

DW SRF PER Content Checklist

Applicant: Lebanon Utilities - Lebanon, IN
 Project: Wholesale Water Supply
 Engineer: BF&S
 Date: 9/25/2024

	Description	Location in PER (PDF Page #)
Current Conditions		
1)	Existing Supply	
	a) Age/remaining useful life	na
	b) Recent rehabilitation/replacement of facilities	na
	c) Capacity	5
	d) Operational problems	na
	e) Pollutant concerns/emerging contaminants	na
	f) Other concerns	na
2)	Existing Treatment	
	a) Age/remaining useful life	na
	b) Recent rehabilitation/replacement of facilities	na
	c) Capacity	5
	d) Operational problems/IDEM violations	na
	e) Pollutant concerns/emerging contaminants	na
	f) Other concerns	na
3)	Existing Storage	
	a) Age/remaining useful life	na
	b) Recent rehabilitation/replacement of facilities	na
	c) Capacity	5
	d) Operational problems	na
	e) Other concerns	na
4)	Existing Distribution System	
	a) Age/remaining useful life	na
	b) Recent rehabilitation/replacement of facilities	na
	c) System operating pressures and flow restrictions	na
	d) Dead ends	na
	e) Operational problems	na
	f) Lead service lines	5
	g) Other concerns	na
5)	Current population served	6
6)	Map of existing service area	13
7)	Statement regarding service area and Town/City limits	na
8)	Previous 12 months consumption data analysis	6
9)	Description of significant water users	6
10)	System schematics/maps	na
Utility Needs		

1)	20-year service area population	na
2)	20-year service area map	na
3)	20-year capacity needs table	na
4)	Service line information table	na
5)	Overall purpose and need discussion	na
6)	Phasing discussion	7
Evaluation of Alternatives		
1)	No Action alternative analysis	8
2)	Regionalization alternative analysis	8
3)	Relocation out of the floodplain alternative analysis	na
4)	Preferred alternative analysis	na
5)	Cost and Effectiveness statement	na
6)	Net Present Worth analysis	na
7)	Net Present Worth summary table	na
8)	Non-monetary factors discussion	6
Proposed Alternative		
1)	Description	10
2)	Pertinent design criteria	10
3)	Phasing	10
4)	Land requirements	10
5)	Lead release protection measures	na
6)	Aerial photography figure/schematics	14
7)	Project cost estimates, itemized table	18
8)	Project schedule table	20
9)	Green Project Reserve/Climate Resiliency elements	na
10)	GPR checklist and business cases	na
Evaluation of Environmental Impacts - Phase 1		
1)	Location information	21
2)	Description of construction disturbance area/cooridoor	21
3)	Vegetation and site disturbance history	22
4)	Brownfield discussion	22
5)	Negative environmental impacts of the preferred alternative	22
	a) Disturbed/undisturbed land	22
	b) Historic properties	23
	c) Wetlands	23
	d) Surface waters	23
	e) Groundwater	23
	f) 100-year and 500-year floodplain and flood hazard statement	23
	g) Plants and animals	23
	h) Farmland	23
	i) Air quality	23
	j) Open space and recreation opportunities	23
	k) Lake Michigan Coastal Management Zone	24
	l) National Natural Landmarks	24
6)	Mitigation measures discussion	24
7)	Induced impacts statement	24
8)	Cumulative impacts discussion	24
9)	Area of Potential Effect (APE) Graphics and Figures	25-55

	a) USGS Topo map	25-55
	b) Aerial photography map	25-55
	c) Soils map	25-55
	d) IHCCB map	25-55
	e) Wetlands map	25-55
	f) Waterways map	25-55
	g) Floodplain map	25-55
	h) Site specific photography	25-55
Evaluation of Environmental Impacts - Phase 2		
1)	Location information	Future Submittal ²
2)	Description of construction disturbance area/cooridoor	Future Submittal ²
3)	Vegetation and site disturbance history	Future Submittal ²
4)	Brownfield discussion	Future Submittal ²
5)	Negative environmental impacts of the preferred alternative	Future Submittal ²
	a) Disturbed/undisturbed land	Future Submittal ²
	b) Historic properties	Future Submittal ²
	c) Wetlands	Future Submittal ²
	d) Surface waters	Future Submittal ²
	e) Groundwater	Future Submittal ²
	f) 100-year and 500-year floodplain and flood hazard statement	Future Submittal ²
	g) Plants and animals	Future Submittal ²
	h) Farmland	Future Submittal ²
	i) Air quality	Future Submittal ²
	j) Open space and recreation opportunities	Future Submittal ²
	k) Lake Michigan Coastal Management Zone	Future Submittal ²
	l) National Natural Landmarks	Future Submittal ²
6)	Mitigation measures discussion	Future Submittal ²
7)	Induced impacts statement	Future Submittal ²
8)	Cumulative impacts discussion	Future Submittal ²
9)	Area of Potential Effect (APE) Graphics and Figures	Future Submittal ²
	a) USGS Topo map	Future Submittal ²
	b) Aerial photography map	Future Submittal ²
	c) Soils map	Future Submittal ²
	d) IHCCB map	Future Submittal ²
	e) Wetlands map	Future Submittal ²
	f) Waterways map	Future Submittal ²
	g) Floodplain map	Future Submittal ²
	h) Site specific photography	Future Submittal ²
Evaluation of Environmental Impacts - Phase 3		
1)	Location information	Future Submittal ³
2)	Description of construction disturbance area/cooridoor	Future Submittal ³
3)	Vegetation and site disturbance history	Future Submittal ³
4)	Brownfield discussion	Future Submittal ³
5)	Negative environmental impacts of the preferred alternative	Future Submittal ³

	a)	Disturbed/undisturbed land	Future Submittal ³
	b)	Historic properties	Future Submittal ³
	c)	Wetlands	Future Submittal ³
	d)	Surface waters	Future Submittal ³
	e)	Groundwater	Future Submittal ³
	f)	100-year and 500-year floodplain and flood hazard statement	Future Submittal ³
	g)	Plants and animals	Future Submittal ³
	h)	Farmland	Future Submittal ³
	i)	Air quality	Future Submittal ³
	j)	Open space and recreation opportunities	Future Submittal ³
	k)	Lake Michigan Coastal Management Zone	Future Submittal ³
	l)	National Natural Landmarks	Future Submittal ³
6)		Mitigation measures discussion	Future Submittal ³
7)		Induced impacts statement	Future Submittal ³
8)		Cumulative impacts discussion	Future Submittal ³
9)		Area of Potential Effect (APE) Graphics and Figures	Future Submittal ³
	a)	USGS Topo map	Future Submittal ³
	b)	Aerial photography map	Future Submittal ³
	c)	Soils map	Future Submittal ³
	d)	IHCCB map	Future Submittal ³
	e)	Wetlands map	Future Submittal ³
	f)	Waterways map	Future Submittal ³
	g)	Floodplain map	Future Submittal ³
	h)	Site specific photography	Future Submittal ³
Public Participaton and Legal, Financial, and Managerial Capability			
1)		Public hearing notice	Future Submittal ¹
2)		Publisher's affidavit	Future Submittal ¹
3)		Public hearing sign-in sheet with e-mail addresses	Future Submittal ¹
4)		Public hearing meeting minutes	Future Submittal ¹
5)		Public comments and responses	Future Submittal ¹
6)		Signatory Authorization Resolution	72
7)		PER Acceptance Resolution	Future Submittal ¹
8)		Financial Information Form	na
9)		Inter-local agreements discussion	Future Submittal ¹
10)		IURC discussion	na
11)		Regional planning meeting attendance information	na
12)		Validated water loss audit information	na
13)		AMP statement	Future Submittal ¹
14)		AMP Certification	Future Submittal ¹

¹To be completed prior to Phase 1 Loan Closing

²To be completed prior to Phase 2 Loan Closing

³To be completed prior to Phase 3 Loan Closing

LEBANON UTILITIES
Public Water Supply ID: IN 5206003

PRELIMINARY ENGINEERING REPORT
WHOLESALE WATER SUPPLY

9/25/2024

SECTION 1 - CURRENT CONDITIONS

The Lebanon Utilities Water System has an overall capacity of approximately 4.60 MGD (million gallons per day). Presently, based upon current demands and allocated water for future projects, the remaining allocatable water in the system is at or near zero. While Lebanon Utilities' Water System has a strong supply of water for current users and previously approved and allocated projects, the amount of allocatable water capacity is extremely limited. The system contains one pressure zone and two water treatment plants (WTPs), the Sugar Creek WTP and the Chicago Street WTP.

The distribution system contains approximately 12.5 miles of water mains up to 24 inches in diameter. Areas where lead service lines have been identified are located within the downtown area in the older section of the distribution system. Lebanon Utilities is actively working with 120Water to comply with IDEM Lead and Copper Rules. Lebanon Utilities policy is to remove and replace lead and galvanized service lines should they be encountered during construction of a project. The projects anticipated within this Preliminary Engineering Report are not anticipated to impact the downtown areas.

Sugar Creek WTP

- Capacity: 3,312,000 gallons per 20-hour day
- Wet Well: 400,000 gallons
- High Service Pumps
 - HSP 1: 1,050 GPM
 - HSP 2: 1,050 GPM
 - HSP 3: 1,050 GPM

Chicago Street WTP

- Capacity: 1,440,000 gallons per 20-hour day
- Wet Well: 250,000 gallons
- High Service Pumps
 - HSP 4: 275 GPM
 - HSP 5: 60 GPM
 - HSP 6: 675 GPM
 - HSP 7: 700 GPM

Wellfields

- Sugar Creek Wellfield
 - Well 1: 700 GPM
 - Well 2: 700 GPM
 - Well 3: 700 GPM
 - Well 4: 700 GPM
 - Well 5: 700 GPM

- Southside Wellfield
 - Well 1: 500 GPM
 - Well 2: 500 GPM
 - Well 3: 600 GPM

- Chicago Street Wellfield
 - Well 3: 350 GPM
 - Well 4: 350 GPM
 - Well 10: 500 GPM

Water Storage

- Abner Longley WSF (Ground Storage Tank and Booster Station): 2,000,000 gallons
- Park Street Elevated Storage Tank: 500,000 gallons
- Elm Street Elevated Storage Tank: 250,000 gallons

The current population in Lebanon, Indiana, per the United States Census Bureau is 16,662 (2020 Decennial Census).

The following table is the potable water consumption over the past 12 months:

	Month	Pumped (MG)	Billed (MG)
1	July 2024	67.46	62.96
2	June 2024	72.04	60.96
3	May 2024	63.02	51.94
4	April 2024	59.85	46.42
5	March 2024	27.86	45.44
6	February 2024	52.03	45.44
7	January 2024	57.35	44.48
8	December 2023	49.63	43.08
9	November 2023	56.08	44.20
10	October 2023	68.85	51.09
11	September 2023	63.54	54.37
12	August 2023	64.49	58.29
	TOTAL	702.20	608.67

The following is a list of the 10 most significant current water users:

- Ken's Foods
- Skjodt-Barrett
- FGF LLC
- Monosol
- Fluor Corporation (Eli Lilly LP1 and LP2 construction)
- Witham Hospital
- Lebanon Community School Corporation
- Lebanon Newcold
- Boone County Facilities (Sherrif's Office and Jail)
- DS Smith Packaging

SECTION 2 – UTILITY NEEDS

LEAP-Lebanon Innovation District

The Indiana Economic Development Corporation (IEDC) established the LEAP-Lebanon Innovation District (LEAP District) in Lebanon, Indiana, to attract high-tech jobs and help the State of Indiana deliver strategic, investment-ready sites for tech-focused companies. Eli Lilly and Company broke ground in 2023 on a \$3.7 billion pharmaceutical manufacturing campus known as LP1 and LP2. LP1 and LP2 have been allocated an average of 864,000 GPD with a peak of 1.35 MGD. While there was enough available water capacity in Lebanon Utilities Water System to support LP1 and LP2, an additional water source will be needed to support other facilities and developments that IEDC hopes to attract to the LEAP District. Usage of water during construction of the LP1 and LP2 facilities is already around 200,000 GPD of water.

The City of Lebanon and IEDC continue to attract developments, and it is estimated that as much as 10 MGD to 15 MGD of water will be needed to satisfy future LEAP District demands over the next 10-year period.

City of Lebanon Developments

In addition to the water needs of the LEAP District, the City of Lebanon has a number of residential developments, commercial developments, and industrial developments, both already under construction and prospective, with future water needs. Over 530,000 GPD average water capacity has already been allocated for development projects outside of the LEAP District. In addition to those development projects that have already been allocated, there is another 400,000 GPD average of development projects that have approved plans but have not been allocated water capacity due to a lack of available capacity. Additionally, larger development projects, such as the Henke Waterford Development located in the southeast corner of the City and the Hickory Junction Area located near the new Fieldhouse, are projected to require as much as 4 MGD to 5 MGD of average water capacity over the next 10 to 20 years of buildout.

The City of Lebanon continues to attract developments, and it is estimated that as much as 5 MGD to 10 MGD of water will be needed to satisfy future City demands over the next 10-year period.

Available Water Capacity

Lebanon Utilities currently has a strong supply of water for existing users and projects that have been previously allocated, but due to unprecedented levels of demand, there is now a lack of available water capacity over the current supply of 4.6 MGD to allocate for future developments. To satisfy the projected 15 MGD to 25 MGD demands over the next 10-year period an additional water source will be needed. An additional consideration is the timing of additional water capacity. City development projects that have approved plans but have not been allocated water capacity are wanting to start construction and prospective LEAP District projects have indicated the desire to utilize water as soon as possible.

Additional capacity is also required for the protection of human life and property in the event of a fire or natural disaster.

SECTION 3 – EVALUATION OF ALTERNATIVES

No Action Alternative

The No Action Alternative is not a viable option as the City's future water needs exceed the current water supply. Should no action be taken then City developments that have already been approved, along with prospective City and LEAP District developments, will not be able to move forward.

Alternative 1 – Wholesale Water Supply

Lebanon Utilities began discussions regarding wholesale water supply with Citizens Energy Group (CEG) over 10 years ago as part of the Boone County Water Feasibility Study that was completed in 2014. CEG recently supplied a memo outlining the anticipated construction and delivery schedule for providing wholesale water to Lebanon which is as follows:

- January 2027 – Up to 2 MGD available
- January 2028 – Up to 10 MGD available
- August 2029 – Up to 17.1 MGD available
- January 2031 – Up to 25 MGD available

Improvements to the CEG Water System are necessary to supply the wholesale water to connection points with Lebanon Utilities and Lebanon Utilities will need to construct infrastructure to connect to the existing Lebanon Utilities System and to distribute the wholesale water from the connection points with CEG to its customers. Infrastructure improvements will be completed on a phased basis to coincide with CEG's delivery schedule.

This alternative provides a regionalized solution to address Lebanon's water supply needs. Lebanon falls within the Wabash River Basin and CEG's source water is located within the White River Basin. It is anticipated that as part of a phased expansion of the Lebanon Utilities Wastewater Treatment Plant that treated effluent from that facility will be rerouted to an outfall that will convey that flow back to the White River Basin. This improvement will mitigate impacts to the water cycle within the White River Basin.

Alternative 1 is the recommended alternative.

Alternative 2 – Additional Groundwater Supply within Lebanon

Intera, a water resources management company, conducted a data review and analysis of the potential expansion of the Lebanon Utilities groundwater supply in 2021. Their conclusions were that the potential for expanding the local groundwater supply in Lebanon appears to be limited by multiple factors. It was noted that further investigations would be required to determine the maximum amount of additional safe yield that could be added to the Lebanon Utilities water System but provided preliminary estimate of an additional 1 MGD to 2 MGD as the most likely safe yield. The Indiana Finance Authority has contracted Intera to continue their Lebanon groundwater supply investigations, but even with the best-case scenario of 2 MGD not all of the City's future water needs would be satisfied.

Alternative 2 was not selected at this time as it will not satisfy the City's future water needs.

Alternative 3 – Additional Water Supply from Clinton County

In early 2024, Lebanon Utilities had discussions with Frankfort Municipal Utilities about the possibility of Frankfort providing a wholesale water supply of up to 3 MGD. Frankfort recently completed a water treatment plant expansion and indicated they have available capacity that could be delivered on a short schedule. Following those discussions and after consideration, Frankfort Municipal Utilities provided a letter in July 2024 indicating that they do not have interest in providing wholesale water to Lebanon.

Lebanon Utilities has also evaluated the viability of constructing a new wellfield and water treatment plant within Clinton County and transmission lines to deliver water to Lebanon. The Tipton Complex Aquifer System is located in Clinton County and could potentially provide up to 3 to 5 MGD of supply. The time required to plan, permit, design, finance, and construct the improvements needed to implement this alternative is likely between 4 and 8 years.

Alternative 3 was not selected at this time as it will not satisfy the City's future water needs or schedule.

Alternative 4 – Additional Water Supply from Tippecanoe County

The Wabash Alluvial Aquifer System, located in Tippecanoe County in the vicinity of the City of Lafayette, has sufficient yield to produce water to satisfy Lebanon's projected demands. A preliminary study conducted by Intera, indicated that the average flow rate of the Wabash River is 2 billion gallons per day and that the Wabash Alluvial Aquifer itself is deeper and wider than previous studies have noted. Taking into account these factors, in addition to modeling efforts, Intera indicated that the aquifer will be able to support central Indiana regional demand without impacting the aquifer or Wabash River. Further testing and analysis are still being conducted and once testing is complete, results will be further vetted by independent experts. A new wellfield, water treatment plant, water transmission mains, and storage tanks would be needed to supply water to Lebanon. The time required to plan, permit, design, finance, and construct the improvements needed to implement this alternative is likely between 5 and 10 years.

Alternative 4 was not selected at this time as it will not meet the City's schedule.

Alternative 5 – Sugar Creek Reservoir

The most significant source of surface water in Boone County is Sugar Creek. A Water Resources Study was completed in 2009 by Greeley and Hansen for Lebanon Utilities that evaluated the construction of a reservoir on Sugar Creek. The study found that a reservoir could provide a long-term safe yield of 5 MGD for Lebanon through construction of a dam, the resulting reservoir, a new surface water treatment plant, and a water transmission line. The reservoir was contemplated to have a water surface area of approximately 500 acres and a storage capacity of 1 billion gallons. The development of a reservoir would not only bring additional water supply to Lebanon, but also would bring the added benefits of prime real estate along the reservoir, economic benefits, higher property values, and increased recreational opportunities such as fishing and boating. The reservoir would require extensive property acquisition, road modifications, pipeline and utility relocations, and railroad modifications. Additionally, the environmental permitting process for a reservoir would be extensive. The time required to plan, permit, design, finance, and construct a reservoir is likely between 20 and 25 years.

Alternative 5 was not selected at this time as it will not meet the City's schedule.

SECTION 4 – PROPOSED ALTERNATIVE

Wholesale Water Supply

CEG recently supplied a memo outlining the anticipated construction and delivery schedule for providing wholesale water to Lebanon which is as follows:

- January 2027 – Up to 2 MGD available
- January 2028 – Up to 10 MGD available
- August 2029 – Up to 17.1 MGD available
- January 2031 – Up to 25 MGD available

Improvements to the CEG Water System are necessary to supply the wholesale water to connection points with Lebanon Utilities and Lebanon Utilities will need to construct infrastructure to connect to the existing Lebanon Utilities System and to distribute the wholesale water from the connection points with CEG to its customers. Infrastructure improvements will be completed on a phased basis to coincide with CEG's delivery schedule.

Lebanon Utilities and BF&S, working in partnership with CEG, have developed a phased plan for construction of the improvements needed to distribute wholesale water throughout the Lebanon Utilities Water System. Figure A depicts the Current Conditions of the Lebanon Utilities Water System and the location of existing water mains 12 inches in diameter and larger.

Wholesale Water Supply – Phase 1

Phase 1 of the overall program will provide an additional 2 MGD water supply. Infrastructure improvements for Phase 1 include a meter vault, ground storage tank, and booster station at Connection Point 1 with CEG, large diameter water transmission lines to connect Connection Point 1 to the existing Lebanon Utilities System, and an elevated storage tank near SR 32 to help regulate pressures. Figure B depicts the Phase 1 infrastructure improvements.

Connection Point 1

Connection Point 1 between the CEG Water System and Lebanon Utilities Water System will consist of a shared water meter vault, a Lebanon Utilities ground storage tank, and Lebanon Utilities booster station, on a roughly 3-to-5-acre site with a to be determined location in the vicinity of CR 250 South and CR 200 East. The property the site is to be located on will need to be acquired and is anticipated to be owned by Lebanon Utilities. CEG will convey water through the water meter vault to the ground storage tank that will be owned and operated by Lebanon Utilities. Lebanon Utilities will then utilize a booster station to pump water from the ground storage tank to the Lebanon Utilities Water System. Chemical boosting is likely to occur at Connection Point 1 to ensure water quality. The size of the ground storage tank is anticipated to be in the 2-to-3-million-gallon range.

Phase 1 Water Transmission Lines

Large diameter water transmission lines will be needed to convey flow from Connection Point 1 to existing water mains in the Lebanon Utilities Water System. The water mains are anticipated to be constructed west along CR 250 South from CR 200 East to SR 39; north along State Road 39 from CR 250 South to CR West 200 South; west along CR West 200 South from SR 39 to CR North 300 West; north along CR North 300 West from CR West 200 South to CR 50 North; and east along CR 50 North and SR 32 from CR North 300 West to just west of Enterprise Boulevard where a connection will be made to an existing 12-inch water main located along SR 32. Water transmission lines will be placed under existing roadways or next to existing roadways. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A permanent 25-foot easement and temporary 15-foot easement for construction will be needed adjacent to existing Right-of-Way. On which side of the

roadways the permanent and temporary easements will be located will be determined during final design based upon potential impacts to property owners and easement acquisition.

Phase 1 Elevated Storage Tank

An Elevated Storage Tank will be constructed generally west of the existing Lebanon Business Park in the SR 32 area. The final location of the improvements will be determined during design, but the site is anticipated to be in the 3-to-5-acre range. It is anticipated that the Elevated Storage Tank will be located on property currently owned by the IEDC that will become Lebanon Utilities property. The Elevated Storage Tank will provide redundancy, resiliency, and firefighting capacity for the area. The size of the Elevated Storage Tank is anticipated to be in the 1-to-2-million-gallon range.

Wholesale Water Supply – Phase 2

Phase 2 of the overall program will increase the additional water supply by 8 MGD from 2 MGD up to a maximum of 10 MGD. Infrastructure improvements for Phase 2 include a meter vault, ground storage tank, and booster station at Connection Point 2 with CEG, large diameter water transmission lines to connect Connection Point 2 to the existing Lebanon Utilities System, and large diameter water mains through LEAP to loop the improvements made in Phase 1 with existing large diameter mains in the northern portion of the Lebanon Utilities Water System in the vicinity of CR 300 North. Figure B depicts the Phase 2 infrastructure improvements.

Connection Point 2

Connection Point 1 between the CEG Water System and Lebanon Utilities Water System will consist of a shared water meter vault, a Lebanon Utilities ground storage tank, and Lebanon Utilities booster station, on a roughly 3-to-5-acre site with a to be determined location in the vicinity of CR 100 South and CR 400 East. The property the site is to be located on will need to be acquired and is anticipated to be owned by Lebanon Utilities. CEG will convey water through the water meter vault to the ground storage tank that will be owned and operated by Lebanon Utilities. Lebanon Utilities will then utilize a booster station to pump water from the ground storage tank to the Lebanon Utilities Water System. Chemical boosting is likely to occur at Connection Point 2 to ensure water quality. The size of the ground storage tank is anticipated to be in the 2-to-3-million-gallon range.

Phase 2 Water Transmission Lines

Large diameter water transmission lines will be needed to convey flow from Connection Point 2 to existing water mains in the Lebanon Utilities Water System. The water main is anticipated to be constructed west along CR 100 South to connect with an existing 16-inch water at the intersection of CR 100 South and Indianapolis Avenue. The water main will then cross under I-65 to the west to CR 100 East, where it will turn south along CR 100 East until it turns west along existing property lines that are anticipated to become the extension of Enterprise Boulevard per the City's Thoroughfare Plan to John Shaw Road. The water main will then be constructed along John Shaw Road south to connect to Phase 1 water transmission lines at CR 250 South. Water transmission lines will be placed under existing roadways or next to existing roadways where possible. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A permanent 25-foot easement and temporary 15-foot easement for construction will be needed adjacent to existing Right-of-Way. On which side of the roadways the permanent and temporary easements will be located will be determined during final design based upon potential impacts to property owners and easement acquisition.

Phase 2 Water Transmission Line Extension

As part of the Phase 2 improvements, large diameter transmission lines will be constructed through the LEAP District from the Phase 1 transmission lines along SR 32 to the existing 24-inch water main that conveys water from the Sugar Creek WTP along CR 300 North. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A utility

corridor will be established through property controlled by IEDC to allow for construction and future maintenance of the improvements.

Wholesale Water Supply – Phase 3

Phase 3 of the overall program will allow the wholesale water supply to increase from 10 MGD up to 17.1 MGD and then eventually to 25 MGD. Infrastructure improvements for Phase 3 include a meter vault, ground storage tank, and booster station at Connection Point 3 with CEG, large diameter water transmission lines to connect Connection Point 1 to the existing Lebanon Utilities System, and an elevated storage tank near CR 300 North to help regulate pressures. Figure D depicts the Phase 3 infrastructure improvements.

Connection Point 3

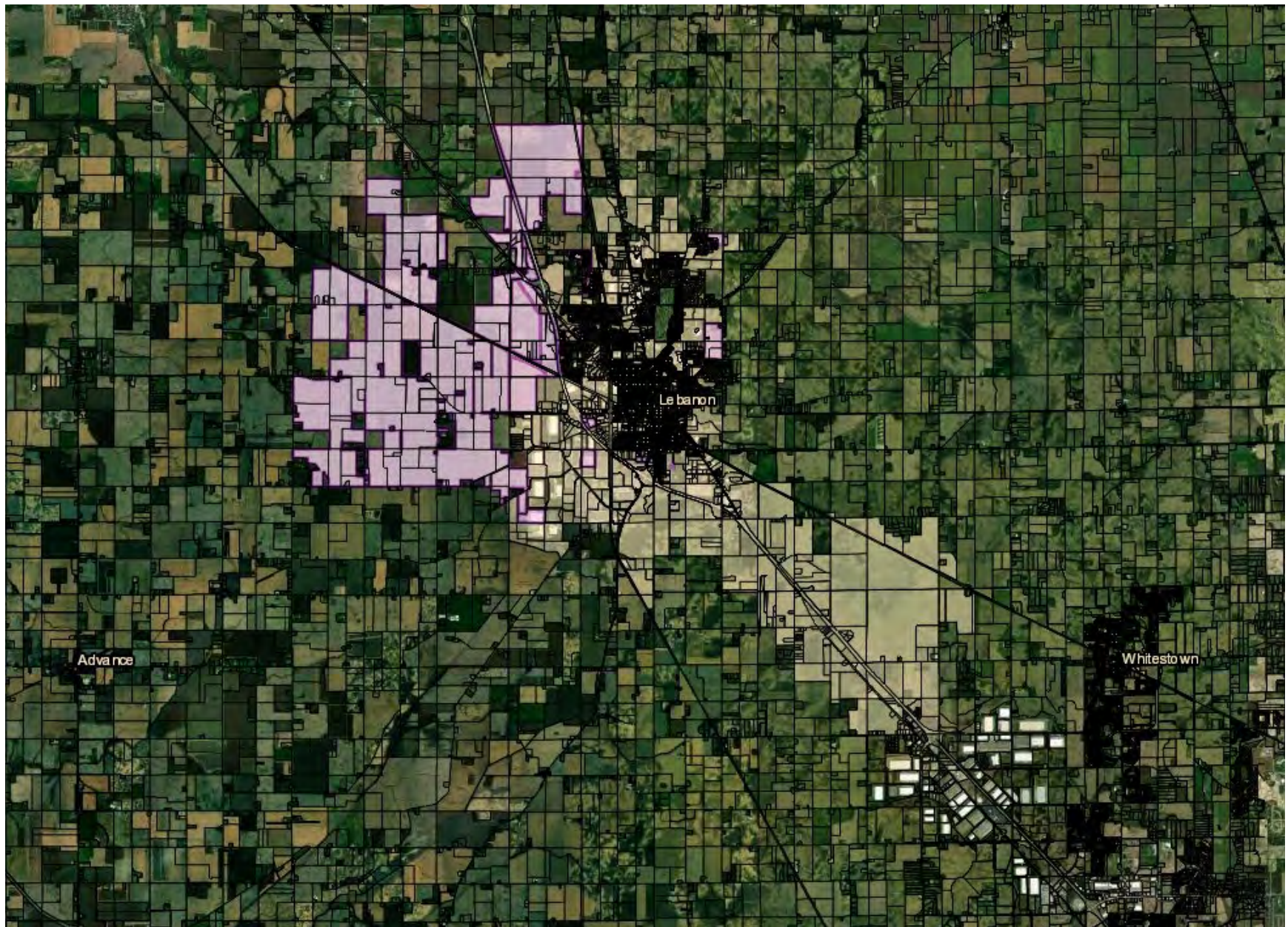
Connection Point 3 between the CEG Water System and Lebanon Utilities Water System will consist of a shared water meter vault, a Lebanon Utilities ground storage tank, and Lebanon Utilities booster station, on a roughly 3-to-5-acre site with a to be determined location in the vicinity of SR 32 and CR 400 East. The property the site is to be located on will need to be acquired and is anticipated to be owned by Lebanon Utilities. CEG will convey water through the water meter vault to the ground storage tank that will be owned and operated by Lebanon Utilities. Lebanon Utilities will then utilize a booster station to pump water from the ground storage tank to the Lebanon Utilities Water System. Chemical boosting is likely to occur at Connection Point 3 to ensure water quality. The size of the ground storage tank is anticipated to be in the 2-to-3-million-gallon range.

Phase 3 Water Transmission Lines

Large diameter water transmission lines will be needed to convey flow from Connection Point 3 to existing water mains in the Lebanon Utilities Water System. The water mains are anticipated to be constructed west along SR 32 to CR 300 East, then north along CR 300 East to CR 75 North, then west along CR 75 North to John Bart Road, then north along existing John Bart Road and a future extension of John Bart Road to CR 300 North, and then west along CR 300 North to connect to an existing 24-inch water main. Water transmission lines will be placed under existing roadways or next to existing roadways. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A permanent 25-foot easement and temporary 15-foot easement for construction will be needed adjacent to existing Right-of-Way. On which side of the roadways the permanent and temporary easements will be located will be determined during final design based upon potential impacts to property owners and easement acquisition.

Phase 3 Elevated Storage Tank

An Elevated Storage Tank will be constructed generally along CR 300 North between Witt Road and SR 39. The final location of the improvements will be determined during design, but the site is anticipated to be in the 3-to-5-acre range and property will need to be acquired for the site. The Elevated Storage Tank will provide redundancy, resiliency, and firefighting capacity for the area. The size of the Elevated Storage Tank is anticipated to be in the 1-to-2-million-gallon range.



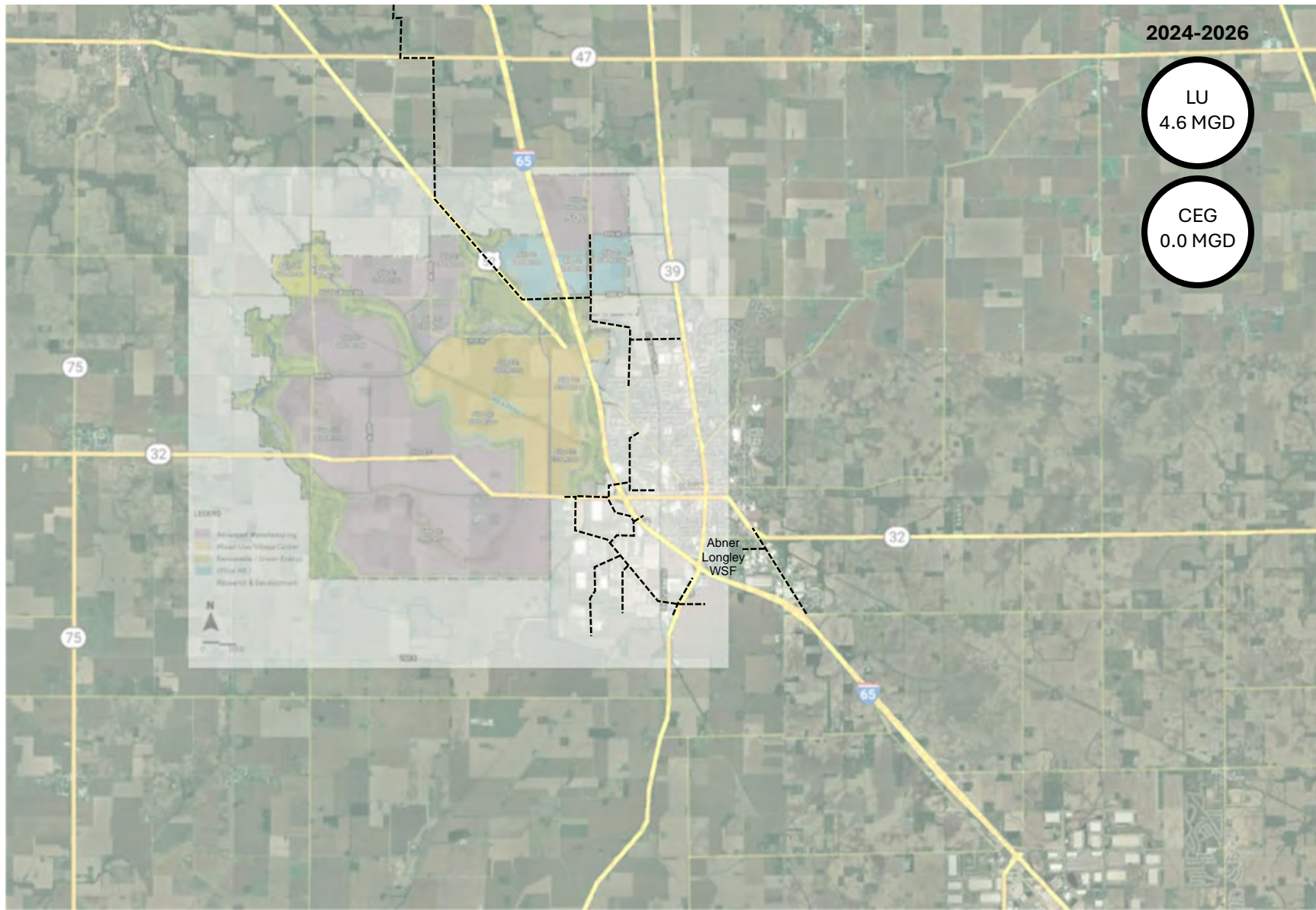


Figure A – CURRENT CONDITIONS

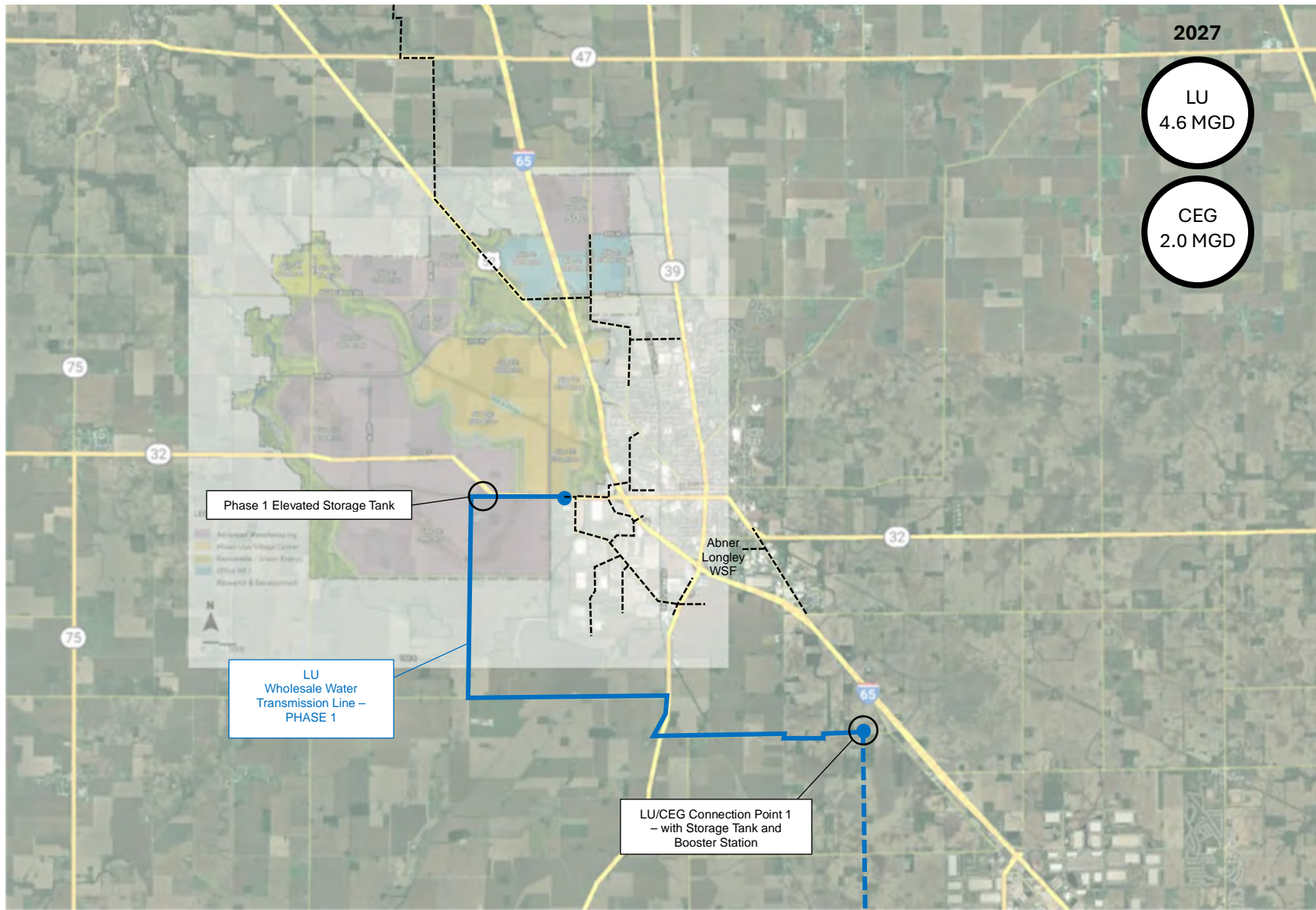


Figure B – WHOLESale WATER SUPPLY – PHASE 1

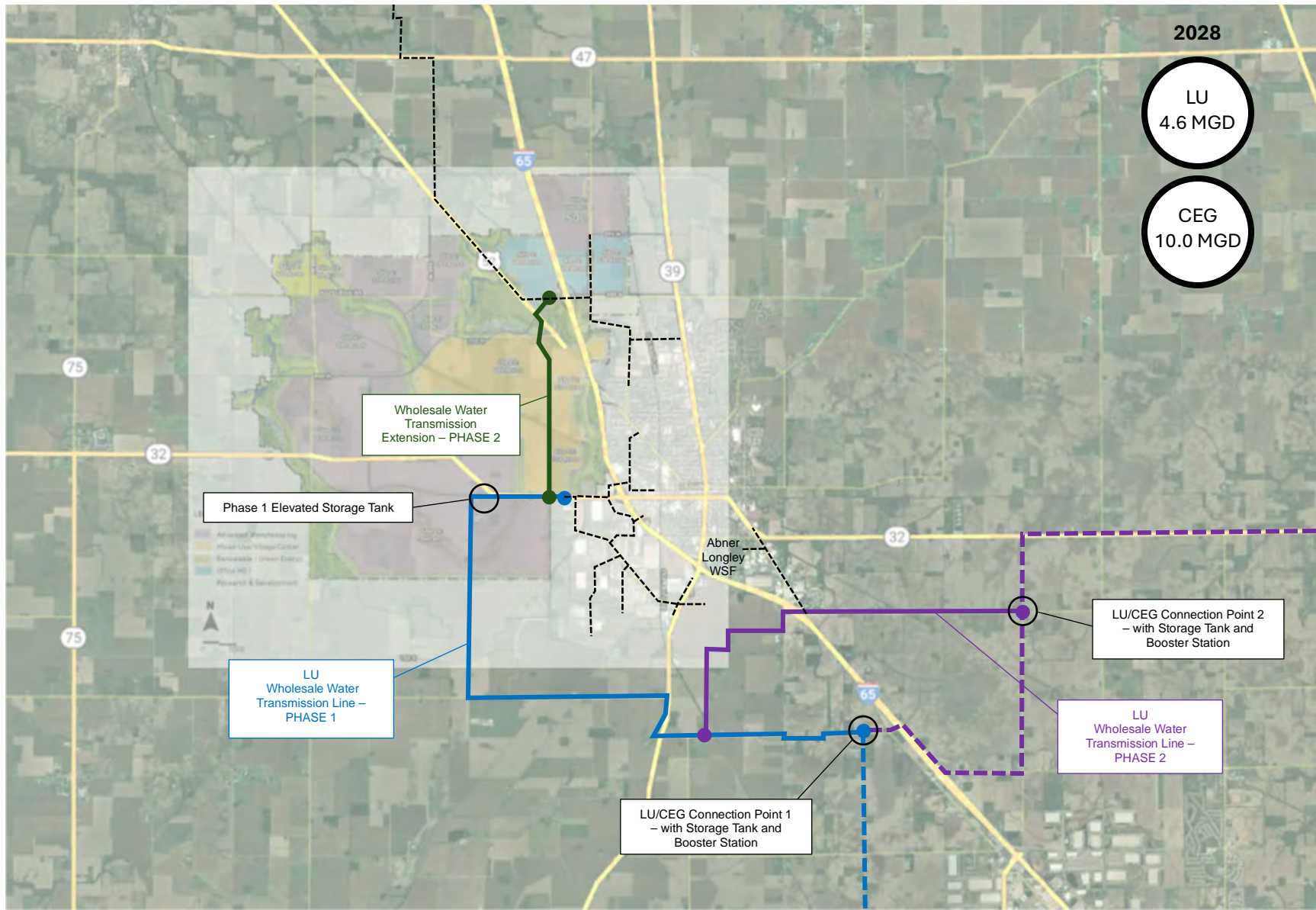


Figure C – WHOLESAL WATER SUPPLY – PHASE 2

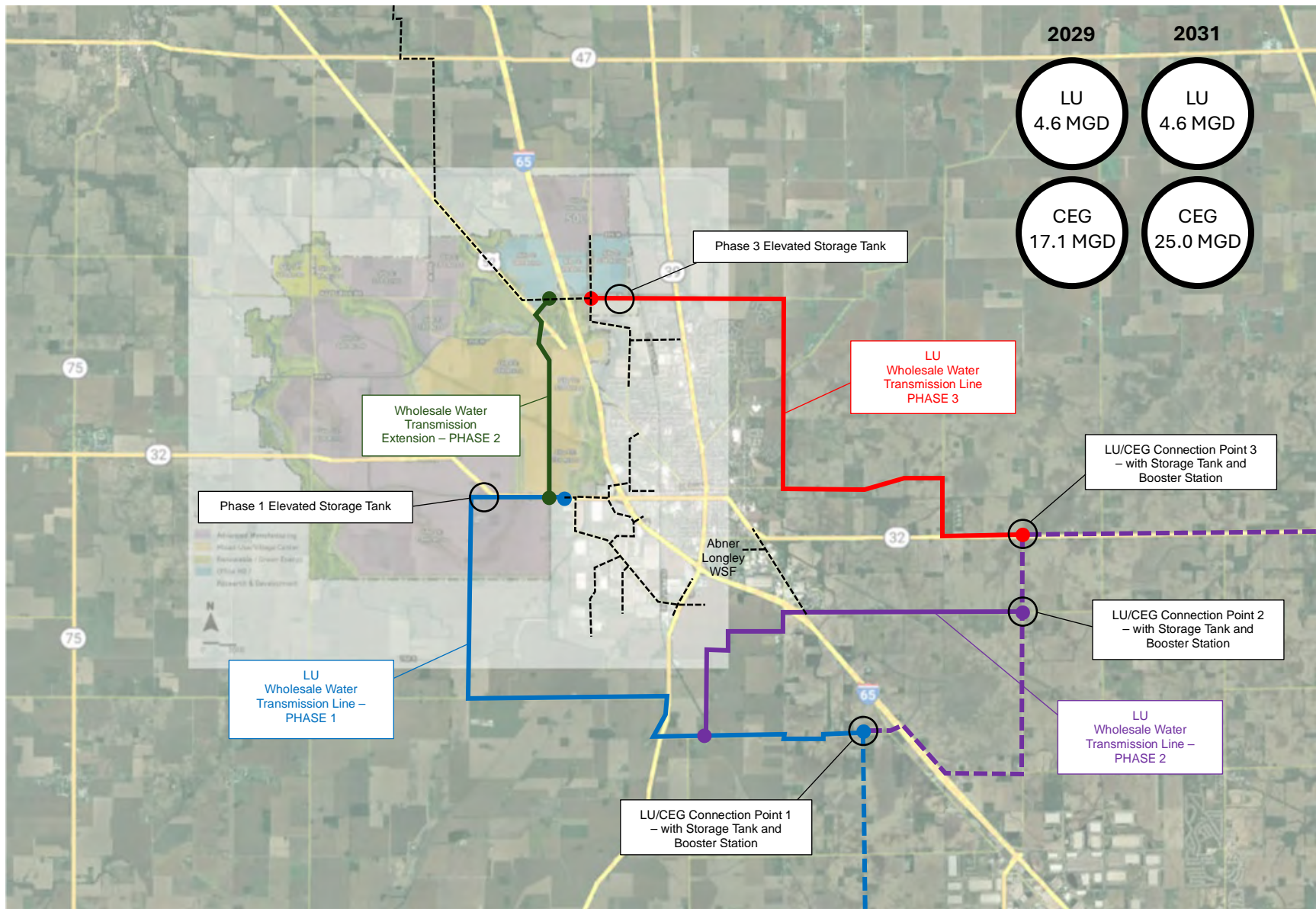


Figure D - WHOLESale WATER SUPPLY - PHASE 3

WHOLESALE WATER SUPPLY PHASE 1**Construction Costs (dollars)**

Item	Quantity	Unit	Unit Cost	Total Cost
<i>Connection Point 1</i>				
Meter Vault	1	LS	\$500,000.00	\$500,000.00
2 MG Ground Storage Tank	1	LS	\$6,000,000.00	\$6,000,000.00
15 MGD Booster Station	1	LS	\$6,000,000.00	\$6,000,000.00
<i>Phase 1 Water Transmission Lines</i>				
30-inch DI Water Main	10300	LFT	\$750.00	\$7,725,000.00
36-inch DI Water Main	38000	LFT	\$900.00	\$34,200,000.00
<i>Phase 1 Elevated Storage Tank</i>				
2 MG Elevated Storage Tank	1	LS	\$8,000,000.00	\$8,000,000.00
Contingencies				\$6,250,000.00
Construction Costs Sub-total				\$68,675,000.00

Total Project Costs (dollars)

Administrative and Legal				\$1,000,000.00
Land & Right-of-Way Acquisition				\$8,500,000.00
Relocation				\$0.00
Engineering Fees				\$3,500,000.00
Design (included in Engineering Fees)				\$0.00
Construction				\$0.00
Other				\$0.00
Project Inspection				\$5,500,000.00
Costs Related to Startup				\$0.00
Non Construction Costs Sub-total				\$18,500,000.00
Construction Costs Sub-total				\$68,675,000.00
Total Phase 1 Project Cost				\$87,175,000.00

WHOLESALE WATER SUPPLY PHASE 2**Construction Costs (dollars)**

Item	Quantity	Unit	Unit Cost	Total Cost
<i>Connection Point 2</i>				
Meter Vault	1	LS	\$500,000.00	\$500,000.00
2 MG Ground Storage Tank	1	LS	\$6,000,000.00	\$6,000,000.00
15 MGD Booster Station	1	LS	\$6,000,000.00	\$6,000,000.00
<i>Phase 2 Water Transmission Lines</i>				
30-inch DI Water Main	30000	LFT	\$750.00	\$22,500,000.00
<i>Phase 2 Water Transmission Line Extension</i>				
30-inch DI Water Main	13000	LFT	\$750.00	\$9,750,000.00
Contingencies				\$3,500,000.00
Construction Costs Sub-total				\$48,250,000.00

Total Project Costs (dollars)

Administrative and Legal	\$1,000,000.00
Land & Right-of-Way Acquisition	\$5,000,000.00
Relocation	\$0.00
Engineering Fees	\$2,500,000.00
Design (included in Engineering Fees)	\$0.00
Construction	\$0.00
Other	\$0.00
Project Inspection	\$3,900,000.00
Costs Related to Startup	\$0.00
Non Construction Costs Sub-total	\$12,400,000.00
Construction Costs Sub-total	\$48,250,000.00
Total Phase 2 Project Cost	\$60,650,000.00

WHOLESALE WATER SUPPLY PHASE 3**Construction Costs (dollars)**

Item	Quantity	Unit	Unit Cost	Total Cost
<i>Connection Point 3</i>				
Meter Vault	1	LS	\$500,000.00	\$500,000.00
2 MG Ground Storage Tank	1	LS	\$6,000,000.00	\$6,000,000.00
15 MGD Booster Station	1	LS	\$6,000,000.00	\$6,000,000.00
<i>Phase 3 Water Transmission Lines</i>				
30-inch DI Water Main	45000	LFT	\$750.00	\$33,750,000.00
<i>Phase 3 Elevated Storage Tank</i>				
2 MG Elevated Storage Tank	1	LS	\$8,000,000.00	\$8,000,000.00
Contingencies				\$5,500,000.00
Construction Costs Sub-total				\$59,750,000.00

Total Project Costs (dollars)

Administrative and Legal	\$1,000,000.00
Land & Right-of-Way Acquisition	\$7,200,000.00
Relocation	\$0.00
Engineering Fees	\$3,000,000.00
Design (included in Engineering Fees)	\$0.00
Construction	\$0.00
Other	\$0.00
Project Inspection	\$6,000,000.00
Costs Related to Startup	\$0.00
Non Construction Costs Sub-total	\$17,200,000.00
Construction Costs Sub-total	\$59,750,000.00
Total Phase 3 Project Cost	\$76,950,000.00

OVERALL WHOLESALE WATER SUPPLY PROGRAM

Non Construction Costs Sub-total	\$48,100,000.00
Construction Costs Sub-total	\$176,675,000.00
Total Overall Program Project Cost	\$224,775,000.00

	PHASE 1	PHASE 2	PHASE 3
2024 - Q4	Loan Closing		
2025 - Q1	Design/Permitting & Land and Easement Acquisition		
2025 - Q2			
2025 - Q3			
2025 - Q4	Procurement/Initiation of Construction	Loan Closing	
2026 - Q1	Construction	Design/Permitting & Land and Easement Acquisition	
2026 - Q2			
2026 - Q3			
2026 - Q4		Procurement/Initiation of Construction	
2027 - Q1	Substantial Completion/Initiation of Operation	Construction	
2027 - Q2			
2027 - Q3			
2027 - Q4			
2028 - Q1		Substantial Completion/Initiation of Operation	
2028 - Q2			
2028 - Q3			
2028 - Q4			Loan Closing
2029 - Q1			Design/Permitting & Land and Easement Acquisition
2029 - Q2			
2029 - Q3			Procurement/Initiation of Construction
2029 - Q4			
2030 - Q1			
2030 - Q2			Construction
2030 - Q3			
2030 - Q4			
2031 - Q1			

**LEBANON UTILITIES
LEBANON, INDIANA
PUBLIC WATER SUPPLY ID: IN 5206003**

**PRELIMINARY ENGINEERING REPORT
WHOLESALE WATER SUPPLY
PHASE 1**

9/6/2024

SECTION 5 – PHASE 1 - ENVIRONMENTAL IMPACTS

There are no significant environmental impacts expected to result from the implementation of the Phase 1 improvements.

1. Location Information

LU/CEG Connection Point 1 – Ground Storage Tank and Booster Station

Connection Point 1 between the Lebanon Utilities and Citizens Energy Group Water Systems, which will consist of a ground storage tank, booster station, and meter vault, will be constructed in the general vicinity of the intersection of CR 250 South and CR 200 East. The final location of the improvements will be determined during design, but the site is anticipated to be in the 3-to-5-acre range.

Section 17, Township 18 North, Range 1 East & Section 16, Township 18 North, Range 1 East

Latitude: 40°00'12" North
Longitude: 86°26'03" West

Water Transmission Lines

The Water Transmission Lines for Phase 1 will extend large diameter water mains from the LU/CEG Connection Point 1 to the existing Lebanon Utilities System. The water mains are anticipated to be constructed west along CR 250 South from CR 200 East to SR 39; north along State Road 39 from CR 250 South to CR West 200 South; west along CR West 200 South from SR 39 to CR North 300 West; north along CR North 300 West from CR West 200 South to CR 50 North; and east along CR 50 North and SR 32 from CR North 300 West to just west of Enterprise Boulevard where a connection will be made to an existing 12-inch water main located along SR 32.

Section 35, Township 19 North, Range 1 West & Section 34, Township 19 North, Range 1 West & Section 03, Township 18 North, Range 1 West & Section 10, Township 18 North, Range 1 West & Section 11, Township 18 North, Range 1 West & Section 12, Township 18 North, Range 1 West & Section 13, Township 18 North, Range 1 West & Section 18, Township 18 North, Range 1 East & Section 17, Township 18 North, Range 1 East & Section 16, Township 18 North, Range 1 East

Latitude: 40°00'24" North
Longitude: 86°28'43" West

Elevated Storage Tank

An Elevated Storage Tank will be constructed generally west of the existing Lebanon Business Park in the SR 32 area. The final location of the improvements will be determined during design, but the site is anticipated to be in the 3-to-5-acre range.

Section 34, Township 19 North, Range 1 West & Section 02, Township 18 North, Range 1 West

Latitude: 40°02'48" North
Longitude: 86°31'08" West

2. Description of Construction Disturbance Area/Corridor

LU/CEG Connection Point 1 – Ground Storage Tank and Booster Station

The site for the LU/CEG Connection Point 1 is anticipated to be in the 3-to-5-acre range. The final size and location of the improvements will be determined during design.

Water Transmission Lines

Water transmission lines will be placed under existing roadways or next to existing roadways. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A permanent 25-foot easement and temporary 15-foot easement for construction will be needed adjacent to existing Right-of-Way. On which side of the roadways the permanent and temporary easements will be located will be determined during final design based upon potential impacts to property owners and easement acquisition.

Elevated Storage Tank

The site for the Elevated Storage Tank is anticipated to be in the 3-to-5-acre range. The final size and location of the improvements will be determined during design.

3. Vegetation and Site Disturbance History

LU/CEG Connection Point 1 – Ground Storage Tank and Booster Station

The final size and location of the improvements will be determined during design, but the site is anticipated to consist of ground that has previously been utilized as farmland.

