

AGENDA REPORT

To: Mayor Pat Humphrey and the Clare City Commission
From: Jeremy Howard, City Manager
Date: September 12, 2024
Regarding: Approval of EGLE Dam Risk Reduction Grant Program (DRRGP) Grant Agreement

For the Agenda of September 16, 2024

Background. As you know, the City has been working with EGLE on several grant applications to further the Lake Shamrock Dam replacement project. I shared with you recently that after working with our dam engineers, GEI, the City of Clare was awarded a \$600,000 grant to further the project with funds to be added to current State grants/allocations to complete this important project. We have now received the formal grant award documents from EGLE that require approval by the City Commission to allow us to accept the grant award and proceed with this next portion of the project. The Commission is asked to approve the grant agreement (*copy att'd*) as presented, and authorize the City Manager to sign any and all necessary documents, and the City Treasurer to make any and all budget amendments that may be necessary.

Issues & Questions Specified. Should the City Commission approve the grant award documents?

Alternatives.

1. Approve the grant award documents.
2. Do not approve the grant award documents.
3. Defer decision regarding the matter to a subsequently scheduled meeting.

Financial Impact. The total grant budget for this portion of the dam project is \$670,000. The EGLE DRRGP grant will contribute \$600,000 of that cost, and the balance of approximately \$70,000 is the responsibility of the City as matching funds for the grant. The matching funds will be taken from the \$6.8 million grant/allocation for the lake dredging/dam award that we have been using for the overall project.

Recommendation. I recommend that the City Commission approve the grant agreement as presented and authorize the City Manager to sign any and all necessary documents and the City Treasurer to make any and all budget amendments that may be necessary by the adoption of Resolution 2024-071 (*copy att'd*).

Attachments.

1. Grant Agreement.
2. Resolution 2024-071.



DAM RISK REDUCTION GRANT PROGRAM GRANT AGREEMENT

BETWEEN THE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AND THE

CITY OF CLARE

This Grant Agreement (Agreement) is made between the Michigan Department of Environment, Great Lakes, and Energy, Water Resources Division (State), and the City of Clare (Grantee).

The purpose of this Agreement is to provide funding in exchange for work to be performed for the project named below. The State is authorized to provide grant assistance pursuant to Public Act 53 of 2022. This Agreement is subject to the terms and conditions specified herein.

PROJECT INFORMATION:

Project Name: Lake Shamrock Dam Rehabilitation – Design and Construction

Project #: 2024-DRRGP-025

Amount of Grant: \$600,000

% of Grant State 100 / % of Grant Federal 0

Amount of Match: \$70,000

PROJECT TOTAL: \$670,000 (grant plus match)

Start Date: 06/01/2024

End Date: 09/30/2026

GRANTEE CONTACT INFORMATION:

Name and Title: Jeremy Howard, City Manager

Organization: City of Clare

Address: 202 West Fifth Street

City, State and ZIP: Clare, Michigan 48617

Phone Number: 989-424-4065

Fax Number: N/A

Email Address: jhoward@cityofclare.gov

Grantee DUNS/UEI Number (Required for Federal Funding): LCLUKJFZ3M14

SIGMA Vendor Number: CV0047629

STATE CONTACT INFORMATION:

Name and Title: Mason Manuszak, Dam Risk Reduction Grant Program Coordinator, Dam Safety Unit

Division: Water Resources Division

Address: P.O. Box 30458

City, State and ZIP: Lansing, Michigan 48909-7958

Phone Number: 989-370-1528

Fax Number: 517-241-9003

Email Address: ManuszakM@Michigan.gov

The individuals signing below certify by their signatures that they are authorized to sign this Agreement on behalf of their agencies and that the parties will fulfill the terms of this Agreement, including any attached appendices, as set forth herein.

FOR THE GRANTEE:

Signature

Jeremy Howard, City Manager
City of Clare

Date

FOR THE STATE:

Signature

Phil Argiroff, Acting Director
Water Resources Division

Date

I. PROJECT SCOPE

This Agreement and its appendices constitute the entire Agreement between the State and the Grantee and may be modified only by written agreement between the State and the Grantee.

(A) The scope of this project is limited to the activities specified in Appendix A and such activities as are authorized by the State under this Agreement. Any change in project scope requires prior written approval in accordance with Section III, Changes, in this Agreement.

(B) By acceptance of this Agreement, the Grantee commits to complete the project identified in Appendix A within the period allowed for in this Agreement and in accordance with the terms and conditions of this Agreement.

II. AGREEMENT PERIOD

Upon signature by the State, the Agreement shall be effective from the start date until the end date on page 1 of this Agreement. The State shall have no responsibility to provide funding to the Grantee for project work performed except between the start date and the end date specified on page 1. Expenditures made by the Grantee prior to the start date or after the end date of this Agreement are not eligible for payment under this Agreement.

