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Blackford County Regional Sewer District

Preliminary Engineering Report
Wastewater Utilities Improvements
Revised: October 2022

A Wealth of Resources to Master a Common Goal.

PROJECT: S20091

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ES.1 Executive Summary

Commonwealth Engineers, Inc. (Commonwealth) has prepared this Engineering Report to evaluate the present conditions and future needs of Blackford County in support of the County's desire to form a Regional Sewer District. Within Blackford County, only the communities of Hartford City, Montpelier, Shamrock Lakes, Dunkirk, and the Jackson Township Regional Sewer District (Millgrove) are serviced by wastewater treatment facilities. Outside these limits, the residents of Blackford County operate using localized onsite effluent disposal systems (septic tank systems). These systems pose a hazard to public health as they can leak significant concentrations of biological contaminants into ground and surface waters. To mitigate this risk, the Blackford County Health Department requested that more residents be serviced by the current wastewater treatment facilities. This Study evaluates Alternatives for addressing the wastewater treatment needs of the citizens within the unincorporated areas of Blackford County.

A. Project Planning

The Planning Area for this study is equivalent to the limits of Blackford County, excluding the incorporated communities of Hartford City, Montpelier, Shamrock Lakes, Dunkirk, and the Jackson Township Regional Sewer District. This Study evaluates specific areas to be serviced including the residential communities of Mohee, Meadow Wood Estates, Northview Manor, Woods Hill, Westwood, S.R. 3 / CR 200S, Roll, Trenton, CR E100S, Connor's Trailer Park, and Lake Blue Water.

Upon creation of the Blackford County RSD, the District intends to pursue a Phase 1 project to construct a wastewater collection system for Mohee with interest in utilizing Shamrock Lake's Wastewater Treatment Plant (WWTP) to treat their flows.

Based on StatsAmerica population data, the population of Blackford County has declined by 8.57% from 2010 to 2019. Since it is not prudent to plan for negative population growth, a conservative 0.3% population growth per year was assumed for the 20 year planning period. Based on this estimate, the area of Mohee is expected to increase by twenty-six (26) EDUs over the planning period.

B. Proposed Flows

Based on estimated current and future flows for Mohee, it is proposed that the average daily flow into Shamrock Lake's WWTP will increase by 16,120 gpd. A summary of these estimated flows is presented in the following **Table ES-1**.

Table ES-1
Estimated Flows from Mohee

	Flow Rate (GPD)
Current Flows	
Design Average Daily Flow	16,120
Peak Daily Flow	32,240
Peak Hourly Flow	64,480
Future Growth	
Design Average Daily Flow	8,060
Peak Daily Flow	16,120
Peak Hourly Flow	32,240
Total Flows	
Design Average Daily Flow	**24,180**
Peak Daily Flow	**48,360**
Peak Hourly Flow	**96,720**

The following **Table ES-2** provides a summary of the proposed collection system components associated with construction of new wastewater collection facilities in Mohee.

Table ES-2
Mohee Wastewater Collection System Components

Item Description	Unit	Quantity
2" Pressure Laterals	L.F.	4,290
2" Force Main – HDD	L.F.	10,296
2" Force Main – Open Cut	L.F.	100
3" Force Main - HDD	L.F.	16,324
3" Force Main – Open Cut	L.F.	250
Total Force Main	**L.F.**	**31,260**
4" Gravity Lateral	**L.F.**	**1,040**
Air Release Valves	**EA.**	**8**
Creek Crossing (3" FM)	**EA.**	**2**
Residential Grinder Stations	**EA.**	**52**
Main Duplex Lift Station	**EA**	**1**

ES.2 Description of Project Components

A. New Collection System

1. Construct New Gravity Laterals, Pressure Laterals, Pressure Mains, Force Mains, Grinder Pumps, and Main Lift Station

It is proposed that a new collection system with grinder pumps be built to provide reliable service to the residents and businesses in Mohee under the proposed Phase 1 Project.

4" gravity laterals will be installed to carry flows from residential or commercial structures to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 1.5" pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2" to 3" pressure mains in roads or right-of-ways. The grinder stations will discharge into a main lift station that will send flows to the Shamrock Lakes WWTP. Air release valves will be installed at points of high pressure in the pressure mains.

ES.3 Feasibility Analysis

A. Constructability

Since the project will serve residents and businesses that are currently on septic systems, the proposed construction will not interfere with any existing infrastructure. Therefore, constructability will not be an issue. The new system will be completely constructed and then tested according to the specifications detailed in the contract documents. Once it has been tested, connections to the system will commence.

The County acknowledges that provisions exist within the Indiana Code affording residents within the proposed project areas(s) the opportunity to apply for exemptions for up to 20 years that could delay connection to the proposed sanitary sewer system.

B. Environmental Impacts

All construction is expected to take place in previously disturbed land and right-of-ways. All impacted areas will be restored to pre-construction conditions. Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Standard erosion control measures will be implemented and maintained throughout the duration of all construction activities. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

The following environmental investigations have been made.

1. Disturbed/Undisturbed Land

It is expected the proposed improvements will be constructed on previously disturbed land and within existing right-of-ways. Construction is not expected to have any detrimental, long-term impact on soils. Short-term impacts associated with material and equipment transport and installation is expected and will be mitigated with appropriate techniques. Projects proposed as part of this report will not impact established land use plans, policy, or regulations of any agency with jurisdiction over the project.

2. Historic/Architectural Resources

The Department of Natural Resources' (DNR) State Historic Architectural and Archaeological Research Database (SHAARD) has been consulted. Historic farmlands are located within the Planning Area but will not be impacted by construction. The appropriate erosion control measures will be put in place to ensure no short-term or long-term detriments to any historic farmlands.

3. Wetlands

The U.S. Fish and Wildlife National Wetlands Inventory was reviewed. Horizontal directional drilling and the proper erosion control methods will be utilized to ensure there are no adverse effects on wetlands.

4. Surface Waters

There are no outstanding, salmonid, or navigable waterways in the Projects Areas. Horizontal directional drilling and the appropriate erosion control measures will be put in place to ensure there are no adverse effects on surface waters.

5. Groundwater

According to USDA-NRCS resources, most of the Project Areas have a water table depth of 25-50 cm and some areas have a water depth between 0-25cm. Since most of the areas have a high-water table, a geotechnical investigation should be performed during design to determine the effects of groundwater on any new construction. Construction activities are not expected to cause long term detriment to local wells. No sole source aquifers will be affected by the anticipated work.

6. 100-Year Floodplain, 500-Year Floodplain

The FIRM (Flood Insurance Rate Maps) for the Planning Area were obtained from the IndianaMap website. The use of horizontal directional drilling and other design considerations will comply with FFRMS requirements as required.

7. Plants and Animals

The Indiana Department of Natural Resources, Division of Nature Preserves website, contains lists of endangered, threatened, and rare species by county. A detailed report for Blackford County was reviewed. It is expected that all proposed

construction activities will take place in previously disturbed land and within existing right-of-ways. Rare and endangered species will likely be undisturbed by construction due to the location of their living environments relative to anticipated projects sites.

8. Soils

USDA-NRCS resources were reviewed. Proposed construction activities are not anticipated to have long term, detrimental effects on the soils. Short-term effects can be mitigated through the use of appropriate techniques for erosion control and surface restoration during the following construction activities.

9. Prime Farmland Impacts

Construction for this project will be completed within existing right-of-ways ,and will not impact prime farmland. Construction is not expected to have any detrimental, long term impact on soils. Short-term impacts will be mitigated with the appropriate erosion control techniques.

10. Air Quality

Air Quality impacts from proposed projects will be evaluated for conformance with applicable Rules under Title 326 Articles 1, 2, 6, 7, and 8 of the Federal 1990 Clean Air Act Amendments. There are no IDEM nonattainment areas within the Planning Area.

a) Construction Activity

To minimize non-conformance with 326 IAC 6-4, “Fugitive Dust Emissions”, reasonable and proper construction techniques and clean up practices will be provided. In addition, surface wetting practices will be utilized to control dust emissions where required. Please note that 326 IAC 6-4-6(3) provides for an exemption to the rule “from construction or demolition activity where every reasonable precaution has been taken in minimizing fugitive dust emissions”. Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

b) Clean Air Act Title III – Hazardous Air Pollutants

Title III calls for a program to prevent the accidental releases of hazardous air pollutants from facilities. We do not anticipate use of chemicals in the project that may release hazardous air pollutants as defined by EPA’s Hazardous Air Pollutant Listing. If potential hazardous air pollutants are used on the project, we will require monitoring, record keeping, reporting, and vapor recovery, secondary containment, design, equipment, work practices and operation according to Federal Standards.

11. Mitigating Measures to Avoid Negative Impacts

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues are classified as temporary, since no

significant, permanent impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards. The work is expected to be completed during normal working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required by the contractor to reduce dust emissions. Proper surface wetting practices will be required.

ES.4 Proposed Method of Construction & Construction Contracts

A. Proposed Method of Construction

Construction procurement for the proposed project will be done by competitive bid.

B. Construction Contracts

The proposed work is the first phase of projects meant to connect more citizens of Blackford County to wastewater treatment facilities. This Phase 1 project will be bid as one (1) division under a single construction contract.

ES.5 Constructions Costs, Permits, & Schedule

A. Detailed Construction Cost Estimate

Table ES-3 provides a breakdown of estimated construction costs by component for the proposed Phase 1 Project Area.

A construction contingency of just under 10% is included in the total estimate. This assumption is consistent with industry standard practices. It is prudent to incorporate contingency into the budget to prepare for fluctuations in bid prices or unexpected site conditions that may arise during construction.

Table ES-3
Estimate of Mohee Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	10,296	LF	$50	$514,900
3" Force Main, HDD	16,324	LF	$55	$897,900
2" Force Main, Open Cut	100	LF	$96	$9,600
3" Force Main, Open Cut	250	LF	$100	$25,000
Air Relief Valves	8	EA	$20,286	$162,300

	Qty	Unit	Unit Price	Estimated Cost
2"x2" Wye or Tee Connection	22	EA	$275	$6,100
3"x2" Wye or Tee Connection	30	EA	$275	$8,300
2" Lateral FM	4,290	LF	$50	$214,500
4” Gravity Lateral	1,040	LF		$52,000
2" Shutoff Valves	52	EA	$1,750	$91,000
Creek Crossing	2	LS	$30,000	$60,000
Grinder Pump Station	52	LS	$10,000	$520,000
Duplex Lift Station	1	LS	$100,000	$100,000
Septic Tank Removal	52	LS	$5,000	$260,000
HMA Paving	1	$2,400	$2,400	$2,400
Granular Backfill	1	$13,700	$13,700	$13,700
Seeding/Sodding	1	$5,300	$5,300	$5,300
Erosion Control	1	$10,000	$10,000	$10,000
Traffic Control	1	$5,000	$5,000	$5,000
Electrical (15%)	1	$93,000	$93,000	$93,000
Mobilization / Demobilization (5%)	1	$145,300	$145,300	$147,900
Subtotal				**$3,198,900**
Bid Environment (10%)				$319,900
Contingency (10%)				$351,900
Construction Total				**$3,870,700**

Table ES-4 and ES-5 summarizes the total project costs for the proposed Phase 1 project area.

Table ES-4
Summary of Total Project Costs

	Estimated Cost
Construction Costs	
Estimated Mohee Collection System Construction Costs	$3,870,700.00
Non-Construction Costs	
Design	$293,000.00
Bidding	$15,000.00
Construction Engineering (Assumed 12-month Construction)	$90,000.00
Post Construction (Warranty Period Assistance)	$5,000.00
Inspection (Assumed 12-month Construction)	$240,000.00
Survey	$30,000.00
Geotech	$25,000.00
Erosion Control	$5,000.00
Regulatory Assistance (Permitting)	$15,000.00
Asset Management Plan – Technical (SRF Only)	$30,000.00
Asset Management Plan – Financial (SRF Only)	$15,000.00
Legal / Financial	$10,000.00

	Estimated Cost
Easements	$20,000.00
Local Attorney	$15,000.00
Rate Consultant	$35,000.00
Bond Counsel	$40,000.00
Record Drawings (As-builts)	$10,000.00
American Iron and Steel Compliance	$5,000.00
Labor Standards (SRF Only)	$20,000.00
Archaeological (SRF Only)	$10,000.00
Green Project Reserve (SRF Only)	$10,000.00
IBB FEE (Interim Construction Financing)	$25,000.00
Interest During Construction	$96,174.00
BAN FEE (Interim Financing for Design)	$20,000.00
Interest During Design	$8,460.00
Administrative Contingency	$10,000.00
Estimated Mohee Collection System Non-Construction Cost	**$1,097,634.00**
Mohee Estimated Project Subtotal:	**$4,968,334.00**

Table ES-5

Estimate for Mohee Collection System O&M&R Cost

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	3.6	hours	Quarterly	14.5	$508
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,129**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$104,000	Every	15	Years	$6,933
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$19,196**

B. Real Property Acquisition

If required, permanent land acquisition or easements will be obtained prior to advertising for construction bids.

C. Permits Required

It is anticipated that the following permits will be required for construction of this project:

- **IDEM Rule 5**

  A Notice of Intent (NOI) will be submitted to IDEM to fulfill Rule 5 requirements. It will be submitted prior to advertising for bids, which will fulfill the requirement of submitting a minimum of 48 hours prior to initiation of land disturbing activities.

- **IDEM Construction Permit**

  The IDEM Construction Permit will be obtained prior to advertising for construction bids.

- **INDOT ROW Permit**

  A construction in ROW permit will be obtained prior to advertising for construction bids.

- **Blackford County ROW Permit**

  A construction in ROW permit will be obtained prior to advertising for construction bids.

D. Project Schedule

The project is currently following the schedule presented in **Table ES-6**.

Table ES-6
Phase 1 Preliminary Project Schedule

Item	Date to be Completed
Blackford County Regional Sewer District is Approved by IDEM	January 2023
District Formally Approves Preliminary Engineering Report	March 2023
District Submits Preliminary Engineering Report to Funding Agencies	March 2023
Finalize District Funding Package	June 2023
District Secures Interim Financing (BAN) for Design	August 2023
District Authorizes Design Phase	August 2023
District Authorizes Submission of Permit Applications	January 2024
District Authorizes Bidding Phase	March 2024
District Receives Bid Proposals	April 2024
District Awards Contract and Issues Notice to Proceed	July 2024
Construction Substantially Complete	May 2025
Final Inspection – Project Completion	June 2025

E. Rate Impacts and Debt Repayments

It is assumed that the proposed improvements project(s) will require financing through a combination of low interest loan and grant considerations. Estimated post-project user rates shall be determined through a comprehensive rate impact study once the District has been established. Rate impacts shall take into consideration capital costs to implement the proposed improvements projects (both construction and non-construction) as well as annual operating costs inclusive of required reserves and treatment costs established by the individual CTAs.

Section 1 – Project Planning

This section defines the project planning area and the planning period as well as current characteristics of the planning area. This information is important to the engineering analyses and the decision-making processes discussed in subsequent sections. The planning period for this study is 20 years.

1.1 Location

The proposed Blackford County Regional Sewage District (BCRSD) will encompass all of the existing unincorporated areas of Blackford County with the exception of the Jackson Township Regional Sewer District which was created in 1998 and serves customers in and around the unincorporated community of Millgrove, IN.

The Planning Area for this report includes the unincorporated areas within Blackford County, with initial focus on the following locations, listed in order of priority in the following **Table 1-1**.

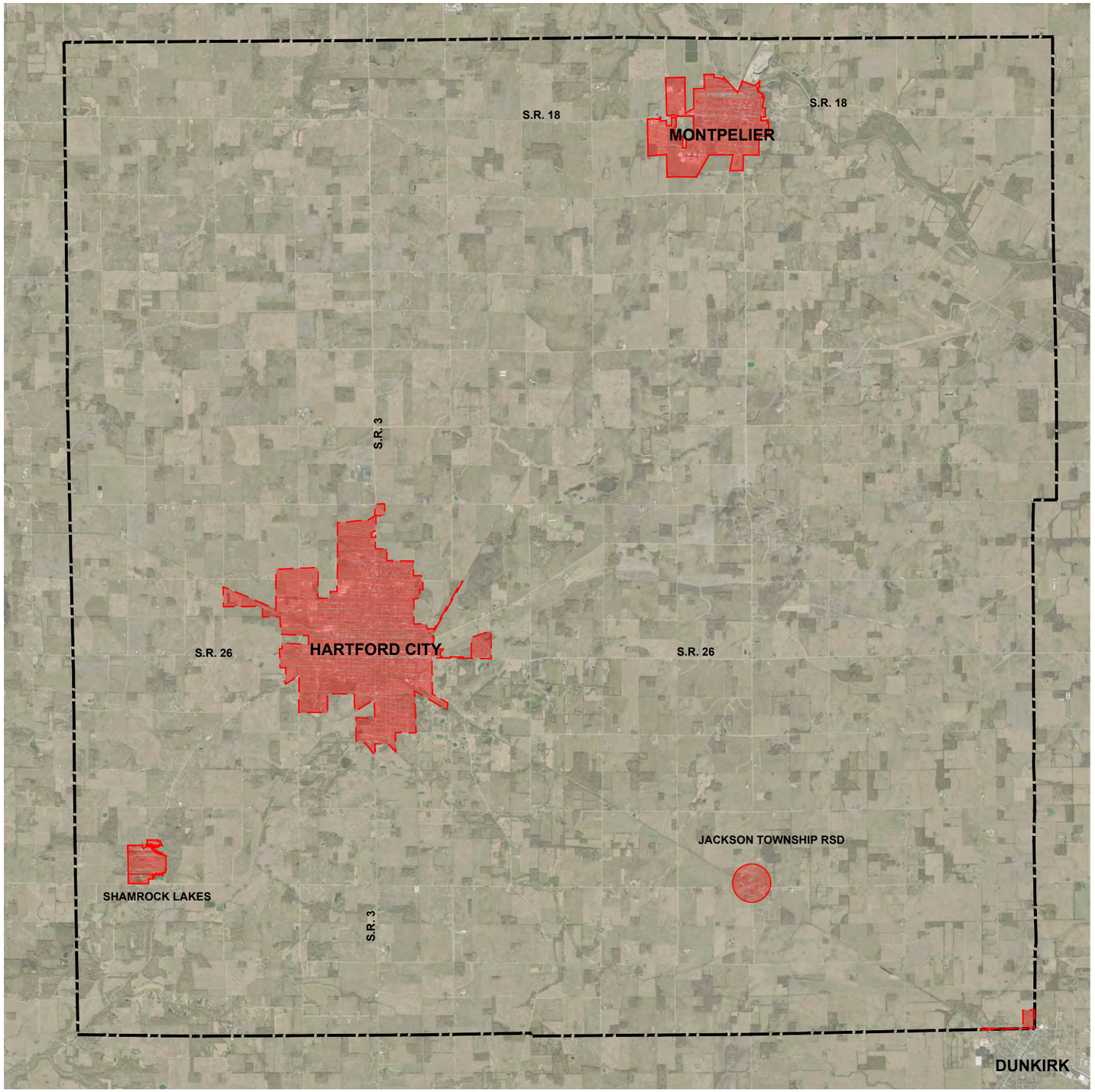
Table 1-1
Unsewered Areas of Concern

Priority	Location
1	Mohee
2	Meadow Wood Estates / Northview / Woods Hill
3	Westwood - SR 3 / South CR 200S
4	Roll / SR 18 Corridor
5	Trenton / CR E100S
6	Connor's Trailer Park
7	Lake Blue Water

A general location map for the proposed BCRSD is depicted in **Figure 1-1**. The Planning Area is illustrated in **Figures 1-2** and **1-3**. **Table 1-2** further describes the proposed project location.

Table 1-2
Project Location

County	U.S.G.S. Quadrangle Map	Township	Range	Section
Blackford	Hartford City East	23 N	11 E	27, 28, 33, 34



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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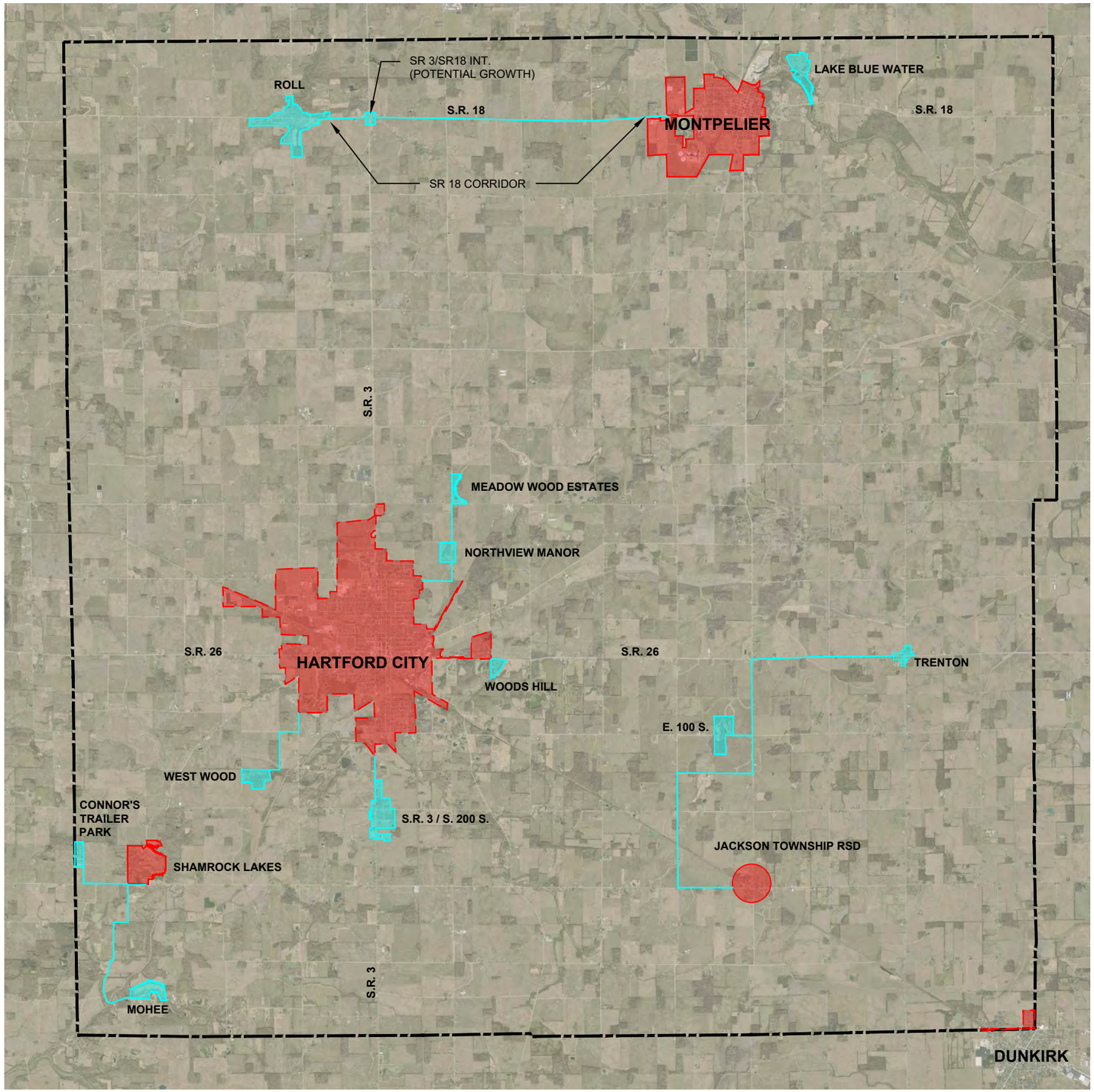
BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD
FIGURE 1-1



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PROJECT AREAS

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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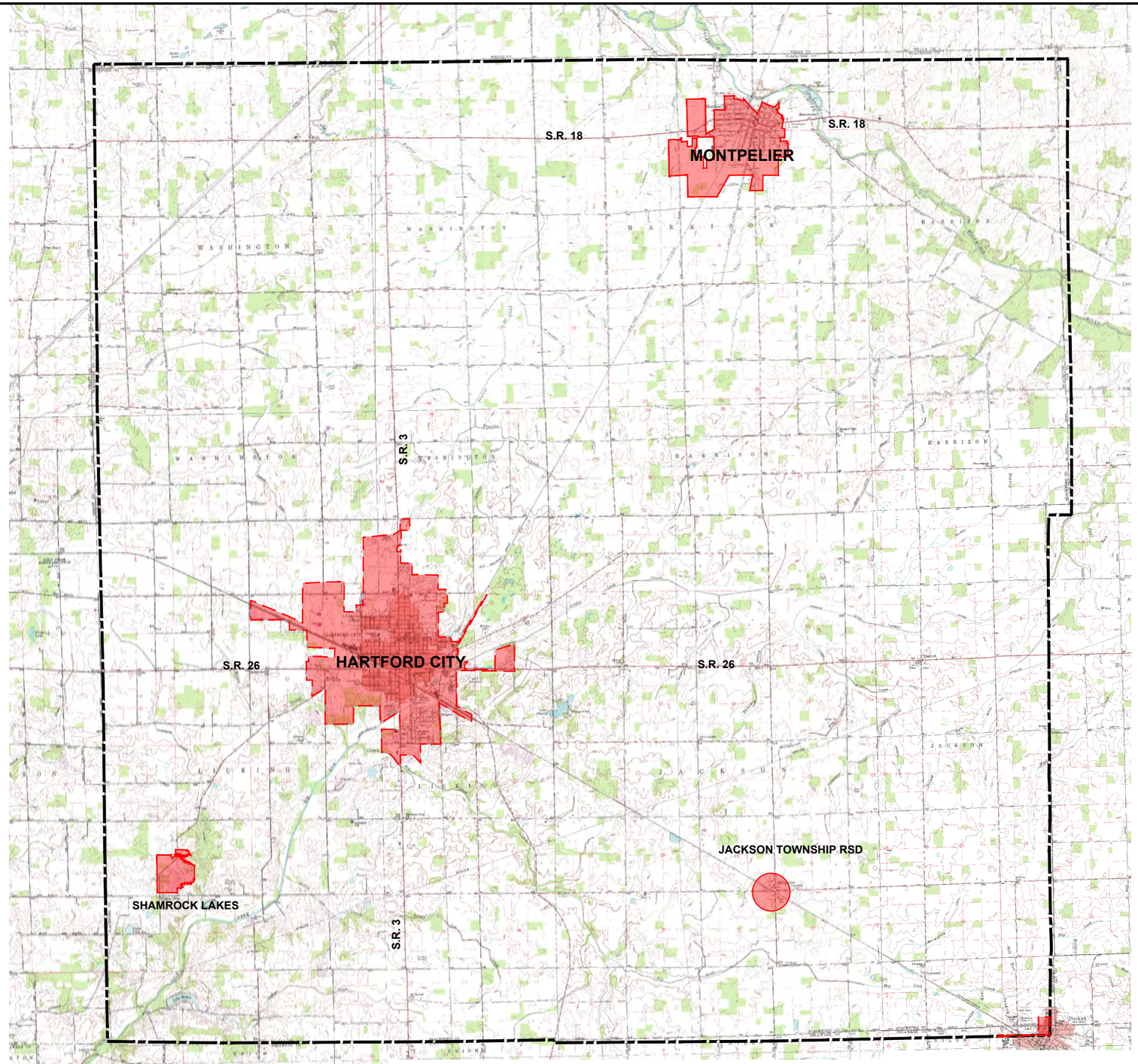
BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PHASE 1 IMPROVEMENTS
FIGURE 1-2



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BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD
FIGURE 1-3

1.2 Project Planning

The Planning Area for this study is contained within the political boundary of Blackford County, excluding the incorporated communities of Hartford City, Montpelier, Shamrock Lakes, Dunkirk, and the unincorporated area of Millgrove (Jackson Township Regional Sewer District). The Planning Area is also shown in **Figure 1-1**. This Study evaluates specific areas of concern as noted previously in **Table 1-1**. The proposed Project Locations are shown graphically on **Figure 1-2**.

The proposed RSD intends to partner with existing Certified Treatment Areas (CTA's) through interlocal agreements for wastewater treatment and disposal services. The following **Table 1-3** identifies the recommended CTA for each of the areas of noted concern. The CTA's are shown graphically on Figure 1-3.

Table 1-3
Unsewered Areas of Concern
Recommended Certified Treatment Area (CTA)

Priority	Location	Recommended CTA
1	Mohee	Shamrock Lakes
2	Meadow Wood Estates / Northview / Woods Hill	Hartford City
3	Westwood - SR 3 / South CR 200S	Hartford City
4	Roll / SR 18 Corridor	Montpelier
5	Trenton / CR E100S	Jackson Twp RSD
6	Connor's Trailer Park	Shamrock Lakes
7	Lake Blue Water	Montpelier

Based on StatsAmerica population data, the population of Blackford County has declined by 8.57% from 2010 to 2019. Since it is not prudent to plan for negative population growth, a conservative 0.3% population growth per year was assumed for the 20-year planning period. It is anticipated that there will be future commercial growth at the intersection of State Road 18 and State Road 3 over the next 20 years (planning period). Based upon the above noted population growth, the following **Table 1-4** identifies existing and future EDUs for the Unsewered Areas of Concern.

Table 1-4
Unsewered Areas of Concern
Existing and Future EDUs

Priority	Location	Existing EDUs	Future EDUs
1	Mohee	52	56
2	Meadow Wood Estates / Northview / Woods Hill	29	31
3	Westwood - SR 3 / South CR 200S	28	30
4	Roll / SR 18 Corridor	83	88
5	Trenton / CR E100S	51	55
6	Connor's Trailer Park	27	29
7	Lake Blue Water	32	34

1.3 Environmental Resources Present

A. Disturbed/Undisturbed Land

The land use within the Planning Area is predominantly developed open space and low intensity developed space. The land surrounding these areas is mainly cultivated crops. Land use maps for the Planning Area are included in **Appendix C.**

The improvements proposed will be constructed on previously disturbed land. Construction is not expected to have any detrimental, long term impact on soils. Short-term impacts associated with material and equipment transport and installation is expected and will be mitigated with appropriate techniques. Projects proposed as part of this report will not impact established land use plans, policy, or regulations of any agency with jurisdiction over the project.

B. Historic/Architectural Resources

The DNR's State Historic Architectural and Archaeological Research Database (SHAARD) was reviewed for archaeological and historical sites located within the Planning Area, the results of which can be found in **Appendix C**. Several historic resources are noted within the Planning Area; however, none are anticipated to be adversely affected with respect to the anticipated work. The State and National Registers were reviewed for archaeological and historical sites located within the Planning Area and did not note any additional sites to those listed in the SHAARD. No information related to Native American archaeology was noted in the State and National Registers or the SHAARD.

C. Wetlands

The Federal government defines wetlands as areas:

1. With hydric soil (soil formed in the presence of water), and
2. Water at or near the ground surface long enough in the growing season to support hydrophytic vegetation.

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) define wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas". This definition means that a particular piece of land does not have to be actually a wetland at the moment but to have the potential of being a wetland to be considered a wetland.

Wetland areas are particularly important due to their ability to sustain a vast array of plant and animal life that depend solely on the hydrologic and physiographic conditions. Because of this, wetlands have higher potential to support certain endangered species habitat, and therefore, the species themselves.

The U.S. Fish and Wildlife National Wetlands Inventory was reviewed, and the wetlands located within the Planning Area are shown graphically in **Appendix C**. Anticipated project sites are not located within designated wetland areas and no adverse effects to wetlands are anticipated as a part of the anticipated work.

D. Surface Waters

Surface Waters contained within the Planning Area are depicted graphically in **Appendix C**. The major surface water in the area is Big Lick Creek which is located south of the Planning Area and is the water body into which the BCRSD constructed wetlands discharge. Big Lick Creek is not listed on Indiana's Outstanding Rivers List. It is unlikely that any construction associated with the proposed work will impact any surface waters within the Planning Area.

The USDA-NCRS publishes measured depth to water table data. For the Planning Area, the depth to water table is shown graphically in **Appendix C**. A geotechnical investigation should be performed during design to determine the effects of groundwater on any new construction. Construction activities are not expected to cause long term detriment to local wells due to adverse impacts on the groundwater table. No sole source aquifers will be affected by the anticipated work.

E. Floodway and Floodplain

The Federal Emergency Management Agency (FEMA) completes comprehensive flood studies that use standard hydrologic and hydraulic computer models to find out the potential flooding from each riverine flooding source.

FEMA defines a 'floodway' and a 'floodway fringe' within their modeling and flood management system. A floodway is the channel of a stream and adjacent floodplain area that must be kept free of encroachment to carry the 100-year flood without substantial increases (> 0.1 ft) in flood height. The floodway fringe is the area between the floodway and the natural 100-year floodplain boundary. The floodway fringe could be completely obstructed without significantly increasing the water surface elevation of the 100-year flood.

Floodways should be taken into consideration in the planning of any project. Due to accessibility, operations, maintenance, and safety issues, new facilities should avoid floodways if possible. The FIRM (Flood Insurance Rate Maps) for the Planning Area were obtained and are included in **Appendix C**. The Planning Area is located outside of the floodplain. Design considerations will comply with FFRMS (Federal Flood Risk Management Standard) requirements as required.

F. Plants and Animals

The Indiana Department of Natural Resources, Division of Nature Preserves website, contains lists of endangered, threatened, and rare species by county.

All proposed construction activities will take place in previously disturbed land. It is unlikely that the Rare and Endangered species will be disturbed by construction due to the location of their living environments relative to anticipated project sites.

G. Soils

The hydric soils map and associated legend for the Planning Area are included in **Appendix C**. This information was obtained from the Web Soil Survey from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service website (http://websoilsurvey.nrcs.usda.gov). The soils in the Planning Area consist mainly of "BlA" "Blount-Glynwood" and "Pm" "Pewamo silty clay." These soils typically have slopes between 0 and 3 percent.

Proposed construction activities are not anticipated to have long term, detrimental effects on the soils. Short-term effects can be mitigated using appropriate techniques for erosion control and surface restoration during the following construction activities.

H. Prime Farmland Impacts & Influence of Local Geology

Prime Agricultural Land or Farmland is a designation assigned by the USDA and includes land that exhibits the best combination of physical and chemical characteristics for the production of food crops, feed, forage, and fiber. Additionally, this designation includes land that is readily available for these uses.

Prime farmland tends to be well suited to residential and commercial development and is therefore prone to conversion to residential and commercial use when located in close proximity to urban areas. The USDA "Prime Farmland" designation serves to promote growth management and resource conservation efforts near urban areas.

The Farmland Designation Maps for the Planning Area are included in **Appendix C**. The majority of the Planning Area is composed of land that is considered prime farmland. The constructed wetlands are located in an area not designated as prime farmland. Any impacts to farmland will be minimized to the extent possible.

I. Air Quality

Air Quality impacts from proposed improvements will be evaluated for conformance with applicable Rules under Title 326 Articles 1, 2, 6, 7, and 8 of the Federal 1990 Clean Air Act Amendments. There are no IDEM nonattainment areas within the Planning Area.

1. Construction Activity

To minimize non-conformance with 326 IAC 6-4, "Fugitive Dust Emissions", reasonable and proper construction techniques and clean up practices will be provided. In addition, surface wetting practices will be utilized to control dust emissions where required. Please note that 326 IAC 6-4-6(3) provides for an exemption to the rule "…from construction or demolition activity where every reasonable precaution has been taken in minimizing fugitive dust emissions". Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

2. Clean Air Act Title III – Hazardous Air Pollutants

Title III calls for a program to prevent the accidental releases of hazardous air pollutants from facilities. We do not anticipate use of chemicals in the project that may release hazardous air pollutants as defined by EPA's Hazardous Air Pollutant Listing. If potential hazardous air pollutants are used on the project, we will require monitoring, record keeping, reporting, and vapor recovery, secondary containment, design, equipment, work practices and operation according to Federal Standards.

J. Open Space and Recreational Opportunities

Construction and operation activities will neither create nor destroy open space and recreational opportunities.

K. Lake Michigan Coastal Program

Construction activities will not affect the Lake Michigan Coastal Zone.

L. National Natural Landmarks

Construction and operation activities will not affect National Natural Landmarks.

