



**REQUEST FOR PROPOSALS**  
**FOR**  
**PROFESSIONAL DESIGN SERVICES FOR THE**  
**DEVELOPMENT, INSTALLATION, START-UP AND COMMISSIONING**  
**OF AN ANAEROBIC DIGESTION SYSTEM**  
**EUREKA, CALIFORNIA**

**ISSUED BY:**  
**HUMBOLDT WASTE MANAGEMENT AUTHORITY**

**1059 West Hawthorne Street**

**Eureka, CA 95501**

**September 17, 2012**

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## 1.0 INTRODUCTION

The Humboldt Waste Management Authority (Authority) is issuing this Request for Proposals (RFP) to solicit responsible, detailed proposals for the design, installation, start-up and commissioning of an anaerobic digestion system that will process of the Authority's organic materials as detailed in this document. A vendor is being requested to develop (including providing a technology, its equipment, and its design specifications as described below), start-up, and perform testing to commission the anaerobic digestion system (System or Project) as approved by the Authority and to operate for a specific period of time, and train Authority staff or its designated operator to operate the System. The vendor is also being requested to provide a conceptual design of the overall Humboldt Regional Organic Waste Digester Facility (i.e., buildings, roads, and related features) in which the System will be located. This includes assisting the Authority in the development of the Facility which will be constructed by the Authority's independent design team and construction contractor. Upon successful performance testing and commissioning of the System, the Authority intends to accept and operate the digester system over the long term with certain guarantees from the vendor for the System and its equipment. The Authority may also require on-going technical support from the vendor for digester system operations and processing of new feedstocks. The Authority intends to use the biogas from the System in a variety of ways including blending it with the digester gas from the adjacent Waste Water Treatment Plant for the generation of electricity and heat, as well as possible conversion of the biogas to transportation fuel. The vendor is being requested to assist the Authority in identifying the appropriate gas treatment technologies to employ an internal combustion engine-generator.

To be considered, the proposer must respond to all portions of this RFP and must submit **one signed original and five (5) doubled-sided hard copies as well as one digital copy of the proposal**. All proposals should be printed on recycled content paper. A mandatory pre-proposal conference will be held at via net meeting on September 27, 2012 at 10 a.m. Pacific Daylight Time. A tour of the Project site will be conducted by Authority staff on October 11, 2012. While the tour is not mandatory, interested vendors are strongly encouraged to attend. These activities are described in more detail in Section 6 of this RFP.

The proposals will be evaluated by a review committee, whose evaluation may include site visits, requests for clarifications and interviews of firms submitting proposal packages. The review committee's evaluations and recommendations shall be forwarded to the Authority's Board of Directors for final selection and approval to enter into negotiations for a digester system development agreement. The agreement will include a requirement that the vendor operate the System for a period of time to ensure steady-state functioning, pass Performance Testing Guarantees<sup>1</sup> and provide appropriate operations training to the Authority. A description of the Business Terms to be incorporated into the agreement is included in Exhibit 1. Each proposal submittal must conform to, and be responsive to, the requirements in this Request for Proposals (RFP) document.

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<sup>1</sup> The Performance Testing Guarantees will be defined during contract negotiations.

The Authority reserves the right to reject any and all proposal submittals, or to waive any irregularities in the qualifications or in the selection process.

## 1.1 Background

The Humboldt Waste Management Authority is a Joint Powers Authority that is responsible for managing the discarded materials controlled by its member agencies: Humboldt County (County) and the municipalities of Arcata, Blue Lake, Eureka, Ferndale, and Rio Dell. The Authority owns and operates the Hawthorne Street transfer station for municipal solid waste and yard trimmings. The transfer station includes a recycling center and a permanent household hazardous waste collection facility. The Authority also conducts periodic mobile collection events throughout the county for household hazardous waste, tires, and electronics. Collection of discarded materials from residential and business generators is provided by private haulers through individual franchise agreements with each of the member agencies. Each member agency has committed delivery of the solid waste materials collected by its franchise hauler to the Authority's facilities.

The Authority has been aggressively pursuing methods to divert organic materials from the landfill. Accordingly, the Authority commissioned a feasibility study that was completed in May of 2010 to determine the feasibility of establishing a regional organic materials diversion program in Humboldt County.<sup>2</sup> The study compared different options and concluded that developing an anaerobic digestion facility for processing organic materials would reduce the overall cost of solid waste management and provide the greatest greenhouse gas emissions reduction potential. In addition, the Authority as Lead Agency prepared a California Environmental Quality Act (CEQA) Initial Study for the "Humboldt Regional Organic Food Waste Digester Project", which resulted in adoption of a Mitigated Negative Declaration by the Authority in January 2011.<sup>3</sup> The CEQA Initial Study describes the Project, including the proposed site in Eureka, north of the existing Waste Water Treatment Plant (WWTP) (as discussed below), and identifies potential environmental impacts and proposed mitigation measures for the Project.

The Authority has implemented a pilot program together with Humboldt State University, for collection of organic materials, including food scraps from the cafeterias at the University, located in Arcata. The pilot has been successful in terms of achieving approximately 80% of the compostable materials diversion potential as well as working through the logistics of producing a source separated organic waste stream with low levels of contamination<sup>4</sup> and developing a cost-neutral collection strategy. The Authority is in the process of expanding its pilot to 75 additional customers. The pilot collection system uses wheeled

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<sup>2</sup> Food Waste Diversion and Utilization; Humboldt Waste Management Authority, City of Eureka, City of Arcata, Pacific Gas & Electric, May 2010.

[http://www.hwma.net/sites/default/files/humboldt\\_regional\\_food\\_waste\\_digester\\_feasibility\\_study.pdf](http://www.hwma.net/sites/default/files/humboldt_regional_food_waste_digester_feasibility_study.pdf)

<sup>3</sup> Humboldt Regional Food Waste Digester Initial Study & Mitigated Negative Declaration; Humboldt Waste Management Authority, January 2011. <http://www.hwma.net/ceqa>

<sup>4</sup> Materials collected generally have less than five percent (5%) contamination.

carts or roll-off containers for organic materials. Bag-free collection is strongly preferred however, clear plastic bags may be accepted as part of the program.

The Authority anticipates that the Project will need to be designed for source-separated organics from commercial and industrial sources with the potential to expand to include residential organics, including food scraps, and yard trimmings. The Regional Organic Waste Digester (Facility) is anticipated to include an anaerobic digestion system and a pre-processing facility.

The Project will be owned and operated by the Authority with the vendor providing on-going technical support as needed.

## **1.2 Purpose and Intent**

The Authority intends to divert organic materials from landfill in the most environmentally sound and cost-effective manner. Recently adopted California state law, Assembly Bill 341, established a statewide goal of seventy-five percent (75%) diversion from landfills by the year 2020. As organic materials make up the largest component of discarded materials, diversion of these materials is critical in meeting the statewide goal.<sup>5</sup> In addition, the Authority currently disposes of municipal solid waste at out-of-county facilities with round trip distances of approximately 360 miles. Treating materials locally will reduce ratepayer exposure to future diesel fuel price increases and will result in potentially significant reductions in greenhouse gas emissions. Finally, a local organic waste digestion facility will create green jobs and enable the return of valuable nutrients to local soils.

## **1.3 Summary of Scope of Work and Requested Information**

The Authority is requesting proposers to submit a Proposal that meets all the conditions of this RFP. The scope of work is summarized as including:

- Project development including identification and provision of a technology, including installation of equipment and required infrastructure, for anaerobic digestion including pre and post processing of the Authority's organic matter;
- Preparation of the design specifications for the proposer's materials receiving, pre-processing, digestion, and post-processing technologies; and cooperation as required with the Authority's design team to ensure correct balance of plant construction;
- Preparation of conceptual design for the balance of the plant (also referred to as the Facility, e.g., receiving building, scales, site development etc.);
- Coordination with environmental analysis and mitigation specialist to incorporate environmental mitigations in the facility design, balance of plant designs and specifications;

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<sup>5</sup> In Humboldt County, organic materials make up approximately 43% of the remaining waste stream, of which food waste comprises 23%.

- Coordination with the Authority's construction manager;
- Assisting the Authority in securing building, construction and operating permits;
- Coordination and cooperation as necessary with the Authority's independent construction design team and construction contractor to enable complete construction of the entire facility, inclusive of the proposer's system in addition to the balance of plant;
- Start-up and performance testing for Acceptance<sup>6</sup> by the Authority for Commissioning;<sup>7</sup> and
- Preparation of Operations and Maintenance manuals and training of the Authority staff or its designated operator to enable operations of the digester system;
- Operation of the digester system after construction as directed by the Authority.
- Identification of biogas treatment systems necessary to operate an internal combustion engine/combined heat and power plant for the generation of electricity and heat for the adjacent Waste Water Treatment Plant.
- Providing all licenses, warranties, guarantees, and associated rights to the technology for the Authority to continue operation of the digester system for the life of the facility or for a minimum of 20 years after Commissioning.

Information is being requested in the following categories:

- Demonstrated Competence and Qualifications
- Financial Information
- Technical Information
- Environmental Data
- Schedule
- Cost Proposal

Please address each component within each category in as much detail as possible to be evaluated appropriately. Information that is not provided in the response to this RFP will not receive consideration.

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<sup>6</sup> "Acceptance" will be defined during contract negotiations.

<sup>7</sup> "Commissioning" will be defined during contract negotiations.

## 1.4 Acceptance of Alternative Proposals

In addition to responding to the above, the Authority is willing to accept alternative proposals from vendors who may be willing to provide services that would materially benefit the Authority, including but not limited to:

- Design and operation alternatives; and
- Design and finance alternatives.

