STATEMENT OF WORK (SOW)
DENITRIFYING BIOREACTOR (605)
Wyoming

These deliverables apply to this individual practice. For other planned practice deliverables, refer to those specific Statements of Work.

Items that are marked **(TSP or Non-NRCS Engineer)** need to be completed only if design is provided by a TSP or Non-NRCS Engineer. Items that are marked **(NRCS Employee)** need to be completed only if design is provided by an NRCS Employee. All other items are required by all designers.

DESIGN

Deliverables and Documentation Requirements

1. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices:
    a. Practice purpose(s) as identified in the conservation plan.
    b. List of required permits to be obtained by the client.
    c. Impacts on adjacent properties and structures.
    d. Verify with the Field Office conservation planner that all concerns under the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) have been adequately addressed.
    e.
    f. Compliance with NRCS national and state utility safety policy (National Engineering Manual (NEM), Part 503-Safety, Subpart A, Engineering Activities Affecting Utilities, 503.00 through 503.06).
    g. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
        i. Geology and Soil Mechanics (NEM, Subpart 531a). (Example: Soil log and testing reports.)
        ii. Hydrology/Hydraulics.
        iii. Structural including hazard class as appropriate.
        iv. Vegetation.
        v. A tile map that includes tile sizes, materials, depth, and locations of all tile draining to the denitrifying bioreactor. If a tile map is unavailable, provide documentation on how the denitrifying bioreactor was sized, including drainage area.
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits including but not limited to:
    a. A plan view of the layout of the denitrifying bioreactor and associated components
    b. Typical cross section(s) of the bioreactor
    c. Profile(s) of the bioreactor including inlet(s) and outlet(s)
    d. Details of required structures for water level control
    e. Material specifications for the bioreactor media
    f. Seeding requirements, if needed
    g. Construction specifications describing site-specific installation requirements of the bioreactor and associated components.
3. Operation and Maintenance (O&M) Plan.
4. Certifications that the design meets practice standard criteria and comply with applicable laws and regulations (NEM, Subpart A, 505.03(b)(2)). **(TSP or Non-NRCS Engineer)**
5. Engineering job classification is shown and proper engineering approval is obtained. **(NRCS Employee)**
6. Design modifications during installation as required.

INSTALLATION

Deliverables and Documentation Requirements

1. Conduct a preconstruction meeting with client, contractor, and NRCS representative.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications including applicable layout notes.
    a. Location and alignment stakes as needed.
    b. Appurtenance locations
    c. Grade stakes with offset reference stakes as needed
    d. Verify with the Field Office conservation planner that the location of the staked practice is within the original scope of the practice and is still in compliance with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA).
4. Installation inspection (according to inspection plan):
    a. Actual materials used (NEM, Part 512, Subpart D, Quality Assurance Reviews, 512.33).
    b. Inspection records.

5. Facilitate and implement required design modifications with client and original designer
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.
7. Certification that the installation process and materials meet design and permit requirements.

CHECK OUT

Deliverables and Documentation Requirements

1. As-Built documentation:
    a. Extent of practice units applied.
    b. Drawings.
    c. Final quantities.
2. Certification that the installation and materials meets NRCS standards and specifications and is in compliance with permits (NEM, Subpart A, 505.03(c)(1)). **(TSP or Non-NRCS Engineer)**
3. Statement of compliance signed by NRCS personnel with applicable job approval authority that the work meets the plans and specifications. **(NRCS Employee)**
4. Progress reporting.

REFERENCES

- NRCS Field Office Technical Guide (FOTG), Section IV, Conservation Practice Standard - Denitrifying Bioreactor, 605
- NRCS National Engineering Handbook, Part 624, Section 16, Drainage
- NRCS National Engineering Handbook, Part 650, Chapter 14, Water Management (Drainage)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook