

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

NOTE: Paragraphs or content that have been revised or added, in part or in their entirety, as of the footnote date, are indicated with an asterisk * following the task section number.

3.2.1* A typical Request For Proposal (**RFP** – lengthier version used only on large dollar value and complex projects where federal funding dictates the RFP format) or Request for Submittal (**RFS** - shorter version and most common at EPWU) will consist of the following sections: The introductory invitation for proposals indicating description of the project, the basis of selection to be used (experience, staffing, project approach, technical qualifications), submittal requirements (due dates, time, place), scope of work & task descriptions, background and project specific discussion, proposed preliminary schedule, mailing list, drawings or other attachments. The selection criteria is based on Quality-based selection as established by the Engineers Joint Council and not based on cost considerations. The RFP Process as carried out by the El Paso Water Utilities, and proceduralized in this manual, has been documented in a transmittal form to the Mayor of El Paso, and is available on record files by Project Management and Contracts Office as additional reference. NOTE: In developing the RFP, include a statement that the proposer firm must be currently registered with the Texas State Board of Professional Engineers and must have provided such evidence to the Contracts Office, including its current Texas License No. for each P.E. who will provide services for the public in Texas.

3.2.6* A master mailing list of local and outside city consultants that provide various types of engineering and consulting services is maintained by the Purchasing Agent's contract personnel. Depending on the nature and scope of work in a particular RFP, a shortlist of consultants who provide those services required by the RFP is extracted from this master mailing list by the Engineering Services Manager, the Project Administration Manager, or the Chief Technical (or Operations) Officer, or by agreement between any of them, prior to submitting to the President/CEO. This shortlist is reviewed, edited if necessary, and approved by the President/CEO and Chief Operations or Technical Officer. Firms wishing to be entered into the Master List are directed to provide a company profile of their services offered, personnel qualifications, references, and list of projects history to the Purchasing Agent's Contract Office. The final RFP is mailed to each consultant on the approved shortlist, by the Project Administration Secretary.

3.2.9* An Architectural/Engineering Selection Committee is organized by the Utility's President/CEO for each RFP. Five voting members generally comprise the committee consisting of one member of the Public Service Board; Vice President of Operations & Technical Services; Vice President of Strategic, Financial, & Management Services; Chief Operations Officer; and Chief Technical Officer; non-voting members presenting the scope of work and general RFS procedures to the committee may be either the Project Administration Manager, Engineering Services Manager, or Project Engineering Manager. A Technical Specialist with appropriate specialized knowledge necessary to evaluate the proposals may be invited to attend. The committee reviews all proposals submitted, meets to discuss and rate each proposal, and makes a final selection.

3.2.10* Pre-proposal meetings are no longer required. However, when such pre-proposal meetings are deemed necessary, the presenter of the RFP or RFS pre-proposal meeting shall assemble visual

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

aids and other pertinent material for the meeting. Invite internal key staff affected by the project. Reserve meeting room in advance.

3.2.16* The Project Engineer Manager shall assemble visual aids for an overview presentation of the RFP or RFS scope and intent of the project to the Selection Committee. The rating criteria is presented for discussion and point rating by each member.

3.2.22* The Engineering Lead Secretary (ELS) shall generate response letters to the successful and unsuccessful consultants who submitted proposals and shall provide final versions to the Chief Technical Officer for his signature, copy to the Purchasing Agent's Contract Office and Project Administration Manager, and mailed out by the CTO's secretary.

3.2.26* The Audit File will be maintained by the Engineering Lead Secretary for the Chief Technical Officer and must include the following documents:

1. Copy of original Request for Submittals (RFS) or Request for Proposals (RFP)
 2. Copy of List of Invited Firms (Note: one attached to RFS/RFP also)
 3. Copy of each firm's Proposal submitted for consideration
 4. Memo from the Purchasing Agent's office to the CTO forwarding all Proposals submitted by responding firms (Note: includes copy of "blank" Rating Worksheet)
 5. Memo from CTO to Selection Committee/EPWU President/CEO forwarding Proposals
 6. Rating Worksheets (penciled) from each Member of Selection Committee
 7. Final Tally Score Sheet (PEM's matrix rating of each firm per project)
 8. PSB Agenda Item indicating Recommendation of Award (signed)
 9. Award letters of selected and non-selected firms
-

4.2* The purpose of the design scoping meeting is for the consultant and owner to agree on the scope of the design work, special requirements, and schedule of deliverables, in order to develop a written Task Order agreement that when coupled with the Utility's standard base agreement for Engineering Services, comprises the formal contract for such services. The PEM should ensure that Operations Personnel and other support staff such as the Engineering Services Manager, and Purchasing Agent or her Contracts Administrator attend the meeting to provide input as necessary. The order of discussion should generally follow the task descriptions described in the Request for Proposal (or Request for Submittal).

4.4* The Utility's Purchasing and Project Administration offices have established standard Task Order document structure and organization formats required to be submitted by Consultants. Such standards are found in the Appendix behind the example standard base Contract Agreement for Professional Services therein and are also referenced in the Forms Section. The base contract, prepared by the Purchasing Contracts Administrator, is a one-time base agreement which remains in effect when applied jointly to one or more Task Orders that are granted to the consultant for various services required of the Project, i.e. TO#1 for design services, TO#2 for construction services, etc. Once the Final Task Order and attachments are reviewed and approved by Engineering staff, the Consulting Engineer will submit the final version. Base Contract and Task Orders are signed by the Purchasing Agent.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

The Consultant shall submit the Final Task Order addressed to the Contracts Administrator, with a copy to the PEM. PEM will distribute to other internal team members. The package shall include the following documents:

- a) Consultant's **Transmittal Cover Sheet** (letterhead) indicating project name, whether draft or final Task Order, and signed by the responsible Project Manager or Principal.
- b) Task Order Exhibits summarizing the provisions of the agreement that include the following:
 - Task Order Number
 - Project Name
 - Purpose of Task Order
 - Scope of Services (see also c) Exhibit A below)
 - Schedule Exhibit B
 - Pricing Exhibit C showing the cost by Work Breakdown Structure
- c) Exhibit A **Scope of Services**, describing in detail each item of work to be performed and corresponding item numbering system. For any Utility standard scope issued, do not delete, rather line out any services not provided.
- d) Exhibit B **Schedule of Services** Gantt Chart showing the duration by month of all numbered items of work to be performed.
- e) Exhibit C **Fee Schedule** indicates job name, overhead and profit rates, totals for labor, sub-consultant name, function, and value, other direct costs. Attach matrix sheet (WBS) showing each item of work with corresponding category of personnel, their raw salary rate, and budgeted hours for each work item. The markup that the prime consultant may claim for his sub-consultants shall not exceed 3% of the sub-consultant's cost only. No markup applies if hours are priced for managing subs. No markups on markups are authorized.
- f) **Organizational Chart** showing Project Manager(s), Design Engineer, and the Inspection Staff. Also, include Sub consultant Team.
- g) **Sub-consultant's** signed **Proposals** indicating work to be performed, cost breakdown and total cost. For "Prime" Sub-consultant, where applicable, provide breakdown for travel expenses (who, when, from where, airfare).

Contract Administrator will review and prepare signature page and forward to CE for execution.

4.6 PEM shall develop "should cost" spreadsheet.

4.16* If PEM issues a "verbal" Notice to Proceed prior to issuance of Contract, PEM shall e-mail that date to the CA, who will record Notice to Proceed date provided.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

4.17* Consulting Engineer shall revise and indicate these due dates in the Task Order Exhibit Schedule.

4.27 The Insurance Certificate must contain the endorsements for Additional Insured, the Waiver of Subrogation on behalf of the Utility under Workers' Compensation, and notification of Cancellation clause to provide 30 days notice.