Such alternative proposals should be described in detail with the advantages to the Authority clearly delineated. Any alternative proposal shall include a provision to transfer ownership of the facility to the Authority after a period of time to be proposed by the vendor. The Authority reserves the right to accept or reject any alternative proposals or to seek additional alternative proposals from other vendors.

## 1.5 Authority's Considerations

### 1.5.1 Authority's Rights

In issuing this RFP, the Authority reserves its rights to the following:

- Issuing addenda to the RFP, including extending or otherwise revising the schedule for submittals of Proposal materials;
- Withdrawing the RFP;
- Reissuing or modifying the RFP or issuing a new RFP;
- Requesting clarifications and/or additional information from a proposer submitting Proposal material at any point in the consideration process;
- Negotiating and/or executing an agreement with one or more vendors on the basis of the original Proposal submitted and/or any other supplemental information submitted by the proposer during the consideration process;
- Rejecting any or all Proposals, waiving irregularities in any Proposal, accepting or rejecting all or any part of supplemental materials submitted alongside a Proposal, and/or waiving any requirements of this RFP as may be deemed to be in the best interest of the Authority;
- Accepting and negotiating with one or more vendors any combination of services; the services and combination to be chosen by the Authority at its sole discretion;
- Negotiating with one or more vendors for similar or different technologies; and

- Discontinuing negotiations after commencing negotiations with a selected vendor, if progress is unsatisfactory in the judgment of the Authority, and commencing discussions with another qualified vendor.

### **1.5.2 Consequence of Submission of Proposal**

The submission of a Proposal will constitute an incontrovertible representation and warranty that the proposer has investigated all aspects of this RFP; the proposer is aware of the applicable facts pertaining to the RFP process, its procedures and requirements; and the proposer has read and understands the RFP, and has complied with every requirement.

The submission of a Proposal and any supplemental materials will not be deemed an agreement between the proposer and the Authority. Specifically, the following conditions shall apply:

- The Authority shall not be obligated to respond to any Proposal submitted or be bound in any manner by the submission of an Proposal;
- Proposals and all information submitted with a Proposal are public records pursuant to the California Public Records Act, Government Code sections 6250 et seq., and the Authority is authorized to summarize and/or disclose Proposal information to the general public in compliance with the Public Records Act. Exemptions from public disclosure will be made in accordance with the Public Records Act for trade secrets or proprietary information, as those terms are defined in the Public Records Act, if the proposer clearly marks such information “confidential.”
- Acceptance of a Proposal by the Authority obligates the proposer to negotiate in good faith with the Authority to detail services outlined in this RFP, should the Authority decide to engage in such negotiations; and
- Any and all agreements reached through negotiations with the Authority shall not be binding or valid against the Authority unless and until they are executed by the Authority Board of Directors and the selected vendor, and the vendor’s performance bond or other surety has been accepted by the Authority.

### **1.5.3 Submittal Costs**

The cost of investigating, preparing and submitting a proposal is the sole responsibility of the proposer and shall not be chargeable in any manner to the Authority. The Authority will not reimburse any proposer for any costs associated with the preparation and submission of proposals, travel costs, or expenses incurred in making an oral presentation, participating in an interview, or negotiating an Agreement with the Authority.

### **1.5.4 Proposal Schedule**

The Authority intends to adhere to the schedule provided below during the selection process. The Authority reserves the right to respond to any pertinent questions submitted after the question and answer

period has passed. Responses will be provided to all proposers who have attended the mandatory Pre-Proposal Net Meeting. The schedule may change at the Authority's discretion.

### Preliminary Procurement Schedule

Activity	Date
Authority Board approval to release RFP	September 13, 2012
Formal issuance of RFP to vendors	September 17, 2012
Mandatory Pre-Proposal Net Meeting	September 27, 2012
Optional site visit	October 11, 2012
Proposer deadline to submit questions	October 18, 2012
Authority issues written response to questions	October 25, 2012
Proposal submission deadline	January 17, 2013
Interviews (if required) completed by:	February 15, 2013
Board meeting to select vendor to negotiate Agreement	March 14, 2013
Board approves Agreement	May 9, 2013
Initiation of Project Development Activities	Mid 2 <sup>nd</sup> Quarter 2013

#### 1.5.5 Organization of the RFP

General information regarding the RFP purpose, scope of services and requested information, proposal considerations and schedule are provided in this section. Section 2 contains background information, including the Authority's current solid waste management system. Section 3 defines the scope of services covered by this RFP. Section 4 identifies RFP proposal requirements. Section 5 describes the evaluation process and criteria. Section 6 provides instructions for submitting responses to the RFP. The exhibits contain additional information required for proposal preparation including certain cost and acceptance proposal forms.

## 2.0 BACKGROUND INFORMATION

### 2.1 Current Authority Solid Waste Management System

The Authority owns and operates the Hawthorne Street Transfer Station for municipal solid waste, recyclable materials and yard trimmings. The transfer station includes a recycling center and permanent household hazardous waste facility. Municipal solid waste is transferred to out-of-county landfills and yard trimmings are processed at the Mad River Compost Facility in Arcata.

The anaerobic digestion Project envisioned by the Authority would target source-separated organics from commercial and industrial sources with the potential goal to expand to include residential organics including food scraps, and yard trimmings.

### 2.2 Material Quantities and Characteristics

Material quantities have decreased since the feasibility study was conducted in 2010. The Authority's Waste Characterization Study published in March 2012, identified approximately 15,000 tons per year of organics generated countywide.<sup>8</sup> The digester system should be sized to handle 3,000 to 10,000 tons per year (tpy) of organic materials. The organic materials are anticipated to include food scraps and food-contaminated paper from commercial sources, as well as whey, fish waste, shrimp processing waste, glycerin, and fats, oils, and grease (FOG) from industrial sources. Seasonal variations should be expected for all feedstocks and are described in more detail in Exhibit 2. The Authority also anticipates the potential for including organic materials from residential sources which may include yard trimmings. The Authority cannot guarantee the composition of the materials. The digestion system should be designed to be flexible and capable of expanding as residential and commercial organics collection programs throughout Humboldt County are expanded over time.

### 2.3 Facility Site

The proposed Facility site is described in detail in the Initial Study.<sup>9</sup> The Authority is in negotiations with the owner of the site, the City of Eureka, to obtain an ownership interest (including a long-term lease) in the site.

The site is identified as follows:

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<sup>8</sup> Humboldt County Waste Characterization Report, March 2012.

[http://www.hwma.net/sites/default/files/sara/FINAL\\_HWMA\\_waste%20characterization%20study.pdf](http://www.hwma.net/sites/default/files/sara/FINAL_HWMA_waste%20characterization%20study.pdf)

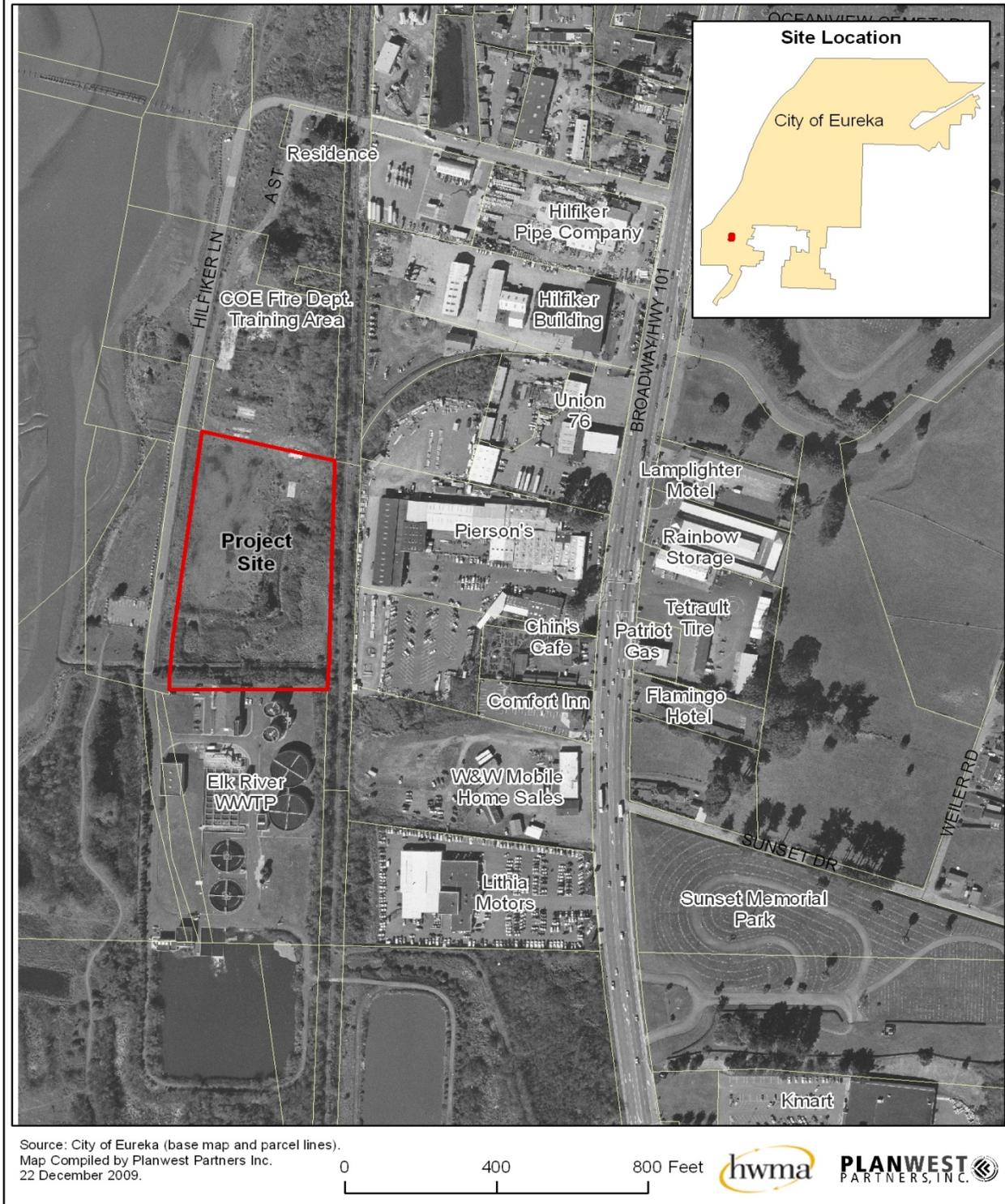
<sup>9</sup> Humboldt Regional Food Waste Digester Initial Study & Mitigated Negative Declaration; Humboldt Waste Management Authority, January 2011. <http://www.hwma.net/ceqa>

**PROJECT LOCATION:** The project will be located west of Broadway (Highway 101), approximately 250 feet east of Elk River Slough, 50 Feet east of Hilfiker Lane, and immediately north of the Elk River Wastewater Treatment Plant (WWTP), within the City of Eureka, California (see figure below).

**PROJECT SITE DESCRIPTION:** The project site is located within a 6.1-acre legal parcel (APN #019-271-004) owned by the City of Eureka (see Exhibit 3 for pictures and site specifications). The site is currently flat, vacant, partially disturbed, and appears to have been partially cleared of vegetation over the last five to seven years (SHN 2007). The site contains 2.09 acres of palustrine wetlands, mostly in the eastern and southern portions. Approximately, 2.2 acres within the 6.1acre parcel are available for facility development.

**GENERAL PLAN DESIGNATION/ZONING:** The site is located within the Coastal Zone, within the area covered by the City's Local Coastal Program (LCP), which incorporates the City's General Plan and Zoning Ordinance. The Project site is located within the coastal development permit jurisdiction of the City, and in the California Coastal Commission's appeal jurisdiction. The site is designated in the City of Eureka's General Plan as Public/Quasi Public (PQP) and is zoned Coastal Dependent Industrial (MC). Because the Project will be a public facility, it is consistent with the PQP land use designation. However, because the Project is not a permitted coastal dependent industrial use, the City has indicated that a Rezone to Public and accompanying LCP Amendment is required. The Authority has submitted the Rezone and LCP Amendment application and is awaiting City of Eureka Planning Department review. Please see the Initial Study and Mitigated Negative Declaration for additional site maps.

**Figure 1: Location/Site Map**



**Project Site Location**

Source: Humboldt Regional Food Waste Digester Initial Study & Mitigated Negative Declaration, Humboldt Waste Management Authority, January 2011.

### 3.0 SCOPE OF SERVICES

This section describes the minimum scope of services that will be required for the selected vendor to develop, install, start-up, test, commission, and provide operations training to the Authority for the Project. For all services required of vendor, the vendor will be responsible for providing all labor, supervision, equipment, and materials, etc., and to perform in conformance with all permits and regulations. Construction of the Facility will occur through an independent contract process conducted by the Authority and will be subject to California prevailing wage requirements. The proposer shall provide details of the scope of services for the Project development, design specifications for the Authority's construction contractor, technology installation, start-up, testing, commissioning, and provision of operations training to the Authority at the Project site. Each Proposal should, at a minimum, detail the following components:

#### 3.1 Project Development

The selected vendor shall be responsible for the following activities during project development, which should be detailed in the Proposal:

- Preparation and adherence to a project development timeline;
- Identification, design and installation of an anaerobic digestion system, including any and all necessary pre- and post- processing equipment capable of handling the organic materials listed in Exhibit 2 as well as material generated as the program expands;
- Identification of biogas treatment systems necessary to operate an internal combustion engine/combined heat and power plant for the generation of electricity and heat;
- Identification of biogas treatment systems necessary for conversion of biogas to compressed renewable natural gas vehicle fuel;
- Development of design specifications for the digester technology to be used in construction bid documents for balance of the plant construction;
- Incorporation of related environmental features including mitigation measures as identified in the CEQA Initial Study, or determined by other regulatory or Authority requirements, into the design of the digester system;
- Assistance in and review of the balance of plant (Facility) designs and specifications;
- Assistance in land use permitting process for the Facility;
- Assistance in securing local building, construction, and, operating permits; and

- Certification that the System is a “Qualified Facility” eligible for Renewable Energy Credits according to the Renewable Portfolio Standard of the California Energy Commission (CEC).

### **3.2 Project Construction**

The selected vendor shall be responsible for the following activities during construction, which should be detailed in the Proposal:

- Preparation and adherence to a project construction timeline;
- Coordination and collaboration with the Authority’s construction contractor to develop balance of plant, including the digester system site, as necessary to ensure proper Facility construction;
- Active participation and assistance in the construction of the entire facility, inclusive of the proposer’s system in addition to the balance of plant performed by the independent construction company to create a complete, in-place operating facility;
- Supply and install all digester equipment and required infrastructure, as determined in Facility construction design, with adherence to all applicable regulations and safety requirements;
- Coordination with construction site supervisor to provide digester system equipment security throughout balance of plant construction;
- Adherence to all applicable local, state, and federal construction site safety regulations;
- Adherence to all applicable local, state, and federal regulations regarding emissions to air, soil, and water, including permit conditions applicable to vendor’s installation;
- Adherence to all applicable prevailing wage requirements;
- Minimized disturbance to surrounding natural ecosystems;
- Installation (as described in design) of the proposed digester, including equipment needed to make the system completely operational for project start-up as described below; and
- Use of energy-efficient and cost-effective green building techniques where possible.

### **3.3 Project Start-Up, Testing, Commissioning and Training**

The selected vendor shall be responsible for the following activities during Project Start-Up, Testing, Commissioning and Training, which should be detailed in the Proposal:

- After completion of Construction Phase, initiation of Project Start-Up of operations for a period of at least 180 days with possible extension at the Authority’s discretion or as needed to meet Performance Guarantees at steady-state conditions;

- Conduct Performance Test to meet Performance Guarantees (to be established) for a period of at least 90 days;
- System Commissioning through acceptance of Performance Guarantees during Performance Testing by the Authority;
- Training of the Authority or its designated operator in the operation of the digester system for a period of at least 180 days; and
- Preparation of Operations and Maintenance manuals including key spare parts lists and source availability.

### **3.4 Ongoing Support to Operations**

The selected vendor shall be responsible for providing on-going technical support to the Authority for a period of up to three years, which should be detailed in the Proposal:

- Provide technical support to the Authority or its designated operator in on-going operations of the digester system;
- Provide technical support to the Authority in addressing new feedstocks to be processed at the facility; and
- Provide technical support to the Authority in expanding the capacity of the facility.

### **3.5 Licenses, Warrantees, and Ongoing Support for the Life of the System**

The selected vendor shall be responsible for providing the Authority with the on-going right to use the technology(ies) associated with System, and access to technical support for the remaining life of the System. The life of the System shall be a minimum of twenty years following the commencement of operations. The on-going support structure should be detailed in the Proposal and include the following:

- Provide any and all warranties, licenses, guarantees, rights and related privileges to the Authority for its use and on-going operation of the System;
- Provide access to technical support for the Authority on an as-needed basis for on-going operations of the facility; and
- Provide access to technical support to the Authority in expanding the capacity of the facility.

## 4.0 REQUIRED PROPOSAL COMPONENTS

Proposers must provide all information requested in this section and addendum items, if any, as part of their proposal, including qualifications and disclosure information. Exhibit 4 contains the Proposal Forms that are required to be completed by the proposer. Failure to provide all required information may be grounds for rejection of a proposal. The proposal requirements have been separated into the following components: Qualifications, Financial, Technical, Environmental, Schedule, and Cost Proposal.

Every proposer is required to address each of the components addressed below.

### 4.1 Demonstrated Competence and Qualifications Component

The following categories request information regarding the proposer's demonstrated competence and qualifications as it relates to successfully developing, constructing, and operating similar technologies as those requested in this RFP. This section requests information on the proposer's organization and ownership structure and a description of the proposer's history; team experience if working with other entities and/or using other's technologies; key staff and their experience; operating reference facilities; legal history and environmental compliance.

#### 4.1.1 Proposer Description and Structure

- a. Describe the proposer's history and background including date when the proposer was founded and the proposer's experience with the proposed technology. Describe the relationship between the proposed local management team and the proposer's and corporate structure. Describe how the proposer fosters innovation and high quality performance.
- b. Include names of proposer officers and top management and include an organizational chart for the proposer as well as an additional chart for this particular project (if different).

#### 4.1.2 Team Experience

- a. If companies are submitting as a team, describe any prior successful working arrangements involving similar types of projects for similarly sized communities.
- b. List and describe all entities involved as team members for this project. Include their years of experience and a description of why their experience qualifies them as being a critical team member.
- c. Describe each entities' role in the project, how they will be incorporated into the team. Show these team members in the organizational chart described above.

#### **4.1.3 Key Project Personnel and Experience**

- a. Supply names and resumes of principal officers, partners, or other officials that will assume key management roles including names, project role, and brief work history, including relevant technical experience and background in solid waste and technology development.
- b. Identify other key project personnel including names, project role, and brief work history, including relevant technical experience and background in solid waste and technology development, construction and operations.

#### **4.1.4 Reference Facilities (operations from which information is derived)**

- a. Describe operating projects or projects currently under development that are directly relevant to the technology proposed for the Authority by the proposer, including dates of initiation of development, commencement of construction and operations, and present status.
- b. Please describe the feedstocks and tonnages processed at the reference facilities.
- c. Provide names and telephone numbers for other governmental agency or private clients for which similar projects have been performed as references for proposer's experience.

#### **4.1.5 Legal History**

- a. List any vendor, partner or subsidiary in this venture, subcontractor, or any corporate officer that has been involved within the past five years in litigation (which is available as public information) arising out of performance of a solid waste agreement or violation of environmental laws, regulations or permits; arising out of or connected with violation of state or federal antitrust laws; or arising from or connected with allegation of corrupt practices.
- b. Has any vendor, partner or subsidiary in this venture, subcontractor, or any corporate officer, been notified of or been the subject of any enforcement action, order, decree, or notice of violation of any environmental laws, regulations or permits? If an answer is "yes," please explain fully.
- c. Provide details of any past or pending litigation against the proposer or its parent company or joint venture company(ies) by a governmental entity contracting with the proposer or its parent for services relating to waste management, or against such a governmental entity by the proposer or its parent company or joint venture company(ies).

#### **4.1.6 Environmental Compliance**

- a. List any environmental compliance/permit violations incurred by the proposer, partner or subsidiary in this venture, or subcontractor in the past 5 years.
- b. List remedies, if required, to these violations.

## 4.2 Financial Component

Provide the following information in sufficient detail to allow the Authority to determine the proposer's financial capabilities.

### 4.2.1 Financial Background

Provide satisfactory evidence that the contractually responsible party has been in existence for at least three years and has financial resources sufficient to undertake the proposed project. List the anticipated revenues for 2012 through 2017 that will be earned from services currently under contract with other parties.

### 4.2.2 Financial Stability

Provide satisfactory evidence that proposer can demonstrate its bonding capacity for the performance bond (equal to the value of the project).

## 4.3 Technical Component

All information included in the Technical Component shall be based upon actual operating information from reference facilities. Any information derived from theoretical or other means shall be represented as such. Proposed technical information and scale-up to the Authority's projected 3,000 to 10,000 tons per year facility size shall be discussed.

### 4.3.1 Current State of Technology

The state of technology component addresses the documented track record of the proposer with both pilot and commercial facilities and the stage of progress associated with each (permitting, start-up, construction, operation, etc.). The proposer shall describe the state of technology development (i.e., which technologies are commonly used and have a long operating history vs. those that are newer) of all processing equipment, from materials receiving through energy conversion to management and recovery of material streams and handling of residuals. The proposer shall address the following specific factors for their existing pilot and/or commercial facilities in operation:

- a. Length of time in operation for each facility (years and/or months);
- b. Historical material types and quantities handled at each facility;
- c. Operational availability (hours per year) of each facility;
- d. Amount of energy required for operations and produced for each facility showing net of parasitic loads;
- e. Amount and types of residual materials recovered and marketed for each facility;

- f. Amount and types of residual materials needing landfill for each facility;
- g. Environmental performance of each facility including air emissions, water use and waste water, etc.; and
- h. Evidence that the proposer has the appropriate patents, licensing agreements registrations or other needed agreements to allow implementation of the proposed technology.

#### 4.3.2 Proposed Project

Proposer shall address the technology proposed for the project. The proposer shall include:

- Overall descriptive integrated plan to handle the incoming material at the site;
- Details on aspects of each component of plan such as:
  - Technology type and size of each component;
  - Materials handled by each component including:
    - What the receiving area will consist of (i.e., push wall, pit etc.);
    - How plastic bags will be opened and/or removed;
    - How all materials listed in Exhibit 2 will be handled;
    - How the system will handle grit;
    - How the materials will be conveyed to the digester;
    - How pathogen reduction will be achieved;
    - Any additives, enzymes or other micro-nutrients needed;
  - Materials recovered and residues generated for landfill for each component;
    - Proposed end-use markets for residual (non-landfill) materials;
    - Quantities of other materials needed to prepare residuals for markets;
  - Energy generated both gross and net (deducting parasitic loads), if applicable;
  - Energy consumed;
  - Detailed description of the pre-processing and post-processing equipment;
  - Availability (days/year) and capacity (tons/day) factors; and

- Equipment list and staffing plan as requested in Forms B and C (discussed below) respectively.
- Technical performance guarantees that are offered related to throughput, availability, emissions etc.

The proposer shall provide:

- Project process flow diagram and description;
- Mass balance diagram and details;
- Energy balance diagram and details; and
- Balance of plant information tying all proposed equipment to overall proposed facility; and
- Site plan information including balance of plant information tying all proposed equipment to overall proposed facility.

Appropriate portions of the technical proposal shall be incorporated into the Agreement between the Authority and the selected vendor.

### **Process Flow Diagram and Description**

The proposer shall include a complete Process Flow Diagram showing each process and major equipment component representing the flows of input materials, products, and by-products of the process. For example, the Process Flow Diagram should show the following systems as applicable: initial waste receiving, pre-processing, waste conversion system, post-processing, energy production process, energy recovery system, and environmental systems including air pollution control equipment, water and waste water systems. The proposer shall also include a general text description of their system technology that follows the Process Diagram. This general description will be used with the Process Flow Diagram to represent an overview of the proposer's entire system technology.

### **Mass Balance Diagram and Details Sheet**

- a. The proposer shall include a detailed Mass Balance Diagram showing all major components of the technological system and including all tonnage (show mass in tons or partial tons) as it moves through the system. Show by percentage breakouts starting with the feedstocks as they are received through all processing steps for all materials. Show all outputs such as products, by-products, residuals, waste, waste water and/or other process mass components through the end of the process.
- b. Each component described in the Mass Balance Diagram shall be included on a separate details sheet showing amounts and balances of these items and how they relate back to the diagram.

- c. Show and quantify all additive materials needed for processing (e.g., enzymes, water, green waste, manure, etc.).

### Energy Balance Diagram and Details Sheet

- a. The proposer will describe the facility's interaction with the co-generation equipment at the waste water treatment plant. Show how and where the gas will be conveyed to the co-generation equipment.
- b. The proposer shall include a detailed Energy Balance Diagram showing all major components of the technological system and including all energy related information in British Thermal Units (BTUs) using BTUs per ton or per pound (or as needed in per hour or minute) from material input to system and initially processed or by-passed through amounts processed at various components of the system to outputs such as products (biogas), by-product materials with energy content by type and amount, waste or residual by energy content by type and amount, and/or other process components through the end of the conversion process, as applicable. This includes total and net energy produced from entire process including losses, parasitic uses, etc.
- c. Each component described in the Energy Balance Diagram shall be included on a separate details sheet showing amounts and balances of these items and how they relate back to the diagram.
- d. Describe the backup source of heat for the System should the co-generation system go off-line.

### Site Specific Facility Plan Information

The proposer shall include at a minimum the following site characteristics of significance:

- a. Proposed footprint of infrastructure development (size and shape);
- b. A site facility layout showing proposed site ingress and egress, avoiding wetland areas;
- c. General arrangement diagram of components/buildings, including bio-retention swales;
- d. Information as required to tie-in proposed equipment to overall Facility including need for utilities such as water, power, transportation, stormwater and sewage infrastructure.
- e. Specifications for odor control at the facility.

## 4.4 Environmental Component

### 4.4.1 Permitting & Compliance

- a. The Authority will be responsible for obtaining all operating permits with technical support from the selected vendor. The Authority has identified the following potentially needed permits for complete build out of the Facility site:

- Humboldt County Health Department: Solid Waste Facility Permit;
- California Department of Resources, Recycling, and Recovery (CalRecycle): Solid Waste Facility Permit;
- North Coast Unified Air Quality Management District (NCAQMD): Permit for Internal Combustion Engines;
- North Coast Regional Water Quality Control Board (NCRWQCB): National Pollutant Discharge Elimination System (NPDES) Permit, 401 Water Quality Certification;
- Army Corps of Engineers: Clean Water Act Section 404 permit;<sup>10</sup>
- Caltrans: Review authority for projects that could impact State highways;
- California Department of Fish and Game (DFG): Review Authority for projects that could impact wetlands, watercourses and sensitive species;
- City of Eureka: Coastal Development Permit, Conditional Use Permit, Design Review;
- California Coastal Commission: LCP Amendment Certification and CDP review

Please identify any additional permits that may be needed for the Project.

- b. The proposer shall fully describe the environmental permitting process including a schedule (in months) for the permitting of the technology (this is detailed below in the Schedule Component). Take into consideration whether additional CEQA analysis will be required. All permits as needed should be included.
- c. Include any other permits that the proposer assumes to be needed including building permits and describe if these building permits will require time outside (or assumed within) the construction portion of the schedule as discussed in the Schedule Component below.

#### **4.4.2 Air Emissions (Typical Toxic Air & Criteria Air Pollutants)**

- a. The proposer should include air emissions data from their reference facility operations; if this data is not available or relevant please explain why and use the best available data to represent their technology and the assumptions used to produce this data. Include all Toxic Air and Criteria Air Pollutants including, but not limited to NO<sub>x</sub>, SO<sub>x</sub>, CO, CO<sub>2</sub> equivalents, VOCs, Hazardous Air Pollutants, and PM<sub>10</sub> in U.S. units.

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<sup>10</sup> It should be noted that the Authority is currently in the process of obtaining a Wetland Mitigation and Monitoring Plan for use in applying for the 401 Water Quality Certification as well as the Army Corps 404 Clean Water Act Permit. This document will be made available as an addendum when finalized.

- b. Include a table with the individual emissions information for the facility.

