

STATEMENT OF WORK
Subsurface Drain (606)
Oklahoma

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

DESIGN

Deliverables:

1. Design documents that demonstrate criteria in practice standard have been met and are compatible with 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. 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 and NEM Oklahoma Supplement Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities, OK503.02)
 - Oklahoma engineering worksheet OK-ENG-45 Utilities Inventory Form will be used to document utilities
 - d. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to the following:
 - Use approved engineering design tools or methods to design sub surface drains in Oklahoma. Design documentation will be recorded on *OK-ENG-5 Subsurface Drain Data Sheet – Design and Construction*
 - i. Ground Surface and water table elevation
 - a) Determine by auger hole borings adequate to plot a water table contour map of the affected area (8-10 holes per field is usually sufficient)
 - b) Log the soil profile as the borings are made
 - c) Note changes in the profile that indicate reasons for the wetness problem or possible alternate treatments
 - d) Record at least one typical log
 - e) Make a topographic map of the area including the outlet area and condition
 - f) The surface topography and the water table will be referenced to the same benchmark
 - ii. Capacity
 - iii. Hydraulics
 - iv. Materials
 - v. Climatic Considerations
 - vi. Vegetation requirements (see Critical Area Planting (342) Statement of Work)
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
 - a. The *OK-ENG-5 Subsurface Drain Data Sheet – Design and Construction* should be used to provide installation guidance
 - b. A sketch or drawing should also be attached with a plan view and plotted profile of the layout.
 - The sketch should be in sufficient detail that each drain can be located with reasonable accuracy if the need should arise
 - The pipe size will be determined using the methods found in *Part 650 Engineering Field Handbook, Chapter 14*
 - Record the outlet for each drain line (open channel, sump, or another drain line)
 - c. Site specific Construction Specifications will need to be developed for each installation. Follow manufacturer's installation instructions and specifications for pipe and appurtenances. Additional specifications may need to be written to provide full material and installation instructions

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3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32)
4. Certification that the design meets practice standard criteria and comply with applicable laws and regulations will be signed by an employee with appropriate approval authority for design assigned on Form OK-ENG-1 or OK-ENG-1 (NEM Subpart A, 505.3)
 - Oklahoma engineering worksheet *OK-ENG-5 Subsurface Drain Data Sheet – Design and Construction* will be used to certify that the design and installation meet the conservation practice standard
5. Operation and maintenance plan
6. Design modifications during installation as required

INSTALLATION

Deliverables

1. Documentation of pre-installation conference with client and contractor
2. Verification that client has obtained required permits
3. Staking and layout according to plans and specifications including applicable layout notes
4. Installation inspection (according to inspection plan as appropriate)
 - a. Actual materials used including manufacturer of drain material (Part 512, Subchapter D Quality Assurance Activities, 512.33)
 - b. Inspection records
 - c. Maintaining a job diary with dates and record of inspections made, testing completed, instructions provided to the contractor, etc., to document compliance with standards and specifications. Documenting in the assistance notes in the plan is acceptable
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 meets design and permit requirements (NEM Subpart A, 505.3)

CHECK OUT

Deliverables

1. Supporting Documentation As-built documentation
 - a. Completed job diary or assistance notes documenting inspections made, testing completed, materials used, etc.
 - b. Survey notes for layout, inspections, and final checkout documenting compliance with standards and specifications
 - Plotted profiles, and other pertinent data should be attached to the OK-ENG-20 form for filing
 - c. As-built drawings or documentation with changes from the original drawing clearly shown
 - d. Extent of practice units applied and location identified on a map
 - e. Vegetation certification or schedule documented on OK-ECS-04 – Vegetative Data Worksheet
 - f. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits will be signed by an employee with appropriate approval authority for construction assigned on Form OK-ENG-1, OK-ENG-1 a, or by special letter. (NEM Subpart A, 505.3)
3. Progress reporting

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REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Subsurface Drain, 606
- National Engineering Handbook (NEH)
- National Engineering Manual (NEM)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook