State Revolving Fund Loan Programs
Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CITY OF LIGONIER
Water Improvements Phase II
SRF PROJECT WW 13 08 57 02

DATE: Dec. 10, 2013

TARGET PROJECT APPROVAL DATE: Jan. 10, 2013

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Fund (SRF) Loan Program for a loan to finance all or part of the wastewater 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 at http://www.in.gov/ifa/srf/.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF Clean Water 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 at ifa.in.gov

ENVIRONMENTAL ASSESSMENT

I. Project Identification

Project Name and Address:	**Wastewater Improvements Phase II** City of Ligonier 103 West Third Street Ligonier, IN 46767
SRF Project Number:	WW 13 08 57 02
Authorized Representative:	Ms. Patricia Fisel, Mayor

II. Project Location

The proposed projects include construction of new sanitary and storm sewers and manholes, lift station improvements, and upgrades at the Wastewater Treatment Plant (WWTP). Ligonier is located in Perry Township in Noble County in Township 35 N, Range 8 E, in part of Sections 21, 22, 27 and 28 on the Ligonier USGS 7.5' quadrangle map, see Figure 1 and 1A.

III. Project Need and Purpose

The city's wastewater collection system contains four combined sewer overflow (CSO) points that discharge untreated wastewater into the Elkhart River during high flow conditions. The system is currently operating under an Agreed Order, Compliance Plan, CSO Operational Plan, CSO Long Term Control Plan (LTCP) and Agreed Judgment. As part of the city's LTCP, a phased sewer separation plan was developed and revised. Phase I, currently under construction, consists of new sanitary and storm sewers in the northeast sewer basin, which will result in converting CSO 009 into a storm sewer discharge.

Phase II will partially separate sewers in the southeast, central, and southwest sewer basins with new sanitary and storm sewers in selected locations. Phase II also consists of increasing the diameter of the main interceptor, upgrading all four sewer system lift stations, constructing a new parallel force main for Lift Station #1, and increasing the peak capacity of the WWTP. Phase II will result in closure of CSOs 002, 007 and 008. Improvements at the WWTP will provide the needed increased peak capacity and at the same time will upgrade failing components, simplify the treatment process, and increase treatment efficiency. Overall, the Phase II components will reduce the discharge of untreated wastewater into the Elkhart River and will comply with the city's LTCP.

IV. Project Description

Collection system improvements Partial sewer separation will consist of new sanitary and storm sewers and converting existing combined lines to dedicated sanitary systems. Where needed, residential services will be connected to new sanitary lines. Catch basins and inlets in selected locations will be reconnected to dedicated storm systems. Collection system improvements are described below.

- The proposed 12" storm line along West Union will be open cut (Figure 2);
- The proposed 12" storm lines along Smith Street, East Union Street, Grant Street, and the Jackson Street alley will be open cut (Figure 3);
- The 30" influent line across Bridge Street will be open cut and installed in or adjacent to the trench of the existing 15" sewer. The line will be extended to the headworks at the WWTP site (Figure 4 and 12);
- The 8" force main from lift station number 1 will be installed in or along the trench of the existing 21" and 18" gravity lines. The line will extend to the aeration tank at the WWTP. The line parallels the tree line that is adjacent to the river. Minor tree or scrub removal may be necessary (Figure 4 and 12);
- The proposed 18" and 24" interceptor along Lincolnway West will be open cut and installed in and adjacent to the roadway. The western most end of this line will be installed through a parking lot. Plugs will be installed in the upstream 10" line. The plugs will be placed in a manhole if possible, but open cutting may be necessary (Figure 5);
- The proposed 8" sanitary line north of Lincolnway and south of the river will be installed in the grass back yards of the existing houses. The services will be reconnected to the new line via open cut methods (Figure 5);
- The proposed 18" interceptor along the west side of the Elkhart River is proposed to be directionally bored. This method is proposed for this area because of limited access, it is the least disruptive, and the line could then be placed as far from the river bank as possible. The area is a combination of scrub trees and pavement. Bore pits will be needed and will be open cut. At a minimum, the pits must be installed at changes in direction (Figure 5);
- The proposed 8" line along the western side of the Elkhart River will be open cut and installed to serve the buildings along SR5. The area is paved. The laterals will need to be reconnected to the new line, as they presently discharge to the interceptor (Figure 5);
- The proposed 8" sewer north of Third Street will be installed behind the homes. The line will be open cut and the laterals will be reconnected at the time of construction. The area is grassed. Presently these services discharge to the interceptor (Figure 6);
- The proposed 18" line along the south side of the Elkhart River and along Fourth and Smith Streets will be either pipeburst or directionally bored if pipebursting is not possible. The replacement pipe will be installed in the same trench as the existing line. Access pits will need to be installed, at a minimum, at changes in direction. The area is grass and scrub trees and bushes along the river, an alleyway between Third and Fourth Streets, and pavement along Fourth and Smith Streets. The northeast corner is located in a wetland area. Minor tree or brush removal may be necessary for the access pit (Figure 6);
- The proposed 12" storm lines along Fifth and Smith Streets will be open cut and will be installed in and along the existing roadway (Figure 6);
- The proposed 12" storm line in Miller Street will be open cut and installed in and along the roadway (Figure 7);
- A new wet weather pump station and force main will be installed at Lift Station Number 1, which is located along Lincolnway. The pump station will be installed in an area that is presently grassed. The force main will be installed in or adjacent to the trench for the existing 21" line (Figure 8);
- A generator and concrete pad will be installed at Lift Station Number 2, which is located on the north side of the city at North Main Street and Heckner Drive. The pad will be excavated

to a depth of approximately 6 inches. The area is currently pavement and grass. New pumps, alarm, and controls will be installed internally (Figure 9);

- A generator and concrete pad will be installed at Lift Station Number 3, which is located on the west side of the city on Gerber Street. The pad will be excavated to a depth of approximately 6 inches. The area is currently pavement and grass. New pumps, alarm, and controls will be installed internally (Figure 10);
- A generator and concrete pad will be installed at Lift Station Number 4, which is located on the west side of the city along Union Street. The pad will be excavated to a depth of approximately 6 inches. The area is currently pavement and grass. New pumps, alarm, and controls will be installed internally (Figure 11).

WWTP improvements Improvements at the WWTP will provide the needed increased peak capacity, and at the same time will upgrade failing components, simplify the treatment process, and increase treatment efficiency. The peak plant capacity will be increased to 5.3 MGD. There will be no changes to the design average flow or effluent line size or location. WWTP improvements are described below (Figure 12).

- Abandon the raw sewage lift station and grit removal, convert the intermediate lift station to raw sewage, and install a fine screen;
- Remove the coarse opening bar screen, and install fine screen;
- Abandon the existing primary clarifiers and sludge pumps;
- Install an additional secondary clarifier and splitter;
- Install three new return activated sludge pumps with variable frequency drives (VFDs);
- Increase the ultraviolet disinfection (UV) system capacity by modifying the existing tank and post-aeration as needed;
- Eliminate the existing primary and secondary anaerobic digesters. Convert the sludge holding tank to an aerobic digester. Install new blowers with VFDs;
- Install a dissolved oxygen (DO) probe in the aeration tank;
- Install a belt filter press and building;
- Install an alum tank and feed point at the effluent side of the activated sludge system;
- Extend the garage to provide additional storage for equipment and a maintenance bay;
- Construct a new control building with an office and lab;
- Install a common alarm system and a centralized monitoring system;
- Increase the influent sewer to a 30-inch line;
- Make miscellaneous site improvements which include site lighting, pavement, sidewalks, and handrail replacement;
- Demolish the trickling filters which are not in use and have never worked properly.

V. Estimated Project Costs, Affordability and Funding

A. Selected Plan Estimated Cost Summary

Construction and Equipment Costs

Collection System Improvements	
12" Storm Sewer	$159,500
Storm Manholes	$38,500
8" Sanitary Sewer	$40,500
18" Sanitary Sewer	$241,875
24" Sanitary Sewer	$45,125
Sanitary Manholes (4')	$66,500
Sanitary Manholes (6')	$15,000
Reconnect Incoming Sewers/Plug Lines	$9,600
Sanitary Service Connections	$18,000
Sanitary Service Reconnections	$49,500
Lift Station #1 Modifications, Including Wet Weather Pump Station	$55,000
8" Force Main	$76,500
Lift Station Pumps, Controls, Generator	$180,000
Site Restoration	$83,000
Collection System Improvements Total	$1,078,600
WWTP Improvements	
Secondary Clarifier & Splitter	$250,000
New RAS Pumping	$150,000
Fine Screen	$120,000
UV System	$125,000
Modify UV Tank and Post-Aeration	$75,000
Convert Sludge Tank to Aerobic Digester	$125,000
Digester Blowers	$105,000
VFDs for Aeration Blowers	$405,000
Belt Filter Press and Building	$650,000
Alum Feed	$50,000
Garage Extension	$50,000
Control/Lab/Office Building	$250,000
Alarm System	$160,000
DO Probe – Aeration	$25,000
Control Monitoring System & Controls	$75,000
Influent Pipe (30")	$25,000
Site Piping	$150,000
Site Lighting	$125,000
Site Improvements	$100,000
Electrical	$200,000
Demolition	$200,000
WWTP Improvements Total	$3,415,000
Collection System + WWTP Improvements Construction Cost	$4,493,600
Construction Contingency	$449,360
Total Construction Cost	$4,942,960

Non-Construction Costs

Administrative, Legal, Bond	$60,000
Resident Project Representation Services	$110,000
Engineering Services	$544,296
Collection System Improvements Total	$714,296
Total Estimated Project Cost	**$5,657,256**

B. Ligonier will finance the collection system and WWTP improvements with a loan of approximately $5,657,256 from the State Revolving Fund 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 payment.

VI. Description of Evaluated Alternatives

The alternatives evaluated include "No Action," sewer separation with new sanitary or storm sewers, and partial separation of the combined system with improvements to the WWTP.

The "No Action" alternative is not viable because maintaining the present conditions with no repairs or rehabilitation efforts would not eliminate dry weather overflows or wet weather CSO discharges. Without the improvements, the city would not be in compliance.

Sewer separation with new sanitary or storm sewers would reduce clear water flow being treated at the WWTP, and combined flows would be eliminated at CSOs 002, 007, and 008 which would bring the city into compliance. However, this alternative was eliminated due to the high cost and length of time needed to separate the entire system.

Partial separation of the combined system with improvements to the WWTP involves installing storm or sanitary sewers in select areas, along with increasing the peak capacity of the WWTP to allow the remaining wet weather flow to be transported and treated. This alternative provides for less work to be done in the collection system, and plant components to be modified to improve operations. The increase in capacity of Lift Station #1 and interceptor size are necessary to transport remaining wet weather flow to the WWTP for treatment. Lift station upgrades including backup power generators will provide reliable operation of the collection system. Partial separation of the combined system with improvements to the WWTP will bring the city into compliance and is the chosen alternative.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Disturbed/Undisturbed Land: Construction will occur in existing trenches, in and adjacent to previously disturbed rights-of-way and easements, and at the existing treatment plant site. All work areas have been disturbed. Some tree removal maybe necessary.

Structural Resources (Figures 13 and 14): The proposed project will not affect historic sites or districts, including sites on or eligible for listing on the National Register of Historic Places, according to the Noble County Interim Report and the historic sites information on the website of the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "*no historic properties affected.*"

Surface Waters: There are no direct stream crossings across the Elkhart River. However, portions of the interceptor replacement may be along the bank. The river is classified as Outstanding by the Natural Resource Council and is also listed as impaired for *E. coli*, mercury, and PCBs. The replacement line will be pipeburst or horizontally bored to reduce impacts. This project will result in reduced CSO discharges and overall improved conditions. As such, it 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), Salmonid Streams listed in (327 IAC 2-1.5-5(a)(3), or waters on the Outstanding Rivers list (Natural Resources Commission Non-rule Policy Document).

Wetlands (Figure 15 and 16): The Elkhart River is considered to be a wetland, but will not be adversely impacted by the construction or operation of the project. The replacement pipe will be open cut, pipeburst, or directionally bored. Mitigation measures to lessen and compensate for wetland impacts cited in comment letters about the project from Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

Floodplain (Figure 17): Minor construction may occur in a floodway. If practical and necessary, above ground structures will be placed above the 100-year flood boundary. The city does not participate in the national flood program.

Groundwater: According to the Noble County Soil Survey, the high seasonal groundwater levels for the soil types found in the project area range from 0 to 1 feet for the minor areas of Adrian and Brookston, to over 6 feet for the primary areas of Riddle and Fox soils. If necessary, dewatering will be employed during construction with the flow directed to a sedimentation basin prior to being discharged to surrounding surface waters. The project will not impact a drinking water supply or sole source aquifer.

Plants and Animals: The Preliminary Engineering Report (PER) states: *The construction and operation of the project will not negatively impact state or federal-listed endangered species or their habitat. The project will be implemented to minimize impact to non-endangered species and their habitat. Mitigation measures cited in comment letters from the Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.*

Prime Farmland: The project will not convert prime farmland.

Air Quality: Construction activities may generate some noise, fumes and dust, but should not significantly affect air quality.

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

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

B. Indirect Impacts

Ligonier's Preliminary Engineering Report (PER) states: *The City, through the authority of its Council, planning commission, or other means will ensure that future development, as well as future wastewater treatment works projects connecting to SRF-funded facilities, will not adversely impact archaeological/historical/structural resources, wetlands, wooded areas, or other sensitive environmental resources. The City will require new development and treatment works 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 September 26 the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology stated:

Pursuant to IC 13-18-21 and 327 lAC 14 and Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) 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 September 11, 2013, for the above indicated project in Ligonier, Perry Township, Noble County, Indiana.

In terms of archaeology, no currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places have been recorded within the proposed project areas. No archaeological investigations appear necessary provided that all project activities remain within areas disturbed by previous construction. Please be advised that archaeological resources may exist underneath modern development.

If any 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.

In regard to buildings and structures, we have identified the Ligonier Historic District (site# 113-359-21001-378 per the Noble County Interim Report), which was listed in the National Register of Historic Places on October 23, 1987, within the probable area of potential effects.

However, based on the information provided to our office, we do not believe that there will be any alterations to the characteristics of the above identified historic properties qualifying them for inclusion in or eligibility for the National Register (see 36 C.F.R. § 800.16[i]).

In correspondence dated September 11, 2013 the United States Fish and Wildlife Service stated:

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 the construction of storm and sanitary sewers throughout much of Ligonier, a new storm water pump station at an existing lift station, several interceptor sewers, and upgrades at the existing waste water treatment plant (WWTP). An 18-inch interceptor sewer will be constructed along the left descending bank of the Elkhart River north of 3rd Street and east of SR 5 utilizing either directional boring or pipebursting in order to limit impacts to the river bank and existing infrastructure. The area north of 3rd Street is wooded and grassed backyards behind residences and the area east of SR 5 is an alley with pavement almost to the top of the river bank. Additionally, a new 8-inch force main will be installed adjacent to existing gravity lines parallel to the left descending river bank between Lift Station 1 and the WWPT. If any trees or shrubs need to be removed in these areas, we request that they be replaced by new trees and shrubs along other portions of the Elkhart River within Ligonier since replacing them in the areas of impact likely would not be possible due to space limitations.

A wetland may be present at the east end of 3rd Street where the 18-inch interceptor would be constructed. A wetland delineation needs to be conducted to determine whether or not a wetland is actually present. If a wetland is present, Section 404/401permits may be necessary, particularly for the proposed bore pit where the interceptor would change direction.

ENDANGERED SPECIES

The proposed project is within the range of the Federally endangered Indiana bat (Myotis sodalis) and the candidate eastern massasauga rattlesnake (Sistrums catenatus catenatus). However, there is no habitat for these species within the proposed project area, so we agree with your determination that the proposed project is not likely to adversely affect these endangered and candidate 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. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

In correspondence dated October 9, 2013 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.

Portions of this proposal may require the formal approval for construction in the floodway of Elkhart River pursuant to the Flood Control Act, IC 14-28-1. The Ellipse (Venustaconcha ellipsiformis), a state species of special concern, was recorded in the Elkhart River near the project area in 2008.

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) Mussels:

We do not foresee any impacts to the above mussel species as a result of this project. When working within the tributaries to Elkhart River, incorporate the following recommendations to prevent downstream sedimentation which could impact potential mussel beds in the area:

a. Work during low flow conditions to reduce potential impacts to mussels that have been recorded near the site.

b. Install in stream sediment mats along the channel bottom downstream of the work area in conjunction with the filter socks to reduce sedimentation.

c. Minimize the release of sediments downstream after construction is completed.

d. Monitor all sediment barriers and remove accumulated sediment from the floodway before opening the channel.

e. Minimize and contain within the project limits in channel disturbances.

2) Directional Boring:

Impacts to the Elkhart River's forested corridor and wetland habitat are likely. Lines along the Elkhart River's corridor should be directionally bored or another such method used to minimize impacts to the greatest extent possible.

The Division of Fish Wildlife understands that directional boring is not always an option. When using the open trench method, the utility line should be installed as quickly as possible to avoid silt and sediment loading of the stream. When using the directional bore method

under a stream or river, the utility line should be covered with graded stone and riprap to prevent erosion of the streambed in the vicinity of the crossing.

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).

Contain directional drilling pits with erosion controls such as silt fencing or other appropriate devices so that drilling mud does not leave the immediate area of the pit or enter the stream.

3) Riparian Habitat:

A relatively narrow strip of land (riparian buffer) vegetated with a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Northern Indiana along streams and rivers provides numerous benefits, including: trapping and removing sediment from runoff, stabilizing stream banks and reducing loss of property due to erosion, trapping and removing harmful pollutants that might enter the stream, storing flood waters and decreasing economic losses due to flooding, maintaining habitat for fish and other aquatic animals by reducing stream temperatures and contributing to woody debris and leaf litter in the stream for cover, providing habitat and migration corridors for terrestrial animals, improving the aesthetic appeal of stream corridors and increasing property value, as well as providing recreational and educational opportunities.

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/20 120801-1R-312120434 NRA.xml.pdf.

Impacts that remove trees from a non-wetland, riparian area should be mitigated. Impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5: 1 mitigation based on the number of large trees).

A native riparian forest mitigation plan should use at least 5 canopy trees and 5 understory trees or shrubs selected from the Woody Riparian Vegetation list or an approved equal. A native riparian forest mitigation plan for impacts of less than one acre in an urban area may

involve fewer numbers of species and sizes of trees, depending on the level of impact. Additionally, a native herbaceous seed mixture should be planted consisting of at least 10 species of grasses, sedges, and wildflowers selected from the Herbaceous Riparian Vegetation list or an approved equal.

4) Wetlands:

Due to the presence or potential presence of wetlands on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USAGE) 404 program. Impacts to wetlands should be mitigated at the appropriate ratio (see above guidelines). The use of temporary, easily removable structures such as timber mats should be considered when maneuvering heavy equipment within wetland areas.

The measures 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 (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.

2. Minimize and contain within the project limits in channel 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 roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.

5. Minimize the movement of resuspended bottom sediment from the immediate project area.

6. 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.

7. 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.

VIII. Mitigation Measures

Ligonier's PER states:

1. ***Siltation and Erosion***

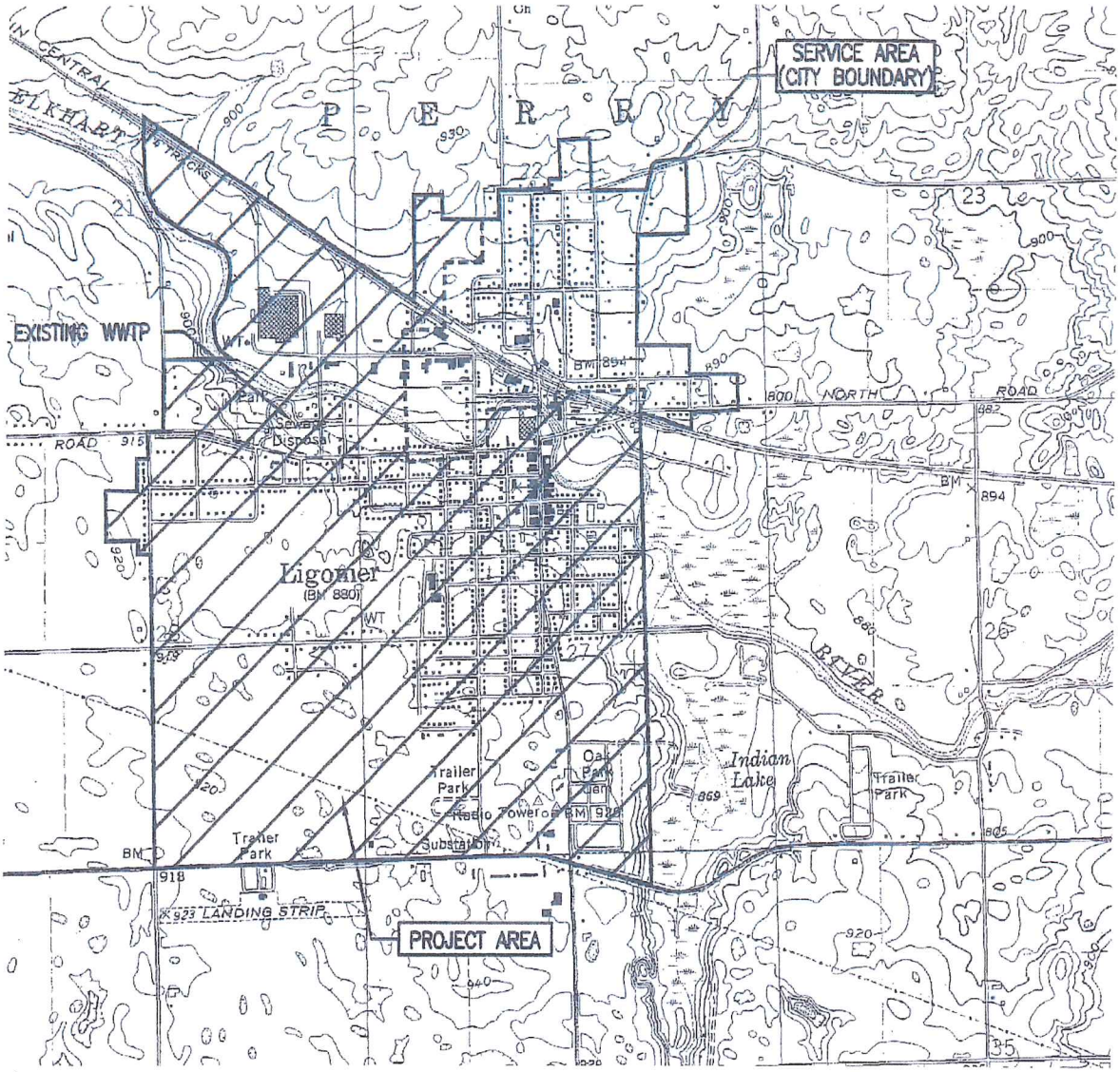
Siltation and erosion will be kept to a minimum. Any mitigation measures mandated by authorized reviewing agencies to reduce or eliminate waterway contamination will be implemented. Mitigation measures to limit erosion and siltation will include the following:

