SECTION 01 33 16.00 10

DESIGN DATA (DESIGN AFTER AWARD)

PART 1 GENERAL

1.1 SUMMARY

After award, develop the accepted proposal into the completed design, as described herein. Use a collaborative, integrated design process for all stages of project delivery with comprehensive performance goals for site development, energy, water, material selection, indoor environmental quality, and waste diversion. Ensure incorporation of these goals in project delivery. Consider all stages of the building lifecycle, including deconstruction, rehabilitation, re-purposing, or demolition.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 19115-1	(2014) Geographic Information -- Metadata -- Part 1: Fundamentals
ISO 19005-3	(2012) Document Management -- Electronic Document File Format for Long-Term Preservation -- Part 3: Use of ISO 32000-1 with Support for Embedded Files (PDF/A-3)
ISO 32000-1	(2008) Document Management -- Portable Document Format -- Part 1: PDF 1.7

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 13	(2019; Errata 19-1; Errata 19-2; TIA 19-1; TIA 19-2; TIA 19-3; TIA 19-4; Errata 19-3; Errata 20-4; TIA 19-5; TIA 19-6) Standard for the Installation of Sprinkler Systems

NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)

NCS	(V6) United States National CAD Standard

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-1-2909	(2012) Engineering and Design -- Geospatial Data and Systems
ERDC/ITL TR-12-1	(2015) A/E/C Graphics Standard, Release 2.0
ERDC/ITL TR-12-6	(2015) A/E/C CAD Standard - Release 6.0

U.S. DEPARTMENT OF DEFENSE (DOD)

UFC 1-300-02	(2014; with CHange 3, 2021) Unified Facilities Guide Specifications (UFGS) Format Standard
UFC 3-101-01	(2020; with Change 1, 2021) Architecture
UFC 4-010-01	(2018; with Change 1, 2020) DoD Minimum Antiterrorism Standards for Buildings
UFC 4-023-03	(2009; with Change 3, 2016) Design of Buildings to Resist Progressive Collapse

1.3 DEFINITIONS

1.3.1 Designer of Record (DOR)

Professional Registered members of the Contractor’s Design-Build team that check, approve, sign, date, and certify, prior to submitting the deliverables to the Government, that the D-B design submittals comply with the contract requirements.

The DOR's stamp, sign, and date each design drawing and other design deliverables under their responsible discipline. The DOR(s) are responsible for maintaining the integrity of the design and for compliance with the contract requirements through construction and documentation of the as-built condition by coordination, review and approval of extensions of design, material, equipment and other construction submittals, review and approval or disapproval of requested deviations to the accepted design or to the contract, coordination with the Government of the above activities, and by performing other typical professional design responsibilities.

1.3.2 Government Furnished Material (GFM)

Government material that may be incorporated into, or attached to, an end item to be delivered under a contract or which may be consumed in the performance of a contract. It includes, but is not limited to, raw and processed material, parts, components, assemblies, and small tools and supplies.

1.3.3 Advanced Modeling

A subset of geospatial technologies as defined in EM 1110-1-2909 to include BIM, CIM, GIS, and CAD. Advanced Modeling is comprised of models and drawings that form a digital representation of the project, or part thereof, that are comprised of model elements with facility data.

1.3.4 Model Element

A self-contained graphical element with a unique identification that is used to populate a model, and whose behavior and properties are defined by facility/site data and software processes. Model elements can represent a physical entity, such as a pump, a concrete wall, or a utility vault and range from the simple to the complex and can be custom modified.

1.3.5 USACE CAD/BIM Technology Center

The USACE CAD/BIM Technology Center hosts all standard content for USACE. This content can be accessed through the CAD/BIM Technology Center website, https://cadbimcenter.erdc.dren.mil.

1.4 ORDER OF PRECEDENCE

In the event of a conflict or inconsistency between any of the requirements within the Contract, precedence is applied:

a. Any portions of the accepted proposal which both conform to and exceed the requirements of the solicitation.

b. The provisions of the solicitation.

c. All other provisions of the accepted proposal.

d. Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, and equipment installation drawings. These "deliverables" under the contract are not part of the contract itself. Design products must conform to all provisions of the contract, in the order of precedence.

1.5 PRECONSTRUCTION ACTIVITIES

1.5.1 Design Quality Control Plan

Submit a Design Quality Control Plan in accordance with Section 01 45 00.00 10 QUALITY CONTROL before design may proceed.

1.5.2 Meetings and Conferences

1.5.2.1 Post Award Conference

The Government will conduct a post award conference , as soon as possible after Contract award, coordinated with issuance of the notice to proceed (NTP). Participation by the Contractor and major subcontractor representatives is mandatory. All designers need not attend this first meeting. The government will provide an agenda, meeting goals, meeting place, and meeting time to participants prior to the meeting.

As a minimum the following will be addressed during the conference: determination and introduction of contact person and their authorities; contract administration requirements; discussion of expected project progress processes; and coordination of subsequent meeting.

a. The government will introduce the Government project delivery team members, facility users, facility command representatives, and installation representatives.

b. Introduce key personal, major subcontractors and other needed staff.

c. Define expectations and duties of each participant.

d. Develop a meeting roster with complete contact information including name, office, project role, phone, mailing and physical address, and e-mail address for distribution to all participants. Also, provide minutes of the meeting to all participants.

1.5.2.2 Initial Design Conference

After Contract award, conduct the initial design conference, and provide a record of the meeting. All Designers of Record must participate in the conference. The primary purpose of the meeting is to make sure any needs are assigned and due dates established, as well as points of contact identified. The initial design conference may be scheduled and conducted at the project installation after the Post Award Conference and prior to initiation of significant preliminary design development. Limit any design work conducted after award and prior to this conference to site work.

1.5.2.3 Pre-Construction Conference

Before starting any construction activities, jointly conduct an administrative conference with the Government to discuss any outstanding requirements and to review local installation requirements. It is possible there will be multiple Pre-Construction Conferences based on the configuration of the design packages. Provide minutes of the meeting(s) to all participants.

1.6 SUBMITTALS

Each submittal includes an associated approval level designation as defined in the following table:

Approval Level Designation	Definition
G	Government approval
no designation	for information only
D	Designer of Record approval
C	Government Conformance Review of Design
R	Designer of Record Approval and Government Conformance Review
A	Designer of Record Approval and Government Approval

When used, a designation following the approval level designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Design Quality Control Plan; G

Initial Design Conference

Preconstruction Conference

DCM Procedures; G

Submittal Register; G

SD-05 Design Data

Design and Code Checklists; C

Interim Design Submittals; R

Interior And Exterior Building Finishes Scheme; G

Conference Documentation

Final Design Submittals; R

Design Complete Documents; C

SD-11 Closeout Submittals

DD Form 1354; A

1.7 DESIGN QUALITY CONTROL

1.7.1 Design And Code Checklists

Develop and utilize appropriate discipline-specific checklists during the design and quality control of each submittal. Submit these completed checklists with each design submittal, as applicable, as part of the project documentation. See Section 01 45 00.00 10 Contractor Quality Control and paragraph FIRE PROTECTION AND LIFE SAFETY CODE REVIEW for a sample Fire Protection and Life Safety Code Review checklist.

1.8 DELIVERY, STORAGE, AND HANDLING

1.8.1 Electronic Design Submittal

Provide identical copies of discs for approval, for each submittal required. Provide quantities and sizes indicated in Section 01 33 00 SUBMITTAL REQUIREMENTS .

1.8.1.1 Malicious Content

Scan all electronic files for malicious viruses using commercially available scanning program that is routinely updated to identify and remove current virus threats.

1.8.1.2 Storage Media

Provide project data on disc-based (DVD±R/RW) media. Provide the full submittal on one single disc whenever possible. When separation of the submittal is required separate deliverables onto separate media.

a. Directly print identification of contents onto storage media. Do not provide adhesived labels. Include the name of the submittal, project, project location, Contract number, Designer of Record firm/Prime Contractor company's name, and title of submission on the label. If multiple discs are provided, clearly document the contents of each disc on the label.

b. Include the name and contact information of the individual who produced the final data disc to ensure that any problems with the data

or media can be easily resolved.

c. When browsed on any computer, the disc displays the following folders and their associated content:

(1) Submittal files (containing all submittal data)

(2) All supporting documents associated with the submittal

(3) Readme containing one TXT, PDF, or HTML file with general use information, organizational instructions, and basic preparer contact information.

1.8.2 File Packaging

Execute the following actions for all design drawing and modeling files:

1.8.2.1 Autodesk AutoCAD

a. Purge unused

b. Audit

c. Compress

1.8.3 PDF File Packaging

Utilize PDF file format in accordance with ISO 32000-1 and ISO 19005-3. Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible.

1.8.3.1 Bookmarking

a. Bookmark drawing submittal PDF sets to include one Parent Bookmark per Discipline and one Child Bookmark per sheet within each Discipline. Format Parent Bookmarks as "Discipline" (e.g. Architectural). Format Child Bookmarks as "Sheet ID Sheet Title" (e.g. A-101 First Floor Plan).

b. Bookmark specification submittal PDF sets using the SpecsIntact Print Processing PDF Print/Publish feature, combining processed sections into one PDF document. Insert the Submittal Register into the file where specified by Section 01 33 00 SUBMITTAL PROCEDURES and bookmark.

c. Bookmark design analysis and calculation submittal PDF sets to include one Parent Bookmark per design analysis section and one Child Bookmark per major paragraph per section. Format Parent Bookmarks as "Section" (e.g. Architectural). Format Child Bookmarks as "major paragraph designation Sheet Title" (e.g. 2.1 Primary Facility Functions).

1.8.4 Hardcopy Design Submittal

Print hard copy submittals directly from the electronically packaged PDF files. Provide quantities and sizes as indicated in Section 01 33 00 SUBMITTAL REQUIREMENTS .

The Designer(s) of Record stamps and signs the original full size hard copy sheets as Released For Construction. Provide distribution from this set.

PART 2 PRODUCTS

2.1 GOVERNMENT FURNISHED MATERIALS

The Government will provide Advanced Modeling files as GFM for use in design development. Develop and maintain the information and level of detail contained in the GFM in the Project design, as required by this Contract.

The Contractor has the option of preparing their own Advanced Modeling files in the formats prescribed as a basis for design, design drawings, and interim design submittals. If so, maintain the same level of detail, properties, and functionality in the models that is prescribed in this specification.

2.1.1 GFM Handover

The Government will provide the GFM at the Design Kick-Off Meeting .

2.1.2 GFM File Formats

GFM are provided in the following file formats:

2.1.2.1 Government Furnished GIS

The Installation's most current Standard GIS Database SDSFIE Adaptation will be furnished, including features and attributes relating to current project. Documentation of the required attributes and schema definitions will be provided with the GIS Template.

GIS source data and product data remain the property of the US Government. Be prepared to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this contract. Signing a non-disclosure agreement attesting to the same before source data are released may be required. Obtain further information about security and nondisclosure requirements from the Contracting Officer.

a. Some installation map data, source and/or product, may be considered by the Government to be "Controlled Unclassified Information" (CUI) also known as "Sensitive but Unclassified" (SBU). Release of this information to any third party without the explicit consent of the Contracting Officer is not authorized.

b. Return all source information to the Government or destroy upon completion of this contract.

2.1.2.2 Government Furnished CAD

The GFM includes Autodesk AutoCAD, Version 2015.

2.1.3 Advanced Modeling Completion and Quality

The Government makes no guarantee that the GIS data, CAD files and Facility Data provide the level of completeness or quality required for a submittal. Develop or update files and data to completely and correctly represent the as-built conditions of the facility and the site.

Use of any GFM files for creation of contract submittals is at the Contractor's own risk. Any quality control issues discovered in the GFM do not absolve the Contractor from submitting contract compliant deliverables as described in this and other specifications.

2.1.4 Data Loss, Corruption, and Error

Use of GFM files is at the Contractor's risk. Verify data integrity upon receipt and request a replacement if necessary.

Any adjustment of file structure, format, or software version required to make GFM compatible with computer systems and/or software is the responsibility of the Contractor.

2.2 ADVANCED MODELING DOCUMENTS

Provide all of the following documents with each design submittal.

2.2.1 Submitted Files List

Provide list of all submitted electronic files including a description, directory, and file name for each file submitted. For all Sheet files, include a list of the sheet titles and sheet numbers.

2.2.2 Advanced Modeling Electronic Files

Include all Advanced Modeling files associated with the contract scope of work.