Water Transmission Lines

Water transmission lines will be placed under existing roadways or next to existing roadways. The water transmission lines are likely to be 30 to 36 inches in diameter and generally constructed with a minimum cover of 54 inches. A permanent 25-foot easement and temporary 15-foot easement for construction will be needed adjacent to existing Right-of-Way. On which side of the roadways the permanent and temporary easements will be located will be determined during final design based upon potential impacts to property owners and easement acquisition.

Elevated Storage Tank

The final size and location of the improvements will be determined during design, but the site is anticipated to consist of ground that has previously been utilized as farmland.

4. Brownfield Discussion

None of the improvements are anticipated to be located near or within a current or former brownfield site.

5. Negative Environmental Impacts of the Preferred Alternative

a. Disturbed/Undisturbed Land

Improvements will occur in areas that have previously been utilized as farmland or within existing roadway Right-of-Way.

b. Historic Properties

No historical or architectural resources are anticipated to be impacted by the improvements. The improvements are not anticipated to affect curbs, brick streets, brick sewers, sidewalks, yards, or street side plantings of historically significant properties. The improvements will not occur within 250 feet of a cemetery.

c. Wetlands

Wetlands are not anticipated to be impacted by construction or operation of the improvements.

d. Surface Waters

Water mains will need to cross Edlin Ditch and Shaw Ditch. Crossings of any ponds or lakes will be avoided and efforts will be made for the alignment of the water mains to avoid crossings of Deer Creek and Big Walnut Creek. The project will not adversely affect any Outstanding State Resource Waters listed in 327 IAC 2-1.3-3(d), Exceptional Use Streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), or waters on the Salmonid Rivers listed in 327 IAC 2-1.5-5(a)(3).

e. Groundwater

The improvements are not anticipated to have any effects on sole source aquifers.

f. 100-Year and 500-Year Floodplain and Flood Hazard Statement

The proposed improvements are not anticipated to be located within either the 100-Year or 500-Year Floodplains.

g. Plants and Animals

It is not anticipated that the construction and operation of the project will negatively impact state or federal-listed endangered species or their habitat. The project will be implemented to minimize impact to non-endangered species and their habitat. Mitigation measures cited in comment letters from the Indiana Department of Natural Resources and U.S. Fish and Wildlife Service will be implemented should any be received.

h. Farmland

A Farmland Conversion Impact Rating form shall be submitted to NRCS for the proposed project areas. Additional information will be provided when made available.

i. Air Quality

Air quality issues will be that of any normal construction project with respect to erosion, dust and noise control. The project should not affect the ozone, create airborne pollutants, or create other air quality concerns.

j. Open Space and Recreational Areas

The proposed improvements will neither create nor destroy and open space or recreational opportunities.

k. Lake Michigan Coastal Management Zone

The proposed improvements are not located within the Lake Michigan Coastal Zone and will not impact the Lake Michigan Coastal Zone.

l. National Natural Landmarks

The construction and operation of the proposed project will not impact any National Natural Landmarks.

6. Mitigation Measures Discussion

Any mitigation measures cited in comment letters from the Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented. The project will be implemented to minimize impact to non-endangered species and their habitat.

Existing topsoil will be reused during the restoration process, if applicable. The amount of dust may be mitigated by periodic wetting of exposed soils to reduce the suspension of particles. Normal daytime hours will be used for work activities to reduce noise impacts.

All unavoidable tree clearing will be performed between October 15th and March 31st per the Range-wide Indiana Bat Protection and Enhancement Plan Guidelines.

7. Induced/Secondary Impacts Statement

The Lebanon Utilities and City of Lebanon, through local zoning laws, the authority of its council or planning commission, or other means, will ensure that future development and utility projects connecting to SRF-funded facilities will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. The Lebanon Utilities and City of Lebanon will require new development and utility projects to be constructed within the guidelines of the US Fish and Wildlife Service, Indiana Department of Natural Resources, Indiana Department of Environmental Management, and other environmental review authorities.

8. Cumulative Impacts Discussion

The overall project is to be completed in phases with similar impacts anticipated for future phases as those noted for Phase 1. All required information contained in Section 5 of the PER will be provided for subsequent phases.

9. Area of Potential Effect Graphics and Figures

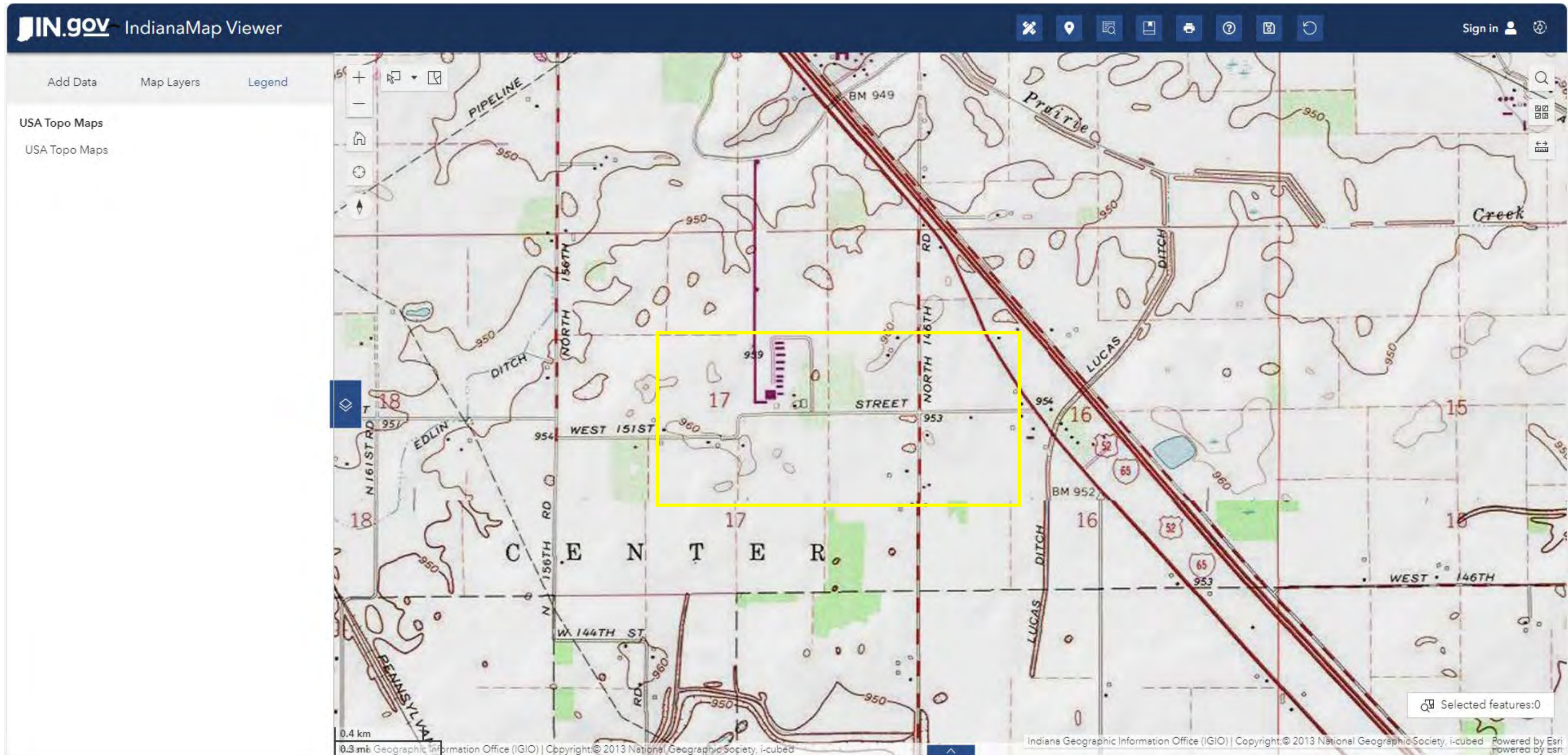
Required graphics and figures are attached.

**LEBANON UTILITIES
PUBLIC WATER SUPPLY ID: IN 5206003**

**PRELIMINARY ENGINEERING REPORT
WHOLESALE WATER SUPPLY - PHASE 1**

ENVIRONMENTAL GRAPHICS – LU/CEG CONNECTION POINT 1

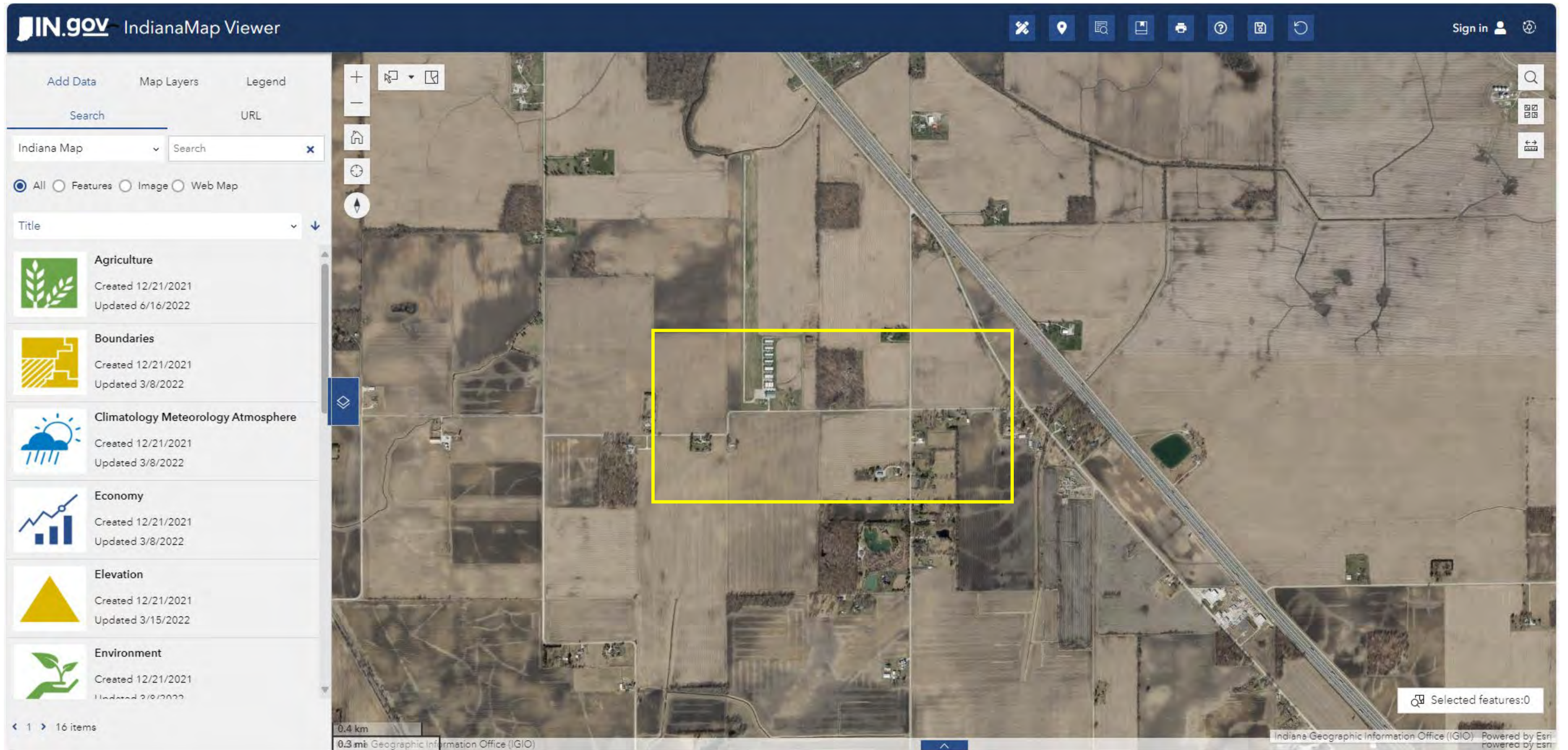
9/6/2024



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

LU/CEG CONNECTION POINT 1
USGS TOPO MAP
9/5/2024



LEBANON UTILITIES

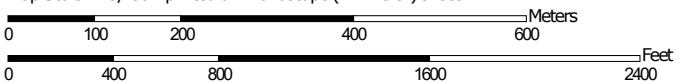
PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**LU/CEG CONNECTION POINT 1
AERIAL PHOTOGRAPHY MAP
9/5/2024**

Soil Map—Boone County, Indiana




Map Scale: 1:8,750 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boone County, Indiana

Survey Area Data: Version 26, Sep 1, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CudA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	62.9	21.3%
CxdA	Cyclone silty clay loam, 0 to 2 percent slopes	4.8	1.6%
FdbA	Fincastle silt loam, Tipton Till Plain, 0 to 2 percent slopes	52.2	17.7%
MamA	Mahalasville silty clay loam, 0 to 2 percent slopes	18.6	6.3%
MnpB2	Miami silt loam, 2 to 6 percent slopes, eroded	22.5	7.6%
ThrA	Treaty silty clay loam, 0 to 1 percent slopes	128.6	43.5%
WofB	Williamstown-Crosby silt loams, 2 to 4 percent slopes	5.9	2.0%
Totals for Area of Interest		295.6	100.0%

IN.gov IndianaMap Viewer

Sign in

Add Data Map Layers Legend

IDNR Historic Structures - County Survey Sites

RATING

- Contributing
- Notable
- Non-Contributing
- Demolished
- Outstanding
- Other

IDNR Historic Bridges

RATING

- <Null>
- Contributing
- Demolished
- Non-Contributing
- Not Rated
- Not-Rated
- Notable
- Outstanding
- <all other values>

IDNR Cemetery Sites - Cemeteries

Selected features: 0

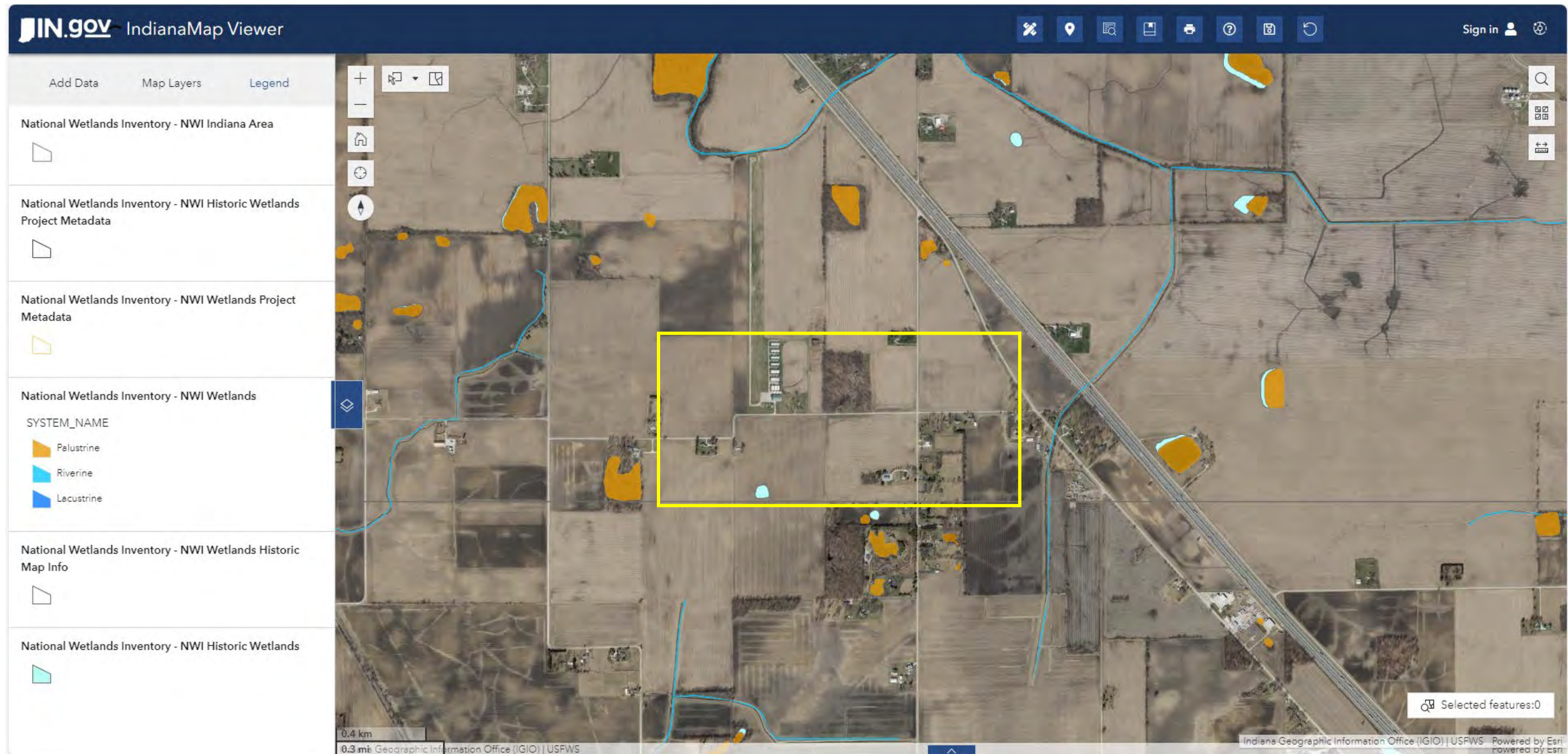
0.4 km

Geographic Information Office (IGIO) | Indiana Department of Natural Resources Division of Historic Preservation and Archaeology. Powered by Esri

LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**LU/CEG CONNECTION POINT 1
INDIANA HISTORICAL STRUCTURES MAP
9/5/2024**