a. Erosion and sediment control measures required by the project specifications will require that the contractor provide a schedule for clearing, grading, excavating and restoring disturbed areas, along with a description of measures to be used during construction to ensure erosion/sediment control. The program shall meet all applicable federal, state, and local requirements.
b. Natural vegetation will be retained wherever feasible.
c. Excavations will be limited to right of ways where possible.
d. Appropriate agronomic practices (sediment basins, seeding, mulching) will be provided to control runoff, including shoreline and stream crossings, if applicable.
e. Drainage systems, including surface and subsurface drainage, will be returned to their natural state as soon as possible, if disturbed.
f. Roadways and parking lots will remain stabilized during construction to the extent possible.
g. Construction activities will be scheduled to avoid excessively wet conditions when possible.
h. No more than 100 feet of open trench will be allowed. Excavated material will be kept to the upland side of the trench. Excess material will be used elsewhere on the project.
i. The existing topsoil will be reused during the restoration process.
j. If necessary, discharge from dewatering may be directed to sedimentation basins prior to discharging into surrounding surface waters.

*2. **Air Quality Impacts***
The adverse impacts caused by dust may be alleviated by periodically wetting the exposed soil and unpaved roadways to reduce the suspension of particles. To reduce noise impacts, work activities can be limited to normal daytime hours.

VI. Public Participation

A properly noticed public hearing was held on February 13, 2013 at 1:30 pm at the City Hall in Ligonier to discuss construction of new sanitary and storm sewers and manholes, lift station improvements, and upgrades at the Wastewater Treatment Plant (WWTP). No comments were received at the public hearing, and no written comments were received during the 5-day comment period following the public hearing.



CITY OF LIGONIER
PROJECT AREA

2000 0 1000 2000 4000

1 inch = 2000 ft.

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 1

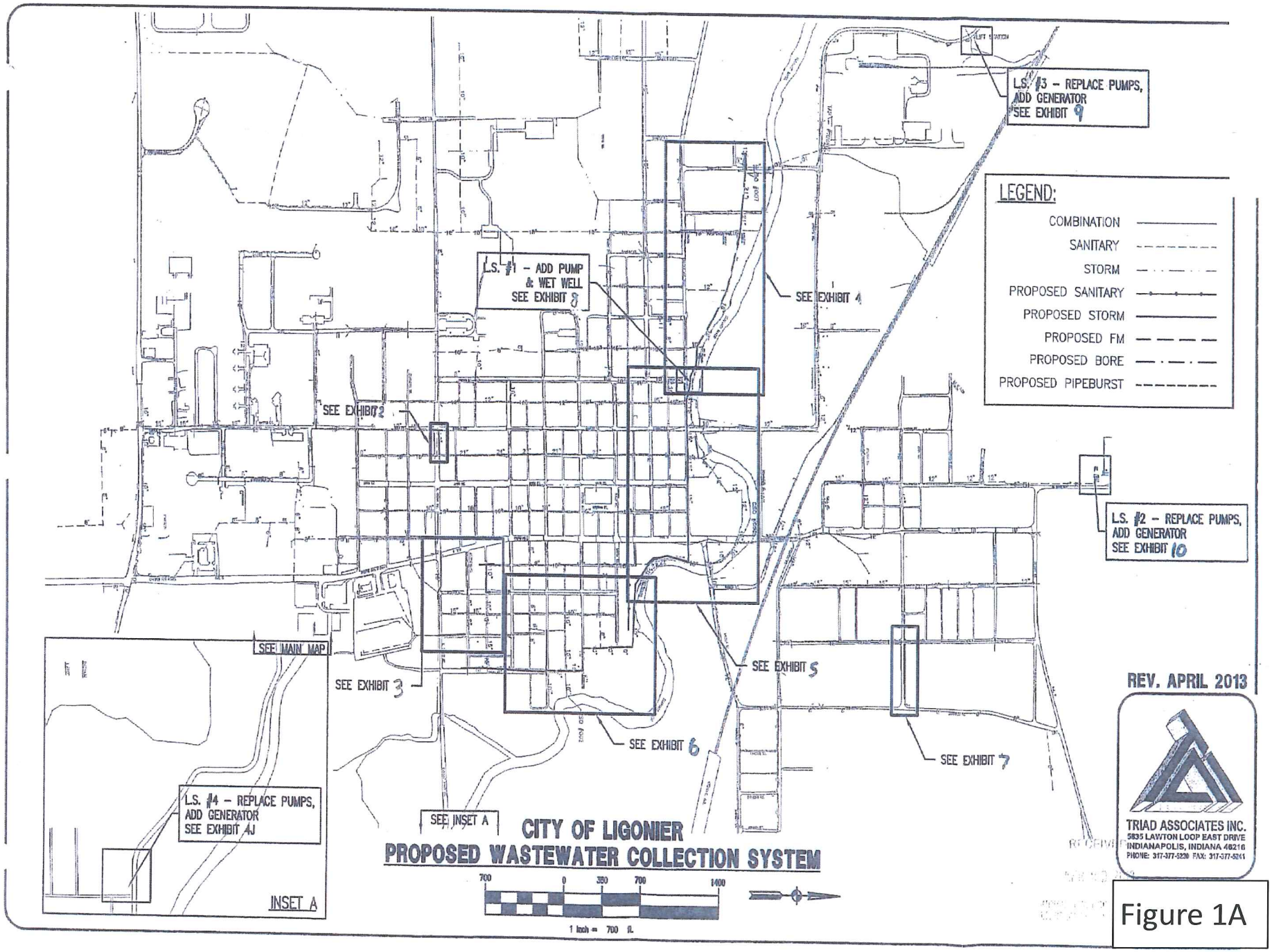
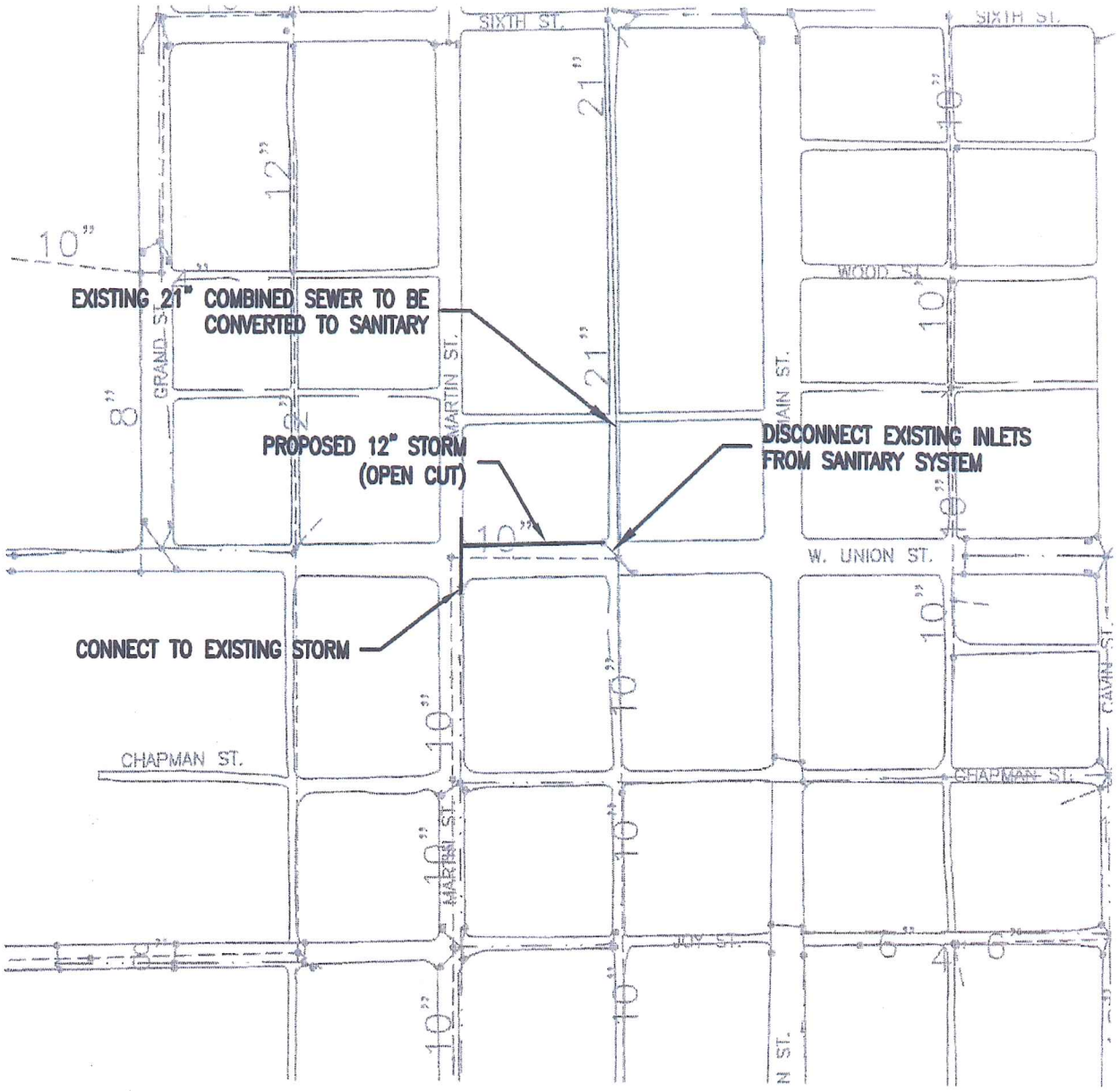