2.2.2.1 Quality Control (QC) Reports

As a minimum, perform the following quality control checks:

2.2.2.1.1 Model Standards Checks

Provide QC checks demonstrating adherence to the NCS v6.0. Verify the following for the Model(s) and Facility Data set:

a. No undefined, incorrectly defined, or duplicated elements.

a. No errors when opening.

c. No broken Links, References, or X-References.

d. Minimized extraneous information.

e. Content uses the approved coordinate system.

f. Models share a common alignment point.

g. For a Design Complete or Record Submittal; no unloaded Links, References, or X-References exist.

2.2.2.1.2 Graphics Standards Checks

Provide QC checks on all graphic deliverables demonstrating that the fonts, dimensions, symbology and other construction document formatting are compliant with the requirements of this specification.

2.2.2.1.3 CAD Standards Checks and Report

Provide QC checks on CAD Output demonstrating that filenames, sheet borders, layer/level names, and symbology are compliant with the requirements of this specification.

2.2.3 Advanced Modeling Re-Submittals

If components of an Advanced Modeling submittal are rejected, provide the following for each Advanced Modeling Re-Submittal, in addition to re-submittal information required by Section 01 33 00 SUBMITTAL PROCEDURES:

a. Re-submit all components required under paragraph ADVANCED MODELING PACKAGE, including a new Advanced Modeling Checklist and updated content in response to Government comments.

b. Provide a copy of all Government review comments.

c. Provide a response to each Government review comment for back check.

2.3 DESIGN DRAWINGS

From advanced model files, produce design drawings that describe the scope of the Contract for all required submittals including all interim and final deliverables.

2.3.1 Electronic Drawing Files

Provide electronic drawing files in PDF format for each project drawing in the design set.

2.3.2 Drawing Index

Provide an index of drawings sheet as part of the drawing set, and an electronic table of all drawings submitted. Include the electronic file name, the sheet reference number, the sheet number, and the sheet title containing the data for each drawing.

2.3.3 Shop Drawings Used as Design Drawings

Design drawings may be prepared similar to shop drawings to minimize construction submittals after the Design Complete Submittals. Prepare and submit with the design drawings, appropriate connection, fabrication, layout, and product specific drawings.

2.3.3.1 Drawing Format For Shop Drawings Used as Design Drawings

Use the Contractor-originated drawings as the basis for the record drawings. Conform shop drawings included as design documents with the same drawing requirements such as drawing format, sheet size, layering, lettering, and title block used in design drawings.

2.3.3.2 Identification of Shop Drawings Used as Design Drawings

Indicate which shop drawings are being submitted as design drawings in the transmittal letter.

2.3.4 Seal on Documents

Sign, date and seal all Contractor-originated design drawings by the registered architect or the registered engineer of the respective discipline. This is the seal of the Designer of Record for that drawing. Application of the electronic seal and signature accepts responsibility for the work shown thereon.

2.4 SPECIFICATIONS

Provide a Contractor-originated design specification that, in conjunction with the drawings, demonstrates compliance with materials, equipment, execution, and field quality control requirements of the RFP and accepted proposal.

2.4.1 Specifications Format

Utilize the Unified Facility Guide Specifications (UFGS) current at the time of Contract award. Process the specifications with the SpecsIntact software package.

a. Edit and expand the appropriate specifications to ensure that all project design requirements, current code requirements, and regulatory requirements are met. Design specifications may be prepared that include manufacturer specific data and catalog cuts in lieu of non-proprietary, descriptive specifications. Clearly identify, where appropriate, specific products chosen to meet the contract requirements (i.e., manufacturers' brand names and model numbers or similar product information).

b. Note that the UFGS are based on design-bid-build contracting and will require editing to apply to a design-build project. For instance, they assume that the Government will approve most submittals, whereas in design-build, the DOR has that action, unless this solicitation requires Government approval for specific submittals.

c. Organize project sections not based on UFGS in accordance with CSI MasterFormat and UFC 1-300-02.

2.4.2 Identification of Manufacturer's Product Data Used as Specifications.

Provide complete and legible catalog cut sheets, product data, installation instructions, operation and maintenance instructions, warranty, and certifications for products and equipment for which final material and equipment choices have been made. Indicate, by prominent notation, each product that is being submitted including optional manufacturer's features, and indicate where the product data shows compliance with the Contract requirements.

2.4.3 Specifications Packaging

Provide specifications to include the following:

a. Cover sheet and project table of contents.

b. Seals and signatures page. Sign, date, and seal the specifications by the registered architect or registered engineer of each respective discipline; indicate which sections of the specifications are covered by each seal.

c. Specification sections.

d. Manufacturer's Product Data. If providing as attachments to the applicable specification section, incorporate as attachment reference within the section.

2.4.4 Specification Deliverable

Submit a bundled specification package in PDF format for each design package. As a minimum, bookmark each specification section in the bundled package. Also, submit the source files, in the processing system format, used to create the PDF.

2.5 DESIGN ANALYSIS

Prepare, organize, and present a design analysis that will document the general parameters, functional and technical requirements, design objectives, design assumptions, and provides design calculations applicable to a project's design. Organize the design analysis into three parts; Part 1 - General Description; Part 2 - Design Requirements and Provisions; and Part 3 - O&M Provisions.

The design analysis states the purpose, authorization, applicable criteria and the project description for the project, and provides a summary of the factors influencing the choice of the civil, architectural, structural, mechanical, electrical, communications, fire protection, and physical security systemsdesign features used in the project along with an indication of how the initial costs and life cycle costs were factored into final selections. In the final design analysis clearly and succinctly include:

a. An introductory description of the project concepts that addresses the salient points of the design

b. An orderly and comprehensive documentation of criteria and rationale for system selection, supported by life cycle cost analysis.

c. The identification of any necessary licenses and permits that are anticipated to be required as a part of the design and/or construction process.

d. Identify all applicable codes and criteria and highlight specific requirements within these codes and criteria for critical issues in the facility design.

e. Required calculations as specified and as needed to support the design.

g. Clearly identify "Antiterrorism" requirements and document the antiterrorism and force protection features as required by UFC 4-010-01.

2.5.1 Design Requirements and Provisions

Include subparts for each major design discipline and basic project design requirements for each discipline that justify and validate design decisions to include, but not limited to:

2.5.1.1 Civil

Include soil analysis and survey data, site design, site improvements, planting and landscaping, paving, grading and drainage, water, waste-water and soil treatment, contaminant containment, utilities systems analysis and design, and provisions for airfields, if required.

2.5.1.2 Architectural

Include space allowance, functional layout, unique features, interior design, furniture planning, signage, accessibility, security, air barriers, energy conservation and sustainable design to include site analysis focusing on orientation, space-mass composition, materials used and details with respect to image, safety, maintenance and cost effectiveness and historical context.

