

**LEGEND**

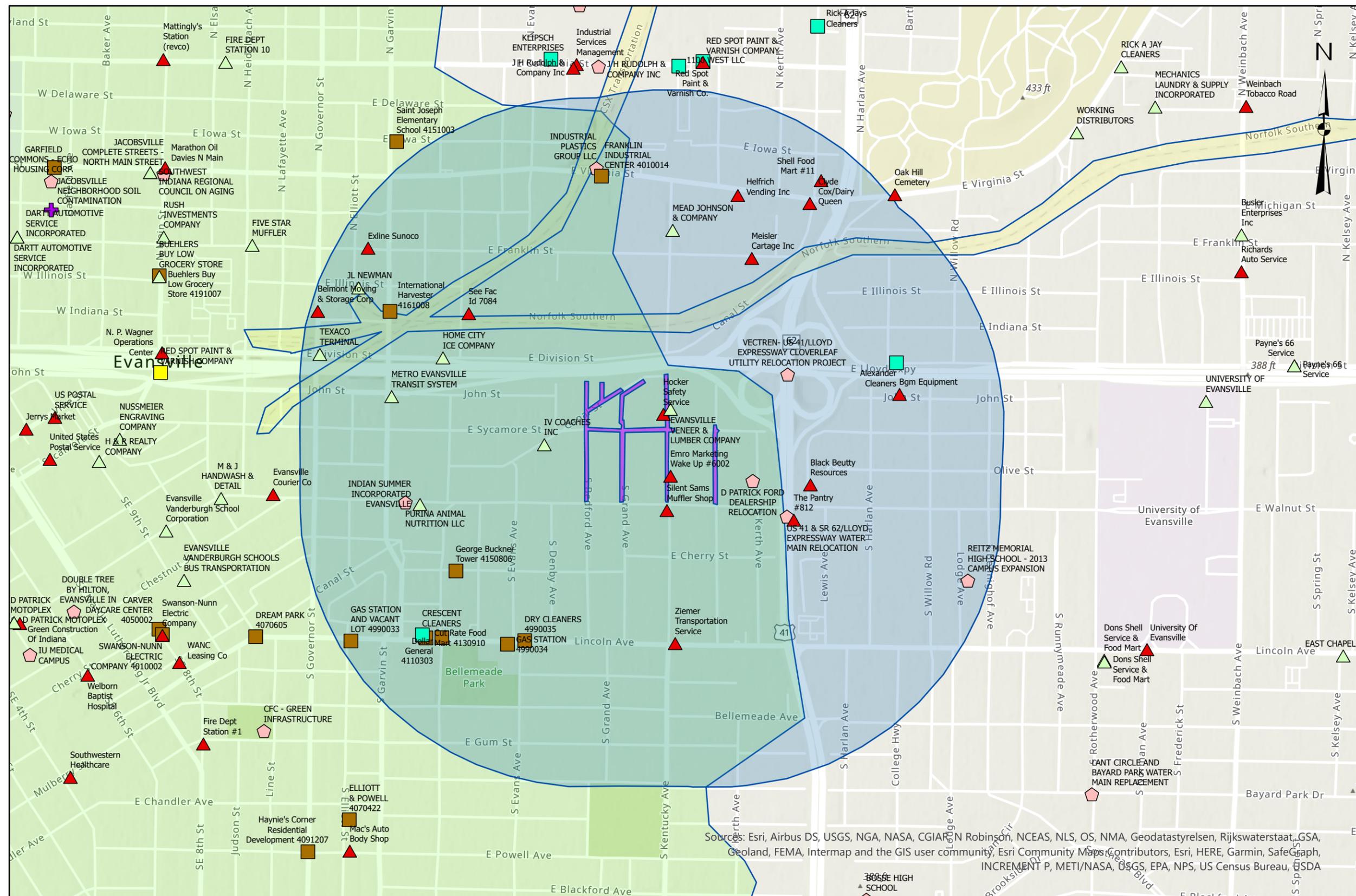
- KNOWN CONTAMINATED SITES**
- BROWNFIELD SITE
  - CLEANUP SITE
  - CONFINED FEEDING OPERATION
  - SUPERFUND SITE
  - LEAKING UNDERGROUND STORAGE TANK SITE
  - VOLUNTARY REMEDIATION PROGRAM SITE
  - INSTITUTIONAL CONTROL SITE
  - JACOBVILLE SUPERFUND SITE BOUNDARY
  - WASTE COAL COMBUSTION IMPOUNDMENT

- POTENTIAL CONTAMINATED SITES**
- ELECTRONIC RECYCLING FACILITY
  - MANUFACTURED GAS PLANT
  - NPDES FACILITY
  - NPDES PIPE LOCATION
  - SEPTAGE WASTE SITE
  - SOLID WASTE DISPOSAL/PROCESSING FACILITY
  - UNDERGROUND STORAGE TANK SITE
  - WASTE TIRE SITE
  - RAILROAD
  - SOLID WASTE LANDFILL

- PROJECT INFORMATION**
- HALF MILE RADIUS
  - PROPOSED PROJECT LIMITS

**FILED**  
**May 10, 2021**  
**INDIANA UTILITY**  
**REGULATORY COMMISSION**

**Figure 5**



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

**TITLE:** North Ballard Neighborhood Hazardous Materials Concerns

**LOCATION:** North Ballard Neighborhood,  
Evansville, IN

**X:** 87.5483650  
**Y:** 37.9754202

**PREPARED FOR:**

**EVANSVILLE WATER & SEWER  
DEPARTMENT  
REFRESH PROGRAM  
1 NW MARTIN LUTHER KING JR BLVD  
EVANSVILLE, INDIANA 47708**

**DELIVERED TO:**

**HNTB CORPORATION  
111 MONUMENT CIRCLE,  
SUITE 1200  
INDIANAPOLIS, INDIANA 46204**

**CRANE**  
ENVIRONMENTAL SERVICES, LLC

**MAIN OFFICE:**  
4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711

**INDIANAPOLIS OFFICE:**  
6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237

**CRANE PROJECT NO.120-0108G**

**DATE:** 11/6/2020



# Scoping Report

## Project Capital Cost Estimate

### North Ballard Neighborhood Water Main Replacement

Report #: 19

#### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1083	8" PVC C900 PIPE	4,080	LF	\$86.00	\$350,880.00
1085	12" PVC C900 PIPE	1,160	LF	\$102.00	\$118,320.00
1081	4" PVC C900 PIPE	250	LF	\$67.00	\$16,750.00
1026	8" MJ GATE VALVE	12	EA	\$1,645.00	\$19,740.00
1028	12" MJ GATE VALVE	4	EA	\$2,818.00	\$11,272.00
1024	4" MJ GATE VALVE	2	EA	\$1,061.00	\$2,122.00
1013	8" MJ 45° BEND	53	EA	\$441.00	\$23,373.00
1015	12" MJ 45° BEND	7	EA	\$765.00	\$5,355.00
1036	8" MJ TEE	4	EA	\$679.00	\$2,716.00
1041	12"X8" MJ TEE	2	EA	\$866.00	\$1,732.00
1078	8"X4" MJ REDUCER	1	EA	\$384.00	\$384.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	11	EA	\$5,814.00	\$63,954.00
1126	AUTOMATIC FLUSH DEVICE WITH GATE VALVE (9400)	1	EA	\$5,212.00	\$5,212.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	84	EA	\$1,682.00	\$141,288.00
6026	Proposed 12" to Existing 12" Connection	1	LS	\$10,368.00	\$10,368.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	5,560	LF	\$10.00	\$55,600.00
5007	COMPACTED AGGREGATE, NO. 53S	5,490	LF	\$9.00	\$49,410.00
5021	HOT MIX ASPHALT BASE	5,490	LF	\$28.00	\$153,720.00
5023	HOT MIX ASPHALT SURFACE	5,490	LF	\$12.00	\$65,880.00
<b>NON-STANDARD PAY ITEMS</b>					
--	Environmental Remediation Contingency	1	LS	5.0%	\$55,000.00
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$57,700.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$34,600.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$11,600.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$23,100.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$46,200.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$34,600.00	

**CONSTRUCTION COST SUBTOTAL = \$1,360,876.00**

**CONTINGENCY (30%) = \$408,300.00**

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT = \$1,770,000.00**

#### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$53,100.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$177,000.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$170,000.00

**NON-CONSTRUCTION COST SUBTOTAL = \$401,000.00**

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = \$2,171,000.00**

MILL ROAD, WEST OF  
ST JOSEPH AVENUE  
WATER MAIN  
REPLACEMENT  
SCOPING REPORT

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2022 WATER RATE CASE



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December 2020  
Last Revision January 2021

PREPARED FOR

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

PREPARED BY

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# MILL ROAD, WEST OF ST JOSEPH AVENUE WATER MAIN REPLACEMENT SCOPING REPORT

## 1. Project Summary

The proposed Mill Road, West of St Joseph Avenue Water Main Replacement Project includes the replacement of approximately 4,370 feet of water main. The project is expected to include approximately four (4) fire hydrants, four (4) gate valves, and fifty-five (55) service connections. Approximately 4,850 feet of existing water main will be abandoned and filled with grout.

### 1.1. Project Limits

The project scope includes replacement of existing water mains along W Mill Road west of N St Joseph Avenue. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### 1.2. Project Drivers

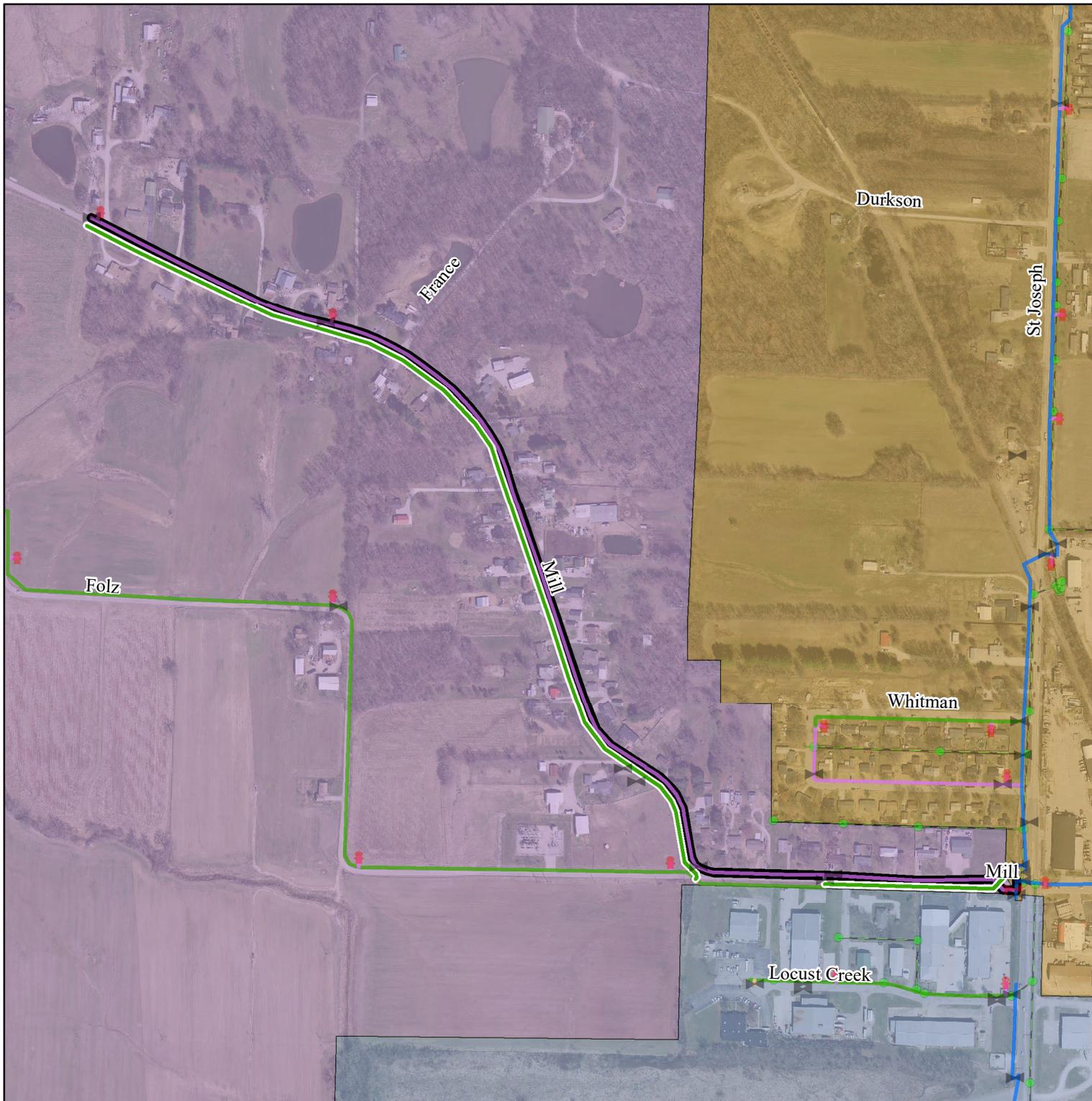
The existing water mains within the proposed project limits have replacement prioritization scores ranging from 190 to 275. The average score weighted by length for the existing water mains is 246.

This project had a high replacement rating due to a high likelihood of failure criteria score from this project's high operating pressure. The location along the major collector W Mill Road, pipe material and low available fire flow also contributed to this project's high score.

### 1.3. Project Cost

The total capital cost estimate for the project is \$1,627,000. This includes \$1,327,000 construction costs and \$300,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 23**  
**Mill Rd, West of Saint Joseph Avenue**



**Legend**

**Proposed Project**

 Trenchless Installation

 Main to be Abandoned

 Proposed Main

**Water Infrastructure**

 Hydrants

**Valves**

 System Isolation

 System Separation

**Mains**

 <6"  20"

 6"  24"

 8"  30"

 10"  36"

 12"  48"

 16"  Private

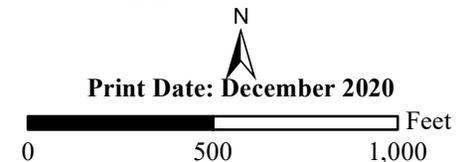
**Pressure Zones**

 Central  Lincoln

 Killian  Northern

**Sanitary Infrastructure**

 Manholes  Sewer







### 3.1. Site Specific Concerns

The preliminary environmental assessment identified zero (0) known contaminated sites with close proximity to the project.