L.S. #3 – REPLACE PUMPS, ADD GENERATOR SEE EXHIBIT 9
LEGEND:
COMBINATION
SANITARY
STORM
PROPOSED SANITARY
PROPOSED STORM
PROPOSED FM
PROPOSED BORE
PROPOSED PIPEBURST
L.S. #1 – ADD PUMP & WET WELL SEE EXHIBIT 8
SEE EXHIBIT 4
SEE EXHIBIT 2
L.S. #2 – REPLACE PUMPS, ADD GENERATOR SEE EXHIBIT 10
SEE MAIN MAP
SEE EXHIBIT 3
SEE EXHIBIT 5
SEE EXHIBIT 6
SEE EXHIBIT 7
L.S. #4 – REPLACE PUMPS, ADD GENERATOR SEE EXHIBIT 4J
SEE INSET A
INSET A
CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM
700 0 350 700 1400
1 inch = 700 ft.
REV. APRIL 2013
TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5200 FAX: 317-377-5241

Figure 1A



LEGEND:

COMBINATION	———	PROPOSED SANITARY	——•——•——
SANITARY	— — — —	PROPOSED STORM	———
STORM	— · — · —	PROPOSED FM	— — — —
		PROPOSED BORE	— · — · —
		PROPOSED PIPEBURST	————

CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM

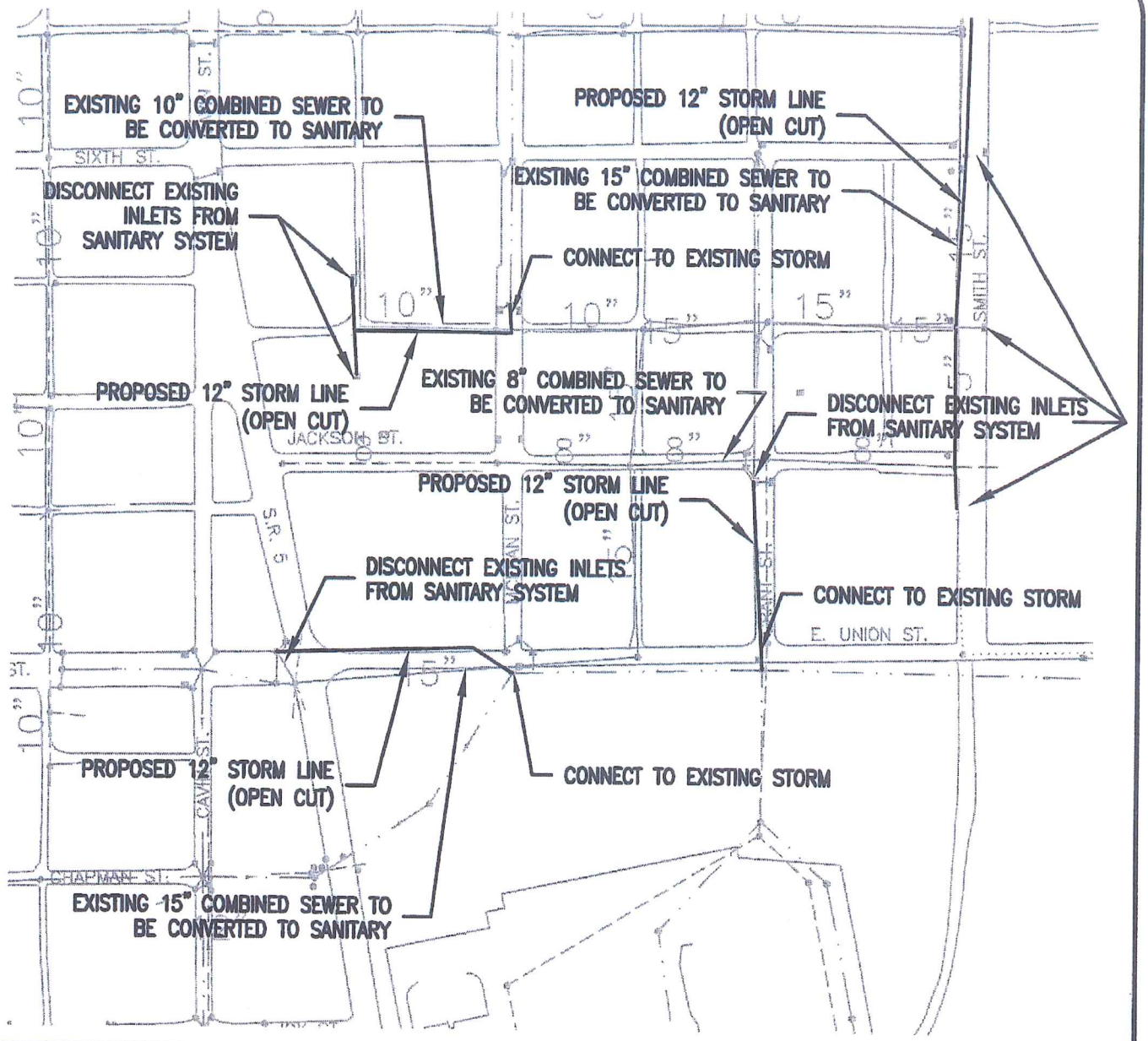
200 0 100 200 400

1 inch = 200 ft.

REV. APRIL 2013

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 2



LEGEND:

COMBINATION	PROPOSED SANITARY
SANITARY	PROPOSED STORM
STORM	PROPOSED FM
	PROPOSED BORE
	PROPOSED PIPEBURST

CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM

200 0 100 200 400

1 inch = 200 ft.

REV. APRIL 2013

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
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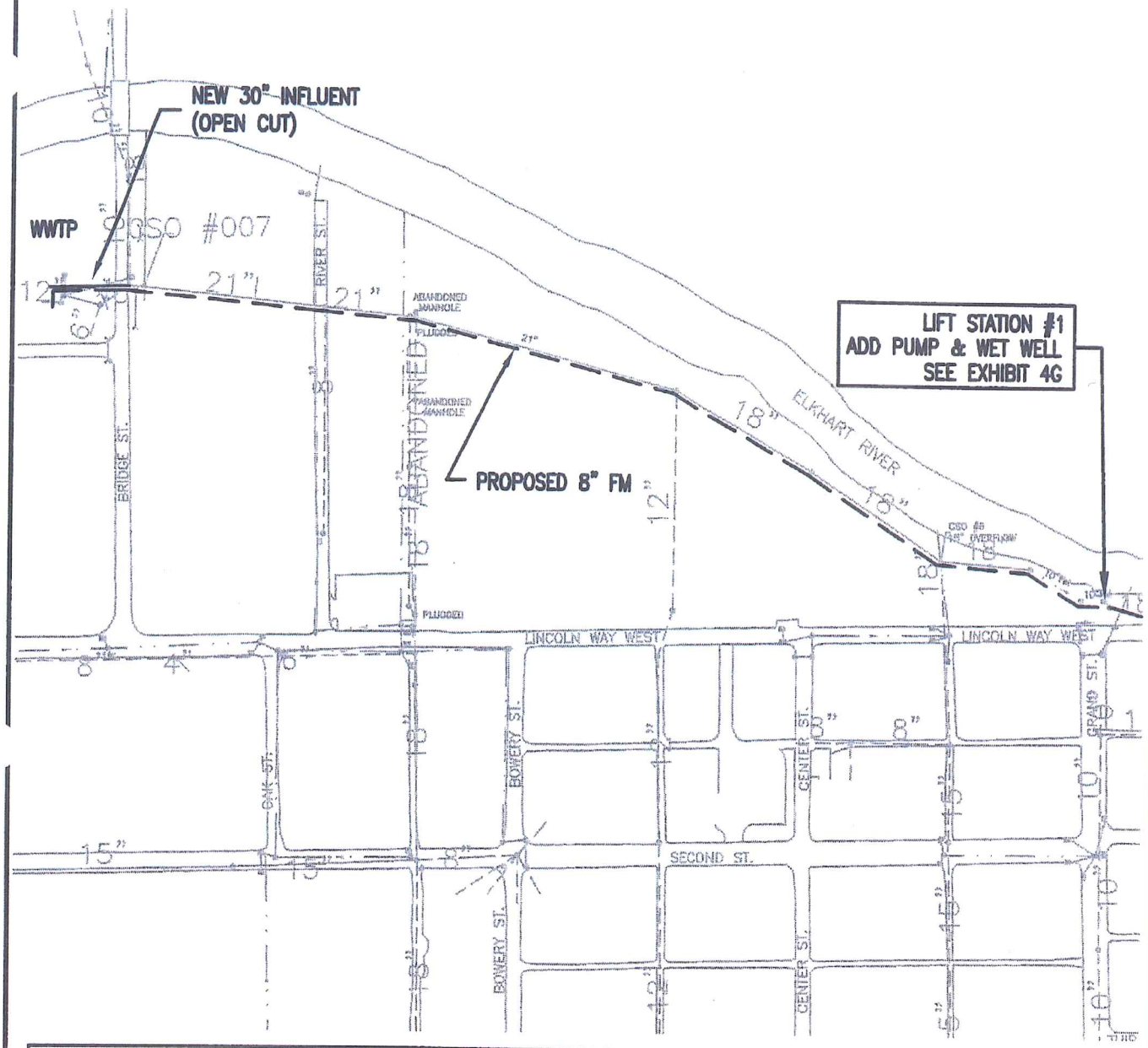
Figure 3



LEGEND:

COMBINATION	———	PROPOSED SANITARY	——•——•——
SANITARY	— — — —	PROPOSED STORM	———
STORM	— · — · —	PROPOSED FM	— — — —
		PROPOSED BORE	— · — · —
		PROPOSED PIPEBURST	- - - - - -

