USE OF THIS DOCUMENT:

This PDF was created to allow users to view all possible text options/choices for the model RFP. Items in < > removed based on selections made while using the wizard. Items in [ ] will be replaced with the text the user enters into the wizard.

This document is for reference only. Any questions/concerns on the content, please see Chapter 8 in the Model RFP Implementation Guide for the change request process.

SAMPLE

(MODEL)

Design-Build Request For Proposal

[PROJECT_TITLE]
PN [PROJECT_NUMBER], FY [FISCAL_YEAR]

[PROJECT_LOCATION]

[CONTRACT_NUMBER]

SAMPLE

SECTION 00 01 10
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TASK ORDER
REV 1.10 – 31 JAN 2010
REQUEST FOR PROPOSAL
[PROJECT_TITLE]
[PROJECT_LOCATION]

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00 11 00 CLIN SCHEDULE

00 22 30 Task Order Design-Build Selection Procedures and Basis of Award

00 73 10 Supplemental Contract Requirements

<007346_NO>00 73 46 Wage Determination Schedule</007346_NO>

DIVISION 01 - General Requirements

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01 10 00.[TONUM] Task Order Statement of Work

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Appendices (Task Order Specific Requirements)

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SAMPLE

SOLICITATION, OFFER AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NO.	2. TYPE OF SOLICITATION ☐ SEALED BID (IFB) X NEGOTIATED (RFP)	3. DATE ISSUED	PAGES OF PAGES 1 OF 2

IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.

7. ISSUED BY CODE CT	8. ADDRESS OFFER TO
U.S. ARMY ENGINEER DISTRICT, XXX CONTRACTING DIVISION (CEXXX)	SAME AS BLOCK 7 IF HAND CARRIED, DELIVER TO ROOM VVVV

9. FOR INFORMATION XXXXXXXXX	A. NAME	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS)

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):

DESIGN AND CONSTRUCTION OF BRIGADE COMBAT TEAM FACILITIES

*BLOCK 13A. – REFER TO SECTION 00110 FOR THE NUMBER OF COPIES TO BE SUBMITTED WITH THE ORIGINAL OFFER.

SAMPLE

11. The Contractor shall begin performance within 8 calendar days and complete it within __**___ calendar days after receiving ☐ award, ☒ notice to proceed. This performance period is ☒ mandatory, ☐ negotiable. (** 540 Calendar Days or the number of days proposed in the Offer, whichever is less. See the Contract Line Item Schedule.)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) ☒YES ☐ NO	12B. CALENDAR DAYS 10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and ___*____ copies to perform the work required are due at the place specified in Item 8 by__1400___ (hour) local time (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee ☒ is, ☐ is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than ____(90- INSERT)_____ calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)	15. TELEPHONE NO. (Include area code)

16. REMITTANCE ADDRESS (Include only if different than Item 14)

CODE FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement

AMOUNTS

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	20B. SIGNATURE	20C. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )

26. ADMINISTERED BY CODE	27. PAYMENT WILL BE MADE BY

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT (contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	☐ 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)		31A. NAME OF CONTRACTING OFFICER (Type or print)	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

SAMPLE

NOTE: THIS IS ONLY A SAMPLE. SELECT APPLICABLE LINE ITEMS PER PROJECT SCOPE.

RFP NUMBER:_____

OFFEROR'S NAME:_____

CONTRACT LINE ITEM SCHEDULE

Item No.	Description	Quantity	Unit	Unit Price	Line Item Amount
1.	Design of BCT See Notes 8 and 9.)	1	Job	XXX	$_____
2.	Construction of Site work and Utilities, complete to the five-foot line of the facilities, below.	1	Job	XXX	$_____
3.	Construction of Unaccompanied Enlisted Personnel Housing (UEPH), complete to the five-foot line.	1	Job	XXX	$_____
4.	Construction of Company Operations Facilities (COF), complete to the five foot line.	1	Job	XXX	$_____
5.	Construction of Battalion/Brigade HDQTRS Facilities, complete to the five-foot line.	1	Job	XXX	$_____
6.	Construction of Dining Facilities, complete to the five-foot line.	1	Job	XXX	$_____
7.	Construction of Tactical Equipment Maintenance Facilities, complete to the five-foot line.	1	Job	XXX	$_____
8.	(ETC., as Appropriate)	1	Job	XXX	$_____
9.	(ETC., as Appropriate)	1	Job	XXX	$_____
		TOTAL BASE OFFER			**$**_____
10.	OPTION NO.XX Installation of F&FE Items. (See Notes No. 10 and 12)	1	Job	XXX	$_____
		TOTAL OFFER			**$**_____

Comment [a1]: If installation is for more than one facility type, use separate options for each.

SAMPLE

Contract Duration in Calendar Days
After the Notice to Proceed is Received
Not to Exceed 540 Days.
(See Note No. 11) _____ DAYS

OFFEROR ELECTS TO WAIVE THE PRICE EVALUATION PREFERENCE
FOR HUBZONE SMALL BUSINESS CONCERNS: ( )NO ( )YES

(See Contract Line Item Schedule Note 7.)

NOTES FOR CONTRACT LINE ITEM (CLIN) SCHEDULE

NOTE NO. 1. To better facilitate the receipt and proposal process, all modifications to proposals are to be submitted on copies of the latest Contract Line Item (CLIN) schedules as published in the solicitation or the latest amendment thereto. In lieu of indicating additions/deductions to line items, all Offerors should state their revised prices for each item.

NOTE NO. 2. Offerors must insert a price on all numbered items of the CLIN Schedule. Failure to do so may result in the offer being unacceptable

NOTE NO. 3. Not Used.

NOTE NO. 4. CONDITIONS GOVERNING EVALUATION OF OFFERS AND AWARD OF CONTRACTS:
The Government may require the delivery of the numbered line items, identified in the schedule as option items, in the quantity and at the price stated in the schedule. Subject to the availability of funds, the Contracting Officer may exercise the option by written notice to the Contractor within the time indicated below from the Notice to Proceed:

NOTE NO. 5. All the extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the offer.

NOTE NO. 6. Not Used.

NOTE NO. 7. This procurement is not restricted to HUBZone Small Business Concerns. See FAR 52.219-1 regarding HUBZone Small Business Concern representation requirements.

NOTE NO. 8. CLIN 1, Design of BCT, includes costs for efforts related to the design of the complex, as well as any related costs for the constructor's coordination during design (see Special Contract Requirement (SCR): ***Constructor's Role During Design***). The Offeror shall distribute costs for the designer's role during construction into the construction CLIN's, as appropriate for those efforts, including any costs associated with as-built documentation. In general, include engineering and designer costs for efforts after the Design Complete or Issued for Construction documents in the construction CLIN's.

NOTE NO. 9. Include all costs for coordination and accommodation of Government-Furnished, Government-Installed Equipment, as described in Section 01010, in the Contract Line Items for construction of the associated facilities.

NOTE NO. 10. CLIN 10, the option for the Contractor to install the Furniture, Fixtures, & Equipment (FF&E) , includes only the installation of Government purchased items. Payment under Item No. 10 will be at the contract lump-sum price and will constitute full compensation for the work associated with "Installation of FF&E Items". The Government will order the FF&E items using the forms developed by the Contractor in the FF&E package. The Contractor shall accept delivery of the items at the job site, unload the items, inventory it, and install it. The cost to prepare the FF&E shall be included in CLIN 1, Design of BCT.

Comment [a2]: This option is for Government purchased and Contractor installed FF&E.

NOTE NO. 11. The Offeror shall propose a total integrated contract duration in number of calendar days after the Notice to Proceed (NTP) is received by the Contractor, whether via electronic means or hard copy, whichever is the earliest method of delivery. The total number of proposed calendar days for design and construction through completion, ready for turnover shall not exceed 540 calendar days. The proposed duration shall become the required contract duration. The Government may issue the NTP via e-mail or Facsimile (FAX) or by other means. Day number 1 is the day after the date of receipt of the NTP. See also Sections 00110 and 00120 and SCR: ***COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK***.

SAMPLE

NOTE NO. 12. At the option of the Government, the Government may require the Contractor to perform the work identified as Optional line item(s) (CLIN(s) XXXX through XXXX) at the price(s) stated in the CLIN Schedule. The Contracting Officer may exercise one or more of the Option(s) by written notice to the Contractor within XXX calendar days after the date of the acknowledgment of the Notice to Proceed by the Contractor. There is no separate completion period for these options and the work included therein shall be completed within the contract duration as proposed above. Exercise of the Option(s) shall be evidenced on Standard Form 30, citing this CLIN Schedule note as the authority for exercising the Option. The Option shall be deemed exercised at the time the Government deposits the SF30 in the mail or, if earlier, at the time it is delivered to the Contractor.

Comment [a3]: As an alternate, alternate language, such as the following, may be substituted: "The Contractor and the Government may establish a separate completion period for installation of the FF&E, depending upon when the Contractor provides the information necessary for the Government to order the FF&E and for the period required to order and deliver the FF&E.

END OF CLIN SCHEDULE

SAMPLE

SECTION 00 22 30 (IDIQ)
*<VER>*REV 2.8 – 30 APR 2010*</VER>*

TASK ORDER DESIGN-BUILD SELECTION PROCEDURES AND BASIS OF AWARD

Comment [sdn1]: [NOTE TO SPECIFIER: THIS SECTION REQUIRES EDITING IN THE RTF FORMAT TO FIT THE TASK ORDER AND SELECT WHAT NEEDS TO BE EVALUATED. IN ORDER TO STANDARDIZE TASK ORDER SELECTIONS, TO THE MAXIMUM EXTENT POSSIBLE, DO NOT CHANGE THE SUBMISSION LANGUAGE OR EVALUATION CRITERIA FOR THOSE ITEMS THAT YOU WILL BE EVALUATING.]

1.0 OVERVIEW

2.0 *<SATOC>***NOT USED***</SATOC><MATOC>***BASIS OF AWARD***</MATOC>*

3.0 GENERAL INSTRUCTIONS

4.0 TASK ORDER PROPOSAL CONTENTS AND RELATED EVALUATION FACTORS, SUBFACTORS AND ELEMENTS

5.0 VOLUME 1 – FACTOR 1 – DESIGN TECHNICAL

5.1. GENERAL

5.2. VOLUME 1-TAB A – SUBFACTOR 1 – BUILDING FUNCTIONAL, AESTHETICS and SPACE

5.3. VOLUME 1-TAB B – SUBFACTOR 2 – QUALITY OF BUILDING SYSTEMS AND MATERIALS

5.4. *<SITE_GOV>*NOT USED*</SITE_GOV><SITE_DB>*VOLUME 1-TAB C – SUBFACTOR 3 – SITE DESIGN*</SITE_DB>*

5.5. *<SITE_DB>*VOLUME 1-TAB D –SUBFACTOR 4*</SITE_DB><SITE_GOV>*VOLUME 1-TAB C – SUBFACTOR 3*</SITE_GOV>* – SUSTAINABILITY REQUIREMENTS

6.0 FACTOR 2 – PERFORMANCE CAPABILITY PROPOSAL

6.1. VOLUME 2 - TAB A– SUBFACTOR 1– PROPOSED CONTRACT DURATION AND SUMMARY SCHEDULE

6.2. *_{*VOLUME 2 - TAB B– SUBFACTOR 2– KEY SUBCONTRACTORS*}<SUB_NOT>*NOT USED*</SUB_NOT>*

6.3. *_{*VOLUME 2-TAB C- SUBFACTOR 3- PAST PERFORMANCE*}<SUB_NOT>*VOLUME 2-TAB B- SUBFACTOR 2- PAST PERFORMANCE*</SUB_NOT>*

7.0 VOLUME 3 – PRICE AND PRO FORMA INFORMATION

7.1. GENERAL

7.2. TAB A – FACTOR 3 – PRICE (STANDARD FORM 1442 AND CONTRACT LINE ITEM SCHEDULE)

7.3. TAB B – *<GUARANTEE_WAIVED_NOT>*BID GUARANTEE*</GUARANTEE_WAIVED_NOT><GUARANTEE_WAIVED>*EVIDENCE OF BONDABILITY *</GUARANTEE_WAIVED>*

7.4. TAB C – SELF-PERFORMED WORK

7.5. *<SMALL_NO>*NOT USED*</SMALL_NO><SMALL>*SUBCONTRACTING PLAN*</SMALL><MATOC>*

7.6. *<INTERVIEWS_NOT>*NOT USED*</INTERVIEWS_NOT><INTERVIEWS>*INTERIM INTERVIEWS (ONE-ON-ONE)*</INTERVIEWS></MATOC>*

8.0 EVALUATION PROCEDURES

SAMPLE

8.1. TASK ORDER SELECTION EVALUATION BOARD (TOSEB)

8.2. EVALUATION

8.3. DEFINITIONS

8.4. EVALUATION RATING SYSTEM

8.5. PAST PERFORMANCE RISK RATINGS

SECTION 00 22 30 ATTACHMENTS

8 – FORMAT FOR TABLE OF FACILITIES

9 – FORMAT FOR TABLE OF SPACES*<SUB>*

10 – COMPANY SPECIALIZED EXPERIENCE KEY SUBCONTRACTOR (OR PRIME IF WORK NOT TO BE SUBCONTRACTED)

11 – LETTER OF COMMITMENT FOR KEY SUBCONTRACTORS*</SUB>*

SAMPLE

1.0 OVERVIEW

1.1. This is a "Best Value" solicitation for the Design and Construction of a «PROJECT_TITLE» located at «PROJECT_LOCATION». The Government will evaluate the proposals in accordance with the criteria described herein, and award a firm fixed price task order to the responsible firm, whose proposal conforms with all the terms and conditions of the solicitation and whose proposal is determined to represent the overall best value to the Government.

General Description of Work: «TASKORDER_DESCRIPTION»

2.0 *<SATOC>*NOT USED*</SATOC><MATOC>*BASIS OF AWARD

Comment [sdn2]: This para will go away completely if this is a SATOC Task Order.

2.1. The Contracting Officer will award a firm fixed-price task order to that responsible Firm whose proposal the Task Order Selection Authority has determined conforms to the solicitation, is fair and reasonable, and offers the best overall value to the Government, considering all non-price factors described herein, and price. **All evaluation factors, other than price, when combined, are considered significantly more important than the price.** However, firms are reminded that the Contract award shall not exceed the cost limitation described in Section 00 73 10 ***Supplemental Contract Requirements*** for this project. The intent of this solicitation is to obtain the best proposal within the cost limitation. There is no obligation to approach or match the cost limitation in the offer. After the Government individually evaluates and rates each proposal, the Contracting Officer/Task Order Selection Authority will compare proposals to determine which proposal represents the best value. The Government reserves the right to accept other than the lowest priced offer or to reject all offers. The Government will not award a contract to an Firm whose proposal contains a deficiency, as defined in FAR 15.001. If there is a lower priced, conforming offer(s), the Contracting Officer must determine that the added value of a more expensive proposal (within the cost limitation) would justify award to that firm.

2.2. As part of the evaluation, the Government will evaluate betterments in proposals relative to the minimum standards in the RFP to determine if they offer additional value to the Government. In addition, innovations in proposals will be evaluated to determine if creative ideas of the Firm are a better value to the Government compared to the minimum criteria. *</MATOC>*

3.0 GENERAL INSTRUCTIONS

3.1. *<MATOC>*Submit proposals initially on the most favorable terms from a price and technical standpoint. Do not assume that firms will be contacted or afforded an opportunity to clarify, discuss or revise their proposals. Submit proposals in tabbed, three-ring binders. Note that the Government will not evaluate any material that exceeds the page limits, where indicated below. *</MATOC><SATOC>*Not Used.*</SATOC>*

Comment [sdn3]: This para will go away completely if this is a SATOC Task Order.

4.0 PROPOSAL CONTENTS AND RELATED EVALUATION FACTORS AND SUBFACTORS

(VOLUME 1 – DESIGN TECHNICAL)*<SITE_GOV>*

Factor/Sub Factor	**Location**	**Description**	**Relative Importance**
FACTOR 1	Volume 1	DESIGN TECHNICAL	Most Important Factor
Subfactor 1	Vol. 1 TAB A	Building Functional, Aesthetics and Space	Equally important with Subfactor 2
Subfactor 2	Vol. 1 TAB B	Quality of Building Systems and Materials	Equally Important with Subfactor 1
Subfactor 3	Vol. 2 TAB C	Sustainability Requirements	3rd Most Important Subfactor (less important than Subfactors 1 and 2, which are equal in importance.)

Comment [MSOffice4]: NOTE TO SPECIFIER: If the Government will prepare the site and furnish site utilities, delete this subfactor and Sustainability becomes Subfactor 3

SAMPLE

</SITE_GOV><SITE_DB>

Factor/Sub Factor	**Location**	**Description**	**Relative Importance**
FACTOR 1		DESIGN TECHNICAL	Most Important Factor
Subfactor 1	Vol. 1 TAB A	Building Functional and Aesthetics	Equally important with Subfactor 2
Subfactor 2	Vol. 1 TAB B	Quality of Building Systems and Materials	Equally Important with Subfactor 1
Subfactor 3	Vol. 1 TAB C	Site Design	3rd Most Important Subfactor (less important than Subfactors 1 and 2, which are equal in importance.)
Subfactor 4	Vol. 1 TAB D	Sustainability Requirements	4th Most Important Subfactor (less important than Subfactor 3)

*</SITE_DB><SUB>***VOLUME 2 –PERFORMANCE CAPABILITY**

Factor/Sub Factor	**Location**	**Description**	**Relative Importance**
FACTOR 2		PERFORMANCE CAPABILITY	2nd Most Important Factor (less important than Factor 1)
Subfactor 1	Vol. 2 TAB A	Proposed Contract Duration and Summary Schedule	Most Important Subfactor
Subfactor 2	Vol. 2 TAB B	Key Subcontractors	2nd Most Important Subfactor (less important than Subfactor 1)
Subfactor 3	Vol. 2 TAB C	Past Performance	2nd Most Important Subfactor (equally important as Subfactor 2)

*</SUB><SUB_NOT>***VOLUME 2 –FACTOR 2 – VOLUME 2 –PERFORMANCE CAPABILITY**

Factor/Sub Factor	**Location**	**Description**	**Relative Importance**
FACTOR 2		PERFORMANCE CAPABILITY	2nd Most Important Factor (less important than Factor 1)
Subfactor 1	Vol. 2 TAB A	Proposed Contract Duration and Summary Schedule	Most Important Subfactor
Subfactor 2	Vol. 2 TAB B	Past Performance	2nd Most Important Subfactor (equally important as Subfactor 2)

*</SUB_NOT>***VOLUME 3 – PRICE AND PRO FORMA INFORMATION)**

Factor/Sub Factor	**Location**	**Description**	**Relative Importance**

SAMPLE

Factor/Sub Factor	Location	Description	Relative Importance
FACTOR 3	Vol. 3 TAB A	Price (Standard Form 1442 and Proposal Bid Schedules)	3rd Most Important Factor (slightly less important than Factor 2)
N/A	Vol. 3 TAB B	***<GUARANTEE_WAIVED_NOT>*** Bid Guarantee***</GUARANTEE_WAIVED_NOT><GUARANTEE_WAIVED>***Evidence of Bondability***</GUARANTEE_WAIVED>***	Not Rated
N/A	Vol. 3 TAB C	Required Pre-Award Information	Not Rated

5.0 VOLUME 1 – FACTOR 1 – DESIGN-TECHNICAL

5.1. GENERAL: The design-technical Factor consists of conceptual level presentation drawings, technical approach narratives and information regarding material and system quality. It must clearly define the proposed scope and quality levels that the design-build team is offering to the Government in enough detail for the Government and the Firm to mutually understand whether or not the proposal meets or exceeds the minimum Solicitation requirements. Fully developed drawings, details, or specifications are not desired or required. The Firm shall identify what it considers to be Betterments in its proposal for Subfactors 1-3 (See Section 00 73 00, SCR "Proposed Betterments").

5.2. VOLUME 1 - TAB A –SUBFACTOR 1 – BUILDING FUNCTIONAL, AESTHETICS AND SPACE

5.2.1. **Submission Requirements:**

5.2.1.1. **Presentation Drawings:**

(a) Presentation Exterior Elevations of each facility clearly noting proposed materials and colors.

(b) At least one (1) Exterior Perspective Rendering (may be CADD rendering) for each facility type included in the contract.

(c) Typical building sections, wall sections and appropriate details for each building type depicting material quality.

(d) Schematic floor plans for each floor of each facility.

(e) A color board including primary interior and exterior finish materials.

5.2.1.2. **Technical Approach Narratives**

Provide technical approach narratives, both qualitative and quantitative, defining the elements of the proposal. Preface the narratives with a design concepts narrative, providing the design rationale and basis of the proposal.

(a) Minimum Space and Facility Size. Describe the spaces provided for each facility, in accordance with Section 01 10 00, ***Statement of Work***. As a minimum, include a tabulation of the net square footage for rooms, zones, or other areas, the total gross square footage for each floor of each facility, and the total gross square footage for each facility to clearly demonstrate compliance with the project requirements. See the sample spreadsheets at the end of this section attachments 8 and 9.

(b) Architectural Theme and Materials. This narrative shall be no longer than three (3) typewritten pages. Describe the architectural themes of the various facilities and spaces which demonstrate how the proposal achieves the results desired by the ***Statement of Work.*** Narrative should address how the selection of materials and colors enhances the exterior and interior aesthetics of the facilities and improves the living and/or working conditions for the soldier populations who will utilize the facilities. This narrative is not intended to be a material listing, but to explain/reflect how the selections were made and how they address the requirements.

SAMPLE

5.2.2. **Evaluation Criteria:**

The following three areas are equal in importance.

5.2.2.1. **Building Functional Arrangement**: This subfactor considers the overall functional layout (Floor Plan) and interaction of the spaces in the facilities as well. This subfactor considers the planning and design of the spaces with respect to soldier working conditions and the operations of the facility.

The following criteria will be considered in the evaluation of the functional arrangement of the various facilities:

(a) How well the floor plan responds to the Functional Relationship requirements described in the ***Statement of Work***

(b) How well the floor plan and space arrangement facilitate work flow and access necessary to successfully operate this facility in accordance with its mission.

(c) Do the facilities provide acceptable life safety and fire safety measures?

(d) Do the proposed plans demonstrate compliance with the mandatory requirements for circulation, furnishings (e.g., for UEPH's, will the required furniture fit in the rooms?), equipment, and other specifically identified items in the ***Statement of Work***?

5.2.2.2. **Building Aesthetics:** This element considers the overall "appeal" of the facility and the desire that both the interior and exterior of the facilities present a professional, attractive appearance. The following two areas will be considered under this element and are equal in consideration (not separately rated):

(a) Exterior Considerations:

To the extent possible within the government identified contract cost limitation (CCL), the proposal must comply with the look and feel of the Installation architectural theme identified in the Request for Proposals. The first priority in order of importance is how well the proposal provides comparable building mass, size, height, and configuration in comparison with the architectural theme expressed in the Solicitation. The second priority in order of importance is how well the proposal provides compatible exterior skin appearance based upon façade, architectural character (period or style), exterior detailing, matching the architectural theme expressed in the Solicitation.

- Proposals shall be evaluated on mass, size, height, and configuration in comparison with the architectural theme expressed in the Solicitation, design of facades, roof lines, delineation of entrances, proportions of fenestration in relation to elevations, shade and shadow effects, materials, textures, architectural character (period or style), exterior color schemes.
- How compatible is the proposed design with the installation architectural theme expressed in the RFP? If not an exact "copy" of the theme, how well does it harmonize or blend with the expressed theme?
- How well does the proposal provide comparable building mass, size, height, and configuration in comparison with the architectural theme expressed in the Solicitation?
- How well does the proposal provide compatible exterior skin appearance based upon façade, architectural character (period or style), exterior detailing, matching the architectural theme expressed in the Solicitation?
- Is the building's scale and proportion complimentary of the adjacent structures?
- Is the building an attractive addition to the Installation?
- How well does the building harmonize with its environment, including surrounding facilities?
- Has the proposer addressed/coordinated the arrangement of stacks, louvers, vents, and roof mounted equipment, etc. to provide a visually attractive structure?

(b) Interior Considerations:

- Are the proposed colors and material finishes conducive to the working environment of the facility?
- For administrative areas, does the interior design provided establish a positive working environment?
- Has the proposal addressed/provided for natural and artificial light in the living and working spaces and is the arrangement of fenestration and lighting fixtures in the spaces conducive to furniture placement and space usage?
- Do the proposed ceiling material, elevation, and design enhance the environment?
- Has "support item" placement been considered and addressed in the proposal to enhance the environment? For example: placement of supply/exhaust devices, placement of electrical panels, placement of exhaust fans,

SAMPLE

etc.

- Does the proposal provide for acoustic control of noise from service/support spaces to administrative areas? ***<UEPH>***
- Do the interior finishes and space layouts provided establish a residential environment?
- Has the proposal included considerations to reduce noise transmission between bedrooms and between living spaces and service/common areas?***</UEPH><DF>***
- Does the proposal provide a pleasant, "themed" eating environment?
- Does the proposal include a pleasing professional environment in the cooking/serving areas?***</DF>***

5.2.2.3. **Minimum Space and Facility Size**

The proposal must include all the mandatory spaces in response to the requirements set forth in Section 01 10 00, ***Statement of Work***. Proposals will be evaluated on compliance with these requirements. Proposals shall identify any individual areas which are less than the required areas and describe how such deviation would enhance the building function. Individual areas may slightly exceed the requirements, so long as building function is not compromised elsewhere and as long as the overall square footage is not greater than that as described in Section 01 10 00, as authorized by Congress

5.3. VOLUME 1- TAB B – SUBFACTOR 2 - QUALITY OF BUILDING SYSTEMS AND MATERIALS

5.3.1. **General.** As part of this Subfactor, the Government has identified certain items as desirable features or preferable items. Desirable features are identified below in the evaluation criteria. Preferable items are listed in order of priority, These items, along with any Offeror-identified betterment, will be given additional consideration during the evaluation process, provided that they are included within the contract cost limitation (CCL) identified in the Solicitation.

