

## 672. BUILDING ENVELOPE IMPROVEMENT

### DESIGN AND CHECK DATA REQUIREMENTS

The following items must be addressed in the design folder for the building envelope improvements:

#### Design Data Summary

Important data is recorded and is consistent with the rest of the structural integrity and operation of the existing building. This includes design calculations & documentation for:

- 1) Type of facility to be improved
- 2) Type 2 On-farm energy audit, including major activities of ventilation, air heating, air cooling.
- 3) Material compliance with appropriate specification(s) and codes
- 4) Access to facility
- 5) Safety items

#### Operation & Maintenance Plan

A written site specific O&M Plan, including:

- 1) Instructions and schedule for cleaning of features such as sensors, screens, and skylights to maintain efficient operation.
- 2) Instructions for any controls
- 3) Manufacturers' warranties
- 4) Periodic facility inspections for leaks of insulation and sealants.
- 5) Documentation for ongoing energy consumption.

#### Construction Specifications

Enclose PATG Specification PA313S, and others as applicable.

Note that any insulation and vapor retarders shall meet ANSI/ASABE S401.2.

Include any "additional conditions" or items that are site specific or must be defined to supplement the standard specification. (See instructions for use of Specification PA313S.)

Add any special or "by-others" specifications for all materials & equipment to be installed.

#### Engineering Drawings

##### GENERAL

On each drawing sheet, the title block should show the operator's name, type of operation, county and the persons involved in drawing, designing, and checking the improvements, including local code enforcement.

Include any standard drawings made by NRCS, or designed by others and concurred in by NRCS that are needed, and include them in the drawing index on the cover sheet.

Listed are items that should be included:

##### PLAN VIEW SHEET(S)

North arrow  
 Bench mark(s)  
 Scale  
 Legend  
 Existing electrical systems that will be connected to controls, sensors, etc.  
 Designed wiring features (i.e. wiring diagram)  
 Construction access  
 Construction limits

##### DETAIL SHEET(S)

If not otherwise set forth in the specifications, identify type and quality of insulation, controls, sealants, etc.

Also include the location of controls, along with the power source(s).

**SEQUENCING STATEMENT WITH:**

Construction sequences  
Special considerations  
Permits & code inspections  
Safety features  
One-Call statement

**Construction Check Data**

**QUALITY ASSURANCE PLAN**

A site-specific plan that addresses, but is not limited to:

- What specific items need inspection and when?
- Who will do the actual inspection?
- Is any testing equipment required for the inspection?

**ONSITE VISITS**

The QAP must include, at a minimum, as applicable to the specific job, onsite visits prior to:

- 1) Start of construction.
- 2) Prior to power connection, if any.
- 3) Completion of all construction.

**Documentation**

A full set of as-built drawings, with construction certification signatures.

Check survey notes.

Documentation of electrical code inspection, if any.

Material certifications, photographs, warranties, etc. as applicable.

Contractors' certifications of conformance.  
Engineer's certification of completion.