TIER 2
ENVIRONMENTAL ASSESSMENT/
DRAFT SECTION 4(f) EVALUATION

Appendix D6:
Draft Section 4(f) Evaluation

Contents

Figures

Tables

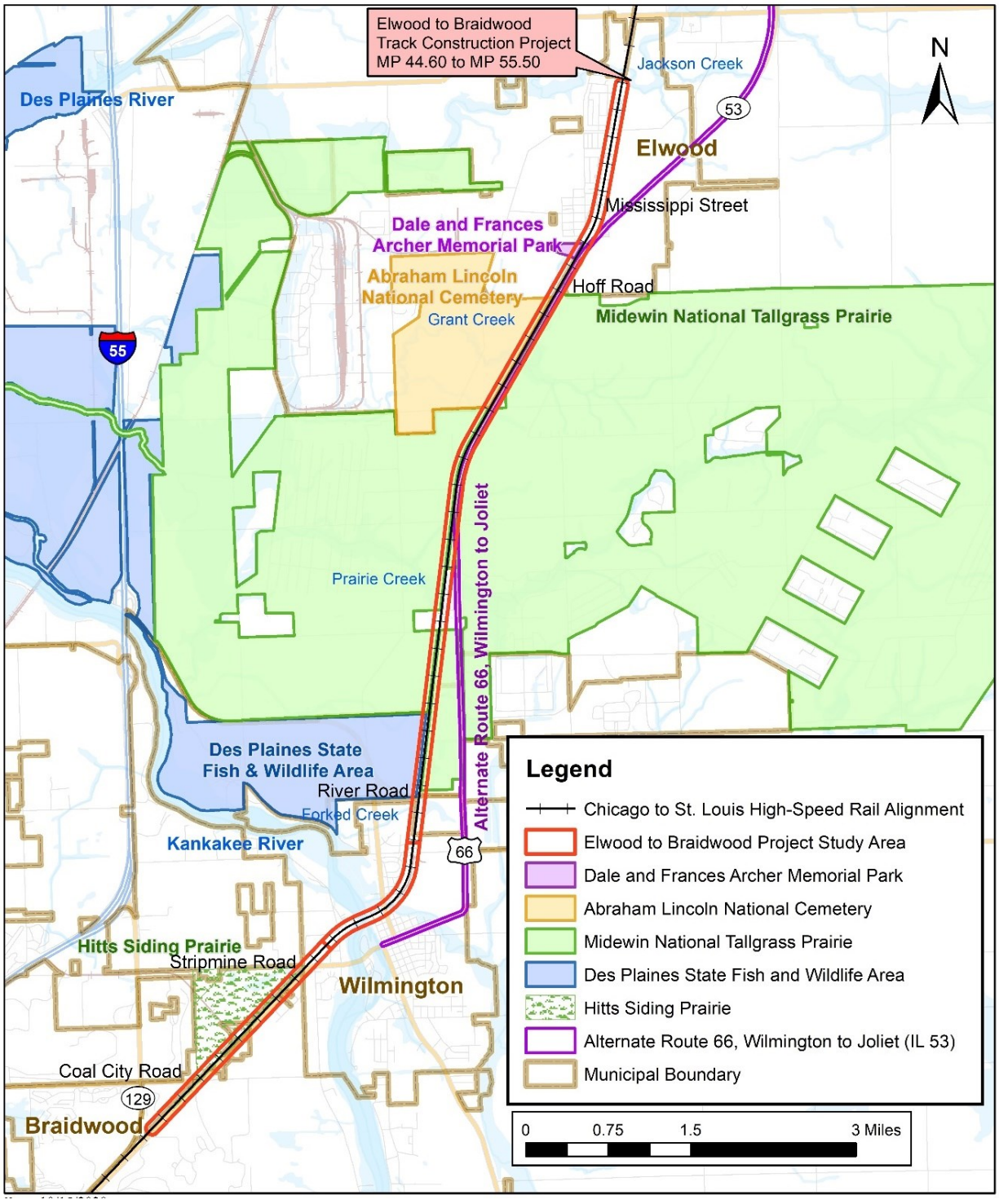
D6 Draft Section 4(f) Evaluation

D6.1 INTRODUCTION AND OVERVIEW

The Illinois Department of Transportation (IDOT) proposes to construct improvements to the existing mainline of the Union Pacific Railroad (UPRR) between Elwood and Braidwood in Will County, Illinois. The proposed Elwood to Braidwood Track Construction Project (proposed Project) considers a no -action alternative and two build alternatives. Both build alternatives include construction of a second mainline track adjacent to the existing mainline track with an associated maintenance access facility, grade crossings, fencing, culvert, bridge, and signal improvements. The proposed Project is one component of the Chicago to St. Louis High-Speed Rail Corridor Program (HSR Program). Exhibit D6-1 shows the proposed Project location; the proposed project study area is highlighted in red on the map.

This Draft 4(f) Evaluation concludes that Alternative 1B would have the least overall harm to 4(f) resources, after consideration of feasible and prudent avoidance alternatives and all possible planning to minimize harm. The final determination will be made in the final 4(f) evaluation and National Environmental Policy Act (NEPA) decision document.

Exhibit D6-1. Proposed Project Location Map



The proposed project study area is 9.59 miles long, covers almost 310 acres, and includes the following elements for the two build alternatives evaluated in the Environmental Assessment (EA):

- A second track added from Elwood to Wilmington (Milepost [MP] 44.60 to MP 51.88) and from Wilmington to Braidwood (MP 53.19 to 55.50), creating one continuous second mainline track from Elwood to Braidwood (MP 44.60 to 55.50).
- A maintenance access facility, which would consist of a 10-foot-wide road paralleling the track within the railroad right-of-way for the full proposed Project length.
- Replacement of the Prairie Creek Bridge, including the addition of a second track across the bridge at MP 49.50.
- At-grade crossing improvements at Mississippi Street (in Elwood), Hoff Road, Joliet Arsenal (private crossing), Damien Mills Road (private crossing), and River Road to accommodate the second track, as well as the closure of a private crossing at MP 47.82.
- Drainage and culvert improvements throughout the proposed project study area.
- Positive Train Control signaling.
- Urban- and rural-style fencing in selected areas.

This Draft Section 4(f) Evaluation provides the analysis to support FRA's determinations necessary to comply with the provisions of 49 United States Code (USC) 303, hereinafter referred to as Section 4(f). To demonstrate FRA's compliance with Section 4(f), this evaluation:

- Describes the requirements associated with Section 4(f).
- Identifies the properties protected by Section 4(f) in the proposed project study area.
- Determines whether the proposed Project would result in a use as defined in 23 CFR § 774.17 of these properties.
- Assesses potential feasible and prudent alternatives to avoid the use of the properties.
- Identifies measures to minimize harm and evaluates their reasonableness as a means of incorporating all possible planning to minimize harm in terms of the preservation purpose of the statute.
- Presents a least overall harm analysis for alternatives that would result in the use of Section 4(f) properties.

D6.1.1 Regulatory Context

The Department of Transportation Act of 1966 includes the special provision known as Section 4(f) (49 USC § 303). FRA's implementing regulations for Section 4(f) can be found at 23 CFR part 774.

D6.1.2 Roles and Responsibilities of Participants

Pursuant to 23 CFR § 774.5, FRA will provide this Draft Section 4(f) evaluation to the official(s) with jurisdiction (OWJ) over the Section 4(f) resource and the US Department of the Interior for coordination and comment prior to making any Section 4(f) approvals under 23 CFR § 774.3.

D6.1.2.1 Federal Railroad Administration

As the lead federal agency on the proposed Project, FRA is responsible for soliciting and considering the comments of these other entities, as well as the appropriate OWJs over the Section 4(f) property, as part of the administration of Section 4(f). FRA ensures compliance with the requirements of Section 4(f) and its implementing regulations and is responsible for determining whether a use of Section 4(f) property would occur and whether to approve the use of a Section 4(f) property.

D6.1.2.2 State Historic Preservation Officer

In the case of historic sites, the official with jurisdiction is the Illinois Historic Preservation Agency, which is Illinois' State Historic Preservation Office (SHPO).

D6.1.2.3 Official(s) with Jurisdiction over Parks

In the case of public parks, recreation areas, and wildlife and waterfowl refuges, the OWJs are the agency or agencies that own or administer the Section 4(f) property and are empowered to represent the agency on matters related to the property.

D6.1.2.4 Coordination Requirements

The regulations require coordination with the OWJs for the following situations prior to Section 4(f) approval (recognizing that additional coordination may be required under other statutes or regulations):

- Prior to making approvals (23 CFR § 774.3(a))
- Determining least overall harm (23 CFR § 774.3(c))
- Applying certain programmatic Section 4(f) evaluations (23 CFR § 774.5(c))
- Applying Section 4(f) to properties that are subject to federal encumbrances (23 CFR § 774.5(d))
- Applying Section 4(f) to archeological sites discovered during construction (23 CFR § 774.9(e))

- Determining if a property is significant (23 CFR § 774.11(c))
- Determining application to multiple-use properties (23 CFR § 774.11(d))
- Determining applicability of Section 4(f) to historic sites (23 CFR § 774.11(e))
- Determining constructive use (23 CFR § 774.15(d))
- Determining if proximity impacts will be mitigated to equivalent or better condition, (23 CFR § 774.15(f)(6))
- Evaluating the reasonableness of measures to minimize harm (23 CFR § 774.3(a)(2) and 774.17)

The regulations require written concurrence of the official(s) with jurisdiction in the following situations:

- Prior to making *de minimis* impact findings (23 CFR § 774.5(b))
- Applying the exception for temporary occupancies (23 CFR § 774.13(d))
- Applying the exception for transportation enhancement activities and mitigation activities (23 CFR § 774.13(g))

D6.1.3 Section 4(f) Applicability

A park or recreation area qualifies for protection under Section 4(f) if it is (1) publicly owned at the time at which the "use" occurs; (2) open to the general public for use as a park or recreational facility; and (3) considered a significant resource by the authority with jurisdiction over the area.

A wildlife or waterfowl refuge qualifies for protection under Section 4(f) if it is (1) publicly owned at the time at which the "use" occurs; (2) being used as a refuge; or (3) considered a significant resource by the authority with jurisdiction.

A historic property eligible for, or listed in, the National Register of Historic Places (NRHP) is protected under Section 4(f). If a proposed action results in an "adverse effect" under Section 106, there will not automatically be a Section 4(f) "use." Therefore, FRA completes a separate Section 4(f) analysis and determination, in addition to those completed in compliance with the Section 106 process.

D6.1.4 Section 4(f) Use Definition

Pursuant to 23 CFR § 774.17, a "use" of Section 4(f) property occurs in the following ways:

- **Permanent Incorporation -** A use of a Section 4(f) resource occurs when land is permanently incorporated into a transportation facility.

- **Temporary Occupancy -** This occurs when there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined in the criteria in 23 CFR § 774.13(d).
- **Constructive Use -** A constructive use of a Section 4(f) resource occurs when the transportation project does not incorporate land from a Section 4(f) resource, but the proximity impacts are so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired (23 CFR § 774.15).

When a permanent incorporation triggers the requirements of Section 4(f) rather than substantial impairment resulting from project proximity, proximity impacts are considered as a part of the least overall harm analysis and all possible planning to minimize harm.

D6.1.5 Feasible and Prudent Avoidance Alternative

A feasible and prudent avoidance alternative avoids using any Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) resource (23 CFR §774.17). In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

An alternative is not feasible if it cannot be constructed as a matter of sound engineering. Per 23 CFR § 774.17, an alternative is not prudent for the following reasons:

- It compromises the project to a degree that it is unreasonable to proceed with the project considering its stated purpose and need;
- It results in unacceptable safety or operational problems;
- It causes severe social, economic, or environmental impacts even after reasonable mitigation; severe disruption to established communities; severe disproportionate impacts to minority or low-income populations; or severe impacts to environmental resources protected under other Federal statutes;
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- It causes other unique problems or unusual factors; or
- It involves multiple factors above that while individually minor, cumulatively cause unique problems, or impacts of extraordinary magnitude.

D6.1.6 All Possible Planning

All possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project (23 CFR § 774.17).

D6.1.7 Least Overall Harm

When there are no feasible and prudent alternatives that avoid use, and multiple alternatives that use Section 4(f) property are under consideration, FRA may only approve the alternative that causes the least overall harm.

Section D6.8 of this document reviews and analyzes the two build alternatives that have been evaluated as the only feasible and prudent alternatives that use one or more Section 4(f) property(ies). The seven factors were balanced and analyzed to identify the alternative with the least overall harm as defined in 23 CFR § 774.3(c).

D6.1.8 Exceptions to Section 4(f)

Various exceptions to the requirement for Section 4(f) approval are outlined in 23 CFR § 774.13. This proposed Project does not qualify for any of the exceptions to Section 4(f).

D6.1.9 De Minimis Impact

Per 49 USC § 303(d) and 23 CFR § 774.5(b) the following criteria must be met to reach a *de minimis* impact determination:

- For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact determination may be made if FRA concludes the transportation project will not adversely affect the activities, features, and attributes qualifying the property for protection under Section 4(f) after mitigation. In addition, to make a *de minimis* impact determination there must be:
  - Public notice and opportunity for public review and comment.
  - Concurrence on the effect finding is received from the official(s) with jurisdiction over the property.
- For a historic site, a *de minimis* impact determination may be made if, in accordance with the Section 106 process of the NHPA, FRA determines that the transportation program or project will have no effect or no adverse effect on historic properties, FRA has received written concurrence from the official(s) with jurisdiction over the property (e.g., the State Historic Preservation Officer [SHPO]) and has

taken into account the views of consulting parties to the Section 106 process as required by 36 CFR Part 800.

D6.2 PURPOSE AND NEED

As described in Chapter 1 of the EA, IDOT proposes to construct improvements to the existing mainline of the UPRR between Elwood and Braidwood in Will County, Illinois. The proposed build alternatives would construct a second mainline track adjacent to the existing mainline track with an associated maintenance access facility, grade crossing, fencing, culvert, bridge, and signal improvements.

The FRA chose the "tiered" approach to satisfy NEPA requirements for this HSR corridor:

- Tier 1: The first step is a broad, programmatic analysis of the environmental consequences of alternatives documented in a Tier 1 Environmental Impact Statement (EIS). The Tier 1 EIS for this Program was completed in 2012.

- Tier 2: The Tier 1 EIS is followed by more detailed Tier 2 environmental reviews, focused on specific projects and improvements. The proposed Project between Elwood to Braidwood is being covered by this Tier 2 EA and Section 4(f) evaluation.

The purpose of the HSR Program between Chicago and St. Louis, as stated in the 2012 Tier 1 EIS, is to enhance the passenger transportation network in the corridor by improving high-speed passenger-rail service, resulting in a more balanced use of different corridor travel options by diverting trips made by automobile and air to rail.

The needs outlined in the 2012 Tier 1 EIS for the Chicago to St. Louis HSR Corridor Program were as follows:

- Because of inadequate rail capacity and deficiencies in the existing rail infrastructure, there is currently a modal imbalance within the corridor. Rail travel represents only 1.3 percent of the 51 million annual person trips within the Chicago to St. Louis Corridor, while automobile travel comprises 97.5 percent of these trips. The other two modes, air, and bus, comprise only 1.1 percent and 0.2 percent, respectively.

- Between 2007 and 2010, on-time performance for rail passenger service between Chicago and St. Louis ranged from 38 percent to 75 percent.

- The single track between Joliet and St. Louis cannot accommodate existing and projected freight and passenger train traffic, resulting in travel time delays and the inability to increase passenger rail service.

- The new Joliet Intermodal Terminal will double the number of freight trains using the Chicago to St. Louis Corridor from six to 12. The number of freight trains is projected to increase to 22 by the year 2017, which could affect the performance and capacity for high-speed passenger rail.

- From 2007 to 2010, rail passenger ridership between Chicago and St. Louis has increased 34 percent. (Over this same period, ridership on the state-supported trains between Chicago and St. Louis increased by 72 percent.)

- Automobile and bus travel between Chicago and St. Louis is limited primarily to Interstate 55 (I-55). Travel on this one route can often be unreliable because of traffic congestion, weather, roadway construction, and accidents, all of which can substantially increase travel times.

- Automobile travel, which represents 95.5 percent of the trips within the corridor, is the least safe mode of transportation when compared to air, rail, and bus travel. Therefore, there is a need to provide safer alternative modes of transportation along the corridor.

- Although air travel has the shortest travel times and is the safest mode of transportation, additional travel time must be considered for passage through airport security and travel to and from the airport. In addition, air travel is vulnerable to weather conditions, which can result in major delays and cancelled flights. Also, there is currently no direct air service from the central part of the corridor to St. Louis, and air travel provides little service to intermediate destinations.

The purpose of the proposed Project (Tier 2) is to implement the Elwood to Braidwood section of the Chicago to St. Louis HSR Program, as set forth in the 2012 Record of Decision (ROD).

The specific needs of the proposed Project are as follows:

- Improve deteriorating or functionally obsolete components.
- Improve maintenance efficiency. In conjunction with additional train frequency, the project needs to improve maintenance access to reduce maintenance time and maintenance interference with train operations. Regular inspections or repairs require on-track access for the transport of equipment and material. Without maintenance access, maintenance delays result from not getting track time issued by the dispatcher to transport equipment and materials and perform the work. More frequent trains would reduce the available time a dispatcher could allow equipment, materials, and workers on the track without interfering with train operations. More work would have to be done at night to avoid interfering with train operations, which affects worker safety. A suspension of service for on-track equipment originating from Braidwood could

consume as much as 8 hours of track time. During 8 daytime hours, up to five HSR trains could be affected.

- Address the Prairie Creek Bridge at MP 49.52, which is functionally obsolete and past its useful life.
- Discourage pedestrians from crossing the tracks between grade crossings in urbanized areas.
- Address drainage deficiencies along the entire project area.

D6.3 PROJECT ALTERNATIVES

The EA evaluates three alternatives: the No-Build Alternative and two build alternatives, as described below.

D6.3.1 No-Build Alternative

The No-Build Alternative provides a baseline to compare against build alternative impacts. The existing single mainline track would remain under the No-Build Alternative and routine maintenance would continue. The single track does not satisfy all elements of the proposed Project's purpose and need. The No-Build Alternative would not reduce travel times, improve service reliability, increase the frequency of trips, or increase track capacity. The No-Build Alternative would also not contribute to meeting the purpose and need of the Chicago to St. Louis HSR Program of which the proposed Project is a part. The No-Build Alternative would not improve or replace deteriorating or functionally obsolete components, improve maintenance efficiency, or correct existing track drainage problems.