«INSTALLATION_PREFS».

5.3.2. **Submission Requirements:**

5.3.2.1. **Presentation Drawings**

(a) There are no specific drawings requirements for this Subfactor. However, the firm has the option of providing concept level drawing information for specific materials and/or systems which the firm feels are necessary to describe the proposed systems or materials.

5.3.2.2. **Technical Approach Narratives:**

Provide technical approach narratives, both qualitative and quantitative, defining the elements of the proposal. It is acceptable to include all the sub-items shown below into a single combined narrative for the entire facility. It is the responsibility of the proposer to ensure that all aspects identified in the evaluation criteria below are addressed. Whether individual narratives or a single combined narrative is provided, the maximum total length for narratives shall be ten (10) typewritten pages.

(a) Architectural Finishes: Describe how the materials selected provide for a suitable environment for the expected population of the facility. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on aesthetics, durability and maintenance of the finishes proposed.

(b) ***<DFC_NO>***Not Used***</DFC_NO><DFC>***Furniture Systems: Describe how the materials selected provide for the required support of the occupants in the new spaces. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on how the furniture systems and materials selected are suitable for a soldier population and suit the functionality of the facility.***</DFC>***

(c) Mechanical Systems: Describe how the mechanical systems selected provide for a highly efficient environmental control system including information about provisions for indoor air quality maintenance. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on maintenance considerations, limiting energy consumption, and suitability of the proposed systems for the expected usage.

SAMPLE

(d) Plumbing Systems: Describe how the plumbing systems selected provide for a highly efficient domestic hot water system and an efficient piping system. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on maintenance considerations, energy consumption, and suitability of the proposed systems for the expected usage.

(e) Electrical Systems: Describe how the electrical power and lighting systems, telephone, data, and cable television systems selected provide for a highly efficient electrical system. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on maintenance considerations, energy consumption, and suitability of the proposed systems for the expected usage.

(f) ATFP Considerations: Describe how the proposed materials, systems, and designs address the mandatory building ATFP requirements included in the Statement of Work.

(g) Site Utilities and Site Systems: ***<SITE_DB>***Describe how the site utility systems selected provide for an efficient piping system. Discuss how these selections provide value to the Government and how they address the minimum requirements of the solicitation. Narrative should focus on maintenance considerations and suitability of the proposed systems for the expected usage. Include information regarding coordination with privatized utility providers where applicable.
</SITE_DB><SITE_GOVDB>«SITEWORK_DESCRIPTION»***</SITE_GOVDB><SITE_GOV>***Not Used***</SITE_GOV>***

Comment [sdn6]: NOTE TO SPECIFIER: THE FOLLOWING PARAGRAPH (g) ASSUMES THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SITE WORK AND IMPROVEMENTS ON THE SITE. WHEN THE GOVERNMENT WILL SEPARATELY CONTRACT FOR SITE WORK AND SITE IMPROVEMENTS, EDIT AS NECESSARY OR DELETE TO CORRECTLY CONSIDER THE APPLICABLE SCOPE OF WORK:]

(h) Interoperability: Describe how systems integrated into the new facilities which require connection and interface with existing Installation wide systems will be accommodated in the proposed project. Narrative should address the following systems as minimum: Fire Alarm, Telephone, Cable Television, UMCS, and privatized utility companies where applicable.

(i) Solar Hot Water Heating: Include provisions to provide at least 30% of the domestic hot water requirements through solar heating methodologies, unless the results of a Life Cycle Cost Analysis (LCCA), developed utilizing the Building Life Cycle Cost Program (BLCC) demonstrates to the Government's satisfaction that the solar hot water system is not life cycle cost effective in comparison with other hot water heating systems. Discuss and outline Offeror's strategy for this solar system including components, placement of collectors, and controls Include all applicable input data, assumptions, first cost, replacement cost, and maintenance and repair cost that were utilized in the calculations. If using the LCCA to justify non-selection of solar hot water heating, make all life cycle cost comparisons to a baseline system to provide domestic hot water without solar components. Analyze at least two different solar hot water methodologies to compare against the baseline system. Use a study period of 25 years and use the Utility cost information in Appendix K.

5.3.2.3. **Proposed Material Identifications:** In order to evaluate and rate the quality of the materials being proposed, including any material or equipment warranties exceeding the one year warranty in the contract clause "Warranty of Construction", the Firm shall include in the proposal material identification for major materials in each of the areas shown below. Provide this information tabular form supported, if necessary to clearly identify level of proposed quality, by catalog information (may provide on CD-ROM). Table should include manufacturer's name, model number, length of warranty, size/capacity (where available), efficiency (where applicable), and any other notes or information selected by the Firm. The Government will evaluate and consider materials and equipment proposed by brand name and model number as a quality standard. Unless substitution of a manufacturer, brand name or model is otherwise specifically prohibited in the contract, if the successful Firm desires to substitute manufacturers, brand names or models after award, the substituted product must meet the contract requirements and be approved by the designer of record and the Government as equal in function, performance, quality and salient features to that initially proposed. Acceptance of the proposal is not a guaranty that the proposed products meet the contractual requirements.

(a) Architectural Finishes

- Interior Walls
- Floors
- Ceilings
- Exterior Walls
- Any Special Features
- Hardware systems (not individual hardware sets)
- Door systems/types (not individual doors)
- Window systems/types (not individual windows)

SAMPLE

- Roofing Systems

(b) *<DFC_NO>*Not Used*</DFC_NO><DFC>*Furniture Systems*</DFC>*

(c) *<MECH_NOT>*Not Used*</MECH_NOT><MECH>*Mechanical Systems

- Central Heating/Cooling Equipment
- Pumps
- Air Handling Equipment
- HVAC System Control Equipment
- Energy Conservation Features*</MECH>*

(d) Plumbing Systems

- Fixtures*<PLUMB>*
- Domestic Hot Water Generator*</PLUMB>*

(e) Electrical Systems

- Lighting Fixtures*<MAIN>*
- Main Switchgear and Panels*</MAIN><ELEC>*
- Data, Telephone, Cable TV, Intercom, CCTV, or Other Special Systems as Identified in the SOW*</ELEC>*

Comment [sdn7]: Question to see if preparer wants to review proposed material identification of HVAC

Comment [sdn8]: Question to see if preparer wants to review proposed material identification of domestic hot water generator

Comment [sdn9]: Question to see if preparer wants to review proposed material identification of main switchgear and panels; data telephone, cable tv, intercom, cctv, or other special systems.

5.3.2.4. Provide a list of quality improvements that are above the minimum stated with the performance specifications. Develop the following table, or similar, to identify quality betterments.

	Improved Quality	Concise description of improved quality	Feature is included within the Construction Cost Limitation – YES/NO
Arch. Finishes	N/A	N/A	
Etc.			

5.3.3. **Evaluation Criteria:**

5.3.3.1. **General:** It is the Army's objective that these buildings will have a 25-year useful design life before a possible reuse/repurpose or renovation requirement, to include normal sustainment, restoration, modernization activities and a 50-year building replacement life. Within that overriding theme the Government will evaluate the firm selected systems and components proposed in terms of warranties provided, maintenance considerations (frequency, estimated cost, access, equipment locations), operability (ease of use, placement of control features, simplicity), durability (withstand troop usage, ease of cleaning), sustainability, and energy consumption (HVAC, lighting, power). The minimum acceptable level of quality for finishes and materials for these buildings are those materials suitable for the expected population and usage. Residential or similar grade finishes and materials are not acceptable for inclusion in these buildings, unless otherwise specifically stated as allowed in Section 01 10 00.

5.3.3.2. The Government encourages the Firm to place emphasis on those design features which optimize and emphasize functional/operational requirements; interior/exterior finishes and systems; and life cycle/ energy efficiency. The Firm may choose the lowest "Type of Construction" allowed by the Building Code for this occupancy/project and put the money into durable finishes and efficient systems. **The features that the Government has identified below as desirable features will be given additional consideration in the evaluation. The items that the Government identified in paragraph 5.3.1 as preferable will be also be given additional consideration during the evaluation process, provided that they are included within the contract cost limitation identified in the Solicitation. Firm-identified betterments may also be given additional consideration during the evaluation process, provided that they are included within the contract cost limitation identified in the solicitation**. The order of importance for proposed betterments for rating purposes is as follows: desirable features, preferable items and other Firm identified betterments. Unsubstantiated claims or narrative information will not be given evaluation credit during the evaluations. The

SAMPLE

following elements (not rated separately) will be considered in the evaluation of the building systems and materials of the various facilities:

(a) Architectural Finishes, Components and Systems:

Acceptable proposals include finishes, components and systems which provide usable spaces for the intended purposes and that provide the basic function necessary. Proposals will receive additional consideration for materials, and systems offered that include extended warranties, longer life expectancies, sustainability, durability (stand up to troop usage), have low maintenance requirements, and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: solid wood cabinetry; solid surface counter tops; ceramic tile; 25 year non-pro-rated, no-leak roof warranty; high efficiency windows and doors<UEPH>; indoor boot rinsing stations in UEPH facilities</UEPH>

(b) Furniture Systems: ***<DFC_NO>***Not Used***</DFC_NO><DFC>***Furniture Component and Systems: ***</DFC><DFC>***

Acceptable proposals include components and furniture systems that provide for the basic function necessary. Proposals will receive additional consideration for components and systems offered that include extended warranties, longer life expectancies, sustainability, durability (stand up to troop usage), have low maintenance requirements, and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: Stain resistant materials; ergonomic applications; interchangeability of components; easy/local availability of replacement/repair parts.***</DFC>***

(c) Mechanical Components and Systems:

Acceptable proposals include components and systems that provide the basic environmental control function necessary. Proposals will receive additional consideration for components and systems offered that include extended warranties, longer life expectancies, reduce energy consumption, sustainability, maintainability (cyclical maintenance, access, equipment placement), and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: sheet metal ductwork systems; high efficiency central equipment (i.e. 0.5 kW/ton chillers, variable speed pumping and air handlers, etc.)

(d) Plumbing Components and Systems:

Acceptable proposals include components and systems that provide the basic function necessary. Proposals will receive additional consideration for components and systems offered that include extended warranties, longer life expectancies, sustainability, durability (stand up to troop usage), have low maintenance requirements, and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: lifetime domestic hot water storage tank warranty; high efficiency equipment; easy/local availability of replacement/repair parts; zoned/valved sub-systems to allow repair without building shutdown; shower heads on hoses***<UEPH>***; seamless tub surrounds in UEPH facilities***</UEPH>***

(e) Electrical Components and Systems:

Acceptable proposals include components and systems that provide the basic function necessary. Proposals will receive additional consideration for components and systems offered that include extended warranties, longer life expectancies, sustainability, durability (stand up to troop usage), have low maintenance requirements, and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: all copper conductors; additional telephone/data/cable TV outlets***<UEPH>***; ceiling fans in the bedrooms of UEPH buildings***</UEPH>***

(f) ATFP Considerations: This consideration verifies the inclusion/compliance with the building related (laminate windows, design for progressive collapse, etc.) ATFP minimum standard constraints included in the Statement of Work. All proposals must be compliant with the ATFP requirements of the Statement of Work to be considered for award. Acceptable proposals are compliant with all ATFP requirements.

SAMPLE

(g) Site Utilities Components and Site Systems:

<SITE_GOVDB>«SITEWORK_DESCRIPTION»*</SITE_GOVDB>*

*<SITE_GOV>*Not Used*</SITE_GOV><SITE_DB>* Acceptable proposals include components and systems that provide the basic function necessary. Proposals will receive additional consideration for components and systems offered that include extended warranties, longer life expectancies, sustainability, have low maintenance requirements, and enhance the overall life cycle cost efficiency of the facility.

Specific examples of desirable features: enhanced parking/roadway construction/surfaces; sidewalks above the minimum size and construction required; corrosion resistance; valves for isolation/repair of fluid systems; placement to allow future replacement/maintenance without significant impact to other systems or access to facilities.*</SITE_DB>*

(h) Interoperability: Fire Alarm, Telephone, Cable Television, UMCS, and privatized utility systems (where applicable) must be integrated into the new facilities which require connection and interface with existing installation-wide systems must be accommodated in the proposed project.

(i) Solar Hot Water Heating: The Government will evaluate the systems and materials proposed for use in the solar domestic hot water system. Proposals that demonstrate solar hot water provisions above 30% will receive additional consideration during the evaluation, provided that it does not increase first cost beyond the contract cost limitation (CCL). No additional consideration will be given for proposals providing for more than 30% solar hot water if the proposed price exceeds the CCL. If the Offeror has provided life cycle cost analyses documenting the non-feasibility of the solar system provision, the Government will verify as reasonable and complete. Errors or inconsistencies in the calculations will be considered deficiencies during evaluations.

5.4. *<SITE_GOV>*NOT USED*</SITE_GOV><SITE_DB>*VOLUME 1 - TAB C – SUBFACTOR 3 – SITE DESIGN

5.4.1. **Submission Requirements:**

5.4.1.1. **Presentation Drawings:**

(a) Conceptual Site Plans showing improvements for grading, drainage, power, utilities, buildings, paving, walks, site lighting, and landscaping. Indicate all building setbacks and separations, which must meet antiterrorism design requirements.

(b) Schematic site/land-use plan showing facility placement and orientation, vehicular circulation, pedestrian circulation, and other site improvements. This plan should demonstrate soldier/occupant considerations in the site design and the advantages included in the proposal with respect to pedestrian and vehicle circulation within the site and integration into the surrounding community.

5.4.1.2. **Technical Approach Narrative:**

Provide technical approach narrative, both qualitative and quantitative, defining the elements of the proposal. Preface the narratives with a design concepts narrative, providing the design rationale and basis of the proposal. It is acceptable to include all the sub-items shown below into a single combined narrative for the entire project. It is the responsibility of the proposer to ensure that all aspects identified in the evaluation criteria below are addressed. Whether individual narratives or a single combined narrative is provided, the maximum total length for narratives shall be five (5) typewritten pages.

(a) Grading

- Cut/Fill Considerations
- Positive Drainage

(b) Landscaping

- Plant Material Selection
- Other Feature Selection

(c) Pedestrian Circulation

Comment [sdn10]: NOTE TO SPECIFIER: THE FOLLOWING PARAGRAPH (g) ASSUMES THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SITE WORK AND IMPROVEMENTS ON THE SITE. WHEN THE GOVERNMENT WILL SEPARATELY CONTRACT FOR SITE WORK AND SITE IMPROVEMENTS, EDIT AS NECESSARY OR DELETE TO CORRECTLY CONSIDER THE APPLICABLE SCOPE OF WORK:]

Comment [MSOffice11]: Is all the site work and site improvements beyond the five foot line to be provided by the Government or will it be provided by the D-B Contractor? If to be provided by the Contractor, leave the paragraph alone. If the Government is to provide all or part of the site improvements, allow the specifier to edit submission requirements and evaluation criteria to match the scope of work.

SAMPLE

- Development of Circulation Patterns
- Way Finding Between Facilities
- Separation from Vehicular Circulation

(d) Vehicle Circulation

- Development of Circulation Patterns
- Parking Locations and Quantities
- Interface with Existing Street/Roadway Systems

(e) Anti-Terrorism/Force Protection

- Compliance with the *Statement of Work* Requirements.

5.4.2. **Evaluation Criteria:**

5.4.2.1. This Subfactor considers the overall layout of the site and the various specialties which define a workable, pleasing environment for the soldiers. The proposed site development plan must incorporate all the specific requirements from the *Statement of Work* as well as comply with all statutory and regulatory requirements outlined therein. All site related Anti-Terrorism/Force Protection (ATFP) considerations must be included and/or addressed in the proposal.

Elements one (1) and two (2) below are equal in importance and are not separately rated. Element (3) is not separately rated but must meet the Solicitation requirements to be rated acceptable.

(1) Grading and Landscaping: Acceptable proposals include reasonable amounts of cut/fill and regarding as necessary to ensure proper drainage and positive drainage away from facilities and parking areas. Landscaping provided would be the minimums required by the *Statement of Work.* Proposals which include innovative solutions to storm water management, landscaping to enhance the complex environment, or other similar improvements beyond the basic requirements will receive additional consideration during the proposal evaluation process.

(2) Pedestrian and Vehicle Circulation and Storage: Acceptable proposals address and include all the specific requirements of the Statement of Work.

The following items will be considered with respect to pedestrian and vehicle circulation and storage. These are not sub-factors.

<u>Pedestrian Considerations:</u>

- Are all parking areas served by sidewalks?
- Are all facility entrances/exits served by a paved sidewalk system?
- Does the proposed sidewalk system provide direct, convenient access to all facilities?
- Is the new sidewalk system an extension of the existing adjacent sidewalk system?
- Are sidewalk systems enhanced by appropriate landscaping?

<u>Vehicle Considerations:</u>

- Are the vehicle entrance/exit ways pathways clear?
- Have a sufficient number of parking spaces for privately owned vehicles (POV) been provided?
- Do the new vehicle roadways and access points tie into the existing roadway network in an efficient manner?
- Does the proposal provide for a separation of parking area entrance/exits from street intersections?
- Internal circulation patterns within the parking areas. ***<TEMF>***
- Does the proposal consider the type and limitations of the military vehicles to provide the needed access to the facility for repair and maintenance?
- Have a sufficient number of spaces (areas designated) been provided for military vehicle parking?
- Is the parking surface offered for the MOV suitable for extended usage without significant cyclical replacement? ***</TEMF>***

(3) ATFP Considerations: This element verifies the inclusion/compliance with the site related (setbacks, etc.) ATFP constraints included in the ***Statement of Work***. All proposals must be compliant with the ATFP requirements of the ***Statement of Work*** to be considered for award. Acceptable proposals are compliant with all

SAMPLE

ATFP requirements. This is a mandatory requirement to be rated as acceptable. Acceptance of the successful proposal does not constitute acceptance of design that does not conform to ATFP requirements.***</SITE_DB>***

5.5. VOLUME 1 - ***<SITE_DB>***TAB D – SUBFACTOR 4***</SITE_DB><SITE_GOV>***TAB C – SUBFACTOR 3***</SITE_GOV>*** – SUSTAINABILITY REQUIREMENTS

5.5.1. **Submission Requirements:**

The Firm shall acknowledge that it understands the contract requirements for sustainable design and construction and that the final project will achieve a LEED Silver rating. The Firm shall submit LEED-NC V2.2 Project Checklist for each non-exempt facility demonstrating how it will achieve the Silver LEED rating. One checklist may be provided for multiple identical facilities. If the firm proposes a higher LEED rating than silver, the proposal shall describe whether or not it involves additional costs and clearly indicate if such costs would detract from higher rated factors herein, such as functionality, quality of materials and systems, site work, etc.

5.5.2. **Evaluation Criteria:**

All requirements identified as mandatory in Section 01 10 00 or elsewhere in the Solicitation must be included and the proposal must meet the requirements of the LEED-NC V2.2 requirements for a Silver rating. The Government will provide additional evaluation consideration for proposals which include LEED points identified as preferred. The Government does not desire to pay more to obtain a higher LEED rating, such as Gold, if the additional cost would detract from the higher rated factors, herein.

6.0 VOLUME 2 - FACTOR 2 – PERFORMANCE CAPABILITY VOLUME 2

6.1. VOLUME 2 - TAB A – SUBFACTOR 1– PROPOSED CONTRACT DURATION AND SUMMARY SCHEDULE

6.1.1. **Submission Requirements:**

6.1.1.1. The firm shall propose the contract duration in the appropriate Contract Line Item Number in the CLIN Schedule, not to exceed the maximum contract duration specified in the CLIN.

6.1.1.2. Submit a summary level schedule for integrated design and construction. Schedules or diagrams may be provided separately in a size that is easily read, but shall be bound and clearly labeled as Tab B. This summary schedule will, after contract award, be replaced with a project schedule as required by Section 01 32 01.00 10: *Project Schedule*. The summary schedule shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Firm may use a critical path or other method of his choice; however, schedules shall be graphically represented. The proposed project schedule shall reflect the proposed contract duration Give attention to the following features:

(a) Provide a narrative, describing the design packaging plan for separate design packages, based on the firm's plan for fast tracking. Describe all design and construction to be "fast-tracked" (See section 01 33 16: ***Design After Award***). If long lead item equipment must be ordered prior to completion of a design phase, describe the requirement in the narrative and show the required ordering date in the schedule.

(b) Show the design phase, including events associated with coordinating the interim and final design submittals for each package and the proper handling of the review comments for each design package (See section 01 33 16).

(c) Show the overall construction phase for each facility, for the site work, and for utilities. Show fast track starts for design packages but it isn't necessary to show the detailed breakdown construction (e.g., by trades) of each facility, site work and utilities.

(d) Show turnover of each facility. Identify any proposed phased turnovers. The time to complete the facility and turnover to the Government must consider the requirement for the Contractor's CQC completion inspection and the subsequent joint Contractor-Government turnover inspection.

(e) Show as-built submissions (See section 01 78 02.00 10).

SAMPLE

(f) Constraints**:** Firm must demonstrate the capability and flexibility to plan and schedule the complete project to meet the proposed contract completion period. Clearly identify any constraints on the schedules presented (e.g., labor or material availability, permits, weather, etc.). Indicate the anticipated overall critical path on the schedule.

6.1.2. **Evaluation Criteria:**

6.1.2.1. **Proposed Contract Duration:** This duration will become the contractually binding completion period. The Government will evaluate the contract duration, as proposed by the Firm in the Contract Line Item Schedule, not to exceed the maximum allowed duration of «PERFORMANCE_PERIOD» days. In assessing the reasonableness of the proposed contract duration, the Government may take into account how well the proposed summary schedule supports the proposed duration, as well as use other information, such as but not limited to independent judgment concerning logic, constraints and typical construction durations. ~~The Government will rate a~~ A proposed contract duration matching the maximum allowed contract duration ~~as~~ is "acceptable" A proposed contract duration shorter than the maximum allowed duration will receive additional rating consideration, provided it is realistic and deemed to be achievable. The Government will consider an unreasonably condensed contract duration, which places additional cost or schedule risk on the Government or which may create a risk of contract or performance failure, as a significant weakness or a deficiency, depending upon the evaluators' judgment. During the subsequent comparison between proposals, differences between proposed contract durations of at least three weeks (differences of 21 calendar days between proposals) will be considered an advantage to the Government, with greater differences also considered, accordingly. No advantage will be considered between proposals for differences less than 21 calendar days.

6.1.2.2. **Summary Schedule:** In addition to the proposed contract duration, ~~The~~ the Government will evaluate the summary schedule for integrated design and construction. The length of the schedule must match the proposed contract duration. If it is shorter than the proposed contract duration, it offers no advantage to the Government because it is non-binding, only representing a preliminary planned schedule. A Schedule shorter than the proposed contract duration may indicate the Firm is placing additional risk on the Government for any delays between the scheduled completion date and the required contract completion period. Both parties shall assume field overhead costs are included in the contract price for the full proposed contract duration. Therefore, the Government believes that there is no valid need to shorten the schedule less than the full proposed contract duration. The Government will evaluate the schedule to assess the strength of understanding of the project scope, restrictions which must be considered in the schedule e.g., permitting (see Section 01 10 00), long lead items, etc. The Government will evaluate the strength of understanding of events associated with coordinating design submittals, reviews and incorporating review comments, the firm's capability to schedule the complete project within the proposed contract duration and the realism of the schedule. The Government will evaluate the design packaging plan for logic, reasonableness, how it facilitates meeting the proposed contract duration and how it facilitates the Government's ability to timely perform its design reviews. The packaging plan should minimize risk to the Contractor and to the Government for tear-out and coordination for reviews. For example, is the footing and foundation plan based on adequate design for building loads; etc.? A schedule that offers advantage(s) to the Government over one that merely indicates an adequate understanding of the scope, restrictions, major milestones and general understanding of the various events that can affect start and completion of construction will receive additional consideration.

6.2. ***<SUB_NOT>***NOT USED***</SUB_NOT><SUB>***VOLUME 2 - TAB B– SUBFACTOR 2– KEY SUBCONTRACTORS

Comment [sdn12]: NOTE TO SPECIFIER: FOR ID/IQ CONTRACT FORMAT AND FOR TIER 2 FACILITIES, KEY SUBCONTRACTOR SUBFACTOR IS OPTIONAL, BUT IS GENERALLY RECOMMENDED AS A KEY DISCRIMINATOR.

6.2.1. **Submission Requirements:**

Identify the Key Subcontractors chosen for mechanical and electrical installation for the initial task order, describing the extent of their involvement in the project. If the project includes multiple facility types or multiple facilities, also identify any subcontractor(s) that will act as a general contractor on one or more of the facilities or facility types and describe their involvement in the project. Submit no more than five (5) Specialized Experience forms (attachment 10) for each Key Subcontractor, using the same requirements as described in the Phase 1 Specialized Experience submission requirements, including past performance ratings. The ratings may be from either the owner or the prime contractor, if the firms were subcontractors on the cited projects. The Firm shall document unequivocal teaming arrangements with its key subcontractors. Use the Letter of Commitment (attachment 11) at the end of this section.

6.2.2. Evaluation Criteria:

SAMPLE

6.2.2.1. This Subfactor is composed of two equal elements (not separately rated):Specialized Experience and Past Performance.

6.2.2.2. The Government will evaluate the specialized experience and past performance of the Key Subcontractors for electrical and mechanical installation, using the same criteria as in the Phase 1 evaluation, as applicable to their role on this project. After award, the section 00 73 00 Special Contract Requirement *Key Personnel, Subcontractors and Outside Consultants* will apply to the selection, which establishes the minimum quality standard. No substitution will be allowed without adequate reason and possible consideration to the Government. ***</SUB>***

6.3. ***<SUB_NOT>***VOLUME 2 - TAB B– SUBFACTOR 2 – PAST PERFORMANCE***</SUB_NOT>_{***VOLUME 2 - TAB C– SUBFACTOR 3 – PAST PERFORMANCE ***}***

6.3.1. **Submission Requirements:**

«SUBMISSION_REQUIREMENTS»***<MATOC>***

6.3.2. **Evaluation Criteria:**

The Government will evaluate the firm's current performance on on-going task orders under this contract, if any, as well as the firm's past performance record for contracts or task orders underway or completed within the past three years of the date of the solicitation for this task order. The Government will perform a risk assessment with respect to Past Performance. The Government will consider the currency and relevance of the information, source of the information, context of the data, and general trends in contractor performance. If any firm has multiple functions or divisions, the Government will only evaluate past performance of the division or unit submitting the proposal. If interviews are used, Government references on other task orders or contracts may be asked to comment on items such as quality of design or construction, timeliness, management of the work subcontractor management, including timely payment to subs or suppliers, safety, relations between owner and designer or contractor, level of support for such things as as-built documentation, O&M manuals, training, correcting design or construction errors, warranty work, etc. The Government will not release Past Performance Evaluation or telephone interview forms to the Firm at any time, in order for the Government to solicit candid, unbiased interview comments. The Government also places a higher value on performance, which document successful outcomes and are supported by outside source confirmation, for example, but not limited to CCASS/ACASS or other agency performance databases or personal knowledge. The Government's evaluation is not limited to past performance information on the cited example projects.

Each entity (firm) will be rated on its own performance or that of its predecessor, if relevant. An entity may not establish past performance based on the past performance of proposed key personnel, apart from that of the entity. If the Government does not obtain past performance information and cannot establish a past performance record for the Firm through other sources, past performance will be rated neither favorably nor unfavorably. The performance risk will be considered "unknown". ***</MATOC>***

7.0 VOLUME 3 – PRICE AND PRO FORMA INFORMATION

7.1. GENERAL

Submit the Pro Forma information in a separate envelope labeled: "Volume 3 – Pro Forma Requirements."

7.2. TAB A – FACTOR 3 – PRICE (STANDARD FORM 1442 AND CONTRACT LINE ITEM SCHEDULE).

7.2.1. **Submission Requirements:**

Submit the properly filled out and executed SF 1442, along with the CLIN Schedule, containing proposed line item and total pricing, as well as the proposed contract duration. See instructions in Section 00 21 00, *"Instructions to Offerors"*.

7.2.1.1. Supplemental Price Breakdown. If deemed necessary to evaluate the price proposals, the Government's will request a price breakdown of the Contract Line items in a sealed envelope marked "Price Breakdown

Comment [sdn13]: [NOTE TO SPECIFIER: If this is a task order under a product line MATOC, then keep the evaluation of how well the firms have been performing simple. We suggest no submission requirements for past performance. See language below for Evaluation Criteria on a task order for a Wizard MATOC product base MATOC. There is no need to evaluate recent relevant experience, because all the firms have previously been determined to have adequate experience to qualify to be a Base Contract Holder. However, If this is a task order on a non-Wizard, product-line specific MATOC with a more general scope of possible task order scopes, then it is suggested that this subfactor be split into two subfactors – one for recent, relevant experience and the other for past performance, using similar submission requirements and evaluation criteria to a new MATOC. See section 00 22 10 for sample language in that case. The following language is for use on a task order to a MATOC base contract for a specific facility type product line that was issued using the Wizard]

Comment [sdn14]: DEFAULT: [There are no submission requirements for past performance for this task order. See the evaluation criteria, below.]

Comment [sdn15]: *[NOTE TO SPECIFIER: The following language is for use on a task order to a MATOC base contract for a specific facility type product line that was issued using the Wizard.]*

SAMPLE

Information", in Excel format. The Government will provide details on where and how to send the breakdown. This information will not be needed sooner than three working days after the proposal submission due date. This information may be required for the initial Task Order proposal and, if requested, for any revised proposals. This information is not an opportunity for a firm to revise its non-price or price proposal.

7.2.2. **Evaluation Criteria:**

7.2.2.1. Price will not be rated or scored, but will be evaluated for fairness and reasonableness through the use of a price analysis. The price evaluators will also check for appearance of unbalanced line item prices. Firms are cautioned to distribute direct costs, such as material, labor, equipment, subcontracts, etc. and to evenly distribute indirect costs, such as job overhead, home office overhead, bond, etc., to the appropriate contract line items. Both parties shall presume that field overhead costs through the proposed contract duration are inclusive in the offered price for the contract.

7.2.2.2. If deemed necessary, the supplemental price breakdown information will be used to assist the Government in performing the price evaluations described above.

7.2.2.3. Award cannot be made for project cost for design and construction exceeding the cost limitation described herein.

7.3. TAB B – ***<GUARANTEE_WAIVED_NOT>***BID GUARANTEE***</GUARANTEE_WAIVED_NOT><GUARANTEE_WAIVED>***EVIDENCE OF BONDABILITY ***</GUARANTEE_WAIVED>***

7.3.1. **Submission Requirements**

<GUARANTEE_WAIVED_NOT>Submit the Bid Bond in accordance with the task order request for proposals.***</GUARANTEE_WAIVED_NOT><GUARANTEE_WAIVED>***Submit information showing Firm's bondability in the amount of the proposal. Include the name, address and telephone number of the prime contractor's bonding agent. ***</GUARANTEE_WAIVED>***

7.3.2. **Evaluation requirements:**

This item is not rated. ***<GUARANTEE_WAIVED_NOT>*** The Government will review the Bid Bond for legal sufficiency. The Bond must be legally sufficient.***</GUARANTEE_WAIVED_NOT> <GUARANTEE_WAIVED>***Bonding information will be reviewed to determine the Firm's ability to obtain the required Performance and Payment Bonds. The prime contractor is required to be able to obtain the level of bonding required by the solicitation from an acceptable surety. ***</GUARANTEE_WAIVED>***

7.4. TAB C – SELF- PERFORMED WORK

7.4.1. **Submission Requirements:**

7.4.1.1. The Firm shall confirm that it understands and that it shall perform the amount of work required to be self-performed, in accordance with the appropriate clause in Section 00 72 00 (see Base ID/IQ contract) that applies to the contract performance (see Base ID/IQ contract Section 00 73 00 for a description of the applicable clause for self-performance of work).

7.4.2. **Evaluation Requirements:**

7.4.2.1. This is a GO/NO-GO requirement. In order to assure adequate interest in and supervision of all work, the Contractor shall be required to perform a significant part of the contract with its own forces. This public policy is expressed in various Statutes, as well as in the Federal Acquisition Regulations and in the Small Business Administration Code of Federal Regulations. The Firm must confirm that it understands the amount of work performed, based on the status of the firm, and that it will self perform the required amount of work with its own forces. This is also a statutory requirement for any set-aside for Small Business or Small Disadvantaged Business or Hubzone firms before contract award can be made.

SAMPLE

7.5. *<SMALL_NO>*NOT USED*</SMALL_NO><SMALL>*SUBCONTRACTING PLAN

(a) The otherwise successful firm if it is a Large Business. Must submit a small business subcontracting plan in accordance with FAR Clause 52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN. The Government will evaluate the plan for acceptability in accordance with the rating scheme in Army FAR Supplement Appendix DD and with the requirements of FAR Clause 52.219-9. The plan must be acceptable for award.*</SMALL><MATOC>*

7.6. *<INTERVIEWS_NOT>*NOT USED*</INTERVIEWS_NOT><INTERVIEWS>*INTERIM INTERVIEWS (ONE-ON-ONE)

Comment [sdn16]: [NOTE TO SPECIFIER: IF THE PDT DETERMINES THAT THE USE OF ONE ON ONE INTERIM INTERVIEWS PRIOR TO PROPOSAL RECEIPT IS DESIRABLE, SUBJECT TO THE CONTRACTING OFFICER'S APPROVAL, INCLUDE THE FOLLOWING OPTIONAL BEST PRACTICE IN SECTION 00 22 20. AMEND THE SOLICITATION TO INCLUDE THE DATES AND TIMES FOR THE INTERVIEWS OR NOTIFY THE FIRM BY LETTER.]

7.6.1. One or more individual, interim interviews may be conducted to help connect the Government and the Firm during the design-build competition. These specialized interviews allow the Government and each design-build team to individually meet, prior to submission of the proposal, in a formal and regulated environment to begin interacting in relation to the Firm's solution for the project. Through this process, the Government can make sure that the Firm's solution is on track for meeting the requirements of the RFP. For the Firm, meeting with the Government is critical, particularly for the designers on the team who may have historically worked and interacted directly with the Government.

7.6.2. Interim interviews are currently scheduled for «INTERVIEW_SCHEDULE» at «INTERVIEW_LOCATION». The schedule for interviews will be:

«INTERVIEW_FULLSCHEDULE»

7.6.3. Team order for presentation will be announced at the pre-proposal conference. The interim interview will be two hours in length with an optional fifteen minute opportunity for Firm feedback, structured with the following format.

Hour 1: Presentation of the design concept (Site design, Building design and Interior design) and interaction with the Government.

Hour 1 to 1.5: The Firm's team will leave the room and the Government will discuss the design and determine feedback for the Firm.

Hour 1.5 to 2: The Firm will return to the presentation room and receive feed back from the Government as to the direction of their design.

Hour 2 to 2.25: The Firm's team has the opportunity to provide any suggestions or improvements to the RFP process and/or documents.

7.6.4. The Interim interview process is formal in nature and will be videotaped for the record. The following rules will apply:

(a) The Government will maintain confidentiality and proprietary information for each Firm's team. The designs will not be discussed outside the presentation room.

(b) The Firm's team is forbidden from contacting the Government representatives. Contact with an interim interview Government representative will result in removal from the design-build competition and forfeiture of the stipend (if any is otherwise provided in this solicitation).

(c) Discussion of cost and pricing is forbidden.

(d) Each Firm will be allowed up to 5 team members to present the design concepts. The Designer of Record and Manager of Construction are required.

(e) The interim interview is for information exchange only. The interviews will not be evaluated.

7.6.5. **Evaluation Criteria:** At the completion of the design-build competition and after award of the contract, the Firm may request a copy of its videotaped interview. Costs for the copies will be borne by the Firm. *</INTERVIEWS></MATOC>*

8.0 EVALUATION PROCEDURES

SAMPLE

8.1. TASK ORDER SELECTION EVALUATION BOARD (TOSEB)

8.1.1. The TOSEB will be established to conduct the evaluation of proposals received in response to this solicitation. The evaluation will be based on the content of the proposal and any subsequent discussions required, as well as information obtained from other sources, e.g. past performance information. The TOSEB will not consider any information incorporated by reference, except as expressly allowed by this solicitation.

8.2. EVALUATION

8.2.1. The TOSEB will evaluate the proposals and assign a consensus rating for each evaluation factor and subfactor, except that performance risk ratings are assigned to past performance (see below).

8.2.2. The Government intends to award without discussions. Firms are cautioned to put forth their best efforts, and to furnish all information clearly to allow the Government to evaluate proposals. Firms should not assume that they will have an opportunity to clarify or correct anything in their proposal after submitting it.

8.2.3. A "Competitive Range" is a subjective determination of the most highly rated proposals in the event that the Government decides that discussions with competing firms are required or are considered to be in the Government's best interests. In such an event, the Contracting Officer will establish a competitive range of all the most highly rated proposals.

8.2.4. If discussions are held, the Government may engage in a broad give and take with those firms in the competitive range, in accordance with FAR 15.306 (d). The Government will provide the Firm an advance agenda for the discussions. During discussions, the Government may ask the Firm to further explain its proposal and to answer questions about it.

8.2.5. Upon conclusion of discussions, those firms still considered the most highly rated, will be afforded an opportunity to submit their proposal revisions for final evaluation and selection.

8.3. DEFINITIONS

8.3.1. **Deficiency:** A material failure of a proposal to meet a Government requirement or a combination of significant weaknesses in a proposal that increases the risk of unsuccessful contract performance to an unacceptable level.

8.3.2. **Weakness:** A flaw in the proposal that increases the risk of unsuccessful contract performance

8.3.3. **Significant Weakness:** A flaw in the proposal that appreciably increases the risk of unsuccessful contract performance

8.3.4. **Strength:** Any aspect of a proposal that, when judged against a stated evaluation criterion, enhances the merit of the proposal or increases the probability of successful performance of the contract.

8.3.5. **Significant Strength:** A significant strength appreciably enhances the merit of a proposal or appreciably enhances the probability of successful contract performance.

8.3.6. **Deviation:** Proposal implies or specifically offers a deviation below the specified criteria. The firm may or may not have called the deviation to the Government's attention. **A deviation is a deficiency.** The proposal must conform to the solicitation requirements for award.

8.4. EVALUATION RATING SYSTEM

8.4.1. **General:** The Government will review the proposals and rate the quality of each evaluation factor and subfactor (if any). The TOSEB will rate each proposal against the specified evaluation criteria in the Solicitation requirements. They will not compare proposals at this time. After all proposals are rated, the Government will compare the ratings and relative advantages and disadvantages of proposals against each other.

SAMPLE

8.4.2. **Review Write-up**: The Government will support each rating with a narrative, separately listing all strengths or advantages, weaknesses or disadvantages, deficiencies, and required clarifications.

8.4.3. **Rating System**: After listing proposal strengths, weaknesses and deficiencies, the TOSEB will assign an adjective rating of “Excellent”, “Good”, “Acceptable”, “Marginal”, “Susceptible to Being Made Acceptable”, or “Unacceptable” to each factor and subfactor (except those factors rated as GO/NO-GO), which reflect the Government's confidence in each firm's ability, as demonstrated in its proposal, to perform the requirements stated in the RFP. The adjectival ratings shall be assigned, using the following criteria, which incorporate a proposal risk assessment:

8.4.3.1. **Excellent**: Proposal has exceptional merit and reflects an excellent approach which will clearly result in the superior attainment of all requirements and objectives. This clearly achievable approach includes numerous advantageous characteristics of substance, and essentially no disadvantages, which can be expected to result in outstanding performance. The risk of unsuccessful performance is very low as the proposal solutions which are unquestionably feasible and practical. These solutions are further considered very low risk in that they are exceptionally clear and precise, fully supported, and demonstrate a clear understanding of the requirements. Risk level: Very Low.

8.4.3.2. **Good**: Proposal demonstrates a sound approach which is expected to meet all requirements and objectives. This sound approach includes advantageous characteristics of substance, and few relatively minor disadvantages, which collectively can be expected to result in acceptable performance. The risk of unsuccessful performance is low as the proposal contains solutions which are considered feasible and practical. These solutions are further considered to be low risk in that they are clear and precise, supported, and demonstrate an understanding of the requirements. Risk level: Low.

8.4.4. **Acceptable:** Proposal demonstrates an approach which is capable of meeting all requirements and objectives. The approach includes both advantageous and disadvantageous characteristics of substance, where the advantages are not outweighed by the disadvantages. Collectively, the advantages and disadvantages are likely to result in acceptable performance. The risk of unsuccessful performance is moderate, as the proposal solutions are generally feasible and practical. These solutions are further considered to reflect moderate risk in that they are somewhat clear and precise, partially supported, and demonstrate a general understanding of the requirements. Risk Level: Moderate.

8.4.5. **Marginal**: The proposal demonstrates an approach which may not be capable of meeting all requirements and objectives. The approach has disadvantages of substance and advantages, if they exist, are outweighed by the disadvantages. Collectively, the advantages and disadvantages are not likely to result in acceptable performance. The risk of unsuccessful performance is high as the proposal contains solutions which may not be feasible and practical. These solutions are further considered to reflect high risk in that that they lack clarity and precision, are generally unsupported, and do not demonstrate a complete understanding of the requirements. Risk Level: High to Very High.

8.4.6. **Susceptible to Being Made Acceptable.** Proposal demonstrates an approach which, as initially proposed, cannot be rated marginal because of error(s), omission(s) or deficiency(cies), which are capable of being corrected without a major rewrite or revision of the proposal. These solutions are further considered to reflect high to very high risk in that they lack clarity and precision, are generally unsupported, and do not demonstrate a complete understanding of the requirements. Risk Level: High to Very High.

8.4.7. **Unacceptable.** The proposal demonstrates an approach which, based on a very high risk, will very likely not be capable of meeting all requirements and objectives. This approach has numerous disadvantages of substance, and advantages, if they exist, are far outweighed by disadvantages. Collectively, the advantages and disadvantages will not result in acceptable performance. The risk of unsuccessful performance is very high as the proposal contains solutions which are not feasible and practical. The solutions are further considered to be very high risk in that they lack any clarity or precision, are unsupported, and do not demonstrate an understanding of the requirement. Risk Level: Very High.

8.5. PAST PERFORMANCE RISK RATINGS

8.5.1. Risk ratings shall be done for each Past Performance factor. Past Performance Risk Ratings assess the risks associated with each firm's likelihood of success in performing the requirements stated in the RFP based on

SAMPLE

the firm's demonstrated performance on recent contracts. TOSEB members and the SSA may use personal knowledge or information from other sources in its evaluation of an firm's past performance, provided such information is consistent with the established evaluation criteria of the RFP. Firms that have no relevant performance record will be given a neutral/unknown risk rating for these factors.

8.5.1.1. **Unknown Risk:** Firm has little or no relevant performance record identifiable; equates to an unknown risk rating having no positive or negative evaluation significance.

8.5.1.2. **Low Risk**: Little doubt exists, based upon the Firm's performance record, that the Firm can perform the proposed effort.

8.5.1.3. **Moderate Risk:** Some doubt exists, based on the Firm's performance record, that the Firm can successfully perform the proposed effort.

8.5.1.4. **High Risk:** Significant doubt exists, based on the Firm's performance record, that the Firm can successfully perform the proposed effort.

SAMPLE

FORMAT FOR TABLE OF FACILITIES
SECTION 00 22 30 - ATTACHMENT 8

FACILITY (1)	SOLICITATION REQUIREMENTS (2)		PROPOSAL PROVIDED (3)		DIFFERENCE (+/-) (4)		NOTES/REMARKS (5)
	Net SF	Gross SF	Net SF	Gross SF	Net SF	Gross SF	

Notes:

(1) Facility column shall identify building, e.g. Dining Facility, TEMF, UEPH, etc. Where different designs are offered for the same overall building type, each different design shall be identified and tabulated separately.

(2) Complete these columns directly from information in the solicitation. If the solicitation is silent on net square feet for a particular facility, leave this blank.

(3) Complete these columns directly from the information in your proposal.

(4) This column represents the mathematical difference between the proposal and the solicitation requirements + differences represent areas above the solicitation requirements and – differences represent areas below the solicitation requirements. Proposers are cautioned that exceeding the statutory limitations on building size will cause a proposal to be considered non-compliant.

(5) This column is provided to allow the proposers to place additional relevant information with respect to building area.

SAMPLE

FORMAT FOR TABLE OF SPACES
SECTION 00 22 30 - ATTACHMENT 9

FACILITY: _____

SPACE DESIGNATION (1)	SOLICITATION REQUIREMENTS MIN REQUIRED (2) SF	PROPOSAL PROVIDED (3) SF	DIFFERENCE (+/-) (4) SF	NOTES/REMARKS (5)

Notes:

(1) The proposer shall list all spaces within the identified facility in this column.

(2) The proposer shall complete this column by taking the information directly from the solicitation ***Statement of Work***. Where a particular space does not have a specific solicitation requirement, this column may be left blank.

(3) The proposer shall complete this column directly from the information contained in the proposal.

(4) This column represents the mathematical difference between the proposal and the solicitation requirements. + differences represent areas above the solicitation requirements and – differences represent areas below the solicitation requirements.

(5) This column is provided to allow the proposers to place additional relevant information with respect to spaces provided.

(6) Where multiple facilities of the same type (e.g. Dining Facility, UEPH, etc) are included in a single contract, each facility shall be identified in a separate table.

SAMPLE

<SUB>COMPANY SPECIALIZED EXPERIENCE
KEY SUBCONTRACTOR (OR PRIME IF WORK NOT TO BE SUBCONTRACTED)
SECTION 00 22 30 - ATTACHMENT 10

Comment [sdn17]: [NOTE TO SPECIFIER: THIS AND THE NEXT ATTACHMENT ARE "NOT USED", IF THE TASK ORDER PROJECT DELIVERY TEAM ELECTS NOT TO EVALUATE KEY SUCONTRACTORS.]

Provide the following information to show examples of projects your company constructed within the last **five** years indicating experience with projects of similar type and scope. Use one form per project.

(a) Type of BCT Facility Represented _____

(b) Your Firm's Name _____

(c) Name of project _____

(d) Owner _____

(e) General Scope of Construction Project _____

_____

_____

(f) Your Role (Prime, Joint Venture, or Subcontractor, etc.) and Work Your Company Self-Performed :

_____

_____

(g) Your Contract or Subcontract Amount _____

(h) Detailed Description of Your Self-Performed Work _____

_____

(i) Describe any Work You Subcontract to Others _____

_____

(j) Dates Your (sub) contract: Started _____ Completed_____

(k) Your Performance Evaluation by Owner, if any _____

By Prime: _____

(l) Were You Terminated or Assessed Liquidated Damages? _____

(If either is "Yes", attach an Explanation)

(m) Name and Company of Point of Contact (POC) for reference (If you were a subcontractor, also list the firm you were hired by): _____

(n) Current Telephone Number of Reference POC _____

SAMPLE

LETTER OF COMMITMENT OF KEY SUBCONTRACTOR
(USE SUBCONTRACTOR'S COMPANY LETTERHEAD)
SECTION 00 22 30 - ATTACHMENT 11

TO: Contracting Officer

SUBJECT: Letter of Commitment for Proposed Contract for _____

Dear Sir or Madam:

I hereby make the unequivocal commitment that, in the event of an award of a contract to (Fill in name of Proposer), that (insert name of design firm) will fulfill the duties of (state role on a project)

Sincerely, (Authorized Official)

Date: _____***</SUB>***

End of Section 00 22 30

SAMPLE

SECTION 00 73 10 (TASK ORDER
<VER>REV 1.3 – 30 APR 2010***</VER>***

SUPPLEMENTAL CONTRACT REQUIREMENTS

1.0 GENERAL

1.1. COST LIMITATION

1.2. 52.211-10 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK (APR 1984).

1.3. 52.211-12 LIQUIDATED DAMAGES – CONSTRUCTION (SEP 2000).

1.4. 252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000).

1.5. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15) (OCT 1989).

1.6. PHYSICAL DATA (FAR 52.236-4) (APR 1984).

1.7. IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY.

1.8. PAYMENT FOR MATERIALS DELIVERED OFF-SITE (EFARS 52.232-5000) (MAR 1995).

1.9. TASK ORDER SITE SAFETY AND HEALTH OFFICER REQUIREMENTS AND QUALIFICATIONS (~~MAR~~ APR 10)***<SCR>***

«INSTALLATION_SCR_TITLE»***</SCR>***

SAMPLE

1.0 GENERAL

1.1. COST LIMITATION

The cost limitation for this task order is $«COST_LIMITATION»

1.2. 52.211-10 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK (APR 1984).

«COMMENCEMENT»

1.3. 52.211-12 LIQUIDATED DAMAGES – CONSTRUCTION (SEP 2000).

«DAMAGES»

1.4. 252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000).

«DRAWINGS»

1.5. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15) (OCT 1989).

«TIME_EXTENSIONS»

1.6. PHYSICAL DATA (FAR 52.236-4) (APR 1984).

«PHYSICAL»

1.7. IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY.

«PROPERTY»

1.8. PAYMENT FOR MATERIALS DELIVERED OFF-SITE (EFARS 52.232-5000) (MAR 1995).

«OFFSITE»

1.9. TASK ORDER SITE SAFETY AND HEALTH OFFICER REQUIREMENTS AND QUALIFICATIONS (~~MAR~~APR- 10)

(a) The Contractor shall employ a competent person at each project to function as the Site Safety and Health Officer (SSHO) in accordance with EM 385-1-1, Section 01.A.17. The SSHO shall report to the senior project official or to a senior corporate official. Submit the qualifications of the proposed SSHO for Government Approval.

