ADDENDUM NUMBER: 2
RNG UPGRADES
PROJECT NO. P80095

Date of Issue: March 10, 2020

Addendum Number 2 for the above-mentioned project is a part of the Contract Documents, and as such, supersedes anything within the Contract Documents with which it may conflict.

Acknowledge receipt of this Addendum in the proposal. Failure to do so may subject the Proposer to disqualification.

CHANGES TO SPECIFICATIONS

Item AD2-1 Section 00140 – Information Available to Bidders
Add the following paragraph to Section 00140:

5.0 “Mandatory pre-bid meeting sign-in sheet”

Item AD2-2 Pre-Bid Meeting Questions and Sign-In Sheet
Attachment A is provided for bidder’s information and use.

Item AD2-3 Section 01810 – Equipment Testing and Facility Startup
Add the following to paragraph 3.01.E:

4. “Provide and install AxTrap H2S Removal Media.”

Item AD2-4 Section 09960 – Protective Coatings
Under “Coating System” in the coating systems table in paragraph 3.05, delete “A (lined and coated)” for Steel pipe and fittings and replace with “B”. Under “Application Location (shop or field)” in the coating systems table in paragraph 3.05, delete “Shop” for Steel pipe and fittings and replace with “Shop or field”.

Item AD2-5 Section 11372 – Rotary Screw Air Compressors
Under “Unit No.” in the Air Compressor Schedule in paragraph 3.03, delete “08CPR07-03” and replace with “08CPR07-03 and 08CPR07-04”.
Item AD2-6  Section 11602 – Owner Furnished Equipment
Add the following to paragraph 2.01:

E. “Vibrators associated with H2S removal vessels are Owner furnished.”

Item AD2-7  Section 11602 – Owner Furnished Equipment
Add the following to paragraph 2.01:

F. “The 12” H2S piping manifold will be furnished by the Owner as partially assembled. Greenlane will be providing prefabricated spools, and the manifold will be pre-assembled to the extent that it is easily transportable. Larger pipe spools may be shipped loose. Some field assembly (bolting only) of spools and manifold to tanks will be required by the Contractor.”

Item AD2-8  Section 11602 – Owner Furnished Equipment
Insert the following after the second sentence in paragraph 1.01.A:

“The Greenlane submittal documents may be modified as Greenlane completes final design.”

Item AD2-9  Section 11602 – Owner Furnished Equipment
Attachment B Greenlane Submittal Documents is provided for bidder’s information and use.

Item AD2-10  Section 15050 – Piping, Valves, and Accessories
Add the following to paragraph 2.06.D.1:

n. “Butterfly Valves:
   a) Standard: AWWA C504, except as modified herein.
   b) Type:
      i) 3-inch through 12-inch: Wafer body, except short body flanged or mechanical joint where shown on the Drawings, or where buried.
      ii) Geared operator, resilient seated, 90˚ seating.
   c) Pressure Class:
      i) 3-inch through 12-inch: 150 psi.
      ii) Valves shall be leak-tight at rated pressure in either direction.
   d) Materials:
      i) Body: Cast Iron; ASTM A126, Class B, or ASTM A48, Class 40.
      ii) Disk: Cast or ductile iron with Ni-Chrome or Type 316 stainless steel edge.
      iii) Valve Shaft: Type 304 or Type 316 stainless steel.
      iv) Seats: Buna-N.
   e) Construction:
      i) Seats: Applied to body. Cartridge type seats with retaining rings are not acceptable.
      ii) Disk to Shaft Connection: Stainless steel taper pins or torque plug.”
iii) Valve Diameter Limitation: Internal diameter of valve at the throat shall be no less than the nominal diameter of the valve less 1-½ inches.

iv) Bearings shall be self-lubricating and corrosion-resistant.