D6.3.2 Build Alternatives

As described in Section 2.3 of the EA, Build Alternative 1B and Build Alternative 2A include the following common elements:

- A second mainline track would be constructed parallel to the existing track.
- The grade of the existing main track would be revised for 0.26 miles.
- A universal crossover would be added at three locations, signal improvements would be provided, a siding and associated turnout would be relocated for 0.55 miles, and an existing industrial siding turnout would be relocated.
- Six at-grade crossings would be revised.
- A new Prairie Creek railroad bridge and a maintenance access facility bridge span west of the Prairie Creek Bridge would be constructed.
- A 10-foot-wide maintenance access facility with associated driveways (connecting to local roads) and turnarounds at endpoints along entire section length would be constructed.

- The maintenance access facility would be used for equipment access during construction and future maintenance to help ensure on-time performance and service outcomes consistent with the HSR corridor. Tubular steel gates would be installed at the entrance to all access facility driveways to prevent trespassing by non-railroad motorized vehicles and discourage trespassing in general.
- Previously abandoned 3,203 feet of track between Wilmington and Braidwood would be removed.
- HSR fencing along both sides of the tracks would be installed where not already provided.
- New or extended culverts would be constructed at 13 locations.

Table D6-1 summarizes the differences between the two build alternatives.

Table D6-1. Design Characteristics of Build Alternatives

Alternative	Build Alternative 1B	Build Alternative 2A
Maintenance Access Facility Details	North of Damien Mills Road (MP 49.91), the maintenance access facility would be constructed on the west side of the existing track. South of Damien Mills Road, the access facility would be constructed on the east side of the existing track.	The maintenance access facility would be east of the existing tracks for the entire length of the section.
Retaining Walls	A retaining wall would be constructed for approximately 1,500 feet on the west side of the proposed maintenance access facility, at MP 48.15. The purpose of the retaining wall is to avoid affecting an existing gas line that parallels the tracks.	A series of retaining walls would be constructed for approximately 18,600 feet on both the west and east sides from MP 46.64 to MP 49.91 to reduce impacts to Section 4(f) properties, industry tracks, and the adjacent highway.
Berms	Two sections of earthen berm would be constructed to avoid and minimize impacts to the parallel NRHP-listed Illinois Route 53 (IL-53) (Alternate Route 66).	No earthen berms would be used.

D6.4 SECTION 4(F) RESOURCES

Five Section 4(f) resources are in the proposed project study area, which includes 500 feet on either side of the existing railroad right-of-way. The boundaries of all five resources are adjacent to the existing UPRR right-of-way. Table D6-2 lists the resources.

Table D6-2. Section 4(f) Affected Properties in Study Area

Section 4(f) Resource	Size	Official With Jurisdiction	Type Of Section 4(f) Property	Anticipated Approval Type
Dale and Frances Archer Memorial Park in Elwood, Illinois (Archer Park)	18 acres	Village of Elwood	Walking path Open/green space Disc golf course (10 holes)	No Use
IL-53 (Alternate Route 66), Wilmington to Joliet	NRHP-listed IL-53 (Alternate Route 66) is 15.9 miles long	SHPO	Historic property listed in the NRHP	1B: *De minimis* 2A: Individual
Abraham Lincoln National Cemetery	982 acres	US Department of Veterans Affairs, National Cemetery Administration SHPO	All national cemeteries are considered eligible for the NRHP as a historic district regardless of age	1B and 2A: *De minimis*
Midewin National Tallgrass Prairie	18,225 acres	US Department of Agriculture, Forest Service	Wildlife refuge Public recreation area	1B: Individual 2A: Individual
Des Plaines State and Fish Wildlife Area	4,950 acres	Illinois Department of Natural Resources, Division of Land Management	Public recreation area	1B and 2A: *De minimis*

These resources and proposed Section 4(f) conclusions are described in more detail below. The assessment of impacts to the properties is discussed in Section D.6.5.

D6.4.1 Dale and Frances Archer Memorial Park (Archer Park)

D6.4.1.1 Location and Size

The park is adjacent to the west side of the UPRR right-of-way and north of Walter Strawn Drive and comprises approximately 18 acres (see Exhibit D6-2).

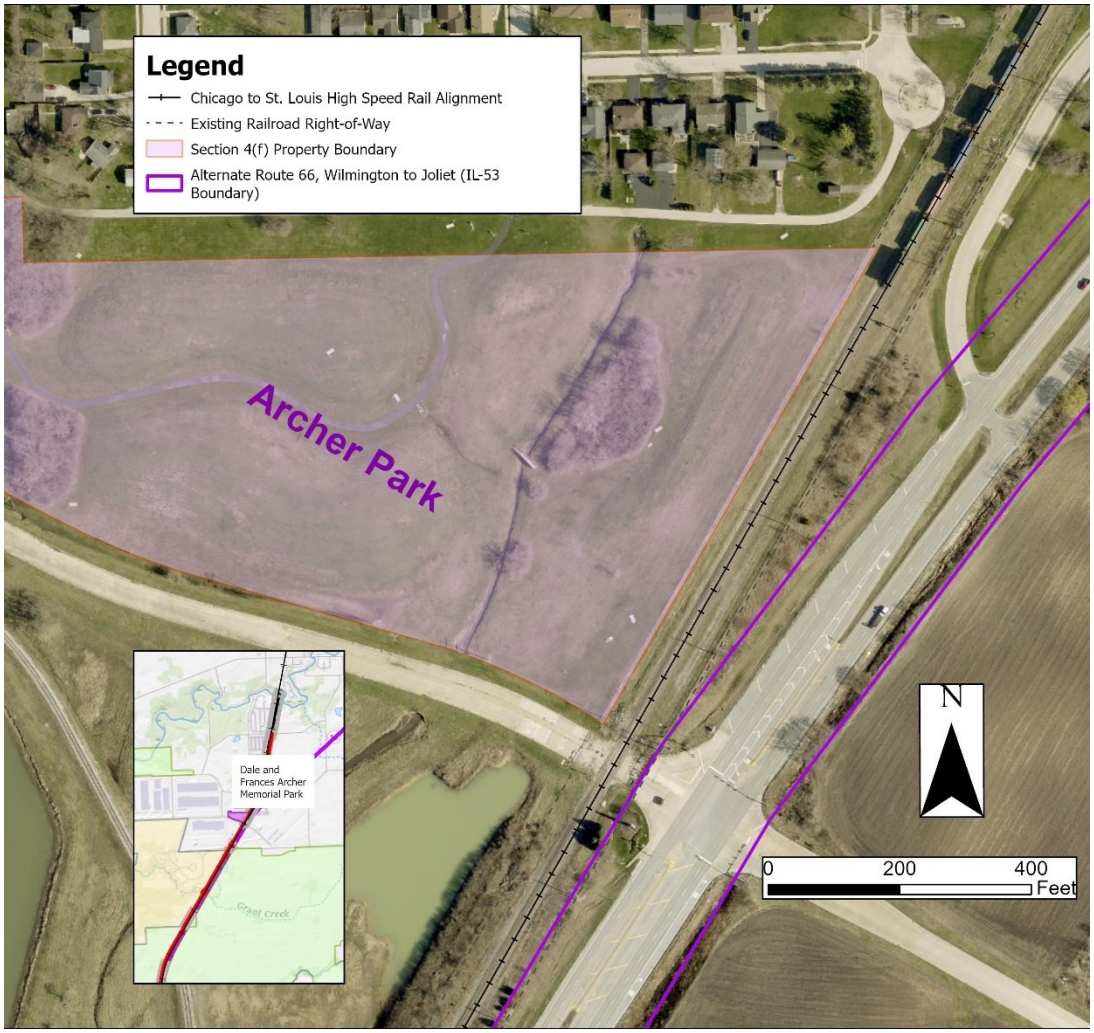
D6.4.1.2 Function(s) of the Property (Intended, Actual, Current, Planned)

Archer Park is a publicly owned park, open to the public, and includes the following amenities.

- Walking path
- Open/green space
- Disc golf course (10 holes)

The walking path and disc golf holes are within 500 feet of the UPRR right-of-way, but no other constructed park facilities are within the project study area.

Exhibit D6-2. Dale and Frances Archer Memorial Park Property Map



D6.4.1.3 Ownership

The Village of Elwood owns Archer Park, which is managed by the Village of Elwood Parks & Recreation Department. The Village of Elwood is the OWJ.

D6.4.1.4 Proposed Section 4(f) Conclusion

No use. The portion of the corridor next to Dale and Frances Archer Memorial Park in Elwood, Illinois was redesigned to avoid any impacts to this park. So, there is no Section 4(f) use of the park.

D6.4.2 IL-53 (Alternate Route 66), Wilmington to Joliet

D6.4.2.1 Location and Size

IL-53 (Alternate Route 66), Wilmington to Joliet (IL-53 on the state highway system) is in Will County. The NRHP-listed section of IL-53 (Alternate Route 66) is 15.9 miles long (see Exhibit D6-2). The IL-53 (Alternate Route 66) NRHP boundaries abut the east side of the UPRR right-of-way for approximately 15,000 feet (2.8 miles) south of Elwood. The NRHP boundary includes the full 15.9-mile length of IL-53 (Alternate Route 66), the roadbed width, and an additional 20 feet on either side of the road to encompass the approaches to culverts and bridges.

D6.4.2.2 Function(s) of the Property (Intended, Actual, Current, Planned)

IL-53 (Alternate Route 66) was listed in the NRHP in March 2006 under Criterion A for its association with early and mid-20th century transportation and economic developments in Illinois, and under Criterion C as an excellent example of early and mid-20th century road engineering as reflected by its 1926 two-lane and 1945 four-lane sections. It is a four-lane divided section of roadway in the proposed project study area between Elwood and Wilmington. In addition to its NRHP-listed status, the Federal Highway Administration (FHWA) designated IL-53 (Alternate Route 66) in 2005 as a National Scenic Byway under the National Scenic Byways Program. This road section originally served as US 66 south of Joliet. Because of the traffic to and from the nearby Kankakee and Elwood ordnance plants during World War II, the 1920s original two-lane highway was widened to a four-lane divided highway between 1942 and 1945. To sustain the wear and tear of wartime traffic, updated construction methods were applied, including application of a special subbase of gravel and stone on top of the older roadbed, and a divided 24-foot-wide roadbed with 10-inch-thick Portland cement slab. This section remained a major transportation artery until the construction of I-55. Aside from a new pavement made of compacted broken stone overlay, much of the road's original 1945 character remains.

D6.4.2.3 Ownership

IDOT owns and maintains IL-53 (Alternate Route 66), but the SHPO is the OWJ.

D6.4.2.4 Proposed Section 4(f) Conclusion

De minimis for 1B and an Individual Use for 2A.

D6.4.3 Abraham Lincoln National Cemetery

D6.4.3.1 Location and Size

The Abraham Lincoln National Cemetery (ALNC) is at 20953 W. Hoff Road in Elwood, Illinois. The cemetery lies in the northwestern area of the former Joliet Army Ammunition Plant, approximately 50 miles south of Chicago (see Exhibit D6-3).

D6.4.3.2 Function(s) of the Property (Intended, Actual, Current, Planned)

The National Cemetery Administration opened and dedicated the cemetery as a national cemetery on October 3, 1999. When fully developed, the cemetery will provide 400,000 burial spaces. The cemetery has a memorial walk that commemorates soldiers of 20th century wars and includes 11 memorials.

During a November 12, 1995 meeting, cemetery officials indicated that the cemetery generally desires a minimum buffer of 200 feet between the graves and the UPRR right-of-way to reduce noise for visitors at the grave sites. As such, the portion of the cemetery within 200 feet of the UPRR is neither used nor planned for use for graves or other cemetery facilities. Cemetery officials also noted that the area parallel to the UPRR is subject to flooding in heavy rainstorms and may not be suitable for grave sites.

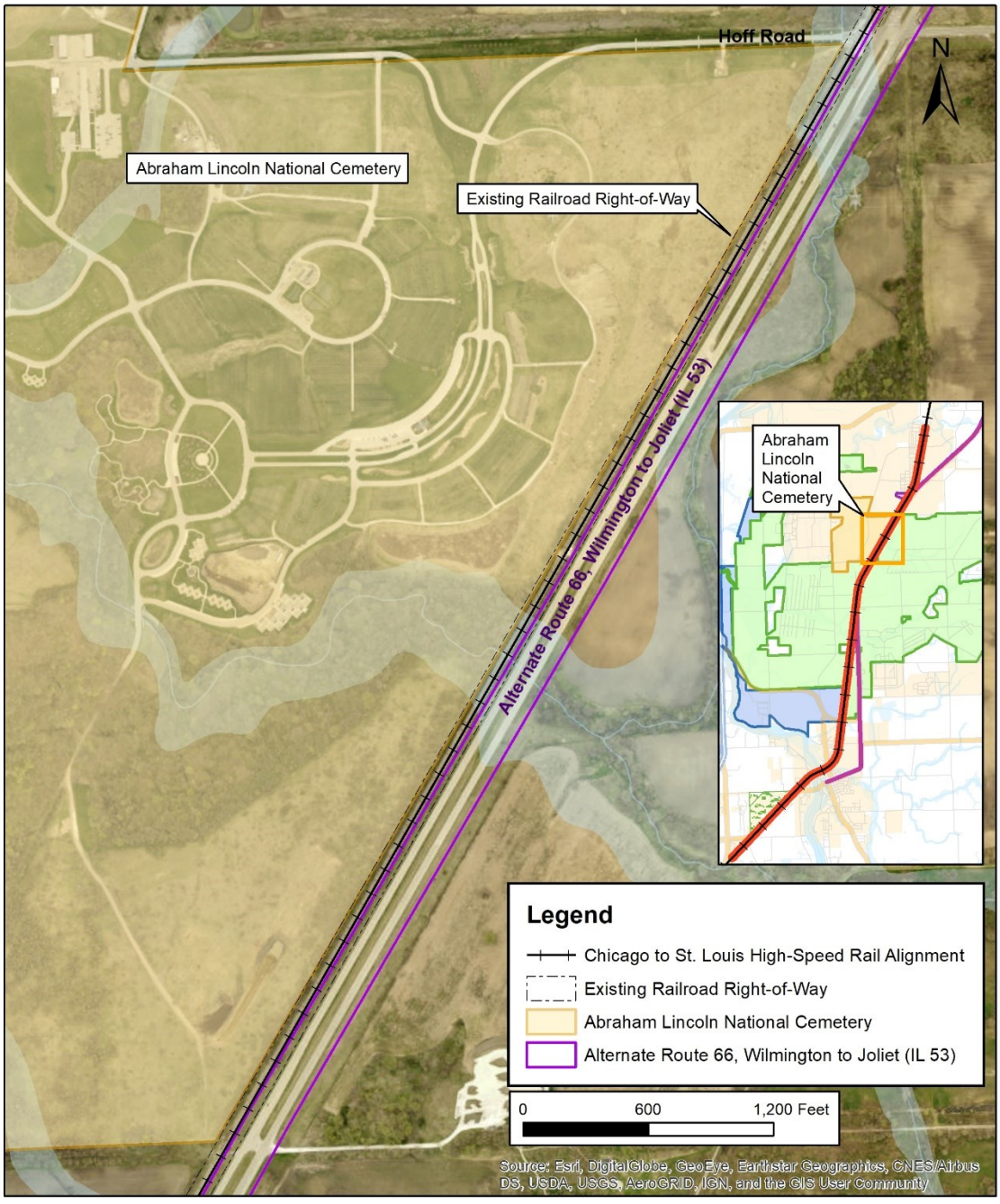
All national cemeteries are considered eligible for the NRHP as a historic district regardless of age. According to the National Cemetery Administration's National Register Eligibility of National Cemeteries – A Clarification of Policy dated September 8, 2011, the overall acreage within the boundaries of the cemetery that has been developed for cemetery purposes is considered one contributing site within the "district" for NRHP purposes. This site includes commemorative sections of the cemetery containing existing graves and memorials, sections having the infrastructure necessary to receive new interments and memorials (e.g., streets, utilities, pre-placed crypts, columbaria, and memorial walkways), and areas of the cemetery developed for administrative and maintenance purposes (offices, restrooms, garages, and maintenance yards).

D6.4.3.3 Ownership

The US Department of Veterans Affairs, National Cemetery Administration owns and operates the cemetery. However, the OWJ is the SHPO.

Proposed Section 4(f) Conclusion *De minimis* for both 1B and 2A.

Exhibit D6-3. Abraham Lincoln National Cemetery Property Map



D6.4.4 Midewin National Tallgrass Prairie

D6.4.4.1 Location and Size

MNTP was established on the former Joliet Arsenal Plant and occupies 18,225 acres (see Exhibit D6-4). The site is the largest contiguous public open space in northeastern Illinois. MNTP is in Will County between Elwood and Wilmington along the UPRR tracks from Hoff Road to River Road.

D6.4.4.2 Function(s) of the Property (Intended, Actual, Current, Planned)

MNTP is a wildlife refuge and a public recreation area. It is also the first national tallgrass prairie in the country. The Illinois Land Conservation Act (Public Law 104-106) enacted February 10, 1996, established MNTP and provides for its management through the National Forest System. The Illinois Land Conservation Act lists four specific management objectives for the MNTP property:

1. To manage the land and water resources of the property in a manner that will conserve and enhance the native populations and habitats of fish, wildlife, and plants.

2. To provide the opportunities for scientific, environmental, and land use education and research.

3. To allow the continuation of agricultural use of land within MNTP for the next 20 years, or for compatible resource management uses thereafter.