5.1.3 One Job Request will be issued for consulting Engineering Services. One Job Request will be issued for Project Construction usually by bid. A typical Job Request form must be prepared using very specific information and format and with as much accuracy as possible. (The Engineering Lead Secretary maintains all blank forms in the Active Projects Library). The purpose of a Job Request is to obtain written authorization for the use of budgeted funds from various sources and to allow Finance to encumber (obligate) such funds for the specific project or job described in the Job Request. The person generating the Job Request is the Issuer and must consult with and receive the Project Administration Manager's concurrence on the source of funding. Sources of such funds are established by the Utility's Finance Section and may include various types of Bonds, Grants, contributions from outside sources such as developers or businesses, Maintenance & Operation (M&O), Improvement Fund, Accounts Receivables (125.0), or Commercial Paper Funds. The following guidelines for preparing the Job Request shall be followed (refer to Standard Job Request Form):

- ❑ If an existing Job Request is being revised, add a header at the top of the Job Request form indicating "**Revision Number and Date Revised**". For new jobs, no header is necessary. The date for existing jobs must remain the original date (see Date below). Do not change.
- ❑ Indicate who will perform the work (**contracted by developer, contracted, EPWU work, or purchase**). Indicate the Utility service for which the Job Request applies: **Water, Sewerage (includes reclaim water), or Other**.
- ❑ **Accounting Job No.:** A seven-digit number, format xxxx-xxx, assigned by finance. The fourth digit indicates the year in which the Job Request was prepared and approved for the most recent decade.
- ❑ **Engineering Number:** A six-digit number, format xx-xxxx, assigned by the issuer, utilizing the engineering departments job assignment manual residing in the technician area. The first two digits must reflect the current fiscal year for which the job is prepared.
- ❑ **Date:** The date the job request is prepared. For revised jobs, do not change the original date - just add the date job was revised.
- ❑ **Installation & Service Contract No:** Not applicable to Project Management.
- ❑ **Date Closed:** Not applicable.
- ❑ **General Ledger Closing Number:** An eight-digit number, format xxx-xx-xxx, assigned by Finance Staff. The last 3 digits indicate the Utility's division or section responsible for the management and use of funds described in the Job Request.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- ❑ **Description:** The original method established was to utilize a cryptic designation such as INST 12PVC1200 for a job intended to install 1200 lineal feet of 12-inch polyvinyl chloride pipe. While this is still a standard for in-house projects, the Project Management Section utilizes a more general approach since most of its jobs are contracted out and constructed through the bid process. For Description, designate the name of the project using its formal name (see Project Administration Manager). Use a formal noun that identifies the facility such as Montana 10 mg Reservoir, or Lift Stations Various El Paso. The description should begin with a library-type subject for computerized database archiving and retrieval. Do not begin descriptions with terms such as “construct” or “three pump stations”.
- ❑ **Location:** Indicate the specific area or street(s) where the job will take place.
- ❑ **Addition:** Indicate the subdivision if applicable, otherwise a legal description or general area such as PSB Property.
- ❑ **Budget Reference:** Consult with the Project Administration Manager. The funding is generally identified in the current Budget Manual Capital Improvement Program. However, some Job Requests entail transfer and redirecting of funds from previously approved budgets into a more current Job Request. Directly under the Budget Reference header, indicate the CIP No. designated for the particular job facility. This CIP No. may or may not appear in the Budget Manual. Otherwise, refer to internal CIP manual.
- ❑ **Funds Box:** Indicate the source from which funds have been designated during the initial project planning by management, or identified in the Accounting monthly projects funding matrix. Consult with PAM.
- ❑ **A/C Rec.:** If the funds box has been marked as 125.0, the source of funds is being committed by outside parties and thereby designated as an “accounts receivable” fund. Indicate the name of the agency, governmental entity, developer, or other party, which will be paying or participating in the cost of the project.
- ❑ **Issued By:** If you are the preparer of the Job Request, print your name and place your initials on the final copy. For CIP budgeted projects, print the Project Administration Manager’s name and obtain his initials indicating his review and acceptance on content and form.
- ❑ **Job Responsibility:** Print the name of the Division Manager who will be responsible for the management and proper utilization of the funds approved under this Job Request. This is usually the Engineering Services Manager for CIP Projects. However, in his absence, the Project Administration Manager may sign.
- ❑ **Finance Officer Approval:** Once the Job Request is routed to the Accounting Office, the accounting specialist will route same to the Chief Financial Officer for his approval of the availability and source of funding and his signature.
- ❑ **Management Approval:** The Chief Technical Officer, Chief Operations Officer, or Vice-Presidents (Engineering or Finance) shall provide the final signature indicating an acknowledgement and approval of the project funding intent and disposition.

APPENDIX A: EXTENDED REFERENCES

(Refer to *EXTD REFR* in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- **Material:** There are four columns under the material heading: The Quantity, Unit, and Warehouse Number are used by other Engineering personnel responsible for estimating the costs of jobs to be designed and constructed internally i.e. by Utility forces, where materials will be procured from the Utility's warehouse. This type of Job Request will be designated herein as **Class 1** for differentiation purposes. Class 1 jobs will also utilize the bottom window of the Job Request that includes equipment charges, paving information, labor costs, and other charges.

For funding of externally designed and constructed major infrastructure projects managed by the Project Management section of the Utility, the Job Request differs in the fourth column by using the following format, hereby designated as a **Class 2**, continuing with the next heading.

- **Description:** The description window will be considered the "body" of a Class 2 Job Request. It will consist of a three part format:

The upper part shall include a paragraph description of the reason for the request (i.e. to encumber new funds, transfer from other jobs, to revise a previous job, etc.); the particular aspect of the project for which the funds are to be applied (i.e. for Professional Engineering Design Services, or for the Construction of, etc.); and the formal name of the Project as it may appear in the construction documents of the project study report.

The middle part shall include an itemized description of how the funds are to be used, distributed, allocated by elements of the project (i.e. itemized Consultant Task Orders, Estimated Construction Costs, Geotechnical Testing, Contingencies, etc.). To the right of each individually described element, show the respective dollar amount in the unit cost column if available, or otherwise as a lump sum amount under the Total Column.

The bottom part shall include an itemized description of the funding source(s) and respective dollar amounts. The dollar amounts must be shown in the description column of the Job Request to differentiate from the dollar amounts shown in the TOTAL cost column used in the middle part description (see Unit Cost and Total column discussion below). Typical wording examples are:

"Available from 98-99 budget", "previously encumbered", "transfer now from job xxxx-xxx", "TWDB funding share", etc. The itemized sources of funds must be totaled and shown in the bottom part of the description column. This total must be the same number placed in the lower right bottom column "Estimated Total Cost" of the Job Request. Place an asterisk to the left of any item which requires new action by the accounting specialist, particularly for those funding activities noted as "encumber now", "transfer now", etc..

Below the bottom part of the description, show all cross reference Job Account Numbers related to this Job Request, i.e., XREF Acctg. Job 1006-082 Construction or XREF Acctg. Job 1305-011 Engineering Design, etc..

- **Unit Cost and Total:** These columns should be used only in conjunction with the middle part descriptions discussed above. Add the cost of each item described in the middle part and show the total in the subtotal line at the bottom.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- ❑ **Supervision, Overhead, Engineering:** The general rule is to include a 10% overhead rate based on the subtotal for Construction projects. For Engineering Services, the value is 2%. In some cases for very large Construction projects of several million dollars, the overhead rate can be reduced to 5% (obtain the approval of the Project Administration Manager). The purpose of this overhead charge is to allow the Finance section to allocate a portion of the source funding to offset the Utility's in-house administrative, and engineering operating expenses relative to each job.
- ❑ **Estimated Total Cost:** Add all costs in the left-hand column. This is the amount of the Job Request for which funding is sought. This value must be identical to the Total funds being transferred or encumbered as shown in the bottom part of the description discussed above.

7.2.2 The Project Engineer Manager (PEM) shall act as the Utility's liaison between outside parties affected by the project effort. He must ensure that all the resources (time, money, people, equipment, or facilities) are made available and coordinated to meet the design objectives agreed to with the Consulting Engineer. The PEM must take a proactive role in discussions and other matters related to the project. He must ensure that Utility policies, procedures, and protocol are followed by all team players to avoid misunderstandings and errors or omissions in the design phase. The PEM shall ensure that meetings and understanding of project objectives with outside agencies and operations personnel are sufficiently documented by the consultant and such documentation is distributed to Utility personnel and outside parties for concurrence or timely approval. PEM shall maintain project documentation in an orderly-organized project file that will be archived at the conclusion of the project. The PEM must not wait for things to happen. He must be a mover and a shaker and make things happen. Efficiency in managing his project is stressed as a Total Quality Management effort.

7.2.5 A project that involves identification of properties and easements that need to be acquired for construction of facilities can become a major roadblock and seriously delay the beginning of such project. It is incumbent on the consulting engineer and the Project Administration team to pursue land matters from the onset of the design effort. Two general types of easements may be typically identified as necessary for Utility construction:

A "Temporary Construction Easement" through private or government owned properties may be required. Such easements range from 30 to 50 feet or more in width to allow for construction traffic and spoil material. Once construction is complete, temporary easements are re-constructed to their original or better condition.

A "Permanent Construction Easement" may be necessary to leave a pipeline or other facility in someone's property for the life of the facility. These easements range from 20 to 40 feet typically. Such easements are sought only when the Utility has no other options open for a new installation, such as city street right-of-ways or when existing utilities preclude room for new ones.