#### 4.4.3 Carbon Footprint Impacts/Greenhouse Gas (GHG)

The proposer shall include a greenhouse gas (GHG) analysis estimating GHG emissions and potential reductions of the proposed facility. Potential GHG emissions from collecting organic materials and transporting the residuals off-site need not be included in this analysis. GHG reductions should be reported as metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) per incoming U.S. short ton of materials, using baseline values published by the U.S. EPA in “Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks.”<sup>11</sup>

#### 4.4.4 Sustainability

The intent in addressing the sustainability component is to assess the proposed contribution to the Authority’s overall environmental goals. Proposers shall include the following:

- a. Amount of materials diversion and how it conforms with the Authority’s waste diversion objectives;
- b. Amount of this diversion of materials to compost or marketable end products;
- c. Generation of renewable energy as defined by California’s Renewable Portfolio Standard (RPS);
- d. Creation and number of skilled, “Clean Tech” jobs;
- e. “Green” construction and operations techniques to be utilized;
- f. Description of how the proposer will promote ecosystem conservation and restoration;
- g. Description of how the proposer will promote healthy natural habitats and communities; and
- h. Description of how the proposer will protect on-site wetlands in concurrence with the wetland mitigation and monitoring program currently being conducted by SHN Engineers.

#### 4.4.5 Suitability of End-products and By-Products

Summarize all potential by-products produced by the technology. Include those by-products such as digestate, compost, etc. and their suitability for marketing and sales. Include information on markets and any back-up information regarding availability of markets for these materials.

- a. Specify gas treatment system needed and contaminants to be addressed.

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<sup>11</sup> Available at <http://epa.gov/climatechange/wycd/waste/SWMGHGreport.html>

## 4.5 Schedule Component

Proposer shall provide a detailed Project schedule assuming that the Authority Board selects a vendor on or about March 7, 2013. The schedule should include details for all events and at a minimum the following:

- Contract negotiations and approval;
- Prepare design and specifications for entire system, including balance of plant;
- Permitting, including CEQA and all necessary approvals;
- Site preparation;
- Construction;
- Start-up;
- Testing; and
- Commissioning.

The schedule shall become part of the Agreement between the selected vendor and the Authority.

## 4.6 Cost Proposal

The Authority will provide all funds required for the Project development. The Authority's payment of the proposer's Total Cost shall be the Authority's sole financial payment obligation.

The Cost Proposal incorporates the costs for Project development, equipment, installation, start-up, testing, commissioning, provision of operations training to the Authority at the Project site, and on-going technical assistance.

The proposer is required to submit its cost proposal using Form D as provided in Exhibit 4 for this purpose. The cost proposal must be based on and consistent with the technical component(s) of your proposal. All components of the form must be completed, and failure to do so is grounds for disqualification of the proposal. The selected proposer's proposal and cost forms will be included as an Exhibit of the Agreement negotiated between the parties.

### Cost Considerations

In preparing Form D the proposer should keep in mind the following considerations:

1. All proposed costs are to be effective through two years after the submission deadline.
2. Costs proposed must be all inclusive of the services proposed by the proposer.

**Proposal Forms**

Proposal Forms are included in Exhibit 4. It is a requirement of the RFP that each form be completely filled-in by each proposer. The forms include:

**Form A – Proposer Validity and Commitment to Sign Agreements:** Is provided for the proposer to acknowledge the validity of the proposal contents, costs, and services fees for a period of 365 days after the submission deadline.

**Form B – Equipment List:** Include a list of all proposed equipment (stationary and mobile) required for Construction and Operations that are included in the cost form(s) below.

**Form C – Staffing Plan:** Include list of all proposed operating personnel required for operations.

**Form D – Cost Proposal:** Includes all costs for all services proposed.

**4.7 Other Proposal Requirements**

It is the responsibility of each proposer to do the following before submitting the proposal:

1. Examine this RFP, including all exhibits thoroughly.
2. Attend a mandatory Pre-Proposal Conference net meeting scheduled to be held on September 27, 2012 at 10 a.m. Pacific Daylight Time.
3. Become familiar with local conditions, such as prevailing wage requirements, that may affect cost, permitting, progress, performance, or furnishing of services described in this RFP.
4. Consider all federal, state and local laws, statutes, ordinances, regulations and other applicable laws that may affect costs, permitting, progress, performance, or furnishing of the project.
5. Clarify, with the Authority, any conflicts, errors, or discrepancies in this RFP.
6. Agree not to collaborate or discuss with other proposers the content of the proposal or rates proposed.

Before submitting a proposal, each proposer will, at proposer's own expense, make or obtain any additional examinations, investigations, and studies, and obtain any additional information and data that may affect costs, permitting, progress, performance or providing the Project and that the proposer deems necessary to determine its proposal.

## 5.0 EVALUATION PROCEDURES AND CRITERIA

This section outlines the proposal evaluation procedures and evaluation criteria that will be used to select a vendor.

### 5.1 Evaluation Procedures

The proposals will be evaluated based on the content, completeness, and clarity of their proposals. The specific evaluation criteria will focus on evaluating information requested in Section 4 including the Proposal Forms. Proposals will be evaluated based on the level or extent to which they meet each evaluation criteria.

An evaluation team representing the Authority will evaluate proposals. The Authority's evaluation team will be comprised of members of the Authority staff, and member agency staff. Each evaluator will review all proposals received using a set of established evaluation criteria (as discussed in Section 5.2). The criteria will address all categories established in Section 4: Demonstrated Competence and Qualifications, Financial, Technical, Environmental, Schedule, and Cost Proposal components. The criteria will be evaluated to identify the relative strengths and weaknesses of individual proposals.

The ratings from the evaluators will be compared to determine a preliminary ranking of the proposals based solely on the evaluation criteria. After initial evaluation of proposals and preliminary ranking, the evaluation team will prepare a short list of proposers to be interviewed.

Invitations will be issued to proposer on the short list to make oral presentations to and/or interviews with the evaluation team. Oral presentations and interviews will be conducted in closed meetings. Site visits to proposer's representative facilities, may be required as part of the selection process.

Based on the contents of submitted proposals, the results of interviews and oral presentations and potential site visits, along with any other information requested by the Authority, the evaluation team will prepare a final ranking of the short listed proposers and present its ranking to the Authority Board. Upon Authority Board approval, the Authority staff will be directed to enter into negotiations with the selected vendor to provide the services considered in this RFP. In the event the negotiations with the selected vendor are unsuccessful, the Authority may designate another vendor from the list of short listed proposers and enter into negotiations with that company.

It is the Authority's intent to finalize negotiations with the selected vendor in a very timely manner once the authorization to enter into negotiations is obtained.

### 5.2 Evaluation Criteria

The evaluation criteria are designed to evaluate proposals by considering all aspects that will impact the quality and cost of service. The evaluation criteria to be used are listed below.

- **Demonstrated Competence and Qualifications Criteria.** Relevant proposer qualifications and experience developing, constructing and commissioning facilities similar to those proposed.

Proposal thoroughness in addressing the local management team, staff responsibilities, local resources, litigation history and environmental compliance.

- **Financial Criteria.** Adequacy of proposer's financial status and stability.
- **Technical Criteria.** Thoroughness of proposal in presenting all requested technical information. Assessment of current state of technology and its relationship to the proposed technology/project and its consistency with the Authority's site.
- **Environmental.** Addresses level of potential environmental impacts from emissions and sustainability potential.
- **Project Schedule.** Adequacy of Project schedule; clarity and thoroughness in detailing the key steps and timeline of the Project including reasonableness of time to implement Project.
- **Cost Proposal Criteria.** The proposer's acceptance of the Authority's preferred financial arrangements and comparison of proposer's submitted costs, in relation to the other cost proposals submitted.
- **Forms.** Adequacy of completing required forms and reasonableness of the information provided.
- **Site Visits.** The Authority and its technical consultants may visit and inspect reference facilities.
- **Suitability.** Proposal's alignment with Humboldt County's waste stream feedstocks and overall goals and objectives.

## 6.0 PROPOSAL SUBMITTAL INSTRUCTIONS

The details of the RFP submission process and schedule are described below.

### 6.1 Proposal Process

#### Step One: Register for Pre-Proposal Conference

All potential proposers must register for the mandatory Pre-Proposal Net Meeting by 5pm Pacific Daylight Time September 26<sup>th</sup>. Register by e-mail addressed to [jbohn@hwma.net](mailto:jbohn@hwma.net) with the words “Pre-Proposal Conference” in the subject line. Include the following information in the e-mail:

- Name of Firm,
- Name of main contact,
- Address, phone number, and e-mail address of main contact.

#### Step Two: Pre-Proposal Conference, and Tour

A Pre-Submittal Conference net meeting will be held on September 27, 2012 at 10 a.m. Pacific Daylight Time. Proposers are also invited to visit to the Authority’s proposed Project site provided they give advance notice and make arrangements with the Authority. Questions received in writing in advance of the conference, as well as questions brought up at the conference, will be answered to the extent possible at that time. Additional written questions may be submitted by October 18, 2012 (see Step Two below).

#### Step Three: Written Questions

Submit written questions and requests for clarification or additional information regarding the meaning or intent of the RFP content, its process and enclosures by October 18, 2012 to:

**Attn:** Juliette Bohn, Project Manager

If delivered/mailed: 1059 West Hawthorne Street  
Eureka CA, 95501

If e-mailed (preferred): [jbohn@hwma.net](mailto:jbohn@hwma.net)

Only written questions in a letter format received by mail, or attached to an email will be accepted. E-mailed questions are preferred. The Authority may not respond to questions received after this date.

Questions will be recorded and reviewed alongside questions arising from the Pre-Proposal Conference, with questions and answers emailed to all parties recorded by the Authority by October 25, 2012. Any changes, interpretations, or clarifications considered necessary by the Authority in response to proposer questions will be issued in writing as addenda and mailed or delivered to all parties recorded by the Authority as having received the RFP. Only answers issued by formal written addenda will be binding on

the Authority. Oral and other interpretations or clarifications including those provided at the pre-submittal conference will be without legal effect.