M. Mitigation Measures

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues are classified as temporary, since no significant, permanent impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the

potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards. The work is expected to be completed during normal working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required by the contractor to reduce dust emissions. Proper surface wetting practices will be required.

1.4 Population Trends

A. Historical Population

Historical and recent population data was obtained from STATS Indiana (developed and maintained by Indiana Business Research Center at Indiana's Kelley School of Business at www.stats.indiana.edu). **Table 1-5** shows the historical population of Blackford County from 1900 to 2010 as well as the growth rate over that time period. Over that time period, the County saw a decline in population.

Table 1-5
Historical Population for Blackford County
from 1900 to 2010

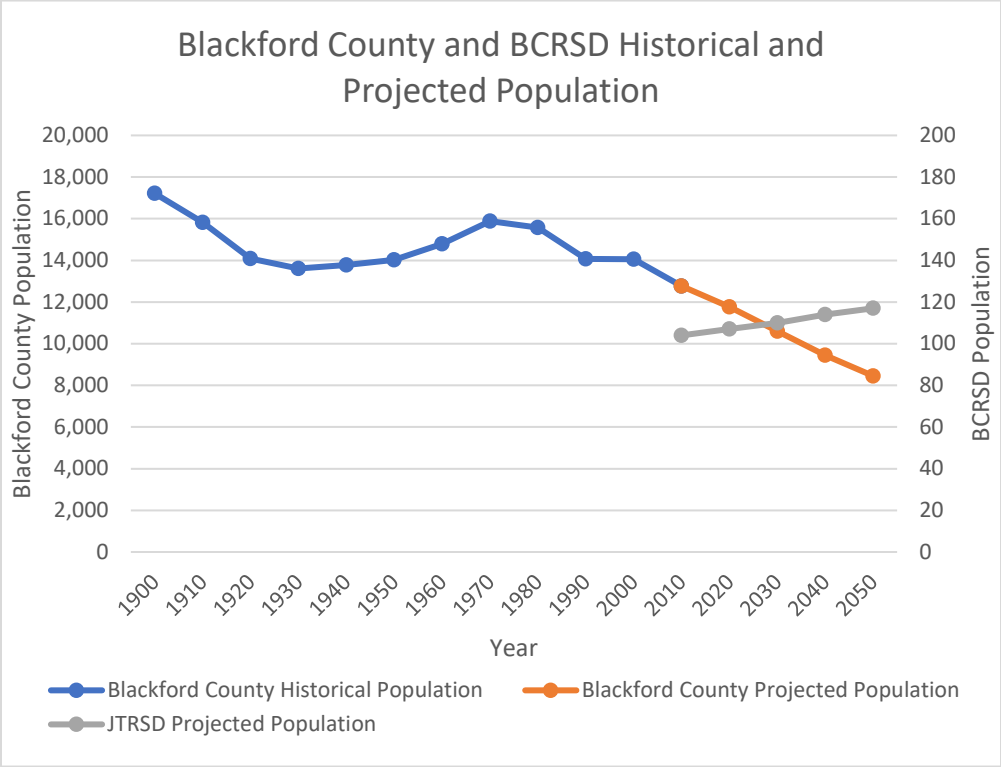
Year	Blackford County	Decennial Percent Change	Decennial Percent Change
1900	17,213		
1910	15,820	-8.1%	-15.0%
1920	14,084	-11.0%	-20.2%
1930	13,617	-3.3%	-6.3%
1940	13,783	1.2%	-0.9%
1950	14,026	1.8%	0.3%
1960	14,792	5.5%	-1.4%
1970	15,888	7.4%	7.9%
1980	15,570	-2.0%	4.6%
1990	14,067	-9.7%	-19.1%
2000	14,048	-0.1%	2.2%
2010	12,766	-9.1%	-4.9%
Growth from 1900 to 2010		-25.8%	-44.8%

B. Population Projections

As observed in **Table 1-5**, Blackford County has very different growth rates between 1900 and 2010. STATS Indiana website provides population projection estimates for Indiana counties, metros, and regions, but not for Towns. The population projection for Blackford County shows a significant decrease from 2010

to 2050. It is not prudent to design utility improvements based upon a 20-year design period with a decrease in projected population. Therefore, a growth rate of 0.3% will be used as this is the projected population increase across the state and was the Indiana growth rate in 2016 (obtained from article by IU Kelley School of Business). **Figure 1-4** shows the population estimates.

Figure 1-4
Blackford County and BCRSD Population



C. Local Economy

The local economy is an important demographic factor to consider when planning any utility project. Since funding of projects is based on need, it is important to understand the economic nature of the community. STATS Indiana (www.stats.indiana.edu) maintains an extensive database on demographic information for cities, towns, townships, and counties located in the state of Indiana. Economic data for Blackford County will be used to determine the current situation of the Planning Area.

1. Area Employment

The most recent data available reported by STATS Indiana for employment and average wage data for Blackford County is from the year 2017. The data is shown in **Table 1-6**. As of May 2018, the unemployment rate for Blackford County is 3.5%. The national average as of June 2018 is 4.0%.

Table 1-6
Blackford County 2016 Employment and Wage Area

	Establishments	Jobs	Yearly Average Wage
Total Employment	**237**	**3,337**	**$35,489**
Agriculture, Forestry, Fishing, and Hunting	7	0	$0
Mining	1	0	$0
Utilities	1	0	$0
Construction	15	174	$42,029
Manufacturing	21	1,039	$47,231
Wholesale Trade	11	0	$0
Retail Trade	35	300	$24,436
Transportation & Warehousing	17	173	$43,099
Information	3	0	N/A
Finance and Insurance	20	93	$38,121
Real Estate and Rental and Leasing	7	15	$25,180
Professional, Scientific, and Technical Services	10	64	$43,238
Management of Companies and Enterprises	3	10	$99,240
Admin. & Support & Waste Mgt. & Rem. Services	9	31	$28,004
Educational Services	1	0	$0
Health Care and Social Services	17	349	$31,375
Arts, Entertainment, and Recreation	4	20	$10,577
Accommodation and Food Services	19	275	$12,277
Other Services (Except Public Administration)	22	87	$20,105
Public Administration	13	214	$29,618
Unallocated	1	0	$0

2. Area Income

According to the American Community Survey (ACS), as of the year 2016, Blackford County had a median household income (MHI) of $42,588 per year and a poverty rate of 12.8%.

1.5 Community Engagement

A Public Meeting has been scheduled for Mid-July 2022. Notice of publication, meeting minutes, and the sign-in documentation will be included in **Appendix D** to this report.

Section 2 – Existing Facilities

2.1 Location Map

The proposed Blackford County Regional Sewer District (BCRSD) wastewater utility would service all of the unincorporated areas within Blackford County which are not currently afforded sanitary sewer service by existing Certified Treatment Areas (CTA's). Other excluded areas are any State Parks or State-Owned Lands such as areas owned by the Department of Natural Resources. These unincorporated areas currently utilize small, individual residential onsite effluent disposal facilities (septic systems), many of which have been confirmed by the County Health Department to be failing and / or approaching the end of their useful life.

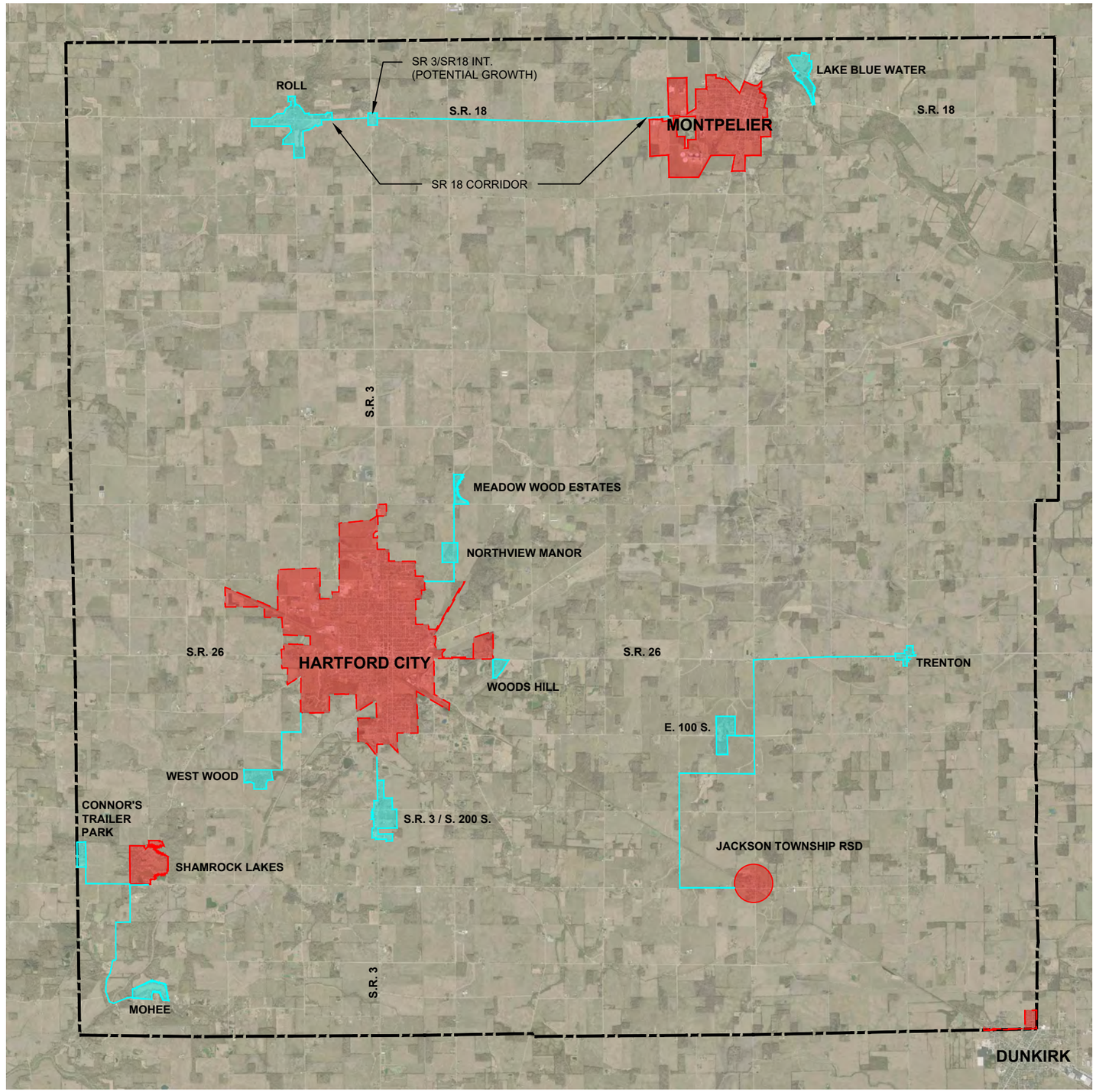
2.2 History

Within Blackford County, only the incorporated communities of Hartford City, Montpelier, Shamrock Lakes, Millgrove (Unincorporated - Jackson Twp. RSD), and a small area within the corporate limits of Dunkirk are excluded from this evaluation as they currently own and operate wastewater treatment facilities. For the remaining residents within the County, wastewater treatment and disposal is provided through small onsite onsite septic systems. These types of systems pose a hazard to public health as they can leak significant concentrations of biological contaminants into local ground and surface water supplies. Many of the County's existing septic systems have experienced failure or are approaching the end of their useful life. To mitigate this risk, the County seeks to afford more residents the opportunity to connect to a safe and reliable wastewater collection system.

The following **Table 2-1** identifies and prioritizes the initial areas of concern as noted by County officials. These areas are shown graphically on **Figure 2-1**.

Table 2-1
Unsewered Areas of Concern

Priority	Location
1	Mohee
2	Meadow Wood Estates / Northview / Woods Hill
3	Westwood - SR 3 / South CR 200S
4	Roll / SR 18 Corridor
5	Trenton / CR E100S
6	Connor's Trailer Park
7	Lake Blue Water



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PROJECT AREAS

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PHASE 1 IMPROVEMENTS
FIGURE 2-1

To support this initiative, the County Commissioners have petitioned the Indiana Department of Environmental Management (IDEM) for the purpose of forming, maintaining, and operating a Regional Sewer District. A copy of the petition is included in **Appendix A**. The need for a proposed sewer district has long been recognized by residents and businesses throughout Blackford County. Additionally, the absence of a reliable regional wastewater utility has contributed to the suppression of Economic and Community Development and environmental contamination is some areas of the proposed District.

2.3 Condition of Existing Facilities

As noted above, the condition of many of the existing onsite septic systems throughout Blackford County has deteriorated to the point of failure. In many instances, replacement of these failed (or failing) systems is not feasible due to cost, soil conditions, and / or parcel size. The purpose of developing a reliable wastewater utility will be to reduce environmental pollution, potential contamination of ground and surface water supplies, and improve the overall public health, safety, and welfare of the current and future residents of Blackford County.

2.4 Financial Status of Existing Facilities

A. Existing Rate Schedule

Since the proposed District does not currently exist, there are no existing rates and charges defined for the County's proposed customer base. Upon formation of the proposed District, a comprehensive financial evaluation will be required to establish future rates and charges, inclusive of interlocal agreements with existing CTAs.

B. Annual Operation and Maintenance Expenses

Since the proposed District does not currently exist, there are no existing operation and maintenance expenses defined for the County's proposed customer base. Upon formation of the proposed district, the comprehensive financial evaluation described above will take into consideration anticipated operation and maintenance expenses.

C. Annual Income

Since the proposed District does not currently exist, there is no existing revenue / income to report. Future revenue will be collected based upon rates and charges established for the proposed utility.

D. Users and EDUs

The number of existing equivalent dwelling units (EDUs) initially anticipated within the proposed District is presented in the following **Table 2-2**. For this report, one (1) EDU is equal to one (1) residential dwelling.

Table 2-2
Estimated Existing EDUs

Priority	Location	Equivalent Dwelling Unit (EDU)
1	Mohee	52
2	Meadow Wood Estates / Northview / Woods Hill	29
3	Westwood - SR 3 / South CR 200S	28
4	Roll / SR 18 Corridor	83
5	Trenton / CR E100S	51
6	Connor's Trailer Park	27
7	Lake Blue Water	32

E. Existing Loans

Since the proposed District does not currently exist, there is no outstanding debt. Future debt may be required to support capital improvements within the proposed District.

F. Existing Short-Lived Assets

Since the proposed District does not currently exist, there are no short-lived assets to report in this Section. In the future assets will be identified in support of proposed capital improvements.

Section 3 – Need for Project

The purpose of this section is to identify system needs and deficiencies based on a thorough evaluation of available information and issues noted by the County. Proposed solutions to target the needs described herein are discussed in the following section of this report.

3.1 Health, Sanitation, and Security

Currently, many of the proposed District's customers rely upon onsite septic systems that are either failing or approaching the end of their useful life. Failure of these types of onsite systems can cause untreated wastewater to be released into the environment. Most, if not all, of these customers use groundwater wells for their potable water supply. When the septic systems fail, the risk of groundwater contamination, and subsequently drinking water contamination, increases. These issues with the septic tanks must be addressed to eliminate future groundwater contamination.

3.2 Aging Infrastructure

As discussed in **Section 2 – Existing Facilities**, it was noted that many onsite septic systems throughout the County are nearing the end of their useful life or have surpassed their useful life. In some cases, the costs associated with replacement of these systems can be a significant burden on the residents. In other cases, soil conditions and / or parcel size are not sufficient to support continued utilization of onsite septic systems.

3.3 Reasonable Growth

As mentioned in **Section 1 – Project Planning**, the population is projected to have an nominal growth rate of 0.3%. That said, the creation of a reliable, Regional Wastewater Utility is critical to supporting the existing and future residents of Blackford County. Creation of a Regional Sewer Utility will promote growth and economic development throughout the County.

Section 4 – Alternatives Considered

4.1 Collection System Improvements

As described in prior report Sections, many of the current septic systems within Blackford County have or are experiencing failure and need to be replaced and / or eliminated. It was noted that in many cases, replacement with a completely new system is not economically viable or prohibitive due to limitations associated with parcel and size and existing soil conditions. Therefore, a more economically feasible way to collect and transport wastewater is necessary. In this Section, alternative solutions for the area of Mohee are presented as potential remedy for these issues. Detailed construction cost estimates have been developed for each alternative and are included in **Appendix B**.

A. No Action Alternative

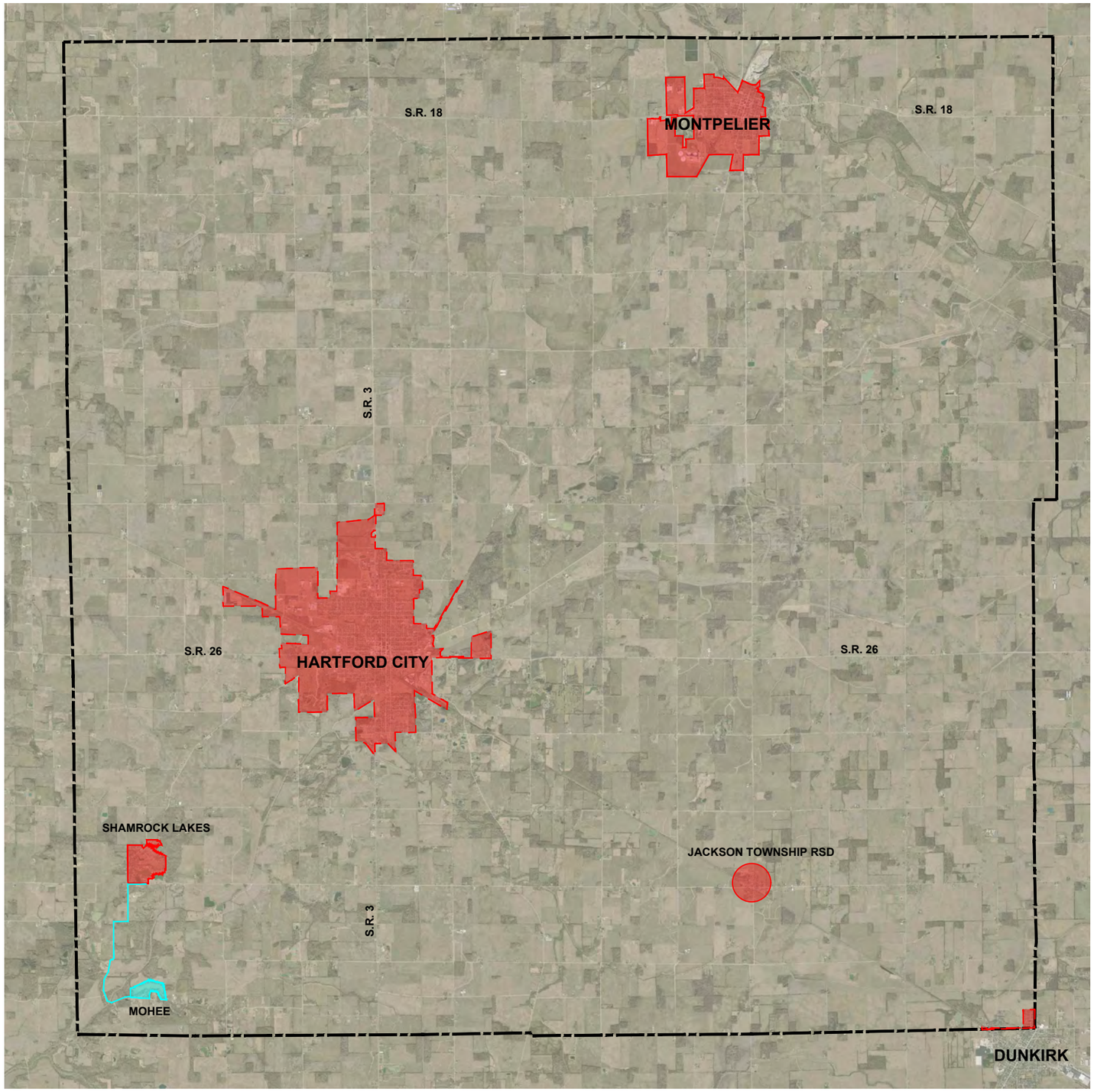
If no action is taken, the County's residents will continue to face high costs associated with replacing the septic systems. Furthermore, the risk associated with environmental contamination of ground and surface water supplies will remain high.

B. Alternative #1: New Regional Wastewater Collection Facilities (Mohee)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses in Mohee. These flows would be collected and pumped to Shamrock Lakes for ultimate treatment and disposal.

4" gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 1.5" pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2" to 3" pressure mains located within existing right-of-ways. All flows will discharge into a main lift station that will pump directly to the Shamrock Lakes WWTP. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system service area is depicted graphically in **Figure 4-1**. A summary of the proposed collection system infrastructure for Mohee is summarized in the following **Table 4-1**.



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 1

BLACKFORD COUNTY BOUNDARY

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8000' 0 8000'

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PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 1 IMPROVEMENTS
FIGURE 4-1

Table 4-1
Mohee Wastewater Collection System Components

Item Description	Unit	Quantity
2” Pressure Laterals	L.F.	4,290
2” Force Main – HDD	L.F.	10,296
2” Force Main – Open Cut	L.F.	100
3” Force Main - HDD	L.F.	16,324
3” Force Main – Open Cut	L.F.	250
Total Force Main	**L.F.**	**31,260**
4” Gravity Lateral	**L.F.**	**1,040**
Air Release Valves	**EA.**	**8**
Creek Crossing (3” FM)	**EA.**	**2**
Residential Grinder Stations	**EA.**	**52**
Main Duplex Lift Station	**EA**	**1**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Tables 4-2 and 4-3 summarizes the estimated construction and annual O&M&R costs for the proposed Mohee sewer extension under this alternative.

Table 4-2
Estimate for Mohee Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	10,296	LF	$50	$514,900
3" Force Main, HDD	16,324	LF	$55	$897,900
2" Force Main, Open Cut	100	LF	$96	$9,600
3" Force Main, Open Cut	250	LF	$100	$25,000
Air Relief Valves	8	EA	$20,286	$162,300
2"x2" Wye or Tee Connection	22	EA	$275	$6,100
3"x2" Wye or Tee Connection	30	EA	$275	$8,300
2" Lateral FM	4,290	LF	$50	$214,500
4" Gravity Lateral	1,040	LF	$50	$52,000
2" Shutoff Valves	52	EA	$1,750	$91,000
Creek Crossing	2	LS	$30,000	$60,000
Grinder Pump Station	52	LS	$10,000	$520,000
Duplex Lift Station	1	LS	$100,000	$100,000
Septic Tank Removal	52	LS	$5,000	$260,000
HMA Paving	1	LS	$2,400	$2,400
Granular Backfill	1	LS	$13,700	$13,700
Seeding/Sodding	1	LS	$5,300	$5,300
Erosion Control	1	LS	$10,000	$10,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$93,000	$93,000
Mobilization / Demobilization (5%)	1	LS	$147,900	$147,900
Subtotal				**$3,198,900**
Bid Environment (10%)				$319,900
Contingency (10%)				$351,900
Construction Total				**$3,870,700**

Table 4-3
Estimate for Mohee Collection System O&M&R Cost

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	3.6	hours	Quarterly	14.5	$508
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,129**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$104,000	Every	15	Years	$6,933
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$19,196**

Table 4-4 summarizes the total estimated project costs for Mohee to Shamrock Lakes project area. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-4
Summary of Estimated Total Project Costs

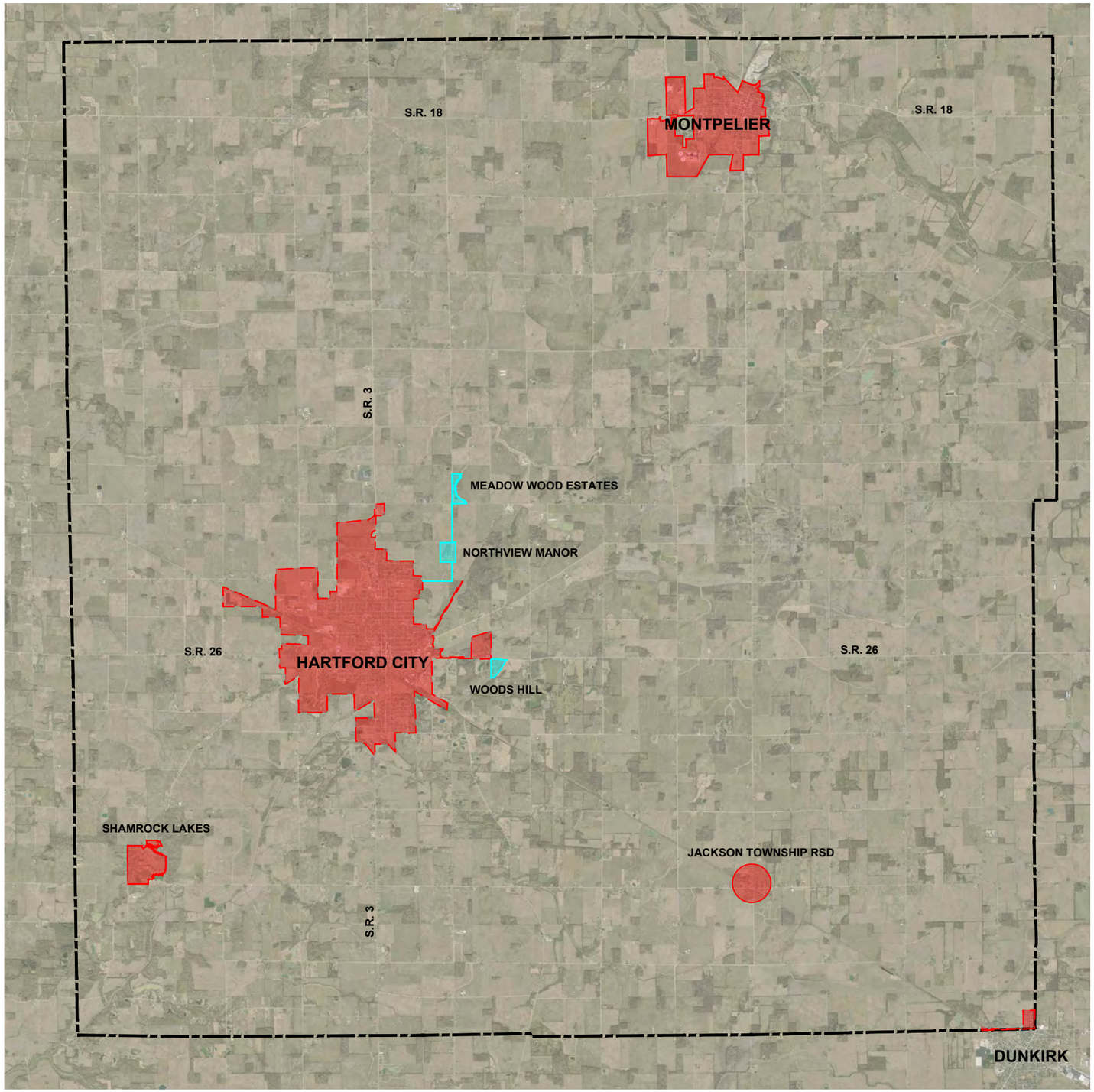
	Estimated Cost
Estimated Mohee Collection System Construction Costs	$3,198,900.00
Mohee Estimated Construction Subtotal:	**$3,870,700.00**
Estimated Non-Construction Costs (25%):	**$968,000.00**
Total Estimated Project Costs:	**$4,838,700.00**

C. Alternative #2: New Regional Wastewater Collection Facilities (Meadow Wood / Northview / Woods Hill)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses in Meadow Wood Estates, Northview, and Woods Hill. These flows would be collected and pumped into the northeast section of the Hartford City collection system.

4” gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 2” pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2” to 3” pressure mains located within existing right-of-ways. All flows will discharge into a main lift station that will pump directly to the Hartford City Collection System. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system service areas are depicted graphically in **Figure 4-2**. A summary of the proposed collection system infrastructure for Northview is summarized in the following **Table 4-5**:



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 2

BLACKFORD COUNTY BOUNDARY

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PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 2 IMPROVEMENTS
FIGURE 4-2

Table 4-5
Meadow Wood / Northview / Woods Hill
Wastewater Collection System Components

Item Description	Unit	Quantity
2” Pressure Laterals	L.F.	1,898
2” Force Main – HDD	L.F.	6,205
2” Force Main – Open Cut	L.F.	0
3” Force Main - HDD	L.F.	4,333
3” Force Main – Open Cut	L.F.	150
Total Force Main	**L.F.**	**12,436**
4” Gravity Lateral	**L.F.**	**460**
Air Release Valves	**EA.**	**5**
Creek Crossing (3” FM)	**EA.**	**0**
Residential Grinder Stations	**EA.**	**29**
Main Duplex Lift Station	**EA**	**1**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Table 4-6 summarizes the estimated capital costs and annual O&M&R costs for the proposed Northview sewer extension under this alternative.

Table 4-6
Estimate for Meadow Wood / Northview / Woods Hill
Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	6,205	LF	$50	$310,300
3" Force Main, HDD	4,333	LF	$55	$238,300
3" Force Main, Open Cut	150	LF	$100	$15,000
Air Relief Valves	5	EA	$20,286	$101,500
3"x2" Wye or Tee Connection	29	EA	$275	$7,975
2" Lateral FM	1,898	LF	$50	$94,900
4" Gravity Lateral	460	LF	$50	$23,000
2" Shutoff Valves	29	EA	$1,750	$50,750
Grinder Pump Station	29	LS	$10,000	$290,000
Duplex Lift Station	1	LS	$100,000	$100,000
Septic Tank Removal	29	LS	$5,000	$145,000
HMA Paving	18	LF	$60	$1,100
Granular Backfill	175	LF	$35	$6,200
Seeding/Sodding	158	LF	$15	$2,400
Erosion Control	1	LS	$5,000	$5,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$50,000	$50,000
Mobilization / Demobilization (5%)	1	LS	$64,800	$64,800
Subtotal				**$1,511,225**
Bid Environment (10%)				$151,125
Contingency (10%)				$166,235
Construction Total				**$1,828,585**

Table 4-7 and 4-8 summarizes the total estimated project costs for the Northview project area. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-7
Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Collection System Construction Costs	$1,828,585
Estimated Construction Subtotal:	**$1,828,585**
Estimated Non-Construction Costs (25%):	**$457,150**
Total Estimated Project Costs:	**$2,285,735**

Table 4-8
Estimate for Meadow Wood / Northview / Woods Hill
Collection System Construction Costs (O&M&R)

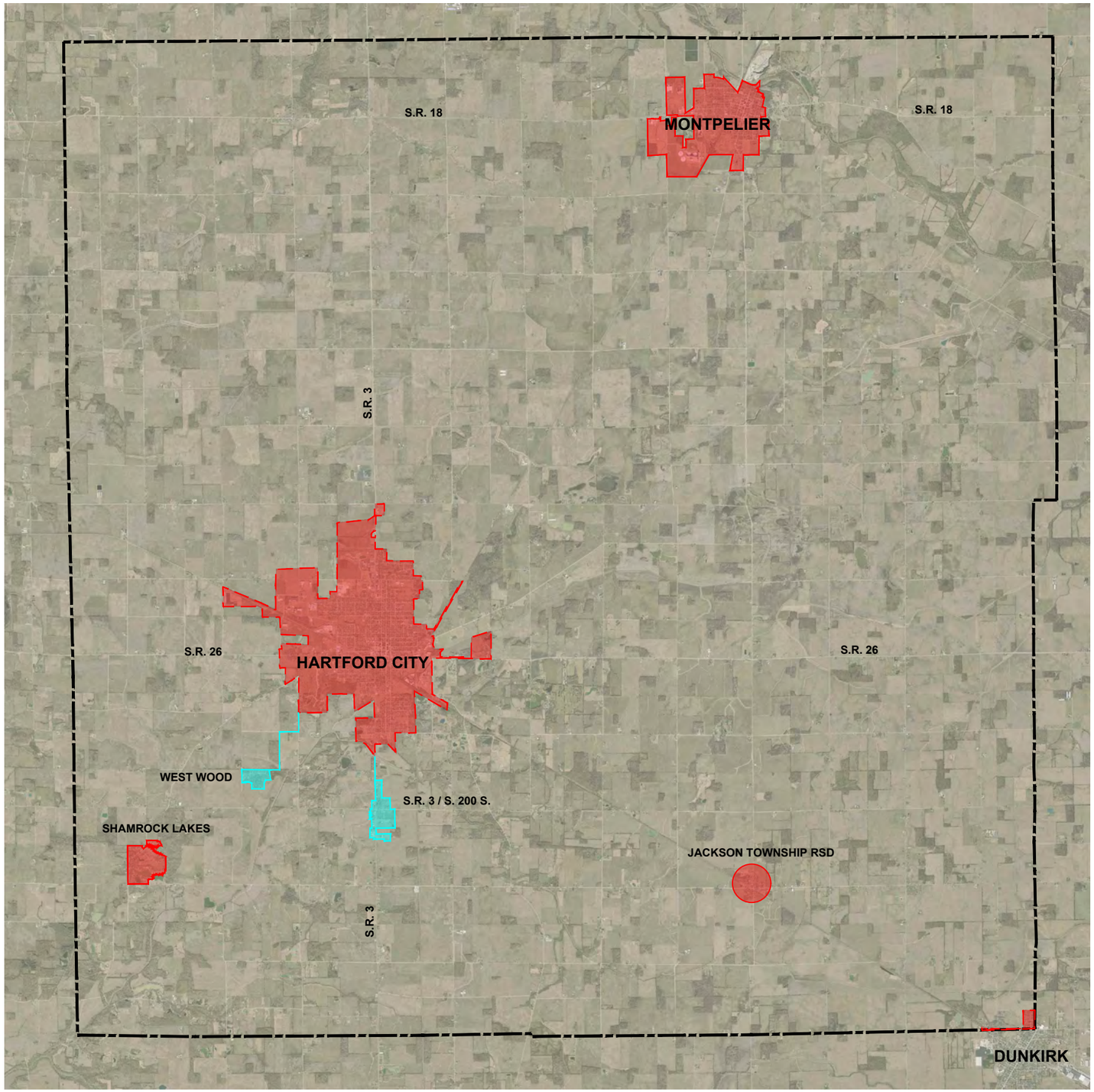
Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	2.7	hours	Quarterly	10.875	$381
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,002**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$46,000	Every	15	Years	$3,067
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$15,202**

D. Alternative #3: New Regional Wastewater Collection Facilities (Westwood and SR 3 South 200 S)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses at Westwood Rd and by the intersection of Westwood and SR 3 South 200 S. These flows would be collected and pumped into the southwest section of the Hartford City collection system.

4” gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 2” pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2” to 3” pressure mains located within existing right-of-ways. All flows will discharge into a main lift station that will pump directly to the Hartford City Collection System. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system services areas are depicted graphically in **Figure 4-3**. A summary of the proposed collection system infrastructure at Westwood and SR 3 South 200 S is summarized in the following **Table 4-9**.



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 3

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

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PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 3 IMPROVEMENTS
FIGURE 4-3

Table 4-9
Westwood and SR 3 South 200 S Wastewater
Collection System Components

Item Description	Unit	Quantity
2” Pressure Laterals	L.F.	7,981
2” Force Main – HDD	L.F.	4,452
2” Force Main – Open Cut	L.F.	0
3” Force Main - HDD	L.F.	14,076
3” Force Main – Open Cut	L.F.	0
Total Force Main	**L.F.**	**26,508**
4” Gravity Lateral	**L.F.**	**880**
Air Release Valves	**EA.**	**8**
Creek Crossing (3” FM)	**EA.**	**2**
Residential Grinder Stations	**EA.**	**28**
Main Duplex Lift Station	**EA**	**2**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Table 4-10 summarizes the estimated capital costs and **Table 4-11** annual O&M&R costs for the proposed Westwood and SR 3 South 200 S sewer extension under this alternative.

