finalize the design based on potential future development.
 - i. The Village said that they have started negotiations for a Thornton's Gas Station at the southeast corner of the Deerfield Road and Milwaukee Avenue intersection.
 - ii. A future access road is planned at the west end of the Federal Life Insurance Company property to connect to Colonial Court. This access road is currently accounted for in the Phase I design. The Village noted that the location of the access road may be shifted north. LCDOT requested that a final determination be provided in Phase I or early in Phase II so that the location could be revised in the project design.
 - iii. The Village asked if the Brentwood property (if for sale) could be a potential site for stormwater or other project needs. Discussion to continue, if necessary.
- b. Near Thorngate Creek additional compensatory storage is anticipated. However, the updated hydraulic analysis is not complete. The Project Team is also evaluating use of the parcel to the north and compensatory storage grading parallel to Thorngate Creek to provide more buffer to the adjacent property owner. Additionally, with the Bulletin 70 updates, the compensatory storage requires will be increasing at this location and will need to extend to the property to the north or on the east side of Thorngate Creek on the Fourkas property. The Project Team will need to complete evaluation for Thorngate Creek before compensatory storage grading refinements can proceed. The Project Team is attempting to provide the compensatory storage on one side of Thorngate Creek, not both sides. The County desires to access the compensatory storage site from Deerfield Road east of Thorngate Creek and not both sides.

The Village stated that the residential property to the north. Discussion occurred regarding possible drainage uses (detention/compensatory storage) on this site. The Project Team stated that access to this property is a challenge and that they would like to stay on the east side of Thorngate Creek.

Action Item:

- **Village Engineer to provide information on decommissioned pump station located near the west project limits on Federal Life property.**
- **The Project Team is to review the Environmental Survey Request (ESR) limits to see if the extent of the properties discussed during the meeting are currently included.**

- **The Project Team will provide final compensatory storage grading for Thorngate Creek to the Village.**

Draft Environmental Assessment

1. This was the first Project Team Meeting that the Village Ecologist attended. Therefore, a brief overview of the tree survey was provided and then the discussion transitioned into tree impacts, avoidance, and potential mitigation.

- a. The Project Team stated that a survey of all trees ≥ 6 -inches in diameter at breast height (dbh) was previously completed (which is standard practice). The Project Team referenced the tree survey spreadsheet and supporting tree location exhibits that were previously provided to the Village. The Project Team acknowledged the Village Tree and Woodland Protection Ordinance and stated that the Desirable and Highly Desirable Tree designations (per Village Ordinance) have been assigned to project corridor trees.

The Village requested that all trees ≥ 1.5 -inch dbh be surveyed. The Project Team stated that they would defer any further tree surveys to Phase II Engineering. The design will likely change in Phase II and evaluation of trees less than 6-inches at this point will not dictate design changes or modifications.

- b. For the purposes of the draft Environmental Assessment (EA), tree impacts have been tabulated. The Project Team understands that tree impacts can occur as a result of construction within the critical root zone. The critical root zone has not been factored into the impact analysis at this time. The impacts will need to be refined based on pending changes to the drainage design. The Village asked if the Project Team could differentiate between tree impacts associated with the road widening versus the multi-use path and other ancillary items. The Project Team said that a rough estimate could be approximated, if necessary.

During Phase II Engineering, the Project Team will try to minimize impacts to higher quality trees (as identified in the Village Ordinance). Trees within the footprint of the road widening or within the construction limits will be impacted. However, the Project Team will look for design flexibility in areas where easements and BMPs are proposed. A commitment has been added to the draft EA that during the design phase of the project, additional tree impact evaluation will be completed as necessary to avoid/minimize tree impacts, and a tree replacement plan will be developed. Impacted trees will be replaced where practicable and feasible.

The Village asked if it would be possible to modify drainage design and extend easements further onto private property if necessary to avoid tree impacts. The Project Team said that this could be considered during Phase II. However, additional easements would result in additional project cost.

- c. The Village is concerned with healthy woodlands, not only individual trees. The Village Ecologist said that there are areas along the corridor where tree density is too great for a healthy ecosystem. The Village is interested in a layered woodland, with overstory trees, an understory of smaller trees and shrubs, and native grasses. The Village encourages buckthorn removal.
- d. The tree mitigation approach was discussed. LCDOT will mitigate trees in feasible locations within their right-of-way or easements (e.g., near the

compensatory storage area). Motorist safety will be considered when planting trees. The Project Team stated that LCDOT does not need to follow the Village Ordinance tree mitigation requirements.

The Village stated that they would like to see native grasses and shrubs planted in addition to trees as part of the Landscape Plan/restoration of disturbed areas. The Village would prefer that trees and shrubs be planted on private lots or other unmowed/reduced mowing areas, if possible...rather than within mowed turf right-of-way. However, it was acknowledged that if residents were provided money as compensation for tree or property impacts, the residents might opt to use the money for purposes other than planting trees.

The Project Team said that IDOT standard seed mixes are typically used for the Landscape Plan. However, the Village can submit seed mixes for consideration. Reduced mowing schedules could also be considered along portions of the corridor...pending further coordination and Village recommendation as part of Phase II.

Action Item: The Project Team will see if there are restoration or demonstration grants that may be applicable to this project and will follow-up with the Village.

2. The Project Team provided a summary of the IDOT Noise Policy and results of the traffic noise analysis completed for this project, including the definition of key terms, the evaluation of existing conditions, validation of the existing noise model, impact determination, potential noise abatement, and solicitation of votes for the potential noise wall.
 - a. Based on the results of the traffic noise analysis, there are projected traffic noise impacts under the Build scenario at the Thorngate subdivision (located at the southwest corner of the Deerfield Road and Saunders Road intersection). It was noted that traffic noise impacts also occur under existing conditions. There is a potential ± 15 -foot noise wall that may be implemented along the south side of Deerfield Road and along the west side of Saunders Road (adjacent to the Thorngate subdivision) as part of the proposed improvements. The wall would benefit 37 receptors (i.e., homes).
 - b. The next step in the traffic noise coordination process is to hold a noise forum (scheduled for September 19, 2019 at the Village Hall) for the benefited receptors and solicit their votes for the potential noise wall. Each benefited receptor (owners and tenants) is provided an opportunity to vote. Front row homes have more potential vote points than non-front row homes (4 points versus 2 points). LCDOT and the Village do not get to vote.
 - c. In addition to the noise forum, there will be up to two attempts to solicit viewpoints (i.e., votes). If >50 percent of the vote points are in favor of the noise wall, it will be recommended for implementation. Following viewpoint solicitation, the draft traffic noise report will be submitted to IDOT for review.
 - d. The draft proposed schedule for viewpoint solicitation and a template Noise Wall Information Meeting invitation letter was provided to the Village. The proposed schedule and a viewpoint solicitation package (that will be sent to all benefited receptors) are currently under review by IDOT.



- e. The Village requested that the noise wall be moved a bit further southwest of the intersection, if possible.

Next Steps

1. The project team is awaiting biological and wetland clearances from IDOT. Biological field surveys and wetland delineations are complete. Wetland Impact Evaluations (WIEs) have been submitted to IDOT. In December 2018, the Illinois Department of Natural Resources (IDNR) terminated consultation with respect to state listed Threatened & Endangered Species and Illinois natural areas.
2. Present the results of the draft Traffic Noise Analysis and potential noise abatement (i.e., noise wall) at a noise forum scheduled for September 19, 2019 from 7-9 pm at the Village Hall. Begin the viewpoint solicitation period (i.e., voting period) upon IDOT approval of the viewpoint solicitation package.
3. Determine interest in a Stakeholder Involvement Group (SIG) #4 meeting and schedule if necessary. The purpose of the SIG #4 meeting would be to allow SIG members the opportunity to review/comment on the materials to be presented at the upcoming Public Hearing.
4. The Public Hearing is tentatively planned for late 2019/early 2020.

The meeting adjourned at approximately 12:30 p.m.

Submitted by: Matthew Huffman, PE (CBBEL) and Pete Knysz (CBBEL)

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MEETING SUMMARY

Meeting Date: December 16, 2019 – 9:30 a.m.
Location: Village of Riverwoods Village Hall
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #8

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Mike Clayton	Riverwoods – Village Trustee	mclayton@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Laurie Breitkopf	Riverwoods Preservation Council	lbrietkopf@comcast.net
Kevin Carrier	LCDOT – Planning & Programming	kcarrier@lakecountyiil.gov
Betsy Duckert	LCDOT – Manager of Permitting	bduckert@lakecountyiil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com

An eight coordination meeting with the Village of Riverwoods was held on December 16, 2019 at 9:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to provide an update on the Environmental Assessment, proposed improvement design, public involvement next steps, and overall project next steps.

Below is a summary of meeting discussion points, with any action items noted in bold:

Draft Environmental Assessment

1. Over the last numerous month, the Environmental Assessment (EA) was updated to incorporate footprint modifications to accommodate drainage design updates related to the new Bulletin 70 rainfall data. Additional right-of-way, permanent drainage easements and temporary construction easements are required for larger detention/compensatory storage basins, culverts, storm sewers and ditches. The project team briefly reviewed the corridor to point out areas where the more significant changes were made. The Traffic Noise Study has been completed and submitted to IDOT for final approval. 88% of the votes received from the 37 benefitted receptors approved the noise wall to be included with the project, which is located at the Thorngate Subdivision along Deerfield Road and Saunders Road.
 - a. The EA will be submitted to IDOT and FHWA within the next week to start their reviews. Once their reviews are complete, FHWA will sign the EA and it then will be available for public review and comment. The EA will be released several weeks before the Public Hearing and will have a 30 day public review period. Based on the schedule submitted to IDOT and FHWA, the Public Hearing is targeted for April 2020, but is contingent upon IDOT and FHWA reviews being completed. The Village asked if they could receive a draft EA for review; the Project Team stated that the EA cannot be released until FHWA signs it,

however, the project team can discuss various components of the EA with the Village.

- b. The Village requested that updated tree information be provided to them for their review, which categorizes the tree impacts into three categories: roadway impacts, bike path impacts and drainage impacts. **The project team stated they can compile the requested information for the Village.**

Proposed Improvement Design

1. Shoppes of Riverwoods Drainage Issue (IDOT Comment) - IDOT requested that Lake County DOT address the known drainage issue and include a permanent drainage easement at the Woodman's drainage outfall location within the Shoppes of Riverwoods drainage ditch. The Village stated they have no plans to address this issue and are not aware that the Shoppes of Riverwoods owners plan to address the issue. The County does not plan to include addressing this drainage issue adjacent to IDOT ROW with the Deerfield Road project since it is nearly 1,000 feet north of the project construction limits. The EA will include a permanent easement per IDOT's request, but no engineering will be performed to address the issue.
2. Brentwood west Access Drive Closed (IDOT Comment) - During the latest round of IDOT review of the Milwaukee Avenue IDS comments, IDOT expressed safety and operational concerns about the two closely spaced full access driveways to Brentwood North and the Lock-Up Storage (Village Owned). LCDOT has proposed to close the Brentwood North west access drive and make two new connections to the Village owned driveway that currently only serves the Lock-Up Storage. The Village voiced no objection to this change. An exhibit was displayed which showed the proposed design modification and connections to the Village owned access drive. The project team will reach out to Brentwood to communicate this change and will keep the Village informed. **The Village stated they will provide the point of contact they have been dealing with at Brentwood.**
 - a. Discussion occurred about the future signal at the Village owned access drive and Deerfield Road intersection.
 - b. The Village stated that Brentwood North has changed names to Elevate Care Riverwoods.
3. Federal Life Detention/Compensatory Storage Basin Update – The Project Team reviewed the changes made to the detention/compensatory storage basin design. The design maximizes the detention/compensatory storage, which avoids impact to the Village well and Federal Life parking. It also preserves a 50-foot access corridor for a potential access drive connection to Colonial Court. The Village stated they have further evaluated the feasibility of making this access connection and it has a high cost/benefit and may not be pursued. The Project Team stated that if it is not pursued, it could be used for additional detention and compensatory storage.
 - a. Lake County DOT mentioned that the Village could take ownership and maintenance of the detention and compensatory storage basin, which would provide them easier ability to use excess detention or compensatory storage for other sites in that area. Additionally, the Village would have control over planting and maintenance, whereas, if the basin is owned by Lake County the maintenance would be limited to several times a year. Lake County would obtain a recorded easement for the needed detention and compensatory storage for the

roadway project. It was agreed this would be further discussed as the project transitions into Phase II Engineering.

4. Village Owned Property (southeast Corner) – The Village provided an update regarding their property at the southeast corner of the Milwaukee Avenue intersection. Currently, the property is being pursued by a gas station operator and have a letter of intent (LOI).
 - a. The Village asked if full access to the Village owned access drive could be advanced forward ahead of the federal project. The County stated that federal funding is being utilized for construction of the project, which is an 80/20 cost share. If the County advances anything forward, it would be 100% local cost. Advancing separate components ahead of the larger project is unlikely. The Village would need to apply for an access permit from the County to modify the access from right-in-right-out to full access. Since the Village owns the property, they would need to be the permit applicant. If this change is made, the Village would close the western Elevate Care Riverwoods access drive, which the County would likely require as part of the full access permit.
 - b. The Village asked if a right-in-right-out would be possible at the property line between the potential gas station and Lock-Up Storage. The County stated that it may be possible, but a traffic impact study would need to be performed to evaluate the need for a right turn lane into the property.
 - c. The Village mentioned they have engaged Teska to develop some conceptual design for this area and will share with the County.**
 - d. The Village requested PDFs of the current design plans for this area of the project. The project team stated they will provide.**

Public Involvement Next Steps

1. The project team will be targeting property owner coordination ahead of the anticipated April public hearing, including Elevate Care Riverwoods, Federal Life, Mr. Fourkas, Mobil gas Station and Hiawatha Woods.
 - a. The project team was recently contacted by the legal counsel for the owner of the Mobil Gas Station. The project team responded to the property manager to try and setup a coordination meeting, but no response has been received.

The meeting adjourned at approximately 11:15 p.m.

Submitted by: Matthew Huffman, PE (CBBEL)

MEETING SUMMARY

Meeting Date: June 4, 2020 – 9:30 a.m.
Location: Virtual
Project: Deerfield Rd. – Milwaukee Ave. to Saunders/Riverwoods Rd. (15-00038-07-WR)
Purpose: Village of Riverwoods Coordination Meeting #9

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
John Norris	Riverwoods – Mayor	jinorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Ilene Daily	CBBEL – Drainage Project Manager	ldaily@cbbel.com
Matthew Huffman	CBBEL – Project Manager	mhuffman@cbbel.com

A ninth coordination meeting was held with the Village of Riverwoods on June 4, 2020 via Zoom at 9:30 a.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (Milwaukee Avenue to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to provide an update on the Environmental Assessment, proposed improvement design, public involvement next steps, and overall project next steps.

Below is a summary of meeting discussion points, with any action items noted in bold:

Draft Environmental Assessment

1. The project team submitted the Environmental Assessment (EA) in December 2019. Comments were received on June 3rd. The comments were minor in nature. There was nothing within the comments that affected the design. There were no comments regarding the tree impacts. As part of the EA review process, IDOT consulted with IDNR who conducted an update environmental database search for the project study area. AN endangered fish identified within the Des Plaines River in 2018, which was previously unknown to the project team. With the Des Plaines River bridge widening, there is potential impact and a commitment will be provided in the EA to further evaluate the impact during Phase II Engineering.
2. The EA must be signed off on by FHWA before it can be released to the public. The project team can share components or some information from the EA to the Village if it is needed.
3. A noise comment was received from a homeowner along the north side of Deerfield Road who requested that noise wall be investigated along the north side. The project team has been communicating with this resident and cc'ing the Mayor to keep the Village informed. The resident is also concerned about bounce back noise. The project team stated that there is bounce back with noise walls, however, in this case it is a negligible increase in noise (less than 3 decibels). Additionally, noise walls that are in close proximity to each other can create an echoing effect, which could be by some receptors to have a negative effect.

4. The footprint of the EA was expanded to accommodate drainage modifications for the new Bulletin 75 rainfall data.
5. Once the EA is signed, the project team will proceed to a Public Hearing which is being targeted for September 2020.

Proposed Improvement Design

1. The Milwaukee Avenue intersection design study was resubmitted to IDOT and was provided to the Village.
 - a. Shoppes of Riverwoods Drainage Issue (IDOT Comment) - IDOT requested that Lake County DOT address the known drainage issue and include a permanent drainage easement at the Woodman's drainage outfall location within the Shoppes of Riverwoods drainage ditch. The Village stated they have no plans to address this issue and are not aware that the Shoppes of Riverwoods owners plan to address the issue. The County does not plan to include addressing this drainage issue adjacent to IDOT ROW with the Deerfield Road project since it is nearly 1,000 feet north of the project construction limits. The EA will include a permanent easement per IDOT's request, but no engineering will be performed to address the issue. The Village supports the County's position of this specific issue being IDOT's to address and that non addressing this will have negative effect on the Shoppes of Riverwoods or adjacent Meadow Lake subdivision. There is also an agreement between the Shoppes of Riverwoods and Meadow Lake with regards to stormwater management.
 - b. Brentwood west Access Drive Closed (IDOT Comment) - During the latest round of IDOT review of the Milwaukee Avenue IDS comments, IDOT expressed safety and operational concerns about the two closely spaced full access driveways to Brentwood North and the Lock-Up Storage (Village Owned). LCDOT has proposed to close the Brentwood North west access drive and make two new connections to the Village owned driveway that currently only serves the Lock-Up Storage. The Village voiced no objection to this change. The project team has reached out to Brentwood and provided them a plan; they concurred with the proposed re-design of their access to the Village roadway.
 - i. The Village stated that Brentwood North has changed names to Elevate Care Riverwoods.
2. Drainage Design Discussion – Drainage elements were discussed. **The Village requested the current drainage design plans.** The project team stated that they are still working through the Thorngate Creek crossing and some changes may be made. There are a few other areas that will be modified as well.
 - a. Recent Flooding – Plat Glenn provided an update on the flooding experienced during the recent rain events. There was flooding at the usual locations with focus on the Forest Glenn Trail culvert. Part of the issues is maintenance but its is likely undersized. The project team stated that the culvert will be increased from 24" to 42" to provide more capacity, which should help alleviate some of the issues at this location. The storm sewer that is being connected to is 42" in size, so the proposed design is maximizing the size of the crossroad culvert with this project. The Village stated that this culvert fills up with a lot of debris. The project team can evaluate high capacity grates during Phase II Engineering. The Village mentioned that the detention design for the Thorngate Creek sub development has excess storage for stormwater north of Deerfield Road.

- b. The project team submitted the Location Drainage Study to IDOT for the Milwaukee Avenue intersection. The LDS was provided to the Village for review. There was some concern about using the Village owned site for detention/compensatory storage. The project team stated that two detention/compensatory storage sites are proposed in the LDS.
 - c. The Village has concern about the trunk line location being along the west side of Portwine Road, north of Deerfield Road since the flow direction is west to east. **The project team status they could switch the location of the trunk line and can further evaluate this change along the north leg of Portwine Road.** One of the reasons that it was located on the east was the avoidance of the Hermann Wildflower Nature Preserve Buffer.
3. Other - Village Owned Property (southeast Corner) – The Village provided an update regarding their property at the southeast corner of the Milwaukee Avenue intersection. Currently, the property is under contract by a gas station operator and is in the due diligence portion of the development process. The developer is looking to put a right-in-right-out at the eastern property line. The project stated this is not an issue, but design modifications would be needed to the roadway design, specifically in the drainage swale/depression and proposed retaining wall.
 4. The Village is considering repaving the existing multi-use path along the north side of Deerfield Road west of Saunders Road. The project team confirmed that the entire path will be removed with the roadway project and that they would not be reimbursed for any costs.