f) Finish:
   i) Exposed Exterior: Shop prime compatible with field applied finish coats. Refer to Section 09960.
   ii) Buried Exterior: Shop coat with high-solids epoxy, 12 mils minimum.
   iii) Interior: Shop line with two-component, high solids epoxy, AWWA C550.

g) Testing: Test in accordance with AWWA C504, except that leakage test shall be in both directions. Submit certified test results for tests specified in Section 5.2 for valves 24 inches and larger.

h) Actuators:
   i) Type: Manual, except where specified otherwise, or shown otherwise on the Drawings. Provide valve position indicators on all actuators.
      a. Provide two valve operator tee handles to the Owner.
   i) Manufacturer:

<table>
<thead>
<tr>
<th>Size Range</th>
<th>Type</th>
<th>First Name</th>
<th>Second Name or Equal</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-inch – 20-inch</td>
<td>Flanged</td>
<td>Pratt, 2FII</td>
<td>DeZurik, BAW</td>
</tr>
</tbody>
</table>

Item AD2-11  
Section 15050 – Piping, Valves, and Accessories  
Add the following to paragraph 2.06.D.3:

f. “Regulators for high pressure off-spec gas lines at the RNG building:
   1) Pressure Rating:
      a) Maximum Inlet: 500 psig.
      b) Maximum Outlet: 10 psig.
      c) Outlet Pressure Range: 3 to 10 psig
   2) Materials:
      a) Body: Steel
      b) Orifice: Nitrile
      c) O-Rings: Nitrile
      d) Tubing and Fittings: Stainless steel
   3) Manufacturer: Fisher Type 630; or equal.

g. Regulators for low pressure off-spec gas lines at the Waste Gas Burners:
   1) Pressure Rating:
      a) Maximum Inlet: 125 psig
      b) Maximum Outlet: 2.2 psig
      c) Outlet Pressure Range: 6 to 8 in w.c. OR 10 to 12.5 in w.c.
   2) Materials:
      a) Body: Cast Iron
      b) Orifice: Aluminum
c) O-Rings: Nitrile.

3) Manufacturer: Fisher HSR; Invensys; or equal.”

Item AD2-12

**Section 15050 – Piping, Valves, and Accessories**

Delete paragraphs 2.06.D.5.f and 2.06.D.5.g.

Item AD2-13

**Section 16160 – Panelboards**

Replace Paragraph 2.02.C with:

C. “Provide surge protective devices (SPDs) in each panelboard per the following:

a. SPD shall be Listed in accordance with UL 1449 Fourth Edition 2016 and UL 1283, Electromagnetic Interference Filters.

b. SPD shall be Component Recognized in accordance with UL 1449 Second Fourth Edition, at the standard’s highest short circuit current rating (SCCR) of 200 kA.

c. SPD shall be tested with the ANSI/IEEE Category C High exposure waveform (20kV-1.2/50us, 10kA-8/20us).

d. SPD shall provide suppression for all modes of protection: L-N, L-G, and N-G in WYE systems.

e. Minimum surge current rating shall be 100 kA per phase (50 kA per mode).

f. UL 1449 clamping voltage protection rating (VPR) must not exceed the following:

<table>
<thead>
<tr>
<th>VOLTAGE</th>
<th>L-N</th>
<th>L-G</th>
<th>N-G</th>
</tr>
</thead>
<tbody>
<tr>
<td>240/120</td>
<td>700V</td>
<td>700V</td>
<td>700V</td>
</tr>
<tr>
<td>208Y/120</td>
<td>700V</td>
<td>700V</td>
<td>700V</td>
</tr>
<tr>
<td>480Y/277</td>
<td>1200V</td>
<td>1200V</td>
<td>1200V</td>
</tr>
</tbody>
</table>

g. Pulse life test: Capable of protecting against and surviving 5000 ANSI/IEEE Category C High transients without failure or degradation of clamping voltage by more than 10%.

h. SPD shall be designed to withstand a maximum continuous operating voltage (MCOV) of not less than 115% of nominal RMS voltage.