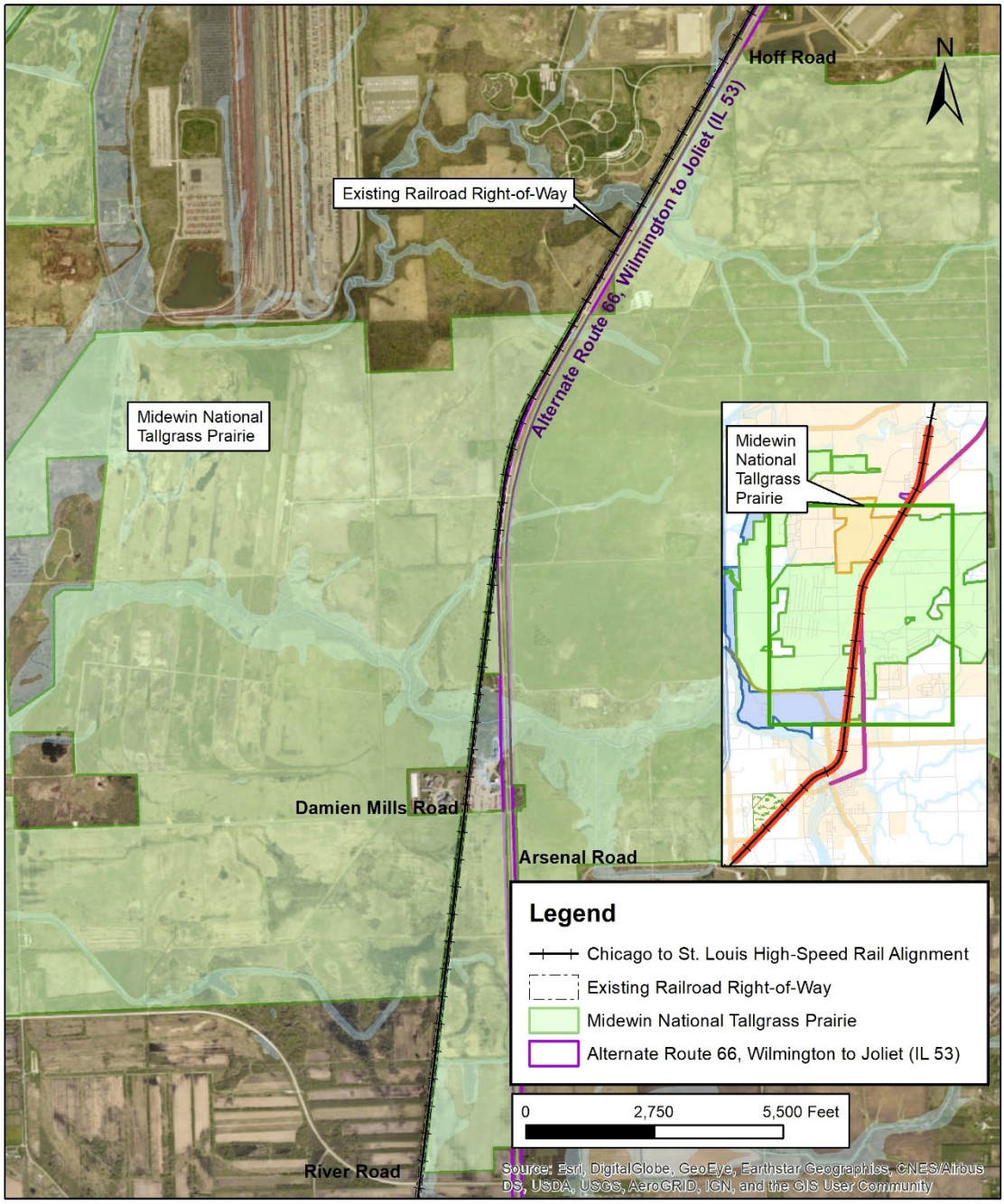
4. To provide for a variety of recreational opportunities that are compatible with the above purposes.

MNTP provides public open space for a variety of recreational uses, including bicycling, hiking, horseback riding, camping, hunting, nature viewing, picnicking, and cross-country skiing. Approximately 9,100 acres and 34 miles of trails are open to the public for a variety of recreational uses. Several public trails are in the public access area west of the UPRR. One public trail crosses the UPRR.

The MNTP Welcome Center is along the east side of IL-53. Tours, walks, rides, programs, children's activities, and lectures are offered at the Welcome Center throughout the year. There are three trailheads. The Iron Bridge Trailhead and Explosives Road trailheads are accessible from IL-53. The River Road Trailhead is accessible from River Road. Henslow Trail crosses the UPRR on the "Iron Bridge," which was part of a rail network that served the former Joliet Arsenal Plant. The Route 53 Trail is along the east side of IL-53. This trail includes the Southwest Bison Overlook where visitors can relax and observe bison.

In accordance with the National Forest Management Act, USFS developed a Land and Resources Management Plan (Prairie Plan) in 2002 in cooperation with the public, non-governmental organizations, and governmental organizations to manage the land provided in the Illinois Land Conservation Act. This plan sets goals, objectives, standards, and guidelines to use when planning projects for implementation. A planned recreational facility is within 0.5 miles east of the UPRR. Its purpose is to connect diverse groups of people with MNTP by providing an outdoor recreation and education experience for visitors.

Exhibit D6-4. Midewin National Tallgrass Prairie Property Map



MNTP lands are open for public access where adjacent to the UPRR right-of-way. No human-made public recreation facilities are located or planned adjacent to the UPRR right-of-way, except the existing Henslow Trail crossing of the UPRR on the Iron Bridge. Visitors can walk or ride horses anywhere on public access lands.

South of Damien Mills Road are the Vulcan tract, Mola tract, and the South Patrol Road area. All three are adjacent to and east of the UPRR right-of-way. The Vulcan tract was transferred to MNTP to be held in perpetuity for wetland restoration and wetland banking. The Mola tract was also acquired for wetland restoration. The South Patrol Road area to the west of Vulcan tract has undergone wetland and prairie restoration for more than 10 years.

D6.4.4.3 Ownership

The US Department of Agriculture, Forest Service (USFS) owns and manages MNTP and serves as the OWJ.

D6.4.4.4 Proposed Section 4(f) Conclusion

Individual Use for both 1B and for 2A.

D6.4.5 Des Plaines State Fish and Wildlife Area

D6.4.5.1 Location and Size

The Des Plaines State Fish and Wildlife Area (DPSFWA) is a 4,950-acre property with approximately 200 acres of water, located off I-55 near Wilmington in western Will County (see Exhibit D6-5). A part of the DPSFWA is immediately west of the UPRR right-of-way at North River Road, north of Wilmington.

D6.4.5.2 Function(s) of the Property (Intended, Actual, Current, Planned)

The DPSFWA is a public recreation area. In addition to habitat conservation, recreational activities include fishing, camping, boating, hunting, dog training, hand trapping and shooting, and picnicking. Open water and ice fishing are available at Milliken Lake and in the Kankakee River. A campground is open seasonally from approximately mid-April to mid-October. Public boat launches are available on the Kankakee River seasonally but are closed from fall to spring during pheasant hunting season. A 12-mile equestrian trail is open seasonally. Approximately 80 acres of the DPSFWA is designated as a nature preserve that contains prairie remnants. According to the Illinois Department of Natural Resources (IDNR) website, more than 350,000 people visit the DPSFWA annually.

The site also includes the Des Plaines Dolomite Prairie, which is listed as an Illinois Natural Inventory Area site. This prairie is on the west side of I-55 within the DPSFWA and is not in the proposed project study area. The Des Plaines Game Propagation Center is west of County Highway 44/River Road along the Kankakee River. Activities at the site include archery, deer hunting, and furbearer trapping. The site is open year-round except for major holidays.

Specifically, along the UPRR right-of-way, the DPSFWA includes agricultural land and a wooded fence row between the agricultural land and UPRR tracks. The area adjacent to the UPRR is designated for "Deer Archery," a recreational activity. Deer archery hunting is allowed at the DPSFWA during archery deer hunting season. Developed recreational areas and the

nature preserve are at River Road and Boathouse Road, near Milliken Lake, and to the west of I-55 and are not in the proposed project study area.

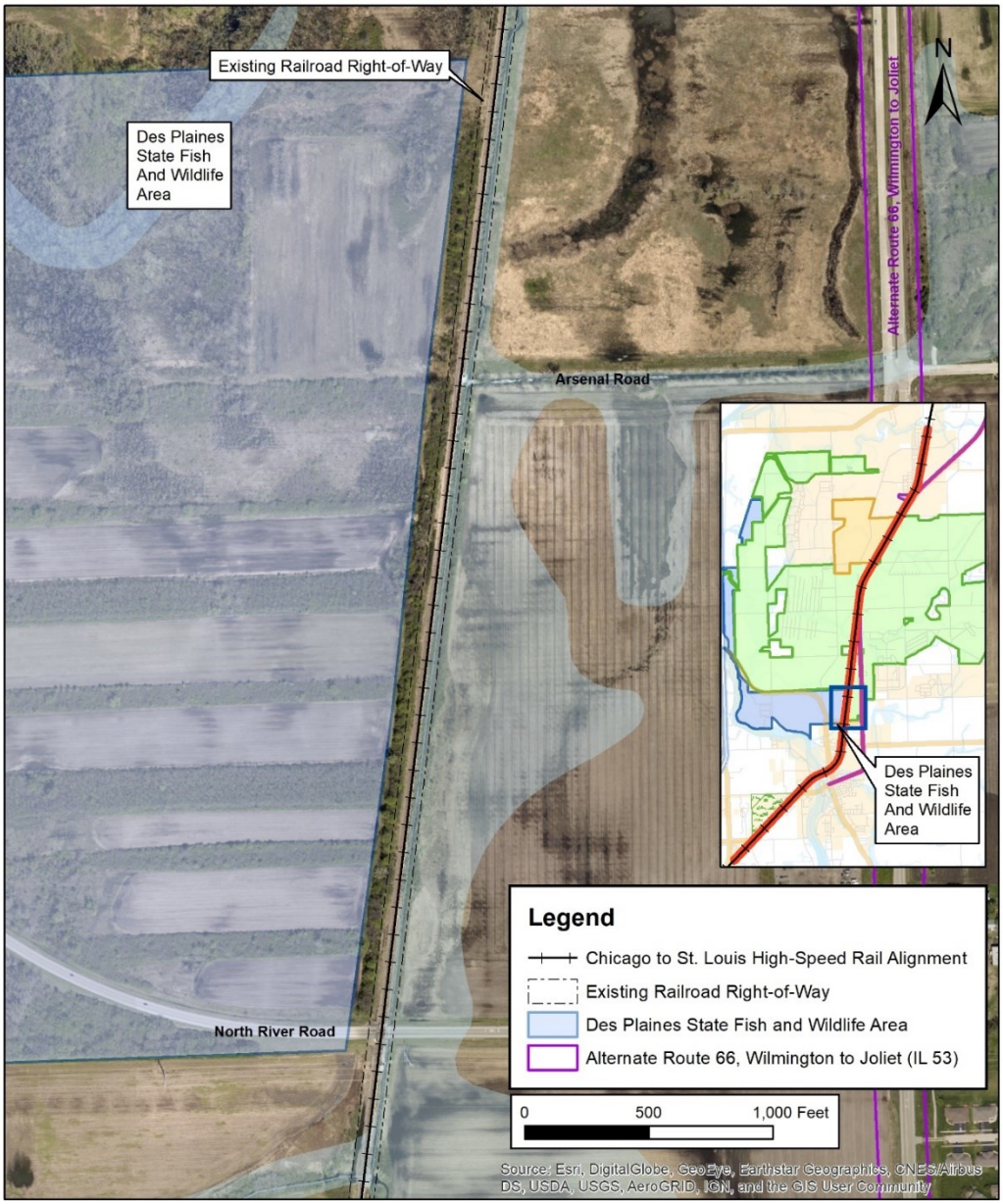
D6.4.5.3 Ownership

The IDNR, Division of Land Management owns and manages the DPSFWA and serves as the OWJ.

D6.4.5.4 Proposed Section 4(f) Conclusion

De minimis for both 1B and 2A.

Exhibit D6-5. Des Plaines State Fish and Wildlife Area Property Map



D6.5 ASSESSMENT OF POTENTIAL SECTION 4(F) USE

The following sections describe potential uses—both permanent and temporary—of the Section 4(f) resources with Build Alternative 1B and Build Alternative 2A.

D6.5.1 IL-53 (Alternate Route 66), Wilmington to Joliet

Build Alternative 1B and Build Alternative 2A propose different improvements in the vicinity of IL-53 (Alternate Route 66) and different uses of the Section 4(f) resource as described below.

D6.5.1.1 Build Alternative 1B

Build Alternative 1B consists of four easements for grading, or sloping the land, within the IL-53 right-of-way. The area of impact to the Section 4(f) resource would be 0.6 acres and would be entirely within the NRHP boundary of IL-53 (Alternate Route 66).

Build Alternative 1B would entail three temporary grading easements, which are required when changing the level of the roadway surface. Within these easements, regrading would occur in association with three drainage culvert improvements. These culverts are needed to ensure proper drainage for excess water runoff in the vicinity of the railroad right-of-way. The culverts would remain in the UPRR right-of-way and would not result in a permanent use of land within the NRHP boundary of IL53 (Alternate Route 66). However, the regrading would result in physical occupancy of the IL53 right-of-way within the NRHP boundary. The physical occupancy of IL53 right-of-way would be required during construction for creating ditches, stable slopes, or other physical changes to the right-of-way and would therefore result in a temporary use of IL53 (Alternate Route 66).

Build Alternative 1B would also require a fourth grading easement for the construction of a gravel-surface and asphalt driveway leading from IL-53 to the location where a proposed railroad maintenance access facility would be built. IDOT owns the IL-53 right-of-way, including the area within the NRHP boundary, and that ownership would not change. IDOT and UPRR have worked to minimize impacts to the IL-53 (Alternate Route 66) right-of-way, resulting in a temporary grading easement for the railroad to build access to the proposed maintenance access facility. The driveway would be just north of Hoff Road where the proposed maintenance access facility would shift from the west side of the UPRR to the east side. A driveway on Hoff Road and within the UPRR right-of-way would be too close to the Hoff Road and IL-53 intersection to be safe. Thus, a driveway is proposed off IL-53. The driveway would not disturb the existing pavement or configuration of IL-53; however, it would result in the use of IL-53 (Alternate Route 66). The temporary grading easement is the permit to build access to the proposed maintenance access facility and does not require permanent use of IL-53 (Alternate Route 66).

A finding of No Adverse Effect under Section 106 for Build Alternative 1B was made by FRA and concurred upon by the SHPO on April 17, 2020, for the impacts described. **If Build Alternative 1B is selected, FRA would likely make a finding of Section 4(f) *de minimis* for the minor Section 4(f) use of IL-53 (Alternate Route 66).**

D6.5.1.2 Build Alternative 2A

Build Alternative 2A includes retaining walls in multiple locations along the section. These retaining walls would reduce physical impacts to MNTP, IL-53 (Alternate Route 66), and private industries. Build Alternative 2A would also require a grading easement, like Build Alternative 1B. A grading permit would be required for grading of sections, constructing guardrails or retaining walls, or culvert work along the entire NRHP boundary of IL-53 (Alternate Route 66) where it abuts the UPRR right-of-way for approximately 11,040 feet. This alternative would require 8.0 acres of the IL-53 (Alternate Route 66) right-of-way for a temporary grading permit to construct the required guardrail, widen the paved shoulder by approximately 4 feet (depending on location), and add a proposed driveway connecting to the nearby proposed maintenance access facility.

A Section 106 finding of visual Adverse Effect for Build Alternative 2A was made by FRA and concurred by the SHPO on April 17, 2020. The cut and/or fill locations along the railroad alignment, including the retaining walls, would diminish the setting, feeling, and association important to the historic significance of IL-53 (Alternate Route 66), resulting in an adverse effect to the historic property. **If Build Alternative 2A is selected, FRA would likely evaluate the use of IL-53 (Alternate Route 66) with an individual 4(f) evaluation.**

D6.5.2 Abraham Lincoln National Cemetery

The build alternatives include a 40- to 50-foot-wide temporary construction easement for the full length of the Abraham Lincoln National Cemetery property along the UPRR right-of-way (6,120 feet). Lands within this easement would be graded, primarily to provide a parallel drainage ditch and a 2:1 mostly cut slope. The easements would be revegetated after construction is complete. The ditch and the culverts would reduce the flooding that occurs in this area. Build Alternative 1B and Build Alternative 2A impacts to the Abraham Lincoln National Cemetery property are described below. If Build Alternatives 1B or 2A are selected, FRA would likely make a finding of Section 4(f) *de minimis* for the minor Section 4(f) use of Abraham Lincoln National Cemetery.

D6.5.2.1 Build Alternative 1B

A total of 6.1 acres of temporary construction easement would be required. Additionally, Build Alternative 1B would include 0.5 acres of permanent easement for proposed work at culverts to maintain proper drainage systems.

At a meeting held on November 12, 2015, cemetery officials said that the proposed temporary and permanent easements were not likely an adverse impact on the NRHP-eligible historic district. Their primary concerns with the proposed Project are noise impacts and the potential for changes in traffic signal timing at Hoff Road and IL-53 to cut off funeral processions. Neither of these impacts is associated with the planned construction easements. The OWJ for historic properties, like this one, is the Illinois SHPO.

The introduction of eight additional passenger trains a day passing by the cemetery on the UPRR track would not result in a constructive use of the cemetery. A constructive use occurs when the proximity impacts of a project adjacent or near a Section 4(f) property, after incorporation of impact mitigation, are so severe that the activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished. As a general matter, this means that the value of the resource, in terms of its Section 4(f) purpose and significance, will be meaningfully reduced or lost. Proximity impacts, such train noise and additional crossing gate closures at the cemetery entrance, are assessed in the EA and would not result in substantial impairment of Abraham Lincoln National Cemetery.

D6.5.2.2 Build Alternative 2A

A total of 3.6 acres of temporary construction easement would be required. Additionally, Build Alternative 1B would include 0.3 acres of permanent easement for proposed work at culverts to maintain proper drainage systems.

At a meeting held on November 12, 2015, cemetery officials said that the proposed temporary and permanent easements were not likely an adverse impact on the NRHP-eligible historic district. Their primary concerns with the proposed Project are noise impacts and the potential for changes in traffic signal timing at Hoff Road and IL-53 to cut off funeral processions. Neither of these impacts is associated with the planned construction easements. The OWJ for this property is the Illinois SHPO.

The introduction of eight additional passenger trains a day passing by the cemetery on the UPRR track would not result in a constructive use of the cemetery. Proximity impacts, such train noise and additional crossing gate closures at the cemetery entrance, are assessed in the EA and would not result in substantial impairment of Abraham Lincoln National Cemetery.

D6.5.3 Midewin National Tallgrass Prairie

Both build alternatives would include a 10- to 65-foot-wide addition to the UPRR right-of-way and/or easement for much of the length of MNTP generally along the west side of the UPRR right-of-way (11,030 feet) with intermittent easements on the east side of the UPRR right-of-way for culverts. New right-of-way would be required for maintenance access facility turnarounds,

new fill slopes, and drainage ditches outside the existing UPRR right-of-way. The proposed maintenance access facility would terminate at the West Side Trail Iron Bridge with turnarounds on both sides to avoid impacts to the bridge structure. Temporary construction easement is assumed for new cut slopes that would extend outside the existing UPRR right-of-way and at culvert headwalls. For Build Alternative 1B, the design shows 6.0 acres of new right-of-way or permanent easement and 3.5 acres of temporary easement within MNTP. Build Alternative 2A shows no new right-of-way or permanent easement and 6.1 acres of temporary easement within MNTP.

Within the new permanent easement, the build alternatives include a drainage culvert that would extend the wayside ditch under the maintenance access facility turnarounds and the West Side Trail. Construction of the culvert under the trail could be accomplished using jack and bore methods without closing the trail to MNTP users.

Lands used by new proposed UPRR right-of-way or easements are open for public access. No public recreation facilities are located or planned adjacent to the UPRR right-of-way except the existing West Side Trail crossing of the UPRR on Iron Bridge. However, visitors can walk or ride horses anywhere on public access lands, including up to the edge of the existing UPRR right-of-way and on the lands used by new proposed UPRR right-of-way or easements.

