

HR GREEN, INC.
AMENDMENT TO MASTER AGREEMENT FOR MUNICIPAL ENGINEERING SERVICES

THIS AGREEMENT, made this ___th day of _____, 2023 by and between the **City of Nevada**, the CITY, and **HR GREEN, INC.** (hereafter "HRG"), for professional services concerning:
Nevada, IA – North Well Field Exploration

HRG Project Number 2303590

The CITY agrees to employ HRG to perform the following services:
Field Exploration, Planning, Evaluation, and Permitting as defined in the Attachment A, Scope of Services.

In consideration for these services, the CITY AGREES to pay HRG on the following basis: (Indicate Payment Method)

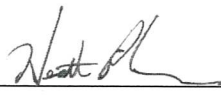
- Lump sum in the amount of _____
- Per current Rate Schedule Total Project Not to Exceed amount of \$67,200
- Other as stated here: _____

The Schedule of Fees and Conditions are as approved in the Master Agreement for Municipal Engineering Services dated June 26, 2023.

CITY OF NEVADA, IOWA

HR GREEN, INC.

By: Brett Barker
Its Mayor
Date _____


By: Heath Picken, P.E.
Its Vice President
Date 10/17/2023



ATTACHMENT A: SCOPE OF SERVICES

1.0 Project Understanding

1.1 General Understanding

The City of Nevada (CLIENT) has purchased a 38-Acre parcel of land adjacent and immediately north of the current alluvial well field located east of Interstate-35. The current parcel includes areas defined as Conservation Reserve Program (CRP) administered through the United States Department of Agriculture (USDA). CLIENT desires to investigate the acquired parcel to determine well siting for future expansion of the alluvial source water system.

Once complete, the well siting recommendations can be used for CLIENT to formally change CRP classification of portions of the parcel with the USDA.

1.2 Design Criteria/Assumptions

- The project will utilize the Recommended Standards for Water Works, 2012 Edition, (aka 10 States Standards) as adopted design standards of the Iowa DNR.
- Additional design standards are included in Section 567 of the Iowa Administrative Code (IAC) to supplement the 10 States Standards.
- This study will include field investigation of both surface features (i.e., wetlands) and subsurface features (i.e., drilling and sieve analysis). Spacing of the wells will be based on previous guidelines for the existing well field. No hydrogeological modeling is included as part of this study.

2.0 Scope of Services

The CITY agrees to employ COMPANY to perform the following services:

2.1 Project Management and Quality Control

- a. COMPANY shall provide project management services for duration of the project. This includes scheduling subconsultants/subcontractors, establishing and updating schedules, managing resources, and communicating with CLIENT.
- b. Provide a quality assurance and quality control (QA/QC) plan for the project. This includes an independent internal review of major deliverables.

2.2 Project Initiation

- a. Project Kick-off Meeting: Schedule a project kick-off meeting with the CLIENT staff to review the overall scope of the project, identify specific objectives and CLIENT requirements, gather information and records from CLIENT, and discuss in detail the tasks and schedule of the project. The Kick-off Meeting will be held virtually through Microsoft Teams.

2.3 Wetland Delineation

- a. Complete an onsite field wetland delineation of the 38-acre parcel and potential adjacent work areas. The Consultant will use the methods described in 1987 Corps of Engineers Wetlands Delineation Manual and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region.
- b. Wetland boundaries will be recorded using sub-meter accuracy GPS and drawn on high-resolution aerial photographs.
- c. The Consultant will summarize the field delineation results in a report. This report will include an introduction, background information review, observed site conditions including wetland descriptions, site photographs, and figures depicting wetland delineated wetland boundaries. The report will describe individual delineated wetlands on the site by type (emergent, forested, etc.).
- d. The presence/absence of wetlands and their boundaries in farmed areas will be determined using Chapter 5: Difficult Wetland Situations/Agricultural Lands of the Midwest region supplement. The report will also identify and record potential stream indicators such as ordinary high water marks (OHWM), running water, water flow direction, absence of vegetation within wetlands, active sediment sorting, bank erosion, and bank filling.

2.4 Subsurface Drilling, Exploration, and Water Quality Sampling

Mobilize drilling equipment to the site for minimum of one (1) and maximum of three (3) locations for drilling and subsurface exploration. The following will be provided at each potential Test Hole/Well site:

- a. Drill a 2-inch Test Hole/Well to a depth of approximately 90 feet.
- b. The Test Hole/Well will be permitted through the Private Well Program, with Story County having jurisdictional authority. Test Holes/Wells will be left open no more than 7 days.
- c. Obtain soil samples from the target Ames Aquifer during drilling. Samples will be sent to a laboratory for a sieve analysis for evaluation of the potential aquifer capacity, permeability, transmissivity, and preliminary screen sizing. Samples will be provided at spacing approximately every 5 feet within the target aquifer.
- d. Well Drilling subcontractor will obtain a water quality sample for testing at a certified lab to confirm the concentrations of the following constituents: Iron, Manganese, Ammonia, Nitrate, pH, Alkalinity, Total Hardness, and Total Dissolved Solids (TDS).
- e. Plug and abandon the well with bentonite and/or neat cement, submit Iowa DNR Form 542-1226 "Abandoned Water Well Plugging Record" to the Iowa DNR Water Supply Engineering Section.

