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

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

CITY OF GREENFIELD
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECTS
SRF PROJECT WW 22 21 30 01

DATE: August 18, 2022

TARGET PROJECT APPROVAL DATE: September 19, 2022

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 Clean 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 Clean Water SRF 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 5-1.2-3, 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
Environmental Review Coordinator
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:	**Wastewater Treatment Plant Improvements** City of Greenfield 10 S State St Greenfield IN 46140
SRF Project Number:	**WW 22 21 30 01**
Authorized Representative:	Mayor Chuck Fewell

II. PROJECT LOCATION

The proposed project located in Hancock County, Center township, Greenfield 24K USGS Quadrangle, township 15N, range 7E and section 4. See **Figure 1**.

III. PROJECT NEED AND PURPOSE

The facility expansion and improvements are needed to address an agreed order with IDEM, aging and deficient treatment components, existing flows and loadings exceeding the plant's rated capacity, and phosphorus treatment required by IDEM.

IV. PROJECT DESCRIPTION

Greenfield's Wastewater Treatment Plant (WWTP) expansion project will increase the average design flow rate from 4.0 MGD to 8.0 MGD, and the peak design flow rate from 18.0 MGD to 24.0 MGD. The proposed project will replace the existing activated sludge plant with a new Sequencing Batch Reactor (SBR) plant, and will include:

- Influent pump station with associated force main and structures;
- Headworks facility, including influent flow meters, screening, grit removal, and odor control systems;
- SBR treatment system with diffusers, mixers, decanters, pumps, and blowers;
- Ultraviolet disinfection system with canopy;
- Post aeration system, including cascade aerator and effluent flow mag meter;
- Aerobic sludge holding tank with diffusers, mixers, blowers, and sludge withdrawal;
- Sludge dewatering system, including centrifuge, pumps, polymer feed, and sludge conveyor;
- Chemical storage and dosing systems;
- Septage receiving station and vac truck screening beds;
- Non-potable water system;
- Blower pad with roof structure;
- Electrical building;
- Laboratory and office building;
- Site work, including decommissioning of existing plant, grading, seeding, pavement, fencing and piping;
- HVAC and plumbing, electrical, instrumentation, and SCADA;
- Two emergency standby generators; and
- Excavation, removal, and lawful disposal of site soil and groundwater per the Federal Clean Water Act Section 319(h) for nonpoint source (NPS).

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

WWTP Improvements, Phase 1: Excavation, Disposal, and Regrading	$5,150,000
WWTP Improvements, Phase 2: WWTP Improvements Project	$69,290,000
WWTP Improvements, Phase 2 Construction Contingency	$3,500,000
Total Construction Cost:	$77,940,000
Non-Construction Costs	$4,340,000
Total Estimated Project Cost	**$82,280,000**

B. Total cost of this project is estimated to be approximately $82,280,000. The City of Greenfield will finance the project with a loan from the Clean Water SRF Loan Program for a term and 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 is not practical, environmentally sound or economical. The Greenfield WWTP experiences both flows and loadings in excess of the design capacity, which stresses the equipment and results in discharge violations. Further, the equipment is aging and some items are at the end of their useful life. Therefore, the No Action alternative was not considered further.

Alternative 1 was developed during the planning stage and is for the design year 2020. The plant is expanded biologically to an average flow of 6 MGD, with a total maximum flow of 18 MGD. The existing high rate clarification (HRC) system remains in use at 8 MGD. This is accomplished with process improvements, including a new submersible pump station, a new screening facility, re-use of primary clarifiers, aeration tanks, secondary clarifiers, one new aeration and one new secondary clarifier, new cascade aeration system. Additional improvements include chemical storage, sludge dewatering, lab/office, septage receiving, blower building, piping electrical, mechanical, instrumentation, and controls.

Alternative 2 is the same as Alternative 1 with one exception – the HRC capacity is upgraded from 8 MGD to 10 MGD. This approach reduces the required primary and secondary clarification capacity by 2 MGD.

