**PROJECT TITLE: Rock County Aggregate Mapping**

**I. PROJECT STATEMENT**

Rock County is interested in planning for sustainable and healthy communities. We identified the need to obtain aggregate resource information to support planning and zoning efforts, to inform decision-making with sound science-based information, and to promote the orderly development of aggregate resources while protecting critical habitats and well head protection areas.

Aggregate resources are the raw materials needed to maintain and repair infrastructure. Accessing local resources, verses transporting them long distances, reduces the tax payer burden for road publicly funded road projects. Furthermore, local resources have a lower Environmental Product Declarations by reducing emissions of greenhouse gases from trucking. However, these resources can also compete with recreational and conservation land uses. Knowing where aggregate resources are located is key in finding sustainable solutions for land use planning.

With this grant, Rock County will partner with Minnesota Department of Natural Resource (DNR) for a two year project. The DNR will complete an aggregate resource inventory of Rock County. Mapping will be completed using high-resolution elevation data (LiDAR) to delineate landforms, identify and sample aggregate deposits, and inventory active, inactive, and unreclaimed gravel pits. Final products include aggregate resource maps and GIS (Geographic Information Data) dataset for Rock County. Rock County will support this project with either in-kind services or financial contributions totaling $7,000 toward the cost associated with fieldwork.

The final portion of this project will result in a coordinated workshop for Rock County staff, county staff, and township officials by DNR technical experts. The workshop will focus on how to integrate aggregate resource data into county planning and zoning.

**II. PROJECT ACTIVITIES AND OUTCOMES**

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| **Activity 1: Data Compilation and reconnaissance level field work****Description:** *A DNR geologist will compile all available and relevant gravel pit data, geologic maps and reports, and related research. GIS personnel will compile available digital data. The geologist will start mapping and fieldwork* **ENRTF BUDGET: $ 25,700** |  |

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| **Outcome** | **Completion Date** |
| *1. Geologic and digital data is compiled for the county* | *August 2020* |
| *2. Complete survey and reconnaissance level field work* | *August 2021* |

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| **Activity 2: Conduct sampling for quality****Description:** *DNR geologist will conduct fieldwork to collect aggregate samples and geologic observations on aggregate deposits and sedimentary associations of glacial landforms. Rock outcrops and bedrock geology will be noted. This activity may consist of 2-3 field seasons and a field review. Approximately 80-150 drill holes per county will be collected and analyzed in a laboratory. Assistants will help with fieldwork and deliver samples to MNDOT Aggregate Materials Laboratory.***ENRTF BUDGET: $ 35,200** |  |
| **Outcome** | **Completion Date** |
| *1. Drill and sample locations to characterize the quantity and quality of aggregate* | *September 2021* |
| *2. Complete survey and reconnaissance level field work* *Ground‐truth aggregate potential models and interpretations* | *November 2021* |
| *3.* *Process samples at DNR Hibbing sediment laboratory* | *January 2022* |

**Activity 3: Create Map and Digital Products**

**Description:** *During off seasons for field work, a DNR geologist will analyze collected data and historic data. Geologists, with the assistance from DNR GIS staff, will delineate and catalogue aggregate resource potential, identify aggregate resource trends, and produce draft aggregate maps. Draft maps will undergo a review process as well as undergo a public comment period.*

**ENRTF BUDGET: $ 50,100**

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| **Outcome** | **Completion Date** |
| *1. Field data interpreted, processed, and entered into DNR’s information systems.*    | *April 30, 2022* |
| *2. Digital maps (GIS polygon data) created for aggregate resource potential, compiled sampling results (sieve analysis, deleterious lithology, and soundness).* | *April 30. 2022* |
| *3. Designation of mapping units with field checks as needed.* | *April 30, 2022* |

**Activity 4: Deliver Survey Results**

**Description:** *DNR will provide interpretation of results from Activities 1 through 3 and deliver the final products and technical assistance to Rock County*

**ENRTF BUDGET: $ 9,000**

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| **Outcome** | **Completion Date** |
| *1. DNR provide workshops to Rock County, townships, and municipalities.*  | *June 30, 2022* |
| *2. Final draft of maps and GIS products are available on DNR website.* | *June 30, 2022* |

**III. PROJECT PARTNERS AND COLLABORATORS:**

The Minnesota Department of Natural Resources

**IV. LONG-TERM IMPLEMENTATION AND FUNDING:**

ARMP information, data, and technical guidance have proven critical to local governments and the state.   Because this information is only funded through ENTRF funds, DNR ARMP is unfunded and looking to the legislature to provide long‐term sustainable funding until the state’s aggregate resources are fully mapped.  This priority reflects the recommendations coming from the 2017 Aggregate Resource Task Force Final Report.

**V. SEE ADDITIONAL PROPOSAL COMPONENTS:**

**A. Proposal Budget Spreadsheet**

**B. Visual Component or Map**

**C. Project Manager Qualifications and Organization Description**

**D. Letter or Resolution**