In some cases, it will be necessary to purchase outright a parcel of land for the facility installation. Since this process is lengthy, the project team must allow a reasonable time frame for completion of the purchase when scheduling the design and bid aspects of the project. Some projects have been

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

delayed one or more years because of delays in acquiring easements, particularly for lengthy large dollar value pipeline projects.

The PEM and the consultant shall meet with the Land Administration team at the first opportunity when preliminary property information and drawings, including surveyed parcels, are available, for the purpose of establishing a plan or course of action. The Land Administration staff should be provided an overview of the project intent and sizing of facilities, a schedule projected for construction, a target deadline for procuring the easements or purchase of property, sketches or drawings of the parcels in question with appropriate dimensions, location, legal description, and metes and bounds generated by a professional land surveyor. The Land Administration staff shall propose a target date for completing the purchases or easement acquisitions, and shall strive diligently to meet such schedule. A regularly scheduled meeting between the PEM or PAM must be held with the Land Administration staff to ensure progress is being made or otherwise, to change the course of action if need be. The Project Administration staff shall relay progress to the Consulting Engineer as information becomes available. Where efforts are bogged and alternatives are exhausted, confer with top management for redirection. PEM should ensure that all easement restrictions and conditions appear on the plans.

7.3* Distribute reports to internal staff under letter of transmittal. Request any comments be submitted within seven working days.

7.4.2 Project General and Project Specific Minimum Criteria has been established in Section 00100 of the Instruction to Bidders as a standard for all projects, and are included in all bid documents. This criteria serves two purposes: a) It establishes a standard by which bidders will be evaluated and determined to be responsible and responsive in meeting the prescribed qualifications criteria, and b) It establishes the minimum qualifications, that are expected by the Utility of all bidders, that must be met to ensure that the bidders personnel are qualified through demonstration of a history of previous experience for the particular work involved in each project. The General Criteria is standard for all projects and allows some latitude for bidders to qualify based on the dollar value of the project and "key personnel" experience. This criteria remains unchanged.

The Project Specific Minimum Criteria, however, changes from one project to another, and must be developed by the Engineer to reflect very specific qualifications requirements of the bidder. Generally, such requirements focus on experience and personnel qualifications for the specific type and nature of the work necessary for the project being bid, i.e. deep trench excavation, mechanical pumping systems, or jacking and boring operations (whose qualifications may be met by a subcontractor) as examples. The Engineer is asked to provide a short list of specific itemized criteria, focusing on the most important elements of the project, which necessitate experience and qualified and knowledgeable personnel to carry out those activities successfully. **The Engineer shall indicate which contractor personnel are considered "Key Personnel" (by job function) for the project being bid and insert in the Minimum Project Specific Criteria in the Bid Documents Section 00100 Instructions to Bidders.** Refer to the definitions and other instructions provided in Section 00100. NOTE: The Specific Criteria shall be developed by the Engineer and included in the 60% review project manual to allow sufficient time for Utility comment or editing and to return to the Engineer for inclusion in the 95% review submittal (and 100%) of the bid documents.

APPENDIX A: EXTENDED REFERENCES

(Refer to *EXTD REFR* in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- 7.5* The Design Engineer of Record shall submit five sets of the following items comprising a package to the Project Engineer Manager, with a copy of the transmittal letter to the Contracts Administrator:
- a) 60% completed design plans
 - b) 60% completed project manual without front-end documents, except it shall include:
 - Minimum Project Specific Criteria (Section (00100) (See 7.4.2 above)
 - A preliminary itemized Bid Proposal (Section 300)
 - Special Conditions which impact the Supplementary General Conditions (Section 810)
 - c) Engineer's Opinion of Probable Cost (60% preliminary cost estimate) (see Appendix A, Extended Reference 8.3 for specific format and breakdown support values required to be submitted). Note: If an item for mobilization is included in the proposal, Engineer shall indicate a limit of 5% of the bid amount in the description of that item.
-

7.5.8 Pre-qualification Process - On some PSB projects that exceed a project value of greater than \$15 million, such as large treatment plants or other infrastructure installations which require a unique construction state-of-the-art process and knowledgeable contractors thereof (microtunneling for example), a Pre-qualification process is required by the PSB and likely from a funding agency (TWDB, NADBANK, etc.). The managing consulting firm or Engineer will develop the particular requirements of the project that include a project description, location, schedule, and other parameters. These requirements and certain pre-qualification criteria (described below) are documented in an Invitation for Pre-qualification notice that is mailed to a list of prospective bidders and advertised. The CA and the Engineer work closely to coordinate this process and to report the results to both agencies for approval of the pre-qualified contractors.

An interested prospective bidder must complete an application form that generally includes the following qualification criteria:

- General Experience
- Key Personnel Capabilities
- Equipment Capabilities
- Financial Position
- Litigation History
- References
- Comments

The Engineer reviews and evaluates all submitted pre-qualification requests and submits a short list of successful pre-qualified bidders to the CA, who forwards to management for inclusion in the PSB agenda for approval at its regularly scheduled meeting. The PEM provides coordination review support and makes note of those bidders pre-qualified in order to administer the bid process.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

7.5.9b Minutes must address any change in scope requested by Operations that impacts engineering price or construction budget.

7.5.11 The Contractor shall be required to develop a dewatering plan with all necessary flow data, timing, project location, discharge points, estimates of fees, and other monitoring test results. Consulting Engineer will insure that Contractor's dewatering plan is delivered to EPWU's PEM timely. An initial contact letter to the district will be generated by the Consultant for EPWU's Project Administration Manager's signature, and a review fee attached and forwarded by EPWU. A License will be issued to EPWU and upon approval and signature by the President/CEO, will then be in effect. No dewatering activities should be permitted by CE or EPWU until such time as the License is finalized.

7.17* Invoices shall be submitted to the PCS who shall date, stamp, and submit to the PEM within three (3) working days of receipt. When invoicing, the consultant shall indicate on each billing, the budget for the Lump Sum, Not to Exceed, or Cost Plus Fixed Fee (CPFF) portion of the contract; For CPFF contracts, a breakdown of each person's raw salary rate, hours worked, and extended billing, and his/her title; separate billings by function, i.e. Design or Bid Services, Construction Phase Services showing Basic Office Engineering, RPR Inspection or Field Services, the sub-consultant's not to exceed values and their billings; a 3% markup for sub-consultant's shall be indicated; ODC's (other direct costs), applied overhead and profit rates and extended total billings. For lump sum contracts, indicate total billed to date by %, and provide % complete of each task as necessary. Attach supporting invoices for subs or other direct costs.

Where billings are not compatible with the original schedule and the Engineer has exceeded the time frame for services as provided by the Task Order Exhibit B, the Engineer shall submit a revised schedule with proposed new dates. PEM shall not approve final payment under design/bid phase until the bid phase is complete (i.e. award has been made by the PSB).

The monthly reports shall provide an explanation of delays to the schedule. If delay occurs outside the normal billing cycle, Engineer shall provide timely notice and recovery plan, if applicable. Progress Reports must be submitted by the 10th of the month, whether or not an invoice is submitted. Progress Reports must be signed by the Consultant's Project Manager. Send original to CA and a copy to the PEM. **Minimum requirements are shown in the Monthly Progress Report Matrix found in the Appendix Form No. MS 6390. Sample progress reports MS 6390B** are also included as a guide therein.

8.3* Bid Package Checklist – The Project Engineer Manager shall utilize PM Form 7820 entitled “Submittal Checklist of Proposed Bid Documents and Support Documentation” as a means of verifying that all pre-bid preparations that include technical and contractual requirements, funding verification, and other bid procedures are in place before all documents are sent to the CA for distribution to potential bidders. The following list of standard supporting documents shall be completed by the PEM or the Consultant and submitted to the Project Administration Manager for his final review and approval of checklist:

- Project Summary Statement (includes Key Personnel call out) - The Consultant shall generate a memorandum addressed to the PEM summarizing the scope of the project through a description of the various key elements or items of construction. Indicate why the project is needed, the location, duration of the construction, and the estimated cost of

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

construction. Re: Task No. 7.8.1. Add Key Personnel required of bidder by title. Include definition of each function in the General Requirements of the Technical Specifications.

