



State Revolving Fund Loan Programs

Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CITY OF EVANSVILLE MT. AUBURN SEWER EXTENSION PROJECT SRF PROJECT WW 09 12 82 06

DATE: June 27, 2011

TARGET PROJECT APPROVAL DATE: July 27, 2011

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Loan Fund (SRF) for a loan to finance all or part of the waste 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.

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 deadline 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:

**Amy Henninger
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-6566**

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address: **Mt Auburn Sewer Extension Project**
1 NW Martin Luther King Jr. Blvd. Room 104
Evansville, IN 47740-0001

SRF Project Number: WW 09 12 82 06

Authorized Representative: James Garrard, Interim Director

II. PROJECT LOCATION

The City of Evansville is located in Vanderburgh County, in the southwest corner of Indiana.

The Mt. Auburn neighborhood is located within the corporate limits of the Evansville. The Project area encompasses approximately 160 acres in the western portion of the City, generally between Pigeon Creek and St. Joseph Avenue (east to west) and Mt. Auburn Road and Bismark Street (north to south). The project area is within the existing service area of the City. The project will occur in Pigeon Township in the Evansville South quadrangle, T6S, R11W in Sections 13, and 24 (see Exhibit 1).

III. PROJECT NEED AND PURPOSE

The project area is currently served by aging septic systems. The Vanderburgh County Health Department (VCHD) has documented several sanitation nuisance complaints through the years in the Mt. Auburn neighborhood. In correspondence dated March 6, 2009, the VCDH stated: *“The size and type of systems serving them is unknown and replacing them with systems compliant with current codes would be very difficult due to lot sizes and dimensions. Secondly our department has investigated and validated complaints of sewage being discharged from systems in this area. This includes one complaint of a collector line discharging into a cemetery.”* The Vanderburgh County Soil Survey shows that the predominant soils in the project area are not ideal for septic systems due to steep slope and slow permeability. To compound these problems, septic system replacement is not feasible on several properties due to the lot size being too small to relocate a septic leach field.

The purpose of the proposed project is to extend city sewer service to the Mt. Auburn neighborhood to remove these homes from failing septic systems and eliminate the illicit discharge of wastewater to the environment.

IV. PROJECT DESCRIPTION

The project proposes the installation of a low pressure sewer system that will include individual grinder pumps and approximately 9,150 feet of 2-inch and 3-inch polyvinyl chloride pressure pipe that will be connecting to existing 8-inch gravity sewer system via two existing manholes.

The proposed low pressure sewer system includes (see Exhibit 11):

- A. installing approximately 2,350 feet of 1.25-inch pressure sewer;
- B. installing approximately 2,250 feet of 1.5-inch pressure sewer;
- C. installing approximately 1,824 feet of 2-inch pressure sewer;
- D. installing approximately 2,378 feet of 2.5-inch pressure sewer;
- E. installing approximately 2,524 feet of 3-inch pressure sewer;
- F. installing approximately seventy-six 1.25-inch ball & check valve assembly;
- G. installing approximately 74 individual grinder pumps;
- H. installing approximately 9,500 feet of 1.5-inch service lateral;
- I. installing approximately six air release valve and structures;
- J. installing approximately ten flushing connections;
- K. installing approximately two manholes (interior epoxy coated); and
- L. performing electrical work.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Construction Costs

Mobilization/ Demobilization	\$ 55,000
1.25-inch pressure sewer	54,050
1.5-inch pressure sewer	56,250
2-inch pressure sewer	54,720
2.5-inch pressure sewer	78,474
3-inch pressure sewer	93,388
1.25-inch ball & check valve assembly	53,200
*Grinder pump units	459,800
*Service laterals, septic tank abandonment, and electrical hookup	583,000

Air Release Valves	27,000
Flushing Connections	15,000
Manholes	10,000
Traffic Control	25,000
Erosion & Sediment Control	10,000
Construction Total Including Contingency	\$ 1,628,110

Non-Construction Costs

Administration	\$42,000
Financial	65,000
Legal	100,000
Engineering Planning for Gravity Sewer	25,800
Engineering Planning for Pressure Sewer	11,500
Engineering Design for Gravity Sewer	150,200
Engineering Design for Pressure Sewer	81,000
Construction Engineering	45,600
Construction Inspections	108,400
Other Engineering Services (i.e. soils investigation and easement assistance)	16,125
Archaeological Study	16,000
Total Non-Construction Costs	\$ 662,507
Total Project Cost	\$2,290,617

*Ineligible for funding through the State Revolving Fund (SRF) Program and the State and Tribal Assistance Grant Program (STAG).

- B. Evansville will borrow \$770,817 from the SRF Program with a 20-year loan at an interest rate to be determined at the time of loan closing. An additional \$477,000 will be provided by a Special Appropriation Grant through the Environmental Protection Agency. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment. The remaining \$1,042,800 will be funded with local funds.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

Evansville considered four alternatives including the “No Action” alternative to address the failed septic systems in the Mt. Auburn neighborhood.

No Action Alternative: This alternative was rejected, since failing on-site septic systems would continue to discharge inadequately treated sewage into nearby streams or ditches and cause a potential public health problem.

Existing on-site septic systems rehabilitation: This alternative was rejected since many of the lots are too small to support an adequate system; steep topography would not be acceptable for relocation; and other lots are located within the Pigeon Creek floodplain.

New public gravity sewer system: This alternative proposes the installation of a new gravity sewer system that would convey the wastewater to the city's existing sanitary sewer system for treatment at the Westside Wastewater Treatment Plant (WWTP). This alternative was rejected due to high cost.

New public low pressure sewer system: This alternative proposes the installation of a new low pressure sewer system with individual grinder pumps installed at each residence that will pump the wastewater to the city's existing sanitary sewer system for treatment at the Westside WWTP. **Based on cost and causing minimum disruption to the neighborhood, this was the selected alternative.**

VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES

A. Direct Impacts of Construction and Operation

Undisturbed/Disturbed Land

The proposed sewer project will be constructed on disturbed land, since the pressure sewer piping will be installed under public roads and near the foundations of existing structures. In addition, the installation of the pressure sewers will be done with directional drill technology.

Structural Resources (see Exhibit 6):

There are eight historical structures that are along the proposed pressure sewer system route. The project is also within 100 feet of the Lutheran Cemetery, which is not expected to impact the cemetery.

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 the Section 106 of the national Historic Preservation Act is: "no historic properties affected."

Plants and Animals: The construction and operation of the project will not impact state or federal-listed endangered species or their habitat. None of the construction will take place in wooded areas which includes stands of Champion Black Jack Oak trees.

Prime Farmland: The proposed project will not cause a conversion of prime farmland.

Wetlands (Exhibit 2): The proposed project and all alternatives will not affect wetlands.

100-Year Floodplain (Exhibit 3): The eastern portion of the project area will be within the 100-year floodplain. However, all sewer installations and pump stations will be installed below ground so no displacement of flood waters should occur.

Surface Waters: The proposed projects will not adversely affect waters of high quality listed

in 327 IAC 2-1-2(3), exceptional use streams listed in 327 IAC 2-1-11(b), or Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2).

The project will not require stream crossings.

Groundwater: Construction of the project will not affect groundwater quality.

Air Quality: Dust and noise will be produced during construction activities.

Open Space and Recreational Opportunities: The proposed project's construction and operation will neither create nor destroy open space and recreational opportunities.

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

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

B. Indirect Impacts

The city's Preliminary Engineering Report (PER) states: *The City of Evansville, through the authority of its council, Planning commission or other means, will ensure that future development, as well as future collection system or treatment works projects connecting to SRF-funded facilities will not adversely impact wetlands, archaeological/historical/structural resources, 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

This document serves as the first notice to the U.S. Fish and Wildlife Service, The Indiana Department of Natural Resources Division of Historic Preservation and Archaeology, and the IDNR Environmental Unit.

The Natural Resources Conservation Service, in correspondence dated January 25, 2011 stated that *"The project to provide a low pressure sanitary sewer collection system in the Mt. Auburn neighborhood in Vanderburgh County, Indianawill not cause a conversion of prime farmland."*

VIII. MITIGATION MEASURES

The City's PER states: *Best management practices will be used to control siltation and erosion at the project site. Mitigation measures to lessen siltation and erosion cited in comment letters regarding the Project from the Vanderburgh County Soil Conservation Service will be implemented.*

Since more than one acre will be disturbed, a Rule 5 Sediment and Erosion Control Plan will be prepared as a plan for the contractor to follow during construction.