i. SPD shall be constructed using multiple surge current diversion thermally protected metal oxide varistors (TPMOV). The surge current circuit shall be designed and constructed in a manner that ensures surge current sharing of one self-contained suppression module per phase.

j. Visible indication of proper SPD connection and operation shall be provided. The indicator lights shall indicate which phase as well as which module is fully operable. The status of each SPD module shall be monitored on the front cover of the enclosure as well as on the module. A push-to-test button shall be provided to test each phase.
indicator. Push-to-test button shall activate a state change of dry contacts for testing purposes.

k. SPD shall be equipped with an audible alarm which shall activate when any one of the surge current modules has reached an end-of-life condition. An alarm on/off switch shall be provided to silence the alarm. The switches and alarm shall be located on the front cover of the enclosure.

l. SPD shall be equipped with dry contacts (normally open or normally closed) to allow connection to a remote monitor or other system. The output of the dry contacts shall indicate an end-of-life condition for the complete SPD or module.”

Item AD2-14  
Section 16402 – Underground Electrical Work

Replace Paragraph 3.03.A.5 with:

“Minimum radius of all horizontal bends in underground duct banks shall be 25 feet. Bends shall be formed of factory made sweeps or continuous assembly of bend segments or curved segments, except that polyvinyl chloride conduits may be field formed. Minimum radius of all vertical bends in underground raceways shall be ten times nominal size of conduit. Vertical bends from underground to above ground shall be made of tape wrapped aluminum conduit.”

Item AD2-15  
Section 16405 – Switchboards

Add Paragraph 2.01.W:

W. “Provide surge protective devices (SPDs) in switchboard per the following:

a. SPD shall be Listed in accordance with UL 1449 Fourth Edition 2016 and UL 1283, Electromagnetic Interference Filters.

b. SPD shall be Component Recognized in accordance with UL 1449 Fourth Edition, at the standard’s highest short circuit current rating (SCCR) of 200 kA.

c. SPD shall be tested with the ANSI/IEEE Category C High exposure waveform (20kV-1.2/50us, 10kA-8/20us).

d. SPD shall provide suppression for all modes of protection: L-N, L-G, and N-G in WYE systems.

e. Minimum surge current rating shall be 200 kA per phase (100 kA per mode).

f. UL 1449 clamping voltage protection rating (VPR) must not exceed the following:

<table>
<thead>
<tr>
<th>VOLTAGE</th>
<th>L-N</th>
<th>L-G</th>
<th>N-G</th>
</tr>
</thead>
<tbody>
<tr>
<td>480Y/277</td>
<td>1200V</td>
<td>1200V</td>
<td>1200V</td>
</tr>
</tbody>
</table>
g. Pulse life test: Capable of protecting against and surviving 5000 ANSI/IEEE Category C High transients without failure or degradation of clamping voltage by more than 10%.

h. SPD shall be designed to withstand a maximum continuous operating voltage (MCOV) of not less than 115% of nominal RMS voltage.

i. SPD shall be constructed using multiple surge current diversion thermally protected metal oxide varistors (TPMOV). The surge current circuit shall be designed and constructed in a manner that ensures surge current sharing of one self-contained suppression module per phase.

j. Visible indication of proper SPD connection and operation shall be provided. The indicator lights shall indicate which phase as well as which module is fully operable. The status of each SPD module shall be monitored on the front cover of the enclosure as well as on the module. A push-to-test button shall be provided to test each phase indicator. Push-to-test button shall activate a state change of dry contacts for testing purposes.

k. SPD shall be equipped with an audible alarm which shall activate when any one of the surge current modules has reached an end-of-life condition. An alarm on/off switch shall be provided to silence the alarm. The switches and alarm shall be located on the front cover of the enclosure.

l. SPD shall be equipped with dry contacts (normally open or normally closed) to allow connection to a remote monitor or other system. The output of the dry contacts shall indicate an end-of-life condition for the complete SPD or module.”

Item AD2-16  
Section 16920 – Motor Control Center

Replace Paragraph 2.01.G with:

G. “Provide surge protective devices (SPDs) in motor control center per the following:

a. SPD shall be Listed in accordance with UL 1449 Fourth Edition 2016 and UL 1283, Electromagnetic Interference Filters.

b. SPD shall be Component Recognized in accordance with UL 1449 Second Fourth Edition, at the standard’s highest short circuit current rating (SCCR) of 200 kA.

c. SPD shall be tested with the ANSI/IEEE Category C High exposure waveform (20kV-1.2/50us, 10kA-8/20us).

d. SPD shall provide suppression for all modes of protection: L-N, L-G, and N-G in WYE systems.

e. Minimum surge current rating shall be 100 kA per phase (50 kA per mode).

f. UL 1449 clamping voltage protection rating (VPR) must not exceed the following:
VOLTAGE  L-N  L-G  N-G  
480Y/277  1200V  1200V  1200V

g. Pulse life test: Capable of protecting against and surviving 5000 ANSI/IEEE Category C High transients without failure or degradation of clamping voltage by more than 10%.
h. SPD shall be designed to withstand a maximum continuous operating voltage (MCOV) of not less than 115% of nominal RMS voltage.
i. SPD shall be constructed using multiple surge current diversion thermally protected metal oxide varistors (TPMOV). The surge current circuit shall be designed and constructed in a manner that ensures surge current sharing of one self-contained suppression module per phase.
j. Visible indication of proper SPD connection and operation shall be provided. The indicator lights shall indicate which phase as well as which module is fully operable. The status of each SPD module shall be monitored on the front cover of the enclosure as well as on the module. A push-to-test button shall be provided to test each phase indicator. Push-to-test button shall activate a state change of dry contacts for testing purposes.
k. SPD shall be equipped with an audible alarm which shall activate when any one of the surge current modules has reached an end-of-life condition. An alarm on/off switch shall be provided to silence the alarm. The switches and alarm shall be located on the front cover of the enclosure.
l. SPD shall be equipped with dry contacts (normally open or normally closed) to allow connection to a remote monitor or other system. The output of the dry contacts shall indicate an end-of-life condition for the complete SPD or module.”

Item AD2-17  Section 16920 – Motor Control Center  
Delete paragraph 2.01.K.

CHANGES TO DRAWINGS

Item AD2-18  Drawing G-005: PIPING SCHEDULE AND SYMBOLS  
Under “Notes” in the Piping Schedule, delete “PROVIDE HDPE CLADDING FOR B/C SERVICE” for OSG and RNG piping and replace with “PROVIDE SYSTEM A COATING PER SECTION 09960.”

Item AD2-19  Drawing C-107: CIVIL YARD PIPING PLAN - SOUTH  
Change new 1” W1 piping to new 1 ½” W1 piping, as shown on M-102.
Item AD2-20  Drawing M-101: MECHANICAL RNG BUILDING PLAN - NORTH
Add “NOTE 14: PROVIDE HEAT TRACING TO EXPOSED W1 AND W2 PIPING AT EXTERIOR UTILITY WATER STATIONS.”

Item AD2-21  Drawing M-102: MECHANICAL RNG BUILDING PLAN - SOUTH
Add “NOTE 7: PROVIDE HEAT TRACING TO EXPOSED W2 AND TW PIPING AT EXTERIOR UTILITY WATER STATIONS, HYDROGEN SULFIDE VESSELS, AND EYE WASHES.”

Item AD2-22  Drawing M-110: MECHANICAL PSA, CHILLER, AND RADIATOR AREA PLAN
Add “NOTE 11: PROVIDE 6” EQUIPMENT BASE PER DETAIL S-3342 ON SHEET S-003 FOR PSA, CHILLER, RADIATOR, COOLING WATER PUMPS, AND FILTER EQUIPMENT.”

