STATEMENT OF WORK
SPRINKLER SYSTEM (442)
Minnesota

These deliverables are the minimum requirements that apply to this individual practice. Service providers (TSP or other) shall prepare and document deliverables for the Design, Installation, and Checkout sections and submit deliverables to both the landowner and NRCS.

DESIGN

Deliverables:

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. Obtain necessary documentation from supplier's Irrigation Association certified designer which demonstrates that practice standard criteria are met.
    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 (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06)
    d. List of facilitating/component practices (i.e. 449 Irrigation Water Management, etc.)
    e. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
        i. System Capacity
        ii. Depth of Application, Rate, Frequency, Pressure, Uniformity and Runoff
        iii. Hydraulics
        iv. Filters and chemical injection
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes requirements to install the practice and obtain necessary permits.
3. Operation and Maintenance Plan including all pertinent requirements from the vendors.
4. Certification that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Part 505, Subpart A).
5. **For low pressure conversions of existing center pivot systems, form MN-ENG-138 shall be used. When completed, this form will meet the minimum requirements for items 1-4 above.**
6. Design modifications during installation as required.
7. Itemized cost estimate.
8. Additional MN requirements for Variable Rate Irrigation (VRI) shall be supplied by the vendor:
    a. Design data, including:
        i. VRI, required system capacity,
        ii. Design application depths,
        iii. Weighted potential runoff based on all applicable soil textures.
    b. Plans and Specifications including:
        i. Scaled plan maps showing number of zones planned and application depths, color legend format is acceptable,
        ii. List of all hardware components to be installed, including all valves, tubing, control box and panels if applicable.

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 (Part 512, Subpart D Quality Assurance Activities, 512.33)
    b. Inspection records
5. Facilitate and implement required design or cost modifications with client, original designer, permitting and funding agencies.
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.
8. Additional MN requirements for Variable Rate Irrigation (VRI) compliance checks:
    a. For VRI Zone Control only, vendor/installer shall develop and install a demonstration prescription to be uploaded to the control panel. The entire system shall be ran with this prescription in the presence of a qualified NRCS personal to verify that both hardware and software components work as intended. VRI demonstration prescriptions shall cycle on and off each zone a minimum of three times in a 10 minute window. Additional time may be required for complexity due to the number of zones along the length of the system.
    b. No demonstration prescription is required for VRI Speed Control due to the limitations of system speed and size of zone required under radii.

CHECK OUT

Deliverables

1. As-Built documentation.
    a. Extent of practice units applied
    b. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM Part 505, Subpart A).
3. Progress reporting.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Sprinkler System, 442
- NRCS National Engineering Manual (NEM).
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook