



State Revolving Fund Loan Programs

Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

EDWARDSVILLE WATER CORPORATION Water System Updates SRF PROJECT DW 15 12 22 02

DATE: February 2, 2016

TARGET PROJECT APPROVAL DATE: March 4, 2016

I. INTRODUCTION

The above entity has applied to the Drinking Water State Revolving Fund (DWSRF) Loan Program for a loan to finance all or part of the drinking water project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA, which can also be viewed in color at <http://www.in.gov/ifa/srf/>.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The DWSRF Loan Program has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the target approval date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

April Douglas
Senior Environmental Manager
State Revolving Fund
100 N. Senate Ave. IGCN 1275
Indianapolis, IN 46204
317-234-7294; adouglas@ifa.in.gov

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address: **Water System Updates**
 Edwardsville Water Corporation
 545 Maplewood Blvd
 Georgetown, IN 47122

SRF Project Number: DW 15 12 22 02

Authorized Representative: Dale Lafferre, Board President

II. PROJECT LOCATION

Edwardsville Water Corporation operates in Floyd and Harrison counties. The proposed projects are located in Floyd and Harrison County, in Franklin, Georgetown and New Albany townships, in Lanesville, Georgetown and New Albany USGS Quadrangles, T2S, R5E, Section 35; T3S, R5E, Sections 1 and 23; and in T3S, R6E, Sections 31 and 32. See Figure 1.

III. PROJECT NEED AND PURPOSE

Edwardsville is a not-for-profit water utility that serves potable water to approximately 4,027 service connections. The proposed projects will update the water distribution and operation systems in order to provide improved water quality, system operation, and control. Projects need and purpose are described as follows:

A new booster station with a new chlorine residual and pH analyzer and recorder, located near the existing 2 million gallon Hickman Hill water storage tank, would optimize operational control and assure water quality in the distribution system by enhancing pressure zones, improving operational flexibility, and assuring turnover of the Hickman Hill water storage tank.

A new 1,000 gpm water supply well would assure ample water production in the event the ammonia concentration increases in the existing wells, #10 and #11. It would also enable operational flexibility with the well field.

Chlorine is currently injected in the raw water main for the control of ammonia. To provide improved monitoring and control of the chlorination feed at the well field, a new chlorine residual and pH analyzer and recorder will be installed at the pre-chlorination building. The analyzer would provide continuous monitoring of chlorine between the point of injection and the water treatment plant.

Due to age and poor condition, the SCADA system is proposed to be upgraded and expanded which would improve system operation and control.

The existing 8-inch water transmission main located along State Road 64 and Oak Road is proposed to be replaced with a 12-inch water transmission main that would provide sufficient capacity to meet current and future flow needs.

The existing 2-inch water main located along Corydon Pike is proposed to be replaced with a 4-inch water main. The existing 2-inch main is undersized, which creates issues with capacity and pressure in the main. The replacement of the main would reduce risks to public health, minimize water loss, and provide sufficient flow capacity.

The acquisition of two computers for water meter reading would provide continued effective and efficient water meter reading. Upgrading the existing water billing system would provide efficient billing and accounting practices.

The utility's existing method for managing asset information data and mapping is outdated. The acquisition of new GPS equipment and software to replace the existing data management system would provide a more efficient and reliable network.

IV. PROJECT DESCRIPTION

The proposed projects will allow necessary improvements to the distribution system, the tools needed to provide a timely response to water quality concerns, or replacement of outdated equipment and software needed for system mapping, meter reading, and billing. The project consists of:

- Hickman Hill Booster Station;
- 1,000 gpm Water Supply Well;
- Chlorine Residual & pH Analyzers;
- Upgrade SCADA system;
- Water Main Replacement, SR 64 & Oak Road;
- Water Main Replacement, Corydon Pike;
- 2 Computers/software for Water Meter Reading;
- Computers/software for Water Billing; and
- GPS Units/software.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

<u>Construction Components</u>	<u>Costs</u>
Hickman Hill Booster Station	\$ 427,000.00
1,000 gpm Water Supply Well	\$ 321,360.00
Chlorine Residual & pH Analyzers	\$ 21,000.00
Upgrade SCADA system	\$ 124,691.00
Water Main Replacement, SR 64 & Oak Road	\$ 273,500.00
Water Main Replacement, Corydon Pike	\$ 179,750.00
2 Computers/software for Water Meter Reading	\$ 45,000.00
Computers/software for Water Billing	\$ 58,000.00
GPS Units/software	\$ 25,604.00
Contingency	<u>\$ 154,905.00</u>
Total Estimated Construction Cost	\$ 1,630,810.00

<u>Non-Construction Components</u>	<u>Costs</u>
Repayment of SRF Line of Credit (includes the cost of Residential Water Meter Replacement and Retrofit)	\$ 426,432.00
Land & Rights-of-way Acquisition	\$ 41,000.00
Test well, test pumping and water analysis	\$ 10,500.00
Engineering Fees	
Design, Bidding & Contract Administration	\$ 134,000.00
Project Construction Observation	\$ 66,000.00
Geotechnical Engineering – borings and report	\$ 10,000.00
Archaeological Reconnaissance	\$ 4,500.00
Bond Issuance Cost	\$ 314,118.00
Total Estimated Non-Construction Cost	<u>\$ 1,006,550.00</u>
 Total Estimated Project Cost	 \$ 2,637,360.00

B. Total cost of this project is estimated to be approximately \$2,637,360.00. Edwardsville Water Corporation will finance the project with a loan from the SRF Loan Program for a 20-year term at an annual fixed interest rate to be determined at loan closing. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

The "No Action" alternative was rejected because it would not serve the needs of the Edwardsville Water Corporation to allow necessary improvements to the distribution system, the tools needed to provide a timely response to water quality concerns, or replacement of outdated equipment and software needed for system mapping, meter reading, and billing.

VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES

A. Direct Impacts of Construction and Operation

Disturbed/Undisturbed Land: Work related to the installation of the Hickman Hill Booster Station, Chlorine Residual & pH Analyzers, replacement water meters, Computers/software for Water Meter Reading and Water Billing, and GPS Units/software will occur in disturbed land at existing utility properties. All areas have been previously disturbed by previous construction activity.

Construction of a new 1,000 gpm Water Supply Well on the north side of the existing well field, and installation of new water mains on Oaks Road and Corydon Pike will take place on undisturbed land that has been subject to archaeological reconnaissance.

Structural Resources: Construction and operation of the project will not alter, demolish or remove historic properties. If any visual or audible impacts to historic properties occur, they will be temporary and will not alter the characteristics that qualify such properties for inclusion in or eligibility for the National Register of Historic Places. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "*no historic properties affected.*"

Surface Waters (Figures 2, 3 and 4): For the Oaks Road and S.R. 64 Water Main project, there are four crossings of unnamed tributaries to Georgetown Creek, all of which will be crossed by open cut construction.

For the Corydon Pike Water Main project, there are two stream crossings of Middle Creek, both of which will be bored.

The project will not adversely affect outstanding state resource waters listed in 327 IAC 2-1.3-3(d), exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), or Salmonid Streams listed in (327 IAC 2-1.5-5(a)(3) or streams on the Outstanding River List for Indiana.

Wetlands (Figures 2 through 9): Wetlands will not be affected by construction or operation of the project.

Floodplain (Figures 2 through 9): The proposed Chlorine Residual and pH Analyzer at the existing Well Field Chlorination Building and the new 1,000 gpm Water Supply Well project occur in the 100-year floodplain. A Construction in the Floodway permit from IDNR Division of Water will be applied for as needed. The new well and other proposed improvements will be constructed in a manner to meet all floodplain construction requirements.

Groundwater: The project will not affect groundwater. The project will not affect a drinking water supply or sole source aquifer.

Plants and Animals: Approximately 8-10 small trees will be removed at a stream crossing on Oaks Road. A few trees may need to be removed along the route; otherwise, tree removal is not expected.

The project will be implemented to minimize impact to non-endangered species and their habitat. Mitigation measures cited in comment letters from IDNR and USFW will be implemented.

Prime Farmland: The project will not convert prime farmland.

Air Quality: Mitigation measures to reduce noise, dust and airborne contaminants will be implemented as required by necessary permits.

Open Space and Recreational Opportunities: The project will neither create nor destroy open space or recreational opportunities.

Lake Michigan Coastal Program: The project will not affect the Lake Michigan Coastal Zone.

National Natural Landmarks: Construction and operation of the proposed project will not affect National Natural Landmarks.

B. Indirect Impacts

Edwardsville's Preliminary Engineering Report (PER) states: *The utility will ensure that future drinking water infrastructure projects connecting to SRF-funded facilities, will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources or other sensitive environmental resources. The utility will require new drinking water infrastructure projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.*

C. Comments from Environmental Review Authorities

In correspondence dated January 26, 2016, the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology stated:

Pursuant to IC 13-18-21 and 327 IAC 14 and Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and 36 C.F.R. Part 800, the Indiana State Historic Preservation

Officer ("Indiana SHPO") is conducting an analysis of the materials dated and received by the Indiana SHPO on January 8, 2016, for the above indicated project in Edwardsville, Floyd County, Indiana.

Based upon the documentation available to the staff of the Indiana SHPO, we have not identified any historic buildings, structures, districts, or objects listed in or eligible for inclusion in the National Register of Historic Places within the probable area of potential effects.

Thank you for the submission of the Phase Ia archaeological report by Bubb (12/24/2015). In terms of project Areas A, B, and C, no archaeological sites were encountered and we concur with the results of the archaeological survey. No further investigations are necessary in these areas and project activities may proceed. If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317)232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

In terms of Area D, one archaeological site was located, 12-FI-0196. We concur that this site is potentially eligible for inclusion on the National Register of Historic Places and should be avoided, or if not avoided, then archaeological testing or monitoring is recommended.

We have also received an archaeological monitoring plan by Bubb (1/19/2016) for the proposed work to be done in Area D, at the location of site 12-FI-0196. The archaeological monitoring plan is acceptable with the following conditions:

- 1. It is our understanding that you will be the Principal Investigator for the monitoring activities. All aspects of the archaeological investigation must be directly supervised in the field by an archaeologist meeting the supervisory criteria of "Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation."*
- 2. The relevant information regarding any archaeological artifacts or features which may be identified will be incorporated into the archaeological report and the SHAARD site form.*
- 3. Any proposed revisions to the archaeological plan must be submitted in writing to the DHPA prior to implementation in the field or laboratory.*
- 4. All exposed features must be investigated; however, if an unusually large number of features are identified, or if unique or sensitive cultural deposits are encountered, an alternate strategy may be devised in consultation with our office.*
- 5. Human remains and associated artifacts will be left in place and remain unexcavated. If any human remains dating on or before December 31, 1939 are encountered, the discovery must be reported to the Department of Natural Resources within two (2) business days. The discovery must be treated in accordance with IC 14-21-1 and 312 LAC 22. In that event, please call (317)232-1646. If human remains are accidentally discovered during the field investigations or related laboratory analysis, and would be subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the investigating or curatorial facility shall be the entity responsible for NAGPRA reporting and compliance, not the Indiana Department of Natural Resources.*