III. CHANGES

Any changes to this Agreement other than budget line item revisions less than 10 percent of the budget line item shall be requested by the Grantee or the State in writing and implemented only upon approval in writing by the State. The State reserves the right to deny requests for changes to the Agreement or to the appendices. No changes can be implemented without prior approval by the State.

IV. GRANTEE DELIVERABLES AND REPORTING REQUIREMENTS

The Grantee shall submit deliverables and follow reporting requirements specified in Appendix A of this Agreement.

(A) The Grantee must complete and submit quarterly financial and progress reports according to a form and format prescribed by the State and must include supporting documentation of eligible project expenses. These reports shall be due according to the following:

Reporting Period	Due Date
October 1 – December 31	January 31
January 1 – March 31	April 30
April 1 – June 30	July 31
July 1 – September 30	To be determined*

*Due to the State's year-end closing procedures, there will be an accelerated due date for the report covering July 1 – September 30. Advance notification regarding the due date for the quarter ending September 30 will be sent to the Grantee. If the Grantee is unable to submit a report in early October

for the quarter ending September 30, an estimate of expenditures through September 30 must be submitted to allow the State to complete its accounting for that fiscal year.

The forms provided by the State shall be submitted to the State Contact at the address on page 1 of this Agreement. All required supporting documentation (invoices, proof of payment, etc.) for all expenses must be itemized and included with the report submitted by the respective Grantee Contact specifying the amount of reimbursement being requested for the respective reporting period.

(B) The Grantee shall provide the final grant quarter report in a format prescribed by the State and specified in Appendix A of this Agreement. The Grantee shall submit the final quarter report, including all supporting documentation for expenses within 30 days from the end date of this Agreement.

(C) The Grantee must provide all work products and deliverables in accordance with Appendix A of this Agreement.

(D) All work products shall acknowledge that the grant was supported in whole or in part by the State per the guidelines provided by the State.

(E) If 30 percent or more of the grant amount is expended in a single quarter, payment requests may be submitted once monthly during that quarter.

V. GRANTEE RESPONSIBILITIES

(A) The Grantee agrees to abide by all applicable local, state, and federal laws, rules, ordinances, and regulations in the performance of this Agreement.

(B) All local, state, and federal permits, if required, are the responsibility of the Grantee. Award of this Agreement is not a guarantee of permit approval by the State.

(C) The Grantee shall be solely responsible to pay all applicable taxes and fees, if any, that arise from the Grantee's receipt or execution of this Agreement.

(D) The Grantee is responsible for the professional quality, technical accuracy, timely completion, and coordination of all designs, drawings, specifications, reports, and other services submitted to the State under this Agreement. The Grantee shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in drawings, designs, specifications, reports, or other services.

(E) The State's approval of designs, drawings, specifications, reports, and incidental work or materials furnished hereunder shall not in any way relieve the Grantee of responsibility for the technical adequacy of the work. The State's review, approval, acceptance, or payment for any of the services shall not be construed as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

(F) The Grantee acknowledges that it is a crime to knowingly and willingly file false information with the State for the purpose of obtaining this Agreement or any payment under the Agreement, and that any such filing may subject the Grantee, its agents, and/or employees to criminal and civil prosecution and/or termination of this Agreement.

VI. USE OF MATERIAL

Unless otherwise specified in this Agreement, the Grantee may release information or material developed under this Agreement, provided it is acknowledged that the State funded all or a portion of its development.

The State, and federal awarding agency if applicable, retains a royalty-free, nonexclusive, and irrevocable right to reproduce, publish, and use in whole or in part, and authorize others to do so, any copyrightable material or research data submitted under this Agreement whether or not the material is copyrighted by the Grantee or another person. The Grantee will only submit materials that the State can use in accordance with this paragraph.

VII. ASSIGNABILITY

The Grantee shall not assign this Agreement or assign or delegate any of its duties or obligations under this Agreement to any other party without the prior written consent of the State. The State does not assume responsibility regarding the contractual relationships between the Grantee and any subcontractor.

VIII. SUBCONTRACTS

The State reserves the right to deny the use of any consultant, contractor, associate, or other personnel to perform any portion of the project. The Grantee is solely responsible for all contractual activities performed under this Agreement. Further, the State will consider the Grantee to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated grant. All subcontractors used by the Grantee in performing the project shall be subject to the provisions of this Agreement and shall be qualified to perform the duties required.

IX. NONDISCRIMINATION

The Grantee shall comply with the Elliott Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2101 *et seq.*; the Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 *et seq.*; and all other federal, state, and local fair employment practices and equal opportunity laws and covenants that it shall not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to his or her hire, tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of his or her race, religion, color, national origin, age, sex, height, weight, marital status, or physical or mental disability that is unrelated to the individual's ability to perform the duties of a particular job or position. The Grantee agrees to include in every subcontract entered into for the performance of this Agreement this covenant not to discriminate in employment. A breach of this covenant is a material breach of this Agreement.

X. UNFAIR LABOR PRACTICES

The Grantee shall comply with the Employers Engaging in Unfair Labor Practices Act, 1980 PA 278, as amended, MCL 423.321 *et seq.*

XI. LIABILITY

(A) The Grantee, not the State, is responsible for all liabilities as a result of claims, judgments, or costs arising out of activities to be carried out by the Grantee under this Agreement, if the liability is caused by the Grantee, or any employee or agent of the Grantee acting within the scope of their employment or agency.

(B) Nothing in this Agreement should be construed as a waiver of any governmental immunity by the Grantee, the State, its agencies, or their employees as provided by statute or court decisions.

XII. CONFLICT OF INTEREST

No government employee, or member of the legislative, judicial, or executive branches, or member of the Grantee's Board of Directors, its employees, partner agencies, or their families shall benefit financially from any part of this Agreement.

XIII. ANTI-LOBBYING

If all or a portion of this Agreement is funded with federal funds, then in accordance with Title 2 of the Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, as appropriate, the Grantee shall comply with Title 18 of the United States Code (U.S.C.), Section 1913, Lobbying with Appropriated Moneys, commonly known as the Anti-Lobbying Act, which prohibits the use of all project funds regardless of source, to engage in lobbying the state or federal government or in litigation against the State. Further, the Grantee shall require that the language of this assurance be included in the award documents of all subawards at all tiers.

If all or a portion of this Agreement is funded with state funds, the Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of lobbying as defined in the State of Michigan's lobbying statute, Lobbyists, Lobbying Agents, and Lobbying Activities, 1978 PA 472, as amended, specifically MCL 4.415(2), which states "Lobbying means communicating directly with an official of the executive branch of state government or an official in the legislative branch of state government for the purpose of influencing legislative or administrative action." The Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of litigation against the State. Further, the Grantee shall require that language of this assurance be included in the award documents of all subawards at all tiers.

XIV. DEBARMENT AND SUSPENSION

By signing this Agreement, the Grantee certifies that it has checked the federal debarment and suspension list at www.SAM.gov to verify that its agents and its subcontractors:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or the state.
- (2) Have not within a three-year period preceding this Agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or contract under a public transaction, as defined in 45 CFR, Part 1185, Governmentwide Debarment and Suspension (Nonprocurement); violation of federal or state

antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

- (3) Are not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses enumerated in subsection (2).
- (4) Have not within a three-year period preceding this Agreement had one or more public transactions (federal, state, or local) terminated for cause or default
- (5) Will comply with all applicable requirements of all other state or federal laws, executive orders, regulations, and policies governing this program.

XV. AUDIT AND ACCESS TO RECORDS

The State reserves the right to conduct a programmatic and financial audit of the project, and the State may withhold payment until the audit is satisfactorily completed. The Grantee will be required to maintain all pertinent records and evidence pertaining to this Agreement, including grant and any required matching funds, in accordance with generally accepted accounting principles and other procedures specified by the State. The State or any of its duly authorized representatives must have access, upon reasonable notice, to such books, records, documents, and other evidence for the purpose of inspection, audit, and copying. The Grantee will provide proper facilities for such access and inspection. All records must be maintained for a minimum of five years after the final payment has been issued to the Grantee by the State.

XVI. INSURANCE

(A) The Grantee must maintain insurance or self-insurance that will protect it from claims that may arise from the Grantee's actions under this Agreement.

(B) The Grantee must comply with applicable workers' compensation laws while engaging in activities authorized under this Agreement.

XVII. OTHER SOURCES OF FUNDING

The Grantee guarantees that any claims for reimbursement made to the State under this Agreement must not be financed by any source other than the State under the terms of this Agreement. If funding is received through any other source, the Grantee agrees to delete from Grantee's billings or to immediately refund to the State the total amount representing such duplication of funding.

XVIII. COMPENSATION

(A) A breakdown of costs allowed under this Agreement is identified in Appendix A. The State will pay the Grantee a total amount not to exceed the amount on page 1 of this Agreement, in accordance with Appendix A, and only for expenses incurred and paid. All other costs necessary to complete the project are the sole responsibility of the Grantee.

(B) Expenses incurred by the Grantee prior to the start date or after the end date of this Agreement are not allowed under this Agreement.

(C) The State will approve payment requests after approval of reports and related documentation as required under this Agreement.

(D) The State reserves the right to request additional information necessary to substantiate payment requests.

(E) Payments under this Agreement may be processed by Electronic Funds Transfer (EFT). The Grantee may register to receive payments by EFT at the SIGMA Vendor Self Service web site (<https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>).

(F) An amount equal to ten percent of the grant award will be withheld by the State until the project is completed in accordance with Section XIX, Closeout, and Appendix A of this Agreement.

(G) The Grantee is committed to the match percentage on page 1 of this Agreement in accordance with Appendix A of this Agreement. The Grantee shall expend all local match committed to the project by the end date on page 1 of this Agreement.

XIX. CLOSEOUT

(A) A determination of project completion, which may include a site inspection and an audit, shall be made by the State after the Grantee has met any match obligations, satisfactorily completed the activities, and provided products and deliverables described in Appendix A of this Agreement.

(B) Upon issuance of final payment from the State, the Grantee releases the State of all claims against the State arising under this Agreement. Unless otherwise provided in this Agreement or by state law, final payment under this Agreement shall not constitute a waiver of the State's claims against the Grantee.

(C) The Grantee shall immediately refund to the State any payments in excess of the costs allowed by this Agreement.

XX. CANCELLATION

This Agreement may be canceled by the State, upon 30 days' written notice, due to Executive Order, budgetary reduction, other lack of funding, upon request by the Grantee, or upon mutual agreement by the State and Grantee. The State may honor requests for just and equitable compensation to the Grantee for all satisfactory and eligible work completed under this Agreement up until 30 days after written notice, upon which time all outstanding reports and documents are due to the State, and the State will no longer be liable to pay the Grantee for any further charges to the grant.

XXI. TERMINATION

(A) This Agreement may be terminated by the State as follows.

(1) Upon 30 days' written notice to the Grantee:

- a. If the Grantee fails to comply with the terms and conditions of this Agreement, the requirements of the authorizing legislation cited on page 1, the rules promulgated thereunder, or other applicable laws or rules.

- b. If the Grantee knowingly and willingly presents false information to the State for the purpose of obtaining this Agreement or any payment under this Agreement.
- c. If the State finds that the Grantee, or any of the Grantee's agents or representatives, offered or gave gratuities, favors, or gifts of monetary value to any official, employee, or agent of the State in an attempt to secure a subcontract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Agreement.
- d. If the Grantee or any subcontractor, manufacturer, or supplier of the Grantee appears in the register of persons engaging in unfair labor practices that is compiled by the Michigan Department of Licensing and Regulatory Affairs or its successor.
- e. During the 30-day written notice period, the State shall withhold payment for any findings under subparagraphs a. through d., above, and the Grantee will immediately cease charging to the grant and stop earning match for the project (if applicable).

(2) Immediately and without further liability to the State if the Grantee, any agent of the Grantee, or any agent of any subcontract is:

- a. Convicted of a criminal offense incident to the application for or performance of a state, public, or private contract or subcontract.
- b. Convicted of a criminal offense, including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification, destruction of records, receiving stolen property, or attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees.
- c. Convicted under state or federal antitrust statutes.
- d. Convicted of any other criminal offense that, in the sole discretion of the State, reflects on the Grantee's business integrity.
- e. Added to the federal or state suspension and debarment list.

(B) If the grant is terminated, the State reserves the right to require the Grantee to repay all or a portion of funds received under this Agreement.

XXII. IRAN ECONOMIC SANCTIONS ACT

By signing this Agreement, the Grantee is certifying that it is not an Iran linked business and that its contractors are not Iran linked businesses, as defined in the Iran Economic Sanctions Act, 2012 PA 517, MCL 129.312.

XXIII. DISCLOSURE OF INFORMATION

All reports and other printed or electronic material prepared by or for the Grantee under this Agreement will not be distributed without the prior written consent of the State except for items disclosed in response to a court order, subpoena, or Freedom of Information Act, 1976 PA 442, as amended, request.

XXIV. PREVAILING WAGE

This project is subject to the Davis-Bacon Act of 1931, as amended, 40 U.S.C., Section 276a, *et seq.*, which requires that prevailing wages and fringe benefits be paid to contractors and subcontractors performing on federally funded projects over \$2,000 for the construction, alteration, or repair (including painting and decorating) of public buildings or works.

XXV. PROGRAM GENERAL PROVISIONS

(A) Extensions. In accordance with Section III, Changes, of this Agreement, the Grantee shall submit to the State for review and approval written change requests no less than 90 days prior to the end date of this Agreement. The Grantee shall provide justification for the extension and the requested new end date of the Agreement.

(B) The Grantee shall ensure that any field work conducted for this project, including construction activities; surveys; or educational, training, or volunteer programs or activities, will be conducted in accordance with appropriate, federal, state, and local laws and will follow recognized best practices and take the necessary steps to minimize the risk of spreading terrestrial and aquatic invasive species and minimize the impact to the human environment during this project. The Grantee's selection of project-appropriate measures is required to take into consideration the type of work being conducted and the specific site situation, including the changes in risk level according to season and weather.

(C) For construction projects, the Grantee agrees that any construction project will be properly and efficiently administered, operated, and maintained for the purpose authorized by this Agreement and in accordance with the provisions of the award for its estimated useful life.

(D) The Grantee is responsible for safety in the project, including the safety of project personnel, associates, visitors, and volunteers.

(E) For construction projects, the Grantee shall acquire all federal, state, and local required permits prior to any earth movement can commence on any aspects of the construction project.

(F) The Grantee shall submit quarterly progress and financial reports as specified in Section XVIII, Compensation, of this Agreement and reimbursements shall be based on costs-incurred and paid by the end date of the respective reporting period. The Grantee shall provide the following to the State when submitting quarterly reports:

- (1) A written request submitted by the Grantee Contact to the State Contact by means of an email, cover letter, or invoice with a statement of reimbursement request for the respective reporting period.
- (2) Corresponding narrative quarterly progress and financial status report as provided by the State.
- (3) PDF copies of supporting documentation that correspond to the reimbursement request and match earned for the respective reporting period.