Exhibit D6-6 and Exhibit D6-7 show what the existing and proposed track with the build alternatives through MNTP would look like looking south from Damien Mills Road (MP 49.91) in MNTP. In this location, the proposed track would be placed to the west of the existing track, and the maintenance access facility would be to the east. The new track would be at the same elevation as the existing track. MNTP is on both sides of the UPRR right-of-way in this view. On the right (west) is the South Patrol Road area wetland and prairie restoration area. On the left (east) is the Mola tract used for wetlands restoration.

Lands affected by construction would be revegetated after construction is complete. In the temporary construction easements, prairie grasses or other vegetation specified by USFS would be used to conform with MNTP's Prairie Plan.

The habitat allocation map for MNTP's final EIS (FEIS) for its Prairie Plan 2002 shows the land along the UPRR allocated as a combination of upland prairie restoration, wetland prairie sedge meadow restoration, and savanna restoration. This plan was not changed in the 2008 Prairie Plan Amendment. Existing conditions along the UPRR right-of-way are shown in the MNTP FEIS as primarily grazing land with some woody vegetation.

In specific areas, improvements in the vicinity of MNTP for Build Alternative 1B and Build Alternative 2A would be different, as described below.

D6.5.3.1 Build Alternative 1B

Build Alternative 1B would include a 10- to 65-foot-wide addition to the UPRR right-of-way and/or easement for much of the length of MNTP, located generally along the west side of the UPRR right-of-way (11,030 feet) with intermittent easements on the east side of the UPRR right-of-way for culverts. New right-of-way would be required for maintenance access facility turnarounds, new fill slopes, and drainage ditches outside the existing UPRR right-of-way.

Build Alternative 1B would include 10 feet of additional right-of-way within the South Patrol Road area, on the west, beginning about 310 feet south of Damien Mills Road and extending for 950 feet (approximately 0.23 acres), of which 730 feet is wetland (approximately 0.17 acres). Both the Mola tract and the Vulcan tract are on the east side of the UPRR. A mitigation bank currently exists in the vicinity of the Mola and Vulcan tracts, although the project team was unable to obtain the exact boundaries. No new permanent easement or right-of-way would be required from either of these tracts.

In summary, Build Alternative 1B would require 6.0 acres of permanent easement or right-of-way and 3.5 acres of temporary easements from MNTP. The permanent incorporation of 6.0 acres of MNTP requires an avoidance alternatives evaluation and least overall harm analysis. **If Build Alternative 1B is selected, FRA would evaluate the use of MNTP with an individual Section 4(f) evaluation.**

Exhibit D6-6. Existing Track Configuration at Damien Mills Road (MP 49.91) looking South in Midewin National Tallgrass Prairie

Exhibit D6-7. Proposed Track Configuration at Damien Mills Road (MP 49.91) looking South in Midewin National Tallgrass Prairie

D6.5.3.2 Build Alternative 2A

Build Alternative 2A would not require any permanent use of MNTP lands. Build Alternative 2A would include retaining walls in multiple locations along the section. These retaining walls would reduce physical impacts to MNTP, IL-53 (Alternate Route 66), and private industries.

Build Alternative 2A would require no permanent easement or right-of-way but would require 6.1 acres of temporary easement from MNTP. The use of MNTP under Build Alternative 2A would be temporary but extended and would include restoring temporarily affected lands. **If Build Alternative 2A is selected, FRA would evaluate use of MNTP with an individual Section 4(f) evaluation.** Given the length of construction for Alternative 2A is in the range of 2 years, FRA would not apply the temporary occupancy exception.

D6.5.4 Des Plaines State Fish and Wildlife Area

The build alternatives include a 10-foot-wide temporary construction easement for the full length of the DPSFWA along the UPRR right-of-way (3,800 feet). The total area used for both build alternatives would be 0.9 acres. The build alternatives would require no permanent easement or right-of-way within the DPSFWA. The temporary easement would be primarily used for the operation of construction equipment because the slope stake line (edge of grading of new slopes) would be on the UPRR right-of-way boundary or close to it, thereby preventing construction equipment from operating within the right-of-way. Construction equipment operations would need to occur adjacent to, rather than within, the area where the slope stake line would be or near the UPRR right-of-way boundary. For approximately 250 feet, the slope stake line would extend beyond the UPRR right-of-way and result in a permanent physical change in the grade of the adjacent DPSFWA lands. DPSFWA land adjacent to the UPRR right-of-way is part of a larger area designated for Deer Archery. The temporary use of the DPSFWA would permanently affect neither archery hunting nor the deer population.

Meetings with IDNR officials were held on November 23, 2015, and March 1, 2024. Officials indicated that there are no development plans adjacent to the tracks within the DPSFWA. IDNR completed its early planning Comprehensive Environmental Review Process (CERP) for the proposed Project to give a preview of the design considerations and information that IDNR will require when it reviews the design that is eventually advanced. The restrictions included in the CERP (see Appendix F of the EA) would be included as part of the proposed Project. FRA made a finding of Section 4(f) *de minimis* for the minor Section 4(f) of the DPSFWA associated with both build alternatives. IDNR concurred with that finding on November 11, 2024 (see Appendix F of the EA).

D6.5.5 Summary of Potential Section 4(f) Use

Table D6-3 summarizes the Section 4(f) properties discussed above and the types of Section 4(f) use and anticipated Section 4(f) approvals for each.

Table D6-3: Section 4(f) Use for Each Resource by Project Alternative

Section 4(f) Property	Project Alternative	Type Of Section 4(f) Use		Proposed 4(f) Finding
		Permanent Use (Acres)	Temporary Use (Acres)	
Dale and Frances Archer Memorial Park	1B	0	0	*No Use*
	2A	0	0	*No Use*
IL 53 (Alternate Route 66), Wilmington to Joliet	1B	0	0.6	*De minimis*
	2A	0	8.0*	Individual
Abraham Lincoln National Cemetery	1B	0.5	6.1	*De minimis*
	2A	0.3	3.6	*De minimis*
Midewin National Tallgrass Prairie	1B	6.0*	3.5	Individual
	2A	0	6.1*	Individual
Des Plaines State Fish and Wildlife Area	1B	0	0.9	*De minimis*
	2A	0	0.9	*De minimis*

Note: The temporary use of 8.0 acres of Route 66, permanent incorporation of 6.0 acres of MNTP, and temporary use of 6.1 acres of MNTP require an avoidance alternatives evaluation and least overall harm analysis.

D6.6 AVOIDANCE ALTERNATIVES ANALYSIS

Since neither of the build alternatives would avoid all Section 4(f) resources, an assessment of potential avoidance alternatives is required. This section (1) identifies potential alternatives to the build alternatives that would avoid use of any Section 4(f) resources; and (2) assesses whether these avoidance alternatives are feasible and prudent. Under Section 4(f), a feasible and prudent avoidance alternative is an alternative that would not require the use of any Section 4(f) resources and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) resource (23 CFR § 774.17). The factors used to evaluate feasibility and prudence are described in Section D6.1.1.

During early coordination efforts with USFS, officials expressed specific concerns about the build alternatives' impacts on the property. Based on these concerns and suggestions from USFS officials at the scoping meeting on April 16, 2015, the project team began exploring additional avoidance alternatives, which included:

- Single track only
- Place second track on the east side of existing track

- Center the tracks in the existing right-of-way
- Relocate maintenance access facility
- Drainage facilities and reduced track centers from the standard 20 feet
- Other alternatives identified during scoping

D6.6.1 Avoidance Alternatives Considered

Avoidance alternatives are those that entirely avoid the use of Section 4(f) properties. A key requirement of Section 4(f) compliance is an attempt to show whether a property can be completely avoided while meeting the transportation need. When the alternatives under consideration use land from one or more Section 4(f) properties, alternatives that avoid each of the properties must be evaluated. A Section 4(f) evaluation must demonstrate that avoidance alternatives to the project under consideration have been evaluated. Specifically, the evaluation must include a discussion that will ultimately support a determination of whether an avoidance alternative is feasible and prudent in the final evaluation. Avoidance alternatives that are eliminated from detailed study should be discussed in the Section 4(f) Evaluation with a clear explanation of why they are not feasible and prudent. If an avoidance alternative is determined to be feasible and prudent, it must be selected.

The regulations 23 CFR § 774.17 set out factors to consider in determining whether an avoidance alternative is feasible and prudent.

- An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.
- An alternative is not prudent if:
  - It compromises the project to a degree that it is unreasonable to proceed with the project considering its stated purposed and need;
  - It results in unacceptable safety or operational problems;
  - After reasonable mitigation, it still causes:
    - Severe social, economic, or environmental impacts;
    - Severe disruption to established communities;
    - Severe disproportionate impacts to minority or low-income populations; or
    - Severe impacts to environmental resources protected under other Federal statutes;
  - It results in additional construction, maintenance, or operational cost of an extraordinary magnitude;
  - It causes other unique problems or unusual factors; or

– It involves multiple factors listed above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Four categories of avoidance alternatives are considered in this section:

- No-Build Alternative – Assumes that no changes are made to the area between Elwood and Braidwood. The existing single track will remain.
- Single-Track Alternatives – Use the existing single track between Elwood and Wilmington, where the five Section 4(f) resources described in Section D6.4 are located, and double track elsewhere. Several cultural and natural resources are between Elwood and Wilmington, of which the MNTP makes up 60 percent of neighboring property.
- Double-Track Alternatives –Use double track between Elwood and Wilmington where the five Section 4(f) resources are located. These alternatives were all developed to evaluate if moving the track and access facility could reduce or eliminate impacts to either MNTP or Historic Route 66. The six alternatives were named 1A, 2B, 3A, 3B, 4A, and 4B. All the alternatives were the same except for the area beginning just south of the DPSFWA just north of Forked Creek and ending north of Archer Park just north of Mississippi Street in Elwood
- Alternate Rail Corridors – This alternative would move the passenger rail trains to an entirely new corridor.

D6.6.2 No-Build Alternative

The No-Build Alternative would avoid all impacts to and use of Section 4(f) resources. Under this alternative, routine maintenance would occur, but there would be no changes to the existing rail infrastructure that would affect operations or increase capacity along the corridor.

The No-Build Alternative would avoid impacts to Section 4(f) resources but would not be reasonable to proceed with because it does not meet the Project's stated purpose and need in the 2012 ROD. Specifically, the No-Build alternative would not meet the following need points from that ROD:

- Improve current modal imbalance within the corridor.
- Improve on-time performance for rail, which ranges from 38 percent to 75 percent.
- Accommodate existing and projected freight and passenger train traffic.

With the No-Build Alternative, the entire study area would remain single track. The aging Prairie Creek Bridge would not be replaced, access for maintenance along UPRR right-of-way would not be improved, and drainage would not be improved from MP 47.80 to MP 48.80. As a result, the existing delays along the corridor would not improve under the No-Build Alternative, resulting in operational problems that compromise the proposed Project to a degree

that it is unreasonable to proceed. The No-Build Alternative would not provide the necessary improvements to serve existing and future rail traffic along the corridor and does not meet the purpose and need of the proposed Project. The No-Build Alternative is not a prudent avoidance alternative because it would compromise the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need.

D6.6.3 Single-Track Alternative

The Single-Track Alternative would use double tracking throughout the proposed Project corridor, except where Section 4(f) resources are present to avoid any use or impacts for 5.8 miles from approximately MP 46 (in Elwood) to approximately MP 52 (in Wilmington). The proposed improvements would avoid all Section 4(f) resources inventoried within the proposed project study area.

The Single-Track Alternative did not make it past the alternative screening process in the 2012 FEIS because it would not reduce the travel time or improve service reliability (as detailed in Appendix C of the EA). The Single-Track Alternative was dismissed from both the 2012 FEIS and this evaluation for the following reasons:

- It would make meeting the 85 percent on-time performance goal (no more than 15 percent of trains not meeting the schedule) unlikely.
- It would make meeting the goal of an average of no more than 10 minutes of delay per calendar quarter unlikely.
- Lengthening the planned travel time from Chicago to St. Louis would substantially reduce the travel time cost-effectiveness of the double-track program and reduce the effectiveness of the program in increasing passenger rail's share of Chicago to St. Louis travel.

For these reasons, the Single-Track Alternative is not a prudent avoidance alternative because it compromises the proposed Project to a degree that it is unreasonable to proceed in light of the proposed project's stated purpose and need.

D6.6.4 Double-Track Alternatives

The purpose of evaluating the Double Track Alternatives is twofold. First, to identify if there is a feasible and prudent alternative that would avoid all Section 4(f) properties; and second, to determine if there is a feasible and prudent alternative that would avoid impacts to MNTP specifically, even if remaining Section 4(f) properties are impacted. As described in this section, there are no feasible and prudent Double Track Alternatives that avoid all Section 4(f) properties, nor are there feasible and prudent Double Track Alternatives that avoid MNTP specifically. The subsections below evaluate eight Standard Configuration Double-Track Alternatives, and four Non-Standard Configuration Alternatives.

The Standard Configuration Double-Track Alternatives consist of a double track with varying locations for primary features including the following:

- Location of the second track in relation to the existing track, which would remain in the center of the UPRR right-of-way and in its existing location.
- Location of the maintenance access facility in relation to the existing track, which would remain in the center of the UPRR right-of-way.
- Use of retaining walls or landscaped slopes.

Iterations of these three features resulted in eight Standard Configuration Double-Track Alternatives. These alternatives were all developed to evaluate if moving the track and access facility could reduce or eliminate impacts to either MNTP or Historic Route 66. USFS suggested many of these alternatives and design options to potentially minimize impacts to MNTP. The eight alternatives were named 1A, 1B, 2A, 2B, 3A, 3B, 4A, and 4B. All eight alternatives are the same except for the area beginning just south of the DPSFWA just north of Forked Creek and ending north of Archer Park just north of Mississippi Street in Elwood. These points were selected because the UPRR track is on a curve at these points, and a curve is the preferred location for transitioning a second track from one side of existing track to the other. Safety considerations advise against introducing transition curves into tangent (straight) track.

Alternatives 1B and 2A, as the build alternatives carried forward, are discussed in Section D6.8; the remaining six alternatives are discussed in this section. The main differences between the six alternatives are described below and shown in Table D6-10:

- Alternatives 1, 2, 3, and 4 would place the maintenance access facility in the UPRR right-of-way.
- The alternatives with an "A" in the name would construct retaining walls to avoid or minimize impacts to MNTP. The alternatives with a "B" in the name are identical to their "A" counterparts but would not construct retaining walls at MNTP.
- Two of the alternatives would place the second track to the west of the existing track (Alternatives 1A and 2B) and four would place the second track to the east of the existing track (Alternatives 3A, 3B, 4A, and 4B).

With Alternatives 2B, 3A, 3B, 4A, and 4B, additional retaining walls would be used to minimize impacts to IL-53 (Alternate Route 66). These walls are not needed for Alternatives 1A and 1B because these alternatives would not affect IL-53 (Alternate Route 66).

Alternative 1A

Alternative 1A would include the second track and maintenance access facility as described in Table D6-4 and would add retaining walls along UPRR's border within MNTP to reduce impacts to MNTP relative to 1B, as shown in Exhibit D6-8.

Potential Impacts to Section 4(f) Resources. Alternative 1A would use MNTP lands immediately west of the UPRR right-of-way, and therefore Alternative 1A is not a feasible and prudent avoidance alternative. No public recreation facilities are located or planned in these lands, except the West Side Trail crossing of the UPRR. In public access lands, however, visitors can walk or ride horses anywhere on those lands even when there are no trails.

The acreage impacts associated with Alternative 1A are shown in Table D6-4. The overall acreage impacts (temporary plus permanent) to all Section 4(f) resources is the lowest out of the eight alternatives. However, compared to Alternative 1B, Alternative 1A would involve construction of an costly and obtrusive retaining wall along MNTP. Compared to Alternative 2B, Alternative 1A would have a greater permanent incorporation of MNTP property.