Public Involvement Next Steps

1. The project team will be targeting property owner coordination ahead of the public hearing, including Federal Life, Mr. Fourkas, Mobil gas Station and Hiawatha Woods.
 - a. The project team has had difficulty contacting the Mobil gas station operator.
 - b. The Village stated that the property owner for the undeveloped parcel north of the Fourkas property should be contacted about the project. **Bruce will provide their contact information to the project team. The project team will reach out to the owner.**
2. Based on the schedule for the EA, the Public Hearing is being targeted for September 2020 with completion of Phase I Engineering in October 2020. The project team stated that they will be pursuing a combination of a virtual and in person public hearing. The Village will be coordinated with regarding the planning for the Public Hearing.

Next Steps

1. The project team will work on responding to the EA comments. Once the EA is signed, then the Public Hearing will be scheduled.
2. An October 2023 project letting is being targeted with construction likely starting in early 2024. The project is anticipated to be completed in 2025.

The meeting adjourned at approximately 11:20 a.m.

Submitted by: Matthew Huffman, PE (CBBEL)

APPENDIX E-9

AGENCY AND PUBLIC COORDINATION

**Lake County Forest Preserve District &
Lake County Stormwater Management Commission**



MEETING SUMMARY

Meeting Date: August 24, 2016 – 1:00 p.m.
Location: Lake County Division of Transportation
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Initial LCSMC/LCFPD Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Bob Gardiner	Lake County Stormwater Management Commission	rgardiner@lakecountyil.gov
Randy Seebach	Lake County Forest Preserve District	rseebach@lcfpd.org
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Mike Burke	LCDOT – Project Engineer	mjburke@lakecountyil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com
Ilene Dailey	CBBEL – Drainage Project Manager	idailey@cbbel.com
Pete Knysz	CBBEL – Environmental Project Manager	pknysz@cbbel.com

A kick-off meeting was held on August 24, 2016 at 1:00 p.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce the project to the Lake County Stormwater Management Commission (LCSMC) and Lake County Forest Preserve District (LCFPD). A meeting agenda was distributed and included: introductions, project background, project startup & data collection, anticipated scope of work & termini, Deerfield Road corridor issues & needs, project development & schedule, public involvement, and other discussion. An existing conditions aerial exhibit was displayed for discussion purposes.

Chuck Gleason opened the meeting and is the LCDOT project manager and point of contact for the project. Matt Huffman is the consultant project manager with Christopher B. Burke Engineering (CBBEL). Ilene Dailey is the drainage lead and Pete Knysz is the environmental lead.

Below is a summary of meeting discussion points, with any action items noted:

- 1) Project background was provided. This project includes Phase I engineering and environmental studies for Deerfield Road from US 45/IL 21 (Milwaukee Avenue) to Saunders Road / Riverwoods Road in Lake County, Illinois. The project is located within the Villages of Buffalo Grove and Riverwoods. The project is adjacent to predominantly forested, large lot, residential properties and also LCFPD property. The Cahokia Flatwoods Forest Preserve is south of Deerfield Road and the Edward L. Ryerson Conservation Area is north of Deerfield Road, and is also a designated Illinois Nature Preserve. Both of the holdings are at and around the Des Plaines River. Mr. Seebach previously provided exhibits of the Edward L. Ryerson Nature Preserve location.
- 2) The Des Plaines River Trail (DPRT) is located along the west side of the Des Plaines River and has a crossing underneath Deerfield Road, which has substandard clearance. The entire DPRT is open to horseback riding and is a shared multi-use trail within the project study area. Mr. Seebach stated that there are equestrian generators within the Village of Riverwoods, east of the Des Plaines River. Currently the LCDOT multi-use path and bridge is being used, which connects Thornmeadow Road on the east to the DPRT on the west side of the Des Plaines

River. Mr. Gleason stated current LCDOT policy does not allow equestrian uses on their paths. This is currently being discussed between LCFPD and LCDOT.

- 3) LCDOT designed and constructed a separate multi-use path and bridge over the Des Plaines River connecting the DPRT to Thornmeadow Road. The bridge was offset from the existing Deerfield Road bridge to allow for a future widening of Deerfield Road. The low chord of the bike path bridge is above the 100-year flood plain elevation. East of the bridge abutment there is boardwalk. CBBEL was the engineering consultant for both LCDOT multi-use path projects.
- 4) There are two approved Phase I Studies for multi-use paths along Deerfield Road that have not advanced to Phase II Engineering, one by the Village of Riverwoods (Thornmeadow Road to Saunders/Riverwoods Road) and the other by LCDOT (Milwaukee Avenue to DPRT). The Phase I designs will be incorporated into this project and designs modified based on the proposed roadway improvement along Deerfield Road. The Village of Riverwoods multi-use path connects to the existing LCDOT multi-use path at Thornmeadow Road and goes east along the south side of Deerfield Road to Portwine Road where it crosses to the north side of Deerfield Road, and then connects to the existing path at Saunders/Riverwoods Road. The LCDOT multi-use path connects the existing Buffalo Grove Path at the west side of Milwaukee Avenue south of Deerfield Road and goes east to the existing connecting to the LCDOT multi-use path and DPRT. Both projects were stopped in the engineering process to assure that the proposed improvements of the Deerfield Road project do not affect them, such as the proposed roadway width, vertical profile adjustments, and right-of-way acquisition.
- 5) CBBEL/LCDOT are currently collecting data for the project, including: topographic survey, wetland delineations, traffic counts/projections, crash data, and historical roadway/development plans.
- 6) It was discussed that there have not been any record of pavement flooding or overtopping at the Des Plaines River. There has been one report of pavement flooding near Forest Glen Trail, which LCDOT has investigated. CBBEL will coordinate with IDOT and local agencies regarding flooding issues. Mr. Gardiner stated that the areas west and north of the project study area have flooding issues and LCSMC is investigating improving several private subdivision detention basins.
- 7) LCFPD and LCSMC do not have any planned projects near or within the project study area.
- 8) A full bridge and hydraulic study will be prepared for the Deerfield Road crossing of the Des Plaines River. Libertyville Township has recently installed a stream gauge near the crossing. Hydraulic analysis will also be performed for the crossing of Deerfield Road over Thorngate Creek. A base flood elevation (BFE) study will be prepared for each applicable area per LCSMC criteria. Bob Gardiner stated there were improvements to the hydrology of Thorngate Creek around 2009 downstream (north) of Deerfield Road. Both Bob and Randy will check their records for any design plans or hydraulic modeling used. There was a question to LCSMC regarding the hydraulic modeling used for the Des Plaines River USGS Flood-Inundation Study; Mr. Gardiner believed the modeling was based on the regulatory model, with modifications. He does not have the modeling. CBBEL will check with USGS. Mr. Gardiner stated there is a new permit process through IDNR/OWR for floodway impacts. Floodway permitting is anticipated to be handled through IDOT Local Roads, which will be verified by CBBEL. No compensatory storage credits are believed to be available in the LCFPD site north of Deerfield Road. Other compensatory storage locations will be investigated and need to be located within a 'hydraulically equivalent' reach.

*ACTION: LCSMC and LCFPD to check their records for improvements to Thorngate Creek.
CBBEL to look into modeling for the Des Plaines River USGS Flood Inundation Study.
CBBEL to verify IDNR/OWR floodway permitting.*

- 9) The purpose of the project is to add capacity and address safety issues along Deerfield Road. The anticipated scope of work includes pavement reconstruction and add lanes with urban cross section with signal upgrades/modernization, closed drainage system, separate non-motorized facilities, and Des Plaines River bridge improvements. A variety of roadway cross section alternatives will be evaluated, including a 3-lane, 4-lane and 5-lane typical roadway cross section.
- 10) Issues and needs along the Deerfield Road corridor were discussed. Mr. Seebach stated the existing access driveway to the DPRT needs to be maintained and a more suitable connection from the Deerfield Road multi-use path to the DPRT should be investigated. Currently the existing access driveway is used to connect the two facilities, which is not desirable. Mr. Gardiner stated that with a storm sewer system for conveyance and likely for detention, various methods should be investigated for best management practices for water quality. Mr. Gleason suggested that the median may be used for creative stormwater options. Significant tree impacts are anticipated along the corridor.
- 11) The project schedule is 36 months. The federal project development process is being followed through IDOT Bureau of Local Roads. The project is being processed as an Environmental Assessment.
- 12) The project will have a Stakeholder Involvement Group (SIG) that will be composed of local agencies, business owners, and residents. Mr. Gardiner will be the LCSMC SIG representative and Mr. Seebach will be the LCFPD SIG representative. A Public Information Meeting is being targeted for November 2016 and SIG membership will be solicited.

The meeting adjourned at approximately 2:00 p.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)



MEETING SUMMARY

Meeting Date: September 25, 2018 – 1:00 p.m.
Location: Lake County Division of Transportation
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: LCSMC Coordination Meeting #2

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Bob Gardiner	Lake County Stormwater Management Commission	rgardiner@lakecountyil.gov
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com
Ilene Dailey	CBBEL – Drainage Project Manager	idailey@cbbel.com

A second coordination meeting with LCSMC on September 26, 2108 at 1:00 p.m. for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to discuss status of the project and identification of a preliminary preferred alternatives. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A project status update was provided. LCSMC is on the Stakeholder Involvement Group (SIG), so LCSMC is aware of general project development. A recap of the second SIG meeting in January 2018 was provided. An update was also provided regarding the status of the project in the NEPA/404 merger process.
- 2) The project team reviewed the preliminary preferred alternative design.
- 3) Detailed drainage discussions occurred for the Des Plaines River tributary area and Thorngate Creek tributary area.
 - a) It was stated that IDOT does not have a restrictor at Milwaukee Avenue. LCSMC discussed BMP opportunities throughout the project. The project team will incorporate them where possible. Bob asked is vortex valve could be used at Milwaukee Avenue.
 - b) LCSMC mentioned a combined detention and compensatory storage basin is allowed if it works and meets design standards.
 - c) Wildlife crossings were discussed, which would be a new culvert east of the Des Plaines River and a widened culvert for the Thorngate Creek crossing. No objections were raised by LCSMC. The project team stated they are coordinating the LCFPD.
 - d) The compensatory storage design/sites were reviewed, west of the Des Plaines River and at Thorngate Creek. A prior BFE is being utilized as prepared by Gewalt Hamilton and Associates for evaluation of the Thorngate Creek crossing. This crossing tributary area is under a square mile, so no IDNR-OWR coordination is required.
 - e) The Forest Glenn crossing was modeled using Pond Pack by Gewalt Hamilton and is being utilized as part of our analysis to understand downstream effects. Any excess detention will be verified with Pat Glenn within the Thorngate Creek subdivision.

- f) LCSMC inquired about floodplain and floodway impacts with the project. CBBEL provided a summary of the impacts associated with the project. A high level of coordination has occurred with the Village of Riverwoods and their consultant regarding the drainage issues along the corridor.
- 4) LCMSC requested a plan submittal towards the end of the project for their review (digital submittal).

The meeting adjourned at approximately 2:00 p.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)

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MEETING SUMMARY

Meeting Date: January 4, 2019
Location: Lake County Division of Transportation
Project: Deerfield Road (15-00038-07-WR)
Purpose: Riverwoods Preservation Council and Lake County Forest Preserve District Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Michael Clayton	RPC – President	mclayton@marauder.net
Jim Anderson	LCFPD – Director of Natural Resources	janderson@lcfpd.org
Chuck Gleason	LCDOT (Project Manager)	cgleason@lakecountyiil.gov
Pete Knysz	CBBEL (Env Project Manager)	pknysz@cbbel.com

A coordination meeting was held on January 4, 2019 at 9 a.m. with the Riverwoods Preservation Council (RPC) and the Lake County Forest Preserve District (LCFPD) for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders Road) Phase I Engineering Study. The purpose of the meeting was to continue on-going dialogue with the RPC and LCFPD and discuss potential environmental concerns along the project corridor.

Below is a summary of meeting discussion points, with any action items noted (**in bold**):

- 1) LCDOT presented a brief history of the project, timeline, and preferred alternative. The preferred alternative includes intersection improvements, a 3-lane roadway section with curb and gutter on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road, and a bike path (adjacent to the south side of Deerfield Road west of Portwine Road, and adjacent to the north side of Deerfield Road east of Portwine Road).

An Environmental Assessment (EA) is being prepared for the project. Environmental studies and reports are on-going. These studies/reports include, but are not limited to:

- Tree survey completed by Christopher B Burke Engineering, Ltd (CBBEL) – **RPC and LCFPD requested a copy of the tree survey data.**
- Threatened and Endangered species surveys completed by the Illinois Natural History Survey (INHS) – Project team is waiting for reports. **RPC and LCFPD requested a copy of the reports when available.**
- Wetland/Waters of the US (WOUS) delineation completed by CBBEL – **CBBEL submitted a copy of the delineation report to the RPC and LCFPD on January 4, 2019.** CBBEL also provided a copy of the Preliminary Jurisdictional Determination and Boundary Confirmation letters from the Lake County Stormwater Management Commission.
- Traffic Noise Study by CBBEL is in process.

- 2) The LCFPD owns property immediately adjacent to the north and south sides of Deerfield Road near the Des Plaines River crossing, including the Edward L Ryerson Conservation Area/Nature Preserve and Cahokia Flatwoods Forest Preserve. Impacts to the Edward L Ryerson Conservation Area/Nature Preserve are not anticipated. A temporary easement for construction access and culvert replacement may be necessary at the Cahokia Flatwoods Forest Preserve. The LCFPD did not express concerns with the temporary easement during the meeting.
- 3) The RPCs primary concerns include: (1) tree removal and (2) direct/indirect impacts from road salt.
 - The RPC requested that the project team minimize tree impacts and avoid high quality trees (e.g., large diameter oak trees with good condition and form). **CBBEL is to provide the tree survey data to the RPC and LCFPD. The RPC and LCFPD will review the tree survey data and identify specific trees that they would like the project team to preserve, if possible.**

Potential tree mitigation options were discussed, including planting trees in Best Management Practice (BMP) opportunity areas and compensatory floodplain storage areas. LCDOT noted that available space for tree planting within the right-of-way is limited. LCFPD suggested that habitat restoration (e.g., tree planting and buckthorn removal on forest preserve property) be considered a potential mitigation option. The RPC is also interested in roadside habitat restoration as part of the tree mitigation strategy.

The RPC asked if LCDOT could provide the Village of Riverwoods (Village) with funding for trees to be planted on private property. The Village has already established a cost share program that property owners may use for tree replacement. **LCDOT will investigate mitigation options** and noted that homeowners will be compensated if trees on their property are removed during project improvements.

- CBBEL and LCDOT briefly discussed road salt/chloride management. Chloride is a persistent pollutant. Sediment traps/catch basins would help with sediment control, but are not anticipated to provide much chloride control. Chloride management practices (e.g., proper training, pre-wetting) can minimize potential environmental impacts due to road salt. The bike path will not be snow plowed by LCDOT. **The LCFPD and RPC requested that LCDOT prepare a Salt Management Plan. In turn, it was also recommended that the Village prepare a Salt Management Plan.**
- 4) LCFPD and RPC requested that **a wildlife crossing be provided at Thorngate Creek and near the Des Plaines River.** LCFPD stated that providing the wildlife crossing would be sufficient – no guide wall/drift fence would be required.
 - The existing culvert structure carrying Deerfield Road over Thorngate Creek is a single circular 48-inch reinforced concrete pipe. At the current time, CBBEL is proposing a 4-foot (W) x 5-foot (H) box culvert that would be embedded at the upstream and downstream ends to encourage fish movement. LCFPD recommended that the bottom of the culvert be roughened. **A small to medium sized wildlife crossing (e.g., to accommodate raccoon-sized animals and smaller, not deer) will be investigated by the project team.** LCFPD stated that an enlarged culvert would be acceptable (i.e., “dry” walkways/ledges or multiple culverts are not expected). **CBBEL is to determine the design storm and evaluate potential options.**
 - LCFPD requested that a culvert be installed east of the Des Plaines River to provide a hydrologic connection between Wetland 15 and Wetland/WOUS 1 and also allow for small

to medium sized wildlife (e.g., amphibian) movement. LCFPD requested that the hydrology at Wetland 15 not be modified. LCFPD prefers a concrete structure. **CBBEL is to evaluate potential options.**

- 5) The RPC and LCFPD requested that a copy of the proposed seed mix be provided for their review/comment. CBBEL and LCDOT stated that the seed mix to be used adjacent to roadways should be salt tolerant. **LCDOT submitted a copy of the typical seed mix used by LCDOT for roadway projects to the RPC and LCFPD on January 4, 2019.**

LCFPD and RPC requested the opportunity to comment on proposed seed mixes to be used at BMP Opportunity Areas, including compensatory floodplain storage areas.

The RPC will consider submitting a survey to landowners adjacent to the project corridor to see if they prefer roadside vegetation along Deerfield Road mowed less frequently than typical LCDOT procedures.

- 6) CBBEL stated that based on preliminary design, at the current time it is anticipated that wetland impacts will be less than 0.5 acre. It is anticipated that mitigation will be provided via a wetland bank. **LCFPD requested that LCDOT consider entering into an Intergovernmental Agreement and providing restoration funds to the LCFPD, instead.** CBBEL stated that mitigation options can be presented to the appropriate agencies to meet regulatory requirements (e.g., Section 404 of the Clean Water Act and Interagency Wetlands Policy Act). LCFPD said that they are willing to discuss options with the appropriate regulatory agencies.

The meeting adjourned at approximately 11:00 a.m.

Submitted by: Pete Knysz (CBBEL)



MEETING SUMMARY

Meeting Date: January 29, 2020
Location: Lake County Forest Preserve District
Project: Deerfield Road (15-00038-07-WR)
Purpose: Lake County Forest Preserve District Coordination Meeting – Project Status & Wildlife Crossings

<u>Attendees</u>	<u>Representing</u>	<u>E-mail</u>
Randy Seebach	LCFPD - Director Planning & Land Preservation	rseebach@lcfpd.org
Jeff Sloom	LCFPD - Planning Manager	jsloom@lcfpd.org
Jim Anderson	LCFPD - Director Natural Resources	janderson@lcfpd.org
John Nelson	LCFPD - Director Operations & Infrastructure	jenelson@lcfpd.org
Kevin Carrier	LCDOT - Director of Planning & Programming	kcarrier@lakecountil.gov
Chuck Gleason	LCDOT - Project Manager	cgleason@lakecountyil.gov
Matt Huffman	CBBEL - Project Manager	mhuffman@cbbel.com
Pete Knysz	CBBEL - Environmental Project Manager	pknysz@cbbel.com

A coordination meeting was held on January 29, 2020 at 11 a.m. with the Lake County Forest Preserve District (LCFPD) for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders Road) Phase I Engineering Study. The purpose of the meeting was to update the LCFPD on the project status and discuss the potential wildlife crossing just east of the Des Plaines River.

Below is a summary of meeting discussion points, with any action items noted **(in bold)**:

- 1) LCDOT and CBBEL presented a brief project status update, including but not limited to the following topics:
 - The preferred alternative includes intersection improvements, a 3-lane roadway section with curb and gutter on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road, an 8-foot wide multi-use path adjacent to the south side of Deerfield Road (west of Portwine Road) and adjacent to the north side of Deerfield Road (east of Portwine Road), space for a potential 5-foot wide sidewalk along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane, and an approximate 15-foot high noise wall likely to be implemented along the south side of Deerfield Road and the west side of Saunders Road adjacent to the Thorngate Subdivision.
 - The project footprint has been modified to accommodate drainage design updates related to the new Bulletin 70 rainfall data. Additional right-of-way, permanent drainage easements, and temporary construction easements are required for larger detention/compensatory storage basins, culverts, storm sewers, and ditches.
 - Anticipated tree impacts (based on location in right-of-way and easements) were updated for the recently modified project footprint and were submitted to the Riverwoods Preservation Council (RPC) for review. The Village of Riverwoods high quality tree species

list is utilized. During the design phase of the project, additional tree impact evaluation will be completed as necessary to avoid/minimize impacts, and a tree replacement plan will be developed. Impacted trees will be replaced where practicable and feasible. Potential tree mitigation may include planting trees at the compensatory floodplain storage areas and incorporating RPC recommended replacement species.

- 2) The proposed improvements will require a temporary construction easement at the Cahokia Flatwoods Forest Preserve located adjacent to the south side of Deerfield Road for access, bridge widening, and culvert replacement. Construction access would take place at an existing LCFPD driveway. The existing Deerfield Road bridge over the Des Plaines River will be widened approximately 8-feet to the south. The bridge widening will require in-stream construction (i.e., temporary waters impacts). IDOT has reviewed the Section 4(f) Temporary Occupancy documentation for this project (for the temporary easement on forest preserve property) and stated that LCDOT may proceed with the required Section 4(f) public involvement activities (e.g., Public Hearing). After the Public Hearing comment period, LCDOT will seek formal concurrence/signature from the LCFPD regarding the Temporary Occupancy documentation.

LCFPD to check if LCDOT will need to pay for the use of the temporary construction easement.

- 3) At a meeting on January 4, 2019, the LCFPD and RPC requested that a wildlife crossing be evaluated at two locations along the Deerfield Road project corridor: (1) at Thorngate Creek and (2) east of the Des Plaines River (approx. STA 127+00). There is an existing bridge and adjacent trail at the Des Plaines River that currently provides a wildlife crossing on the west side of the river. The meeting attendees were provided with a *Potential Wildlife Crossing Evaluation Memorandum*, prepared by CBBEL, dated June 19, 2019. The memorandum discusses these two potential wildlife crossings.

Technical guidance for the memorandum was based on information from the US Forest Service and Federal Highway Administration (FHWA) websites, specifically: *Wildlife Crossing Structure Handbook, Design and Evaluation in North America*. From an engineering perspective, both wildlife crossings appear to be feasible. The project team must be sensitive to changes in the roadway profile, so there are size limitations associated with each wildlife crossing. The potential wildlife crossings would accommodate small to medium sized wildlife. The potential crossings are not meant to accommodate larger mammals, such as deer.

Thorngate Creek

- A single 10-foot (W) by 5-foot (H) precast reinforced concrete box culvert (RCBC) is currently proposed at Thorngate Creek. This crossing is currently included in the preliminary design. The existing culvert structure is a single circular 48-inch reinforced concrete pipe (RCP) culvert.
- The proposed culvert will have cast-in ledges located on the interior wall on each side of the RCBC, above the normal water level and below the 2-year water level. Each shelf will have a width of 2 feet and clearance of 2.5 feet due to available cover. Earthen access ramps/ slopes (≤ 30 degrees) from the adjacent habitat would lead to the elevated ledges/walkways inside the RCBC.
- The culvert will be embedded 1 foot below the streambed elevation to allow natural stream substrate to accumulate along the bottom of the culvert to accommodate the passage of fish and other aquatic organisms.

- The proposed culvert would be approximately 84 feet from face to face.
- The FHWA guidance (mentioned above), recommends that small to medium-sized mammal underpasses (to accommodate wildlife and seasonal drainage) have a minimum width and height of 1 to 4 feet. This wildlife crossing meets the requirement. However, due to design constraints, the proposed culvert is slightly below the modified culvert requirements for minimum clearance (i.e., >3 feet) and shelf elevation (i.e., above the high water mark).

Des Plaines River

- A single 4-foot (W) by 3-foot (H) precast RCBC is currently being investigated to the east of the Des Plaines River between Wetland 1 (located on the north side of Deerfield Road within the Edward L Ryerson Nature Preserve) and Wetland 15 (located on the south side of Deerfield Road within the Cahokia Flatwoods Forest Preserve). This culvert is not currently included in the preliminary design and does not serve a hydraulic need. Under existing conditions there is not a culvert at this location. The exact location can vary about 75 feet, which is the frontage distance the two adjacent wetlands share.
- Based on the Preliminary Jurisdictional Determination (PJD) completed by the US Army Corps of Engineers (USACE) and Lake County Stormwater Management Commission (LCSMC), Wetland 1 is a USACE regulated wetland and Wetland 15 is an isolated wetland. The PJD expires in June 2020. Based on floristic quality, both wetlands are high quality.
- The culvert would be embedded 0.5 foot to allow natural substrate to accumulate along the bottom of the culvert.
- The proposed culvert would be approximately 53 feet from face to face.
- A wetland hydrology analysis will not be completed as part of this Phase I study. It is anticipated that wetland hydrology will be evaluated during Phase II as part of Lake County Watershed Development Ordinance (WDO) permitting. Under the WDO, the design must maintain between 80-150% of the existing condition, 2-year, 24-hour storm event runoff volume from the on-site tributary drainage area to the preserved isolated wetland or a wetland impact will be assumed. CBBEL's initial impression is that will likely not be an issue, but will be evaluated during Phase II. There would be concern if the isolated wetland was impacted due to the hydrology changes from the culvert and would likely be removed from the proposed improvement.
- The wildlife crossing between the two wetlands could potentially be used by reptiles and amphibians. CBBEL has reviewed the site wildlife lists (provided by LCFPD) for the adjacent forest preserves. Reptiles and amphibians were included on both lists. The LCFPD documents wildlife presence, but does not maintain records if an area is located along an amphibian migration route or general area where dispersal may occur. CBBEL stated that a crossing is more likely to be used by reptiles/amphibians if it is situated in a known seasonal migration route or an area of reptile movement (otherwise its use by reptiles/amphibians may be quite limited).
- This wildlife crossing meets the small to medium-sized mammal underpass and the amphibian/reptile tunnel minimum width and height requirements.

- This potential wildlife crossing has a slight change in topography at the culvert openings. The FHWA guidance suggests that amphibian/reptile tunnel design be completely level without slope of any kind at the culvert openings or within the tunnel. Tunnels should have good drainage. CBBEL stated that the tunnel is likely to be damp. Amphibians do not move through flooded tunnels. CBBEL recommended that slope and hydrology be evaluated further in Phase II. Grading could occur up to the existing right-of-way with this project. If additional grading needs to be conducted, the LCFPD would need to perform this work.
- Since this wildlife crossing is not required for the Deerfield Road improvements, LCDOT would expect LCFPD to maintain the culvert, if it were to be constructed. LCFPD agreed to maintain the wildlife crossing with respect to obstructions. However, structural failures are a concern. The LCFPD does not want to be responsible for culvert replacement or roadway repairs associated with culvert failure. **Maintenance responsibilities will be discussed in more detail during Phase II.**
- **CBBEL will add the Des Plaines River wildlife crossing to the preliminary engineering plans.**

The potential wildlife crossings are based on preliminary engineering and will need to be reviewed/approved by the appropriate agencies. **A commitment will be included in the Environmental Assessment (EA) that the design, coordination, and final decision regarding wildlife crossings will continue during Phase II with final engineering and permitting.**

CBBEL stated that use of the wildlife crossing structure should be encouraged by installing fencing (e.g., 2-foot high wire mesh), rock walls, or other barriers along the road to direct wildlife to the culvert/tunnel. Meeting attendees stated that the proposed retaining wall could serve this purpose. The existing fence along the north right-of-way is proposed to remain. The LCFPD would need to make modifications to that fence, such as an opening at the wildlife crossing; the existing fence meanders between the roadway right-of-way and LCFPD property.

- 4) The draft EA has been submitted to the Illinois Department of Transportation (IDOT) for review. Comments are anticipated in the near future.
- 5) The Public Hearing is anticipated for April 2020, but this is contingent upon IDOT and FHWA reviews being timely completed. Construction letting is anticipated for 2023. Land acquisition is anticipated to have a big influence on the project schedule.

The meeting adjourned at approximately 12:15 p.m.

Submitted by: Pete Knysz (CBBEL)

APPENDIX E-10

AGENCY AND PUBLIC COORDINATION

Riverwoods Preservation Council

From: Gleason, Chuck L.
To: [Matthew Huffman](#); [Emily Anderson](#); [Michael Matkovic](#)
Cc: [Schneider, Shane](#); [Carrier, Kevin](#)
Subject: FW: Deerfield Road Project in Riverwoods, Illinois
Date: Thursday, November 30, 2017 8:56:38 AM
Attachments: [2017-11-29 RESPONSE-Controlled Correspondence Deerfield Road EA.pdf](#)
[Deerfield -CCMS-DFS-171115-002_I.PDF](#)

FYI, Robin, from FHWA, called me yesterday to let me know this was coming. She said they will prepare a response and, at this point, has not asked us for anything.

From: FHWA, Illinois (FHWA) [mailto:Illinois.FHWA@dot.gov]
Sent: Thursday, November 30, 2017 8:42 AM
To: Gleason, Chuck L. <CGleason@lakecountyil.gov>
Subject: Deerfield Road Project in Riverwoods, Illinois

Corrected email address.

From: FHWA, Illinois (FHWA)
Sent: Thursday, November 30, 2017 8:39 AM
To: 'greg.claus@mail.house.gov' <greg.claus@mail.house.gov>; 'Aaron.Weatherholt@illinois.gov' <Aaron.Weatherholt@illinois.gov>; 'Omer.Osman@illinois.gov' <Omer.Osman@illinois.gov>; 'Erin.Aleman@illinois.gov' <Erin.Aleman@illinois.gov>; Priscilla.Tobias@illinois.gov; 'Paul.Loete@illinois.gov' <Paul.Loete@illinois.gov>; Christopher.Holt@illinois.gov; William.Raffensperger@illinois.gov; 'cgleason@lakcountyil.gov' <cgleason@lakcountyil.gov>; 'sschneider@lakecountyil.gov' <sschneider@lakecountyil.gov>
Subject: Deerfield Road Project in Riverwoods, Illinois

Please see attached correspondence that was sent to the recipient today via US Postal Service.

This is a response from the IL Division FHWA office regarding an inquiry from Congressman Bradley S. Schneider's office. See attached.

BRADLEY SCOTT SCHNEIDER
10TH DISTRICT, ILLINOIS

WASHINGTON OFFICE:
1432 LONGWORTH BUILDING
WASHINGTON, D.C. 20515
(202) 225-4835

DISTRICT OFFICE:
111 BARCLAY BLVD, SUITE 200
LINCOLNSHIRE, IL 60069
(847) 383-4870



Congress of the United States
House of Representatives
Washington, DC 20515-1310

COMMITTEE ON FOREIGN AFFAIRS
SUBCOMMITTEE ON MIDDLE EAST AND NORTH AFRICA
SUBCOMMITTEE ON TERRORISM, NONPROLIFERATION
AND TRADE

COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON COURTS, INTELLECTUAL
PROPERTY, AND THE INTERNET
SUBCOMMITTEE ON REGULATORY REFORM,
COMMERCIAL AND ANTITRUST LAW

COMMITTEE ON SMALL BUSINESS
RANKING MEMBER ON THE SUBCOMMITTEE ON
AGRICULTURE, ENERGY AND TRADE

November 15, 2017

The Honorable Brandye Hendrickson
Acting Administrator
Federal Highway Administration
1200 New Jersey Ave., SE
Washington, DC 20590

Dear Acting Administrator Hendrickson,

I have attached a letter from residents in my congressional district who have expressed concern regarding the Deerfield Road Expansion Project in Riverwoods, Illinois. I have enclosed a copy of that letter. On behalf of my constituents, I respectfully ask that you address the concerns outlined in their letter and provide them with a response. Please also kindly send me a copy of your reply.

Thank you for your consideration of this request.

Sincerely,

A handwritten signature in blue ink that reads "Bradley Scott Schneider".

Bradley S. Schneider
MEMBER OF CONGRESS

450 Greenbriar Lane
Riverwoods, IL 60015
November 3, 2017

The Honorable Brad Schneider
111 Barclay Boulevard
Suite 200
Lincolnshire, IL 60069

RE: Deerfield Road Project in Riverwoods, IL

Dear Congressman Schneider:

Several Riverwoods residents met with Greg Claus, your Deputy District Director, on August 25, 2017 to discuss residents' concerns regarding a potential widening of Deerfield Road through Riverwoods by Lake County (the "Project"). We represent a group of concerned Riverwoods residents that has been intimately involved in the Lake County Division of Transportation (LCDOT) Stakeholder Involvement Group process to evaluate alternatives for the Project.

LCDOT currently is evaluating alternatives that include three-, four- and five-lane widening of Deerfield Road for two miles through the Village of Riverwoods from Milwaukee Avenue east to Saunders Road, as well as No-Build and Milwaukee Avenue intersection-only alternatives. LCDOT is applying to the Federal Highway Administration (FHA) for federal funds to cover approximately 80% of the Project cost. Preliminary approval has been received to proceed with the National Environmental Policy Act (NEPA) process for the Project, and the NEPA process has commenced.

Our concerned residents group believes that the Project should not have received FHA preliminary approval because:

1. Traffic growth projections used to justify the need for the Project were faulty. The table below shows the historical average daily traffic (ADT) expressed in vehicles per day (Source: Illinois Department of Transportation).

Year	1953	1959	1963	1969	1974	1979	1983	1988	1992	1996	2000	2011	2016
ADT	1450	2050	2350	2800	6500	9700	9500	17300	18700	20400	22000	19300	19450

In spite of substantial population and employment growth in the region around Riverwoods over the last decade, traffic has stayed constant. Nevertheless, LCDOT has predicted significant traffic growth in its submittal to the FHA based on modeled regional population and employment growth. Further, the underlying data has been demonstrated to be incorrect. Notably, in response to questions raised by the concerned residents group and the Stakeholder Involvement Group regarding incorrect growth projections in the Project area, the LCDOT issued a Project memorandum to the Stakeholder Involvement Group on August 9, 2017 decreasing its growth projections in the Project area, stating:

"... the average daily traffic (ADT) volume along Deerfield Road within the project limits is projected to increase from approximately 19,550 vehicles per day (vpd) to 20,200 vpd for the year 2040 under the No-Build scenario. This is a relatively modest increase of

650 vpd (3.3%) over the next 22 years... The project Purpose and Need Statement will be modified to add this further explanation of the population, employment, and travel demand projections.”

On June 23, 2017, LCDOT modified the Purpose and Need statement to reflect this decrease in projected growth in Riverwoods and adjacent areas.

2. In the LCDOT Purpose and Need Statement dated March 22, 2017, traffic delay times and locations do not reflect actual experience. Data and objective observation indicate that traffic in the Project area is only an issue going westbound on Deerfield Road from Saunders Road during the 1-2 hours of weekday afternoon rush periods, on 3-5 afternoons a week. In addition, the delays are far shorter than LCDOT’s data indicates. Further, LCDOT’s projected increased travel times for 2040 rush hour periods are tiny. LCDOT’s Purpose and Need statement does not justify the waste of tens of millions of taxpayer dollars to widen two miles of Deerfield Road when a simple expansion of the intersection at Deerfield Road and Milwaukee Avenue, plus minimal lengthening of westbound and eastbound intersection rush hour stoplights, are likely to solve the problem.
3. LCDOT questioned the safety of the current configuration of Deerfield Road in its Purpose and Need statement. However, widening Deerfield Road through Riverwoods will cause a greater safety hazard. Recent studies have shown that moving from two-lane to three- or four-lane roads decreases safety for pedestrians, vehicles and wildlife due to increased traffic volume and speeds. In addition, contrary to LCDOT’s assertion in its Purpose and Need statement, both the Riverwoods Police Chief and the Lincolnshire/Riverwoods Fire Department Assistant Chief have stated that emergency services have not been affected by traffic volumes on Deerfield Road, even during peak traffic periods. Further, the Purpose and Need statement has not taken into account rapidly changing work practices and technology (such as work from home and shared car services) that already are altering traffic volume, as well as imminent technologies that will decrease traffic volume and significantly increase driving safety (such as autonomous cars and vehicle collision avoidance technology).
4. Deerfield Road expansion will be devastating to the local ecological and human environment. While the NEPA process does not take environmental impacts into account until a later phase of the engineering evaluation, the impacts of the Project are so significant that our organization believes these impacts should be addressed now. In the Project area, Deerfield Road abuts the Lake County Forest Preserve Ryerson Conservation Area (a dedicated Illinois Nature Preserve), the Lake County Forest Preserve Cahokia Flatwoods Preserve, the Hermann Wildflower Farm (a dedicated Illinois Nature Preserve Buffer Addition), and some of the last oak woodland green infrastructure within Lake County. Riverwoods retains 42% of its oak woodlands remaining from the 1830s, while Lake County as a whole retains only 12%. Regarding the human environment, expansion of Deerfield Road will bisect our small Village with a highway that will forever change the character of the Village, placing unsupported projected regional traffic needs above the safety, health and quality of life of Village residents.

Our organization respectfully requests that you investigate the current status of the Project with the FHA, and make a determination whether the FHA’s preliminary approval of funding should be withdrawn based on the factors listed above.

Thank you for considering our request.

Sincerely,

Laurie Breitkopf

Joan Becker
Laurie Breitkopf
Mike Clayton
Kris Ford
Mike Ford
David Shimberg



U.S. Department
of Transportation
**Federal Highway
Administration**

Illinois Division

November 30, 2017

3250 Executive Park Dr.
Springfield, IL 62703
(217) 492-4640
www.fhwa.dot.gov/ildiv

In Reply Refer To:
HA-IL

Ms. Laurie Breitkopf
450 Greenbriar Lane
Riverwoods, IL 60015

Subject: Deerfield Road Project in Riverwoods, Illinois

Dear Ms. Breitkopf and Concerned Riverwoods Residents:

This is in response to your letter to Congressman Bradley S. Schneider dated November 3, 2017, pertaining to your concern about potential improvements of Deerfield Road through Riverwoods in Lake County, Illinois. Your letter was forwarded to the Federal Highway Administration, (FHWA) Illinois Division for response.

The FHWA is part of the U.S. Department of Transportation and is headquartered in Washington, DC, with Field Offices across the United States. The FHWA is charged with the broad responsibility of ensuring that America's roads and highways continue to be the safest and most technologically up-to-date. Although State, local, and tribal governments own most of the Nation's highways, FHWA provides financial and technical support to these entities for constructing, improving, and preserving America's highway system. When a State or County requests Federal-aid funding for a project, the FHWA provides assistance and approvals at key stages to make sure the project satisfactorily meets applicable Federal requirements. In Illinois, the State is represented by the Illinois Department of Transportation (IDOT) and the County, in this case, is represented by the Lake County Division of Transportation (LCDOT).

Under the Federal-aid Highway Program, the States and/or Counties work with local officials to select projects for Federal-aid funding by cooperatively establishing priorities. The IDOT and/or LCDOT assists local officials in meeting the requirements to fund transportation projects along with the planning assistance of Chicago Metropolitan Agency for Planning (CMAP). The CMAP is the official metropolitan planning organization for the northeastern Illinois counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will.

The FHWA's role in this process is to determine first if the project is eligible to receive Federal funding based on functional classification of the roadway. In this case, Deerfield Road is eligible for Federal funds. Then, when the project sponsor is ready to implement a stage of project development such as preliminary engineering, design, right-of-way acquisition and construction, FHWA takes an authorization/approval action on the use of Federal funds. So far for this project the FHWA has only authorized the use of Federal funds for preliminary engineering.

Public involvement is a critical part of a project's development during all phases. This project is currently in the early stages of development, commonly known as the IDOT's Phase I process. The IDOT Phase I process being followed will include preliminary engineering and environmental studies as required by the National Environmental Policy Act (NEPA).

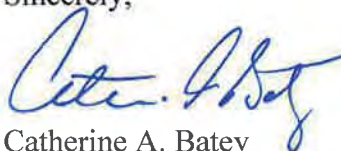
The Phase I process will consider a range of alternatives within the study area through an Environmental Assessment (EA). The LCDOT is in the very early stages of the development of this EA and continues to collect data about the study area. The EA will include the alternatives developed during the stakeholder process and refinements, and the "No Build" alternative. Alternatives will be evaluated considering the affected environment in which they are located. This will include effects (impacts) to the natural and human environment.