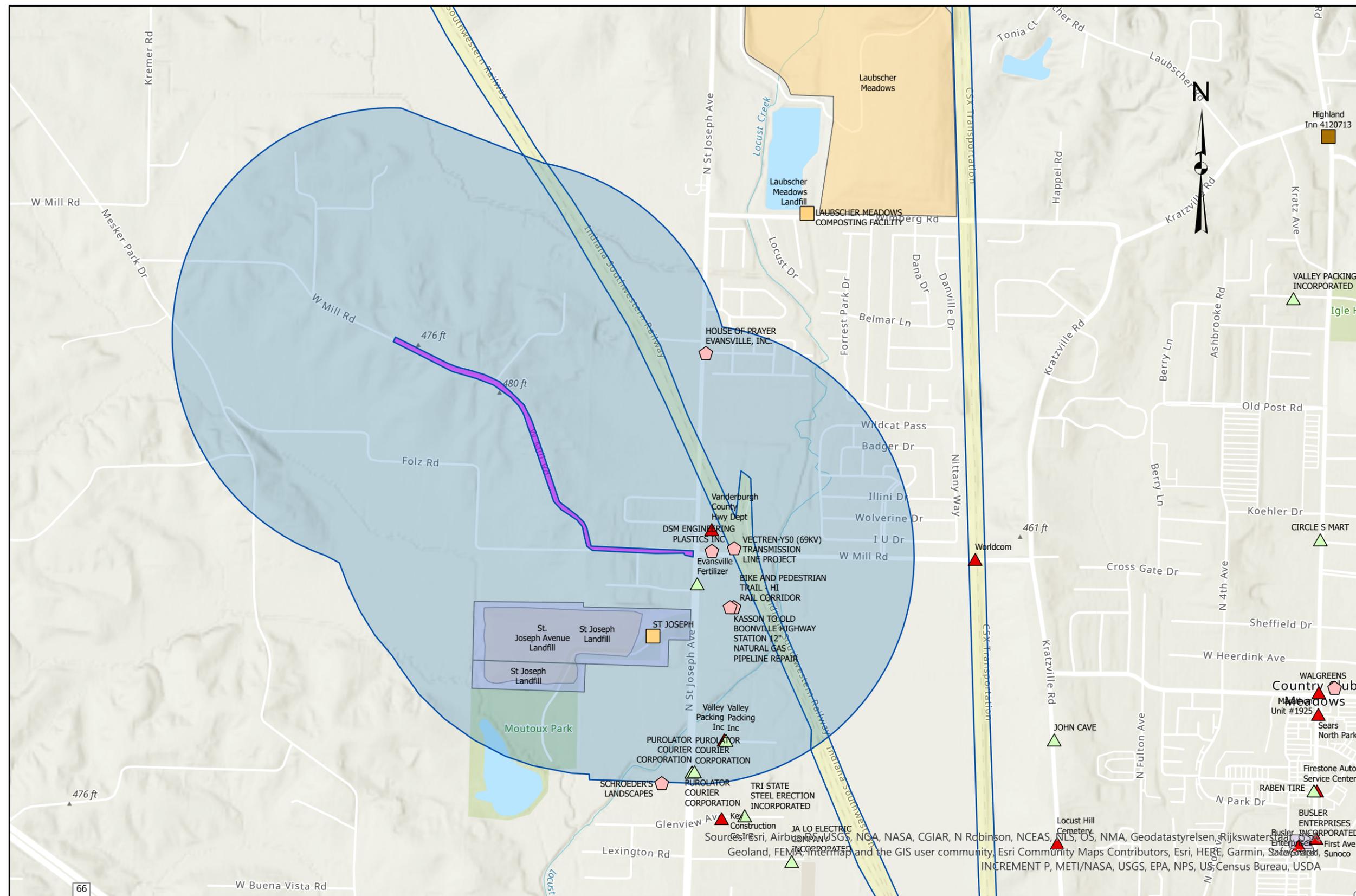
**LEGEND**

- KNOWN CONTAMINATED SITES**
- BROWNFIELD SITE
  - CLEANUP SITE
  - CONFINED FEEDING OPERATION
  - SUPERFUND SITE
  - LEAKING UNDERGROUND STORAGE TANK SITE
  - VOLUNTARY REMEDIATION PROGRAM SITE
  - INSTITUTIONAL CONTROL SITE
  - JACOBVILLE SUPERFUND SITE BOUNDARY
  - WASTE COAL COMBUSTION IMPOUNDMENT

- POTENTIAL CONTAMINATED SITES**
- ELECTRONIC RECYCLING FACILITY
  - MANUFACTURED GAS PLANT
  - NPDES FACILITY
  - NPDES PIPE LOCATION
  - SEPTAGE WASTE SITE
  - SOLID WASTE DISPOSAL/PROCESSING FACILITY
  - UNDERGROUND STORAGE TANK SITE
  - WASTE TIRE SITE
  - RAILROAD
  - SOLID WASTE LANDFILL

**PROJECT INFORMATION**

- HALF MILE RADIUS
- PROPOSED PROJECT LIMITS



**Figure 4**



<p><b>TITLE: W Mill Road Hazardous Materials Concerns</b></p>	<p><b>PREPARED FOR:</b> EVANSVILLE WATER &amp; SEWER DEPARTMENT REFRESH PROGRAM 1 NW MARTIN LUTHER KING JR BLVD EVANSVILLE, INDIANA 47708</p>	<p><b>DELIVERED TO:</b> HNTB CORPORATION 111 MONUMENT CIRCLE, SUITE 1200 INDIANAPOLIS, INDIANA 46204</p>	 <p><b>CRANE</b> ENVIRONMENTAL SERVICES, LLC</p> <p>MAIN OFFICE: 4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711</p> <p>INDIANAPOLIS OFFICE: 6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237</p>	<p><b>CRANE PROJECT NO.120-0108A</b></p>
<p><b>LOCATION: W Mill Road, West of N. St. Joseph Avenue, Evansville, IN. X: 87.6047732 Y: 38.0273066</b></p>				<p><b>DATE: 11/6/2020</b></p>



# Scoping Report

## Project Capital Cost Estimate

**Mill Road, West of St Joseph Avenue Water Main Replacement**  
Report #: 23

### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1083	8" PVC C900 PIPE	4,370	LF	\$86.00	\$375,820.00
1026	8" MJ GATE VALVE	4	EA	\$1,645.00	\$6,580.00
1013	8" MJ 45° BEND	10	EA	\$441.00	\$4,410.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	4	EA	\$5,814.00	\$23,256.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	55	EA	\$1,682.00	\$92,510.00
6025	Proposed 8" to Existing 12" Connection	1	LS	\$10,115.00	\$10,115.00
6004	Proposed 8" to Existing 8" Connection	2	LS	\$7,122.00	\$14,244.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	4,850	LF	\$10.00	\$48,500.00
5007	COMPACTED AGGREGATE, NO. 53S	4,370	LF	\$9.00	\$39,330.00
5021	HOT MIX ASPHALT BASE	4,370	LF	\$28.00	\$122,360.00
5023	HOT MIX ASPHALT SURFACE	4,370	LF	\$12.00	\$52,440.00
<b>NON-STANDARD PAY ITEMS</b>					
--	System Separation Valve Vault	1	EA	\$75,000.00	\$75,000.00
--					
--					
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$43,300.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$26,000.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$8,700.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$17,300.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$34,600.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$26,000.00	

**CONSTRUCTION COST SUBTOTAL =** \$1,020,465.00

**CONTINGENCY (30%) =** \$306,200.00

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT =** **\$1,327,000.00**

### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$39,900.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$132,700.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$127,400.00

**NON-CONSTRUCTION COST SUBTOTAL =** \$300,000.00

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT =** **\$1,627,000.00**

MOFFET LANE,  
BROWNING ROAD, AND  
VIEHE DRIVE WATER  
MAIN REPLACEMENT  
SCOPING REPORT

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2022 WATER RATE CASE



---

December 2020  
Last Revision January 2021

PREPARED FOR

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

PREPARED BY

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# MOFFET LANE, BROWNING ROAD, AND VIEHE DRIVE WATER MAIN REPLACEMENT SCOPING REPORT

## 1. Project Summary

The proposed Moffet Lane, Browning Road, and Viehe Drive Water Main Replacement Project includes the replacement of approximately 7,140 feet of water main. The project is expected to include approximately seven (7) fire hydrants, six (6) gate valves, four (4) automatic flushing device, and seventy-five (75) service connections. Approximately 9,270 feet of existing water main will be abandoned and filled with grout. Two (2) existing parallel water mains will be replaced by one (1) water main so that only 7,140 feet of water main is proposed.

### 1.1. Project Limits

The project scope includes replacement of existing water mains along Viehe Drive, Beatty Lane, SE Browning Road between Petersburg Road and Kansas Road, Erskine Lane, and Moffet Lane. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### 1.2. Project Drivers

The existing water mains within the proposed project limits have replacement prioritization scores ranging from 190 to 300. The average score weighted by length for the existing water mains is 216.

This project had a high replacement rating due to a high likelihood of failure criteria score from this project's high historical rate of failure, short service life remaining and high operating pressure. This project also had a high consequence of failure score due to being located along Petersburg Road, a major collector. Pipe material and low available fire flow also contributed to this project's high score.

### 1.3. Project Cost

The total capital cost estimate for the project is \$2,445,000. This includes \$1,994,000 construction costs and \$451,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 24**  
**Moffet Lane, Browning Road, and Viehe Drive**



**Legend**

**Proposed Project**

 Trenchless Installation

 Main to be Abandoned

 Proposed Main

**Water Infrastructure**

 Hydrants

**Valves**

 System Isolation

 System Separation

**Mains**

 <6"  20"

 6"  24"

 8"  30"

 10"  36"

 12"  48"

 16"  Private

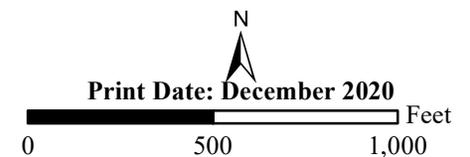
**Pressure Zones**

 Central  Lincoln

 Killian  Northern

**Sanitary Infrastructure**

 Manholes  Sewer



## 2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement with all 8-inch diameter water main in the project limits and removal of the 6-inch diameter water main on Petersburg Road. Beatty Lane, Viehe Drive, and Browning Road were reconnected to the existing 12-diameter water main on Petersburg Road.

### 2.1. Results

The existing available fire flow in the project limits are shown in Figure 2. The available fire flow in the project limits for Alternative 1 are shown in Figure 3.

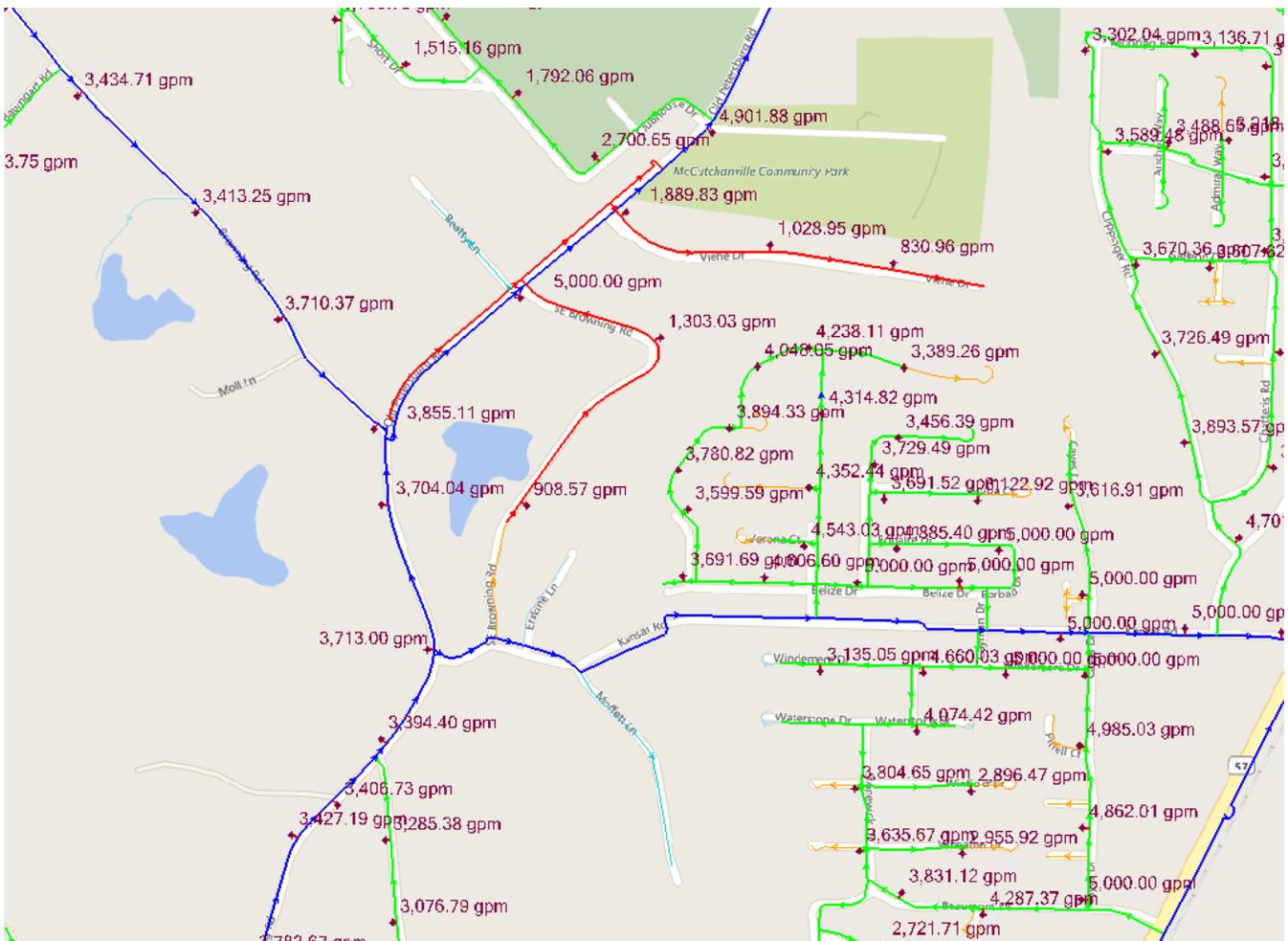
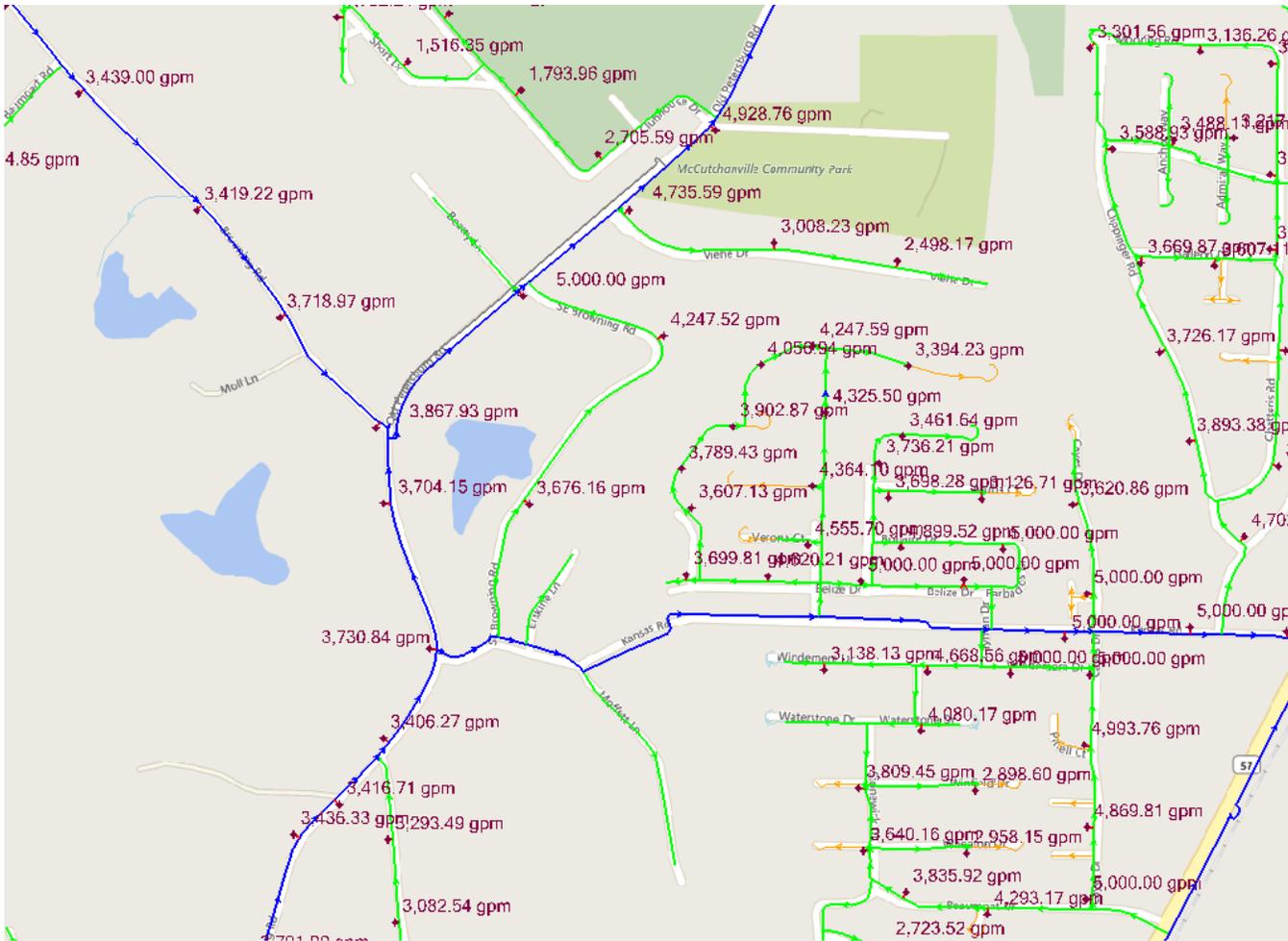


Figure 2. Existing Available Fire Flow



**Figure 3. Alternative 1 Available Fire Flow**

### 2.1. Conclusion

The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. Alternative 1 provides the required fire flow, therefore Alternative 1 was selective to provide the required fire flow in the project area.