2.5.1.3 Structural

Include foundation, structural, seismic, hardened structure,nuclear radiation and blast protection systems analysis and design.

2.5.1.4 Mechanical

Include heating, ventilation and air conditioning systems, refrigeration, plumbing, elevators and cranes, energy conservation, pollution control, noise and vibration control, heating and chilled water distribution, gas distribution, fuel storage and dispensing, and process systems design.

2.5.1.5 Electrical

Include power generation, transmission and distribution systems, lighting (interior and exterior), voice and video communications, intrusion detection, utilities monitoring control systems (UMCS), cathodic protection, lightning and static electricity protection systems analysis and design, aviation lighting, and electromagnetic protection

2.5.1.6 Fire Protection and Life Safety

Include building construction, exit requirements, fire extinguishing systems, fire protection water supplies, surge analysis, and alarm and detection systems analysis and design.

2.5.1.7 Physical Security

Include fencing, vaults, protective lighting, security systems, locks, arms rooms, controlled substances, entrances, guard facilities, classified material, patrol roads, clear zones, restricted areas, surveillance and penetration resistance.

2.5.2 Operations and Maintenance (O&M) Provisions

Identify design provisions made to enhance and to reduce the cost of operating and maintaining the facility when completed. Identify any special safety considerations or occupational health related considerations that may affect operation and maintenance activities as a result of the final design.

2.5.3 Design Analysis Packaging

2.5.3.1 Assembly and Identification

Assemble design analysis in a single volume with a table of contents if possible. Include a cover page in the basis of design for each discipline indicating the project title and locations, contract number, table of contents, and tabbed separations or bookmarks for quick reference. At a minimum tab or bookmark for each discipline.

2.5.4 Calculations

Place the signature and seal of the designer of record responsible for the work on the cover page of the calculations for the respective design discipline.

PART 3 EXECUTION

3.1 DESIGN SUBMITTALS

Include all deliverable products and associated support documents described in Part 2 of this specification with each design submittal.

3.2 DESIGN SUBMITTALS PHASES

The stages of design submittals described below define requirements with respect to process and content. Determine how to best plan and execute the design and review process for the project, within the parameters listed below. As a minimum, provide at least one interim design submittal, at least one final design submittal, and at least one Design Complete submittal that documents the accepted design.

3.2.1 Interim Design Submittals (35% / 65%)

Submit interim designs for review, representing a complete package with all design disciplines. These are not necessarily a hold point for the design process; the Contractor may designate the interim design submittal(s) as a snapshot and proceed with design development at its own risk.

After acceptance of each interim design package, revise the design package to incorporate the comments generated and resolved, perform a back-check review and submit the next interim design package.

3.2.2 Final Design Submissions (95%)

After acceptance of the final interim design package, revise the design package to incorporate the comments generated and resolved, perform and document a back-check review and submit the final design package.

3.2.3 Design Complete Submittals (Issued for Construction)

After the final design submission and review conference for a design package, revise the design package to incorporate the comments generated and resolved in the final review conferences, perform and document a back-check review and submit the final, design complete documents, which represents released for construction documents.

3.3 DESIGN PLATFORM AND FILE FORMATS

Design the project using the systems and platforms defined below:

3.3.1 GIS

Submit all GIS data in Environment Systems Research Institute's (ESRI) ArcGIS File Geodatabase, Version 10.2.2; or Autodesk AutoCAD Map3D, Version 2016 in compliance with SDSFIE, Version 3.1.1 and appropriate ISO 19115-1 metadata.

3.3.2 CAD

3.3.2.1 Native CAD Authoring Content

All content produced through CAD authoring software must be compliant with ERDC/ITL TR-12-1 and ERDC/ITL TR-12-6. Autodesk AutoCAD Template Files . Download from the CAD/BIM Technology Center website as part of the A/E/C Work Structure.

3.3.2.2 CAD Extracted From BIM/CIM Authoring Platforms

CAD content exported from a BIM or CIM modeling platform must comply with ERDC/ITL TR-12-1 and ERDC/ITL TR-12-6.

3.4 ADVANCED MODELING REQUIREMENTS

3.4.1 GIS

3.4.1.1 Minimum Modeling Requirements

Provide final geo-referenced GIS database of the new building footprint, and site surface and subsurface features that exist outside the building footprint(s) out to the project extents compliant with current SDSFIE Adaptation.

Collect GIS georeferenced data pertaining to location and attribute data of subsurface utilities obtained at the time of project site excavation. Include the collection of elevation (Z) values in all data collection for underground utilities.

3.4.1.2 GIS Coordinate System

a. Coordinate System: State Plane

b. Zone (for State Plane or UTM): Oklahoma North FIPS 3501

c. Horizontal Datum: NAD 83/2011

d. Vertical Datum: NAVD 88

e. Horizontal Units of Measure: US Survey Feet

f. Vertical Units of Measure: Feet

3.4.1.3 Standard GIS Database SDSFIE Adaptation

Use the Standard GIS Database SDSFIE Adaptation provided by the Installation Geospatial Support Office to produce the GIS deliverables

required under this contract.

3.4.2 CAD

All content produced through layer-centric CAD authoring software outside of any object/element based BIM or CIM platform must be compliant with ERDC/ITL TR-12-6 and ERDC/ITL TR-12-1.

Autodesk AutoCAD Template Files Most recent version at the time of Contract award. Download form the CAD/BIM Technology Center website as part of the A/E/C Work Structure.

3.5 DESIGN CONFIGURATION MANAGEMENT (DCM)

3.5.1 Procedures

Develop and maintain effective, DCM procedures to control and track all revisions to the design documents subsequent to the first Interim Design Submission and continuing through submission of the As-Built documents. After the final design is accepted, this process provides control of and documents revisions to the accepted design. Submit the DCM procedures within the Design Quality Control Plan.

a. Include authorities and concurrences in the DCM system to authorize revisions, including documentation as to why the revision is required.

b. An internal system may be used with interactive Government concurrence.

c. Make the DCM data available to the Government reviewers at all times.