Table 4-10
Estimate for Westwood and SR 3 South 200 S
Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	4,452	LF	$50	$222,600
3" Force Main, HDD	14,076	LF	$55	$774,200
Air Relief Valves	8	EA	$20,286	$162,300
2"x2" Wye or Tee Connection	14	EA	$275	$3,900
3"x2" Wye or Tee Connection	30	EA	$275	$8,300
2" Lateral FM	7,981	LF	$50	$399,100
4" Gravity Lateral	880	LF	$50	$44,000
2" Shutoff Valves	28	EA	$1,750	$49,000
Creek Crossing	2	LS	$30,000	$60,000
Grinder Pump Station	28	LS	$10,000	$280,000
Duplex Lift Station	2	LS	$100,000	$200,000
Septic Tank Removal	28	LS	$5,000	$140,000
HMA Paving	1	LS	$5,000	$5,000
Granular Backfill	1	LS	$5,000	$5,000
Seeding/Sodding	1	LS	$2,000	$2,000
Erosion Control	1	LS	$10,000	$10,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$96,000	$96,000
Mobilization / Demobilization (5%)	1	LS	$132,000	$132,000
Subtotal				**$2,598,400**
Bid Environment (10%)				$259,840
Contingency (10%)				$285,820
Construction Total				**$3,144,060**

Table 4-11
Estimate for Westwood and SR 3 South 200 S
Collection System (O&M&R)

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	5.4	hours	Quarterly	21.5	$753
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,374**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$88,000	Every	15	Years	$5,867
Lift Station Pumps	$94,000	Every	15	Years	$6,267
Total Estimated O&M&R					**$21,507**

Table 4-12 summarizes the total estimated project costs for the Westwood and SR 3 South 200 S. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-12
Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Westwood and SR 3 South 200 S Collection System Construction Costs	**$3,144,060.00**
Westwood and SR 3 South 200 S Estimated Construction Subtotal:	**$3,144,060.00**
Estimated Non-Construction Costs (25%):	**$786,015.00**
Total Estimated Project Costs:	**$3,930,075.00**

E. Alternative #4: New Regional Wastewater Collection Facilities (Roll / S.R 18)

It is proposed that a new collection system with grinder pumps, gravity sewers, pump stations, and pressure mains be built to provide reliable service to the residents and businesses along the Roll / S.R. 18 corridor.

4" gravity laterals will be installed to carry flows from residential or commercial structures to grinder stations when conventional gravity sewer mains are cost prohibitive. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 1.5" pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2" to 3" pressure mains in roads or right-of-ways. Along S.R. 18, some businesses and residences will tie into 4" to 6" force mains instead of pressure mains. Air release valves will be installed at points of high pressure in the pressure mains.

Three (3) duplex pump stations will be constructed along S.R. 18 to carry flows from Roll and the commercial facilities along S.R. 18 to the Town of Montpelier.

The first lift station will be located at the corner of S.R. 18 and N 100 W. Each of its pumps will have the capacity to carry flows of at least 180 GPM. The second lift station will be located at the intersection of S.R. 18 and S.R. 3, and will be able to carry at least 222 GPM. Lastly, the third lift station will be located roughly 0.5 miles east of N 200 E. will be able to pump at least 282 GPM to the existing Montpelier collection system. All lift stations will include wet wells, valve vaults, and control panels.

The proposed collection system service area is depicted graphically in **Figure 4-4**. A summary of the proposed collection system infrastructure for Roll / S.R. 18 is identified in the following **Table 4-13.**

Table 4-13
Roll / S.R. 18 Wastewater Collection System Components

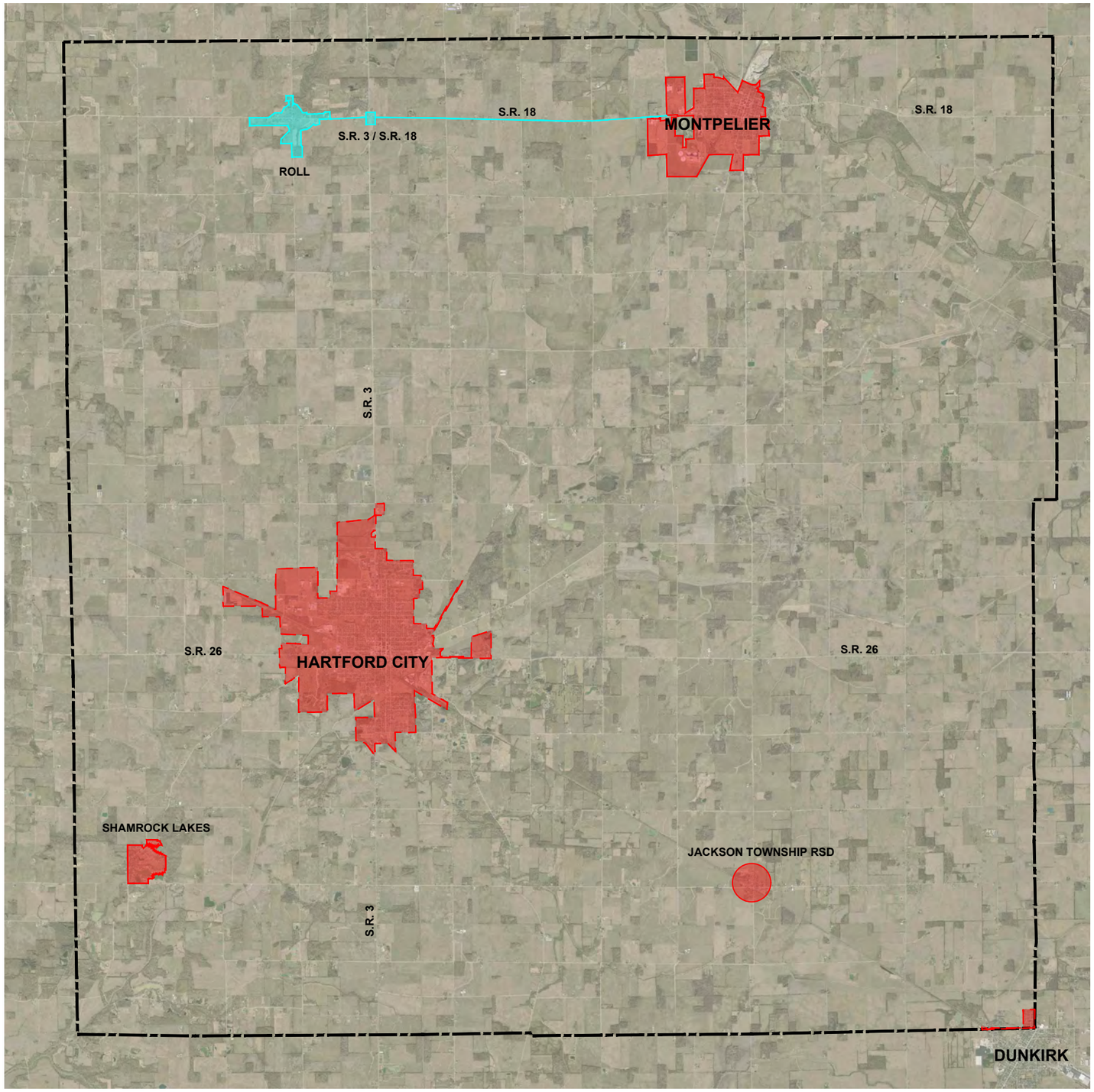
Item Description	Unit	Quantity
1.5” Force Main	L.F.	8,658
2” Force Main	L.F.	1,500
2.5” Force Main	L.F.	2,650
3” Force Main	L.F.	3,300
6” Force Main	L.F.	26,274
Total Force Main	**L.F.**	**42,382**
4” Gravity Lateral	**L.F.**	**2,790**
Lift Stations	**EA**	**86**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 4

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 4 IMPROVEMENTS
FIGURE 4-4

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Tables 4-14 and 4-15 summarize the estimated capital costs and annual O&M&R costs for each of the three (3) areas proposed under this alternative.

Table 4-14
Estimate of Roll / S.R. 18 Corridor Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
Mobilization, Bonds, and Insurance (5%)	1	LS	$293,000.00	$293,000.00
Construction Administration (5%)	1	LS	$293,000.00	$293,000.00
Temporary Erosion Control (3%)	1	LS	$156,000.00	$156,000.00
Maintenance of Traffic (4%)	1	LS	$202,000.00	$202,000.00
Final Grading and Seeding (3%)	1	LS	$151,000.00	$151,000.00
Curb, Sidewalk, & Pavement Replacement (10% of line cost)	1	LS	$300,800.00	$300,800.00
Lift Stations / Grinders	1	LS	$1,474,000.00	$1,474,000.00
Force Mains	1	LS	$2,706,000.00	$2,706,000.00
Valves (10% of FM Cost)	1	LS	$270,600.00	$270,600.00
Gravity Sewers (Laterals)	1	LS	$302,000.00	$302,000.00
Electrical & Controls (20% of LS)	1	LS	$294,800.00	$294,800.00
Subtotal	**1**	**LS**	**$6,443,200.00**	**$6,443,200.00**
Bid Environment (10%)	1	LS	$644,000.00	$644,000.00
Contingency (10%)	1	LS	$708,720.00	$708,720.00
Total Construction Costs	**1**	**LS**	**$7,795,920.00**	**$7,795,920.00**

Table 4-15
Estimate for Roll / S.R. 18 Corridor Collection System O&M&R

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	7.3125	hours	Quarterly	29.25	$1,024
Electrical	448.2	KW	Daily	163,593	$24,539
Total Estimated O&M					$25,983
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$48,000	Every	15	Years	$3,200
Primary Lift Station Pumps	$47,000	Every	15	Years	$3,133
Secondary Lift Station Pumps	$47,000	Every	15	Years	$3,133
Tertiary Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$38,583**

Table 4-16 summarizes the total estimated project costs for the project area. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-16
Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Roll/SR18 Collection System Construction Costs	$7,795,920.00
Estimated Roll/SR18 Collection System Non-Construction Costs	$1,948,980
Roll / SR 18 Estimated Project Subtotal:	**$9,744,900.00**

F. Alternative #5: New Regional Wastewater Collection Facilities (Trenton and East 100 S to Hartford City)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses at E 100 S and by the intersection of E 100 S and Trenton. These flows would be collected and pumped into the eastern section of the Hartford City collection system.

4” gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 2” pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2” to 3” pressure mains located within existing right-of-ways. All flows will discharge into a main lift station that will pump directly to the Hartford City Collection System. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system service area is depicted graphically in **Figure 4-5**. A summary of the proposed collection system infrastructure at for Trenton and East 100 S is summarized in the following **Table 4-17**:

Table 4-17
Trenton and East 100 S Wastewater Collection System Components

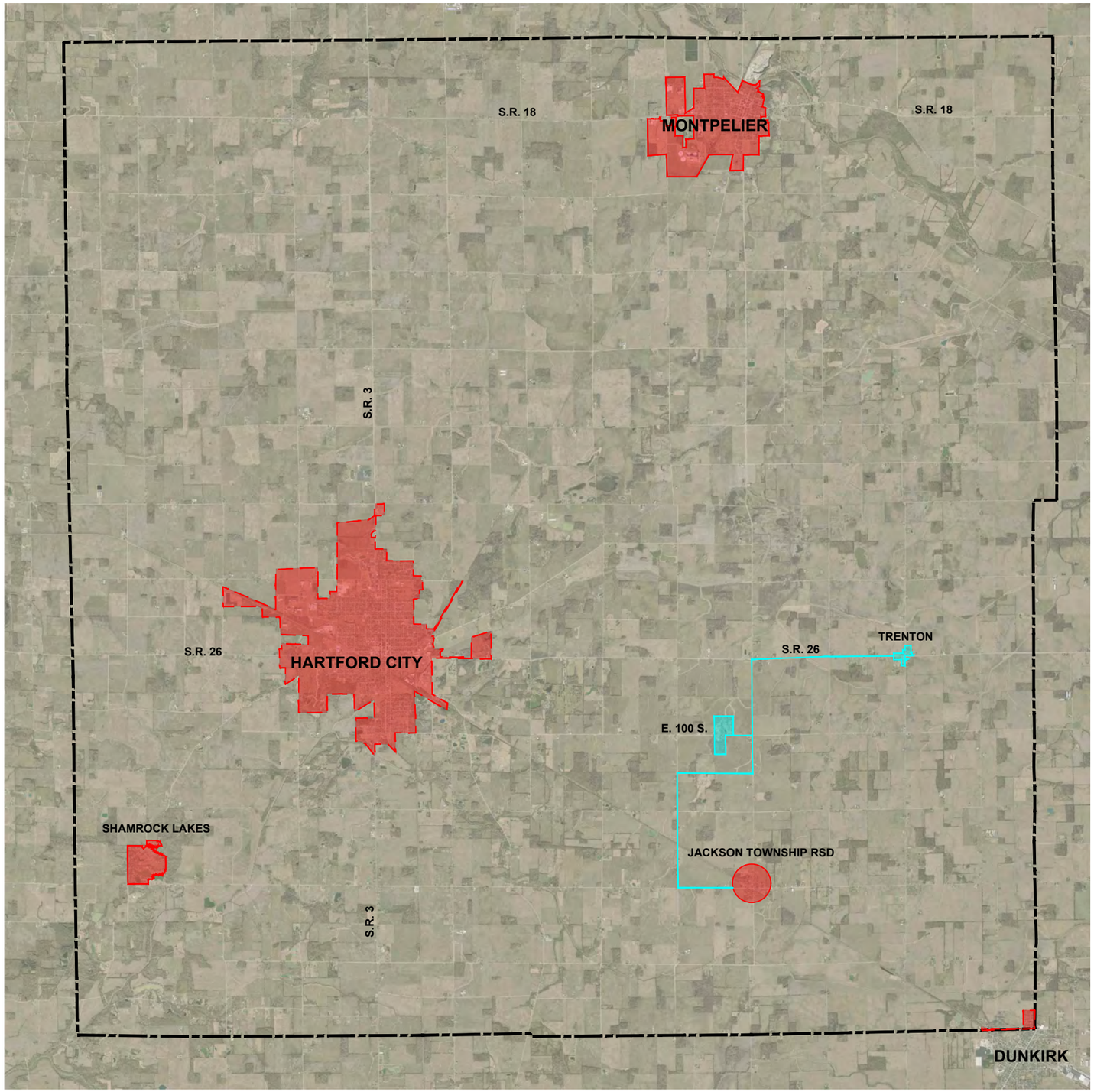
Item Description	Unit	Quantity
2” Pressure Laterals	L.F.	10,256
2” Force Main – HDD	L.F.	4,704
2” Force Main – Open Cut	L.F.	0
3” Force Main - HDD	L.F.	36,010
3” Force Main – Open Cut	L.F.	0
Total Force Main	**L.F.**	**50,970**
4” Gravity Lateral	**L.F.**	**1,000**
Air Release Valves	**EA.**	**19**
Creek Crossing (3” FM)	**EA.**	**5**
Residential Grinder Stations	**EA.**	**51**
Primary Lift Station	**EA.**	**1**
Secondary Lift Station	**EA.**	**1**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 5

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 5 IMPROVEMENTS
FIGURE 4-5

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Table 4-18 summarizes the estimated capital costs and **Table 4-19** the annual O&M&R costs for the proposed Trenton and East 100 S sewer extension under this alternative.

Table 4-18
Estimate for Trenton and East 100 S to Hartford City
Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	4,704	LF	$50	$235,300
3" Force Main, HDD	36,010	LF	$55	$1,980,600
Air Relief Valves	19	EA	$20,286	$385,500
2"x2" Wye or Tee Connection	11	EA	$275	$3,100
3"x2" Wye or Tee Connection	39	EA	$275	$10,800
2" Lateral FM	10,256	LF	$50	$512,900
4" Gravity Lateral	1,000	LF	$50	$50,000
2" Shutoff Valves	51	EA	$1,750	$89,250
Creek Crossing	5	LS	$30,000	$150,000
Grinder Pump Station	51	LS	$10,000	$510,000
Primary Lift Station	1	LS	$120,000	$120,000
Secondary Lift Station	1	LS	$100,000	$100,000
Septic Tank Removal	51	LS	$5,000	$255,000
HMA Paving	**1**	LS	$5,000	$5,000
Granular Backfill	1	LS	$5,000	$5,000
Seeding/Sodding	1	LS	$2,000	$2,000
Erosion Control	1	LS	$10,000	$10,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$108,000	$108,000
Mobilization / Demobilization (5%)	1	LS	$220,000	$220,000
Subtotal				**$4,757,450**
Bid Environment (10%)				$475,745
Contingency (10%)				$523,320
Construction Total				**$5,756,515**

Table 4-19
Estimate for Trenton and East 100 S to Hartford City
Collection System O&M&R

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	5.6	hours	Quarterly	22.25	$779
Electrical	299	KW	Daily	109135	$16,370
Total Estimated O&M					**$17,569**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$100,000	Every	15	Years	$6,667
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Secondary Lift Station Pumps	$30,000	Every	16	Years	$1,875
Total Estimated O&M&R					**$29,244**

Table 4-20 summarizes the total estimated project costs for the E 100 S and Trenton. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-20
Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Trenton and East 100 S Collection System Construction Costs	**$5,756,515.00**
Trenton and East 100 S Estimated Construction Subtotal:	**$5,756,515.00**
Estimated Non-Construction Costs (25%):	**$1,439,130.00**
Total Estimated Project Costs:	**$7,195,645.00**

G. Alternative #5A: New Regional Wastewater Collection Facilities (Alt Trenton East CR 100 S)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses at East CR 100 S and Trenton. These flows would be collected and pumped into the north section of the Jackson Township RSD collection system.

4” gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 2” pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2” to 3” pressure mains located within existing right-of-ways. All flows will discharge into the northern section of the Indiana Township RSD sanitary sewer. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system service area is depicted graphically in **Figure 4-5**. A summary of the proposed collection system infrastructure at Trenton and East CR 100 S is summarized in the following **Table 4-21**:

Table 4-21
Trenton and East CR 100 S Wastewater Collection System Components

Item Description	Unit	Quantity
2" Pressure Laterals	L.F.	11,270
2" Force Main – HDD	L.F.	5,951
2" Force Main – Open Cut	L.F.	0
3" Force Main - HDD	L.F.	26,078
3" Force Main – Open Cut	L.F.	0
Total Force Main	**L.F.**	**43,298**
4" Gravity Lateral	**L.F.**	**820**
Air Release Valves	**EA.**	**14**
Creek Crossing (3" FM)	**EA.**	**1**
Residential Grinder Stations	**EA.**	**51**
Duplex Lift Station	**EA.**	**2**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Table 4-22 summarizes the estimated capital costs and **Table 4-23** the annual O&M&R costs for the proposed Trenton and East CR 100 S sewer extension under this alternative.

Table 4-22
Estimate for Trenton and East CR 100 S Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	5,951	LF	$50	$297,600
3" Force Main, HDD	26,078	LF	$55	$1,434,300
Air Relief Valves	14	EA	$20,286	$284,100
2"x2" Wye or Tee Connection	12	EA	$275	$3,300
3"x2" Wye or Tee Connection	29	EA	$275	$8,000
2" Lateral FM	11,270	LF	$50	$563,500
4" Gravity Lateral	820	LF	$50	$41,000
2" Shutoff Valves	51	EA	$1,750	$89,250
Creek Crossing	1	LS	$30,000	$30,000
Grinder Pump Station	51	LS	$10,000	$510,000
Duplex Lift Station	2	LS	$100,000	$200,000
Septic Tank Removal	51	LS	$5,000	$255,000
HMA Paving	1	LS	$5,000	$5,000
Granular Backfill	1	LS	$5,000	$5,000
Seeding/Sodding	1	LS	$2,000	$2,000
Erosion Control	1	LS	$10,000	$10,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$92,000	$92,000
Mobilization / Demobilization (5%)	1	LS	$178,000	$178,800
Subtotal				**$4,013,850**
Bid Environment (10%)				$401,385
Contingency (10%)				$441,525
Construction Total				**$4,856,760**

Table 4-23
Estimate for Trenton and East CR 100 S Collection System O&M&R

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	5.3	hours	Quarterly	21.125	$739
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,361**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$82,000	Every	15	Years	$5,467
Lift Station Pumps	$94,000	Every	15	Years	$6,267
Total Estimated O&M&R					**$21,094**

Table 4-24 summarizes the total estimated project costs for the Trenton and East CR 100 S. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-24
Summary of Estimated Total Project Costs

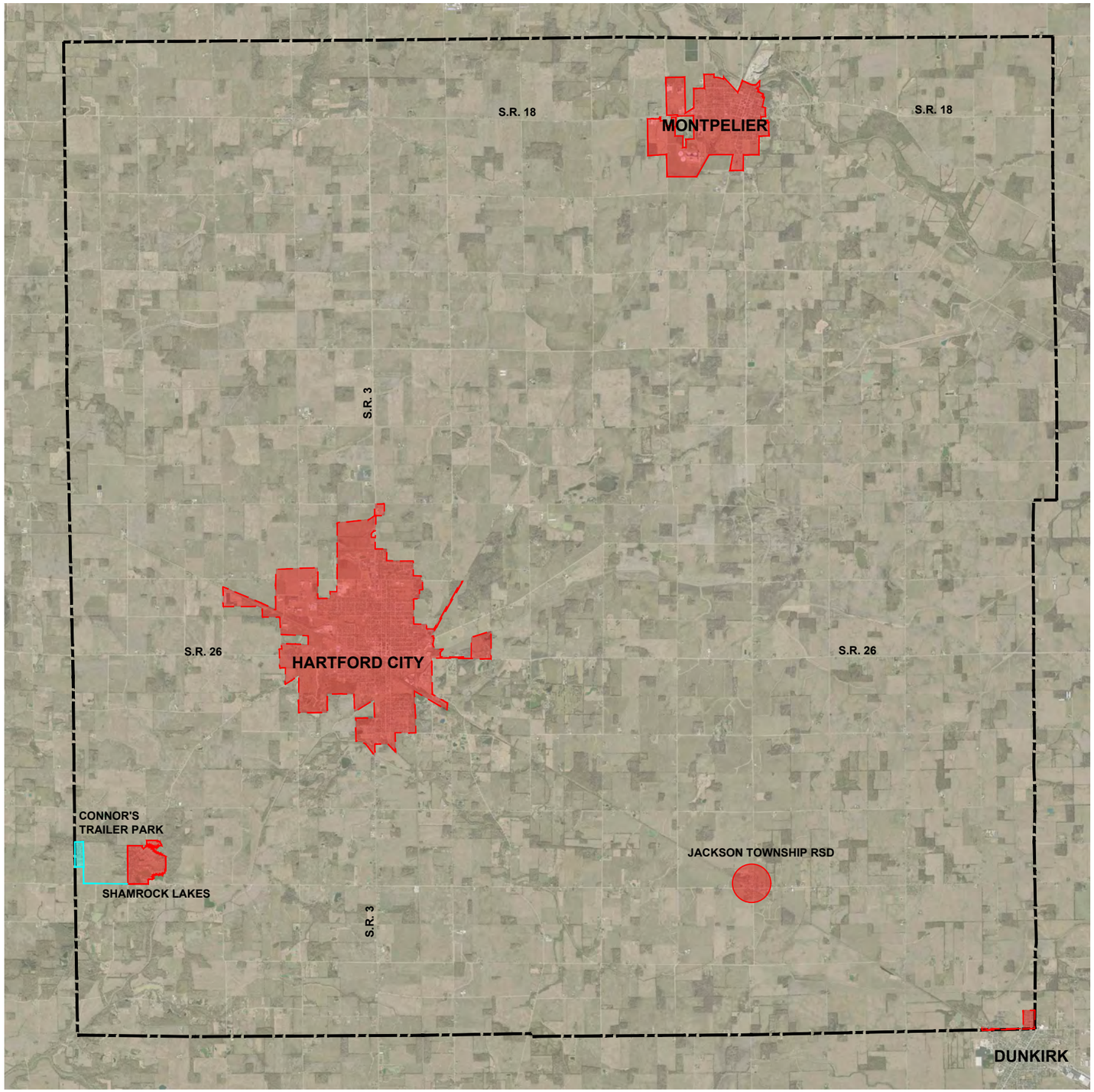
	Estimated Cost
Estimated Trenton and CR 100 E Collection System Construction Costs	**$4,856,760.00**
Trenton and CR 1200 E Estimated Construction Subtotal:	**$4,856,760.00**
Estimated Non-Construction Costs (25%):	**$1,214,190.00**
Total Estimated Project Costs:	**$6,070,950.00**

H. Alternative #6: New Regional Wastewater Collection Facilities (Conner's Trailer Park to Shamrock)

It is proposed that a new pressure sewer collection system inclusive of residential grinder pumps, gravity sewers, main pump station, and associated pressure mains be built to provide reliable service to the residents and businesses at Conner's Trailer Park. These flows would be collected and pumped to the Shamrock WWTP.

4" gravity laterals will be installed to carry flows from residential dwellings to grinder stations. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 2" pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2" to 3" pressure mains located within existing right-of-ways. All flows will discharge into a main lift station that will pump directly to the Shamrock Lakes WWTP. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed collection system is depicted graphically in **Figure 4-6**. A summary of the proposed collection system infrastructure at Conner's Trailer Park is summarized in the following **Table 4-25**:



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 6

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 6 IMPROVEMENTS
FIGURE 4-6

Table 4-25
Conner's Trailer Park to Shamrock Wastewater Collection System Components

Item Description	Unit	Quantity
2" Pressure Laterals	L.F.	2,846
2" Force Main – HDD	L.F.	3,476
2" Force Main – Open Cut	L.F.	0
3" Force Main - HDD	L.F.	5,512
3" Force Main – Open Cut	L.F.	0
Total Force Main	**L.F.**	**11,843**
4" Gravity Lateral	**L.F.**	**480**
Air Release Valves	**EA.**	**3**
Creek Crossing (3" FM)	**EA.**	**0**
Residential Grinder Stations	**EA.**	**27**
Duplex Lift Station	**EA.**	**1**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Table 4-26 summarizes the estimated capital costs and **Table 4-27** for annual O&M&R costs for the proposed CR 1200 E to Shamrock sewer extension under this alternative.

Table 4-26
Estimate for Conner's Trailer Park to Shamrock Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
2" Force Main, HDD	3,476	LF	$50	$173,800
3" Force Main, HDD	5,521	LF	$55	$303,700
Air Relief Valves	3	EA	$20,286	$60,900
2"x2" Wye or Tee Connection	19	EA	$275	$5,300
3"x2" Wye or Tee Connection	5	EA	$275	$1,400
2" Lateral FM	2,846	LF	$50	$142,300
4" Gravity Lateral	480	LF	$50	$24,000
2" Shutoff Valves	27	EA	$1,750	$47,250
Creek Crossing	0	LS	$30,000	$0
Grinder Pump Station	27	LS	$10,000	$270,000
Duplex Lift Station	1	LS	$100,000	$100,000
Septic Tank Removal	27	LS	$5,000	$135,000
HMA Paving	1	LS	$5,000	$5,000
Granular Backfill	1	LS	$5,000	$5,000
Seeding/Sodding	1	LS	$2,000	$2,000
Erosion Control	1	LS	$10,000	$10,000
Traffic Control	1	LS	$5,000	$5,000
Electrical (15%)	1	LS	$36,000	$36,000
Mobilization / Demobilization (5%)	1	LS	$62,100	$62,100
Subtotal				**$1,388,750**
Bid Environment (10%)				$138,875
Contingency (10%)				$152,765
Construction Total				**$1,680,390**

Table 4-27
Estimate for Conner's Trailer Park to Shamrock Collection System O&M&R

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	2.75	hours	Quarterly	11	$385
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					$9,007
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$48,000	Every	15	Years	$3,200
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$15,340**

Table 4-28 summarizes the total estimated project costs for the Conner's Trailer Park to Shamrock. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-28
Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Conner's Trailer Park Collection System Construction Costs	$1,680,390.00
Country Rd 100 E and Mill St. Estimated Construction Subtotal:	$1,680,390.00
Estimated Non-Construction Costs (25%):	$420,100.00
Total Estimated Project Costs:	**$2,100,490.00**

I. Alternative #7: New Regional Wastewater Collection Facilities (Lake Blue Water)

It is proposed that a new collection system with grinder pumps, gravity sewers, pump stations, and pressure mains be built to provide reliable service to the residents and businesses in Lake Blue Water.

4" gravity laterals will be installed to carry flows from residential or commercial structures to grinder stations when conventional gravity sewer mains are cost prohibitive. The grinder stations will feature control panels to ensure proper operation and maintenance. The grinder stations will pump the wastewater to 1.5" pressure laterals that each have a check valve and ball valve pit. From there, many of the pressure laterals will connect with 2" to 3" pressure mains in roads or right-of-ways. Air release valves will be installed at points of high pressure in the pressure mains.

At Lake Blue Water, the pressure mains and some of the pressure laterals will connect to a Duplex Pump Station (lift station). At full buildout, the expected flow from Lake Blue Water is 166 gallons per minute (GPM). Each of the lift station's two submersible pumps will have the capacity to carry this flow in case one of the

pumps fails. The lift station will pump the wastewater to the existing Montpelier collection system.

The proposed collection system service area is depicted graphically in **Figure 4-7**. A summary of the proposed collection system infrastructure for Lake Blue Water is identified in the following **Tables 4-29.**

Table 4-29
Lake Blue Water Wastewater Collection System Components

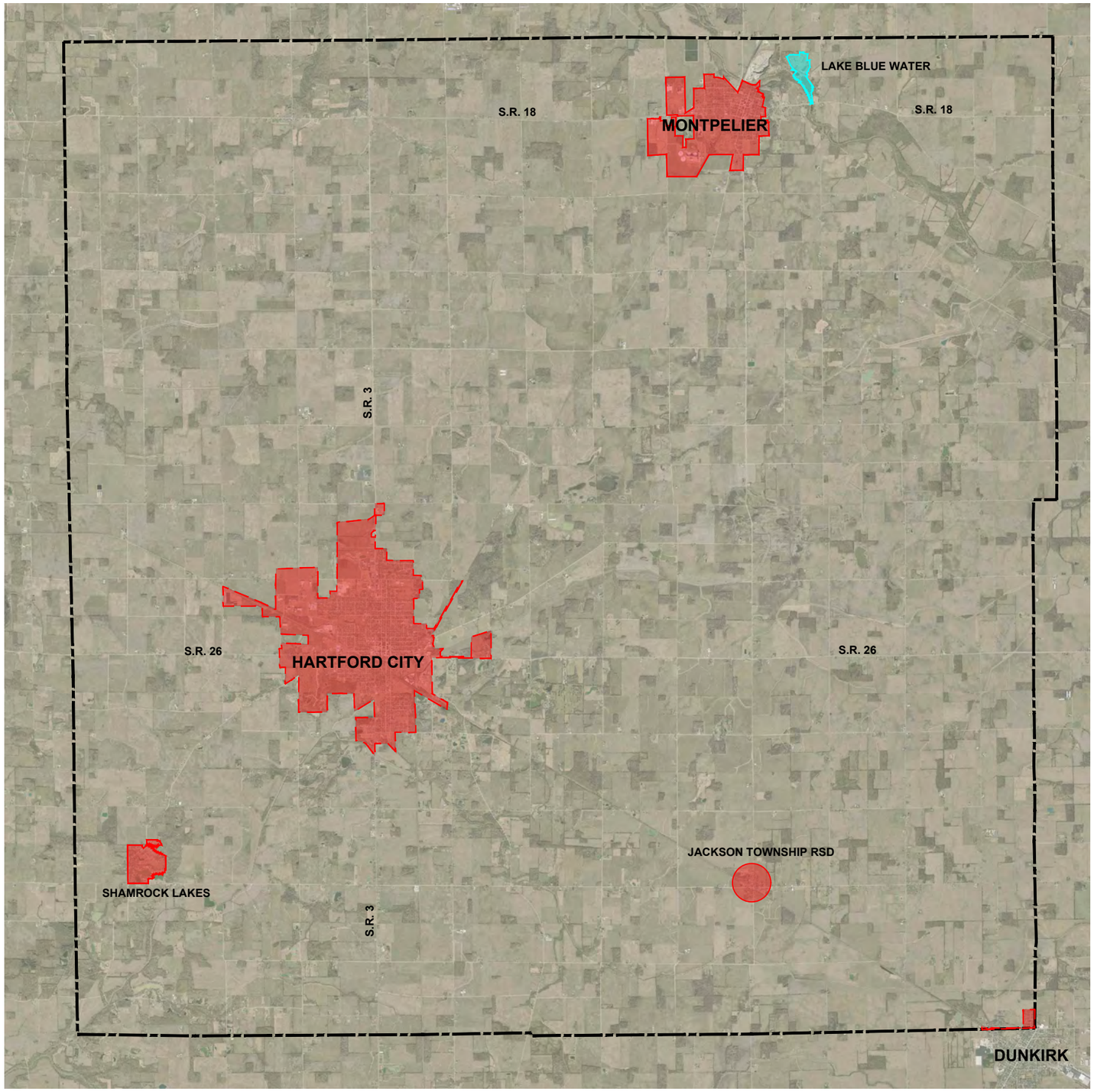
Item Description	Unit	Quantity
1.5” Force Main	L.F.	4,387
2” Force Main	L.F.	2,240
2.5” Force Main	L.F.	3,867
3” Force Main	L.F.	4,218
4” Force Main	L.F.	3,130
Total Force Main	**L.F.**	**17,842**
4” Gravity Lateral	**L.F.**	**295**
4” Carrier Pipe with 12” Casing	**L.F.**	**300**
Lift Stations	**EA**	**32**

1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands and will not be located in any floodplains. All construction is expected to take place in previously disturbed land located within State and County right-of-way.

2. Land Requirements

Permanent land acquisition will not be required for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing right of ways, utility easements, or land currently owned by the proposed District.



SCALE: 1"=8000'

8000' 0 8000'

COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 7

BLACKFORD COUNTY BOUNDARY

COMMONWEALTH ENGINEERS, INC.
A wealth of resources to master a common goal.

BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 7 IMPROVEMENTS
FIGURE 4-7

3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

4. Cost Estimate

Tables 4-30 and **4-31** summarize the estimated capital costs and annual O&M&R costs for the proposed service area under this alternative.

Table 4-30
Estimate of Lake Blue Water Collection System Construction Costs

	Qty	Unit	Unit Price	Estimated Cost
Mobilization, Bonds, and Insurance (5%)	1	LS	$100,000.00	$100,000.00
Construction Administration (5%)	1	LS	$100,000.00	$100,000.00
Temporary Erosion Control (3%)	1	LS	$52,000.00	$52,000.00
Maintenance of Traffic (4%)	1	LS	$68,000.00	$68,000.00
Final Grading and Seeding (3%)	1	LS	$50,000.00	$50,000.00
Curb, Sidewalk, & Pavement Replacement (10% of line cost)	1	LS	$76,700.00	$76,700.00
Lift Stations / Grinders	1	LS	$646,000.00	$646,000.00
Force Mains	1	LS	$748,000.00	$748,000.00
Valves (10% of FM Cost)	1	LS	$74,800.00	$74,800.00
Gravity Sewers (Laterals)	1	LS	$19,000.00	$19,000.00
Creek Crossing	1	LS	$132,000.00	$132,000.00
Electrical & Controls (20% of LS)	1	LS	$129,200.00	$129,200.00
Subtotal	**1**	**LS**	**$2,195,700.00**	**$2,195,700.00**
Bid Environment	1	LS	$219,570.00	$219,570.00
Contingency (10%)	1	LS	$241,530.00	$241,530.00
Total Construction Costs	**1**	**LS**	**$2,656,800.00**	**$2,656,800.00**

Table 4-31

Estimate of Lake Blue Water Collection System O&M&R

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	2.75	hours	Quarterly	11	$385
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					$9,007
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$48,000	Every	15	Years	$3,200
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$15,340**

Table 4-32 summarizes the total estimated project costs for the proposed project area. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

Table 4-32

Summary of Estimated Total Project Costs

	Estimated Cost
Estimated Lake Bluewater Collection System Construction Costs	$2,656,800.00
Estimated Lake Bluewater Collection System Non-Construction Costs	$664,200.00
Lake Blue Water Estimated Project Subtotal:	**$3,321,000.00**

Section 5 – Selection of Alternative

The proposed alternatives were presented in **Section 4 – Alternatives Considered**; this section details the comparative analysis used to recommend an option. A Life Cycle Cost Analysis was performed for each alternative based on the minimum requirements of the Water Resources Reform and Development Act of 2014. This type of analysis determines the total amount of money spent to implement each of the particular alternatives. The overall cost for each alternative is compared on a "Present Worth" basis where the alternative with the smallest Present Worth is the least costly to implement.

