

PART 505 – NON-NRCS ENGINEERING SERVICES

ND505.3 Review of Technical Services Performed by Others

B.(1) For site specific engineering designs prepared by individuals who are not employees of the NRCS, other than certified Technical Service Providers (TSP's), the following conditions must be met. These conditions may apply when a producer with a program contract chooses to hire an engineer at their own expense, when the producer themselves is an engineer, or when NRCS chooses to hire engineering services through an A&E contract. The engineering design must be signed and stamped by a Registered Professional Engineer in the State of North Dakota.

- 1) NRCS staff that completed planning work on the project, including the approving individual with planning job approval authority, and the individual who will complete the functional review, will conduct a pre-design conference with the non-NRCS engineer to ensure effective communication on agency requirements. Items to cover at that pre-design conference include:
 - i) Overall orientation to the planned conservation practices, locations, and extents for the project.
 - ii) Pertinent details regarding the program process and cost share payments/timing. (Subject to written permission of the contract holder).
 - iii) Applicable practice standards and associated statements of work.
 - iv) NRCS technical references that may be necessary to complete the engineering work per the practice standard, including agency software and online links to download. Note that NRCS is not required to provide training to non-NRCS engineers on software and design techniques, simply a basic orientation.
 - v) Overall expectations for the design submittal, as well as an understanding of timelines for review. For larger projects, agree on whether the non-NRCS engineer will submit any preliminary materials for review to ensure an efficient process.
 - vi) Discuss who will complete the construction inspection work. NRCS employees with adequate JAA may complete inspection on project designed by a non-NRCS engineer. If a producer chooses to provide engineering services for themselves, NRCS must be involved in the inspection work in some capacity. If the design engineer will be handling all of the inspection work, outline NRCS expectations for asbuilt drawings, material testing, quantity surveys, and other related construction documentation.
 - vii) Ensure that the non-NRCS engineer and the contract holder understand that construction may not proceed until NRCS approves the design, without jeopardizing their program contract payments.

- 2) The non-NRCS engineer will submit the following items for review, in the completed design package. All materials must be reproducible, and preferably will be in electronic format.
 - i) All computations necessary for design of the practices and as referenced in the practice standards for requirements. This may include foundation investigations and laboratory soils tests, hydrologic modeling, hydraulic computations, lateral earth pressures, design loadings, structural analysis, ect. as appropriate to the specific project.
 - ii) A complete set of construction drawings providing adequate detail, when combined with specifications, to construct the practices per the design. The locations and coordinates for survey reference points should be included, as well as stakeout information necessary to layout the project.

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- iii) A complete set of construction and materials specifications providing adequate detail, when combined with drawings, to construct the practices per the design.
 - iv) A construction inspection plan stating the items requiring inspection, frequency and timing of inspections, testing standard references, documentation requirements, and minimum qualifications of the individuals that will perform inspection.
 - v) An operation and maintenance plan for the practices. NRCS standard formats, available on eFOTG may be utilized, or a custom O&M plan may be provided by the design engineer.
 - vi) The final copies of drawings, specifications, and computations will be stamped by the Registered Professional Engineer and provided to NRCS in original format. ND Century Code requires each sheet of the drawings be stamped. The final copy of the drawings will contain the statement: *“To the best of my professional knowledge, judgment, and belief, the design, construction drawings, and specifications meet NRCS standards XXXXXXXX.”* (List NRCS standard numbers and titles, and include signature/date with the statement).
- 3) An NRCS employee, with adequate design job approval authority for the practices, will complete a functional review of the design package. The intent of the functional review is solely to ensure that the design package is complete and appears to meet applicable NRCS standards. The functional review approval letter, when issued, will include the following statement: *“NRCS is accepting these construction drawings and specifications on the basis that they have been signed by a registered Professional Engineer. Based on the design package provided by the Professional Engineer, the proposal appears to meet applicable NRCS standards. Any deficiencies in the design are the responsibility of the Professional Engineer whose seal appears on the design documents.”* The letter will be signed and dated by the approving individual. Prior to sending the approval letter to the non-NRCS engineer and producer, NRCS planners need to confirm that the CPA-52 and cultural resources work completed accurately reflect the final design extents.
- 4) During construction, any significant changes to the design will be similarly forwarded to NRCS for approval prior to installation. Not doing so may jeopardize payments under program contracts. Any change in extents, without prior written approval via a program contract modification, will not result in an increase of cost share payment amounts.
- 5) If the non-NRCS engineer is providing inspection services, final documentation will be provided to NRCS in the form of as-built drawings, daily inspection logs, materials test results, progress photos, and quantity computations as agreed to per the submitted inspection plan. Final as-built drawings will include the statement: *“To the best of my professional knowledge, judgment, and belief, these practices are installed in accordance with the construction drawings and specifications, and meet NRCS standards.”* The statement will be signed and dated by the engineer, and the as-built drawings will be stamped by the Registered Professional Engineer.
- 6) NRCS field staff will make a site visit, as appropriate, to verify completion of the practices prior to making final certifications. On larger projects with multiple practices involved, partial submission of construction documentation by the non-NRCS engineer is acceptable to allow for payments on completed practices. No more than 70% of total payments should be made prior to receiving final inspection documentation, however.

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- 7) Non-NRCS engineers are not subject to annual engineering spot checks, however if practices are selected for spot checks that were designed by a non-NRCS engineer, adherence to the above policies by the NRCS staff involved will be reviewed.

