DRAFT ENVIRONMENTAL ASSESSMENT VILLAGE OF PARK FOREST WATER MAIN IMPROVEMENT PROJECT PARK FOREST, COOK COUNTY, ILLINOIS SECTION 219, WRDA 1992, AS AMENDED

EAXX-202-00-H6P-1735041839

January 2025



U.S. Army Corps of Engineers Chicago District 231 South LaSalle Street, Suite 1500 Chicago, Illinois 60604 Page intentionally left blank

DRAFT FINDING OF NO SIGNIFICANT IMPACT

VILLAGE OF PARK FOREST WATER MAIN IMPROVEMENT PROJECT

PARK FOREST, COOK COUNTY, ILLINOIS

The U.S. Army Corps of Engineers (USACE), Chicago District has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The Environmental Assessment (EA) dated November 2024, for the Village of Park Forest, Illinois Water Main Improvement Project, addresses water system improvement opportunities and feasibility in the Village of Park Forest, Cook County, Illinois. The recommendation is contained in the Letter Report, dated November 2024.

The EA, incorporated herein by reference, evaluated a "No Action Alternative" and two alternatives that would rehabilitate the water mains in the study area. The recommended plan is Alternative 2, which includes:

- Removal and replacement of 3,500 linear feet (LF) of 6-inch water main along Miami Street, Neola Street, and Marquette Street with 8-inch water main using open cut methods.
- Installation of new valves, hydrants, and service connections.
- Removal and relocation of approximately 550 LF of storm sewer to meet Illinois Environmental Protection Agency requirements to maintain 10 feet of separation between water mains and sanitary and storm sewer pipes.

For the No Action and two design alternatives, the potential effects were evaluated, as appropriate. Two additional design alternatives were screened from consideration as they either would not meet the purpose and need of the project or were not feasible to construct. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

	Insignificant effects	Insignificant effects as a	Resource unaffected
		mitigation*	by action
Aesthetics			
Air quality			
Aquatic resources/wetlands			\boxtimes
Invasive species			\boxtimes
Fish and wildlife habitat			\boxtimes
Threatened/Endangered species/critical habitat			\boxtimes
Historic properties			\boxtimes
Other cultural resources			\boxtimes
Floodplains			\boxtimes
Hazardous, toxic & radioactive waste			\boxtimes
Hydrology			\boxtimes
Land use			\boxtimes
Navigation			\boxtimes
Noise levels	\boxtimes		
Public infrastructure	\boxtimes		
Socio-economics			\boxtimes
Environmental justice			\boxtimes
Soils	\boxtimes		
Tribal trust resources			\boxtimes
Water quality			
Climate change			

Table 1: Summary of Potential Effects of the Recommended Plan

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the Letter Report and EA will be implemented, if appropriate, to minimize impacts.

No compensatory mitigation is required as part of the recommended plan.

Public review of the draft Letter Report, EA and FONSI was initiated on January 30, 2025. All comments submitted during the public review period will be responded to in the Final EA and FONSI.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, USACE determined that the recommended plan will have no effect on federally listed species or their designated critical habitat.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that no historic properties would be affected by the proposed undertaking. The Illinois State Historic Preservation Office concurred with this determination.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

FINDING

Technical, environmental, and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 <u>Economic and Environmental Principles and Guidelines for Water and Related Land Resources</u> <u>Implementation Studies</u>. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other federal, state and local agencies, tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date

KENNETH P. ROCKWELL COL, U.S. Army Commanding

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1. PURPOSE AND NEED

1.1. Purpose

The U.S. Army Corps of Engineers (USACE), Chicago District is evaluating its decision to support the Village of Park Forest in rehabilitating its water main and storm sewer infrastructure by providing planning assistance and construction funds for the proposed project.

1.2. Need for Action

The existing cast iron water mains are over 75 years old and are nearing the end of their design life. There have been more than 20 water main breaks within the project area in the past 5 years. The proposed project will reduce the frequency of water main breaks, service disruptions, and water loss. Additionally, the existing fire flows in the project area are below International Organization for Standardization (ISO) standards for single family homes. While the existing pressure in the water mains meets the standard minimums for single-family residential dwellings, additional deterioration and breakages could result in water pressure below standard minimums.

The Illinois Environmental Protection Agency (IEPA) requires under Title 35 of the IEPA Administrative Code that water mains must maintain 10 feet of separation (edge of pipe to edge of pipe) between sanitary and storm sewer systems. The existing water mains are within 10 feet of the storm sewer pipe in some locations of the project area; therefore, IEPA requirements are not being met. Water main replacement would allow for relocation of some segments of the storm sewer system to meet IEPA requirements.

1.3. Authority

The project is authorized under Section 219(f)(54) of the Water Resources Development Act of 1992, Public Law 102-580, as amended by Section 108(d) of the Consolidated Appropriations Act of 2001, Public Law 106-554; Section 142 of the Energy and Water Appropriations Act of 2004, Public Law 108-137; and Section 1157 of the Water Infrastructure Improvements for the Nation Act (WIIN Act) of 2016, Public Law 114-322. These amended authorities allow USACE to provide planning, design, and construction assistance for water-related environmental infrastructure projects.

1.4. Local Sponsor

The project's non-federal sponsor is the Village of Park Forest, Illinois.

2. ALTERNATIVES, INCLUDING THE RECOMMENDED PLAN

2.1. List of Alternatives

Five alternatives were initially considered to address the aging water mains described in Section 1.2 above. These alternatives include:

- No Action Alternative Under this alternative, water main and storm sewer replacement would not occur. The existing infrastructure would continue to degrade for the service area.
- Alternative 1 Under this alternative, approximately 3,200 linear feet (LF) of existing water main along Miami Street, Neola Street, and Marquette Street would be lined using cured-in-place pipe (CIPP) methods. This alternative would result in cost savings on installation compared to other alternatives. However, overall costs would increase as a temporary water system would be required to provide water to customers during the installation of the liner. Approximately 550 LF of storm sewer would need to be relocated to meet IEPA requirements under Title 35 of the IEPA Administrative Code to maintain at least 10 feet of separation between water mains and sanitary and storm sewer pipes. Although the internal diameter of the existing pipe would be reduced, the inside of the pipe would be smoother allowing for better water flow, which would address some of the concerns related to insufficient flow for fire protection.
- Alternative 2 Under this alternative, 3,500 LF of 6-inch water main would be removed and replaced with 8-inch polyvinyl chloride (PVC) water main along Miami Street, Neola Street, and Marquette Street. The new 8-inch water main would be installed using open cut methods and would include the installation of new valves, hydrants, and service connections. This option would also include the removal and relocation of approximately 550 LF of sewer to meet IEPA separation requirements. This alternative would reduce the frequency of water main breaks, service disruptions, and water loss from the advanced age and deteriorating condition of the water main. Water pressure and fire flow concerns within the project area would also be addressed.
- Alternative 3 Under this alternative, approximately 950 LF of 6-inch water main on Miami Street would be removed and replaced with 8-inch PVC water main. Water mains on Neola Street and Marquette Street would not be replaced. This alternative would reduce the frequency of water main breaks, service disruptions, and water loss from the advanced age and deteriorating condition of the water main on Miami Street but would not address these issues on Neola Steet and Marquette Street.
- Alternative 4 Under this alternative, 3,500 LF of 6-inch water main would be removed and replaced with 8-inch polyvinyl chloride (PVC) water main along Miami Street, Neola Street, and Marquette Street. The new 8-inch water main would be installed using open cut methods on Miami Street and Marquette Street

and horizontal directional drilling methods on Neola Street. This would save on costs, including the installation of new valves, hydrants, and service connections. Although this option would address fire flow, pressure, and water quality concerns in the project area, it would result in increased upfront construction costs due to the installation method of the water main on Neola Street. This option would also include 550 LF of storm sewer removal and relocation to meet IEPA sewer separation requirements as described in under Alternative 1. However, the location of an existing gas main along Neola Steet is major concern for this installation method, as it is difficult to adjust the alignment of the water main during horizontal directional drilling.

Alternative 3 and Alternative 4 were not advanced for impacts analysis. Alternative 3 would only replace the water main on Miami Street, leaving the fire flow and pressure needs of Neola Street and Marquette Street unaddressed. Alternative 4 would replace and upsize the water main in the entire project area, but the location of a gas main is a major concern for the feasibility of installation through horizontal directional drilling; the water main and gas main are near each other in some sections of the project area and adjusting the alignment of the water main during horizontal directional drilling is difficult. Therefore, only the No Action Alternative, Alternative 1, and Alternative 2 were advanced for impact analysis.

2.2. Recommended Plan (Proposed Action)

The recommended plan is Alternative 2 as shown in Figure 1. Alternative 2 would include the removal and replacement of 3,500 LF of 6-inch water main with 8-inch PVC water main on Miami Street, Neola Street, and Marquette Street. The recommended plan would effectively rehabilitate the aging water mains, improve water pressure and fire flow within the project area, and meet IEPA separation requirements. Work is scheduled to begin in summer 2025 with completion anticipated in fall 2025.

Alternative 1 was not recommended because it would increase construction costs as a result of requiring a temporary water system to provide water to customers during construction. Additionally, CIPP lining would not address water pressure and fire flow concerns as well as full replacement or upsizing of the water line from 6 to 8 inches. The No Action Alternative would not rehabilitate the aging water main nor would it address water pressure and fire flow concerns. This could lead to more extensive repair projects and continued service interruptions and insufficient fire protection within the project area. Additionally, the No Action Alternative would not meet IEPA separation requirements.



Figure 1: Project location map

2.3. Compliance with Environmental Protection Statutes, Executive Orders, and Regulations

The Proposed Action is in full compliance with appropriate statutes, executive orders and regulations, including the National Historic Preservation Act of 1966, as amended, Fish and Wildlife Coordination Act, as amended, Endangered Species Act of 1973, as amended, Coastal Zone Management Act (CZMA), 16 U.S.C. 1451, 1456 et seq and implementing regulations at 15 CFR Part 930, Section 10 of Rivers and Harbors Act of 1899, as amended, Clean Air Act of 1963, as amended, National Environmental Policy Act (NEPA) of 1969, as amended, Executive Order 12898 (Environmental Justice), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplain Management), and the Clean Water Act of 1972, as amended.

3. EXISTING CONDITIONS AND ALTERNATIVE IMPACTS

3.1. Level of Environmental Impact Significance

This section discusses the existing conditions by resource category and any potential environmental impacts associated with the No Action Alternative as well as with implementation of Alternative 1 or Alternative 2.

USACE evaluated the potentially affected environment and the degree of effects to consider whether the Proposed Action's effects are significant. In considering the potentially affected environment, USACE considered the affected area and its resources. USACE defined effects or impacts to mean changes to the human environment from the Proposed Action or alternatives that are reasonably foreseeable, including direct, indirect, and cumulative effects. In considering the degree of the effects, USACE considered short- and long-term effects; beneficial and adverse effects; any effects to public health and safety; and whether the action threatens to violate federal, state, or local laws established for the protection of the human and natural environment. USACE considered the severity of an environmental impact as follows:

- None/negligible No measurable impacts are expected to occur.
- Minor A measurable and adverse effect to a resource. A slight impact that may not be readily obvious and is within accepted levels for permitting, continued resource sustainability, or human use. Impacts should be avoided and minimized if possible but should not result in a mitigation requirement.
- Significant A measurable and adverse effect to a resource. A major impact that
 is readily obvious and is not within accepted levels for permitting, continued
 resource sustainability, or human use. Impacts likely result in the need for
 mitigation.
- Adverse A measurable and negative effect to a resource. May be minor to major, resulting in reduced conditions, sustainability, or viability of the resource.
- Beneficial A measurable and positive effect to a resource. May be minor to major, resulting in improved conditions, sustainability, or viability of the resource.
- Short-Term Temporary in nature and does not result in a permanent long-term beneficial or adverse effect to a resource. For example, temporary constructionrelated effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be minor, significant, adverse or beneficial in nature.
- Long-Term Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be minor, significant, adverse or beneficial in nature.

USACE used quantitative and qualitative analyses, as appropriate, to determine the level of potential impacts from proposed alternatives. USACE analyzed ecological, aesthetic, historic, cultural, economic, social, and health effects, as applicable. Based on the results of the analyses, this Environmental Assessment (EA) identifies whether a particular potential impact would be adverse or beneficial, and to what extent. **3.2. Project Area** The project area is within the Village of Park Forest, Cook County, Illinois. The water main and storm sewer replacement is located along Neola Street between Miami and Marquette Steet, Miami Street between Indianwood Boulevard and Niagara Street, and Marquette Street between Indianwood Boulevard and just east of Neola Street (Figure 1).

3.3. Alternative Impacts

This chapter discusses the existing conditions by resource category and any potential environmental impacts associated with implementation of Alternative 1 and Alternative 2 and the No Action Alternative.

3.4. Physical Resources

3.4.1. Climate

Existing Condition

The climate of the study area is predominantly continental with some modification by Lake Michigan. The National Oceanic and Atmospheric Administration's (NOAA) Online Weather Data was queried for the Park Forest area. Monthly and annual average temperatures and precipitation was queried (NOAA, 2024) (Table 1). The mean average annual temperature is 49.8 °F, with a mean maximum and minimum of 59.3 °F and 40.3°F, respectively. Average yearly precipitation between 1991 and 2020 is 42.10 inches.

Month	Total Precipitation Normal (inches)	Mean Max Temperature Normal (°F)	Mean Min Temperature Normal (°F)	Mean Avg Temperature Normal (°F)
January	2.49	31.1	15.2	23.2
February	2.15	35.2	18.4	26.8
March	2.65	46.4	28.1	37.2
April	4.02	59.3	38.3	48.8
May	4.57	70.6	49.3	60.0
June	4.91	80.2	58.9	69.5
July	4.73	83.9	63.8	73.9
August	4.02	82.0	62.0	72.0
September	3.44	75.8	54.6	65.2
October	3.65	63.1	42.4	52.8
November	3.00	48.2	31.4	39.8
December	2.47	36.3	21.5	28.9
Annual	42.10	59.3	40.3	49.8

Table 1: Normal temperatures and precipitation for the Park Forest area between 1991 and 2020 (NOAA, 2024)

Alternative Impacts

Construction of either Alternative 1 or Alternative 2 would have no direct or indirect short-term or long-term impacts to climate. Additional fossil fuels associated with the operation of construction vehicles (e.g., excavator, dump truck, flatbed delivery truck, forklift, etc.) would be needed to construct the improvements, haul the materials to the site, and haul away the old equipment from the area. However, there would be no measurable impact on climate for Alternative 1 and Alternative 2.

No impacts to climate are expected under the No Action Alternative. The No Action Alternative would not help to offset the impacts of a changing climate, as eventual repair and/or replacement of the water mains and storm sewer lines would be necessary.

3.4.2. Greenhouse Gas Emissions

Existing Condition

On January 9, 2023, the Council on Environmental Quality (CEQ) issued interim guidance to assist agencies in analyzing greenhouse gas (GHG) emissions and climate change effects of their proposed actions under NEPA. This guidance builds upon and updates CEQ's 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews.

The State of Illinois aims to adhere to the federal emissions target of reducing greenhouse gas emissions to net zero by 2050. The USEPA's Mandatory Reporting Rule of Greenhouse Gases (MRR-GHG) applies to direct GHG emitters, fossil fuel suppliers, industrial gas suppliers, and facilities that inject carbon dioxide (CO₂) underground for sequestration (containment) or other reasons.

Alternative Impacts

USACE analyzed GHG emissions under the No Action Alternative, Alternative 1, and Alternative 2. Construction of Alternative 1 or Alternative 2 would take approximately one month and the average working day is anticipated to be 8 hours (see Appendix A for machinery and vehicle usage estimates for Alternative 1 and Alternative 2). The tables below (Table 2, Table 3, and Table 4) provide the total amount of GHG emissions that are expected to result from construction for each final array alternative. Emissions were calculated using the Fuel Volume Analysis Method Calculator (Air Quality and GHG Sub-CoP SOP) as well as the total social cost of GHG emissions in 2020 dollars (\$) based on the USACE Net Emissions Analysis Tool (NEAT) (USACE, 2024). The social cost of GHG is the monetary value of the net harm to society associated with adding a small amount of that GHG to the atmosphere each year. It includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services.

The Fuel Volume Emissions Method is used for projects with low to intermediate emissions anticipated and makes assumptions to simplify the quantification of emissions. This model assumed 25 gallons of fuel/hour and all equipment fuel to be Distillate Fuel Oil No.2 (diesel). Emissions Factors were acquired from the USEPA Emission Factors for Greenhouse Gas Inventories. To determine the sum of total GHG emissions, the emissions for each type of GHG were standardized to a common unit. This standard unit is the carbon dioxide equivalent (CO₂e), which is calculated by multiplying the GHG emissions for each gas by their respective Global Warming Potential (GWP). It is anticipated that GHG emissions from operation and maintenance of either Alternative 1 or Alternative 2 would be minimal and do not have enough significance to be quantified.

Under the No Action Alternative, water mains within the project area would continue to deteriorate, necessitating continued emergency repairs. Since 2005, there have been 20 water main breaks within the project area, with more than half of the breaks occurring in the last five years. It was assumed that under the No Action Alternative, two emergency repairs per year would be necessary until the water mains reach the end of their estimated life span. This is assumed to be 10 years, as the existing cast iron water mains are currently 75 years old and their estimated lifespan is approximately 85 years. Full replacement of the water mains, as described in Alternative 2, would be required once the existing mains reach the end of their lifespan.

Alternative 2, the recommended plan, had the lowest GHG emissions and net social costs compared to Alternative 1 and the No Action Alternative (Table 2, Table 3, and Table 4). No alternative will sequester carbon. No alternatives would impact the ability of the State of Illinois or the Federal Government from meeting their emissions goals or achieving net-zero emissions by 2050 per EO 14057. Implementation of Alternative 2 would not result in significant short-term or long-term, direct or indirect impacts.

Table 2. GHG Calculations for Alternative 1. Fuel Volume Analysis Method Calculator used to calculate emissions and NEAT used to calculate total social cost of GHG (USACE, 2024).

	GHG	Fuel Volume (Gallons)	Emissions Factor (Grams of Emissions/ Gallons of Fuel)	Emissions (MT)	Carbon Dioxide Equivalents	Emissions (MT) (CO2e)	Net Emissions (MT; Action Alternative - No Action)	Total Social Costs by GHG	Net Social Cost (Action Alternative - No Action)
Action	CO ₂	29,200	10,210	298.13	1.00	298.13	-940.85	\$38,757	-\$122,311
Alternative	CH ₄	29,200	0.06	<0.01	25.00	0.04	-0.14	\$70	-\$220
1	N ₂ O	29,200	0.45	0.01	298.00	3.92	-12.36	\$156,519	-\$493,948
						Total CO2e (MT)	Total Net Emissions	Total Social Cost (2020 \$)	Total Net Social Cost (2020 \$)
						302.09	-953.35	\$195,346	\$-616,478

Table 3. GHG Calculations for the Alternative 2. Fuel Volume Analysis Method Calculator used to calculate emissions and NEAT used to calculate total social cost of GHG (USACE, 2024).

	GHG	Fuel Volume (Gallons)	Emissions Factor (Grams of Emissions/ Gallons of Fuel)	Emissions (MT)	Carbon Dioxide Equivalents	Emissions (MT) (CO2e)	Net Emissions (MT; Action Alternative - No Action)	Total Social Costs by GHG	Net Social Cost (Action Alternative - No Action)
Action	CO ₂	4,394	10,210	44.86	1.00	44.86	-1,194.12	\$5,832.17	\$-155,236
Alternative	CH ₄	4,394	0.06	<0.01	25.00	<0.01	-0.18	\$10.48	\$-279
2	N ₂ O	4,394	0.45	<0.01	298.00	0.60	-15.68	\$2,3552.96	\$-626,914
						Total CO2e (MT)	Total Net Emissions	Total Social Cost (2020 \$)	Total Net Social Cost (2020 \$)
						45.46	-1,209.98	\$29,396	\$-782,429

Table 4. GHG Calculations for the No Action Alternative. Fuel Volume Analysis Method Calculator used to calculate emissions and NEAT used to calculate total social cost of GHG (USACE, 2024).

	GHG	Fuel Volume (Gallons)	Emissions Factor (Grams of Emissions/ Gallons of Fuel)	Emissions (MT)	Carbon Dioxide Equivalents	Emissions (MT) (CO2e)	Total Social Costs by GHG (2020 \$)
Na	CO ₂	121,350	10,210	1,238.98	1.00	1,238.98	\$161,068
Action	CH ₄	121,350	0.06	0.01	25.00	0.18	\$289
Action	N ₂ O	121,350	0.45	0.05	298.00	16.27	\$650,467
						Total CO2e (MT)	Social Cost (2020 \$)
						1,255.43	\$811,825

3.4.3. Geology & Soils

Existing Condition

Geology – Glaciation within the northern Illinois region ended about 13,000 years ago when the glaciers receded from the area for the last time. In northern Illinois the most common type of bedrock is a magnesium-rich limestone called dolomite that was originally deposited on reefs set in shallow seas during the Silurian period about 400 million years ago. The youngest bedrock in northern Illinois dates from the Pennsylvania period about 300 million years ago. Surface features in the region are all made of material deposited by the glaciers or by the lakes that appeared as the glaciers melted. In some places, these deposits are nearly 400 feet thick.

Soils – The U.S. Department of Agriculture Natural Resource Conservation Service's web soil survey was queried for soils present within the project areas. According to the web soil survey for the project area, the soil type present is predominantly the Frankfort-Bryce complex with minor orthents, clayey components. No prime or unique soils are present in the project area.

Alternative Impacts

Alternative 1 would line the existing water main using CIPP, which would limit the amount of excavation and ground disturbing activities compared to open cut methods, though some limited excavation may be necessary to create insertion pits to facilitate CIPP lining. Alternative 2 would entail excavation and ground disturbing activities in the road rights of way (ROW) along Miami Street, Neola Street, and Marquette Street from open cut replacement of the water line. The project area has been disturbed previously and it is confined to public road ROW within an urban area. Construction of either Alternative 1 or Alternative 2 would not impact any unique local geologic features as none are present within the area and the existing soils can be found throughout the area. Therefore, neither Alternative 1 nor Alternative 2 would have any direct or indirect short-term or long-term adverse impacts to local geological features or soils.

No impacts to geology and soils would be expected under the No Action Alternative.

3.4.4. Water Resources

Existing Condition

Southern Cook County, Illinois is located above the Silurian-Devonian Aquifer System, the principal bedrock aquifer within the county. In most areas, the aquifer is overlain with approximately 50 to 200 feet of unconsolidated material. More locally, there is groundwater present within the project area starting approximately 2 feet below grade within a layer of silty clay.

There are no waterways or aquatic resources found directly within or immediately adjacent to the project area (Figure 2). The project area is within a residential neighborhood, almost entirely within paved road ROW. Areas adjacent to the ROW are

mowed grass lawns.



Figure 2: USFWS National Wetland Inventory map of aquatic resources in the project area

Alternative Impacts

There are no direct or indirect short-term or long-term adverse impacts to water resources under Alternative 1 or Alternative 2. Section 10 of the Rivers and Harbors Act of 1899 does not apply because the project does not include construction of any structure in or over any navigable waters. Executive Order 11988 (Floodplain Management) does not apply as the project will not promote development in the floodplain. Executive Order 11990 (Protection of Wetlands) does not apply as there are no known wetlands within or immediately adjacent to the project area. The Clean Water Act does not apply, because the project does not involve any discharge of dredged or fill material to Waters of the U.S. The project is not expected to have any impact to the Silurian Aquifer System. No impacts to water resources are expected under the No Action Alternative.

3.4.5. Air Quality

Existing Condition

Air quality in the project area is typical of what would be expected in a populated urban area outside of a major metropolitan city as shown by the U.S. Environmental Protection Agency's (USEPA) Air Quality Index (AQI). Most of the impacts to air quality in this area are due to the large number of cars and trucks driven on the extensive road system in this region. Additionally, the Clean Air Act requires the USEPA to set national ambient air quality standards (NAAQS) for six criteria pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur oxides) which are considered harmful to public health and the environment (Table 5). Areas not meeting the NAAQS for one or more of the criteria pollutants are designated as "nonattainment" areas by the USEPA. Cook County, IL is classified as nonattainment for 8-hour ozone (2015), categorized as moderate (USEPA, 2024). Cook County is in maintenance status for 8-hour ozone (2008) and PM-2.5 (1997) (USEPA, 2024). Smaller parts of Cook County are also in maintenance for other NAAQS parameters; these areas do not include the project area.

GHG emissions in the project area are typical for an urbanized area in northeast Illinois. See Section 3.4.2 for more discussion on GHG.

NAAQS	Area Name	Most Recent Year of Nonattainment	Current Status	Classification	Whole or Part of County
8-Hour Ozone (2008)	Chicago- Naperville, IL- IN-WI	2021	Maintenance (since 2022)	Serious	Whole
8-Hour Ozone (2015)	Chicago, IL-IN- WI	2024	-	Moderate	Whole
Lead (2008)	Chicago, IL	2017	Maintenance (since 2018)	-	Part*
Carbon Monoxide (1971)	-	-	-	-	-
PM-10 (1987)	SE Chicago, IL	2004	Maintenance (since 2005)	Moderate	Part*
PM-2.5 (1997)	Chicago-Gary- Lake County, IL- IN	2011	Maintenance (since 2012)	Former Subpart 1	Whole
Sulfur Dioxide (2010)	Lemont, IL	2019	Maintenance	-	Part*

Table 5: Cook County, IL status for NAAQS c	criteria pollutants (USEPA, 2024)	

* Part of Cook County under designated as nonattainment or in maintenance status does not include the project area.

Alternative Impacts

The project area in Cook County, Illinois is currently within a non-attainment area for one of the criteria pollutants for which standards have been established in the NAAQS, 8-hour ozone (2015). During implementation of Alternative 1 or Alternative 2, construction equipment would cause negligible, temporary air quality impacts. All equipment used would be compliant with current air quality control requirements for diesel exhaust, fuels, and similar requirements. Long-term, once constructed, the project would be neutral in terms of air quality, with no features that either emit or sequester air pollutants or greenhouse gases to a large degree. Therefore, construction of Alternative 1 or Alternative 2 would have negligible short-term impact and no direct or indirect long-term adverse impacts on air quality within Cook County. Due to the short and temporary nature of any air quality impacts, a general conformity analysis was not conducted. Under Alternative 1 or Alternative 2, fewer total greenhouse gases will be emitted during the planning window due to a reduced need for continued emergency maintenance of infrastructure that has reached the end of its usable lifespan.

No short-term impacts to air quality are expected under the No Action Alternative. Continued use of the current infrastructure, which has reached the end of its usable lifespan, will require greater maintenance activity for repair and upkeep. This could result in higher long-term air pollutant and greenhouse gas emissions.

3.4.6. Land Use

Existing Condition

Existing land use within the project area in Park Forest is entirely comprised of singlefamily residential dwellings. The adjacent land use around the project area is also primarily single-family residential; non-residential land use in the adjacent area includes several parks, educational facilities, and a church.

Alternative Impacts

Construction of Alternative 1 or Alternative 2 would not change land use within or adjacent to the project area. The construction of Alternative 1 or Alternative 2 would allow for the continued supply of potable water but would not significantly increase the capacity of the system to promote further development or land use change. Therefore, neither Alternative 1 nor Alternative 2 would have a significant direct or indirect, short-or long-term impact on land use within or adjacent to the project area.

No impacts to land use are expected under the No Action Alternative.

3.5. Biological Resources

3.5.1. Aquatic Communities

Existing Condition

No aquatic communities are present in the project area. The project area consists

entirely of paved road ROW surrounded by mowed lawns (Figure 1 and Figure 2).

Alternative Impacts

Construction of Alternative 1 or Alternative 2 would have no direct or indirect, short-term or long-term adverse impacts to aquatic communities as they are not present within or immediately adjacent to the project area.

No impacts to aquatic communities are expected under the No Action Alternative.

3.5.2. Terrestrial Communities

Existing Condition

Park Forest provides suitable habitat for common "urban" wildlife species, including fox, gray squirrel, opossum, cottontail rabbit, striped skunk, mice, bats, and eastern moles. Typical resident birds include English sparrow, starling, robin, herring gull, Canada goose, mallard, pigeon, cardinal, red winged blackbird, and blue jay.

Vegetation within the Park Forest project area is typical of an urbanized and residential area. Vegetation surrounding the paved road and sidewalk primarily contains mowed grass lawns. Several mature trees are adjacent to the project area, including Norway maple, red maple, silver maple, honey locust, and Norway spruce. Shrubs are typical of residential land use, including boxwood and Euonymus.

Alternative Impacts

Construction of Alternative 1 or Alternative 2 would occur along a residential street with low quality terrestrial habitat for wildlife. Under Alternative 2, disturbance from open cut water main installation outside of paved road ROW would be limited to mowed grass lawns, which would be restored after construction. Limited tree root pruning will occur, but no trees would be removed under Alternative 2. Construction of Alternative 1 or Alternative 2 would have less than significant direct and indirect short-term impacts to the terrestrial habitat in the immediate project area through general disturbances from construction equipment, and no direct or indirect long-term adverse impacts.

No impacts to terrestrial communities are expected under the No Action Alternative.

3.5.3. Threatened and Endangered Species

Existing Condition

A query of the U.S. Fish and Wildlife Service's (USFWS) Environmental Conservation Online System Information for Planning and Consultation (ECOS-IPaC) on October 21, 2024 resulted in an official federally listed species list that may be present within the project area (Appendix B). Obtaining the official species list from ECOS-IPaC fulfills the requirement for federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". Six federally listed threatened or endangered species were identified through the IPaC query as potentially occurring within the project area (Table 6). Additionally, the IPaC query identified three species designated as either experimental population, candidate, or proposed threatened. There are no critical habitats within the project area for any species listed below.

Species Name	Federal Status	Habitat	Potential to Occur
Northern long-eared bat (<i>Myotis</i> <i>septentrionalis</i>)	Endangered	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods during the summer.	Not expected to occur; lack of suitable habitat.
Rufa red knot (Calidris canutus rufa)	Threatened	Muddy or sandy coastal areas, specifically, bays and estuaries, tidal flats, and unimproved tidal inlets	Not expected to occur; lack of suitable habitat.
Whooping crane (Grus americana)	Experimental population, non-essential	Coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh and sand or tidal flats, upland swales, wet meadows and rivers, pastures and agricultural fields	Not expected to occur; lack of suitable habitat.
Eastern massasauga (Sistrurus catenatus)	Threatened	Shallow wetlands and surrounding upland areas to forage, breed, shelter and hibernate. Marshy grasslands, lake edges, fens, dry prairie and woodland, and forested swampland.	Not expected to occur; lack of suitable habitat.
Hine's emerald dragonfly (Somatochlora hineana)	Endangered	Wetlands dominated by graminoid, or grass-like plants, and fed primarily by water from a mineral source or fens. Slow- moving aquatic systems provide appropriate habitat for larval development	Not expected to occur; lack of suitable habitat.
Monarch butterfly (<i>Danaus plexippus</i>)	Candidate	Prefer grassland ecosystems with native milkweed and nectar plants.	Not expected to occur; lack of suitable habitat.

Table 6: Federally listed species potentially occurring within the project area

Species Name	Federal Status	Habitat	Potential to Occur
Western regal fritillary (Argynnis idalia occidentalis)	Proposed threatened	Tall-grass prairie and other open and sunny locations such as damp meadows, marshes, wet fields, and mountain pastures.	Not expected to occur; lack of suitable habitat.
Eastern prairie fringed orchid (<i>Platanthera</i> <i>leucophaea</i>)	Threatened	A wide variety of habitats, from wet to mesic prairie, to wetland communities, including sedge meadow, fen, marsh and marsh edge.	Not expected to occur; lack of suitable habitat.
Leafy prairie-clover (Dalea foliosa)	Endangered	Open habitat of limestone cedar glades, limestone barrens, and thin-soiled mesic dolomite prairies	Not expected to occur; lack of suitable habitat.

Alternative Impacts

USACE determined that the construction and operation of Alternative 1 or Alternative 2 would have no effect directly or indirectly on federally listed species. Suitable habitat for the above species is not present within the project area. The project area is primarily within a paved road ROW in an urbanized area; specialized habitat to support the above species such as mudflats, wetlands, meadows, or prairies are not present. The mature trees along Miami, Neola, and Marquette Streets are unlikely to be suitable roosting trees for the northern long-eared bat (USFWS, 2023), and none would be removed under Alternative 1 or Alternative 2.

No impacts to threatened and endangered species are expected under the No Action Alternative.

3.6. Cultural & Social Resources

3.6.1. Cultural Resources

Existing Condition

The Village of Park Forest was first developed in 1946 as a planned community for returning World War II veterans. Park Forest was designed by the firm Loebl Schlossman & Hackl and Elbert Peets in the tradition of other planned communities such as Radburn, New Jersey and Riverside, Illinois. The Village of Park Forest Incorporated in 1949. By 1950, over 3,000 families had settled in Park Forest. By 1960, the Village of Park Forest's population was almost 30,000. The project area is within a single family residential neighborhood constructed during this time period.

Alternative Impacts

Neither Alternative 1 nor Alternative 2 would have direct or indirect, short-term or long-

term effects on historic properties. The undertaking is in Section 36, Township 35 North, Range 13 East in Cook County, Illinois. The Area of Potential Effects (APE) for the undertaking encompasses the project area, including staging and access routes, and totals approximately 5.93 acres. USACE believes that the APE is sufficient to identify and consider potential effects of the proposed project. USACE has conducted a records search and literature review of the project APE on the Illinois Inventory of Archaeological Sites and the National Register of Historic Places (NRHP). The literature review and records search revealed that there are no previously known archaeological sites or historic properties listed in the NRHP within the project APE. Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that no historic properties would be affected by the proposed undertaking. The Illinois State Historic Preservation Office (SHPO) concurred with this determination in a letter dated December 10, 2024 (Appendix B).

No impacts to cultural resources are expected under the No Action Alternative.

3.6.2. Recreation

Existing Condition

Recreation resources are not present within the project area. However, Marquette Park, Onarga Park, Somonauk Park, Shabbona Park, and Keokauk Park are all within 0.5 miles of the project area. The Sauk Trail Forest Preserve and Thorn Creek Nature Preserve are within 1.0 miles of the project area. Rich East High School, 21st Century Primary Center, and Blackhawk Elementary all contain recreational facilities and are within 1.0 miles of the project area.