Exhibit D6-8. Alternative 1A

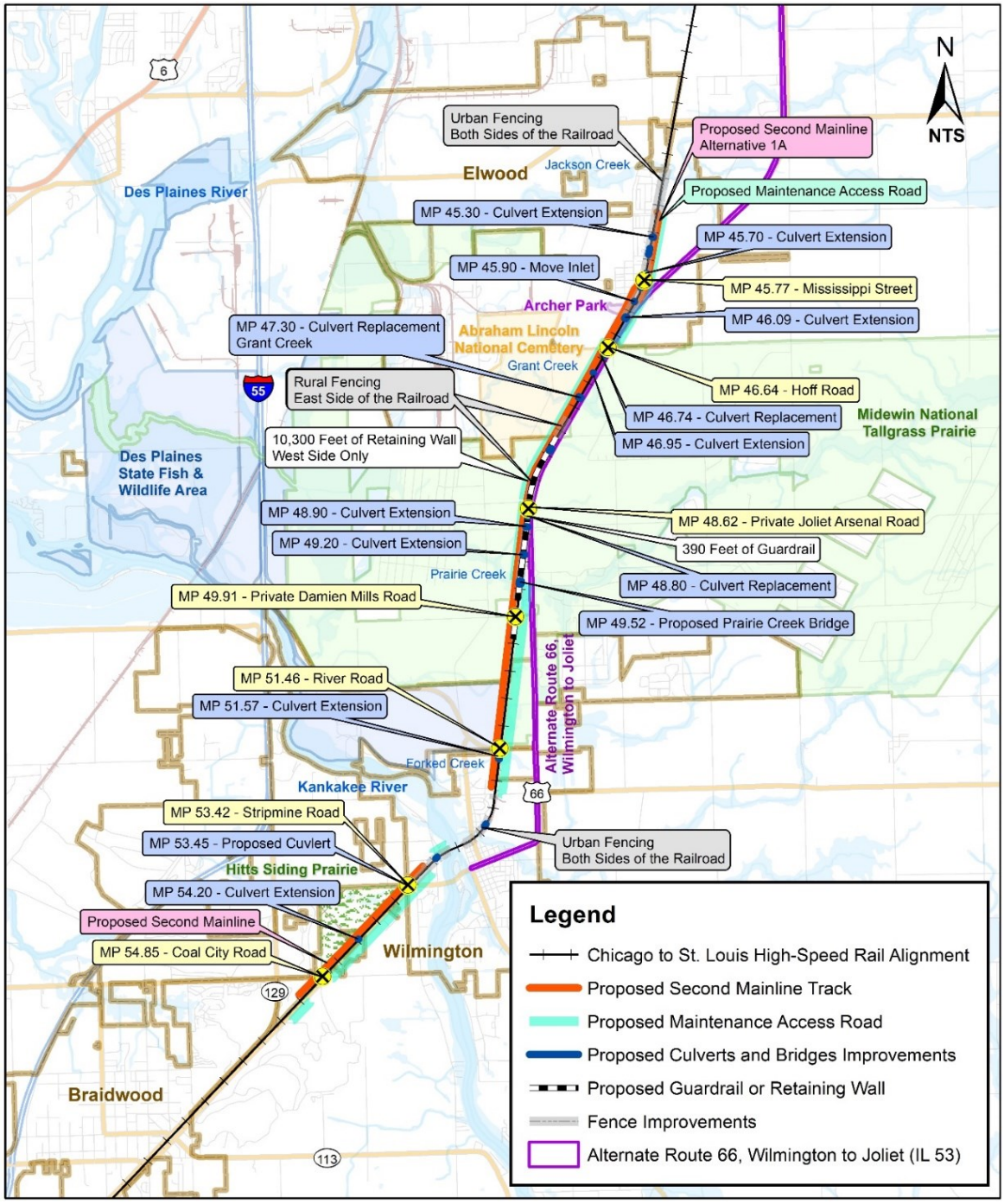


Table D6-4. Alternative 1A Potential Section 4(f) Use

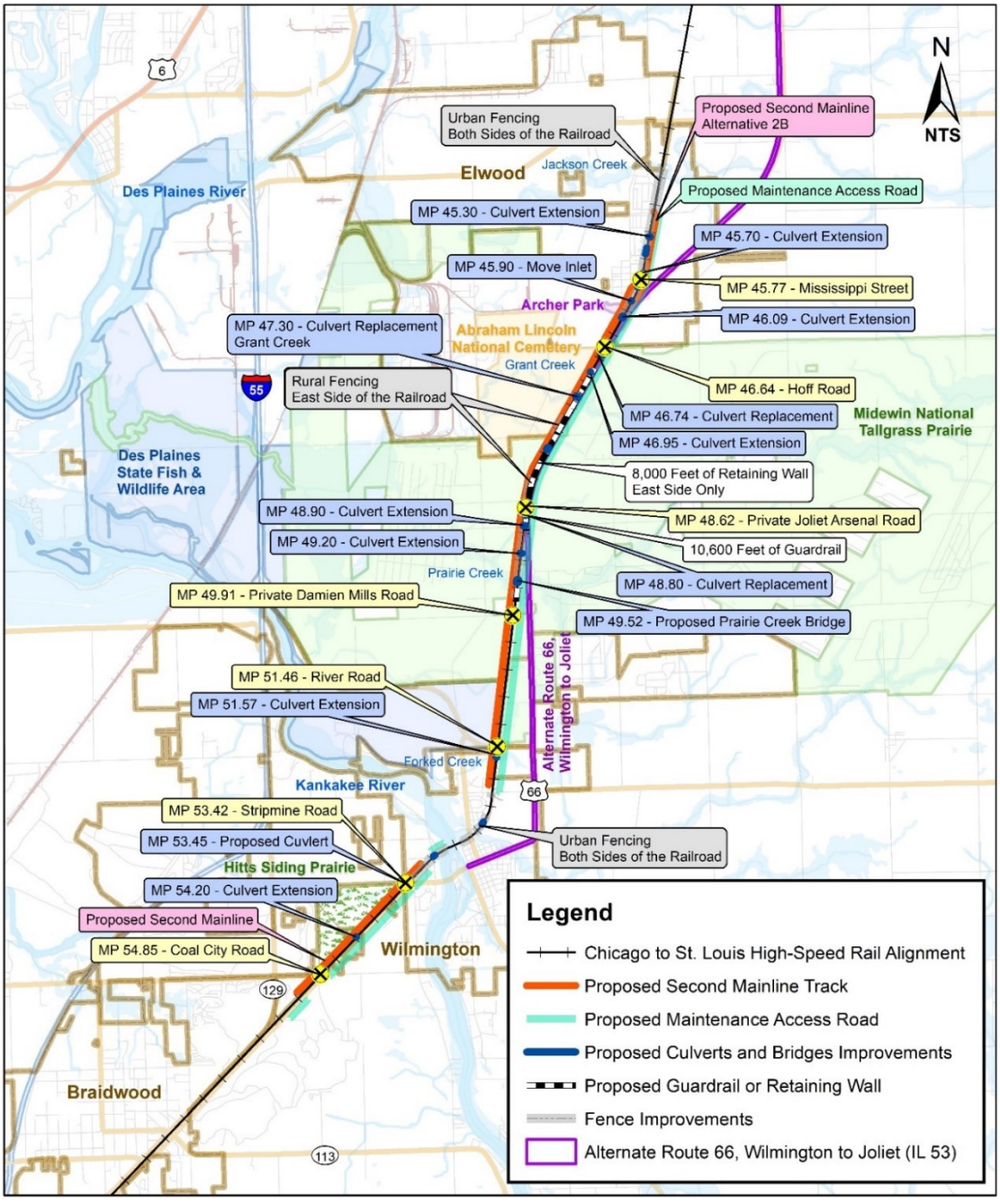
	1A Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	0.6
Temporary Easement (acres)	
MNTP	2.7
DPSFWA	0.9
TOTAL TEMPORARY	3.6
Permanent Easement or New Right-of-Way (acres)	
Archer Park	0
MNTP	4.0
DPSFWA	0.0
TOTAL PERMANENT	4.0
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	8.2

Potential Impacts to Section 4(f) Resources. Alternative 2A is the Build Alternative 2A evaluated in the EA. Additional analysis of Build Alternative 1B is discussed in Section D6.8.

Alternative 2B

Alternative 2B would eliminate the retaining walls along the west (MNTP) side of the UPRR right-of-way associated with Alternative 2A and replacing them with cut-and-fill slopes.

Exhibit D6-9. Alternative 2B



Potential Impacts to Section 4(f) Resources. The impacts to both MNTP and IL-53 from Alternative 2B would be higher than either of the build alternatives. Alternative 2B would have temporary impacts amounting to 4.6 acres and permanent easement/new right-of-way impacts

of 4.8 acres on MNTP; it would impact 8.0 acres of IL-53 (Alternate Route 66). The impact to IL-53 (Alternate Route 66) would be the same as that described for Alternative 2A, including the introduction of the guard rail, the loss of trees and low shrubs, and views of retaining walls. Because Alternative 2A would not avoid impacts to MNTP or IL-53 and those impacts would be greater than other alternatives, it was not considered a feasible and prudent avoidance alternative.

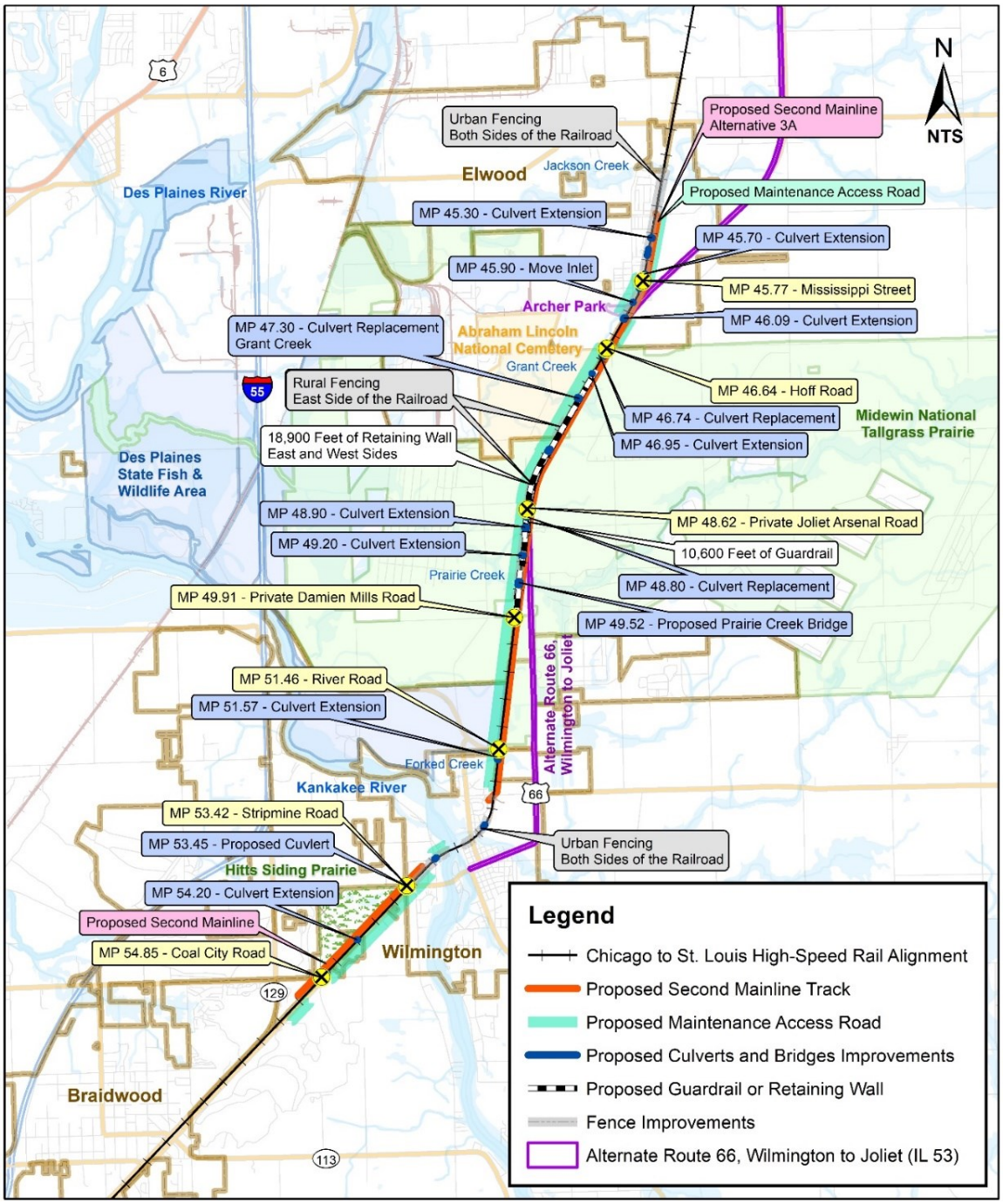
Table D6-5. Alternative 2B Potential Section 4(f) Use

	2B Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	8.0
Temporary Easement (acres)	
MNTP	4.6
DPSFWA	0.9
TOTAL TEMPORARY	5.5
Permanent Easement or New Right-of-Way (acres)	
MNTP	4.8
DPSFWA	0.0
TOTAL PERMANENT	4.8
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	18.3

Alternative 3A

Alternative 3A would move the second track to the east side of the existing track. It would move the maintenance access facility to locations on the west and east side of the existing track in a manner roughly opposite of Alternative 1B.

Exhibit D6-10. Alternative 3A



Potential Impacts to Section 4(f) Resources. Alternative 3A would reduce impacts to MNTP relative to Alternative 1B, but the impacts to IL-53 would be higher with Alternative 3A. Alternative 3A would impact MNTP on the east side of the existing UPRR right-of-way from use associated with regrading a slope. A retaining wall could not be used to eliminate the use because an existing ditch, classified as a wetland, would need to be replaced east of the retaining wall and this ditch replacement would be within MNTP. Impacts from Alternative 3A on MNTP would be temporary, amounting to 8.8 acres, and permanent easement/new right-of-way impacts of 1.9 acres. Eight acres of IL-53 (Alternate Route 66) would be impacted. Because Alternative 3A would not avoid impacts to MNTP or IL-53 and those impacts would be greater than other alternatives, it was not considered a feasible and prudent avoidance alternative.

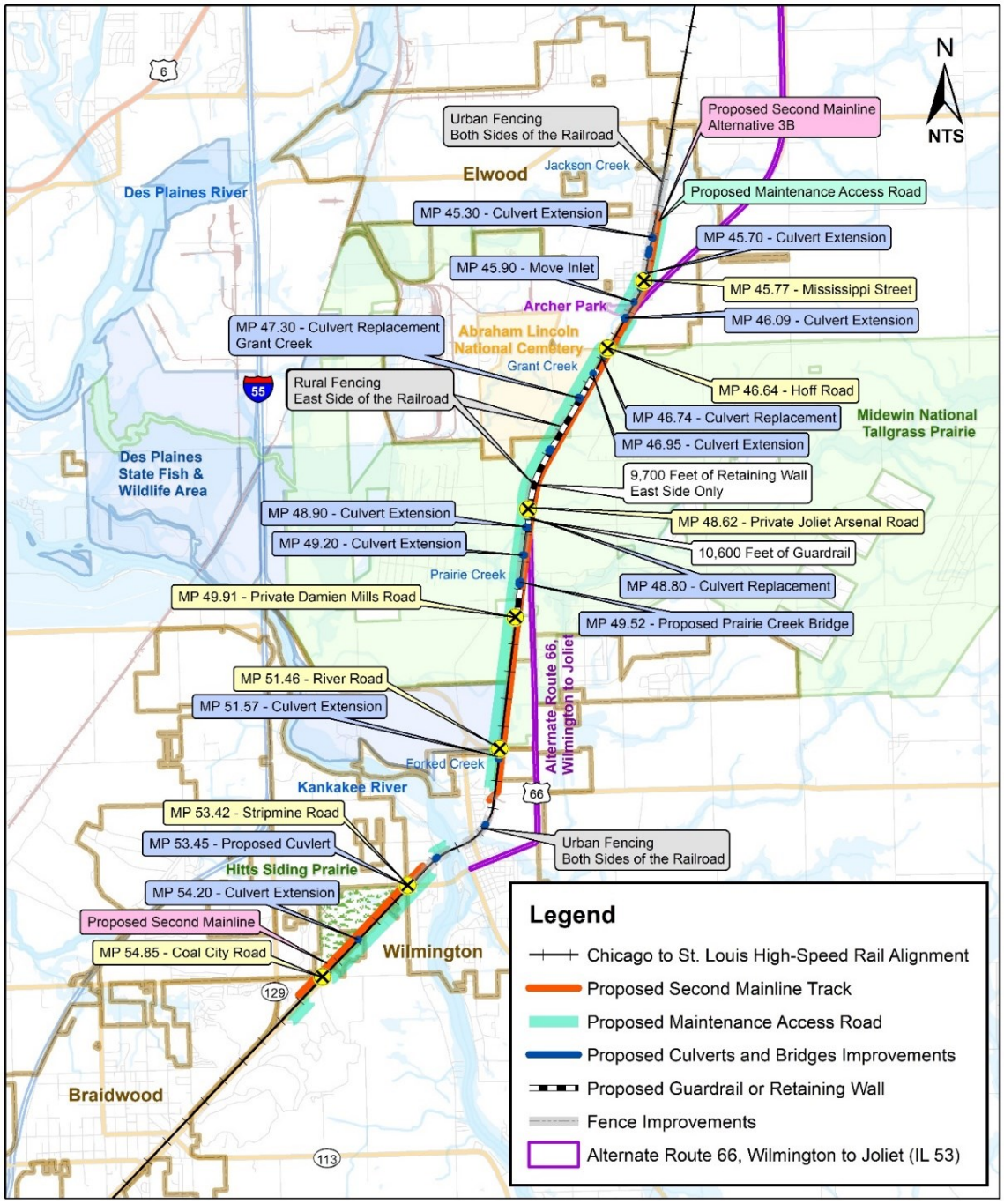
Table D6-6. Alternative 3A Potential Section 4(f) Use

	3A Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	8.0
Temporary Easement (acres)	
MNTP	8.8
DPSFWA	0.0
TOTAL TEMPORARY	8.8
Permanent Easement or New Right-of-Way (acres)	
MNTP	1.9
DPSFWA	0.0
TOTAL PERMANENT	1.9
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	18.7

Alternative 3B

Alternative 3B would eliminate the retaining walls, thereby increasing the use of MNTP along the west and east side of the UPRR right-of-way that are associated with Alternative 3A. Some retaining walls would remain on the east side of the UPRR right-of-way to minimize permanent use of IL-53 (Alternate Route 66) lands, including the road pavement.

Exhibit D6-11. Alternative 3B



Potential Impacts to Section 4(f) Resources. Alternative 3B would have temporary impacts to MNTP amounting to 6.1 acres and permanent easement/new right-of-way impacts of 5.6 acres. Eight acres of IL-53 (Alternate Route 66) would be impacted. Because Alternative 3B would not avoid impacts to MNTP or IL-53 and those impacts would be greater than other alternatives, it was not considered a feasible and prudent avoidance alternative. The Alternative 3B acreage impacts are shown in Table D6-9.

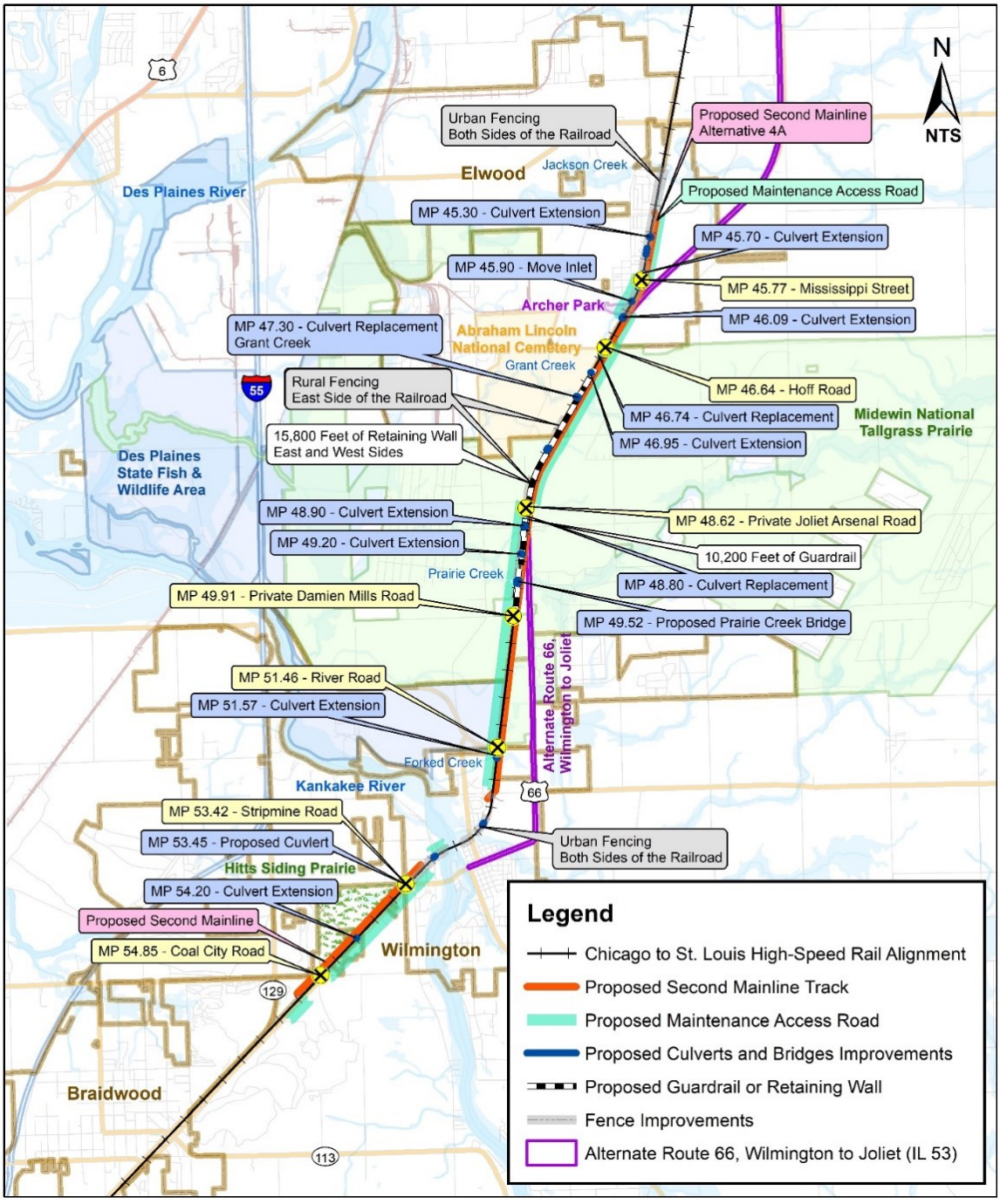
Table D6-7. Alternative 3B Potential Section 4(f) Use

	3B Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	8.0
Temporary Easement (acres)	
MNTP	6.1
DPSFWA	0.0
TOTAL TEMPORARY	6.1
Permanent Easement or New Right-of-Way (acres)	
MNTP	5.6
DPSFWA	0.0
TOTAL PERMANENT	5.6
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	19.7

Alternative 4A

Alternative 4A would move the second track to the east side of the existing track. Like Alternative 3A, it would move the maintenance access facility to locations on the west and east sides of the existing track in a manner roughly opposite to Alternative 1B.

