

AIR FILTRATION AND SCRUBBING

DESIGN AND CONSTRUCTION DATA REQUIREMENTS

The following items must be addressed in the design folder for the air filtration and/or scrubbing.

1. Table of Contents
2. Design Data Summary
3. Soils and Foundation Data
4. Construction Specifications
5. Engineering Drawings
6. Erosion and Sediment Control Plan
7. Construction Check Data
8. Documentation
9. Operation and Maintenance Plan

Listed below are specific items that are required in each section:

Table of Contents

Lists key pages found in the design.

Design Data Summary

Important data recorded and consistent with the CNMP, including but not limited to:

- Special considerations for Act 38, CAO's, CAFO's, HQ, EV, etc.
- Permitting documentation
- Characteristics of the concentrated airflow, such as velocity, temperature, moisture content, and chemical composition
- Concentration of particulate matter in the concentrated airflow
- Particle size distribution of particulate matter in the concentrated airflow
- Particle size range to be collected
- Type of air contaminant(s) to be removed from the concentrated airflow or air inside the structure
- Concentration of the targeted air contaminant(s) in the concentrated airflow or air inside the structure
- Sources of data, electrical codes, and other industry standards
- Expected byproducts.

Soils and Foundation Data

- PA One Call documentation
- Testpit locations & logs
- Soils lab data and liner calculations if applicable
- Document the need for rock excavation, drainage, isolation from porous foundation rock, depth limitations, etc.

Construction Specifications

Enclose the applicable construction specification(s) PA313S, 716, and others

Include any "additional conditions" or items that are site specific or must be defined to supplement the standard specification. (See instructions for use of Specifications 313S.)

Any special or "by-others" specifications.

Engineering Drawings

TITLE BLOCKS (each sheet)

Operator's name
 Type of operation
 County
 Designer, drafter, checker
 Engineer or Record approval (cover sheet only)

COVER SHEET

Site location
 Drawing index
 Job Class
 Certification Statement
 Signature Block
 Reference to specific Standard Drawings

PLAN VIEW SHEETS:

North arrow
Utilities, roads, and bench marks
Scale and legend
Access
Existing structures
Cross-section locations
Construction limits
Drainage & outlet locations
Component locations
Borrow and Spoil areas
Vegetative requirements
Fencing and safety features

SITE CONTOUR SHEET (Preferably same as Plan View Sheet):

North arrow
Bench marks
Scale
Soils test pit location
Existing structures
Contour lines
Property lines
Known sinkhole locations
Legend

CROSS-SECTION SHEETS:

Two sections, minimum
Scale
Reference to detail drawings

DETAIL SHEET(S):

Sufficient details to build the various practices included in the engineering drawings package.

SAFETY:

Utility items
Excavation safety items
Pa One Call documentation
OSHA references as appropriate
Safety features such as signs, grates, gates, fencing, etc.

CONSTRUCTION SEQUENCE:

Detail special order of critical construction elements.

Erosion and Sediment Control Plan

Refer to DEP Erosion and Sediment Pollution Control Program Manual. Include pertinent information in the design.

Construction Check Data

QUALITY ASSURANCE PLAN (QAP)

- Specific items that need inspection and when
- Who will do the actual inspection?
- Testing equipment required for the inspection
- Are shop drawings needed?

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

- Start of construction
- Completion of foundation excavation to observe and record the foundation conditions encountered and compare with the conditions assumed in the design.
- Placement of concrete and other major structural components.

Documentation

The following documents need to be assembled and maintained in the office for the life of the facility:

1. A full set of as-built drawings with:
 - a. Items installed as designed; changes shall be recorded in a manner that the As-Built information is obvious, such as in bold and red.
 - b. Notes describing the changes will be recorded on all sheets where changes occurred, including initials.
 - c. Document the actual foundation, air characteristics, and structural features encountered, if they differ from the site investigation and design assumptions.
 - d. The name of the installer/manufacture and date of completion on the cover sheet.

- e. The certification statement, signature and date by a person with construction job approval; however a P.E. must certify the completion of all facilities.
2. Design folder
3. Survey check notes with final elevations and dimensions shown in red
4. Material certifications, catalog cuts, etc.
5. Contractor's certifications of conformance
6. Photographs with labels, if applicable
7. Records of site visits and significant discussions
8. Other applicable construction records

Operation & Maintenance Plan

- Routine operational requirements
- Safety precautions
- Other special situations, practices, conditions, and requirements for the specific operation

