SECTION 01 33 15
SUBMITTAL PROCEDURES FOR DESIGN BUILD PROJECTS

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SECTION 01 33 15
SUBMITTAL PROCEDURES

PART 1. GENERAL

1.1 REFERENCE

The publication listed below forms a part of this specification to the extent referenced. The publication is referenced to in the text by basic designation only.

NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)

Unified Master Reference List (UMRL)

National Institute of Building Sciences
1090 Vermont Avenue, NW, Suite 700
Washington, DC 20005-4905
Email: nibs@nibs.org
FAX: (202) 289-1092
Tele: (202) 289-7800

1.2 SUBMITTALS

Construction Submittals are classified by design stage and fast-track sequence as specified in 01 33 16 DESIGN BUILD AFETR WARD and restated below. Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.

Submittal	Paragraph
General Design (35%); G	1.2.1.1
General Design (65%); G	1.2.12
Final Design (99%); G	1.2.1.3
Complete Design Package (100%); G	1.2.1.4

The submittals listed above are not unique items and do not show up as such on the submittal register. The submittals listed above generally represent the requirements for a range of mandatory and optional items listed in Section 01 05 50 TECHNICAL REQUIREMENTS.

1.2.1 Submittal Descriptions (SD)

SD-01 Preconstruction Submittals

SD-02 Shop Drawings

SD-03 Product Data

SD-04 Samples

SD-05 Design Data

SD-06 Test Reports

SD-07 Certificates

SD-08 Manufacturer’s Instructions

SD-09 Manufacturer's Field Reports

SD-10 Operation and Maintenance Data

SD-11 Closeout Submittals

1.3 Construction Submittals

1.3.1 Review Classification

Construction Submittals are classified as follows:

a) Government Approved (G). Government approval is required for critical materials, variations, deviations, an "or equal" decision, equipment whose compatibility with the entire system must be checked, and other items as designated by the COR. Within the terms of Section 00700, Contract Clause 52.236-21, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, these submittals are considered to be "shop drawings."
b) Information Only. Submittals not requiring Government approval will be for information only. Within the terms of the Section 00700, Contract Clause 52.236-21, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, these submittals are not considered to be "shop drawings."

1.3.2 Submittal Descriptions

Construction Submittals are described according to various aspects of construction as described in the following paragraphs.

SD-01 Preconstruction Submittals

Particular Submittals identified as SD-01, Pre-Construction Submittals shall be submitted via the Project-Specific Management Plan. The Project-Specific Management Plan shall be submitted as a single document and address job-specific accident prevention program, environmental protection plan, construction quality control program, and project work plan. The current version of the SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, including all errata and changes, shall be used for this Contract and is obtainable at http://140.194.76.129/publications/eng-manuals/. This manual is also available in hard copy (paper) version. All changes that are dated prior to the date of the Solicitation for this Contract (Reference paragraph 4.b (1) and 4.c introductory letter EM 385-1-1), will be contractually binding as part of any Contract issued. Changes can be obtained from http://www.usace.army.mil/CESO/Pages/EM385-1-1.aspx. Acceptance of the Project-Specific Management Plan is required prior to commencement of site work.

It shall be organized as follows:

a. Section I - Accident Prevention Program.

1) Accident prevention plan (EM 385-1-1 and Section 01 35 26.00 25, GOVERNMENT SAFETY REQUIREMENTS).
2) Drug-free workplace policy.
3) Hazard communication program.
4) Activity hazard analysis (EM 385-1-1).
5) Equipment certification.
6) Critical Lift Plan

b. Section II - Environmental Protection Plan

1) Spill Prevention/Cleanup Plan
2) Waste Management Plan

c. Section III - Construction Quality Management Program (Section 01 45 00.00 25, QUALITY CONTROL).

1) Contractor's quality control (CQC) plan.

2) CQC Daily Report form.
3) Progress construction photos

d. Project Work Plan. (The following are examples:)

1) Security Plan
2) Communication Plan
3) Mobilization/site laydown plan
4) Temporary electrical systems
5) Welder qualifications
6) Welding procedures
7) List of proposed products

e. Schedule for Construction/Network Analysis.

f. Submittal Register.

g. Certificates of Insurance

h. Surety Bonds

i. List of proposed subcontractors.

SD-02 Shop Drawings

- Drawings, diagrams, and schedules specifically prepared to illustrate some portion of the work.
- Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.
- Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

- Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.
- Samples of warranty language when the Contract requires extended product warranties.

SD-04 Samples

- Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.
- Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.
- Field samples and mock-ups constructed on the project site establish standards by which the ensuing work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

- Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

- Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of Contract award for the project.)
- Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

- Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.
- Investigation reports.
- Daily logs and checklists.
- Final acceptance test and operational test procedure.
- Any reports required by the Contracting Officer or designated representative to assure successful completion of tasks during the life of the Contract.

SD-07 Certificates

- Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project Contract and clearly name the project.
- Document required of Contractor, or of a manufacturer, supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.
- Confined space entry permits.
- Text of posted operating instructions.

SD-08 Manufacturer's Instructions

- Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

- Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and must state the test results; and indicate whether the material, product, or system has passed or failed the test.
- Factory test reports.

SD-10 Operation and Maintenance Data

- Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance, and repair of the item.
- This Data is intended to be incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

- Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.
- Special requirements necessary to properly close out a construction Contract. For example, Record Drawings and as-built drawings.

1.3.3 Submittal package quantity

The Contractor shall submit five copies of "G" submittals with five corresponding 4025 forms. Upon completion of "G" submittal review, copies as specified below will be marked with an action code, dated, and returned to the Contractor:

1.3.4 Processing of "G" Submittals.

a. Submittals will be reviewed and processed as follows:

- **Approved as Submitted** (Action Code "A"): Shop drawings which can be approved without correction will be stamped "Approved" and one copy will be returned to the Contractor.

- **Approved, Except as Noted on Drawings** (Action Code "B"): Shop drawings which have only minor discrepancies will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted" and one copy returned to the Contractor for correction.

- **Approved, Except as Noted on Drawings, Resubmission Required** (Action Code "C"): Shop drawings which are incomplete or require more than minor corrections will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted - Resubmission Required" and one copy returned to the Contractor for correction. Resubmittal of only those items needing correction required.
- **Will be Returned by Separate Correspondence** (Action Code "D"): Shop drawings will be addressed by Serial Letter and the Contractor shall respond according to instructions in the letter.
- **Disapproved** (Action Code "E"): Shop drawings which are fundamentally in error, cover wrong equipment or construction, or require extensive corrections, will be returned to the Contractor stamped "Disapproved." One copy will be returned to the Contractor and an explanation will be furnished on the submitted material or on ENG Form 4025 indicating reason for disapproval. Complete resubmittal required.
- **Receipt Acknowledged** (Action Code "F"): Shop drawings stamped "Receipt Acknowledged" are complete and one copy will be returned to the Contractor.
- **Receipt Acknowledged, Does Not Comply** (Action Code "FX"): Shop drawings which have been received but do not comply with Contract requirements. One copy will be returned to the Contractor stamped "Receipt Acknowledged, Does Not Comply" and an explanation will be furnished. Resubmittal required.
- **Other (Specify)** (Action Code "G"): Shop drawings requiring other specific action will be stamped "Other (Specify)" and returned with a description in the Remarks section. One copy will be returned to the Contractor. Resubmittal of only those items needing correction required.

b. Resubmittal will not be required for approved shop drawings unless subsequent changes are made by Contractor or by Contract modification. For shop drawings required to be resubmitted, Contractor shall make corrections required, note any changes by dating the revisions to correspond with the change request date, and promptly resubmit the corrected material. Resubmittals shall be associated with the "parent" by use of sequential alpha characters (for example, resubmittal of transmittal 8 will be 8A, 8B, etc). Government costs incurred after the first resubmittal may be charged to the Contractor.

c. Construction submittals resulting from investigative studies, reports, and analysis, that lead to designs that involve various engineering disciplines shall be identified within the submittal paragraph of the desiginated CSI spec section.

d. The Contractor shall provide construction submittals for **G**overnment review and **A**pproval (**GA**) for any other construction materials, equipment, or systems required by the Contracting Officer's Representative throughout the construction performance period of this contract.

1.3.5 <u>For Information Only Construction Submittals (FIO)</u>

All submittals not requiring Designer of Record or Government approval will be for information only. These construction submittals shall be checked, stamped, signed and dated by the Contractor's Quality Control Engineer, certifying that such submittal complies with the contract requirements. All Contractor submittals shall be subject to review by the Government at any time during the course of the contract. Any Contractor submittal found to contain errors or omissions shall be resubmitted as one requiring "approval". No adjustment for time or money will be allowed for corrections required as a result of noncompliance with plans or specifications. Normally submittals For Information Only will not be returned. Approval of the Contracting Officer is not required on FIO submittals. These submittals will be used for information purposes. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from

the obligation to furnish material conforming to the plans and specifications and will not prevent the Contracting Officer from requiring removal and replacement if nonconforming material is incorporated in the work.

1.3.6 Variations

After design submittals have been reviewed and cleared for construction by the Contracting Officer, no submittal for variation shall be considered by the Government.

1.3.7 Additional Shop Drawings and Submittals

In accordance with the paragraph entitled DESIGN DISCREPANCIES, the Government may request the Contractor to provide additional shop drawing and submittal type data subsequent to completion of the design.

1.3.8 Incomplete Design

The Contractor shall not use construction submittals as a means to supplant and/or supplement an incomplete design effort.

1.4 SUBMITTAL CERTIFICATION

The CQC organization shall be responsible for certifying that all submittals and deliverables have been reviewed in detail for completeness, are correct, and are in strict conformance with the contract drawings, specifications, and reference documents.

1.4.1 Effective Quality Control System

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with Contract Clause 52.236-21 entitled "SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION - ALTERNATE I", and SECTION 01451 CONTRACTOR QUALITY CONTROL.

1.4.1.1 Organizational Responsibility

The quality control system shall cover all design, construction, subcontractor, manufacturer, vendor, and supplier operations at any tier, both onsite and offsite.

1.4.1.2 CQC System Manager Review and Approval

Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager. If found to be in strict conformance with the contract requirement, each item shall be stamped, signed, and dated by the CQC System Manager. Copies of the CQC organizations review comments indicating action taken shall be included within each submittal.

1.4.1.3 Determination of Compliance

Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements by the Contracting Officer. The contractor shall submit all required documentation with submittals. The U.S. Army Corps of Engineer (USACE) will not accept partial submittals.

1.4.2 Responsibility for Errors or Omissions

It is the sole responsibility of the Contractor to ensure that submittals do or do not comply with the contract documents. Government review, clearance for construction, or approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract.

1.4.2.1 Government Review

Government review, clearance for construction, or approval of post design construction submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory.

1.4.3 Substitutions

No submittals for the purpose of substituting materials or equipment specified in the contract drawings, specifications, and reference documents shall be considered by the Government.

1.4.4 Additional Submittals

In conjunction with Contract Clause 52.236-5 entitled "MATERIAL AND WORKMANSHIP", the Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work.

1.4.5 Untimely and Unacceptable Submittals

Submittals covering component items forming a system or items that are interrelated shall be scheduled and submitted concurrently. Adequate time (a minimum of 18 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

b. Submittals called for by the Contract documents will be listed on the register. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the Contract documents but which have been omitted from the register.

c. Re-submit register and annotate monthly with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

If the Contractor fails to submit submittals in a timely fashion, or repetitively submits submittals that are incomplete or not in strict conformance with the contract documents, no part of the time lost due to such actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

1.4.6 Stamps

Stamps shall be used by the Contractor on all design and post design construction submittals to certify that the submittal meets contract requirements and shall be similar to the following:

Contractor (Firm Name)
Contract Number
Contract Name

I certify that this submittal accurate, is in strict conformance with all contract requirements, has been thoroughly coordinated and cross checked against all other applicable disciplines to prevent the omission of vital information, that all conflicts have been resolved, and that repetition has been avoided and, it is complete and in sufficient detail to allow ready determination of compliance with contract requirements by the Contracting Officer.

Name of CQC System Manager: _____
Signature of CQC System Manager: _____
Date: _____

1.5 ENGLISH LANGUAGE

All specifications, drawings, design analysis, design calculations, shop drawings, catalog data, materials lists, and equipment schedules submitted shall be in the English language.

1.6 UNITS OF MEASUREMENT

Design documents shall be prepared in accordance with the guidance offered in SECTION 01 41 50 METRIC MEASUREMENTS.

The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960.

1.6.1 Drawings

1.6.1.1 Site Layout

All site layout data shall be dimensioned in meters or coordinates, as appropriate. All details and pipe sizes shall be dimensioned in millimeters.

EXAMPLE: Masonry openings shall be a U.S. module to suit a standard U.S. door. The dimensions of the opening shall be given in SI units. Metric dimensions for site plans shall be in meters and fraction thereof. Dimensions for all other drawings shall be in millimeters using hard metric designations (example: 12 meters = 12 000). Hard metric is defined as utilizing standard metric products and the use of measurements in increments of fifty (50) and one hundred (100) millimeters.

1.6.1.2 Geo-reference

All site plans shall be geo-referenced using the WGS 1984 coordinate system, specifically the following: WGS 1984 UTM one 41 North. If the designer is not able to use the stated coordinate system the coordinate system used shall be correlated to the stated coordinate system. A table shall be provided within the site drawing set cross referencing the WGS84 system to that utilized. This is required to allow TAS to incorporate the plans into GIS for storage, map production, and possible geospatial analysis of the different work sites.

1.6.2 Design Calculations

Calculations shall be in SI units to meet the requirements of the design. Quantities on the contract drawings stated in SI units shall also be stated in SI units in the design analysis to match the drawings.

1.6.3 Specifications

All equipment and products shall be specified according to U.S. standards and described by appropriate units as required herein.

1.7 WITHHOLDING OF PAYMENT FOR SUBMITTALS

1.7.1 Design Submittals

Payment for Design work will not be made in whole or in part until the Government has reviewed and cleared the design for construction.

1.7.2 Construction Submittals

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. In event under separate clause of the contract, the Contractor is allowed partial or total invoice payment for materials

shipped from the Continental United States (CONUS), and/or stored at the site, the Contractor shall with his request for such payment, submit copies of approvals (ENG Form 4025) certifying that the materials that are being shipped and/or stored have been approved and are in full compliance with the contract technical specifications.

PART 2. PRODUCTS

2.1 GENERAL

The following are contract deliverables which expound upon and finalize the design parameters/requirements outlined within the contract documents. They shall be prepared in such a fashion that the Prime Contractor is responsible to the Government and not as an internal document between the Prime Contractor and its Subcontractors, Vendors, Suppliers, etc.

2.2 PROJECT NARRATIVE

The Project Narrative shall be a bound set and shall contain the contract Sections 01 01 00 and 01 01 50 (and any additional sections that are appropriate). The Section 01 01 00 and 01 01 50 shall be the latest version. Any subsequent changes to the contract shall be clearly marked and highlighted with explanation for the changes. The Project Narrative shall also contain the general description of the project and a discussion of the design approach and design features for the project.

2.3 DESIGN ANALYSIS

2.3.1 Submittal

It shall be written in the English language with SI units of measure. The design analysis is a written explanation of the project design which is expanded and revised (updated) as the design progresses. The design analysis shall contain all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the final drawings and specifications. The design analysis contains the criteria for, and the history of, the project design, including criteria furnished by the Government, letters, codes, references, conference minutes, and pertinent research. Design calculations, computerized and manual, are included in the design analysis. Narrative descriptions of design solutions are also included. Written material may be illustrated by diagrams and sketches to convey design concepts. Catalog cuts and manufacturer's data for all equipment items, shall be submitted.

2.3.2 Format

Format of design analysis shall closely match the standard format referenced within this document.

2.4 DESIGN CALCULATIONS

All design calculations shall be presented such that they are easily understood, correlated with the requirements (Section 01 01 00 and 01 01 50 criteria; codes; all other applicable or pertinent criteria) and all final conclusions clearly documented and summarized. The Design Submittal must include complete information (concrete design strengths, steel material properties, electrical loads, heat gain/loss assumptions, etc.) necessary to support all design calculations in order to easily and efficiently verify the accuracy of this information and the resulting project components shown in plans and specifications.

2.4.1 Submittal

When design calculations are voluminous, they shall be bound separately from the narrative part of the design analysis. Design calculations will include a title page, table of contents, and be indexed (tabbed) to separate distinct parts of the various analysis and design actions being accomplished to support plan drawings submitted. They shall

be presented in a clear, consistent and legible format in order to quickly understand the analysis and design accomplished. Presentation shall be such that a person unfamiliar with the project features and associated analysis and design can quickly understand the overall design process and procedures, review the information in conjunction with the given set of plans and specifications, and verify the suitability of all information submitted.

All design calculations shall explain the source of loading conditions with assumptions and conclusions explained. The analysis and design methods shall also be explained, including assumptions, theories and formulae. Include applicable diagrams that are clearly explained and correlated with related computations, whether computer or hand generated. The design calculations shall include a complete and comprehensive list of the criteria (and date or version of the criteria) that the design/analysis will be compared to (codes, Corps of Engineers Engineering Regulations, Engineering Manuals, etc.). Within the separable elements of design calculations, the engineer shall cite the specific code or reference paragraph or section as appropriate to indicate conformance to requirements.

At the beginning of each project component design section, present a summary of all load conditions and combinations required per applicable code or Corps of Engineers manual or regulation. Then clearly identify the particular load case governing the design and clearly show how the particular analysis, construction materials to be used, and the specific design meet the governing load combination.

Calculation sheets shall carry the names or initials of the engineer and the checker and the dates of calculations and checking. No portion of the calculations shall be computed and checked by the same person.

2.4.2 Computer Analysis

Provide a clear summary of all computer outputs and highlight in the outputs information used in the analysis and design accomplished elsewhere in the calculations.

If a computerized analysis or design program is used (either commercial software packages or unique, designer-written computer analysis/design tools), the computations shall provide clear reference to the software program and version being used and an explanation of the validity of the particular program to the given application (where has the program been used before, what input and output does the program provide, is the program a recognized Corps of Engineers or industry standard). If the program is proprietary to the Contractor (not recognized by the Corps of Engineers or industry), the Contractor shall provide a sample hand calculation to verify the results of one set of data generated by the computer program.

State exactly the computation performed by the computer. Include applicable diagrams, adequately identified. Provide all necessary explanations of the computer printout format, symbols, and abbreviations. Use adequate and consistent notation. Provide sufficient information to permit manual checks of the results.

Each set of computer printouts shall be preceded by an index and by a description of the computation performed. If several sets of computations are submitted, they shall be accompanied by a general table of contents in addition to the individual indices.

When the computer output is large, it shall be divided into volumes at logical division points. All final computer results used in design shall be separated from the total pages of computer output that might be included in the design calculations for ease of review.

2.5 CONSTRUCTION SPECIFICATIONS

If the Contractor determines that features of this contract design by the Contractor require additional specifications, they shall be submitted for review and approval. Specifications shall be prepared in accordance with the UFGS (Uniform Facilities Guide Specifications) format. The Contractor-prepared specifications shall include as a minimum, all applicable specification sections referenced by the UFGS. Where the UFGS does not reference a specification section for specific work to be performed by this contract, the Contractor shall be responsible for creating the required specification in the UFGS format.

2.5.1 Use of Unified Facilities Guide Specifications (UFGS)

If additional specifications are deemed necessary by the Contractor, UFGS (Uniform Federal Guide Specifications) are required when U.S. products and systems are required or used. Current UFGS information may be obtained at the following location: http://www.wbdg.org/ccb/browse_org.php?o=70.

Specifications for UFGS are in SpecsIntact format. SpecsIntact is government sponsored software used to edit specifications for government contracts. The software is available at the following link: http://specsintact.ksc.nasa.gov/index.asp.

2.5.2 Quality Control and Testing

Any additional specifications deemed necessary by the Contractor shall include required quality control and further indicate all testing to be conducted by the Contractor, its subcontractors, vendors and/or suppliers.

2.5.3 Ambiguities and indefinite specifications

Ambiguities, indefinite specification requirements (e.g., highest quality, workmanlike manner, as necessary, where appropriate, as directed etc) and language open to interpretation is unacceptable.

2.5.4 Industry Standards

2.5.4.1 U.S. Industry Standards

The Specifications shall be based on internationally accepted U.S. industry Standards, or as indicated in Section 01 01 50. Customarily accepted publications may be found in the UNIFIED MASTER REFERENCE LIST (UMRL) which may be located at the following URL: http://www.hnd.usace.army.mil/techinfo/UFGS/UFGSref.htm.

To access the UMRL select the "Unified Facilities Guide Specifications" tab and scroll down to Unified Master Reference List (UMRL) (PDF version).

Examples of U.S. standards are: National Fire Protection Association (NFPA), International Building Code (IBC), American Concrete Institute (ACI), American Water Works Association (AWWA), ADAAG (ADA Accessibility Guidelines) for Buildings and Facilities, etc. Standards referenced shall be by specific issue; the revision letter, date or other specific identification shall be included.

This document lists publications referenced in the Unified Facilities Guide Specifications (UFGS) of the Corps of Engineers (USACE), the Naval Facilities Engineering Command (NAVFAC), the Air Force Civil Engineer Support Agency (AFCESA), and the guide specifications of the National Aeronautics and Space Administration (NASA). This document is maintained by the National Institute of Building Sciences (NIBS) based on information provided by the agencies involved and the standards producing organizations. The listing is current with information available to NIBS on the date of this publication.

Standards referenced in specifications and drawings prepared by the Contractor shall be by specific issue; the revision letter, date or other specific identification shall be included.

2.6 DRAWINGS

2.6.1 Computer Assisted Design and Drafting (CAD)

Computer Assisted Design and Drafting (CAD) is required for all Afghanistan Engineer District South contracts. Only personnel proficient in the preparation of CAD drawings shall be employed to modify the contract drawings or prepare new drawings. The CAD deliverables shall meet the requirements of the A/E/C CAD Standards (V 3.0 or newer). The A/E/C CAD Standards may be downloaded at the CAD/BIM Technology Center at the following link: https://cadbim.usace.army.mil/default.aspx?p=s&t=13&i=4 or the website http://www.aed.usace.army.mil/engineeringtop2010.asp under the "Government Provided CAD Files" link.

The Contractor shall furnish all softcopy design submittals (and As-Builts) using software applications in either DWG format (Auto Desk, AutoCad Release 2009 or newer) or DGN format (Bentley Systems, MicroStation, version 8.0 or newer). Use of unregistered or student copies of software applications to prepare design drawings **IS NOT PERMITTED**. In addition, the Contractor is required to submit the softcopy design submittals in PDF (Adobe Acrobat) format.

CD media submitted containing the softcopy design submittals shall be organized per the instructions below and the diagram in Section 1335a:

CD Title:

Project Name and Location:
Project Number:
Submittal Number:
Date:
Contractor Name, Address, Telephone Number and email

Folders and Folder Contents/Structure:

Main Folder Name	Subfolders, Files and File Format	Description
Administrative	Multiple PDF files	Files shall include the contract, task order, approved modifications, approved BCDs, approved variations and non-administrative modifications (do not provide time extensions, COR appointments, and Requests for Information/responses, etc).
Design Analysis	One pdf file with identical contents as the printed document of the submittal.	All data, discussion, calculations and information presented in the printed Design analysis.
Specifications	One folder specifications in word format. One folder with specifications in pdf format.	All specification sections including table of contents edited as appropriate for the submittal stage of the project[2].
Geotechnical Report	One file in pdf format	All data, graphs, charts and tables generated during the geotechnical investigation.
PDF Drawings	One Binder of pdf files.	PDF Drawings. Files will be saved in a Binder and organized in the same order as indicated on the sheet index
CAD Drawings	DGN or DWG files organized in the following folders. Each folder shall contain only drawings pertaining to that discipline. General (Cover Sheet/ Index of Drawings, Vicinity Maps) Civil Architectural Structural Mechanical Plumbing Electrical Telecommunications	CAD Drawings. All referenced files are to be attached without drive or directories and placed in the same folder it is referencing. Do not save or use paths. Do not use live nesting when attaching reference files.

Notes:
1. The administrative folder shall provide documents submitted by the contractor and received from the COR related to the contract. These documents shall include Requests for Information related to design issues, Variation Requests, Modifications to the Contract. In addition, the folder shall contain a copy of the signed contract, relevant task orders and change orders.
2. DO NOT INCLUDE standard drawings or specifications provided to the Contractor as part of this document or as part of the contract.

2.6.2 Drawings

Drawings shall be prepared in the English language with metric (SI) units of measure. All drawings and details of the working drawings shall be labeled and cross-referenced, thoroughly checked and coordinated with other engineering disciplines. At the final design submittal (100%) the Contractor shall have incorporated all design review comments generated by previous design review(s), have completed all of the constructability and coordination comments, and have the drawings in a Ready-to-Build condition. The drawings shall be complete at this time and contain all the details necessary to ensure a clear understanding of the work throughout construction. Prior to submitting the 100% Final Design drawings, the Contractor shall follow the procedures as described in Section 3 of the AED Design Requirements for CAD Design Guide.

2.6.3 Drawing Size Border Sheets

All drawings shall be prepared in size "A1" border sheets (594mm by 841mm). Hardcopy design submissions may be printed on half size drawing sheets (“A3”, 297 mm by 420 mm) for purposes of saving paper and for ease of review. If drawings are not readable in the half size reduction, the Contractor shall submit all drawings in A1 border sheets. All final contract drawing sets (As-Builts) shall be submitted on A1 border sheets. Drawing sheets shall be trimmed to specified size if necessary.

2.6.4 Sequence of Design Drawings

Referencing the A/E/C CAD Standard the sequence of drawings shall follow the sequence as shown below:

Discipline

1. General
2. Hazardous Materials
3. Survey/Mapping
4. Geotechnical
5. Civil
6. Landscape
7. Structural
8. Architectural
9. Interiors
10. Equipment
11. Fire Protection
12. Plumbing
13. Process
14. Mechanical

15. Electrical
16. Telecommunications
17. Resource
18. Other Disciplines
19. Sub-Contractor/Shop Drawings
20. Operations

2.6.5 Drawing Folder Structure

CAD files shall be organized in folder names as described in Paragraph 2.6.4. For multi-building projects, a folder of each building type shall be created and the applicable folders shown in each building type folder.

2.6.6 Drawing Sheet Assembly

CAD files will be organized in what is described as "**Option 1a**" (page 9 in the A/E/C CAD Standards Drawing Sheet Assembly manual), normally referred to as "Model Space and Paper Space" in Autodesk Autocad applications and "Design Model and Sheet Model" in Bentley Microstation applications. All files will be drawn consistently in the same manner using this option throughout the entire project.

2.6.7 Model Files

Model files represent the building's physical layout and components such as floor plans, elevations and details. Model files shall be drawn to full size (1:1) in metric units in the default model view. Floor Plan Model files represent one floor. Example: do not use one model drawing file to draw several floor plan drawings with several border files. One paper space layout shall be provided per plotted sheet. Model files being referenced into another shall have insertion coordinates (x,y,z) of 0,0,0 in model space. The exception for model files with insertion coordinates other than 0,0,0 shall be the civil site plans (using Georeferencing and real-world coordinates.) Dimensioning shall be in millimeters unless noted otherwise, drawn associatively, and not be "forced". Example: if a wall is drawn 1:1, as 150 mm but the dimensioned number is modified to 200, this is unacceptable.

2.6.8 Border Sheet Files

Border sheet files are referenced into drawing files (in Paper Space) for plotting and viewing purposes. Every border sheet file has a drawing area, Title Block information and sheet trim border. The Afghanistan Engineer District – South uses a common Title Block sheet border for each project. The project Title Block sheet border with "sheet independent" data is referenced into each drawing. When a drawing file is created, "sheet dependent" Title Block data, such as the Sheet Identification and Title, is added to the specific drawing file and located in Paper Space where the Title Block is referenced and viewed. AED-S Title Block drawings may be downloaded at : http://www.aed.usace.army.mil/engineeringtop2010.asp under the "Government Provided CAD Files" link.

2.6.9 Layer/Level names

Layer or level files names shall follow the guidelines of the A/E/C CAD Standards V4.0. For AutoCAD, [discipline].dwt (drawing template files) shall be used to import the proper layers that will be inclusive of the correct line type, color, and line thickness of the respective layer. Templates to be used are found on the CAD/BIM Technology Center at the following link: https://cadbim.usace.army.mil/default.aspx?p=s&t=13&i=4, or at the website: http://www.aed.usace.army.mil/engineeringtop2010.asp under the "Government Provided CAD Files" link.

2.6.10 Drawing File Naming Convention

The sheet identifier will consist of the discipline designator, the sheet type designator and the sheet sequence number as referenced in the A/E/C CAD Standards V4.0.

2.6.11 Sheet Identification Block

The sheet identifier will follow the format of the border sheet file. This will consist of the discipline designator, the sheet type designator and the sheet sequence number as referenced in the A/E/C CAD Standards Manual.

2.6.12 Drawing Scales

The scales indicated on the following list shall be the guide in determining the scale for all drawings. Bar scales shall be provided on drawings as printed copies may lose their plotted scale through generational copying.

TYPICAL DRAWING SCALES	
DRAWING TYPE	**METRIC**
SITE PLAN	1:200
	1:400
	1:500
	1:600
	1:700
	1:1000
	1:2000
	1:5000
	1:6000
	1:10000
	1:20000
FLOOR PLAN	1:50
	1:100
ROOF PLAN	1:200
EXTERIOR ELEVATIONS	1:100
	1:200
INTERIOR ELEVATIONS	1:50
	1:100
CROSS SECTIONS	1:50
	1:100
	1:200
WALL SECTIONS	1:20

STAIR DETAILS	1:10
DETAILS	1:5

2.6.13 Symbols, Line styles, & Patterns

Approved symbols, line styles, and patterns shall be in accordance with AEC CAD Standards V 3.0 or newer (see Appendix D of the A/E/C CAD Standards). The approved symbols, line styles, and patterns associated with AutoCAD software maybe downloaded at the following link:

https://tsc.wes.army.mil/products/standards/aec/aecstdsym.asp

2.6.14 Plotter Prepared Original Drawings AND PDF FILES

Design files shall be developed in anticipation of plotting on a monochrome, vector plotter. Line density shall be equivalent to that produced by black India ink: half tone plots are only acceptable where the half-tone color setting of RGB (red, green blue) settings equal a value of 153. (Please refer to the A/E/C CAD Standards). **Drawings plotted in color are not acceptable.** Manual changes to plotted originals are not acceptable. A separate Adobe PDF file shall be made of each drawing file oriented in "Landscape". Each PDF drawing file shall then be compiled into one "binder" PDF file for each set of drawings following the order of the Sheet Index.

2.6.15 Title and Revision Block

Only AED-S Title and Revision Blocks are allowed. These are available at the website for download at: http://www.aed.usace.army.mil/engineeringtop2010.asp under the "Government Provided CAD Files" link.

2.6.16 Legends

For each submittal, legends of symbols and lists of abbreviations shall be placed on the drawings. They shall include all of the symbols and abbreviations used in the drawing set, but shall exclude any symbols and abbreviations not used. Since many symbols are limited to certain design disciplines, there is a definite advantage to the use of separate legends on the initial sheet of each design discipline or in the Standard Details package for each discipline. If legends have not been shown by discipline, a legend shall be placed on the first drawing.

2.6.17 Location/column Grid

To facilitate the location of project elements and the coordination of the various disciplines' drawings, all plans shall indicate a column line or planning grid, and all floor plans (except structural plans) shall show room numbers.

2.6.18 Composite and Key Plans

If the plan of a large building or structure must be placed on two or more sheets in order to maintain proper scale, the overall plan (key plan) shall be placed on one sheet at a smaller scale to accommodate entire building/site. Key plans shall be used not only to relate large scale plans to total floor plans but also to relate individual buildings to large complexes of buildings. This key plan with match lines shall be referenced on all segmented drawings and shall be placed in a convenient location to indicate the relative location of the represented plan area by crosshatching.

2.6.19 Specifications Placed on the Drawings

Details of standard products or items which are adequately covered by specifications shall not be included on the drawings.

2.6.20 Revisions

Drawing revisions shall be prepared only on the original CAD files. A revision history (located in the Title Block) is required on all sheets.

2.6.21 Binding

All volumes of drawing prints shall be firmly bound and shall have covers of heavier bond than the drawing sheets. If posts are used to fasten sheets together, the drilled holes on the bond edges of the sheets shall be on 8-1/2-inch centers.

2.6.22 Government Provided files

All CAD related files provided by the Government to the Contractor (AutoCad and MicroStation Afghanistan Engineering District-South Title Block and Cover/Index sheet files, AutoCAD template files) may be downloaded through the following website:

http://www.aed.usace.army.mil/engineeringtop2010.asp under the "Government Provided CAD Files" link.

If Contractor is unable to access this site, a CD will be provided upon request to the Project Manager.

PART 3. EXECUTION

3.1 GENERAL

3.1.1 Design Concept Coordination Meeting

Shortly after Notice To Proceed (NTP) the Government may require meeting(s) to review the Design Submittal process or discuss various aspects of the contract to enable prompt and efficient initiation of contract actions. Meeting(s) will be held to assure attention is focused on key project requirements (necessary Contractor design and Government review that is required to provide Construction Clearance), to discuss features and items of work that need to be submitted early due to long lead time items, or discuss other concepts/ideas that will help accelerate the contract work. Other Design Coordination meetings may be requested throughout the contract period if Government review of various Contractor Design Submittals indicate poor design and plan or specification quality in order to clearly explain the changes and improvements required of the contractor, assure understanding of Government comments, code references and required investigations and calculations, to move forward with acceptable design and satisfactory plans and specifications.

3.1.2 Government Design Changes

Government design changes which do not increase construction costs shall be made at no charge to the Government. The Contracting Officer may request design submittals in addition to those listed when deemed necessary to adequately describe the work covered in the contract documents. Submittals shall be made in the respective number of copies and to the respective addresses set forth in the paragraph entitled SUBMITTAL PROCEDURE. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

3.2 SUBMITTAL REGISTER

3.2.1 Design Submittals

The Contractor shall submit as part of his Project Schedule Design Submittal milestone dates. The Contractor shall post all actual dates of submittal actions (including clearance for construction) as they occur.

3.2.2 Construction Submittal Register (ENG Form 4288)

Attached to this section is ENG Form 4288 which the Contractor is responsible for developing for this contract. All design and construction submittals shall be shown on this register. The submittal register shall be the controlling document and will be used to control all submittals throughout the life of the contract. The Contractor shall maintain and update the register on a monthly basis for the Contracting Officer's approval.

3.3 TRANSMITTAL FORM (ENG Form 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both design and construction submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care will be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.4 PROGRESS SCHEDULE

The Contractor shall prepare and submit a design progress schedule to the Contracting Officer. The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The progress schedule shall show, as a percentage of the total design price, the various items included in the contract and the order in which the Contractor proposes to carry on the work, with dates on which he will start the features of the work and the contemplated dates for completing same. Significant milestones such as review submittals shall be annotated. The Contractor shall assign sufficient technical, supervisory and administrative personnel to insure the prosecution of the work in accordance with the progress schedule. The Contractor shall correct the progress schedule at the end of each month and submit as required to the Contracting Officer. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.5 SCHEDULING

3.5.1 Design Submittals

Adequate time , a minimum of eighteen (18) full calendar days exclusive of mailing time) shall be allowed for TAS review and comment in DrChecks$_{SM}$. **This time period starts on the next full day after delivery of the Design Submittal to both TAS and the Area Office. If a Design Review is received by TAS or the Area Office but not the other, the design review does not start until both TAS and the Area Office have full design submittals.** If the Contractor fails to submit design submittals in a timely fashion, or repetitively submits design submittals that are not in strict conformance with the Contract documents, no part of the time lost due to such actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.5.2 Construction Submittals

Contractor furnished Government Approved Construction Submittals (GA) for items noted in Paragraph 1.2.5 of this Section, or others as required by the COR, shall be submitted to the Area or Resident Office, per directions given at the Pre-Construction meeting. Adequate time , a minimum of eighteen (18) full calendar days exclusive of mailing time) shall be allowed for TAS review and comment.

3.5.3 Post Design Construction Submittals

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time , a minimum of eighteen (18) full calendar days exclusive of mailing time) shall be allowed for review and approval. If the Contractor fails to submit post design construction submittals in a timely fashion, or repetitively submits submittals that are not in strict conformance with the Contract documents, no part of

the time lost due to actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.6 SUBMITTAL PROCEDURE

3.6.1 Design Submittals

3.6.1.1 Afghanistan Engineer District South (AES)

One (1) half-size hard copy and two (2) soft copies (electronic version) of all design submittals (calculations, reports of field tests, design analysis, plans, specifications, etc) shall be transmitted to the Government at the following address, by means of ENG Form 4025:

AFGHANISTAN ENGINEER DISTRICT SOUTH (TAS)

(1) DHL, FEDEX, UPS or any other courier service:
U.S. Army Corps of Engineers
Afghanistan Engineer District-South
Kandahar Air Field
USACE-TAS
APO AE 09355
Attention: Chief, Engineering Branch

The soft copy (electronic version) and CD case shall both be clearly labeled (hand written information is not acceptable – typed labels are required) with contract information (contract #, title, contractor name, specific design submittal stage including if it is a Resubmittal, date of submission, components of the submittal – design analysis, plans, specifications, and if more than one CD then state 1 of "X", 2 of "X", etc., anti-virus information below, etc.)

The Contractor shall scan the soft copy (electronic version) of each Design Submittal using most up-to-date version of recognized Industry-standard anti-virus software (Symantec, Norton, etc.) to insure that no viruses are contained in it prior to acceptance by TAS. The label shall indicate it has been scanned for viruses and the anti-virus software and version clearly indicated.

3.6.1.2 Resident/Area Engineer Office

Complete design submittals shall be provided to the Area and/or Resident Engineer Office such that these are received **at the same time** as these submittals are delivered to the AES address in Para. 3.6.1.1. At the Pre-Construction meeting, the Contractor will be furnished the Area and/or Resident Office address to which these submittals shall be provided along with the number and size of hard and soft (electronic version) copies required for these offices. As per Paragraph 3.6.1.1, soft copies are to be properly labeled and checked for viruses by the contractor prior to delivery.

3.6.1.3 Editable CAD Format As-Builts

In accordance with Contract Clause 52.227-7022 entitled "GOVERNMENT RIGHTS (UNLIMITED)", the Government has non-exclusive rights to use the design on other projects. Therefore, the As-Builts furnished to the Government must be in an editable format. See Section 01 78 00A CLOSEOUT SUBMITTALS, Paragraphs 1.1 and 1.2, for all requirements associated with submission of editable CAD format As-Builts required as part of this contract.

3.6.2 Post Design Construction Submittals

One (1) copy of all post design construction submittals shall be transmitted to:

AFGHANISTAN ENGINEER DISTRICT SOUTH (TAS)

(1) DHL, FEDEX, UPS or any other courier service:
U.S. Army Corps of Engineers
Afghanistan Engineer District-south
Kandahar Air Field
USACE-TAS
APO AE 09355
Attention: Chief, Engineering Branch

3.6.3 Submittal Numbering System

Instructions on the numbering system to be used for construction submittals follows.

3.6.3.1 Submittals

Shop drawings and materials are listed on the Submittal Register (ENG Form 4288) as follows:

List is prepared according to contract specifications and drawings, picking up all items involved in the project.

This list is divided into sections as indicated in the specifications. For example:

Section	01015	"Technical Requirements"
Section	01335	“Design Submittals”
Section	02831	"Chain-Link Fence"
Section	02710	"Sub-drainage System"
Section	03300	"Concrete For Building Construction"
Section	04200	"Masonry"

3.6.3.2 Numbering procedures for transmittal on ENG FORM 4025

Each Specification Section will have various requirements for submittals (design information, product data, test reports, procedures, etc.) to the Government for Approval (GA) or For Information Only (FIO). Items from different Sections cannot be submitted on the same ENG Form 4025. When furnishing one or more items from the same Section at a given time, a single ENG Form 4025 can be used to identify and submit these items. Block ‘b” of the 4025 entitled “DESCRIPTION OF ITEM SUBMITTED” should provide an accurate and unique description of each item being proposed by the Contractor. Item numbers (block “a” of the 4025 entitled “ITEM NO.”) will be automatically generated in QCS for each ENG Form 4025. QCS will track and automatically generate the “ITEM NO.” for all following ENG Form 4025s for the same Section number. To illustrate, a transmittal for the 65% Design Submittal required by Section 01335 might have the following Items:

ITEM NO. 1	Topographic Information
ITEM NO. 2	Geotechnical Report
ITEM NO. 3	Foundation Design
ITEM NO. 4	65% Plans
ITEM NO. 5	Outline of Construction Specifications to be used

If this was the first submittal furnished by the Contractor for Section 01335, then a Transmittal Number of 01335-1 would be generated using QCS. As new transmittals are generated in QCS, the last digit of the transmittal is increased incrementally, as follows:

Transmittal No. 01335-2

Transmittal No. 01335-3

Transmittal No. 01335-4

and so forth. The first transmittal submitted from each Specification Section will be “-1”, in other words, there will never be a “Transmittal No. 01335-0”.

The above illustration is true for all other Specification Sections included in the Request for Proposal or in the Construction Specifications compiled by the Contractor in the prosecution of work under the solicitation.

3.6.3.3 Resubmittals

Should the Contractor be required to resubmit any transmittal due to one or more items on that transmittal being Coded “C” (Cleared for Construction, except as noted in attached comments, Resubmission Required) or “E” (NOT Cleared for Construction, see attached comments, resubmission required) by the Government, QCS will be used to generate the same transmittal number followed by the number "-1" for the first re-submittal, "-2" for the second re-submittal, "-3" for the third re-submittal, etc.

As an example, assume the 65% Design Submittal is provided to the Government as Transmittal 01335-9. Due to omissions or errors in that Submittal which result in a Code “E” being given, then the subsequent 65% Design Re-submittal #1 would be “Transmittal 01335-9.1”. Should a re-submittal again be necessary, it would be Design Re-submittal #2 and would be submitted as “Transmittal 01335-9.2”.

The purpose of this system is to avoid deviations from the Submittal Register and to track submittals in both RMS and DrChecks$_{SM}$. It should be noted that a new transmittal number following the above system CANNOT be generated in QCS unless the prior transmittal has been given a Code. If the Contractor is having difficulty generating the correct transmittal number, contact the COR to resolve the matter.

The Contractor use the above nomenclature and date of submission to the Government for Plan Cover Sheets; title blocks for all drawings; all Specification Cover Sheets; all specification pages; all Design Analysis Cover Sheets and associated pages; and similar labeling for all other documents included in the submittal.

See the attachment titled “1335a-Attachments-AES.pdf” (Figures 1-4) for required Title Block Required Annotations drawing guidance.

3.6.4 Variations

If design or construction submittals show variations from the contract parameters and/or requirements due to site conditions, the Contractor shall justify such variations in writing, at the time of submission. Additionally, the Contractor shall also annotate block "h" entitled "variation" of ENG FORM 4025. After design submittals have been reviewed and cleared for construction by the Contracting Officer, no resubmittal for the purpose of substituting materials, equipment, systems, and patented processes shall be considered.

3.6.5 Non-Compliance

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.7 REVIEW OF CONTRACTOR PREPARED DESIGN DOCUMENTS

3.7.1 general

The work under contract will be subject to continuous review by representatives of the Contracting Officer. Additionally, joint design review conferences with representation by all organizations having a direct interest in the items under review may be held. The Contractor shall furnish copies of all drawings and related documents to be reviewed at the review conference on or before the date indicated by the Government. Additional conferences

pertaining to specific problems may be requested by the Contractor or may be directed by the Contracting Officer as necessary to progress the work. The Contractor shall prepare minutes of all conferences and shall furnish two copies to the Contracting Officer within seven (7) days after the conference.

3.7.2 Contractor's Quality Control Organization Review

The Contractor shall thoroughly review each submittal prior to submission to the Contracting Officer to assure it is complete, correct and unified. This review shall be for the purposes of eliminating errors, interferences, and inconsistencies, and of incorporating design criteria, review comments, specifications, and any additional information required. The Contractor shall give evidence of such review of all items in each submittal ENG Form 4025, by annotating Column "g" (titled "For Contractor Use Code") of this Form with the letter "A," meaning the Contractor has reviewed it and is indicating it is "Approved as Submitted". Design submittals submitted to the Contracting Officer without evidence of the above requirements or the Contractor's certified approval will be returned for resubmission. No part of the time lost due to such resubmissions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.7.3 Government Review

Within 14 days after Notice to Proceed, the Contractor shall submit, for approval, a complete design schedule with all submittals and review times indicated in calendar dates. The Contractor shall update this schedule monthly. After receipt, the Government will be allowed eighteen (18) full days to review and comment on all Design Submittals, except as noted below. This time period starts on the next full day after delivery of the Design Submittal to TAS.

If a design submittal is deficient (errors on ENG Form 4025; incorrect drawing title block information; missing or incomplete features required in the submittal; etc.), it will be returned immediately without further review for correction and resubmission. The review time will begin when the corrected submittal is received. The Contractor may be liable for liquidated damages owed to the Government for returned design submittals due to deficiencies.

The contractor shall not begin construction work until the Government has reviewed the Contractor's Design Submittal and cleared it for construction. Clearance for construction does not mean Government approval. Government review shall not be construed as a complete check but will evaluate the general design approach and adherence to contract parameters. The Government Review is often limited in time and scope. Therefore, the Contractor shall not consider any review performed by the Government as an excuse for incomplete work.

Upon completion of the review the Contractor will be notified by the Contracting Officer Representative that the DrChecks$_{SM}$ file is open for viewing and response to TAS comments. The Contracting Officer will indicate whether the Design Submittal, or portions thereof, has or has not been cleared for construction using the following action codes:

A – Cleared for Construction

B – Cleared for Construction, except as noted in attached comments

C – Cleared for Construction, except as noted in attached comments, resubmission required

E - NOT Cleared for Construction, see attached comments, resubmission required

FX – Receipt acknowledged, does not comply as noted with contract requirements.

These codes shall NOT be used by the Contractor.

Design submittals Cleared for Construction by the Contracting Officer shall not relieve the Contractor from responsibility for any design errors or omissions and any liability associated with such errors, nor from responsibility for complying with the requirements of this contract.

3.7.3.1 Incorporation of Government Review Comments

The Contractor shall review each comment, furnish a complete response in DrChecks$_{SM}$ as to how the comment will be addressed in the Design Analysis, Plans and Specifications, or other Design Submittal stipulations required in this Contract. The Contractor will then incorporate each comment into the design submittal along with other work required at the next Design Submittal stage. The Contractor shall furnish disposition of all comments in DrChecks$_{SM}$, with the next scheduled submittal. The disposition shall identify action taken with citation of location within the relevant design document. Generalized statements of intention such as "will comply" or "will revise the specification" are not acceptable. During the design review process, comments will be made on the design submittals that will change the drawings and specifications. The Government will make no additional payments to the Contractor for the incorporation of comments. Review comments are considered part of the contract administration process.

If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, he must clearly outline, with ample justification, the reasons for noncompliance within five (5) days after close of review period in order that the comment can be resolved.

The Contractor is cautioned that if he believes the action required by any comment exceeds the requirements of this contract, he should flag the comment in DrChecks$_{SM}$ as a scope change, and notify the COR in writing immediately.

If a design submittal is over one (1) day late in accordance with the latest design schedule, the Government review period may be extended 7 days. Submittal date revisions must be made in writing at least five (5) days prior to the submittal.

3.7.3.2 Conferences

As necessary, conferences will be conducted between the Contractor and the Government to resolve review comments.

A review conference may be held at the completion of TAS review and subsequent Contractor response for each design submittal. The review conference will be held at the Corps District Office in Kandahar, Afghanistan. The Contractor shall bring the personnel that developed the design submittal to the review conference.

3.7.3.3 Design Deficiencies

Design deficiencies noted by the Government shall be corrected prior to the start of design for subsequent features of work which may be affected by, or need to be built upon, the deficient design work.

3.7.4 Design Discrepancies

The Contractor shall be responsible for the correction of incomplete design data, omissions, and design discrepancies which become apparent during construction. The Contractor shall provide the Contracting Officer with a proposed recommendation for correcting a design error, within three (3) calendar days after notification by the Contracting Officer. The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor. Should extensions of design, fabrication plans and/or specific manufacturer's details be required as a result of a Government issued Change Order, the Government will make an equitable adjustment in accordance with Contract Clause 52.243-4 entitled "CHANGES".

3.8 Phased or "Fast-Track" Design

3.8.1 General

If approved by the Government, design and construction sequencing may be effected on an incremental basis as each approved phase or portion (e.g., demolition, geotechnical, site work, exterior utilities, foundations, substructure, superstructure, exterior closure, roofing, interior construction, mechanical, electrical, etc.) of the design is completed. The sequencing of the fast track design may be required to conform Section 01 33 16 DESIGN BUILD AFTER AWARD.

3.8.2 Sequence of Design-Construction (Fast-Track)

After receipt of the Contract Notice to Proceed (NTP) the Contractor shall initiate design, comply with all design submission requirements and obtain Government review of each submission. The contractor may begin construction on portions of the work for which the Government has reviewed the final design submission and has determined satisfactory for purposes of beginning construction. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the Government, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

3.8.3 Notice-to-Proceed for Limited Construction

If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

3.8.4 In-Place Construction Payment

No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Government.

3.8.5 Commencement of Construction

Construction of work may begin after receipt of the clearance for construction (CFC) letter for each design phase. Any work performed by the Contractor prior to receipt of the clearance for construction, shall be at the Contractor's own risk and expense. Work cleared for construction that does not conform to the design parameters and/or requirements of this contract shall be corrected by the Contractor at no additional cost or time to the Government.

3.9 Conduct of Work

3.9.1 Performance

Perform the work diligently and aggressively, and promptly advise the Contracting Officer of all significant developments.

3.9.2 Telephone Conversations

Prepare a summary, and promptly furnish a copy thereof to the Contracting Officer, of all telephone conversations relating to the design work under this contract.

3.9.3 Cooperation with Others

Cooperate fully with other firms, consultants and contractors performing work under the program to which this contract pertains, upon being advised by the Contracting Officer that such firms or individuals have a legitimate interest in the program, have need-to-know status, and proper security clearance where required.

3.9.4 Technical Criteria

All designs, drawings, and specifications shall be prepared in accordance with the contract documents and with the applicable publications referenced therein. As soon as possible, the Contractor shall obtain copies of all publications applicable to this contract. Any deviations from the technical criteria contained in the contract documents or in the applicable publications, including the use of criteria obtained from the user or other sources, must receive prior approval of the Contracting Officer. Where the technical criteria contained or referred to herein are not met, the Contractor will be required to conform his design to the same at his own time and expense.

3.9.5 Conflicts

Any conflicts, ambiguities, questions or problems encountered by the Contractor in following the criteria shall be immediately submitted in writing to the Contracting Officer with the Contractor's recommendations. Prior to submission to the Government the Contractor shall take appropriate measures to obtain clarification of design criteria requirements, to acquire all pertinent design information, and to incorporate such information in the work being performed.

3.9.6 Design Priorities

The design of this project shall consider the remote location and harsh environment of this project and the impact this will have on sources of technical supply, the cost of construction, the low level of maintenance, and the difficulty of obtaining replacement parts. Unless stated otherwise in this contract, the following design priorities shall be followed.

3.9.6.1 Construction Life Span

Buildings and facilities shall be designed and constructed to serve a life expectancy of more than 25 years, to be energy efficient, and to have finishes, materials, and systems that are low maintenance and low life cycle cost.

3.9.6.2 Operability

Systems including but not necessarily limited to mechanical, electrical, communications, etc., must be simple to operate and easy to maintain.

3.9.6.3 Standardization

Use of standardized materials, products, equipment, and systems is necessary to minimize the requirements for replacement parts, storage facilities, and service requirements.

3.9.6.4 Topographic Surveys, Easements, and Utilities

Unless otherwise stated in the contract, the Contractor will be responsible for detailed topographic mapping, available easements, and utility information for the project.

3.9.6.5 Horizontal and Vertical Control

The survey monuments shall be based on UTM WGS 1984 coordinate system. The horizontal and vertical control established on site shall be a closed loop with third order accuracy and procedures. All of the control points established at the site shall be plotted at the appropriate coordinate point and shall be identified by name or number, and adjusted elevations. The location of the project site, as determined by the surveyor shall be submitted in writing to the Contracting Officer.

3.9.7 Occupational Safety and Health Act

The facilities, systems, and equipment designed under this contract shall comply with the Occupational Safety and Health Act (OSHA), Code of Federal Regulations, Title 29, Chapter XVII, Parts 1910 and 1926. Any problems in incorporating these standards due to conflicts with other technical criteria shall be submitted to the Contracting Officer for resolution.

3.9.8 Asbestos Containing Materials

Asbestos containing material (ACM) will not be used in the design of new structures or systems. In the event no other material is available which will perform the required function or where the use of other material would be cost prohibitive, a waiver for the use of asbestos containing materials must be obtained from TAS.

3.9.8.1 Existing Construction

Asbestos containing materials (ACM) presently included in existing construction to be rehabilitated or otherwise modified as a result of this project shall be removed and a non-asbestos containing material substituted in lieu thereof.

3.9.8.2 Suspected Asbestos Containing Materials

All such structures and systems shall be inspected to determine the presence or probable presence of ACM. When ACM is suspected, a documented survey will be performed. The survey will be developed into an abatement design and will be made a part of the design documents. In the event no other material is available which will perform the required function or the use of a substitute material would be cost prohibitive due to initial cost and tear-out of existing construction, a waiver for the retention of the asbestos containing material must be obtained from the Contracting Officer.

3.10 ATTACHMENTS

The following attachments form an integral part of this specification:

ENG FORM 4025-R, Mar 95 - Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificate of Compliance (2 pages)

ENG FORM 4288-R, Mar 95 - Submittal Register

Figure 1 – AES Title Block

Figure 2 – AES Management Block

Figure 3 – AES Issue Block & Required Notations

Figure 4 – Border Sheet Size

-- END OF SECTION -