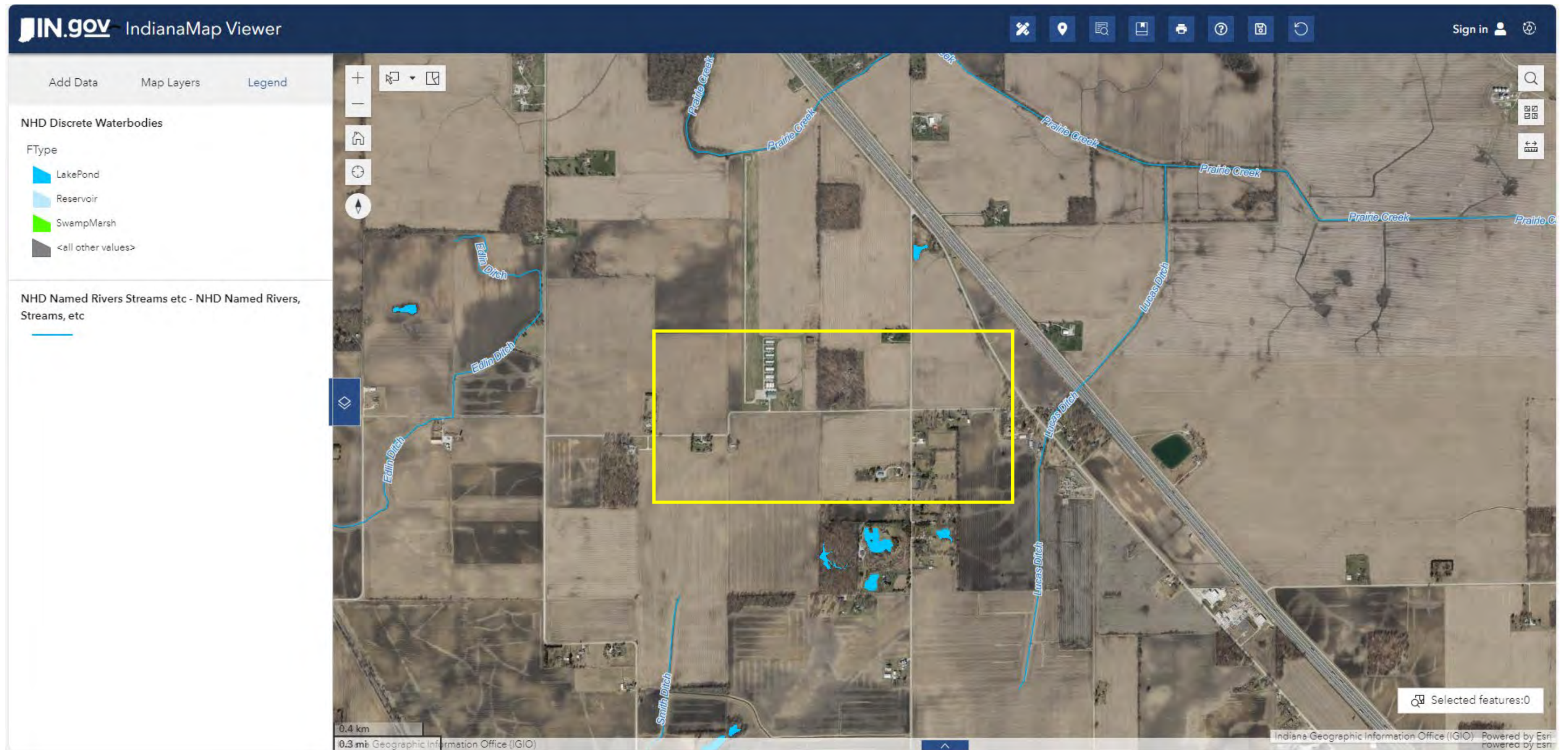
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

LU/CEG CONNECTION POINT 1

WETLANDS MAP

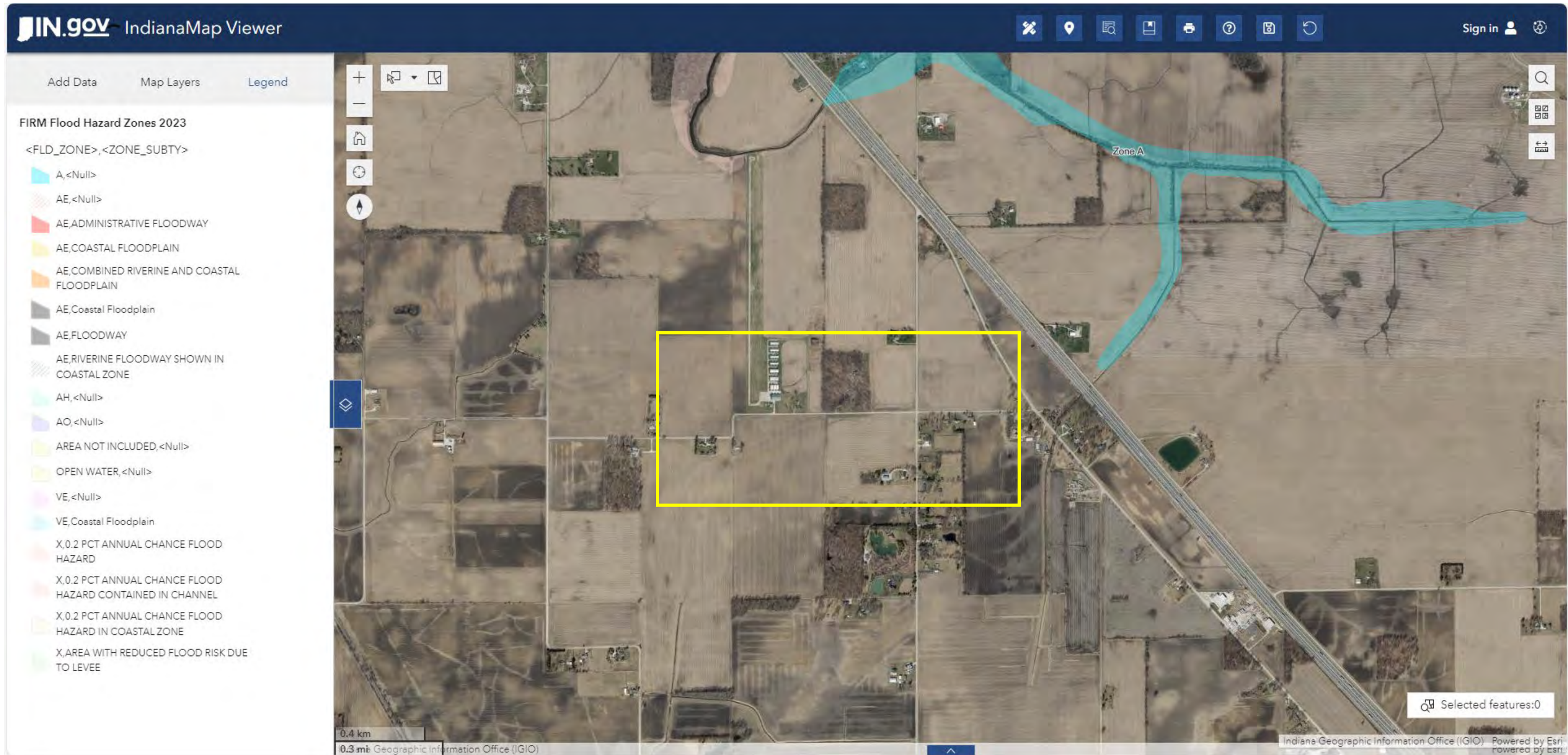
9/5/2024



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**LU/CEG CONNECTION POINT 1
WATERWAYS MAP
9/5/2024**



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

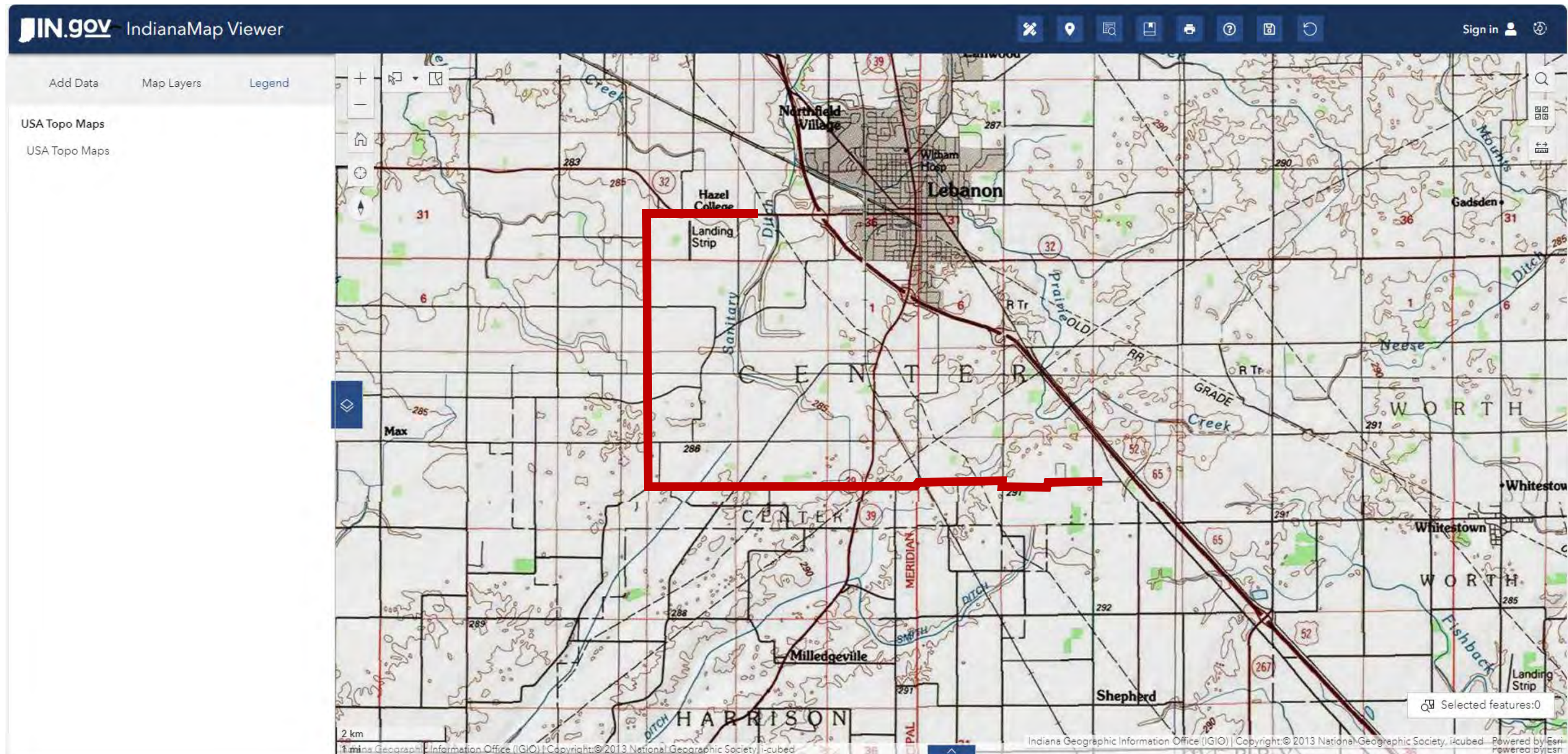
**LU/CEG CONNECTION POINT 1
FLOODPLAIN MAP
9/5/2024**

**LEBANON UTILITIES
PUBLIC WATER SUPPLY ID: IN 5206003**

**PRELIMINARY ENGINEERING REPORT
WHOLESALE WATER SUPPLY - PHASE 1**

ENVIRONMENTAL GRAPHICS – WATER TRANSMISSION LINES

9/6/2024



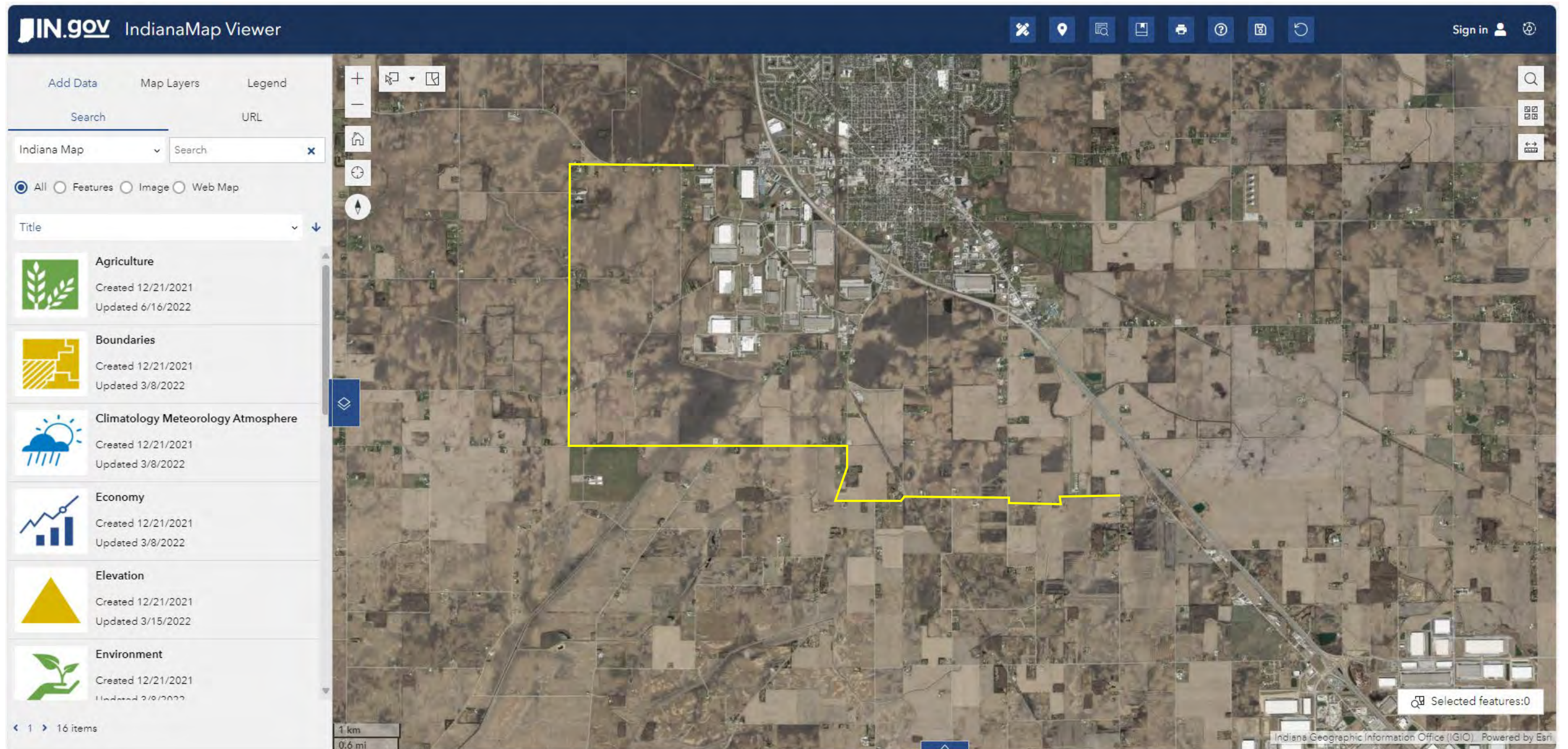
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