Alternative 3 was developed for the design year 2040. The plant is expanded biologically to an average flow of 8 MGD, with a total maximum flow of 24 MGD. The HRC system is eliminated. Process improvements include a new submersible pump station, a new screening facility, re-use of primary clarifiers, adding four new primary clarifiers, re-use of existing aeration tanks, addingfour new aeration tanks, incorporation of enhanced biological phosphorus removal ing(EBPR) and denitrification facilities, re-use of secondary clarifiers, add four new secondary clarifiers, new UV system with post aeration. Additional improvements include chemical storage, sludge dewatering, lab/office, septage receiving, blower building, piping electrical, mechanical, instrumentation, and controls.

Alternative 4 is the same as Alternative 3 except the HRC capacity is maintained at 8 MGD, only one new primary clarifier is required, and only two new secondary clarifiers are needed.

Alternative 5 is the same as Alternative 3 except the HRC capacity is increased to 10 MGD, and only one new secondary clarifier is needed.

Alternative 6 is similar to Alternative 3; the plant is expanded biologically to an average flow of 8 MGD, with a total maximum flow of 24 MGD. The HRC system is eliminated. However, rather than using step aeration, the process is converted to Integrated Fixed Film Activated Sludge (IFAS), which combines conventional activated sludge systems with biofilm systems in a single reactor. Improvements include a new submersible pump station, a new screening facility, re-use of primary clarifiers, adding four new primary clarifiers, re-use of existing aeration tanks adding two new aeration tanks, incorporation of enhanced biological phosphorus removal (EBPR) and denitrification facilities, re-use of secondary clarifiers, adding four new secondary clarifiers, new UV system with post aeration. Additional improvements include chemical storage, sludge dewatering, lab/office, septage receiving, blower building, piping electrical, mechanical, instrumentation, and controls.

Alternative 7 was developed for the design year 2040. The existing facilities are abandoned, including the HRC system. A new sequencing batch reactor facility will be constructed. Process improvements include a new submersible pump station, a new screening facility, a new SBR system, and a new UV system with post aeration. Additional improvements include chemical storage, sludge dewatering, lab/office, septage receiving, blower building, piping electrical, mechanical, instrumentation, and controls. SBRs can treat a wide range of domestic and industrial wastewater. Compared to the other alternatives, building a new plant provides superior constructability, adaptability to space constraints, and ease of operation and maintenance. **Alternative 7 is the selected alternative.**

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Disturbed/Undisturbed Land: Work related to the installation of storm and sanitary sewers will occur in disturbed rights-of-way**,** adjacent to and within roadways, alleys, and existing utility trenches. All areas have been previously disturbed by previous construction activity.

Structural Resources (**Figure 2**): 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 (**Figure 3**): The proposed 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 (**Figure 4**): Mitigation measures to lessen and compensate for wetland impacts cited in comment letters about the proposed project from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

Floodplain (**Figure 5**): The proposed project will not include dredge or fill in the floodway without a permit from IDNR Division of Water. No change in grade will occur within the floodplain.

Groundwater: The proposed project will not impact a drinking water supply or sole source aquifer.

Plants and Animals: The proposed project items will be implemented to minimize the 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 proposed 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 proposed project will neither create nor destroy open space or recreational opportunities.

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

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

B. Indirect Impacts

The town's Preliminary Engineering Report (PER) states: *The City of Greenfield, 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, wooded areas, steep slopes, 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

In correspondence dated May 20, 2022, the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology stated:

> *Pursuant to Indiana Code 5-1.2-10, 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 April 20, 2022, for the above indicated project in the City of Greenfield, Center Township, Hancock County, Indiana.*
>
> *Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project. This analysis is subject to the following condition:*
>
> *• The project remains within previously disturbed areas.*
>
> *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*

Revisions to the project include 2 new outfalls and a fence around the perimeter of the wastewater treatment plant. These revisions will be sent to SHPO on August 18, 2022 for their review/comments. This is the first correspondence to the Department of Natural Resources Environmental Unit and the United States Fish and Wildlife Service regarding the entire project.

The Natural Resources Conservation Service was contacted regarding the project on March 11, 2022. As of this publication, there has not been a response received.