This analysis was done for a planning period of 20 years, which is typical for life cycle cost planning on municipal infrastructure improvements. This analysis is dependent on the discount (interest) rate. In planning work for public wastewater facilities, the federal discount is used. This rate is found in OMB Circular No. A-94, **Appendix C**. The current value of 0.4% for a planning period of 20 years.

5.1 Life Cycle Cost Analysis

The various cost considerations used for a present worth analysis are as follows:

A. Construction Costs

Construction costs include the initial capital investment required to purchase and install the facilities as well as all related process equipment. The costs are based on 2022-dollar values.

B. Operation and Maintenance Values

These costs are based on the following unit rate estimates:

- Labor costs are based on a rate of $35.00 per hour, including benefits and overhead.
- Power Costs are based on a rate of $0.15 per kilowatt hour (KWH).
- Equipment Replacement Fund (short lived asset) annual cost is the annual funding needed to replace equipment with an estimated service life of less than 20 years. The annual cost assigned is equal to the purchase cost divided by its estimated lifespan.

C. Salvage Value

The salvage value for an asset is the value of that asset after it has been repurposed for another function. This analysis used a planning period of 20 years. After 20 years, the structural and piping components have 20 to 30 years left to their useful life. The value of these assets is used to lower the present worth cost of the alternatives. Straight line depreciation is used.

D. Present Worth Analysis of Alternatives

The total present worth of an alternative is found by adding the initial total project cost, present worth of the operation, maintenance, and equipment costs, and

subtracting the salvage value. Some of the multiplying factors to bring items to present worth current dollars based on the interest rate noted previously include:

- 19.57 to bring the 20 years of O&M&R back to present worth
- 0.923 to convert 20-year salvage value back to present worth

5.2 Collection System Improvements

A. Present Worth Analysis of Alternatives

Tables 5-1 through **5-7** compared each alternative based on present worth.

Table 5-1
Present Worth Analysis of Mohee Area
Collection System Improvements

Item	Factor	Alternative #1 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$3,870,700
b. Estimated Non-Construction Cost	0.25*A	$968,000
c. Estimated Annual O&M&R	1	$19,196
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$4,838,700
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$375,682
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$5,214,366

Table 5-2
Present Worth Analysis of Meadow Wood/ Northview/
Woods Hill Collection System Improvements

Item	Factor	Alternative #2 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$1,828,585
b. Estimated Non-Construction Cost	0.25*A	$457,000
c. Estimated Annual O&M&R	1	$15,202
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$2,285,585
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$297,516
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$2,583,101

Table 5-3
Present Worth Analysis of Westwood / SR 3 South 200 S
Collection System Improvements

Item	Factor	Alternative #3 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$3,144,060
b. Estimated Non-Construction Cost	0.25*A	$786,000
c. Estimated Annual O&M&R	1	$21,507
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$3,930,060
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$420,910
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$4,350,970

Table 5-4
Present Worth Analysis of Roll / S.R. 18 Collection System Improvements

Item	Factor	Alternative #4 New Sewer Collection System
Cost Summary		
A. Estimated Construction Cost	1	$7,795,920
B. Estimated Non-Construction Cost	0.25*A	$1,949,000
C. Estimated Annual O&M&R	1	$38,583
D. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.3%)		
E. Capital Cost	A + B	$9,744,920
F. Present Worth of Annual O&M&R	19.57*C	$755,102
G. Present Worth of Salvage	1.105*D	$0
H. Total Present Worth	E + F - G	$10,500,022

Table 5-5
Present Worth Analysis of Trenton to Hartford City
Collection System Improvements

Item	Factor	Alternative #5 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$5,756,515
b. Estimated Non-Construction Cost	0.25*A	$1,439,000
c. Estimated Annual O&M&R	1	$29,244
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$7,195,515
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$572,330
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$7,767,845

Table 5-5A
Present Worth Analysis of Trenton to Millgrove
Collection System Improvements

Item	Factor	Alternative #5A New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$4,856,760
b. Estimated Non-Construction Cost	0.25*A	$1,214,000
c. Estimated Annual O&M&R	1	$21,094
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$6,070,760
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$412,827
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$6,483,587

Table 5-6
Present Worth Analysis of Conner's Trailer Park
Collection System Improvements

Item	Factor	Alternative #6 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$1,680,390
b. Estimated Non-Construction Cost	0.25*A	$420,000
c. Estimated Annual O&M&R	1	$15,340
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$2,100,390
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$300,217
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$2,400,607

Table 5-7
Present Worth Analysis of Lake Blue Water
Collection System Improvements

Item	Factor	Alternative #7 New Sewer Collection System
Cost Summary		
A. Estimated Construction Cost	1	$2,656,800
B. Estimated Non-Construction Cost	0.25*A	$664,000
C. Estimated Annual O&M&R	1	$15,340
D. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.3%)		
E. Capital Cost	A + B	$3,320,800
F. Present Worth of Annual O&M&R	19.57*C	$300,217
G. Present Worth of Salvage	1.105*D	$0
H. Total Present Worth	E + F - G	$3,621,017

B. Non-Monetary Factors

When considering alternative, non-monetary factors such as social, environmental, and safety concerns need to be considered as well. Social concerns may arise if no corrective action is taken and the County's residents do not have access to an affordable wastewater disposal solution. Environmental concerns have been noted along with each alternative discussed in **Section 4 – Proposed Alternatives**. Most of the work recommended herein will take place on previously disturbed land. Safety should be a top priority to the utility personnel

and the residents of Blackford County. The corrective actions recommended herein include safety measures to reduce the potential risk to health and safety.

C. Phasing

It is recommended that the improvements be constructed in phases to provide affordability and re-prioritization upon successful implementation of each phase.

Section 6 – Proposed Project

This section presents the proposed project to meet the District's need. The proposed project was chosen by determining the lowest present worth cost for the different alternatives evaluated and considering non-monetary factors. This section summarizes the different components of the project, and discusses the associated schedule for completion, preliminary costs, and other items for consideration for the implementation of the project.

6.1 Proposed Project

A. Preliminary Project Design

Based on the Life Cycle Cost Analysis presented in the previous section, the recommended projects are depicted in **Figure 6-1,** and further described below:

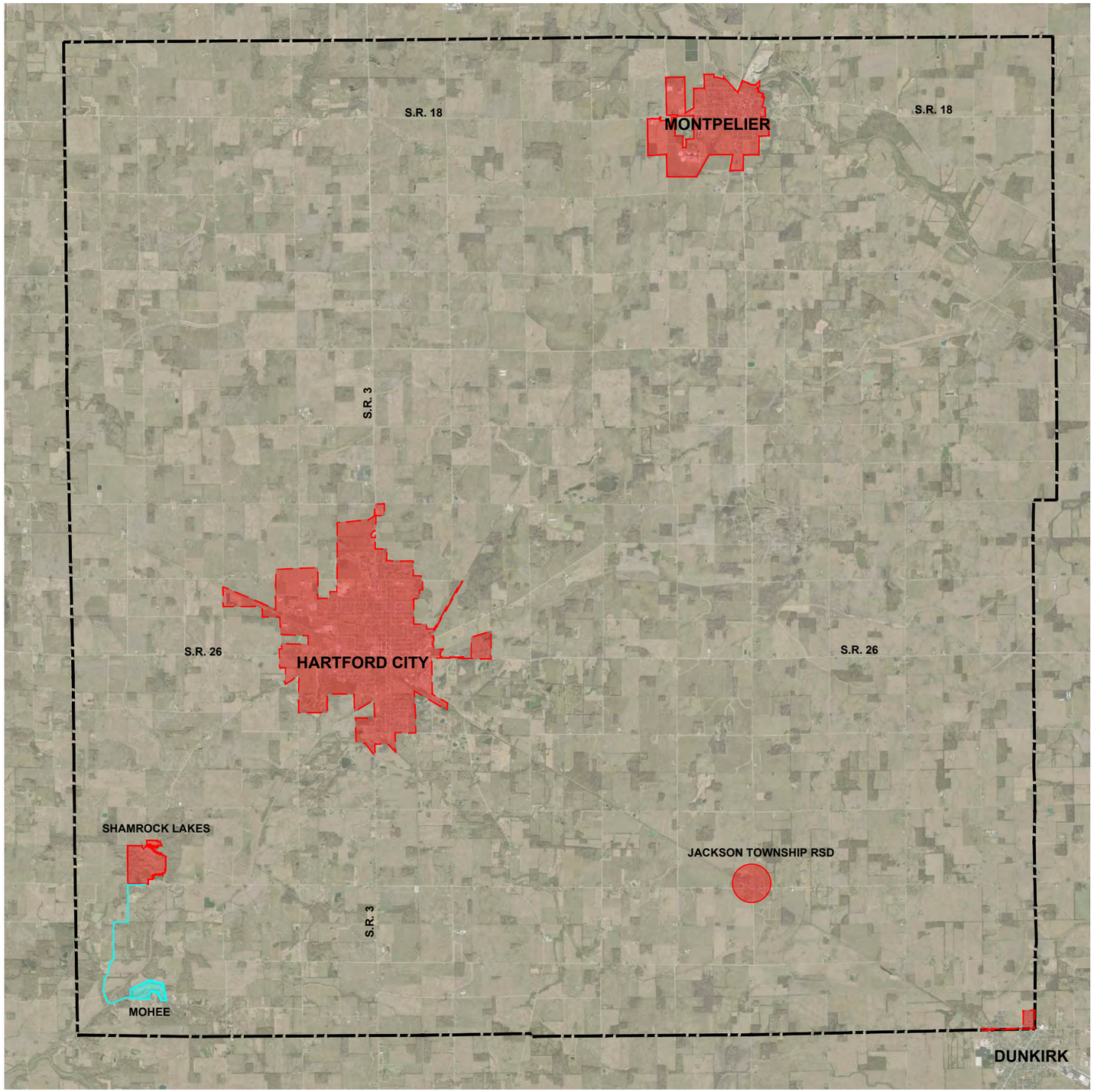
- Construction of a new wastewater collection system for the residents within the Mohee area of Blackford County.

6.2 Project Schedule

This project should be constructed in a timely fashion. **Table 6-1** shows a proposed schedule for this project.

Table 6-1
Proposed Schedule for Collection System

Item	Date to be Completed
Blackford County Regional Sewer District is Approved by IDEM	January 2023
District Formally Approves Preliminary Engineering Report	March 2023
District Submits Preliminary Engineering Report to Funding Agencies	March 2023
Finalize District Funding Package	June 2023
District Secures Interim Financing (BAN) for Design	August 2023
District Authorizes Design Phase	August 2023
District Authorizes Submission of Permit Applications	January 2024
District Authorizes Bidding Phase	March 2024
District Receives Bid Proposals	April 2024
District Awards Contract and Issues Notice to Proceed	July 2024
Construction Substantially Complete	May 2025
Final Inspection – Project Completion	June 2025



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PHASE 1

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

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BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PRIORITY NO. 1 IMPROVEMENTS
FIGURE 6-1

6.3 Permit Requirements

It is anticipated that the following permits will be required for construction of these projects:

- IDEM Rule 5
- IDEM Construction Permit
- County Road Permit

6.4 Sustainability Consideration

Conservation of resources is becoming important across all industries, specifically those in providing public resources. Further, with advances in technology, options are available for reduced operation and maintenance costs. All of these small things can add up to a more efficient process and a smaller impact on the environment.

6.5 Total Project Cost Estimate (Engineer's Opinion of Probable Cost)

Table 6-2 shows the estimate of probable construction cost and non-construction costs.

Table 6-2
Estimate of Total Project Costs

	Estimated Cost
Construction Costs	
Estimated Mohee Collection System Construction Costs	$3,870,700.00
Non-Construction Costs	
Design	$293,000.00
Bidding	$15,000.00
Construction Engineering (Assumed 12-month Construction)	$90,000.00
Post Construction (Warranty Period Assistance)	$5,000.00
Inspection (Assumed 12-month Construction)	$240,000.00
Survey	$30,000.00
Geotech	$25,000.00
Erosion Control	$5,000.00
Regulatory Assistance (Permitting)	$15,000.00
Asset Management Plan – Technical (SRF Only)	$30,000.00
Asset Management Plan – Financial (SRF Only)	$15,000.00
Legal / Financial	$10,000.00
Easements	$20,000.00
Local Attorney	$15,000.00
Rate Consultant	$35,000.00
Bond Counsel	$40,000.00
Record Drawings (As-builts)	$10,000.00
American Iron and Steel Compliance	$5,000.00
Labor Standards (SRF Only)	$20,000.00
Archaeological (SRF Only)	$10,000.00
Green Project Reserve (SRF Only)	$10,000.00

	Estimated Cost
IBB FEE (Interim Construction Financing)	$25,000.00
Interest During Construction	$96,174.00
BAN FEE (Interim Financing for Design)	$20,000.00
Interest During Design	$8,460.00
Administrative Contingency	$10,000.00
Estimated Mohee Collection System Non-Construction Cost	**$1,097,634.00**
Mohee Estimated Project Subtotal:	**$4,968,334.00**

Pricing is reflective of American Iron and Steel requirements.

Table 6-3
Estimate for Mohee Collection System O&M&R Cost

Manpower	Amount	Units	per	Annual Amount	
Operations	1	hours	Monthly	12	$420
Scheduled Maintenance	3.6	hours	Quarterly	14.5	$508
Electrical	149.8	KW	Daily	54677	$8,202
Total Estimated O&M					**$9,129**
Short Lived Assets/Equipment Replacement Cost					
Grinder Pumps	$104,000	Every	15	Years	$6,933
Lift Station Pumps	$47,000	Every	15	Years	$3,133
Total Estimated O&M&R					**$19,196**

A. Rate Impacts and Debt Repayments

It is assumed that the proposed improvements project(s) will require financing through a combination of low interest loan and grant considerations. Estimated post-project user rates shall be determined through a comprehensive rate impact study once the District has been established. Rate impacts shall take into consideration capital costs to implement the proposed improvements projects (both construction and non-construction) as well as annual operating costs inclusive of required reserves and treatment costs established by the individual CTAs.

Section 7 – Conclusions and Recommendations

7.1 Purpose

The proposed Blackford County Regional Sewage District will be established to provide an affordable, safe, reliable, and sanitary means of wastewater disposal for the unincorporated areas of Blackford County.

7.2 Recommendations

Based upon a present worth analysis of the alternatives considered, it is recommended that once the new RSD is established, the Phase 1 project to construct a new wastewater collection system be constructed for the unincorporated are of Mohee, consisting of a pressure sewer system that is able to transport wastewater flows to Shamrock Lakes be implemented. This project will ensure reliable wastewater collection and disposal to the to the residents of Mohee.

Future phased projects as outlined below in **Table 7-1** will be considered for implementation as funding comes available. Upon the successful implementation of each proposed project, the RSD will evaluate future projects to determine if re-prioritization is required.

Table 7-1
Unsewered Areas of Concern

Priority	Location
Phase 1	**Mohee**
2	Meadow Wood Estates / Northview / Woods Hill
3	SR 3 / South CR 200S
4	Roll / SR 18 Corridor
5	Trenton / CR E100S
6	Connor's Trailer Park
7	Lake Blue Water

Appendix A

Regional Sewer District IDEM Petition

INDIANA DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
STATE OF INDIANA

IN THE MATTER OF THE PETITION OF BLACKFORD COUNTY, INDIANA IDEM, TO FORM A REGIONAL SEWER DISTRICT PURSUANT TO IC 13-26	)))	BEFORE THE COMMISSIONER, STATE OF INDIANA,

PETITION

Blackford County, by its Board of County Commissioners, tenders its Petition to the Commissioner, Indiana Department of Environmental Management (IDEM), pursuant to IC 13-26, for an order directing that a regional sewer district be organized as an independent political entity of the State of Indiana, and as a body corporate and politic. In support of this Petition, petitioner alleges:

1. The proposed name of the regional sewer district shall be the "Blackford County Regional Sewer District" of Blackford County, Indiana.
2. This Petition has been approved by the Board of Blackford County Commissioners as required by IC 13-26-2-2.
3. The Petition has also been approved by the Blackford County Council inasmuch as it may be an "eligible entity" within the meaning of IC 13-26-2-2 and IC 13-11-2-86. A copy of the Resolution of the Blackford County Council approving this formation of the District is attached as Exhibit A to this Petition. There are no other political subdivisions in the proposed district. Incorporated areas are excluded.
4. There are areas of land owned by the Indiana Department of Natural Resources or other state agencies within the proposed District. These designated areas shall be

excluded from the jurisdiction of the District. In order to comply with IC 13-26-2-10(b)(3) we will be sending a certified letter to the DNR detailing our plans.

5. The principal office of the district shall be located at the office of Planning and Zoning of Blackford County, Courthouse at 110 W Washington Street, Hartford City, Indiana, which has a mailing address of: office of Blackford County Planning and Zoning, Courthouse-first floor,110 W Washington Street, Hartford City, IN 47348.
6. The need for the proposed district has long been recognized by residents and businesses in the area, also by the Blackford County Commissioners, the Petitioner herein, and by the public, generally for the reason that sanitary sewage disposal is provided in the area by each homeowner or business through on-site septic facilities, some of which have failed, or have exceeded their individual useful life. The absence of public sanitary sewer service has contributed to suppression of economic and community development and has contributed to environmental contamination in the proposed District.
7. The purpose to be accomplished by the formation of the District is the reduction of pollution to the environment through the elimination of failed and underperforming septic systems by the construction of a sanitary sewer collection systems that will transport sanitary sewage to Certified Treatment areas.
8. Creation of the district will be beneficial to the public health, safety, convenience and welfare of the residents of the District for the following reasons:

   (A) Some sanitary sewer systems exist in the proposed District adjacent to the unincorporated areas

   (B) Sewage collection, disposal and treatment within the proposed District is currently being provided by individual septic tanks or other similar on-site

disposal systems. These on-site systems, many of which are failing, are contributing toward pollution of the environment within the proposed District and create a hazard to the health, welfare and safety of the residents of the proposed District. In many instances, replacement of failed or failing septic or other on – site systems is not feasible due to the cost, condition of the soil and/or parcel size.

(C) There are Public (Incorporated Areas) Owned Treatment Works within the boundary of the proposed District available for treatment of additional sanitary sewage flows. Further studies will show if additional treatment facilities need to be provided or existing facilities expanded to support these unincorporated areas. (See Engineering Report, Exhibit "D")

9. There is no outstanding indebtedness associated with wastewater systems within the proposed District. The absence of a regional sanitary sewer system hinders commercial growth and residential development in the proposed District. The proposed District has available other utility services, such as gas, electric and broadband for development of real estate. The absence of sanitary sewers has limited residential growth in the proposed District due to requirements of Blackford County Health Department and the Indiana Department of Health, (as they apply to septic tanks and other on –site systems) prohibiting construction of economically viable residential communities.
10. The service area to be included within the proposed District includes all areas of unincorporated Blackford County, Indiana outside of the municipally incorporated areas, as well as areas currently serviced by Certified Treatment Areas (CTA's) within Blackford County. Also, any State Parks or State-Owned Lands, such as by the DNR, are excluded. The boundaries of the proposed District are more

particularly detailed on the map attached to this Petition as Exhibit B detailing the District's proposed boundaries.

The proposed District currently contains five (5) Certified Treatment Areas:

Shamrock Lake
Indiana 46740

City of Montpelier
Indiana 46733

City of Hartford City
Indiana 46733

Jackson Township RSD
Millgrove (Unincorporated)
District boundary is Radius of ½ mile from County roads 300 S & 500 W

The City of Dunkirk:
is a Jay County, however it has approximately 16 residential dwellings which protrude into Blackford County. This area in Blackford County is excluded from the District. However, there may be opportunity to collaborate by regionalized Treatment by their facility.

Also, there may be State-Owned Land as referenced in paragraph 4 above. Our research indicates that none of the State-Owned Land (DNR) is serviced by a CTA. In order to comply with IC 13-26-2-10(b)(3) we will be sending a Certified Letter to the private service providers detailing our plans and how establishment of the proposed district would affect their existing systems

11. The number, manner of selection and terms of the Board of Trustees of the District is recommended as follows:

(A) The District Board shall consist of seven (7) trustees.

(B) The initial Board shall be appointed as follows:

(a) Three (3) Trustees shall be appointed by the Board of County Commissioners of Blackford County. One (1) of the three (3) appointments made by the Commissioners will be by recommendation from the Blackford County Board of Health.

(b) Two (2) Trustees shall be appointed by the Blackford County Council,

(c) One (1) Trustee shall be appointed by the Mayor of Montpelier, and

(d) One (1) Trustee shall be appointed by the Mayor of Hartford City.

Such Trustees' term shall be until January 1, 2024, or until their successor is appointed.

Thereafter, the Board of Trustees shall be selected by appointment as follows:

1. **Three-year terms as follows:** Four (4) members, one (1) appointed by the Mayor of Montpelier, One (1) by the Mayor of Hartford City, One (1) by the Blackford County Council, and One (1) by the Blackford County Commissioners, shall be appointed for a term of three (3) years.
2. **Two-year terms as follows**: Two (2) members shall be appointed by the Blackford County Commissioners for a term of two (2) years.
3. **One-year term as follows:** One (1) member shall be appointed by the Blackford County Commissioners for a term of one (1) year.

Upon the expiration of the above appointments, all appointments by the appointing body shall be for terms of three (3) years.

Upon a vacancy on the Board of Trustees, for any reason, the appointing authority for that Trustee shall appoint a replacement Trustee within **45 days** to complete the term of the Trustee who vacated that position.

12. Options under consideration for financing the cost of operations of the District until it is in receipt of revenue from its operations or proceeds from the sale of bonds include: financial assistance from USDA-RD, the Indiana Finance Authority State Revolving Fund, funding from Blackford County revenue sources, private contributions, and potential available grants.
13. The estimates of the cost of accomplishing the purpose of the District, including recommended wastewater improvements, operating and maintaining the recommended improvements, the source of funding of such costs and estimates of

rates and charges required for the District is found in the Preliminary Engineering Report prepared for the Board of County Commissioners and located in Exhibit "D" attached:

14. A copy of this Petition has been filed in the office of the Board of Commissioners of Blackford County, Indiana. A copy of this Petition has also been filed with the Town Council of Shamrock Lakes, City of Montpelier, Hartford City, and Jackson Township Regional Sewer District. Additionally, the Petition (without the Engineering Report) has been filed with the Blackford County School Corporation, the Libraries of Montpelier, Hartford City, also with fire departments, and with the Blackford County Township Assessor's Office. The Petition along with the Engineering Report is on file in its entirety with the Blackford County Library, the Blackford County Commissioners, the Blackford County Council, and the Libraries of Montpelier, and Hartford City.

    The designated representative for this petition is Anne Owen, Director of Planning and Zoning, First Floor, Blackford County Courthouse, 110 W Washington Street, Hartford City, Indiana 47348

WHEREFORE, Petitioner's request:

1. That a public hearing be conducted on this Petition by IDEM after the giving of the proper notice thereof:
2. That the relief requested in the Petition be granted by the IDEM Commissioner; and,
3. The IDEM Commissioner issue an order creating the "Blackford County Regional Sewer District" of Blackford County.

Board of County Commissioners
Blackford, County, Indiana

By: _____

John Lancaster, President

_____

John Oxley

_____

Laura Coons

Legal Counsel for Petitioner:

Danyel Struble, Law Office of Brooke & Struble, P.C. – Muncie Indiana

The above Petition to form a sewer district in Blackford County, Indiana, is APPROVED by the Board of County Commissioners of Blackford County this 17 day of October, 2022.

Board of County Commissioners
Blackford, County, Indiana

_____

John Lancaster, President

_____

John Oxley

_____

Laura Coons

ATTEST:

_____

Sharon Hartley
Blackford County Auditor

Blackford County RSD Advisory Board -

Member	Position	Email
Anne Owen	Area Planning	aowen@blackfordcounty.com
Paul Schriver	County Surveyor	pschriver@blackfordcounty.com
Sam Swenson	Driange Board Secretary	sswenson@blackfordcounty.com
Dale Carr	Environmentalist	dcarr@blackfordcounty.com
Kathy Bantz	Montpelier Mayor	mayorbantz@montpeliercity.org
Dan Eckstein	Hartford City Mayor	deckstein@hartfordcity.net
Sheila Hyer	Secretary/Treasurer	Shyer@blackfordcounty.com
Jon Oxley	Blackford County Commissioner	jpoxley49@gmail.com
Council appointment		
Council Appointment		
Shamrock Appointment		

Blackford County

County Council

- Dan Borgenheimer- President
- Karen Mealy- Vice President
- Ryan Goodspeed
- Jack Beckley
- Patrick Cale
- Fred Tobey
- Kyle Lechien

County Commissioners

- John Lancaster- President
- John Oxley- Vice President
- Laura Coons

Exhibit A

BLACKFORD COUNTY COUNCIL

Resolution

WHEREAS, the Board of Blackford County Commissioners have petitioned the Commissioner of the Indiana Department of Environmental Management (IDEM), for an order directing that the Blackford County Regional Sewer District be formed:

NOW, Therefore, be it resolved by the Blackford County Council that it approves the formation of the Blackford County Regional Sewer District.

Adopted this 5th day of May, 2021.

BLACKFORD COUNTY COUNCIL

Dan Borgenheimer

Karen Mealy

Patrick Cale

Jack Beckley

Fred Tobey

Kyle Lechien

Ryan Goodspeed

Exhibit B

BLACKFORD COUNTY BOARD OF HEALTH

Resolution

WHEREAS, the Board of Blackford County Commissioners will petition the Commissioner of the Indiana Department of Environmental Management (IDEM), for an order directing that the Blackford County Regional Sewer District be formed:

NOW, Therefore, be it resolved by the Blackford County Board of Health that it approves the formation of the Blackford County Regional Sewer District.

Adopted this 18th day of March, 2021.

BLACKFORD COUNTY BOARD OF HEALTH

Donald Hunsberger, Chair

Absent

Glen Smith, Vice Chair

Pam Bonham

Helen Borgenheimer, MD

Brian Smith, RHP

Absent
Tod Waters

Lori Skidmore, MD – HO

Attested: March 18, 2021

Board Secretary

Blackford County Health Department

March 18, 2021 at 6:00 P.M.

AGENDA

Call to order:

- Approve minutes of last meeting
- Reinstatement of Brian Smith, RHP effective dates Jan, 2021 to Dec. 31, 2024
- Due to expire December 31, 2021 is: Glenn Smith & Tod Waters
- Vaccination Clinic updates / counts
- COVID-19 Testing Counts – Closed July due to 4H fair
- Hep C Testing
- 2020 child immunization totals
- 2020 Reportable communicable diseases & conditions
- Dale to Discuss status on business/ food prep inspections
- Dale to discuss status on septic upgrades/installs
- Wayne Baily to speak on sewer district plan

BOARD MEMBERS:

NAME:	ADDRESS:	PARTY:	PHONE:	EMAIL:	TERM:
Donald Hunsberger, chair	5150 N. 500 E. Montp. 47359	R	728-2737 (H)	donaldhunsberger@att.net	1/1/2020 to 12/31/2023
			329-0679 ©		
Pam Bonham	916 N. Walnut HC 47348	D	744-7891 ©	pjbonham@yahoo.com	1/1/2019 to 12/31/2022
Helen Borgenheimer, MD	1802 W. Water HC 47348	R	348-5976 (H)	hborgenheimer@iuhealth.org	1/1/2020 to 12/31/2023
			348-5776 (W)		
Brian Smith, RHP	402 Hickory Grove RD. HC	D	348-3846 (H)	brian.smith1@comcast.net	1/1/2021 to 12/31/2024
			348-4134 (W)		
			499-2315 ©		
Glenn Smith, Vice	533 S. Adams Montp. 47359	R	728-2676 (H)	N/A	1/1/2018 to 12/31/2021
Tod Waters	415 w. washington, HC 47348	D	348-0710 (W)	info@watersfuneralhomes.com	1/1/2018 to 12/31/2021
			499-7176 ©		
Lori Skidmore, MD - HO	240 E. Vine St. Montp	R	728-2421 (W)	lori_skidmore@live.com	1/1/2020 to 12/31/2023
3/11/2021RW					

Blackford County Health Department ----

BCHD and BC Planning Dept. have been working together with existing systems that have been illegally discharging sewage and are required to have the septic tank pumped and checked for leakage/baffles extra. They have been allowed TEMPORARILY to block the sewer tank and pump and hall till sewer is available with immediate hook-up. The sewer district needs to meet and discuss a permanent timeframe when the system is to be built and homes to hook up with in 30 days of availability.

This needs to be done ASAP, it is causing BCHD and the BC planning Division to make discissions that strain the ordinances that we are to abide by.

Dale Carr-EHS/FSIO
Preparedness liasion for Health Officer
Blackford County Health Department
506 East Van Cleve Street
Hartford City, IN 47348
dcarr@blackfordcounty.com
(765) 348-4317-phone
(765) 348-3041 - fax

Wayne Bailey

From: Dale Carr <dcarr@blackfordcounty.com>
Sent: Thursday, February 25, 2021 3:42 PM
To: Wayne Bailey
Subject: septic

We have 8-10 homes in the 1400 n 100 east Hartford city that need septic lots are small and septic is whatever. I think it is on phase 2?

Dale Carr-EHS/FSIO
Preparedness liasion for Health Officer
Blackford County Health Department
506 East Van Cleve Street
Hartford City, IN 47348
dcarr@blackfordcounty.com
(765) 348-4317-phone
(765) 348-3041 - fax

Exhibit C

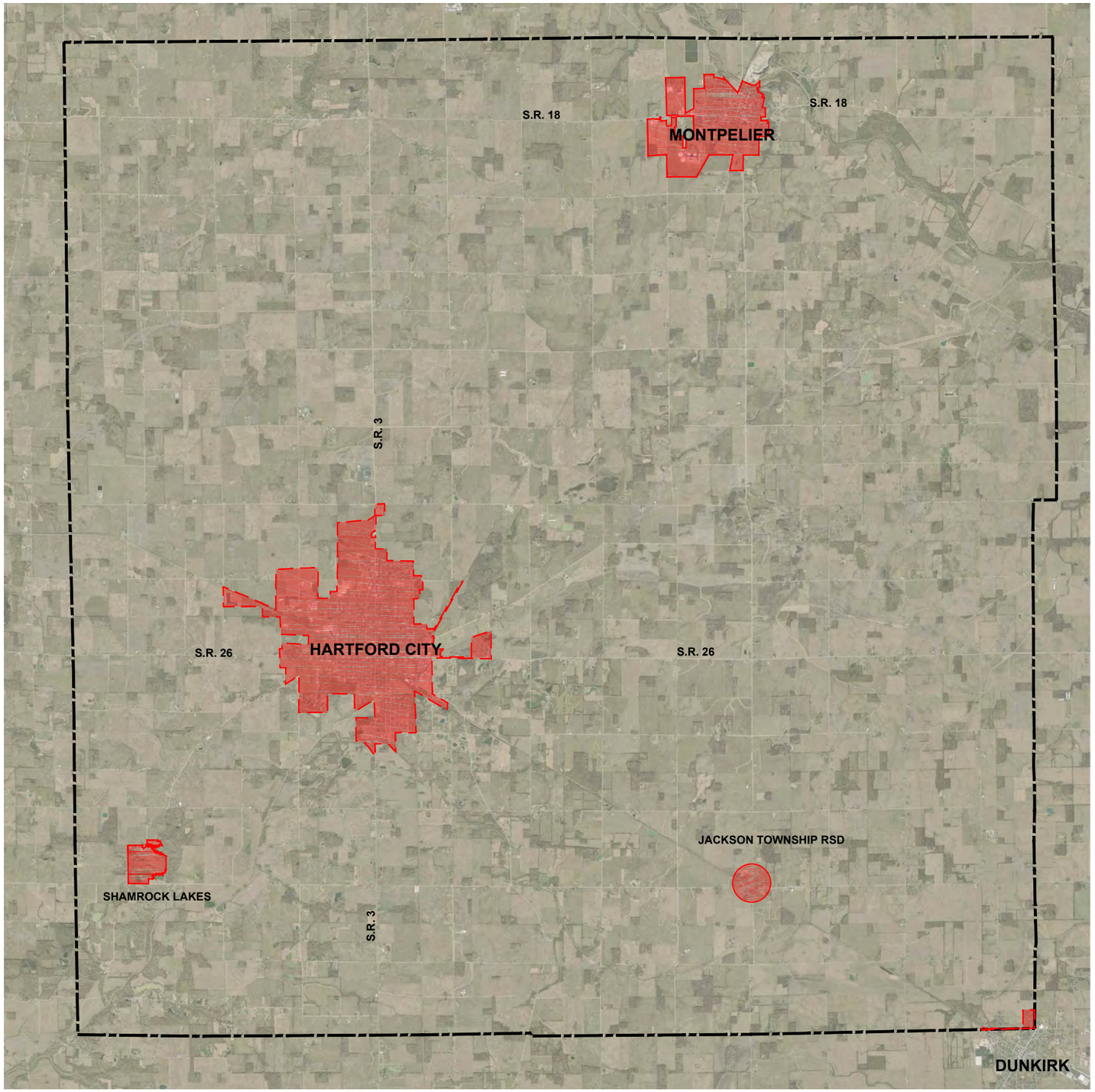
PROPOSED DISTRICT BOUNDARIES

Project: Proposed BLACKFORD COUNTY SEWER DISTRICT (BCRDS)

Boundaries:

Prepared By: Robert Bellucci, Commonwealth Engineers
January 21, 2021

Description: The Maps showing the proposed County-Wide District are attached to this exhibit. The boundaries are County-Wide and exclude all incorporated areas having a Certified Treatment Area.



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

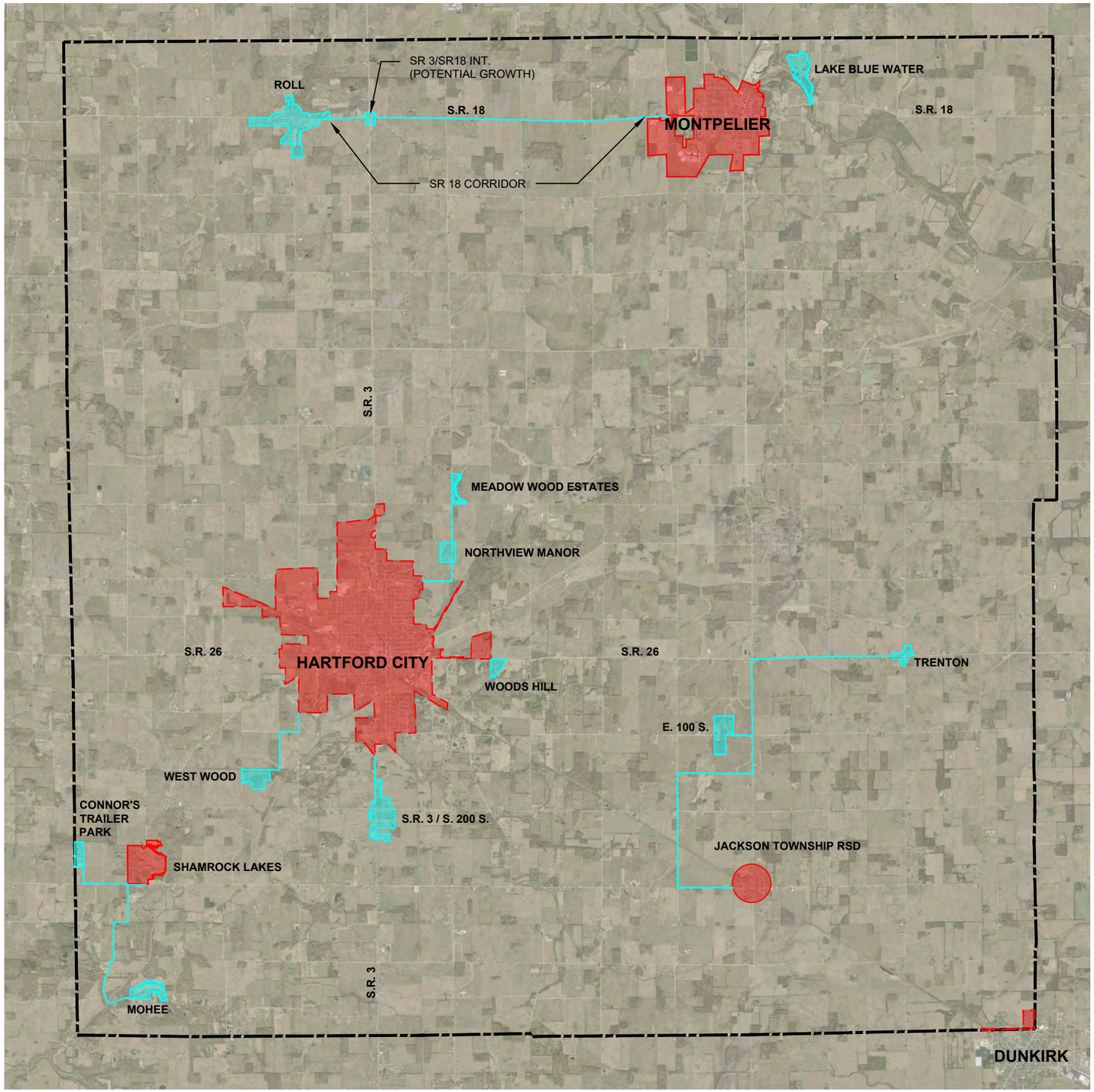
8000' 0 8000'

COMMONWEALTH ENGINEERS, INC.
A wealth of resources to master a common goal.

BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD
FIGURE 1-1



COMMUNITIES THAT HAVE THEIR OWN UTILITIES

PROPOSED RSD PROJECT AREAS

BLACKFORD COUNTY BOUNDARY

SCALE: 1"=8000'

8000' 0 8000'

COMMONWEALTH ENGINEERS, INC.
A wealth of resources to master a common goal.

BLACKFORD COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED BLACKFORD COUNTY RSD PHASE 1 IMPROVEMENTS
FIGURE 1-2

EXHIBIT "D"

PUBLIC MEETING NOTICE

1. General Circulation County 1 Newspaper 1 public notice and invoice.
2. General Circulation County 1 Newspaper 2 public notice and invoice.
3. County 1 Radio Station 1 public notice transcript and invoice.
4. County 1 Radio Station 2 public notice transcript and invoice.
5. List of freeholders in the district noticed by first class United States mail, postage paid.

(If the proposed district spans two counties, notice may need repeated in different newspapers and on different radio stations, depending on circulation and operating range. See IC 13-26-2-2.5.)

NOTICE OF PUBLIC MEETING
PROPOSED BLACKFORD COUNTY REGIONAL SEWER DISTRICT

NOTICE TO PROPERTY OWNERS OF MEETING TO APPROVE FILING A PETITION WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SEEKING AUTHORITY TO ESTABLISH A REGIONAL COUNTY-WIDE SEWER DISTRICT

Notice is hereby given to property owners of Blackford County, Indiana that a public meeting will be held at the The Lighthouse Church, 2101 N. Walnut St., Hartford City, Indiana 47348 on Tuesday July 12, 2022 at 5:00 pm, to consider filing a Petition with the Indiana Department of Environmental Management ("IDEM") seeking authority to establish a regional county-wide sewer district in accordance with Indiana Code 13-26.

The territory to be included within the proposed project is all of that part of Blackford County, Indiana outside of the municipally incorporated areas, as well as areas currently serviced by Certified Treatment Areas (CTA's) within Blackford County. Also, any State Parks or State-Owned Lands, such as by the DNR, are excluded. The boundaries of the proposed District are more particularly detailed on the map attached to the petition as Exhibit B detailing the District 's proposed boundaries.

The Petition along with the preliminary engineering report (PER) is on file and available for review in the Planning & Zoning Office and the Surveyor's Office, Blackford County Courthouse 110 W. Washington St. Hartford City, IN 47348, and at the Hartford City Public Library, 314 N. High Street, Hartford City, IN and the Montpelier Public Library at 300 S. Main Street, Montpelier, IN.

The designated representative for this petition is Anne Owen, Director of Planning and Zoning, First Floor, Blackford County Courthouse, 110 W. Washington Street, Hartford City, Indiana 47348.

NOTICE OF PUBLIC MEETING
PROPOSED BLACKFORD COUNTY REGIONAL SEWER DISTRICT

Notice is given to property owners of Blackford County that a public meeting will be held at The Lighthouse Church, 2101 N. Walnut St., Hartford City, on Tuesday July 12, 2022 at 5:00 pm, to consider filing a Petition with IDEM, seeking authority to establish a regional county-wide sewer district for areas outside of the incorporated areas. The Petition and map are available for review in the Zoning Office and Surveyor's Office, Blackford County Courthouse , the Hartford City Public Library, 314 N. High Street, Hartford City, and the Montpelier Public Library at 300 S. Main Street, Montpelier.

Listing of all Locations where notices were posted

Blackford County
Copies of the notices were made available at:

Blackford County Planning and Zoning Office
110 W. Washington St., Hartford City, IN 47348

Blackford County Surveyor's Office
110 W. Washington St., Hartford City, IN 47348

Hartford City Public Library
314 N. High St., Hartford City, IN 47348

Montpelier Public Library
300 S. Main St., Montpelier, IN 473S9

Notice was published in the following locations:

Hartford City paper – The News Times

Montpelier Weekly

WLBC

WMDH-FM

Jackson Township Regional Sewer District

Ethan Cox, President
105 W Church St.
Hartford City, IN 47348

Lynn Mannix, Vice President
204 W Garr St.
Hartford City, IN 47348

Paul Timmons
3089 S. 500 E.
Hartford City, IN 47348

Sheila Hyer
102 N. East St.
Hartford City, IN 47348

Affidavit

We do hereby affirm that copies of the Blackford County RSD Application have been delivered to all places as prescribed with the Petition to IDEM.

-EHS-BCHD 10/24/22

Dale Carr — Date
Blackford County Health Department

24/Oct/2022

Thomas Barclay — Date
Commonwealth Engineers

Blackford County Regional Sewer District
July 12, 2022
Start time 5:09 pm

- Thomas Barclay
  - Read the public notice to audience
- Rob Bellucci
  - Present
    - John Oxley – Commissioner
    - Anne Owen – Director of Plan Commission
    - Sam Simpson – works in surveyor's office
    - Dale Carr - environmentalist with health department
    - Paul Schriver – surveyor
    - Kathy Bantz – mayor of Montpelier
  - County is interested in evaluating the creation of a county wide regional sewer district
  - Been no commitment, must apply to IDEM first
  - Most all appear to have received mailers
  - Must show state of IN that there are areas in our county that are in need of alternatives to their sewer system
  - There will be no annexation
  - The residents in already incorporated areas are not a part of the creation of this district
  - The proposed areas in the information packet do not necessarily mean those are the areas that will be hooked in to the district. Those are just a sample of areas in need for IDEM to review
  - What happens if we do create a district
    - Identify greatest areas of need, a series of meetings will take place before we see if we can get funding
  - Here tonight to solicit input from the residents
- Public questions
  - 51% are illegally discharging according to health department
  - Under ordinance of Blackford County, any time sell or build, have to have system check. That is when health department gets notice
  - Steps for creating district
    - Step 1 is tonight
    - Application to state, 7 members to board 2 council, 1 mayor Montpelier, 1 mayor Hartford, 1 health dept, 2 commissioners
  - The board members are compensated per meeting
  - The sewer plants do not have to be rebuilt or upgraded. They can handle the additional flow
  - 117 sewer districts in the state of IN
  - We do not collect taxes
  - Every town in State of IN has to separate sewer and storm water
    - Hartford started that process 4 years ago
  - When will residents be identified and how
    - You can file for a 10 yr. extension and two 5 year additional extensions
    - After that time the residents would have to hook up
    - House bill 1245 – trying to do away with septic systems
    - 20 years if life cycle of septic system

        - Health department does dye test if someone claims discharge from someone's septic
- Estimated cost over $30M according to proposal
- $115-167/month in Mohee proposed bill
- Public want petition with signatures to stop the creation of the district
- Ordinance to create a district was passed in 2002
- County has lost population in last 3 censuses
- We can give monthly cost yet. We do not know how much grant money we will get, how much forgiveness, what PER will show, etc.
- Why can't plant be built for only those need areas
- All houses along 3 between 200 and 500 are all less than half an acre
- Zoning ordinance says you have to have 3 acres to put a septic system on your property
- If you live in an area that is not serviced by a project, then you will not receive a bill
- If county has established working group which has been going on for over a year now. There has to be an entity to take care of all unincorporated areas. Working group has vested interest in helping county, county-wide
- Mohee would be the first problem area
- Believe the county created this problem 50-60 years ago with who they allow to build houses and not
- A lot of comments to just service the needy areas and not involve the whole county
- The goal is to get comments from those that showed up tonight, assemble minutes and present info to IDEM
- People bought houses in county to get away from government control
- Almost every one left at the meeting (after several had left) showed hands that they did not want to be required to hook in
- Over 1500 mailers went out
- Decatur went through the same issue recently
- 7 areas
    - Mohee, meadow wood estates, SR3 south, Trenton, conners trailer park, north view manor, woods hill
- There is no completed design; the project book is a conceptual plan draft
- Residential drinking water well – if on failing septic, run risk of contaminating ground water
- Does this meeting matter? Will county apply anyway? – the county has to make the decision
- Why is county not worried about hog farms
- Many wanted to complain about storm water
- Roll resident concerned if not hooked up due to exception, will he get billed – no
- One man claimed some own multiple properties and that's why not more people are here
- Believe Roll will be gone in 5 years and should not service that area
- Believe Blackford County will do what they want and residents do not matter

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Eric Jones	1117 W 200 N Hartford City 47348	765-499-7729	
Jeff Payne	1110 Montpelier 47359 2625 E State 18		
Sam Swenson	110 W WASHington HARTFORD CITY IN 47348		
Mr. Jeffrey W. Allen	2152 N 400 W-5 Upland		
Yvonne Allen	2152		
Greg Shoup	0548 E 300 N Hartford city	765-499-9473	
Daniel Struble	112 E. Gilbert St. Muncie, IN 47305	765-748-5024	dstruble@bslawgroup.com

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Jennifer Thomas	1470 N 100 E Hartford City 47348	765-744-8085	thomasfive2004@sbcglobal.net
Jeff Thomas	↓	↓	↓

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Joseph Castelo	304 N. High Hartford City 47348	765-499-0440	jcastelo.jr@gmail.com
Judith Hetteltinger	Dunkirk, IN. 47336 2192 N. 800 E.	765-348-1320	NONE

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Don Bolo	47345		
Ted Black	5220N 500E	765-621-9491	
Joanne Smith	2655 S ST RD 3 47345		
Kim for	2576ES Rd		
Kathy Bantz	426 W. Green St 47359	765-348-9039	
Kathi Jones	47348 1552 E ST RD 26	765-748-9152	
Donald Grossman	1524 W S R 18 47348		
Tina Coons	871 E 200 S, Hc, IN 47348	765-744-6493	
Linda McClain	1782 W 463 S Hc	765-348-6417	
Andy Keeling	7085 N 100 W Hc	765-329-0775	
Sarah Keeling	"	"	
Paul Heffelfinger	47336 2192 N-800 E	765-348-1320	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Sarah Haynes	0588 W 400 S 47348	765-348-2635	
Don & Jene Ladd	4384 S. 5th R3 N.C	765-348-2059	
Keith Jennetyoke	43 Westwood	765 348 2733	
Rep Gary Seidner	5253 N 600 E Montpelier		
Michael Maddox	7765 E 400 N	Montpelier	
IAN SMITH	P.O Box 3		
JOHN KIRKPATRICK	0681 N. 800E		
KATIE KIRKPATRICK	0681 N. 800E		
Doug & Sara Atkinson	1436 N 100 E Hartford City	765 499 0640	
Joe Name	473 S Willman Rd Hartford City		
Tom Ment	0193 N. 200 E Hartford City		
Kimberly Leighton Jacobs	2025 E 300 N HARTFORD	765-348-4453	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Kathie Culbertson	47359 6103 N. 500 E. Montpelier		
Richard Culbertson	47359 6103 N 500 E Montpelier		
Nathan Klink	3587 E 400 S H.C.		
Steve Shrader	360 W. 600 N HC		
Brenda McAtee	1394 E State Rd 26 HC		
Chris Scott	33 S. SHAMROCK RD		
Gary & Joan Shrader	2812 W - 500 N H.C.		
↓	↓		
Rhonda L. Rouser	3236 N - 550 E, Montpelier		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Fred Parker	0256N 325W		
Terrie James	204 Westwood Dr H.C.	651-323-4086	TerrieJames1979@gmail.c
Gary James	" "	(765)499-1104	GaryMJames1957@gmail.c
Terry Dickey	207 Westwood H/C	765-499-5182	
Jim Pitts	3549E-5822 H.City		
Randy Taylor	6513N 500E Kokomo	765 228 2315	
Richard Howell	7024N 300W-5	765-348-0124	
Matt Langdon	1360E 400S H.C.		langdonma@gmail.com
Marty McCain	1782W. 463S H.C.		
Tim Kotyuk	102a E 20a N		
Gail Hawkins	8 Balbec		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Kathie Culbertson	47359 6103 N. 500 E. Montpelier		
Richard Culbertson	47359 6103 N 500 E Montpelier		
Nathan Klink	3587 E 400 S H.C.		
Steve Shrader	360 W. 600 N HC		
Brenda McAtee	1394 E State Rd 26 HC		
Chris Scott	33 S. SHAMROCK RD		
Gary & Joan Shrader	2812 W - 500 N H.C.		
↓	↓		
Rhonda L. Rouser	3236 N - 550 E, Montpelier		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Sarah Haynes	0588 W 400 S 47348	765-348-2635	
Don & Jene Ladd	4384 S. 5th R3 N.C	765-348-2059	
Keith Jennetyoke	43 Westwood	765 348 2733	
Rep Gary Seidner	5253 N 600 E Montpelier		
Michael Maddox	7765 E 400 N	Montpelier	
IAN SMITH	P.O Box 3		
JOHN KIRKPATRICK	0681 N. 800E		
KATIE KIRKPATRICK	0681 N. 800E		
Doug & Sara Atkinson	1436 N 100 E Hartford City	765 499 0640	
Joe Name	473 S Willman Rd Hartford City		
Tom Ment	0193 N. 200 E Hartford City		
Kimberly Leighton Jacobs	2025 E 300 N HARTFORD	765-348-4453	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Kurt Vance	4210 S. 100 W Hartford City 47348	765-748-1990	KVance711@hotmail.com
Kelley Vance	4210 S. 100 W Hartford City 47348	765 717-1013	KVance111@msn.com
Ted Tann	2203 E 200S Hartford City 47348	765-348-2765	
Chris Love	693W 54 R18	765-499-4747	
Michaela Sandoe	5471e 100S Hartford City IN 47348	260 228 0158	———
Dean Jackson	203 West Wood Drive Hartford	765-748-2620	———
Jeannie Cann	D556 W 200S Ht	765 760 5467	—
ALLEN HIDER	2169 S. ST RD 3	765 200 0107	
MAX KREIGH	503 Lakeside Dr. H.C.	765-717-1173	
Jay Lisa Sandoe	7123 E. SR 26 H.C	7654997371	
Chazz Shrader	360 W. 600 N. He	765-744-0272	
PAT McATEE	1394 E SR 26	765-499-2357	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
LAURA POONS	1336 E. SR 18 Montpelier	765-499-2492	
JOHN OXLEY	215 W. WATER INC	765-499-7526	
Deb Runyon	0183 W. St Rd 18 47348 Hartford City	765-499-1257	
Debbie Cheesman	108 S Southwood Dr	765 499 9529	
GARY D. CHEESMAN	108 S Southwood Dr	7654990599	
Shannon Finchum	520 W 300 South	765 730-[illegible]467	
Rose Cook	1250 E 600 N HC	765-348-6481	
Thurman Cook	" "	765-499-8534	
Dick Guthman	1705 W 500 N HC	765-498-1199	
[illegible]	[illegible]	[illegible]	
EARL CLARK	8726 E 500 S HC	765-331-9014	
Johnathon Sanda	5471 E 100 S	765-499-8117	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
RALPH KOGER	T361 N 100E Montpelier IN 47359		
Phil Clark	16945 100E 47348		
Randy Coall	2000 E #400 S 47348		
Larry Hall	2436 E SR26 E		
Allen Jan Gordon	6926 N - 100 W 47348		
Terry Taylor	6510 N 100 E Hart		
Lynn Buckley	1151 E. SR. 26		
Fred Bailey	1871 S. ST Rd 3		
Jack Ward	2584 S-W/Hwy		
Jim Thurman	5424 N 100 W H.C		
Larry Mealy	305 S Southwood AR.		
Connie Parker	256 N 325 W		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
ROBERT BELLUCCI	INDIANAPOLIS	(317) 888-1177	rbellucci@contractcei.com
[illegible]	[illegible]	765-348-7838	
THOMAS BARCLAY	INDY	317-888-1177	TBARCLAY@CONTRACTCEI.COM
Bobby Craig	2122 W. 200 S. Hartford City	765-348-1967	
Vicky L Rusin	2070 W. 200 S. HEARTFORD CITY	765-717-2683	
MARK CARTER	111 W WASHINGTON ST HARTFORD 47348	765-348-3218	
James W. Landon	2397 W. 075 N HC	7663484626	
RYAN MCCALL	4465 N 500 E	765 517 1451	
Ron Lanham	500 Harding	499-2144	
Ron Foss	696 N. Bradford Ave	765-603-2605	
Shelby Barker	1044 W. St. Rd 18	260-525-1964	
Elaine Thomas	1476 W SR 18 HC	765-330-4351	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Humberto Damian	881 W St Rd 18 47348	765-315-83-82	
David Rinkle	5117N 200W HARTFORD CITY IND	615-946-3516	
Darrell Overmyer	5743 E. 18 Mont.		
Barb Mascari-Smith	2231 W 50 S Hartford City IN		
Sharon Geary	4016N-300W H.C.		
Jim Hess	5760 300 C IDC		
Tim CAMERON	2350 S. Angling Pike H.C.	765-499-0145	
Pam Griffith	720 S Gadburg Rd. H.C.		
Rhi Smith	720 S. Gadbury Rd.		
Ann M. Willmann	0971 E. 300N 47348	765-499-0382	
Dennis Layman	1718E St. Rd. 18 Montpelier In		
Mark + Suzanne Taylor	2279E.S.R18 Mont IN		

Appendix B
Detailed Cost Estimates

BLACKFORD COUNTY

REGIONAL WASTEWATER DISTRICT

LAKE BLUEWATER- GRINDER SYSTEM - TOTAL BUILDOUT

COST ESTIMATE

Item #	Description	Qty	Unit	Unit Price (in figures)	Total Price (in figures)
1	Mobilization, Bonds, and Insurance (5%)	1	LS	$ 100,000.00	$ 100,000.00
2	Construction Administration (5%)	1	LS	$ 100,000.00	$ 100,000.00
3	Temporary Erosion Control (3%)	1	LS	$ 52,000.00	$ 52,000.00
4	Maintenance of Traffic (4%)	1	LS	$ 68,000.00	$ 68,000.00
5	Final Grading and Seeding (3%)	1	LS	$ 50,000.00	$ 50,000.00
6	Curb, Sidewalk, & Pavement Replacement (10% of line cost)	1	LS	$ 76,700.00	$ 76,700.00
7	Lift Stations / Grinders	1	LS	$ 646,000.00	$ 646,000.00
8	Force Mains	1	LS	$ 748,000.00	$ 748,000.00
9	Valves (10% of FM Cost)	1	LS	$ 74,800.00	$ 74,800.00
9	Gravity Sewers (Laterals)	1	LS	$ 19,000.00	$ 19,000.00
10	Creek Crossing	1	LS	$ 132,000.00	$ 132,000.00
11	Electrical & Controls (20% of LS)	**1**	LS	$ 129,200.00	$ 129,200.00
12		**1**	LS	$ -	$ -
13		**1**	LS	$ -	$ -
Construction Subtotal					$ 2,195,700.00
Construction Contingency (10%)					$ 220,000.00
Construction Total					**$ 2,415,700.00**
	Future Expansion	**25.0**			**$ 403,398.45**
	Immediate Customers	**23.0**			**$ 2,012,301.55**
	Total Buildout	**48.0**			**$ 2,415,700.00**

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LIFT STATION													FORCEMAIN				GRAVITY				CREEK CROSSING				SYSTEM COST	PROJECT COST
LS #	ZONE	CUSTOMERS	LOTS	GPM EACH	GPM TOTAL	TYPE	ELEV	COST (LS+CTL)	PUMPS TO	ELEV	WW DEPTH	ELEV DIFF	LENGTH-FT	SIZE (IN)	COST/FT	COST	LENGTH	SIZE (IN)	COST/FT	COST	LENGTH	CARRIER/ CASING (IN)	COST/FT	COST	PER STATION	PER STATION
																									$0	$0
CURRENT																									$0	$0
LBW-EAST (includes Grinder, Pressure Main, Gravity Lateral)		11			55	GRINDER		$110,000				0	3,867	2.50	$40.00	$155,000	110	4	$65.00	$7,000					$272,000	$425,288
													2,248	3.00	$50.00	$112,000									$112,000	$175,119
Pressure Lat from Grinder to Main		**11**											1,760	1.50	$30.00	$53,000									$53,000	$82,869
LBW-WEST (includes Grinder, Pressure Main, Gravity Lateral)		12			60	GRINDER		$120,000				0	2,240	2.00	$35.00	$78,000	60	4	$65.00	$4,000					$202,000	$315,839
													1,970	3.00	$50.00	$99,000									$99,000	$154,792
Pressure Lat from Grinder to Main		**12**											852	1.50	$30.00	$26,000									$26,000	$40,653
Pressure Lat - Future Lots		25											1,775	1.50	$30.00	$53,000									$53,000	$82,869
LS #1					166	DUPLEX		$166,000				0	3,130	4.00	$55.00	$172,000									$338,000	$528,483
Creek Crossing																					300	4" / 12"	$440.00	$132,000	$132,000	$206,390
																										$0
FUTURE																									$0	$0
																									$0	$0
LBW-WEST (includes Grinder, Gravity Lateral)		25			51	GRINDER		$250,000				0					125	4	$65.00	$8,000					$258,000	$403,398
																									$0	$0
																									$0	$0
																									$0	$0
TOTAL		**48**	**0**	**0**	**166**			**$646,000**								**$748,000**				**$19,000**				**$132,000**	**$1,545,000**	**$2,415,700**
																									$1,545,000	0

BLACKFORD COUNTY

REGIONAL WASTEWATER DISTRICT

ROLL /SR18 - GRINDER SYSTEM - TOTAL BUILDOUT

COST ESTIMATE

Item #	Description	Qty	Unit	Unit Price (in figures)	Total Price (in figures)
1	Mobilization, Bonds, and Insurance (5%)	1	LS	$ 293,000.00	$ 293,000.00
2	Construction Administration (5%)	1	LS	$ 293,000.00	$ 293,000.00
3	Temporary Erosion Control (3%)	1	LS	$ 156,000.00	$ 156,000.00
4	Maintenance of Traffic (4%)	1	LS	$ 202,000.00	$ 202,000.00
5	Final Grading and Seeding (3%)	1	LS	$ 151,000.00	$ 151,000.00
6	Curb, Sidewalk, & Pavement Replacement (10% of line cost)	1	LS	$ 300,800.00	$ 300,800.00
7	Lift Stations / Grinders	1	LS	$ 1,474,000.00	$ 1,474,000.00
8	Force Mains	1	LS	$ 2,706,000.00	$ 2,706,000.00
9	Valves (10% of FM Cost)	1	LS	$ 270,600.00	$ 270,600.00
9	Gravity Sewers (Laterals)	1	LS	$ 302,000.00	$ 302,000.00
10	Jack & Bore	1	LS	$ -	$ -
11	Electrical & Controls (20% of LS)	1	LS	$ 294,800.00	$ 294,800.00
12		1	LS	$ -	$ -
13		1	LS	$ -	$ -
Construction Subtotal					$ 6,443,200.00
Construction Contingency (10%)					$ 644,000.00
Construction Total					**$ 7,087,200.00**
	Future Expansion (84 GPM)	**4.0**			**$ 412,708.43**
	Immediate Customers	**78.0**			**$ 6,674,491.57**
	Total Buildout	**82.0**			**$ 7,087,200.00**
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LIFT STATION													FORCEMAIN				GRAVITY				JACK & BORE				SYSTEM COST	PROJECT COST
LS #	ZONE	CUSTOMERS	LOTS	GPM EACH	GPM TOTAL	TYPE	ELEV	COST (LS+CTL)	PUMPS TO	ELEV	WW DEPTH	ELEV DIFF	LENGTH-FT	SIZE (IN)	COST/FT	COST	LENGTH	SIZE (IN)	COST/FT	COST	LENGTH	CARRIER/ CASING (IN)	COST/FT	COST	PER STATION	PER STATION
																									$0	$0
CURRENT																									$0	$0
ROLL	W	19			95	GRINDER		$190,000				0	3,300	3.00	$50.00	$165,000	190	4	$65.00	$12,000					$367,000	$580,322
	N	10			50	GRINDER		$100,000				0	1,500	2.00	$40.00	$60,000	100	4	$65.00	$7,000					$167,000	$264,070
	S	11			55	GRINDER		$110,000				0	2,650	2.50	$45.00	$119,000	110	4	$65.00	$7,000					$236,000	$373,177
ROLL-SR3	E	17			175	GRINDER		$170,000				0	0	6.00	$80.00	$0	170	4	$65.00	$11,000					$181,000	$286,208
(Tie Direct to 6" LS #1 FM)																										
LS #1	Roll				180	DUPLEX		$180,000				0	5,481	6.00	$80.00	$438,000									$618,000	$977,218
LS #2	SR3/SR18				222	DUPLEX		$222,000				0	12,920	6.00	$80.00	$1,034,000									$1,256,000	$1,986,061
																									$0	$0
SR 18	LS2-E	4			20	GRINDER		$40,000				0	0	2.00	$40.00	$0	40	4	$65.00	$3,000					$43,000	$67,994
	LS3-W	8			40	GRINDER		$80,000				0	0	2.50	$45.00	$0	80	4	$65.00	$5,000					$85,000	$134,407
	LS3-E	5			25	GRINDER		$50,000				0	0	2.00	$40.00	$0	50	4	$65.00	$3,000					$53,000	$83,807
	LS3-MP	4			20	GRINDER		$40,000				0	0	2.00	$40.00	$0	40	4	$65.00	$3,000					$43,000	$67,994
																									$0	$0
LS3	E				282	DUPLEX		$282,000				0	7,873	6.00	$80.00	$630,000									$912,000	$1,442,108
																									$0	$0
FM from Grinder to Main		**78**											8,658	1.50	$30.00	$260,000									$260,000	$411,127
																										$0
																										$0
FUTURE																									$0	$0
																									$0	$0
ROLL	W	1			1	GRINDER		$10,000				0	0	1.50	$30.00	$0	10	4	$65.00	$1,000					$11,000	$17,394
SR3/18INT (COMM)	W	3			83	GRAVITY											2000	8	$125.00	$250,000					$250,000	$395,315
		4																							$0	$0
																									$0	$0
																									$0	$0
TOTAL		**82**	**0**	**0**				**$1,474,000**								**$2,706,000**				**$302,000**				**$0**	**$4,482,000**	**$7,087,200**

BLACKFORD COUNTY

REGIONAL WASTEWATER DISTRICT

WOODS HILL- GRINDER SYSTEM - TOTAL BUILDOUT

COST ESTIMATE

Item #	Description	Qty	Unit	Unit Price (in figures)	Total Price (in figures)
1	Mobilization, Bonds, and Insurance (5%)	1	LS	$ 10,000.00	$ 10,000.00
2	Construction Administration (5%)	1	LS	$ 10,000.00	$ 10,000.00
3	Temporary Erosion Control (3%)	1	LS	$ 6,000.00	$ 6,000.00
4	Maintenance of Traffic (4%)	1	LS	$ 7,000.00	$ 7,000.00
5	Final Grading and Seeding (3%)	1	LS	$ 4,000.00	$ 4,000.00
6	Curb, Sidewalk, & Pavement Replacement (10% of line cost)	1	LS	$ 10,000.00	$ 10,000.00
7	Lift Stations / Grinders	1	LS	$ 60,000.00	$ 60,000.00
8	Force Mains	1	LS	$ 96,000.00	$ 96,000.00
9	Valves (10% of FM Cost)	1	LS	$ 9,600.00	$ 9,600.00
9	Gravity Sewers (Laterals)	1	LS	$ 4,000.00	$ 4,000.00
10	Jack & Bore	1	LS	$ -	$ -
11	Electrical & Controls (20% of LS)	1	LS	$ 12,000.00	$ 12,000.00
12		1	LS	$ -	$ -
13		1	LS	$ -	$ -
Construction Subtotal					$ 228,600.00
Construction Contingency (10%)					$ 23,000.00
Construction Total					**$ 251,600.00**
	Future Expansion	**0.0**			**$ -**
	Immediate Customers	**6.0**			**$ 251,600.00**
					11/1/21 4:06 PM

LIFT STATION													FORCEMAIN				GRAVITY				JACK & BORE				SYSTEM COST	PROJECT COST
LS #	ZONE	CUSTOMERS	LOTS	GPM EACH	GPM TOTAL	TYPE	ELEV	COST (LS+CTL)	PUMPS TO	ELEV	WW DEPTH	ELEV DIFF	LENGTH-FT	SIZE (IN)	COST/FT	COST	LENGTH	SIZE (IN)	COST/FT	COST	LENGTH	CARRIER/ CASING (IN)	COST/FT	COST	PER STATION	PER STATION
																									$0	$0
CURRENT																									$0	$0
WOODS HILL (includes Grinder, Pressure Main, Gravity Lateral)	SE	6			30	GRINDER		$60,000				0	1,018	2.00	$35.00	$36,000	60	4	$65.00	$4,000					$100,000	$157,250
Pressure Lat from Grinder to Main		6											2,015	1.50	$30.00	$60,000									$60,000	$94,350
																										$0
																										$0
FUTURE																									$0	$0
																									$0	$0
																									$0	$0
																									$0	$0
TOTAL		**6**	**0**	**0**	**30**			**$60,000**								**$96,000**				**$4,000**				**$0**	**$160,000**	**$251,600**

Blackford Co. - Mohee Dr. Sewer Extension								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	10,296	$514,900	Estimated based on McCormick Creek Bust	Assume SDR pipe, 2" at intersection of Lakeside Dr. and W. Mohee Dr. Increases to 3"
3" Force Main, HDD	LF	$55		$55	16,324	$897,900	Estimated based on McCormick Creek Bust	Remaining run of FM to the existing WWTP.
2" Force Main, Open Cut	LF	$96		$96	100	$9,600	McCormick Creek Bust - Al Stong	
3" Force Main, Open Cut	LF	$100		$100	250	$25,000	Estimated based on McCormick Creek Bust	
Air Relief Valves	EA	$20,286		$20,286	8	$162,300	McCormick Creek Bust - Al Stong	Assumed every 2,000 along 3" FM
2"x2" Wye or Tee Connection	EA	$275		$275	22	$6,100	Estimated based on McCormick Creek Bust	
3"x2" Wye or Tee Connection	EA	$275		$275	30	$8,300	Estimated based on McCormick Creek Bust	
2" Lateral FM	LF	$50		$50	4,290	$214,500	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	1,040	$52,000		
2" Shutoff Valves	EA	$1,750		$1,750	52	$91,000	Estimated based on McCormick Creek Bust	
Creek Crossing	LS	$30,000		$30,000	2	$60,000	West Terre Haute Preliminary Design	
Grinder Pump Station	LS	$10,000		$10,000	52	$520,000	McCormick Creek Bust - Al Stong	Assumed every home would require a grinder pump station.
Duplex Lift Station	LS	$100,000		$100,000	1	$100,000	McCormick Creek Bust - Al Stong	Pool Lift Station is almost the same capacity needed for Mohee Dr. Lift Station
Septic Tank Removal	LS	$5,000		$5,000	52	$260,000	McCormick Creek Bust - Al Stong	Assumed every home uses a septic tank
HMA Paving	LF	$60		$60	39	$2,400	McCormick Creek Bust - Al Stong	Estimated for open cut areas and rough estimate ARV installations.
Granular Backfill	LF	$35		$35	390	$13,700	McCormick Creek Bust - Al Stong	Estimated for open cut areas and rough estimate ARV installations.
Seeding/Sodding	LF	$15		$15	351	$5,300	Lapel/Gaston Bid Tabs	Assumed length of the sewer line installation.
Erosion Control	LS	$10,000		$10,000	1	$10,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$93,000		
Mobilization / Demobilization (5%)						$147,900		
Subtotal						**$3,198,900**		
Bid Environment (10%)						$319,900		
Contingency (10%)						$351,900		
Construction Total						**$3,870,700**		

Blackford Co. - Northview WM Extension								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	6,205	$310,300	Estimated based on McCormick Creek Bust	Assume SDR pipe, 2" at intersection of Lakeside Dr. and W. Mohee Dr. Increases to 3"
3" Force Main, HDD	LF	$55		$55	4,333	$238,300	Estimated based on McCormick Creek Bust	Remaining run of FM to the existing WWTP.
3" Force Main, Open Cut	LF	$100		$100	150	$15,000	Estimated based on McCormick Creek Bust	
Air Relief Valves	EA	$20,286		$20,286	5	$101,500	McCormick Creek Bust - Al Stong	
3"x2" Wye or Tee Connection	EA	$275		$275	23	$6,400	McCormick Creek Bust - Al Stong	
2" Lateral FM	LF	$50		$50	1,898	$94,900	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	460	$23,000		
2" Shutoff Valves	EA	$1,750		$1,750	23	$40,300	Estimated based on McCormick Creek Bust	
Grinder Pump Station	LS	$10,000		$10,000	23	$230,000	McCormick Creek Bust - Al Stong	
Duplex Lift Station	LS	$100,000		$100,000	1	$100,000	McCormick Creek Bust - Al Stong	
Septic Tank Removal	LS	$5,000		$5,000	23	$115,000	McCormick Creek Bust - Al Stong	
HMA Paving	LF	$60		$60	18	$1,100	McCormick Creek Bust - Al Stong	
Granular Backfill	LF	$35		$35	175	$6,200	McCormick Creek Bust - Al Stong	
Seeding/Sodding	LF	$15		$15	158	$2,400	Lapel/Gaston Bid Tabs	Assumed length of the sewer line installation.
Erosion Control	LS	$5,000		$5,000	1	$5,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$50,000		
Mobilization / Demobilization (5%)						$64,800		
Subtotal						**$1,409,200**		
Bid Environment (10%)						$141,000		
Contingency (10%)						$155,100		
Construction Total						**$1,705,300**		