## 3. Environmental Assessment

A preliminary environmental assessment was performed within the project limits and surrounding area using IndianaMap and Indiana Department of Transportation (INDOT) Geographical Information Office (GIO) Library to identify sites that may be of concern within one-half mile of the proposed project limits. The assessment of the project limits and surrounding area identified five (5) potential contaminated sites and two (2) known contaminated site as shown in Figure 4.

**MOFFET LANE, BROWNING ROAD, AND VIEHE DRIVE WATER MAIN  
REPLACEMENT SCOPING REPORT**

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**3.1. Site Specific Concerns**

The preliminary environmental assessment identified zero (0) known contaminated sites with close proximity to the project.

**LEGEND**

**KNOWN CONTAMINATED SITES**

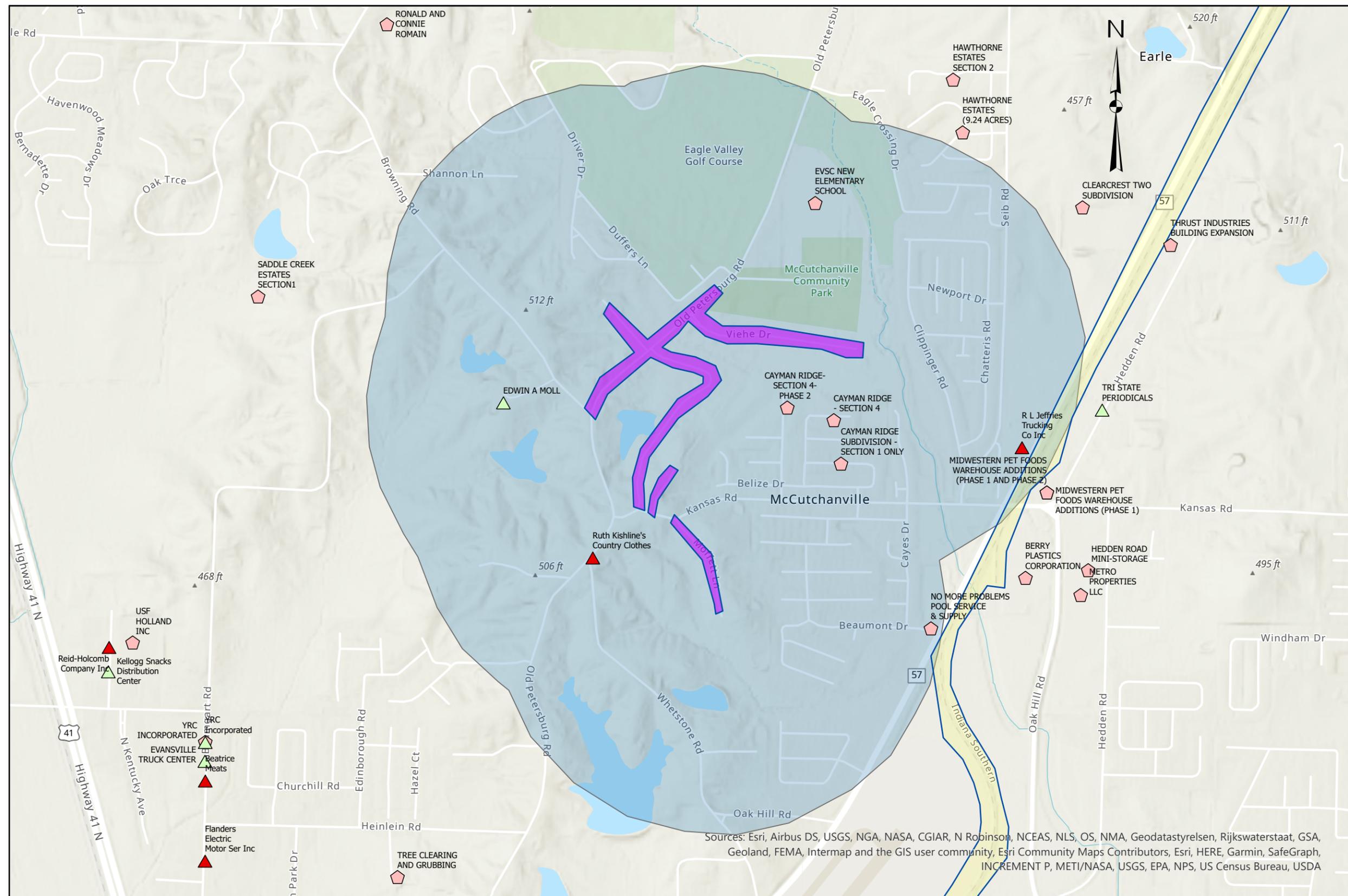
- BROWNFIELD SITE
- CLEANUP SITE
- CONFINED FEEDING OPERATION
- SUPERFUND SITE
- LEAKING UNDERGROUND STORAGE TANK SITE
- VOLUNTARY REMEDIATION PROGRAM SITE
- INSTITUTIONAL CONTROL SITE
- JACOBVILLE SUPERFUND SITE BOUNDARY
- WASTE COAL COMBUSTION IMPOUNDMENT

**POTENTIAL CONTAMINATED SITES**

- ELECTRONIC RECYCLING FACILITY
- MANUFACTURED GAS PLANT
- NPDES FACILITY
- NPDES PIPE LOCATION
- SEPTAGE WASTE SITE
- SOLID WASTE DISPOSAL/PROCESSING FACILITY
- UNDERGROUND STORAGE TANK SITE
- WASTE TIRE SITE
- RAILROAD
- SOLID WASTE LANDFILL

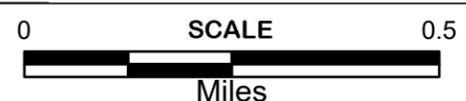
**PROJECT INFORMATION**

- HALF MILE RADIUS
- PROPOSED PROJECT LIMITS



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

**Figure 4**



**TITLE:** Moffet Ln., Browning Rd., Viehe Dr., Hazardous Materials Concerns

**LOCATION:** Moffet Ln., Browning Rd., Viehe Dr., Evansville, IN

**X:** 87.5222357  
**Y:** 37.0688480

**PREPARED FOR:**

EVANSVILLE WATER & SEWER DEPARTMENT  
REFRESH PROGRAM  
1 NW MARTIN LUTHER KING JR BLVD  
EVANSVILLE, INDIANA 47708

**DELIVERED TO:**

HNTB CORPORATION  
111 MONUMENT CIRCLE,  
SUITE 1200  
INDIANAPOLIS, INDIANA 46204

**CRANE**  
ENVIRONMENTAL SERVICES, LLC

**MAIN OFFICE:**  
4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711

**INDIANAPOLIS OFFICE:**  
6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237

**CRANE PROJECT NO.** 120-0108E

**DATE:** 11/6/2020



# Scoping Report

## Project Capital Cost Estimate

**Moffet Lane, Browning Road, and Viehe Drive Water Main Replacement**  
Report #: 24

### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1083	8" PVC C900 PIPE	6,260	LF	\$86.00	\$538,360.00
1081	4" PVC C900 PIPE	880	LF	\$67.00	\$58,960.00
1026	8" MJ GATE VALVE	2	EA	\$1,645.00	\$3,290.00
1024	4" MJ GATE VALVE	4	EA	\$1,061.00	\$4,244.00
1013	8" MJ 45° BEND	29	EA	\$441.00	\$12,789.00
1224	4" MJ 45° BEND	9	EA	\$302.00	\$2,718.00
1078	8"X4" MJ REDUCER	4	EA	\$384.00	\$1,536.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	7	EA	\$5,814.00	\$40,698.00
1126	AUTOMATIC FLUSH DEVICE WITH GATE VALVE (9400)	4	EA	\$5,212.00	\$20,848.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	85	EA	\$1,682.00	\$142,970.00
6025	Proposed 8" to Existing 12" Connection	3	LS	\$10,115.00	\$30,345.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	9,270	LF	\$10.00	\$92,700.00
5007	COMPACTED AGGREGATE, NO. 53S	7,140	LF	\$9.00	\$64,260.00
5021	HOT MIX ASPHALT BASE	7,140	LF	\$28.00	\$199,920.00
5023	HOT MIX ASPHALT SURFACE	7,140	LF	\$12.00	\$85,680.00
<b>NON-STANDARD PAY ITEMS</b>					
--					
--					
--					
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$65,000.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$39,000.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$13,000.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$26,000.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$52,000.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$39,000.00	

**CONSTRUCTION COST SUBTOTAL =** \$1,533,318.00  
**CONTINGENCY (30%) =** \$460,000.00

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT =** **\$1,994,000.00**

### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$59,900.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$199,400.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$191,500.00

**NON-CONSTRUCTION COST SUBTOTAL =** \$451,000.00

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT =** **\$2,445,000.00**

DOWNTOWN AREA  
BETWEEN MARTIN  
LUTHER KING JR  
BOULEVARD AND  
MORTON AVENUE,  
NORTH OF WALNUT  
WATER MAIN  
REPLACEMENT  
SCOPING REPORT  

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2022 WATER RATE CASE



---

December 2020  
Last Revision January 2021

**PREPARED FOR**

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

**PREPARED BY**

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# **DOWNTOWN AREA BETWEEN MARTIN LUTHER KING JR BOULEVARD AND MORTON AVENUE, NORTH OF WALNUT WATER MAIN REPLACEMENT SCOPING REPORT**

## **1. Project Summary**

The proposed Downtown Area between Martin Luther King Jr Boulevard and Morton Avenue, North of Walnut Water Main Replacement Project includes the replacement of approximately 14,660 feet of water main. The project is expected to include approximately twenty-three (23) fire hydrants, forty (40) gate valves, two (2) butterfly valves, and forty-five (45) service connections. Approximately 14,450 feet of existing water main will be abandoned and filled with grout.

### **1.1. Project Limits**

The project scope includes replacement of existing water mains along E Sycamore Street from SE Martin Luther King Jr Blvd to S Morton Avenue, Vine Street east of SE Martin Luther King Jr Blvd, 10<sup>th</sup> Street, Main Street from SE 9<sup>th</sup> St across E Lloyd Expressway, Pasco Avenue, John Street from Main Street to S Morton Avenue, S Heidelberg Ave, Olive Street, S Garvin Street north of E Sycamore Street, Elliot Street at the intersection with E Sycamore Street and S Morton Avenue between John Street and E Sycamore Street. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### **1.2. Project Drivers**

The existing water mains within the proposed project limits have replacement prioritization scores ranging from 140 to 315. The average score weighted by length for the existing water mains is 220.

This project had a high replacement rating due to a high likelihood of failure criteria score which is from this project's high historical rate of failure and short service life remaining. Pipe material also contributed to this project's high score.

### **1.3. Project Cost**

The total capital cost estimate for the project is \$7,251,000. This includes \$5,914,000 construction costs and \$1,337,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 26**  
**Downtown Area between**  
**Martin Luther King Jr**  
**Boulevard and Morton**  
**Avenue, North of Walnut**  
**Legend**

**Proposed Project**

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

**Water Infrastructure**

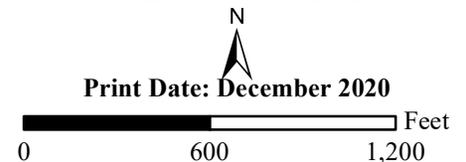
- Hydrants
- Valves**
- System Isolation
- System Separation
- Mains**
- <6" 20"
- 6" 24"
- 8" 30"
- 10" 36"
- 12" 48"
- 16" Private

**Pressure Zones**

- Central Lincoln
- Killian Northern

**Sanitary Infrastructure**

- Manholes Sewer

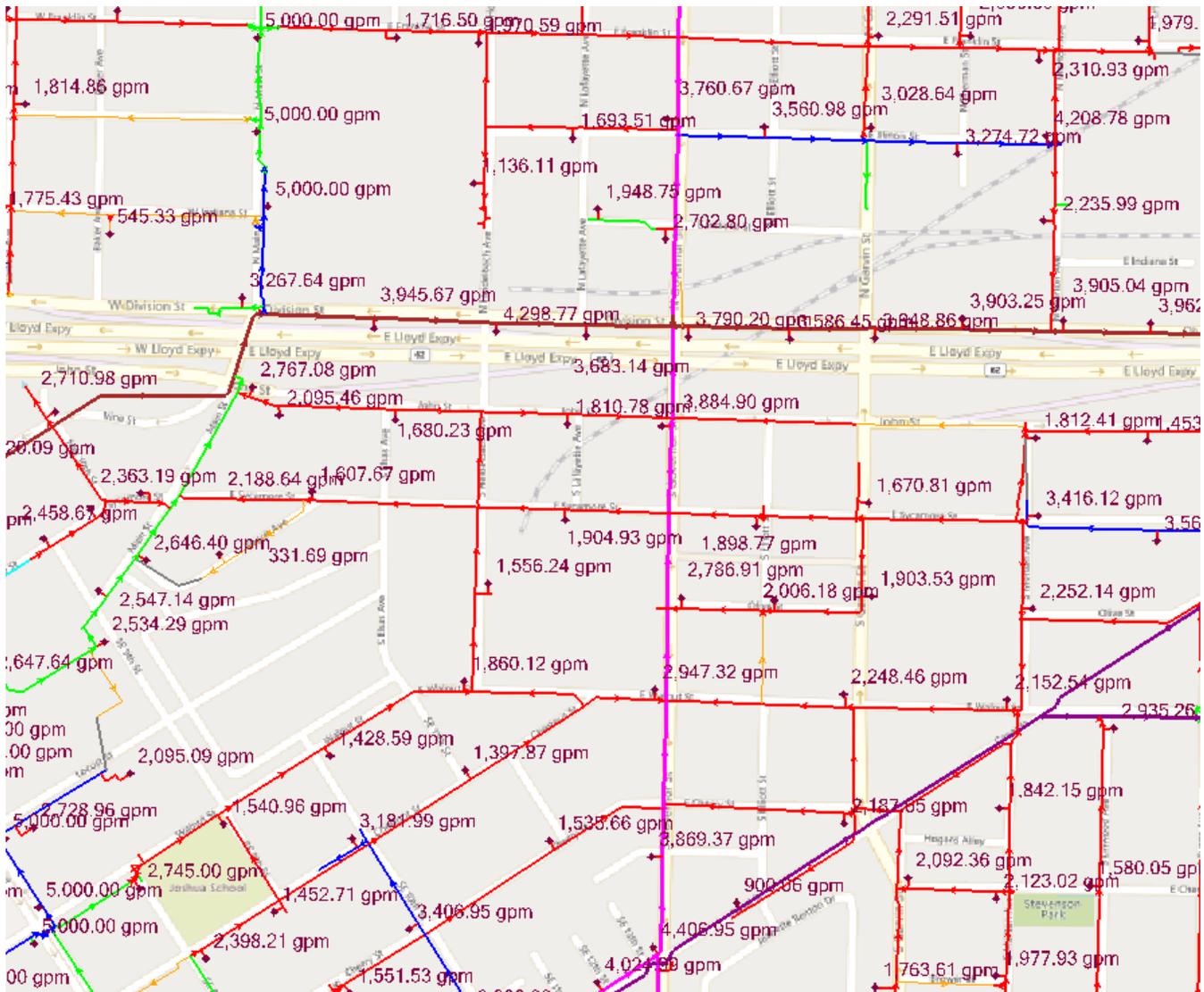


## 2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. Two (2) alternatives were evaluated for replacement. Alternative 1 includes replacement with all 8-inch diameter water main in the project limits except for the replacement in kind of 20-inch diameter of water main along Vine Street and a portion of Main Street and 12-inch water main along Sycamore Street between Morton Avenue and Governor Street. Alternative 2 included replacement with all 8-inch diameter water main in the project limits except for the replacement in kind of 20-inch diameter of water main along Vine Street and a portion of Main Street and replacement with 12-inch diameter water main along a portion of Main Street and Sycamore Street and along Sycamore Street between Morton Avenue and Governor Street . Both alternatives feature 2 additional loops (9<sup>th</sup> Street to Locust Street and Pasco Avenue to Main Street) and the abandonment of the dead-end main on Garvin Street.