- Approved Job Request – The PEM shall ensure that sufficient funds are available for the construction work. Generate a Job Request that clearly identifies the source of funding; the amount encumbered for the project, and include contingencies. Obtain an approved copy by management and attach to the checklist. Refer to Appendix A Extended Reference No. 5.1.3 for generating a Job Request. Re: Task No. 7.9.
- Engineer’s Cost Estimate – Also referred to as “Engineer’s Opinion of Probable Cost” as a qualifier. Shall be generated by the Design Consultant for farmed out projects, otherwise by the Utility Design Engineer of record. The “Engineer of Record” is that person(s) whose seal appears on the plans and specifications. This cost estimate must be submitted in the same format and sequence of items appearing in the bid proposal. A cost estimate submitted in any other format and which shows contingencies, must be converted to the standard bid proposal shown in the bid documents. Contingencies must be proportionately allocated to each item in the bid proposal; otherwise, other adjustments or estimated cost increases in each bid item must be made accordingly to reflect the anticipated contingencies. Lump Sum estimates to be broken down to the same detail level as Engineer requires from Contractor Schedule of Values. **NOTE: See sample estimates found in Appendix Documents No. MS 7810 A, B, C.**

The Engineer must estimate as closely as possible all items, whether the bid proposal is formatted as a unit price or lump sum proposal, or combination thereof. *The Engineer shall not change the engineer’s estimate once the 100% documents and cost estimate have been approved and processed for bidding, except where addenda are issued which materially impact the estimate. In this case, Engineer must provide explanation of the increase.* The cost estimate shall generally be rounded to the nearest thousand dollars but no less than the nearest hundred dollars. NOTE: A cost estimate submitted with a lump sum amount only is not acceptable. *The Engineer shall attach a separate breakdown of key items of the project, either with unit costs or lump sum amounts for each major item, as an attachment to the official bid proposal cost estimate.* The official cost estimate shall be accompanied by a transmittal letter explaining any special conditions or exceptions that may apply to the submitted estimate. The cost estimate or transmittal letter shall be signed and dated by the Engineer. The PEM shall check the cost estimate against the job request to ensure the job request reflects the most current estimate, and there are sufficient funds allocated. If not, revise the job request as necessary. Re: Task No. 7.14 of the procedures. For additional guidelines on cost estimating, refer to EPWU Design Standards Manual dated August 2008, Chapter 7.

- Summary Bid Schedule - The PEM shall meet with the CA per Task No. 7.6 and record data on PM Form 7820 Bid Award and Construction Milestone Schedule. This data includes dates for Advertisement, Pre-bid Meeting, Bid Date, Recommendation to the PSB due date, and Award by PSB date. This information is provided to the Engineer as the basis for official dates to be inserted in the bid documents. PEM shall verify that the data on this sheet matches the bid document dates and bid data in the Instructions to Bidders and other locations in the Bid Documents submitted by the Engineer. This form may require revision if the schedule is purposely shifted. Once the first advertisement date is established by such a meeting, the Engineer or Consultant must ensure delivery of all final documents to the CA no later than 48 hours before the first date of advertisement.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- Bid Document Distribution List – The PEM shall utilize PM Form 8700, which indicates to the Purchasing Office the type, quantity, and size of reproduced plans and project manuals needed by the PEM for his distribution to the appropriate personnel involved in the project. Re: Task No. 8.6.6 through 8.7. The same shall hold for Addenda distribution. Bid documents are available for pickup by the Project Engineer Manager on the day the project advertises.
- Land and Easement Issues Cleared – PEM place checkmark if property issues have been cleared or are nonexistent for this project. Otherwise, attach documentation on the status of any outstanding land acquisition issues, or expected resolution. It may be necessary to provide some verbiage in the bid documents that a portion of the work is contingent on resolution of a property issue and may require the contractor to proceed with other portions of the work until such resolution. Under no circumstances should a project be bid when that property is the only option for construction of the project to be bid, or portions thereof, unless there is a clear alternate route or property location for the work should a resolution on a property issue not be reached. Obtain documentation from the Land Administration Office or the Engineer if he is involved in those matters. Re: Task No. 7.2.5. Some special conditions apply for government-funded projects requiring certification that the Utility has cleared land issues. See Task No. 7.16 for Site Certificate as necessary.
- General and Specific Minimum Criteria – Re: Task No. 7.4.2 through 7.4.4 and discussed further in this Appendix A, Extended Reference No. 7.4.2 above.
- Basis of Liquidated Damages – The Engineer of Record shall submit along with other 95% submittals, a letter substantiating the rates of liquidated damages proposed in the bid documents (Section 00500), and which shows the cost breakdown of delay elements, as a means of quantifying the damage estimated to be incurred by the Utility should the bidder not complete the contract by the Substantial and Final Completion dates indicated in the bid documents. PEM forwards to CA for review. These elements of proof of delay may include loss of income or profits, increased financing and overhead costs, increased professional fees along with any other direct expenses attributable to the Contractor's delays. The substantiation letter shall reflect liquidated damages calculations for both Substantial Completion and for Final Completion. The dollar amount for Final Completion will normally be lower than for Substantial Completion. **See samples of Liquidated Damages found in Appendix, Forms MS 7811A and B.**

Liquidated damages are a means of recovering from the Contractor, a quantified monetary amount for anticipated damages projected to be incurred by the Utility and its' Public Service Board because of late delivery or late completion of the project. Re: General Counsel opinion, Prouty, October 1990: "Liquidated damages are allowed (by law) only if actual damages are hard to ascertain, and if they approximate the actual damages caused by the contractor's delay. Therefore, you must be able to prove that your actual damages due to such a delay are close to the liquidated damages withheld. You can never assess a penalty for late completion or delivery, a "penalty" being defined as something that is assessed without regard to the actual amount of delay damages". Re: Task No. 7.8.1 of the Procedures' Section.

- Suggested Contractor's List – The Purchasing Agent maintains a master list of General Contractors, Subcontractors, Suppliers, Vendors, and other services, from which he determines the mailing list to be used to forward the Advertisement of a particular project.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

The mailing list depends on the scope and nature of the bid being solicited. Unless otherwise provided by the Engineer, the Purchasing Agent will utilize his standard Contractor's list. The PEM and Engineer shall provide a list of prospective bidders to the Purchasing Agent, where a project requires particular and exclusive contractors to bid the project. Such a list must be coordinated and discussed carefully with the Purchasing Agent so that the right companies are informed about the bid work. The CE on occasion should contact prospective bidders to give them a heads up and encourage competition, particularly when a project is being re-bid and there was little interest the first time around.

- ❑ Sealed Specifications – The PEM shall ensure that the Engineer of Record has sealed, signed, and dated, the original master copy of the specifications manual. A more appropriate nomenclature for this manual is “Project Manual”, used in this Procedures Manual as the standard term to denote a composite of information that includes: a) the front-end documents consisting of Bidding Requirements, Contract Forms, and Conditions of the Contract, and b) the back-end which is essentially the Technical Specifications. However, because of the loose interpretation used by many, it is to be understood that any reference to “specifications” is generally meant to be the Project Manual.
- ❑ Sealed Drawings – Ensure that the Engineer of Record, along with specific disciplines such as mechanical, electrical, etc.al., have provided their respective seals, signatures, and dates as required by law.
- ❑ SPECIAL LOAN OR BOND REQUIREMENTS – Discussion deferred at this time.

8.9.4 Pre-Bid Site Visit - The criteria that determines whether a site visit will be conducted will depend on the complexity of a project, and on the number of unknown and difficult elements of construction that a contractor may oversee or take for granted, resulting in an insufficient bid thereof, unless he examines the site conditions prior to his bidding the project. A site visit reduces the potential for claims and change orders, due to undocumented and hidden conditions that were not addressed by the Engineer in the Project Manual. Some elements may not be addressed in the specifications since various options and methods of construction may be available, and which the Engineer may not want to constrain through the specifications. These elements may include such things as difficult site access, protection of critical operating structures, aged condition of existing structures to remain or be replaced, confined spaces for installing new equipment, hidden conditions, etc..

The Engineering Project Team will determine if a site visit is necessary. If one is necessary, the CA will be informed by the PEM when the bid schedule is discussed (Task 7.6.1). The Engineer or Consultant will include a site visit provision in the Advertisement and Notice to Bidders of the Project Manual. The PEM/CE will then coordinate this provision at the time of the Pre-Bid meeting. The CA will coordinate the issuance of an Attendance Sign-in List (Task 8.9.1) and copies to all attendees.

8.10* Addenda are written or graphical documents intended to clarify, revise, add to, or delete from the original project documents, and to answer bidder questions. The Utility must ensure that prospective bidders acknowledge receipt of all addenda with their bids so that all bidders bid on the same effort. Date changes resulting from additional scope or factors that necessitate changing the bid date or milestones must be reflected and entered into Form PM 7610 Bid/Award and Construction Milestone Schedule (revised from the original form), bearing in mind that Addenda

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

require at least seven (7) Calendar Days notice to bidders before bid opening. If addenda cannot be issued to bidders within this period in advance of bid opening, or when significant changes are necessary, a brief postponement of the bid opening may be justified. Consulting Engineer may not “redesign” by addenda except that issuance of minor clarifications or details are allowed, upon approval by the PEM. Careful thought shall be given to extending a bid date so that such extension does not compromise critical completion dates agreed to and driven by subdivision development, start of school, dewatering windows, Utility Operations’ timelines, etc. The Project Engineer Manager will be initial point of contact to receive draft addenda (and associated minor drawing details) in electronic format. In some instances, Funding Agency approval is required of Addenda. In the case of the Texas Water Development Board (TWDB), the consultant must submit three (3) copies of the addenda concurrent with issuance to bidders. TWDB reviews and provides approval of addenda prior to authorization to award. Approved copies are provided to the Utility’s CA. Addenda must be sealed and signed by the Engineer of Record for each respective discipline being addressed in the Addenda.

Timelines for issuing Addenda: When critical or urgent, i.e. for addenda needed to go out the same day, must be with Purchasing Agent by noon. When timing is not critical, a minimum of 1 to 2 business days is the standard for processing addenda.

8.13.2 The Utility does not make the “attainment” of minority goals a requirement. However, the provision of Evidence of Good Faith Effort to attain minority participation is Public Service Board Policy and goes to the finding of the responsiveness of the Bidder. Board action is required to waive goals or lack of evidence of good faith effort.

8.13.8* Engineer shall request evidence that bidder meets the Minimum General Criteria, Minimum Project Specific Criteria, submit resume for each key personnel required for the project. Request organization chart including decision makers, those individuals authorized to commit on behalf of the firm and those individuals authorized to sign change orders. **See sample Post-bid Pre-award Request Letter Form PM 8138.** A list of additional typical documents required to be submitted by the contractor as per Section 00100 Notice to Bidders of the bid documents is outlined below in Extended Reference Section 8.13.19.

8.13.9* The Engineer of Record (generally the consultant or EPWU internal design engineer who seals the project documents) shall submit a letter of recommendation to the PEM along with support documentation (Part 1 documents per Section 8.13.19) summarizing the results of his evaluation of the apparent low bidder. Where such bidder has been found not to be the lowest responsible and responsive bidder, then the second low bidder shall be evaluated. The letter should cite each criteria referenced in the Project Manual Section 00100, and whether or not the bidder met each criteria (see Matrix discussion next paragraph). Names of references and their comments, as well as discussion on whether or not the bidder met the General and Project Specific Criteria (see Appendix, Extended Reference No. 7.4.2) that addresses experience and Key Personnel requirements, shall be included in the discussion. Where a recommendation is made not to award the bid to the first lowest bidder, the Engineer shall summarize the specific reasons why he does not recommend that bidder.

The evaluation report shall include an Evaluation Matrix table that indicates the Evaluation Criteria in one column, a yes or no column on whether or not the bidder met that criteria, and comments

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

relative to each criteria item. **See sample Evaluation Matrix found in the Appendix Form MS 8139.**

The recommendation provided by the Engineer must be reviewed and concurred with by the Utility's PAM, CAM, and CA staff, prior to its submittal to the Purchasing Agent who is responsible for completing the bid procurement and recommendation process. Where issues and unsettled differences regarding the recommendation are present, the recommendation shall be discussed with the Chief Technical Officer and upper management. PEM will provide comments for revision or additions if necessary, to the Engineer. Engineer shall ensure that all support documentation (Part 1 Contractor Documents – see Extended Reference 8.13.19) such as references, financial information, etc. are attached to the final recommendation. The recommendation package shall be addressed and delivered to the PEM. Copy only the recommendation cover sheets to CA, CAM, and CTO for review and feedback on controversial issues. Upon resolution, the PEM will send the complete package consisting of Part 1 and Part 2 documents (per 8.13.19) to the Contracts Administrator (CA) for review, who after attaching any final pertinent documents, delivers to the CAF for QC and entry of pertinent documents into the Board Books. CAF shall ensure that Project Administration or internal PEMs have obtained signatures on PSB Agenda Item from CTO or COO, CFO, VP as may be applicable (see 8.13.19.1 PSB Item Form Internal Flow Channeling).

NOTE: Engineer shall make every effort to complete the analysis and evaluation in an expeditious fashion in order to meet the upcoming scheduled Public Service Board meeting for award of bid. Final recommendation packages but not the executed Agenda Item Forms (see discussion below) must be in the hands of the PEM, with copies to the Purchasing Agent, at least two (2) Fridays before the Public Service Board meeting. This will allow various key managers to review the material before the recommendation documents are forwarded to the CAF in behalf of the CEO. This time window is NOT the CEO's deadline. The CEO's deadline is Wednesday by 5 p.m. one week before the Board meeting. Only under extenuating circumstances involving a shorter time frame than the deadline date of Wednesday and only by approval of top management, will submittals and recommendations be accepted after the Wednesday at 5 p.m. of the week before the PSB meeting.

8.13.19* In order to recommend that a construction bid award be made by the Public Service Board, it is important that the Engineer (consultant or internal design engineer) along with various EPWU personnel participate in developing, compiling, channeling a number of **key documents** for review, approval, and signature, with the final destination to the Utility's President/CEO, who will then place the award recommendation in the PSB agenda of items to be considered. Because these key documents originate at different locations by external and internal personnel (i.e. consultant, contractor, EPWU Project Manager, or Purchasing Staff, et.al.), the key documents are identified in either of the following two categories or sets, which are hereby established in order to achieve accountability and tracking of such documents as described in the procedures tasks and as further delineated below:

PART 1 Documents – **Bid Recommendation Package**

PART 2 Documents – **Internally Developed Bid Award & Support Documents**

Part 1 Typical Documents included in the **Bid Recommendation Package**:

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- Bid Evaluation/Recommendation Cover Letter
- Bid Evaluation Matrix (Re: Sample Form MS8139)
- Consultant's Independent BID TABULATION (not considered the official tabulation)

- Recommended General Contractor's Documents (not all inclusive) consisting of:
 1. Certificate of Liability (Insurance or self insured coverage)
 2. Leasing Company Texas License & Workers Comp Policy (if applicable)
 3. Financial Statements (Audit Report from CPA)
 4. List of Projects Experience
 5. Qualification Statement (Section 00100) and Resumes of Key Personnel (Personnel Data Sheets)
 6. Subcontractor's Qualifications & List of Project Experience
 7. Organization Chart of Project Management and Key Personnel
 8. Minority Certification, Participation Summary (Good Faith Effort Letters with Certified Receipts)
 9. Subcontractor's Unexecuted Subcontracts
 10. List of Anticipated Purchase Orders to Suppliers
 11. Preliminary Project Schedule
 12. Preliminary Schedule of Values
 13. Preliminary Schedule of Submittals

Part 2 Typical Documents included in internal **Bid Award & Support Documents:**

- "Item for PSB Agenda" Form (*see discussion below next section*)
- Memorandum of Concurrence (*from internal Project Engineer Manager*)
- M/WBE (Minority/Women Business Enterprise, and SMLB (Small Local Business) goals
- Official Bid Tabulation (*issued by the Purchasing Agent*)
- Miscellaneous letters to contractor on bid corrections (if applicable)
- Response letters from contractor to purchasing on bid corrections (if applicable)

8.13.19.1* Construction project BIDS that have been received by EPWU and that are to be recommended for award of contract to the Public Service Board must be described in the "Item for PSB Agenda" Form No. GA 3219C (blank form). For convenience, refer to example Form GA 81319 (Contractor Award form). The form shall include a description of the scope, bidder evaluation process, funding source, and recommendation by staff. The following main sections comprise the agenda form with example standard wording as indicated:

SUBJECT: (*use the title provided in the contract documents i.e. plans & specs*) Example: **Eastside Interceptor Phase 4A, Part 2, Bid No. 25-06.**

RECOMMENDATION: **Award Bid No. _____ (or Rebid No. _____) to (Name of Contractor) _____ in the amount of \$ _____ and (where applicable) authorize the use of Commercial Paper Funds.**

BACKGROUND: *Describe the **Scope and Location** of the Work to be done under this contract in brief format. Include for example lengths of pipe, capacities of pump stations or*

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

reservoirs, bored casings, and significant items. Where appropriate, state **why the project is needed** and the **benefits** of the completed work.

EVALUATION PROCESS: Describe **number and names of bidders**, their **amounts bid**, **Engineer's Estimate**, **apparent low bidder**. Indicate consulting firm's name and the **contractor being recommended for award**. Indicate internal EPWU section concurrence with the recommendation. Include **M/WBE and SMLB target goals and actuals achieved by the bidder** (from Purchasing Dept.)