Reasonable and proper construction techniques and clean-up practices will be provided by the contractor to reduce dust emissions. In addition, surface wetting practices will be utilized to control dust emissions and the control of fugitive dust where required.

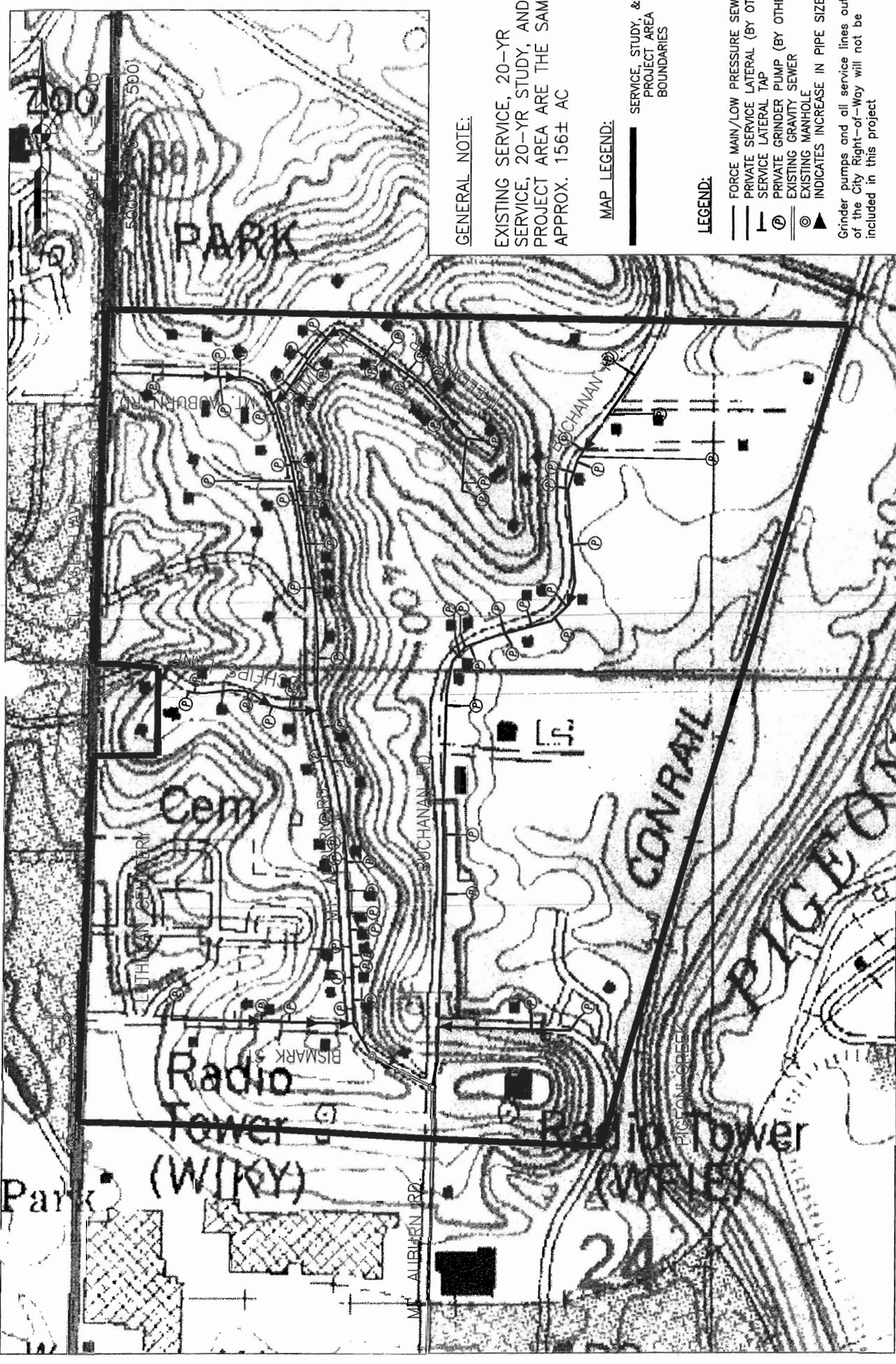
Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

Special consideration will be given to the restoration of steep slope embankments and other areas susceptible to soil erosion. These steep slope embankments shall be protected with sod or erosion control blankets upon completion and settlement of the trenches dug for installation of the sewer lines.

Mitigation measures cited in any comment letters received from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

IX. PUBLIC PARTICIPATION

A properly noticed Public Hearing was held on March 8, 2011 in the Helfrich Middle School Library. Questions raised during the hearing were: would alarms be placed on the grinder pumps to notify the homeowner of a problem – *yes, alarms would be installed*; would there be enough storage in the grinder pump tanks in the event of a power failure – *enough storage for a day or two*; what type of lid would the grinder pump have since there was a concern about a metal lid rusting – *the lid would be made of polyethylene*; residents concerned about location of grinder pump on property – *placed on lower side of the house and have lateral sloped so that wastewater can gravity flow into grinder pump*; residents were concerned about the initial cost as well as operation & maintenance of the pumps – *it would cost \$3,000 to replace the pump based on purchasing in bulk; some residents inquired about completing the work themselves but were told they would have to comply with the city's licensing requirements*; length on warranty on grinder pump – *2 year manufacturer's warranty*; and residents concerned about the performance of the grinder pump sewer system – *the city gave the residents a couple of communities to contact where they are using a grinder pump system*. There were no written comments received by the utility during the 5-day period following the public hearing.



GENERAL NOTE:
 EXISTING SERVICE, 20-YR SERVICE, 20-YR STUDY, AND PROJECT AREA ARE THE SAME; APPROX. 156± AC

MAP LEGEND:
 — SERVICE, STUDY, & PROJECT AREA BOUNDARIES

LEGEND:
 — FORCE MAIN/LOW PRESSURE SEWER
 — PRIVATE SERVICE LATERAL (BY OTHER)
 — SERVICE LATERAL TAP
 — PRIVATE GRINDER PUMP (BY OTHERS)
 — EXISTING GRAVITY SEWER
 ⊙ EXISTING MANHOLE
 ▲ INDICATES INCREASE IN PIPE SIZE
 Grinder pumps and all service lines out of the City Right-of-Way will not be included in this project

PER Exhibits.dwg 20

EXHIBIT 1

PRELIMINARY ENGINEERING REPORT
THE CITY OF EVANSVILLE WATER AND SEWER UTILITY
MT. AUBURN NEIGHBORHOOD SANITARY SEWER PROJECT
EXISTING AND 20-YR SERVICE, 20-YR STUDY, & PROJECT AREA MAP