Alternative Impact

As no recreation resource are present within the project area, no short- or long-term, indirect or direct impacts to recreation would be expected under Alternative 1 or Alternative 2. Access to adjacent recreation resources such as parks, nature/forest preserves, or schools would not be affected by Alternative 1 or Alternative 2.

No impacts to recreation are expected under the No Action Alternative.

3.6.3. Environmental Justice and Socioeconomics

Existing Condition

Park Forest has a population of 20,763 (2023) people according to the U.S. Census Bureau (USCB). Median household income is \$58,907 (2022). The noise and aesthetic environments are typical for a suburban village or town in northeast Illinois. Table 7 shows summary census data for the Village of Park Forest, Cook County, and Illinois. The Chicago District conducted an evaluation of potential environmental justice impacts to the community using minority and low-income populations as criteria. This evaluation was conducted to ensure that no minority and/or low-income populations in the area were disproportionately affected due to activities from this project. As defined in Executive Order 12898 and CEQ guidance, a minority population occurs where one or both of the following conditions are met within a given geographic area:

- The American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic population of the affected area exceeds 50 percent.
- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

A minority population also exists if more than one minority group is present, and the aggregate minority percentage meets one of the above conditions. The selection of the appropriate unit of geographic analysis could be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit. Note that the Hispanic/Latino population is a multi-racial group, which may overlap with other minority groups.

Executive Order 12898 does not provide criteria to determine if an affected area consists of a low-income population. For this assessment, the CEQ criteria for defining a minority population has been adapted to identify whether or not the population in an affected area constitutes a low-income population. An affected geographic area is considered a low-income population (i.e., below the poverty level, for purposes of this analysis) where one or both of the following conditions are met:

- The poverty rate of the total population is above 50 percent.
- The percentage of individuals in poverty is meaningfully greater than in the general population or other appropriate unit of geographic analysis.

Park Forest has a higher minority population (80.6%) than Cook County (34.8%), the State of Illinois (24.0%) and the national average (38.3%). Park Forest has a higher poverty rate (17.3%) compared to Illinois (11.6%) and the nation (12.5%). This demographic information was confirmed using the USEPA's environmental justice screening and mapping tool (EJ SCREEN) available on their website (<u>https://www.epa.gov/ejscreen</u>). This tool identifies environmental justice communities and their associated demographics. Table 8 shows summary data from the EJ Screen tool.

Executive Order 14008 was signed in 2021 and ordered the CEQ to develop a new tool called the Climate and Economic Justice Screening Tool (CEJST). The tool provides information to identify economically disadvantaged communities experiencing burdens in eight different categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. Census tracts appear shaded on the website's mapping tool if they are experiencing these burdens. The project area is entirely within a census tract which is not considered economically disadvantaged (Figure 3). The nearest census tracts that are considered economically disadvantaged are immediately north and east of the project area (Figure 3).

Category	Park Forest	Cook County	Illinois
Total Population	20,763	5,087,072	12,549,689
Under 18 years	25.3%	20.7%	21.6%
Under 5 years	4.4%	5.2%	5.3%
White	19.4%	65.2%	76.0%
Black or African American	71.3%	23.3%	14.6%
American Indian and Alaska Native	1.4%	0.8%	0.6%
Asian	0.4%	8.3%	6.3%
Native Hawaiian and Other Pacific Islander	<0.1%	0.1%	0.1%
Hispanic or Latino of any race	7.3%	27.0%	19.0%
High School Graduate or Higher	91.1%	88.2%	90.1%
Bachelor's Degree or Higher	26.0%	41.3%	36.7%
Median Household Income	\$58,907	\$78,304	\$78,433
Below Poverty Level	17.3%	13.7%	11.6%

Table 7: U.S. census data for Park Forest, Cook County, and Illinois (USCB, 2024)

Table 8: EJ Screen summary data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA		
ENVIRONMENTAL BURDEN INDICATORS							
Particulate Matter 2.5 (µg/m ³)	9.56	8.96	84	8.45	83		
Ozone (ppb)	70.8	69,3	40	61.8	87		
Nitrogen Dioxide (NO ₂) (ppbv)	8.9	10	40	7.8	64		
Diesel Particulate Matter (µg/m ³)	0.213	0.245	46	0.191	67		
Toxic Releases to Air (toxicity-weighted concentration)		6,000	51	4,600	83		
Traffic Proximity (daily traffic count/distance to road)	680,000	2,000,000	35	1,700,000	45		
Lead Paint (% Pre-1960 Housing)	0.44	0.43	50	0.3	69		
Superfund Proximity (site count/km distance)	0	0.44	0	0.39	0		
RMP Facility Proximity (facility count/km distance)	1.6	1,1	76	0.57	90		
Hazardous Waste Proximity (facility count/km distance)	2,3	3,5	46	3.5	62		
Underground Storage Tanks (count/km ²)	4.2	8	51	3.6	76		
Wastewater Discharge (toxicity-weighted concentration/m distance)	910	31000	29	700000	73		
Drinking Water Non-Compliance (points)	5.2	0.37	98	2.2	90		
SOCIDECONOMIC INDICATORS							
Demographic Index USA	2.24	N/A	N/A	1.34	83		
Supplemental Demographic Index USA	1.86	N/A	N/A	1.64	67		
Demographic Index State	2.26	1.32	83	N/A	N/A		
Supplemental Demographic Index State	1.71	1.41	71	N/A	N/A		
People of Color	83%	39%	83	40%	85		
Low Income	39%	28%	73	30%	69		
Unemployment Rate	11%	6%	80	6%	84		
Limited English Speaking Households	1%	4%	59	5%	60		
Less Than High School Education	10%	10%	61	11%	57		
Under Age 5	4%	6%	44	5%	46		
Over Age 64	17%	17%	54	18%	53		

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals of toxics. The information on the Air Toxics Data Update can be found at: <u>Intro y owner geographic areas</u> of the country, not definitive risks to specific individuals of toxics. The update.



Figure 3: Climate and Economic Justice Screening Tool (CEJST) map

Alternative Impacts

Alternative 1 or Alternative 2 would have no direct or indirect, short-term or long-term adverse impacts to socioeconomics within and adjacent to the project area. There would be temporary and insignificant impacts to noise and the aesthetic environment during construction. Alternative 1 and Alternative 2 are expected to have a beneficial impact on the Park Forest community, since the implementation of the new water distribution infrastructure provides more reliable water service.

In terms of environmental justice, USACE analyzed whether construction of either Alternative 1 or Alternative 2 would have a disproportionate impact to minority communities and/or low-income households. To evaluate potential disproportional impacts to minority populations or to low-income households, socioeconomic data from the State of Illinois and nationwide was compared to socioeconomic data for Park Forest. Additionally, the EPA's EJ SCREEN and CEQ's CEJST were consulted.