FINANCIAL IMPLICATIONS: Indicate from what source of funding this project will be paid, to include CIP No. and Account No. as shown on a standard approved Job Request. For projects that involve use of Commercial Paper or other special funding requiring approval from the PSB, PEM should coordinate with the Chief Financial Officer on standard wording to insert in the Financial section of the PSB Agenda Form. Example: **Sufficient funds are available in CIP #1229, Account No. 1114-195. Funding source is from the Series 2005 Clean Water SRF Bonds.**

PSB ACTION REQUESTED: Example: **Award the bid, subject to TWDB approval, for the Eastside Interceptor Phase 4A, Part 2, Bid Number 25-06, to the lowest responsible, responsive bidder, (Name of Contractor) _____, in the amount of \$5,221,000.00.**

APPROVALS: *Utility project managers shall obtain the approvals of the Chief Officer whose project lies in his jurisdiction (Chief Technical Officer or Chief Operations Officer), OR General Counsel where appropriate, along with the Chief Financial Officer and the Vice President.*

PSB Item Form Internal Flow Channeling:

While the bid award RECOMMENDATION package is undergoing review, and as a parallel process, the Utility's Project Engineer Manager (PEM) coordinates the "Draft" PSB Agenda Form through the Project Administration Manager and the Purchasing Agent, both who may edit and return the form to the PEM for finalizing.

The final package consisting of key documents defined in 8.13.19 including the PSB Agenda Item form are delivered by the PEM to the Purchasing Agent.

Purchasing Agent ensures that Bid Tabulation and other necessary documentation has been added and forwards entire package to the Consumer Affairs Manager (CAF). PA must send package no later than 24 hours following her receipt of same from the Engineer.

CAF performs final QA/QC, ensuring that Project Administration or the PEM have obtained signatures on the PSB Agenda Item form from the CTO (or COO), CFO, VP or Legal as applicable.

CAF generates copies of materials for the PSB Board Books and returns original package to the Purchasing Agent. Purchasing staff files copy of fully executed Agenda Item Form and pertinent documents, awaits award by the PSB prior to obtaining signed contract from the bidder.

APPENDIX A: EXTENDED REFERENCES

(Refer to *EXTD REFR* in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

Recommendation packages and executed Agenda Item Form must be in the possession of the CAF by the deadline dates described in 8.13.9 above.

The Project Administration Manager or the PEM shall prepare a project PowerPoint presentation for the CTO or Vice President of Operations and Technical Services, to be used in presenting recommendations for bid awards to the PSB. The PowerPoint shall be coordinated with the Computer Media Specialist.

8.24.1 For some projects that are urgent or require a fast-track schedule, the Owner may opt to include in Section 00100 Instructions to Bidders, a bonus of typically \$100 per day up to a maximum of \$300 per day to the bidder, for successful efforts in expediting delivery of “fully compliant” documents, submitted to the Purchasing Agent in a time period shorter than the 15 day maximum called out in the Notice of Award.

9.5* Geotechnical Engineering Services: In practice, engineers, owners, and agencies may differ on who should be responsible for the procurement and control of the testing firm. In some contracts, the general contractor is given the responsibility, through the project specifications, to hire and work closely with the geotechnical company to perform all construction (Quality Control) testing. The Owner, through its consultant, may elect to retain a backup firm to provide confirmation (Quality Assurance) testing of the contractor’s work but to a small degree, and only where test results are suspect and issues arise from testing efforts. With this option, the Owner and engineer allow control and total responsibility to the contractor for meeting the test requirements and reporting the results. The generally accepted practice at EPWU is for the Owner to retain control of the (Quality Control) testing program related to soils and concrete testing, and therefore, establishes service agreements with the geotech firm separate from the main construction contract. Depending on the nature of the work and the extent of testing involved in the project, the Utility will either retain the firm directly in-house, or allow the consultant to hire the firm as part of its duties under the Construction Engineering Services Task Order. Specifications are written to give the Owner (Engineer) responsibility for overseeing (Quality Control) testing activities and payment thereof to the geotech firm. Other types of testing, such as weld testing, testing of pipe, products, or other elements of the project not meeting material requirements, are still the responsibility of the general contractor to retain qualified specialized testing firms.

The Project Administration staff and the Owner’s Engineer (CE) must agree during the design phase on how the testing program will be handled and who will be responsible. The decision will then be incorporated in the specifications.

Geotechnical Services are considered support services by the Utility. Geotech firms are selected on a rotational basis, except where the Utility or consultant deems it beneficial, for sake of continuity, to retain a firm that is already performing critical field-testing or reports. Agreements for Geotechnical, Geophysical, and Surveying services cannot exceed \$50,000 per EPWU Signature Authority Policy.

9.13.1 A Critical Path Method (CPM) Schedule is normally required for high-dollar value projects with multi-interrelated disciplines which are dependent upon each other and which directly impact the critical path. Otherwise, a time-scale network schedule using the bar chart (Gantt) method is acceptable.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

9.13.3 This list should be the same as shown in the qualifications statement required to be submitted by the contractor during the bid process. However, contractors have been known to change subcontractors when the job begins. The consultant should require the most current list of key subcontractors to be submitted by the general contractor, along with emergency contact personnel, phone numbers including cellular numbers or digital beeper information. Changes in the general contractor's key personnel are not allowed without the written consent of the Owner. The consultant or his representative should report changes in personnel, companies, or vendors that were previously approved or proposed by the contractor.

9.16 The Project Team must actively practice, enforce, apply, and be sufficiently familiar with the provisions of the General and Supplemental Conditions of the construction contract. The limits, constraints, and ground rules involving performance and contractual issues, claims, and activities such as change orders, scheduling issues, payments, breaches of contract, etc. are specifically discussed in these Conditions. Written correspondence that renders a decision or interpretation of the contractor's responsibilities to perform the work, should be referenced to the applicable section of the General Conditions. It is highly recommended that project managers and inspection personnel be familiar with the General and Supplemental Conditions in order to efficiently and effectively communicate performance responsibility to the contractor.

9.17 The procedures regarding the joint duties and responsibilities of the Consulting Engineer and his Resident Project Representative (inspector) providing Construction Phase Services have been arranged into the following six categories of performance:

- Pre-construction Activities
- Daily Coordination and Response
- Work Directive Changes and Change Orders
- Progress and Payment Request Deliverables
- Acceptance Testing, Inspections, and Certification
- Closeout and Post-construction Activities

Users of this manual should become familiar with the requirements described in each category for future reference and application of their project management duties.

9.19.8* Red lines show deviations from original plans. They must include actual locations of facilities including depth, horizontal stationing or dimensions, other structures not originally shown on plans, pipe type and class, and appurtenances that differ from original plans. The Contractor sets aside a set of full-size project drawings, which are traditionally referred to as a "**mark-up**", an "**as-built**", or "**red-line**" set. Although many times labeled as such by the Contractor, it should be more appropriately marked as the "**Record Documents Job Set**". In this set, all final approved changes in installed work throughout the course of the job must be legibly and accurately recorded. This set should be secured from use by unauthorized personnel. The Project Contract should specify that the Contractor be responsible for entering daily changes on this set. One person on his staff and acknowledged by the Engineer through his RPR, should be delegated the responsibility for maintenance of this field record job set. Under Construction Phase Services, where the design firm is normally contracted to provide "general administration" of the construction contract and

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

“inspection” of the construction (although these days the word “observation” has become more prevalent), the firm’s Engineer may and should require the Contractor to submit or make available to the RPR, his set of marked-up plans for review on a routine basis as the work progresses.

Observation of the construction by the designated RPR must purposely be followed, excluding any direct intervention that directs or commands the contractor to change or follow specific means and methods of construction, with some degree of record “**validation**”, and the consultant (or other party so designated) is expected to perform both of these functions to some degree of care, under the contract provisions of service to the Owner. In doing so, the Engineer is acting on behalf of the Owner, providing a greater degree of confidence for the Owner that the Contractor’s completed work conforms **generally** to the construction contract documents. The RPR must therefore, observe and monitor deviations or changes made in the field, whether authorized by change order or inconsequential field change and advise the Contractor of his duty to record such changes as timely and regularly as needed. The Contractor must be put in check that he is exercising “due diligence” in maintaining the “mark-up” set.

The Utility recognizes that, as with design work, common law does not hold the Engineer to a degree of “perfection” but rather to a “standard of care” expected of similar firms and circumstances. So is the case with **construction observation** and **validation**. Perfection is not sought and validation is not intended to hold the Engineer or RPR to that perfection level but rather to the highest “reasonable” level possible. Record validation serves to minimize future risks, to the Owner, associated with hidden defects in construction and poor records. In some cases, the Engineer may be under contract to perform only part-time observation; hence, the validation process may be limited. Validation is necessary in order to add credence to the Contract Record Drawings.