(G) The Grantee shall submit to the State the final quarter report no later than 30 days past the end date of this Agreement. The final quarter report shall include:

- (1) A written request submitted by the Grantee Contact to the State Contact by means of an email, cover letter, or invoice with a statement of reimbursement request for the respective reporting period and including a statement of final close-out of all tasks, completion, and submittal of work products as outlined in Appendix A of this Agreement and the final reimbursement request.

- (2) Corresponding narrative progress and financial status report as provided by the State.
- (3) PDF copies of supporting documentation that correspond to the final reimbursement request and match earned for the grant close-out.
- (4) If the project involved construction, submit a set of high-quality color photographs depicting the before and after project construction.

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations. Questions or concerns should be directed to the Nondiscrimination Compliance Coordinator at EGLE-NondiscriminationCC@Michigan.gov or 517-249-0906.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

APPENDIX A PROJECT-SPECIFIC REQUIREMENTS

I. Project Scope

The Lake Shamrock Dam is located on the South Branch of the Tobacco River and has been designated a high hazard dam by EGLE Dam Safety. The most notable concerns with the dam based on recent inspections include substantial deterioration of the concrete structure, sagging pedestrian walkway across the spillway, seepage along the right embankment, and insufficient hydraulic capacity to comply with the current regulations. The pedestrian walkway is also the sole access to the gates that are manually controlled by the City DPW staff in order to pass flood flows and maintain the legal lake level established under Part 307 and therefore poses a safety risk to City staff. There are additional concerns about the long-term stability of the spillway due to a lack of information about the composition and condition of the substructure, especially since the concrete above the foundation is severely deteriorating with noticeable spalling and cracks. Due to its poor condition rating from EGLE, public safety concerns, and lack of adequate capacity, the City is implementing a project to rehabilitate the existing dam. A feasibility study was completed in 2023 to evaluate potential alternatives, and the City has selected the most cost-effective solution that meets the objectives of the project. The DRRGP grant will help the City fund the design and permitting portion of the rehabilitation project.

II. Project Description

The primary goal of the Lake Shamrock Dam rehabilitation project, once constructed, is to reduce the risk to the public and environmental safety by accomplishing the following:

- Improve condition rating of the dam, reducing overall risk associated with the dam.
- Improve hydraulic capacity, accommodating potential regulatory changes and national standards.
- Eliminate the risk associated with the unknown composition and condition of the spillway substructure.
- Improve operational safety at the dam, which will allow for safe and effective long-term dam maintenance and lake level control.

The current configuration of Lake Shamrock Dam, owned by the City of Clare (City), consists of an earth embankment with a 90-foot-wide concrete spillway. The dam is roughly 20 feet tall and creates an impoundment of approximately 120 acres. The spillway includes three 5-foot-long gated bays at the center, with two 17.25-foot-long fixed crest weirs on either side.

The proposed project includes constructing a new primary spillway and adding an auxiliary spillway to address current structural and hydraulic deficiencies of the existing dam. The project will include work directly at the location of the existing dam. The proposed primary spillway will be constructed adjacent to the current dam structure. The current structure will be abandoned and will become the location of the proposed auxiliary spillway. Project work will extend downstream to the extent necessary to realign the channel based on the

orientation of the proposed primary spillway. The design, including investigations and evaluations, will be performed in accordance with industry standard practices. The project team will involve EGLE early in the design process by means of a pre-application meeting. This will allow regulatory agencies to provide technical input on the design and its potential environmental impacts and provide for a more efficient permitting process.

III. Work Plan, Tasks and Deliverables

This project includes the design and permitting for the rehabilitation of the Lake Shamrock Dam. For this project, GEI will work with the City of Clare to complete the following tasks:

- Task 1 – Field Investigations
 - Storm Sewer Investigation
 - Wetland Delineation/Protected Species Review/Mussel Survey
- Task 2 – Design Analyses
 - Hydraulic Analysis
 - Geotechnical Analysis
 - Structural Analysis
- Task 3 – Permitting
- Task 4 – Prepare Plans and Technical Specifications
- Task 5 – Project Management and Meetings

Task 1: Field Investigations

Storm Sewer Investigation

The project team will coordinate the locating, cleaning, and video inspection for approximately 300 lineal feet of existing 18-inch diameter storm sewer on the downstream side of the dam. Upon completion of the inspection, we will review the video log and prepare a report summarizing the findings and condition ratings of the existing storm sewer.