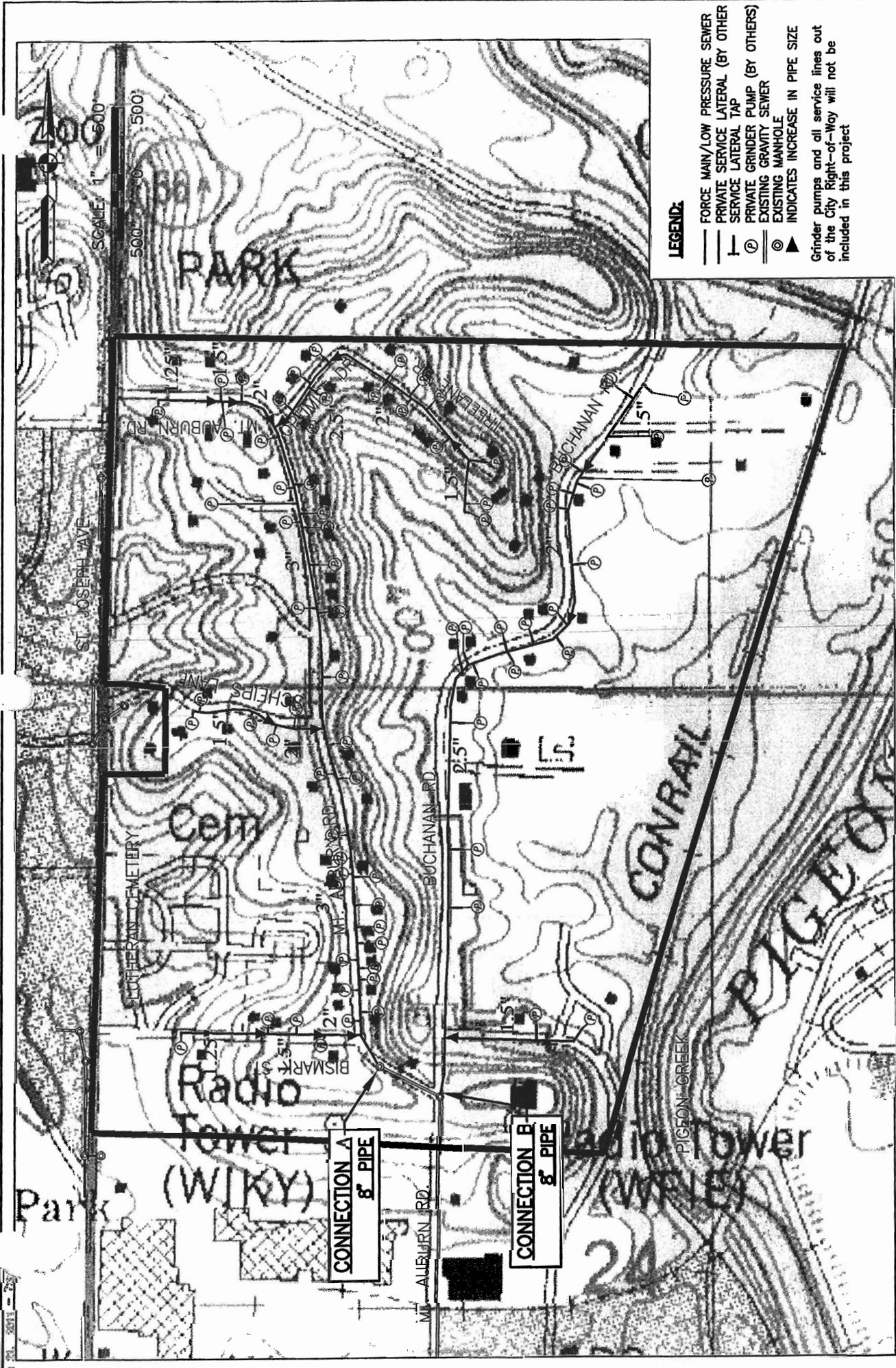
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- LEGEND:**
- FORCE MAIN/LOW PRESSURE SEWER
 - PRIVATE SERVICE LATERAL (BY OTHER)
 - SERVICE LATERAL TAP
 - ⊕ PRIVATE GRINDER PUMP (BY OTHERS)
 - ⊙ EXISTING GRAVITY SEWER
 - ⊙ EXISTING MANHOLE
 - ▲ INDICATES INCREASE IN PIPE SIZE
- Grinder pumps and all service lines out of the City Right-of-Way will not be included in this project