~~(a)~~(b) ***<SAFETY1>***The SSHO may be a collateral duty responsibility.***</SAFETY1><SAFETY2>***(The SSHO duties will be the employee's sole, full-time responsibility***</SAFETY2><HTRW>***

~~(b)~~(c) In the event this project involves hazardous, toxic or radioactive waste (HTRW) operations, additional site safety personnel qualifications and training are found in EM 385-1-1, 28.A.02 b.(3). In the event this project involves the handling, treatment, removal and/or disposal of asbestos, personnel qualifications and training shall be consistent with those specified in UFGS SECTION 02 82 14.00 10 titled ASBESTOS HAZARD CONTROL ACTIVITIES. In the event this project involves the abatement of lead based paint hazards, personnel qualifications and training shall be consistent with those specified in UFGS SECTION 01 83 13 LEAD IN CONSTRUCTION, and/or UFGS 01 83 19 for TARGET HOUSING AND CHILD OCCUPIED FACILITIES, depending on site applicability.***</HTRW><SCR>***

«INSTALLATION_SCR»***</SCR>***

End of Section 00 73 10

Comment [JHoffman1]: ***[NOTE TO SPECIFIER: For projects involving the handling, treatment, removal and/or disposal of asbestos, lead, or Hazardous Materials/Waste, add the following additional requirements;]***

Comment [sdn2]: ***[NOTE TO SPECIFIER: For projects involving the handling, treatment, removal and/or disposal of asbestos, lead, or Hazardous Materials/Waste, add the following additional requirements;]***

SAMPLE

SECTION 01 10 00<TO>.«TONUM»</TO>
<VER> REV 2.15 – 30 APR 2010</VER>

<TO>TASK ORDER</TO> STATEMENT OF WORK

1.0 PROJECT OBJECTIVES

1.1. SECTION ORGANIZATION

2.0 SCOPE<UEPH>

2.1. UNACCOMPANIED ENLISTED PERSONNEL HOUSING</UEPH><COF>

2.1. COMPANY OPERATIONS FACILITY</COF><DF>

2.1. DINING FACILITY</DF><BDE_BN>

2.1. BRIGADE AND BATTALION HEADQUARTERS FACILITY</BDE_BN><BDE_ONLY>

2.1. BRIGADE HEADQUARTERS FACILITY</BDE_ONLY><BN_ONLY>

2.1. BATTALION HEADQUARTERS FACILITY</BN_ONLY><TEMF>

2.1. TACTICAL EQUIPMENT MAINTENANCE FACILITY</TEMF><C2F>

2.1. COMMAND AND CONTROL FACILITY</C2F><ORTC>

2.1. OPERATIONAL READINESS TRAINING COMPLEX </ORTC><AIT>

2.1. ADVANCED INDIVIDUAL TRAINING COMPLEX</AIT><BTOSUT>

2.1. BASIC TRAINING (BT) AND ONE STATION UNIT TRAINING (OSUT) COMPLEX</BTOSUT><WT>

2.1. WARRIORS IN TRANSITION COMPLEX</WT><CDC>

2.1. CHILD DEVELOPMENT CENTERS</CDC><YC>

2.1. YOUTH CENTER</YC><ACSC>

2.1. ARMY COMMUNITY SERVICE CENTER</ACSC><GIB>

2.1. GENERAL INSTRUCTION BUILDING</GIB><ACES>

2.1. ARMY CONTINUING EDUCATION SERVICE FACILITY</ACES><CXX1>

2.1. CLASSROOM XX1</CXX1><CIDC>

2.1. CRIMINAL INVESTIGATION DIVISION COMMAND</CIDC><CHAPEL>

2.1. «CHAPEL_TYPE»</CHAPEL><CFSS>

2.1. CONSOLIDATED FIRE, SAFETY, AND SECURITY FACILITY</CFSS><AFS>

2.1. ARMY FIRE STATIONS</AFS><PFF>

2.1. PHYSICAL FITNESS CENTER</PFF><ACP>

SAMPLE

2.1. ACCESS CONTOL POINTS*</ACP><OTHER>*

2.1. «UNIQUE_NAME»*</OTHER>*

2.2. SITE

2.3. GOVERNMENT-FURNISHED GOVERNMENT INSTALL EQUIPMENT (GFGI)

2.4. FURNITURE REQUIREMENTS*<UEPH>*

3.0 UNACCOMPANIED ENLISTED PERSONNEL HOUSING

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</UEPH><COF>*

3.0 COMPANY OPERATIONS FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</COF><DF>*

3.0 DINING FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</DF><BDE_BN>*

3.0 BRIGADE AND BATTALION HEADQUARTERS FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</BDE_BN><BDE>*

3.0 BRIGADE HEADQUARTERS FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</BDE><BN>*

3.0 BATTALION HEADQUARTERS FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</BN><TEMF>*

3.0 TACTICAL EQUIPMENT MAINTENANCE FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</TEMF><C2F>*

3.0 COMMAND AND CONTROL FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</C2F><ORTC>*

SAMPLE

3.0 OPERATIONAL READINESS TRAINING COMPLEX

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</ORTC><AIT>***

3.0 ADVANCED INDIVIDUAL TRAINING COMPLEX

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</AIT><BTOSUT>***

3.0 BASIC TRAINING (BT) AND ONE STATION UNIT TRAINING (OSUT) COMPLEX

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</BTOSUT><WT>***

3.0 WARRIORS IN TRANSITION (WT) COMPLEX

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</WT><CDC>***

3.0 CHILD DEVELOPMENT CENTERS

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</CDC><ACSC>***

3.0 ARMY COMMUNITY SERVICE CENTER

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</ACSC><YC>***

3.0 YOUTH CENTER

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</YC><GIB>***

3.0 GENERAL INSTRUCTION BUILDING

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</GIB><ACES>***

3.0 ARMY CONTINUNING EDUCATION SERVICE FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS***</ACES><CXX1>***

3.0 CLASSROOM XXI

3.1. GENERAL REQUIREMENTS

SAMPLE

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</CXX1><CIDC>*

3.0 CRIMINAL INVESTIGATION DIVISION COMMAND

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</CIDC><CHAPEL>*

3.0 «CHAPEL_TYPE»

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</CHAPEL><CFSS>*

3.0 CONSOLIDATED FIRE, SAFETY, AND SECURITY FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS *</CFSS><AFS>*

3.0 ARMY FIRE STATION

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS *</AFS><PFF>*

3.0 PHYSICAL FITNESS FACILITY

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS *</PFF><ACP>*

3.0 ACCESS CONTROL POINTS

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</ACP><UAS>*

3.0 UNMANNED AIRCRAFT SYSTEMS

3.1. GENERAL REQUIREMENTS

~~3.1.~~3.2. FUNCTIONAL AND AREA REQUIREMENTS*</UAS><OTHER>*

3.0 «UNIQUE_NAME»

3.1. GENERAL REQUIREMENTS

3.2. FUNCTIONAL AND AREA REQUIREMENTS*</OTHER>*

4.0 APPLICABLE CRITERIA

4.1. INDUSTRY CRITERIA

4.2. MILITARY CRITERIA

4.3. PRECEDENCE

SAMPLE

5.0 GENERAL TECHNICAL REQUIREMENTS

5.1. SITE PLANNING AND DESIGN

5.2. SITE ENGINEERING

5.3. ARCHITECTURE AND INTERIOR DESIGN

5.4. STRUCTURAL DESIGN

5.5. THERMAL PERFORMANCE

5.6. PLUMBING

5.7. ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

5.8. HEATING, VENTILATING AND AIR CONDITIONING

5.9. ENERGY CONSERVATION

5.10. FIRE PROTECTION

5.11. SUSTAINABLE DESIGN

5.12. CONSTRUCTION AND DEMOLITION (C&D) WASTE MANAGEMENT

5.13. SECURITY (ANTI-TERRORISM STANDARDS)

6.0 PROJECT SPECIFIC REQUIREMENTS

6.1. GENERAL

6.2. APPROVED DEVIATIONS

6.3. SITE PLANNING AND DESIGN

6.4. SITE ENGINEERING

6.5. ARCHITECTURE

6.6. STRUCTURAL DESIGN

6.7. THERMAL PERFORMANCE

6.8. PLUMBING

6.9. SITE ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

6.10. FACILITY ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

6.11. HEATING, VENTILATING AND AIR CONDITIONING

6.12. ENERGY CONSERVATION

6.13. FIRE PROTECTION

6.14. SUSTAINABLE DESIGN

SAMPLE

6.15. ENVIRONMENTAL

6.16. PERMITS

6.17. DEMOLITION

6.18. ADDITIONAL FACILITIES

SAMPLE

1.0 PROJECT OBJECTIVES

The project objective is to design and construct facilities for the military that are consistent with the design and construction practices used for civilian sector projects that perform similar functions to the military projects. For example, a Company Operations Facility has the similar function as an office/warehouse in the civilian sector; therefore the design and construction practices for a company operations facility should be consistent with the design and construction of an office/warehouse building.

Comparison of Military Facilities to Civilian Facilities*<UEPH>*

Military Facility	Civilian Facility
Unaccompanied Enlisted Personnel Housing (UEPH)	Apartment

</UEPH><HQ>

Military Facility	Civilian Facility
Battalion/Brigade Headquarters (BH)	Office

</HQ><C2F>

Military Facility	Civilian Facility
Command and Control Facilities (C2F)	Office

</C2F><COF>

Military Facility	Civilian Facility
Company Operations Facility (COF)	Office Warehouse

</COF><DF>

Military Facility	Civilian Facility
Dining Facility (DF)	College/Corporate Cafeteria

</DF><TEMF>

Military Facility	Civilian Facility
Tactical Equipment Maintenance Facility (TEMF)	Heavy Equipment/Vehicle Maintenance Garage

</TEMF><ORTC>

Military Facility	Civilian Facility
*<ORTCBDE>*Brigade Headquarters	Office Building*</ORTCBDE>*
*<ORTCBN>*Battalion Headquarters	Office Building*</ORTCBN>*
*<ORTCUEPH>*Enlisted Barracks	Dormitory*</ORTCUEPH>*

SAMPLE

*<ORTCNCO>*Officers Quarters	Dormitory*</ORTCNCO>*
*<ORTCDF>*Dining Facility	Cafeteria*</ORTCDF>*
*<ORTCCOF>*Company Operations Facility	Office Warehouse*</ORTCCOF>*
*<ORTCVBW>*Vehicle Maintenance/Battalion Warehouse	Vehicle Maintenance Garage/Warehouse*</ORTCVBW>*
*<ORTCCS>*Company Sheds	Storage Shed*</ORTCCS>*

</ORTC><AIT>

Military Facility	Civilian Facility
*<AITCOF>*Barracks/Company Operations Facility (B/COF)	Dormitory / Office Building*</AITCOF>*
*<AITBN>*Battalion Headquarters (BNHQ)	Office Building*</AITBN>*
*<AITBDE>*Brigade Headquarters (BDEHQ)	Office Building*</AITBDE>*
*<AITDF>*Dining Facility	Cafeteria*</AITDF>*
*<AITCCP>*Central Cooling Plant (CCP)	Chiller/Condenser Water Plant*</AITCCP>*
*<AITLEB>*Lawn Equipment Building (LEB)	Storage Shed*</AITLEB>*

</AIT><BTOSUT>

Military Facility	Civilian Facility
*<BTCOF>*Barracks/Company Operations Facility (B/COF)	Dormitory / Office Building*</BTCOF>*
*<BTBN>*Battalion Headquarters (BNHQ)	Office Building*</BTBN>*
*<BTDF>*Dining Facility	Cafeteria*</BTDF>*
*<BTCCP>*Central Cooling Plant (CCP)	Chiller/Condenser Water Plant*</BTCCP>*
*<BTLEB>*Lawn Equipment Building (LEB)	Storage Shed*</BTLEB>*

</BTOSUT><WT>

Military Facility	Civilian Facility
*<WTB>*Warriors in Transition (WT) Barracks	Apartment Building*</WTB>*
*<WTUAS>*Warriors in Transition Unit Administration Services (WTUAS)	Office Building*</WTUAS>*

SAMPLE

*<WTSFAC>*Soldier & Family Assistance Center (SFAC)	Community Center*</WTSFAC>*
*<WTCP>*Central Plant (CP)	Central Energy Plant*</WTCP>*
*<WTDF>*Dining Facility (DFAC)*	Restaurant*</WTDF>*

Not included in this contract</WT><CDC>*

Military Facility	Civilian Facility
*<CDC_CHILD>*Child Development Center (CDC) (6-10 years)	After School Care/YMCA/Boys and Girls Club*</CDC_CHILD>*
*<CDC_INFANT>*Child Development Center (CDC) (6 weeks – 5 years)	Day Care Center*</CDC_INFANT>*

</CDC><YC>

Military Facility	Civilian Facility
Youth Center (YC)	Boys and Girls Club

</YC><ACSC>

Military Facility	Civilian Facility
Army Community Service Center (ASCE)	Community Service/Human Resources Center

</ACSC><EDUCATE>

Military Facility	Civilian Facility
General Instruction Building/Army Continuing Education Service Facility/Classroom XXI (GIB/ACES/XXI)	College Level Education/Training Facility

</EDUCATE><CIDC>

Military Facility	Civilian Facility
Criminal Investigation Division Command (CIDC)	Detective Station

</CIDC><CHAPEL>

Military Facility	Civilian Facility
«CHAPEL_TYPE»	Church/Religious Facility

</CHAPEL><CFSS>

Military Facility	Civilian Facility

SAMPLE

Consolidated Fire, Safety and Security Facility (ConFSS)	Fire Station

</CFSS><AFS>

Military Facility	Civilian Facility
Army Fire Stations (AFS)	Fire Station

</AFS><PFF>

Military Facility	Civilian Facility
Physical Fitness Facility (PFF)	Fitness Center, Gym or Health Club

</PFF><AFH>

Military Facility	Civilian Facility
Army Family Housing	Housing

</AFH><ACP>

Military Facility	Civilian Facility
*<ACP_VCC>*Visitor Control Center (VCC)	Office/Processing Area*</ACP_VCC>*
*<ACP_GH>*Gatehouse	Guard Control Center*</ACP_GH>*
*<ACP_GB>*Guard Booths	Toll-Way Booth*</ACP_GB>*
*<ACP_PGB>*Pedestrian Guard Booth	Guard Building*</ACP_PGB>*
*<ACP_OW>*Overwatch Position	Parking space for security vehicle, Guard Building*</ACP_OW>*
*<ACP_SAB>*Search Area Building	Bus Shelter, Office/Processing Area*</ACP_SAB>*
*<ACP_PVSAC>*Passenger Vehicle Search Area Canopy	Passenger Vehicle Gas Station Canopy*</ACP_PVSAC>*
*<ACP_TSAC>*Truck Search Area Canopy	Truck Fueling Station Canopy *</ACP_TSAC>*
*<ACP_IDCAC>*Identity (ID) Check Area Canopy	Gas Station Vehicle Canopy*</ACP_IDCAC>*

</ACP><UAS>

Military Facility	Civilian Facility
UAS Maintenance Hangar	Aircraft Maintenance Facility

</UAS><OTHER>

SAMPLE

Military Facility	Civilian Facility
«UNIQUE_NAME»	«UNIQUE_COMPARABLE»

</OTHER>It is the Army's objective that these buildings will have a 25-year useful design life before a possible re-use/re-purpose or renovation requirement, to include normal sustainment, restoration, modernization activities and a 50-year building replacement life. Therefore, the design and construction should provide an appropriate level of quality to ensure the continued use of the facility over that time period with the application of reasonable preventive maintenance and repairs that would be industry-acceptable to a major civilian sector project OWNER. The site infrastructure will have at least a 50-year life expectancy with industry-accepted maintenance and repair cycles.

The project site should be developed for efficiency and to convey a sense of unity or connectivity with the adjacent buildings and with the Installation as a whole.

Requirements stated in this contract are minimums. Innovative, creative, and life cycle cost effective solutions, which meet or exceed these requirements are encouraged. Further, the OFFEROR is encouraged to seek solutions that will expedite construction (panelization, pre-engineered, etc.) and shorten the schedule. **The intent of the Government is to emphasize the placement of funds into functional/operational requirements. Materials and methods should reflect this by choosing the lowest Type of Construction allowed by code for this occupancy/project allowing the funding to be reflected in the quality of interior/exterior finishes and systems selected.**

1.1. SECTION ORGANIZATION

This Section is organized under 6 major “paragraphs”.

(1) Paragraph 1 is intended to define the project objectives and to provide a comparison between the military facility(ies) and comparable “civilian” type buildings.

(2) Paragraph 2 describes the scope of the project.

(3) Paragraph 3 provides the functional, operational and facility specific design criteria for the specific facility type(s) included in this contract or task order.

(4) Paragraph 4 lists applicable industry and government design criteria, generally applicable to all facility types, unless otherwise indicated in the Section. It is not intended to be all-inclusive. Other industry and government standards may also be used, where necessary to produce professional designs, unless they conflict with those listed.

(5) Paragraph 5 contains Army Standard Design Criteria, generally applicable to all facility types, unless otherwise indicated in the Section.

(6) Paragraph 6 contains installation and project specific criteria supplementing the other 5 paragraphs.

SAMPLE

2.0 SCOPE *<VER>*(3.17 – 30 APR 2010)*</VER><UEPH>*

2.1. UNACCOMPANIED ENLISTED PERSONNEL HOUSING (UEPH)

Provide Unaccompanied Enlisted Personnel Housing (UEPH) facilities. This project type is to house single soldiers and is intended to be similar both functionally and technically to similar housing in the private sector community surrounding the Installation.

Number of single personnel to be housed is «UEPH_SINGLE_PERSONNEL_HOUSED»

Maximum gross area «UEPH_MAX_GROSS_AREA» square feet.*</UEPH><COF>*

2.1. COMPANY OPERATIONS FACILITY (COF)

Provide Company Operations Facilities (COF). This project type is to house Company administrative operations and store and move supplies. It is intended to be similar to office and warehouse type buildings in the private sector community.

The project will include Company Operations Facilities for «COF_TOTAL_COMPANIES» Companies. The number of unified companies (UNICOF) per battalion and number of personnel per company for this project is as follows:*<COF_REPEAT>*

«COF_BATTALION_NAME» (UNICOF)*<COF_REPEAT_CO>*

Company «COF_COMPANY_LETTER» = «COF_NUMBER_COMPANY_PERSONNEL» Personnel, male/female ratio «COF_COMPANY_PERSONNEL_RATIO»*</COF_REPEAT_CO>*

The maximum allowable gross area for the Admin Module is «COF_BATTALION_ADMIN_AREA» square feet.

The maximum allowable gross area for the Readiness Module is «COF_BATTALION_READINESS_AREA» square feet.

The maximum allowable gross exterior covered hardstand area is «COF_BATTALION_HARDSTAND_AREA» square feet.

The preferred design approach for this complex is the «COF_DESIGN_CONCEPT» layout scheme.*</COF_REPEAT>*

«COF_REPEAT»

A Troop Aid Station to support the Brigade «COF_TAS_REQUIRED» required *<COF_TAS>*and will be included in the «COF_BATTALION_NAME_WITH_TAS» Battalion UNICOF. Items identified as H (hospital equipment) on Troop Aid Station Furnishings Appendix.*</COF_TAS></COF><DF>*

2.1. DINING FACILITY (DF): Provide Dining Facilities

This project type is to prepare and serve food in a seated dining area. The seated dining area can also serve as a gathering place for group activities. It is intended to be similar to a college cafeteria facility in the private sector community.

Provide a complete and functional dining facility:

<DF_SIZE1> For feeding 500 soldiers per meal within 90 minutes, three times per day, seven days a week, 52 weeks per year. Maximum gross area shall be 17,800 square feet. Dining area seating capacity shall be 240 seats.*</DF_SIZE1><DF_SIZE2>*For feeding 800 soldiers per meal within 90 minutes, three times per day, seven days a week, 52 weeks per year. Maximum gross area shall be 19,400 square feet. Dining area seating capacity shall be 384 seats.*</DF_SIZE2><DF_SIZE3>*For feeding 1300 soldiers per meal within 90 minutes, three times per day, seven days a week, 52 weeks per year. Maximum gross area shall be 25,900 square feet. Dining area seating capacity shall be 624 seats.*</DF_SIZE3><DF_SIZE4>*For feeding 1300 trainee soldiers per meal within 90 minutes, three times per day, seven days a week, 52 weeks per year. Maximum gross area shall be 30,500

SAMPLE

square feet. Dining area seating capacity shall be 544 seats.***</DF_SIZE4><DF_SIZE5>***For feeding 2600 trainee soldiers per meal within 90 minutes, three times per day, seven days a week, 52 weeks per year. Maximum gross area shall be 56,000 square feet. Dining area seating capacity shall be 1088 seats.***</DF_SIZE5>***

STAFFING. Staffing is based on a 40-hour work week along with the menu, layout, equipment, feeding stations, serving lines and the mission of the organization it supports. The typical anticipated staffing for this size facility would be:

<DF_SIZE1>Total staff of 59 persons. The maximum staffing for a single shift would be 35 persons.***</DF_SIZE1><DF_SIZE2>***Total staff of 90 persons. The maximum staffing for a single shift would be 50 persons. ***</DF_SIZE2><DF_SIZE3>***Total staff of 107 persons. The maximum staffing for a single shift would be 54 persons. ***</DF_SIZE3><DF_SIZE4>***Total staff of 107 persons. The maximum staffing for a single shift would be 54 persons. ***</DF_SIZE4><DF_SIZE5>***Total staff of 164 persons. The maximum staffing for a single shift would be 90 persons.***</DF_SIZE5></DF><HQ>***

2.1. «HQ_TYPE»

Provide «HQ_TYPE». This project type is to house «HQ_TYPE_SHORT» administrative and command operations. It is intended to be similar to office type buildings in the private sector community. Assume 20 percent of personnel are female unless otherwise indicated.

<BDE_ONLY>The project will include a stand alone Brigade Headquarters building for a «BDE_EXTRA_SMALL_NUMBER» extra small (18,000 SF), «BDE_SMALL_NUMBER» small (31,200 SF), «BDE_MEDIUM_NUMBER» medium (34,500 SF), «BDE_LARGE_NUMBER» large (40,100 SF), and «BDE_EXTRALG_NUMBER» extra large (55,300 SF) Brigade Headquarters for «BDE_NAME». The maximum gross area for the Brigade Headquarters in the project is limited to «BDE_MAX_AREA» square feet.***</BDE_ONLY>***

<CONSOLIDATE>The project will include consolidated Brigade and Battalion Headquarters building for a Brigade Headquarters building for a «BDE_EXTRA_SMALL_NUMBER» extra small (18,000 SF), «BDE_SMALL_NUMBER» small (31,200 SF), «BDE_MEDIUM_NUMBER» medium (34,500 SF), «BDE_LARGE_NUMBER» large (40,100 SF), and «BDE_EXTRALG_NUMBER» extra large (55,300 SF) Brigade Headquarters for «BDE_NAME» and «BN_SMALL_NUMBER» small (14,000 SF), «BN_MEDIUM_NUMBER» medium (16,400 SF), and «BN_LARGE_NUMBER» large (18,100 SF), stand alone Battalion Headquarters buildings for «BN_NAME». The maximum gross area for the Consolidated Brigade and Battalion Headquarters in the project is limited to «BDEBN_MAX_AREA» square feet.***</CONSOLIDATE>***

<BN_ONLY>The project will include «BN_SMALL_NUMBER» small (14,000 SF), «BN_MEDIUM_NUMBER» medium (16,400 SF), and «BN_LARGE_NUMBER» large (18,100 SF) stand alone Battalion Headquarters buildings for «BN_NAME». The maximum gross area for the Battalion Headquarters in the project is limited to «BN_MAX_AREA» square feet.***</BN_ONLY>***

<CONSOLIDATE_NO>The project will include a stand alone Brigade Headquarters building for a «BDE_EXTRA_SMALL_NUMBER» extra small (18,000 SF), «BDE_SMALL_NUMBER» small (31,200 SF), «BDE_MEDIUM_NUMBER» medium (34,500 SF), «BDE_LARGE_NUMBER» large (40,100 SF), and «BDE_EXTRALG_NUMBER» extra large (55,300 SF) Brigade Headquarters for «BDE_NAME». The maximum gross area for the Brigade Headquarters in the project is limited to «BDE_MAX_AREA» square feet.

The project will also include «BN_SMALL_NUMBER» small (14,000 SF), «BN_MEDIUM_NUMBER» medium (16,400 SF), and «BN_LARGE_NUMBER» large (18,100 SF) stand alone Battalion Headquarters buildings for «BN_NAME». The maximum gross area for the Battalion Headquarters in the project is limited to «BN_MAX_AREA» square feet.***</CONSOLIDATE_NO></HQ><TEMF>***

2.1. TACTICAL EQUIPMENT MAINTENANCE FACILITY (TEMF)

Provide Tactical Equipment Maintenance Facilities. This project type is to provide facilities for the purpose of maintaining and repairing vehicles, complete with equipment and parts storage and administrative offices. It is intended to be similar to heavy equipment or motor pool facilities in the private sector community. Assume 12 percent of personnel are female unless otherwise indicated.

SAMPLE

The project will include TEMFs for «BATTALIONS_TOTAL» battalion(s). Specific sizing parameters for each battalion TEMF included in the project are as follows:*<TEMF_REPEAT>*

«TEMF_BATTALION_NAME»

TEMF size: «TEMF_SIZE»

A «TEMF_CRANE_SIZE» bridge crane is required in this TEMF.

Number of organizational vehicles to be accommodated: «TEMF_ACCOMODATE_ORG_VEHICLES»

Organizational vehicle hardstand: «TEMF_HARDSTAND_SY» square yards

Organizational storage building: «TEMF_ORG_STORAGE_SF» square feet

POL storage building: «TEMF_POL_BLDG_SF» square feet

Hazardous waste storage building: «TEMF_HAZ_WASTE_BLDG_SF»square feet

Distribution company storage building, 8000 SF w/445 SY Secure Storage, «TEMF_DISTRIBUTION_STORAGE_REQUIRED» required

UAV maintenance and storage, 1800SF, «TEMF_UAV_STORAGE_REQUIRED» required

POL vehicle parking «TEMF_POL_PARKING_REQUIRED» required*</TEMF_REPEAT>*

«TEMF_REPEAT»

The maximum gross area for the primary Tactical Equipment Maintenance Facilities (excluding site storage buildings) in the project is limited to «TEMF_MAX_GROSS_SF» SF.*</TEMF><C2F>*

2.1. COMMAND AND CONTROL FACILITY

Provide Command and Control Facility (C2F). This project type shall provide facilities to accommodate *<C2F_DIV>*Division*</C2F_DIV><C2F_CORPS>*Corps*</C2F_CORPS><C2F_NUMA>*Numbered Army (#Army)*</C2F_NUMA><C2F_ASCC>*Army Service Component Command (ASCC)*</C2F_ASCC><C2F_ACOM>*Army Command (ACOM)*</C2F_ACOM>* headquarters and command operations. It is intended to be similar to a combination corporate headquarters or municipal administration facility, and an emergency operations center in the civilian sector community. The maximum gross area for the C2F Headquarters in the project is limited to «C2F_MAX_AREA» square feet (SF).

The project will include *<C2F_ANTENNA>*an antenna farm,*</C2F_ANTENNA><C2F_HELI>* a helipad,*</C2F_HELI><C2F_DEPLOYED>* Tactical Sensitive Compartmented Information (SCI) Vehicle Area (TSVA) for Tactical Vehicle parking, and*</C2F_DEPLOYED> <C2F_LOAD>*loading and service areas.*</C2F_LOAD>*

*<C2F_DEPLOYED>*Corps, Division, and some other deployable command HQ also require other unit operational facilities such as Battalion HQ, Company Operations Facilities, and Tactical Equipment Maintenance Facilities. Requirements for these facilities are included in a separate solicitation and NOT in the scope of this project.*</C2F_DEPLOYED><C2F_ADDBLDG>*Other support facilities included in the scope of this project consist of the following: «C2F_REPEAT». Requirements for these facilities are provided in Section 01 10 00, Paragraph 6.*</C2F_ADDBLDG></C2F><ORTC>*

2.1. OPERATIONAL READINESS TRAINING COMPLEX (ORTC)

2.1.1. *<ORTCBN_NO>*NOT USED*</ORTCBN_NO><ORTCBN>*BATTALION HEADQUARTERS

Provide Battalion Headquarters (BN HQ) facilities to house transient Battalion level administrative functions and classrooms for soldiers. This facility is intended to be similar both functionally and technically to office and classroom type facilities in the private sector community.