In addition, a public involvement program will be conducted in accordance with NEPA (through a public hearing after the EA is completed) and the IDOT's Context Sensitive Solutions (CSS) principles. The CSS principles being followed for this study emphasize the importance of an effective public involvement process for identifying the transportation and community concerns and values that need to be considered.

As mentioned earlier, it is currently very early in the development of the EA for this project. As such, the comments included in your letter related to traffic volumes, traffic delays, safety and environmental impacts can and will be considered in the further development of the EA. In addition, through the CSS process, your group will have several other opportunities to comment on the EA process before a FHWA approval action on the EA occurs (approval of an EA with a preferred alternative identified).

I hope this overview of Federal-aid projects and the project's status is helpful to you. Since LCDOT is the implementing agency for this project, you may contact their office by phone at (847) 377-7400. This would be the appropriate contact regarding additional information for this project, including its status.

Sincerely,



Catherine A. Batey
Division Administrator

cc: Mr. Greg Claus, Congressman Schneider Representative
Mr. Aaron Weatherholt, Deputy Secretary for Program Development, IDOT
Mr. Omer Osman, Deputy Secretary for Project Implementation, IDOT
Ms. Erin Aleman, Office of Planning and Programming, IDOT
Ms. Priscilla Tobias, Office of Program Development, IDOT
Mr. Paul Loete, Office of Highways Project Implementation, IDOT
Mr. Christopher Holt, District 1, IDOT
Mr. William Raffensperger, Bureau of Design and Environment, IDOT

Mr. Charles Gleason, Project Manager, Lake County Division of Transportation,
Mr. Shane Schneider, County Engineer, Lake County Division of Transportation

From: [Matthew Huffman](#)
To: "Michael Clayton"
Cc: [Laurie](#); [Rick Jamerson](#); [Gleason, Chuck L.](#); [Peter Knysz](#)
Subject: RE: Lake County, Deerfield Road RPC Coordination
Date: Tuesday, October 30, 2018 3:20:00 PM

Mr. Clayton,

A short response is provided to your questions below in red and we can discuss in more detail at our meeting. Regarding your question about compliance with the [NEPA](#) (National Environmental Policy Act; federal law 1969), our [Stakeholder Involvement Plan \(SIP\)](#) composted at the beginning of the project (posted on the website) frames out the public involvement program for this project, which corresponds to the general NEPA/404 merger process (purpose & need, range of alternatives, preferred alternative). Also identified in our SIP are Small Group Meetings with stakeholders; our meetings with the RPC would fall under this category. Individual meetings with the RPC are not specifically required to meet NEPA compliance. The RPC is a key stakeholder that has vast information/knowledge of the area and environmental resources. Our goal with this project is to meet the identified purpose/need transportation objectives and minimize impacts to greatest extent practical. Where we have impacts, we want to develop effective mitigation strategies. As we start to enter into the detailed design elements of the project, study/analyze environmental components, identify avoidance strategies, and mitigate impacts, we would like to continue our individual dialogue with the RPC to get your comments, input and feedback.

From our SIP:

Section 5.2 Small Group Meetings

Small group meetings will share information and foster discussion by addressing specific project issues, allowing for more specialized discussions and input, and aiding in a better understanding of the project goals and objectives. Small group meetings will be ongoing throughout the project. These meetings will include LCDOT, the project study team, local agencies and organizations, members of the business community, special interest groups, forest preserves, and various property owners. Project handouts or other appropriate meeting materials will be prepared for distribution at these meetings. These meetings are on an "as needed" basis and there is no set schedule for small group meetings.

For our next meeting, we would like you to be there. Do you have any availability November 19th or 20th?

Regards,
Matt

Matthew J. Huffman, PE, M.ASCE

Project Manager - Phase I Engineering Department

Christopher B. Burke Engineering, Ltd.

9575 W. Higgins Road, Suite 600 Rosemont, IL 60018

Office: (847) 823-0500 Cell: (847) 804-7615 Fax: (847) 823-0520

E-Mail: mhuffman@cbbel.com

www.cbbel.com

"You cannot escape the responsibility of tomorrow by evading it today."
- Abraham Lincoln

From: Michael Clayton <mclayton@marauder.net>

Sent: Friday, October 26, 2018 11:50 AM

To: Matthew Huffman <mhuffman@cbbel.com>

Cc: Laurie <lbreitkopf@comcast.net>; Rick Jamerson <rjamerson@riverwoods-il.net>; Gleason, Chuck L. <CGleason@lakecountyil.gov>; Peter Knysz <pknysz@cbbel.com>

Subject: Re: Lake County, Deerfield Road RPC Coordination

Thanks again for passing along the manual. Reviewing it, I have some questions - perhaps you might touch on these points at the upcoming meeting (in my absence):

- Section 3.5 Noise: Will the project require a noise analysis? Does the LCDOT ever attempt to mitigate noise with "living barriers" and, if so, would you be willing to consider doing so in this case? **A Noise Analysis is being prepared for this project according to federal guidelines and is reviewed/approved by IDOT. We can discuss the "living barriers" at our meeting.**
- Section 3.7 is obviously of particular importance. In 3.7.1, do the conditions meet the standard of "substantial" in your opinion? **We will discuss further at our meeting; further coordination with IDOT Environmental Unit will take place to discuss the tree impacts.** In 3.7.2, In addition to the tree survey (underway?), have any state endangered or threatened species been identified? **The formal biological surveys conducted by Illinois Natural History Survey (on behalf of IDOT) have not been received yet; the field work took place over the last two summers.** I ask because they have been located in wetlands within Riverwoods.
- Section 3.8.1: Will this data be collected on the Des Plaines river? Thorngate creek? **Coordination is ongoing with IDOT about this; we currently have available data for the Des Plaines River.**
- Section 3.9: There are wells in the area. Have the wells and the aquifer been located? **Yes. We have compiled data from the available databases that track well/aquifer locations.**
- Section 3.10: What is the definition of a "significant" floodplain encroachment? **We are still evaluating the floodplain impact (the definition of "significant" is located on page 26-7.3 of the IDOT BDE manual)**
- Section 3.11: Are there any HQAR or ADID wetlands along the road? **Yes. There are four wetlands that are classified as High Quality Aquatic Resources (HQAR), two of which currently have minimal impacts; the mapped ADID wetlands are along the Des Plaines River/Ryerson north of Deerfield Road and currently have no impacts. The wetland impacts have not been submitted to IDOT for review at this time.**
- Section 3.13.4: Does this include the Hermann Wildflower area? **Yes.**

Finally, in perusing the broader Bureau Of Design and Environmental Manual, I came across the following:

"The involvement and coordination activities associated with the environmental process are an integral part of the stakeholder involvement process. The district should schedule stakeholder

involvement process activities to coordinate with and accommodate the key milestones in the environmental process and, as applicable, the concurrence points for the NEPA/404 merger process; described in Section 22-4. For projects subject to the NEPA/404 merger process, consideration of the outcomes of the concurrence point meetings with the environmental regulatory and resource agencies should be a part of the iterative processes for achieving stakeholder consensus on project purpose and need, range of alternatives, and the preferred alternative.”

Is compliance with this what is driving the meetings with the RPC? Is the NEPA process of any relevance?

Mike

Michael Clayton
President
Riverwoods Preservation Council (RPC)
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On Oct 21, 2018, at 3:01 PM, Michael Clayton <mclayton@marauder.net> wrote:

As both Laurie and Rick said, we appreciate the opportunities to meet.

I will be out of town starting Saturday and through November 15th. So, unless you want to meet on the 16th, please meet with Laurie and Rick in my absence.

I will try to review the information you provided, and comment via email.

Mike

Michael Clayton
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On Oct 19, 2018, at 7:34 AM, Matthew Huffman <mhuffman@cbbel.com> wrote:

Mr. Clayton, Ms. Breitkopf and Trustee Jamerson,
Thank you again for meeting last week regarding the project. I know we ran out of time and did not get to all the items we wanted to discuss. We'll plan on having another meeting with the RPC following the upcoming public meeting in early November. If you can provide some dates the first few weeks of November that work for you all, we can get something scheduled. Following the comment period (ends November 16th), we will be going through a process to refine the roadway design and subsequently the drainage/BMPs.

Also, please find attached the portion of the Illinois Department of Transportation manual on Environmental Assessments. On page 22 of the PDF you will see the information for Chapter 3 – Environmental Setting, Impacts, and Mitigation. We meant to talk through this a little bit at our meeting last week, but we ran out of time. There are 20 sub-sections within chapter 3, which we are in the process of evaluating. As mentioned at the meeting, we are still in the data collection stage for some environmental elements and are evaluating others. We will plan to talk through the relevant sections in more detail at our upcoming meeting, as well as other BMP/mitigation elements that can be considered for implementation with this project.

Best Regards,
Matt

Matthew J. Huffman, PE, M.ASCE

Project Manager - Phase I Engineering Department

Christopher B. Burke Engineering, Ltd.

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"You cannot escape the responsibility of tomorrow by evading it today."

- **Abraham Lincoln**

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<Appendix D EA Guidance on EA preparation.pdf>



MEETING SUMMARY

Meeting Date: January 16, 2018
Location: Lake County Division of Transportation
Project: Deerfield Road (15-00038-07-WR)
Purpose: Riverwoods Preservation Council Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Michael Clayton	RPC – President	MClayton@marauder.net
Laurie Breitkopf	RPC – Vice President	LBreitkopf@comcast.net
Rick Jamerson	RPC - Director	RJamerson@jbelectric.com
Chuck Gleason	LCDOT (Project Manager)	CGleason@lakecountyiil.gov
Matt Huffman	CBBEL (Project Manager)	Mhuffman@cbbel.com

A coordination meeting was held on January 16, 2018 at 1 p.m. with several directors of the Riverwoods Preservation Council (RPC) for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders Road) Phase I Engineering Study. The purpose of the meeting was to provide a project status update regarding the range of alternatives development/evaluation/conclusions, discuss the RPC November 20, 2017 comments on the project Purpose and Need, and provide a SIG #3 preview.

Below is a summary of meeting discussion points, with any action items noted:

- 1) The Range of Alternative development approach was discussed. The project is broken up into the two termini intersections and a 2-mile Deerfield Road corridor section in-between. The Deerfield Road corridor section (section) is broken up into two parts, Section A is Milwaukee Avenue to the Des Plaines River and Section B is Des Plaines River to Saunders/Riverwoods Road. The project team has identified a preliminary preferred alternative for Section B, a 3-Lane roadway section with curb and gutter (Alternative 3). The project team is still in the alternative evaluation process for Section A, Milwaukee Avenue intersection and Saunders/Riverwoods intersection.
- 2) An improvement will be made at the Milwaukee Avenue intersection. The Woodmans development is making improvements to the intersection, which includes a second northbound and southbound left turn lane and another exclusive eastbound through lane. The westbound direction remains unchanged. The Deerfield Road transportation analysis factors in the improvements Woodmans is making to the intersection and their site generated traffic. The project team is undergoing an intersection alternatives analysis for the Milwaukee Avenue intersection. Coordination with IDOT is ongoing. It is anticipated that a preferred intersection improvement will be selected this spring.
- 3) The Range of Alternatives typical sections exhibit was displayed and the five alternatives were discussed. The project team mentioned that the bike path will be incorporated in this project and provides connectivity of the east/west path network to the Des Plaines River Trail. The sidewalk is being included in the development and evaluation, however, it is subject to Lake County's non-motorized policy requiring a local agency sponsor for cost participation and maintenance. LCDOT stated that when the roadway is reconstructed, it will be updated to

current roadway design standards such as an 8-foot shoulder and standard roadway ditch. All alternatives utilize 11-foot travel lanes. The alternatives that utilize curb and gutter incorporate a 3-foot bike friendly shoulder to better accommodate on-road bicyclists.

The Section B preliminary preferred alternative, Alternative 3, has an approximate footprint width of 88 feet, which is the narrowest of the alternatives considered. Alternative 1, which is a 2-lane roadway, has a width of 100 feet and includes 8-foot shoulders and drainage ditches.

- 4) The RPC presented their recommended alternative for the Deerfield Road project. Deerfield Road west of the Des Plaines River should be 4-lanes and the Milwaukee Avenue intersection should be improved. East of the river, Deerfield Road should be a two-lane roadway with standard lane widths, shoulder, and curb and gutter. The minimum regulatory bike path width should be utilized. The RPC feels this alternative addresses the congestion at the Milwaukee Avenue intersection, improves safety and mobility, accommodates non-motorized users, minimizes impacts to the environment/private property, and is an efficient use of taxpayer funds.
- 5) Discussion occurred comparing a two-lane curb roadway section versus a three-lane curb roadway section. The project team stated that they considered a two-lane curb roadway section early on in the range of alternatives development, however it was eliminated from consideration because the shoulder is a less effective use of roadway pavement as compared to a three-lane roadway section which is a pavement width that is 2-feet wider. Additionally, the amount of access points (42) from the River to Saunders/Riverwoods Road warrants a center turn lane, which will improve mobility and safety. The RPC stated the feel of the 2-lane curbed roadway is different from the 3-lane curbed roadway, and is a better contextual fit for this section of Deerfield Road. Also, the RPC asked if advancements in vehicle safety technology is factored into the safety analysis. The project team stated there is currently no accepted methodology to account for vehicle safety technology in crash prediction analysis.
- 6) The Section B range of alternatives were screened based on a comparative evaluation of alternatives and compiled into a summary evaluation table. The 3-lane urban roadway section arose as the clear preliminary preferred alternative based on the comparative evaluation of Deerfield Road Range of Alternatives.
- 7) The alternative evaluation categories include transportation performance, mobility, non-motorized accommodations, safety, environmental resource impacts, socio-economic impacts, and cost. From the evaluation, it can be observed that a 3-lane section with curb and gutter from the Des Plaines River to Saunders/Riverwoods Road (Section B) surfaced as the preliminary preferred alternative because it:
 - Has the greatest improvement to corridor total travel time as compared to the 4- and 5-lane roadway sections. There is approximately a 12 percent increase in the 2040 build ADT for the 4- and 5-lane sections as compared to the 3-lane alternative. Similarly, the termini intersection delay at Milwaukee Avenue and Saunders/Riverwoods Road are lower for the 3-lane alternative than the 4- and 5-lane alternatives;
 - Improves mobility significantly with the center turn lane as shown by the increase in gaps provided with the 3-lane section. A similar number of gaps were observed for the other alternatives;
 - Has the highest decrease in average predicted crashes as compared to existing conditions. The average predicted crashes also decreased for the 4- and 5-lane sections, but not as much because multi-lane sections introduce more potential conflicts. The average predicted crashes increased for the No-Build and 2-lane section;
 - Has the smallest footprint, and therefore the least environmental and socio-economic impacts of all alternatives. Notable environmental resources in the area includes large

floodplains and floodways, wetlands and high quality wetlands adjacent to the roadway, dense forested areas, nature preserves and buffer, additional INAI natural area, and forest preserves; and

- Is about 35 to 40 percent less expensive than the 4-lane and 5-lane alternatives.

8) The RPC asked several questions about the detailed design of the project:

- Can the ComEd powerlines be buried? Lake County stated they could be buried, but would be a 100% local cost. The project team will work with the Village if they decide to pursue. Lake County also mentioned that they do not have control over the utilities specific placement.
- Can the sidewalk and/or multi-use path meander? The project team stated that if the bike path or sidewalk meander, there could be additional tree impacts and property acquisition. The meandering of the multi-use path and sidewalk will be considered by the project team.
- Can there be a mid-block crossing? Lake County responded that a mid-block crossing would not be built by the County as part of this project, however, the Village could construct one as a permit project.
- Can the speed limit be decreased? Lake County and the project team stated that the proper methodology for adjusting the speed limit is to conduct a speed study following the construction of the project, which utilizes the 85 percentile prevailing speed. The current posted speed limit is being used for design of the roadway, which does not preclude future adjustments of the speed limit.
- Can native plantings be incorporated in the project? Lake County stated that landscape restoration to impacted properties will be included with this project, however, additional landscaping would be at cost to the local agency.

9) The third SIG Meeting will be held at Riverwoods Village Hall on January 25th, from 6pm to 8pm. Detailed design of the preliminary preferred alternative will not be shown at the meeting. The same materials that were shown at the meeting will be presented and on display at the SIG meeting.

The meeting adjourned at approximately 2:30 p.m.

Submitted by: Matthew Huffman, P.E. (CBBEL)



MEETING SUMMARY

Meeting Date: October 12, 2018 – 10:00 a.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Riverwoods Preservation Council #2

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Mike Clayton	RPC – President	mclayton@marauder.net
Laurie Breitkopf	RPC – Vice President	lbrietkopf@comcast.net
Cheryl Chamberlain	Village of Riverwoods – Trustee	Cchamberlain@riverwoods.net
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyyil.gov
Pete Knysz	CBBEL – Environmental Manager	pknysz@cbbel.com
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with the Riverwoods Preservation Council (RPC). A Village of Riverwoods Trustee was present at the meeting. This is the second coordination meeting with the RPC regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The RPC has a representative on the project Stakeholder Involvement Group. The purpose of the meeting was to introduce purpose of the project, provide project update, review the alternatives development process, review the preferred alternative design, environmental evaluation/mitigation process, and public involvement next steps. The meeting was held on October 12, 2018 at 10:00 am. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A review and recap of the project was provided, which covered the project purpose and need, which focused on the Milwaukee Avenue and Deerfield Road intersection. Currently in the PM peak hour there is nearly a 2-mile backup causing an over 30 minutes delay for westbound traffic.
- 2) There is a Stakeholder Involvement Group (SIG) that was formed for the project, which held three meetings, the last being in January 2018. The SIG has been used to seek input from during the project development process. The purpose of the last SIG meeting was to review the alternatives development process. The corridor was broken up into two sections, Section A from Milwaukee Avenue to Des Plaines River and Section B from Des Plaines River to Saunders/Riverwoods Road. Through an analysis and evaluation process, factoring in input from IDOT, a preferred intersection alternative at Milwaukee Avenue was selected from a range of 11 alternatives. Section B considered a range of 5 alternatives and a preferred alternative was identified, which includes a 3-lane urban section with multi-use path.
- 3) Coordination of the Milwaukee Avenue intersection preliminary preferred alternative was coordinated with IDOT in March/April 2018 regarding the Milwaukee Avenue intersection, since it is under their jurisdiction. Their concurrence was received.

- 4) The project team coordinated with Federal Resource agencies and received their concurrence on the preferred alternative in June/July 2018. The design of the preferred alternative was further developed for presentation at the second public meeting.
- 5) A detailed review of the project design was provided by the project team. Focus was given to reasoning for the design including alignment shifts to avoid certain environmentally sensitive areas.
 - a) The RPC asked why the path was on the north side of Deerfield Road from Portwine Road to Saunders/Riverwoods Road. The project team explained that the path along the north side better connects to the residential side streets. Also, the path on the north side would impact an existing drainage ditch and wetland, and the existing berm along Thorngate subdivision would be impacted. The path along the north side does require property acquisition but does not have any wetland impacts.
 - b) Wildlife crossings were discussed. FHWA has guidance on how on types of wildlife crossings and implementation guidelines. The project team stated that wildlife currently uses the Des Plaines River bridge. Additional wildlife crossings could be evaluated for small or medium sized animals. There is concern by the RPC about collisions between vehicles and animals, and the roadway being a barrier between natural habitats.
 - c) The RPC asked if the speed limit would be reduced. LCDOT stated that a speed study will be performed upon completion of the project to determine the appropriate speed limit. Enforcement strategies to control speed is another method that can be considered.
 - d) The RPC inquired if animal detection systems possible for use along this corridor to minimize vehicle/animal interactions. LCDOT stated that they typically do not install these on their roadways in developed areas.
 - e) The maintenance of Deerfield Road upon complete of construction was discussed. LCDOT stated they perform regular maintenance along their roadways, which typically consist of mowing the parkways and cleaning catch basins, which typically occur several times a year. Maintenance agreements can be worked out with the local agency to maintain other elements of the roadway right-of-way. It is anticipated that any restoration would utilize native plantings to the extend possible. The Village has some recommended seed mixtures that could be considered. LCDOT stated that these specifics will not be detailed out until Phase II Engineering and further coordination will occur with the Village and RPC.
 - f) The detention and compensatory storage areas were discussed. The RPC would like something that looks natural and not man-made looking. The project team stated that natural looking and native planted basins are the likely what would occur. Further coordination will occur with the RPC when the location and design of the detention basins is completed. RPC ask if trees could be planted in the detention/compensatory storage areas. The project team stated they could consider this during the next design stage and determine what trees may be suitable for that environment.
- 6) The environmental evaluation and design/mitigation process was explained. The project team will be preparing the environmental chapter for the Environmental Assessment. A separate meeting will be held with the RPC to provide further explanation of the environmental chapter of the EA.
- 7) The project team discussed the upcoming public meeting to show the preferred alternative design. The public hearing is anticipated for spring 2019.

