ADDENDUM #4

Village of Cary, Illinois

ROTARY PARK DEEP WELL AND WATER TREATMENT PLANT

HR Green Project No.: 2302382

May 16th, 2025

This addendum forms a part of the bidding documents and contract documents and modifies the original bidding documents certified April 4, 2025.

Acknowledge receipt of this addendum in the space provided on the BID FORM and sign and include with your Bid. **Failure to do so may subject the Bidder to disqualification.**

SPECIFICATIONS

- Section 44 4256.02 (changes shown clouded)
- Section 26 2200 – Low-Voltage Transformers
    - Replace paragraph 2.01 with the following:

        "2.01 MANUFACTURERS
        A. ABB: www.electrification.us.abb.com/#sle.
        B. Eaton Corporation: www.eaton.com/#sle.
        C. Schneider Electric: www.se.com/#sle."

- Section 26 2413 - Switchboards
    - Replace paragraph 2.01 with the following:

        "2.01 MANUFACTURERS
        A. Switchboards:
        1. ABB: www.electrification.us.abb.com/#sle.
        2. Eaton Corporation: www.eaton.com/#sle.
        3. Schneider Electric: www.se.com/#sle."

- Section 26 2416 – Panelboards
    - Replace paragraph 2.01 with the following:

        "2.01 MANUFACTURERS
        A. ABB: www.electrification.us.abb.com/#sle.
        B. Eaton Corporation: www.eaton.com/#sle.
        C. Schneider Electric; Square D Products: www.se.com/#sle."

- Section 26 2419 – Motor-Control Centers
  - Replace paragraph 2.01 with the following:

    "2.01 MANUFACTURERS
    A. Motor Control Centers:
    1. Rockwell Automation, Inc.; Allen-Bradley Products
    2. Engineer Approved Equivalent"

- Section 26 2816.16 – Enclosed Switches
  - Replace paragraph 2.01 with the following:

    "2.01 MANUFACTURERS
    A. ABB: www.electrification.us.abb.com/#sle.
    B. Eaton Corporation: www.eaton.com/#sle.
    C. Schneider Electric; Square D Products www.se.com/#sle."

- Section 26 2913 – Enclosed Controllers
  - Replace paragraph 2.01 with the following:

    "2.01 MANUFACTURERS
    A. Rockwell Automation, Inc.; Allen-Bradley Products
    B. Engineer Approved Equivalent."

- Section 26 3213 – Engine Generators
  - Replace paragraph 2.01 with the following:

    "2.01 MANUFACTURERS
    A. Packaged Engine Generator Set:
    1. Kohler Co: www.kohlerpower.com/#sle.
    2. Caterpillar Inc: www.cat.com/#sle.
    3. Cummins Power Generation Inc: www.cumminspower.com/#sle."

PLANS

- Sheet C101
  - Replace "433 LF CONSTRUCTION FENCE" with "433 LF CONSTRUCTION FENCE PER DETAIL ON SHEET C510"
  - Replace "32 LF CONSTRUCTION FENCE" with "32 LF CONSTRUCTION FENCE PER DETAIL ON SHEET C510"
  - Add General Note 1: "CONTRACTOR SHALL PROVIDE 1,000 LF OF TEMPORARY COMMERCIAL GRADE CHAIN LINK FENCE TO PROTECT PUBLIC SAFETY AND TO PROTECT PROJECT SITE FROM TRASPASSING, VANDALISM, AND THEFT. FENCE LOCATION TO BE APPROVED BY OWNER. EQUIP WITH VEHICULAR AND PEDESTRIAN GATES WITH LOCKS."

- Sheet C102
    - Replace “CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AND SIGNAGE AROUND CONSTRUCTION BOUNDARIES TO PROTECT PEDESTRIANS” with “CONTRACTOR SHALL INSTALL BARRIERS, FENCING, AND SIGNAGE AS SHOWN IN THE PLANS AND PER SPECIFICATION 01 5000 TO PROTECT PEDESTRIANS”

- Sheet C108
    - Replace “INSTALL 4” HDPE CONDUIT PER DETAIL 9/E101 FROM HH-6 TO TRANSFORMER” with the following: “INSTALL 4” SCHEDULE 80 PVC CONDUIT DIRECT BURIED PER DETAIL 9/E101 FROM HH-6 TO TRANSFORMER”

- Sheet C111
    - Add the following General Note: “RESTORATION WORK ALONG HOT-MIX ASPHALT PAVEMENT TRAIL RECONSTRUCTION SHALL CONSIST OF TOPSOIL EXCAVATION AND PLACEMENT PER IDOT STANDARD SPECIFICATION 211, SEEDING CLASS 1B, AND STRAW MULCH, METHOD 3. RE-SPREAD OF TOPSOIL SHALL BE A MINIMUM OF 4 INCHES THICK. HMA TRAIL SHALL MATCH EXISTING GRADE.

