

Subpart C - PLANNING, DESIGNING, BIDDING, CONTRACTING, CONSTRUCTING AND INSPECTIONS

This instruction can be found at the following web site address:

http://www.rd.usda.gov/files/TX_RUS1780C.pdf

1780.53 GENERAL.

This State Instruction supplements RUS Instruction 1780, Subpart C – Planning, Designing, Bidding, Contracting, Constructing and Inspections. This Instruction should be reviewed along with RUS Instruction 1780 and RD Instruction 1970 prior to developing a project.

1780.54 TECHNICAL SERVICES.

Each applicant is responsible for selecting a consulting engineer. Any engineer registered in Texas with sufficient experience, capital, equipment and staff to design the project may contract with the applicant. The following forms can be used when contracting for engineering services:

- EJCDC* E - 500 (2014 Edition), Standard Form of Agreement between Owner and Engineer for Professional Services and applicable Exhibits. The engineer may use their own hourly rates. Use RUS Bulletin 1780-26, “Guidance for the use of EJCDC Documents on Water & Waste Disposal Projects with RUS Financial Assistance.” for instructions. See RUS Bulletin 1780-26, Exhibit A, for the agreement modifications. Use the approved Compensation Packets only.

*(EJCDC = Engineers Joint Contract Documents Committee)

The EJCDC contract documents can be purchased from the following organizations: National Society of Professional Engineers
American Society of Civil Engineers
American Council of Engineering Companies and
EJCDC.

- Form RD 1942-19 (Rev. 10/96), Agreement for Engineering Services.
This agreement can be used for projects/contracts with construction cost under \$150,000.

1780.55 PRELIMINARY ENGINEERING REPORTS AND ENVIRONMENTAL REPORTS.

Preliminary Engineering Reports will be prepared by the applicant’s engineer. It shall be bound, dated, signed and sealed by the professional engineer registered in

the State of Texas. It will be prepared in accordance with:

- ◆ **RUS Bulletin 1780-2**, Preliminary Engineering Reports for Water and Waste Disposal Program

The bulletin can be found at http://www.rd.usda.gov/files/UWP_Bulletin_1780-2.pdf

RUS Bulletin 1794A-602 Guide will be used for Preparing the Environmental Report for Water and Waste Projects.

The preliminary engineering report is normally the only engineering report required by USDA Rural Utilities Service (RUS). It establishes the PROJECT SCOPE, FUNDING REQUIREMENTS, and outlines the BASIC PROJECT DESIGN. It should be submitted together with the environmental report. Any changes in the proposed project after approval of the preliminary engineering report will require an amendment be provided by the applicant's engineer for USDA Rural Development review and approval.

Detailed cost estimate should include unit cost of all pipe, valves, road crossings, stream crossings and all distribution system appurtenance as it will appear in the bid schedule. Detailed cost estimate should include unit cost of collection system pipe by diameter and depth. Depth increments should be 0 – 5', 5' – 7', 7' – 9', etc. Estimated cost of wells and plant work should also be broken into components. A contingency not to exceed 10% of construction cost should be included. Engineering costs should be separated as estimated/approved in the Agreement between Owner and Engineer for Professional Services. Other costs should be included, such as: interest during construction, land, legal, water rights, etc.

NOTE: If the proposed project includes water and wastewater, two separate complete cost estimates are required.

Funding from USDA Rural Utilities Service, State, and other funding sources **MUST** be clearly distinguished in the detailed cost estimate.

Annual Operating Budget. The report should contain the annual operating cost, as well as typical operating budget. The budget should include principal and interest on loan, power cost, water cost if purchased, maintenance, labor, taxes, insurance, audits, equipment leased, reserves, and other costs. The minimum annual reserve payment must be equal to 1/10 of the annual payment. **Short lived assets** must also be addressed to include items typically not found in O & M

expenses that need to be replaced over 1 to 15 years (1-5, 6-10 and 11-15 years). Avoid including dry taps in calculating income from water sales and livestock water meters, unless no other livestock water supply will be available. The budget should be prepared on Form RD 442-7, “Operating Budget,” in consultation with the applicant and USDA Rural Development area office personnel. The income from dry taps should be shown on a separate line and not be included in the feasibility of the project. Include all taxes for State, County, schools, etc.