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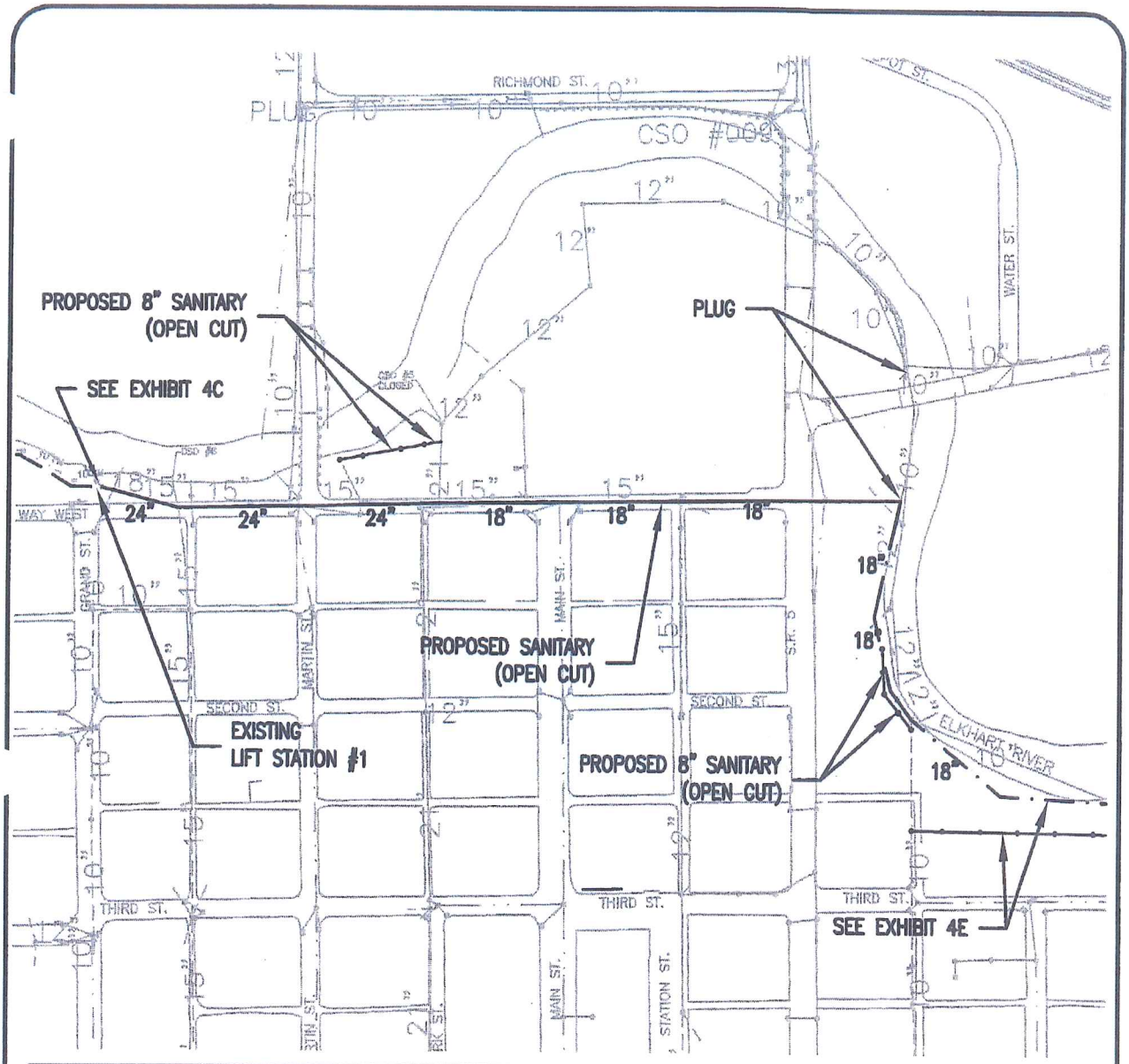
CITY OF LIGONIER
PROPOSED WASTEWATER
COLLECTION SYSTEM

250 0 125 250 500

1 inch = 250 ft.

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 4



LEGEND:

COMBINATION	PROPOSED SANITARY
SANITARY	PROPOSED STORM
STORM	PROPOSED FM
	PROPOSED BORE
	PROPOSED PIPEBURST

REV. APRIL 2013

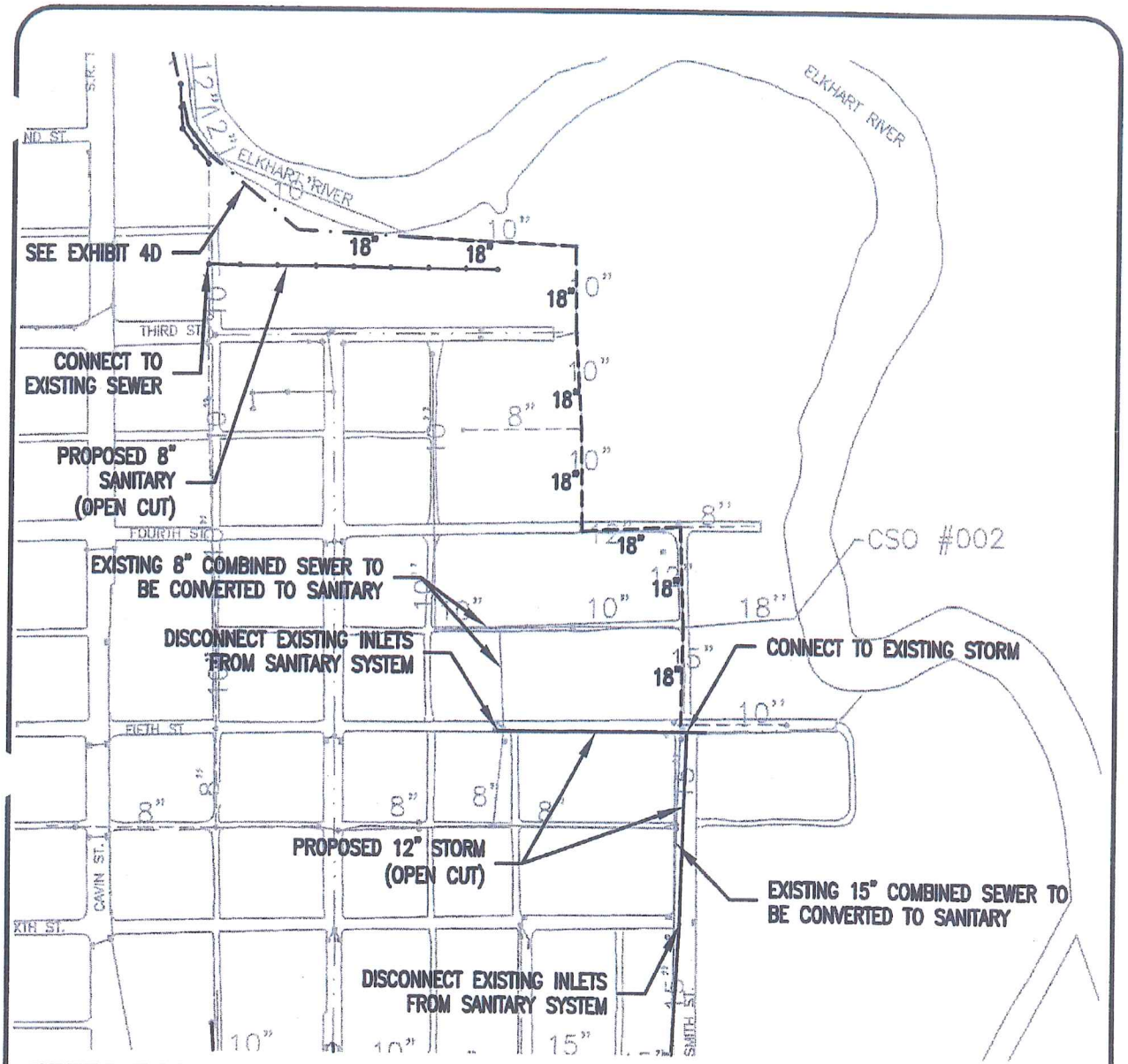
CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM

250 0 125 250 500

1 inch = 250 ft.

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 5



LEGEND:

COMBINATION	PROPOSED SANITARY
SANITARY	PROPOSED STORM
STORM	PROPOSED FM
	PROPOSED BORE
	PROPOSED PIPEBURST

REV. APRIL 2013

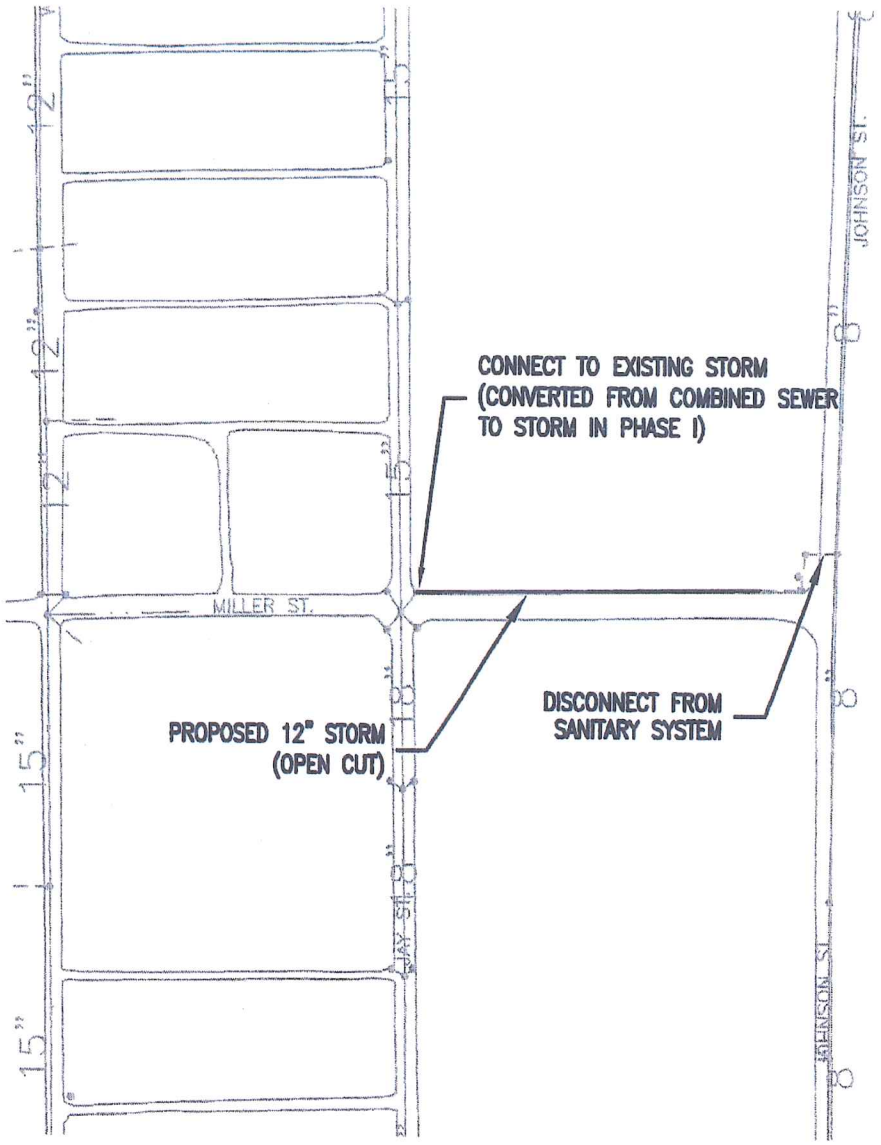
CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM

250 0 125 250 500

1 inch = 250 ft.