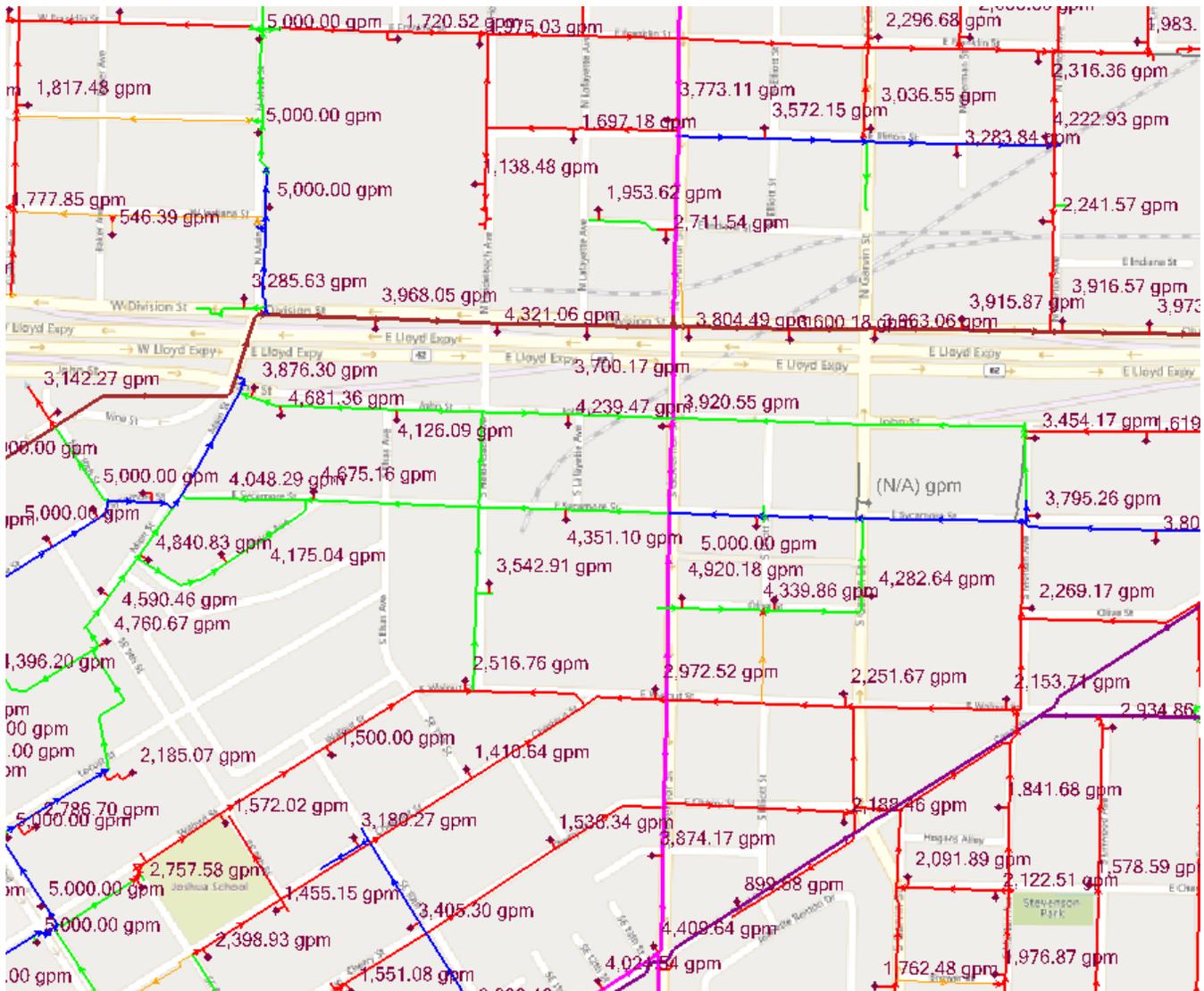
### 2.1. Results

The existing available fire flow in the project limits are shown in **Figure 2**. The available fire flow in the project limits for Alternative 1 are shown in **Figure 3**. The available fire flow in the project limits for Alternative 2 are shown in **Figure 4**.



**Figure 2. Existing Available Fire Flow**





**Figure 4. Alternative 2 Available Fire Flow**

### 2.1. Conclusion

The project area is primarily commercial, so the required fire flow is expected to be approximately 2,000 gallons per minute. All alternatives provide adequate pressure and available fire flow, therefore Alternative 1 was selected to minimize project costs.

### 3. Environmental Assessment

A preliminary environmental assessment was performed within the project limits and surrounding area using IndianaMap and Indiana Department of Transportation (INDOT) Geographical Information Office (GIO) Library to identify sites that may be of concern within one-half mile of the proposed project limits. The assessment of the project limits and surrounding area identified thirty-three (33) potential contaminated sites and fifty-nine (59) known contaminated sites as shown in Figure 5.

**DOWNTOWN AREA BETWEEN MARTIN LUTHER KING JR BOULEVARD AND WORTON AVENUE, NORTH OF WALNUT WATER MAIN REPLACEMENT SCOPING REPORT**

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**3.1. Site Specific Concerns**

The preliminary environmental assessment identified five (5) known contaminated sites with close proximity to the project. These five (5) known contaminated sites include four (4) leaking underground storage tank sites and one (1) voluntary remediation program site.

**LEGEND**

**KNOWN CONTAMINATED SITES**

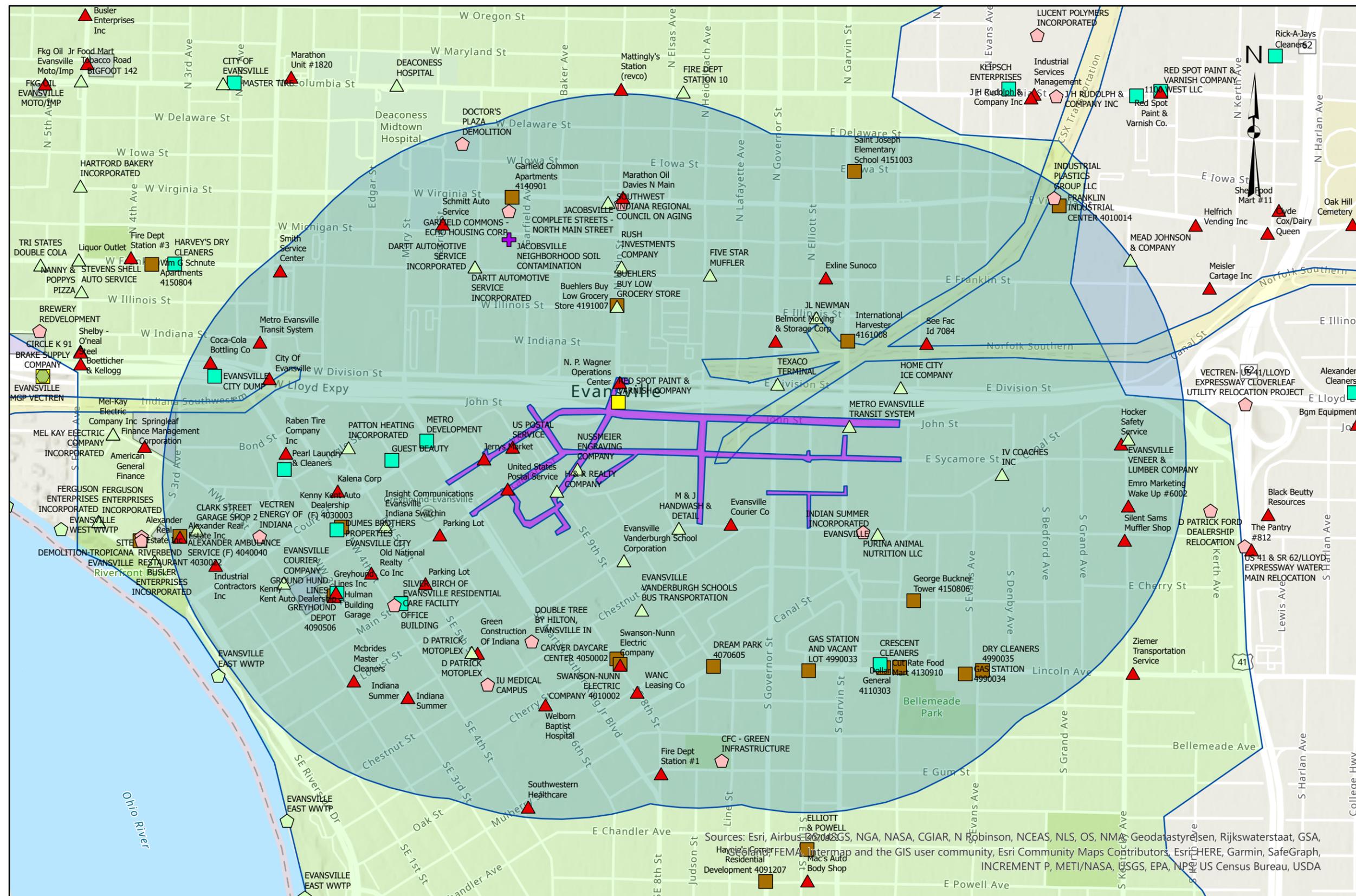
- BROWNFIELD SITE
- CLEANUP SITE
- CONFINED FEEDING OPERATION
- SUPERFUND SITE
- LEAKING UNDERGROUND STORAGE TANK SITE
- VOLUNTARY REMEDIATION PROGRAM SITE
- INSTITUTIONAL CONTROL SITE
- JACOBVILLE SUPERFUND SITE BOUNDARY
- WASTE COAL COMBUSTION IMPOUNDMENT

**POTENTIAL CONTAMINATED SITES**

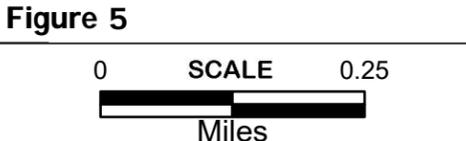
- ELECTRONIC RECYCLING FACILITY
- MANUFACTURED GAS PLANT
- NPDES FACILITY
- NPDES PIPE LOCATION
- SEPTAGE WASTE SITE
- SOLID WASTE DISPOSAL/PROCESSING FACILITY
- UNDERGROUND STORAGE TANK SITE
- WASTE TIRE SITE
- RAILROAD
- SOLID WASTE LANDFILL

**PROJECT INFORMATION**

- HALF MILE RADIUS
- PROPOSED PROJECT LIMITS



Sources: Esri, Airbus, NOAA, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastreisen, Rijkswaterstaat, GSA, Hargis, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Esri HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



**TITLE:** Downtown Area Hazardous Materials Concerns

**LOCATION:** Downtown Area,  
Martin Luther King Jr Blvd and Morton Ave, North of Walnut  
Evansville, IN  
X: 87.5648574  
Y: 37.9756229

**PREPARED FOR:**

**EVANSVILLE WATER & SEWER DEPARTMENT**  
**REFRESH PROGRAM**  
1 NW MARTIN LUTHER KING JR BLVD  
EVANSVILLE, INDIANA 47708

**DELIVERED TO:**

**HNTB CORPORATION**  
111 MONUMENT CIRCLE,  
SUITE 1200  
INDIANAPOLIS, INDIANA 46204

**CRANE**  
ENVIRONMENTAL SERVICES, LLC

**MAIN OFFICE:**  
4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711

**INDIANAPOLIS OFFICE:**  
6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237

**CRANE PROJECT NO.120-0108U**

**DATE: 11/6/2020**



# Scoping Report

## Project Capital Cost Estimate

### Downtown Area between Martin Luther King Jr Boulevard and Morton Avenue, North of Walnut Water Main Replacement

Report #: 26

#### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1083	8" PVC C900 PIPE	11,030	LF	\$86.00	\$948,580.00
1085	12" PVC C900 PIPE	1,260	LF	\$102.00	\$128,520.00
1166	20" DUCTILE IRON PIPE	1,930	LF	\$550.00	\$1,061,500.00
1144	24" STEEL CASING PIPE	180	LF	\$198.00	\$35,640.00
1089	8" DUCTILE IRON PIPE	260	LF	\$145.00	\$37,700.00
1140	12" STEEL CASING PIPE	260	LF	\$150.00	\$39,000.00
1096	8" SOLID SLEEVE	4	EA	\$394.00	\$1,576.00
1026	8" MJ GATE VALVE	38	EA	\$1,645.00	\$62,510.00
1028	12" MJ GATE VALVE	2	EA	\$2,818.00	\$5,636.00
1266	20" Butterfly Valve	2	EA	\$7,500.00	\$15,000.00
1013	8" MJ 45° BEND	78	EA	\$441.00	\$34,398.00
1267	20" MJ 45° Bend	18	EA	\$3,000.00	\$54,000.00
1036	8" MJ TEE	12	EA	\$679.00	\$8,148.00
1268	20"X8" MJ TEE	3	EA	\$7,500.00	\$22,500.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	23	EA	\$5,814.00	\$133,722.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	45	EA	\$1,682.00	\$75,690.00
7009	20" Tapping Sleeve & 20" Tapping Valve	2	LS	\$15,000.00	\$30,000.00
6025	Proposed 8" to Existing 12" Connection	6	LS	\$10,115.00	\$60,690.00
6003	Proposed 8" to Existing 6" Connection	2	LS	\$6,308.00	\$12,616.00
6026	Proposed 12" to Existing 12" Connection	1	LS	\$10,368.00	\$10,368.00
6016	Proposed 20" to Existing 8" Connection	1	LS	\$15,785.00	\$15,785.00
6014	Proposed 20" to Existing 4" Connection	1	LS	\$14,809.00	\$14,809.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	14,450	LF	\$10.00	\$144,500.00
5007	COMPACTED AGGREGATE, NO. 53S	14,660	LF	\$9.00	\$131,940.00
5021	HOT MIX ASPHALT BASE	14,660	LF	\$28.00	\$410,480.00
5023	HOT MIX ASPHALT SURFACE	14,660	LF	\$12.00	\$175,920.00
<b>NON-STANDARD PAY ITEMS</b>					
--	Environmental Remediation Contingency	1	LS	5.0%	\$183,600.00
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$192,800.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$115,700.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$38,600.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$77,100.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$154,200.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$115,700.00	

CONSTRUCTION COST SUBTOTAL = \$4,548,928.00

CONTINGENCY (30%) = \$1,364,700.00

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT = \$5,914,000.00**

#### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$177,500.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$591,400.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$567,800.00

NON-CONSTRUCTION COST SUBTOTAL = \$1,337,000.00

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = \$7,251,000.00**



DOWNTOWN AREA  
BETWEEN 2ND STREET  
AND MARTIN LUTHER  
KING JR BOULEVARD,  
NORTH OF MAIN  
WATER MAIN  
REPLACEMENT  
SCOPING REPORT

---

2022 WATER RATE CASE



---

December 2020  
Last Revision January 2021

PREPARED FOR

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

PREPARED BY

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# DOWNTOWN AREA BETWEEN 2ND STREET AND MARTIN LUTHER KING JR BOULEVARD, NORTH OF MAIN WATER MAIN REPLACEMENT SCOPING REPORT

## 1. Project Summary

The proposed Downtown Area between 2nd Street and Martin Luther King Jr Boulevard, North of Main Water Main Replacement Project includes the replacement of approximately 13,010 feet of water main. The project is expected to include approximately twenty-eight (28) fire hydrants, thirty-seven (37) gate valves, four (4) butterfly valves, and forty (40) service connections. Approximately 13,370 feet of existing water main will be abandoned and filled with grout.

### 1.1. Project Limits

The project scope includes replacement of existing water mains along Bond Street between 3<sup>rd</sup> Avenue and 4<sup>th</sup> Street, Carpenter Street between 2<sup>nd</sup> Street and 3<sup>rd</sup> Avenue, Court Street from 2<sup>nd</sup> Street to 3<sup>rd</sup> Street and from Market Street to 6<sup>th</sup> Street, Vine Street from 2<sup>nd</sup> Street to 3<sup>rd</sup> Street and from 6<sup>th</sup> Street to Martin Luther King Jr Boulevard, Sycamore Street from 2<sup>nd</sup> Street to 3<sup>rd</sup> Street and from 4<sup>th</sup> Street to 5<sup>th</sup> Street and from 6<sup>th</sup> Street to Martin Luther King Jr Boulevard, 6<sup>th</sup> Street north of Ingle Street and between Court Street and Main Street, 5<sup>th</sup> Street from Court Street to Vine Street and from Sycamore Street to Main Street, 4<sup>th</sup> Street from Lloyd Expressway to Court Street and from Court Street to Vine Street and from Sycamore Street to Main Street, 3<sup>rd</sup> Street from Bond Street to Main Street, and 2<sup>nd</sup> Street from 3<sup>rd</sup> Avenue to Main Street. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### 1.2. Project Drivers

The existing water mains within the proposed project limits have replacement prioritization scores ranging from 140 to 315. The average score weighted by length for the existing water mains is 217.

This project had a high replacement rating due to a high likelihood of failure criteria score from this project's high historical rate of failure and short service life remaining. This project also had a high consequence of failure score due to being located along Sycamore Street, a minor arterial. Pipe material also contributed to this project's high score.

### 1.3. Project Cost

The total capital cost estimate for the project is \$5,569,000. This includes \$4,542,000 construction costs and \$1,027,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 27**  
**Downtown Area between**  
**2nd Street and Martin**  
**Luther King Jr Boulevard,**  
**North of Main**

**Legend**

**Proposed Project**

 Trenchless Installation

 Main to be Abandoned

 Proposed Main

**Water Infrastructure**

 Hydrants

**Valves**

 System Isolation

 System Separation

**Mains**

 <6"  20"

 6"  24"

 8"  30"

 10"  36"

 12"  48"

 16"  Private

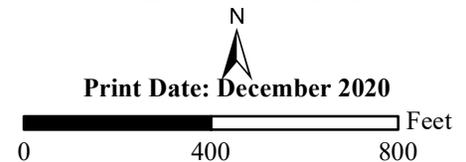
**Pressure Zones**

 Central  Lincoln

 Killian  Northern

**Sanitary Infrastructure**

 Manholes  Sewer



## 2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement with 20-inch diameter water main along Vine Street, 12-inch diameter water main along Sycamore Street, and all 8-inch diameter water main in the remainder of the project limits.

### 2.1. Results

The existing available fire flow in the project limits are shown in Figure 2. The available fire flow in the project limits for Alternative 1 are shown in Figure 3.

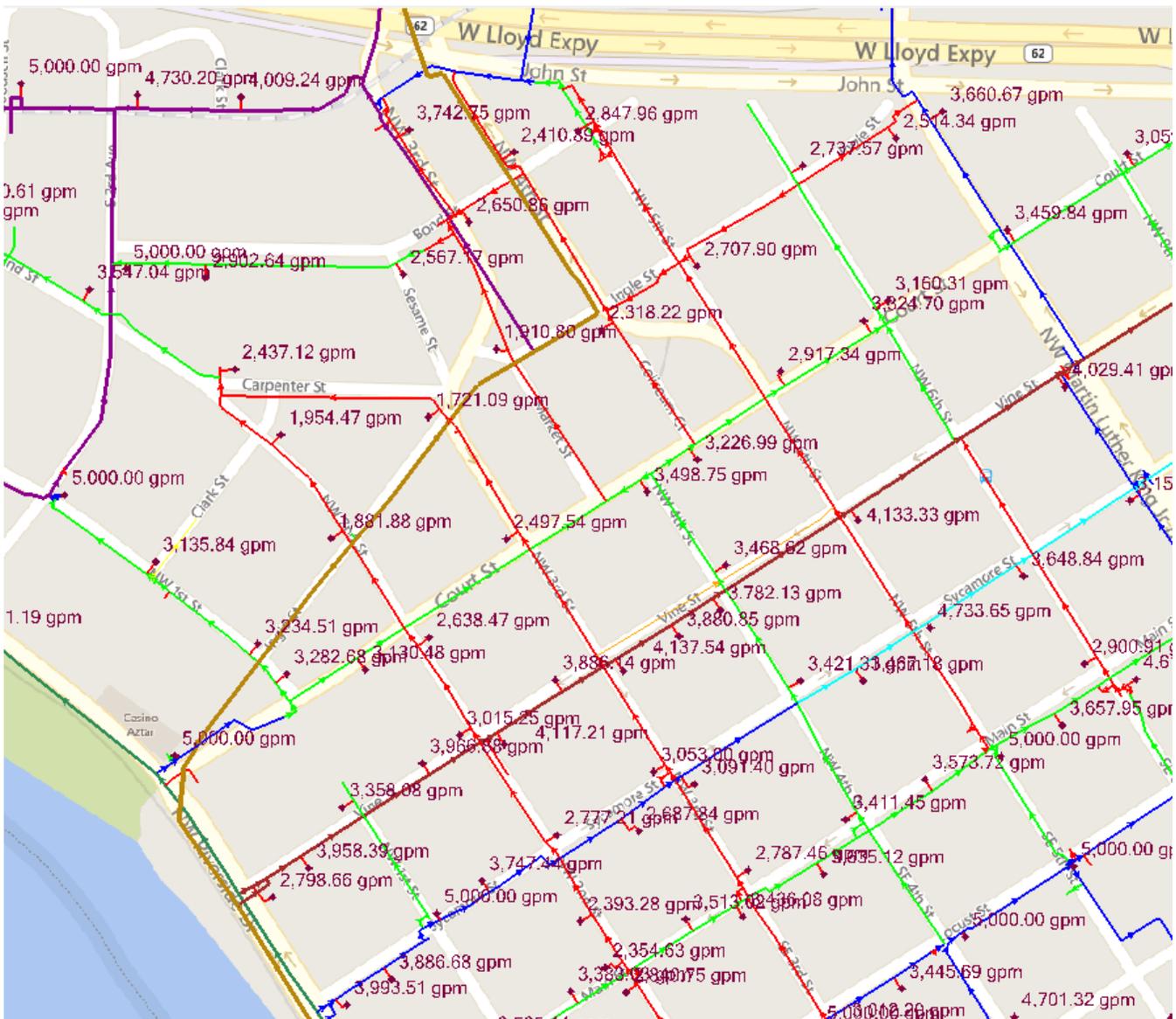
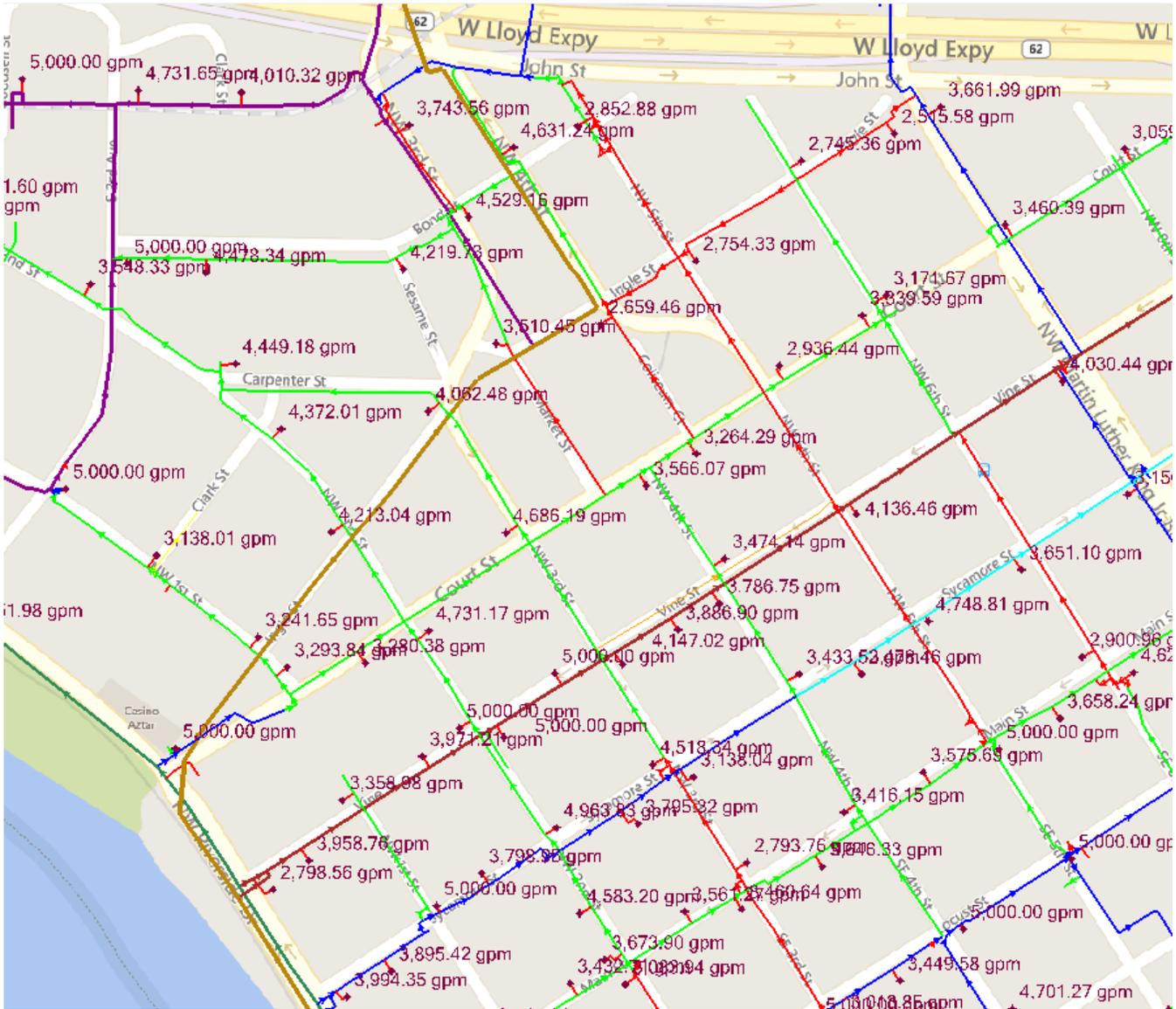


Figure 2. Existing Available Fire Flow



**Figure 3. Alternative 1 Available Fire Flow**

### 2.1. Conclusion

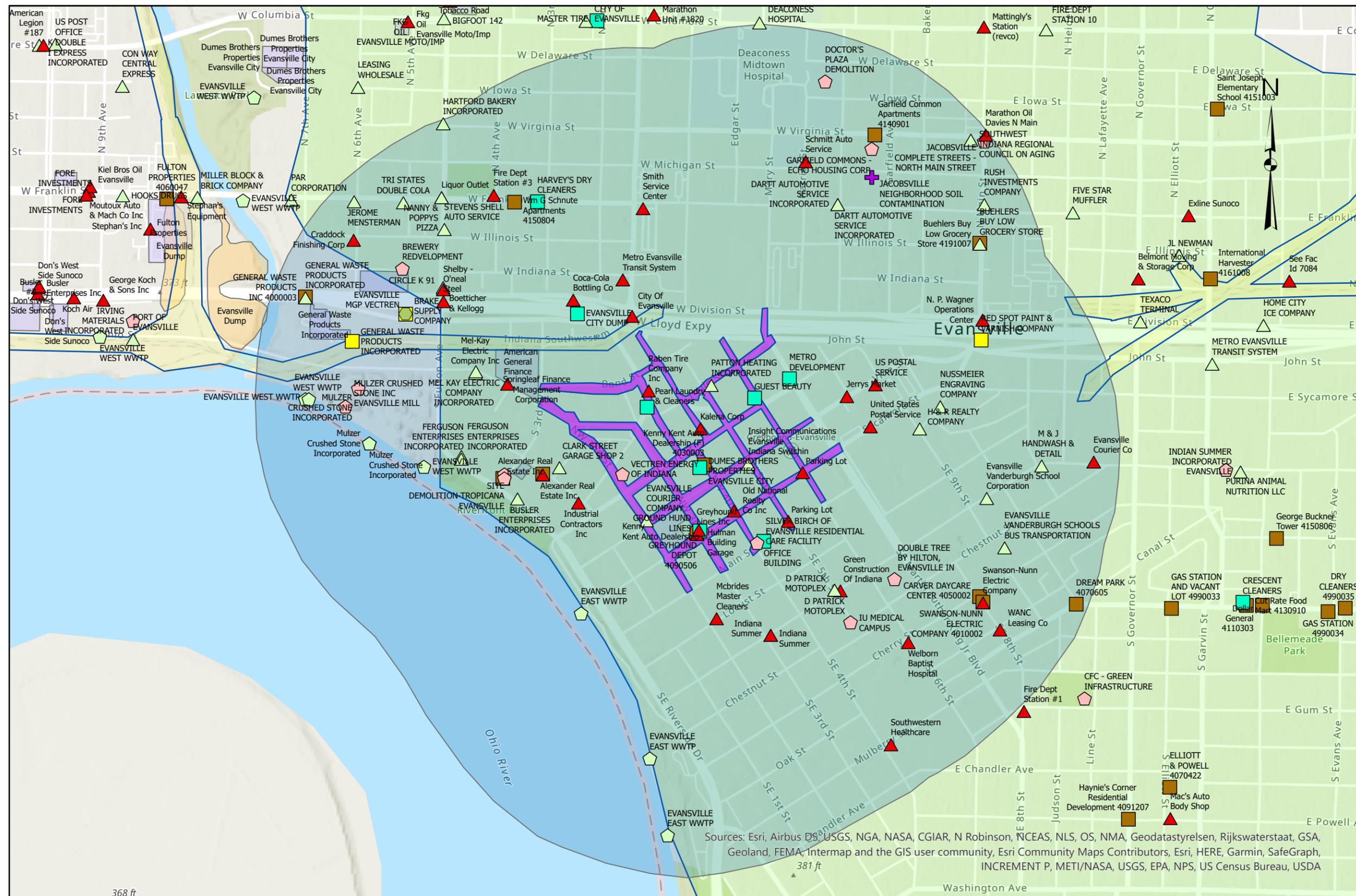
The project area is primarily commercial, so the required fire flow is expected to be approximately 2,000 gallons per minute. Alternative 1 provides the required fire flow, therefore Alternative 1 was selective to provide the required fire flow in the project area.