1780.57 DESIGN POLICIES.

(a) Compliance with the State Regulatory Authority Standards. Each USDA Rural Utilities Service financed facility will comply with the requirements of the TCEQ (Texas Commission on Environmental Quality), or other appropriate regulatory agency. The applicant is responsible for obtaining and presenting to USDA Rural Utilities Service evidence of such compliance.

(b) Consistency with Area Plans for Development. Projects for which USDA Rural Utilities Service funds are to be used must be consistent with development plans for the area in which the project is located. Applicants will provide USDA Rural Utilities Service with evidence of consistency with such plans. Planning should not be done within the extraterritorial jurisdiction of any city unless an understanding has been reached with the appropriate city officials. The extraterritorial jurisdiction of towns and cities in Texas is as follows:

Less than 5,000 population	½ mile radius
5,000 – 25,000 population	1 mile radius
25,000 – 50,000 population	2 mile radius
50,000 – 100,000 population	3 ½ mile radius
Over 100,000 population	5 mile radius

(c) Fire Protection. Fire protection will be considered for each water system. Due to the entity’s income, it may not be possible to install a “key rate” system; however, the size and location of facilities should be consistent with a fire protection plan. It must meet the TCEQ minimum pressure requirements.

Where it is impractical to install fire hydrants in low density areas, fire tank filling valves should be located at the source of supply, the storage area, and at other strategic locations. The applicant and the consulting engineer should give the local fire department authorities an opportunity to assist in the selection of sites for such valves.

1780.61 CONSTRUCTION CONTRACTS.

When the project includes both water wells and distribution system construction, the owner's engineer will not issue Notice to Proceed for distribution contracts or treatment plant until a water source has been approved by the TCEQ. To avoid delays in awarding distribution contracts, a well test hole should be drilled or a well completed prior to bidding the distribution system.

All contract documents shall be provided with an index to the technical specifications. It is recommended that the consulting engineer prepare separate contract documents, plans, and specifications for water storage facilities, elevated storage tanks, water distribution systems, water treatment plant, water well, collection system, wastewater treatment plant, etc.

- (a) Contract Documents. Suggested Form of Agreement between Owner & Contractor for Construction Contract (Stipulated Price), EJCDC C-520 (Rev. 1) and Standard General Conditions, EJCDC C-700 (Rev. 1), are the foundation for the construction contract documents. RUS Bulletin 1780-26 provides guidance on the use of the EJCDC documents 2013 Edition along with supporting documents. For review purposes, contract documents should be presented in the order as shown in Appendix A to this Instruction, "Assembly of EJCDC Contract Documents."
- (b) Contract Specifications. **Any propose proprietary product/technology** is not consistent with open and free competition. Proprietary product/technology can be used only if the project requirements are unique and must be documented by the applicant's engineer in writing. (Exception: interchangeability of part or equipment). When it is impractical or uneconomical to make a clear and accurate description of the technical requirement, a "**brand name or equal**" description may be used as a means to define the performance or other salient requirements. The specific features of the named brand that must be met by bidders or offerors shall be clearly stated. No brand names shall be shown in the contract bid schedule. See §1780.70 Owner's Procurement Regulations for more specific instructions.
- (c) Construction Plans. All plan sheets shall bear the seal and signature of the design engineer and date of execution.

Environmental Mitigation. Mitigation requirements as stated in the approved Environmental Report and the Letter of Conditions shall be incorporated by the engineer in the contract plans and specifications.

1780.67 PERFORMING CONSTRUCTION.

All projects financed by USDA Rural Utilities Service should have a construction sign posted at the construction site at the beginning of construction. Sign shall remain throughout the construction period. Contact the State Office engineer for information.