- Sheet E501
    - Add the following sentence to Key Note 2: “CABINET SHALL BE NEMA 4X, 316 STAINLESS STEEL WITH BRUSHED FINISH.”

HR Green, Inc.

By  **_____**

Ravi Jayaraman, PE

This Addendum #4 **must** be attached and signed with your Proposal.

Received _____, 2025

Contractor _____

SECTION 44 4256.02
SUBMERSIBLE WELL PUMPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submersible Well Pump and Motor.

1.02 REFERENCES

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop drawings showing arrangement, dimensions, and materials.

C. Preliminary Submittal: Characteristic performance curves for pumps, showing total dynamic head, pump runout, shutoff head, efficiency, brake horsepower, and net positive suction head required plotted against capacity in gpm. Include full curve from shutoff head to maximum capacity for all impeller sizes. Indicate operating point and impeller diameter being furnished.

D. Second submittal after Engineer returns preliminary submittal: Certified shop test curves. Include TDH, efficiency, BHP, shutoff head, pump runout, NPSHR plotted against flow in GPM. Indicate operating point and impeller diameter furnished.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Operation and maintenance manuals according to Section 01 7800.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Receive and unload shipments to site from suppliers of equipment under this contract.

B. Unload equipment as soon as possible after arrival.

C. Pay freight car and truck demurrage, detention, and any other costs which may be billed to Owner due to failure to unload cars or trucks within time required by freight companies.

D. Provide physical protection for equipment placed in storage.
   1. Support stored equipment above ground and cover with canvas or other heavy-duty sheeting. Cover shall be securely fastened and shall be replaced if torn or otherwise damaged during storage period.
   2. Store motors in dry, warm place and in accordance with manufacturer's recommendations. Motors over 20 hp shall have shaft rotated 90 degrees each month. Provide Engineer with evidence that this requirement is met.
   3. Maintain desiccant between cover and motor frames on motors. Provide desiccant of type permitting visual determination of condition of desiccant. Replace desiccant when it becomes ineffective.
   4. Store the following items in weatherproof, heated (minimum 50 degrees F.) building complete with bins for storage of small pieces of equipment. Storage inside of existing treatment plant not available.
      a. Electronic instruments and cabinets.
      b. Electrical equipment with general purpose enclosures.
      c. Insulation materials.
      d. Rotating equipment.
      e. Miscellaneous electronic equipment, gaskets, and small machined parts.
      f. Instruments and controls.

E. Inspect stored equipment weekly. Renew protective coatings as necessary to preserve fitness of equipment.

F. Provide for safekeeping of materials or equipment received. Store and maintain materials and equipment after receipt until completed installation is accepted by Owner. Such storage and maintenance shall be in accordance with manufacturer's recommendations and requirements of

these Specifications. Provide materials, equipment, and labor required for such storage and maintenance.

G. Contractor shall be accountable for any deterioration of materials or equipment occasioned by improper storage or maintenance, and shall recondition, repair, or replace any such materials or equipment without additional cost to Owner.

1.05 SERVICE REPRESENTATIVE

A. Provide qualified service representative to perform functions described in Section 01 4000 and to sign the Certification of Proper Inspection attached to Section 01 4000.

B. Include necessary trip by the manufacturer's representative to provide two separate 8-hour work day(s) on-site (travel time not included) for startup and training of operations personnel. Training may be video taped by Owner.

C. Additional trips required by the Contractor before or after final startup and training shall not be charged to the Owner.

1.06 START-UP, COMMISSIONING, AND TRAINING

A. Factory test all pumps at manufacturer's plant. Perform tests in accordance with test code of Hydraulic Institute Standards. Pump test will not be witnessed by Owner or Engineer.

B. Test curves shall cover full range of operation from shutoff to maximum capacity; plot capacity as abscissa; plot operating head, brake horsepower, efficiency and NPSHR as ordinates.

C. Test Points:
   1. Shutoff.
   2. Pump runout.
   3. Design operating point.
   4. Two additional points, one on each side of the rated operating point.

D. Test Tolerances:
   1. Operate pumps during tests within one of the following tolerances:
      a. At rated head: +10%/-0% of the rated capacity.
      b. At rated capacity: +5%/-0% of the rated head.
   2. No minus tolerance or margin with respect to capacity or total head at rated or specified condition.

E. Provide shop space, tools, equipment, instruments, personnel, and facilities required for satisfactory completion of tests.

F. Submit test curves and allow Engineer's review prior to pump shipments.

G. Pump Tests:
   1. Pump manufacturer shall perform following inspections and tests on pumps prior to shipment.
      a. Inspect for conformance to Contract Documents with respect to correct model number, motor rating, and electrical connections.
      b. Test motor and seal housing chambers for moisture content or insulation defects.
      c. Prior to submergence, allow pump to run dry to establish correct rotation and mechanical integrity.
      d. Discharge piping attached to pump shall operate submerged under a minimum of 6 feet of water for a minimum of 30 minutes.
      e. After operational test, motor and cable shall be tested again for moisture content or insulation defects.
   2. Pumps failing inspection or tests shall be repaired or replaced at no cost to Owner.

1.07 QUALITY ASSURANCE

A. Pump manufacturer shall be engaged primarily in design and fabrication of submersible pumps, including solids handling type pumps for wastewater service for at least the last 10 years.

1.08 WARRANTY

A. Full warranty against defects in materials and workmanship for two years after substantial completion, including all parts, labor, and expenses.

PART 2 PRODUCTS

2.01 SUBMERSIBLE PUMPS

A. Manufacturers:
   1. Goulds
   2. Plueger
   3. SIMFLOW
   4. Engineer approved equivalent.

B. General
   1. Furnish and install submersible well pump and motor at locations indicated on drawings. Units shall consist of submersible pump and motor, discharge pipe, check valve, pitless unit, power cable, cable fittings and accessories for a complete operable system.
   2. Service: See Submersible Pump Schedule at end of section.
   3. Conduit and wiring as required for complete working installation.
   4. Capable of operating at the conditions identified in the Submersible Pump Schedule, non-overloading over the entire pump curve, without the use of throttling devices.
   5. Provide brackets, bracing, and appurtenances needed to provide a complete assembly as recommended by the manufacturer.
   6. Disinfect all work.
   7. Clean units as necessary.
   8. Remove debris and waste materials resulting from installation.
   9. See Drawings and Submersible Pump Schedule for setting details and depth on each pump.

C. Pump Design
   1. Type: Vertical, multiple stage, water lubricated, centrifugal turbine submersible pump.
   2. Quantity: See Pump Schedule.
   3. Operating conditions: See Pump Schedule.

D. Pump Bowl Assembly:
   1. Capable of withstanding a hydrostatic pressure equal to twice the pressure at rated capacity or 1-1/4 times shutoff head, whichever is greater.
   2. Rubber or bronze sand collar on suction base bearing.
   3. Bronze, stainless steel, epoxy-coated cast iron, or epoxy-coated ductile iron with stainless steel fasteners and bolts.

E. Bowl Shaft:
   1. Turned and ground 410 or 416 stainless steel.
   2. Adequate diameter to transmit the pump horsepower with liberal safety factor and rigidly support impellers between bearings.
   3. Size conforms to ASA-B17C, "Code of Design of Transmission Shafting."

F. Impeller:
   1. Bronze or stainless steel, semi-open or enclosed type, machined, statically and dynamically balanced.
   2. Securely fasten to the impeller shaft with stainless steel keys, taper bushings or locknuts, and bronze wear rings.

G. Columnar Check Valve and Discharge Column Pipe:
   1. Schedule 40 Type 304 stainless steel American Standard threaded and coupled pipe with tapered thread and couplings; furnish in sections with lengths as required for setting configuration as shown on the plans and scheduled below.
   2. Contractor shall assure proper alignment of column pipe when assembled

3. Couplings with strength equal to or greater than pipe. Drop pipe couplings shall be Scotchkote epoxy-coated heavy wall steel, or Engineer approved product that is NSF 61 certified.
4. Include in-line columnar valve(s) in pump discharge assembly with size to match column pipe. Provide Flowmatic Model 80 DIX or Engineer approved equivalent. A total of five (5) columnar check valves shall be provided: one (1) immediately above the submersible pump (within 20 feet) and additional valves spaced at approximatley 200-foot intervals.

H. Suction Adapter:
1. One piece, bronze, stainless steel, epoxy-coated cast iron, or epoxy-coated ductile iron; serve as inlet, lower bearing housing, and motor adapter piece; stainless steel strainer.

I. Coupling Between Motor and Pump:
1. Stainless steel keyed or splined to the shaft.
2. Capable of transmitting maximum required torque with added safety factor.

J. Strainer:
1. Connect one stainless steel strainer to the pump.
2. Net inlet area equal to at least four times the suction pipe area.

K. Electric Motor Drives:
1. Type: Submersible motor, capable of continuous duty underwater operation.
2. Suitable for use with variable frequency drive.
3. Power: 460 VAC, 3 Phase, 60 Hz.
4. Thrust bearing of ample capacity to carry weight of rotating parts plus hydraulic thrust.
5. Service Factor: 1.15 minimum.
6. Design for normal starting torque and low starting current for across the line starting.
7. Non-overloading in excess of nameplate rating at design nor in excess of 110% at any condition from zero flow to maximum capacity of pump.
8. Mechanical seal to prevent foreign matter from entering the motor.
9. Ambient operating temperature: 40° C.
10. Total cast iron and/or stainless steel construction.
11. Approved motor manufacturers:
    a. Hitachi.
    b. Plueger.
    c. SME
    d. Engineer Approved Equivalent.

L. Water Level Gage:
1. Attach two parallel continuous lengths of 1/4 inch corrosion resistant tubing to drop pipe at 5 foot intervals with 1/8 inch wide plastic "Ti-raps". Electrical cable may be bonded with tubing. Terminate tubing at top of well screen and extend to bottom of pitless unit cap with no joints.
2. Provide connection for pressure gage which allows convenient installation and removal and which can be suitably capped to prevent contamination when gage is not in place; connect to one length of tubing; second tube is spare.
3. Furnish two 4-1/2 inch pressure gages calibrated in feet; range of 1 to 250 feet; ± 0.5% accuracy; provide shutoff and snubber.
4. Provide a protective cover of 1/4" thick steel for airline and gage connection on outside of pitless unit; padlock, hasp or chain closure, maximum 1/4" gap between cover and pitless unit when secured with padlock.

M. Electrical:
1. Furnish adequately sized electrical cable, neoprene insulated and jacketed or PVC insulated and twisted, submersible pump cable to a depth of 900 feet below ground level, or approved equal, to connect to power feed; provide extra ten (10) foot length of electrical cable over what is needed to provide slack.

2. Inside well, support pump cable from discharge column at approximately 5 feet intervals, with stainless steel clamps shrouded with rubber hose; do not exert undue pressure on pump cable.
3. Make necessary connections at motor; splices to connect the motor pigtails to the cabling are acceptable; any additional splices on the pump cable between motor and pitless unit are not acceptable.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions and Section 46 0500, as indicated on drawings, by qualified craftsmen.

B. Location, orientation, and quantities as indicated on drawings.

C. Include all required related items necessary for a complete installation.

D. Coordinate for compatibility of manufacturer's shop coating and final finish.

E. Support and anchor as indicated on drawings.

F. Start up in presence of manufacturer's service representative.

G. Test power draw and motor vibration during initial operation with manufacturer's service representative.

H. Pressure test.

3.02 FIELD TESTS

A. Provide preliminary pump operation after installation for a period not less than 48 hours operating time to assure proper functioning and to detect any malfunctions.

3.03 SUBMERSIBLE PUMP SCHEDULE

A. Well Pump.
1. Quantity: 1.
2. Design Point: 800 GPM @ 1,058' TDH.
3. Nominal speed (rpm): 1800.
4. Minimum Pump Efficiency (%): 80.
5. Discharge Size (in): 8.
6. Pitless Unit Side Discharge (in): 8.
7. Motor Efficiency (%): 85.
8. Motor Horsepower (hp): 300.
9. Pump Setting Depth: 900' below ground surface
10. Casing Size (in): See plans

END OF SECTION 44 4256.02