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 6



LEGEND:

COMBINATION	PROPOSED SANITARY
SANITARY	PROPOSED STORM
STORM	PROPOSED FM
	PROPOSED BORE
	PROPOSED PIPEBURST

CITY OF LIGONIER
PROPOSED WASTEWATER COLLECTION SYSTEM

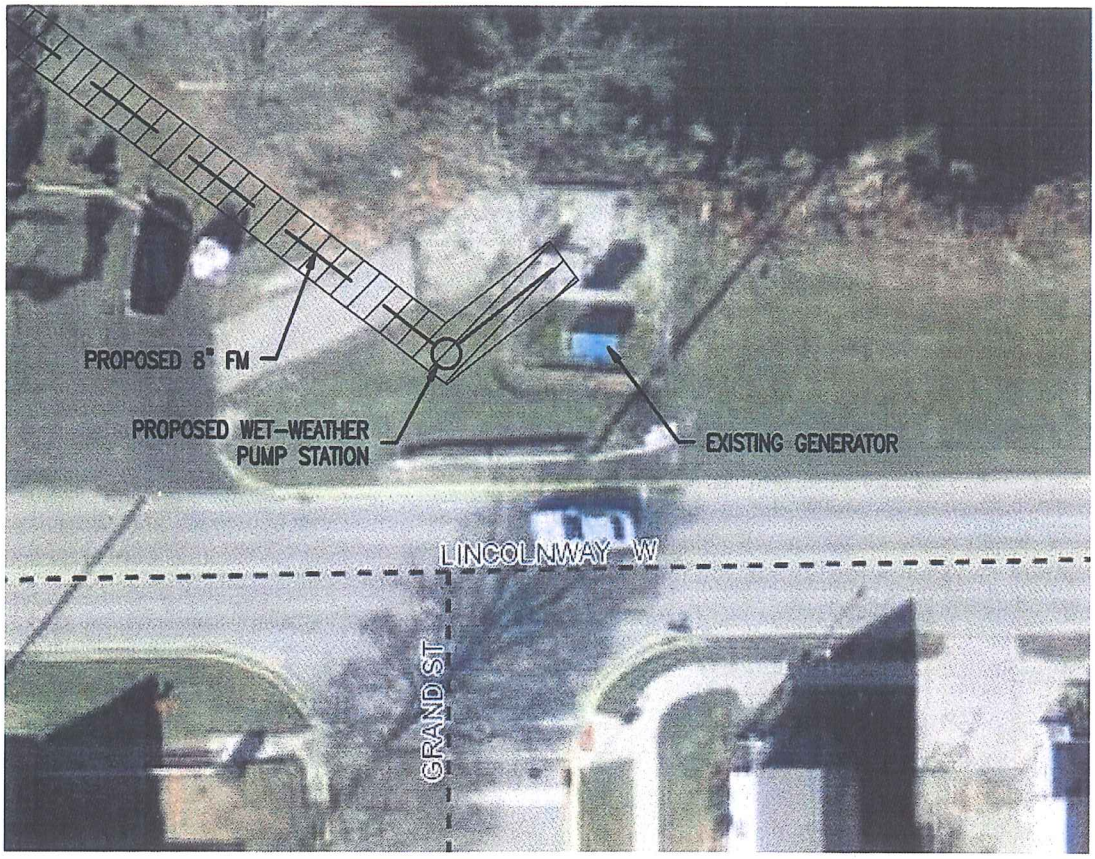
200 0 100 200 400

1 inch = 200 ft.

REV. APRIL 2013

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 7



LEGEND:

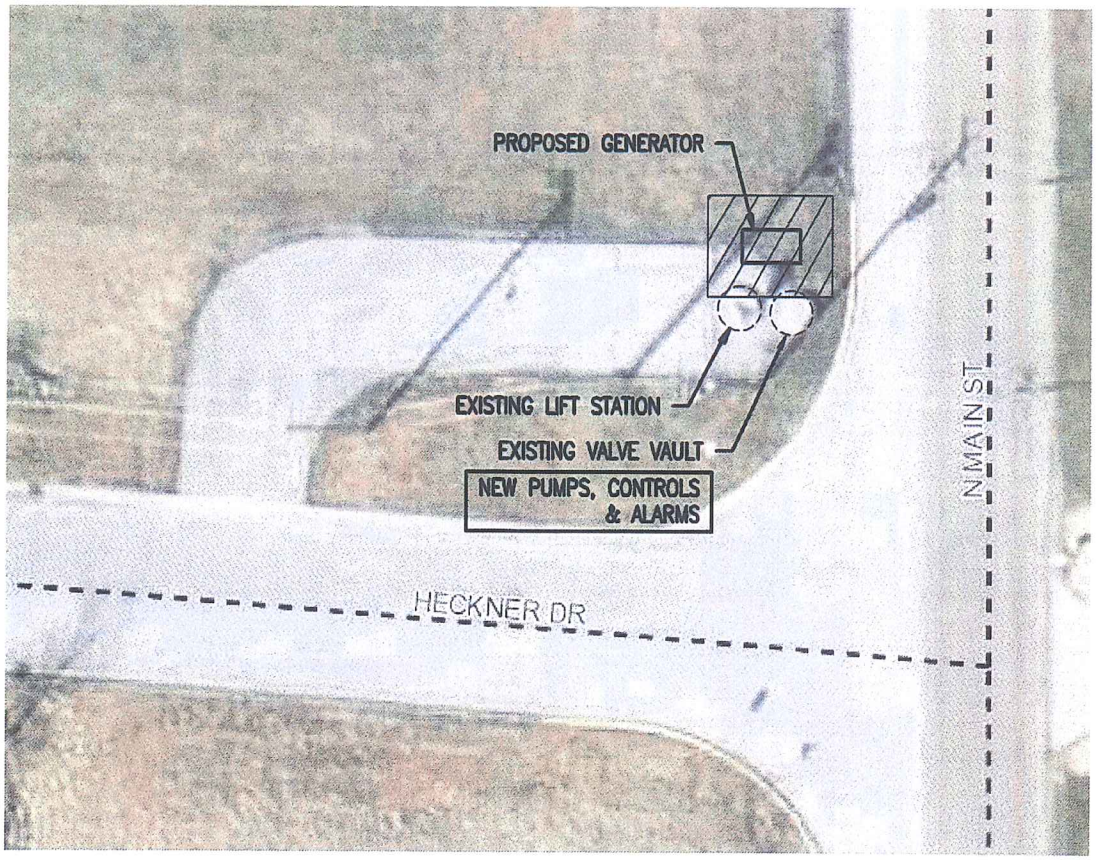
DISTURBED AREA

REV. JULY 2013

CITY OF LIGONIER
LIFT STATION #1

TRIAD ASSOCIATES INC.
8320 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-8580 FAX: 317-577-8581

Figure 8



LEGEND:

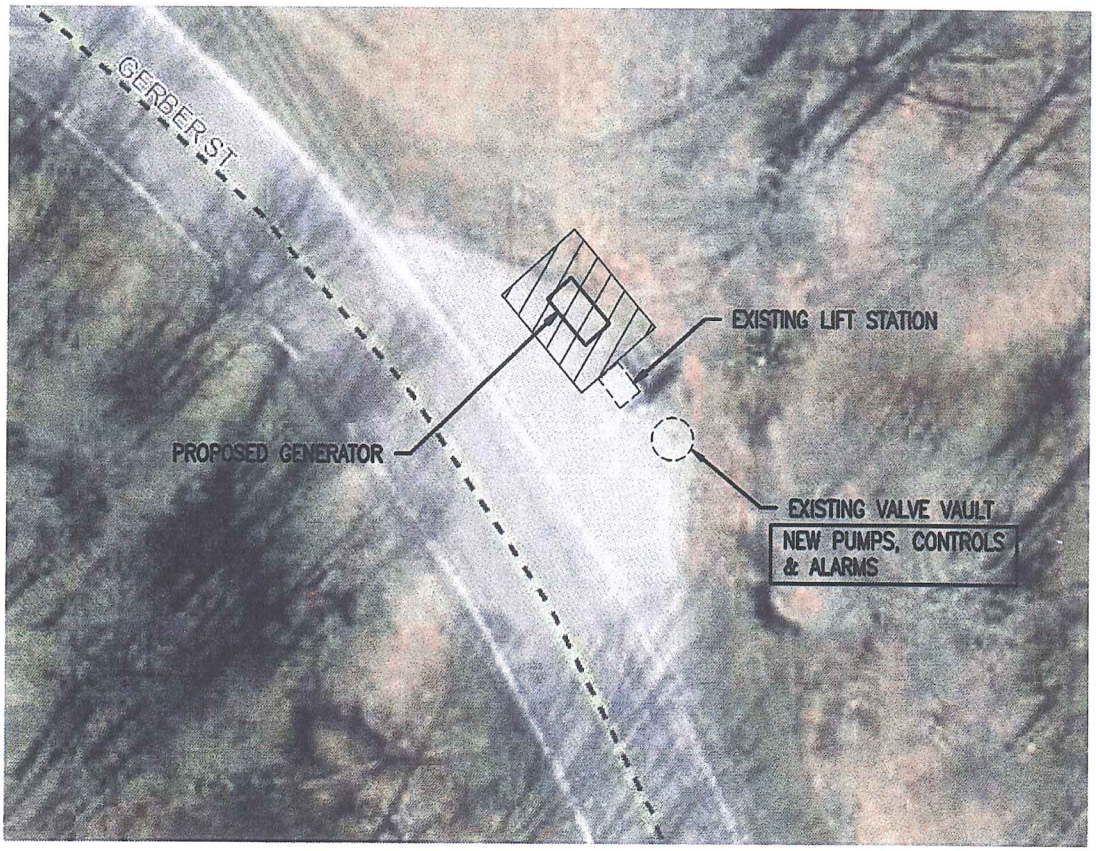
DISTURBED AREA

CITY OF LIGONIER
LIFT STATION #2

REV. APRIL 2013

TRIAD ASSOCIATES INC.
9800 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-4200 FAX: 317-577-4241

Figure 9



LEGEND:

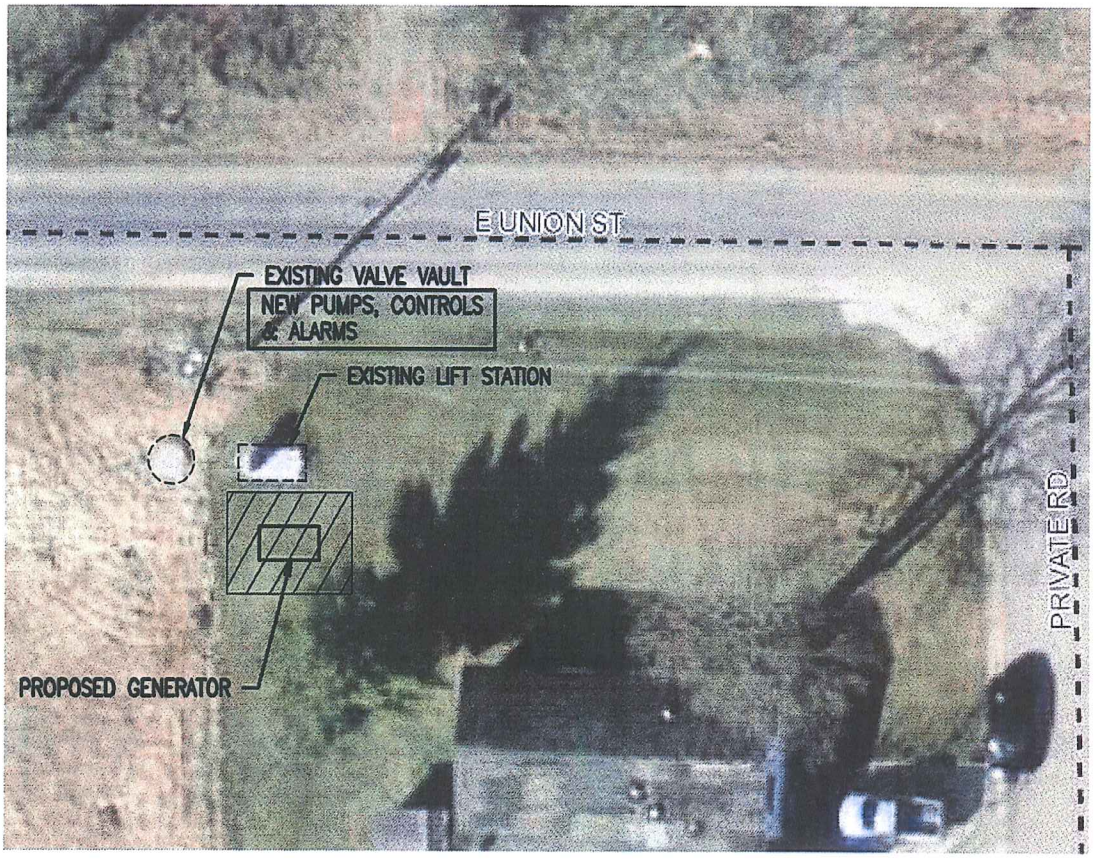
DISTURBED AREA

CITY OF LIGONIER
LIFT STATION #3

REV. APRIL 2013

TRIAD ASSOCIATES INC.
8320 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46240
PHONE: 317-577-8320 FAX: 317-577-8341

Figure 10



LEGEND:

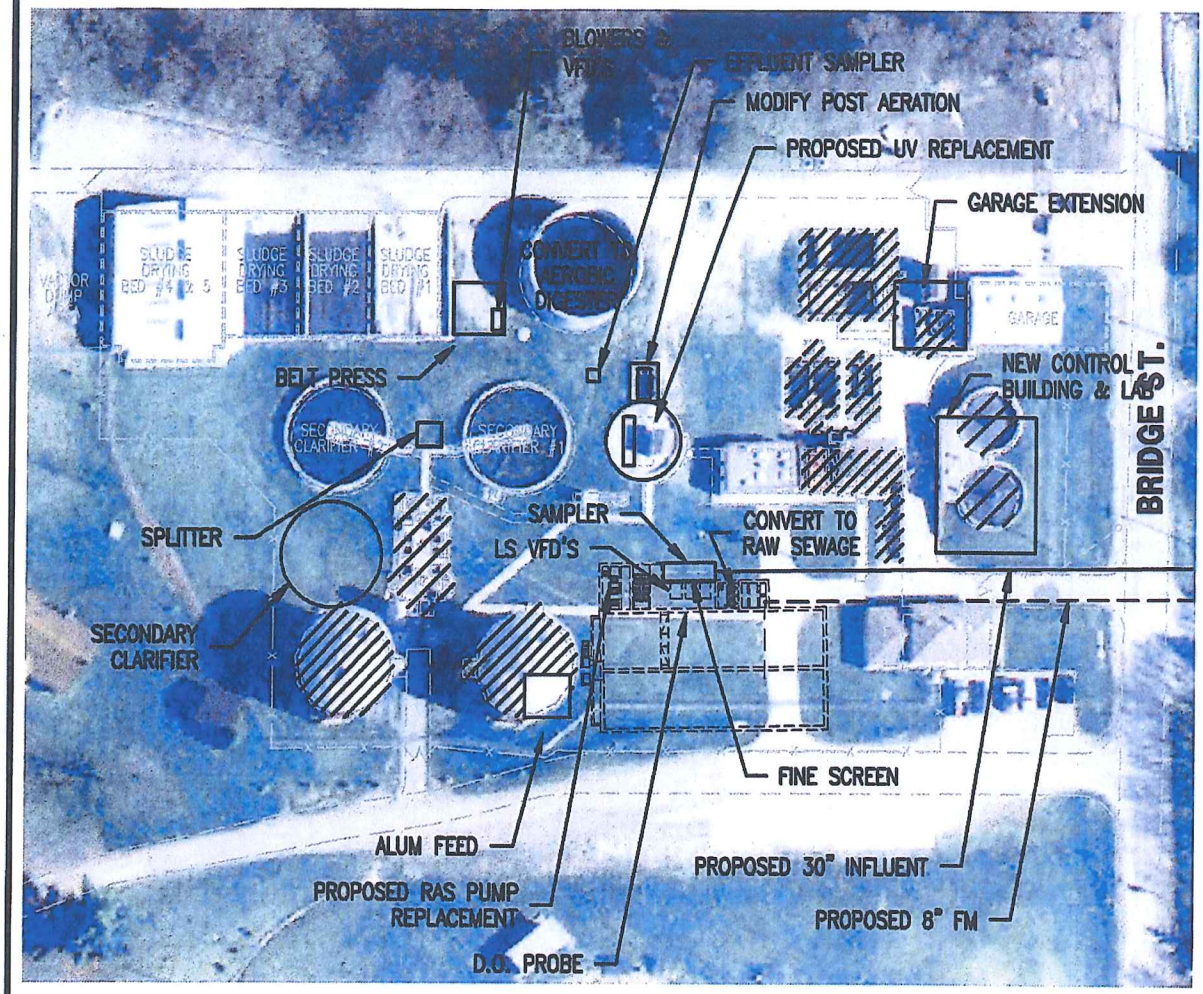
DISTURBED AREA

CITY OF LIGONIER
LIFT STATION #4

REV. APRIL 2013

TRIAD ASSOCIATES INC.
8320 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46240
PHONE: 317-577-5580 FAX: 317-577-5581

Figure 11



LEGEND:

DEMOLITION

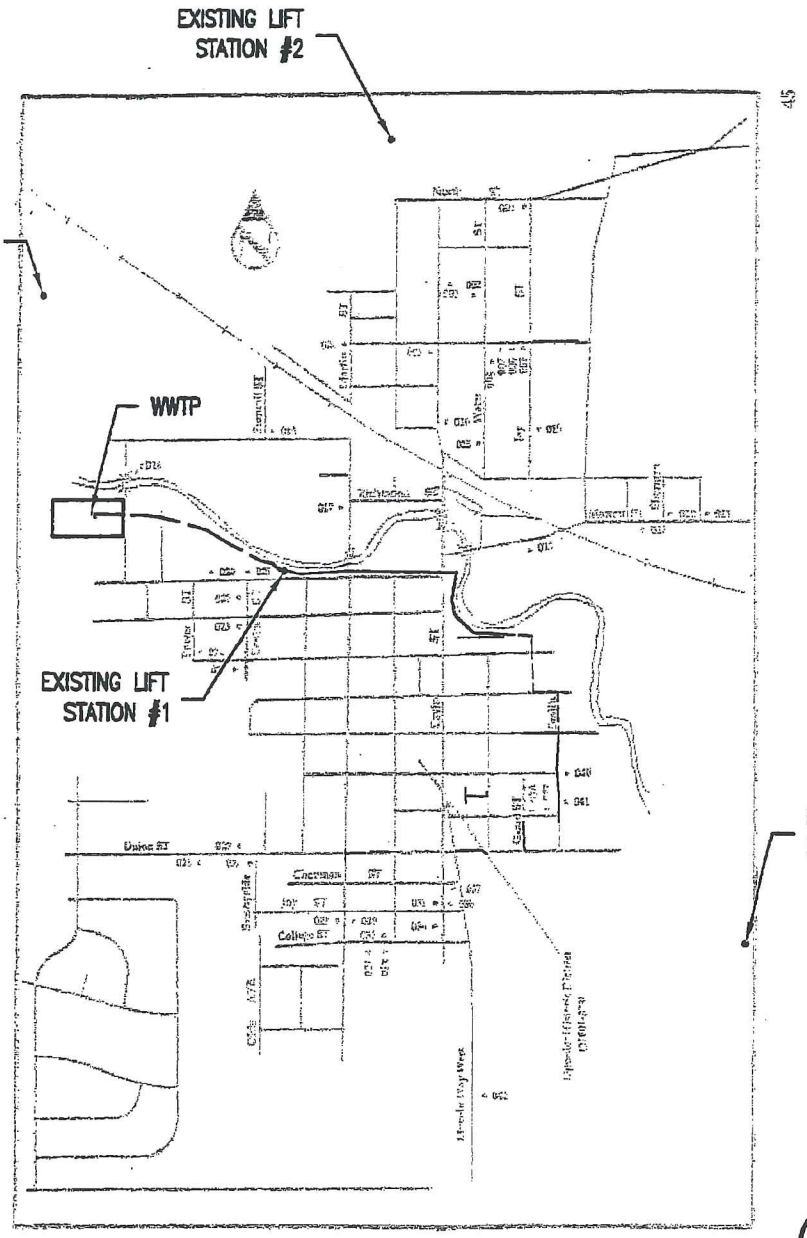
CITY OF LIGONIER
AERIAL - PROPOSED WWTP IMPROVEMENTS

80 0 40 80 160

1 inch = 80 ft.

TRIAD ASSOCIATES INC.
8025 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-5250 FAX: 317-577-5251

Figure 12



Ligonier Scattered Sites (22001-042)

REV. APRIL 2013

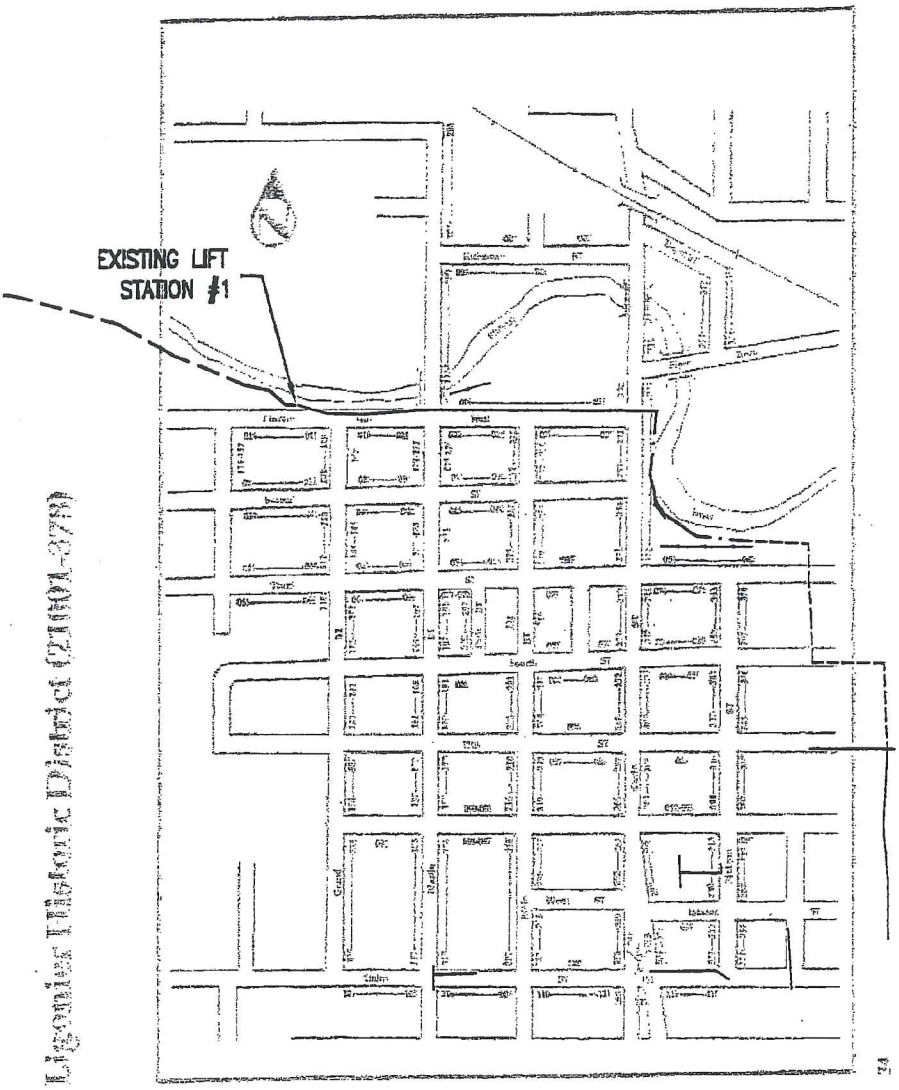
CITY OF LIGONIER
NOBLE COUNTY INTERIM REPORT