1780.70 OWNER'S PROCUREMENT REGULATIONS.

All procurement transactions, regardless of whether by sealed bids or negotiation and without regard to dollar value, shall be conducted in a manner that provides maximum open and free competition. **RUS Bulletin 1780-34**, Guidance for Using the Competitive Sealed Bids Process for the Water and Waste Disposal Program, must be followed. The procurement also must comply with the Texas State law (Texas Water Code).

The contract specifications should provide a clear description of the technical requirements for the equipment, product, or service to be provided. These technical requirements should be stated in terms of functions to be performed or performance required, including the range of acceptable characteristics or minimum acceptable standards.

Use of Brand Names: When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, the design engineer may use a "brand name or equal" description. The "brand name or equal" approach may be used to supplement the description of technical requirements. The specific features of the named brand that must be met by bidders or offerors shall be clearly stated.

A proprietary specification is not consistent with open and free competition and should be used only when project requirements are unique, as documented by the design engineer in writing and concurred by the USDA Rural Development engineer, or needed for interchangeability of part or equipment.

In specifying materials, the owner and its consulting engineer will consider all materials normally suitable for the project commensurate with sound engineering practices and project requirements.

When the Bid Schedules and specifications list **only one material type or brand name** of equipment a written justification by the Owner/Owner's Engineer must be provided for the Agency concurrence.

Bid Schedule Format: A base bid with substitutes is not allowed. No name of any specific manufacturer or supplier is allowed. Additive and deductive line items are encouraged to prevent cost overruns and project delays.

If the selection of major equipment could significantly impact the remainder of the project, a “**pre-selection**” process should be conducted. Two methods may be used:

1. A pre-bid type of competitive negotiation in which manufacturers are requested to submit proposals to the owner on technical merit and prices. (Request for proposal is publicized). The owner and engineer analyze the pre-bids and select the equipment based on **best value** (price and other factors). The name and price of the major equipment is then included in the general contract bid documents to prevent this “pre-selection” process from turning into a sole-source specification.
2. A phased bid is another pre-selection method. The first phase would be a competitive bid for the major equipment item based on technical requirements (this may include a pilot test). After the major equipment manufacturer is selected the project design can be finalized, and the remaining contracts bid competitively. Any first-phase contracts are bid with a hold period sufficient to allow for completing design of the remainder of the project and bidding the remaining contracts with the understanding that the first-phase contract(s) will be **assigned to a general contractor** when the second-phase contract is awarded. The owner discloses the name and price of the first-phase pre-selected contractor in the second-phase contract bidding documents.

Instructions to Bidders will need to be modified by the consulting engineer to clarify that the contract between the owner and manufacturer or supplier will be assigned to the construction contractor upon award to the General Contractor.

1780.72 PROCUREMENT METHODS.

Invitations to bid will be sent to local and regional contractors who might be interested in bidding on projects of the size and scope concerned. In order to assure good coverage for inviting bids, advertisements for bids will be published in a newspaper having at least region-wide circulation and one or more of the following trade journals: The Builders Exchange of Texas, Inc., The Associated General Contractors of America, and Dodge Reports.

For non-profit organizations, advertisements will be published at least two weeks prior to the bid opening date. Advertisement for public bodies will be published in accordance with State statutory requirements for the particular body and in the above referenced trade journals. The bid date will be set with concurrence of the USDA Rural Development area office personnel and borrower for an opening date far enough in advance to make plans to attend.

1. Pre-Bid Teleconference with the State Office, the engineer, applicant (if desired) and the area office loan specialist scheduled prior to bid opening is recommended.

2. **Bid Delivery.** Bids should be delivered at a designated place and not later than a designated date and time, but not on a legal holiday or the day following. Bids should be opened and read in the presence of bidders and tabulation of all bids received should be furnished to each bidder. An itemized reading of the apparent low bid or bids will be made at the request of any bidder. Under no circumstances should a bidder be permitted to alter his bid after the time designated for receipt of bids.
3. **Bid Openings.** Attendance by USDA Rural Development representative at every bid opening is not mandatory, but it is encouraged. The engineer shall provide a copy of the itemized bid tabulation to the USDA Rural Development area office. The area office must forward a copy of the bid tabulation to the State Office Community Programs Section. **The engineer's and owner's written recommendation of the contract award must also be provided. Concurrence by the State Engineer must be obtained prior to the contract award. RUS Bulletin 1780-34 must be followed.**

1780.75 CONTRACT PROVISIONS.

- (a) **Contract Approval.** The applicant's attorney will review the executed contract documents, including performance and payment bonds, and provide USDA Rural Utilities Service with **Certificate of Owner's Attorney (Exhibit I of RUS Bulletin 1780-26)** stating that the documents have been properly executed and that the persons executing these documents have been properly authorized to do so.