WATER TRANSMISSION LINES

USGS TOPO MAP

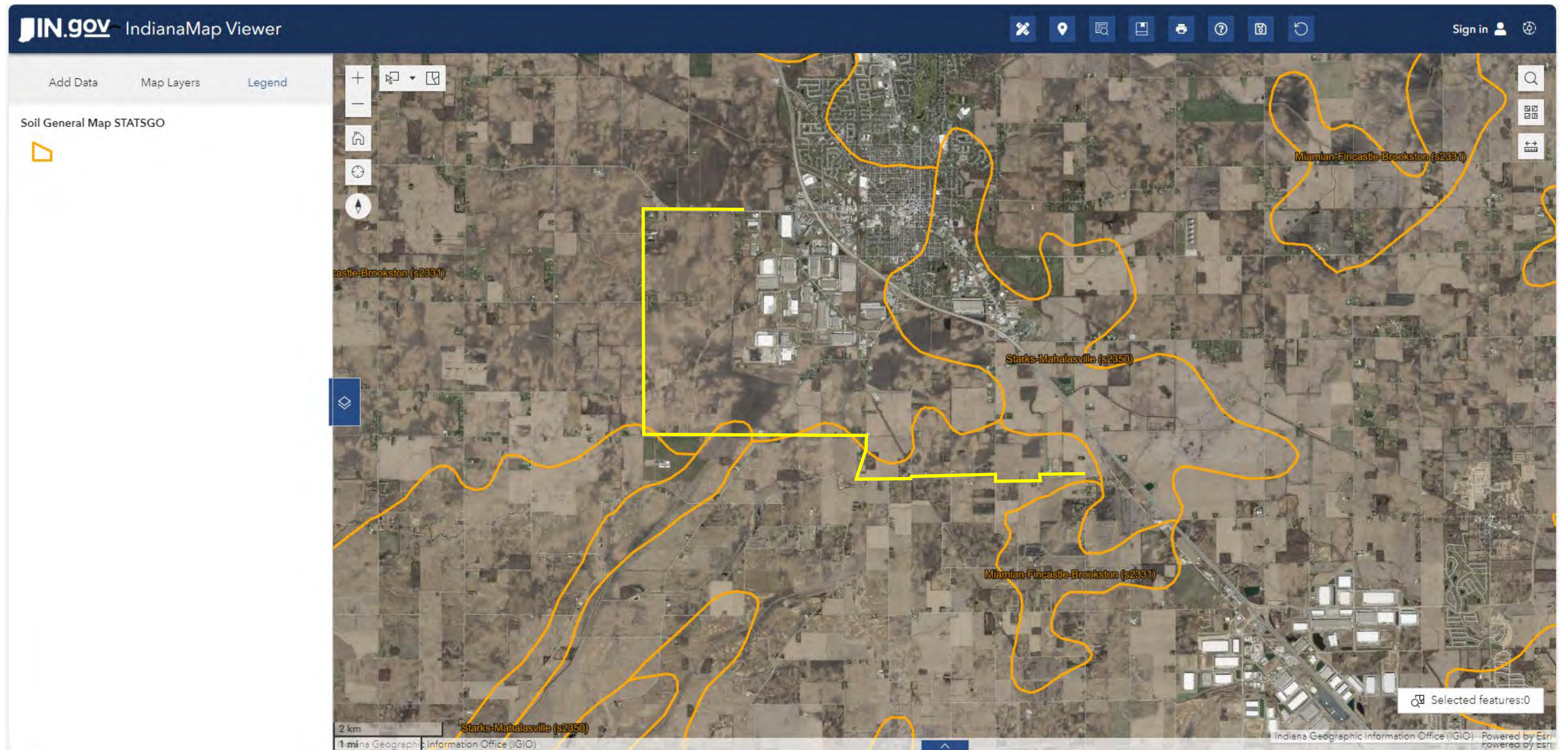
9/5/2024



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

WATER TRANSMISSION LINES
AERIAL PHOTOGRAPHY MAP
9/5/2024



LEBANON UTILITIES

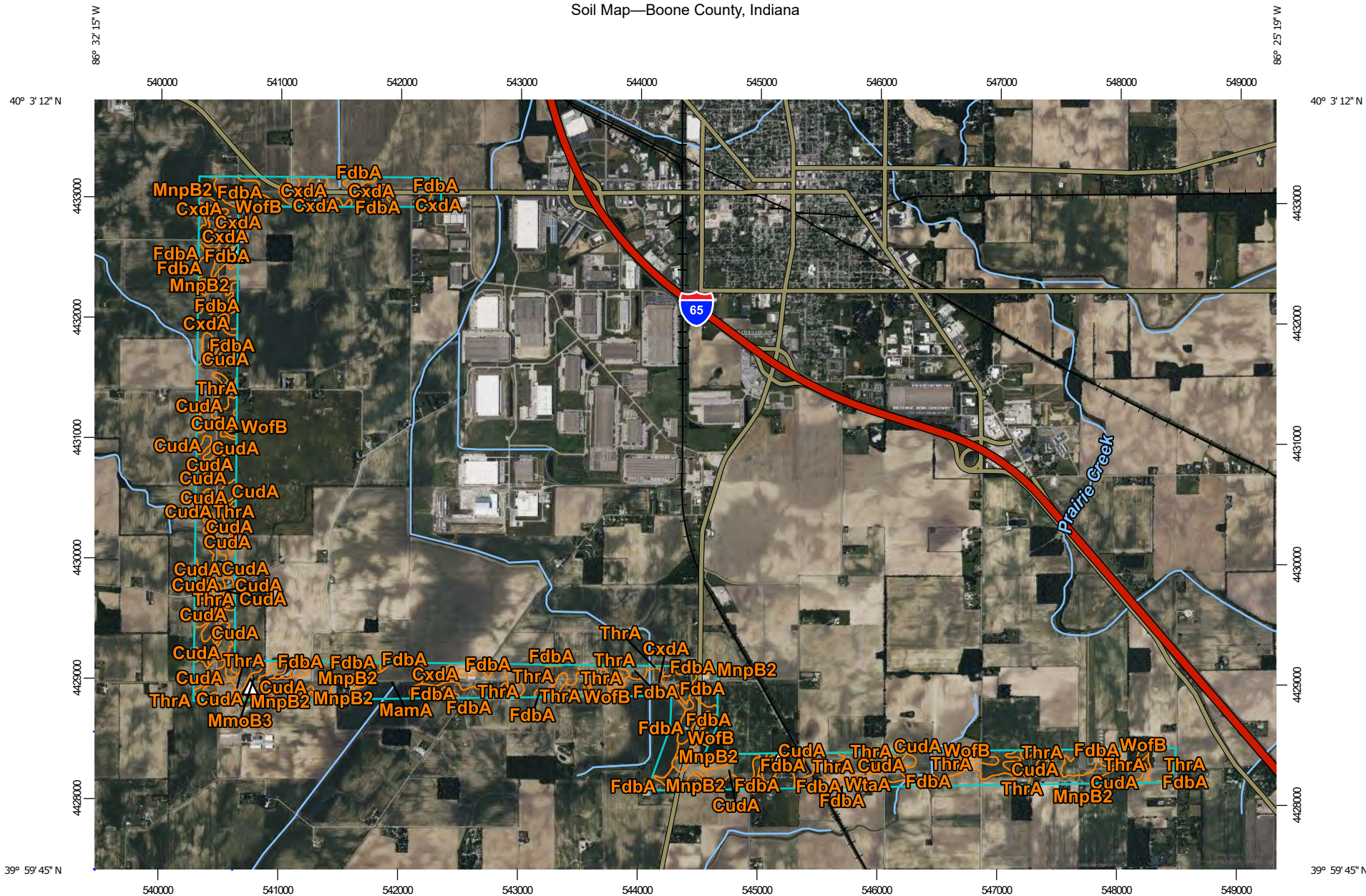
PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

WATER TRANSMISSION LINES

SOILS MAP


9/5/2024

Soil Map—Boone County, Indiana





MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boone County, Indiana
 Survey Area Data: Version 26, Sep 1, 2023

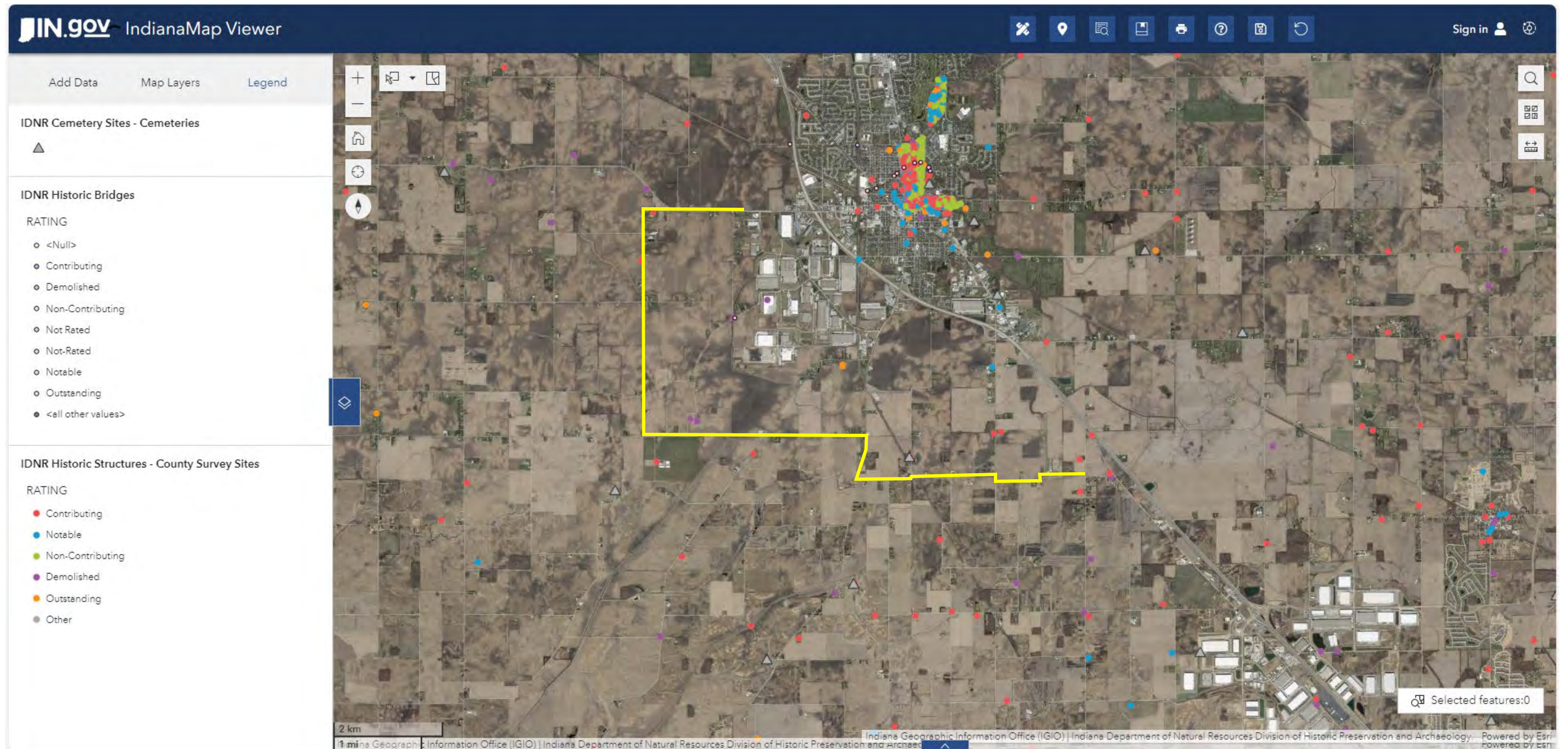
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

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Map Unit Legend

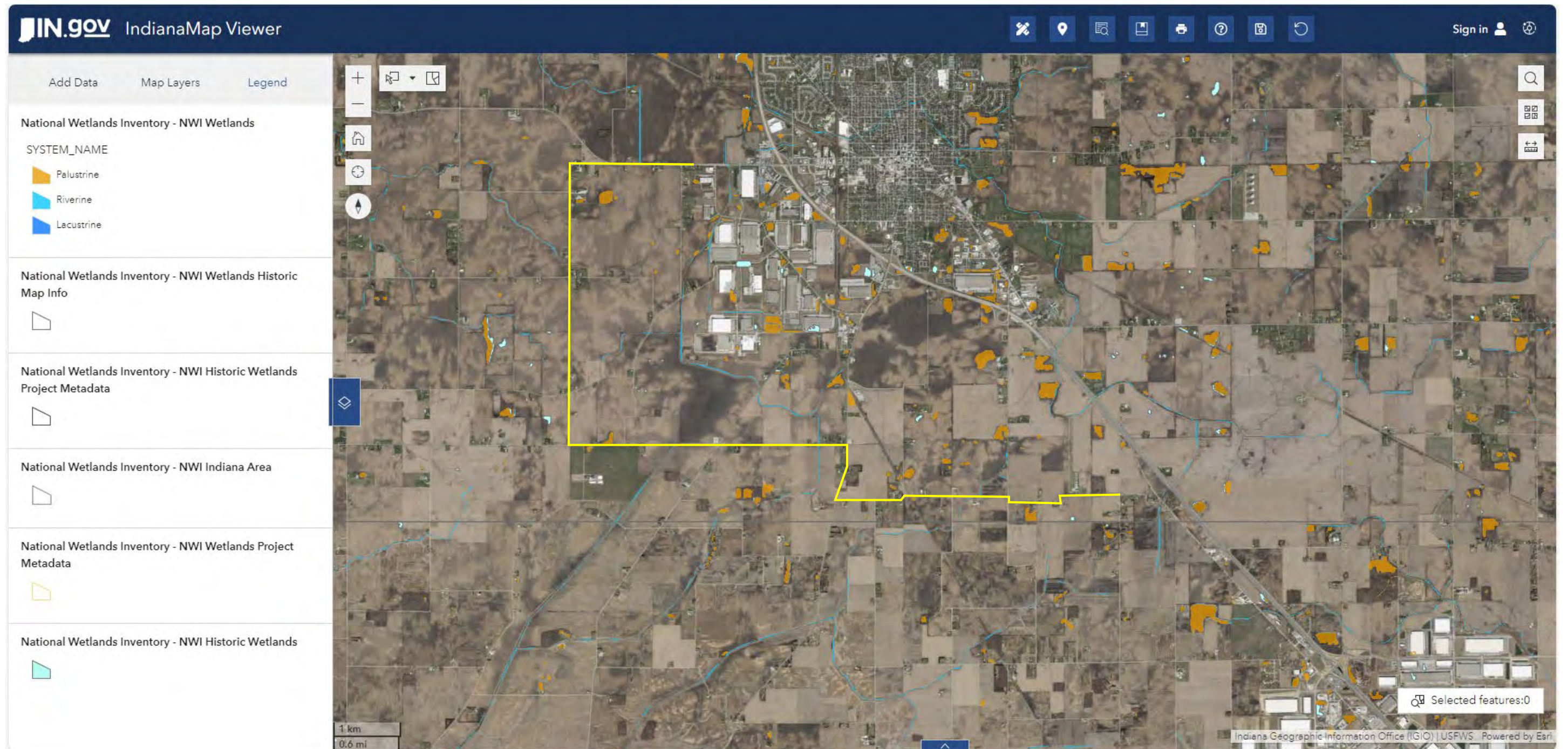
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CudA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	196.9	17.8%
CxdA	Cyclone silty clay loam, 0 to 2 percent slopes	257.3	23.2%
FdbA	Fincastle silt loam, Tipton Till Plain, 0 to 2 percent slopes	230.6	20.8%
MamA	Mahalasville silty clay loam, 0 to 2 percent slopes	42.0	3.8%
MmoB3	Miami clay loam, 2 to 6 percent slopes, severely eroded	10.6	1.0%
MmoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	0.9	0.1%
MnpB2	Miami silt loam, 2 to 6 percent slopes, eroded	71.4	6.4%
MnpC2	Miami silt loam, 6 to 12 percent slopes, eroded	3.6	0.3%
ThrA	Treaty silty clay loam, 0 to 1 percent slopes	277.4	25.0%
W	Water	2.5	0.2%
WofB	Williamstown-Crosby silt loams, 2 to 4 percent slopes	13.3	1.2%
WtaA	Whitaker silt loam, 0 to 2 percent slopes	1.6	0.1%
Totals for Area of Interest		1,108.6	100.0%



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**WATER TRANSMISSION LINES
HISTORICAL STRUCTURES MAP
9/5/2024**



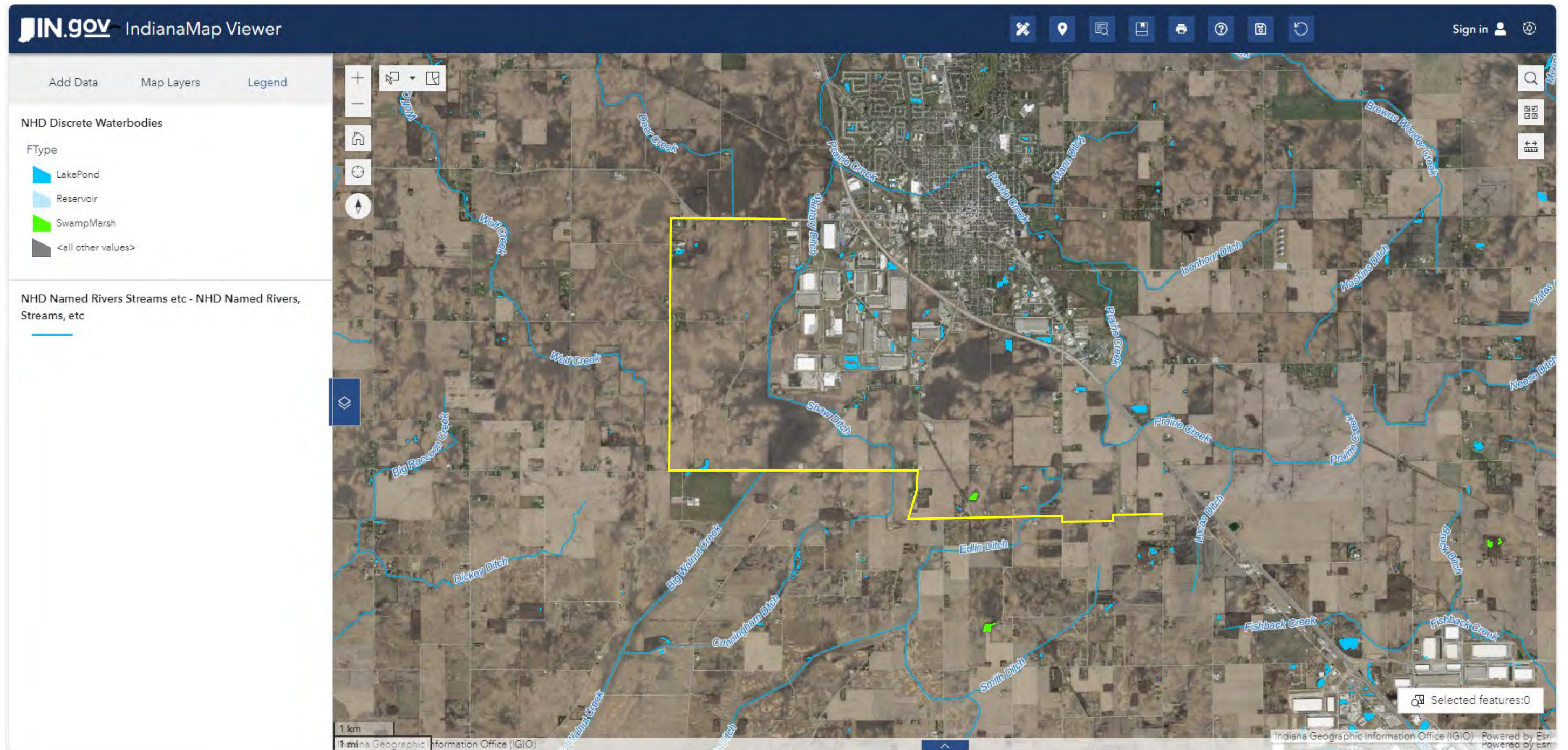
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

WATER TRANSMISSION LINES

WETLANDS MAP

9/5/2024



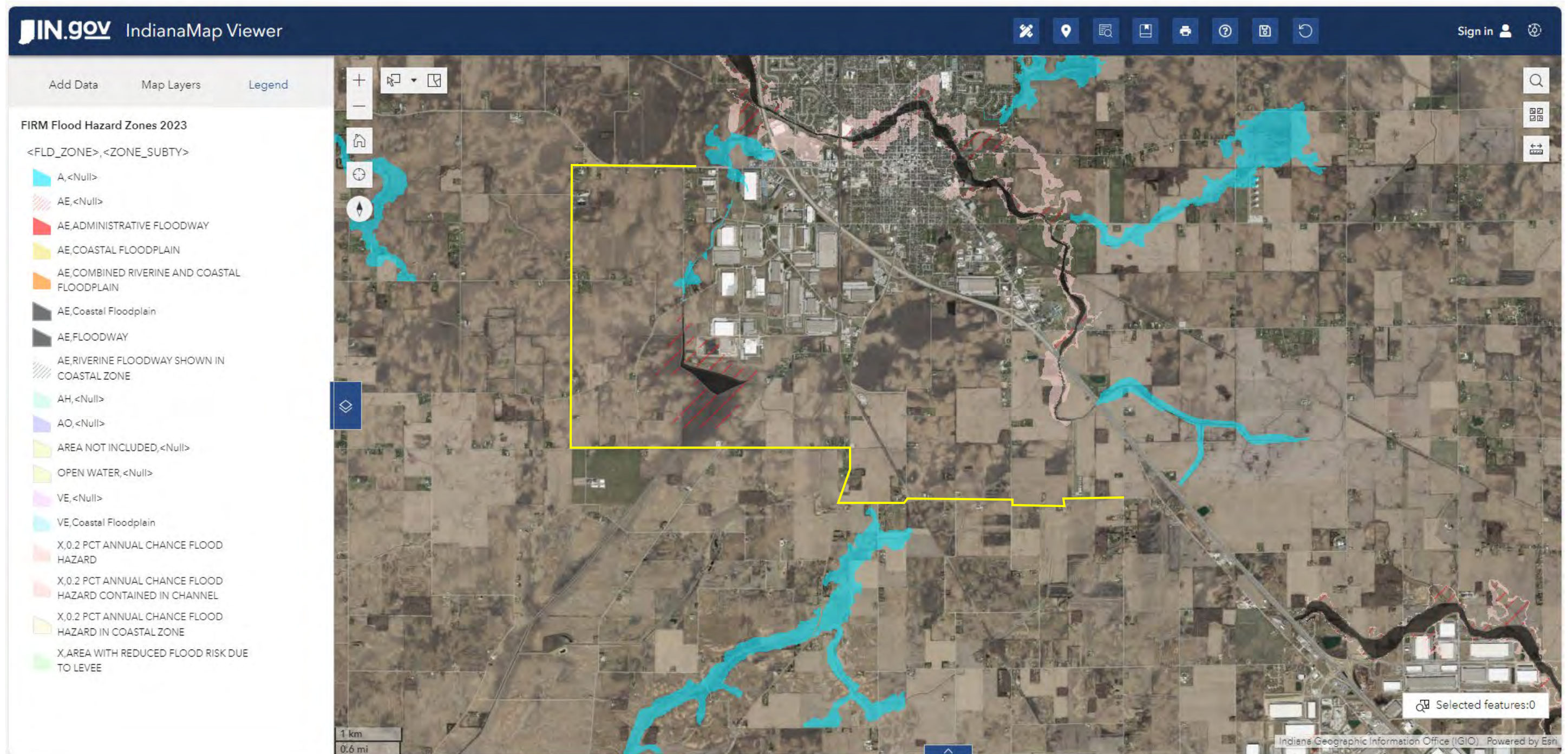
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