The meeting adjourned at approximately 10:00 a.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)

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DEERFIELD
DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Fourkas Property Coordination Meeting
 MEETING DATE: October 12, 2018
 MEETING TIME: 8:15 am
 LOCATION: Riverwoods Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. Tom Fourkas	Village Atty	Riverwoods	Tom.Fourkas@dmz.com
2. Bruce Harvard		Riverwoods	bharvard@cshlegal.com
3. JOHN MORRIS	MAYOR	RIVERWOODS	john.morris@villageofriverwoods.com
4. Henry Hollander	Trustee	Riverwoods	hhollander@villageofriverwoods.com
5. Patrick Green	U.N. ENGR.	Riverwoods	patrickgreen@riverwoods.com
6. Chad Gleason	PROJECT MANAGER	LEDOT	cgleason@illinois.gov
7. Matt Huffman	PROJECT MANAGER	CBSEL	M.Huffman@cbselect.com
8.			
9.			
10.			



MEETING SUMMARY

Meeting Date: November 19, 2018 – 12:30 p.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Riverwoods Preservation Council #3

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Mike Clayton	RPC – President	mclayton@marauder.net
Laurie Breitkopf	RPC – Vice President	lbrietkopf@comcast.net
Rick Jamerson	Village of Riverwoods – Trustee	Rjamerson@riverwoods.net
Pete Knysz	CBBEL – Environmental Manager	pknysz@cbbel.com
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with the Riverwoods Preservation Council (RPC). A Village of Riverwoods Trustee was present at the meeting. LCDOT Project Manager, Chuck Gleason was scheduled to attend but was able to make the meeting due to sickness. This is the third coordination meeting with the RPC regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The last meeting with the RPC was held on October 12, 2018. The RPC has a representative on the project Stakeholder Involvement Group, Mr. Mike Clayton. The purpose of the meeting was to answer any additional questions on the preferred alternative design, review in detail the Environmental Assessment Chapter 3 (Environmental Setting, Impacts and Mitigation), and discuss next steps. The meeting was held on October 12, 2018 at 10:00 am. A meeting agenda was distributed, as well as IDOT Bureau of Design and Environmental Manual Appendix D (Environmental Assessment preparation) and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A brief recap of the second Public Meeting was provided, which was held on October 30, 2018. Over 100 people attended and over 30 comments received. All meeting materials are posted on the project website.
- 2) The overall Environmental Assessment (EA) process was received, which is detailed out in IDOT Bureau of Design and Environment Manual Appendix D, which was distributed to meeting attendees. Thus far the project team has developed Chapter 1 – Purpose and Need, Chapter 2 – Alternatives, and part of Chapter 4 – Comments and Coordination. Now that the preferred alternative has been identified, Chapter 3 – Environmental Setting, Impacts, and Mitigation can proceed.
- 3) EA Chapter 3 contains 20 sections. Each section was reviewed by the project team as stated on the meeting agenda. Below is documentation of the specific discussion points:
 - a) Section 3.1 – Social and Economic Factors – The RPC asked is the how the effects of the roadway dividing the community are factored in. Additionally, how are the context changes resulting from the roadway improvement factored. The project team stated that the road currently exists, so the area same areas are currently bi-sected by the roadway. For the area of the project between the Des Plaines River and Saunders/Riverwoods Road, the

project is maintaining the existing one lane in each direction but are including a center turn lane and multi-use path.

- i) The RPC asked if mid-block crossings could be included to help create connection between the north and south sides of the roadway. The project team stated they are investigating crossings at Timberwood Land and Hoffman Lane.
- b) Section 3.3 – Historic Properties – The project team explained the historic property evaluation process, which is conducted by IDOT cultural unit staff and coordinated with the IDNR Stat Historic Preservation Officer. There is one National Register Historic District within the project study limits within Ryerson Woods Forest/Nature Preserve, which is not being affected/impacted. Several homes were also found to be historic from the architectural perspective. An evaluation of effect to the historic properties will be performed by IDOT and reported out in this section.
- c) Section 3.4 – Air Quality – The project team coordinated with CMAP regarding air quality conformity and documents the results in this section.
- d) Section 3.5 – Noise – A Traffic Noise Report is being prepared for the project to evaluate effects of existing and future noise impacts. When the results of that study are completed, coordination will first occur with the Village, then receptors that would benefit from noise mitigation measures, and then the report is finalized and submitted to IDOT for review/approval. The report will then be released to the public for review and will be included in this section.
- e) Section 3.7 – Natural Resources – The RPC shared that the project team should coordinate with the Village Ecologist regarding various plant communities along the corridor. The RPC provided self-produced resource titled *In Our Own Backyard*, which has facts and tips for living with and among Riverwoods' natural environment.
 - i) The RPC would like to be involved with determining restoration areas and planting seed mixes. They desire a rural and natural contextual feel.
 - ii) The RPC is concerned about salt runoff; the project team will be coordinating with IDOT if a pollutant loading analysis is required. Typically, there is not much that can be done to mitigate chlorides. The most effective way to mitigate is to evaluate the salting/de-icing process the County utilizes for their roadways. Further coordination will be provided to the RPC regarding the Counties methods for deicing roadways.
 - iii) The RPC is concerned about animal collisions. The project team evaluates this in this chapter and will determine if any mitigation measures are feasible.
 - iv) IDOT will be evaluating the project area for threatened and endangered species.
 - v) Tree surveys have been conducted and final impacts will be documented in the EA. The project team will work with the Village and RPC to identify any areas within the project where trees can be planted, such as compensatory storage or detention areas. Further information will be shared with the RPC for their evaluation and input regarding tree impacts.
- f) Section 3.8 – Surface Water Resources – The Des Plaines River and Thorngate Creek at the two surface water resources that will be evaluated.
- g) Section 3.10 – Floodplains – There are expansive floodplains on the west end of the project. Any fill in the floodplain will be mitigated, which is called compensatory storage. There are two proposed sites, one on the west end by Milwaukee Avenue/Federal Life and the other at Thorngate Creek.

- h) Section 3.14 Section 4(f) Evaluation – It is anticipated that a temporary construction easement will be needed from the Forest Preserve to access the Des Plaines River to widen the Deerfield Road bridge. No impacts will occur to Ryerson Nature Preserve of Herrmann Wildflower Buffer to the Nature Preserve.
- 4) It will take the project team time to development this section of the EA and reviews will need to occur with IDOT and FHWA prior to release to the RPC and Public for review. The formal Draft Review occurs prior to the Public Hearing, which is anticipated in Spring 2019.
- 5) The project team will follow up with the RPC regarding tree impact information and salting methods of the roadway. Further coordination meetings will be setup with the RPC.

The meeting adjourned at approximately 3:00 p.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)

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MEETING SUMMARY

Meeting Date: January 4, 2019
Location: Lake County Division of Transportation
Project: Deerfield Road (15-00038-07-WR)
Purpose: Riverwoods Preservation Council and Lake County Forest Preserve District Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Michael Clayton	RPC – President	mclayton@marauder.net
Jim Anderson	LCFPD – Director of Natural Resources	janderson@lcfpd.org
Chuck Gleason	LCDOT (Project Manager)	cgleason@lakecountyiil.gov
Pete Knysz	CBBEL (Env Project Manager)	pknysz@cbbel.com

A coordination meeting was held on January 4, 2019 at 9 a.m. with the Riverwoods Preservation Council (RPC) and the Lake County Forest Preserve District (LCFPD) for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders Road) Phase I Engineering Study. The purpose of the meeting was to continue on-going dialogue with the RPC and LCFPD and discuss potential environmental concerns along the project corridor.

Below is a summary of meeting discussion points, with any action items noted (**in bold**):

- 1) LCDOT presented a brief history of the project, timeline, and preferred alternative. The preferred alternative includes intersection improvements, a 3-lane roadway section with curb and gutter on Deerfield Road from the Des Plaines River to Saunders/Riverwoods Road, and a bike path (adjacent to the south side of Deerfield Road west of Portwine Road, and adjacent to the north side of Deerfield Road east of Portwine Road).

An Environmental Assessment (EA) is being prepared for the project. Environmental studies and reports are on-going. These studies/reports include, but are not limited to:

- Tree survey completed by Christopher B Burke Engineering, Ltd (CBBEL) – **RPC and LCFPD requested a copy of the tree survey data.**
- Threatened and Endangered species surveys completed by the Illinois Natural History Survey (INHS) – Project team is waiting for reports. **RPC and LCFPD requested a copy of the reports when available.**
- Wetland/Waters of the US (WOUS) delineation completed by CBBEL – **CBBEL submitted a copy of the delineation report to the RPC and LCFPD on January 4, 2019.** CBBEL also provided a copy of the Preliminary Jurisdictional Determination and Boundary Confirmation letters from the Lake County Stormwater Management Commission.
- Traffic Noise Study by CBBEL is in process.

- 2) The LCFPD owns property immediately adjacent to the north and south sides of Deerfield Road near the Des Plaines River crossing, including the Edward L Ryerson Conservation Area/Nature Preserve and Cahokia Flatwoods Forest Preserve. Impacts to the Edward L Ryerson Conservation Area/Nature Preserve are not anticipated. A temporary easement for construction access and culvert replacement may be necessary at the Cahokia Flatwoods Forest Preserve. The LCFPD did not express concerns with the temporary easement during the meeting.
- 3) The RPCs primary concerns include: (1) tree removal and (2) direct/indirect impacts from road salt.
 - The RPC requested that the project team minimize tree impacts and avoid high quality trees (e.g., large diameter oak trees with good condition and form). **CBBEL is to provide the tree survey data to the RPC and LCFPD. The RPC and LCFPD will review the tree survey data and identify specific trees that they would like the project team to preserve, if possible.**

Potential tree mitigation options were discussed, including planting trees in Best Management Practice (BMP) opportunity areas and compensatory floodplain storage areas. LCDOT noted that available space for tree planting within the right-of-way is limited. LCFPD suggested that habitat restoration (e.g., tree planting and buckthorn removal on forest preserve property) be considered a potential mitigation option. The RPC is also interested in roadside habitat restoration as part of the tree mitigation strategy.

The RPC asked if LCDOT could provide the Village of Riverwoods (Village) with funding for trees to be planted on private property. The Village has already established a cost share program that property owners may use for tree replacement. **LCDOT will investigate mitigation options** and noted that homeowners will be compensated if trees on their property are removed during project improvements.

- CBBEL and LCDOT briefly discussed road salt/chloride management. Chloride is a persistent pollutant. Sediment traps/catch basins would help with sediment control, but are not anticipated to provide much chloride control. Chloride management practices (e.g., proper training, pre-wetting) can minimize potential environmental impacts due to road salt. The bike path will not be snow plowed by LCDOT. **The LCFPD and RPC requested that LCDOT prepare a Salt Management Plan. In turn, it was also recommended that the Village prepare a Salt Management Plan.**
- 4) LCFPD and RPC requested that **a wildlife crossing be provided at Thorngate Creek and near the Des Plaines River.** LCFPD stated that providing the wildlife crossing would be sufficient – no guide wall/drift fence would be required.
 - The existing culvert structure carrying Deerfield Road over Thorngate Creek is a single circular 48-inch reinforced concrete pipe. At the current time, CBBEL is proposing a 4-foot (W) x 5-foot (H) box culvert that would be embedded at the upstream and downstream ends to encourage fish movement. LCFPD recommended that the bottom of the culvert be roughened. **A small to medium sized wildlife crossing (e.g., to accommodate raccoon-sized animals and smaller, not deer) will be investigated by the project team.** LCFPD stated that an enlarged culvert would be acceptable (i.e., “dry” walkways/ledges or multiple culverts are not expected). **CBBEL is to determine the design storm and evaluate potential options.**
 - LCFPD requested that a culvert be installed east of the Des Plaines River to provide a hydrologic connection between Wetland 15 and Wetland/WOUS 1 and also allow for small

to medium sized wildlife (e.g., amphibian) movement. LCFPD requested that the hydrology at Wetland 15 not be modified. LCFPD prefers a concrete structure. **CBBEL is to evaluate potential options.**

- 5) The RPC and LCFPD requested that a copy of the proposed seed mix be provided for their review/comment. CBBEL and LCDOT stated that the seed mix to be used adjacent to roadways should be salt tolerant. **LCDOT submitted a copy of the typical seed mix used by LCDOT for roadway projects to the RPC and LCFPD on January 4, 2019.**

LCFPD and RPC requested the opportunity to comment on proposed seed mixes to be used at BMP Opportunity Areas, including compensatory floodplain storage areas.

The RPC will consider submitting a survey to landowners adjacent to the project corridor to see if they prefer roadside vegetation along Deerfield Road mowed less frequently than typical LCDOT procedures.

- 6) CBBEL stated that based on preliminary design, at the current time it is anticipated that wetland impacts will be less than 0.5 acre. It is anticipated that mitigation will be provided via a wetland bank. **LCFPD requested that LCDOT consider entering into an Intergovernmental Agreement and providing restoration funds to the LCFPD, instead.** CBBEL stated that mitigation options can be presented to the appropriate agencies to meet regulatory requirements (e.g., Section 404 of the Clean Water Act and Interagency Wetlands Policy Act). LCFPD said that they are willing to discuss options with the appropriate regulatory agencies.

The meeting adjourned at approximately 11:00 a.m.

Submitted by: Pete Knysz (CBBEL)

APPENDIX E-11

AGENCY AND PUBLIC COORDINATION

Other Stakeholders



MEETING MINUTES

Meeting Date: June 14, 2012
Date Issued: June 19, 2012
Location: Brentwood North Healthcare Center
Project: Deerfield Road Bike Path West (10-00038-05-BT)
Purpose: Brentwood North Coordination Meeting

Attendees

Patrick Glenn
Joshua Ray
Betsy Duckert
Chuck Gleason
Mike Kerr
Matt Huffman

Representing

Riverwoods - Engineer (GHA)
Brentwood North
LCDOT - Principal Civil Engineer
LCDOT - Acting Director of Planning
CBBEL - Project Manager
CBBEL - Project Engineer

Email

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This was the first coordination meeting held with Brentwood North Healthcare and Rehabilitation Center (Brentwood). The meeting was held at Brentwood's facility with the Village of Riverwoods Engineer, Lake County Division of Transportation (LCDOT) representatives, and Christopher B. Burke Engineering (CBBEL) on June 14th, 2012 at 1 pm. An agenda was distributed to all attendees and several exhibits on display including the Village of Riverwoods (Village) Bike and Pedestrian Plan, GIS project study area, preliminary alternative, preliminary development plans for the parcels to the west, and anticipated future Deerfield Road improvement plans. Chuck Gleason is the point of contact for the project.

Chuck Gleason initiated introductions and explained the project team. Josh Ray is the Chief of Operations for Health and Home Management Incorporated, which owns and manages Brentwood. Health and Home Management purchased the facility in 2009 and is one of seven facilities in the Chicagoland area. Brentwood provides nursing and rehabilitation services with approximately 175 beds. Sidney Glenner is the President of Health and Home Management and was contacted prior to the meeting. Due to a conflict with the meeting Josh Ray attended to represent Brentwood.

Mike Kerr provided background information regarding the Deerfield Road Bike Path West project. The project location is along Deerfield Road between IL Route 21 (Milwaukee Avenue) and the Des Plaines River Trail in the Village of Buffalo Grove and Village of Riverwoods. Deerfield Road is a minor arterial road under the jurisdiction of LCDOT and IL Route 21 (Milwaukee Avenue) is under the jurisdiction of IDOT. The Village of Buffalo Grove has a sidewalk on the north side and a eight foot wide bike path on the south side of Deerfield Road which terminates on the west side of IL Route 21. There is an existing pedestrian crossing at the IL Route 21 and Deerfield Road intersection on the west leg. Lake County Forest Preserve District (LCFPD) has holdings along the Des Plaines River, with Ryerson Conservation area north of Deerfield Road, and a trail running north and south along the west side of the river (Des Plaines River Trail). LCDOT recently constructed a new, separate pedestrian and bike path bridge over the Des Plaines River to connect a future Village of Riverwoods bike path, east along the south side of Deerfield Road from Thornmeadow Drive to Saunders Road, and the LCFPD Des Plaines River Trail. The project termini of this project is the Village of Buffalo Grove bike path on the west side of IL Route 21 (west terminus) and the Des Plaines River Trail or existing Deerfield Road bike path on the east side(east terminus).

LCDOT completed construction of the Deerfield Road Bike Path over the Des Plaines River in 2011. During the planning process for this project, numerous alternatives were looked at for the placement of the bike path, including adjacent and north of Deerfield Road, south and adjacent to Deerfield Road, and several hundred feet south of Deerfield Road. Ultimately the south and adjacent to Deerfield location was chosen, in part to coincide with Village of Riverwoods Pedestrian and Bicycle Plan and limit impacts to surrounding property owners, including the Lake County Forest Preserve District. The north alternate was discarded due to the location of the Ryerson Conservation area, which is adjacent to Deerfield Road north and east of the Des Plaines River. The protection placed on a conservation area is higher than a forest preserve; with other prudent alternatives, the north alternative was discarded.

A summary of the surrounding area was described, with Lake County Forest Preserve along the Des Plaines River, private developable land to the south and west of Brentwood. The vacant property is owned by two development groups, which are both pursuing some type of use(s) for those vacant parcels. The Village of Riverwoods owns a 100 foot parcel immediately adjacent to the west of Brentwood. Pat Glenn, the Village of Riverwoods Engineer, discussed the anticipated development plan for the area west of the Des Plaines River and south of Deerfield Road. The parcels to the south of Brentwood are owned by a developer who is currently doing some work on the site. At this time it is unknown exactly what type of plan or operation they are running. Part of this property is within the Village's jurisdiction, with the other in unincorporated Lake County. The Village is pursuing incorporating this area into the Village of Riverwoods. The two parcels at the southeast corner of IL Route 21 and Deerfield Road are anticipated to have a multi building development with some talks of a bank or restaurant. No final plans exist at this time, but the Village has been in communication with the developer about preliminary ideas. These two parcels have a permanent 10 foot easement along the south side of Deerfield Road for placement of a potential future bike path. Adjacent to the west of Brentwood, the Village owns a 100 foot parcel which they plan to make a future roadway and intersection to Deerfield Road. This roadway would provide access to Deerfield Road for the potential developments to the south and west as well as Brentwood. The Village has been coordinating with Lake County regarding this future access, which could be signaled if it meets warrants. When the access is constructed there will be some construction on Deerfield Road to provide a turn lane at the intersection. It was also mentioned that Deerfield Road could potentially be widened to five lanes in the future.