### 3. Environmental Assessment

A preliminary environmental assessment was performed within the project limits and surrounding area using IndianaMap and Indiana Department of Transportation (INDOT) Geographical Information Office (GIO) Library to identify sites that may be of concern within one-half mile of the proposed project limits. The assessment of the project limits and surrounding area identified forty-two (42) potential contaminated sites and fifty-eight (58) known contaminated sites as shown in Figure 4.

### 3.1. Site Specific Concerns

The preliminary environmental assessment identified sixteen (16) known contaminated site with close proximity to the project. These fifteen (15) known contaminated sites include seven (7)) leaking underground storage tank sites, five (5) cleanup sites, two (2) brownfield sites, and two (2) institutional control site.



**LEGEND**

- KNOWN CONTAMINATED SITES**
- BROWNFIELD SITE
  - CLEANUP SITE
  - CONFINED FEEDING OPERATION
  - SUPERFUND SITE
  - LEAKING UNDERGROUND STORAGE TANK SITE
  - VOLUNTARY REMEDIATION PROGRAM SITE
  - INSTITUTIONAL CONTROL SITE
  - JACOBVILLE SUPERFUND SITE BOUNDARY
  - WASTE COAL COMBUSTION IMPOUNDMENT

- POTENTIAL CONTAMINATED SITES**
- ELECTRONIC RECYCLING FACILITY
  - MANUFACTURED GAS PLANT
  - NPDES FACILITY
  - NPDES PIPE LOCATION
  - SEPTAGE WASTE SITE
  - SOLID WASTE DISPOSAL/PROCESSING FACILITY
  - UNDERGROUND STORAGE TANK SITE
  - WASTE TIRE SITE
  - RAILROAD
  - SOLID WASTE LANDFILL

**PROJECT INFORMATION**

- HALF MILE RADIUS
- PROPOSED PROJECT LIMITS

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastystrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

**Figure 4**



**TITLE:** Downtown Area Hazardous Materials Concerns

**LOCATION:** Downtown Area,  
2nd Street and Martin Luther King Jr. Blvd, North of Main  
Evansville, IN  
X: 87.5731871  
Y: 37.9740608

**PREPARED FOR:**

**EVANSVILLE WATER & SEWER DEPARTMENT**  
**REFRESH PROGRAM**  
1 NW MARTIN LUTHER KING JR BLVD  
EVANSVILLE, INDIANA 47708

**DELIVERED TO:**

**HNTB CORPORATION**  
111 MONUMENT CIRCLE,  
SUITE 1200  
INDIANAPOLIS, INDIANA 46204

**CRANE**  
ENVIRONMENTAL SERVICES, LLC

**MAIN OFFICE:**  
4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711

**INDIANAPOLIS OFFICE:**  
6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237

**CRANE PROJECT NO.120-0108K**

**DATE: 11/6/2020**



# Scoping Report

## Project Capital Cost Estimate

### Downtown Area between 2nd Street and Martin Luther King Jr Boulevard, North of Main Water Main Replacement

Report #: 27

#### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1083	8" PVC C900 PIPE	11,050	LF	\$86.00	\$950,300.00
1085	12" PVC C900 PIPE	1,200	LF	\$102.00	\$122,400.00
1166	20" DUCTILE IRON PIPE	760	LF	\$550.00	\$418,000.00
1266	20" Butterfly Valve	4	EA	\$7,500.00	\$30,000.00
1028	12" MJ GATE VALVE	6	EA	\$2,818.00	\$16,908.00
1026	8" MJ GATE VALVE	31	EA	\$1,645.00	\$50,995.00
1013	8" MJ 45° BEND	74	EA	\$441.00	\$32,634.00
1015	12" MJ 45° BEND	26	EA	\$765.00	\$19,890.00
1267	20" MJ 45° Bend	4	EA	\$3,000.00	\$12,000.00
1036	8" MJ TEE	9	EA	\$679.00	\$6,111.00
1041	12"X8" MJ TEE	4	EA	\$866.00	\$3,464.00
1268	20"X8" MJ TEE	4	EA	\$7,500.00	\$30,000.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	28	EA	\$5,814.00	\$162,792.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	40	EA	\$1,682.00	\$67,280.00
6025	Proposed 8" to Existing 12" Connection	1	LS	\$10,115.00	\$10,115.00
7011	24" Tapping Sleeve & 8" Tapping Valve	2	LS	\$11,645.00	\$23,290.00
6004	Proposed 8" to Existing 8" Connection	10	LS	\$7,122.00	\$71,220.00
6026	Proposed 12" to Existing 12" Connection	2	LS	\$10,368.00	\$20,736.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	13,370	LF	\$10.00	\$133,700.00
5007	COMPACTED AGGREGATE, NO. 53S	13,010	LF	\$9.00	\$117,090.00
5021	HOT MIX ASPHALT BASE	13,010	LF	\$28.00	\$364,280.00
5023	HOT MIX ASPHALT SURFACE	13,010	LF	\$12.00	\$156,120.00
<b>NON-STANDARD PAY ITEMS</b>					
--	Environmental Remediation Contingency	1	LS	5.0%	\$141,000.00
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$148,100.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$88,900.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$29,700.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$59,300.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$118,500.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$88,900.00	

CONSTRUCTION COST SUBTOTAL = \$3,493,725.00

CONTINGENCY (30%) = \$1,048,200.00

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT = \$4,542,000.00**

#### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$136,300.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$454,200.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$436,100.00

NON-CONSTRUCTION COST SUBTOTAL = \$1,027,000.00

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = \$5,569,000.00**

WASHINGTON AVENUE  
PHASE I WATER MAIN  
REPLACEMENT  
SCOPING REPORT

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2022 WATER RATE CASE



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December 2020  
Last Revision January 2021

**PREPARED FOR**

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

**PREPARED BY**

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# WASHINGTON AVENUE PHASE I WATER MAIN REPLACEMENT SCOPING REPORT

## 1. Project Summary

The proposed Washington Avenue- Phase I Water Main Replacement Project includes the replacement of approximately 9,150 feet of water main. The project is expected to include approximately ten (10) fire hydrants, eight (8) gate valves, and 188 service connections. Approximately 9,150 feet of existing water main will be abandoned and filled with grout.

This proposed project was included in Preliminary Engineering Report B (PER B) in May 2019. Washington Avenue Phase II was removed from the project as the main was low scoring based on the 2020 distribution system scoring.

### 1.1. Project Limits

The project scope includes replacement of existing water mains along Washington Avenue from 8<sup>th</sup> Street to Southeast Blvd and S Kerth Avenue from Washington Avenue to E Blackford Ave. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### 1.2. Project Drivers

The existing water mains within the proposed project limits have replacement prioritization scores ranging from 130 to 285. The average score weighted by length for the existing water mains is 208.

This project had a high replacement rating due to a high likelihood of failure criteria score from this project's high historical rate of failure and short service life remaining. Pipe material also contributed to this project's high score.

### 1.3. Project Cost

The total capital cost estimate for the project is \$3,937,000. This includes \$3,211,000 construction costs and \$726,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 28**  
**Washington Avenue -**  
**Phase I**



**Legend**

**Proposed Project**

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

**Water Infrastructure**

- Hydrants
- Valves**
- System Isolation
- System Separation
- Mains**
- <6" 20"
- 6" 24"
- 8" 30"
- 10" 36"
- 12" 48"
- 16" Private

**Pressure Zones**

- Central Lincoln
- Killian Northern

**Sanitary Infrastructure**

- Manholes Sewer

## 2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. Two (2) alternatives were evaluated for replacement. Alternative 1 included replacement with 8-inch diameter water main from 8<sup>th</sup> Street to Kentucky Avenue and 12-inch diameter water main from Kentucky Avenue to Southeast Boulevard. Alternative 2 included replacement with 8-inch diameter water main from 8<sup>th</sup> Street to Governor Street and replacement with 12-inch diameter water main from Governor Street to Southeast Boulevard.

### 2.1. Results

The existing available fire flow in the project limits are shown in Figure 2. The available fire flow in the project limits for Alternative 1 are shown in Figure 3. The available fire flow in the project limits for Alternative 2 are shown in Figure 4.