Item AD2-23  Drawing M-112: MECHANICAL ENLARGED PLAN AND SECTIONS
Delete Note 1 and replace with “NOTE 1: INSULATE AND HEAT TRACE PIPING AS SPECIFIED IN SECTION 15080.”

Item AD2-24  Drawing M-112: MECHANICAL ENLARGED PLAN AND SECTIONS
Section I, replace ½” NG pipe label with “1/2” IA.”

Item AD2-25  Drawing M-120: MECHANICAL REGENERATIVE THERMAL OXIDIZER PLAN AND SECTION
Section A, change “PIT 07-18” to “PIT 07-23”.

Item AD2-26  Drawing M-120: MECHANICAL REGENERATIVE THERMAL OXIDIZER PLAN AND SECTION
Add “NOTE 5: PROVIDE 6” EQUIPMENT BASE PER DETAIL S-3342 ON SHEET S-003 FOR REGENERATIVE THERMAL OXIDIZER, MAIN BLOWER AND COMBUSTION BLOWER.”

Item AD2-27  Drawing E-002: ELECTRICAL SINGLE LINE DIAGRAM
On SWBD-01 elevation, replace “24VDC POWER SUPPLY” and “ethernet” compartments with “SPACE”.

Add second note: “SEE VENDOR SHOP DRAWINGS FOR MOTOR CONTROL WIRING. FOR ANY MOTORS NOT INCLUDED IN ANY VENDOR PACKAGES, REFER TO THE P&I DIAGRAMS (I SHEETS) FOR EXPECTED LOGIC”.

Item AD2-28  Drawings E-002: ELECTRICAL SINGLE LINE DIGRAM, E-003: ELECTRICAL CONDUIT SCHEMATIC, E-011: ELECTRICAL CONDUIT AND WIRE SCHEDULE 1, and E-100: ELECTRICAL OVERALL SITE PLAN
Amend drawings to effect the following change: Instead of connecting the medium voltage feeder conductors at TU-7 via 15MH01, add 300 feet to the total length of the medium voltage feeder, and route the additional length through 15MH01 and then through existing spare conduit to 11MH01 and to 04MH01 and finally to sectionalizer #4, and then feed the new RNG transformer from that sectionalizer.

Item AD2-29  
**Drawing E-004: ELECTRICAL DETAILS**  
Amend drawing E-004 as follows: Detail 2 callout from “PVC CONDUIT (UNDERGROUND)” to “ALUMINUM TRANSITION PIECE WRAPPED IN 2 LAYERS OF TAPE”; Detail 4 callout from “STEEL CONDUIT SHALL BE PLASTIC COATED OR PROVIDE 2 LAYER TAPE…” to “ALUMINUM CONDUIT SHALL BE 2 LAYER TAPE…”; Detail 13, change “PVC COATED CAST TYPE EYS” to “CAST TYPE EYS”, and change “GALVANIZED RIGID STEEL/PVC COATED CONDUIT” to “ALUMINUM CONDUIT WRAPPED IN 2 LAYERS OF TAPE”.

Item AD2-30  
**Drawing E-010: ELECTRICAL PANEL AD LUMINAIRE SCHEDULES**  
PNL-DP: Delete circuit breakers 38, 40, and 42. Replace with “SPACE”. Add: Circuit 21, 1-single pole 20 amp circuit breaker, description “HEAT TRACING”

Item AD2-31  
**Drawing E-011: ELECTRICAL CONDUIT AND WIRE SCHEDULE 1**  
Amend conduit number P-0002 from 3-500 KCM to 3-600 KCM. Amend conduit numbers P-0003, P-0005, P-0006, P-0007, P-0017, P-0020, P-0021, P-022, P-0035, P-0036, P-0037 from 1-#10G to 1-#8G. Delete conduits 0035, 0036, and 0037.