At time of close-out of project, record drawings shall contain the seal and signature reflective of the original design drawings, but can include a qualifier statement that select changes, made on the field by the contractor, are not certified by the engineer of record, and that the seal makes no representation as to the accuracy or validity of those changes made by others for which the engineer had no control over.

9.20.3 Work Directive Changes (WDC) – A Work Directive Change is a written directive to the Contractor, issued on or after the Effective Date of the Agreement and signed by the Owner and recommended by the Engineer, ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen physical conditions under which the work is to be performed. **A WDC may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a WDC will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time.** (see General Conditions Articles 4, 6 & 10 for related conditions)

The Engineer does not have the authority to direct the contractor to perform any change which involves price or time. He may however issue Field Directives **which do not impact cost or time**. When either cost or time **is** an issue, a formal WDC with detailed Engineer’s Estimate must be issued for the Owner’s review, funding, and approval **before** the contractor takes action. Unavoidable problems, changes, and conflicts occur on most projects. The PEM, through the Engineer, is responsible for developing and approving the most cost-effective solution considering **all** factors. If immediate decisions (without all costs defined) must be made, especially to avoid a serious claim, then make the decision using the WDC as explained in the contract documents.

APPENDIX A: EXTENDED REFERENCES

(Refer to *EXTD REFR* in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

Otherwise, get higher authority to make the decision (Engineer and PEM should, at a minimum, be able to judge rough estimate of cost or range of cost in all cases).

The WDC should include a description of the change, reason for it, method to be used to negotiate price (Time & Materials, Lump Sum, Unit Prices, etc.), and the anticipated impact to contract time. It should contain the Engineer's **estimate** of cost. It is not meant to be considered a contract instrument which establishes a negotiated price. It is meant to be a signed agreement that something has changed, the contractor is to perform, and a price will be negotiated later based upon field records, etc. In those few cases where a price can **supportably** be negotiated in advance of performance, the support for the price arrived at should be attached to the WDC so the Owner can consider it **before** executing the WDC. Negotiated or completed WDCs of substantial dollar value should not languish more than a few weeks before being brought into the Contract by a formal Change Order (discussion in 9.20.13 below). In this case, line out language at bottom of form referring to a dollar amount being "an estimate". Instead, type in "negotiated lump sum".

Routine line item quantity changes on a unit price contract do not require WDCs unless the total cost of that line item amounts to 15% or more of the contract price, and the variation in quantity differs by more than 25% from the **estimated** quantity.

All initial WDCs (set of three original copies) shall be delivered to the Construction Administration Manager, who will review it for technical and cost content. Final approval will be in accordance with the following paragraph.

In accordance with Utility Administrative Policy referencing Delegation of Signature Authority pursuant to Administrative Instruction No. 1 as effected March 1, 2007, or as may be updated thereafter by the Utility's President/CEO, the Construction Administration Manager is authorized to approve and sign WDCs, while ensuring that their impact on project costs and budget do not significantly burden the Utility, and that their effect on subsequent change orders do not exceed the cumulative amount of 15% of the original contract. The Construction Administration Manager shall inform the CTO and VP of Operations and Technical Services when a WDC and the consequential Change Order will exceed the 15% limit (which requires CEO and Board approval).

9.20.13* Change Orders (CO) - A Change Order is a written document amending the contract between the Owner (the Utility) and the Contractor, which both must sign, in order to compensate either party for additions, deletions, or revisions in the work performed, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement. Authorization for such work is preceded by a Work Directive Change (discussion in Task 9.20.3) issued in advance of final pricing and time negotiations that are ultimately included in a Change Order. The target goal established by the Public Service Board of the Utility is to limit Change Orders to zero or less than 2% of the Contract value. Most often, cumulative change orders will exceed the 2% limit and are allowed provided the change(s) do not involve a departure from the original design concept, and which are necessary to economically pursue the project to avoid unnecessary delays and potential claims. However, where the cumulative amount of a change order exceeds 15%, the Utility's President/CEO will present the Change Order to the Public Service Board for approval. Otherwise, the CEO will approve and sign it.

It is incumbent on the Engineer and the Project Management staff to control costs and escalation of scope whenever possible. They should track all pending changes and be aware of their individual values and total cumulative values of all Change Orders. The Engineer (and the

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

Utility's Project Management staff in a coordination capacity) shall be responsible for **promptly** reviewing all problems and proposed changes in the project. Both are responsible to insure that either one's lack of action or indecision is not the cause of claims or extra cost. If the Project Managers cannot promptly make a decision, they should promptly outline the problem to the Utility's upper management.

The Project Managers should be aware that it is against State Law to increase scope beyond 25% of contract scope (value). If changes generate increased costs, the PEM shall be responsible for insuring sufficient funds are available for the increase or otherwise updating the Job Request to add the necessary funds. The Project Administration Staff shall advise upper management anytime a Change Order (cumulative or single) will exceed 15% of the contract. Any changes in the scope generated as a result of additional requirements desired by Utility Operations personnel and not considered design omissions by the consultant, shall require the concurrence of the Chief Operations Officer.

Generally, it is not desirable to process large numbers of Change Orders (more than five) on a project. It is not desirable to process small Change Orders by themselves in the amount of a few thousand dollars. On the other hand, the Utility cannot pay the contractor for completed work under a Work Directive Change until a Change Order is executed.

The Engineer shall utilize the Utility's standard Change Order format provided by the Contracts Office (Form CM 92017A). As a minimum, the Change Order should consist of the following:

- Title of Project, EPWU Bid Number, Contract Change Order Number
- The Owner (El Paso Water Utilities-Public Service Board), the Contractor, and Consultant should be identified
- A detailed description of price changes and changes generated to Contract time. Indicate numbers of calendar days and specific new dates generated to Milestone dates, Substantial Completion and/or Final Completion date. As an example, adjustment of quantities to reflect actual quantities installed for numerous bid items may be shown as an attached Exhibit A. Adding new line items could be listed as another attachment designated as Exhibit B.
- Purpose of the Change Order. Describe what brought about the need for the Change Order
- Impact to Cost and Contract Time for each Change Order item
- Change in Contract Price - Indicate:
 - Original Contract Price
 - Contract Price Prior to the current Change Order
 - Net increase/decrease due to the current Change Order
 - New Contract Price with all approved Change Orders
- Change in Contract Time - Indicate:
 - Original Contract Time showing original milestone calendar days allocated by the contract for Substantial and Final Completion and corresponding due dates for each.
 - Contract Time Prior to the current Change Order showing number of calendar days allocated for Substantial and Final Completion, as changed by any previous change orders, and revised or current due dates for each.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

- Net increase/decrease in time due to current Change Order showing number of Calendar days added to or subtracted from the Substantial and Final Completion, as revised by this Change Order.
 - New Contract Time with all approved Change Orders showing total calendar days allocated and due dates for Substantial and Final Completion, as revised by this Change Order.
- Add the following statement to the Change Order:
- “This amount indicated above shall be considered full and equitable adjustment for any claims, past and future, for the work described and shall include all costs, direct and indirect, including extended overhead.”
- Signature blocks and dates for each of the following:
- Accepted By: (Contractor)
- Recommended By: (Engineer of Record or Consultant)
- Reviewed By: (EPWU Contracts Administrator)
- Approved By: (Edmund G. Archuleta, President/CEO)
El Paso Water Utilities

The Consultant should **forward three originals of the change order** with the Engineer’s and Contractor’s signatures, via transmittal letter **to the Contracts Administrator**. The Change Order itself will normally consist of only one or two pages. EPWU, the Consultant, and the Contractor will each receive a final signed original.

In addition to the three original change orders, the Consultant will submit for EPWU records, at least one complete package of backup information which is considered a part of the Change Order (hence the list of attachments). The backup information will consist of the following:

1. A detailed summary of the change order explaining the need for the change order and the reasons why EPWU is liable for any cost and any time extensions, or if appropriate, why liquidated damages should not be assessed. Describe when and how the final price was arrived at (a memorandum of negotiation is also acceptable) and that the Consultant believes that price is reasonable.
2. Request from the Contractor and copies of all related correspondence, including pricing submitted by him, and cost estimates by the consultant. The Engineer should review the contractor’s pricing sheet and verify the correctness of related markups for overhead, profit, bonds & insurance, and other requirements stipulated in the General Conditions, Article 11: Change in Contract Price.
3. Copy of previously issued Work Directive Change (WDC) from the Engineer.
4. A copy of any drawings or specifications that were, or will be, issued to the Contractor for the Change Order.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

9.22.6 Certificate of Substantial Completion must be issued no later than 5 days after the field walk-through, and executed by the "Engineer of Record". Do not submit Certificate with punch list item that calls for testing of line or some key component necessary for start-up beneficial operation or use by the Owner. **See sample Form CM 9220B**. Submit to Contracts Administrator directly.