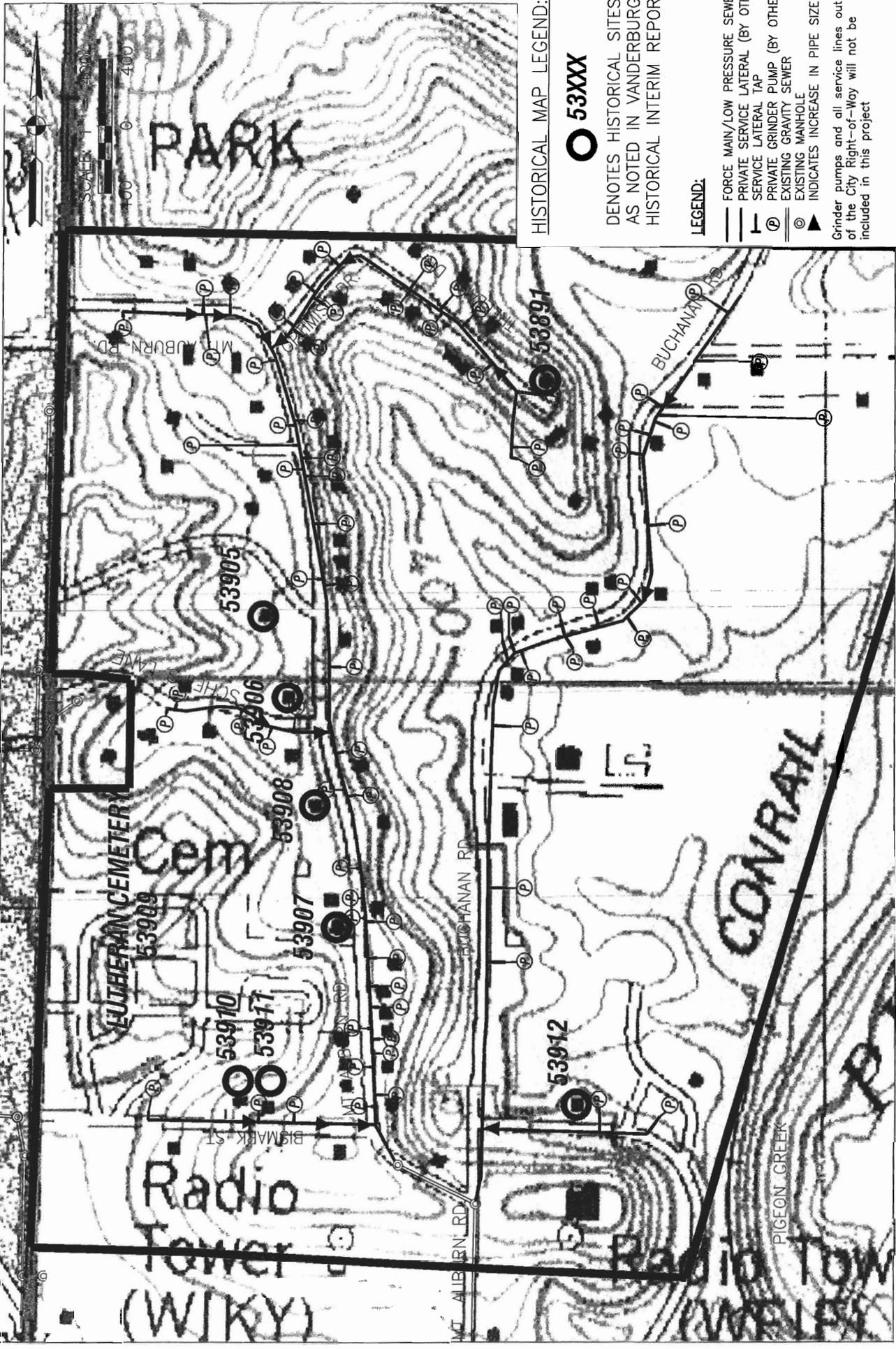
PRELIMINARY ENGINEERING REPORT
THE CITY OF EVANSVILLE WATER AND SEWER UTILITY
MT. AUBURN NEIGHBORHOOD SANITARY SEWER PROJECT
PROPOSED SANITARY SEWER SIZES AND CONNECTION POINTS

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HISTORICAL MAP LEGEND:

○ 53XXX

DENOTES HISTORICAL SITES AS NOTED IN VANDERBURGH HISTORICAL INTERIM REPORT

LEGEND:

- FORCE MAIN/LOW PRESSURE SEWER
- - - PRIVATE SERVICE LATERAL (BY OTHERS)
- ⊥ PRIVATE LATERAL TAP
- ⊕ PRIVATE GRINDER PUMP (BY OTHERS)
- ⊖ EXISTING GRAVITY SEWER
- ⊙ EXISTING MANHOLE
- ▲ INDICATES INCREASE IN PIPE SIZE