6. *A clear statement must be provided to the DHPA regarding where and how the artifacts and information recovered will be curated. If the artifacts are to be returned to the landowner, additional archaeological analysis and documentation will be required.*
7. *Written landowner's permission must be submitted to this office prior to starting the investigation.*
8. *This plan is not transferrable.*
9. *In the future, any additional ground disturbing activities at this location would require additional archaeological investigations prior to the start of work, given the likelihood for intact subsurface deposits.*

With these conditions, the proposed plan is acceptable and the field investigation may proceed. A copy of this letter, along with proper identification, should be carried by personnel in the field. This will ensure minimal confusion should they be requested to produce proper identification in the field by law enforcement personnel. If you have questions about archaeological issues please contact Rachel Sharkey at (317) 234-5254 or rsharkey@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA # 17999.

In correspondence dated August 7, 2015, the United States Fish and Wildlife Service stated:

This responds to your email of July 21, 2015 requesting U.S. Fish and Wildlife Service (FWS) review of a proposed water system improvement project in Floyd County, Indiana.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. Seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U.S. Fish and Wildlife Service's Mitigation Policy.

The proposed project consists of installation of new water mains and a water supply well and improvements to the well field chlorination building and booster station. It appears most work will be done on previously disturbed land or within the limits of road right-of-ways.

We do not anticipate significant impacts on fish and wildlife resources from this project, but we recommend the following mitigation measures to minimize impacts.

1. *Avoid or minimize removal of mature native hardwood trees within the construction corridor.*
2. *Implement temporary erosion and siltation control devices as necessary.*
3. *Use directional drilling at all stream crossings to avoid stream and riparian impacts.*
4. *If directional drilling is not feasible, construct the stream crossings during a low flow period and use best management practices to prevent erosion and soil runoff to the streams.*
5. *Establish vegetated buffer strips along stream banks after work is completed. Buffer strip widths should be at least 10 feet and preferably 25 feet.*
6. *Revegetate disturbed soil areas with native plant species suitable for riparian areas immediately upon project completion. We recommend seed mixes that include species of nectar-producing plants and milkweed endemic to the area where the mix is applied.*

7. Avoid disturbance within the stream channel during the fish spawning season (April 1-June 30).

Wetland and stream impacts may require permits from the US Army Corps of Engineers, the Indiana Department of Environmental Management's Water Quality Certification program and the Indiana Department of Natural Resources. Wetland impacts should be avoided, and any unavoidable impacts should be compensated for in accordance with the Corps of Engineers mitigation guidelines.

Endangered Species

Floyd County is within the range of the federally endangered Indiana bat (Myotis sodalis), gray bat (Myotis grisescens), sheepnose mussel (Plethobasus cyphus), and the federally threatened northern long-eared bat (Myotis septentrionalis). The sheepnose mussel range is limited to the Ohio River which will not be impacted by the project, therefore we concur that the proposed project is not likely to adversely affect this listed species.

Indiana bats hibernate in caves, then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Recent research has shown that they will inhabit fragmented landscapes with adequate forest for roosting and foraging. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Like all other bat species in Indiana, the Indiana bat diet consists exclusively of insects.

The gray bat is a southern species which inhabits caves year round and typically migrate between winter hibernation caves and summer cave roosts used for reproduction and foraging. Preferred foraging habitat is typically along wooded stream corridors and their forage base often includes a high percentage of aquatic insects. There is only one significant summer maternity colony known in Indiana, in southern Clark County (there is evidence that another colony may be located nearby). Previous studies have shown that Silver Creek and Muddy Fork are the main foraging habitat for this colony.

During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥ 3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominantly hibernate in caves and abandoned mine portals. Additional habitat types may be identified as new information is obtained.

There is suitable summer habitat for the Indiana bat and northern long-eared bat present throughout the area surrounding the project site. There are no current records of Indiana bats near the site but to our knowledge the area has not been surveyed. The project will not eliminate enough habitat to affect these species, but to avoid incidental take from removal of an occupied roost tree we recommend that tree-clearing be avoided during the period April 1 – September 30. If this measure is implemented we concur that the proposed project is not likely to adversely affect these listed species.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If however, new information on endangered species at the site becomes available or if project plans are changed significantly, please contact our office for further consultation.

In correspondence dated August 21, 2015 the Department of Natural Resources Environmental Unit Stated:

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile. However, if the project qualifies for utility exemption under Administrative Rule 312 IAC 10-5-4 or the general license for outfall structures under Administrative Rule 312 IAC 10-5-8 (see enclosure).

Natural Heritage Database: The Natural Heritage Program's data have been checked. The species and high quality natural areas below have been documented within ½ mile of the project area, as indicated. The Division of Nature Preserves does not anticipate any impacts to the plants, high quality natural communities, or the state dedicated nature preserves as a result of this project.

