SCOPE OF SERVICES
ENGINEERING DESIGN/BUILD PROJECT

LAKE AND RIVER ENHANCEMENT (LARE) PROGRAM
INDIANA DEPARTMENT OF NATURAL RESOURES
DIVISION OF FISH AND WILDLIFE

I. Project Purposes:

The purposes of the Lake and River Enhancement Design/Build project include:

1. Prepare a complete physical design(s) that is ready to move to the construction phase
2. Ensure project success through necessary communication with permitting agency staff and affected landowner.
3. Complete project construction as designed.

II. Project Tasks:

1. Identify boundaries of the project site(s)
Determine exact site locations for proposed structures and other design elements. Record the location of the project with the 12 digit HUC (Hydrologic Unit Code); and as Latitude and Longitude Coordinates expressed in decimal degrees, using NAD 1983 Datum and as UTM (Universal Transverse Mercator) Coordinates. Generate appropriate maps and drawings for discussion purposes.

2. Confirm easements and land availability. Determine all necessary project property easements including those for construction ingress, egress and flooding. The task also includes obtaining land rights sufficient for the purpose of construction and inspection (if not previously completed in the feasibility phase).

3. Complete a flood stage analysis if determined necessary. Complete a hydraulic computer model illustrating flood profiles sufficient for the purpose of securing necessary project permits (if not previously completed in the feasibility phase).

4. Conduct a wetland impact assessment of any affected areas. Conduct a preliminary survey to identify and give approximate distribution maps for wetland vegetation existing at locations that may be affected by the project. Prepare distribution maps of plantings included in project design. An appropriate field method for wetland functional assessment will be used to estimate the level of ecological benefit and impact predicted from the project.

5. Model functionality and/or impact of proposed project with respect to condition of the lake or stream

6. Complete engineering/calculations. Complete all necessary engineering computations to generate a workable design including surveying and mapping, soil borings and geotechnical analyses, hydrologic and hydraulic analyses and all associated calculations (if not previously completed in the feasibility phase).

7. Complete design drawings. Develop plan sheet drawings of all proposed sites and structures (including plan view, longitudinal profiles, and cross sectional details).

8. Complete early coordination process for obtaining all project permits to comply with all applicable federal, state, and local laws and regulations, and coordinating review of the preliminary design plan with pertinent agencies. This is to help facilitate issuance of all necessary permits if they had not been previously secured in the feasibility phase. It also includes meeting with affected landowners to discuss specific design elements and expected results.

9. Use the Region 5 model to estimate the amount of nutrients reduced and soil saved by the proposed project relative to contributions from other watershed sources and characteristics of the proposed project.

10. Determine construction cost estimates and timelines. Develop cost estimates for the construction phase of the project. Plan and utilize appropriate seasonal timing for construction phase.

11. Project progress reporting. Submit monthly progress reports during the duration of the project to the project sponsor and LARE project manager

12. Build the project to the specifications set forth in the design and in accordance with permit conditions.

13. Insure successful installation of materials via project management oversight.

14. Correct any immediate structural or material failures.

15. Complete engineering ‘as-built’ design report which includes completion of a bound engineering design and construction report illustrating no less than the following:

a. Executive Summary.

b. A statement of project purpose.

c. A general overall project description, including, but not limited to, project contractor, project timing, project accomplishments, specifications for project materials, Region 5 model estimated amount of nutrients reduced and soil saved by the project, changes from original scope and any necessary future project inspection and maintenance requirements.

d. A heading and summary for each project task with accompanying appendices if necessary. The appendices should include (if applicable) but are not limited to:

i. All pertinent data, including field sheets.

ii. Engineering calculations.

iii. Computer model input and output.

iv. Region 5 input sheets

v. Geotechnical investigation information.

vi. All pertinent and appropriate project correspondence

vii. Necessary maps, charts, graphs, computations and computational breakdowns.

viii. Pertinent meeting agendas, attendance lists and agreements.

e. Final plan sheets and 'as-built' designs.

III. Data Presentation:

1. Raw data sheets need not be bound into each copy of the report. However, at a minimum, one set of all design and field data must be submitted to the LARE project manager to aid in the review of the draft report and plan sheets.

2. Presentation of data in English units with metric units in parenthesis is preferred. Example: 5ft. (1.5m).

IV. Review Process:

1. Two printed copies and one digital copy (in either MS-Word© or Adobe PDF© format) of the draft report must be provided to the project sponsor and pertinent agencies. One printed copy and one digital copy of the draft report must be provided to the LARE project manager for review by the LARE staff. *Note that the draft document may be posted on the LARE website for public comment.*

2. Where the project area covers more than one county, one (1) additional copy of the report and plan sheets should be supplied for each additional county.

3. Reports must be reproduced with two-sided pages for hard copies and presented as a single digital file (in either MS-Word© or Adobe PDF© format), suitable for posting to the LARE website.

4. The title of the draft report and plan sheets must refer to the report as a "draft" version. Additionally, each page of the draft report and plan sheets must be labeled "Draft - Subject to Revision."

5. To facilitate review of the draft report and plan sheets, a meeting between a representative of the local sponsor, consultant, and LARE project manager may be held to discuss the review comments. This meeting will be coordinated by the LARE project manager.

6. Upon addressing the review comments, two printed copies of the complete final report should be provided to the LARE project manager. In addition a digital copy of the full report including appendices, figures, maps and photos in either MS-Word© or Adobe PDF© format should be provided to the LARE project manager. Do not submit multiple files that need to be merged into one file for web posting. Two printed copies and one digital copy of the final report must also be provided to the project sponsor and pertinent agencies. Where the project area covers more than one county, one (1) additional copy of the report and plan sheets should be supplied for each additional county involved.

7. Reports must be reproduced with two-sided pages for printed copies and as a single digital file (in either MS-Word© or Adobe PDF© format) suitable for posting to the LARE website.

Follow these guidelines for electronic copies:

a) Digital file names must follow this protocol: Name_Water_Body_Design_Build_Project_Name_County_Month_Year.pdf or .doc
b) All digital copies must contain the complete digital copy of the full report including appendices, figures, maps and photos in either MS-Word© or Adobe PDF© format as a single digital file. Do not prepare multiple files that need to be merged into one file for web posting.
c) Keep file sizes as small as possible to facilitate email exchange and downloading by adjusting pixel size on graphics, compressing photos, or exporting GIS files to pdf or jpeg formats.