A presentation was made regarding the three bike path alternatives. Alternative 1 consists of a path extending from the existing LCDOT path on the east and proceeding west adjacent to Deerfield Road until it intersects with IL Route 21 (Milwaukee Avenue) where a new pedestrian crossing is proposed to meet with the existing Buffalo Grove path. The existing LCDOT path, the east terminus of the project, is located on a permanent easement acquired from the LCFPD and Alternative 1 would not impact any additional LCFPD property. Adjacent to the LCFPD property is the Brentwood North Healthcare Center (Brentwood), which has one main structure and a parking lot around the perimeter with four access points to Deerfield Road. A portion of Alternative 1 is located on Brentwood property and the path improvement extends approximately 10 feet south from the existing right-of-way, which would require purchase of the property from Brentwood. The location of Alternative 1 impacts the Brentwood parking lot stalls adjacent to Deerfield Road and existing lighting in the parking lot. West of the Brentwood site, the path proceeds through undeveloped parcels located on an existing 10 foot platted easement adjacent to the Deerfield Road right-of-way. Some of the impacts associated with Alternative 1 are to the Brentwood parking lot (62 spaces). A part of the Alternative 1 design is the mitigation of impacts to the Brentwood facility; an initial design of the recommended mitigation improvements were presented (Phase I), which included replacing and/or relocating the impacted parking stalls and including a proposed sidewalk along the north side of the building. The parking stalls that are currently facing Deerfield Road would be relocated from the north side to the south side of the parking lot. The main entrance would not be significantly affected, however some existing green space would be impacted with the design of the proposed parking lot.

With regards to Alternative 1, close up plots were displayed showing two phases of the project on Brentwood property. Phase I would be constructed initially and then Phase II could be constructed when the Village access road is built. Phase II consists of creating an access point at the southwest corner of the existing parking lot to the Village access road. There is also a possibility to widen the parking lot to allow for two way traffic along the rear of the Brentwood facility. Parallel parking spots could be placed for a portion of the parking lot and there is also the possibility of expanding the parking lot stalls further south to put perpendicular stalls that can be used by both travel patterns around Brentwood. Phase II is only a look at the possibility of some options that Brentwood might consider. These plans were put together without any prior coordination with Brentwood so the compatibility with Phase II and Brentwood's existing building uses and plans may not be practical. However, providing an access point to the future Village road would allow ingress and egress from Brentwood to occur through a potential future signalized intersection, allowing for a controlled access point for all patrons, residents and employees.

Alternative 2 consists of a path extending from the LCDOT path and immediately has a 100 foot radius curve south on a portion of LCFPD and eventually fully located on Brentwood property adjacent to their parking lot. The path introduces another 100 foot radius once past the south part of the Brentwood parking lot and then runs west adjacent to the parking lot until about half way down through their property, which is predominantly grassed and used for recreational purposes. The path then enters another private, undeveloped and heavily forested parcel south of the Brentwood parking lot and is about 15 feet south of the property line. The shift in the alignment is due to the existing grade. Once the path is past the Brentwood parcel a 100 foot radius curve is introduced to go north on the Village owned parcel and future location of their access road until it reaches Deerfield Road where another 100 foot radius curve is introduced and the path then runs adjacent to Deerfield Road in the same location as Alternative 1. When the path is located on Brentwood property a permanent easement will be required, which allows the County to access the path, but ownership resides to Brentwood.

Alternative 2a is identical to Alternative 2 up to the point where the path reaches the west limit of the Brentwood parcel. Where Alternative 2 diverges north along the Village owned parcel Alternative 2a continues west along the parcel line of two undeveloped parcels, however the Village has indicated the developers have been in communication with them regarding potential future developments. When the path reaches the IL Route 21 right-of-way a 100 foot radius is introduced and the path runs north adjacent the IL Route 21 until it reaches the Deerfield Road intersection and a new pedestrian crossing is proposed identical to Alternative 1 and 2.

Additional information was discussed with regards to the various alternatives. Alternative 1 would require right-of-way acquisition from Brentwood to Lake County, which would allow for the bike path construction. Based on the preliminary design the right-of-way acquisition is anticipated to be a 10 to 20 foot offset from the existing right-of-way. This location would be approximately two-thirds of the existing parking stall length. A temporary easement would be required for the mitigation of the parking impact, which would allow the County to rehabilitate/reconstruct the Brentwood parking lot. The awning and entrance points to Brentwood would not be affected. A proposed sidewalk will be placed at the back of the relocated parking stalls to provide connectivity for patrons and visitors to access the building. Landscaping or added green areas could be included based on coordination with Brentwood. The two existing trees at the front of the building would be impacted and the other two existing trees close to the parking lot on the south side would be preserved with curb bump-outs. The location of the new sidewalk would be approximately seven feet from the existing building, providing opportunity for landscaping in those areas. It was also discussed that when Deerfield Road is widened Lake County would need to purchase property from Brentwood to accommodate the roadway widening. The location of the

Alternative 1 bike path location would be designed to be compatible with that roadway widening project and would likely not require any additional acquisition from Brentwood when that project is prudent.

Josh provide feedback on the various alternatives as well as additional information regarding the facility. There are three initial concerns that Josh stated:

- The impact of the project on their ability for Housing and Urban Development (HUD) financing.
- Impact on the liability insurance for Brentwood.
- Potential site expansion on their south parcel.

Initially Josh indicated that the liability issue is a great concern if the path is located on their property. This could raise their premium costs, but more information would be needed to understand the impact. Alternate 2 would be a permanent easement on Brentwood property as well as inhibit potential future development to the south. Josh mentioned that a path located further back on their property may be a possibility. Alternate 1 would not be on Brentwood property as there would be a purchase of property between the County and Brentwood. Brentwood is in the process of securing HUD financing and the property would be under the control of their purview. Any projects or sale of the property once the HUD process is completed could potentially create some subsequent steps to complete the property transaction.

Josh stated that they receive all building supplies and materials at the rear of the building. They have a tremendous amount of emergency and medical transport vehicles using their facility. Maintaining access for those operations is a necessity. There are a series of four patios on their property that are used by their residents, some of which have varying degrees of health issues. There is a potential that a path would be created to a new park area on their south parcel, which Alternative 2, as currently presented, would bisect, creating a safety concern.

Lake County indicated that they would not plow any of the proposed path for snow removal, which is County policy. The local municipality would be the governmental entity that would provide snow removal, however, the Village of Riverwoods does not provide such services.

The schedule of the project is to complete Phase I Engineering in Spring of 2013 and start construction in 2015.

The next step is for Brentwood to discuss the provided information with the decision makers within their organization along with their legal and engineering review. It is targeted that Brentwood would provide some feedback to the County by the middle of August. The County indicated they can be contacted for additional information through Chuck Gleason.

Action Items

- Brentwood to discuss project internally and provide feedback to project team by mid August.

The meeting adjourned at approximately 3:00 p.m.

Submitted by: Matt Huffman, P.E. (CBBEL)

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	NAME	TITLE	REPRESENTING	PHONE #	EMAIL ADDRESS
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2.	PATRICK GLENN	Village Engineer	RIVER WOODS	847.478 9700	PSlenn@gha-engineers.com
3.	MIKE KERR	PM	CBBEL	847-875 0500	mkerr@cbbel.com
4.	CHUCK GLASSON	ACTING DIR. OF PLANNING	LCDOT	847-377 7447	CGLASSON@LAKECOUNTYIL.GOV
5.	Betsy Duckert	Principal Engineer	LCDOT	847-377-7400	hdpermits@lakecountyil.gov
6.	Joselyn	COO Brentwood Hillside	BWH	847 421-3851	JRay@HHSCT.NET
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11.					
12.					



MEETING MINUTES

Meeting Date: December 17, 2012
Date Issued: January 4, 2012
Location: Brentwood North Healthcare Center
Project: Deerfield Road Bike Path West (10-00038-05-BT)
Purpose: Brentwood North Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Sidney Glennar	Health & Home Mgmt. - CEO/President	Jane.ammer@hhmgt.net
Joshua Ray	Health & Home Mgmt. - COO	jay@hhmgt.net
Arthur Salk	Salk & Associates LLC - Architect	asalk@salkassocllc.com
Chuck Gleason	LCDOT - Acting Director of Planning	cgleason@lakecountyil.gov
Mike Kerr	CBBEL - Project Manager	mkerr@cbbel.com
Matt Huffman	CBBEL - Project Engineer	mhuffman@cbbel.com

This was the second coordination meeting held with Brentwood North Healthcare and Rehabilitation Center (Brentwood). This facility is owned by Health and Home Management (HHMI). The meeting was held at Brentwood North and was with the Lake County Division of Transportation (LCDOT) and their consultant, Christopher B. Burke Engineering (CBBEL), held on December 17th, 2012 at 1:30 pm. An agenda was distributed to all attendees and several exhibits were on display including the GIS project study area, preliminary bike path alternatives, preliminary future Village of Riverwoods access road plan, and anticipated future Deerfield Road improvement plans. Chuck Gleason is the point of contact for the project for LCDOT and Josh Ray is the point of contact for HHMI.

Chuck Gleason initiated introductions and explained the project team. Sidney Glennar is the President/CEO and Josh Ray is the Chief of Operations of HHMI which owns and manages Brentwood North. Arthur Saulk is the architect for HHMI.

Matt Huffman provided background information regarding the Deerfield Road Bike Path West project. The project location is along Deerfield Road between IL Route 21 (Milwaukee Avenue) and the Des Plaines River Trail in the Village of Buffalo Grove and Village of Riverwoods. Deerfield Road is a minor arterial road under the jurisdiction of LCDOT and IL Route 21 (Milwaukee Avenue) is under the jurisdiction of IDOT. The surrounding existing conditions include a Village of Buffalo Grove sidewalk on the north side and an eight foot wide bike path on the south side of Deerfield Road which terminates at the west side of IL Route 21. There is an existing pedestrian crossing at the IL Route 21 and Deerfield Road intersection on the west leg. Lake County Forest Preserve District (LCFPD) has holdings along the Des Plaines River, with Ryerson Conservation area north of Deerfield Road, and a trail running north and south along the west side of the river (Des Plaines River Trail). LCDOT recently constructed a new, separate pedestrian and bike path bridge over the Des Plaines River to connect a future Village of Riverwoods bike path, east along the south side of Deerfield Road from Thornmeadow Drive to Saunders Road, and the LCFPD Des Plaines River Trail. The project termini of this project is the Village of Buffalo Grove bike path on the west side of IL Route 21 (west terminus) and the Des Plaines River Trail or existing Deerfield Road bike path bridge on the east side (east terminus).

LCDOT completed construction of the Deerfield Road Bike Path over the Des Plaines River in 2011. During the planning process for this project, numerous alternatives were looked at for the placement of the bike path,

including adjacent to the north side of Deerfield Road, adjacent to south side of Deerfield Road, and an alignment several hundred feet south of Deerfield Road through Lake County Forest Preserve District property. The bike path location adjacent to the south side of Deerfield Road was chosen to coincide with Village of Riverwoods Pedestrian and Bicycle Plan. This location also limits impacts to surrounding property owners, including the Lake County Forest Preserve District, and uses a dedicated bike path easement between IL Route 21 and Brentwood North. The north alternate was discarded due to the location of the Ryerson Conservation area, which is adjacent to Deerfield Road north and east of the Des Plaines River, and would thus require an unprotected pedestrian crossing across Deerfield Road west of the Des Plaines River. The protection placed on a conservation area is higher than a forest preserve; with other prudent alternatives, the north alternative was discarded.

A summary of the area surrounding Brentwood North was described. Lake County Forest Preserve has holdings east along the Des Plaines River and private developable land is located to the south and west of Brentwood. The vacant property is owned by two development groups, which are both pursuing some type of future use(s) for those vacant parcel. The parcels to the south of Brentwood are owned by a developer who is currently doing some unknown work on the site. Part of this property is within the Village of Riverwoods jurisdiction, with the other in unincorporated Lake County. The Village is pursuing incorporating this area into the Village of Riverwoods. The two parcels at the southeast corner of IL Route 21 and Deerfield Road are anticipated to have a multi building development. No final plans exist at this time, but the Village has been in communication with the developer about preliminary concepts. These two parcels have a permanent 10 foot easement along the south side of Deerfield Road for placement of a potential future bike path. Adjacent to the west of Brentwood, the Village of Riverwoods owns a 100 foot parcel which they plan to make a future roadway and intersection with Deerfield Road. This roadway would provide access to Deerfield Road for the potential developments to the south and west as well as potential access to Brentwood North. The Village has been coordinating with Lake County regarding this future access, which could be signaled if it meets warrants. When the access is constructed there will be some construction on Deerfield Road to provide a turn lane at the intersection, which would have some impacts on the Brentwood North property. LCDOT mentioned that Deerfield Road could potentially be widened to five lanes in the future, but it is not being programmed at this time. It is the intent of that this project would be compatible with the future five lane section of Deerfield Road.

The three bike path alternatives considered for this project were discussed. Alternative 1 consists of a path extending from the existing LCDOT path on the east and proceeding west adjacent to Deerfield Road until it intersects with IL Route 21 (Milwaukee Avenue) where a new pedestrian crossing is proposed to meet with the existing Buffalo Grove path. The existing LCDOT path, the east terminus of the project, is located on right-of-way previously acquired from the LCFPD. Therefore Alternative 1 would not impact any additional LCFPD property. Adjacent to the LCFPD property is the Brentwood North Healthcare Center (Brentwood), which has one main structure and a parking lot around the perimeter with four access points to Deerfield Road. A portion of Alternative 1 is located on Brentwood property and the path improvement extends approximately 10 feet south from the existing right-of-way, which would require purchase of the property from Brentwood and impacts their parking lot stalls (62) adjacent to Deerfield Road and existing lighting in the parking lot. West of the Brentwood site, the path proceeds through undeveloped parcels located on an existing 10 foot platted permanent easement adjacent to the Deerfield Road right-of-way. A part of the Alternative 1 design is the mitigation of impacts to the Brentwood facility; an initial design recommendation for mitigation was presented, which included replacing and/or relocating the impacted parking stalls and including a proposed sidewalk along the north side of the building. The parking stalls that are currently facing Deerfield Road would be relocated from the north side to the south side of the parking lot. The main entrance would not be significantly affected, however some existing green space would be impacted with the design of the proposed parking lot. The location of Alternative 1 will be compatible with any future improvements of Deerfield Road.

Close up plots were displayed showing two phases of Alternative 1 on the Brentwood property. Phase I would be constructed initially and then Phase II could be constructed when the Village access road is built. Phase II consists of creating a possible access point at the southwest corner of the existing parking lot to the Village access road. There is also a possibility to widen the parking lot to allow for two way traffic along the rear of the Brentwood facility. Parallel parking spots could be placed for a portion of the parking lot and there is also the possibility of expanding the parking lot stalls further south to put perpendicular stalls that can be used by both travel patterns around Brentwood. Phase II is only a look at the possibility of some options that Brentwood might consider and these costs would not be a part of this project. These plans were put together without any prior coordination with Brentwood so the compatibility with Phase II and Brentwood's existing building uses and plans may not be practical. However, providing an access point to the future Village road would allow ingress and egress from Brentwood to occur through a potential future signalized intersection, allowing for a controlled access point for all patrons, residents and employees.

Alternative 2 consists of a path extending from the LCDOT path and immediately has a 100 foot radius curve south on a portion of LCFPD and eventually fully located on Brentwood property adjacent to their parking lot. The path introduces 100 foot radius once past the south part of the Brentwood parking lot and then runs west adjacent to the parking lot until about half way down through their property, which is predominantly grassed and used for recreational purposes. The path then enters another private, undeveloped and heavily forested parcel south of the Brentwood parking lot and is about 15 feet south of the property line. The shift in the alignment is due to the existing grade. Once the path is past the Brentwood parcel a 100 foot radius curve is introduced to go north on the Village owned parcel and future location of their access road until it reaches Deerfield Road where another 100 foot radius curve is introduced and the path then runs adjacent to Deerfield Road in the same location as Alternative 1. When the path is located on Brentwood property a permanent easement will be required, which allows the County to access the path, but ownership resides to Brentwood.

Alternative 2a is identical to Alternative 2 up to the point where the path reaches the west limit of the Brentwood parcel. Where Alternative 2 diverges north along the Village owned parcel Alternative 2a continues west along the parcel line of two undeveloped parcels, however the Village has indicated the developers have been in communication with them regarding potential future developments and is unknown if this bike path location is compatible. When the path reaches the IL Route 21 right-of-way a 100 foot radius is introduced and the path runs north adjacent the IL Route 21 until it reaches the Deerfield Road intersection and a new pedestrian crossing is proposed identical to Alternative 1 and 2. For both Alternatives 2 and 2a, permanent easements would need to be acquired from Brentwood.

Discussion occurred regarding the alternatives. Brentwood expressed concerns about Alternative 2 and 2a and the need for a permanent easement, limiting development options on their south parcel, and also the effect on their liability insurance. A path behind their building would also be a safety concern for patrons of Brentwood when accessing the recreational area on their south parcel. It was brought up that the interim improvements to Deerfield Road with the Riverwoods roadway and any future widening of Deerfield Road would impact a portion of the Brentwood parking lot. If Alternative 1 is selected, it would be placed in a location so that it is compatible with any future improvements of Deerfield Road and no additional right-of-way would need to be acquired from Brentwood. It was asked why the path could not be located along the north side of Deerfield Road. The current Riverwoods bicycle plan has the path along the south side of Deerfield Road, which coincides with the Buffalo Grove path to the west and the recently built multiuse bridge south of Deerfield Road over the Des Plaines River. Shifting the path to the north between the Buffalo Grove path and the multiuse bridge would require the need for a mid-block crossing of Deerfield Road. LCDOT prefers to have all pedestrian and bicycle paths use controlled

intersections for crossing high volume roadways for safety purposes. Providing a bike path along the north side of Deerfield Road was looked at during the Phase I Engineering Study of the multiuse path bridge over the Des Plaines River. Brentwood representatives agreed that Alternative 1 was the preferred alternative compared to Alternative 2 and 2A.

Further discussion occurred over the design of Alternative 1. It was recommended that a 45 degree parking stall angle be looked at to try and preserve more green space. The sidewalk should be removed for all areas that are not in front of handicap stalls to try and preserve more green space. It was asked if parking stalls could be placed along the east side of the property between the Forest Preserve property and the existing parking lot. Brentwood representatives indicated that there are 167 total employees and approximately 86 employees at the facility at any one time. The employees are asked to park in the rear and sides of the building to leave the front parking for visitors. Preserving the aesthetic look of the property is a key concern and preserving/providing landscaping areas should be a focus point for any mitigation plan. Further discussion occurred regarding what other improvements are possible when the Riverwoods roadway is constructed, including a connection to that roadway. An access permit would be required from the Village of Riverwoods if Brentwood desired to connect to the future roadway. If that connection is made, it is recommended that two-way traffic be allowed on the sides and behind the building to allow for better traffic flow through the parking lot.

The schedule of the project is to complete Phase I Engineering in Spring of 2013 and start construction in 2015.

Action Items

- Project team will prepare revised schematics for Alternative 1 and provide back to Brentwood for comment.
- Topographic survey will begin in early 2013 to begin on more detailed design of Alternative 1.

The meeting adjourned at approximately 2:30 p.m.

Submitted by: Matt Huffman, P.E. (CBBEL)



MEETING MINUTES

Meeting Date: August 6, 2013
Date Issued: August 7, 2013
Location: Brentwood North Healthcare Center
Project: Deerfield Road Bike Path West (10-00038-05-BT)
Purpose: Brentwood North 3rd Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Joshua Ray Phil Thompson	Health & Home Mgmt. - COO Brentwood North - Administrator	jray@hhmgt.net pthompson@brentwoodhealthcare.net
Chuck Gleason Matt Huffman	LCDOT - Acting Director of Planning CBBEL - Project Engineer	cgleason@lakecountyiil.gov mhuffman@cbbel.com

This was the third coordination meeting held with Brentwood North Healthcare and Rehabilitation Center (Brentwood). This facility is owned by Health and Home Management (HHMI). The meeting was held at Brentwood North and was with the Lake County Division of Transportation (LCDOT) and their consultant, Christopher B. Burke Engineering (CBBEL), held on August 6th, 2013, at 11:00 am. The overall Phase 1 proposed improvement exhibit was displayed and left with Brentwood staff for review. The roadway plan and profile exhibits were also used for discussion. Chuck Gleason is the point of contact for the project for LCDOT and Josh Ray is the point of contact for HHMI. Phil Thompson was present and is the Administrator for Brentwood North; he is the point of contact for coordinating any project related work occurring on Brentwood property.