3.5.2 Tracking Design Review Comments

Contractor shall utilize an internal system to respond to, resolve and track Government design review comments.

a. For each desgin submittal, Contracting Officer will provide consolidated, validated comments from the Government reviewers.

b. Upon review of comments, prior to the design review conference, the DOR(s) shall evaluate and annotate the comments; indicate exactly what action will be taken or why action is not required.

c. After the review conference, prior to the next design submittal, the DOR(s) shall annotate those comments that require DOR action or design revision, clearly indicating what action was taken and what drawing/spec/analysis changed. Annotate and resolve all comments prior to the next submittal. Flag comments considered critical by the conference participants.

d. Designers of Record are encouraged to directly contact reviewers to discuss and agree to the comment responses rather than relying only on review meetings to discuss comments. Include the comments and responses in the design analysis for record in the next design submittal for the package; reviewers will back-check responses to the comments against the new submittal, in addition to reviewing additional design work.

e. Clearly annotate those comments that require effort outside the requirements of the contract. Do not proceed with work outside the

contract until a modification to the contract is properly executed.

3.6 DISCIPLINE DESIGN REQUIREMENTS

Provide design deliverables that comply with requirements of the contract documents; include drawings, specifications, and design analysis.

a. Drawings: Include comments from any previous design conferences incorporated into the documents to provide an interim design for the feature of work submitted.

b. Specifications: Provide specifications to ensure that all project design features are addressed, meeting current code requirements, and regulatory requirements. Use the track changes feature (redlines) to facilitate review of additions and deletions.

c. Design Analysis: Prepare and present design analysis with calculations necessary to substantiate and support all design documents submitted. Address design substantiation required by the applicable codes and references.

3.6.1 Geotechnical Investigations and Reports

Perform geotechnical investigations, as necessary, to determine the conditions for the actual locations of footings, other foundations and site paving features and other site features.

Submit a final geotechnical evaluation report, prepared by the licensed geotechnical engineer, along with the first foundation design submittal. Make this information available as early as possible during the review process.

a. Summarize the subsurface conditions and provide recommendations for the design of appropriate utilities, foundations, floor slabs, retaining walls, embankments, and pavements.

b. Include compaction requirements for fill and backfill under buildings, sidewalks, other structures and open areas.

c. Recommend foundation systems to be used, allowable bearing pressures for footings, lateral load resistance capacities for foundation systems, elevations for footings, grade beams, slabs, etc.

d. Provide an assessment of post-construction settlement potential including total and differential.

e. Provide recommendations regarding lateral earth pressures (active, at-rest, passive) to be used in the design of retaining walls. Include the recommended spectral accelerations and Site Class for seismic design along with an evaluation of any seismic hazards and recommendations for mitigation, if required.

f. Include calculations to support the recommendations for bearing capacity, settlement, and pavement sections.

g. Include supporting documentation for all recommended design parameters such as Site Class, shear strength, earth pressure coefficients, friction factors, subgrade modulus, California Bearing Ratio (CBR).

h. Provide earthwork recommendations, expected frost penetration, expected groundwater levels, recommendations for dewatering and groundwater control and the possible presence of any surface or subsurface features that may affect the construction of the project such as sinkholes, boulders, shallow rock, old fill, old structures, soft areas, or unusual soil conditions.

i. Include pH tests, salinity tests, resistivity measurements, etc., required to design corrosion control and grounding systems.

j. Include the raw field data.

3.6.1.1 Inconsistency with the Preliminary Soils Information

Arrange a meeting with the Government subsequent to completion and evaluation of the site specific geotechnical exploration to outline any differences encountered that are inconsistent with the Government provided preliminary soils information. Clearly outline differences which require changes in the foundation type, or pavement and earthwork requirements from that possible and contemplated using the Government furnished preliminary soils investigation, which result in a change to the design or construction.

3.6.1.2 Vehicle Pavements

Provide flexible and rigid pavement designs, as applicable for the project, including design CBR and modulus of subgrade reaction and the required compaction effort for subgrades and pavement layers. Also, provide information on the types of base course materials available in the area and design strengths.

3.6.1.3 Certification

With the professional geotechnical engineer consultant, certify in writing that the design of the project has been developed consistent with the Contractor's final geotechnical report. Submit the certification, stamped by the consulting professional geotechnical engineer, with the first design submission. If revisions are made to the initial design submission, provide a new certification with the final design submission.

3.6.2 Civil Site and Utilities Design Contents

Include the following in the interim design for the site and utilities. This list is not intended to limit the contractor from providing different or additional information as needed to support the design presented.

a. Storm drainage design

b. Pavement design in coordination with the geotechnical investigation report.

c. Location and vicinity maps

d. Removal and/or relocation plan

e. Layout plan

f. Grading and drainage plan

g. Utility Plan: Identify and locate water lines, sanitary sewer lines, force mains, industrial waste lines, and other subsurface utility features

h. Road and parking area profiles

i. Utility Profiles: Indicate invert elevations of all drainage structures, manholes, storm drainpipe with size and invert elevations, ground profile, and new or existing structures or utilities crossing the new utilities.

j. Civil details sheet

k. Concrete Joint Plan: Provide a joint layout plan for each concrete apron, hardstands, road, pavement, etc

l. Erosion and Sediment Control Plan

m. Lawn and landscaping irrigation system

n. Landscape, planting and turfing

o. Site specific civil calculations

3.6.3 Structural Systems

3.6.3.1 General

a. Identify all loads to be used for design.

b. Describe the method of providing lateral stability for the structural system to meet seismic and wind load requirements. Include sufficient calculations to verify the adequacy of the method.

c. Calculations for all principal roof, floor, and foundation members and bracing and secondary members.

d. Drawings showing principal members for roof and floor framing plans as applicable.

e. Foundation plan showing main foundation elements where applicable.

f. Typical sections for roof, floor, and foundation conditions.

g. Complete seismic analyses for all structural, mechanical, electrical, architectural, and building features as dictated by the seismic zone in which the facility is being constructed.

h. Identify the program name, source, and version used for computer generated calculations. Provide input data, including loads, loading diagrams, node diagrams, and documentation to illustrate the design. On the schematic models used for input,t show, as a minimum, nodes/joints, element/members, materials/properties, and all loadings; induced settlements/deflections; and a list of load combinations. Include an output listing for maximum and minimum stresses, forces, and deflections for each element, and the reactions for each loading case and combination.

i. Fully coordinate and integrate the overall structural design between

two different or interfacing construction types, such as modular and stick-built or multistory, stacked modular construction. Provide substantiation of structural, consolidation/settlement analysis, etc., as applicable, through the interfaces.