*I. Hickman Hill Booster Station (southeast of this project area):
MANAGED LAND: Sherman Minton Nature Preserve*

II. Chlorine residual and pH analyzer (all west of project this area):

A) COMMUNITIES:

- 1. Siltstone Glade*
- 2. Dry Upland Forest*

B) MANAGED LAND: Brock-Sampson Nature Preserve

C) ANIMALS:

- 1. Southeastern Crowned Snake (Tantilla coronate); state endangered*
- 2. Northern Cricket Frog (Acris blanchardi); state special concern*
- 3. Eastern Box Turtle (Terrapene carolina carolina); state special concern*

III. Master Water Meter:

A) COMMUNITY: Siltstone Glade (northeast of project area)

B) MANAGED LAND: Brock-Sampson Nature Preserve

C) PLANTS:

- 1. Harvey's Buttercup (Ranunculus harveyi); state endangered*
- 2. A Hawthorn (Crataegus intricate); state rare*

D) ANIMALS (northwest of project area):

- 1. Northern Cricket Frog (Acris blanchardi); state special concern (& west)*
- 2. Eastern Box Turtle (Terrapene carolina carolina); state special concern (& south)*

Fish & Wildlife Comments: Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

1) Reptiles & Amphibians: Do not conduct any type of excavation or digging (including boring) during the hibernation season from November 1 through April 1. Outside of this timeframe,

trenched-in silt fences should be installed around all work areas near Brock-Sampson and Sherman Minton Nature Preserves.

All work areas should be searched for the presence of box turtles prior to the start of work each day. Any reptiles or amphibians encountered in the project area should be removed, unharmed, and immediately placed outside the construction area and away from the road. Turtles should not be relocated more than 0.25 miles from where they were found. Any open-cut trenches that are left open overnight should be inspected prior to the start of work.

2) Directional Boring: We recommend that all creek or stream crossings be done using a trenchless method. If the open-trench method is necessary and the only feasible option at any of the planned stream crossings due to the site conditions, then the following measures should be implemented:

a) Any open-trench stream crossing should be timed to coincide with the low-water time of year (typically mid- to late-summer).

b) Restore disturbed streambanks using bioengineering bank stabilization methods and revegetate disturbed banks with native trees, shrubs, and herbaceous plants. Stream bank slopes after project completion should be restored to stable-slope steepness (not steeper than 2:1).

c) The cleared width through any forested area should be the minimum needed to install the line and no more than 20 feet wide through the forested area to allow the canopy to close over the line.

d) Use graded stone or riprap to protect the section of trench below the normal water level from scour or erosion (any stone or riprap fill in the streambed must remain at the existing streambed level to avoid creating a fish passage obstruction).

3) Bank Stabilization: Establishing vegetation along the banks is critical for stabilization and erosion control. In addition to vegetation, some other form of bank stabilization may be needed. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank protection and help reduce impacts upon fish and wildlife. Information about bioengineering techniques can be found at

<http://fwww.in.gov/legislative/iac/20120404-1R-312120154NRA.xml.pdf>. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: <http://directives.sc.egov.usda.gov/17553.wba>.

2) Riparian Habitat: We recommend a mitigation plan be developed (and submitted with the permit application, if required) if habitat impacts will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at:

<http://www.in.gov/legislative/iac/20120801-IR-312120434NRA.xml.pdf>. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: <http://directives.sc.egov.usda.gov/17553.wba>.

Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Southern Indiana and specifically not stream bank/floodway stabilization purposes as soon as possible upon completion.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

- 1. Revegetate all bare and disturbed areas with a mixture of grasses, sedges, wildflowers and also, native hardwood tree species and shrubs as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants (e.g. crown-vetch).*
- 2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.*
- 3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.*
- 4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.*
- 5. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.*
- 6. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.*
- 7. Post "Do Not Mow or Spray" signs along the right-of-way.*
- 8. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.*
- 9. Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.*

In correspondence dated July 14, 2015 the Natural Resources Conservation Service Stated:

The proposed project to make water improvements in the Town of Edwardsville, Floyd County, Indiana, as stated in your letter received June 26, 2015, will not cause a conversion of prime farmland.

VIII. MITIGATION MEASURES

Edwardsville's PER states:

Precautions shall be taken during construction to prevent erosion and sediment transport. Project plans shall include requirements for construction sequencing and both temporary and permanent erosion control measures. All disturbed areas shall be restored to their pre-construction condition. All vegetated land shall be permanently seeded and maintained as necessary until vegetation growth is established.

A rule 5 permit is required through IDEM for Construction/Stormwater Pollution Prevention. This plan shall be approved by the Floyd County Soil and Water Conservation District and recommend for approval to IDEM. The County SWCD will routinely inspect the construction area to insure that appropriate measures are taken to minimize erosion and sediment transport off-site. All mitigating measures recommended by reviewing authorities shall be implemented for this project.

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held on June 30, 2015 at 7 pm at the Water Office located at 545 Maplewood Blvd, in Georgetown. There were no questions during the hearing. No written comments were received in the 5-day period following the hearing.