Blackford Co. - Westwood and SR 500 South								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	4,452	$222,600	Estimated based on McCormick Creek Bust	Assume SDR pipe, 2" at intersection of Lakeside Dr. and W. Mohee Dr. Increases to 3"
3" Force Main, HDD	LF	$55		$55	14,076	$774,200	Estimated based on McCormick Creek Bust	Remaining run of FM to the existing WWTP.
Air Relief Valves	EA	$20,286		$20,286	8	$162,300	McCormick Creek Bust - Al Stong	Assumed every 2,000 along 3" FM
2"x2" Wye or Tee Connection	EA	$275		$275	14	$3,900	Estimated based on McCormick Creek Bust	
3"x2" Wye or Tee Connection	EA	$275		$275	30	$8,300	Estimated based on McCormick Creek Bust	
2" Lateral FM	LF	$50		$50	7,981	$399,100	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	880	$44,000		
2" Shutoff Valves	EA	$1,750		$1,750	44	$77,000	Estimated based on McCormick Creek Bust	
Creek Crossing	LS	$30,000		$30,000	2	$60,000	West Terre Haute Preliminary Design	
Grinder Pump Station	LS	$10,000		$10,000	44	$440,000	McCormick Creek Bust - Al Stong	Assumed every home would require a grinder pump station.
Duplex Lift Station	LS	$100,000		$100,000	2	$200,000	McCormick Creek Bust - Al Stong	Pool Lift Station is almost the same capacity needed for Mohee Dr. Lift Station
Septic Tank Removal	LS	$5,000		$5,000	44	$220,000	McCormick Creek Bust - Al Stong	Assumed every home uses a septic tank
HMA Paving	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	Estimated for open cut areas and rough estimate ARV installations.
Granular Backfill	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	Estimated for open cut areas and rough estimate ARV installations.
Seeding/Sodding	LS	$2,000		$2,000	1	$2,000	Lapel/Gaston Bid Tabs	Assumed length of the sewer line installation.
Erosion Control	LS	$10,000		$10,000	1	$10,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$96,000		
Mobilization / Demobilization (5%)						$132,000		
Subtotal						**$2,866,400**		
Bid Environment (10%)						$286,700		
Contingency (10%)						$315,400		
Construction Total						**$3,468,500**		

Blackford Co. - E 100 S and Trenton								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	4,704	$235,300	Estimated based on McCormick Creek Bust	
3" Force Main, HDD	LF	$55		$55	36,010	$1,980,600	Estimated based on McCormick Creek Bust	
Air Relief Valves	EA	$20,286		$20,286	19	$385,500	McCormick Creek Bust - Al Stong	
2"x2" Wye or Tee Connection	EA	$275		$275	11	$3,100	Estimated based on McCormick Creek Bust	
3"x2" Wye or Tee Connection	EA	$275		$275	39	$10,800	Estimated based on McCormick Creek Bust	
2" Lateral FM	LF	$50		$50	10,256	$512,900	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	1,000	$50,000		
2" Shutoff Valves	EA	$1,750		$1,750	50	$87,500	Estimated based on McCormick Creek Bust	
Creek Crossing	LS	$30,000		$30,000	5	$150,000	West Terre Haute Preliminary Design	
Grinder Pump Station	LS	$10,000		$10,000	50	$500,000	McCormick Creek Bust - Al Stong	
Primary Lift Station	LS	$120,000		$120,000	1	$120,000	McCormick Creek Bust - Al Stong	
Secondary Lift Station	LS	$100,000		$100,000	1	$100,000	McCormick Creek Bust - Al Stong	
Septic Tank Removal	LS	$5,000		$5,000	50	$250,000	McCormick Creek Bust - Al Stong	
HMA Paving	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Granular Backfill	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Seeding/Sodding	LS	$2,000		$2,000	1	$2,000	Lapel/Gaston Bid Tabs	
Erosion Control	LS	$10,000		$10,000	1	$10,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$108,000		
Mobilization / Demobilization (5%)						$220,700		
Subtotal						**$4,741,400**		
Bid Environment (10%)						$474,200		
Contingency (10%)						$521,600		
Construction Total						**$5,737,200**		

Blackford Co. - CR 1200 E to Shamrock								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	5,951	$297,600	Estimated based on McCormick Creek Bust	
3" Force Main, HDD	LF	$55		$55	26,078	$1,434,300	Estimated based on McCormick Creek Bust	
Air Relief Valves	EA	$20,286		$20,286	14	$284,100	McCormick Creek Bust - Al Stong	
2"x2" Wye or Tee Connection	EA	$275		$275	12	$3,300	Estimated based on McCormick Creek Bust	
3"x2" Wye or Tee Connection	EA	$275		$275	29	$8,000	Estimated based on McCormick Creek Bust	
2" Lateral FM	LF	$50		$50	11,270	$563,500	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	820	$41,000		
2" Shutoff Valves	EA	$1,750		$1,750	41	$71,800	Estimated based on McCormick Creek Bust	
Creek Crossing	LS	$30,000		$30,000	1	$30,000	West Terre Haute Preliminary Design	
Grinder Pump Station	LS	$10,000		$10,000	41	$410,000	McCormick Creek Bust - Al Stong	
Duplex Lift Station	LS	$100,000		$100,000	2	$200,000	McCormick Creek Bust - Al Stong	
Septic Tank Removal	LS	$5,000		$5,000	41	$205,000	McCormick Creek Bust - Al Stong	
HMA Paving	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Granular Backfill	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Seeding/Sodding	LS	$2,000		$2,000	1	$2,000	Lapel/Gaston Bid Tabs	
Erosion Control	LS	$10,000		$10,000	1	$10,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$92,000		
Mobilization / Demobilization (5%)						$178,800		
Subtotal						**$3,846,400**		
Bid Environment (10%)						$384,700		
Contingency (10%)						$423,200		
Construction Total						**$4,654,300**		

Blackford Co. - CR 1200 E to Shamrock								
Description	**Unit**	**Material Price**	**Installation Price**	**Total Unit Price**	**Quantity**	**Total Price**	**Sources**	**Comments**
2" Force Main, HDD	LF	$50		$50	3,476	$173,800	Estimated based on McCormick Creek Bust	
3" Force Main, HDD	LF	$55		$55	5,521	$303,700	Estimated based on McCormick Creek Bust	
Air Relief Valves	EA	$20,286		$20,286	3	$60,900	McCormick Creek Bust - Al Stong	
2"x2" Wye or Tee Connection	EA	$275		$275	19	$5,300	Estimated based on McCormick Creek Bust	
3"x2" Wye or Tee Connection	EA	$275		$275	5	$1,400	Estimated based on McCormick Creek Bust	
2" Lateral FM	LF	$50		$50	2,846	$142,300	McCormick Creek Bust - Al Stong	
4" Gravity Lateral	LF	$50		$50	480	$24,000		
2" Shutoff Valves	EA	$1,750		$1,750	24	$42,000	Estimated based on McCormick Creek Bust	
Grinder Pump Station	LS	$10,000		$10,000	24	$240,000	McCormick Creek Bust - Al Stong	
Duplex Lift Station	LS	$100,000		$100,000	1	$100,000	McCormick Creek Bust - Al Stong	
Septic Tank Removal	LS	$5,000		$5,000	24	$120,000	McCormick Creek Bust - Al Stong	
HMA Paving	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Granular Backfill	LS	$5,000		$5,000	1	$5,000	McCormick Creek Bust - Al Stong	
Seeding/Sodding	LS	$2,000		$2,000	1	$2,000	Lapel/Gaston Bid Tabs	
Erosion Control	LS	$10,000		$10,000	1	$10,000		
Traffic Control	LS	$5,000		$5,000	1	$5,000		
Electrical (15%)						$36,000		
Mobilization / Demobilization (5%)						$62,100		
Subtotal						**$1,338,500**		
Bid Environment (10%)						$133,900		
Contingency (10%)						$147,300		
Construction Total						**$1,619,700**		

Equation Used	Interest	Value
Uniform Series Compound Amount	0.40%	19.57085
Single Payment Present Worth	0.40%	0.923264

Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Mohee Area Collection System
Cost Summary		
a. Estimated Construction Cost	1	$3,870,700
b. Estimated Non-Construction Cost	0.25*A	$968,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$4,838,700
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$8,492,577
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Alternative #2 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$1,705,300
b. Estimated Non-Construction Cost	0.25*A	$426,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$2,131,300
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$5,785,177
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Alternative #3 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$3,468,500
b. Estimated Non-Construction Cost	0.25*A	$867,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$4,335,500
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$7,989,377
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Alternative #4 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$5,737,200
b. Estimated Non-Construction Cost	0.25*A	$1,434,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$7,171,200
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$10,825,077
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Alternative #5 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$4,654,300
b. Estimated Non-Construction Cost	0.25*A	$1,164,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$5,818,300
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$9,472,177
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

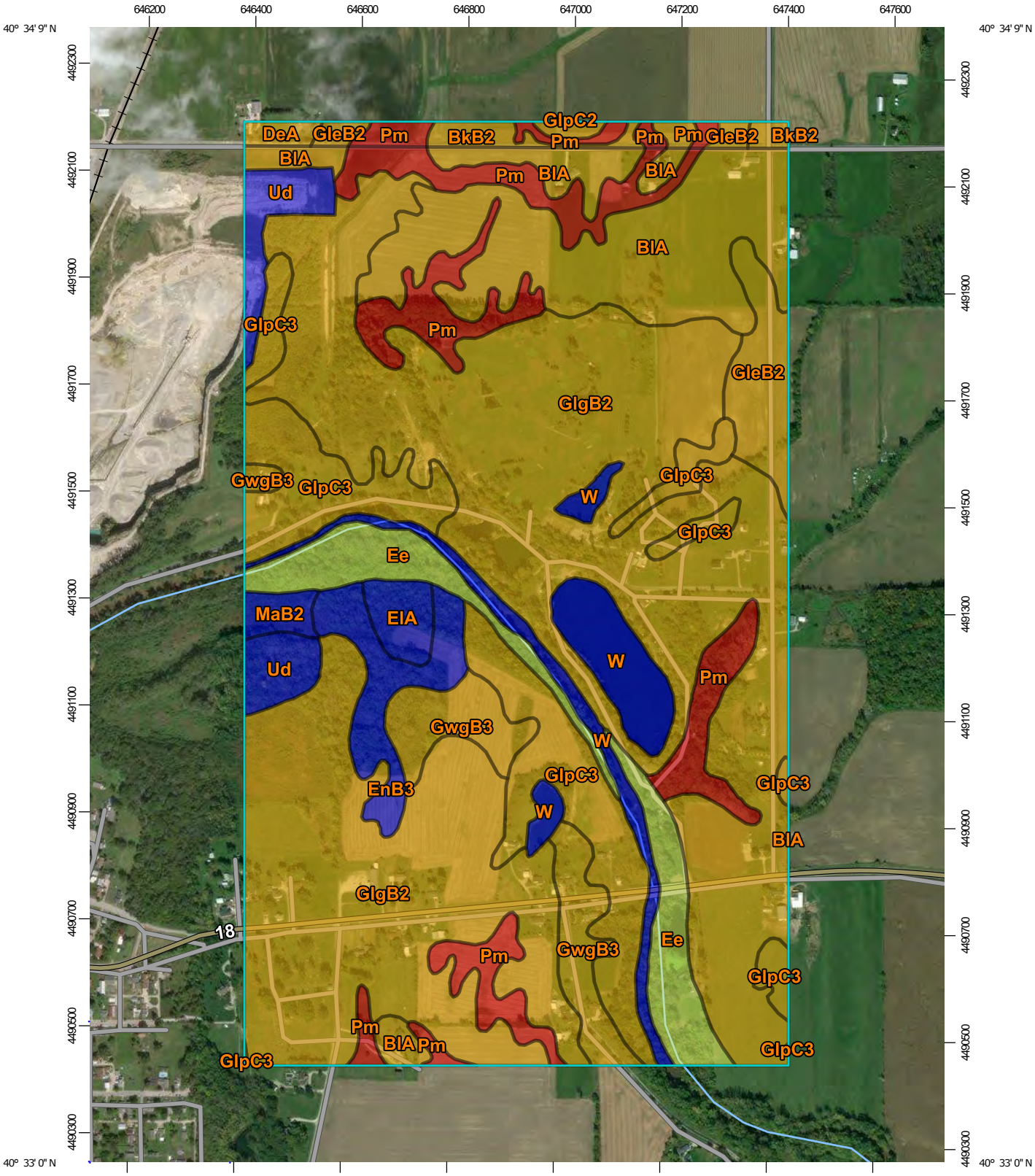
Life Cycle Analysis for Alternates

O&M&R scaling factor	19.57084742
Salvage scaling factor	0.923263664

Item	Factor	Alternative #6 New Sewer Collection System
Cost Summary		
a. Estimated Construction Cost	1	$1,619,700
b. Estimated Non-Construction Cost	0.25*A	$405,000
c. Estimated Annual O&M&R	1	$186,700
d. Estimated Salvage Value	1	$0
Present Worth of Capital Costs (20 year at 0.4%)		
e. Capital Cost	A + B	$2,024,700
f. Present Worth of Annual O&M&R (Factor 19.57)	19.57*C	$3,653,877
g. Present Worth of Salvage (Factor 0.923)	0.923*D	$0
h. Total Present Worth (TPW = e + f - g)	E + F - G	$5,678,577
Percent Higher than Present Worth Least Cost Alternative		**Least Cost**

Appendix C
Planning Area Maps

Depth to Water Table—Blackford County, Indiana, and Wells County, Indiana
(Lake Blue Water)



Map Scale: 1:10,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

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 Rating Polygons

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Lines

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

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 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

Soil Survey Area: Wells County, Indiana
Survey Area Data: Version 24, Jun 11, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	38	49.7	11.1%
Ee	Eel clay loam, frequently flooded	61	21.2	4.7%
ElA	Eldean silt loam, 0 to 2 percent slopes	>200	4.2	0.9%
EnB3	Eldean clay loam, 2 to 6 percent slopes, severely eroded	>200	11.3	2.5%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	46	9.6	2.1%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	46	214.1	47.9%
GlpC3	Glynwood clay loam, 6 to 12 percent slopes, severely eroded	46	44.8	10.0%
GwgB3	Glynwood-Mississinewa clay loams, ground moraine, 3 to 8 percent slopes, severely eroded	46	17.0	3.8%
MaB2	Martinsville loam, 2 to 6 percent slopes, eroded	>200	2.6	0.6%
Pm	Pewamo silty clay, 0 to 2 percent slopes	15	31.2	7.0%
Ud	Udorthents, loamy	>200	10.3	2.3%
W	Water	>200	19.3	4.3%
Subtotals for Soil Survey Area			**435.2**	**97.3%**
Totals for Area of Interest			**447.4**	**100.0%**

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
BkB2	Blount-Del Rey silt loams, 1 to 4 percent slopes, eroded	38	4.5	1.0%
DeA	Del Rey-Blount silt loams, 0 to 1 percent slopes	38	1.6	0.3%

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	46	1.7	0.4%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	46	0.9	0.2%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	15	3.6	0.8%
Subtotals for Soil Survey Area			**12.2**	**2.7%**
Totals for Area of Interest			**447.4**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

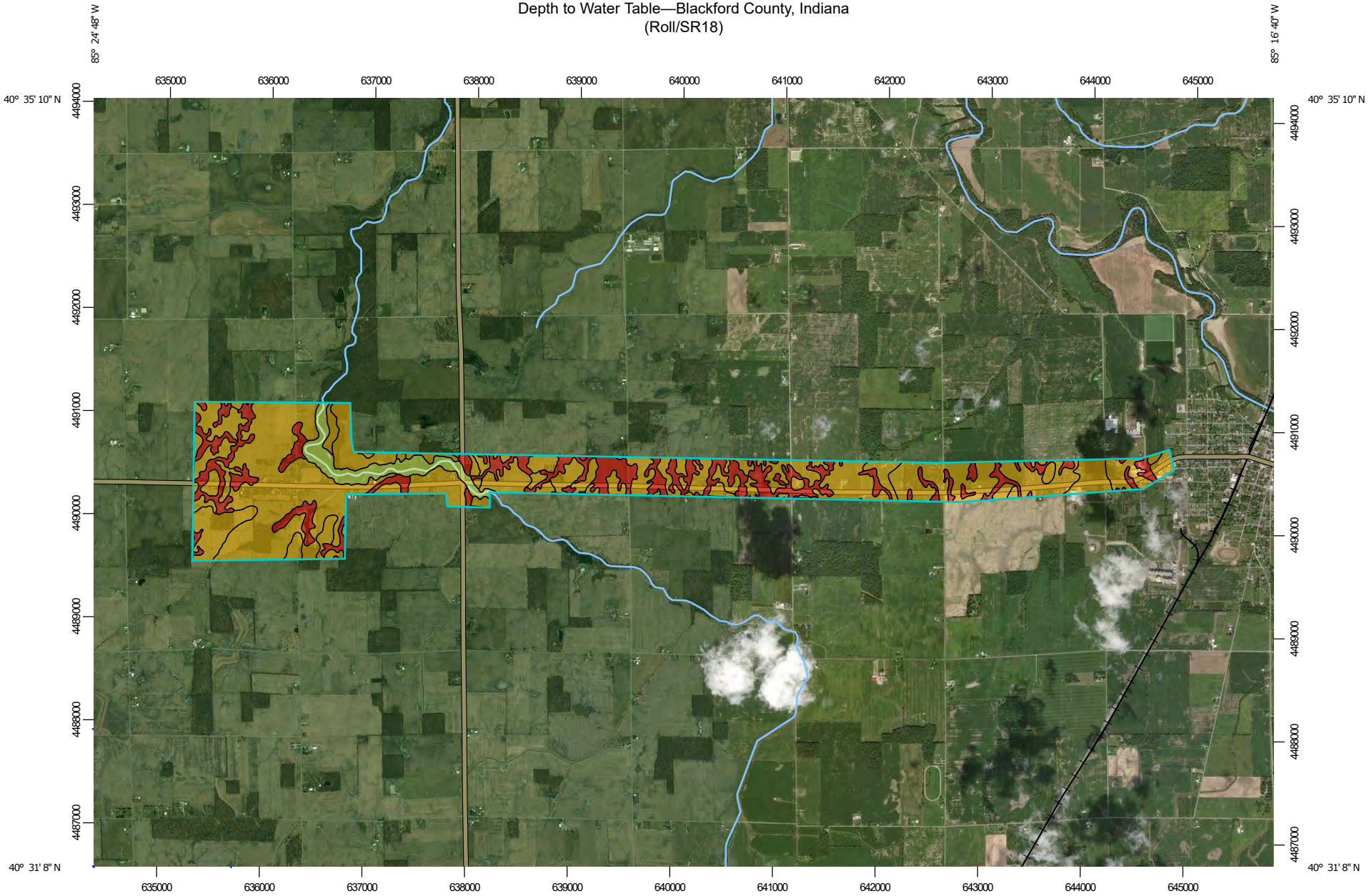
Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Depth to Water Table—Blackford County, Indiana
(Roll/SR18)



Map Scale: 1:52,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 2500 5000 10000 15000

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 Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

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 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	38	440.4	33.6%
Bo	Bono silty clay	7	0.7	0.0%
Ee	Eel clay loam, frequently flooded	61	76.5	5.8%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	46	496.6	37.9%
Pm	Pewamo silty clay, 0 to 2 percent slopes	15	286.8	21.9%
Wh	Whitaker silt loam	30	9.1	0.7%
Totals for Area of Interest			**1,310.1**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Depth to Water Table—Blackford County, Indiana
(Woodcrest)

Map Scale: 1:6,910 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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 Rating Polygons

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Lines

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Oct 1, 2011—Apr 1, 2017

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.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Bo	Bono silty clay	7	29.8	15.1%
ElA	Eldean silt loam, 0 to 2 percent slopes	>200	0.5	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	46	58.9	29.9%
GlyC3	Glynwood-Mississinewa clay loams, 6 to 12 percent slopes, severely eroded	46	58.2	29.5%
GweB3	Glynwood-Mississinewa clay loams, end moraine, 3 to 8 percent slopes, severely eroded	46	13.7	6.9%
Ho	Houghton muck, drained	0	4.3	2.2%
MoD3	Morley clay loam, 12 to 18 percent slopes, severely eroded	76	0.8	0.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	15	17.7	9.0%
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	7	8.2	4.2%
Ud	Udorthents, loamy	>200	0.0	0.0%
W	Water	>200	2.2	1.1%
Wh	Whitaker silt loam	30	2.7	1.4%
Totals for Area of Interest			**197.1**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

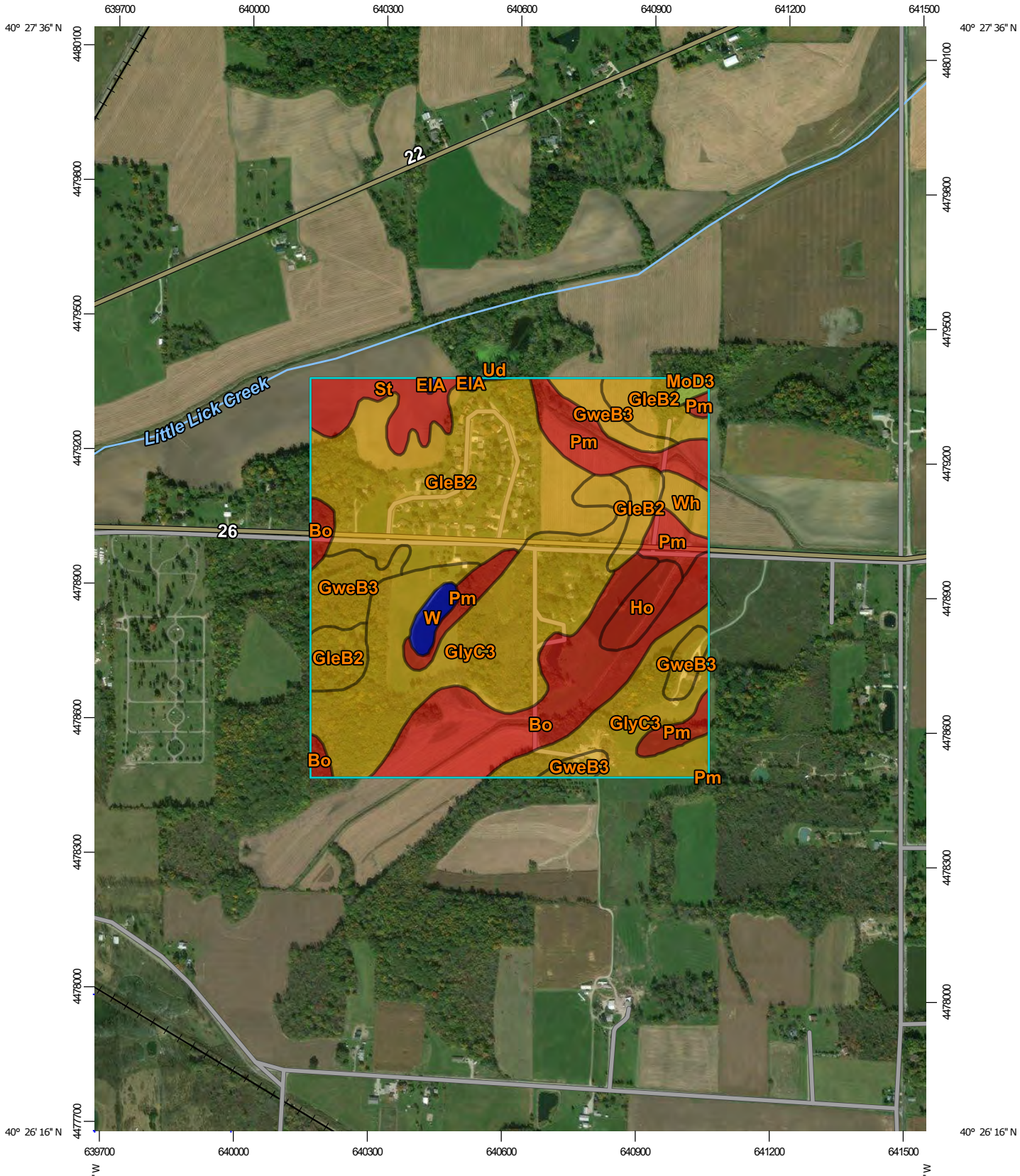
Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Depth to Water Table—Blackford County, Indiana
(Woodcrest)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

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 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Oct 1, 2011—Apr 1, 2017

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.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Bo	Bono silty clay	7	29.8	15.1%
ElA	Eldean silt loam, 0 to 2 percent slopes	>200	0.5	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	46	58.9	29.9%
GlyC3	Glynwood-Mississinewa clay loams, 6 to 12 percent slopes, severely eroded	46	58.2	29.5%
GweB3	Glynwood-Mississinewa clay loams, end moraine, 3 to 8 percent slopes, severely eroded	46	13.7	6.9%
Ho	Houghton muck, drained	0	4.3	2.2%
MoD3	Morley clay loam, 12 to 18 percent slopes, severely eroded	76	0.8	0.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	15	17.7	9.0%
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	7	8.2	4.2%
Ud	Udorthents, loamy	>200	0.0	0.0%
W	Water	>200	2.2	1.1%
Wh	Whitaker silt loam	30	2.7	1.4%
Totals for Area of Interest			**197.1**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Indiana County Endangered, Threatened and Rare Species List

County: Blackford

Species Name	Common Name	FED	STATE	GRANK	SRANK
Reptile					
Clonophis kirtlandii	Kirtland's Snake		SE	G2	S2
Bird					
Nyctanassa violacea	Yellow-crowned Night-heron		SE	G5	S2B
Mammal					
Mustela nivalis	Least Weasel		SSC	G5	S2?
Myotis sodalis	Indiana Bat	LE	SE	G2	S1
Vascular Plant					
Dactylorhiza viridis	long-bract green orchid		SE	G5	S1
Platanthera psycodes	small purple-fringe orchid		ST	G5	S3
High Quality Natural Community					
Forest - flatwoods central till plain	Central Till Plain Flatwoods		SG	G3	S2
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Wetland - marsh	Marsh		SG	GU	S4

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list

GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long-term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank

SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long-term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Lake Blue Water

January 11, 2021

1:8,000

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard

Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB), Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data Portal
Federal Emergency Management Agency (FEMA), Indiana Department of Natural Resources (IDNR)

Roll/SR18

January 11, 2021

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard

1:64,000

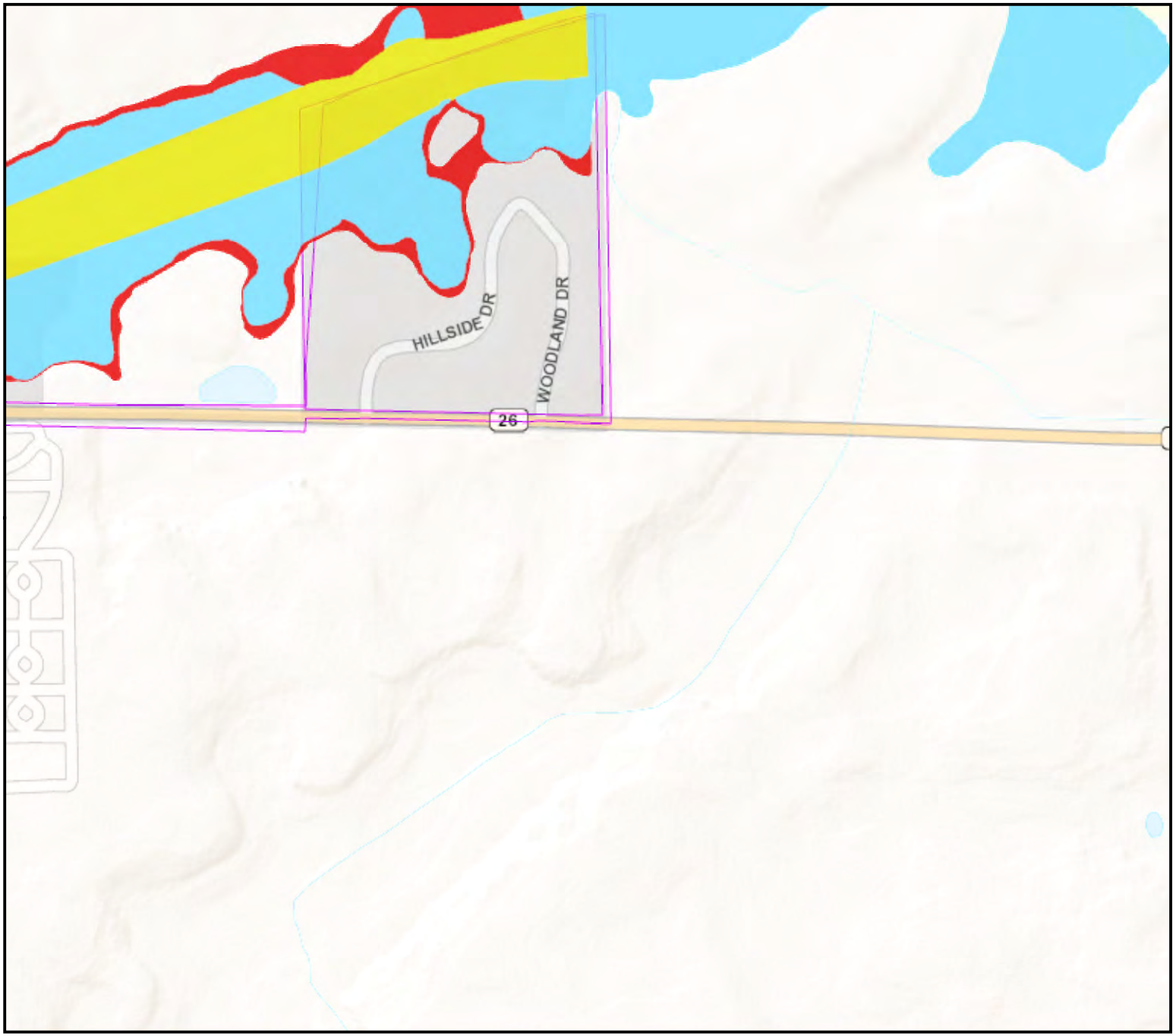
0 0.5 1 2 mi

0 0.75 1.5 3 km

Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB), Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data

Woodcrest

Date: 1/12/2021



Legend

Floodplains - FIRM (Mar 2020)

- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by
- 0.2% Annual Chance Flood Hazard
- Misc. Govt. Boundaries (IGIO, 2018

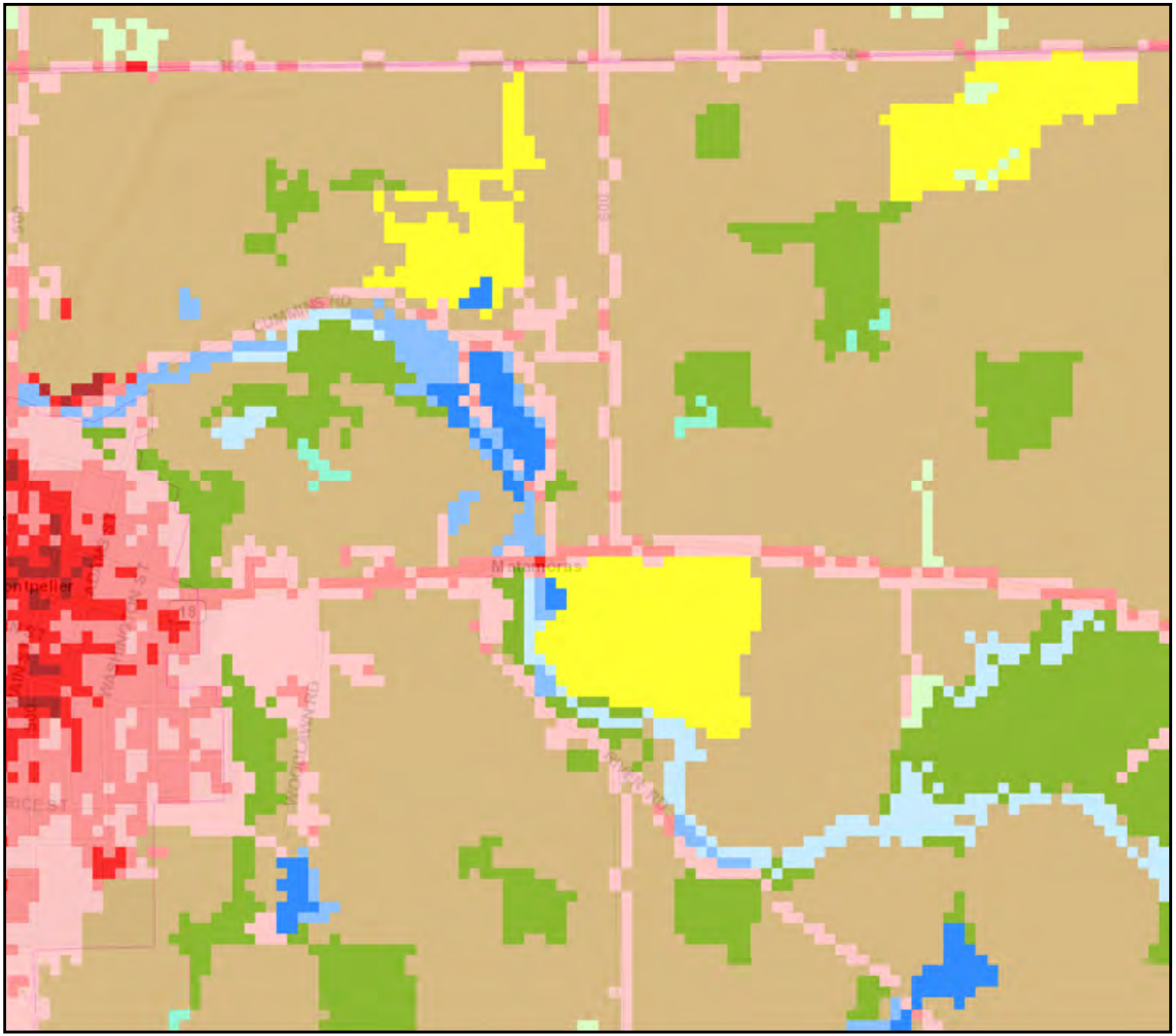
Author:

0 0.25 mi

IndianaMAP

Lake Blue Water Land Use Map

Date: 1/11/2021



Legend

Land Cover 2011 (USGS)

- 11 - Open Water
- 21 - Developed, Open Space
- 22 - Developed, Low Intensity
- 23 - Developed, Medium Intensity
- 24 - Developed, High Intensity
- 31 - Barren Land
- 41 - Deciduous Forest
- 42 - Evergreen Forest
- 43 - Mixed Forest
- 52 - Shrub/Scrub
- 71 - Grasslands/Herbaceous
- 81 - Pasture/Hay
- 82 - Cultivated Crops
- 90 - Woody Wetlands
- 95 - Emergent Herbaceous Wetland
- Misc. Govt. Boundaries (IGIO, 2018

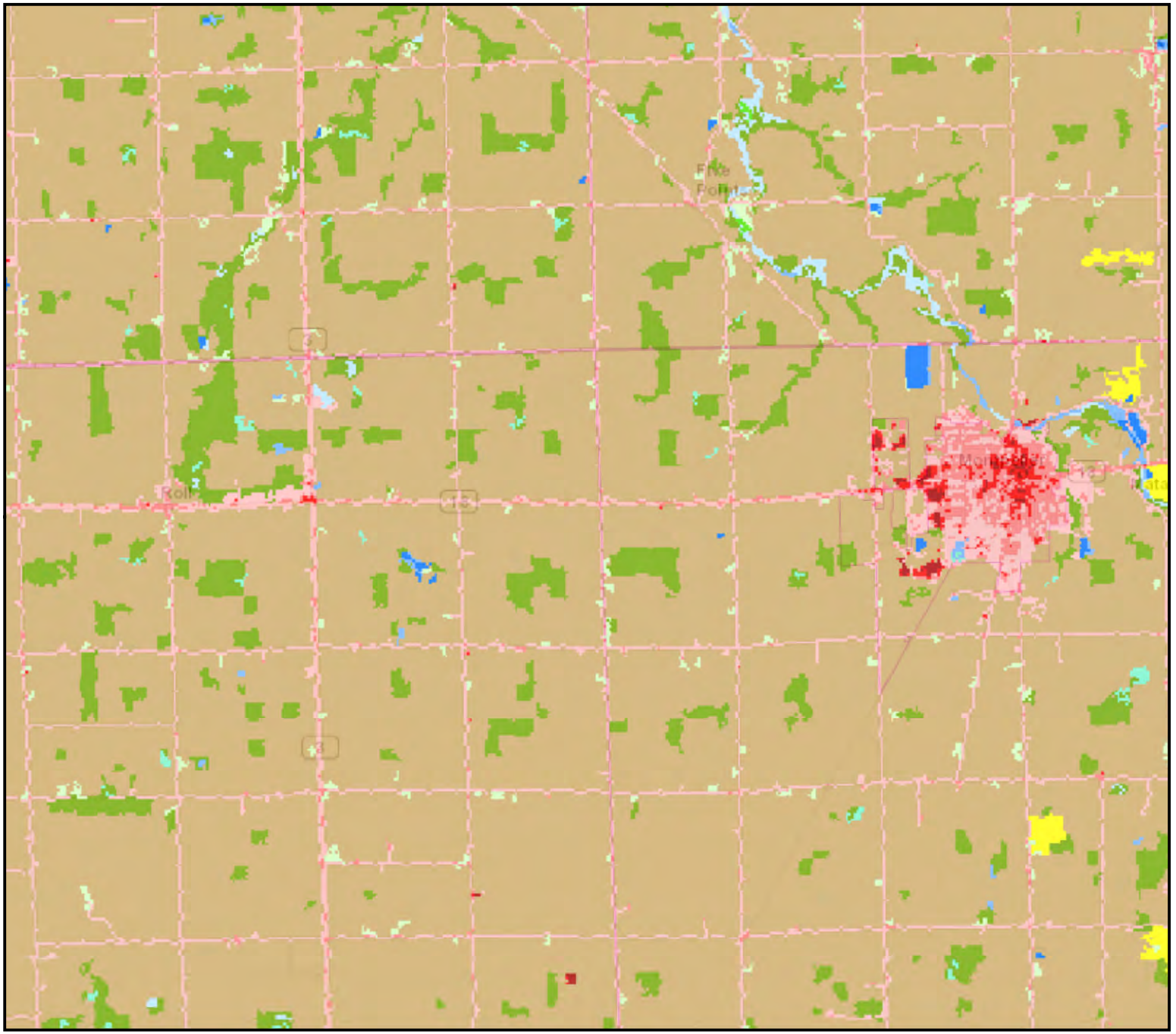
Author:

0 0.5 mi

IndianaMAP

Roll/SR18 Land Use Map

Date: 1/11/2021



Legend

Land Cover 2011 (USGS)

- 11 - Open Water
- 21 - Developed, Open Space
- 22 - Developed, Low Intensity
- 23 - Developed, Medium Intensity
- 24 - Developed, High Intensity
- 31 - Barren Land
- 41 - Deciduous Forest
- 42 - Evergreen Forest
- 43 - Mixed Forest
- 52 - Shrub/Scrub
- 71 - Grasslands/Herbaceous
- 81 - Pasture/Hay
- 82 - Cultivated Crops
- 90 - Woody Wetlands
- 95 - Emergent Herbaceous Wetland
- Misc. Govt. Boundaries (IGIO, 2018

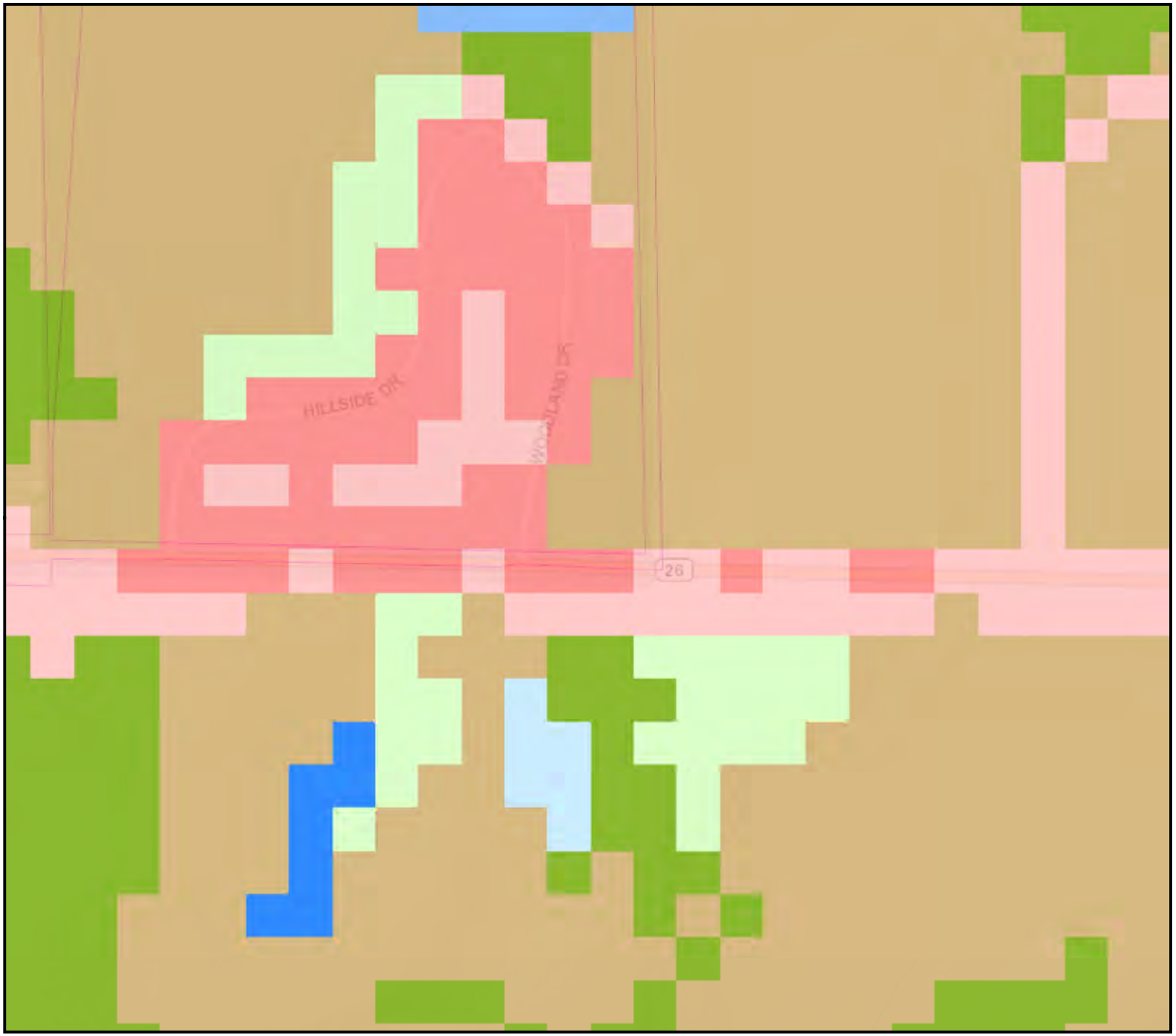
Author:

0 2 mi

IndianaMAP

Woodcrest Land Use Map

Date: 1/11/2021



Legend

Land Cover 2011 (USGS)

- 11 - Open Water
- 21 - Developed, Open Space
- 22 - Developed, Low Intensity
- 23 - Developed, Medium Intensity
- 24 - Developed, High Intensity
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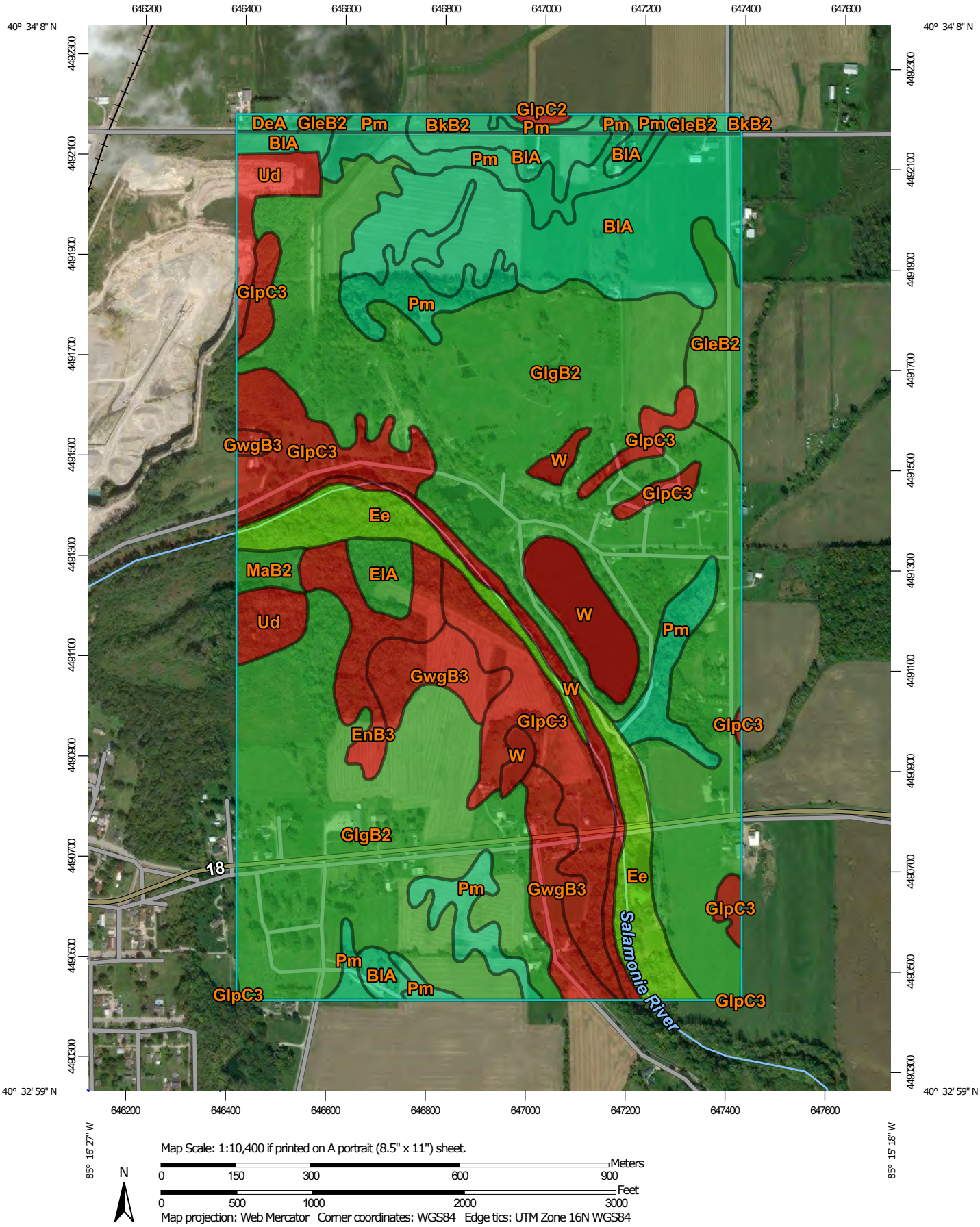
- 42 - Evergreen Forest
- 43 - Mixed Forest
- 52 - Shrub/Scrub
- 71 - Grasslands/Herbaceous
- 81 - Pasture/Hay
- 82 - Cultivated Crops
- 90 - Woody Wetlands
- 95 - Emergent Herbaceous Wetland
- Misc. Govt. Boundaries (IGIO, 2018

Author:

0 0.1 mi

IndianaMAP



Map Scale: 1:10,400 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

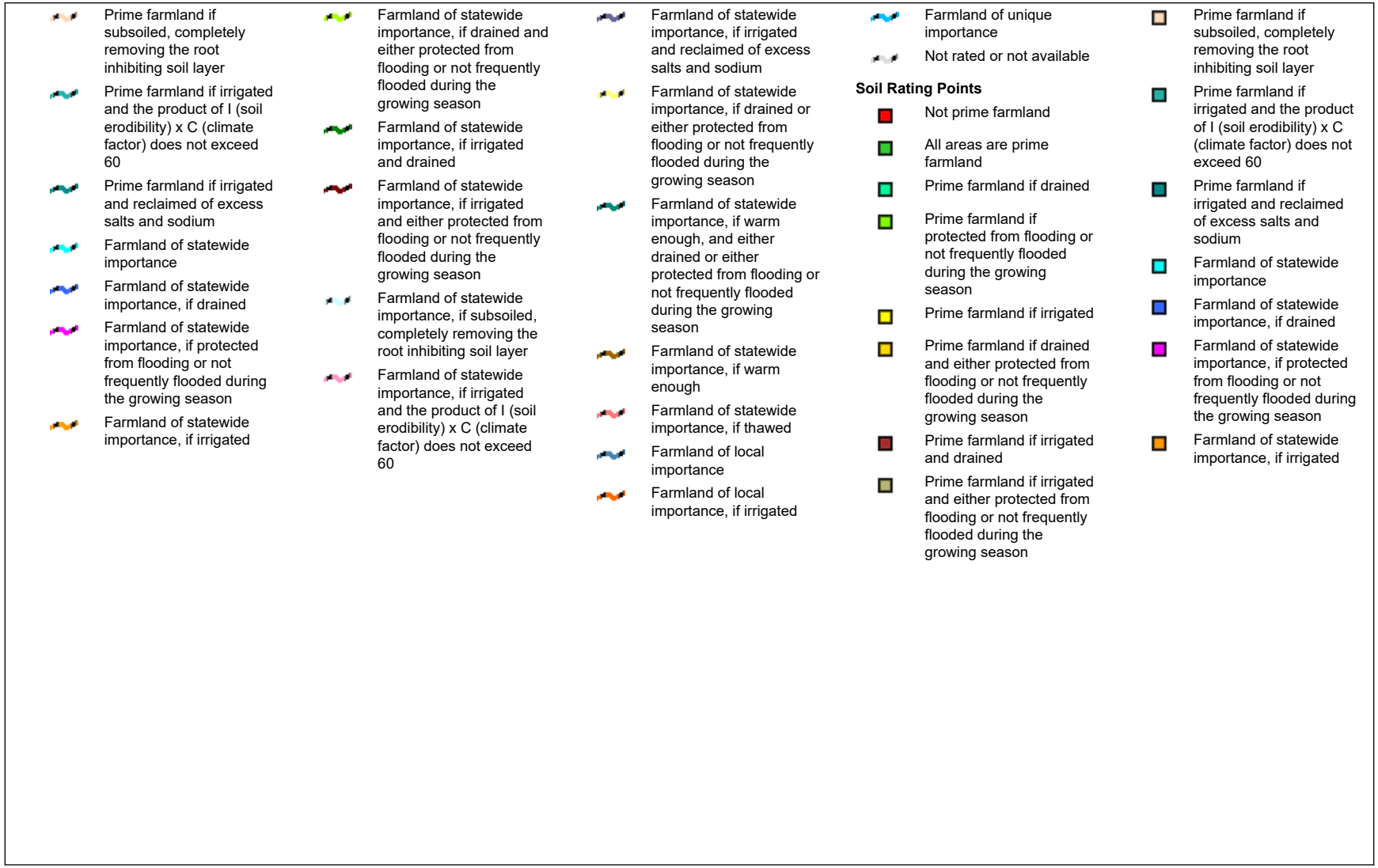
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

Soil Survey Area: Wells County, Indiana
Survey Area Data: Version 24, Jun 11, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	Prime farmland if drained	49.2	11.1%
Ee	Eel clay loam, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season	21.6	4.9%
ElA	Eldean silt loam, 0 to 2 percent slopes	All areas are prime farmland	4.2	0.9%
EnB3	Eldean clay loam, 2 to 6 percent slopes, severely eroded	Not prime farmland	11.3	2.6%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	8.7	2.0%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	213.5	48.2%
GlpC3	Glynwood clay loam, 6 to 12 percent slopes, severely eroded	Not prime farmland	44.2	10.0%
GwgB3	Glynwood-Mississinewa clay loams, ground moraine, 3 to 8 percent slopes, severely eroded	Not prime farmland	17.3	3.9%
MaB2	Martinsville loam, 2 to 6 percent slopes, eroded	All areas are prime farmland	2.6	0.6%
Pm	Pewamo silty clay, 0 to 2 percent slopes	Prime farmland if drained	31.9	7.2%
Ud	Udorthents, loamy	Not prime farmland	10.1	2.3%
W	Water	Not prime farmland	19.4	4.4%
Subtotals for Soil Survey Area			**433.9**	**97.9%**
Totals for Area of Interest			**443.3**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BkB2	Blount-Del Rey silt loams, 1 to 4 percent slopes, eroded	Prime farmland if drained	3.5	0.8%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DeA	Del Rey-Blount silt loams, 0 to 1 percent slopes	Prime farmland if drained	1.1	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	1.3	0.3%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	Not prime farmland	0.5	0.1%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	Prime farmland if drained	2.9	0.6%
Subtotals for Soil Survey Area			**9.4**	**2.1%**
Totals for Area of Interest			**443.3**	**100.0%**

Description

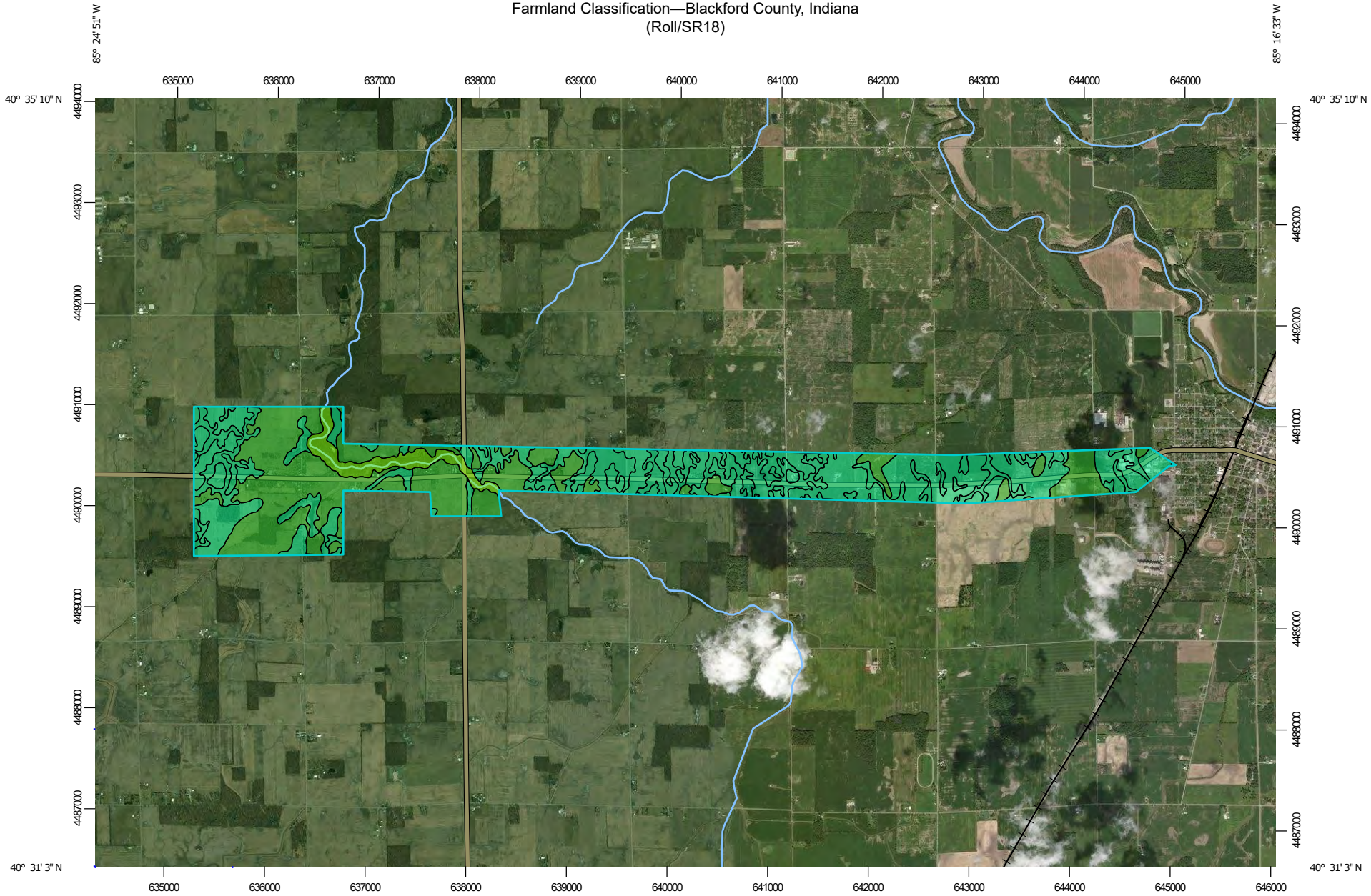
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Blackford County, Indiana
(Roll/SR18)



Map Scale: 1:53,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 2500 5000 10000 15000

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 Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	Prime farmland if drained	531.9	35.5%
Bo	Bono silty clay	Prime farmland if drained	1.0	0.1%
Ee	Eel clay loam, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season	76.0	5.1%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	546.8	36.5%
Pm	Pewamo silty clay, 0 to 2 percent slopes	Prime farmland if drained	335.2	22.4%
Wh	Whitaker silt loam	Prime farmland if drained	8.2	0.5%
Totals for Area of Interest			**1,498.9**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Blackford County, Indiana
(Woodcrest)

Map Scale: 1:6,910 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

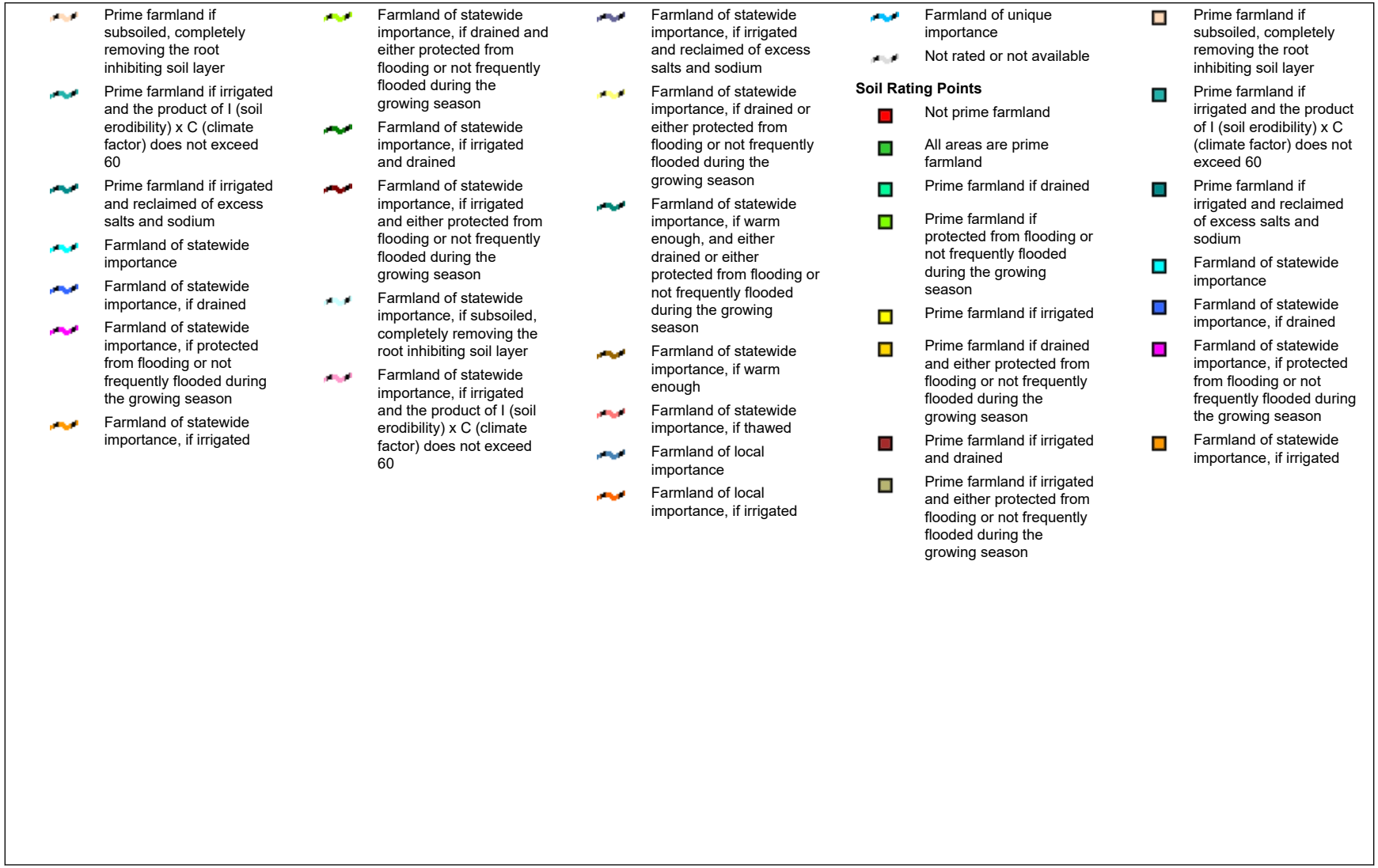
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Oct 1, 2011—Apr 1, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bo	Bono silty clay	Prime farmland if drained	29.8	15.1%
ElA	Eldean silt loam, 0 to 2 percent slopes	All areas are prime farmland	0.5	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	58.9	29.9%
GlyC3	Glynwood-Mississinewa clay loams, 6 to 12 percent slopes, severely eroded	Not prime farmland	58.2	29.5%
GweB3	Glynwood-Mississinewa clay loams, end moraine, 3 to 8 percent slopes, severely eroded	Not prime farmland	13.7	6.9%
Ho	Houghton muck, drained	Farmland of statewide importance	4.3	2.2%
MoD3	Morley clay loam, 12 to 18 percent slopes, severely eroded	Not prime farmland	0.8	0.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	Prime farmland if drained	17.7	9.0%
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	8.2	4.2%
Ud	Udorthents, loamy	Not prime farmland	0.0	0.0%
W	Water	Not prime farmland	2.2	1.1%
Wh	Whitaker silt loam	Prime farmland if drained	2.7	1.4%
Totals for Area of Interest			**197.1**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Blackford County, Indiana
(Woodcrest)

Map Scale: 1:12,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

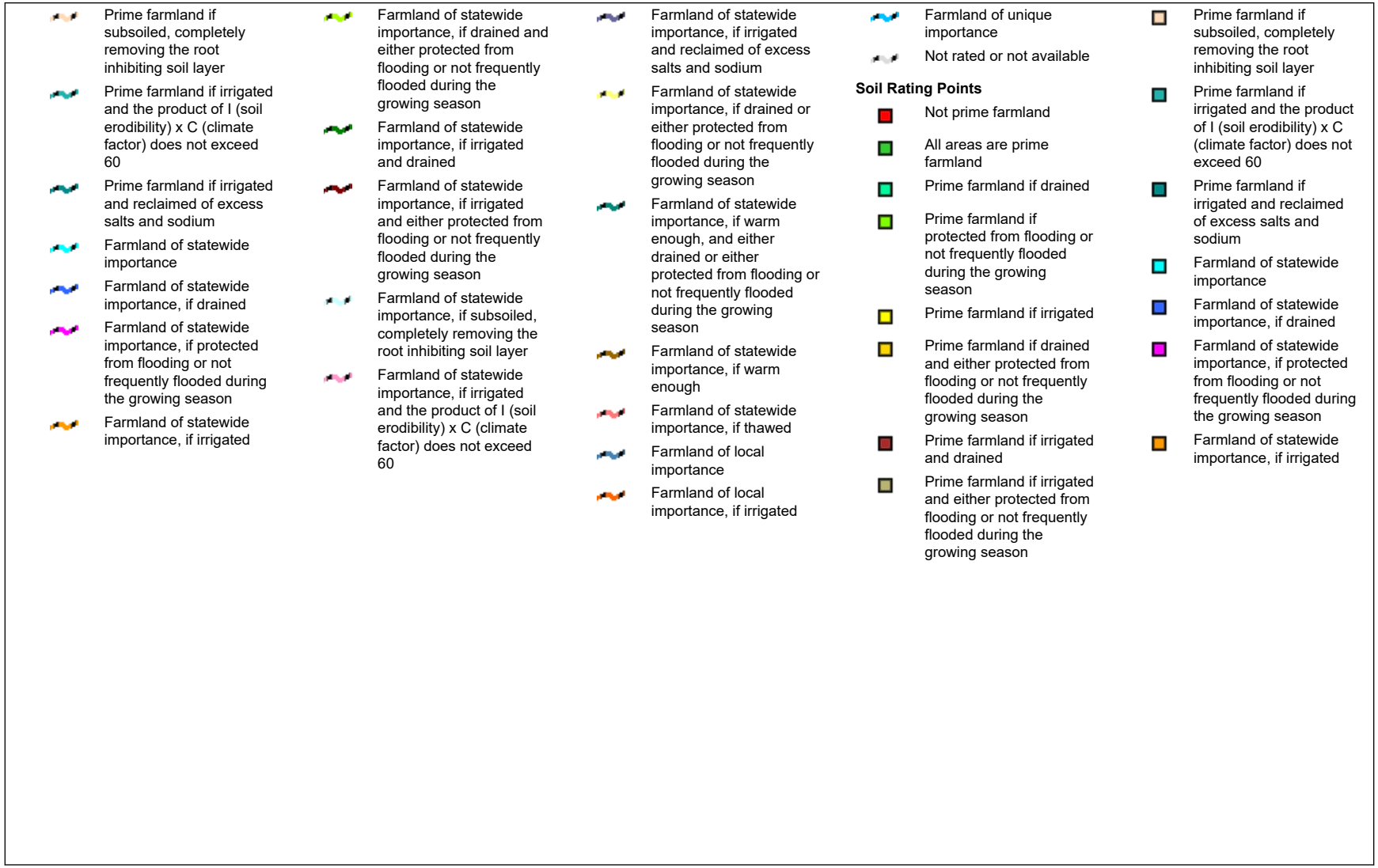
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Oct 1, 2011—Apr 1, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bo	Bono silty clay	Prime farmland if drained	29.8	15.1%
ElA	Eldean silt loam, 0 to 2 percent slopes	All areas are prime farmland	0.5	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	All areas are prime farmland	58.9	29.9%
GlyC3	Glynwood-Mississinewa clay loams, 6 to 12 percent slopes, severely eroded	Not prime farmland	58.2	29.5%
GweB3	Glynwood-Mississinewa clay loams, end moraine, 3 to 8 percent slopes, severely eroded	Not prime farmland	13.7	6.9%
Ho	Houghton muck, drained	Farmland of statewide importance	4.3	2.2%
MoD3	Morley clay loam, 12 to 18 percent slopes, severely eroded	Not prime farmland	0.8	0.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	Prime farmland if drained	17.7	9.0%
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	8.2	4.2%
Ud	Udorthents, loamy	Not prime farmland	0.0	0.0%
W	Water	Not prime farmland	2.2	1.1%
Wh	Whitaker silt loam	Prime farmland if drained	2.7	1.4%
Totals for Area of Interest			**197.1**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Historic Buildings, Bridges, and Cemeteries Map

1/12/2021, 9:17:07 AM

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Cemeteries

County Survey Sites

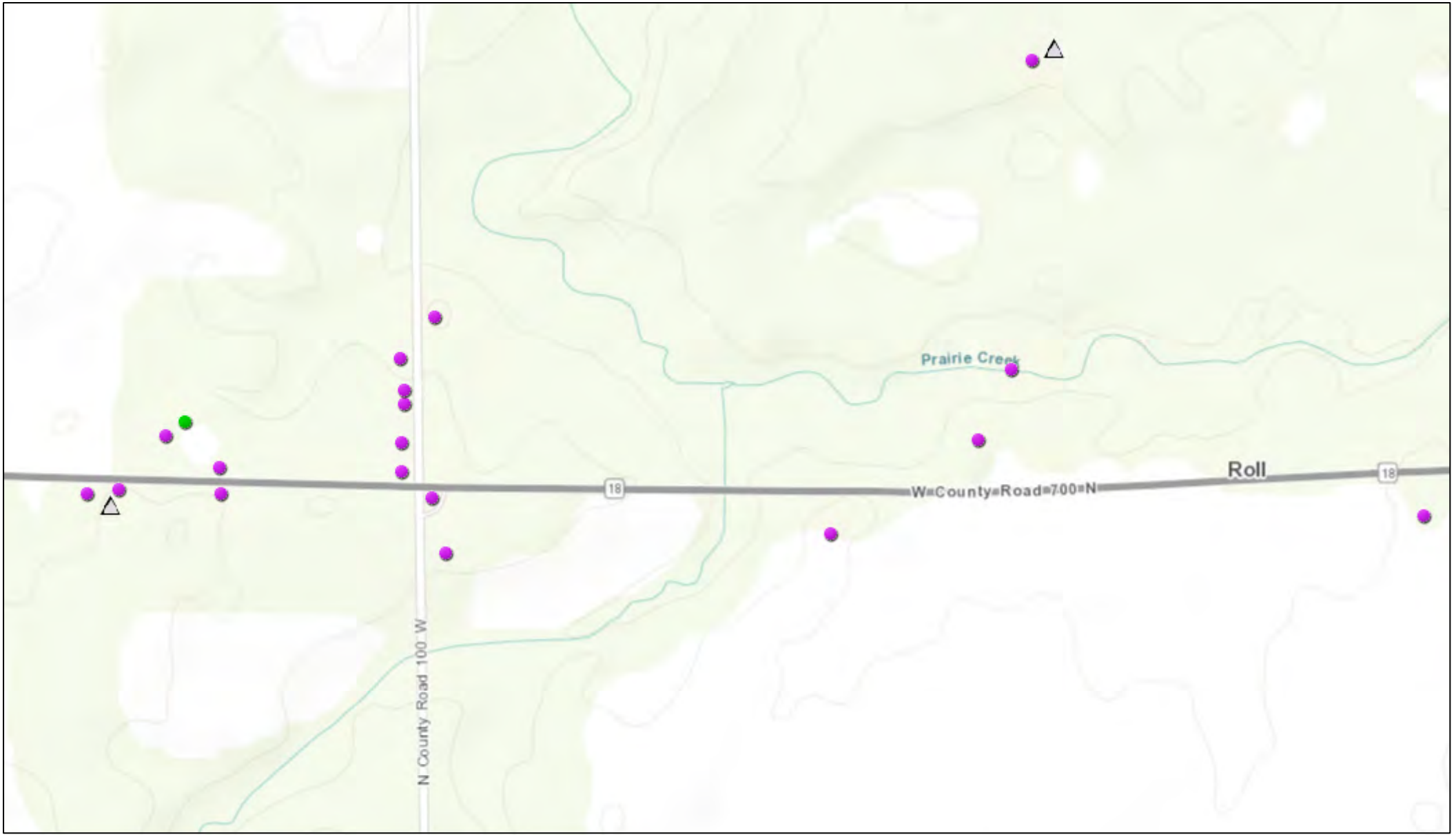
Contributing

Historic Bridges

Contributing

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Historic Buildings, Bridges, and Cemeteries Map