As per **RUS Bulletin 1780-34**, concurrence of the recommended contract award must be obtained by the USDA Rural Development State Engineer prior to actually awarding the contract. USDA Rural Development area office personnel will review the contract in accordance with the executed contract checklist provided on the Texas USDA Rural Development website and provide one copy of each executed contract with recommendations to the State Office Community Programs Section for approval.

- (b) **Filing Executed Instruments.** After the contract and bond(s) have been properly executed, dated and approved by the USDA Rural Development State Office, Rural Utilities Service, Community Programs Section, the following instruments should be filed for record:
 1. **PUBLIC BODIES.** With contracts and bonds furnished in connection with public works, the contract need not be filed for record since Chapter 2253 of the Government Code (Texas) does not require the filing of these instruments.

2. NON-PROFIT CORPORATIONS.

- a. Contract Agreement. The original Agreement between Owner and Contractor, EJCDC C-520 (Rev. 1), or a true copy thereof, must be placed on file in the county clerk's office.
- b. The Payment Bond must be filed for record in accordance with Section 53.203, Texas Property Code.
- c. The county clerk shall index and cross index the Agreement and Payment Bond in the name of the original contractor and Corporation in the records kept for that purpose.
- d. The instruments must be placed on file and recorded in all counties where the facilities are located. The purpose of this requirement is to prevent any claimant from filing suit against the Corporation or against the property of the Corporation to obtain payment for labor or materials furnished by contractor and to relieve the Corporation of certain statutory duties.

1780.76 CONTRACT ADMINISTRATION.

Owners shall be responsible for maintaining a contract administration system to monitor the contractors' performance and compliance with the terms, conditions, and specifications of the contracts.

USDA Rural Development area office personnel will monitor the construction of all projects financed wholly, or in part, with USDA Rural Utilities Service funds. Prior to beginning construction, a pre-construction conference shall be held with USDA Rural Development representative being present. The USDA Rural Development area office personnel shall make construction inspections on a monthly basis during construction and more frequently where necessary to adequately monitor the acceptability of material inventories and development. Inspection by USDA Rural Development does not relieve the project engineer, project inspector or owner of their responsibility to insure the contractor is performing the work according to the contract documents.

Inspections. The resident inspector will work under the technical supervision of the applicant's project engineer and the role and responsibilities will be defined in writing and provided to USDA Rural Development for review.

1. Copies of all inspection reports by the project engineer and USDA Rural Development area office personnel should be submitted to the State Office, Community Programs Section. The area office personnel should receive copies of daily inspection reports on all projects. USDA Rural

Development area office personnel will utilize these reports in making their inspections and certifying partial payments.

2. When there is an indication that approved plans and specifications are not being complied with, USDA Rural Development area office personnel should notify the State Office Community Programs Section (the State Office Engineer), and the borrower that project development is not acceptable, in addition to withholding future payments (advances). The owner's engineer will present a written recommendation for resolution of the problem to the owner, contractor and USDA Rural Development. The final action should be taken after consultation with the State Office engineer.
3. Payments. Payments for construction will be made using Form EJCDC C-620, Application for Payments. The form will be prepared by the contractor, and revised and approved by the owner's engineer. The request will also be approved by the owner prior to submitting to the USDA Rural Development area office. Each payment estimate will contain a certification by the engineer that all material purchased and all work performed is in accordance with the plans and specifications. The engineer should certify that each load of the pipe delivered and incorporated into the work has been inspected by the engineer and found to meet specifications.