3.6.3.2 Anti-Terrorism/Force Protection (ATFP)

Provide a design narrative and calculations where applicable, demonstrating compliance with each of the 22 standards in UFC 4-010-01, which includes Design of Buildings to Resist Progressive Collapse (use the most recent version of UFC 4-023-03, regardless of references to any specific version in UFC 4-010-01).

a. Where sufficient standoff distance is not being provided, show calculations for blast resistance of the structural system and building envelope. Show complete calculations for members subjected to ATFP loads, e.g., support members of glazed items (jambs, headers, sills) connections of windows to support members and connections of support members to the rest of the structure.

b. For three story and higher buildings, provide calculations to demonstrate compliance with progressive collapse requirements.

3.6.4 Architectural

Provide a project design that meets the criteria and requirements identified in UFC 3-101-01. Consider architectural compatibility with the local environment, functional requirements, economy of construction, energy conservation, interior and exterior details, and life cycle costs. Optimize special functionality, aesthetics, material quality, and maintainability of operations to meet intended functional requirements in the final design.

Include the following in the basis of design as needed to sufficiently describe the project design

a. DesiComposite Floor Plans, floor plans, roof plans showing slope, exterior elevations, reflected ceiling plans, building sections and cross sections indicating floor to floor heights and wall sections which clearly delineate materials systems.

b. Interior building elevations, enlarged details, door details, window details, enlarged toilet plans and details, enlarged stairway plans and details.

c. Door and window schedules, finish schedules, hardware schedules, special signage and graphic requirements and all required built-in casework and equipment.

d. Life safety analysis and life safety plans showing the location of all fire rated partitions, fire rated doors, egress pathways and exits.

e. Air Barrier System: air barrier system plans and details (i.e. window flashing details, penetration in air barrier details, door flashing details, roofing /ceiling barrier interface details).

f. Composite floor plan showing all pre-wired workstations

g. Comprehensive Interior Design Package, which includes Structural

Interior Design (SID) and Furniture, Fixtures, and Equipment (FF&E) Design packages.

3.6.5 Interior Design

3.6.5.1 Structural Interior Design (SID) Requirements

Structural Interior Design includes all interior and exterior building related elements and components generally part of the building itself, such as wall finishes, ceilings finishes, floor coverings, marker/bulletin boards, blinds, signage, built in casework and all exterior building finishes. Develop the SID in conjunction with the furniture footprint.

3.6.5.1.1 Format and Schedule

a. Prepare and submit for approval an interior and exterior building finishes scheme for an interim design submittal. Conduct a meeting between the DOR and the appropriate Government officials to discuss the finish schemes prior to preparation of the schemes to be presented. Present original sets of the schemes to reviewers at an interim design conference.

b. At the conclusion of the interim phase, after resolutions to the comments have been agreed upon between DOR and Government reviewers, the Contractor may proceed to final design with the interior finishes scheme presented.

c. Submit the SID information and samples in letter size format using three ring binders with pockets on the inside of the cover. When there are numerous pages with thick samples, use more than one binder. Large D ring binders are preferred to O-ring binders. Use page protectors that are strong enough to keep pages from tearing out. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Maximum spread for fold out items is 25-1/2 inches. Provide cover and spine inserts sheets identifying the document as "Structural Interior Design" package. Include the project title and location, project number, Contractor/A/E name and phone number(s), submittal stage and date.

d. Design submittal requirements include, but are not limited to:

(1) Narrative of the Structural Interior Design Objectives: Include a narrative in the SID that discusses the building related finishes. Include topics that relate to base standards, life safety, sustainable design issues, aesthetics, durability and maintainability, discuss the development and features as they relate to the occupants requirements and the building design.

(2) Interior Color Boards

(a) Identify and key each item item on the color boards to the contract documents to provide a clear indication of how and where each item will be used. Arrange finish samples to the maximum extent possible by room type in order to illustrate room color coordination. Label all samples on the color boards with the manufacturer's name, patterns and colors name and number. Key or code samples to match key code system used on contract drawings.

(b) Material and finish samples indicating true pattern, color and texture. Provide photographs or colored photocopies of materials or fabrics to show large overall patterns in conjunction with actual samples to show the actual colors. Provide finish samples large enough to show a complete pattern or design where practical.

(c) Color boards include, but are not limited to, original color samples of

1. All walls finishes and ceiling finishes, including corner guards, acrylic wainscoting and wall guards/chair rail finishes.
2. All tile information, including tile grout color and tile patterns.
3. All flooring finishes, including patterns.
4. All door, door frame finishes and door hardware.
5. All signage, wall base, toilet partitions, locker finishes and operable/folding partitions and trim.
6. All millwork materials and finishes (cabinets, counter tops)
7. All window frame finishes and window treatments (sills, blinds)

(d) Color board samples reflect all actual finish textures, patterns and colors required as specified. Patterned samples sized to adequately show pattern and its repeat if a repeat occurs.

(3) Exterior Color Boards

(a) Prepare exterior finishes color boards in similar format as the interior finishes color boards, for presentation to the reviewers during an interim design conference. Provide original color samples of all exterior finishes including but not limited to the following:

All Roof Finishes
All Brick and Cast Stone Samples
All Exterior Insulation and Finish Samples
All Glass Color Samples
All Exterior Metals Finishes
All Window & Door Frame Finishes
All Specialty Item Finishes, including trim

(b) Identify each item on the exterior finishes color boards and key to the building elevations to provide a clear indication of how and where each item will be used.

3.6.5.1.2 Structural Interior Design Documents

Indicate the placement of extents of SID material, finishes and colors on related drawings and detail to define all interior work. The following is a list of minimum requirements:

3.6.5.1.2.1 Finish Color Schedule

Provide finish color schedule(s) in the contract documents. Provide a finish code, material type, manufacturer, series, and color designations. Key the finish code to the color board samples and drawings.

3.6.5.1.2.2 Interior Finish Plans

Indicate wall and floor patterns and color placement, material transitions and extents of interior finishes. Include a finish material/color board, presenting a physical representation of material selections

3.6.5.1.2.3 Furniture Footprint Plans

Provide furniture footprint plans showing the outline of all freestanding and systems furniture for coordination of all other disciplines.

3.6.5.1.2.4 Interior Signage

Include interior signage plans or schedules showing location and quantities of all interior signage. Key each interior sign to a quantitative list indicating size, quantity of each type and signage text.

3.6.5.1.2.5 Interior Elevations, Sections and Details

Indicate material, color and finish placement.