Item AD2-32  
**Drawing E-012: ELECTRICAL CONDUIT AND WIRE SCHEDULE 2**  
Add conduit # 0132; from panel LP to SEVERAL LOCATIONS. Add a single pole 20 amp circuit breaker. Description, “HEAT TRACING”. ¾”, 2-#12, 1-#12G. Add in COMMENTS column, “SEE MECHANICAL SHEETS (including addendum items in this addendum) FOR LOCATIONS OF CONNECTIONS AND THERMOSTATS”.
Item AD2-33  Drawing E-100: ELECTRICAL OVERALL SITE PLAN
Amend drawing callout at E4 from “CLASS 1, DIVISION 2 10 FT
ENVELOPE AROUND MEDIA VESSELS”; to “CLASS 1, DIVISION 2
10 FT ENVELOPE AROUND MEDIA VESSELS. ENVELOPE
EXTENDS TO ELECTRICAL ROOM WALL AND ON TO
ELECTRICAL ROOM ROOF, BUT NOT INSIDE OF THE
ELECTRICAL ROOM”.

Item AD2-34  Drawing E-101: ELECTRICAL ENLARGED SITE PLAN
Add “KEY NOTE 3: PROVIDE 6” EQUIPMENT BASE PER DETAIL
S-3342 ON SHEET S-003 FOR TRANSFORMER.”

Item AD2-35  Drawing I-004: PROCESS AND INSTRUMENTATION DIAGRAM
RAW GAS BLOWER AND HYDROGEN SULFIDE REMOVAL
SYSTEM
Move the 6”x12” reducer from the Raw Gas Blower outlet to the
Hydrogen Sulfide Removal System inlet and change the piping from 12”
DG to 6” DG between the Raw Gas Blower and Hydrogen Removal
System. Relocate 08-PI07-05 to the 12” DG piping provided with the
Hydrogen Sulfide Removal System, as shown on M-105. Delete the
2”x12” reducer and relocate the 2” D connection as a tapped connection to
the 12” DG piping provided with the Hydrogen Sulfide Removal System,
as shown on M-107.

Item AD2-36  Drawing I-009: PROCESS AND INSTRUMENTATION DIAGRAM
REGENERATIVE THERMAL OXIDIZER
Add one 8”x6” reducer prior to valve 08DGV07-92 and one 8”x6” reducer
prior to valve 08DGV07-94, as shown on M-120. Change valves
08DGV07-92 through 08DGV07-95 to 6” valves as shown on M-120.
Change Tail Gas Flame Traps 08FTA07-01 and 08FTA07-02 to 6” flame
trap assemblies as shown on M-120.

Item AD2-37  Drawing I-009: PROCESS AND INSTRUMENTATION DIAGRAM
REGENERATIVE THERMAL OXIDIZER
Delete digester valves 08DGV07-90 and 08DGV07-91. Delete capped 6”
TG piping, 6”x8” reducer, and 8” branch piping.
All other terms, conditions, and specifications within the bid documents shall remain unchanged and in effect in their entirety.

Mark Van Eekhout, MWMC Project Manager

All Bidders are required to provide evidence of the receipt and acceptance of this Addendum No. 1 with their bid package. **Signing in the space provided below and submitting the signed Addendum with the bid satisfies this requirement.**

If your bid has been sent prior to the receipt of this addendum and after reviewing the addendum you still want to bid, place the signed addendum or other written evidence of acceptance of the bid changes into a sealed envelope. Mark the sealed envelope with “**BID MODIFICATIONS.**” Also clearly mark the envelope with the **PROJECT NAME** and **PROJECT NUMBER**. The envelope must be delivered to the same office as the original proposal prior to the proposal closing time.

Receipt acknowledged and conditions agreed to this __________ day of _______________, 2020.

NAME OF FIRM: ________________________________

SIGNATURE: ________________________________