The total gross area for the Battalion Headquarters is 11,237 square feet.*</ORTCBN>*

2.1.2. *<ORTCUEPH_NO>*NOT USED*</ORTCUEPH_NO><ORTCUEPH>*ENLISTED BARRACKS

SAMPLE

Provide Enlisted Barracks facilities to house transient unaccompanied enlisted soldiers in an open bay configuration and enlisted officers in a 2 bed per room configuration. Showers, toilets and laundry facilities are also provided. Number of personnel to be housed is 168 per building. This facility is intended to be similar both functionally and technically to college dormitory facilities in the private sector community. Assume 20 percent of personnel are female unless otherwise indicated.

The total gross area for the Barracks is 30,558 square feet.***</ORTCUEPH>***

2.1.3. ***<ORTCNCO_NO>***NOT USED***</ORTCNCO_NO><ORTCNCO>***OFFICERS QUARTERS

Provide Officers Quarters facilities for 80 persons, accommodating transient senior enlisted officers in a 2 bed per room configuration. This facility is intended to be similar both functionally and technically to hotels in the private sector community.

The total gross area for the Officers Quarters is 22,579 square feet.***</ORTCNCO>***

2.1.4. ***<ORTCDF_NO>***NOT USED***</ORTCDF_NO><ORTCDF>***DINING FACILITY

Provide Dining Facilities (DFAC) for food preparation of service, including a seated dining area. The seated dining area shall also serve as a gathering place for group activities. This facility is intended to be similar both functionally and technically to college cafeteria facilities in the private sector community.

2.1.4.1. Provide a complete and functional DFAC:

<ORTCDF_SIZE1> The 720 DFAC shall feed 720 soldiers per meal within 90 minutes, three times per day, seven days a week, and 52 weeks per year. The total gross area for the 720 Dining Facility is 16,761 square feet with seating capacity for 304 persons at tables.***</ORTCDF_SIZE1><ORTCDF_SIZE2>***

The 1428 DFAC shall feed 1428 soldiers per meal within 90 minutes, three times per day, seven days a week, and 52 weeks per year. The total gross area for the 1428 Dining Facility is 20,786 square feet with Dining area seating capacity for 600 persons at tables.***</ORTCDF_SIZE2>***

2.1.4.2. . Staffing: Staffing is based on a 40-hour work week for menu planning, food layout, equipment operation, feeding station staffing, serving line stocking and the organizations mission support. The typical anticipated staffing for this facility is:

<ORTCDF_SIZE1>

720 Dining: 720 Dining: Total staff, 64 persons. Maximum staffing for a single shift is 35 persons.

(1) Manager
(1) Assistant Manager
(2) Administration
(2) Subsistence Clerk
(1) Shift Leader
(2) First Cook
(28) Cooks
(2) Headcounter
(24) Dishwasher

(1) Maintenance ***</ORTCDF_SIZE1><ORTCDF_SIZE2>***

1428 Dining: 1428 Dining: Total staff, 90 persons. Maximum staffing for a single shift is 50 persons.

(1) Manager
(1) Assistant Manager
(2) Administration
(2) Subsistence Clerk
(1) Shift Leader
(2) First Cook
(40) Cooks
(4) Headcounter
(36) Dishwasher

SAMPLE

(1) Maintenance ***</ORTCDF_SIZE2>***

2.1.4.3. Equipment: Refer to the Equipment plans and schedules in the standard design for equipment requirements. Equipment noted as “Leased” in the schedule shall be identified in the design documents, provided with utility connections, and coordinated with the user of the facility. All computers and related hardware, copiers, faxes, printers, video projectors, VCRs, TVs, and Point of Sales equipment are GFGI. Coordinate with Government on GFGI item requirements providing suitable structural support, mounting brackets for projectors/VCRs/TVs, utility connections, and space with required clearances.

2.1.4.4. Furniture: Refer to the Equipment plans in the standard design for furniture layout and requirements. Tables and Chairs shall be GFGI in configurations indicated in the Standard Design.***</ORTCDF>***

2.1.5. <ORTCCOF_NO>NOT USED</ORTCCOF_NO><ORTCCOF>COMPANY OPERATIONS FACILITY

Provide Company Operations Facilities (COF) to house transient company administrative operations and facilitate storage and movement of supplies. Also provide a covered hardstand area for training and mobilization. This facility type is intended to be similar both functionally and technically to office and warehouse facilities in the private sector community.

The total gross area for the COF building is 19,579 square feet. The total gross area for the adjacent Covered Hardstand is 12,852 square feet.***</ORTCCOF>***

2.1.6. ***<ORTCVBW_NO>***NOT USED***</ORTCVBW_NO><ORTCVBW>***VEHICLE MAINTENANCE/BATTALION WAREHOUSE FACILITY

Provide Vehicle Maintenance/Battalion Warehouse Facilities (VBW) for maintaining and repairing vehicles and providing temporary storage of unit supplies and equipment. This facility type is intended to be similar both functionally and technically to equipment or motor pool facilities in the private sector community.

The total gross area for the VBW is 11,854 square feet.***</ORTCVBW>***

2.1.7. ***<ORTCCS_NO>***NOT USED***</ORTCCS_NO><ORTCCS>***COMPANY SHEDS

Provide Company Sheds (CS) to provide shelter for light vehicle maintenance. Each Battalion Complex shall be provided with one shed per company module.

The total gross area for the CS is 800 square feet per Shed including interior and covered exterior.***</ORTCCS>***

2.1.8. ***<ORTCBDE_NO>***NOT USED***</ORTCBDE_NO><ORTCBDE>***BRIGADE HEADQUARTERS

Provide Brigade Headquarters (BDE HQ) Facilities to house transient Brigade level administrative functions and Emergency Operations Center (EOC) for command use. This facility is intended to be similar both functionally and technically to office facilities in the private sector community.

The total gross area for the BDE HQ is 10,238 square feet.***</ORTCBDE></ORTC><AIT>***

2.1. ADVANCED INDIVIDUAL TRAINING COMPLEX

2.1.1. ***<AITCOF_NO>***NOT USED***</AITCOF_NO><AITCOF>***BARRACKS/COMPANY OPERATIONS FACILITY

Provide «AITCOF_NUMBER» standard B/COFs. This facility type is to house single trainee soldiers and company administrative, training and command operations.

Maximum number of single personnel to be housed is 300 per B/COF. Each B/COF shall be three stories high and shall house 100 soldiers per floor.

The maximum gross area for each B/COF is 93,000 square feet.

SAMPLE

The floor plans provided in Attachment A – Drawings indicate functional and operational arragements that meet user operability requirements.*</AITCOF>*

2.1.2. *<AITBN_NO>*NOT USED*</AITBN_NO><AITBN>*BATTALION HEADQUARTERS

Provide one standard BNHQ. This facility type is to house administrative and command operations. Assume 20 percent of personnel are female, unless otherwise indicated.

The maximum gross area for the BNHQ is 12,300 square feet.

The floor plans provided in Attachment A - Drawings indicate functional and operational arrangements that meet user operability requirements.*</AITBN>*

2.1.3. *<AITBDE_NO>*NOT USED*</AITBDE_NO><AITBDE>*BRIGADE HEADQUARTERS

Provide one standard BDEHQ. This facility type is to house administrative and command operations. Assume 20 percent of personnel are female, unless otherwise indicated.

The maximum gross area for the BDEHQ is 9,200 square feet.

The floor plans provided in Attachment A - Drawings indicate functional and operational arrangements that meet user operability requirements.*</AITBDE>*

2.1.4. *<AITCCP_NO>*NOT USED*</AITCCP_NO><AITCCP>*CENTRAL COOLING PLANT

Provide one CCP. This facility type is to produce cooling for the AIT Complex.

The maximum gross area for the CCP is «AITCCP_MAX_GROSS» square feet.*</AITCCP>*

2.1.5. *<AITLEB_NO>*NOT USED*</AITLEB_NO><AITLEB>*LAWN EQUIPMENT BUILDING

Provide one LEB. This facility type is to store lawn maintenance equipment. There is no fuel storage.

The maximum gross area for the LEB is «AITLEB_MAX_GROSS» square feet.*</AITLEB></AIT><BTOSUT>*

2.1. BASIC TRAINING AND ONE STATION UNIT TRAINING (BT/OSUT) COMPLEX

2.1.1. *<BTCOF_NO>*NOT USED*</BTCOF_NO><BTCOF>*BARRACKS/COMPANY OPERATIONS FACILITY

Provide «BTCOF_NUMBER» standard B/COFs. This facility type is to house single trainee soldiers and company administrative, training and command operations.

Maximum number of single personnel to be housed is 240 per B/COF. Each B/COF is designed for a surge capacity of 288 single personnel.

The maximum gross area for each B/COF is 64,700 square feet.

The floor plans provided in Attachment A - Drawings indicate functional and operational arrangements that meet user operability requirements. The floor plans provided in Attachment A (located at the end of paragraph 3) are mandatory and indicate functional and operational arrangements that meet user operability requirements. The Design/Build (D/B) Contractor is required to adhere to these mandatory designs. Minor plan alterations are permitted to accommodate building system requirements, however, the Minimum Area Requirements shall not be reduced in order to accommodate building system requirements.*</BTCOF>*

2.1.2. *<BTBN_NO>*NOT USED*</BTBN_NO><BTBN>*BATTALION HEADQUARTERS

Provide one standard BNHQ. This facility type is to house administrative and command operations. Assume 20 percent of personnel are female, unless otherwise indicated.

SAMPLE

The maximum gross area for the BNHQ is 23,500 square feet.

The floor plans provided in Attachment A - Drawings indicate functional and operational arrangements that meet user operability requirements. The floor plans provided in Attachment A (located at the end of paragraph 3) are mandatory and indicate functional and operational arrangements that meet user operability requirements. The Design/Build (D/B) Contractor is required to adhere to these mandatory designs. Minor plan alterations are permitted to accommodate building system requirements, however, the Minimum Area Requirements shall not be reduced in order to accommodate building system requirements.***</BTBN>***

2.1.3. ***<BTCCP_NO>***NOT USED***</BTCCP_NO><BTCCP>***CENTRAL COOLING PLANT

Provide one CCP. This facility type is to produce cooling for the BT Complex.

The maximum gross area for the CCP is «BTCCP_MAX_GROSS» square feet.***</BTCCP>***

2.1.4. ***<BTLEB_NO>***NOT USED***</BTLEB_NO><BTLEB>***LAWN EQUIPMENT BUILDING

Provide one Lawn Equipment Building (LEB). This facility type is to store lawn maintenance equipment. There is no provision for fuel storage in this building.

The allocated gross area for lawn equipment storage is 400 square feet per B/COF. The maximum gross area for the LEB is «BTLEB_MAX_GROSS» square feet.***</BTLEB></BTOSUT><WT>***

2.1. WARRIORS IN TRANSITION (WT) COMPLEX

The facility floor plans for the Warriors in Transition (WT) facilities are provided in Appendix J. These drawings indicate functional and operational arrangements that meet the user's requirements. The Design/Build (D/B) contractor is required to follow these mandatory designs. Minor plan alterations are permitted to accommodate building system requirements. However, the Minimum Area Requirements shall not be reduced in order to accommodate building system requirements.

Minor plan alterations, not more than eight (8) inches, are permitted only when necessary to accommodate building system requirements. However, the Minimum Area Requirements identified in Chapter 3 shall not be reduced in order to accommodate building system requirements. Office locations shown on the facility floor plans included in this RFP shall not be altered or relocated as they meet the mandatory adjacency requirements.

<WTB>When included in the RFP, the overall shape of the barracks design shall be determined by the Contractor's design and site limitations. Functional areas in the lobby and support spaces shall be arranged in an economical and functional manner by the D/B contractor. However, the WT Barracks apartments shall be the required 2-Bedroom, 2-Bath and 2-Bedroom, 1-Bath Apartments as provided in Appendix J. The D/B Contractor is required to provide the stated number of 2-Bedroom, 2-Bath Apartments and the stated number of2-Bedroom, 1-Bath Apartments. The required number of apartments is stated in Paragraph 3.1. It shall be the responsibility of the D/B Contractor to provide the overall barracks design in compliance with the gross square footage limitations and functional area identified. ***</WTB>***

2.1.1. ***<WTB_NO>***NOT USED***</WTB_NO><WTB>***WT BARRACKS

Provide «WTB_NUMBER» PN standard WT Barracks. This facility provides lodging for soldiers who have been released from a medical care facility and are in recovery status for further evaluation.

Maximum gross area shall be «WTB_MAX_GROSS» square feet.***</WTB>***

2.1.2. ***<WTUAS_NO>***NOT USED***</WTUAS_NO> <WTUAS>***WTUAS

Provide a standard WTUAS consisting of:

<WTUASOTHER>«WTUAS_TYPE»***</WTUASOTHER>***
<WTUAS28>A 28 PN Extra Small One-Company Headquarters (CoHQ), 6,900 gross square feet***</WTUAS28>***
<WTUAS38>A 38 PN Small One-Company Headquarters (CoHQ), 8,300 gross square feet***</WTUAS38>***

SAMPLE

<WTUAS47>A 47 PN Medium One-Company Headquarters (CoHQ), 10,300 gross square feet***</WTUAS47>***
<WTUAS94>A 94 PN Medium Duplex Two-Company Headquarters (CoHQ), 18,600 gross square feet***</WTUAS94>***
<WTUAS94_2>A 94 PN Medium Two-Story Two-Company Headquarters (CoHQ), 18,600 gross square feet***</WTUAS94_2>***
<WTUAS106>A 106 PN Large Duplex Two-Company Headquarters (CoHQ), 22,000 gross square feet***</WTUAS106>***
<WTUAS159>A 159 PN Large Half Stacked Two-Story Three-Company Headquarters (CoHQ), 33,000 gross square feet***</WTUAS159>***
<WTUAS159_3>A 159 PN Large Three-Story Three-Company Headquarters (CoHQ), 33,000 gross square feet***</WTUAS159_3>***
<WTBN>and a 24 PN Battalion Headquarters (BnHQ), 8,100 gross square feet***</WTBN></WTUAS>***

2.1.3. ***<WTSFAC_NO>***NOT USED***</WTSFAC_NO><WTSFAC>***SFAC

Provide a standard «WTSFAC_SIZE» SFAC. This facility type is to provide various services to soldiers and their family while the soldier is undergoing medical treatment. The facility will also serve as a social gathering place for scheduled activities.

The maximum gross area for the SFAC is «WTSFAC_MAX_GROSS» ***</WTSFAC>***

2.1.4. ***<WTCP_NO>***NOT USED***</WTCP_NO> <WTCP>***CENTRAL COOLING PLANT

Provide one CP. This facility type is to produce cooling for the WT Complex.

The contractor-designed CP will be sized to support the total amount of buildings in the WT Complex. ***<WTDF_NO>***DFAC is not included in CP loads.***</WTDF_NO><WTDF>***The contractor-designed CP will be sized to support the total amount of buildings in the WT Complex, including the DFAC (DFAC not included in contract).***</WTDF></WTCP></WT><CDC>***

2.1. CHILD DEVELOPMENT CENTERS

<CDC_INFANT>Provide a «INFANT_SIZE» child capacity Child Development Center (CDC) for children ages 6 weeks through 5 years. The project is to house administrative areas, a commercial kitchen and activity areas for infants, toddlers and kindergarten age children. It is intended to be similar to a daycare facility in the private sector community.***</CDC_INFANT><CDC_CHILD>***Provide a «CHILD_SIZE» child capacity Child Development Center (CDC) for children ages 6 through 10 years. The project is to house administrative areas, a commercial kitchen and activity areas for school age children. It is intended to be similar to an after school program facility in the private sector community.***</CDC_CHILD>***

The design shall complement and support programmatic objectives and provide a safe, secure, and age appropriate indoor and outdoor activity space. The facility shall provide staff with visual control of the entire building to aid them in facilitating programming, supervising the children, and supervising activities. The facility shall be child friendly, designed to manage risk to the children, be easily adaptable for staff, and relatively maintenance free.***</CDC><ACSC>***

2.1. ARMY COMMUNITY SERVICE CENTER (ACSC)

Provide a «ACSC_SIZE» member Army Community Service Center (ACSC). This facility provides a comprehensive social readiness program designed to assist the Commander by identifying emerging readiness issues and provide comprehensive, coordinated and responsive services which promote self reliance, resiliency and stability of soldiers, retirees, civilian employees and their families.

The ACSC needs the same furniture provisions as the CDCs and YC; that is, neither the design or provision is included in the project.***</ACSC><YC>***

2.1. YOUTH CENTER (YC)

SAMPLE

Provide a ***<SMALLYC>*** small, 60-90***</SMALLYC><MEDIUMYC>*** medium, 105-135***</MEDIUMYC><LARGEYC>*** large, 150-180***</LARGEYC>*** child capacity Youth Center (YC) for middle school youth (ages 11-15) and teens (ages 16-18). These facilities provide safe, supervised, healthy, accountable and age-appropriate activities for youth and teens. The Youth Center supports opportunities for youth and teens to develop their physical, educational, social, recreational, and emotional needs.***</YC><EDUCATE>***

2.1. ***<GIB>***GENERAL INSTRUCTION BUILDING (GIB), category code 17120 ***</GIB><ACES>***ARMY CONTINUING EDUCATION SYSTEM (ACES) FACILITY, category code 74025***</ACES><CXX1>***CLASSROOM XX1, category code 17136***</CXX1>***

Provide a ***<GIB>***General Instruction Building (GIB)***</GIB><ACES>***Army Continuing Education System Facility (ACES)***</ACES><CXX1>***Classroom XXI***</CXX1>***. This project is to provide an instructional facility conforming to Army Standards. This facility type is to be similar to higher education (college or university) buildings in the private sector community. ***<GIB>***General Instruction Buildings are typically used for classroom training of Army requirements.***</GIB><ACES>***ACES or Education Center facilities are typically for adult continuing education for mission and/or self –development.***</ACES><CXX1>***Classroom XXI is a classroom type that is sometimes used as a facility type. The function is a higher technology classroom allowing for instructor use, instructor led training, and instructor facilitated self-paced student training***</CXX1>***. Some projects are a combination of General Instruction Buildings (GIB), Army Continuing Education System Facility (ACES), and Classroom XXI. Many include Applied Instruction – refer to chapter 6 for specific Applied Instruction requirements. The General Instruction Building and Army Continuing Education System Standard Design Criteria includes requirements for many functional spaces that may or may not be included in this project. Refer to Chapter 6 for project specific functional space requirements.

The total gross area for this facility is «EDUCATE_MAX_AREA» square feet. Refer to Chapter 6 for specific site requirements in this project.

The building and site shall conform to attachments, provided plans and diagrams, referenced criteria, applicable army standards, and all other portions of this RFP.***</EDUCATE><CIDC>***

2.1. CRIMINAL INVESTIGATION DIVISION COMMAND (CIDC)

Provide a Criminal Investigation Division Command Field Operations building, category code 141-14, conforming to Army Standards. This facility is intended to be similar to an administrative office building in the private sector community, except for additional security/ protective requirements and logistical features.

The total gross area for this facility is «CIDC_MAX_AREA» square feet.

The building and site shall conform to attachments, provided plans and diagrams, referenced criteria, applicable army standards, and all other portions of this RFP.***</CIDC><CHAPEL>***

2.1. «CHAPEL_TYPE»

<CHAP>Provide an Army Standard Design Chapel as defined herein with appropriate visual and structural adaptation to the assigned site. The Army Standard Design Chapel Center provides a “regular” weekly seating capacity of 202 persons in fixed pews which will allow for a “special occasion” capacity of 355 persons by utilizing chairs in the adjoining (the two spaces are separated by movable partitions) activity room space. Include all appropriate coordination with the site. Staff capacity will generally be 5 persons. Variations and visitors to the administrative staff might range from 3 to 10 total persons, combined. Provide an enclosure for a “dumpster container and a small 150 SF exterior storage building for yard equipment. The basic plan is relatively fixed, although slight revisions to accommodate structural members or similar features are acceptable. The general concept behind the plan is to allow for the support of multiple faith groups with a minimum of spaces devoted to any particular faith group, and to provide for a great deal of flexibility in how each individual space might be used. Consequently, visual adaptations that focus on a particular faith group are not acceptable.***</CHAP><CENTER>***Provide an Army Standard Design Chapel Center as defined herein with appropriate visual and structural adaptation to the assigned site. The Army Standard Design Chapel Center provides a “regular” weekly seating capacity of 400 persons in fixed pews which will allow for a “special occasion” capacity of 629 persons by utilizing chairs in the adjoining (the two spaces are separated by movable partitions) activity room space. The two spaces are separated by movable partitions. Include all appropriate coordination

SAMPLE

with the site. Staff capacity will generally be 5 persons. Variations and visitors to the administrative staff might range from 3 to 10 total persons, combined. Provide an enclosure for a “dumpster container and a small 150 SF exterior storage building for yard equipment. The basic plan is relatively fixed, although slight revisions to accommodate structural members or similar features are acceptable. The general concept behind the plan is to allow for the support of multiple faith groups with a minimum of spaces devoted to any particular faith group, and to provide for a great deal of flexibility in how each individual space might be used. Consequently, visual adaptations that focus on a particular faith group are not acceptable.***</CENTER><COMPLEX>*** Provide an Army Standard Design Chapel Complex as defined herein with appropriate visual and structural adaptation to the assigned site. The Army Standard design Chapel Complex provides a “regular” weekly seating capacity of 600 persons in fixed pews which will allow for a “special occasion” capacity of 1,191 persons by utilizing chairs in the adjoining expansion area/classroom and activity room spaces. The two spaces are separated by operable partitions. Include all appropriate coordination with the site. Staff capacity will generally be 5 persons. Variations and visitors to the administrative staff might range from 3 to 10 total persons, combined. Provide an enclosure for a “dumpster container and a small 150 SF exterior storage building for yard equipment. The basic plan is relatively fixed, although slight revisions to accommodate structural members or similar features are acceptable. The general concept behind the plan is to allow for the support of multiple faith groups with a minimum of spaces devoted to any particular faith group, and to provide for a great deal of flexibility in how each individual space might be used. Consequently, visual adaptations that focus on a particular faith group are not acceptable.***</COMPLEX></CHAPEL><CFSS>***

2.1. CONSOLIDATED FIRE, SAFETY, AND SECURITY FACILITY

<IDIQ_NO>Provide Consolidated Fire, Safety and Security Facility to support military firefighters’ mission to provide fire and security to installation flightlines, facilities and surrounding areas, and fire prevention education and training.

Station type: «CFSS_TYPE»

Number of Companies: «CFSS_CO_NUMBER»

Facility configuration: «CFSS_CONFIG»

Number of emergency vehicles to be accommodated: «CFSS_VEHICLES_ACCOMMODATED»

Organizational vehicle parking: «CFSS_PARKING_SY» square yards.***</IDIQ_NO><IDIQ>*** Provide Consolidated Fire, Safety and Security Facilities to support military firefighters’ mission to provide fire and security to installation flightlines and facilities and surrounding areas and fire prevention education and training. Specific facility types are as follows:

(a) Structural Stations provide fire protection to facilities

(b) Aircraft Rescue Firefighting (ARFF) Station provide fire protection to flightlines and aircraft

(c) Combination Structural/ARFF Stations

(d) Combination Structural and Emergency Medical Services

(e) Combined Fire, Safety and Security Center

The facilities are further divided into classes as follows:

(a) Headquarters (or Main) stations generally house the Fire Chief, Police Chief and most of the general administrative functions

(b) Satellite stations are located throughout the Installation to provide adequate response time coverage, as appropriate.***</IDIQ></CFSS><AFS>***

2.1. ARMY FIRE STATIONS (AFS)

Provide a standard «AFS_FACILITY_TYPE» to support military firefighters’ mission to provide fire protection to installation flightlines and facilities, and fire prevention education and training.

Station size: «AFS_TYPE»

SAMPLE

*<AFS_HQ_2_3CO>*Number of building stories: «AFS_STORIES»*</AFS_HQ_2_3CO>*

Number of Companies: «AFS_SIZE»

Number and type of emergency vehicles to be accommodated: «AFS_VEHICLES_ACCOMMODATED»

Entrance shelter: «AFS_ENTRANCE_SHELTER_TYPE»

«AFS_APPARATUS_BAY_HEATING» heating in Apparatus Bays.*</AFS><PFF>*

2.1. PHYSICAL FITNESS FACILITY

Provide a(n) «PFF_TYPE» Physical Fitness Facility. The overall goal is to provide a functional, secure, visually appealing facility that is a source of pride for the installation. The desire is to provide "State-of-the-Art" facilities that rival similar use facilities found in local communities and on college campuses.

*<PFF_NONSTD>*The project facility configuration and size is based on filling physical fitness facility deficits provided by existing facilities and shall have a total gross square footage of «PFF_CUSTOM». The physical fitness facility includes the following modules. *</PFF_NONSTD>*Refer to the PHYSICAL FITNESS FACILITY PROGRAM AREAS table below for the configuration of the facility.

Physical Fitness Facility Size (Small, Medium, etc.)**: «PFF_TYPE»**
Total Gross Building Area:
Subtotal, Physical Fitness Facility: «PFF_TOTAL_NET» SF
Subtotal, Indoor Jogging Track: «INDOOR_JOGGING_TRACK_AREA» SF
*<NATATORIUM>***Subtotal, Natatorium: «NATATORIUM_AREA» SF***</NATATORIUM>*

Modules:

*<FIT_MOD>*Fitness Module*</FIT_MOD>*

*<EX_MOD>*Exercise Module*</EX_MOD>*

*<STRUCT_MOD>*Structured Activity Module*</STRUCT_MOD>*

Structured Activity Module	**Net Area Required**	**Number of Courts**
Racquetball Courts	«RAQUET_AREA»	«RAQUET_NUM_COURT»
Spinning Room	«SPIN_AREA»	
Combatives Room	«COMBAT_AREA»	
Climbing Wall	«CLIMB_AREA»	
Child Care	«CHILDCARE_AREA»	
***<STRUCT_OTHER>*Other: «STRUCT_OTHER»**	«STRUCT_OTHER_AREA»	*</STRUCT_OTHER>*
*<STRUCT_OTHER2>*Other: «STRUCT_OTHER2»	«STRUCT_OTHER_AREA2»	*</STRUCT_OTHER2>*
Storage (Typ. 10% of functions above that require storage)	«STRUCT_AREA»	

*<GYM_MOD>*Gymnasium Module*</GYM_MOD>*

*<NATATORIUM>*Natatorium Module*</NATATORIUM>*

The table below indicates the requirements for the natatorium for this project. Various options exist within the natatorium such as size of pool, lap pool or free-form multi-functional pool, inclusion of whirlpool, and diving/depth requirement. Requirements are indicated by an "X" in the left column.