3.6.6 Plumbing Systems

a. List all references used in the design including Government design documents and industry standards.

b. Provide justification and brief description of the types of plumbing fixtures, piping materials and equipment proposed for use.

c. Detail calculations for systems such as sizing of domestic hot water heater and piping; natural gas piping; LP gas piping and tanks; fuel oil piping and tanks.

d. Show locations and general arrangement of plumbing fixtures and major equipment.

e. Plan and isometric riser diagrams of all areas including hot water, cold water, waste and vent piping. Include natural gas (and meter as required), LP gas, fuel oil and other specialty systems as applicable.

f. Include equipment and fixture connection schedules with descriptions, capacities, locations, connection sizes and other information as required.

g. When the geotechnical report indicates expansive soils are present, indicate in the first piping design submittal how piping systems will be protected against damage or backfall/backflow due to soil heave (from penetration of slab to the 5 foot building line).

3.6.7 HVAC Systems

3.6.7.1 Design Analysis

Provide complete design calculations for mechanical systems. Include computations for sizing equipment, compressed air systems, air duct design, and U-factors for ceilings, roofs and exterior walls and floors.

Based on the results of calculations, provide a complete list of the materials and equipment proposed with the manufacturer's published cataloged product installation specifications and roughing-in data.

3.6.7.2 Mechanical Floor Plans

On the floor plans, show all principle architectural features of the building which affect the mechanical design. Also show the following:

Room designations
Mechanical legend and applicable notes
Location and size of all ductwork and piping
Location and capacity of all terminal units (i.e., registers, diffusers, grilles, hydronic baseboards)
Pre-Fabricated Paint Spray Booth
Paint Preparation Area
Exhaust fans and specialized exhaust systems
Thermostat location
Location of all air handling equipment
Air balancing information
Flue size and location
Piping diagram for forced hot water system (if used)

3.6.7.3 Equipment Schedule

Providee complete equipment schedules. Include the following in the Schedule:

Capacity
Electrical characteristics
Efficiency (if applicable)

Manufacturer's name
Optional features to be provided
Physical sizes
Minimum maintenance clearances

3.6.7.4 Details

Provide construction details, sections, elevations, etc., only where required for clarification of methods and materials of design.

3.6.7.5 Controls

Submit complete HVAC controls equipment schedules, sequences of operation, wiring and logic diagrams, Input/Output Tables, equipment schedules, and all associated information. See the Statement of Work for additional specific requirements.

3.6.8 Fire Protection and Life Safety

Provide plan for each floor of each building that presents a compendium of the total fire protection features being incorporated into the design. Working plans and all other materials submittal must meet NFPA 13 requirements, with respect to required minimum level of detail. Include the following types of information:

a. The location and rating of any fire-resistive construction such as occupancy separations, area separations, exterior walls, shaft enclosures, corridors, stair enclosures, exit passageways.

b. The location and coverage of any fire detection systems.

c. The location and coverage of any fire suppression systems (sprinkler risers, standpipes, etc.).

d. The location of any other major fire protection equipment.

e. Indicate any hazardous areas and their classification.

f. Schedule describing the internal systems with the following information:

(1) Fire hazard and occupancy classifications
(2) Building construction type
(3) GPM/square foot sprinkler density
(4) Area of operation

3.6.8.1 Fire Protection/Suppression Analysis

a. Include building code analysis and basis of design for sprinkler and other suppression systems.

b. An FPE must perform all fire protection analyses. Provide the fire protection engineer's qualifications.

c. List all references used in the design including Government design documents and industry standards used to generate the fire protection analysis

d. Classification of each building in accordance with fire zone, building floor areas and height and number of stories

e. Discussion and description of required fire protection requirements including extinguishing equipment, detection equipment, alarm equipment and water supply. Interface alarm and detection equipment to requirements of Electronic Systems.

f. Plan for each floor of each building that presents a compendium of the total fire protection features being incorporated into the design. Include the following types of information:

(1) The location and rating of any fire-resistive construction such as occupancy separations, area separations, exterior walls, shaft enclosures, corridors, stair enclosures, and exit passageways.

(2) The location and coverage of any fire detection systems

(3) The location and coverage of any fire suppression systems (e.g. sprinkler risers, standpipes)

(4) The location of any other major fire protection equipment

(5) Indicate any hazardous areas and their classification

g. Schedule describing the internal systems with the following information: fire hazard and occupancy classifications; building construction type; GPM/square foot sprinkler density; area of operation and other as required.

h. Provide hydraulic calculations based on water flow test for each sprinkler system to insure that flow and pressure requirements can be met with current water supply. Include copies of water flow testing done to certify the available water source.

i. Meet NFPA 13 requirements with respect to required minimum level of detail on working plans and all other submitted materials.

3.6.8.2 Fire Protection and Life Safety Code Review

Use the information outlined in the document associated with this section at http://www.wbdg.org/ccb/NAVGRAPH/graphtoc.pdf to provide the minimum requirement for development of Fire Protection and Life Safety Code submittals for all building projects. Additional and supplemental information may be used to further develop the code review. Insert N/A after criteria, which may be "not applicable".

3.6.9 Electrical Systems

3.6.9.1 Design Analysis

Include lighting calculations to determine maintained foot-candle levels, electrical load analysis and calculations, electrical short circuit and protective device coordination analysis and calculations and arc fault calculations.

3.6.9.2 Floor Plan

On the floor plans show all principle architectural features of the building which will affect the electrical design. Also show the following on the floor plan:

(1) Room designations
(2) Electrical legend and applicable notes
(3) Lighting fixtures, properly identified
(4) Switches for control of lighting
(5) Receptacles
(6) Location and designation of panelboards. Plans should clearly indicate type of mounting required (flush or surface) and be reflected accordingly in specifications.
(7) Service entrance (conduit and main disconnect)
(8) Location, designation and rating of motors and/or equipment which requires electrical service. Show method of termination and/or connection to motors and/or equipment. Show necessary junction boxes, disconnects, controllers (approximate only), conduit stubs, and receptacles required to serve the motor and/or equipment.

3.6.9.3 Building Riser Diagram

From pad-mounted transformer to unit load center panelboard indicate the types and sizes of electrical equipment and wiring. Include grounding and metering requirements.