B.(2) For site specific engineering designs prepared by individuals who are certified Technical Service Providers (TSP's), and whose work is being funded through a NRCS Program Contract, the following process shall be utilized. TSP Engineer's working in North Dakota must be Registered Professional Engineers. If a registered TSP is providing design services outside of a NRCS Program Contract, see procedures outlined in B.(1) of this Amendment.

- 1) The producer notifies the NRCS FO of their desire to utilize a TSP for the project. This can occur either before or after the producer enters into a formal program contract with NRCS. Unless the engineering work is performed under the guidelines of a Conservation Activity Plan (such as a Comprehensive Nutrient Management Plan, Drainage Water Management Plan, or an Agricultural Energy Management Plan) it is expected that planning by NRCS FO employees will have been completed prior to the TSP engineer starting work. Regardless of whether NRCS has funds available to provide cost share reimbursement for a portion of the TSP engineer's fees, or not, these procedures apply.
- 2) The District Conservationist ensures overall implementation of the TSP Process as described in: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_001549.pdf Until Step 15 of the TSP process (the pre-design meeting), detailed technical knowledge of NRCS design requirements is not necessary and therefore no engineering job approval is required. At that point, however, if the FO planner involved in the project does not have adequate design JAA another NRCS employee should be consulted for the pre-design meeting. Prior to the pre-design meeting, ensure the producer has signed the CPA-70 and determine if the TSP Engineer has been certified in ND for the involved practices to determine the scope of the pre-design meeting.
- 3) Items to cover at the pre-design meeting with the TSP and Producer, preferably onsite, include:
 - i) Overall orientation to the planned conservation practices, locations, and extents for the project.
 - ii) Pertinent details regarding the program process, payments, and timing.
 - iii) Applicable practice standards and associated statements of work. Even if the TSP has completed designs under the planned practice standards in the past, ensure a common understanding of them in reference to the specific project.
 - iv) NRCS technical references that may be necessary to complete the engineering work per the practice standard, including agency software and online links to download. Note that NRCS is not required to provide training to TSP engineers on software and design techniques, simply a basic orientation.
 - v) If the project entails the TSP Engineer's first submittal for design of given practice, the design will be subject to a functional review by the NRCS. Overall expectations for the design submittal, as well as an understanding of timelines for review, should be discussed recognizing that final approval will need to come from the ND State Engineer. For larger projects, agree on whether the non-NRCS engineer will submit any preliminary materials for review to ensure an efficient process. Ensure that in this case,

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the non-NRCS engineer and the contract holder understand that construction may not proceed until NRCS approves the design, without jeopardizing their program contract payments.

- vi) Ensure that both the TSP and Producer understand that any changes to practice extents or quantities require approval of NRCS, via a contract modification, prior to commencement of construction to be eligible for cost share assistance from NRCS.
- 8) The TSP engineer will submit the following items to the Field Office, in the completed design package. All materials must be reproducible, and preferably will be in electronic format.
- i) All computations necessary for design of the practices and as referenced in the practice standards for requirements. This may include foundation investigations and laboratory soils tests, hydrologic modeling, hydraulic computations, lateral earth pressures, design loadings, structural analysis, etc. as appropriate to the specific project.
 - ii) A complete set of construction drawings providing adequate detail, when combined with specifications, to construct the practices per the design. The locations and coordinates for survey reference points should be included, as well as stakeout information necessary to lay out the project.
 - iii) A complete set of construction and materials specifications providing adequate detail, when combined with drawings, to construct the practices per the design.
 - iv) A construction inspection plan stating the items requiring inspection, frequency and timing of inspections, testing standard references, documentation requirements, and minimum qualifications of the individuals that will perform inspection.
 - v) An operation and maintenance plan for the practices. NRCS standard formats, available on eFOTG may be utilized, or a custom O&M plan may be provided by the design engineer.
 - vi) The final copy drawings, specifications, and computations will be stamped by the TSP Engineer and provided to NRCS in original format. The final copy of the drawings will contain the statement: *"To the best of my professional knowledge, judgment, and belief, the design, construction drawings, and specifications meet NRCS standards XXXXXXXX."* (List NRCS standard numbers and titles, and include signature/date with the statement).
 - vii) All permits required for construction of the project.
- 9) For projects that do not include a TSP Engineer's first submittal for a practice, no functional review is required. It is required, however, that an NRCS employee look through the submittal carefully to ensure all required items in each practice's Statement of Work have been provided per discussions at the pre-design meeting. No engineering job approval authority is required for that, however field office staff are encouraged to consult with the Area Engineer for assistance as needed. Projects that do include a TSP Engineer's first practice design must have a functional review completed, and approved by the ND State Engineer, prior to certification of the 910 payment.
- 10) Construction inspection is completed by the TSP Engineer in accordance with the submitted inspection plan in the design package. Following construction, the TSP Engineer submits as-built drawings, daily inspection logs, materials test results, progress photos, and quantity computations as agreed to per the submitted inspection plan. Final as-built drawings will include the statement: *"To the best of my professional knowledge, judgment, and belief, these*

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practices are installed in accordance with the construction drawings and specifications, and meet NRCS standards.” The statement will be signed and dated by the engineer, and the as-built drawings will be stamped by the Registered Professional Engineer. NRCS acceptance and certification of the 911 and 912 practice will be based on a review to ensure all required items have been submitted. No engineering job approval authority is required, however field offices are encouraged to consult with the Area Engineer for assistance as necessary.

- 11) Per GM450, Part 407.20, TSP Engineers are subject to a 10% spot check with their first three years of certification, and a 5% check thereafter. Results of spot checks will be forwarded each TSP Engineer as appropriate to address any technical issues on future projects.