Chuck Gleason initiated introductions and recapped the project since our last coordination meeting on December 17th, 2012. In general, LCDOT incorporated all the prior comments from Brentwood and their architect, Arthur Salk, on the proposed plan. The project has received Phase I design approval in June 2013 and LCDOT is moving into Phase II engineering. The geotechnical investigations are scheduled to be conducted in Phase I and CBBEL will work through Phil to schedule that work. It is anticipated that several parking spots would have to be vacated to conduct the borings. Josh asked if the borings could be conducted in the evening or on weekends. CBBEL stated that would check with their geotechnical engineering to try and accommodate that. It was discussed that Brentwood needs to review the latest plan and provide comments to LCDOT. Brentwood agreed to do this by September 3rd, 2013. CBBEL will send over the detailed plan and profile sheets to assist Brentwood in conducting their review.

Josh asked how much property acquisition would be required for the project. Chuck indicated that the right-of-way required for this project also allows for the future widening of Deerfield Road to five lanes, which is currently programmed in LCDOT's multi year plan. Approximately 20,000 square feet of property acquisition is required for the project. One of the lead Phase II engineering items is appraisals and negotiations for the land acquisition between LCDOT and Brentwood. Josh indicated that the amount of property they own for the site affects their HUD status and they are looking into if the property acquisition for the project will affect that.

Action Items

- CBBEL to coordinate with Phil regarding geotechnical borings.
- Brentwood to conduct review and provide comments of latest plan to Chuck Gleason by September 3rd.

The meeting adjourned at approximately 11:45 a.m.

Submitted by: Matt Huffman, P.E. (CBBEL)

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MEETING MINUTES

Meeting Date: May 20, 2014
Date Issued: May 23, 2014
Location: Brentwood North Healthcare Center
Project: Deerfield Road Bike Path West (10-00038-05-BT)
Purpose: Brentwood North 4th Coordination Meeting

Attendees

Sidney Glennar
Joshua Ray
Patrick Glenn
Chuck Gleason
Mike Kerr
Matt Huffman

Representing

Health & Home Mgmt. - President
Health & Home Mgmt. - COO
Riverwoods / Gewalt Hamilton
LCDOT - Project Manager
CBBEL - Project Manager
CBBEL - Project Engineer

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This was the fourth coordination meeting held with Brentwood North Healthcare and Rehabilitation Center (Brentwood). This facility is owned by Health and Home Management (HHM). The meeting was held at Brentwood North and was with the Lake County Division of Transportation (LCDOT), their consultant, Christopher B. Burke Engineering (CBBEL), and Village of Riverwoods on May 20th, 2014 at 1:00 pm. The overall Phase 1 proposed improvement exhibit was displayed and left with Brentwood staff for review. A concept plan showing the Milwaukee Avenue & Deerfield Road commercial development was displayed for discussion. Chuck Gleason is the point of contact for the project for LCDOT and Josh Ray is the point of contact for HHM.

Chuck Gleason kicked off the meeting and introductions were made. A project status update was provided. Phase I Engineering has been completed and the project is entering Phase II Engineering, which entails construction plans, specifications, and land acquisition. The latest design plan was reviewed and discussed. HHM asked how many front parking spots would be relocated to the back, as the front parking area is important to their business operations. CBBEL (Huffman) stated that overall there is no net loss of parking spots for the overall site, but 26 spots would be moved from the front of the facility to the rear. From previous HHM design comments, it was requested that 45 degree angled spots be used to increase the green space between the building and parking lot. As a result, additional spaces had to be relocated to the rear proposed parking area. There are also two proposed grassed bump-outs to preserve two existing trees, which take up approximately six spaces. Additional spaces could be added to the front parking area such as increasing the parking angle from 45 to 60 and removing the bump-outs, but the green space would be decreased between the parking lot and the building.

LCDOT (Gleason) stated that a widening of Deerfield Road to a four lane cross -section, in the vicinity of Brentwood, is shown on the DOT's 2020 plan. This improvement would impact the front row of parking adjacent to Deerfield Road. The location of the proposed bike path is placed such that it is compatible with a future widening of Deerfield Road and necessary land acquisition would occur with this project. In addition, potential future developments would require improvements to Deerfield Road, that could also impact the front row of parking.

CBBEL (Huffman) discussed the proposed developments at the Milwaukee Avenue and Deerfield Road intersection. The development at the southeast quadrant is currently in the public comment period through the Village of Riverwoods development approval process. Brentwood stated they would like to be invited to any future public meetings regarding the development and provided the draft plan. The proposed development in this quadrant includes improvements to Deerfield Road and the construction of an access roadway adjacent to the Brentwood property on Village of Riverwoods property. The access road would be an unsignalized intersection that would have turn lanes off of Deerfield Road. The intersection could be signalized in the future if warranted by other future developments that may go in to the south. When the access road is constructed, the furthest west Brentwood access driveway would be closed due to geometric compatibility and safety. A new southern access point could be constructed from the Brentwood parking lot to the access road. HHM stated that they would like one way traffic in the rear of their facility to limit cut thrus. There are also discussions for development of the southwest and northwest quadrants of the Milwaukee Avenue and Deerfield Road intersection, which would be approved by the Village of Buffalo Grove.

HHM was concerned with moving 26 spaces to the rear of the facility. Currently the only access to the building is in the front and shifting 26 spaces to the back will affect the business operations. HHM mentioned that a second entrance could possibly be added to the rear of the building. Discussion occurred regarding the possibility of compensation for that improvement. CBBEL (Kerr) stated that this project is using federal funding and thus must go through the federal land acquisition process through IDOT. This process involves conducting an appraisal of the right-of-way acquisition as well as associated damages to the property. A review appraisal is then conducted by a second independent appraiser and then a final appraisal is composed from the two appraisals. A negotiation would then occur with HHM. LCDOT (Gleason) said that the additional entrance sounds reasonable, from a business point of view, and he will discuss this matter with DOT staff and get back to HHM. LCDOT (Gleason) stated the land acquisition process can take 18 to 24 months.

LCDOT (Gleason) presented three ideas for project implementation for information purposes at this time. They include:

1. LCDOT will pay for the required right-of-way for the bike path (19450 SF) and pay HHM for damages to the property. HHM would be required, through agreement, to construct the front parking lot by a certain date and then the County would subsequently construct the bike path. The construction of the rear parking area is recommended to be constructed prior to construction of the front parking area.
2. LCDOT will pay for the required right-of-way for the bike path (19450 SF) and also will pay for and construct bike path and the front and rear parking lots.
3. LCDOT will pay for the required right-of-way for the bike path (19450 SF) and will pay for and construct the bike path and front parking lot. HHM would be paid for damages to the remainder for the impacted stalls that could not be replaced in the front parking area and are planned to be relocated to the rear of the building. HHM would therefore be responsible for constructing the rear parking area. It is recommended that the rear parking area be constructed prior to the front parking area construction.

For any future requests from Brentwood, they requested if face-to-face meetings could be setup to address. LCDOT (Gleason) agreed to proceeding as requested.

Action Items

- CBBEL to send PDF of the latest plan to Arthur Salk.
- Village of Riverwoods to provide information regarding current development plan and information regarding the public hearings.
- HHM review the proposed plan and provide comments to LCDOT
- LCDOT to provide response on the rear entrance.

The meeting adjourned at approximately 2:15 p.m. Submitted by: Matt Huffman, P.E. (CBBEL)

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MEETING SUMMARY

Meeting Date: March 17, 2015
Date Issued: April 14, 2015
Location: Brentwood North Healthcare Center
Project: Deerfield Road Bike Path West (10-00038-05-BT)
Purpose: Brentwood North 5th Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Sidney Glennar	Health & Home Mgmt. - President	Jane.Ammer@hhmgt.net
Joshua Ray	Health & Home Mgmt. - COO	JRay@hhmgt.net
Randall Kane	2401 Incorporated	2401architects@gmail.com
Patrick Glenn	Riverwoods / Gewalt Hamilton	PGlenn@gha-engineers.com
Emily Karry	LCDOT – Director Planning & Programming	CGleason@lakecountyil.gov
Mike Kerr	CBBEL - Project Manager	MKerr@cbbel.com
Matt Huffman	CBBEL - Project Engineer	MHuffman@cbbel.com

This was the fifth coordination meeting held with Brentwood North Healthcare and Rehabilitation Center (Brentwood). This facility is owned by Health and Home Management (HHM). The meeting was held at Brentwood North and was with the Lake County Division of Transportation (LCDOT), their consultant, Christopher B. Burke Engineering (CBBEL), and Village of Riverwoods on March 17th, 2015 at 1:00 pm. The overall Phase 1 proposed improvement exhibit was displayed for discussion purposes. The purpose of this meeting is to follow up the letter sent January 7, 2015 regarding a second formal entrance at the rear of the building as a result of relocated parking from the front to the rear.

Pat Glenn, the engineer for the Village of Riverwoods, provided an update regarding the commercial development to the two parcels at the southeast corner of the Milwaukee Avenue and Deerfield Road intersection. Currently the development process has stalled and the developed is not currently moving forward with any improvements. Discussion occurred regarding the landfill capping plan and permit for the parcels immediately south of Brentwood, which the Village has jurisdiction over. However, a significant portion of the landfill operation is outside the municipal boundary of Riverwoods, therefore, Lake County is the jurisdictional agency. HHM should contact Pat with any concerns related to the landfill and any work that is occurring.

Development of the southwest and northwest quadrants of the Milwaukee Avenue and Deerfield Road intersection is being pursued at this time. LCDOT has been in coordination with the Village of Riverwoods and Village of Buffalo Grove regarding related transportation improvements that may be required if development occurs at this intersection. Illinois Department of Transportation has jurisdiction of Milwaukee Avenue. LCDOT has programmed an add-lanes improvement of Deerfield Road, which is anticipated to begin the engineering process in several years. The location of the path is such that it would accommodate the future widening of Deerfield Road and necessary right-of-way would be purchased from HHM.

HHM has retained a new architect, Randall Kane. A brief history of the project was provided:

- A range of alternatives was considered, which included alternatives behind the Brentwood building in the rear of the property. Ultimately these alternatives were not desirable to Brentwood as compared to the alternative in the front of the property due to potential development on the rear parcel, potential conflicts with patrons, and liability concerns.

- The Village of Riverwoods owns a 100 foot parcel adjacent to the west of Brentwood and is anticipated to be the future location of an access roadway with a full access intersection with Deerfield Road. There is the potential for Brentwood to connect to the access road at the south west corner of the property. When the access road is constructed, the western most entrance to Brentwood would need to be closed due to proximity to the new intersection. Depending on the development to the south and traffic generated, the intersection may be signalized if warrants are met.
- Several parking lot designs were considered throughout Phase I Engineering, which includes considering parking stalls with 45 and 60 degree angles, sidewalk locations, tree well locations and maximizing green space. Currently the proposed plan relocates 26 spots from the front to the rear of the building.
- Circulation of the parking lot was slightly modified from the current circulation pattern. The stalls are angled for one way from west to east along the entire front of the property. Currently the west side of the property is a one-way from east to west. The circulation was changed as it is anticipated that once the access roadway and widening of Deerfield Road occur, most patrons would use the access road to access Brentwood.

HHM is concerned about moving 26 parking stalls from the front to the rear of the building, and the effect for their patrons. Additionally there was some discussion about changing the circulation of the parking lot and would be further reviewed. Safety was discussed and the possibility for signing along the bike path to alert for the driveway entrances. Currently the only public access to the building is in the front; staff can access the building from the rear. HHM and LCDOT are both open to further investigating a second formal entrance at the rear of the building in close proximity to the relocated parking. The current design plans would be provided to Randall Kane and LCDOT asked that comments be provided back by the end of April. Additionally, LCDOT will retain an architect to investigate the second formal entrance in the rear of the building and subsequently develop an initial concept design and approximate cost. HHM was ok to set up a site walkthrough with the County's architect.

Discussion occurred regarding the land acquisition process. Since the project is utilizing federal funding, the land acquisition process must go through the federal process through IDOT. This process involves conducting an appraisal of the right-of-way acquisition as well as associated damages to the property. A review appraisal is then conducted by a second independent appraiser and then a final appraisal is composed from the two appraisals. A negotiation would then occur with HHM.

The anticipated schedule is complete the plats and legals with IDOT and initiate the appraisal process. LCDOT would like to finalize the proposed plan this spring. A project construction letting is targeted in February 2016.

A site walk through was conducted to investigate the rear portion of the building, understand existing use/operations, and look at where the relocated parking would be placed.

Action Items

- CBBEL to send PDF of the latest plan to Randall Kane
- HHM to provide comments back by April 30th

The meeting adjourned at approximately 2:45 p.m.

Submitted by: Matt Huffman, P.E. (CBBEL)



MEETING SUMMARY

Meeting Date: February 14, 2018
Location: Lake County Division of Transportation
Project: Deerfield Road (15-00038-07-WR)
Purpose: The Meadows HOA Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Brian Meltzer	HOA – President	bmeltzer@mpslaw.com
Andrew Lapin	HOA – Vice President	alapin@rsplaw.com
Chuck Gleason	LCDOT (Project Manager)	CGleason@lakecountyyil.gov
Matt Huffman	CBBEL (Project Manager)	Mhuffman@cbbel.com

A coordination meeting was held on February 14, 2018 at 10 a.m. with the President and Vice President of The Meadows Homeowners Association for the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders Road) Phase I Engineering Study. The purpose of the meeting was to provide a recap of Stakeholder Involvement Group Meeting #3 and to discuss the preliminary preferred alternative for Deerfield Road Section A. The Meadows Homeowners Association is

Below is a summary of meeting discussion points, with any action items noted:

- 1) The Range of Alternative development approach was discussed. The project is broken up into the two termini intersections and a 2-mile Deerfield Road corridor section in-between. The Deerfield Road corridor section (section) is broken up into two parts, Section A is Milwaukee Avenue to the Des Plaines River and Section B is Des Plaines River to Saunders/Riverwoods Road. The project team has identified a preliminary preferred alternative for Section B, a 3-Lane roadway section with curb and gutter (Alternative 3). The project team is still in the alternative evaluation process for Section A, Milwaukee Avenue intersection and Saunders/Riverwoods intersection.
- 2) An improvement will be made at the Milwaukee Avenue intersection. The Woodmans development is making improvements to the intersection as part of their development project, which includes a second northbound and southbound left turn lane and another exclusive eastbound through lane. The westbound direction remains unchanged. The Deerfield Road transportation analysis factors in the improvements Woodmans is making to the intersection and their site generated traffic. The project team is undergoing an intersection alternatives analysis for the Milwaukee Avenue intersection. Coordination with IDOT is ongoing. It is anticipated that a preferred intersection improvement will be selected this spring.
- 3) The Section B range of alternatives were screened based on a comparative evaluation of alternatives and compiled into a summary evaluation table. The 3-lane urban roadway section arose as the clear preliminary preferred alternative based on the comparative evaluation of Deerfield Road Range of Alternatives.
- 4) The fourth SIG meeting and second public meeting are anticipated in Summer 2018 to display the preferred alternative design for the project.

- 5) Discussion occurred regarding the preliminary preferred alternative for Deerfield Road Section A. CBBEL stated that the County has selected the preliminary preferred alternative for Section A and review is ongoing with IDOT, who has jurisdiction of the Milwaukee Avenue intersection. A plan view exhibit was displayed showing the preliminary preferred alternative.
- 6) Meadow Lake HOA brought up several discussion points:
 - Can the multi-use path be located along the north side of the roadway. The project team indicated that the current planning along the Deerfield Road corridor, which has already been studied and some work already constructed, has the multi-use path along the south side of Deerfield Road from Milwaukee Avenue to Portwine Road and along the north side of Deerfield Road from Portwine Road to Saunders/Riverwoods Road.
 - It is difficult to egress onto Deerfield Road from Chicory Court and asked if a signal could be placed at the intersection. The project team stated that the traffic volumes are too low to warrant a signal at the location. A center median will be provided across Chicory Court allowing for an eastbound left turn lane. The permit intersection improvement being made by the Woodmans Development will help the existing operations of Deerfield Road intersection. In the AM peak period, there should be more platooning of vehicles now that dual left turns are being provided on Milwaukee Avenue. The HOA talked to the Village about possible connection to Federal Life if a signal is installed on Deerfield Road to their property.
 - There were issues with cut-through traffic from Deerfield Road to Milwaukee Avenue and have since installed gates to prevent this from occurring. The Village owns Chicory Court and the HOA has maintenance responsibility.
 - There are drainage concerns within the subdivision as it relates to the Des Plaines River. There are no existing issues along Deerfield Road, but the roadside ditch carries a significant amount of water. A portion of Meadow Lake Subdivision is within the Des Plaines River floodway and they are looking to do a LOMR to revise the floodway within their subdivision. The project team said they will be doing a drainage study for the project, which evaluates off-site water coming towards the roadway. Additionally, the Deerfield Road bridge over the Des Plaines River will be studied with this project, but it is anticipated that the bridge would not be raised but possibly widened. The bridge was constructed in 1993.

The meeting adjourned at approximately 11:15 a.m.

Submitted by: Matthew Huffman, P.E. (CBBEL)



MEETING SUMMARY

Meeting Date: October 2, 2018 – 9:00 a.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Federal Life Coordination Meeting #1

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Anders Raaum	Federal Life – CFO	ARaaum@federallife.com
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with Federal Life, who operates an insurance company east of Milwaukee Avenue along the north side of Deerfield Road. This is the first coordination meeting with them regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce purpose of the project, provide project update, review the alternatives development process, review the preferred alternative design and public involvement next steps. Federal Life, Anders Raaum, is on the Stakeholder Involvement Group, and is aware of project development elements of the project. The meeting was held on October 2, 2018 at 9:00 am. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A review and recap of the project was provided, which covered the project purpose and need, which focused on the Milwaukee Avenue and Deerfield Road intersection. Currently in the PM peak hour there is nearly a 2-mile backup causing an over 30 minutes delay for westbound traffic.
- 2) There is a Stakeholder Involvement Group (SIG) that was formed for the project, which held three meetings, the last being in January 2018. The SIG has been used to seek input from during the project development process. The purpose of the last SIG meeting was to review the alternatives development process. Eleven intersection alternatives were considered at the Milwaukee Avenue intersection. Through an analysis and evaluation process, factoring in input from IDOT, a preferred intersection alternative was selected.
- 3) Coordination of the Milwaukee Avenue intersection preliminary preferred alternative was coordinated with IDOT in March/April 2018 regarding the Milwaukee Avenue intersection, since it is under their jurisdiction. Their concurrence was received.
- 4) The project team coordinated with Federal Resource agencies and received their concurrence on the preferred alternative in June/July 2018.
- 5) A detailed review of the project Milwaukee Avenue intersection was provided by the project team.