Exhibit D6-12. Alternative 4A



Potential Impact to Section 4(f) Resources. Alternative 4A would have temporary impacts to MNTP amounting to 5.9 acres and permanent easement/new right-of-way impacts of 1.9 acres. Eight acres of IL-53 (Alternate Route 66) would be impacted. Because Alternative 3A would not avoid impacts to MNTP or IL-53 and those impacts would be greater than other alternatives, it was not considered a feasible and prudent avoidance alternative. The acreage impacts from Alternative 4A are shown in Table D6-8.

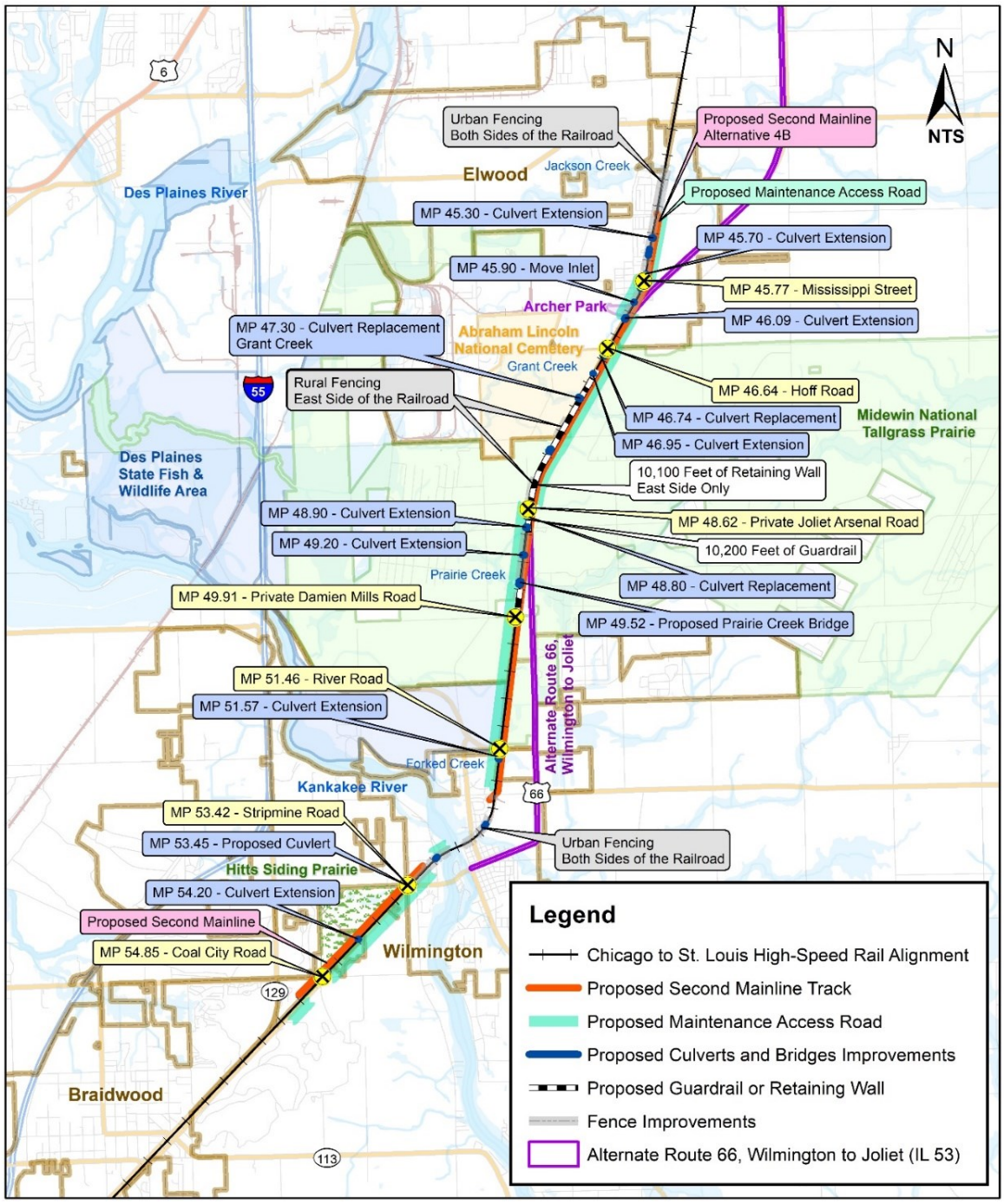
Table D6-8. Alternative 4A Potential Section 4(f) Use

	4A Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	8.0
Temporary Easement (acres)	
MNTP	5.9
DPSFWA	0.0
TOTAL TEMPORARY	5.9
Permanent Easement or New Right-of-Way (acres)	
MNTP	1.9
DPSFWA	0.0
TOTAL PERMANENT	1.9
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	15.8

Alternative 4B

Alternative 4B would eliminate the retaining walls along the west (MNTP) side of the UPRR right-of-way associated with Alternative 4A.

Exhibit D6-13. Alternative 4B



Potential Impact to Section 4(f) Resources. Alternative 4B would have temporary impacts to MNTP amounting to 3.3 acres and permanent easement/new right-of-way impacts of 5.6 acres. Eight acres of IL-53 (Alternate Route 66) would be impacted. The impacts to IL-53 (Alternate Route 66) with Alternative 4B would be generally similar to those described for Alternative 3A (the introduction of the guard rail, the loss of trees and low shrubs, and views of retaining walls). In addition, between Hoff Road and Joliet Arsenal Road where the additional impact described under Alternative 4A (retaining wall or slope grading within the NRHP boundary for 4,950 feet) would occur, right-of-way acquisition and a temporary easement in an unused buffer area of Abraham Lincoln National Cemetery would be required. The use of the DPSFWA and Archer Park lands would be eliminated. Because Alternative 4B would not avoid impacts to MNTP or IL-53 and those impacts would be greater than other alternatives, it was not considered a feasible and prudent avoidance alternative. The acreage impacts from Alternative 4B are shown in Table D6-9.

Table D6-9. Alternative 4B Potential Section 4(f) Use

	4B Design
Highway Grading Permit (acres)	
IL-53 (Alternate Route 66)	8.0
Temporary Easement (acres)	
MNTP	3.3
DPSFWA	0.0
TOTAL TEMPORARY	3.3
Permanent Easement or New Right-of-Way (acres)	
MNTP	5.6
DPSFWA	0
TOTAL PERMANENT	5.6
TOTAL POTENTIAL SECTION 4(F) USE (ACRES)	16.9

Non-Standard Configuration Double-Track Options

The project team evaluated four additional design options for the eight alternatives discussed above. These design options do not meet the design standards of the program and are referred to as the Non-Standard Configuration Double-Track Options, and include the following:

- Option 1 - Move Existing Track: To stay within the existing UPRR right-of-way and avoid MNTP, USFS officials asked IDOT to consider moving the existing track from the center of the UPRR right-of-way such that the spacing between the two tracks would be centered on the UPRR right-of-way. With this option, both tracks would be 10 feet east or west of their proposed location in the designs for the eight alternatives. This option would consist of moving the existing track 5 feet from its current location in the area where Section 4(f) resources abut the right-of-way. Moving the existing track would provide 5 feet of additional space for the second track between the existing track and the UPRR right-of-way line. The second track would be placed 20 feet from the relocated existing track, the preferred distance.
- Option 2 - Minimum Track Spacing: USFS officials asked IDOT to consider using minimum track spacing to stay within the existing UPRR right-of-way and avoid MNTP. The minimum feasible track spacing is 15 feet. This option would consist of the two tracks being spaced 15 feet apart instead of the preferred 20 feet in the area where Section 4(f) resources abut the right-of-way.
- Option 3 - No Maintenance Access Facility: USFS officials asked IDOT to consider removing the maintenance access facility from the proposed Project design to stay within the existing UPRR right-of-way and avoid MNTP. In alternatives where the maintenance access facility is the only improvement on one side of the existing track, eliminating the maintenance access facility would avoid MNTP. If both the second track and the maintenance access facility are on the same side of the existing track, then it is assumed that the width of any expansion into MNTP would be reduced by 15 feet if the maintenance access facility is eliminated.
- Option 4 - Combination of Option 1 or Option 2 and Option 3: Option 1 (Move Existing Track) or Option 2 (Minimum Track Spacing) could narrow the footprint of the Standard Configuration Double-Track Alternatives by 5 feet. However, these options cannot be used in combination because it would require the second track be initially built only 10 feet from the existing track, which for reasons described in Option 2. However, Option 3 (No Maintenance Access Facility) could be used in combination with either Option 1 or Option 2. If both the second track and the maintenance access facility are on the same side of the existing track, then it is assumed that the width of any expansion beyond the existing UPRR right-of-way would be reduced by 20 feet with the combination of the two options. When the maintenance access facility is the only improvement on one side of the existing track, the

expansion beyond the existing UPRR right-of-way on that side of the track would be eliminated.

Applying the Non-Standard Configuration Double-Track Options to the eight double-track alternatives would reduce the amount of land required from Section 4(f) resources for each of the individual alternatives; the least use of Section 4(f) lands with Alternative 2A would be with the Combination Option. However, none of the non-standard options would avoid all Section 4(f) resources. Additionally, the non-standard options do not meet the purpose and need for the Program or the Elwood to Braidwood Project.

- *Option 1 - Move Existing Track.* Option 1 does not meet the HSR Program's stated need to improve on-time performance and maintenance efficiency. Moving the existing track would increase construction cost and time, disrupt rail service during construction, and create new subgrade material and old subgrade material disposal requirements. Worker safety restrictions described below associated with the maintenance of Minimum Track Spacing Option with its permanent 15-foot track centers would apply to the construction of this option. These restrictions would further lengthen construction time. In addition, it is expected that to make such a shift, the subgrade of the existing track would need to be replaced. A combination of old subgrade material and new subgrade material supporting a track could result in differential settlement, i.e., part of the subgrade settling to a different level than the other part. Differential settlement would create a long-term maintenance problem and require more frequent track inspection because it would cause an excessive cross level difference between the two rails (the two rails of one track would be at different elevations) that would violate FRA's track safety standards for Class 6 track. This difference would need to be corrected when it occurs.
- *Option 2 - Minimum Track Spacing*. Option 2 would not meet the HSR Program's need to improve maintenance efficiency. Use of minimum track spacing would increase the time required for maintenance activities in the affected section of track and slow train operations on the operating track. To keep workers safe during track maintenance, with a 15-foot minimum track spacing, train speeds on the operating track cannot exceed 40 miles per hour rather than 110 miles per hour. Also, all maintenance work will in essence come to a stop while trains are passing on the operating track. When a train passes by on the operating track, maintenance workers must stay between the rails of the track undergoing maintenance or on the field side (the side opposite the operating track) of the track under maintenance. Work equipment with components past the end of the ties must stop work. Any other equipment capable of fouling the operating track must stop work. Conversely work can continue with no loss of productivity or compromise of safety in most situations with the 20-foot track spacing.

- *Option 3 - No Maintenance Access Facility.* Option 3 would also not meet the HSR Program's need to improve maintenance efficiency. Construction of the maintenance access facility would reduce maintenance time and maintenance interference with train operations. Without the maintenance access facility, inspections or repairs would require on-track access for the transport of equipment and material. The maintenance access facility would reduce the frequency and duration of on-track equipment requirements for rail replacement; welding joints; tie replacement; surfacing rail vertical profile irregularities and cross level between the rails; utility maintenance; monthly and annual bridge, signal, and track inspections; and preventive maintenance. Without the maintenance access facility, maintenance delays could occur if the dispatcher does not issue track time to transport equipment and materials and perform the work. More frequent trains would reduce the available time a dispatcher could allow equipment, materials, and workers on the track without interfering with train operations. More work would need to occur at night to avoid interfering with train operations. A suspension of service for on-track equipment originating from Braidwood could consume as much as 8 hours of track time. During 8 daytime hours, up to five HSR trains could be affected.
- *Option 4 - Combination of Option 1 or Option 2 and Option 3* - Option 4 would not meet the project's need to improve maintenance efficiency. The concerns described above for the three options would apply to a combination option.

D6.6.4.1 Summary of Double-Track Alternative Conclusions

Six of the eight standard configuration alternatives were dismissed from further consideration since they would not avoid permanent impacts to MNTP or IL-53 and/or those impacts would be greater than other alternatives. Alternative 1B was carried forward because it avoids an adverse effect to Historic Route 66. Alternative 2A was carried forward because it's the only alternative that would avoid permanent impacts to MNTP.

None of the four Non-Standard Configuration Double Track options fully avoid Section 4(f) resources. These four design options introduce unacceptable safety or operational problems that compromise the purpose and need of the project. Consequently, they were not carried forward for further evaluation.

The double track avoidance alternatives are not prudent because they compromise the project to a degree that it is unreasonable to proceed in light of the project's stated purpose and need.

D6.6.5 Alternate Rail Corridor

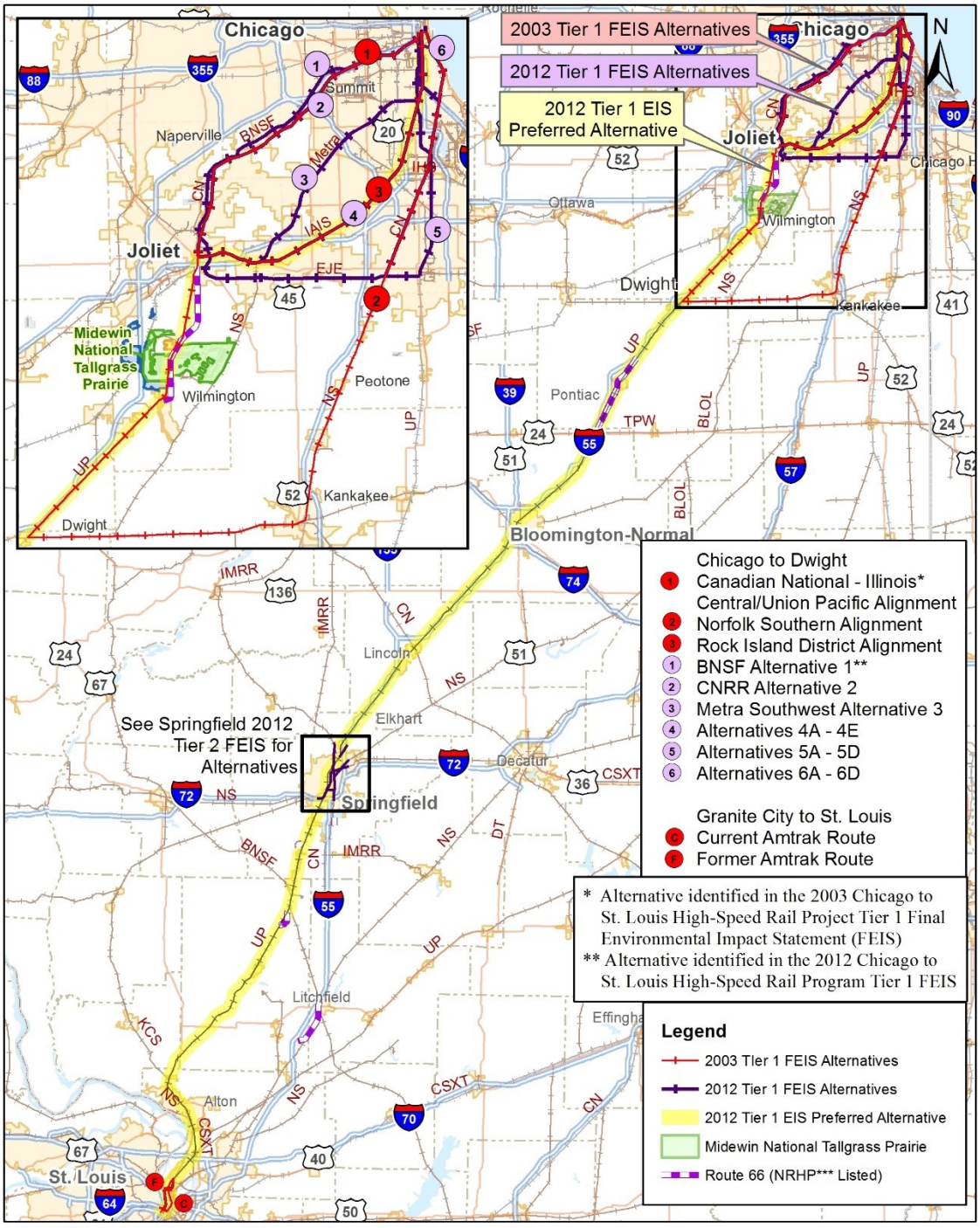
There are three types of potential avoidance alternatives that could be classified as Alternate Rail Corridors. The first type would use a different existing rail corridor. This Alternate Rail Corridor Alternative would serve high-speed passenger rail within an existing rail corridor that does not pass through the proposed project study area, in an attempt to avoid impacts or use of

Section 4(f) resources. Exhibit D6-14 shows the existing railroad corridors between Chicago and St. Louis considered during scoping and alternatives screening as potential corridor alternatives that could meet the Project's purpose and need. Both the corridors considered during the Tier 1 study documented in the 2003 FEIS and those considered during the Tier 1 study documented in the 2012 FEIS are shown.