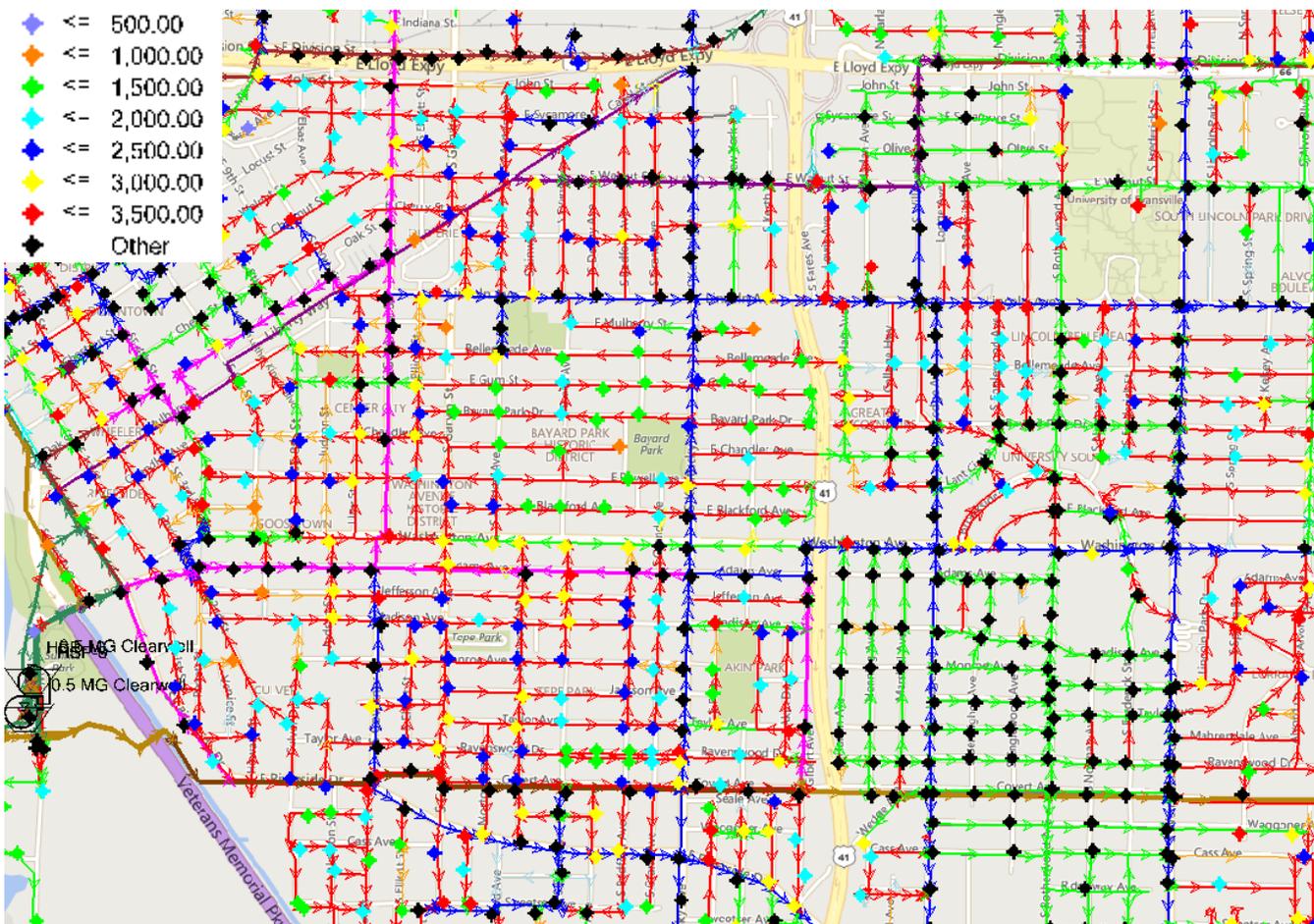


Figure 2. Existing Available Fire Flow

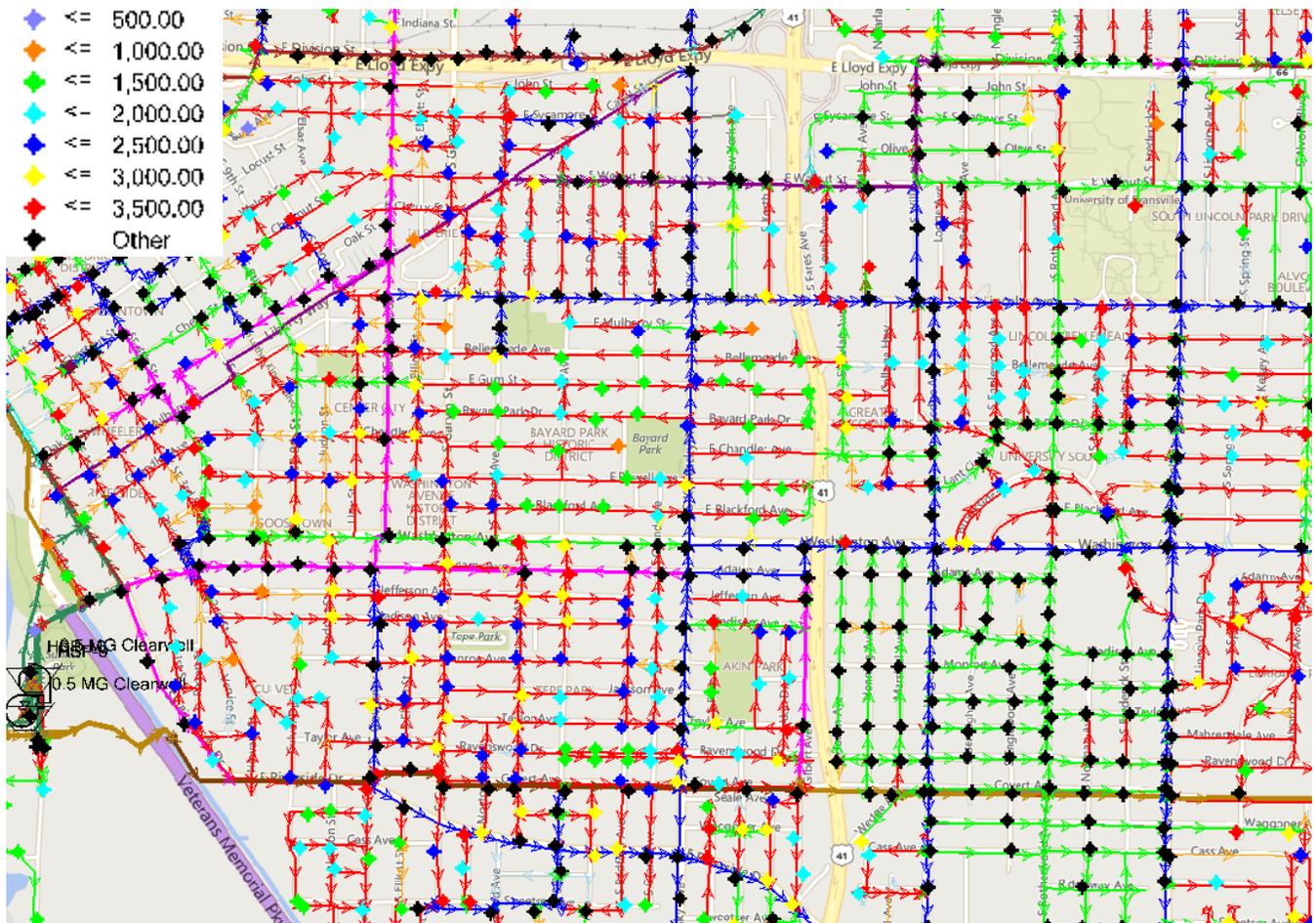


Figure 3. Alternative 1 Available Fire Flow

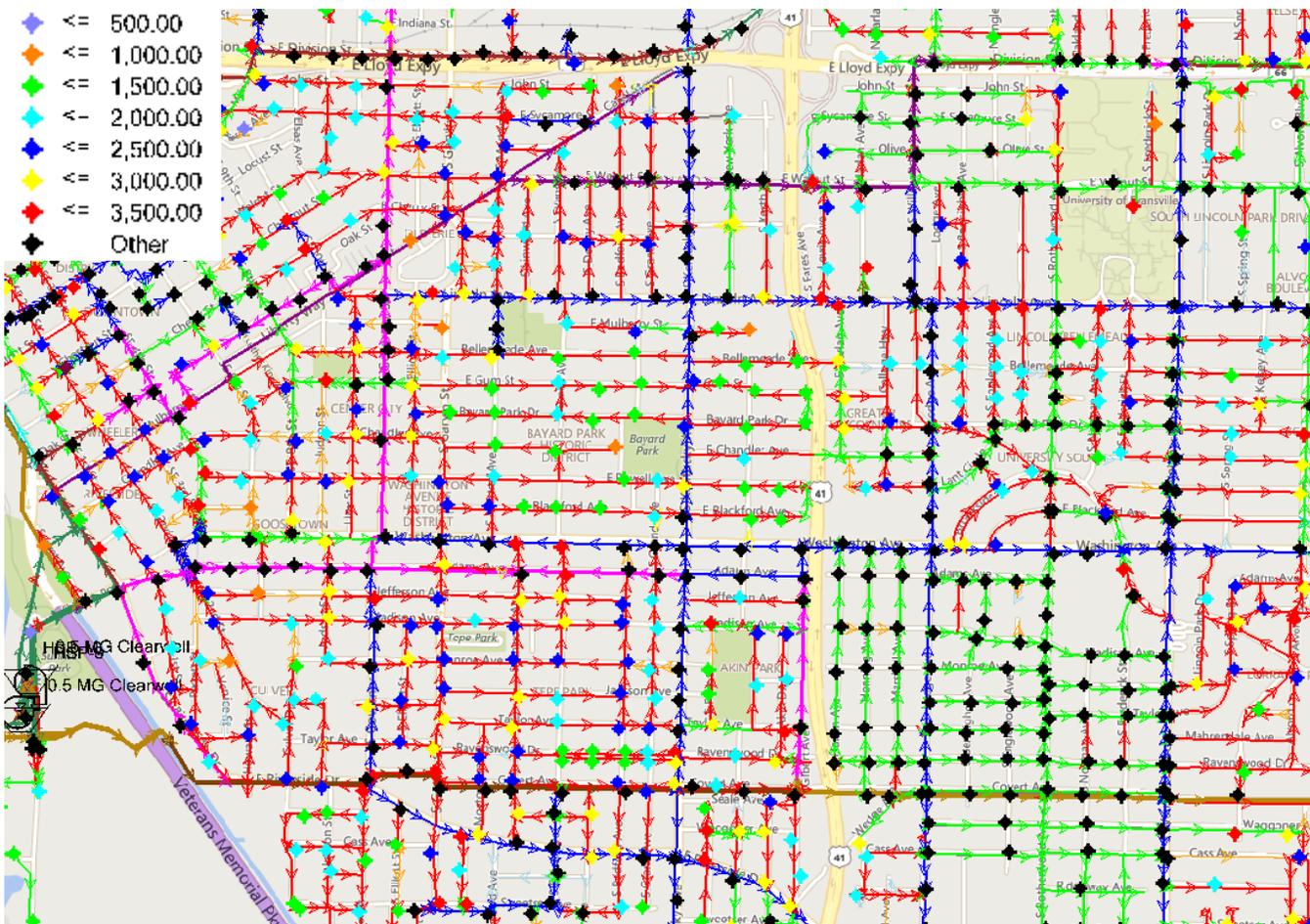


Figure 4. Alternative 2 Available Fire Flow

## 2.1. Conclusion

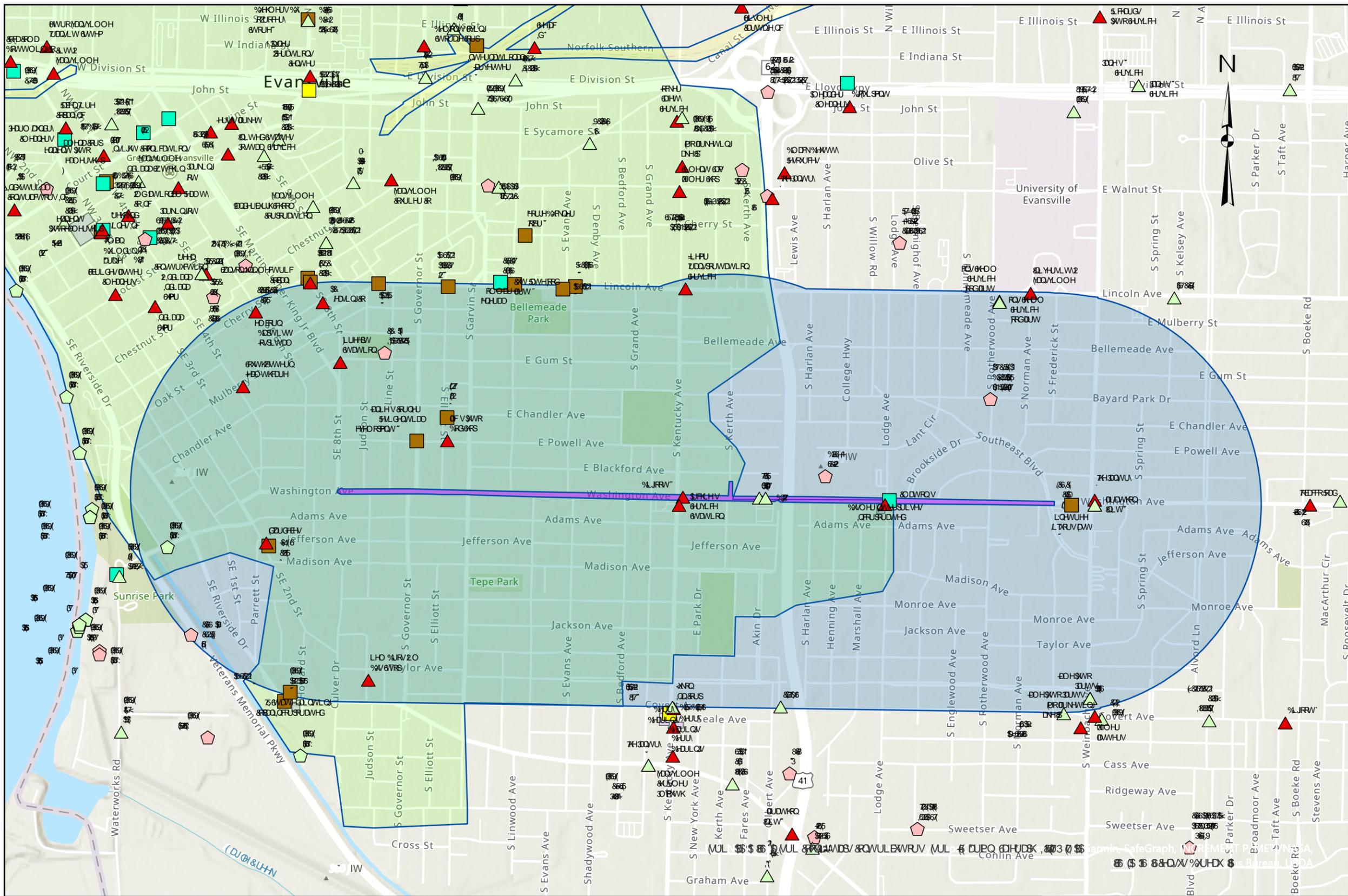
The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. All alternatives provide adequate pressure and available fire flow, therefore Alternative 1 was selected to minimize project costs.

## 3. Environmental Assessment

A preliminary environmental assessment was performed within the project limits and surrounding area using IndianaMap and Indiana Department of Transportation (INDOT) Geographical Information Office (GIO) Library to identify sites that may be of concern within one-half mile of the proposed project limits. The assessment of the project limits and surrounding area identified ten (10) potential contaminated sites and twenty-six (26) known contaminated sites as shown in Figure 5.

### 3.1. Site Specific Concerns

The preliminary environmental assessment identified four (4) known contaminated sites with close proximity to the project. These four (4) known sites contaminated sites include two (2) leaking underground storage tanks, one (1) cleanup site, and one (1) institutional control site.



**LEGEND**

**KNOWN CONTAMINATED SITES**

- BROWNFIELD SITE
- CLEANUP SITE
- CONFINED FEEDING OPERATION
- SUPERFUND SITE
- LEAKING UNDERGROUND STORAGE TANK SITE
- VOLUNTARY REMEDIATION PROGRAM SITE
- INSTITUTIONAL CONTROL SITE
- JACOBVILLE SUPERFUND SITE BOUNDARY
- WASTE COAL COMBUSTION IMPOUNDMENT

**POTENTIAL CONTAMINATED SITES**

- ELECTRONIC RECYCLING FACILITY
- MANUFACTURED GAS PLANT
- NPDES FACILITY
- NPDES PIPE LOCATION
- SEPTAGE WASTE SITE
- SOLID WASTE DISPOSAL/PROCESSING FACILITY
- UNDERGROUND STORAGE TANK SITE
- WASTE TIRE SITE
- RAILROAD
- SOLID WASTE LANDFILL

**PROJECT INFORMATION**

- HALF MILE RADIUS
- PROPOSED PROJECT LIMITS

Figure 5

**SCALE**

DOHV

**TITLE:** Washington Avenue Hazardous Materials Concerns

**LOCATION:** Washington Avenue, Evansville, IN

X: 87.5453440  
Y: 37.9627523

**PREPARED FOR:**

EVANSVILLE WATER & SEWER DEPARTMENT  
REFRESH PROGRAM  
1 NW MARTIN LUTHER KING JR BLVD  
EVANSVILLE, INDIANA 47708

**DELIVERED TO:**

HNTB CORPORATION  
111 MONUMENT CIRCLE, SUITE 1200  
INDIANAPOLIS, INDIANA 46204

**CRANE**  
ENVIRONMENTAL SERVICES, LLC

MAIN OFFICE:  
4209 HIGHWAY 41 NORTH, SUITE 24, EVANSVILLE, INDIANA 47711

INDIANAPOLIS OFFICE:  
6745 S GRAY ROAD, SUITE I, INDIANAPOLIS, IN 46237

CRANE PROJECT NO.120-0108L

DATE: 11/6/2020



# Scoping Report

## Project Capital Cost Estimate

### Washington Avenue Phase I Water Main Replacement

Report #: 28

#### CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
<b>STANDARD PAY ITEMS</b>					
1085	12" PVC C900 PIPE	4,450	LF	\$102.00	\$453,900.00
1083	8" PVC C900 PIPE	4,700	LF	\$86.00	\$404,200.00
1028	12" MJ GATE VALVE	4	EA	\$2,818.00	\$11,272.00
1026	8" MJ GATE VALVE	4	EA	\$1,645.00	\$6,580.00
1013	8" MJ 45° BEND	16	EA	\$441.00	\$7,056.00
1015	12" MJ 45° BEND	30	EA	\$765.00	\$22,950.00
1041	12"X8" MJ TEE	1	EA	\$866.00	\$866.00
1060	12"X8" MJ REDUCER	1	EA	\$564.00	\$564.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	10	EA	\$5,814.00	\$58,140.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	188	EA	\$1,682.00	\$316,216.00
6003	Proposed 8" to Existing 6" Connection	10	LS	\$6,308.00	\$63,080.00
6002	Proposed 8" to Existing 4" Connection	2	LS	\$5,964.00	\$11,928.00
7002	16" Tapping Sleeve & 8" Tapping Valve	2	LS	\$6,645.00	\$13,290.00
6008	Proposed 12" to Existing 8" Connection	2	LS	\$7,446.00	\$14,892.00
6007	Proposed 12" to Existing 6" Connection	4	LS	\$6,723.00	\$26,892.00
6026	Proposed 12" to Existing 12" Connection	4	LS	\$10,368.00	\$41,472.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	9,150	LF	\$10.00	\$91,500.00
5007	COMPACTED AGGREGATE, NO. 53S	9,150	LF	\$9.00	\$82,350.00
5021	HOT MIX ASPHALT BASE	9,150	LF	\$28.00	\$256,200.00
5023	HOT MIX ASPHALT SURFACE	9,150	LF	\$12.00	\$109,800.00
<b>NON-STANDARD PAY ITEMS</b>					
--	Environmental Remediation Contingency	1	LS	5.0%	\$99,700.00
<b>STANDARD LUMP SUM PAY ITEMS</b>					
DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE	
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	\$104,700.00	
Construction Engineering (2% - 3%)	1	LS	3.0%	\$62,800.00	
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	\$21,000.00	
Erosion Control Devices (1% - 2%)	1	LS	2.0%	\$41,900.00	
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	\$83,800.00	
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	\$62,800.00	

**CONSTRUCTION COST SUBTOTAL =** \$2,469,848.00

**CONTINGENCY (30%) =** \$741,000.00

**TOTAL ESTIMATED CONSTRUCTION COST, SCOPING REPORT =** **\$3,211,000.00**

#### NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	\$96,400.00
Engineering Design Fees (estimated)	1	LS	10.0%	\$321,100.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	\$308,300.00

**NON-CONSTRUCTION COST SUBTOTAL =** \$726,000.00

**TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT =** **\$3,937,000.00**

SOUTHEAST  
JACOBSVILLE  
NEIGHBORHOOD  
WATER MAIN  
REPLACEMENT  
SCOPING REPORT

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2022 WATER RATE CASE



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December 2020  
Last Revision January 2021

PREPARED FOR

**Evansville Water & Sewer Utility**

1 SE 9<sup>th</sup> Street  
Suite 200  
Evansville, IN 47708  
Phone: (812) 421-2120  
Contact: Michael Labitkze, P.E.

PREPARED BY

**HNTB Corporation**

111 Monument Circle  
Suite 1200  
Indianapolis, IN 46204  
Phone: (317) 636-4682  
Contact: Jason Hoff, P.E.

# SOUTHEAST JACOBSTVILLE NEIGHBORHOOD WATER MAIN REPLACEMENT SCOPING REPORT

## 1. Project Summary

The proposed Southeast Jacobsville Neighborhood Water Main Replacement Project includes the replacement of approximately 23,430 feet of water main. The project is expected to include approximately twenty-five (25) fire hydrants, forty (40) gate valves, one (1) butterfly valve, and 333 service connections. Approximately 23,050 feet of existing water main will be abandoned and filled with grout.