- a) The Woodman's development intersection permit improvements were reviewed, which includes a second eastbound through lane, which tapers out at the Lock Up Self Storage driveway. Currently there are two access points from Deerfield Road to the Federal Life Property, the western drive is the main access point while the eastern access drive is for deliveries and is gated. which included a center barrier down Milwaukee Avenue adjacent to the southbound dual left turn lanes. This will limit access to the existing driveway to this property to a right-in-right-out. No roadway improvements are being made along this corner of the intersection. The Woodman's intersection permit improvements are anticipated to be substantially completed by the end of 2018.
 - b) The Mayor discussed some of the accessibility challenges at the northeast corner of the Milwaukee Avenue intersection and the Village interest is to try and assist to address these accessibility issues for businesses within their jurisdiction. With the Woodman's development and development at the southwest quadrant, additional pressure is being put on the commercial businesses within Colonial Court and Shoppes of Riverwoods.
 - c) Federal Life would like the right-in-right-out removed at the eastern move driveway because it precludes their truck deliveries. The project team will make this design change.
 - d) Federal Life and the Village expressed concern about crossing three lanes of traffic to make a left turn into their site.
 - e) A sidewalk is being proposed along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane.
 - f) Future development of the Federal Life site was discussed. Currently there are not expansion plans and they are at their max size per zoning requirements.
 - g) Discussion of moving the existing detention pond was discussed. The project team stated they are evaluating expanding the existing detention pond as a second option to provide detention and compensatory storage. A permanent drainage easement would be purchased from Federal Life to perform this work and maintain/access the site. Federal Life was open to this expansion since it would not affect their current site operation or parking.
 - h) A signal at the western access drive was discussed, which mirrors the Lock Up Self Storage driveway, which is on Village owned property. At some point in the future, the Village desires a signal at this location. The roadway to the south would connect to the undeveloped property south of Brentwood and the Lock Up Self Storage, which would likely generate traffic that would meet signal warrants.
 - i) The Village asked is a u-turn would be allowed at the Federal Life left turn; the project team stated there is adequate space for a passenger car to make a u-turn at this location.
- 6) The project team discussed the upcoming public meeting to show the preferred alternative design. The public hearing is anticipated for spring 2019.

The meeting adjourned at approximately 10:00 a.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)



**DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY**

SIGN-IN SHEET

MEETING PURPOSE: Riverwoods Health & Wellness Center Coordination Meeting
 MEETING DATE: October 2, 2018
 MEETING TIME: 11:00 am
 LOCATION: Riverwoods Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. MATT HEREMAN	Project Manager	CRBEL	MHerffman@chobel.com
2. CHUCK GRIFFIN	Riverwoods	CRBEL	Chuck.Griffin@chobel.com
3. Henry Hollander	Traffic	Riverwoods	henryhollander@comcast.net
4. Bruce Howard	Village attorney	Riverwoods	bhuward@cshlegal.com
5. Robert Reissner		1105 MILWAUKEE	ROG@TAMIDMANAGEMENT.COM
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MEETING SUMMARY

Meeting Date: October 2, 2018 – 11:00 a.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Riverwoods Health & Wellness Center Coordination Meeting #1

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Robert Reisman	Riverwoods Health & Wellness Center – Management Company	Rob@tamidmanagemnet.com
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with Riverwoods Health & Wellness Center (Riverwoods Health), at the northeast corner of the Milwaukee Avenue and Deerfield Road intersection. This is the first coordination meeting with them regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce purpose of the project, provide project update, review the alternatives development process, review the preferred alternative design and public involvement next steps. The meeting was held on October 2, 2018. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A review and recap of the project was provided, which covered the project purpose and need, which focused on the Milwaukee Avenue and Deerfield Road intersection. Currently in the PM peak hour there is nearly a 2-mile backup causing an over 30 minutes delay for westbound traffic.
- 2) There is a Stakeholder Involvement Group (SIG) that was formed for the project, which held three meetings, the last being in January 2018. The SIG has been used to seek input from during the project development process. The purpose of the last SIG meeting was to review the alternatives development process. Eleven intersection alternatives were considered at the Milwaukee Avenue intersection. Through an analysis and evaluation process, factoring in input from IDOT, a preferred intersection alternative was selected.
- 3) Coordination of the Milwaukee Avenue intersection preliminary preferred alternative was coordinated with IDOT in March/April 2018 regarding the Milwaukee Avenue intersection, since it is under their jurisdiction. Their concurrence was received.
- 4) The project team coordinated with Federal Resource agencies and received their concurrence on the preferred alternative in June/July 2018.
- 5) A detailed review of the project Milwaukee Avenue intersection was provided by the project team.
 - a) The Woodman's development intersection permit improvements were reviewed, which included a center barrier down Milwaukee Avenue adjacent to the southbound dual left turn

lanes. This will limit access to the existing driveway to this property to a right-in-right-out. No roadway improvements are being made along this corner of the intersection. The intersection is anticipated to be substantially completed by the end of 2018.

- b) With this project a dual westbound left turn lanes and a third westbound through lane, third westbound through lane and exclusive westbound right turn lane are being provided. A sidewalk is also being provided along Deerfield Road and pedestrian crossings of the north and east leg of the Milwaukee Avenue intersection. This results in permanent property acquisition from the Riverwoods Health & Wellness Center property. As a result, six parking stalls are impacted along Deerfield Road. Riverwoods Health stated the parking loss would be problematic. LCDOT stated that compensation for damages and purchase of right-of-way would occur in the next Phase of engineering.
 - c) Discussion occurred regarding possible cross access from their site to Colonial Court. Village representatives stated they would help in these conversations.
 - d) Riverwoods Health stated a prior access drive to Deerfield Road was closed prior to their purchase of the property. They asked if that could be re-opened. LCDOT stated that would not be allowed since they have access off of Milwaukee Avenue.
 - e) Riverwood Health stated that most of their patrons come from the north and expressed concern about how they would access their site with the Woodman's permit improvements being made. Riverwoods Health asked if a U-Turn could be made for southbound left turn vehicles. The project team stated that the current design did not accommodate this, but they would evaluate this design change; the Village support this design change. The project team stated that additional right-of-way would likely be required to modify the radius return.
 - f) The hours of operation are from 8:30 am to 6:00 pm and are fully occupied.
- 6) The project team discussed the upcoming public meeting to show the preferred alternative design. The public hearing is anticipated for spring 2019.
- 7) Robert would like to be added to the project mailing/email list and invited to the upcoming public meeting. He would also like to be emailed the project website and proposed improvement plan adjacent to their property.

The meeting adjourned at approximately 12:00 p.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)



**DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY**

SIGN-IN SHEET

MEETING PURPOSE: Riverwoods Health & Wellness Center Coordination Meeting
 MEETING DATE: October 2, 2018
 MEETING TIME: 11:00 am
 LOCATION: Riverwoods Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. MATT HEREMAN	Project Manager	CRBEL	MHerffman@chobel.com
2. CHUCK GRIFFIN	Riverwoods	CRBEL	ChuckGriffin@chobel.com
3. Henry Hollander	Traffic	Riverwoods	henryhollander@comcast.net
4. Bruce Howard	Village attorney	Riverwoods	bhuward@cshlegal.com
5. Robert Reissner		1105 MILWAUKEE	ROB@TAMIDMANAGEMENT.COM
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MEETING SUMMARY

Meeting Date: October 12, 2018 – 9:00 a.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Riverwoods Health & Wellness Center Coordination Meeting #1

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Tom Flanagan	Colonial Court Owner	tf@fbtax.com
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with the owner of Colonial Court commercial center at the northwest quadrant of the Milwaukee Avenue and Deerfield Road intersection (not directly at corner). This is the first coordination meeting with to owner of Colonial Court regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce purpose of the project, provide project update, review the alternatives development process, review the preferred alternative design and public involvement next steps. The meeting was held on October 12, 2018 at 9:00 am. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A review and recap of the project was provided, which covered the project purpose and need, which focused on the Milwaukee Avenue and Deerfield Road intersection. Currently in the PM peak hour there is nearly a 2-mile backup causing an over 30 minutes delay for westbound traffic.
- 2) There is a Stakeholder Involvement Group (SIG) that was formed for the project, which held three meetings, the last being in January 2018. The SIG has been used to seek input from during the project development process. The purpose of the last SIG meeting was to review the alternatives development process. Eleven intersection alternatives were considered at the Milwaukee Avenue intersection. Through an analysis and evaluation process, factoring in input from IDOT, a preferred intersection alternative was selected. This includes a third westbound through lane, second westbound left turn lane and exclusive right turn lane. A sidewalk is proposed along the north side of Deerfield Road from Milwaukee Avenue to Chicory Lane. An improved radius return is proposed at the northeast corner, but not other improvements are proposed north along Milwaukee Avenue. The preferred alternative drops the
- 3) Coordination of the Milwaukee Avenue intersection preliminary preferred alternative was coordinated with IDOT in March/April 2018 regarding the Milwaukee Avenue intersection, since it is under their jurisdiction. Their concurrence was received.
- 4) A brief overview of the alternatives development process and approach was provided.

- 5) The project team coordinated with Federal Resource agencies and received their concurrence on the preferred alternative in June/July 2018.
- 6) A detailed review of the project Milwaukee Avenue intersection was provided by the project team.
 - a) The Woodman's development intersection permit improvements were reviewed, which included a center barrier down Milwaukee Avenue adjacent to the southbound dual left turn lanes. This will limit access to the existing driveway to this property to a right-in-right-out. No roadway improvements are being made along this corner of the intersection. The intersection is anticipated to be substantially completed by the end of 2018.
 - b) With this project, a dual westbound left turn lane and a third westbound through lane, third westbound through lane and exclusive westbound right turn lane are being provided. A sidewalk is also being provided along Deerfield Road and pedestrian crossings of the north and east leg of the Milwaukee Avenue intersection. This results in permanent property acquisition from the Colonial Court property. As a result, twenty parking stalls are impacted adjacent to the vacant restaurant and five stalls from the other adjacent parking lot. Mr. Flannagan stated the parking loss would be problematic for the restaurant property. LCDOT stated that compensation for damages and purchase of right-of-way would occur in the next Phase of engineering and typically do not occur during Phase I Engineering.
 - c) Along Deerfield Road there will be a barrier median, which will modify accessibility to the Colonial Court driveway by making it a right-in-right-out. A u-turn will be allowed at the Federal Life left turn lane. The barrier median is required because two left turn lanes are provided.
 - d) The land acquisition process was discussed in detail. LCDOT stated that damages to the remainder would be evaluated as part of the impact to the property.
 - e) The Village discussed a possible driveway/Village road that would access Deerfield Road at the western Federal Life driveway and connect to the Colonial Court parking lot just north of the vacant restaurant. The Village is targeting a future signal at this location. This would provide additional access to the Colonial Court property. Further access possibilities were discussed.
 - f) Mr. Flannagan expressed concern about being able to lease out the restaurant property and asked if the land acquisition process could occur soon. LCDOT stated that land acquisition occurs in Phase II Engineering, which is mandated by the federal project development process.
 - g) Mr. Flannagan has discussed with IDOT a full access north at the Shoppes of Riverwoods northern most driveway. Colonial Court has cross access with the Shoppes of Riverwoods.
 - h) Mr. Flannagan owns the undeveloped property south of Brentwood North and Lock Up Self Storage.
- 7) The project team discussed the upcoming public meeting to show the preferred alternative design. The public hearing is anticipated for spring 2019.

The meeting adjourned at approximately 10:00 a.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)



DEERFIELD
DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Fourkas Property Coordination Meeting
 MEETING DATE: October 12, 2018
 MEETING TIME: 8:15 am
 LOCATION: Riverwoods Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. Tom Fourkas	Village Aty	Riverwoods	Tom.Fourkas@dmz.com
2. Bruce Harvard	MAYOR	RIVERWOODS	bharvard@cshlegal.com
3. JOHN MORRIS	Tritter	Riverwoods	john.morris@riverwoods.com
4. Henry Hollander	U.N. ENGR.	RIVERWOODS	hhollander@villageofriverwoods.com
5. Patrick Green	PROJECT MANAGER	LEDOT	patrick.green@engr.com
6. Chad Gleason	PROJECT MANAGER	LEDOT	cgleason@lakelakecountyil.gov
7. Matt Huffman	PROJECT MANAGER	CBSEL	M.Huffman@cbselect.com
8.			
9.			
10.			



MEETING SUMMARY

Meeting Date: October 12, 2018 – 8:15 a.m.
Location: Village of Riverwoods
Project: Deerfield Road – IL 21 to Saunders/Riverwoods Road (15-00038-07-WR)
Purpose: Fourkas Property Coordination Meeting #1

<u>Attendees</u>	<u>Representing</u>	<u>Email</u>
Tom Fourkas	Residential Owner	Tomfourkas@gmail.com
John Norris	Riverwoods – Mayor	jnorris@riverwoods-il.net
Henry Hollander	Riverwoods – Village Trustee	hhollander@riverwoods-il.net
Bruce Harvard	Riverwoods – Village Attorney	bharvard@cshlegal.com
Patrick Glenn	Riverwoods – Village Engineer	pglenn@gha-engineers.com
Chuck Gleason	LCDOT – Project Manager	cgleason@lakecountyiil.gov
Matthew Huffman	CBBEL – Phase I Project Manager	mhuffman@cbbel.com

A coordination meeting was held with Mr. Tom Fourkas, the owner of a residential property adjacent to Deerfield Road at the Timberwood Lane intersection (east). This is the first coordination meeting with Mr. Fourkas regarding the Lake County Division of Transportation (LCDOT) Deerfield Road (IL 21 to Saunders/Riverwoods Road) Phase I Engineering Study. The purpose of the meeting was to introduce purpose of the project, review the alternatives development process, present the preferred alternative design, and public involvement next steps. The meeting was held on October 12, 2018 at 8:15 am. A meeting agenda was distributed, and proposed improvement plans displayed.

Below is a summary of meeting discussion points, with any action items noted:

- 1) A review and recap of the project was provided, which covered the project purpose and need, which focused Deerfield Road between the Des Plaines River and Saunders/Riverwoods Road (Section B).
- 2) There is a Stakeholder Involvement Group (SIG) that was formed for the project, which held three meetings, the last being in January 2018. The SIG has been used to seek input from during the project development process. The purpose of the last SIG meeting was to review the alternatives development process. Five alternatives were considered for Deerfield Road section B from the Des Plaines River to Saunders/Riverwoods Road with went through an analysis and evaluation process. From the results of the alternatives analysis and input from IDOT, resource agencies and the SIG, a preferred intersection alternative was selected, which consists of a three-lane urban section with multi-use path along the south side of Deerfield Road.
- 3) The project team coordinated with Federal Resource agencies and received their concurrence on the preferred alternative in June/July 2018.
- 4) A detailed review of the project adjacent to Mr. Fourkas's property was provided by the project team.
 - a) Thorngate Creek currently bisects the eastern part of the parcel, which leaves a small remnant triangle piece of property, which Mr. Fourkas currently does not utilize.

- b) The proposed improvement includes a new culvert carrying Thorngate Creek under Deerfield Road. Additionally, there are drainage ditches adjacent to the road to convey off-site water that currently drains towards Deerfield Road. The ditches are only located where needed.
 - c) The project team is proposing to provide compensatory storage grading to mitigate for fill in the floodplain, which requires grading. The proposed location for this is east of Thorngate Creek on Mr. Fourkas's property. It was explained that he would be compensated according to the federal land acquisition process. A permanent easement would be purchased from Mr. Fourkas for drainage purposes, and he would remain the underlying property owner. Mr. Fourkas stated that if his property must be used, it would be desirable to use the property east of Thorngate Creek and not west.
 - d) Mr. Fourkas stated that trash accumulation is a concern and that the grading area and entering ditch should be separated to minimize trash accumulation. Mr. Fourkas asked who would clean the trash up. It was stated that the County would perform necessary maintenance, but this would likely be very minimal since native plantings are anticipated to be utilized to re-vegetate the compensatory storage area. LCDOT stated that the County will not come out to clean trash out of ditches, but clean-up costs could be factored into the negotiation.
 - e) There are a variety of options that could be utilized for vegetation of the compensatory storage area and that would be determined in the next phase of engineering.
 - f) Mr. Fourkas asked if his fence would be impacted. The project team stated that a 5-foot temporary construction easement is needed along the frontage of the property adjacent to Deerfield Road to potentially replace the existing fence if impacted with the project. There is small drainage sale along the frontage of the property adjacent to Deerfield Road.
 - g) Mr. Fourkas asked if the speed limit would change. LCDOT representatives stated that a speed study would be conducted upon completion of the project to determine the appropriate speed limit.
- 5) The project team discussed the upcoming public meeting to show the preferred alternative design. The public hearing is anticipated for spring 2019.

The meeting adjourned at approximately 9:00 a.m.

Submitted by: Matthew J. Huffman, P.E. (CBBEL)



DEERFIELD
DEERFIELD ROAD (IL 21 TO SAUNDERS/RIVERWOODS ROAD)
PHASE I ENGINEERING STUDY

SIGN-IN SHEET

MEETING PURPOSE: Fourkas Property Coordination Meeting
 MEETING DATE: October 12, 2018
 MEETING TIME: 8:15 am
 LOCATION: Riverwoods Village Hall
 ATTENDEES:

NAME	TITLE	REPRESENTING	EMAIL ADDRESS
1. Tom Fourkas	Village Atty	Riverwoods	Tom.Fourkas@dmz.com
2. Bruce Harvard		Riverwoods	bharvard@cshlegal.com
3. JOHN MORRIS	MAYOR	RIVERWOODS	john.morris@villageofriverwoods.com
4. Henry Hollander	Trustee	Riverwoods	hhollander@villageofriverwoods.com
5. Patrick Green	U.N. ENGR.	Riverwoods	patrickgreen@riverwoods.com
6. Chad Gleason	PROJECT MANAGER	LEDOT	cgleason@lakc.com
7. Matt Huffman	PROJECT MANAGER	CBSEL	mhuffman@cbselect.com
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From: [Gleason, Chuck L.](#)
To: [Matthew Huffman](#)
Subject: Deerfield Road Update with Riverwoods
Date: Wednesday, July 31, 2019 11:07:53 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

Matt,

Our meeting went well this morning, nothing came out of it for us to do. So, they meet the second and fourth for their committee meetings. I mentioned to Pat they we may want to come on August 27th. We will discuss the noise analysis, proposed drainage requirements and trees. Will you be ready to meet by then? Also, Kathryn, as president of their HOA, would like to be notified prior to us sending any notices or letters to the affected noise receptors. I said we can do that.

Thanks, Chuck



Chuck Gleason

Project Manager

Lake County Division of Transportation

600 W Winchester Road, Libertyville, Illinois 60048

cgleason@lakecountyil.gov

www.lakecountyil.gov | 847.377.7447 | 847.984.5888 fax





PHONE CONVERSATION LOG

DATE: January 7, 2020 (1:15 pm)

PERSON
(Contacted/Calling): Daniel Glenner

AFFILIATION: Health & Home Management (Property Owner)

PHONE NUMBER:

CBBEL
REPRESENTATIVE: Matt Huffman

PROJECT NAME: LCDOT – Deerfield Road

PROJECT NUMBER: 150331

COPIES TO: Chuck Gleason - LCDOT

SUBJECT: Brentwood North Access Drive Modification

NOTES:

On December 20, 2019, a revised design showing an access modification to the western most driveway to the Brentwood North property and access to the Village access drive. Daniel called Matt at 1:15 on 1/7 to discuss. Summary is below:

- Brentwood North is being leased to Elevate Care; Health and Home Management still owns the property. Meir Meystel (CEO) is the point of contact and can be cc'd on project correspondence.
- Health and Home Management is ok with the proposed access change to be made with the proposed improvement. They are ok with the south access connection to the Village owned access drive but will verify with Elevate Care about the north access connection to the Village access drive. Matt mentioned this connection was made for circulation purposes since there is 1-way traffic along the frontage of the property.
- Matt mentioned that the Brentwood western access drive will be closed with the project due to safety concern with the adjacent Village full access drive. The Village full access drive is the location of a future potential signal when it meets warrants.



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520



PHONE CONVERSATION LOG

- The Village currently has a pursuer of the corner parcel and directed Daniel to contact them about potential access changes along Deerfield Road.
- Matt mentioned the public hearing is scheduled for April 2020 but contingent upon IDOT/FHWA reviews.



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