One of those potential corridors, herein referred to as Bypass Option 1, bypasses the proposed project study area (labeled as number 2 on Exhibit D6-14), but it is not a prudent avoidance alternative. The 2003 Tier 1 FEIS analyzed this Norfolk Southern-Canadian National (NS-CN) alignment between Dwight and Chicago as an alternative. The 2003 FEIS did not include a Preferred Alternative from Dwight north, and alignment decisions from Dwight north were deferred until the double-track environmental impact studies were documented in the 2012 Tier I FEIS. The NS-CN Corridor was dropped from consideration as an alternative during double-track project scoping. In the 2011 Notice of Intent for the Chicago to St. Louis High-Speed Rail Corridor, IDOT and FRA dismissed this alignment because it would divert intercity passenger rail service from the larger populations currently served in the Chicago-Joliet corridor, including Joliet. Secondly, although the corridor would serve the proposed South Suburban Airport area, this area is already served by an existing commuter rail service to Chicago. Finally, Norfolk Southern Railroad does not support the introduction of high-speed passenger rail to its facilities because of limited existing infrastructure and a limited ability to expand capacity in the corridor. Based on these considerations, the agencies concluded that this corridor was not a reasonable alternative for meeting the HSR Program purpose and need. Accordingly, the alternative is not prudent because it would bypass larger population centers, including Joliet, which would compromise the HSR Program purpose and need to enhance the passenger transportation network to a degree that make it unreasonable to proceed with the proposed Project. This alternative would not meet the 2012 stated purpose and need because the new track location would bypass the passenger train traffic.

Elimination of the NS-CN alignment resulted in the study of the UPRR corridor between Dwight and Joliet in the 2012 double-track FEIS. No other existing railroad corridor between Chicago and St. Louis exists that does not include the UPRR corridor between Elwood and Braidwood.

Exhibit D6-14. Existing Railroad Corridors Considered for Tier 1 Environmental Impact Statements



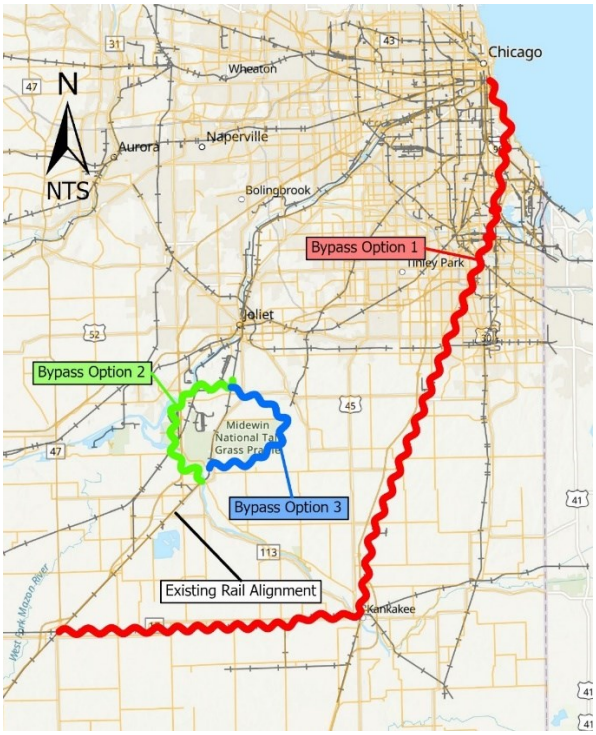
*** NRHP: National Register of Historic Places

A second Alternate Rail Corridor Alternative, herein referred to as Bypass Option 2, would shift the rail alignment from its current location to the west of MNTP (labeled as Bypass Option 2 on

Exhibit D6-9). This alternative would add a net gain of at least 20 miles of track (adding considerable cost) and would not avoid the DPSFWA, including its Des Plaines Dolomite Prairies Land and Water Reserve component. Rail improvements would pass through the resource in an area where recreational activities are concentrated rather than along its eastern boundary as it would using the UPRR corridor. Building a new track to the east of MNTP would add a net gain of at least 15 miles of track and would require crossing the Will County Forest Preserve District's Wauponsee Glacial Trail (a Section 4(f) resource extending from Joliet to Custer Park).

Additionally, a desktop review of the impacts associated with locating a new section of railroad west of MNTP and the other Section 4(f) resources indicates that even after reasonable mitigation, constructing a new section of railroad would result in severe impacts. On the north, a new railroad corridor would pass through the Joliet Army Training Center and interfere with freight train traffic entering and exiting the CenterPoint Intermodal Center. South of the Kankakee River a new section of railroad would require the purchase of actively farmed agricultural land and would sever farms by dividing farmed land and segmenting township roads used for farm access. Bypass Option 2 is not a prudent avoidance alternative because it involves multiple factors that cumulatively cause unique problems or impacts of extraordinary magnitude.

Exhibit D6-15. Bypass Options Map



A third Alternative Rail Corridor Alternative, herein referred to as Bypass Option 3, would shift the existing rail location east of the existing study area but would have similar issues. There would be considerable cost to building a whole new set of tracks and not using the existing UPRR right-of-way in the area of MNTP. A desktop review of the impacts associated with locating a new section of railroad east MNTP and the other Section 4(f) resources also indicates that even after reasonable mitigation, constructing a new section of railroad would result in severe impacts to the community and natural resources compared with the use of an existing railroad corridor. This alternative would require purchasing residential land, a landfill, industrial land, and over much of its length, actively farmed agricultural land. Like the alternative on the west, it would sever farms by dividing farmed land and segmenting township roads used for farm access. Bypass Option 3 would likely affect threatened and endangered species that thrive adjacent to MNTP borders, such as the Franklin's ground squirrel, loggerhead shrike, upland sandpiper, and rookery. A new section of railroad would also require new grade crossings at 15 or more roadway intersections, which would disrupt communities. New crossings would increase travel time for road users and increase the number of conflict points between road users (vehicle, bicycle, and pedestrian) and the train traffic. Bypass Option 3 is not a prudent avoidance alternative because it involves multiple factors that cumulatively cause unique problems or impacts of extraordinary magnitude.

Therefore, FRA has concluded at this time—subject to consideration of public and environmental resource and regulatory agency comments on this Draft Section 4(f) Evaluation—no Alternate Rail Corridor alternatives would be prudent.

D6.6.6 Conclusion

FRA has determined there are no feasible and prudent avoidance alternatives. Below is a summary of the findings that helped to reach this conclusion.

- The No-Build Alternative, although it would avoid the use of Section 4(f) resources, is not a feasible and prudent Section 4(f) avoidance alternative nor a reasonable alternative for minimizing harm to Section 4(f) resources because it would not meet the stated purpose and need.
- The Single-Track Alternative, although it would avoid the use of Section 4(f) resources, is neither a feasible and prudent Section 4(f) avoidance alternative nor a reasonable alternative for minimizing harm to Section 4(f) resources because it would compromise the proposed Project to a degree that would be unreasonable to proceed with the Project in light of its stated purpose and need.
- The Double Track Alternatives would not avoid the use of Section 4(f) resources, and none present a feasible and prudent Section 4(f) avoidance alternative or a reasonable alternative for minimizing harm to Section 4(f) resources. Each double track alternative would either

have similar Section 4(f) uses to the build alternatives or compromise the proposed Project in such a way that would be unreasonable to proceed with the Project in light of its stated purpose and need.

- No feasible and prudent alternate railroad corridor exists that would bypass the proposed project study area.
- Creation of a new section of railroad to bypass the Section 4(f) resources within the proposed project study area is also not a feasible and prudent avoidance alternative because a new section of railroad would not avoid other Section 4(f) resources. No Alternative Rail Corridors are feasible and prudent.

D6.7 ALL POSSIBLE PLANNING TO MINIMIZE HARM

"All possible planning" as defined in 23 CFR § 774.17 includes all reasonable measures to minimize harm or mitigate for adverse impacts and effects. The cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on Section 4(f) property, in accordance with 23 CFR § 771.105(e).

The design was reviewed to minimize harm to Section 4(f) properties. Impacts to Section 4(f) resources in the project study area would be mitigated as described in the next section.

D6.8 LEAST OVERALL HARM ANALYSIS

Because the analysis of avoidance alternatives in Section D6.6 finds there is no feasible and prudent avoidance alternative, FRA may only approve the alternative that causes the least overall harm to Section 4(f) resources. The regulations require determining which alternative causes the least overall harm based on assessing and balancing the following seven factors:

1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)
2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection
3. The relative significance of each Section 4(f) property
4. The views of the OWJs over each Section 4(f) property
5. The degree to which each alternative meets the purpose and need for the project
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 1026 4(f)
7. Substantial differences in costs among the alternatives

If alternatives are determined to cause "substantially equal" harm to a Section 4(f) property, then FRA may choose any one.

The following section reviews the multiple remaining alternatives that use one or more Section 4(f) resources, including alternatives that would eliminate or reduce the use of individual resources. The section (1) describes the alternatives considered in this analysis, (2) describes the efforts that were taken to minimize impacts to Section 4(f) resources, and (3) summarizes the results of the assessment of each of the seven least-harm factors.

D6.8.1 Alternatives Considered in the Least Overall Harm Analysis

As detailed in Section D6.6, there are no feasible and prudent avoidance alternatives. Therefore, Alternative 1B and Alternative 2A are being evaluated in the least overall harm analysis.

Alternative 1B (Build Alternative 1B)

Alternative 1B was carried forward for evaluation in the EA and is evaluated in this Section 4(f) Least Overall Harm Analysis. The location of the second track and maintenance access facility are detailed in Table D6-10 and is shown in Exhibit D6-16.

Alternative 2A (Build Alternative 2A)

Alternative 2A, which retains the second track on the west side of the existing track, would move the maintenance access facility to the east side of the track and adds retaining walls along the UPRR to eliminate permanent impacts to MNTP (Exhibit D6- 17). Alternative 2A was carried forward for evaluation in the EA and is evaluated in this Section 4(f) Least Overall Harm Analysis.

Exhibit D6-16 Build Alternative 1B (Elwood to Wilmington) – Preferred Alternative

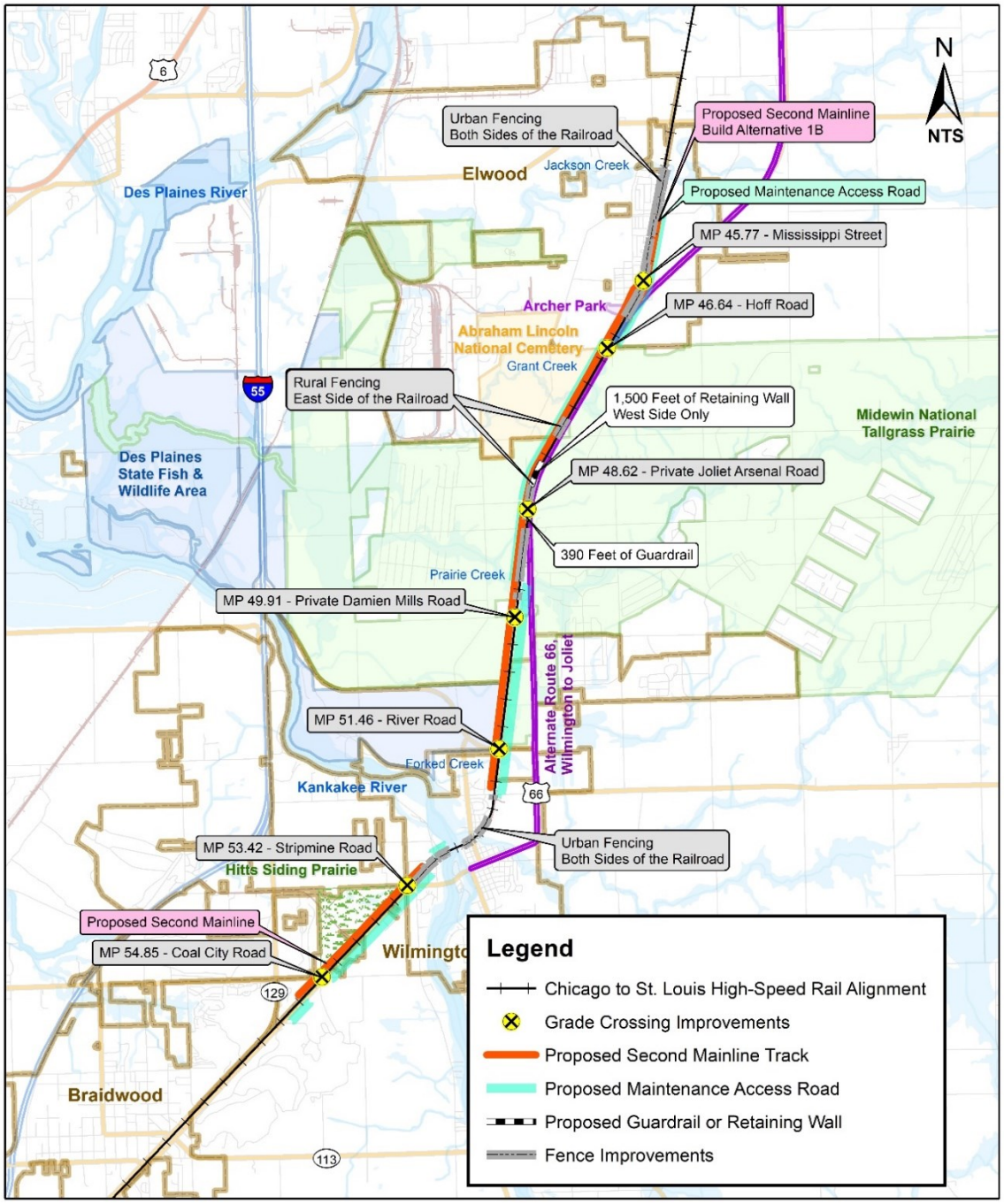
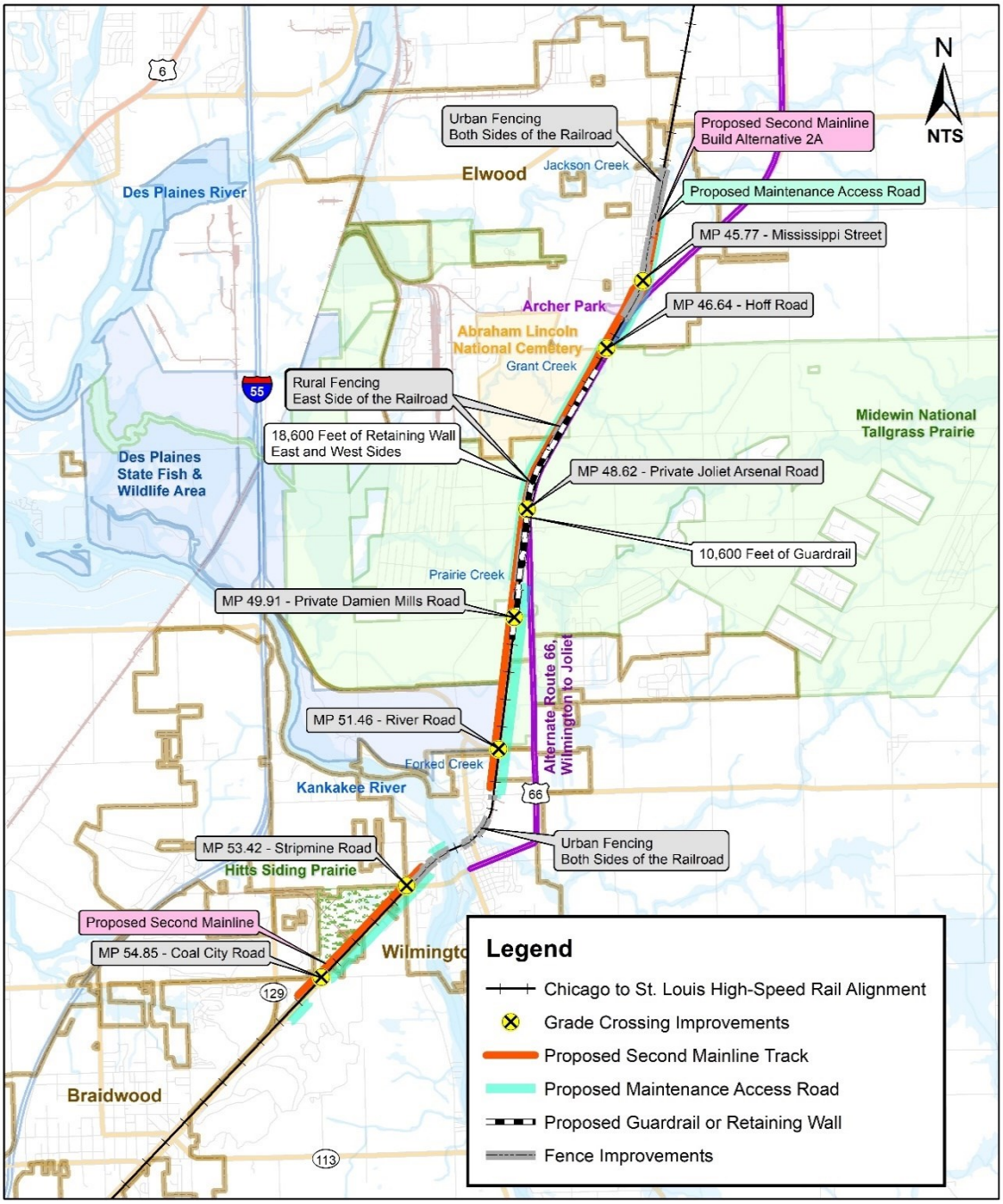


Exhibit D6- 17 Build Alternative 2A (Elwood to Wilmington)



The main differences between the alternatives are shown in Table D6-10.

Table D6-10. Design Characteristics for Alternatives in the Least Overall Harm Analysis

Evaluation Measures	Build Alternative 1B	Build Alternative 2A
Track Location in Right-of-Way	West side	
Maintenance Access Facility (Gravel Path) Location Right-of-Way	East side (Elwood to Hoff Road) West side (Hoff Road to Damien Mills Road) East side (Damien Mills Road to Kankakee River Road)	East side
Retaining Wall Use to Avoid or Minimize Impact	Nicor Gas line	MNTP Industry tracks* IL-53
Likely Construction Period	18-24 months	24-30 months

* Industry tracks are privately owned tracks that connect to the UPRR.

D6.8.2 Assessment of Least Overall Harm

This section addresses all seven least overall harm factors provided in 23 CFR § 774.3 for the two build alternatives.

D6.8.2.1 Factor 1: Ability to Mitigate Adverse Impacts to Each Section 4(f) Resource

This factor requires an analysis of how the effects of each alternative can be mitigated for each Section 4(f) resource.

Both alternatives have the ability mitigate adverse impacts to Section 4(f) resources. Alternative 2A includes tall retaining walls that would alter the viewshed while driving on IL 53 (Alternate Route 66)—resulting in an adverse effect determination related to its NRHP listing. FRA would take steps to resolve the adverse effect by entering an MOA if Alternative 2A were selected. The MOA would outline the mitigation measures to resolve the adverse effect. Build Alternative 1B does not require retaining walls in the area and would not adversely affect IL 53 (Alternate Route 66).