WATER TRANSMISSION LINES

WATERWAYS MAP

9/5/2024



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

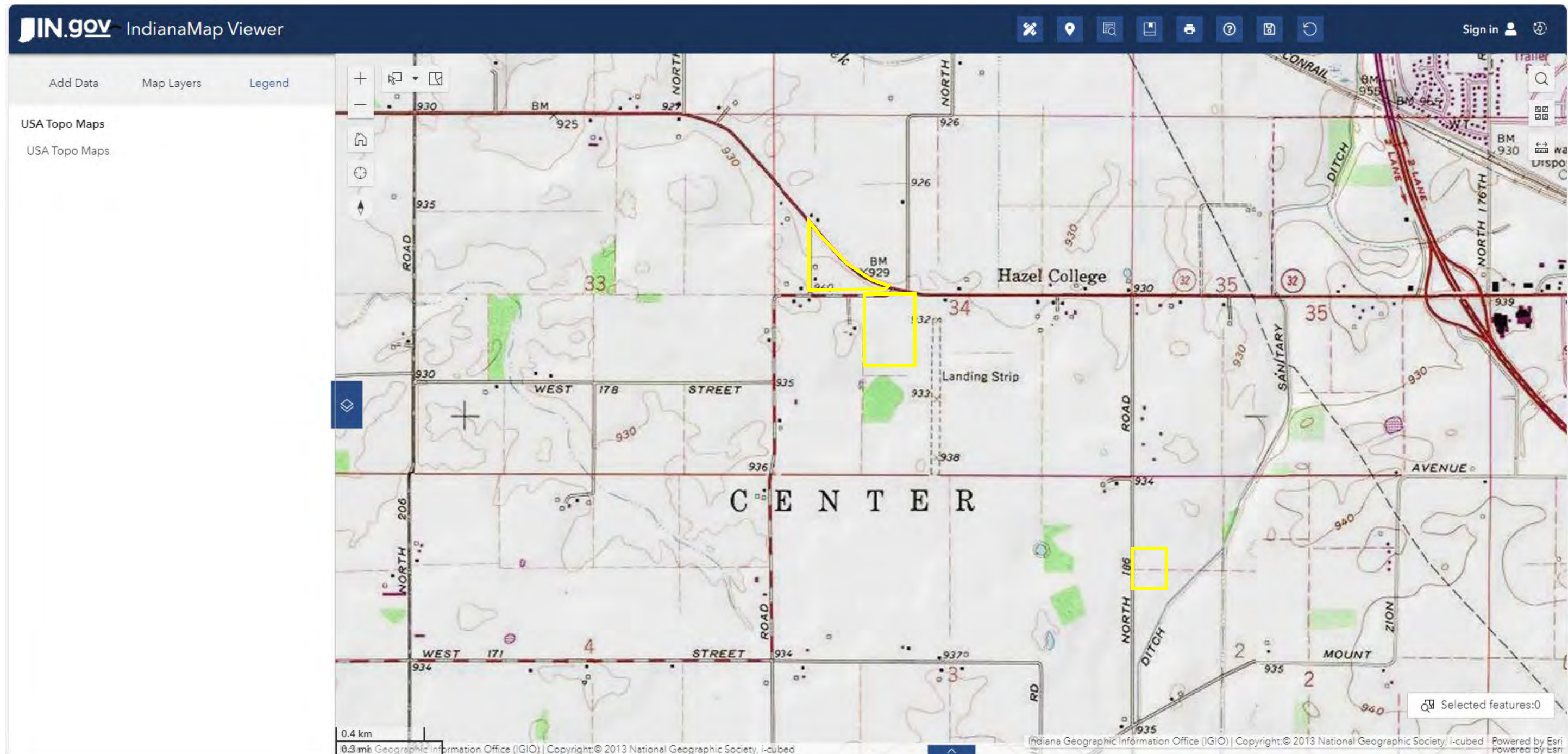
**WATER TRANSMISSION LINES
FIRM FLOOD HAZARD ZONES
9/5/2024**

LEBANON UTILITIES
Public Water Supply ID: IN 5206003

PRELIMINARY ENGINEERING REPORT
WHOLESALE WATER SUPPLY - PHASE 1

ENVIRONMENTAL GRAPHICS – ELEVATED STORAGE TANK

9/6/2024



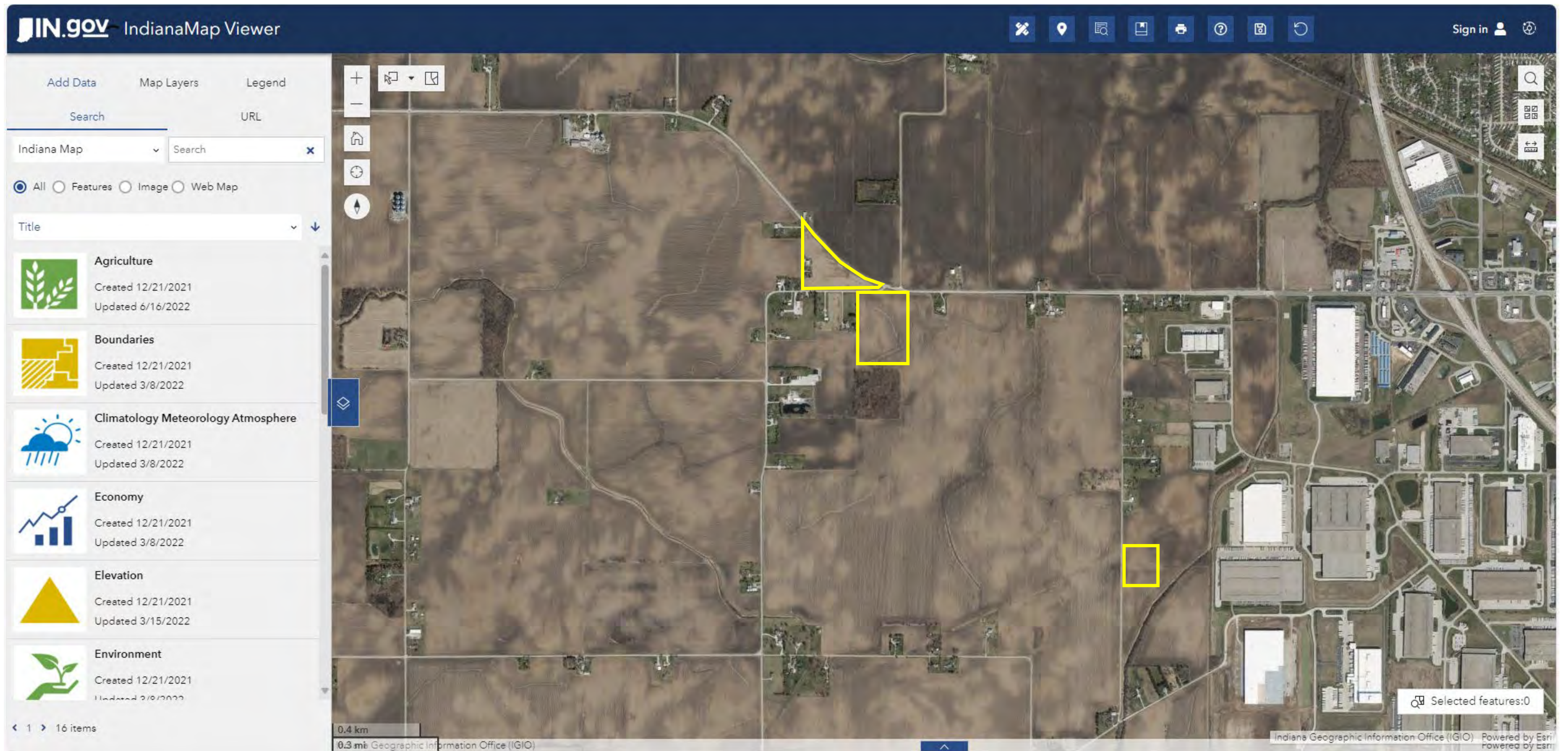
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

POTENTIAL ELEVATED STORAGE TANK OPTIONS

USGS TOPO MAP

9/5/2024

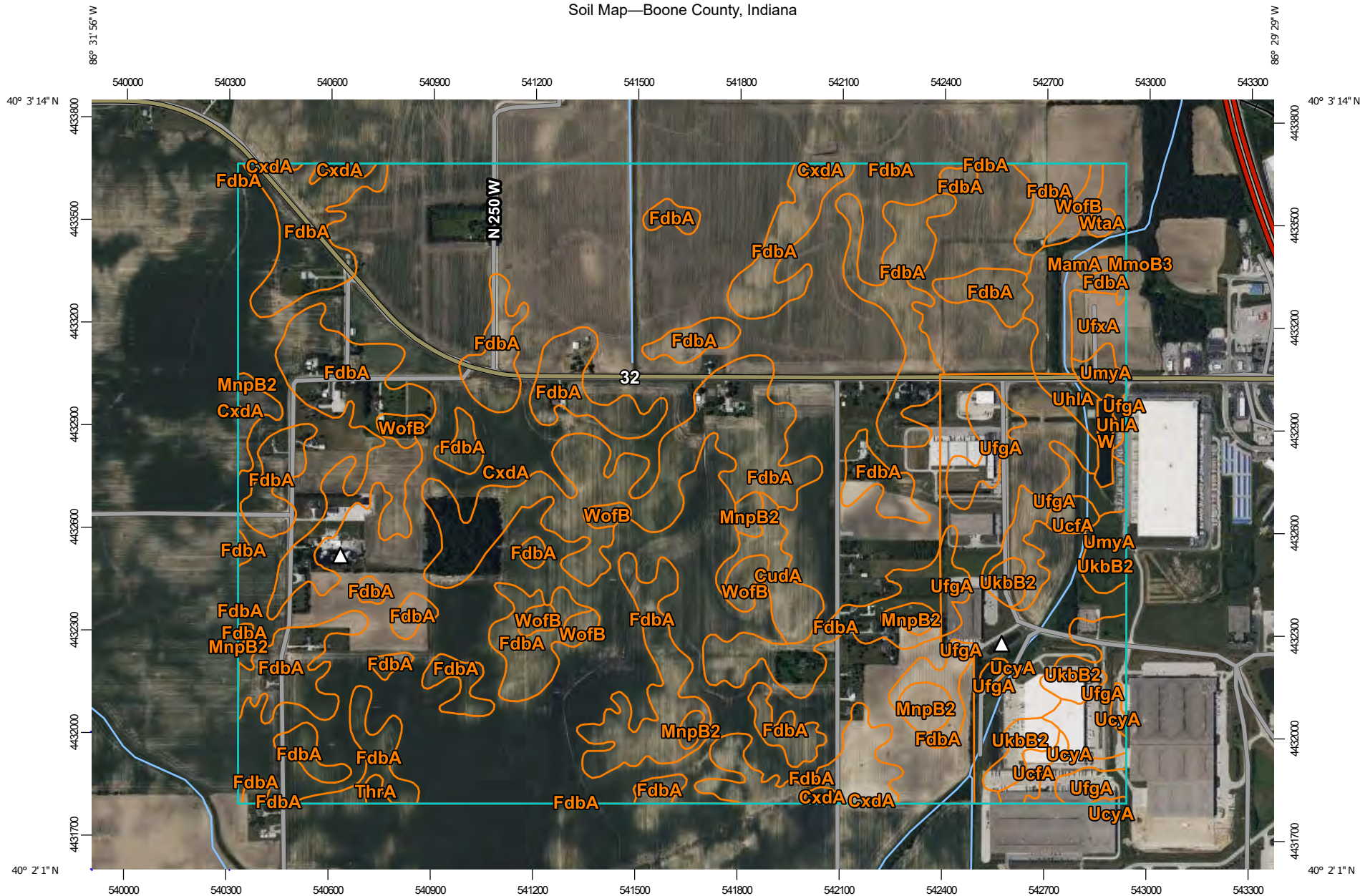


LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**POTENTIAL ELEVATED STORAGE TANK OPTIONS
AERIAL PHOTOGRAPHY MAP
9/5/2024**

Soil Map—Boone County, Indiana



Map Scale: 1:15,900 if printed on A landscape (11" x 8.5") sheet.


0 200 400 800 1200 Meters

0 500 1000 2000 3000 Feet


Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boone County, Indiana

Survey Area Data: Version 26, Sep 1, 2023

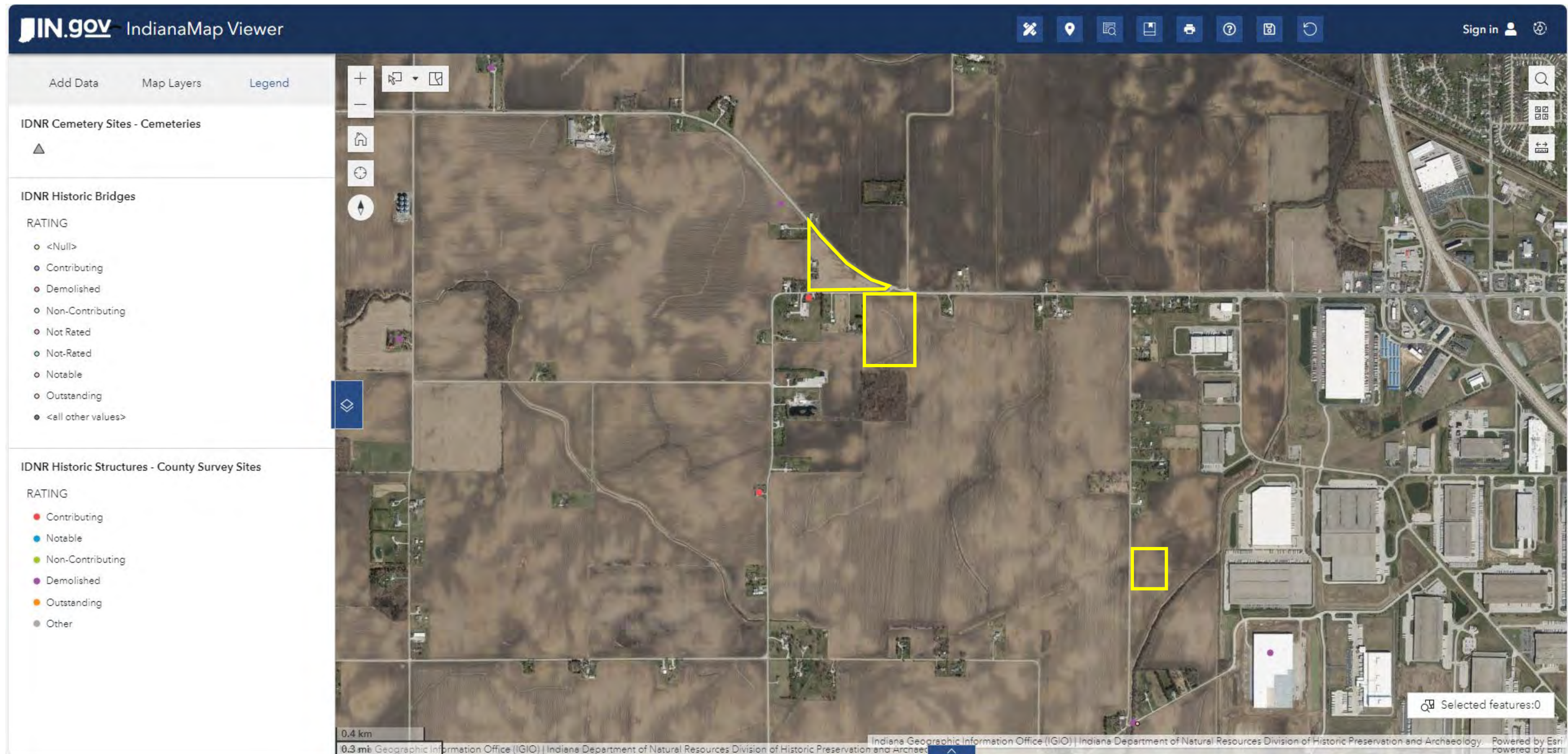
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CudA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	11.2	0.9%
CxdA	Cyclone silty clay loam, 0 to 2 percent slopes	614.3	50.8%
FdbA	Fincastle silt loam, Tipton Till Plain, 0 to 2 percent slopes	367.8	30.4%
MamA	Mahalasville silty clay loam, 0 to 2 percent slopes	18.6	1.5%
MmoB3	Miami clay loam, 2 to 6 percent slopes, severely eroded	1.9	0.2%
MnpB2	Miami silt loam, 2 to 6 percent slopes, eroded	11.0	0.9%
ThrA	Treaty silty clay loam, 0 to 1 percent slopes	1.1	0.1%
UcfA	Urban land-Crosby silt loam complex, fine-loamy subsoil, 0 to 2 percent slopes	6.8	0.6%
UcyA	Urban land-Cyclone silty clay loam complex, 0 to 2 percent slopes	76.3	6.3%
UfgA	Urban land-Fincastle silt loam complex, 0 to 2 percent slopes	47.2	3.9%
UfxA	Urban land-Fincastle complex, 0 to 2 percent slopes	7.4	0.6%
UhlA	Urban land-Mahalasville silty clay loam complex, 0 to 2 percent slopes	4.7	0.4%
UkbB2	Urban land-Miami silt loam complex, 2 to 6 percent slopes, eroded	16.1	1.3%
UmyA	Urban land-Treaty complex, 0 to 1 percent slopes	7.4	0.6%
W	Water	2.8	0.2%
WofB	Williamstown-Crosby silt loams, 2 to 4 percent slopes	14.3	1.2%
WtaA	Whitaker silt loam, 0 to 2 percent slopes	1.3	0.1%
Totals for Area of Interest		1,210.2	100.0%