### 1.1. Project Limits

The project scope includes replacement of existing water mains along Delaware Street between Main Street and Evans Avenue, Iowa Street between Main Street and Evans Avenue, Virginia Street between Main Street and Governor Street, Michigan Street between Main Street and Morton Avenue, Franklin Street east of Main Street, Illinois Street between Heidelberg Avenue and Morton Avenue, Heidelberg Avenue between Columbia Street and Delaware Street, Heidelberg Avenue between Franklin Street and Division Street, Lafayette Avenue between Columbia Avenue and Franklin Street, Garvin Street between Delaware Street and Iowa Street, Garvin Street between Michigan Street and Illinois Street, Sherman Street between Michigan Street and Franklin Street, Morton Avenue between Division Street and Franklin Street, Linwood Avenue between Michigan Street and Franklin Street, and Evans Avenue between Columbia Street and Iowa Street. The proposed project and potential alignment for proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area.

### 1.2. Project Drivers

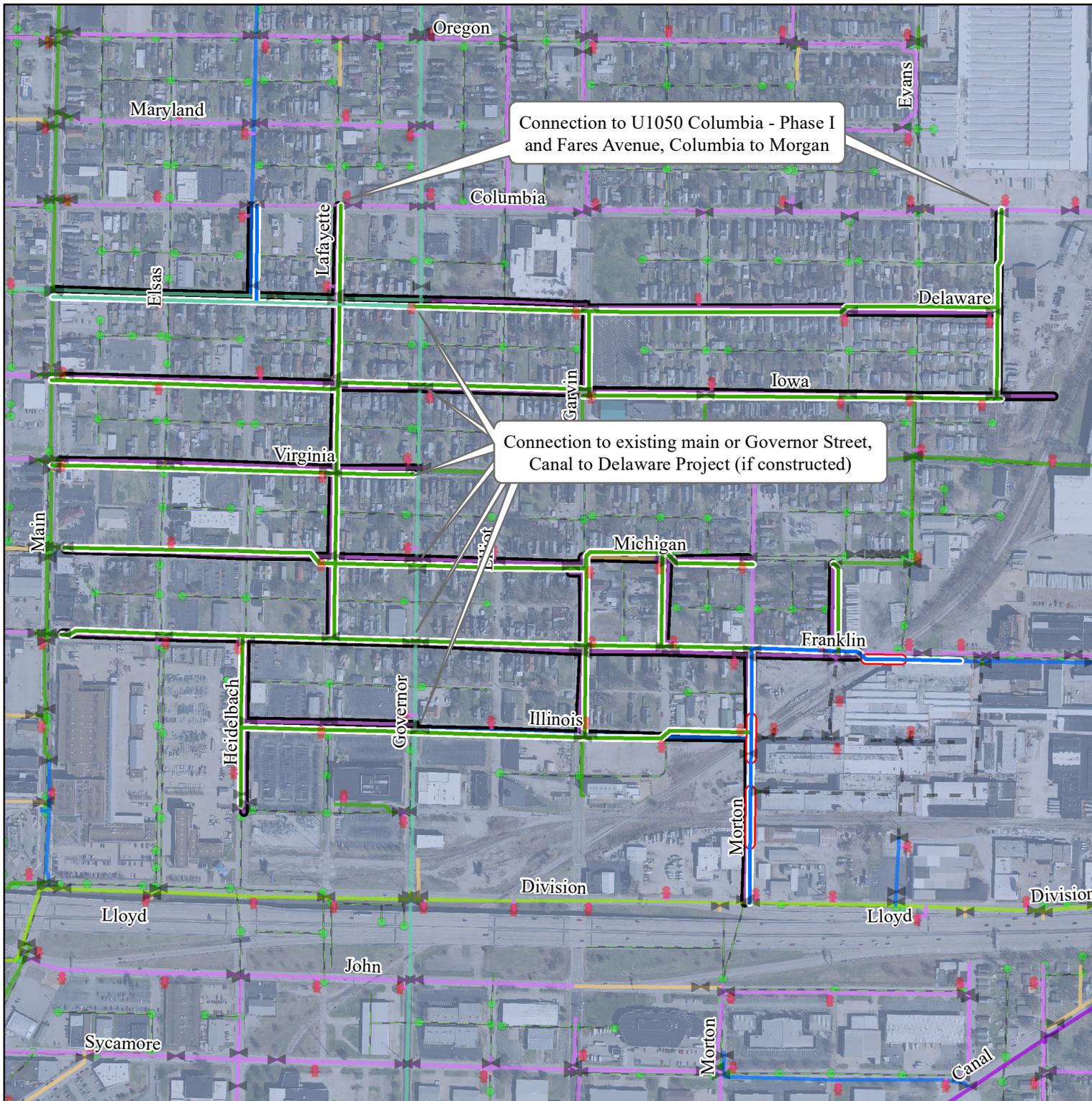
The existing water mains within the proposed project limits have replacement prioritization scores ranging from 120 to 305. The average score weighted by length for the existing water mains is 213.

This project had a high replacement rating due to a high likelihood of failure criteria score from this project's high historical rate of failure and short service life remaining. Pipe material and low available fire flow also contributed to this project's high score.

### 1.3. Project Cost

The total capital cost estimate for the project is \$9,066,000. This includes \$7,394,000 construction costs and \$1,672,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

**Figure 1**  
**Report No. 29**  
**Southeast Jacobsville**  
**Neighborhood**



**Legend**

**Proposed Project**

 Trenchless Installation

 Main to be Abandoned

 Proposed Main

**Water Infrastructure**

 Hydrants

**Valves**

 System Isolation

 System Separation

**Mains**

 <6"  20"

 6"  24"

 8"  30"

 10"  36"

 12"  48"

 16"  Private

**Pressure Zones**

 Central  Lincoln

 Killian  Northern

**Sanitary Infrastructure**

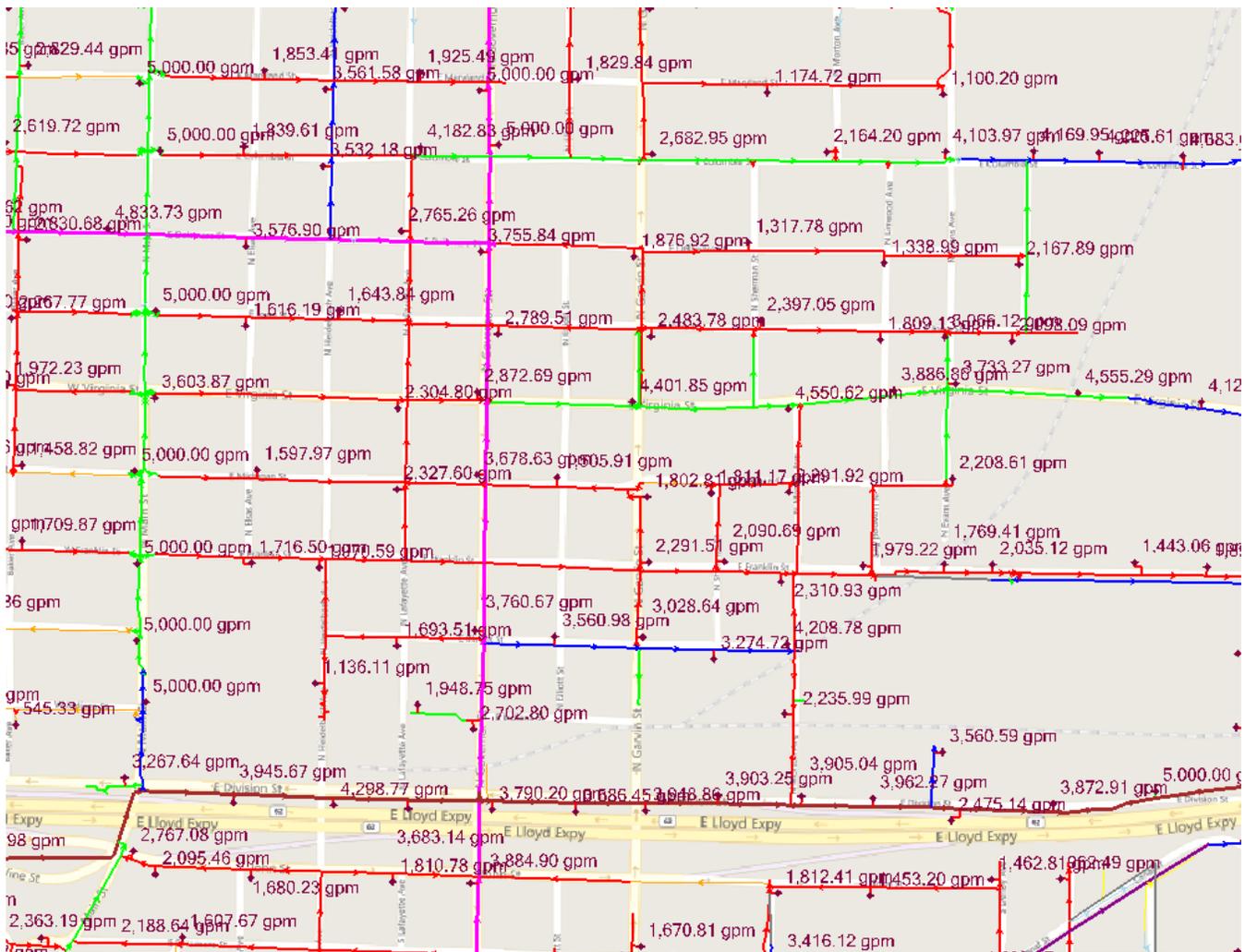
 Manholes  Sewer

## 2. Hydraulic Modeling

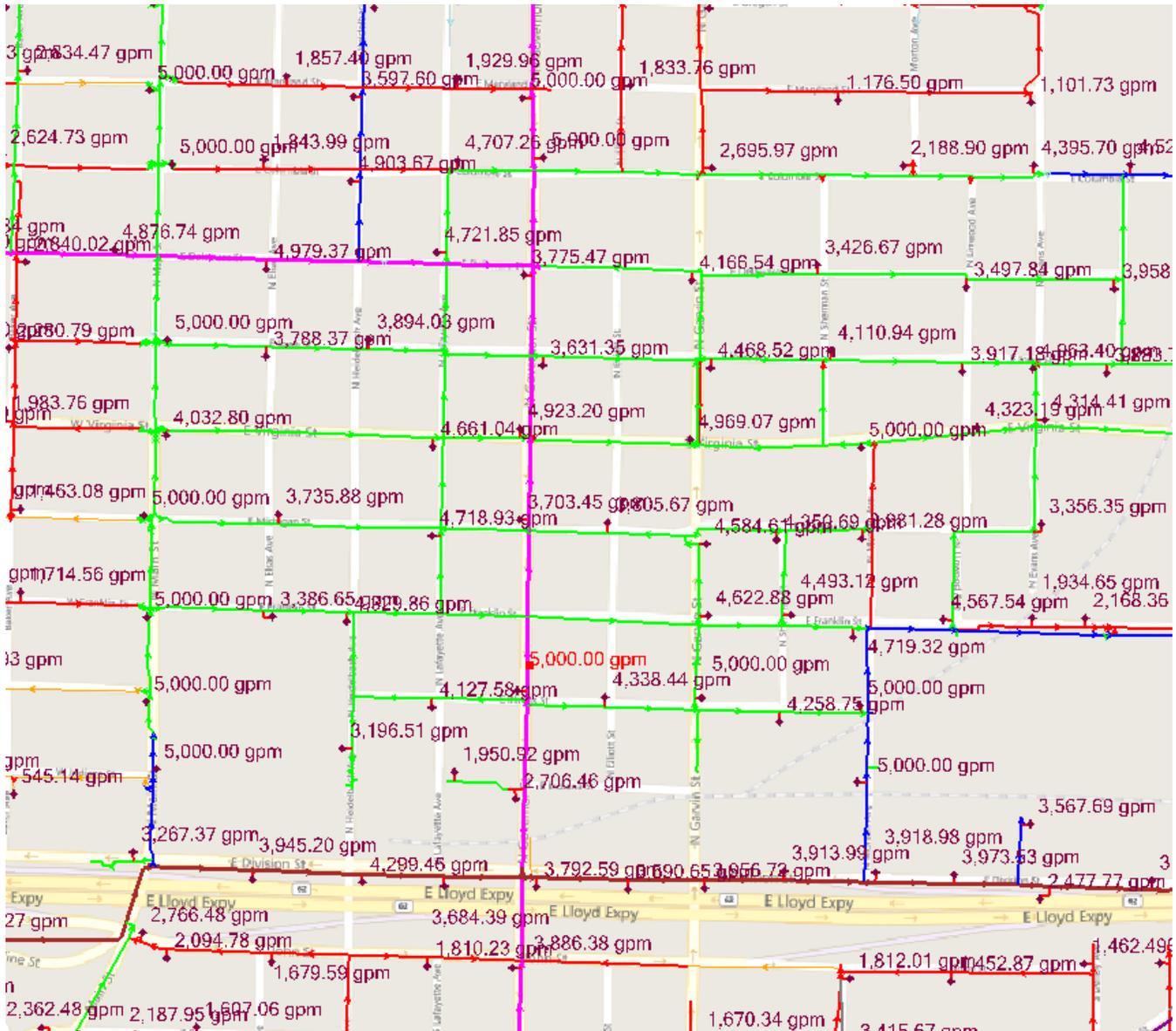
The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement with all 8-inch diameter water main in the project limits except for mains greater than 8-inch diameter which were replaced to match existing size and along Morton Avenue from Lloyd Expressway to and along Franklin Street.

### 2.1. Results

The existing available fire flow in the project limits are shown in **Figure 2**. The available fire flow in the project limits for Alternative 1 are shown in **Figure 3**.



**Figure 2. Existing Available Fire Flow**



**Figure 3. Alternative 1 Available Fire Flow**

## 2.1. Conclusion

The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. Alternative 1 provides the required fire flow, therefore Alternative 1 was selective to provide the required fire flow in the project area.

## 3. Environmental Assessment

A preliminary environmental assessment was performed within the project limits and surrounding area using IndianaMap and Indiana Department of Transportation (INDOT) Geographical Information Office (GIO) Library to identify sites that may be of concern within one-half mile of the proposed project limits. The assessment of the project limits and surrounding area identified thirty-two (32) potential contaminated sites and forty-three (43) known contaminated sites as shown in Figure 4.

### 3.1. Site Specific Concerns

The preliminary environmental assessment identified six (6) known contaminated site with close proximity to the project. These six (6) known contaminated sites include four (4) leaking underground storage tanks, one (1) brownfield sites, and the Jacobsville Superfund site.