9.22.13 Final Completion of a Project means not only that the construction work has been completed in accordance with the contract documents and that the Contractor has completed any corrections to the satisfaction of the Engineer, but also that a Final Change Order, if applicable, has been executed by the Contractor, and that delivery of all maintenance and operating instructions, guarantees, certificates of inspection, marked-up record documents, and other documents as required by the contract, has been made. The issuance of the Engineer's Certificate of Final Completion (**CM FORM 9225A and CM 9225B Verification form**) should be made only if all the above criteria is complete. The additional days afforded between Substantial and Final Completion are provided for the purpose of completing these activities.

The Engineer or Consultant shall refer to Procedures Tasks 9.23.1 to 9.23.15 for Construction Project Close-out Requirements or Sample Form CM 9220B punch list items, to ensure that all close-out procedures have been followed, and all required documents have been submitted by the Contractor. The Engineer shall make certain to include any special closeout requirements, that he has written into the Supplementary General Conditions or Technical Specifications of the contract, in Sub-item "i". When issuing the Engineer's Certificate of Substantial Completion (CM FORM 9220 and discussed further in Task No. 9.22.6) as indicated in the first Item of the checklist, a line item (or window) should be included in the "punch-list" for the close-out documents required from the Contractor.

Once all punch-list items, including submittal of closeout documents, have been completed, a Certificate of Final Completion shall be executed by the Engineer of Record. The Certificate of Final Completion shall be accompanied by **all** closeout documents and shall be delivered to the EPWU Contracts Administrator for processing and distribution.

9.23.1* Close-out Documents Submittals include but are not limited to: Contractor's redlines and record drawings by Consultant consisting of one set of reproducible-mylar or vellum, sealed and signed by each discipline's design engineer including any disclaimers (Re: Task 9.19.8), plus one set of blue-line drawings and CADD disk, with transmittal letter sealed by the P.E. One set of record blue-line drawings shall be submitted to the PEM under a letter of transmittal, sealed by the P.E. A copy of the sealed transmittal letter shall be sent to Contracts. One set of record drawing blue-lines shall be sent under a separate sealed letter of transmittal to the Chief Operations Officer when plant work is involved.

9.23.13* The Consultant is ultimately responsible for transferring red-line changes made by the contractor to a set of record drawings (Re: Task 9.19.8). In order to ensure some reasonable amount of field validation of data captured by the contractor, the Engineer of Record should ensure that his RPR fulfills observation and validation of record data on the field. Work performed by the CADD operator in producing final record drawings should be reviewed and checked by the Engineer of Record prior to submitting to the Owner. Compliance with the record keeping process, significant

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

field changes from original design and transfer of information from Contractor's field record drawings to the Engineer's original design drawings should be reflected in the RPR's daily log.

9.23.17* Evaluation of Contractor's Performance - In order for the Utility to maintain a history database of Contractor's performance on completed projects and which may be used for future evaluations for award of projects, it is imperative that the Engineer of Record provide to the Purchasing Contracts Office, a Contractor Evaluation for the project just completed. The evaluation should look at the total project, recognizing that some problems are imminent. The evaluation should not focus largely on one problem if the overall project went well. If a negative comment is provided, an example of that problem should be cited, if possible.

A typical evaluation letter should provide a brief discussion on the observations, experience, and conclusions of the Engineer with regard to the following contractor elements:

- | | <u>Excellent</u> | <u>Good</u> | <u>Satisfactory</u> | <u>Poor</u> |
|---|------------------|-------------|---------------------|-------------|
| <input type="checkbox"/> Communication | | | | |
| <input type="checkbox"/> Safety | | | | |
| <input type="checkbox"/> Schedule | | | | |
| <input type="checkbox"/> Submittals | | | | |
| <input type="checkbox"/> Coordination | | | | |
| <input type="checkbox"/> Working Hours | | | | |
| <input type="checkbox"/> Traffic Control | | | | |
| <input type="checkbox"/> Execution of the work | | | | |
| <input type="checkbox"/> Claims and Change Orders | | | | |
| <input type="checkbox"/> Superintendence | | | | |

The evaluation should close with some remarks concerning recommendations for improvement of the Contractor's performance, and whether the Engineer would recommend him for future PSB projects, provided he met the experience and Key Personnel requirements. The letter should be signed by the Project Manager or Engineer of Record who was familiar with the Contractor's performance.

9.25* A project that falls under Texas Water Development guidelines for SRF (State Revolving Funds) will require a "Resolution", to be passed by the Public Service Board, of acceptance and completion of the project, as a requisite for "final payment" to the Contractor. It is the responsibility of the Project Management Staff (the PEM), to ensure that he forwards a written request with the appropriate project name and other information, to Legal Counsel, to be placed in the agenda for the next regularly scheduled PSB meeting for approval. The Contracts Administrator will subsequently forward the closeout package to the TWDB in Austin, with the request for issuance of a Certificate of Approval to issue final payment. At the same time, a copy of the official documents is provided to the PEM.

11.3.11 Prompt Payment to Engineers and Contractors – Chapter 2251 of the General Texas Government Code requires a Governmental Entity to "promptly" pay for goods and services received. **"Promptly" means that payment is overdue on the 30th day after the governmental agency receives an invoice for the goods or services. Interest is due at the rate of 1% per month.**

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

Unless the invoice is a disputed invoice, the interest must be paid at the same time as payment is made for the invoice.

Consulting Engineering and Professional Services contracts call for invoices to be submitted directly to EPWU Project Administration Office "Point of Contact", where they are date-stamped, logged, and processed to the Contracts Office, who then have 3 working days to review and forward to PEM for approval. PEM approves and returns to Contracts Office. Contracts then logs the return date, forwards the invoice to Accounting for payment, and updates the financial database.

Many Construction Contract invoices are submitted to the Consulting Engineer. Consulting Engineers function as the agents of the Utility. Therefore, on behalf of the Owner, they must date stamp the invoice when received at their office(s). The CE's have up to 10 calendar days to review, recommend payment, and deliver the invoice to the Project Administration Office "Point of Contact" for internal processing. Since the consulting engineer has already used up ten days of the thirty-day cycle, it is extremely important that invoices move even more quickly through the in-house engineering approval process. EPWU only has a total of thirty days from the date of receipt to mail the payment. The Accounting Department must be given sufficient time to issue the check, obtain signatures, and mail or EFT payment.

If an invoice is a disputed invoice, notify the Contracts Administrator **immediately, giving the reason the invoice is rejected or why must be adjusted. Contracts will return the invoice right away and request the resubmission of a revised invoice.**

If the invoice is to be paid in some lesser sum (hand-adjusted), notify Contracts immediately. This type of adjustment should be held to a minimum. In most cases, it is better to request a revised invoice from the issuer since this "stops the clock" for purposes of incurring liability for interest.

11.3.45* For certain agency-funded projects such as Texas Water Development Board funded ones, a reduction in retainage requires TWDB approval. On some large projects which the contractor has completed but awaits final payment due to delay of a change order or some other matter beyond his control, a reduction in retainage requires Owner approval. Where a Contractor requests such reduction in retainage, the Engineer or Consultant shall send a letter to the Utility's Project Engineer Manager, **through the Contracts Administrator**, recommending a reduction in retainage. The PEM shall then use that letter as support for his letter of concurrence to the TWDB, with a copy of both letters to the Contracts Administrator. The Engineer or Consultant shall avoid sending a written request for reduction along with the contractor's pay application, which already shows the reduction. This presents a problem in that the Contracts Office must expend wasted resources to send a letter to "stop the clock" on the invoice, while waiting for TWDB approval.

11.3.46* Engineer shall attach monthly payrolls, AIA or other itemized bid schedule showing % complete, stored materials, and amounts previously paid and currently due. Attach corresponding paid invoices from subs or suppliers to support stored materials payment. Operationally, the Utility has allowed payment without such evidence but requires the paid invoice be provided with the subsequent Application for Payment. It is imperative that the Engineer follow up on these requirements.

APPENDIX A: EXTENDED REFERENCES

(Refer to EXTD REFR in Tab 2A of the Users Instructions)

Task Section and Supplementary Discussion:

The Application for Payment form shall be signed by the Contractor, the Engineer, and shall include a statement certifying that all prior funds received from the Utility by the Contractor, have been used to discharge its related obligations to subcontractors and suppliers. It also states that whatever the Utility pays for, it receives free and clear of all liens and claims. **The Contract states that the Utility will not finance the project.** It is the contractor's responsibility to pay its subs and suppliers. This is why the Utility investigates the low bidder's financial ability to perform each bid. The Utility reimburses promptly under certain terms and conditions (Re: Appendix A, Extended Reference 11.3.11).