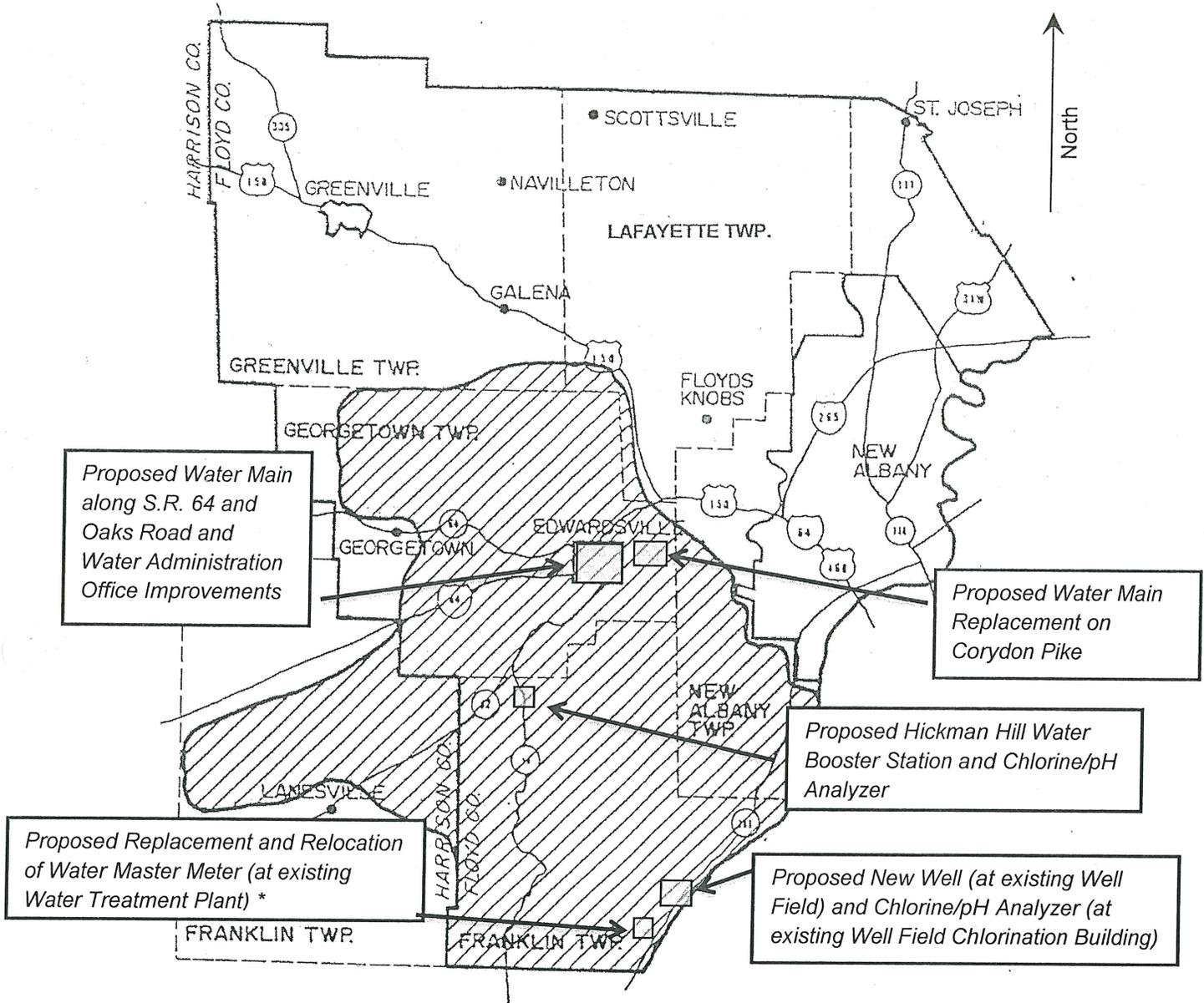
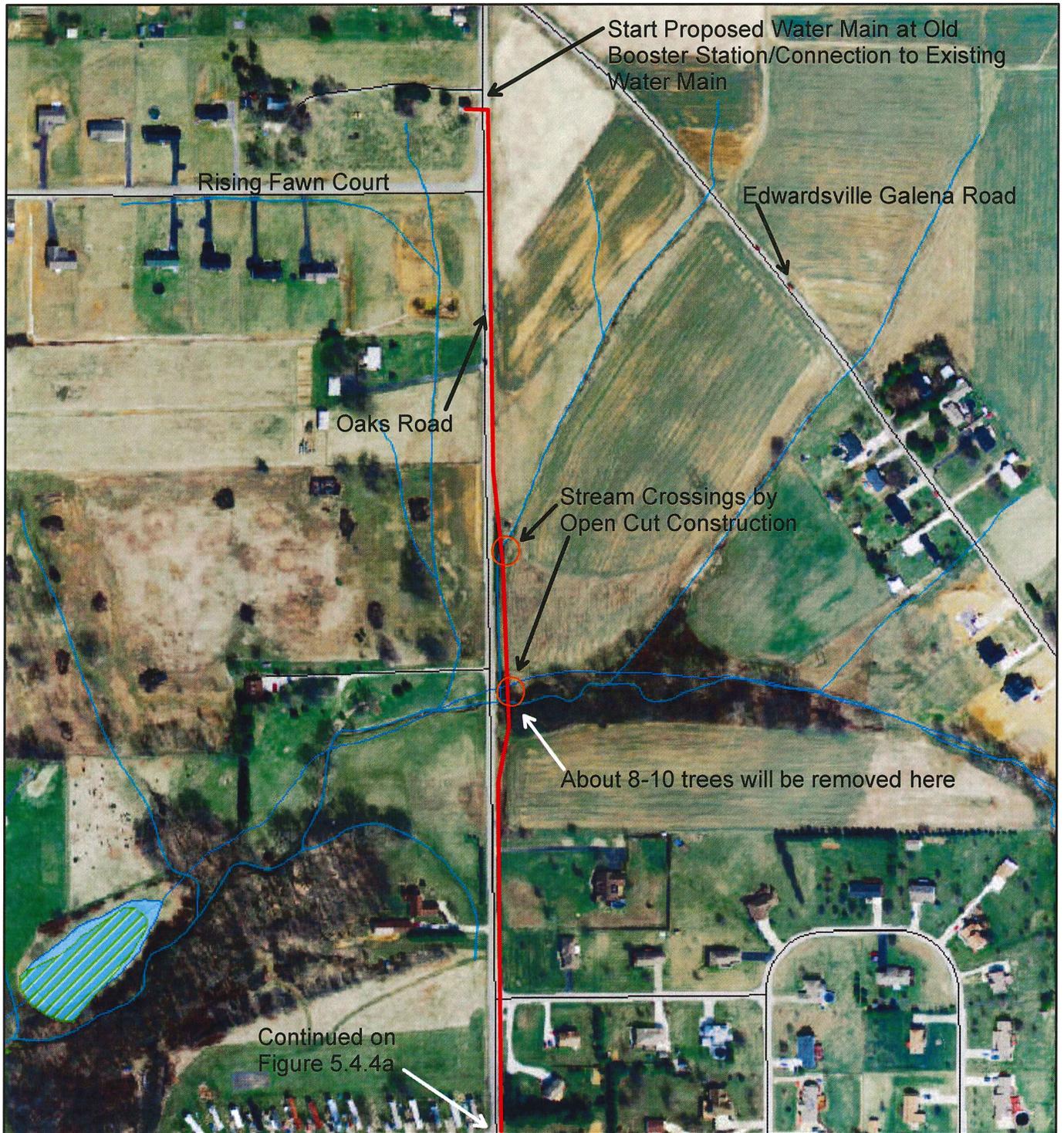