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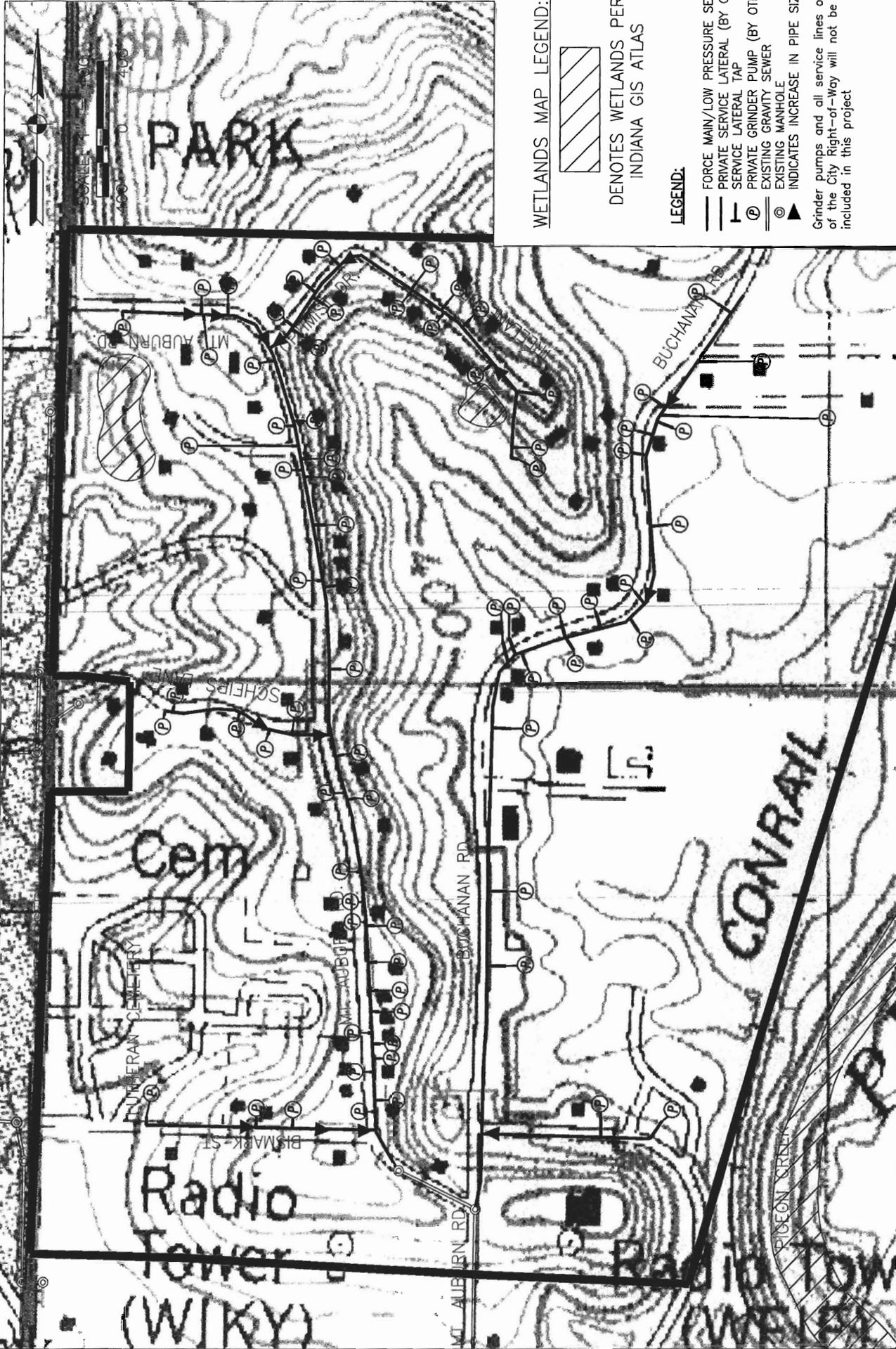
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PRELIMINARY ENGINEERING REPORT
 THE CITY OF EVANSVILLE WATER AND SEWER UTILITY
 MT. AUBURN NEIGHBORHOOD SANITARY SEWER PROJECT
 HISTORIC SITES AND STRUCTURES

EXHIBIT

6

PER Exhibits.dwg 20



WETLANDS MAP LEGEND:



Denotes Wetlands per Indiana GIS Atlas

LEGEND:

- FORCE MAIN/LOW PRESSURE SEWER
- - - PRIVATE SERVICE LATERAL (BY OTHER)
- - - PRIVATE LATERAL TAP
- Ⓟ PRIVATE GRINDER PUMP (BY OTHERS)
- Ⓢ EXISTING GRAVITY SEWER
- Ⓢ EXISTING MANHOLE
- ▲ INDICATES INCREASE IN PIPE SIZE

Grinder pumps and all service lines out of the City Right-of-Way will not be included in this project