The governing body must also approve each payment estimate. If there is indication that construction is not being completed in accordance with the plans and specifications, or that any problems exist, the engineer should notify the USDA Rural Development area office responsible for project monitoring. The engineer should furnish written review and inspection reports of deficiencies and corrective actions recommended.

- Pre-final Inspection. When the development has been substantially completed by the contractor(s), a pre-final inspection will be held. The owner's engineer shall notify TCEQ of the completion of the project. The pre-final inspection will be made by the owner, owner's project engineer, contractor, area office loan specialist and the RUS State Engineer. It is recommended that Form RD 1924-12, Pre-Final Inspection Report, be used. The engineer's recorded pre-final inspection report shall include the following:
 1. Compliance with all requirements of the State Highway Department, City, County Commissioner's Court, and Railroad etc., with respect to construction in right-of-way.
 2. Confirmation that lines have been pressure tested and the engineer or resident inspector observed testing.

3. Facilities have been flushed clean, disinfected, and bacteriological tests approved by TCEQ.
 4. A field check was performed of all facilities and a list of all discrepancies (punch list) was provided to all parties.
 5. The working set of construction drawings was checked to insure all changes during construction have been recorded.
 6. Water tanks have been appropriately inspected with respect to tank primer and painting specifications. Appropriate tests were made of paint coatings and welds.
 7. A well brochure was provided containing the formation log, material settings sketch, production curves, chemical analysis, sand production tests, pump warranty and brochures, and pump operating voltage and amperes.
 8. Treatment plant, pumping stations, lift stations are in start up process and all systems are functioning.
 9. Environmental mitigation measures required during construction are listed and engineer verifies that they have been complied with.
 10. Final change order reconciling quantities has been processed.
 11. Contractor, subcontractors, suppliers, laborers, etc., are not pursuing any claims.
 12. The engineer has provided a "Statement of Substantial Completion" and the date of the warranty has been established (EJCDC C-625) .
- Final Inspection. When all planned development has been completed in accordance with approved plans and specifications, and operational checks show that all items, singular or in combination, serve the purpose intended in an acceptable manner, a final inspection will be made. The following items should be accomplished and recorded by the project engineer at the time of final inspection and acceptance of the work:
 1. All planned development has been completed in accordance with executed contract documents. Items on prefinal punch list have been corrected.

2. Prior to submitting the final pay estimate the engineer shall submit a "Statement of Completion" to the Owner and USDA Rural Utilities Service. The statement shall include provisions for acceptance signatures of the owner and USDA Rural Utilities Service.
3. Engineer's final estimate of work.
4. Final reproducible Record Drawings ("as-built") and two sets of prints delivered to the owner. The "as-built" drawings should be a reflection of what was installed, showing actual location of tie-downs for valves and other principal elements of the project construction, where knowledge of location and function are important.
5. Certificates of acceptance or approval of work in right-of-way by State Highway official, City, County Commissioners, River Authorities, railroads and others.
6. TCEQ has been notified of the project completion.
7. Required guarantees, brochures, parts catalogs, operational procedure, etc., were delivered to owner.
8. Contractor provided evidence of all bills paid.
9. The applicant's engineer shall certify in writing that all requirements of state, county, and all other conditions of right-of-way easements, permits and licenses have been satisfied.

Changes in Development Plans. Change orders requiring State Office, Community Programs approval will be accompanied by comments and recommendations by the USDA Rural Development area office personnel and will show that funds are available. USDA Rural Development area office personnel will check all unit prices and totals and recommend for approval. If the proposed change affects approval of the plans given by the TCEQ or other agencies, then regulatory concurrence in the changes will be required.

Change orders should have sketches or revised plan sheets attached to show changed work. Changes shall be reviewed for environmental assessment purposes. Revisions or amendments to the environmental review by the consulting engineer and USDA Rural Development may be required.

Attachment: **Appendix A** – Assembly of EJCDC Contract Documents (2 pages)

Note: "USDA Rural Development" is not the name of any agency. It is the name of a mission area within the USDA. The name of the funding agency is RURAL UTILITIES SERVICE (RUS).