Figure 1 Edwardsville Water Corporation Existing Service Area

Floyd County and Harrison County, Indiana (Map not to scale)

*Funded by SRF Supplemental Loan

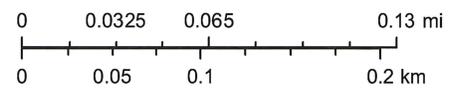
Figure 2 Edwardsville Water Corporation- Oaks Road and S.R. 64 Water Main (North) Wetlands and Floodplain Map



June 1, 2015

1:4,000

- | | |
|--------------------------------------|-------------------------------------|
| — Roads 2005 (INDOT) | — Streams (NHD) |
| — Streams (Local-Resolution NHD) | Floodplains - FIRM |
| Wetlands NWI (USFWS) | 0.2% Risk (aka 500-year Flood Zone) |
| Wetlands Project Metadata NWI (USFS) | 1% Risk (aka 100-yr Flood Zone) |
| Rivers - Outstanding (NRC) | Floodway |
| Lakes (NHD) | |



U.S. Geological Survey
 U.S. Fish and Wildlife Service (USFWS), National Standards and Support Team, National Wetlands Inventory (NWI)
 Indiana Department of Transportation, Business Information and Technology Systems, GIS Mapping; U.S. Census Bureau, TIGER/Line

Figure 3 - Edwardsville Water Corporation - Oaks Road and S.R. 64 Water Main (South) - Wetlands and Floodplain Map



Continues on Figure 5.4.4b

Oaks Road

S.R. 64

Start of Proposed Water Main, connect to existing main

This was a man-made pond; this site has since been developed into an apartment complex. See Figure 5.4.6.