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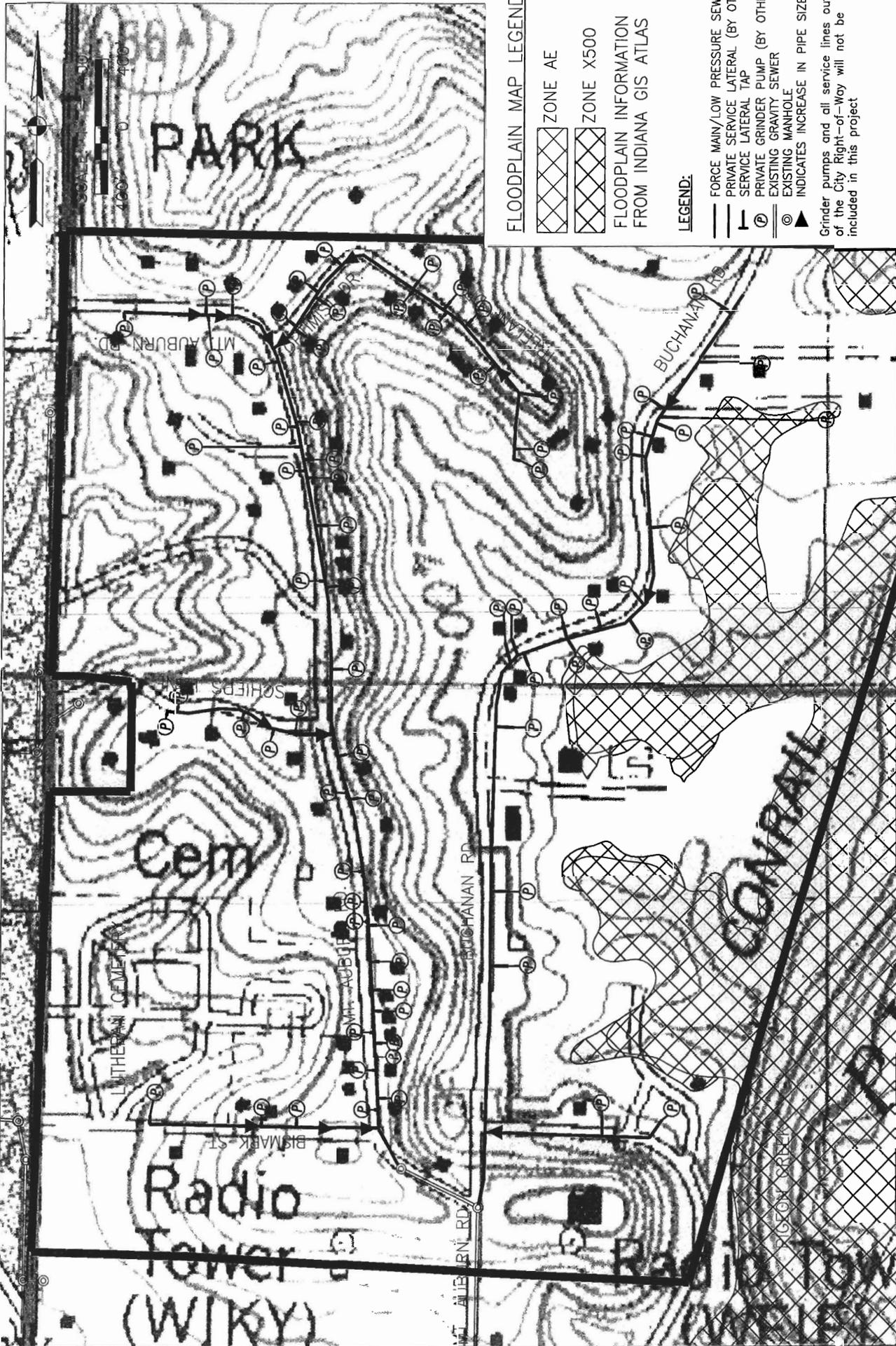
PRELIMINARY ENGINEERING REPORT
 THE CITY OF EVANSVILLE WATER AND SEWER UTILITY
 MT. AUBURN NEIGHBORHOOD SANITARY SEWER PROJECT

WETLANDS MAP

PER Exhibits.dwg 20

EXHIBIT 2

received 5/13/11



FLOODPLAIN MAP LEGEND:



ZONE AE



ZONE X500

FLOODPLAIN INFORMATION FROM INDIANA GIS ATLAS

LEGEND:

- FORCE MAIN/LOW PRESSURE SEWER
- PRIVATE SERVICE LATERAL (BY OTHER)
- SERVICE LATERAL TAP
- ⊙ PRIVATE GRINDER PUMP (BY OTHERS)
- ⊙ EXISTING GRAVITY SEWER
- ⊙ EXISTING MANHOLE
- ▲ INDICATES INCREASE IN PIPE SIZE

Grinder pumps and all service lines out of the City Right-of-Way will not be included in this project

PER Exhibits.dwg 20



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100-YR FLOODPLAIN

EXHIBIT 3

Received 5/13/11