Wetland Delineation/Protected Species Review/Mussel Survey

The project team will perform an on-site evaluation to delineate wetlands according to criteria defined by the U.S. Army Corps of Engineers (USACE), which includes evaluation of soils, vegetation, and hydrology. This wetland delineation protocol is the accepted method by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). This includes flagging wetland boundaries with high visibility flagging tape and/or wire flags. Wetland boundaries will be mapped in the field concurrently with delineation services using Global Positioning System (GPS) technology with equipment capable of providing sub-meter accuracy. GEI will complete USACE Wetland Data Forms and analyze and compile data in report format to accompany a GIS/CAD generated map. A wetland delineation report with completed USACE Wetland Data Forms will be submitted as part of the permit application package for GEI will submit a copy of the final report, map, and data forms to the client.

Prior to visiting the site, GEI will access desktop resources/databases of protected species, including, but not limited to, the Michigan Mussel Mapper, U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website, and Michigan Natural Features Inventory (MNFI) database to obtain information on any protected species which may inhabit the area. This scope also includes a mussel survey, which may be requested

by EGLE or DNR during the permitting process. Mussel relocation is not included in the scope of work.

Deliverable: Televising results and PACP ratings from the storm sewer investigation will be provided to the City. The results of the mapping will be presented on figures within the Basis of Design Report. A Wetland Delineation Report will be provided and will include a map of the wetlands onsite and completed USACE data forms. The results of the protected species review and mussel survey will be included in the Basis of Design Report.

Task 2: Design Analyses

As the design progresses from preliminary to final plans, further geotechnical, structural, and hydraulic analyses will be performed to refine the design and evaluate for consistency with industry standards of practice. The design analyses will be documented in the Basis of Design Report.

Hydraulic Analyses

As refinements are made to the design of the spillway, the hydraulic model will be updated utilizing the USACE Hydrologic Engineering Center – River Analysis System (HEC-RAS), version 6.5 computer model. The spillway model will build upon the previously developed 1-D model from the conceptual design phase. Initially, this 1-D hydraulic model was utilized to simulate the flows through proposed spillway configuration and the downstream channel and refine the spillway geometry.

A 2-D hydraulic model will then be developed for use in downstream floodplain inundation mapping. The inundation mapping will be used to determine the downstream consequences and incremental impacts between the non-failure flood and the dam failure flood. Incremental flow rates up to the approximated PMF will be routed through the HEC-RAS model to develop the Inflow Design Flood (IDF) and determine the required spillway configuration. The IDF value will be determined when there are minimal incremental impacts between the failure and non-failure floods. Based on review of the downstream reach and potential impacts, it is anticipated that the model will terminate about 20 river miles downstream at Ross Lake. Once the IDF is determined, the 2-D hydraulic model will be used to evaluate two model sensitivity analyses at two different flow rates to confirm the selected IDF value is reasonable.

Once the IDF and spillway geometries have been optimized using the 1-D and 2-D models, we will confirm the spillway performance using the FLOW-3D HYDRO computer program, which is a computational fluid dynamics (CFD) software package. Given the design includes the development of a proposed concrete spillway structure in a new location, CFD is recommended to confirm the 2D modeling results and better evaluate the proposed spillway hydraulics and provide a comprehensive understanding of the spillway performance and conditions immediately downstream. A benefit of using CFD for the new spillway is the ability to identify localized pressures, concentrated velocities or other adverse hydraulic conditions including cross waves and cavitation.

GEI will create a three-dimensional CAD model of the proposed spillway and import to the CFD model. A computational mesh will be developed to capture the relevant geometric features of new structure and downstream channel. If adverse conditions are identified in

the CFD model, the City will be notified that modifications will be required to achieve the design criteria hydraulic performance.

The CFD model will simulate up to four (4) design flows (100-year, 200-year, IDF, and zero-freeboard) to evaluate the spillway hydraulic performance. The scope of work includes four Flow-3D simulations and documentation. If additional runs are required, they will be an additional \$8,000 per simulation. The CFD modeling effort will assist in optimizing the spillway crest, chute configuration, USBR stilling basin, and provide the geometry and loadings needed for finalizing the geotechnical and structural components.

Geotechnical Analyses

The geotechnical evaluation will consider both temporary construction and permanent loading conditions. During construction, cofferdam performance, geometry, slope stability, and groundwater management will be analyzed. For the permanent condition, the analysis will consider slope stability and control of seepage. Anticipated analyses include the following:

Geotechnical Exploration

The proposed geotechnical exploration includes the advancement of eight (8) soil borings. This scope of work assumes four borings on each embankment, two borings at the crest, and two borings at the toe. GEI assumes the boring depth at the crest will be about 40 feet and at the toe about 30 feet. The scope also includes installing four wells, conducting falling head tests in each well, and estimating hydraulic conductivity. Split spoon samples will be collected in accordance with ASTM D1586 and if needed, undisturbed samples will be collected per ASTM D1587.

Upon completion of the soil borings, the soil samples will be transported to a material testing laboratory. A Geotechnical Engineer or Geologist will perform visual engineering classifications on the recovered soil samples. The samples will be described in general accordance with ASTM D 2488 “Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)” and visually classified in general accordance with the USCS Classification System. In addition, select samples will be tested for sieve analysis (with hydrometer as needed) (ASTM D6913/D7928) and unit weight (ASTM D7263). Select cohesive samples will be tested for moisture content (ASTM 2216) and Atterberg limits (ASTM D4318).