Impacts to MNTP would be mitigated for both Alternative 1B and 2A. A lump sum payment for restoration activities is proposed to mitigate for permanent uses of MNTP land by the railroad. This lump sum payment could be used to enhance the habitat within MNTP to offset the loss of land to the railroad. The impacts to MNTP would be greater with alternative 1B, so the lump sum payment would be greater to match the impact. Additional mitigation is proposed to respond to threatened and endangered

species impacts within MNTP. These mitigation measures require concurrence from USFWS and are proposed in the Biological Assessment (see Appendix D3).

Impacts to ALNC could be effectively mitigated for both build alternatives. The areas needed for temporary easements would be restored after construction and the permanent easement around the culvert in ALNC would be maintained by UPRR.

Impacts to DPSFWA could be effectively mitigated for both build alternatives. The IDNR has completed a review of the project and has outlined appropriate mitigation for impacts to DPSFWA.

D6.8.2.2 Factor 2: Severity of Remaining Harm After Mitigation

Factor 2 analyzes the relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.

The Section 4(f) permanent use to MNTP would be mitigated through a lump sum payment for restoration activities. With this mitigation, MNTP would still experience a permanent loss of park land, but the activities, attributes, and features of MNTP would not be severely harmed. The impacted park land includes a narrow strip parallel to the existing railroad and highway corridor. With mitigation, the relative severity of remaining harm to MNTP would be moderate.

Since the area with ALNC would be restored after construction, there would be no remaining harm after mitigation for both alternatives.

Alternative 2A would cause permanent visual impacts on IL-53 (Alternate Route 66) related to high retaining walls. The high retaining walls would alter the experience of driving on Historic Route 66 since this visual feature has never been present. FRA would take steps to resolve the Section 106 adverse effect, but there are no mitigation options available that would restore the visual character of IL-53 (Alternative Route 66) if retaining walls are constructed. Therefore, the relative severity of remaining harm would be high/significant to IL-53 (Alternative Route 66).

D6.8.2.3 Factor 3: Relative Significance of Each Section 4(f) Resource

This factor does not address the use of each Section 4(f) resource but rather is intended to help assess whether certain Section 4(f) resources are of greater significance than others. This analysis is necessarily qualitative and requires an element of judgment since it requires comparing unlike resources and their relative and comparative value to the community. Understanding how the OWJs value their respective resources is useful for

this analysis. Each resource that would be affected by the proposed Project has a unique function and value.

IL-53 (Alternate Route 66)

As mentioned above, IL-53 (Alternate Route 66) was listed in the NRHP (Reference Number 06000381) in March 2006 under Criterion A for its association with early and mid-20th century transportation and economic development in Illinois, and under Criterion C as an excellent example of early and mid-20th century road engineering as reflected by its 1926 two-lane and 1945 four-lane sections. It is a four-lane divided section of roadway in the proposed project study area between Elwood and Wilmington. In addition to its NRHP-listed status, FHWA designated IL-53 (Alternate Route 66) in 2005 as a National Scenic Byway under the National Scenic Byways Program. This Section 4(f) resource is considered to be of national significance.

Midewin National Tallgrass Prairie

MNTP is the first national tallgrass prairie ever designated in the United States and the largest conservation site in the Chicago Wilderness region. It is considered to be of national significance.

Des Plaines State and Fish Wildlife Area

The DPSFWA is a state public recreation area. The area that would be affected by the alternatives is typical of a state wildlife area and does not hold unique value above other state recreation areas in Illinois.

ALNC

The ALNC is a national cemetery with national significance.

Overall, IL-53 (Alternate Route 66), ALNC, and MNTP have the highest significance of the affected Section 4(f) properties. None of the alternatives (with or without the non-standard design options) would avoid both resources, so this factor does not assist in the least harm decision.

D6.8.2.4 Factor 4: Views of Official(s) with Jurisdiction Over Each Section 4(f) Resource

The following paragraphs summarize the views solicited or provided to date from OWJs over each Section 4(f) resource for which there would be a use with the proposed Project. The Final Section 4(f) Evaluation and Determination will reflect their comments on the EA and this Draft Section 4(f) Evaluation, as well as the outcome of meetings and other coordination related to mitigation and seeking agreement on a *de minimis* finding for IL-53 (Alternate Route 66) and the DPSFWA.

IL-53 (Alternate Route 66)

FRA consulted with the SHPO regarding the impact to IL-53 (Alternate Route 66). The SHPO concurred with FRA's finding that Alternative 1B would not have an Adverse Effect, while Alternative 2A would.

Midewin National Tallgrass Prairie

FRA has consulted extensively with the USFS about impacts to the MNTP.[1] FRA initially considered proposing a de minimis impact finding for impacts to MNTP, but after consultation with the USFS, determined that de minimis is not appropriate. In coordination meetings, USFS suggested alternatives for FRA to consider (which are discussed in Section 2.2 of the EA) and stated concerns related to the use of MNTP lands, including construction period impacts, long-term rail operational impacts (see Appendix D4 – Transportation), and cumulative impacts. The issues raised are addressed in the EA and appendices (Section 2.3.1 of the EA and Appendices D4 and G) and considered in this Draft Section 4(f) Evaluation. The alternatives developed and assessed in this Draft Section 4(f) Evaluation were based on suggestions made by USFS. In the May 20, 2017, letter received from USFS, officials indicated that they would have concerns with proximity impacts even if the proposed Project did not use MNTP lands. The May 20, 2017, letter from USFS did not indicate any preference among the build alternatives assessed in this Draft Section 4(f) Evaluation.

A July 24, 2018, letter from USFS outlined design preferences related to the project, however more recent communications from USFS indicates that these preferences are no longer valid.

A June 5, 2024 letter from USFS requested particular mitigation measures to address the anticipated Section 4(f) use. In a October 2, 2024 letter, FRA responded to USFS's requests and offered specific mitigation to protect threatened and endangered species as well as a lump sum payment. Additionally, resource-specific mitigation would be included in the proposed Project as required by specific project permits (i.e., Section 404). (See Appendix F of the EA for the USFS letter and FRA's response.)

Des Plaines State and Fish Wildlife Area

In October 2024, IDNR completed a preliminary CERP for the area within the DPSFWA needed by the proposed Project. On November 14, 2024, INDR concurred that 4(f)

[1] Section D6.9 provides a detailed accounting of coordination with OWJs, including the USFS.

impacts to DPSFWA would be *de minimis* provided the CERP conditions will be followed.

ALNC

FRA consulted with the SHPO regarding the impact to ALNC. The SHPO concurred with FRA's finding that there is no adverse effect to ALNC from the proposed Project.

D6.8.2.5 Factor 5: Degree to which Each Alternative Meets the Purpose and Need

Both of the Build Alternatives, 1B and 2A, equally meet the purpose and need of the proposed Project.

D6.8.2.6 Factor 6: After Mitigation, the Magnitude of Impacts to Resources Not Protected by Section 4(f)

Table D6-**11** summarizes the impacts to resources not protected under Section 4(f) for the build alternatives. Specific impacts are quantified in Attachment 1. The level of impacts to natural resources and threatened and endangered species is similar for all alternatives.

When mitigation is considered, there are only marginally minor differences among the quantifiable non-Section 4(f) impacts of the alternatives and their design options. The full list of proposed mitigation measures can be found in Table 6-1 of the EA.

Table D6-11. Impacts to other Resources by Least Overall Harm Alternative

Evaluation Measures	Alternative 1B (Build Alternative 1B)	Alternative 2A (Build Alternative 2A)
Wetlands	Both alternatives would affect approximately the same acreage of wetlands (~17-18 acres)	
Forest	Both alternatives would affect the same amount of forest (~9-10 acres)	
All Prairies	Would affect slightly more prairie than Alternative 2A	Would affect the least amount of prairie (~3.4 acres for each alternative)
High Quality Prairie and Native Prairies	Both alternatives would affect approximately the same quantity of high-quality prairie and native prairie remnants (~2-3 acres and ~1 acre, respectively)	
Northern Long-eared Bat Trees	Both alternatives would affect approximately the same acreage of northern long-eared bat trees (~12-14 acres)	
Rattlesnake Master Plants	Both alternatives would affect approximately the same acreage of rattlesnake master plants (0.33 acres)	
Loggerhead Shrike Trees	Both alternatives would affect between 30 and 50 trees each	
Rusty Patch Bumblebee Zones	Both alternatives would affect approximately the same acreage of rusty patched bumblebee high-probability zones (~17-22 acres)	
Visual Changes	When looking at visual changes to non-Section 4(f) resources, in general there would be the addition a second track, additional trains, the maintenance access facility, and revegetated slopes. There are no new vertical elements except retaining walls of varying heights within the UPRR right-of-way. The walls would vary in height and could be up to 24 feet tall. Continuous guardrail on adjacent roadways would be seen in some locations.	
Elwood Residential Displacements	Two residential detached garages currently encroaching on UPRR right-of-way would be removed in Elwood	
Elwood Business Displacements	No impacts	
Underground Gas Line Disruptions	Slopes affect gas line for 1.1 miles which would require retaining walls to protect	No impact
Damien Mills Road Area Industry Impacts	10-foot-wide right-of-way and 20-foot-wide temporary easement acquired west of tracks	10-foot-wide right-of-way acquired west of tracks
Wilmington Residential Impacts	8 to 20-foot-wide right-of-way acquired from homeowners along the UPRR	Same as 1B plus additional 15-foot-wide temporary construction easement at one home

D6.8.2.7 Factor 7: Substantial Differences in Costs Among the Alternatives

Alternative 1B would cost $78 million in 2023 dollars. Alternative 2A would cost $117.8 million, a 51% increase of total project cost over Alternative 1B.

D6.8.3 Least Harm Analysis Summary

Table D6-12. Summary of Least-Harm Analysis

Alternative	Factor 1: Ability to Mitigate Adverse Impacts to Each Section 4(f) Resource	Factor 2: Severity of Remaining Harm After Mitigation	Factor 3: Relative Significance of Each Section 4(f) Resource	Factor 4: Views of Official(s) with Jurisdiction Over Each Section 4(f) Resource	Factor 5: Degree to Which Each Alternative Meets the Purpose and Need	Factor 6: After Mitigation, the Magnitude of Impacts to Resources Not Protected by Section 4(f)	Factor 7: Substantial Differences in Costs Among the Alternatives
1B	All impacts can be mitigated to some extent. USFS: A lump sum payment for restoration activities would mitigate impacts. IL-53 (Alternative Route 66): No mitigation is needed. ALNC: The disturbed areas would be restored after construction.	USFS: Moderate remaining harm after mitigation IL-53 (Alternate Route 66): No remaining harm after mitigation ALNC: No remaining harm after mitigation	L-53 (Alternate Route 66), ALNC, and USFS have the highest significance of the affected Section 4(f) properties. Neither of the build alternatives would avoid both resources, so this factor does not assist in the least-harm decision.	Alternative 1B is viewed as having relatively less impact by the SHPO than the other alternatives. USFS views both build alternatives as having an individual impact to MNTP. USFS expressed preference for 2A in 2018 before the full impacts of the alternative were identified. USFS has not expressed preference for a specific alternative in their most recent correspondence. The remaining OWJs expressed no preference between build alternatives.	Both Alternatives would equally meet the purpose and need of the proposed Project.	The level of impacts to non-Section 4(f) resources would be similar for both alternatives.	$78 million
2A	All impacts can be mitigated to some extent. USFS: A lump sum payment for restoration activities would mitigate impacts. IL-53 (Alternate Route 66): FRA would take steps to resolve the adverse effect if Alternative 2A were selected. ALNC: The disturbed areas would be restored after construction.	USFS: Moderate remaining harm after mitigation IL-53 (Alternate Route 66): High/significant remaining harm after mitigation due to permanent visual obstruction ALNC: No remaining harm after mitigation.		Alternative 2A is viewed by the SHPO as having more impact than 1B. USFS views both build alternatives as having an individual impact to MNTP. USFS expressed preference for 2A in 2018 before the full impacts of the alternative were identified. USFS has not expressed preference for a specific alternative in their most recent correspondence. The remaining OWJs expressed no preference between build alternatives.			$117.8 million[2]

[2] The cost estimate for Alternative 1B was updated in 2023, and the cost estimates for 2A was increased by the same percentage.

D6.9 COORDINATION

Meetings have occurred with all officials of jurisdiction for Section 4(f) resources. A long series of meetings and correspondence has taken place with officials of USFS since 2013 to discuss the design of this Project through MNTP. Dates of the meetings are shown below:

- 2/27/2013 – 2012 Tier 1 Environmental Impact Statement Project Introduction
- 8/19/2013 – Early Design Coordination (UPRR and USFS)
- 9/11/2013 – FRA coordination on Tier 8 Project
- 1/24/2014 – Section 106 Programmatic Agreement
- 5/1/2014 – Early Design Coordination (UP and USFS)
- 6/12/2014 – Early Design Coordination (UP and USFS)
- 3/6/2015 – FRA provided USFS with an overview of HSR program
- 3/24/2015 – FRA/UPRR/IDOT strategy meeting regarding USFS
- 4/16/2015 – Scoping Meeting for Tier 8
- 5/12/2015 – FRA provided USFS with a review of CHI-STL program
- 6/3/2015 – FRA, USFS, and US Army Corps of Engineers reviewed the Tier 6 permit
- 6/29/2015 – FRA, USFS, and US Army Corps of Engineers reviewed the Tier 6 permit
- 6/9/2016 – USFS submitted Section 4(f) Alternatives Screening Report to FRA for review
- 9/21/2016 – USFS resubmitted Section 4(f) Executive Summary with additional information requested by FRA
- 4/19/2017 – Section 4(f) technical report meeting with USFS, IDOT, and FRA
- 12/19/2017 – Tier 8 Re-Introduction Agency Meeting
- 2/16/2018 – IDOT and USFS coordination meeting (Section 4(f) and Section 106)
- 3/22/2018 –FRA, IDOT, and USFS coordination meeting Section 4(f) and Section 106
- 7/2/2018 – USFS, IDOT, and FRA coordination meeting (Section 106, alternatives analysis, Section 4(f) Least Harm Analysis)
- 12/18/2019 – USFS project status meeting
- USFS monthly coordination meetings held since August 2021

Scoping letters received from agencies did not suggest additional alternatives. USFS's July 9, 2015, scoping letter and a May 20, 2017, letter commenting on an initial assessment of avoidance alternatives emphasized other impacts to USFS not related to the direct use of MNTP land that may amount to a "constructive use" of MNTP.

Issues raised in the USFS scoping letter and May 20, 2017, letter include the following:

- Increased noise, vortex (slipstream) winds, and vibration from more train traffic, both passenger (Amtrak) and expected increase in freight trains.

- Blocked traffic or increased traffic congestion on main access routes for public and administrative access during construction work at grade crossings, as well as increases in traffic congestion because of increased train traffic.
- Impacts to public recreation experiences, as well as human health and wellbeing, resulting from increased noise levels caused by increased train traffic and visual change. It was noted that the UPRR is within 1 mile of existing and planned MNTP recreation facilities with high or anticipated high-visitor frequency (including the Midewin Welcome Center and Supervisor's Office, Iron Bridge trailhead, Henslow Trail, Prairie Learning Center, Route 53 Trail, and Bison Introduction and Grazing Projects).
- Impacts to migratory birds from construction noise.
- Potential long-term decline in available grassland bird habitat through fragmentation of the habitat by increased passenger and freight traffic.
- Impacts during construction to an earlier wetland mitigation area and other adjacent wetland restoration areas of MNTP, including the Vulcan tract, Mola tract, and South Patrol Road area.
- Impacts to prairie restoration areas, including the South Patrol Road area.
- Cultural resource impacts at Prairie Creek.
- Effects on wildlife, including mortality from wildlife-train collision, habitat alteration, habitat fragmentation, and barrier effects.
- Changes in runoff and pollutants in runoff.
- Potential for the maintenance access facility to provide motorized access for off-roading or other illegal activities in the heart of MNTP.
- Impacts to drainage patterns, including the effect of increasing storms and more intense storms because of climate change.
- Impacts to surface waters; ground water; water quality; wetland habitats and restored wetlands; threatened, endangered, sensitive plant, animal and aquatic species; native plant and animal communities, including native prairie; travel routes for aquatic species and other wildlife; bird habitat; and recreation and visitor experience and wellbeing within MNTP both from the use of MNTP land and bridge construction adjacent to or upstream of MNTP (Jackson and Grant Creeks).

FRA worked on the development of a Programmatic Agreement with the SHPO from March 2012 through January 2014 when the Programmatic Agreement was ratified and participated in discussions of historic and cultural resource survey findings and

determinations. Additional project status meetings were held on December 17, 2018, and August 26, 2021.

In addition, discussions with the other officials included:

- Coordination for the identification of mitigation measures for impacts to NRHP-listed sections of Route 66 for the Programmatic Agreement among the FRA, SHPO, IDOT, and the Advisory Council on Historic Preservation regarding compliance with Section 106 of the National Historic Preservation Act for the proposed HSR Program.
- Conference call on November 23, 2015, with Hitts Siding Superintendent of IDNR to discuss future plans for the Hitts Siding Prairie. Additional project status meetings were held April 11, 2018 and July 28, 2021.
- Meeting with the Village of Elwood on October 21, 2014, to discuss park resources and future plans for development. Additional project status meetings were held October 21, 2015, April 11, 2018, July 25, 2018, July 27, 2021, September 28, 2021, and June 9, 2022.
- Conference call on November 12, 2014, with the Abraham Lincoln National Cemetery to discuss future development plans and concerns about the HSR project on cemetery property. Additional project status meetings were held on 02/12/2015 and November 12, 2015.

A new round of coordination with resource agencies and affected property owners began in 2024 because so much time had lapsed since previous meetings:

- 2/27/2024 - Cooperating Agency Meeting #2
- 3/15/2024 - FRA and IDOT meeting with the US Fish and Wildlife Service
- 3/16/2024 – FRA and IDOT meeting with Abraham Lincoln National Cemetery
- 4/16/2024 - Cooperating Agency Meeting #3
- 6/11/2024 - Cooperating Agency Meeting #4
- 7/24/2024 – Cooperating Agency small group discussion on seed mix and threatened and endangered regional species
- 8/6/2024 – Cooperating Agency small group wetlands discussion
- 8/13/2024 - Cooperating Agency small group engineering discussion (culverts and Nicor Gas coordination)
- 9/10/2024 - Cooperating Agency Meeting #5
- 10/16/2024 - FRA, IDOT, MNTP 4(f) Mitigation Discussion

D6.10 FINDINGS AND CONCLUSION

Alternative 1B appears to be the Least Overall Harm Alternative. Alternative 1B appears to have lower relative severity of remaining harm to 4(f) properties because it does not result in a permanent visual obstruction of IL-53 (Alternate Route 66), and a substantially lower cost than that of Alternative 2A. The final determination will be made in the Final Section 4(f) evaluation.