#### **Step Four: Submit Proposal**

Submit one (1) unbound signed original Proposal, one (1) digital copy, and five (5) double-sided copies of the Proposal printed on recycled paper to the Authority on or before January 17, 2013. Proposals **may not** be submitted by facsimile, telegraph, electronic mail or any other means than by personal delivery, U.S. Postal Service or other delivery services such as Federal Express, United Parcel Service, etc. Proposal submittal packages shall be sealed and clearly marked “**Humboldt Waste Management Authority – Anaerobic Digester Proposal**” Sealed proposals should be mailed or delivered to:

**Attn: Anaerobic Digester Proposal**  
**Humboldt Waste Management Authority**  
1059 West Hawthorne Street  
Eureka, CA 95501

Delivered Proposal packages may be accepted by the Authority receptionist until 5:00 p.m.

**Signature.** Proposal submittal documents or any modification must be signed in the name of the proposing entity and must bear the original signature of the person or persons authorized to sign the Proposal.

**Modifications.** Any modification of the Proposal must be in writing and received by the Authority prior to the closing time for Proposals.

**Erasures.** Proposals submitted must not contain any erasures, interlineations or other corrections unless each such correction is suitably authenticated by putting in the margin immediately opposite the correction the surname or surnames of the person or persons signing the Proposal.

**Withdrawal of Proposal.** Proposers may withdraw their Proposal either personally or by written request at any time prior to the scheduled closing time for the receipt of Proposal documents.

#### **Step Five: Clarifications, Interviews, and Site Visits**

Proposer may be asked to arrange visits to similar programs or facilities and to clarify Proposal information through written questions or interviews. The clarification period will begin when the Proposals are opened. The proposer will be expected to prepare and make oral presentations or participate in interviews, if requested. Proposers selected to be interviewed will be contacted approximately one-week in advance.

## **6.2 Response Content**

All responses to the RFP must follow this outline and include the following:

1. A **cover letter** providing the following information:
  - Name, address, telephone and fax number and email address of proposer and key contact person.
  - A description of the organization (e.g. corporation, partnership) submitting the Proposal.
  - If teaming with two or more parties is proposed, describe the past working relationship on similar projects.
  - Name the entity that would sign an agreement if one is negotiated for the project.
  - A written statement warranting that the requirements of the project, as described in the RFP and all addendums, have been reviewed and are understood. List all of the addendums and dates received that are covered by this statement.
  - A written statement warranting that this is a valid proposal fully authorized by the proposing entity and is valid for a minimum of 365 days.
2. An **executive summary** (not to exceed five pages) that highlights the major elements of the proposer's qualifications, experience and conceptual proposal for the project and which clearly states the services the Proposal addresses.
3. Responses to **all information required in this RFP as stated in Section 4**. Organize the response into the **six** requested components (**Qualifications, Financial, Technical, Environmental, Project Schedule, and Cost Proposal**) and address each component following the format outlined above so that all requested information can be readily found. In addition, **fully complete each and every form attached**.
4. Additional information or data related to your qualifications is optional and may be included as an appendix.
5. All pages of the Proposal must be numbered for reference.

The cover letter must be signed by an officer or agent of the proposer who is duly authorized to bind the proposer.

### **6.3 Accuracy in Reporting Requested Information**

Information submitted as part of the proposal will be subject to verification. Inaccurate information or information that is misleading will be, at the Authority's sole discretion, grounds for removal of a proposal from further consideration. Should the proposer have been awarded any Agreement as a result of this RFP, such inaccurate or misleading information will be, at the Authority's sole discretion, grounds for default.

## EXHIBIT 1

### BUSINESS TERMS

Required contractual provisions (Business Terms) for the Humboldt Waste Management Authority's (HWMA's) proposed anaerobic digester (System) to accept and process organic waste and produce beneficial products such as energy and digestate from the Humboldt County area's organic materials are based upon the HWMA's assumptions that:

1. Selected Vendor (Vendor) will design, develop, supply, install, start-up and test System to meet certain Performance Guarantees;<sup>12</sup>
2. Vendor will be responsible for coordinating with the construction design team for balance of plant construction, start-up and testing of System in accordance with all applicable federal, state and local laws
3. Vendor will provide HWMA detailed specified training to operate the System; and
4. Vendor will turn Facility over to HWMA for operations after Performance Guarantees, tests and training obligations are met.

These Business Terms will include, but not be limited to, the following:

1. The Vendor shall provide services for development, permitting, designing, installation of System, assistance to the Authority's third party contractor, start-up operations (for at least 180 days) and testing to achieve Performance Guarantees of the System. This shall include meeting all required regulatory permits or limits and all utility connections including but not limited sewer, water, electrical, and gas interconnections. Performance Tests shall be at least 90 days in duration.
2. If the Vendor meets the Performance Guarantees through the Performance Test, HWMA will declare written Acceptance of the System as Operational.
3. If the Facility cannot meet the Performance Guarantees, the Vendor will remedy the issues and will conduct the Performance Test a second time. If the Facility again does not meet the Performance Guarantees the Vendor shall be given a third chance to remedy the issues. The HWMA will allow these three (3) Performance Tests conducted within a nine (9) month initial period. If the Performance Guarantees are not met after the third Performance Test or within 6 months of initial Performance Testing, the Vendor will be placed in default and be subject to defined Dispute Resolutions. Dispute Resolutions shall allow for the Performance Guarantees to be subject to negotiations for adjustment of Performance Guarantees as accepted by the HWMA and liquidated damages will be assessed for this allowed adjustment. If the System cannot meet Environmental Performance Standards (regulatory requirements) or the adjusted Performance

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<sup>12</sup> "Guarantees" will be defined during contract negotiations.

Guarantees accepted by the HWMA after such testing, the Vendor will be declared in breach of contract, terminated and responsible for removing all equipment from the site and restoring property to its original state and receiving no compensation from HWMA.

4. The Vendor shall train HWMA staff or its designated operator in operations of the Facility for 180 days. The Vendor shall develop and provide all needed operation manuals, equipment manuals, safety plans, emergency plans, plans to monitor and report regulatory requirements and other manuals, plans, drawings that are deemed to be necessary for full and complete operations of the Facility.
5. The Vendor shall provide an on-going technical assistance to the Authority including monthly (or quarterly) support for three years.
6. The Vendor shall provide all warranties and guarantees including terms for equipment, and overall System to meet needs for financing the Facility of at least 20 years.
7. Vendor will assist HWMA in the development of the Facility through support of regulatory or other issues within its control.
8. HWMA will be responsible for determining the feedstock range in terms of: quantities of materials, the composition, the particle size, the solids content, quantity and composition of contamination, seasonal variation that is to be delivered to the facility on an eight (8) hour per day, five (5) day per week basis.
9. Vendor shall be responsible for developing, designing and installing the System at the Facility to receive and process the quantities of materials, its composition, particle size, solids content, and contamination levels as defined in the feedstock requirements.
10. Vendor shall provide Performance Guarantees to be able to meet Throughput Guarantees to accept, handle and process the quantity, type, composition, size and solids content and contamination levels of the feedstock required by the HWMA.
11. Vendor shall provide Performance Guarantees to meet Environmental Performance Standards (regulatory requirements provided by the agencies).
12. The Vendor shall identify necessary biogas treatment systems which the Authority will employ to operate an internal combustion engine/combined heat and power plant for the generation of electricity and heat for the adjacent Waste Water Treatment Plant.
13. Vendor shall provide Performance Guarantees to meet Output Guarantees as to: 1) the quantity and quality of biogas produced relative to the feedstock input and 2) the quantity and quality of digestate produced relative to the feedstock input.
14. Vendor shall provide Performance Guarantees to meet Maximum Residue Guarantee for the amount (or percentage) of feedstock materials that are not converted to biogas or beneficial digestate, but are instead considered residue. These shall be tied to the HWMA's input feedstock.

15. The Vendor shall guarantee availability of replacement equipment or parts to the System for the life of the Facility.
16. The Vendor shall set a fixed not to exceed price for delivering a regulatory agency approved System that meets the needs of the HWMA and passes all Performance Tests to meet or exceed the agreed upon Performance Guarantees.
17. The Vendor shall guarantee a development, installation, start-up schedule and testing schedule and include penalties for any delays in the scheduled completion date.
18. HWMA guarantees to supply an appropriate site for development and construction of the Facility. Vendor is responsible for any and all inspections of the site in order to determine appropriate development of the System.
19. Definition of feedstock materials including the composition, particle size, solids content, and contamination levels.
20. HWMA or its designated operator guarantees to operate and maintain the System to the specific operating plans through Training provided by the Vendor and best industry practices.
21. Vendor shall maintain insurance through construction, start-up and testing periods.
22. HWMA or its designated Operator shall maintain insurance after Acceptance of the Facility as Operational.
23. Vendor shall issue a decommissioning security deposit in the amount of one quarter of the estimated capital cost of the system.
24. Vendor shall be required to post a performance bond in an amount equal to the value of the estimated capital cost of the system.
25. Force Majeure clause to be provided by HWMA Legal Counsel.

## EXHIBIT 2

### DESCRIPTION OF FEEDSTOCKS

The following is a description of the base organic feedstocks identified for anaerobic digestion (AD) in Humboldt County. This list is by no means exhaustive nor are the quantities or qualities guaranteed. It is expected that the feedstocks will increase and change over time. The AD project development partner is expected to propose a plan for a phased increase in capacity to process additional feedstocks over time as state and local policies require increased food scraps diversion.

#### 1.) Food scraps

According to a 2011 waste characterization study<sup>13</sup> conducted in Humboldt County, organic materials comprise 43% of the remaining disposed waste stream with food scraps identified as the largest remaining single component of the entire waste stream at 23%. The majority of the over 16,000 tons per year of food scraps is concentrated in the cities of Eureka, Arcata, and the unincorporated areas of Humboldt County. The breakdown of Humboldt County's food scraps resource is included in the following table.

Jurisdiction	Total solid waste tonnage*	Total food scraps tonnage	% Diversion potential from total waste stream	Commercial food scraps tonnage	% Diversion potential from total waste stream	Residential food scraps tonnage	% Diversion potential from total waste stream
Unincorporated County	31,673	7,527	23.8%	1,472	4.6%	3,538	11.2%
Eureka	22,574	4,485	19.9%	1,355	6.0%	1,868	8.3%
Arcata	7,856	2,014	25.6%	1,239	15.8%	682	8.7%
Fortuna	7,853	1,798	22.9%	896	11.4%	902	11.5%
Rio Dell	1,427	350	24.5%	97	6.8%	136	9.5%
Ferndale	910	168	18.5%	63	6.9%	66	7.3%
Blue Lake	688	179	26.0%	21	3.1%	120	17.4%
Trinidad	470	167	35.5%	93	19.8%	28	6.0%
<b>Total / Average %</b>	<b>73,451</b>	<b>16,688</b>	<b>24.6%</b>	<b>5,236</b>	<b>7.1%</b>	<b>7,340</b>	<b>10.0%</b>
<b>Top three Generators</b>	<b>62,103</b>	<b>14,026</b>	<b>23.1%</b>	<b>4,066</b>	<b>6.5%</b>	<b>6,088</b>	<b>9.4%</b>

\* It should also be noted that the 2011 waste characterization study did not include remote debris bins or the waste directly hauled to the landfills by contractors. It should also be noted that Fortuna is not currently a member of the Humboldt Waste Management Authority and therefore the values reported here did not come from the 2011 waste characterization study but rather the CalRecycle Solid Waste Characterization data base for 1999. Therefore, the total tonnage values for the HWMA member agencies reported here is slightly lower than they actually are. However, because the waste characterization study was focused on materials that were under the control of the authority and had potential to be diverted, only the tonnage going directly through the area transfer stations was counted. Final note, the self haul sector, while characterized, is not included in the food scraps tonnages listed above. Please see the [www.hwma.net](http://www.hwma.net) for the complete waste characterization study.

<sup>13</sup> This document can be accessed via the HWMA website under "current news" or accessed directly using the following link:

[http://www.hwma.net/sites/default/files/sara/FINAL\\_HWMA\\_waste%20characterization%20study1.pdf](http://www.hwma.net/sites/default/files/sara/FINAL_HWMA_waste%20characterization%20study1.pdf)

The commercial sector generates approximately 5,000 tons per year of food scraps, comprising approximately 7.1% of the overall waste stream. The residential sector generates approximately 7,000 tons per year of food scraps, comprising approximately 10% of the overall waste stream. The remainder of the food scraps in the county is assumed to be contained in the self-haul sector. This is likely due to lack of mandatory curbside collection policies for all areas except Eureka and Arcata.

Of the jurisdictions listed above, it is likely that this project could start out accepting about 2,000 to 4,000 tons of food scraps per year. The lower bound assumes 50% participation in the commercial sector from the three largest population centers. The upper bound represents a little more than 90% diversion of the commercial food scraps in the three largest population centers which might occur under a mandatory food scraps diversion policy or a ban on commercial organics in the landfill. If all communities in the county mandated that commercial food scraps be diverted, or 90% of the food scraps in the commercial sector is captured from all member agencies including Fortuna, almost 5,000 tons of food scraps could be available for diversion. Furthermore, if all food scraps were to be banned from the landfills, an estimated 15,000 tons of food scraps would be available for conversion (90% capture assumed). **For the purpose of this RFP, 2,000 to 5,000 tons per year of food scraps should be assumed to be available as the design basis for the first phase of the system.**

The capture of organic materials in Humboldt County could increase in the future and proposers should describe a plan for system growth over time. Reasons for the potential increase in tonnage are as follows: 1) The State of California is currently developing policy to achieve the 75% waste diversion goal established by AB 341. The 75% diversion plan states that “The 75% goal cannot be reached unless a significant amount of organics now being landfilled is instead used in new composting/AD facilities”.<sup>14</sup> Therefore, there will be an increased demand for organic materials diversion infrastructure. 2) In addition to State-level policy, Humboldt County has its own unique set of drivers that could increase food scraps capture in the future. First, Humboldt County hauls its solid waste for landfill an average of 185 miles one-way using diesel fuel vehicles which achieve around 4.5 miles to the gallon. Over time this scraps management system will become increasingly more expensive due to the inevitable rise in oil prices. Over time, the cost of processing organic materials locally will become more cost effective by comparison. Other incentives that will make food scraps diversion attractive include: local jobs, renewable energy generation that will continue to reduce the overall cost of the system, production of soil amendments for use in local agricultural production, and the potential for greenhouse gas emissions reductions to be attributed to the participating jurisdictions based on the food scraps tonnage received. The design should therefore anticipate a scale up in future years that is capable of processing food scraps tonnages at the higher end of the potential (~15,000 tons/year).

In the residential sector, there is a high potential to collect food scraps co-mingled with yard trimmings. Yard trimmings are typically comprised of grass clippings, and smaller branches with leaves. This will not only add to the total diverted waste, but can add to the feedstock inputs of the AD system as well. **Please propose a plan for handing a mixed yard trimmings / food scraps feedstock.** This includes required pre-processing and /or separation of materials (if needed) as well as processing and post-

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<sup>14</sup> <http://www.calrecycle.ca.gov/75percent/Plan.pdf>

processing. There is an estimated 958 tons per year of grass clippings and small branches remaining in the residential waste stream. If needed, HWMA can also potentially re-direct the ~4,500 tons per year of yard trimmings dropped of by residents and landscapers. It should be noted here that this material contains grass, leaves, branches, large branches, stumps, untreated dimensional lumber, and pallets. This material is currently composted at HWMA's Mad River Compost facility under contract. Additionally, there is local competition for this material from the three biomass plants located in the county. For this reason, this material cannot be counted on for use in this project, but could be directed to this facility should there be a proposal that clearly demonstrates the advantages of including this material for use in any part of the process (i.e., post-processing). **Proposers are asked to indicate the quantity of yard trimmings that would be needed to process the digested residual (post-processing) from the 3,000 to 10,000 ton per year feedstock range listed in this RFP.** Another option is to compost the digested residual at the compost facility (pending regulatory approval).

The food scraps stream is potentially seasonally variable when 6,000 students leave the County during the summer. However, there are also several festivals in the summer that bring in tourism and produce a pulse of economic activity. The food scraps characteristics are listed below (these values are from the literature):

TS: 25 – 30%

VS/TS: 87%

VS: 27%

pH: Variable, estimated to be from 4.7 to 6.1

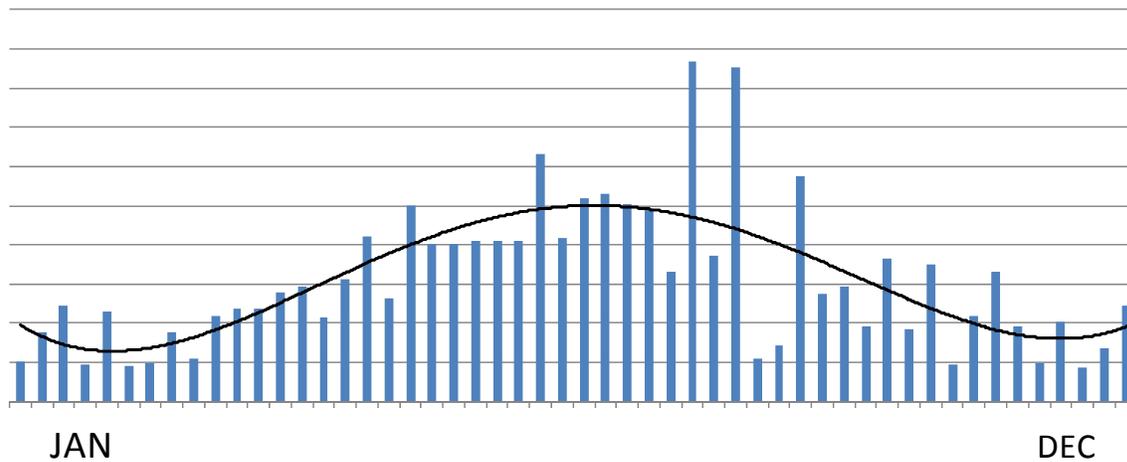
### **1.a.) Food-soiled paper and bio-plastics:**

Food soiled paper such as napkins, pizza boxes, waxed cardboard, paper plates, milk cartons and other materials such as “bio-plastics” (i.e., corn, potato, and bagasse based plateware and cutlery) are anticipated to be collected with the food waste stream. **Proposers are asked to describe which of these materials can be included in their proposed systems, how they will be pre-processed, and list considerations that need to be taken into account with regards to processing these materials.**

### **2.) Goat Cheese Whey:**

Cypress Grove Chevre makes gourmet goat cheese in Humboldt County. Cypress Grove is currently expanding their goat cheese production capabilities and has just established a goat farm. The cheese manufacturer currently generates approximately **800 tons per year of cheese whey**. Cypress Grove expects the cheese whey tonnages to eventually double with the expansion planned to be completed in early 2014. A graph showing the seasonal variation of goat cheese whey is included below.

### Seasonal Variation of Whey



As can be seen in the graph above, goat whey quantities decline in the winter when the goats produce less milk, and increase again in the summer. Cypress Grove Chevre is a key partner in this project and has committed their material to the digester. As with food scraps proposers should plan for an increase in this material over time. The characteristics of the goat cheese whey can be seen below.