Stream Crossings by open cut

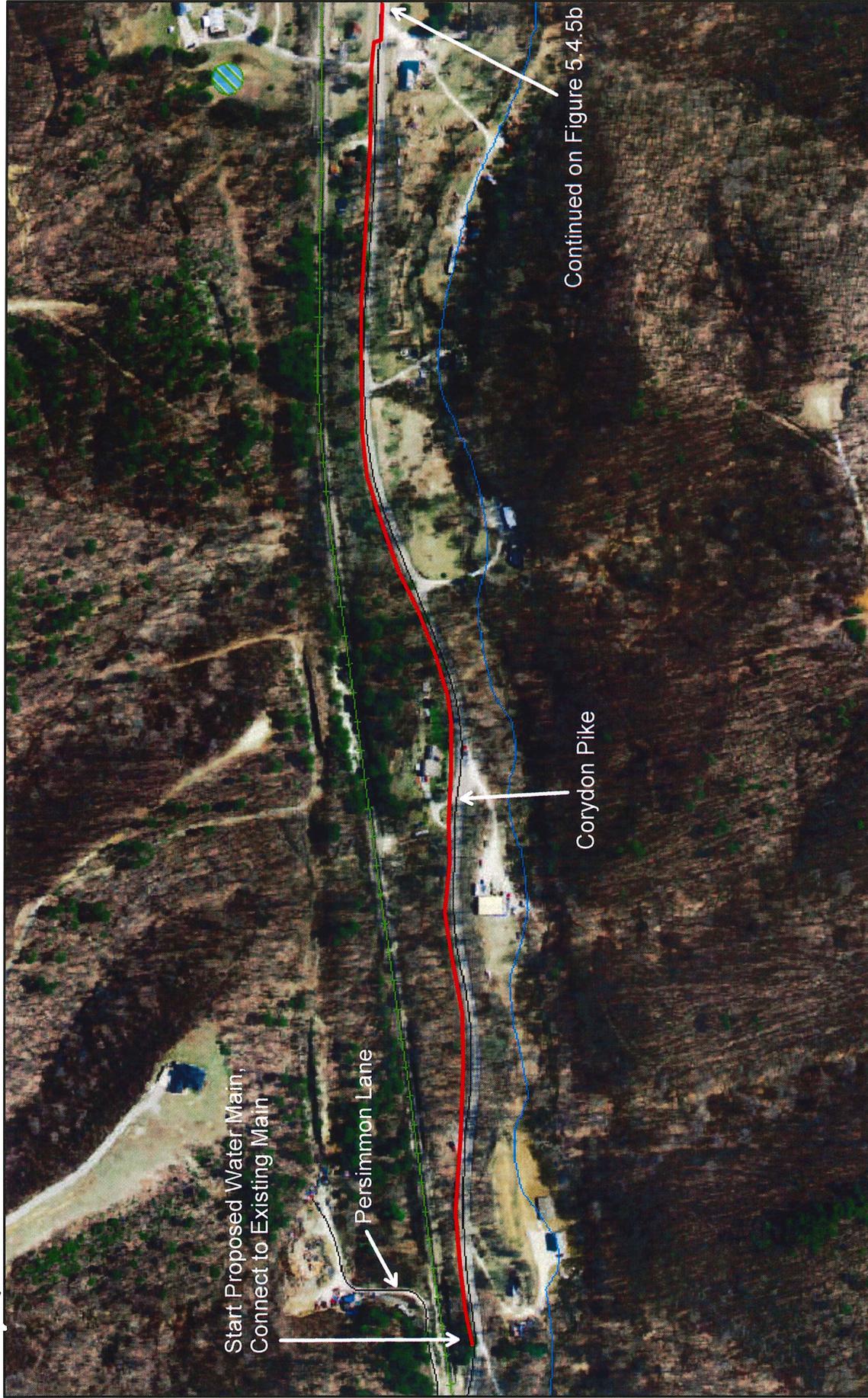
June 1, 2015

- Roads 2005 (INDOT)
- Streams (Local-Resolution NHD)
- Wetlands NWI (USFWS)
- Wetlands Project Metadata NWI (USFS)
- Rivers - Outstanding (NRC)
- Lakes (NHD)

1:4,000
 0 0.0325 0.065 0.13 mi
 0 0.05 0.1 0.2 km
 U.S. Geological Survey
 U.S. Fish and Wildlife Service (USFWS), National Standards and Support

NORTH ↑

Figure 4 Edwardsville Water Corporation - Corydon Pike Water Main (West) - Wetland and Floodplain Map



June 1, 2015

Floodplains - FIRM

- 0.2% Risk (aka 500-year Flood Zone)
- 1% Risk (aka 100-yr Flood Zone)

- Floodway
- Rail System - Active (INDOT)
- Streams (Local-Resolution NHD)
- Streams (NHD)
- Roads 2005 (INDOT)
- Wetlands NWI (USFWS)

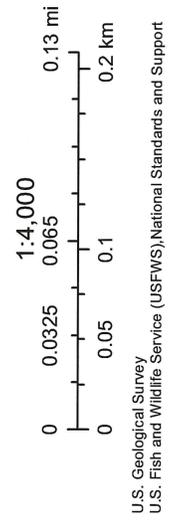


Figure 5 : Edwardsville Water Corp. Proposed Hickman Hill Booster Station Wetland and Floodplain Map



April 8, 2015

1:4,000

- | | |
|------------------------------------|--------------------------------|
| Streams (NHD) | Rivers - Inventory (NPS) |
| Rivers (NHD) | Streams (Local-Resolution NHD) |
| Minor Civil Divisions (Civil Twps) | Stream Features |
| Landsurvey - Townships | Rivers - Outstanding (NRC) |
| Landsurvey - Sections | Rivers (Local-Resolution NHD) |
| Wetlands NWI (USFWS) | |

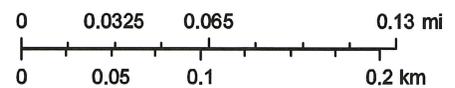
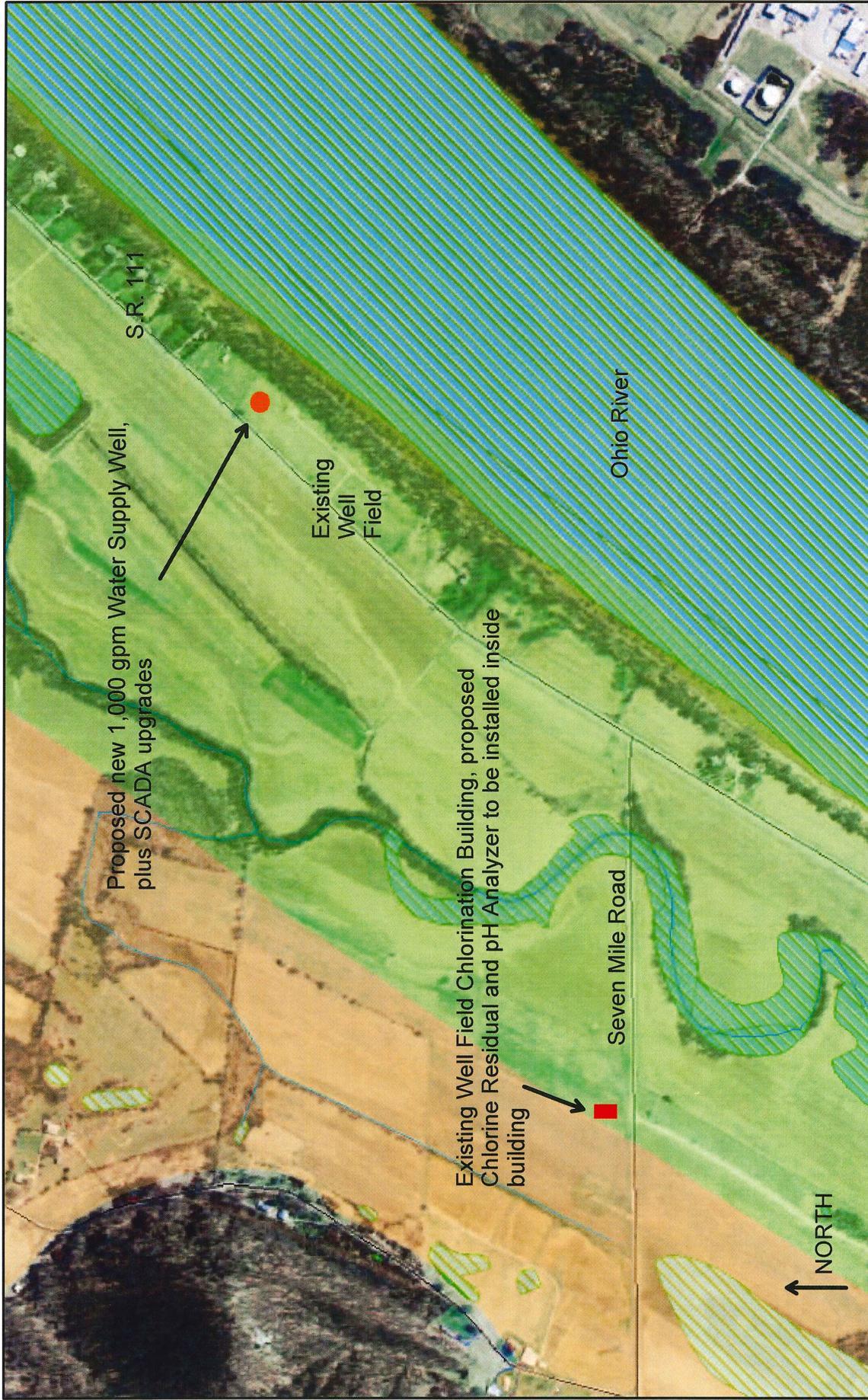


Figure 1 Edwardsville Water Corporation, Proposed New Well, SCADA Upgrades, and Chlorine Residual & pH Analyzer Wetlands and Floodplain Map



May 27, 2015

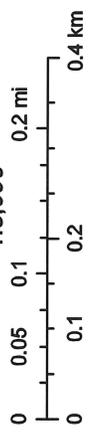
Floodplains - FIRM

- 0.2% Risk (aka 500-year Flood Zone)
- 1% Risk (aka 100-yr Flood Zone)

- Floodway
- Streams (NHD)
- Roads 2005 (INDOT)

- Wetlands NWI (USFWS)

1:8,000



U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS), National Standards and Support

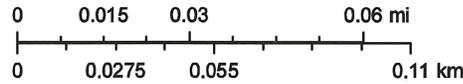
Figure 7 Edwardsville Water Corporation, Proposed Master Meter at Existing Water Treatment Plant, Wetland and Floodplain Map



April 15, 2015

1:2,000

- Wetlands NWI (USFWS)
- Rivers (Local-Resolution NHD)
- Rivers - Inventory (NPS)
- Wetlands Project Metadata NWI (USFS)
- Streams (NHD)
- Streams (Local-Resolution NHD)
- Stream Features
- Rivers (NHD)
- Rivers - Outstanding (NRC)
- Floodplains - FIRM**
- 0.2% Risk (aka 500-year Flood Zone)
- 1% Risk (aka 100-yr Flood Zone)
- Floodway



U.S. Geological Survey
 U.S. Fish and Wildlife Service (USFWS), National Standards and Support
 Team, National Wetlands Inventory (NWI)
 National Resource Commission
 Indiana Spatial Data Portal, UITS, ESRI



Figure 8 Edwardsville Water Corporation - Corydon Pike Water Main (Center) - Wetlands and Floodplain Map

NORTH



Continued on Figure 5.4.5a

Continued on Figure 5.4.5c

June 1, 2015

Floodplains - FIRM

- 0.2% Risk (aka 500-year Flood Zone)
- 1% Risk (aka 100-yr Flood Zone)

- Floodway
- Rail System - Active (INDOT)
- Streams (Local-Resolution NHD)

- Streams (NHD)
- Roads 2005 (INDOT)
- Wetlands NWI (USFWS)

1:4,000
0 0.0325 0.065 0.13 mi
0 0.05 0.1 0.2 km

U.S. Geological Survey
U.S. Fish and Wildlife Service (USFWS), National Standards and Support

Figure 9 Edwardsville Water Corporation - Corydon Pike (East) - Wetlands and Floodplain Map



June 1, 2015

Rail System - Active (INDOT)	1% Risk (aka 100-yr Flood Zone)	Streams (NHD)	1:4,000 0 0.0325 0.065 0.13 mi
Floodplains - FIRM	Floodway	Roads 2005 (INDOT)	0 0.05 0.1 0.2 km
0.2% Risk (aka 500-year Flood Zone)	Streams (Local-Resolution NHD)	Wetlands NWI (USFWS)	U.S. Geological Survey U.S. Fish and Wildlife Service (USFWS), National Standards and Support

Continued on Figure 5.4.5b

Stream Crossings, Directional Drill Construction

Proposed Corydon Pike Water Main, Connect to existing main

Brock's Lane

Corydon Pike

Lane

NORTH