3.6.9.4 Load Center Panelboard Schedule(s)

Indicate the following information in the schedule(s):

(1) Panelboard Characteristics (Panel Designation, Voltage, Phase, Wires, Main Breaker Rating and Mounting
(2) Branch Circuit Designations
(3) Load Designations
(4) Circuit Breaker Characteristics (Number of Poles, Trip Rating, AIC Rating)
(5) Branch Circuit Connected Loads (AMPS)
(6) Special Features

3.6.9.5 Lighting Fixture Schedule

Indicate the following information in the schedule:

(1) Fixture Designation
(2) General Fixture Description
(3) Number and Type of Lamp(s)
(4) Type of Mounting
(5) Special Features

3.6.9.6 Details

Provide construction details, sections, elevations only where required for clarification of methods and materials of design.

3.6.10 Specialty Equipment

3.6.10.1 Elevators

a. List of criteria codes, documents and design conditions used.

b. List of any required permits and registrations for construction of items of special mechanical systems and equipment.

c. Description of the proposed control system.

d. Description, approximate capacity and location of any special mechanical equipment for elevators.

3.6.10.2 Corrosion Control and Prevention Systems

Provide a report clearly describing structures, systems or components in soil or water to be protected. Describe methods proposed for protection of each. The report must be stamped by the licensed corrosion engineer or NACE specialist with the first design submission.

The designer must be qualified to engage in the practice of corrosion control of buried or submerged metallic surfaces. Either accreditation or certification by the National Association of Corrosion Engineers (NACE) as a NACE Accredited Corrosion Specialist or a NACE certified Cathodic Protection Specialist, or a registered professional engineer with a minimum of five years experience in corrosion control and cathodic protection is required.

3.7 INTERIM DESIGN REQUIREMENTS

At least one interim design submittal, review and review conference is required for each design package. Additional interim design conferences or over-the-shoulder reviews may be scheduled, as needed, to assure continued Government concurrence with the design work. Include the interim submittal review periods and conferences in the Section 01 32 16.00 20 BASELINE DESIGN SCHEDULE and indicate in periodic schedule updates what part of the design work is at what percentage of completion.

3.7.1 Submission Review

After receipt of an Interim Design submission, the Government requires 14 calendar days after receipt of the submission to review and comment on the interim design submittal. For smaller design packages, especially those that involve only one or a few separate design disciplines, the parties may agree on a shorter review period.

a. For each interim design review submittal, the Contracting Officer will furnish a single consolidated, validated set of comments from the various design sections and from other concerned agencies involved in the review process. The review will be for conformance with the technical requirements of the Contract.

b. The Government reserves the right to reject design document submittals if comments are deemed significant.

c. Furnish disposition of all comments, in writing. If there are technical disagreements with any comments, clearly outline, with justification, the reasons for disagreement and noncompliance within

five calendar days after receipt of these comments.

d. The Contractor is cautioned that if it believes the action required by any comment exceeds the requirements of this contract, that it should take no action and notify the Contracting Officer in writing immediately.

3.7.2 Interim Review Conference

Hold an Interim Review conference for each design submittal at the installation. Attendees include, at a minimum, the DOR(s) involved in development of the design submittal. Schedule the conference to take place the week after the receipt of the comments. Notify the Contracting Officer of any comments that with concurrence would require further design development.

For smaller packages that involve only a few reviewers, the parties may agree to alternative conferencing methods, such as teleconferencing, as determined through by the Contracting Officer.

3.7.3 Conference Documentation

3.7.3.1 Minutes and Comment Process

Provide meeting minutes within two work days after the conference adjourns. Include copies of comments, annotated with comment action agreed on, with the minutes.

a. Resolve issues remaining open after the conference adjourns by immediate follow-on action to close the issue within 30 calendar days.

b. Incorporate comments as agreed upon during the conference.

3.7.3.2 Availability

In order to facilitate the Government code and contract conformance reviews, identify, track resolution of, and maintain all comments and action items generated during the design review process. Make this available to the designers and reviewers prior to the subsequent design reviews.

3.8 FINAL DESIGN REQUIREMENTS

Provide final design submittals that consist of 100 percent complete drawings, specifications, submittal register, design analyses for Government review and acceptance.

a. In order to expedite the final design review, prior to the conference, ensure that all designreview comment resolutions are up-to-date.

b. Perform independent technical reviews and back-checks of previous comment resolutions, as required by Section 01 45 00.00 10 QUALITY CONTROL.

3.8.1 Design Drawings

Submit drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted.

3.8.1.1 Geo-Referenced Data

Capture geo-referenced coordinates of all changes that will be made to the existing site (facility footprint, utility line installations and alterations, roads, parking areas, etc) as a result of this contract.

Close-out requirements at the as-built stage, require final geo-referenced GIS Database of the new facility along with all exterior modifications. The Government will incorporate this data set into the Installation's GIS Masterplan or Enterprise GIS System. See also, Section 01 78 00 CLOSEOUT SUBMITTALS.

3.8.2 Design Analysis

Provide a design analysis with calculations necessary to validate and support all design work submitted. Expand and advance calculations and information presented in the interim design stage to the current level of design. The responsible DOR(s) stamp, sign and date the design analysis.

3.8.3 Specifications

Provide specifications 100 percent complete and in final form.

3.8.4 Submittal Register

Provide an updated, cumulative submittal register with each design package that identifies the design and construction submittals required by that design package.

3.8.5 Preparation of DD Form 1354 (Transfer of Real Property)

This form itemizes the types, quantities and costs of various equipment and systems that comprise the project, for the purpose of transferring the new construction project to the Installation's inventory of real property. The Government will furnish the Contractor's design manager a DD Form 1354 checklist to use to produce a draft Form 1354. Submit the completed checklist and prepared draft Form DD 1354 with the 100 percent design. The Government will use these documents to complete interim and final DD 1354s for turnover of a portion or all of the construction project.

3.9 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

After the Final Design Submission and Review Conference, revise the design documents for the design package to incorporate the comments generated and resolved in the final review conference. Perform a back-check review and submit the final, design complete documents. The deliverable includes all documentation and supporting design analysis in final form, as well as the final review comments, disposition and the back-check. As part of the quality assurance process, the Government may perform a review of the released for construction documentation. Promptly correct any errors or omissions found during the Government review.

3.10 ACCEPTANCE AND RELEASE FOR CONSTRUCTION

After acceptance of the Design Complete Construction Document(s) the Contracting Officer will allow construction to start for that design package.

Government review and acceptance of design submittals is for contract conformance only and does not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted proposal; or limit the Contractor's responsibility of design; or limit the Government's rights under the terms of the contract. The Government reserves the right to rescind inadvertent acceptance of design submittals containing contract deviations not separately and expressly identified in the submittal for Government consideration and approval.

-- End of Section --