VIII. MITIGATION MEASURES

Greenfield's PER states:

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues are classified as temporary, since no significant, permanent impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards.

The work is expected to be completed during normal working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required of the contractor to reduce dust emissions. Proper surface wetting practices will be required.

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held on March 23, 2022, at 7 pm at the Greenfield City Hall, 10 S State St Greenfield IN 46140. There were no questions on this project during the hearing. No written comments were received in the 5-day period following the hearing for this project.

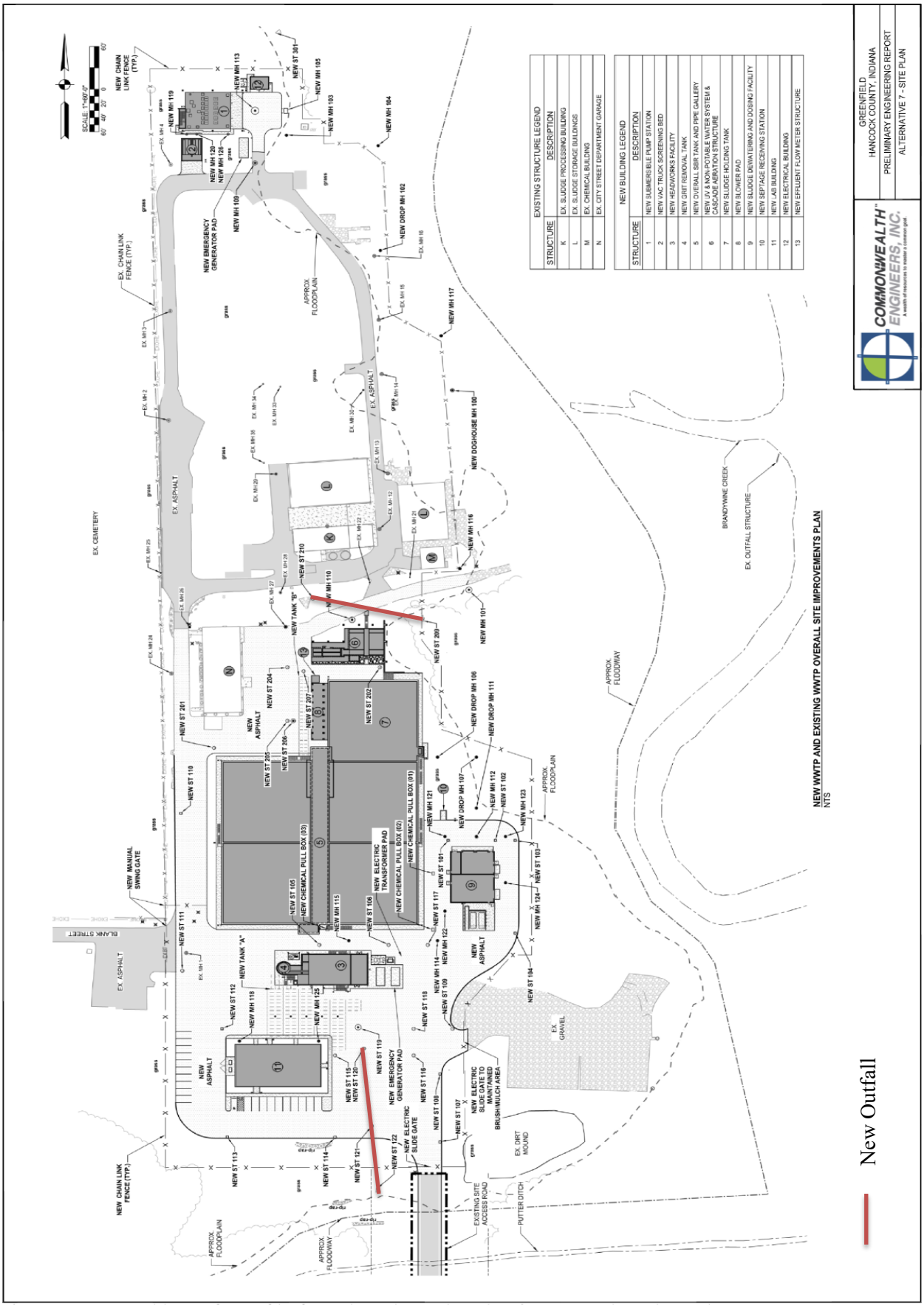

Figure 1 – Proposed project

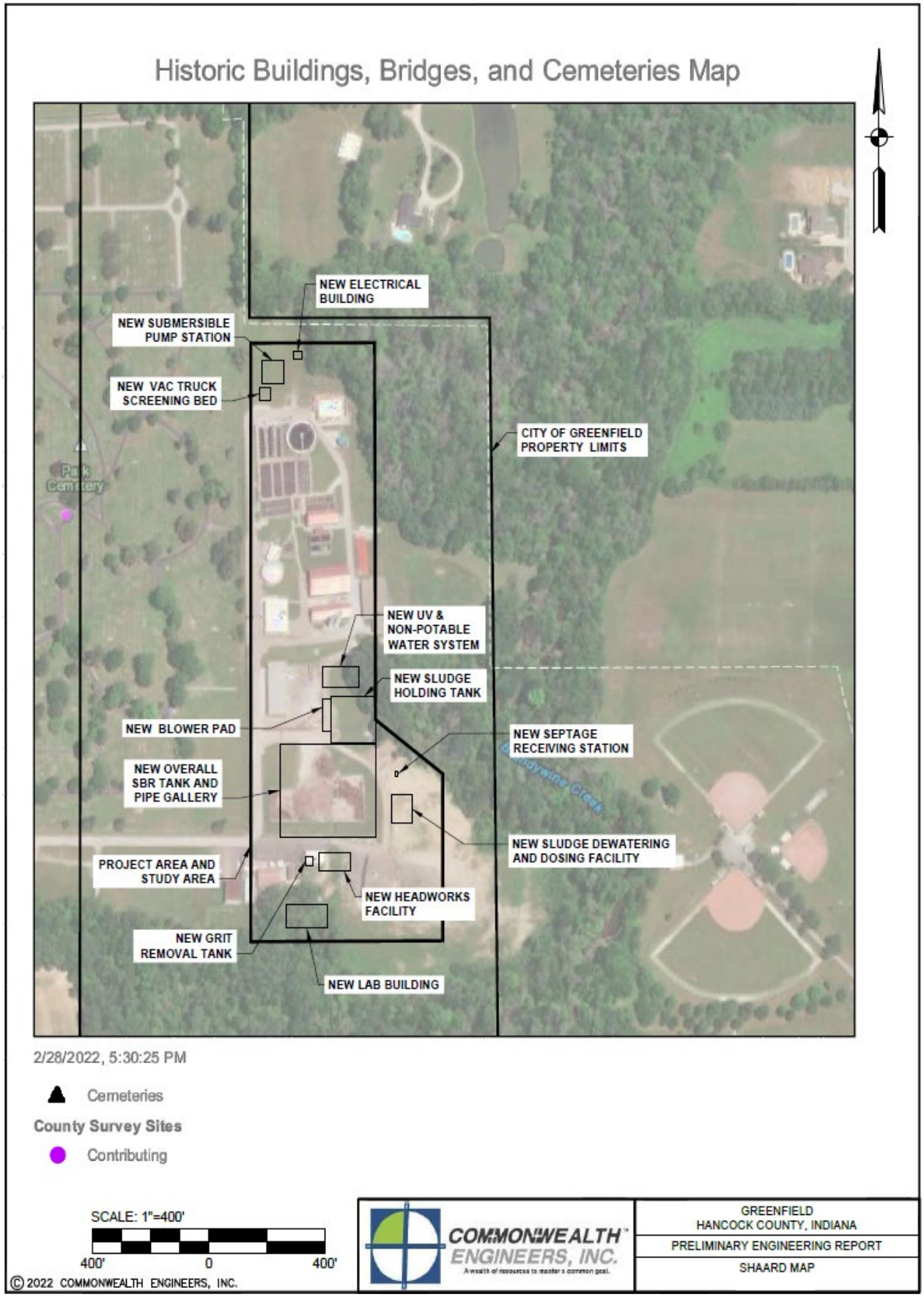

Figure 2 – Proposed project on Indiana Buildings Bridges and Cemeteries Map

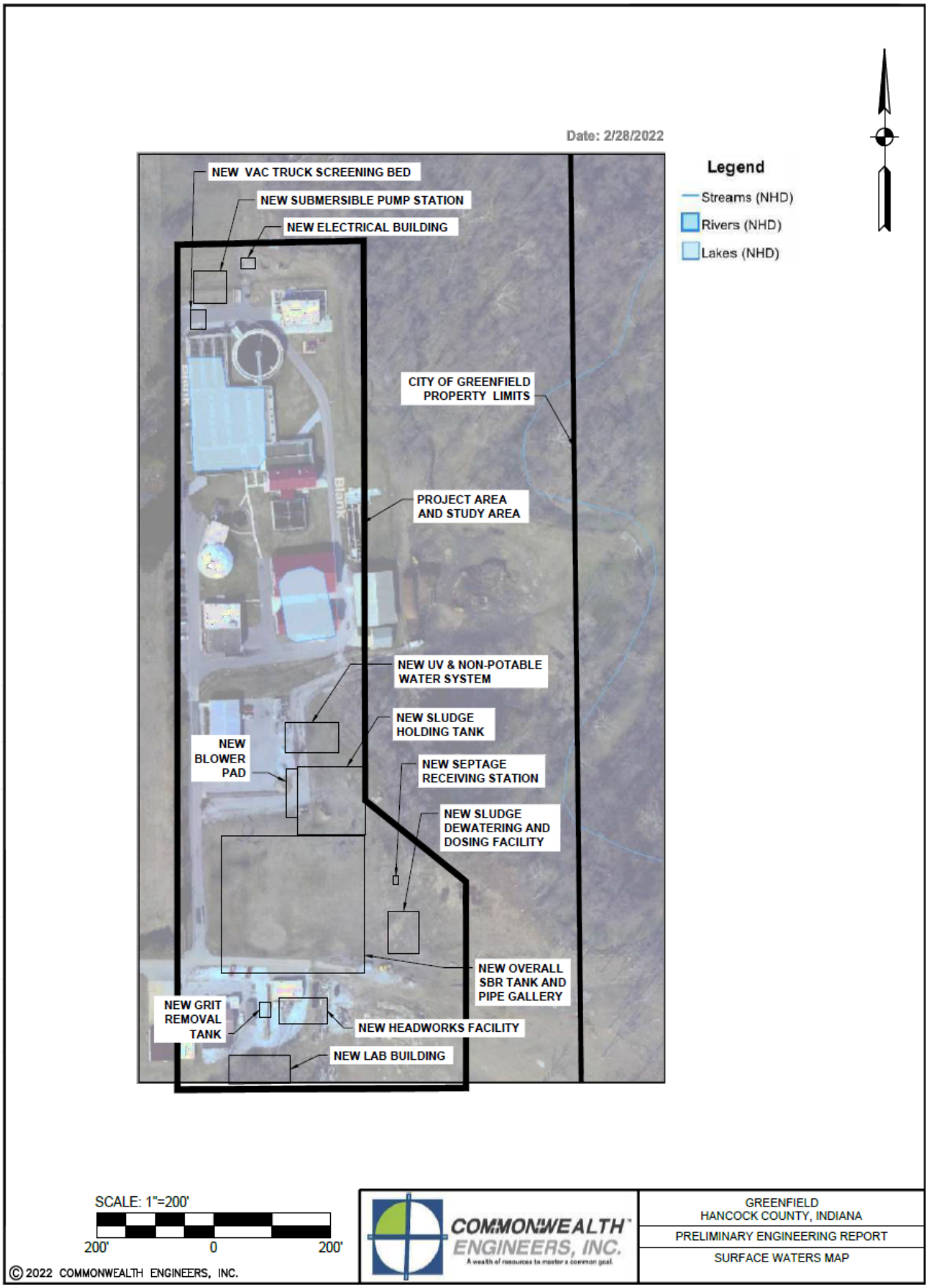

Figure 3 – Proposed project on Surface Waters Map

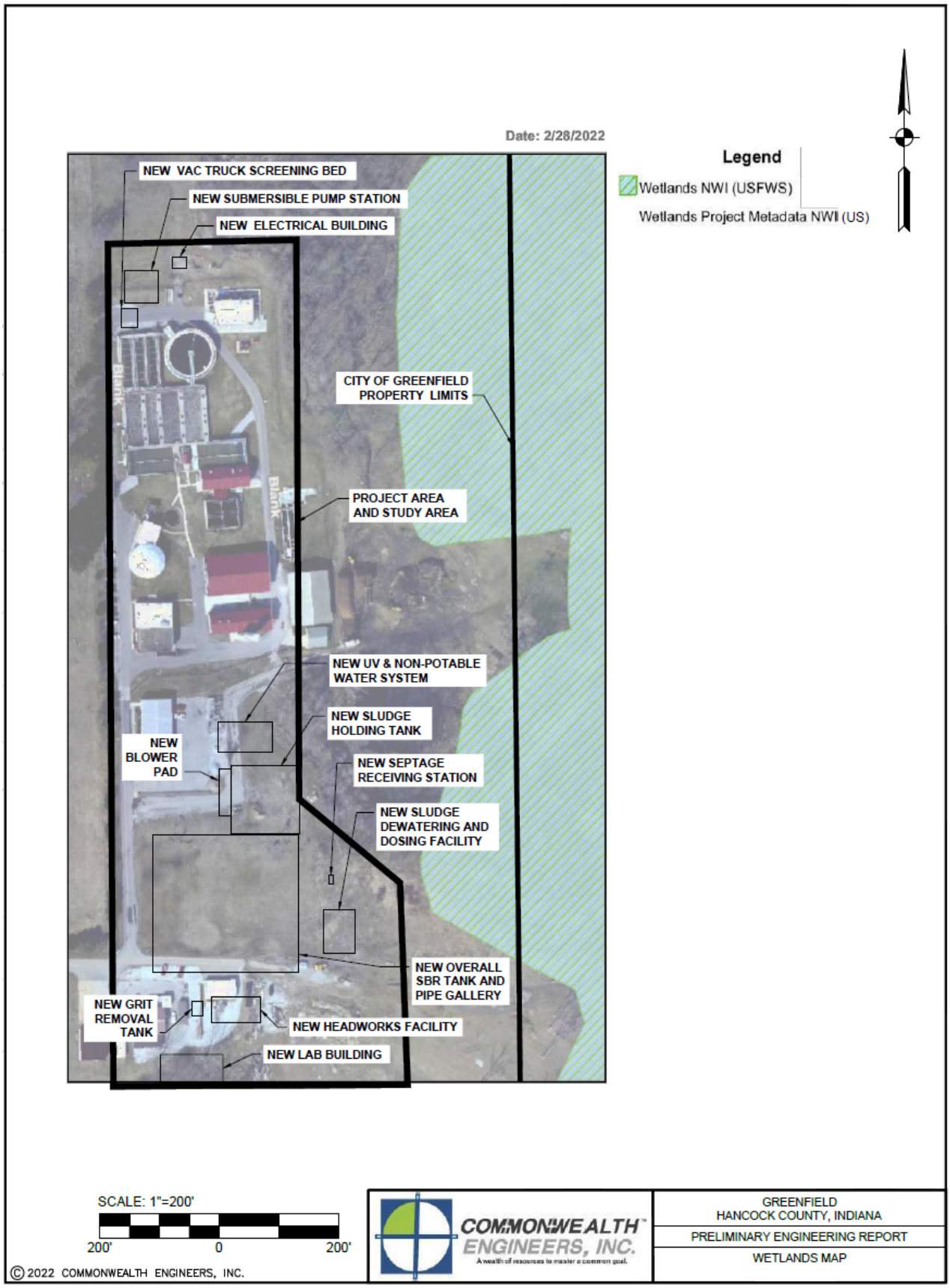

Figure 4 – Proposed project on Wetlands Map

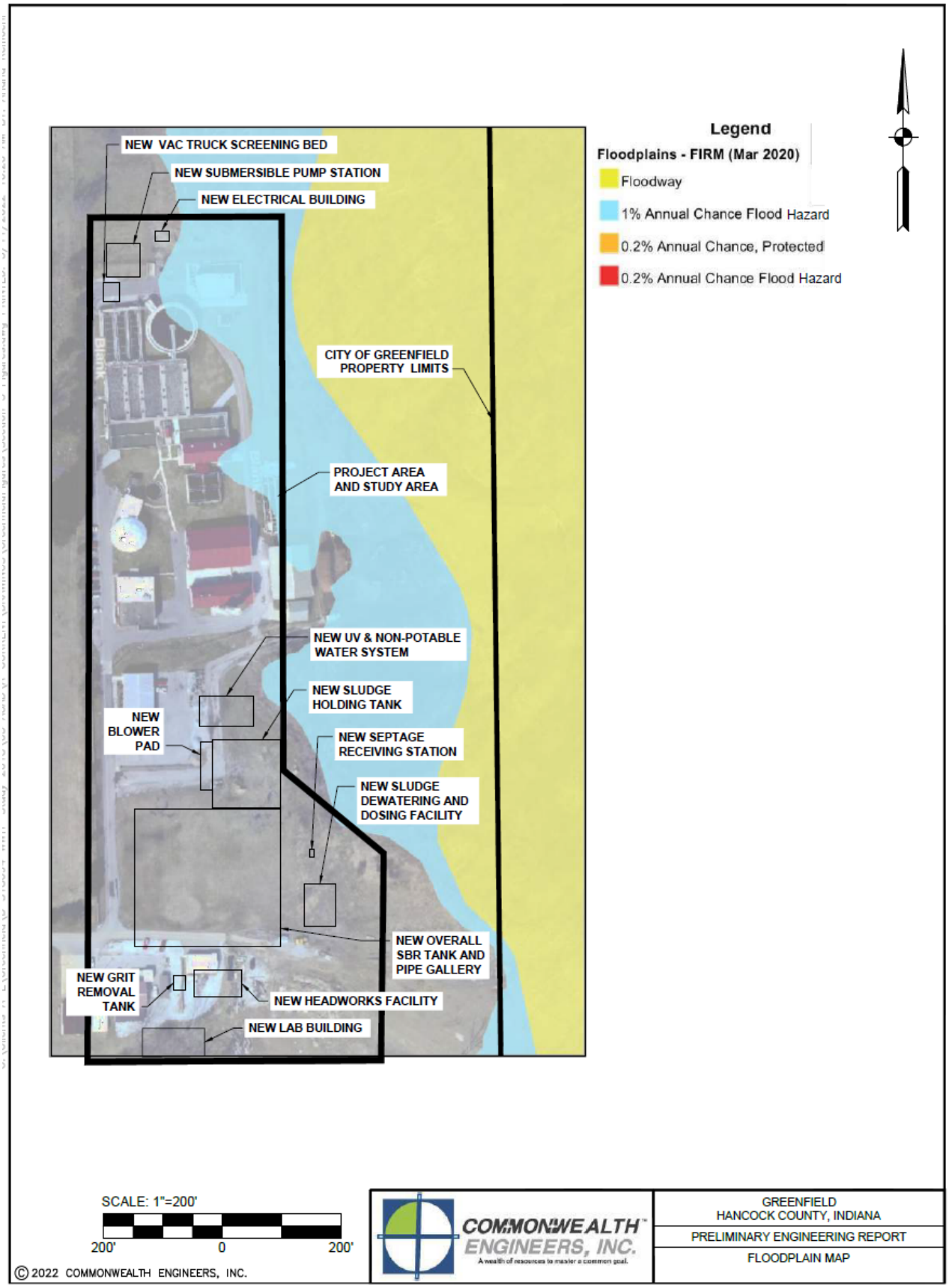

Figure 5 – Proposed project on Floodplain Map