TS: 6%  
 VS/TS: 80%  
 VS: 4.8%  
 pH: 4.7

### 3.) Fats, Oils, and Grease

Footprint Recycling is a local biodiesel producer and waste oil hauler in Humboldt County. All grease trap and interceptor waste are currently hauled to Chico, CA or Oakland, CA. Footprint recycling currently collects **268,000 gallons per year of Fats, Oils, and Grease (FOG)** from regional grease traps and interceptors. Footprint Recycling estimates that if a local digester was in place, the quantity of FOG would double due to the dramatic reduction on the distance (and cost) the pumper trucks have to travel to unload the material. Footprint Recycling also collects **5,000 gallons per year in grill scrapings**. The literature-derived characteristics of FOG are listed below.

TS: 10%  
 VS/TS: 95%  
 VS: 9.5%  
 pH: 4.1

#### 4.) Glycerin

Footprint recycling also generates **40,000 gallons per year of glycerin** as a byproduct of biodiesel production. The glycerin contains methanol. The characteristics of glycerin found in the literature are listed below.

TS: 88%  
VS/TS: 92%  
VS: 81%  
pH: >10

#### 5.) Meat Scraps

Footprint Recycling also collects about **50 tons per year of meat scraps**. Meat scraps can include bones and cuttings, half a lamb, turkeys that did not sell etc. Footprint is willing to discuss de-boning the material before delivery. Constituent values not assessed.

#### 5.) Shrimp fats

Pacific Choice Seafoods is one of the largest processing and distribution businesses on the west coast of California. Pacific Choice processes fish, crab, and shrimp from Alaska to Southern California. One of Pacific Choice's 37 processing facilities is located in Eureka. While Pacific Choice has managed to find markets for the fish waste, crab shells & guts, and shrimp shells they have yet to find a permanent, reliable solution for their shrimp fats. As shrimp are de-shelled a sludge-like material comprised of fats and oils remain. The wastewater is treated with a dissolved air floatation system. The fats are skimmed off the top and pressed into "cake". Pacific Choice generates approximately **1,300 tons of shrimp fat cake per season (7months)**. The material could also be hauled in the sludge form and would amount to **1,500,000 gallons per season**. It should be noted that the quantity of shrimp varies year-to-year based on ocean conditions.

The shrimp season lasts From April through October during which time shrimp is processed 6.5 days a week. The de-watered material begins to putrefy quickly and causes odors near the fish processing plant. If Pacific Choice can quickly haul the sludge or cake material away from the processing facility, the company could save considerable time, energy and reduce odors near the facility.

Although there is interest in this material by other parties, the Seafood Company supports the digester project and has not committed the material to any entity. The company is looking for a reliable, continuous, and cost effective solution. Pacific Choice is interested in bringing the shrimp cake or sludge material to the digester. **Proposers are asked to include this feedstock in the design of the digester system and describe any considerations associated with the use of this material.** The sludge contains a pearlite, lime, and a polymer. The quality is as follows:

TS: 14%  
VS/TS: Unk.  
VS: Unk.  
pH: 3.8 in, 8.1 at end of processing

## 6.) Manure

According to the Regional Water Quality Control Board, there are 150 dairies housing about 50,000 cows on the North Coast. While some dairies have onsite wastewater treatment and/or storage, recent Water Board enforcement of nutrient management regulations is creating a need for on or off-site manure treatment. For this reason, manure may be an available feedstock / buffering agent. Local engineering firms working with dairy farmers to develop nutrient management plans have estimated 48,500,000 ft<sup>3</sup> of manure slurry (manure plus water from rainfall/cleaning) is produced on the North Coast annually. Engineers estimate that a 5% participation rate is possible given the need and proximity to the future digester site. At 5% participation, an estimated 2,425,000 ft<sup>3</sup> per year of the manure slurry (½ manure, ½ water) may be available for inclusion in the digester system. Dairy farmers will want some form of fertilizer product returned to their fields (i.e., digestate). Making fertilizer suitable for Organic dairies will be key for local producers.

The manure is collected from the milking stations and the feed areas. It will contain some amounts of bedding material, which can be sawdust, sand, or ash. **Proposers are asked to consider the use of this potential feedstock, how it would be incorporated, which bedding materials would be acceptable, what range of manure volumes would be optimal, and whether the digestate would be suitable for use as an organic fertilizer.**

### Total anticipated feedstocks:

Industrial food waste resource:	Tons per year
Cheese Whey	800
Fats, Oils, Grease	1,006
Grill scrapings	19
Glycerin	209
Meat scraps	50
Shrimp fat cakes	1,400
<b>Total</b>	<b>3,485</b>
<b>Industrial food waste w/ 50% Comm. food scraps, 3 lrgst.</b>	<b>5,518</b>
<b>Industrial food waste w/ 90% Comm. food scraps, 3 lrgst.</b>	<b>7,144</b>
<b>Industrial food waste w/ 50% total food waste, 3 lrgst.</b>	<b>10,498</b>
<b>Industrial food waste w/ 90% total food waste in Humboldt County</b>	<b>18,504</b>

### EXHIBIT 3

## SITE SPECIFICATIONS



Bird's eye view of site and Humboldt Bay. Image courtesy of Google Earth.



Closer view of site and adjacent wastewater treatment plant. Image courtesy of Google Earth.



View of project site from atop the adjacent wastewater treatment plant digesters. Wetland in middle of site can be seen here as an area with distinctively different vegetative cover. Infrastructure shown behind site is Eureka firefighter training facility.



Map showing location of wetlands as designated by 2007 and 2010 wetland delineation reports.

**EXHIBIT 4**  
**PROPOSAL FORMS**

**(This page intentionally left blank as the material that follows is individual forms)**

**Form A**

**Proposer Validity and Commitment to Sign Agreement**

Acknowledge the following commitment, inherent in submitting a proposal, to negotiate in good faith an Agreement for the development, construction and testing of the facilities described in the Proposal, upon selection as a Finalist.

I (authorized agent) \_\_\_\_\_ having authority to act on behalf of (Proposer name) \_\_\_\_\_ do hereby acknowledge that (Proposer name) \_\_\_\_\_ will be bound by all terms, costs and conditions of this proposal for a period of two years from the date of submission; and commit to negotiate in good faith an Agreement for the development, construction and operation of the facilities described in our Proposal.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**Form B**

**Equipment List**

In the table provided, include list of all proposed equipment required during construction for operations and that are included in the cost form.

Equipment Type	Make/Model	Number
<b>Stationary Equipment or Major Components <u>(specify)</u></b>  1) 2) 3) 4) 5) 6) 7) 8) 9) 10) 11) 12) 13) 14)		
<b>Mobile Equipment <u>(specify)</u></b>  1) 2) 3) 4) 5) 6) 7) 8)		
<b>Other Equipment <u>(specify)</u></b>  1) 2) 3) 4)		

Equipment Type	Make/Model	Number
5) 6) 7) 8) 9) 10) 11) 12) 13) 14)		

**Form C**

**Staffing Plan**

In the table provided, include list of all operating personnel that will be required for operations. Staffing list below is only an example of potential staff, which may or may not be needed to operate the facility.

Position	No. of Staff	Duties Description (very short)
<p><b><u>Management/Administration</u></b>  <b>Facility Manager</b>  <b>Operations Manager</b>  <b>Maintenance Manager</b>  <b>Others (specify)</b>                      1)                      2)                      3)                      4)                      5)</p>		
<p><b><u>Scale House</u></b>  <b>Scale Attendant</b>  <b>Load check</b>  <b>Others (specify)</b>                      1)                      2)</p>		
<p><b><u>Operations</u></b>  <b>Facility/Control Room Ops</b>  <b>Stationary Equip. Operators</b>  <b>Mobile Equip. Operators</b>  <b>Environmental Specialists</b>  <b>Sorters</b>  <b>Others (specify)</b>                      1)                      2)                      3)                      4)</p>		

Position	No. of Staff	Duties Description (very short)
<p><b><u>Maintenance</u></b>  <b>Mechanic</b>  <b>Mechanics Helper</b>  <b>Electricians</b>  <b>Others (specify)</b>                      1)                      2)</p>		
<p><b><u>Others (specify)</u></b>                      1)                      2)                      3)                      4)                      5)                      6)                      7)                      8)</p>		

**Form D**

**Cost Proposal of Digestion System only**

The attached form includes the proposer’s Total Cost Proposal with back-up information regarding these costs for development, construction, equipment and equipment installation of **only the Digestion System portion of the Project within the entire facility which is to be designed by others.**

Costs	Amount	<b>Required: Include back-up details and assumptions made for these costs (attach additional sheets if necessary)</b>
System Development	\$ _____	_____
Facility Permitting Support of the entire facility	\$ _____	_____
System Design & Engineering of the digestion system inclusive of materials receipt, pretreatment, processing, post treatment and byproduct management, and conceptual design and engineering of the balance of plant inclusive of buildings, roads, infrastructure necessary to support the function of the digestion system.	\$ _____	_____
Digestion system Equipment (List)	\$ _____	_____
Digestion system Equipment Installation	\$ _____	_____
System Start-Up and Performance Testing	\$ _____	_____
Authority Operator Training	\$ _____	_____
Overhead & Profit	\$ _____	_____
Cost of Performance Bond	\$ _____	_____
Other: _____	\$ _____	_____

Other: \_\_\_\_\_ \$ \_\_\_\_\_ \_\_\_\_\_

**Total Costs of Digestion System** \$ \_\_\_\_\_ \_\_\_\_\_  
**complete installed in place (but**  
**excluding balance of plant, to be**  
**designed by others )**

**Potential Operating Cost** \$ \_\_\_\_\_ \_\_\_\_\_  
**( 12 month contract)**