Results of the geotechnical exploration and engineering analyses will be summarized in a Geotechnical Data Report that will be included as part of the Basis of Design Report.

Seepage and Stability Modeling

GEI proposes to develop embankment slope stability models for critical cross sections of the embankments. The geometry will be based on the survey data obtained during the Feasibility Study. Stability analyses will be performed in accordance with the USACE Engineering Manuals EM1110-2-1901, EM1110-2-1902, and EM1110-2-2300, and EGLE Part 315 Dam Safety to meet requisite factors of safety against sliding instability using the Slope/W module of the GeoStudio software package (GEOSLOPE International Ltd.). The embankment seepage conditions will be evaluated using SEEP/W (also part of GeoStudio Suite) calibrated using the groundwater elevation data that will be collected. Slope/W runs will be completed for existing and proposed

conditions and under normal pool and design flood scenarios. Phreatic levels and in-situ and laboratory testing results will be used to develop seepage and slope stability analyses for the design.

Filter Design

As presented in the Feasibility Study Report, GEI recommends the installation of a granular reverse filter blanket, toe drain, and weir on the right embankment and potentially constructed beneath future spillways. GEI will utilize the design guidance from USACE and USBR to complete the filter design, including embankment, filter sand, and filter stone. The design will include extent of filter and filter details, including geometry/layout and spillway underdrains. The design will look at compatibility of the filter sand, filter stone, and drainpipe to maximize stability and performance of the filter design.

Spillway Stability (primary and auxiliary)

GEI stability analyses will be based on USACE Engineering Manual EM-1110-2-2502 – Retaining Walls and Flood Walls, and USACE Engineering Manual EM-1110-2-2100 – Stability Analysis of Concrete Structures. A subgrade reaction modulus and bearing capacity for the site will be estimated as part of the geotechnical explorations and lab testing. Differential settlement and distortion will be checked to make sure they are between 1/500 to 1/1000. In addition to the bearing capacity and settlement discussed above, we will analyze the structures for stability against sliding and overturning, as well as flotation. All stability checks will be completed using 2D analysis methods.

Dam Safety

GEI will work with the City to develop an abbreviated Potential Failure Modes Analysis (PFMA). Temporary and permanent failure modes will be identified, and the GEI team will suggest proposed risk reduction measures to mitigate or monitor for these potential failure modes. GEI will also develop a temporary construction safety monitoring plan (TCSMP), as required by EGLE. This will include monitoring of the structure, cofferdam, and groundwater conditions. It is assumed that the wells from the geotechnical exploration can be used for monitoring during construction.

Structural Analyses

The proposed new structures on the site consist of a new concrete spillway with a pedestrian bridge on the left embankment and an auxiliary spillway structure replacing the current existing structure. The new spillway will be approximately 95-foot wide at the weir and incorporate six equal sized 14-foot wide bays regulated by gates and/or stoplogs. A concrete spillway slab, USBR stilling basin and training walls convey the water downstream. The training walls and center pier for the bays will support the six-foot wide pedestrian bridge. The final geometry of the spillway slab and training walls will be determined based on the hydraulic needs and any net uplift conditions. The new weir and spillway structure will be analyzed for global stability and sized/reinforced to meet the load demands from the system and the reactions from bridge supports. It is anticipated that the training wall and pier foundation will be enlarged to support the bridge loads. The auxiliary spillway structure is anticipated to consist of an earth embankment with a steel sheet pile and concrete cap beam cut off wall. The cutoff wall will be designed to account for differential backfill pressures and the concrete cap beam will be designed to encapsulate the top of the sheets and resist temperature and shrinkage stresses.

The overall analysis and design of the new structures will comply with appropriate USACE, ACI, AISC and State guidelines. Specifically, the concrete analysis for the walls, slabs and beams will

comply with USACE EM 1110-2-2104 Strength Design of Concrete Hydraulic Structures and appropriate ACI documents. The design of the stoplogs or gates will comply with EM 1110-2-2107 Design of Hydraulic Steel Structures and current AISC steel construction manual. The pedestrian bridge will be sized and designed for 90 psf uniform load and small maintenance vehicles (UTV or Golf Cart). Bridge will be designed per AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges.

Deliverable: The Basis of Design Report will summarize the hydraulic, geotechnical, and structural analyses and computations, project purpose and need, narrative summary of the proposed design, methodology, and construction considerations. Relevant analysis will be appended to the report, including the Geotechnical Data Report and PFMA Report.

Task 3: Permitting

After completion of the 50% Design Documents the project team will develop an EGLE Joint Permit Application for the project and submit the application and fee via the MiEnviro Portal. Prior to submission of the permit application, a pre-application meeting with regulatory and resource staff will be requested to review the general approach of the project and discuss project specific permitting requirements. The project team will coordinate with EGLE permit review staff throughout the process.