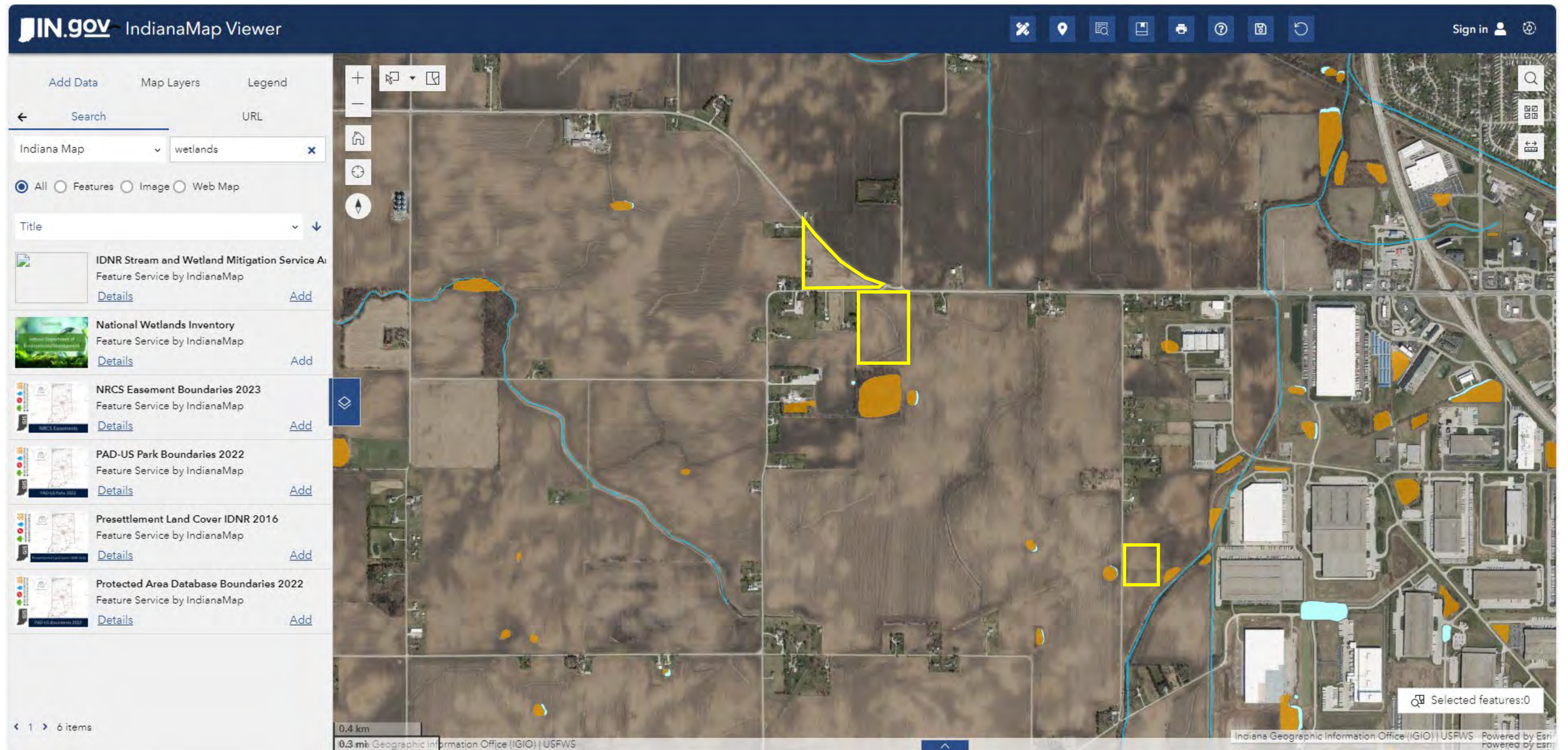
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

POTENTIAL ELEVATED STORAGE TANK OPTIONS

HISTORICAL SITES MAP

9/5/2024



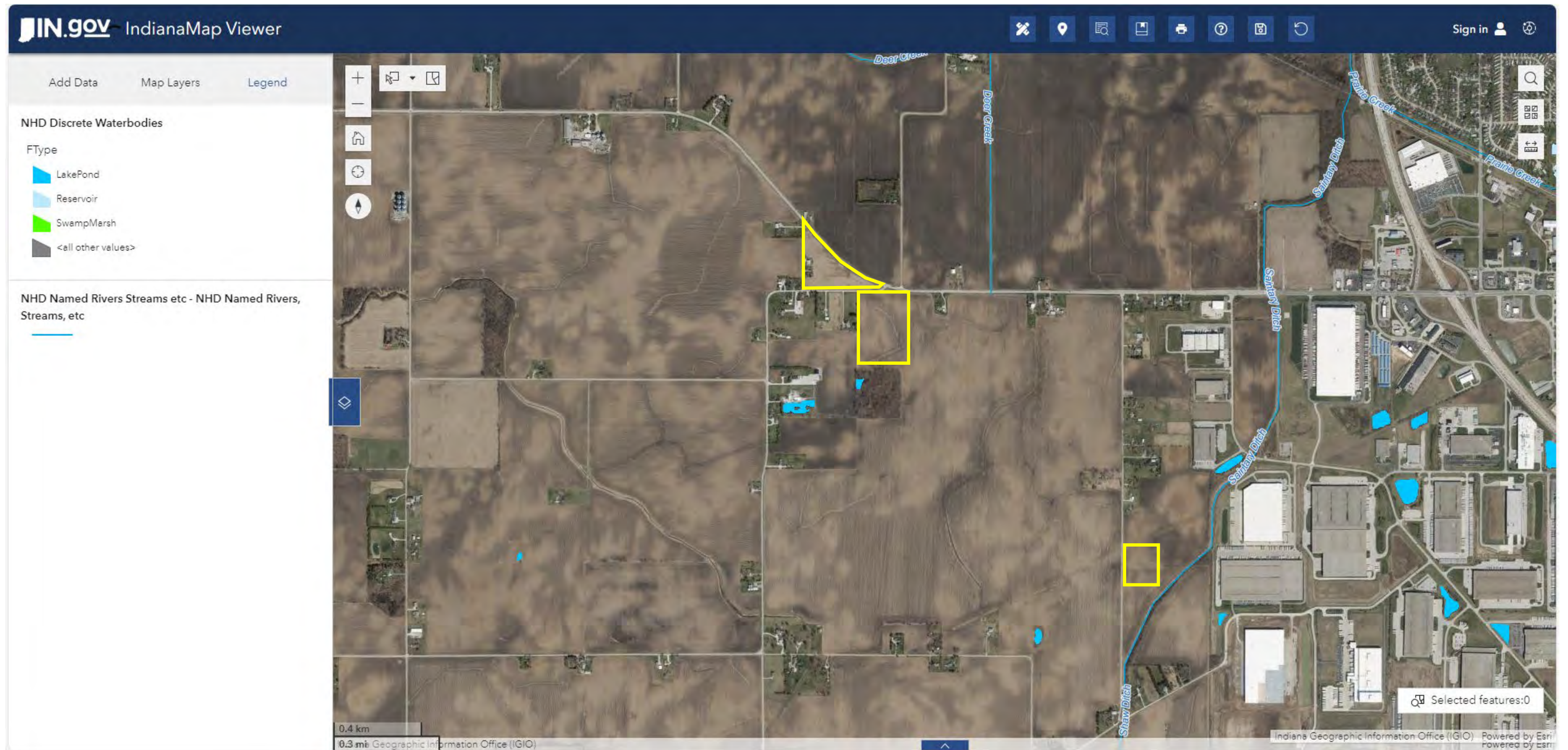
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

POTENTIAL ELEVATED STORAGE TANK OPTIONS

WETLANDS MAP

9/5/2024



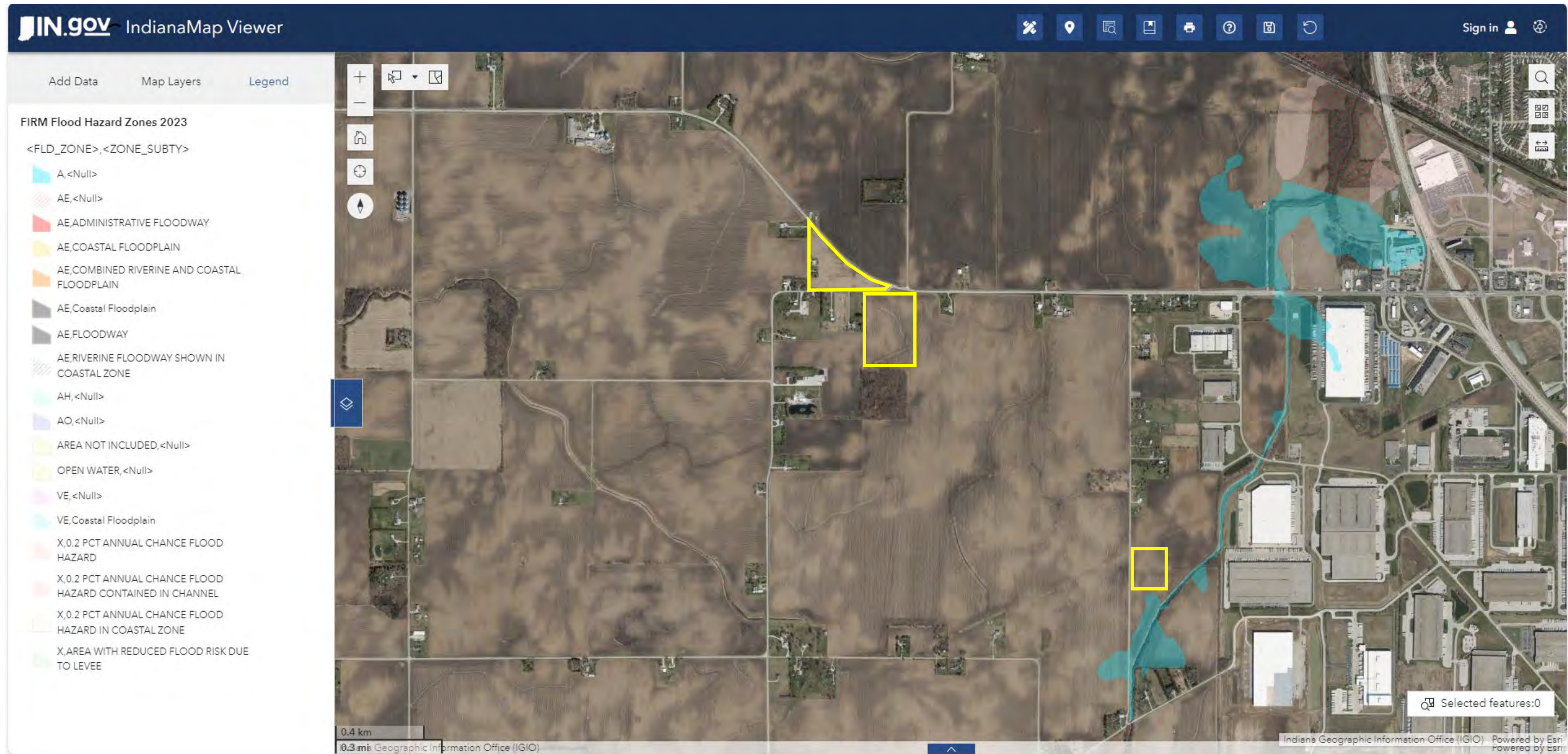
LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

POTENTIAL ELEVATED STORAGE TANK OPTIONS

WATERWAYS MAP

9/5/2024



LEBANON UTILITIES

PRELIMINARY ENGINEERING REPORT - WHOLESALE WATER SUPPLY – PHASE 1

**POTENTIAL ELEVATED STORAGE TANK OPTIONS
FLOODPLAIN MAP
9/5/2024**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Boone County, Indiana



Local office

Indiana Ecological Services Field Office

☎ (812) 334-4261

📅 (812) 334-4273

620 South Walker Street
Bloomington, IN 47403-2121

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered

Birds

NAME	STATUS
Whooping Crane <i>Grus americana</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Salamander Mussel <i>Simpsonaias ambigua</i> Wherever found There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below.

Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

Bald Eagle *Haliaeetus leucocephalus*

Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

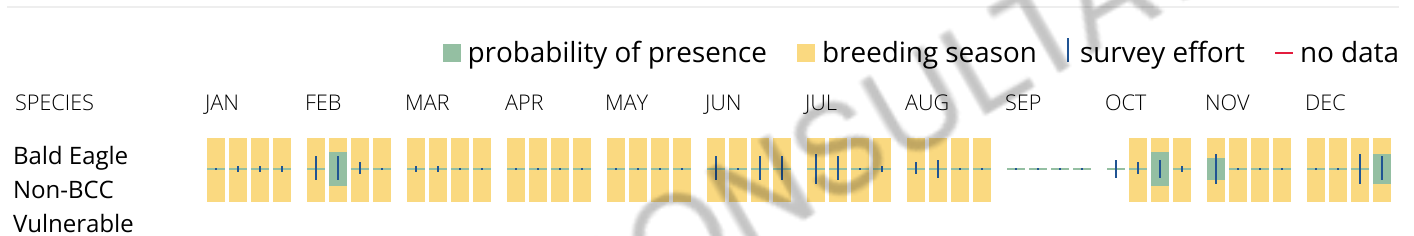
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your

list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Cerulean Warbler <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 21 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Grasshopper Sparrow <i>Ammodramus savannarum</i> <i>perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20

<p>Lesser Yellowlegs <i>Tringa flavipes</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Pectoral Sandpiper <i>Calidris melanotos</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Prothonotary Warbler <i>Protonotaria citrea</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Semipalmated Sandpiper <i>Calidris pusilla</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Wood Thrush <i>Hyllocichla mustelina</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

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3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

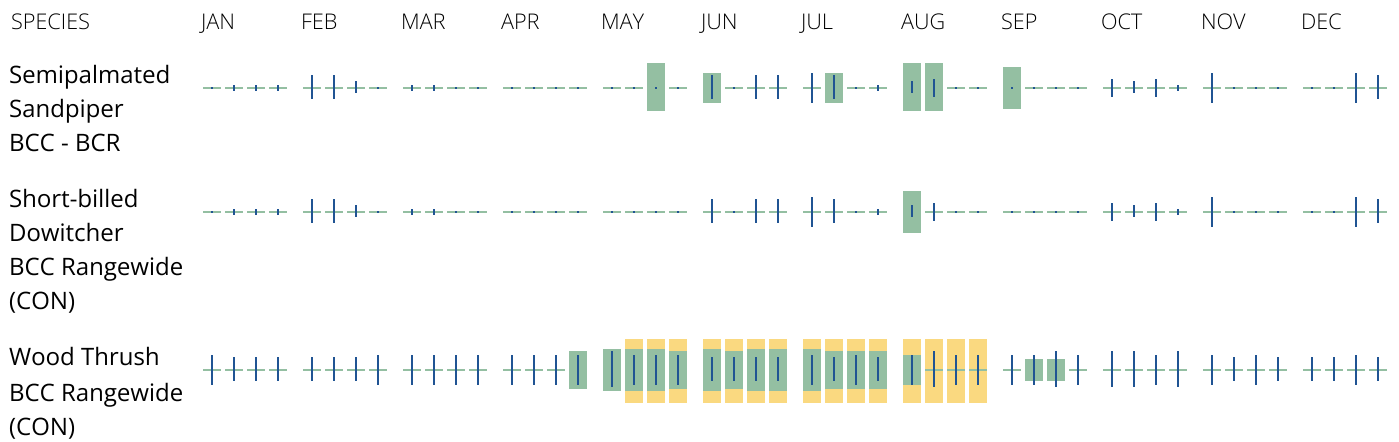
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

RESOLUTION NO. 2024-05

**A RESOLUTION PROVIDING FOR SIGNATORY AUTHORITY FOR
THE STATE REVOLVING FUND LOAN PROGRAM
(WATER)**

WHEREAS, the City of Lebanon, Indiana (“City”) owns and operates through its Utility Service Board (“Board”) a municipal water utility known as the City of Lebanon Utilities (the “Participant”) for the purpose of providing safe, reliable and efficient water utility services pursuant to Ind. Code §8-1.5 *et. seq.*, as amended, and other applicable provisions of Indiana law (collectively, the “Act”);

WHEREAS, the Participant has plans for a water infrastructure improvement project (“Project”) that meets State and Federal regulations and the Participant intends to proceed with the construction of such Project; and

WHEREAS, in order to move forward with the Project, the Utility desires to make application, for funding purposes, to the State Revolving Fund (“SRF”) Loan Program.

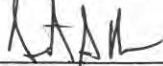
NOW, THEREFORE, be it resolved by the Board, the governing body of the Participant, that:

1. Sandra Morgan, CFO, be authorized to make application for a SRF Loan and provide that SRF Loan Program such information, data and documents pertaining to the loan process as may be required, and otherwise act as the authorized representative of the Participant;
2. The Participant agrees to comply with State and Federal requirements as the pertain to the SRF Loan Program; and
3. Two certified copies of this Resolution be prepared and submitted as part of the Participant’s Preliminary Engineering Report.

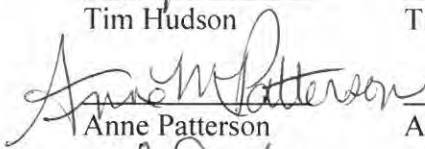
[signatures on next page]

ADOPTED by the City of Lebanon Utility Service Board this 4th day of September 2024.

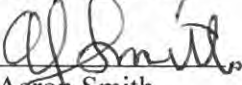
Voting For



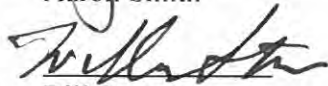
Tim Hudson



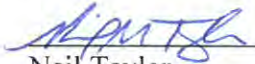
Anne Patterson



Aaron Smith



Bill Stoner



Neil Taylor

Voting Against

Tim Hudson

Anne Patterson

Aaron Smith

Bill Stoner

Neil Taylor

Abstain

Tim Hudson

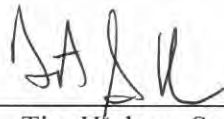
Anne Patterson

Aaron Smith

Bill Stoner

Neil Taylor

ATTEST:



Tim Hudson, Secretary