2.5 Water Capacity Evaluation

- a. Obtain operational records from CLIENT, including Monthly Operating Reports (MORs) and meter billing data for industrial raw water customers to determine current design demands for both raw and finished water.
- b. Forecast future 10-year and 20-year demands based on known planned developments, forecasted population growth using Census records, and any readily-available sources of future growth estimates such as a City or County Comprehensive Plan.

- c. Prepare a memorandum documenting the source of data, assumptions and rationale for future forecasted conditions, and current future design demands.
- d. Based on future forecasted demands, identify the number of future well site(s) to accommodate adequate source water under firm capacity conditions.

2.6 Evaluation of Raw Water Main Capacity and Preliminary Engineering Report

HR Green previously completed a hydraulic evaluation of the capacity in the 16-inch raw water transmission main as part of the 2013 *Water System Facility Plan*. Subsequently, improvements were made at the Water Treatment Plant and at industrial customers to provide for increased flow control and metering of raw water flows. This scope will include the following:

- a. COMPANY to deploy fire hydrant pressure transmitters and data loggers on two (2) fire hydrants to remotely obtain operational pressure data over the course of multiple days (e.g., 3-7 days). Pressure Transmitter/Data Loggers anticipated to be placed at the current Well Field site and immediately downstream of the Service Control Building that supplies flow to the industrial customers.
- b. Process the data from the Pressure Transmitter/Data Loggers and obtain operational SCADA data from CLIENT, including:
 - o Individual and Total Well Flowrates
 - o Well Field Discharge Pressure
 - o Water Treatment Plant total Raw Water Flow
 - o Water Treatment Plant incoming Raw Water Pressure
 - o Service Control Building Individual and Total Raw Water to Customers
 - o Service Control Building Raw Water Pressure
- c. Update the hydraulic model of the Raw Water System to incorporate the field data. Confirm capacity in the raw water main and identify any deficiencies and/or improvements needed to convey the Design Flow required based on the Demand Evaluation in the scope item above.
- d. Document the data evaluation, any assumptions, capacity findings, and the Engineer's Opinion of Probable Construction Cost for any recommended improvements in a Draft Preliminary Engineering Report (PER) that would serve as the basis for the Iowa DNR to justify improvements to the raw water system. The PER will include the results of the Demand Evaluation and Well Siting Recommendations identified in the Scope Items above as Appendixes.
- e. Meet with CLIENT to review the Draft PER, discuss the findings, and receive feedback to incorporate into the final document.
- f. Finalize the PER, and at CLIENT's direction, submit to the Iowa DNR for review and approval.
- g.

3.0 Deliverables and Schedules Included in this Agreement

Notice to Proceed:	TBD by CITY
CLIENT Kickoff Meeting	1 Week after NTP
Deploy Pressure Transmitters	2 Weeks after NTP
Wetland Delineation and Report.....	4 Weeks after NTP
Water Capacity Evaluation	5 Weeks after NTP
Drilling, Sieve Analysis, and Water Quality Results	6 Weeks after NTP



Raw Water System Draft PER.....	10 Weeks after NTP
CLIENT Review meeting	12 Weeks after NTP
Finalize PER	16 Weeks after NTP

This schedule was prepared to include reasonable allowances for review and approval times required by the CITY and public authorities having jurisdiction over the project. This schedule shall be equitably adjusted as the project progresses, allowing for changes in the scope of the project requested by the CITY or for delays or other causes beyond the control of COMPANY.

4.0 Items not included in Agreement/Supplemental Services

The following items are not included as part of this agreement:

1. Modeling of the Aquifer System
2. Attendance at meetings or public hearings other than those specifically listed in the Scope of Services
3. Additional permitting, other than specifically listed in the Scope of Services
4. Survey services, including topographical, boundary, and/or utility surveys
5. Preparation of Plats and/or Easements
6. Funding applications
7. Financial assistance and/or providing services related to a Municipal Advisor
8. Legal services of any kind
9. Design, bidding, or construction of improvements to the Water System

Supplemental services not included in the agreement can be provided by COMPANY under separate agreement, if desired.

5.0 Services by Others

Northway Well and Pump Company to provide Subsurface Drilling, Exploration, and Water Quality Sampling

6.0 City Responsibilities

1. Provide requested operational data and records.
2. Provide timely review of draft submittals.
3. Provide personnel knowledgeable about operations and maintenance of facilities to be available for discussions, accompany COMPANY on any site visits, and to answer questions.
4. Provide data on past construction costs for existing critical assets.
5. Pay for all permit fees.