

**MEMORANDUM OF UNDERSTANDING  
BETWEEN  
THE IOWA DEPARTMENT OF NATURAL RESOURCES  
AND  
THE CITY OF DUBUQUE, IOWA**

This Memorandum of Understanding (MOU) between the Iowa Department of Natural Resources (DNR) and the City of Dubuque, Iowa (City) is effective on the \_\_\_\_ day of \_\_\_\_\_, 2020.

1. **Purpose.** The purpose of this MOU is to establish a framework for the City to engage in watershed management within its HUC 8 and credit quantifiable nutrient reductions in that watershed for the benefit of the City's nutrient reduction targets through NPDES permitting. The City may use this framework to achieve compliance with current requirements arising from the Iowa Nutrient Reduction Strategy (NRS) and potential future nutrient requirements. In exchange for utilizing this framework, the City will receive certainty regarding compliance with future nutrient reduction permit requirements.
  
2. **Background.** Iowa developed a NRS to reduce excess nutrients in Iowa's surface waters and tasked wastewater treatment plants with specific nutrient reduction goals. The NRS supports the development of water quality credit trading between two or more entities, commonly a point source which is mandated to achieve a permit goal and one or more nonpoint sources who voluntarily collaborate with the point source to reduce the amounts of nitrogen and phosphorus entering a water body. Trading can provide a means to improve water quality, especially in cases where the technology does not exist or is not affordable or feasible to allow a point source discharger to comply with permit requirements or where the same or greater pollutant reductions can be achieved more quickly or at lower cost through implementing Best Management Practices (BMPs) or other nutrient reduction efforts.<sup>1</sup>

In support of the NRS's goals and policy statements, the DNR in partnership with the Iowa League of Cities established the Nutrient Reduction Exchange (NRE), a tool for registration of practices implemented in a watershed that reduce Nitrogen (N) and Phosphorus (P), registration of the modeled nutrient reductions of those practices, and that are thus available for offsets or trading. This MOU is designed to build on the NRS policy and goals, and the establishment of the NRE, to provide point source facilities with a well-defined option of achieving regulatory compliance

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<sup>1</sup> The United States Environmental Protection Agency also supports water quality trading, offsets and similar programs to achieve compliance with regulations, in particular using land management strategies for implementing market-based programs within a watershed, as most recently stated in the EPA February 6, 2019 Memorandum titled "Updating the Environmental Protection Agency's (EPA) Water Quality Trading Policy to Promote Market-Based Mechanisms for Improving Water Quality."

and certainty through the implementation of watershed-based nutrient reduction practices.

3. Goal. The goal of this MOU is to provide the City with regulatory certainty regarding how it will be allowed to utilize nutrient load reductions in the watershed within its NPDES permit, and how nutrient reducing practices can be banked or used in the future.

4. General Areas of Agreement.

A. Use of Nutrient Reducing Practices as Offsets. Provided that the terms of this agreement are followed, the City shall be able to utilize nutrient reducing practices as offsets (Nutrient Reduction Offsets) towards its requirements for nutrient reduction under an NPDES permit, in accordance with the terms of this MOU. Nutrient reducing practices (aka BMPs) built or implemented as part of a watershed plan will be considered as described below.

B. Monitoring and Modeling. The City may develop a monitoring strategy to assess overall N and P concentrations in-stream and to document progress toward nutrient reductions within the watershed. However, progress towards nutrient reduction will be based on modeling using the Nutrient Tracking Tool (NTT) provided by the U.S. Department of Agriculture's Environmental Markets Division, or as further set forth below.

C. Baselines. N and P baselines for point and nonpoint sources will be based on pre-City-implemented BMPs. For nutrient reducing practices, baseline options should be consistent with the existing established practices in Iowa, appropriate for the sector, and may be further defined in terms of load, geographic scale, minimum practices, and schedule of implementation and/or time needed to facilitate improved environmental performance to achieve nutrient load reductions. Agricultural NPS baselines will be established using pre-existing field activity data. Pre-existing baseline data will be verified using the NRE guidelines and will be stored within the NRE system as a part of the NTT model runs. Baseline conditions must be established at the field level prior to the City-connected implementation of any BMP on a given field.

D. Future Mandated Practices. In order to recognize investments made by municipalities towards NRS reduction goals, and to reward leadership, if a BMP funded under a watershed project subsequently becomes mandated by local, state or federal law, the N, P, and Total Suspended Solids (TSS) reductions associated with that BMP will continue to be credited to the municipality if allowed under the new law, provided that the BMP continues to be viable, verified, and within the useful life of the practice.

E. TSS. BMPs put in place to address P will also generally be effective in reducing TSS. Where necessary and when correlated within a watershed, P-

reductions will be used as a surrogate for TSS. TSS reductions, in addition to N and P reductions, can be considered, if applicable and consistent with state and federal law.

5. Watershed Plan.

A. Outlining the City's Goals. In each NPDES permit application the City must submit a watershed plan or a document explaining what the practices the City plans to implement within the watershed and when those practices will be implemented to utilize nutrient reducing practices in the future.

B. Plan Requirements. A watershed plan must include an analysis of the following: (1) identification of appropriate watershed management within its HUC 8, (2) a discussion about how the City will attempt to achieve nutrient reduction through BMPs and landowner engagement, (3) an estimation of load reductions expected from implementation of new BMPs, (4) how the practices will be maintained over the design life of the practice (5) an expected project schedule during the permit term, and (6) a description of how the City will monitor and track the effectiveness of its BMP implementation schedule.

C. Location. The City may select a watershed planning area or multiple areas in the HUC 8 watershed within which it is located.

D. Practice Criteria. BMPs identified in a watershed plan shall be installed and maintained according to Natural Resources Conservation Service (NRCS) or Iowa Department of Agriculture and Land Stewardship (IDALS) technical standards. Work shall be done in accordance with generally accepted engineering practices and shall document the NTT-modeled estimates of pounds/tons reduced as compared to nutrient and sediment loading conditions prior to the installation of the BMP. Novel practices not included in NRCS or IDALS standards may be used, as long as the nutrient reductions they produce can be modeled using the NTT, are consistent with the NRS, and approved by DNR and Iowa State University (ISU) technical reviewers.

6. Determining Final Plan Compliance, Interim Progress, and Usable Nutrient Load Reductions.

A. Compliance Measurement. Interim progress, final compliance and usable nutrient load reductions will be determined using the best available modeling tools. Currently, BMPs will be modeled at the field scale using the NTT. Other models or methods may be substituted as deemed appropriate, subject to agreement by the parties to this MOU.

B. Offset and Practice Eligibility. Implemented BMPs shall be recorded on the NRE. In general, the City shall provide experienced personnel to be trained in the NTT, and to model the BMPs through the NTT (or other approved model), obtain

verification and approval from ISU or the DNR designee; and to confirm and document practice construction completion and record NTT results into the RIBITS system. The DNR shall accept the NTT-modeled load reductions of the BMPs within RIBITS and issue a letter establishing the validity of the practices and these may be used by the City as an offset in a one-to-one ratio to contribute to its NRS goal, or may be used in other regulatory formats so long as the practice has been maintained and is functioning as designed. Upon receipt of the verification and approval of the model run by ISU (or the DNR designee), the DNR shall have sixty (60) days to review, comment, and issue a letter establishing the validity of the nutrient load reductions claimed or request modifications.

C. Interim Progress for NRS Goals. During the term of this MOU, the City shall provide annual progress reports to the DNR detailing its progress in the watershed, the BMPs implemented, verification of ongoing practices, and the nutrient load reductions obtained. To the extent nutrient load reductions were committed as offsets towards use in the City's NPDES permit requirements, the progress report shall identify overall progress towards the 5-year goals for N and P reductions, as well as what percentage of reductions come from technological improvements versus work in the watershed. DNR also expects the report to sum the load reductions (i.e., pounds) in each year for each of the pollutants at issue (e.g., N and P). This should not require additional calculations, instead merely summing already quantified pounds of nutrient load reductions used as reported in the state's NRE registry/tracking system.

D. Achieving Total NRS Goals. The City is committing to reaching the nutrient reduction goals outlined within the NRS using a combination of technological approaches and watershed offsets, if this is achievable under a feasibility and reasonableness analysis under IAC 567-62.8(5), by 2032. If the City is relying primarily on watershed-based nutrient reducing practices to achieve these goals, progress must be shown consistent with commitments and timeframes detailed in the watershed plan for each permit cycle towards achieving the total NRS nutrient reduction goals.

E. Future Requirements. If the City implements a watershed plan in accordance with this MOU, DNR agrees not to impose any additional nutrient reduction requirements during the plan implementation term unless required to do so by law.

F. Look Back Period. The City initiated its voluntary efforts in watershed work in 2007. For purposes of nutrient reducing practices, the City may record modeled nutrient reductions from BMPs implemented since May of 2013 in the NRE, as outlined above. However, the City must be able to fully document the field conditions prior to the City-initiated BMPs. These nutrient load reductions may be applied to the nutrient reduction goals committed to by the City, and ongoing practices may continue to be used for offsets.

7. Termination of Agreement. This agreement shall be in effect unless modified or terminated by mutual agreement of the parties, or the DNR elects to terminate this MOU to coincide with the expiration of the City's next NPDES permit by submitting written notice to the City one-hundred eighty (180) days in advance of the current permit's expiration.

CITY OF DUBUQUE, IOWA

IOWA DEPARTMENT OF NATURAL  
RESOURCES

By: \_\_\_\_\_

By: Kayla Ly \_\_\_\_\_

Its: \_\_\_\_\_

Its: Director \_\_\_\_\_