Alternative 1 and Alternative 2 would be implemented in an area where there are significant minority and low-income populations. Insignificant, short-term impacts to this community would occur during construction, but Alternative 1 and Alternative 2 would result in long-term beneficial effects.

Short-term direct or indirect impacts to minority and low-income communities are not expected under the No Action Alternative. However, the No Action Alternative would have negative long-term impacts from continued water main breakages and service disruptions.

3.6.4. Public Utilities and Infrastructure

Existing Condition

The project area is serviced by standard utilities such as water, sanitary sewer, gas, and electric. The transportation system in the Park Forest area is comprised of U.S. Highway, state, county, and local road systems. Park Forest is served by the Metra Electric Line of the regional Metra rail system; the closest station is approximately 1.3 miles northwest of the project area. Park Forest is served by the Pace bus system; the closest bus route to the project area is on Sauk Trail, approximately 0.3 miles from the project area.

Within the project area, all roadways are local roads or streets (Illinois DOT, 2024). Indianwood Boulevard, immediately west of the project area, is a minor collector (Illinois DOT, 2024). No U.S Highways or state roads are present within the project area. Public transportation is not present immediately within the project area.

Alternative Impact

Alternative 1 and Alternative 2 would have beneficial long-term effects on drinking water service and no long-term effect on other utilities. Alternative 1 would require a temporary water system to maintain service during construction. Alternative 2 would not require a temporary water system to maintain service during construction. Standard construction practices will include locating other utilities before construction to avoid impacts. Under both Alternative 1 and Alternative 2, approximately 550 LF of storm sewer pipe would be removed and replaced to meet IEPA separation requirements; this would result in insignificant short-term direct impacts, but no long-term impacts.

Alternative 1 and Alternative 2 would have direct and indirect short-term minor impacts to transportation and traffic circulation within the area from construction activities. Alternative 1 is a trenchless rehabilitation method, which would limit the disruptions to local traffic and transportation relative to Alternative 2. Under either alternative, transportation and traffic circulation impacts would be limited to the project area.

The No Action Alternative would have a long-term minor impact to drinking water service, through continued deterioration, breakages, and possible service interruptions. No impact to other utilities or transportation and traffic circulation are expected under the No Action Alternative.

3.7. Hazardous, Toxic, and Radioactive Waste (HTRW)

Existing Condition

A Phase I Hazardous, Toxic, and Radioactive Waste (HTRW) Environmental Site Assessment (ESA) was completed for the project area in accordance with ASTM Practice E 1527-21 and USACE Engineer Regulation 1165-2-132. The investigation relied on user provided information, site reconnaissance, and a review of reasonably ascertainable environmental records to determine the likelihood that the project area contains a recognized environmental condition (REC), or HTRW. The Phase I ESA was conducted in accordance with ASTM Standard Practice E-1527-21 and constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice," as defined at 42 USC §9601(35) (B). The Phase I ESA did not identify any RECs at the subject property, or any offsite property likely to impact the project.

Alternative Impacts

In accordance with ER 1165-2-132, *Hazardous Toxic, and Radioactive Waste for USACE Civil Works Projects*, construction of civil works projects in HTRW contaminated areas will be avoided where practicable. Where HTRW-contaminated areas or impacts cannot be avoided, response actions, including excavation and disposal of contaminated soils, would be implemented in accordance with USEPA and applicable state regulatory agency requirements. All HTRW response actions, including off-site disposal of materials containing elevated concentrations of contaminants, is 100% non-federal project sponsor responsibility. Excess soil management and/or waste disposal would be conducted in accordance with federal, state, and local laws and regulations.

No impacts to HTRW contaminated areas are expected under Alternative 1, Alternative 2, or the No Action Alternative.

3.8. Irreversible and Irretrievable Commitment of Resources

Alternative 1 and Alternative 2 would not entail significant irretrievable or irreversible commitments of resources. Long-term sustainability actions were included for the benefit of environmental resources.

3.9. Short-Term Uses of Man's Environment and Long-Term Productivity

NEPA, Section 1502.16(a)(3) calls for a discussion of the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity in an environmental document. Alternative 1 and Alternative 2 would repair the aging and deteriorating water mains in the project area, which would reduce the potential for service disruptions and catastrophic failure. Under the No Action Alternative, no project would be implemented. Therefore, the potential for failure of water mains would increase over time and the potential for service disruptions would not be reduced and the project area vicinity.

3.10. Probable Adverse Effects Which Cannot Be Avoided

There are no probable adverse effects which cannot be avoided from the implementation of the recommended plan.

3.11. Cumulative Impacts

Consideration of cumulative impacts requires a broader perspective than examining just the direct and indirect impacts of a proposed action. It requires that reasonably foreseeable future impacts be assessed in the context of the past and present impacts to important resources. Often it requires consideration of a larger geographic area than just the immediate project area. One of the most important aspects of cumulative impacts assessment is that it requires consideration of how actions by others (including those actions completely unrelated to the Proposed Action) have and will affect the same resources. When assessing cumulative impacts, the key determinate of importance or significance is whether the incremental impacts of the Proposed Action will alter the sustainability of resources when added to other present and reasonably foreseeable future actions.

Cumulative environmental impacts for the proposed infrastructure project were assessed in accordance with guidance provided by the President's Council on Environmental Quality. This guidance provides a for identifying and evaluating cumulative impacts in NEPA analysis.

The overall cumulative impact of the project is considered to be beneficial environmentally, socially, and economically.

The cumulative impacts issues and assessment goals are established in this EA, the spatial and temporal boundaries are determined, and reasonably foreseeable future actions are identified. Cumulative impacts are assessed to determine if the sustainability of any of the resources are adversely affected with the goal of determining the incremental impact to key resources that would occur should the proposal be permitted. The spatial boundary for the assessment encompasses the residential area and surrounding streets served by the infrastructures to be improved. The temporal boundaries are:

- 1. Past-1834, when settlement and development of the area began.
- 2. Present-2024, when the selected plan was being developed.
- 3. Future-2074, the year used for determining project life end.

Projecting reasonably foreseeable future actions is difficult at best. Clearly, the Proposed Action is reasonably foreseeable, however, the actions by others that may affect the same resources are not as clear. Projections of those actions must rely on judgment as to what are reasonable based on existing trends and where available, projections from qualified sources. Reasonably foreseeable does not include unfounded or speculative projections. In this case, reasonably foreseeable future actions include:

• Climate change may increase the number and/or frequency of severe storm events.

Cumulative Impacts on geology and soils

The topography and soils of the area have been affected by filling, excavations, construction, and the burial of infrastructure. The Proposed Action would not alter soil chemistry.

Cumulative Impacts on Water Quality and Aquatic Communities

The Proposed Action would have no cumulative impacts on water quality or aquatic communities.

Cumulative Impact of Terrestrial Resources

The Proposed Action will have no cumulative impacts terrestrial resources, plants, or animals.

Cumulative Impacts on Air Quality

The Proposed Action will have no long-term cumulative impact on air quality.

Cumulative Impacts on Land Use

The Proposed Action will have no cumulative impact on land use.

Cumulative Impacts on Aesthetic Values

The Proposed Action will have no long-term cumulative adverse impacts on the visual setting of the project area.

Cumulative Impacts on Public Facilities

The Proposed Action will have no cumulative adverse impacts on public facilities.

Cumulative Impacts on Cultural Resources

This Proposed Action will have no cumulative adverse impacts on cultural resources.

Cumulative Impacts Summary

Along with direct and indirect impacts, cumulative impacts of the proposed project were assessed following the guidance provided by the Presidents' Council on Environmental Quality (Table 6). There have been numerous impacts to resources from past and present actions, and reasonably foreseeable future actions can also be expected to produce both beneficial and adverse impacts. The direct impacts of the Proposed Action would only be short-term during construction; long-term direct impacts during operation would not occur. Therefore, there would be no significant cumulative impacts from the Proposed Action. Table 9: Cumulative impacts summary

		Proposed Direct Impacts		
Potential	Past	Construction	Operation	Cumulative
Impact Area	Actions			Impact
Geology & Soils	adverse	insignificant	no impact	no impact
Hydrology	adverse	no impact	no impact	no impact
Water Quality	adverse	no impact	no impact	no impact
Sediment Quality	adverse	no impact	no impact	no impact
Aquatic Resources	adverse	no impact	no impact	no impact
Terrestrial	adverse	no impact	no impact	no impact
Air Quality	adverse	insignificant	no impact	no impact
Land Use	adverse	no impact	no impact	no impact
Aesthetics	adverse	insignificant	no impact	no impact
Cultural Resources	adverse	no impact	no impact	no impact

4. COORDINATION AND COMPLIANCE

4.1. Regulatory Requirements

The Proposed Action is in full compliance with appropriate statutes, executive orders, and regulations, including but not limited to the National Historic Preservation Act, as amended, Fish and Wildlife Coordination Act, as amended, Endangered Species Act of 1973, as amended, Section 10 of Rivers and Harbors Act of 1899, Clean Air Act, as amended, National Environmental Policy Act of 1969, as amended, Executive Order 12898 (Environmental Justice), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplain Management), Executive Order 13653 (Consideration of Climate Change), and the Clean Water Act, as amended.

During preparation of this EA, numerous federal and state agencies were consulted, including the USFWS, Illinois SHPO, and Illinois Department of Natural Resources (DNR); as well as federally-recognized Tribes. The NEPA scoping process extended from June 3, 2024 through July 6, 2024. Public review of this draft EA and FONSI is ongoing. The public was notified of the EA via notices to identified project stakeholders and postings on the district's webpage and social media accounts. For documentation of coordination, refer to Appendix B. Refer to Appendix C for the project distribution list.

The final EA will be made available for access by the general public on the USACE Digital Library and will be linked to from the USACE Great Lakes and Ohio River Division webpage.

4.1.1. National Historic Preservation Act

Section 106 of the National Historic Preservation Act (16 USC 470) requires federal agencies to consider the effects of proposed federal undertakings on historic properties included or eligible for the National Register of Historic Places. The implementing regulations for Section 106 (36 C.F.R. § 800) require federal agencies to consult with various parties, including the Illinois SHPO, and Indian Tribes, to identify and evaluate historic properties, and to assess and resolve effects to historic properties. USACE submitted a finding of No Historic Properties Affected to the Illinois SHPO on November 12, 2024. The Illinois SHPO concurred with this determination in a letter dated December 10, 2024.

Pursuant to regulations for Section 106 (36 CFR § 800) of the National Historic Preservation Act (54 U.S.C. § 306108), USACE has consulted with the Citizen Potawatomi Nation of Oklahoma, the Forest County Potawatomi Community of Wisconsin, Hannahville Indian Community of Michigan, Kickapoo Tribe of Oklahoma, Little Traverse Bay Bands of Odawa Indians of Michigan, Menominee Indian Tribe of Wisconsin, Miami Tribe of Oklahoma, and the Prairie Band Potawatomi Nation. In a letter dated June 6, 2024, the Miami Tribe of Oklahoma indicated no objection to the proposed work but requested to be notified if any cultural artifacts or remains are located during the project.

4.1.2. Endangered Species Act

Section 7 of the Endangered Species Act requires USACE to ensure their activities are not likely to jeopardize the continued existence of federally listed species or destroy or adversely modify designated critical habit. USACE accessed the USFWS IPaC website on October 21, 2024, to determine whether endangered, threatened, proposed, or candidate species could potentially be present in the action area, and if the action area overlapped with any designated or proposed critical habitat. The results of the IPaC search are shown in Section 3.5.3. Using the list provided by IPaC, the Chicago District used best available information to evaluate whether the species on the IPaC list would be potentially affected by the action. Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, USACE determined the recommended plan will have "no effect" on federally listed species or their designated critical habitat, due to the projects occurring in areas where there is no suitable habitat present for the identified species.

4.1.3. Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation with the state and USFWS for recommendations to minimize impacts on fish and wildlife resources. Because the project will not affect or modify surface waters, including wetlands, consultation under the Fish & Wildlife Coordination Act (FWCA), 16 U.S.C. 661 et seq., is not required.

4.2. Public Review and Agency Coordination

4.2.1. Illinois State Historic Preservation Office

USACE consulted with the Illinois SHPO to identify and evaluate historic properties, and to assess and resolve effects to historic properties pursuant to regulations for Section 106 (36 CFR § 800) of the NRHP (16 USC 470). USACE has determined that no historic properties would be affected by the proposed undertaking. The Illinois SHPO concurred with this determination in a letter dated December 10, 2024.

4.2.2. Tribal Coordination

USACE is making a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R.§ 800.3(f). We have notified the Citizen Potawatomi of Oklahoma, the Forest County Potawatomi Community of Wisconsin, the Hannahville Indian Community of Michigan, the Kickapoo Tribe of Oklahoma, the Little Traverse Bay Bands of Odawa Indians of Michigan, Menominee Indian Tribe of Wisconsin, the Miami Tribe of Oklahoma, and the Prairie Band Potawatomi Nation to assist in identifying properties which may be of religious and cultural significance.

4.2.3. Illinois Department of Natural Resources

USACE coordinated with the Illinois Department of Natural Resources during the scoping period and during public and agency review. In a letter dated June 12, 2024, the agency stated that while "the natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action", the agency "has evaluated this information and concluded that adverse effects are unlikely."

The project area is outside the boundaries of the Illinois Coastal Management Program

(CMP); therefore, coordination with the CMP did not occur for this project.

4.2.4. U.S. Fish and Wildlife Service

USACE made a no effect determination pursuant to section 7 of the Endangered Species Act. No further coordination is required under this act. Full discussion of USFWS coordination leading up to this determination is discussed in Section 4.1.

5. REFERENCES

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U.S. Fish and Wildlife Service (USFWS). 2024. Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines. USFWS, Region 3, Bloomington, MN. 76 pp. Available at: <u>https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines</u>

Appendix A: Vehicle and Equipment Usage for Design Alternatives Appendix B: Coordination

Appendix C: Draft EA Distribution List