Deliverable: Pre-application meeting minutes and Joint Permit Application.

Task 4: Prepare Plans and Technical Specifications

The concept drawings will be updated into full construction documents. The plans and specifications will be progressed from conceptual design to preliminary design to final design. The design drawings and technical specifications will be prepared in Construction Specifications Institute (CSI) format. The specifications will be submitted for review by the City at the 50% and 90% milestone. The 50% specifications will be an outline only. The 50% and 90% design review comments will be incorporated into 100% Final documents. The 100% final drawings and specifications will be signed, stamped and submitted to the City and EGLE for approval prior to construction of the project.

Deliverable: Plans and Technical Specifications.

Task 5: Project Management and Meetings

This task includes a project kickoff meeting, participation in monthly project update meetings, and coordination with the internal project team to advance the design. This task also includes design review meetings with the City and other pertinent stakeholders at the 50% and 90% design submittals.

Deliverable: Monthly progress reports and meeting minutes.

IV. Project Timetable and Schedule

The schedule for the engineering evaluations and design phase are as follows:

1. Project Kickoff – June/July 2024
2. Field Investigations – July/August 2024
3. Design Analyses/50% Design – July through December 2024
4. Permit Application Submittal – January 2025
5. 90% Design – January through March 2025
6. Final Plans and Technical Specifications – April/May 2025

V. Project Budget

See attached Project Budget

Equipment (Any Item Over \$5,000)					
Itemized Equipment	Quantity	Cost	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
Equipment Subtotal		\$ -	\$ -	\$ -	\$ -
Travel					
Mileage	Miles	Rate	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
Lodging	Nights	Rate	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
Meals	Quantity	Rate	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
Other Travel (Tolls, Parking, Etc.)	Quantity	Rate	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
Travel Subtotal		\$ -	\$ -	\$ -	\$ -
Other					
Description	Quantity	Cost	Grant Amount	Local Match Amount	Total
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
Other Subtotal		\$ -	\$ -	\$ -	\$ -
Project Subtotal					
			Grant Amount	Local Match Amount	Total
Project Subtotal			\$ 600,000.00	\$ 70,000.00	\$ 670,000.00
Indirect					
Indirect Approach	No Indirect Expenses Requested				
Rate	0.00%				
Indirect Subtotal			\$ -	\$ -	\$ -
What expense categories are included in the indirect calculation (e.g. salary and fringe, travel)?					
Grant and Match Budget					
Grant and Match Total			\$ 600,000.00	\$ 70,000.00	\$ 670,000.00
Project Percentage Split			90%	10%	
Sources of Match					
Organization		Dollar Value Committed			
		In Kind	Cash	Total	
State of Michigan- appropriated funds for the Lake Shamrock Dam		\$ -	\$ 70,000.00	\$ 70,000.00	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	
Subtotal		\$ -	\$ 70,000.00	\$ 70,000.00	
Total Match Must Equal Local Match Amount in Budget Sheet Above				\$ 70,000.00	

If you need this information in an alternate format, call 800-662-9278 or contact: EGLE-Accessibility@Michigan.gov

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This form and its contents are subject to the Freedom of Information Act and may be released to the public.

RESOLUTION 2024-071

A RESOLUTION OF THE CLARE CITY COMMISSION APPROVING THE GRANT AGREEMENT FOR A MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) DAM RISK REDUCTION GRANT PROGRAM (DRRGP) GRANT IN THE CITY OF CLARE.

WHEREAS, the City of Clare applied to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for a Dam Risk Reduction Grant Program (DRRGP) grant for a Lake Shamrock Dam Replacement Project in the City of Clare; and

WHEREAS, the City's application for said proposed dam project was approved with a total project amount of approximately \$670,000, with \$600,000 of said project costs being provided by the EGLE DRRGP grant with the City of Clare being responsible for \$70,000 of said project costs; and

WHEREAS, EGLE has provided the City a formal grant agreement outlining the terms, conditions, stipulations, restrictions, and provisions of said grant offer; and

WHEREAS, the City Commission has duly reviewed, discussed, and considered said grant agreement and determined it is in the best interests of the City to approve said agreement.

NOW THEREFORE BE IT RESOLVED THAT the Clare City Commission hereby approves the grant agreement offered by EGLE for the Lake Shamrock Dam Replacement Project in the City of Clare, the terms, conditions, stipulations, restrictions, and provisions of said grant agreement as outlined therein.

ALL RESOLUTIONS AND PARTS OF RESOLUTIONS INSOFAR AS THEY CONFLICT WITH THE PROVISIONS OF THIS RESOLUTION BE AND THE SAME ARE HEREBY RESCINDED.

**The Resolution was introduced by Commissioner _____ and supported by Commissioner _____.
The Resolution declared adopted by the following roll call vote:**

YEAS:

NAYS:

ABSENT:

Resolution approved for adoption on this 16th day of September 2024.

Diane M. Lyon, Clare City Clerk