1/12/2021, 9:24:29 AM

△ Cemeteries ● Contributing

County Survey Sites

● Notable

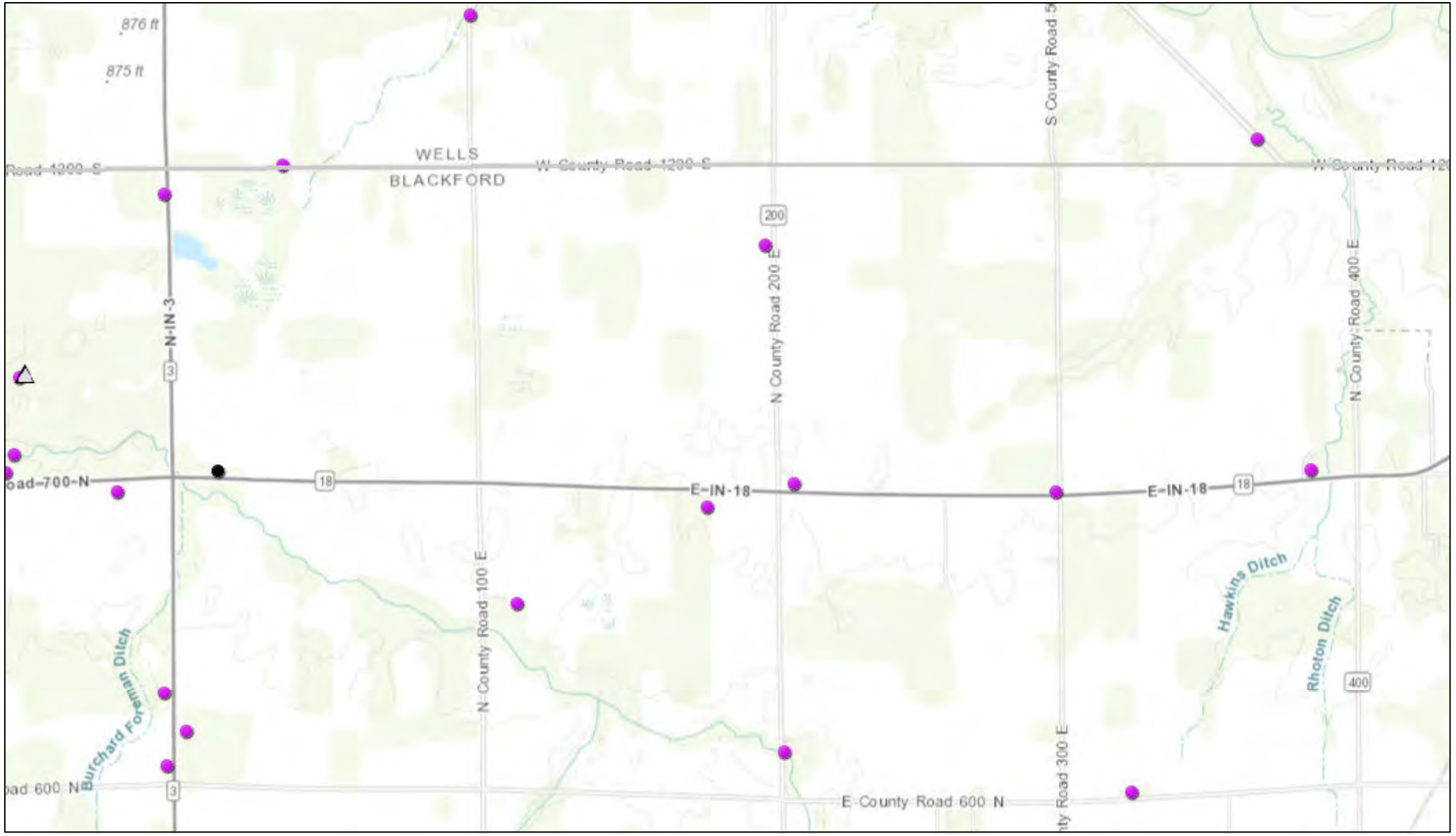
1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Indiana DNR DHPA

Historic Buildings, Bridges, and Cemeteries Map



1/12/2021, 9:25:28 AM

△ Cemeteries ● Demolished

County Survey Sites

● Contributing

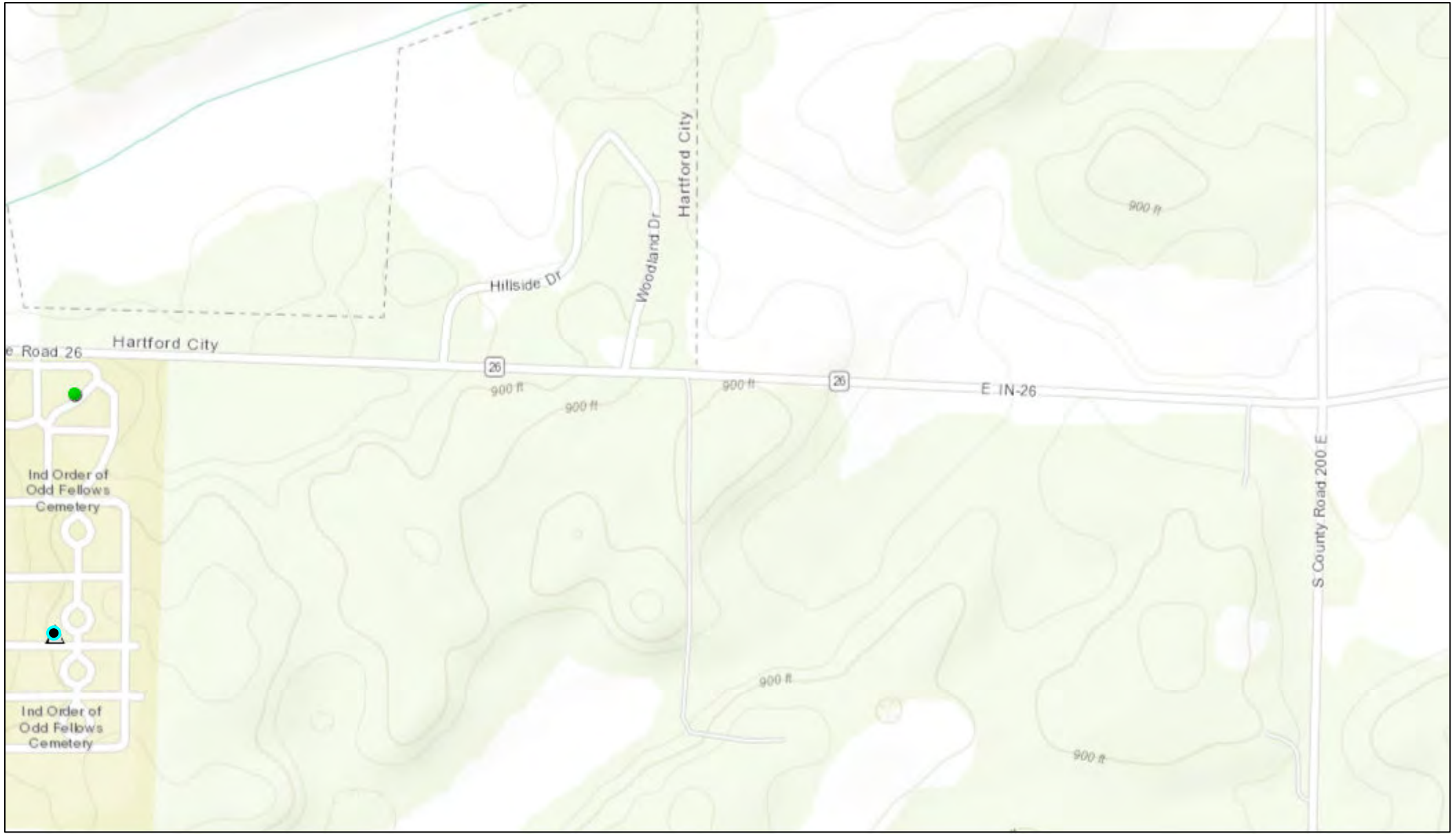
1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

Indiana DNR DHPA

Historic Buildings, Bridges, and Cemeteries Map



1/12/2021, 9:13:15 AM

△ Cemeteries

County Survey Sites

● Notable

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Indiana DNR DHPA

Soil Map—Blackford County, Indiana
(Lake Blue Water)

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 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	27.9	7.1%
Ee	Eel clay loam, frequently flooded	21.4	5.5%
ElA	Eldean silt loam, 0 to 2 percent slopes	4.2	1.1%
EnB3	Eldean clay loam, 2 to 6 percent slopes, severely eroded	11.3	2.9%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	7.7	2.0%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	206.6	52.9%
GlpC3	Glynwood clay loam, 6 to 12 percent slopes, severely eroded	43.6	11.2%
GwgB3	Glynwood-Mississinewa clay loams, ground moraine, 3 to 8 percent slopes, severely eroded	17.1	4.4%
MaB2	Martinsville loam, 2 to 6 percent slopes, eroded	2.6	0.7%
Pm	Pewamo silty clay, 0 to 2 percent slopes	22.8	5.8%
Ud	Udorthents, loamy	6.4	1.6%
W	Water	19.3	4.9%
Totals for Area of Interest		**390.9**	**100.0%**

Soil Map—Blackford County, Indiana
(Roll/SR18)

Map Scale: 1:54,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 2500 5000 10000 15000

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 1:15,800.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Feb 14, 2012—Apr 1, 2017

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
BlA	Blount-Glynwood, thin solum complex, 0 to 3 percent slopes	511.7	35.9%
Bo	Bono silty clay	1.1	0.1%
Ee	Eel clay loam, frequently flooded	74.1	5.2%
GlgB2	Glynwood silt loam, ground moraine, 1 to 4 percent slopes, eroded	512.9	36.0%
Pm	Pewamo silty clay, 0 to 2 percent slopes	320.2	22.4%
Wh	Whitaker silt loam	6.6	0.5%
Totals for Area of Interest		**1,426.6**	**100.0%**

Soil Map—Blackford County, Indiana
(Woodcrest)

Map Scale: 1:6,910 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Blackford County, Indiana
Survey Area Data: Version 23, Jun 3, 2020

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

Date(s) aerial images were photographed: Oct 1, 2011—Apr 1, 2017

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
Bo	Bono silty clay	29.8	15.1%
ElA	Eldean silt loam, 0 to 2 percent slopes	0.5	0.3%
GleB2	Glynwood silt loam, end moraine, 1 to 4 percent slopes, eroded	58.9	29.9%
GlyC3	Glynwood-Mississinewa clay loams, 6 to 12 percent slopes, severely eroded	58.2	29.5%
GweB3	Glynwood-Mississinewa clay loams, end moraine, 3 to 8 percent slopes, severely eroded	13.7	6.9%
Ho	Houghton muck, drained	4.3	2.2%
MoD3	Morley clay loam, 12 to 18 percent slopes, severely eroded	0.8	0.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	17.7	9.0%
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	8.2	4.2%
Ud	Udorthents, loamy	0.0	0.0%
W	Water	2.2	1.1%
Wh	Whitaker silt loam	2.7	1.4%
Totals for Area of Interest		**197.1**	**100.0%**

Soil Map—Blackford County, Indiana
(Woodcrest)

Map Scale: 1:12,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

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- Area of Interest (AOI)

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Wh	Whitaker silt loam	2.7	1.4%
Totals for Area of Interest		**197.1**	**100.0%**

Lake Blue Water

Date: 1/11/2021

Legend

- Streams (NHD)
- Rivers (NHD)
- Lakes (NHD)

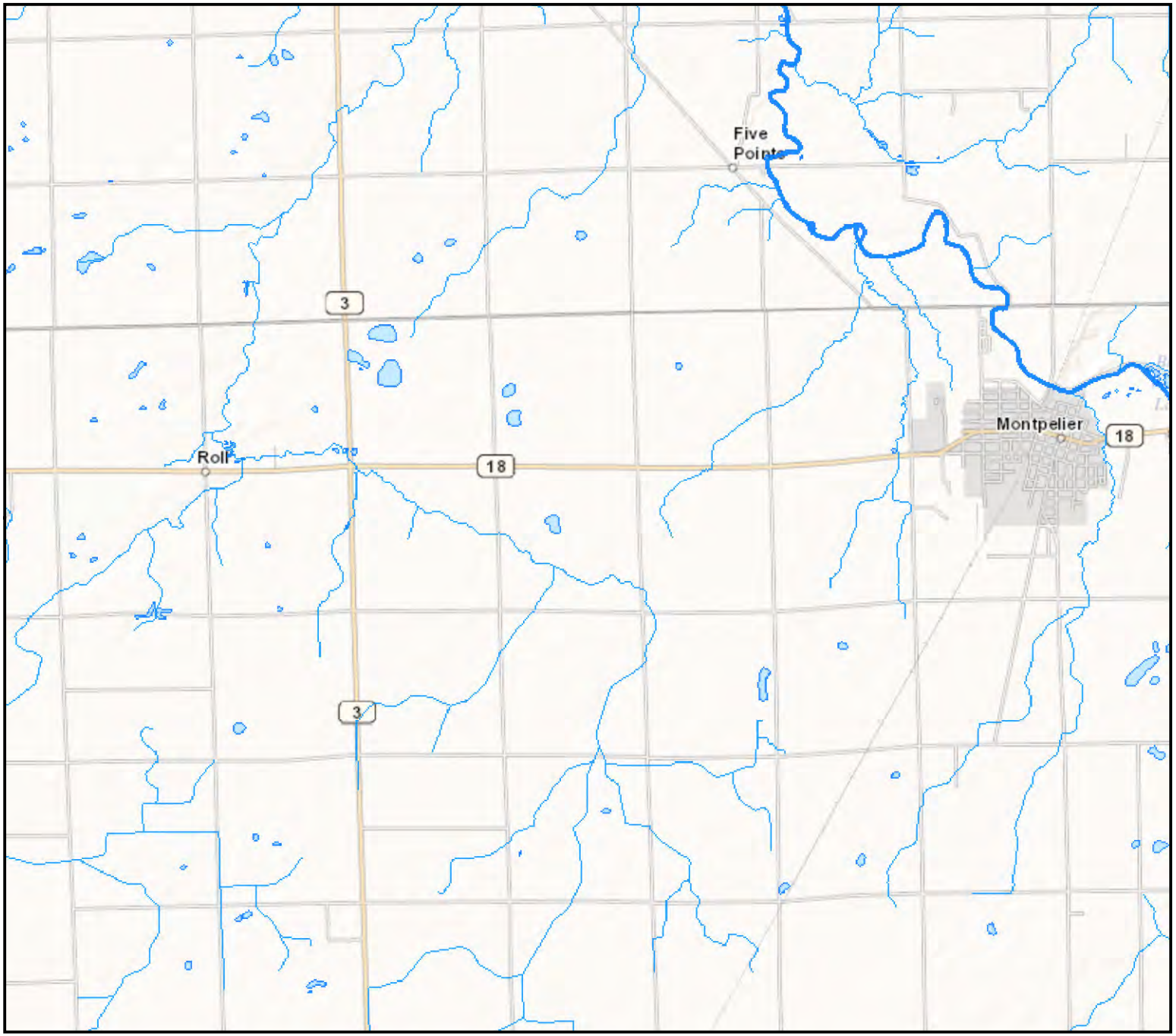
Author:

0 0.15 mi

IndianaMAP

RoII/SR18

Date: 1/11/2021



Legend

- Streams (NHD)
- Rivers (NHD)
- Lakes (NHD)

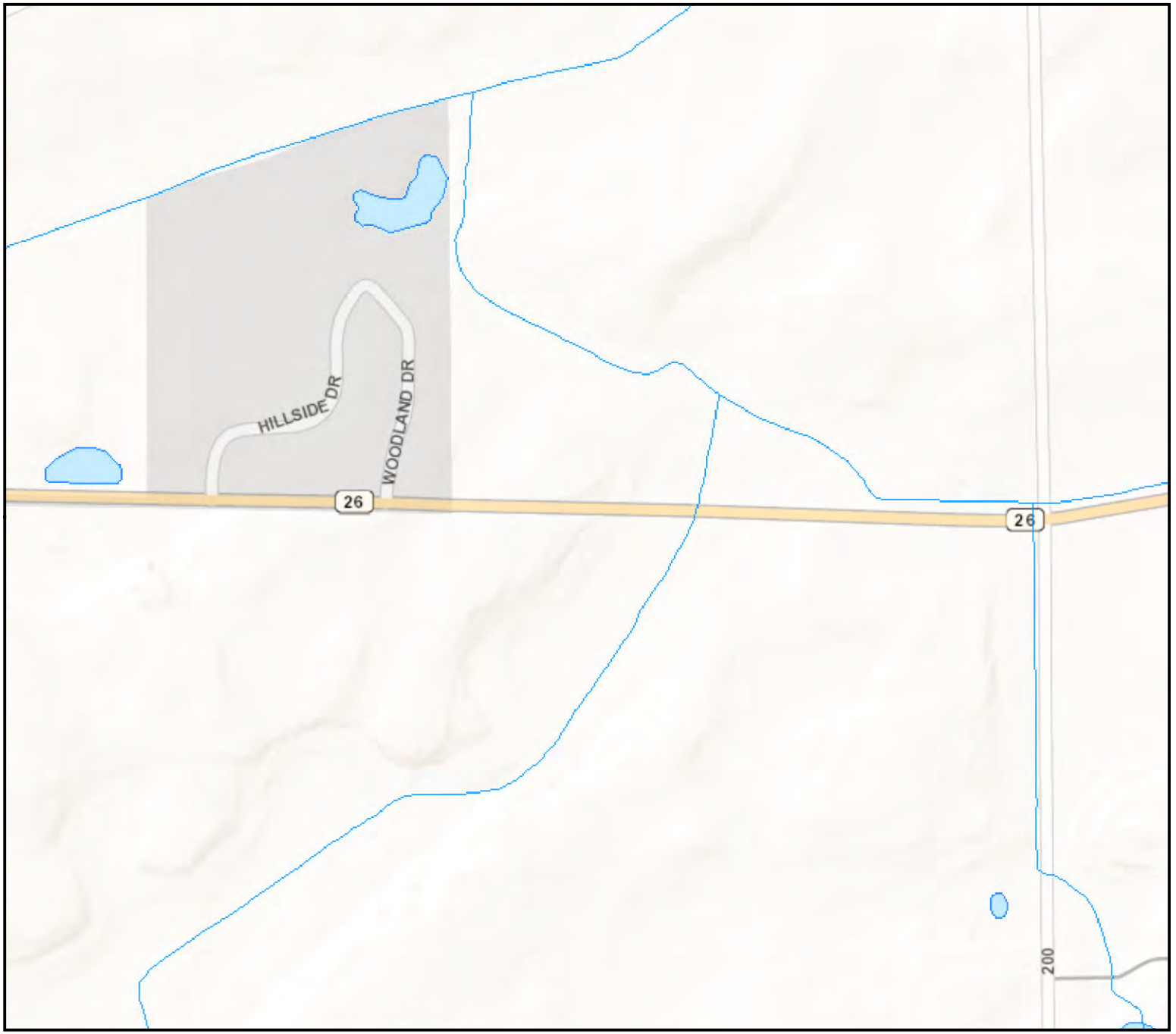
Author:

0 2 mi

IndianaMAP

Woodcrest

Date: 1/11/2021



Legend

- Streams (NHD)
- Rivers (NHD)
- Lakes (NHD)

Author:

0 0.25 mi

IndianaMAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

Lake Blue Water

January 11, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

U.S. Fish and Wildlife Service

National Wetlands Inventory

Roll/SR18

January 11, 2021

Wetlands

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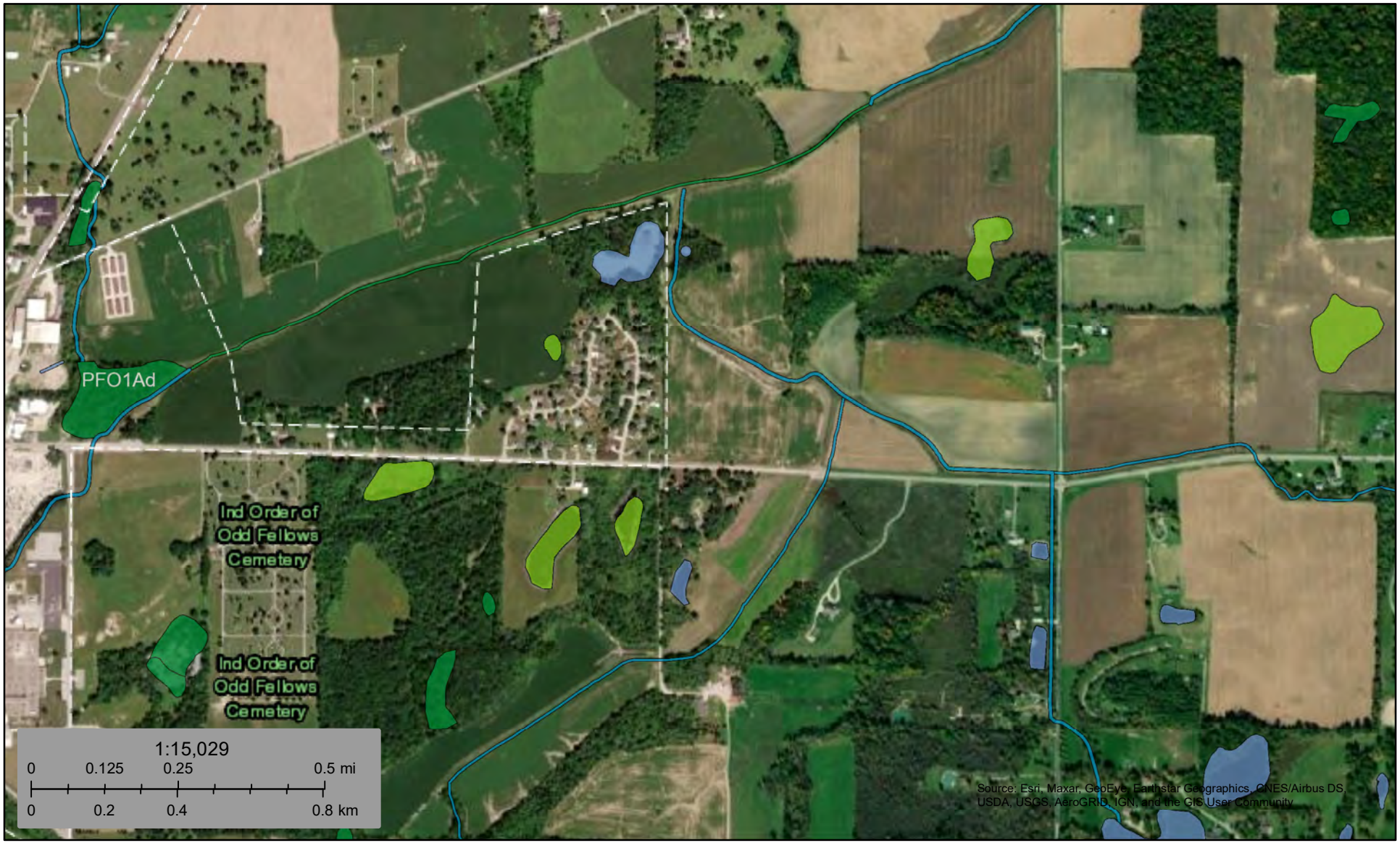
National Wetlands Inventory

Woodcrest



January 11, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
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Appendix D
Community Engagement

NOTICE OF PUBLIC MEETING
PROPOSED BLACKFORD COUNTY REGIONAL SEWER DISTRICT

NOTICE TO PROPERTY OWNERS OF MEETING TO APPROVE FILING A PETITION WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SEEKING AUTHORITY TO ESTABLISH A REGIONAL COUNTY-WIDE SEWER DISTRICT

Notice is hereby given to property owners of Blackford County, Indiana that a public meeting will be held at the The Lighthouse Church, 2101 N. Walnut St., Hartford City, Indiana 47348 on Tuesday July 12, 2022 at 5:00 pm, to consider filing a Petition with the Indiana Department of Environmental Management ("IDEM") seeking authority to establish a regional county-wide sewer district in accordance with Indiana Code 13-26.

The territory to be included within the proposed project is all of that part of Blackford County, Indiana outside of the municipally incorporated areas, as well as areas currently serviced by Certified Treatment Areas (CTA's) within Blackford County. Also, any State Parks or State-Owned Lands, such as by the DNR, are excluded. The boundaries of the proposed District are more particularly detailed on the map attached to the petition as Exhibit B detailing the District 's proposed boundaries.

The Petition along with the preliminary engineering report (PER) is on file and available for review in the Planning & Zoning Office and the Surveyor's Office, Blackford County Courthouse 110 W. Washington St. Hartford City, IN 47348, and at the Hartford City Public Library, 314 N. High Street, Hartford City, IN and the Montpelier Public Library at 300 S. Main Street, Montpelier, IN.

The designated representative for this petition is Anne Owen, Director of Planning and Zoning, First Floor, Blackford County Courthouse, 110 W. Washington Street, Hartford City, Indiana 47348.

NOTICE OF PUBLIC MEETING
PROPOSED BLACKFORD COUNTY REGIONAL SEWER DISTRICT

Notice is given to property owners of Blackford County that a public meeting will be held at The Lighthouse Church, 2101 N. Walnut St., Hartford City, on Tuesday July 12, 2022 at 5:00 pm, to consider filing a Petition with IDEM, seeking authority to establish a regional county-wide sewer district for areas outside of the incorporated areas. The Petition and map are available for review in the Zoning Office and Surveyor's Office, Blackford County Courthouse , the Hartford City Public Library, 314 N. High Street, Hartford City, and the Montpelier Public Library at 300 S. Main Street, Montpelier.

Blackford County
Copies of the notices were made available at:

Blackford County Planning and Zoning Office
110 W. Washington St., Hartford City, IN 47348

Blackford County Surveyor's Office
110 W. Washington St., Hartford City, IN 47348

Hartford City Public Library
314 N. High St., Hartford City, IN 47348

Montpelier Public Library
300 S. Main St., Montpelier, IN 473S9

Notice was published in the following locations:

Hartford City paper – The News Times

Montpelier Weekly

WLBC

WMDH-FM

Affidavit

We do hereby affirm that copies of the Blackford County RSD Application have been delivered to all places as prescribed with the Petition to IDEM.

-EHS-BCHD 10/24/22

Dale Carr — Date
Blackford County Health Department

24/Oct/2022

Thomas Barclay — Date
Commonwealth Engineers

Blackford County Regional Sewer District
July 12, 2022
Start time 5:09 pm

- Thomas Barclay
  - Read the public notice to audience
- Rob Bellucci
  - Present
    - John Oxley – Commissioner
    - Anne Owen – Director of Plan Commission
    - Sam Simpson – works in surveyor's office
    - Dale Carr - environmentalist with health department
    - Paul Schriver – surveyor
    - Kathy Bantz – mayor of Montpelier
  - County is interested in evaluating the creation of a county wide regional sewer district
  - Been no commitment, must apply to IDEM first
  - Most all appear to have received mailers
  - Must show state of IN that there are areas in our county that are in need of alternatives to their sewer system
  - There will be no annexation
  - The residents in already incorporated areas are not a part of the creation of this district
  - The proposed areas in the information packet do not necessarily mean those are the areas that will be hooked in to the district. Those are just a sample of areas in need for IDEM to review
  - What happens if we do create a district
    - Identify greatest areas of need, a series of meetings will take place before we see if we can get funding
  - Here tonight to solicit input from the residents
- Public questions
  - 51% are illegally discharging according to health department
  - Under ordinance of Blackford County, any time sell or build, have to have system check. That is when health department gets notice
  - Steps for creating district
    - Step 1 is tonight
    - Application to state, 7 members to board 2 council, 1 mayor Montpelier, 1 mayor Hartford, 1 health dept, 2 commissioners
  - The board members are compensated per meeting
  - The sewer plants do not have to be rebuilt or upgraded. They can handle the additional flow
  - 117 sewer districts in the state of IN
  - We do not collect taxes
  - Every town in State of IN has to separate sewer and storm water
    - Hartford started that process 4 years ago
  - When will residents be identified and how
    - You can file for a 10 yr. extension and two 5 year additional extensions
    - After that time the residents would have to hook up
    - House bill 1245 – trying to do away with septic systems
    - 20 years if life cycle of septic system

        - Health department does dye test if someone claims discharge from someone's septic
- Estimated cost over $30M according to proposal
- $115-167/month in Mohee proposed bill
- Public want petition with signatures to stop the creation of the district
- Ordinance to create a district was passed in 2002
- County has lost population in last 3 censuses
- We can give monthly cost yet. We do not know how much grant money we will get, how much forgiveness, what PER will show, etc.
- Why can't plant be built for only those need areas
- All houses along 3 between 200 and 500 are all less than half an acre
- Zoning ordinance says you have to have 3 acres to put a septic system on your property
- If you live in an area that is not serviced by a project, then you will not receive a bill
- If county has established working group which has been going on for over a year now. There has to be an entity to take care of all unincorporated areas. Working group has vested interest in helping county, county-wide
- Mohee would be the first problem area
- Believe the county created this problem 50-60 years ago with who they allow to build houses and not
- A lot of comments to just service the needy areas and not involve the whole county
- The goal is to get comments from those that showed up tonight, assemble minutes and present info to IDEM
- People bought houses in county to get away from government control
- Almost every one left at the meeting (after several had left) showed hands that they did not want to be required to hook in
- Over 1500 mailers went out
- Decatur went through the same issue recently
- 7 areas
    - Mohee, meadow wood estates, SR3 south, Trenton, conners trailer park, north view manor, woods hill
- There is no completed design; the project book is a conceptual plan draft
- Residential drinking water well – if on failing septic, run risk of contaminating ground water
- Does this meeting matter? Will county apply anyway? – the county has to make the decision
- Why is county not worried about hog farms
- Many wanted to complain about storm water
- Roll resident concerned if not hooked up due to exception, will he get billed – no
- One man claimed some own multiple properties and that's why not more people are here
- Believe Roll will be gone in 5 years and should not service that area
- Believe Blackford County will do what they want and residents do not matter

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Eric Jones	1117 W 200 N Hartford City 47348	765-499-7729	
Jeff Payne	1110 Montpelier 47359 2625 E State 18		
Sam Swenson	110 W WASHington HARTFORD CITY IN 47348		
Mr. Jeffrey W. Allen	2152 N 400 W-5 Upland		
Yvonne Allen	2152		
Greg Shoup	0548 E 300 N Hartford city	765-499-9473	
Daniel Struble	112 E. Gilbert St. Muncie, IN 47305	765-748-5024	dstruble@bslawgroup.com

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Jennifer Thomas	1470 N 100 E Hartford City 47348	765-744-8085	thomasfive2004@sbcglobal.net
Jeff Thomas	↓	↓	↓

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Joseph Castelo	304 N. High Hartford City 47348	765-499-0440	jcastelo.jr@gmail.com
Judith Hetteltinger	Dunkirk, IN. 47336 2192 N. 800 E.	765-348-1320	NONE

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Don Bolo	47345		
Ted Black	5220N 500E	765-621-9491	
Joanne Smith	2655 S ST RD 3 47345		
Kim for	2576ES Rd		
Kathy Bantz	426 W. Green St 47359	765-348-9039	
Kathi Jones	47348 1552 E ST RD 26	765-748-9152	
Donald Grossman	1524 W S R 18 47348		
Tina Coons	871 E 200 S, Hc, IN 47348	765-744-6493	
Linda McClain	1782 W 463 S Hc	765-348-6417	
Andy Keeling	7085 N 100 W Hc	765-329-0775	
Sarah Keeling	"	"	
Paul Heffelfinger	47336 2192 N-800 E	765-348-1320	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Fred Parker	0256N 325W		
Terrie James	204 Westwood Dr H.C.	651-323-4086	TerrieJames1979@gmail.c
Gary James	" "	(765)499-1104	GaryMJames1957@gmail.c
Terry Dickey	207 Westwood H/C	765-499-5182	
Jim Pitts	3549E-5822 H.City		
Randy Taylor	6513N 500E Kokomo	765 228 2315	
Richard Howell	7024N 300W-5	765-348-0124	
Matt Langdon	1360E 400S H.C.		langdonma@gmail.com
Marty McCain	1782W. 463S H.C.		
Tim Kotyuk	102a E 20a N		
Gail Hawkins	8 Balbec		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

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Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Kathie Culbertson	47359 6103 N. 500 E. Montpelier		
Richard Culbertson	47359 6103 N 500 E Montpelier		
Nathan Klink	3587 E 400 S H.C.		
Steve Shrader	360 W. 600 N HC		
Brenda McAtee	1394 E State Rd 26 HC		
Chris Scott	33 S. SHAMROCK RD		
Gary & Joan Shrader	2812 W - 500 N H.C.		
↓	↓		
Rhonda L. Rouser	3236 N - 550 E, Montpelier		

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IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Sarah Haynes	0588 W 400 S 47348	765-348-2635	
Don & Jene Ladd	4384 S. 5th R3 N.C	765-348-2059	
Keith Jennetyoke	43 Westwood	765 348 2733	
Rep Gary Seidner	5253 N 600 E Montpelier		
Michael Maddox	7765 E 400 N	Montpelier	
IAN SMITH	P.O Box 3		
JOHN KIRKPATRICK	0681 N. 800E		
KATIE KIRKPATRICK	0681 N. 800E		
Doug & Sara Atkinson	1436 N 100 E Hartford City	765 499 0640	
Joe Name	473 S Willman Rd Hartford City		
Tom Ment	0193 N. 200 E Hartford City		
Kimberly Leighton Jacobs	2025 E 300 N HARTFORD	765-348-4453	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Kurt Vance	4210 S. 100 W Hartford City 47348	765-748-1990	KVance711@hotmail.com
Kelley Vance	4210 S. 100 W Hartford City 47348	765 717-1013	KVance111@msn.com
Ted Tann	2203 E 200S Hartford City 47348	765-348-2765	
Chris Love	693W 54 R18	765-499-4747	
Michaela Sandoe	5471e 100S Hartford City IN 47348	260 228 0158	———
Dean Jackson	203 West Wood Drive Hartford	765-748-2620	———
Jeannie Cann	D556 W 200S Ht	765 760 5467	—
ALLEN HIDER	2169 S. ST RD 3	765 200 0107	
MAX KREIGH	503 Lakeside Dr. H.C.	765-717-1173	
Jay Lisa Sandoe	7123 E. SR 26 H.C	7654997371	
Chazz Shrader	360 W. 600 N. He	765-744-0272	
PAT McATEE	1394 E SR 26	765-499-2357	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
LAURA POONS	1336 E. SR 18 Montpelier	765-499-2492	
JOHN OXLEY	215 W. WATER INC	765-499-7526	
Deb Runyon	0183 W. St Rd 18 47348 Hartford City	765-499-1257	
Debbie Cheesman	108 S Southwood Dr	765 499 9529	
GARY D. CHEESMAN	108 S Southwood Dr	7654990599	
Shannon Finchum	520 W 300 South	765 730-[illegible]467	
Rose Cook	1250 E 600 N HC	765-348-6481	
Thurman Cook	" "	765-499-8534	
Dick Guthman	1705 W 500 N HC	765-498-1199	
[illegible]	[illegible]	[illegible]	
EARL CLARK	8726 E 500 S HC	765-331-9014	
Johnathon Sanda	5471 E 100 S	765-499-8117	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
RALPH KOGER	T361 N 100E Montpelier IN 47359		
Phil Clark	16945 100E 47348		
Randy Coall	2000 E #400 S 47348		
Larry Hall	2436 E SR26 E		
Allen Jan Gordon	6926 N - 100 W 47348		
Terry Taylor	6510 N 100 E Hart		
Lynn Buckley	1151 E. SR. 26		
Fred Bailey	1871 S. ST Rd 3		
Jack Ward	2584 S-W/Hwy		
Jim Thurman	5424 N 100 W H.C		
Larry Mealy	305 S Southwood AR.		
Connie Parker	256 N 325 W		

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
ROBERT BELLUCCI	INDIANAPOLIS	(317) 888-1177	rbellucci@contractcei.com
[illegible]	[illegible]	765-348-7838	
THOMAS BARCLAY	INDY	317-888-1177	TBARCLAY@CONTRACTCEI.COM
Bobby Craig	2122 W. 200 S. Hartford City	765-348-1967	
Vicky L Rusin	2070 W. 200 S. HEARTFORD CITY	765-717-2683	
MARK CARTER	111 W WASHINGTON ST HARTFORD 47348	765-348-3218	
James W. Landon	2397 W. 075 N HC	7663484626	
RYAN MCCALL	4465 N 500 E	765 517 1451	
Ron Lanham	500 Harding	499-2144	
Ron Foss	696 N. Bradford Ave	765-603-2605	
Shelby Barker	1044 W. St. Rd 18	260-525-1964	
Elaine Thomas	1476 W SR 18 HC	765-330-4351	

BLACKFORD COUNTY RSD
IDEM PETITION
July 12, 2022 @ 5:00 PM

Public Hearing Sign In Sheet

Printed Name	Printed Address with Zip Code	Phone Number	Email Address
Humberto Damian	881 W St Rd 18 47348	765-315-83-82	
David Rinkle	5117N 200W HARTFORD CITY IND	615-946-3516	
Darrell Overmyer	5743 E. 18 Mont.		
Barb Mascari-Smith	2231 W 50 S Hartford City IN		
Sharon Geary	4016N-300W H.C.		
Jim Hess	5760 300 C IDC		
Tim CAMERON	2350 S. Angling Pike H.C.	765-499-0145	
Pam Griffith	720 S Gadburg Rd. H.C.		
Rhi Smith	720 S. Gadbury Rd.		
Ann M. Willmann	0971 E. 300N 47348	765-499-0382	
Dennis Layman	1718E St. Rd. 18 Montpelier In		
Mark + Suzanne Taylor	2279E.S.R18 Mont IN		