

# WASTE TREATMENT (629)

## DESIGN AND CHECK DATA REQUIREMENTS

The following items, if applicable, must be verified in the information provided by the Prime Contractor (System Provider or Vendor) for the Waste Treatment facility. This information shall be used to meet the criteria found in the Waste Treatment Standard (629). Additional items may be appropriate as determined by the vendor.

### **Project Cover Sheet**

- Site location
- Table of Contents
- Signature by PA PE for overall plan
- Company Name, contacts, etc
- Permit Requirements /Approvals
- PA One Call verification

### **Design Information & Calculations**

- Summary of system objectives
- Process Flow Diagram
- Expected system performance
  - Volume reductions
  - By-product properties & volume
- Volume of manure needed and percent of manure used within contracted facility area
- Calculation of Boiler size and BTU output
- Anticipated heating savings from current system - Calculations and flow estimates for heat transfer method
- Computation for pipe sizes
- Determination of required insulation and method to achieve for selected heat transfer system
- Estimated Air Emissions (Data can be from similar systems) Include source
- Process monitoring and control system parameters
- Roof/building design over treatment/equipment
- Storage area for by-products

### **Construction Specifications**

- Building Pad to meet /exceed (561)
- Roof to meet Roofs and Covers (367)
- System specifications
- Control system specifications
- Other equipment specifications as appropriate, such as loading hopper/auger, ash removal, etc
- Particulate control system
- Heat transfer system, rating, etc.

### **Engineering Drawings** **Plan View Sheet(s)**

North arrow, Scale

- Utilities/road
- Legend
- Existing structures
- Proposed facilities
- Construction limits
- Transfer line location
- Cross Sections and location
- Erosion Control measure locations
- (Sites over 1 acre will need NPDES permit)
- PA One call

### **Cross Section(s)**

- Typical trench detail
- Location of pipe, type, & size
- Backfill material
- Compaction requirements
- Insulation materials
- Floor section

### **Detail Sheet(s)**

- Typical plumbing hookups
- Heat transfer unit
- Building layout

### **Erosion and Sediment Control Plan**

- See DEP's Erosion and Sediment Pollution Control Program Manual and conservation District requirements.
- Permits needed.

### **Operation and Maintenance Plan**

- Start Up Sequence
- Operation procedures
- Maintenance
- Emergency Action Plan
- Monitoring Plan (if applicable)
- Component Warranty
- Component requiring periodic replacement
- Anticipated Annual Operating Costs
- Safety (Signage, fencing, lockouts, etc.)

### **Quality Assurance Plan**

- Written plan for Quality Control/Quality Assurance for project. Include frequency requirements for minimum pressure requirements, leak checks, etc

### **As-Builts**

Prime contractor to provide a set of "As-builts" showing verifications, changes, etc in red, along with photo documentation, inspection notes, certifications and seal from a PA Registered Professional Engineer for completed project.