LEGEND:

- PROPOSED SANITARY
- PROPOSED STORM
- PROPOSED FM
- PROPOSED BORE
- PROPOSED PIPEBURST

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 13



REV. APRIL 2013

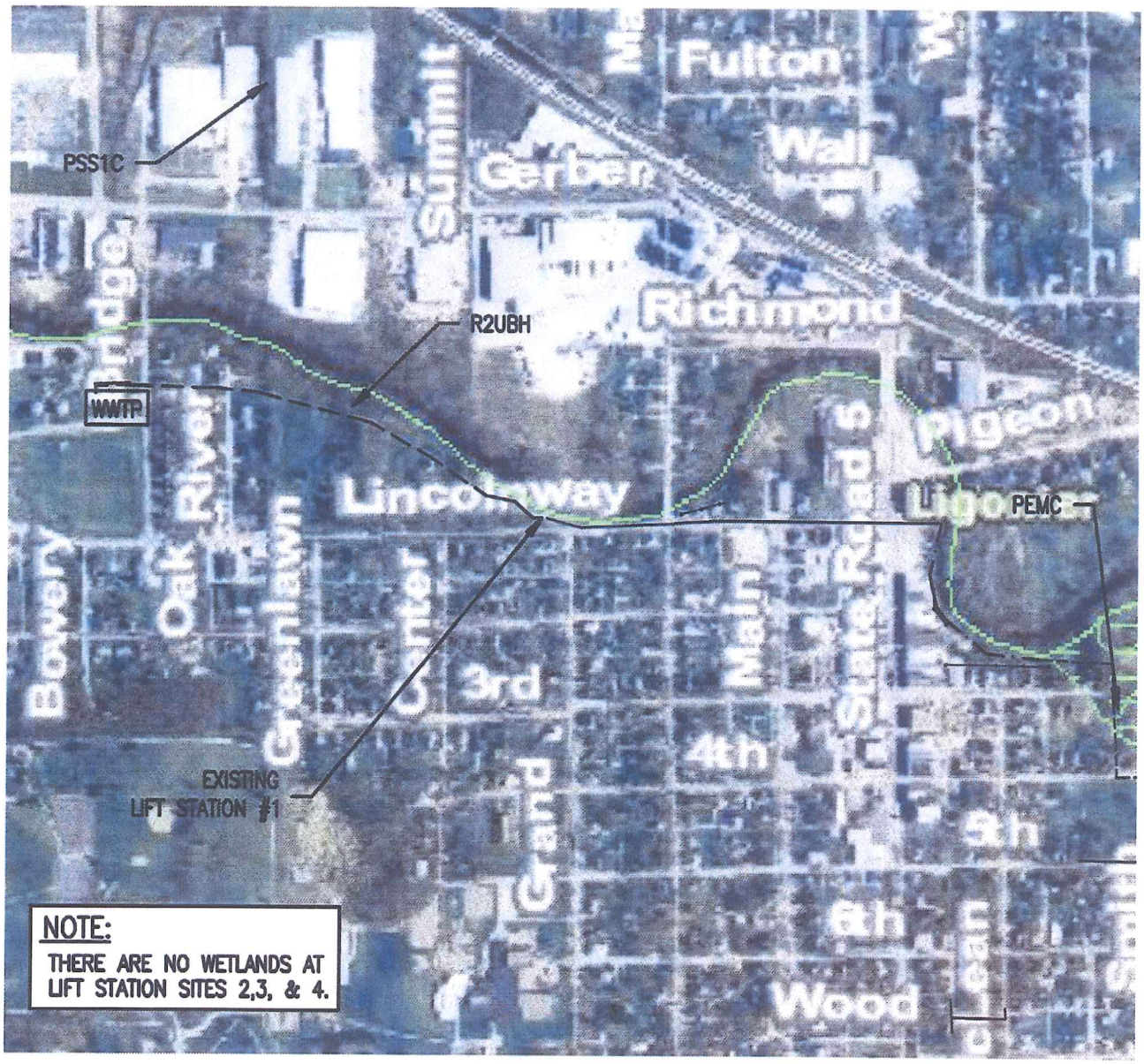
PERRY TOWNSHIP
NOBLE COUNTY INTERIM REPORT

LEGEND:

- PROPOSED SANITARY
- PROPOSED STORM
- PROPOSED FM
- PROPOSED BORE
- PROPOSED PIPEBURST

TRIAD ASSOCIATES INC.
5835 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-377-5230 FAX: 317-377-5241

Figure 14



CITY OF LIGONIER
COLLECTION SYSTEM WETLANDS MAP

800 0 400 800 1600

1 inch = 800 ft.

LEGEND:

- PROPOSED SANITARY
- PROPOSED STORM
- PROPOSED FM
- PROPOSED BORE
- PROPOSED PIPEBURST

REV. APRIL 2013

TRIAD ASSOCIATES INC.
8520 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-8250 FAX: 317-577-8251

Figure 15

CITY OF LIGONIER
COLLECTION SYSTEM WETLANDS MAP

300 0 150 300 600

1 inch = 300 ft.

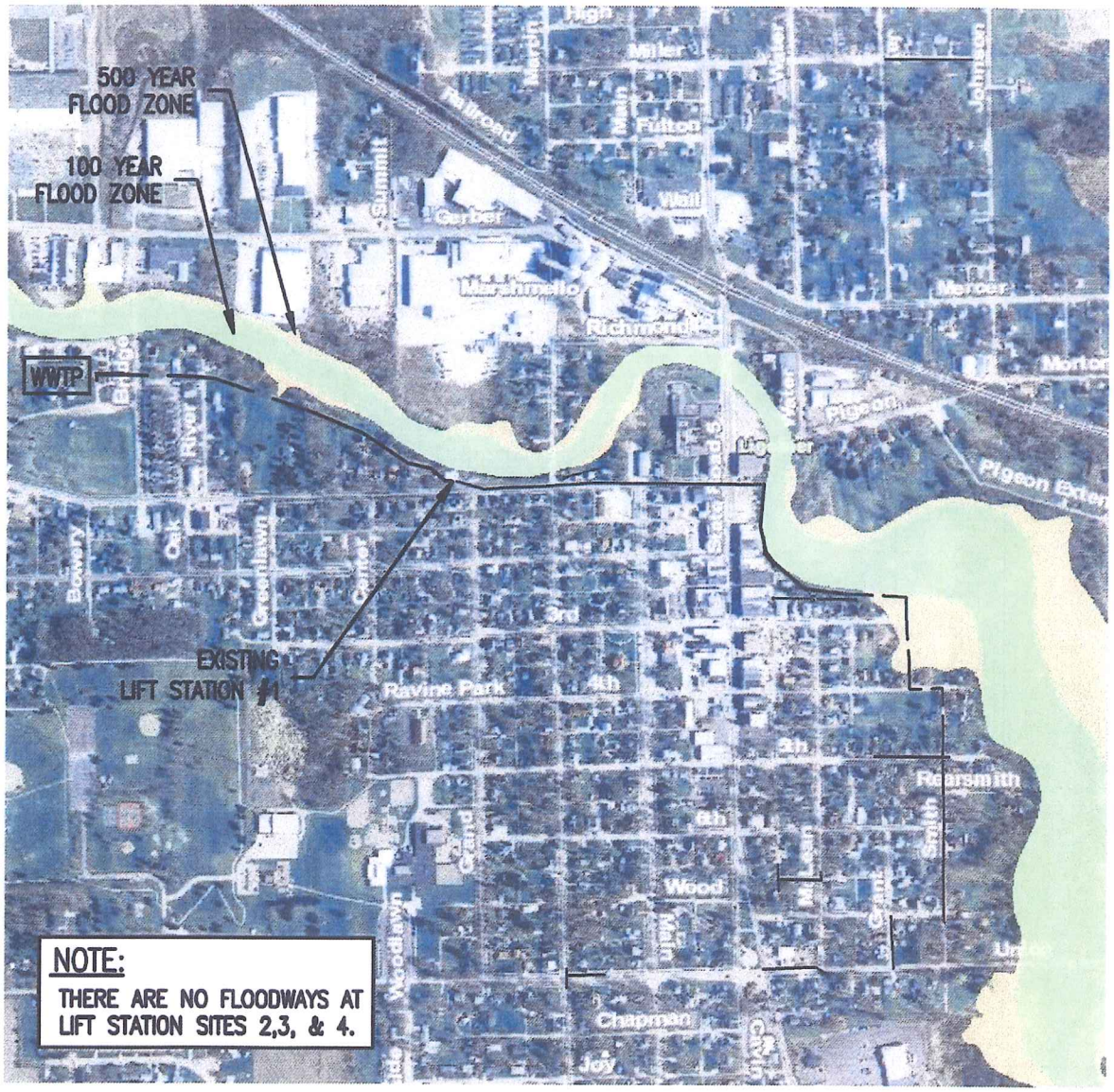
LEGEND:

- PROPOSED SANITARY
- PROPOSED STORM
- PROPOSED FM
- PROPOSED BORE
- PROPOSED PIPEBURST

REV. APRIL 2013

TRIAD ASSOCIATES INC.
8025 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-8250 FAX: 317-577-8251

Figure 16



CITY OF LIGONIER
COLLECTION SYSTEM FLOOD MAP

800 0 400 800 1600

1 inch = 800 ft.

LEGEND:

PROPOSED SANITARY —S—

PROPOSED STORM ———

PROPOSED FM — — —

PROPOSED BORE — · —

PROPOSED PIPEBURST - - - -

REV. APRIL 2013

TRIAD ASSOCIATES INC.
8320 LAWTON LOOP EAST DRIVE
INDIANAPOLIS, INDIANA 46216
PHONE: 317-577-8910 FAX: 317-577-8911

Figure 17