POOL TYPE:	
<PT1>*X*</PT1>	25 yd x 17.5 yd lap pool (6 lanes)
<PT2>*X*</PT2>	25 m x 25 yd lap pool

SAMPLE

*<PT3>*X*</PT3>*	50 m x 25 yd lap pool
*<PT4>*X*</PT4>*	Pool with 6230 sq. ft. of water surface area with 3-4 25 yd lap lanes, and a free-form area with zero depth entry and play features.
*<PT5>*X*</PT5>*	Pool with 12,460 sq. ft. of water surface area with 4-6 25 yd lap lanes, and a free-form area with zero depth entry and play features.
POOL OPTIONS:	
*<PO1>*X*</PO1>*	Movable bulk-head provided in a 50 m x 25 yd pool
*<PO2>*X*</PO2>*	Whirlpool included in deck area
*<PO3>*X*</PO3>*	Separate diving tank (40' x 40' x minimum 13' deep) to include 2 – 1 m boards, and 1 – 3 m board/platform
*<PO4>*X*</PO4>*	Diving area included in main pool, but separate from lap lanes (such as an "L-shaped" pool. Diving area designed to appropriate safety requirements.
*<PO5>*X*</PO5>*	Diving area included in main pool at one end of the lap lanes. Diving area designed to appropriate safety requirements.
*<PO6>*X*</PO6>*	Depth to minimum of 11'-6" feet for programming flexibility
*<PO7>*X*</PO7>*	Depth to maximum of 6 feet
*<PO8>*X*</PO8>*	Separate 20 x 50 pool for therapy and training
*<PO9>*X*</PO9>*	Pool to be used for competitive swimming events (Pool then must comply with USA Swimming regulations)
*<PO10>*X*</PO10>*	Other: «POOL_OPTION_OTHER»

(Other than the Structured Activity Module, refer to the chart in Attachment A – The Army Standard for Physical Fitness Facilities for the net areas of the module functions.)

Additional Module Details:

«ADDITIONAL_MODULE_DETAILS»*</PFF><ACP>*

2.1. ACCESS CONTROL POINTS

Provide (an) installation access control point(s) which will allow safe, convenient vehicular and pedestrian access to the installation, while ensuring anti-terrorism/ force protection (AT/FP) measures are implemented.

The project is based on and shall comply with the Depart of Army Access Control Points Standard Design/Criteria (ACP-SDC). The Access Control Point (ACP) functions as a corridor through which all vehicles and pedestrians pass when entering or exiting an installation. The ACP personnel perform identification verification procedures and control the active barriers that deny or permit entry on to the installation.

The project is based on and shall comply with the Depart of Army Access Control Points Standard Design/Criteria (ACP-SDC). The Access Control Point (ACP) functions as a corridor through which all vehicles and pedestrians pass when entering or exiting an installation. The ACP personnel perform identification verification procedures and control the active barriers that deny or permit entry on to the installation.

SAMPLE

In addition the ACP(s) shall be provided with Closed Circuit Television (CCTV) camera system, security lighting, security alarm system, communications system, back-up power system, traffic control system, speed detection system (if necessary), and active vehicle barriers and control system. CCTV system shall include cameras, digital video recorders (DVR), monitors and controls. Cameras shall be provided at the overwatch area, ID check area, vehicle inspection areas, and active vehicle barrier (AVB) areas. Camera monitoring shall occur at the gatehouse and a central monitoring station. Security system shall include duress alarms, and intrusion detection. Lighting shall be provided at the approach zone, ID check area, response zone, vehicle inspection areas, active barrier areas and parking areas. A back-up power system shall be provided with generator and uninterruptible power supply (UPS).

The ACP(s) in this document can be a mixture of Design Build requirements with partial design drawings and Full Construction Plans and Specifications. See Paragraph 6 and Appendices for additional detail.

Construct the ACP(s) to include the facilities and features listed below.

2.1.1. ***<ACP_GH_NO>***NOT USED***</ACP_GH_NO><ACP_GH>***GATEHOUSE

Size: 840 gross square feet.***</ACP_GH>***

2.1.2. ***<ACP_VCC_NO>***NOT USED***</ACP_VCC_NO><ACP_VCC>***VISITOR CONTROL CENTER (VCC)

Size: «ACP_VCC_SIZE»

GrossSquare Feet: «ACP_VCC_GSF» gross square feet

Number of Visitors: «ACP_VCC_NV» visitors per hour

Stand-Off Distance: «ACP_VCC_STANDOFF»***</ACP_VCC>***

2.1.3. ***<ACP_SAB_NO>***NOT USED***</ACP_SAB_NO><ACP_SAB>***SEARCH AREA BUILDING

Type: «ACP_SAB_TYPE»

Gross Square feet: «ACP_SAB_GSF» gross square feet

Additional Features: «ACP_SAB_ADDITIONAL_FEATURES»***</ACP_SAB>***

2.1.4. ***<ACP_GB_NO>***NOT USED***</ACP_GB_NO><ACP_GB>***GUARD BOOTHS

Type: «ACP_GB_TYPE»

Ballistic Resistance: «ACP_GB_BALL_RESISTANCE»

Size: 4'x8'***</ACP_GB>***

2.1.5. ***<ACP_PGB_NO>***NOT USED***</ACP_PGB_NO><ACP_PGB>***PEDESTRIAN GUARD BOOTH

Type: «ACP_PGB_TYPE»

Ballistic Resistance: «ACP_PGB_ALL_RESISTANCE»

Size: «ACP_PGB_SIZE»

Additional Features: «ACP_PGB_ADDITIONAL_FEATURES»***</ACP_PGB>***

2.1.6. ***<ACP_OW_NO>***NOT USED***</ACP_OW_NO><ACP_OW>***OVERWATCH POSITION

Type: «ACP_OW_TYPE»

Comment [sdn1]: Are any of these linked with items below? [Hardened] [Small, 3 processors] [Medium, 6 processors] [Large, 9 processors] [Special Design]

Comment [sdn2]: [2,480][2,960][3,440] [ ]

Comment [sdn3]: [60][120][180] [ ]

Comment [sdn4]: [50 to 81 feet] [82 feet or greater] [Special Design]

Comment [sdn5]: [Shelter][Building][Special Design]

Comment [sdn6]: [50][650][1200][____]

Comment [sdn7]: [None][Package Scanner][Special Design]

Comment [sdn8]: Can there be more than one selected?

Comment [sdn9]: [Prefabricated][Site Built]

Comment [sdn10]: [UL 752 Level III][Greater than UL 752 Level III]

Comment [sdn11]: [Prefabricated][Site Built]

Comment [sdn12]: [UL 752 Level III][Greater than UL 752 Level III]

Comment [sdn13]: [10'x14'][Special Design]

Comment [sdn14]:

Comment [sdn15]: [None][Package Scanner][Turnstyle][Sliding Gate]

Comment [sdn16]: [Prefabricated][Site Built][Pad with AVB Control Box]

SAMPLE

Ballistic Resistance: «ACP_OW_BALL_RESISTANCE»

Size: «ACP_OW_SIZE»*</ACP_OW>*

2.1.7. *<ACP_IDCAC_NO>*NOT USED*</ACP_IDCAC_NO><ACP_IDCAC>*ID CHECK AREA CANOPY*</ACP_IDCAC>*

2.1.8. *<ACP_PVSAC_NO>*NOT USED*</ACP_PVSAC_NO><ACP_PVSAC>*PASSENGER VEHICLE SEARCH AREA CANOPY*</ACP_PVSAC>*

2.1.9. *<ACP_TSAC_NO>*NOT USED*</ACP_TSAC_NO><ACP_TSAC>*TRUCK SEARCH AREA CANOPY*</ACP_TSAC></ACP><UAS>*

2.1. UNMANNED AIRCRAFT SYSTEM FACILITIES

2.1.1. ***<UAS_MAN_NO>***NOT USED***</UAS_MAN_NO><UAS_MAN>***UAS MAINTENANCE HANGAR (UAS HGR)

Provide Unmanned Aircraft Systems (UAS) operations and maintenance hangars. This project type is to provide facilities for the purpose of maintaining and repairing UAS aircraft, complete with parts and tool storage, administrative operations, aviation (flying) operations, and all support equipment and facilities. It is intended for these facilities to be similar to aviation operations and maintenance hangars in the private sector community with the addition of administrative spaces.

The project will include a maintenance hangar for UAS aircraft. The UAS aircraft include Extended Range/Multi-Purpose (ER/MP), MQ-8B (Fire Scout) and Shadow aerial systems. Table 3.1 indicates the companies that will be accommodated in the hangar. The table also shows the number of personnel and aircraft assigned.

Table 2.1

UAS Maintenance Hangar (UAS HGR)

Unit	**Unit Type**	**Aircraft**	**Officer**	**Warrant Officer**	**Enlisted**	**Unit Total Personnel**
Aviation Maintenance Company	AVUM	12 ER/MP	1	11	113	125
Total						**125**
Total						**125**
Notes: ER/MP (Extended Range/Multi-Purpose), Fire Scout & Shadow – Aviation (Flying) AVUM – Aviation Unit Maintenance						

Table 2.1.1

Approximate Net Square Footages

ER/MP & SHADOW	
Space	**Sq. Ft.**
Maintenance Bay	91,160

Comment [sdn17]: [UL 752 Level III][Greater than UL 752 Level III]

Comment [sdn18]: [6'x6'][____]

SAMPLE

Maintenance Shop Space	11,250
Parts and Storage	1,500
Administration/Support/Other	6,676
Total UAS Maintenance	**110,586**
Aviation Unit Operations	2,000
Approximate Net Sq. Ft.	112,586
Net to Gross Conversion	
Electrical (1% of Net Area)	1,126
Telecomm. (2% of Net Area)	2,252
Adjusted Sub-Total	115,964
Circulation (20% Adj. S/T w/o hangar bay net area)	4,961
Adjusted Sub-Total	120,924
Mechanical (7% Net)	8,465
Approx. Total Gross Sq. Ft.	**129,389**

Notes:
1. UAS – Unmanned Aircraft Systems
2. Space allocations per individual shops, storage and admin/support areas to be determined.
3. Parts and Storage space excludes space for exterior covered storage.
4. Hangar shall accommodate 100% of supported aircraft.

</UAS_MAN

></UAS>

SAMPLE

2.2. SITE:

<HQ>Provide all site design and construction within the Headquarters limits of construction necessary to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, and site improvements. Provide accessibility for individuals with disabilities. Include Antiterrorism/Force Protection measures in the facility design in accordance with applicable criteria.

Maintain the construction site and haul route. Repair/replace damage to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, the Contractor and Contracting Officer Representative shall perform an existing condition survey. At the completion of the Task Order, the Contractor and Contracting Officer representative shall perform a final condition survey to determine repair/replacement requirements.

Approximate area available for this (these) facility(ies) is shown on the drawings.***</HQ><COF>***

Provide all site design and construction within the COF limits of construction necessary to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, oil water separators, storm drainage and site improvements. Include Antiterrorism/Force Protection measures the facility design in accordance with applicable criteria.

Maintain the construction site and haul route. Repair/replace damage to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, the Contractor and Contracting Officer Representative shall perform an existing condition survey. At the completion of the Task Order, the Contractor and Contracting Officer representative shall perform a final condition survey to determine repair/replacement requirements.

Approximate area available for this (these) facility(ies) is shown on the drawings.***</COF><TEMF>***

Provide all site design and construction within the TEMF limits of construction necessary to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, oil water separators, storm drainage and site improvements. Provide accessibility for individuals with disabilities. Include Antiterrorism/Force Protection measures in the facility design in accordance with applicable criteria.

Maintain the construction site and haul route. Repair/replace damage to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, Contractor and Contracting Officer Representative shall perform an existing condition survey. At completion of the Task Order, Contractor and Contracting Officer representative shall perform a final condition survey to determine repair/replacement requirements.

Approximate area available for this (these) facility(ies) is shown on the drawings.***</TEMF><C2F>***

Provide all site design and construction within the C2F limits of construction necessary to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, and site improvements. Provide accessibility for individuals with disabilities. Include Antiterrorism/Force Protection measures in the facility design in accordance with applicable criteria.

Maintain the construction site and haul route. Repair/replace damage to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, the Contractor and Contracting Officer Representative shall perform

SAMPLE

an existing condition survey. At the completion of the Task Order, the Contractor and Contracting Officer representative shall perform a final condition survey to determine repair/replacement requirements.

Approximate area available for this (these) facility(ies) is shown on the drawings.

</C2F><UAS>Provide all site design and construction within the Hangar limits of construction necessary to support the new building facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, oil water separators, storm drainage and site improvements. . Include Antiterrorism/Force Protection measures in the facility design in accordance with applicable criteria.

Maintain the construction site and haul route. Repair/replace damage to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, the Contractor and Contracting Officer Representative shall perform an existing condition survey. At the completion of the Task Order/contract, the Contractor and Contracting Officer Representative shall perform a final condition survey to determine repair/replacement requirements.

</UAS><WT>Appendix J includes a conceptual site plan.

The blank site plan provides the limits of construction for the approved site.

Other concept site plans provide possible facility arrangement, orientation as well as site features and amenities. These plans are included as design development proposals and may have conflicting information. The D/B Contractor may utilize any of the included site plans in order to develop their proposal. However, it is the responsibility of the D/B Contractor to ensure their proposed site plan is in accordance with required functional, operational and building requirements as stated in the Request for Proposal (RFP) for this project. If a conflict exists between any of the concept site plans and the technical requirements of the RFP, the RFP technical requirements shall govern.

The included building renderings and elevations describe the required architectural theme for the WT facilities. These drawings are provided to convey the Government's desired architectural theme that is contextually compatible with the installation's requirements.

</WT><ORTC_NO>Provide all site improvements necessary to support the new building facilities. Refer to Paragraph 6***</ORTC_NO><WT>*** for additional information***</WT>***.

<ORTC>Provide site improvements necessary to support the new building(s) and supporting facilities. Supporting facilities include, but are not limited to utilities, electric service, exterior and security lighting, fire protection and alarm systems, water, gas, sewer, parking, sidewalks, landscaping and handicap accessibility.***</ORTC><ORTCDF></ORTCDF><AIT_BTOSUT_WT>***Include Antiterrorism/Force Protection measures in the facility design in accordance with applicable criteria. The Contractor shall be responsible for all repairs to existing sidewalks, pavements, curb and gutter, utilities, and/or landscaping damaged as a result of his construction activities.

</AIT_BTOSUT_WT><YC><IDIQ>Individual task orders may require the contractor to provide all site development and improvements necessary to support the new building facilities.

</IDIQ>Although the outdoor activity area is outside of the CDC and YC building, it is considered to be part of the each facility and; therefore, included in the facility construction. Approximate area available will vary with each project.

</YC>Approximate area available «SITE_ACRES_AVAILABLE» acres ***<AIT_BTOSUT_WT>***in the limits of construction, as shown on the site layout plan. Refer to Appendix J - Drawings.***</AIT_BTOSUT_WT><ACP>***

Provide all site improvements necessary to support the new facilities. The site plan located at Appendix Jshall be the basis of the overall design.

SAMPLE

Typical work under this design build contract may include, but is not limited to the following:

Layout of all facilities.

- Design of the site infrastructure to include:
- Grading
- Pavements
- Drainage
- Utilities (Water, sewer, gas, electrical, communication)
- Active & Passive Barriers
- Exterior Lighting
- Traffic Signage
- Pavement Markings
- Entry Gates and Fencing
- Landscaping
- Decorative Signage

Acquisition of all permits (or coordination as required for contract documents)

Coordination with all local private and governmental entities.

2.2.1. CCTV and security systems***</ACP>***

2.3. GOVERNMENT-FURNISHED GOVERNMENT-INSTALLED EQUIPMENT (GFGI)

<EDUCATE_NOT>Coordinate with Government on GFGI item requirements and provide suitable structural support, brackets for projectors/VCRs/TVs, all utility connections and space with required clearances for all GFGI items. Fire extinguishers are GF/GI personal property, while fire extinguisher brackets and cabinets are Contractor furnished and installed CF/CI. ***<AIT_BTOSUT_WT>***Include tables/cabinets/carts/etc. for GFGI equipment that is not freestanding in furniture design.***</AIT_BTOSUT_WT> <PFF>***Local Area Network and personal ***</PFF><PFF_NOT>***All***</PFF_NOT>*** Computers ***<PFF>***along with***</PFF> <PFF_NOT>***and***</PFF_NOT>*** related hardware, copiers, faxes, printers, video projectors, VCRs and TVs ***<WT>***microwave ovens, electric ranges, refrigerators, washers, dryers, and fire extinguishers ***</WT>***are GFGI.***</EDUCATE_NOT><CIDC>*** Provide all equipment unless indicated below to be GFGI. Required equipment for each space is provided in the space criteria provided in chapter 3. Coordinate with Government on GFGI item requirements and provide suitable structural support, brackets, all utility connections and space with required clearances for all GFGI items.***</CIDC><EDUCATE>***Provide all equipment unless indicated below to be GFGI. Required equipment for each space is provided in the space criteria in the Appendix "GIB and ACES standard Design Criteria". Coordinate with Government on GFGI item requirements and provide suitable structural support, brackets for projectors/VCRs/TVs, all utility connections and space with required clearances for all GFGI items.

The following items are GFGI:

(a) Computers and associated peripheral hardware

(b) Printers

(c) Student and instructor desks and chairs

(d) Interactive whiteboard, projectors, and manual projector screens.

(e) Switches and servers for communications room

(f) Conference Room tables and chairs, credenzas, free standing shelving, and cabinets.

(g) Break room furniture and vending machines***</EDUCATE>***

<YC><IDIQ>Additional GFGI items will be provided in the project task orders***</IDIQ></YC>***

<YC_NO>The following are also GFGI items: «GFGI_ITEMS»***<AIT><AIT_CW>***

- Clothes Washers***</AIT_CW><AIT_SCD>***

SAMPLE

- Stackable Clothes Dryers*</AIT_SCD><AIT_VM>*
- Vending Machines*</AIT_VM><AIT_AEE>*
- All exercise Equipment*</AIT_AEE><AIT_DUMP>*
- Dumpsters*</AIT_DUMP></AIT><BTOSUT><BTOSUT_CW>*
- Clothes Washers*</BTOSUT_CW><BTOSUT_SCD>*
- Stackable Clothes Dryers*</BTOSUT_SCD><BTOSUT_VM>*
- Vending Machines*</BTOSUT_VM><BTOSUT_AEE>*
- All exercise Equipment*</BTOSUT_AEE><BTOSUT_DUMP>*
- Dumpsters*</BTOSUT_DUMP></BTOSUT><WT><WTVM>*
- Vending Machines*</WTVM><WTICE>*
- Ice Makers*</WTICE><WTDUMP>*
- Dumpsters*</WTDUMP></WT></YC_NO><UAS>*

The following are also GFGI items:

Facility Data (e.g., routers, switches, modems) equipment, facility telephone switch equipment, associated equipment racks/cabinets, and any required UPS systems; radio transmitting equipment, racks/cabinets and associated antenna and wiring (raceway to be provided by design); front end equipment and equipment racks associated with CATV/CCTV/Satellite TV, and separate front end audio equipment not associated with a Combined Mass Notification and Paging System.*</UAS>*

2.4. FURNITURE REQUIREMENTS

<CDC_EDUCATE_DF_YC_ACSC_AFH_UEPH_NOT> Provide furniture design for all *<PFF>*administrative and lobby*</PFF>* spaces listed in Chapter 3 and including any existing furniture and equipment to be re-used. Coordinate with the user to define requirements for furniture systems, movable furniture, storage systems, equipment, any existing items to be reused, etc. Early coordination of furniture design is required for a complete and usable facility.

The procurement and installation of furniture is NOT included in this contract. Furniture will be provided and installed under a separate furniture vendor/installer contract. The general contractor shall accommodate that effort with allowance for entry of the furniture vendor/installer onto this project site at the appropriate time to permit completion of the furniture installation for a complete and usable facility to coincide with the Beneficial Occupancy Date (BOD) of this project. The furniture vendor/installer contract will include all electrical pre-wiring and the whips for final connection to the building electrical systems however; the general contractor shall make the final connections to the building electrical systems under this contract. Furthermore, the general contractor shall provide all Information/Technology (IT) wiring (i.e. LAN, phone, etc.) up to and including the face plate of all freestanding and/or systems furniture desk tops as applicable, the services to install the cable and face plates in the furniture, the coordination with the furniture vendor/installer to accomplish the installation at the appropriate time, and all the final IT connections to the building systems under this contract.

The Government reserves the right to change the method for procurement of and installation of furniture to Contractor Furnished/Contractor Installed (CF/CI). CF/CI furniture will require competitive open market procurement by the Contractor using the Furniture, Fixtures and Equipment (FF&E) package.*</CDC_EDUCATE_DF_YC_ACSC_AFH_UEPH_NOT><CDC_EDUCATE_DF_YC_ACSC_AFH_UEPH>*

Comment [sdn1]: Everything EXCEPT CDC, EDUCATE, DF, YC, ACSC, UEPH, AFH

A Furniture, Fixtures & Equip design and package is NOT required for this project. However, Structural Interior Design (SID) is required for all facility types regardless of the requirements for the FF&E design and package. The basic space planning for the anticipated FF&E requirements in conjunction with the functional layout of the building and design issues such as life safety, privacy, acoustics, lighting, ventilation, and accessibility is still required as part of the SID submittal.*</CDC_EDUCATE_DF_YC_ACSC_AFH_UEPH>*

Comment [sdn2]: ONLY FOR CDC, EDUCATE, DF, YC, ACSC, UEPH, AFH

2.5. *<ACP_NO>*NOT USED*</ACP_NO><ACP>*CONTRACTOR–FURNISHED CONTRACTOR INSTALLED EQUIPMENT (CFCI):

CFCI furniture will require competitive open market procurement by the Contractor using the Furniture, Fixtures, and Equipment (FF&E) package.*</ACP><CIDC>*

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2.6. KEY CARD ACCESS

Key card access is required. Provide Complete and Comprehensive building Key card access system. Coordinate with Base masterplanner and the User. See chapter 6 for specific requirements***</CIDC><EDUCATE>***

2.6. KEY CARD ACCESS

Provide Complete and Comprehensive building Key card access system. Coordinate with Base master planner and the User. See chapter 6 for specific requirements***</EDUCATE><EDUCATE>***

2.7. HANDICAP ACCESSIBILITY

This facility is required to be handicapped accessible to the extent required in the Appendix “GIB and ACES standard Design Criteria” paragraph 1-7 ACCESSIBILITY REQUIREMENTS.

2.8. OCCUPANCY CLASSIFICATION

Refer to Appendix “GIB and ACES Standard Design Criteria” paragraph 1-4.2 OCCUPANCY CLASSIFICATION.

2.9. ACOUSTIC REQUIREMENTS

This facility has special acoustic design requirements. Refer to the Appendix “GIB and ACES standard Design Criteria” paragraph 3-5.6.22 ACOUSTIC DESIGN.***</EDUCATE>***

SAMPLE

01 10 00-PAR 3

See SOW Model Sample for all Facility Types

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4.0 APPLICABLE CRITERIA <VER>(REV 2.26 – 30 APR 2010)</VER>

Unless a specific document version or date is indicated, use criteria from the most current references as of the date of issue of the contract or task order, including any applicable addenda, unless otherwise stated in the task order. In the event of conflict between References and/or Applicable Military Criteria, apply the most stringent requirement, unless otherwise specifically noted in the contract or task order.

4.1. INDUSTRY CRITERIA

Applicable design and construction criteria references are listed in Table 1 below. This list is not intended to include all criteria that may apply or to restrict design and construction to only those references listed. See also Paragraph 3 for additional facility-specific applicable criteria.

Table 1: Industry Criteria

Air Conditioning and Refrigeration Institute (ARI)	
ARI 310/380	Packaged Terminal Air-Conditioners and Heat Pumps
ARI 440	Room Fan-Coil and Unit Ventilator
ANSI/ARI 430-99	Central Station Air Handling Units
ARI 445	Room Air-Induction Units
ARI 880	Air Terminals
Air Movement and Control Association (AMCA)	
AMCA 210	Laboratory Methods of Testing Fans for Rating
American Architectural Manufacturers Association (AAMA)	
AAMA 605	Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels
AAMA 607.1	Voluntary Guide Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum
AAMA 1503	Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections
American Association of State Highway and Transportation Officials (AASHTO)	
	Roadside Design Guide [guardrails, roadside safety devices]
	Standard Specifications for Transportation Materials and Methods of

SAMPLE

	Sampling and Testing [Road Construction Materials]
	Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals
	Guide for Design of Pavement Structures, Volumes 1 and 2 [pavement design guide]
	A Policy of Geometric Design of Highways and Streets
American Bearing Manufacturers Association (AFBMA)	
AFBMA Std. 9	Load Ratings and Fatigue Life for Ball Bearings
AFBMA Std. 11	Load Ratings and Fatigue Life for Roller Bearings
American Boiler Manufacturers Association (ABMA)	
ABMA ISEI	Industry Standards and Engineering Information
American Concrete Institute	
ACI 302.2R	Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials
ACI 318	Building Code Requirements for Structural Concrete
ACI ~~315~~SP-66	~~Details and Detailing of Concrete Reinforcement~~ACI Detailing Manual
ACI 530	Building Code Requirements for Masonry Structures
ADA Standards for Accessible Design	
See US Access Board	ADA and ABA Accessibility Guidelines for Buildings and Facilities, Chapters 3-10.
American Institute of Steel Construction (AISC)	
	Manual of Steel Construction – 13th Edition (or latest version)
American Iron and Steel Institute	
AISI~~/COS NASPEC 2001~~ S100	North American Specification for the Design of Cold-Formed Steel Structural Members

SAMPLE

American National Standards Institute 11 (ANSI)	
ANSI Z21.10.1	Gas Water Heaters Vol. 1, Storage water Heaters with Input Ratings of 75,000 Btu per Hour or less
ANSI Z124.3	American National Standard for Plastic Lavatories
ANSI Z124.6	Plastic Sinks
ANSI Z21.45	Flexible Connectors of Other Than All-Metal Construction for Gas Appliances
ANSI/IEEE C2-2007	National Electrical Safety Code
ANSI/AF&PA NDS-2001	National Design Specification for Wood Construction
American Society of Civil Engineers (ASCE)	
ASCE 7	Minimum Design Loads for Buildings and Other Structures
ASCE 37	Design and Construction of Sanitary and Storm Sewers, Manuals and Reports on Engineering Practice [sanitary sewer and storm drain design criteria]
ASCE/SEI 31-03	Seismic Evaluation of Existing Buildings [Existing Building Alteration/Renovation]
ASCE/SEI 41-06	Seismic Rehabilitation of Existing Buildings [Existing Building Alteration/Renovation]
American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)	
ASHRAE 90.1	ANSI/ASHRAE/IESNA 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings
ASHRAE Guideline 0	The Commissioning Process
ASHRAE Guideline 1.1	The HVAC Commissioning Process
ASHRAE Handbooks	Fundamentals, HVAC Applications, Systems and Equipment, Refrigeration (Applicable, except as otherwise specified)
ASHRAE Standard 15	Safety Standard for Refrigeration Systems
ASHRAE Standard 62.1	Ventilation for Acceptable Indoor Air Quality

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American Society of Mechanical Engineers International (ASME)	
ASME BPVC SEC VII	Boiler and Pressure Vessel Code: Section VII Recommended Guidelines for the Care of Power Boilers
ASME A17.1	Safety Code for Elevators and Escalators
ASME B 31 (Series)	Piping Codes
American Water Works Association (AWWA)	
	Standards [standards for water line materials and construction]
American Welding Society	
	Welding Handbook
	Welding Codes and Specifications (as applicable to application, see International Building Code for example)
Architectural Woodwork Institute (AWI)	
Version 1.2	AWI Quality Standards 7th Edition
Associated Air Balance Council (AABC)	
AABC MN-1	National Standards for Testing and Balancing Heating, Ventilating, and Air Conditioning Systems
	AABC Associated Air Balance Council Testing and Balance Procedures
ASTM International	
ASTM C1060-90(1997)	Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings
ASTM E 779 (2003)	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
ASTM E1827-96(2002)	Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door
Builders Hardware Manufacturers Association (BHMA)	
ANSI/BHMA	American National Standards for Builders Hardware

SAMPLE

Building Industry Consulting Service International	
	Telecommunications Distribution Methods Manual (TDMM)
	Customer-Owned Outside Plant Design Manual (CO-OSP)
Code of Federal Regulations (CFR)	
49 CFR 192	Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards
10 CFR 430	Energy Conservation Program for Consumer Products
Consumer Electronics Association	
CEA 709.1B	Control Network Protocol Specification
CEA 709.3	Free-Topology Twisted-Pair Channel Specification
CEA 852	Tunneling Component Network Protocols Over Internet Protocol Channels
Electronic Industries Association (EIA)	
ANSI/EIA/TIA 568	Structured Cabling Series
ANSI/EIA/TIA 569	Commercial Building Standard for Telecommunications Pathways and Spaces (includes ADDENDA)
ANSI/TIA/EIA-606	Administrative Standard for the Telecommunications Infrastructure of Commercial Buildings
J-STD EIA/TIA 607	Commercial Building Grounding and Bonding Requirements for Telecommunications
Federal Highway Administration (FHWA)	
	Manual on Uniform Traffic Control Devices for Streets and Highways [signage and pavement markings for streets and highways]
FHWA-NHI-01-021	Hydraulic Engineering Circular No. 22, Second Edition, URBAN DRAINAGE DESIGN MANUAL
Illuminating Engineering Society of North America (IESNA)	

SAMPLE

IESNA RP-1	Office Lighting
IESNA RP-8	Roadway Lighting
IESNA Lighting Handbook	Reference and Application
Institute of Electrical and Electronics Engineers Inc. (IEEE)	
	Standard for Use of the International System of Units (SI): the Modern Metric System
Standard 1100	Recommended Practice for Powering and Grounding Sensitive Electronic Equipment
International Code Council (ICC)	
IBC	International Building Code Note: All references in the International Building Code to the International Electrical Code shall be considered to be references to NFPA 70. All references in the International Building Code to the International Fuel Gas Code shall be considered to be references to NFPA 54 and NFPA 58. All references in the International Building Code to the International Fire Code and Chapter 9 shall be considered to be references to Unified Facilities Criteria (UFC) 3-600-01.
IMC	International Mechanical Code – Note: For all references to “HEATING AND COOLING LOAD CALCULATIONS”, follow ASHRAE 90.1 Note: For all references to “VENTILATION”, follow ASHRAE 62.1
IRC	International Residential Code
IPC	International Plumbing Code
IEC	Energy Conservation Code (IEC) –Applicable only to the extent specifically referenced herein. Refer to Paragraph 5, ENERGY CONSERVATION requirements.
IGC	International Gas Code - not applicable. Follow NFPA 54, National Fuel Gas Code and NFPA 58, Liquified Petroleum Gas Code.

SAMPLE

International Organization for Standardization (ISO)	
ISO 6781:1983	Qualitative detection of thermal irregularities in building envelopes – infrared method
LonMark International (LonMark)	
LonMark Interoperability Guidelines	(available at www.lonmark.org), including: Application Layer Guidelines, Layer 1-6 Guidelines, and External Interface File (XIF) Reference Guide
LonMark Resource Files	(available at www.lonmark.org), including Standard Network Variable Type (SNVT) definitions
Metal Building Manufacturers Association (MBMA)	
	Metal Building Systems Manual
Midwest Insulation Contractors Association (MICA)	
	National Commercial and Industrial Insulation Standards Manual
National Association of Corrosion Engineers International (NACE)	
NACE RP0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE RP0185	Extruded, Polyolefin Resin Coating Systems with Adhesives for Underground or Submerged Pipe
NACE RP0285	Corrosion Control of Underground Storage Tank Systems by Cathodic Protection
NACE RP0286	Electrical Isolation of Cathodically Protected Pipelines
National Electrical Manufacturers Association (NEMA)	
National Environmental Balancing Bureau (NEBB)	
	Procedural Standards Procedural Standards for Testing Adjusting Balancing of Environmental Systems
National Fire Protection Association (NFPA)	
NFPA 10	Standard for Portable Fire Extinguishers
NFPA 13	Installation of Sprinkler Systems

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NFPA 13R	Residential Occupancies up to and Including Four Stories in Height Sprinkler Systems
NFPA 14	Standard for the Installation of Standpipes and Hose Systems
NFPA 20	Installation of Centrifugal Fire Pumps
NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances [underground fire protection system design]
NFPA 25	Inspection, Testing And Maintenance Of Water-Based Fire Protection Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 30A	Motor Fuel Dispensing Facilities and Repair Garages
NFPA 31	Installation of Oil Burning Equipment
NFPA 54	National Fuel Gas Code
NFPA 58	Liquefied Petroleum Gas Code
NFPA 70	National Electrical Code
NFPA 72	National Fire Alarm Code
NFPA 76	Fire Protection of Telecommunications Facilities
NFPA 80	Standard for Fire Doors and Fire Windows
NFPA 90a	Installation of Air Conditioning and Ventilating Systems
NFPA 96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
NFPA 101	Life Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
National Roofing Contractor's Association (NRCA)	
	Roofing and Waterproofing Manual

SAMPLE

National Sanitation Foundation, International	
NSF/ANSI Std. 2, 3, 4, 5, 6, 7, 8, 12, 13, 18, 20, 21, 25, 29, 35, 36, 37, 51, 52, 59, 169	Food Equipment Standards
ANSI/UL Std. 73, 197, 471, 621, 763	Food Equipment Standards
CSA Std. C22.2 No. 109, 120, 195	Food Equipment Standards
Occupational Safety and Health Administration (OSHA)	
Title 29, Part 1926	OSHA Construction Industry Standards, Title 29, Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction
Plumbing and Drainage Institute (PDI)	
PDI G 101	Testing and Rating Procedure for Grease Interceptors with Appendix of Sizing and Installation Data
PDI WH201	Water Hammer Arrestors
Precast Concrete Institute	
PCI Design Handbook	Precast and Prestressed Concrete
Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)	
SMACNA HVAC Duct Construction Standards	HVAC Duct Construction Standards - Metal and Flexible
SMACNA Architectural Manual	Architectural Sheet Metal Manual
SMACNA HVAC TAB	HVAC Systems - Testing, Adjusting and Balancing
State/Local Regulations	
	State Department of Transportation Standard Specifications for Highway and Bridge Construction
	Sedimentation and Erosion Control Design Requirements

SAMPLE

	Environmental Control Requirements
	Storm Water Management Requirements
Steel Door Institute (SDI)	
ANSI A250.8/SDI 100	Standard Steel Doors and Frames
Steel Deck Institute	
	SDI Diaphragm Design Manual
Steel Joist Institute	
	Catalog of Standard Specifications and Load Tables for Steel Joists and Joist Girders
Underwriters Laboratories (UL)	
UL 96A	Installation Requirements for Lightning Protection Systems
UL 300	Standard for Safety for Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas
UNITED STATES ACCESS BOARD: U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD	
ADA and ABA Accessibility Guidelines for Buildings and Facilities	ABA Accessibility Standard for DoD Facilities Derived from the ADA and ABA Accessibility Guidelines: Specifically includes: ABA Chapters 1 and 2 and Chapters 3 through 10. Use this reference in lieu of IBC Chapter 11. Excluded are: (a) Facilities, or portions of facilities, on a military installation that are designed and constructed for use exclusively by able-bodied military personnel (See Paragraph 3 for any reference to this exclusion). (b) Reserve and National Guard facilities, or portions of such facilities, owned by or under the control of the Department of Defense, that are designed and constructed for use exclusively by able-bodied military personnel. (See paragraph 3 for any reference to this exclusion).
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES	

SAMPLE

	FDA National Food Code
U.S. GREEN BUILDING COUNCIL (USGBC)	
LEED-NC	Green Building Rating System for New Construction & Major Renovations
	Application Guide for Multiple Buildings and On-Campus Building Projects

4.2. MILITARY CRITERIA

The project shall conform to the following criteria. Certain design impacts and features due to these criteria are noted for the benefit of the offeror. However, all requirements of the referenced criteria will be applicable, whether noted or not, unless otherwise specified herein.

4.2.1. Energy Policy Act of 2005 (Public Law 109-58) (applies only to the extent specifically implemented in the contract, which may or may not directly cite or reference EPACT)

4.2.2. Executive Order 12770: Metric Usage In Federal Government

(a) Metric design and construction is required except when it increases construction cost. Offeror to determine most cost efficient system of measurement to be used for the project.

4.2.3. TB MED 530: Occupational and Environmental Health Food Sanitation

4.2.4. Unified Facilities Criteria (UFC) 3-410-01FA: Heating, Ventilating, and Air Conditioning - applicable only to the extent specified in paragraph 5, herein.

4.2.5. ~~UFC 3-580-01 Telecommunications Bldg Cabling Systems Planning/Design~~Deleted.

4.2.6. UFC 3-600-01 Design: Fire Protection Engineering for Facilities. Use the latest edition of the IBC in coordination with this UFC. Use Chapters 3, 6, 7, 33 and UFC 3-600-01. If any conflict occurs between these Chapters and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence. Use UFC 3-600-01 in lieu of IBC Chapters 4, 8,9,10.

4.2.7. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings

4.2.8. UFC 4-023-03 Design of Buildings to Resist Progressive Collapse (Use most recent version, regardless of references thereto in other publications)

(a) Note the option to use tie force method or alternate path design for Occupancy Category II.

4.2.9. UFC 4-021-01 Design and O&M: Mass Notification Systems

4.2.10. Technical Criteria for Installation Information Infrastructure Architecture (I3A)

(a) Email: DetrickISECI3Aguide@conus.army.mil

4.2.11. U.S. Army Information Systems Engineering Command (USAISEC) TG for the Integration of SECRET Internet Protocol (IP) Router Network (SIPRNET). See Paragraph 3 for applicability to specific facility type. May not apply to every facility. This is mandatory criteria for those facilities with SIPRNET.

SAMPLE

5.0 GENERAL TECHNICAL REQUIREMENTS <VER>(REV 1.35 – 30 APR 2010)</VER>

This paragraph contains general technical requirements. See also Paragraph 3 for facility-specific technical requirements. Residential or similar grade finishes and materials are not acceptable for inclusion in these buildings, unless otherwise specifically allowed.

5.1. SITE PLANNING AND DESIGN

5.1.1. STANDARDS AND CODES: The site planning and design shall conform to APPLICABLE CRITERIA and to paragraph 6, PROJECT SPECIFIC REQUIREMENTS.

5.1.2. SITE PLANNING OBJECTIVES: Group buildings in configurations that create a sense of community and promote pedestrian use. See paragraph 3 for additional site planning requirements relating to building functions.

5.1.2.1. Provide enclosures and or visual screening devices for Outdoor Utility such as dumpsters, emergency generators, transformers, heating, ventilation, and air conditioning units from streetscape and courtyard views to limit visual impact. Enclosures shall be compatible with the building they serve and accessible by vehicle. The location of dumpsters can have a significant visual impact and should be addressed as part of an overall building design and incorporated in site planning.

5.1.2.2. Where included in the project, ~~Dumpsters~~ dumpster ~~Pads~~ pads shall be concrete (minimum of 8 inches thick on 4 inch base course, unless site conditions dictate more conservative requirements) and directly accessible by way of a paved service drive or parking lot with adequate overhead clearance for collection vehicles. Provide space at dumpster areas for recycling receptacles. Coordinate with Installation on recycling receptacle types, sizes and access requirements and provide space at dumpster areas to accommodate them.

5.1.2.3. Vehicular Circulation. Apply design vehicle templates provided by the American Association of State Highway and Transportation Officials (AASHTO) to the site design. The passenger car class includes passenger cars and light trucks, such as vans and pick-ups. The passenger car template is equivalent to the non-organizational – privately owned vehicle (POV). The truck class template includes single-unit trucks, recreation vehicles, buses, truck tractor-semi-trailer combinations, and trucks or truck tractors with semi-trailers in combination with full trailers. Provide vehicle clearances required to meet traffic safety for emergency vehicles, service vehicles, and moving vans. Provide required traffic control signage Site entrances and site drive aisles shall maximize spacing between drives, incorporate right-angle turns, and limit points of conflict between traffic. Design Services Drives to restrict access to unauthorized vehicles by removable bollards, gates, or other barriers to meet Anti-Terrorism/Force Protection (ATFP) requirements. Orient service drives to building entrances other than the primary pedestrian entry at the front of the building.

5.1.2.4. Provide Emergency Vehicle Access around the facility and shall be in accordance with AT/FP requirements. Maintain a 33-foot clear zone buffer for emergency vehicles, designed to prevent other vehicles from entering the AT/FP standoff to the building.

5.1.2.5. Clear and grub all trees and vegetation necessary for construction; but, save as many trees as possible. Protect trees to be saved during the construction process from equipment.

5.1.2.6. Stormwater Management. Employ design and construction strategies (Best Management Practices) that reduce stormwater runoff, reduce discharges of polluted water offsite and maintain or restore predevelopment hydrology with respect to temperature, rate, volume and duration of flow to the maximum extent practicable. See paragraph 6, PROJECT SPECIFIC requirements for additional information.

5.1.3. EXTERIOR SIGNAGE: Provide exterior signage in accordance with Appendix H, Exterior Signage. Provide exterior NO SMOKING signage that conveys building and grounds smoking policy.

5.1.4. EXISTING UTILITIES: Base utilities maps and capacities for this site are included as part of this RFP. See paragraph 6 for more detailed information.

5.2. SITE ENGINEERING

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5.2.1. STANDARDS AND CODES: The site engineering shall conform to APPLICABLE CRITERIA.

5.2.2. SOILS:

5.2.2.1. A report has been prepared to characterize the subsurface conditions at the project site and is **appended to these specifications.** The report provides a general overview of the soil and geologic conditions with detailed descriptions at discrete boring locations. The Contractor's team shall include a licensed geotechnical engineer to interpret the report and develop earthwork and foundation recommendations and design parameters in which to base the contractor's design. If any additional subsurface investigation or laboratory analysis is required to better characterize the site or develop the final design, the Contractor shall perform it under the direction of a licensed geotechnical engineer. There will be no separate payment for the cost of additional tests. If differences between the Contractor's additional subsurface investigation and the government provided soils report or the reasonably expected conditions require material revisions in the design, an equitable adjustment may be made, in accordance with the provisions of the Differing Site Conditions clause. The basis for the adjustment would be the design and construction appropriate for the conditions described in the Government furnished report or the reasonably expected conditions, in comparison with any changes required by material differences in the actual conditions encountered, in accordance with the terms of contract clause Differing Site Conditions.

5.2.2.2. The contractor's licensed geotechnical engineer shall prepare a final geotechnical evaluation report, to be submitted along with the first foundation design submittal, as described in Section 01 33 16, *Design After Award*.

5.2.3. VEHICLE PAVEMENTS: (as applicable to the project)

Comment [sdn1]: [NOTE TO SPECIFIER: PROVIDE TRAFFIC ESTIMATES FOR ROADWAYS AS DISCUSSED BELOW IN SECTION 01 10 00 PARAGRAPH 6.4.1]

5.2.3.1. Design procedures and materials shall conform to one of the following: 1) the USACE Pavement Transportation Computer Assisted Structural Engineering (PCASE) program, 2) American Association of State Highway and Transportation Officials (AASHTO) or, 3) the applicable state Department of Transportation standards in which the project is located. See paragraph 5.2.2.2 and Section 01 33 16 for required information for the Contractor's geotechnical evaluation report. ***<WAIVE>***Provide underdrain systems for pavement designs over cohesive soil subgrades.***</WAIVE>*** The minimum flexible pavement section shall consist of 2 inches of asphalt and 6 inches of base or as required by the pavement design, whichever is greater, unless specifically identified by the Government to be a gravel road. Design roads and parking areas for a life expectance of 25 years with normal maintenance. Parking area for tactical vehicles (as applicable to the project) shall be Portland Cement Concrete (PCC) rigid pavement design. For concrete pavements, submit joint layout plan for review and concurrence. Design pavements for military tracked vehicles (as applicable to the project) IAW USACE PCASE. Traffic estimates for each roadway area will be as shown on the drawings or listed in Section 01 10 00 Paragraph 6.4.4. Pavement markings and traffic signage shall comply with the Installation requirements and with the Manual on Uniform Traffic Control Devices.

5.2.3.2. Parking Requirements.

(a) All handicap POV parking lots (where applicable in the facility specific requirements) shall meet the ADA and ABA Accessibility Guidelines for accessible parking spaces.

(b) Design POV parking spaces for the type of vehicles anticipated, but shall be a minimum of 9 ft by 18 ft for POVs, except for two wheel vehicles.

5.2.3.3. Sidewalks. Design the network of walks throughout the complex (where applicable) to facilitate pedestrian traffic among facilities, and minimize the need to use vehicles. Incorporate sidewalks to enhance the appearance of the site development, while creating a sense of entry at the primary patron entrances to the buildings. Minimum sidewalk requirements are in Paragraph 3, where applicable.

5.2.4. CATHODIC PROTECTION: Provide cathodic protection systems for all underground metallic systems and metallic fittings/portions of non-metallic, underground systems, both inside and outside the building 5 foot line that are subject to corrosion. Coordinate final solutions with the installation to insure an approach that is consistent with installation cathodic protection programs.

5.2.5. UTILITIES: See paragraph 6.4.6 for specific information on ownership of utilities and utility requirements. Meter all utilities (gas, water, and electric, as applicable) to each facility. For Government owned utilities, install meters that are wireless data transmission capable as well as have a continuous manual reading option. All meters will be capable of at least hourly data logging and transmission and provide consumption data for gas,

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water, and electricity. Gas and electric meters will also provide demand readings based on consumption over a maximum of any 15 minute period. Configure all meters to transmit at least daily even if no receiver for the data is currently available at the time of project acceptance. For privatized utilities, coordinate with the privatization utility(ies) for the proper meter base and meter installation.

5.2.6. PERMITS: The CONTRACTOR shall be responsible for obtaining all permits (local, state and federal) required for design and construction of all site features and utilities.

5.2.7. IRRIGATION. Landscape irrigation systems, if provided, shall comply with the following:

5.2.7.1. Irrigation Potable Water Use Reduction. Reduce irrigation potable water use 50 percent using LEED credit WE1.1 baseline, except where precluded by other project requirements.

5.2.8. EPA WaterSense Products and Contractors. Except where precluded by other project requirements, use EPA WaterSense labeled products and irrigation contractors that are certified through a WaterSense labeled program where available.

5.3. ARCHITECTURE AND INTERIOR DESIGN:

This element will be evaluated per APPLICABLE CRITERIA under the quality focus.

5.3.1. STANDARDS AND CODES: The architecture and interior design shall conform to APPLICABLE CRITERIA.

5.3.2. GENERAL: Overall architectural goal is to provide a functional, quality, visually appealing facility that is a source of pride for the installation and delivered within the available budget and schedule.

5.3.3. COMPUTATION OF AREAS: See APPENDIX Q for how to compute gross and net areas of the facility(ies).

5.3.4. BUILDING EXTERIOR: Design buildings to enhance or compliment the visual environment of the Installation. Where appropriate, reflect a human scale to the facility. Building entrance should be architecturally defined and easily seen. When practical, exterior materials, roof forms, and detailing shall be compatible with the surrounding development and adjacent buildings on the Installation and follow locally established architectural themes. Use durable materials that are easy to maintain. Exterior colors shall conform to the Installation requirements. See paragraph 6.

5.3.4.1. Building Numbers: Each building shall have exterior signage permanently attached on two faces of the building indicating the assigned building number or address. Building number signage details and locations shall conform to Appendix H, Exterior Signage.

5.3.5. BUILDING INTERIOR

5.3.5.1. Space Configuration: Arrange spaces in an efficient and functional manner in accordance with area adjacency matrices.

5.3.5.2. Surfaces: Appearance retention is the top priority for building and furniture related finishes. Provide low maintenance, easily cleaned room finishes that are commercially standard for the facility occupancy specified, unless noted otherwise.

5.3.5.3. Color: The color, texture and pattern selections for the finishes of the building shall provide an aesthetically pleasing, comfortable, easily maintainable and functional environment for the occupants. Coordination of the building colors and finishes is necessary for a cohesive design. Color selections shall be appropriate for the building type. The use of color, texture and pattern shall be used to path or way find through the building. Trendy colors that will become dated shall be limited to non-permanent finishes such as carpet and paint. Finishes should be selected with regards to aesthetics, maintenance, durability, life safety and image. Limit the number of similar colors for each material. Color of Ceramic and porcelain tile grout shall be medium range color to help hide soiling. Plastic laminate and solid surface materials shall have patterns that are mottled,

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flecked or speckled. Finish colors of fire extinguisher cabinets, receptacle bodies and plates, fire alarms / warning lights, emergency lighting, and other miscellaneous items shall be coordinated with the building interior. Color of equipment items on ceilings (speakers, smoke detectors, grills, etc.) shall match the ceiling color.

5.3.5.4. Circulation: Circulation schemes must support easy way finding within the building.

5.3.5.5. Signage: Provide interior signage for overall way finding and life safety requirements. A comprehensive interior plan shall be from one manufacturer. Include the following sign types: (1) Lobby Directory, (2) Directional Signs; (3) Room Identification Signs; (4) Building Service Signs; (5) Regulatory Signs; (6) Official and Unofficial Signs (7) Visual Communication Boards (8) NO SMOKING signage that conveys building smoking policy. Use of emblems or logos may also be incorporated into the signage plan.

5.3.5.6. Window Treatment: Interior window treatments with adjustable control shall be provided in all exterior window locations for control of day light coming in windows or privacy at night. Uniformity of treatment color and material shall be maintained to the maximum extent possible within a building.

5.3.6. COMPREHENSIVE INTERIOR DESIGN

5.3.6.1. Comprehensive Interior Design includes the integration of a Structural Interior Design (SID) and a Furniture, Fixtures and Equipment (FF&E) design and package. SID requires the design, selection and coordination of interior finish materials that are integral to or attached to the building structure. Completion of a SID involves the selection and specification of applied finishes for the building's interior features including, but not limited to, walls, floors, ceilings, trims, doors, windows, window treatments, built-in furnishings and installed equipment, lighting, and signage. The SID package includes finish schedules, finish samples and any supporting interior elevations, details or plans necessary to communicate the building finish design and build out. The SID also provides basic space planning for the anticipated FF&E requirements in conjunction with the functional layout of the building and design issues such as life safety, privacy, acoustics, lighting, ventilation, and accessibility. See Section 01 33 16 for SID design procedures.

The FF&E design and package includes the design, selection, color coordination and of the required furnishing items necessary to meet the functional, operational, sustainability, and aesthetic needs of the facility coordinated with the interior finish materials in the SID. The FF&E package includes the specification, procurement documentation, placement plans, ordering and finish information on all freestanding furnishings and accessories, and a cost estimate. Coordinate the selection of furniture style, function and configuration with the defined requirements. Examples of FF&E items include, but are not limited to workstations, seating, files, tables, beds, wardrobes, draperies and accessories as well as marker boards, tack boards, and presentation screens. Criteria for furniture selection include function and ergonomics, maintenance, durability, sustainability, comfort and cost. ***<UEPH_NO>***See Section 01 33 16 for FFE design procedures.***</UEPH_NO>***

5.4. STRUCTURAL DESIGN

5.4.1. STANDARDS AND CODES: The structural design shall conform to APPLICABLE CRITERIA.

5.4.2. GENERAL: The structural system needs to be compatible with the intended functions and components that allows for future flexibility and reconfigurations of the interior space. Select an economical structural system based upon facility size, projected load requirements and local availability of materials and labor. Base the structural design on accurate, site specific geotechnical information and anticipated loads for the building types and geographical location. When modular units or other pre-fabricated construction is used or combined with stick-built construction, fully coordinate and integrate the overall structural design between the two different or interfacing construction types. If the state that the project is located in requires separate, specific licensing for structural engineers (for instance, such as in Florida, California and others), then the structural engineer designer of record must be registered in that state.

5.4.3. LOADS: See paragraph 3 for facility specific (if applicable) and paragraph 6 for site and project specific structural loading criteria.

5.4.4. TERMITE TREATMENT: (Except Alaska) Provide termite prevention treatment in accordance with Installation and local building code requirements, using licensed chemicals and licensed applicator firm.

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5.5. THERMAL PERFORMANCE

5.5.1. STANDARDS AND CODES: Building construction and thermal insulation for mechanical systems shall conform to APPLICABLE CRITERIA.

5.5.2. BUILDING ENVELOPE SEALING PERFORMANCE REQUIREMENT. Design and construct the building envelope for office buildings, office portions of mixed office and open space (e.g., company operations facilities), dining, barracks and instructional/training facilities with a continuous air barrier to control air leakage into, or out of, the conditioned space. Clearly identify all air barrier components of each envelope assembly on construction documents and detail the joints, interconnections and penetrations of the air barrier components. Clearly identify the boundary limits of the building air barriers, and of the zone or zones to be tested for building air tightness on the drawings.

5.5.2.1. Trace a continuous plane of air-tightness throughout the building envelope and make flexible and seal all moving joints.

5.5.2.2. The air barrier material(s) must have an air permeance not to exceed 0.004 cfm / sf at 0.3" wg (0.02 L/s.m2 @ 75 Pa) when tested in accordance with ASTM E 2178

5.5.2.3. Join and seal the air barrier material of each assembly in a flexible manner to the air barrier material of adjacent assemblies, allowing for the relative movement of these assemblies and components.

5.5.2.4. Support the air barrier so as to withstand the maximum positive and negative air pressure to be placed on the building without displacement, or damage, and transfer the load to the structure.

5.5.2.5. Seal all penetrations of the air barrier. If any unavoidable penetrations of the air barrier by electrical boxes, plumbing fixture boxes, and other assemblies are not airtight, make them airtight by sealing the assembly and the interface between the assembly and the air barrier or by extending the air barrier over the assembly.

5.5.2.6. The air barrier must be durable to last the anticipated service life of the assembly.

5.5.2.7. Do not install lighting fixtures with ventilation holes through the air barrier

5.5.2.8. Provide a motorized damper in the closed position and connected to the fire alarm system to open on call and fail in the open position for any fixed open louvers such as at elevator shafts.

5.5.2.9. Damper and control to close all ventilation or make-up air intakes and exhausts, atrium smoke exhausts and intakes, etc when leakage can occur during inactive periods.

5.5.2.10. Compartmentalize garages under buildings by providing air-tight vestibules at building access points.

5.5.2.11. Compartmentalize spaces under negative pressure such as boiler rooms and provide make-up air for combustion.

5.5.2.12. Performance Criteria and Substantiation: Submit the qualifications and experience of the testing entity for approval. Demonstrate performance of the continuous air barrier for the opaque building envelope by the following tests:

(a) Test the completed building and demonstrate that the air leakage rate of the building envelope does not exceed 0.25cfm/ft2 at a pressure differential of 0.3" w.g.(75 Pa) in accordance with ASTM's E 779 (2003) or E-1827-96 (2002). Accomplish tests using either pressurization or depressurization or both. Divide the volume of air leakage in cfm @ 0.3" w.g. (L/s @ 75 Pa) by the area of the pressure boundary of the building, including roof or ceiling, walls and floor to produce the air leakage rate in cfm/ft2 @ 0.3" w.g. (L/s.m2 @ 75 Pa). Do not test the building until verifying that the continuous air barrier is in place and installed without failures in accordance with installation instructions so that repairs to the continuous air barrier, if needed to comply with the required air leakage rate, can be done in a timely manner.

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(b) Test the completed building using Infrared Thermography testing. Use infrared cameras with a resolution of 0.1deg C or better. Perform testing on the building envelope in accordance with ISO 6781:1983 and ASTM C1060-90(1997). Determine air leakage pathways using ASTM E 1186-03 Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems, and perform corrective work as necessary to achieve the whole building air leakage rate specified in (a) above.

(c) Notify the Government at least three working days prior to the tests to provide the Government the opportunity to witness the tests. Provide the Government written test results confirming the results of all tests.

5.6. PLUMBING

5.6.1. STANDARDS AND CODES: The plumbing system shall conform to APPLICABLE CRITERIA.

5.6.2. PRECAUTIONS FOR EXPANSIVE SOILS: Where expansive soils are present, the design for underslab piping systems and underground piping serving chillers, cooling towers, etc, shall include features to control forces resulting from soil heave. Some possible solutions include, but are not necessarily limited to, features such as flexible expansion joints, slip joints, horizontal offsets with ball joints, or multiple bell and spigot gasketed fittings. For structurally supported slabs, piping should be suspended from the structure with adequate space provided below the pipe for the anticipated soil movement.

5.6.3. HOT WATER SYSTEMS: For Hot Water heating and supply, provide a minimum temp of 140 Deg F in the storage tank and a maximum of 110 Deg F at the fixture, unless specific appliances or equipment specifically require higher temperature water supply.

5.6.4. SIZING HOT WATER SYSTEMS: Unless otherwise specified or directed in paragraph 3, design in accordance with ASHRAE Handbook Series (appropriate Chapters), ASHRAE Standard 90.1, and the energy conservation requirements of the contract. Size and place equipment so that it is easily accessible and removable for repair or replacement.

5.6.5. JANITOR CLOSETS: In janitor spaces/room/closets, provide at minimum, a service sink with heavy duty shelf and wall hung mop and broom rack(s).

5.6.6. FLOOR DRAINS: As a minimum, provide floor drains in mechanical rooms and areas, janitor spaces/rooms/closets and any other area that requires drainage from fixtures or equipment, drain downs, condensate, as necessary.

5.6.7. URINALS: ***<WATER_URINALS_NOT>***Not Used.***</WATER_URINALS_NOT><WATER_URINALS>***Urinals shall be vitreous china, wall-mounted, wall outlet, non-water using, with integral drain line connection, and with sealed replaceable cartridge or integral liquid seal trap. Either type shall use a biodegradable liquid to provide the seal and maintain a sanitary and odor-free environment. Install, test and maintain in accordance with manufacturer's recommendations. Slope the sanitary sewer branch line for non-water use urinals a minimum of 1/4 inch per foot. Do not use copper tube or pipe for drain lines that connect to the urinal. Manufacturer shall provide an operating manual and on-site training to installation operations personnel for the proper care and maintenance of the urinal. For complexes, non-water using urinals are not required for barracks type spaces.***</WATER_URINALS>***

Comment [sdn2]: [NOTE TO SPECIFIER: PER ACSIM, ALL MILCON CONSTRUCTION FUNDED AFTER FY09 MUST USE NON-WATER USING URINALS, UNLESS THE ACSIM APPROVES AN INSTALLATION WAIVER. FOR FY 09 AND PRIOR YEAR PROJECTS, THE INSTALLATION MAY OPTIONALLY REQUIRE NON-WATER USING URINALS. SPECIFY HERE, NOT IN PARAGRAPH 6.]

5.6.8. BUILDING WATER USE REDUCTION. Reduce building potable water use in each building 20 percent using IPC ~~2006~~ fixture performance requirements baseline except where precluded by other project requirements.

5.6.9. Do not use engineered vent or Sovent® type drainage systems.

5.6.10. Where the seasonal design temperature of the cold water entering a building is below the seasonal design dew point of the indoor ambient air, and where condensate drip will cause damage or create a hazard, insulate plumbing piping with a vapor barrier type of insulation to prevent condensation. Do not locate water or drainage piping over electrical wiring or equipment unless adequate protection against water (including condensation) damage is provided. Insulation alone is not adequate protection against condensation. Follow ASHRAE Fundamentals Chapter 23, Insulation for Mechanical Systems, IMC paragraph 1107 and International Energy Conservation Code for pipe insulation requirements.

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5.7. ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

5.7.1. STANDARDS AND CODES: The electrical systems for all facilities shall conform to APPLICABLE CRITERIA.

5.7.2. MATERIALS AND EQUIPMENT: Materials, equipment and devices shall, as a minimum, meet the requirements of Underwriters Laboratories (UL) where UL standards are established for those items. Wiring for branch circuits shall be copper. Motors larger than one-half horsepower shall be three phase. All electrical systems shall be pre-wired and fully operational unless otherwise indicated. Wall mounted electrical devices (power receptacles, communication outlets and CATV outlets) shall have matching colors, mounting heights and faceplates.

5.7.3. POWER SERVICE: Primary service from the base electrical distribution system to the pad-mounted transformer and secondary service from the transformer to the building service electrical equipment room shall be underground. See paragraph 6 for additional site electrical requirements.

5.7.3.1. Spare Capacity: Provide 10% space for future circuit breakers in all panelboards serving residential areas of buildings and 15% spaces in all other panelboards.

5.7.4. TELECOMMUNICATION SERVICE: The project's facilities must connect to the Installation telecommunications (voice and data) system through the outside plant (OSP) telecommunications underground infrastructure cabling system per the I3A Criteria. Connect to the OSP cabling system from each facility main cross connect located in the telecommunications room.

5.7.5. LIGHTING: Lighting shall comply with the recommendations of the Illumination Engineering Society of North America (IESNA).

5.7.5.1. Interior Lighting: Interior lighting shall utilize electronic ballast and energy efficient fluorescent lamps with a Correlated Color Temperature of 4100K. Compact fluorescent fixtures shall have a Color Rendering Index of (CRI) of 82 or higher. Linear fluorescent fixtures shall have a CRI of 85 or higher. Fluorescent lamps shall be the low mercury type qualifying as non-hazardous waste upon disposal. Surface mounted fixtures shall not be used on acoustical tile ceilings. An un-switched fixture with emergency ballast shall be provided at each entrance to the building.

5.7.6. TELECOMMUNICATION SYSTEM: All building telecommunications cabling systems (BCS) and OSP telecommunications cabling system shall conform to APPLICABLE CRITERIA to include I3A Technical Criteria ~~and the UFC 3-580-01 Telecommunications Bldg Cabling Systems Planning/Design~~. An acceptable BCS encompasses, but is not limited to, copper and fiber optic (FO) entrance cable, termination equipment, copper and fiber backbone cable, copper and fiber horizontal distribution cable, workstation outlets, racks, cable management, patch panels, cable tray, cable ladder, conduits, grounding, and labeling.. Items included under OSP infrastructure encompass, but are not limited to, manhole and duct infrastructure, copper cable, fiber optic cable, cross connects, terminations, cable vaults, and copper and FO entrance cable.

5.7.6.1. Design, install, label and test all telecommunications systems in accordance with the I3A Criteria and ANSI/TIA/EIA 568, 569, and 606 standards. A Building Industry Consulting Services International (BICSI) Registered Communications Distribution Designer (RCDD) with at least 2 yrs related experience shall develop and stamp telecommunications design, and prepare the test plan. See paragraph 5.8.2.5 for design of environmental systems for Telecommunications Rooms.

5.7.6.2. The installers assigned to the installation of the telecommunications system or any of its components shall be regularly and professionally engaged in the business of the application, installation and testing of the specified telecommunications systems and equipment. Key personnel; i.e., supervisors and lead installers assigned to the installation of this system or any of its components shall be BICSI Registered Cabling Installers, Technician Level. Submit documentation of current BICSI certification for each of the key personnel. In lieu of BICSI certification, supervisors and installers shall have a minimum of 5 years experience in the installation of the specified copper and fiber optic cable and components. They shall have factory or factory approved certification from each equipment manufacturer indicating that they are qualified to install and test the provided products.

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5.7.6.3. Perform a comprehensive end to end test of all circuits to include all copper and fiber optic cables upon completion of the BCS and prior to acceptance of the facility. The BCS circuits include but are not limited to all copper and fiber optic(FO) entrance cables, termination equipment, copper and fiber backbone cable, copper and fiber horizontal distribution cable, and workstation outlets. Test in accordance with ANSI/EIA/TIA 568 standards. Use test instrumentation that meets or exceeds the standard. Submit the official test report to include test procedures, parameters tested, values, discrepancies and corrective actions in electronic format. Test and accomplish all necessary corrective actions to ensure that the government receives a fully operational, standards based, code compliant telecommunications system.

5.7.7. LIGHTNING PROTECTION SYSTEM: Provide a lightning protection system where recommended by the Lightning Risk Assessment of NFPA 780, Annex L.

5.8. HEATING, VENTILATING, AND AIR CONDITIONING

5.8.1. STANDARDS AND CODES: The HVAC system shall conform to APPLICABLE CRITERIA.

5.8.2. DESIGN CONDITIONS.

5.8.2.1. Outdoor and indoor design conditions shall be in accordance with UFC 3-410-01FA. Outdoor air and exhaust ventilation requirements for indoor air quality shall be in accordance with ASHRAE 62.1.

5.8.2.2. Design systems in geographical areas that meet the definition for high humidity in UFC 3-410-01FA in accordance with the special criteria for humid areas therein.

5.8.2.3. Cooling equipment may be oversized by up to 15 percent to account for recovery from night setforward. Heating equipment may be oversized by up to 30 percent to account for recovery from night setback. Design single zone systems and multi-zone systems to maintain an indoor design condition of 50% relative humidity for cooling only. For heating only where the indoor relative humidity is expected to fall below 20% for extended periods, add humidification to increase the indoor relative humidity to 30%. Provide ventilation air from a separate dedicated air handling unit (DOAU) for facilities using multiple single zone fan-coil type HVAC systems. Do not condition outside air through fan coil units. Avoid the use of direct expansion cooling coils in air handling units with constant running fans that handle outside air.

5.8.2.4. Locate all equipment so that service, adjustment and replacement of controls or internal components are readily accessible for easy maintenance.

5.8.2.5. Environmental Requirements for Telecommunications Rooms,(including SIPRNET ROOMS, where applicable for specific facility type). Comply with ANSI/EIA/TIA 569 and the I3A.

5.8.2.6. Fire dampers: dynamic type with a dynamic rating suitable for the maximum air velocity and pressure differential to which the damper is subjected. Test each fire damper with the air handling and distribution system running.***<BACNET>***

5.8.3. BUILDING AUTOMATION SYSTEM. The Building Automation System (BAS) shall be a single complete non-proprietary Direct Digital Control (DDC) system for control of the heating, ventilating and air conditioning (HVAC) and other building systems. The BAS shall be based on an Open implementation of BACnet using ASHRAE 135-2004 exclusively as the communications protocol for communication between DDC Hardware devices to allow multi-vendor interoperability. ***<UMCS_BACNET>***Provide a basewide supervisory monitoring and control (M&C) system (often referred to as a Utility Monitoring and Control System – UMCS) as defined in this RFP.***</UMCS_BACNET><UMCS_INTEGRATE>***The building BAS shall include integration to a basewide supervisory monitoring and control (M&C) system.***</UMCS_INTEGRATE><STANDALONE>***The building BAS shall include a building management interface.***</STANDALONE>***

5.8.3.1. The system shall be Open in that it is designed and installed such that the Government or its agents are able to perform repair, replacement, upgrades, and expansions of the system without further dependence on the original hardware vendor or their agents. This includes, but is not limited to the following:

- Hardware shall be installed such that individual control equipment can be replaced by similar control equipment from other equipment manufacturers with no loss of system functionality.

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- Necessary documentation (including rights to documentation and data), configuration information, configuration tools, application programs (with comments explaining program logic), application source code for programmable controllers, drivers, and other software shall be licensed to and remain with the Government such that the Government or its agents are able to perform repair, replacement, upgrades, and expansions of the system without subsequent or future dependence on the Contractor.

5.8.3.2. All DDC Hardware shall:

- Be connected to a ASHRAE 135 MS/TP control network.
- Implement all required functionality of the application network interface via BACnet objects, properties, and services
- Shall conform to basewide addressing schemes, particularly with regard to Device ID.
- Minimize the use of proprietary BACnet objects and properties
- Not use any of the following BACnet services for application control functionality or communication:
  - AtomicFile or AtomicFileWrite
  - ConfirmedTextMessage or UnconfirmedTextMessage
  - ConfirmedPrivateTransfer or UnconfirmedPrivateTransfer
- Communicate over the control network via ASHRAE 135 exclusively.
- Conform to the BACnet Testing Lab's Device Implementation Guidelines.
- Be capable of responding to Who-Is/I-Am and Who-Has/I-Have service requests.
- All settings and parameters used by the application shall be fully configurable:
  - to the greatest extent possible, via properties of BACnet objects that can be written to via BACnet services.
  - via properties of BACnet objects that can be written to via BACnet services for the following
- Setpoint
- Alarm limit
- Schedule modification
- Trend modification
  - All other settings and parameters that can not be written to via BACnet services shall be fully configurable via either:
- Properties of BACnet objects that can be written to with a configuration tool, or
- Hardware settings on the controller itself to support the application.
- Provide BACnet objects, properties, and services required to support the application and supervisory monitoring and control functionality including:
  - System start/stop and overrides.
  - Scheduling
  - Alarming
  - Trending
- To the greatest extent practical, not rely on the control network to perform the application
- Be BTL Listed

5.8.3.3. Include any device capable of communicating over IEEE 802.3 (Ethernet) in a DIACAP and Certificate of Networthiness (CoN) for this installation, regardless of whether the Ethernet connection is active at time of installation. Do not use devices with Ethernet connection capability not included in a DIACAP or without a DIACAP or without a CoN shall not be used.

5.8.3.4. Gateways may be used provided that each gateway communicates with and performs protocol translation for control hardware controlling one and only one package unit.

5.8.3.5. ***<UMCS_NO>***Not Used***</UMCS_NO><UMCS_BACNET>***Provide and configure a UMCS meeting the following::

- The UMCS shall perform supervisory control and monitoring of a base-wide ASHRAE 135 network using BACnet/IP (Annex J).
- The UMCS shall be ***<DIACAP_CERT>***DIACAP certified***</DIACAP_CERT><DIACAP_PART>***part of the DIACAP certification for the installation's basewide LAN***</DIACAP_PART><DIACAP_PART_CERT>***DIACAP certified or part of the DIACAP certification for the installation's basewide LAN***</DIACAP_PART_CERT>***, have a

SAMPLE

Certificate of Networthiness and shall use the installation's basewide IP network to provide connectivity between building control systems. DIACAP, Networthiness and access to the IP network shall be coordinated with the installation's IT organization (~~DOIM~~NEC) and the DPW.

- The UMCS shall include a desktop personal computer with the installation's standard operating system and software packages
- The UMCS shall include a 100 Mbps (minimum) IP network installed in one of the following methods:
  - share existing basewide IT LAN operated by the ~~DOIM~~ NEC (IT group).
  - use spare existing IT infrastructure to install a physically independent IP network.
  - install all new networking.
  - Any IP network work including access to existing networks shall be coordinated with the installation ~~Directorate Of Information Management~~Network Enterprise Center (~~DOIM~~NEC).
- The monitoring and control (M&C) software shall be a client-server software package that meets the profile of a B-OWS as defined in ASHRAE 135 Annex L. Configure the M&C software shall be configured to perform supervisory monitoring and control functions including but not limited to Scheduling, Alarm Handling, Alarm Generation, Trending, Report Generation and Electrical Peak Demand Limiting as specified for systems integrated as specified below. The software shall be expandable in both number of points and number of clients supported in order to support system expansion. In addition:
  - It shall provide multiple levels of password protection.
  - It shall be capable of handling alarms by providing an alarm notification via a pop-up to a user display, printing to a printer, sending an email and sending a numeric page.
  - It shall include a ***<WEBBASED>***web based***</WEBBASED>*** Graphical User Interface which allows for hierarchical graphical navigation between systems, graphical representations of systems, access to real-time data for systems, ability to override points in a system, and access to all supervisory monitoring and control functions. Each system display shall clearly distinguish between the following point data types and information: Real-time data, User-entered data, Overridden or operator-disabled points, Devices in alarm (unacknowledged), and Out-of-range, bad, or missing data. The software shall allow the user to create, modify, and delete displays and graphic symbols. Data on graphics page shall be no more than 10 seconds behind real time.

Provide a BACnet object browser tool. This software shall be capable of fully browsing, discovering (via Who-Has/I-Have and Who-Is/I-Am services), and displaying in a tree-view structure all BACnet devices on the BACnet internetwork. The BACnet object browser shall also be capable of reading and writing (where supported by the remote device) any property of any object of any device on the internetwork.***</UMCS_BACNET>***

5.8.3.6. ***<UMCS_INTEGRATE_NO>***Not Used***</UMCS_INTEGRATE_NO><UMCS_INTEGRATE>***Perform all necessary actions needed to fully integrate the ASHRAE 135-based building control system to the UMCS. These actions include but are not limited to:

- Install BACnet MS/TP-to-IP routers and/or BACnet/IP Broadcast Management Devices (BBMD) in accordance with ASHRAE 135 Annex J as needed to connect the building control network to the UMCS IP network. Devices shall be capable of configuration via DHCP and Write-Broadcast-Distribution-Table messages but shall not rely on these services for configuration. All communication between the UMCS and building networks shall be via BACnet/IP and in accordance with ASHRAE 135. Any IP network work including access to existing networks shall be coordinated with the installation ~~Directorate Of Information Management~~Network Enterprise Center (~~DOIM~~NEC).
- Configure M&C Software functionality including: graphical pages for System Graphic Displays including overrides, alarm handling, scheduling, trends for critical values needing long-term or permanent monitoring via trends, and demand limiting.
- Configure M&C software to provide hierarchically arranged screens to allow operator to configure (via BACnet services to the appropriate objects) all devices on the installation BACnet internetwork. The following adjustments shall be supported:
  - Setpoints
  - Alarm limits
  - Schedules
  - Trends

This requirement is separate from and in addition to the requirement to provide all necessary programming and configuration software.***</UMCS_INTEGRATE>***

SAMPLE

5.8.3.7. ***<UMCS_INTEGRATE_NO>***Not Used***</UMCS_INTEGRATE_NO><UMCS_INTEGRATE>***Perform all necessary actions needed to integrate legacy systems to the UMCS. Configure M&C Software functionality including: graphical pages for System Graphic Displays including overrides, alarm handling, scheduling, trends for critical values needing long-term or permanent monitoring via trends, and demand limiting. Integration may be via drivers in the M&C Software or hardware gateways may be provided. Where hardware gateways are provided, include all hardware, software, software licenses, and configuration tools required for gateway operation, modification, and maintenance. Configure software driver or a hardware gateway to support M&C software functionality as listed above. ***</UMCS_INTEGRATE>***

5.8.3.8. Provide the following to the Government for review prior to acceptance of the system:

- The latest version of all software including source code for application software (for programmable controllers), software licenses, and user manuals required to program, configure and operate the system.
- Points Schedule drawing that shows every DDC Hardware device. The Points Schedule shall contain the following information as a minimum for each device:
    - Device ID and network address (MS/TP network and MAC address, or IP address).
    - Input and Output Objects including Name, Type, Description, and relevant supported or required Properties.
    - Hardware I/O, including Type (AI, AO, BI, BO) and Description.
    - Alarm information including alarm limits and BACnet device IDs, object IDs, and property information.
    - Supervisory control information including BACnet device IDs, object IDs, and properties for trending and overrides.
    - Objects and Properties needed for device configuration.
    - Device IDs and objects (where applicable) of remote devices and objects that communicate with the given Device (e.g. clients and servers for BACnet services used by the given device).
    - Example Points Schedules are available at: https://eko.usace.army.mil/fa/besc/
- Riser diagram of the network showing all network cabling and hardware. Label hardware with BACnet Device IDs, BACnet network addresses, network names, and locations.
- A consolidated list of all Device IDs.
- Control System Schematic diagram and Sequence of Operation for each controlled system.
- Operation and Maintenance Instructions including procedures for system start-up, operation and shut-down, a routine maintenance checklist, and a qualified service organization list.
- Quality Control (QC) checklist (below) completed by the Contractor's Chief Quality Control (QC) Representative

Table 5-1: QC Checklist

SAMPLE

<INTEGRATE>

Instructions: Initial each item, sign and date verifying that the requirements have been met.

#	Description	Initials
1	All DDC Hardware is installed on a MS/TP or IP local control bus IAW ASHRAE135 section 9 or Annex J.	
2	Communication between DDC Hardware is only via ASHRAE 135. PrivateTransfer, TextMessage, or AtomicFile services have not been used.	
3	All sequences are performed using DDC Hardware.	
4	All software has been licensed to the Government	
5	Final As-built Drawings accurately represent the final installed system.	
6	O&M Instructions have been completed and submitted.	
7	All DDC hardware connected or intended to be connected to the IP network is covered under a DIACAP and has a certificate of Networthiness	
8	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings	
9	Connections between the UMCS IP network and ASHRAE 135 building networks is in accordance with ASHRAE 135 Annex J, including BACnet Broadcast Management Devices (BBMDs) as needed.	

By signing below I verify that all requirements of the contract, including but not limited to the above, been met.

Signature:_____ Date:_____

</INTEGRATE><UMCS_BACNET>

SAMPLE

Instructions: Initial each item, sign and date verifying that the requirements have been met.

#	Description	Initials
1	All DDC Hardware is installed on a MS/TP or IP local control bus IAW ASHRAE135 section 9 or Annex J.	
2	Communication between DDC Hardware is only via ASHRAE 135. PrivateTransfer, TextMessage, or AtomicFile services have not been used.	
3	All sequences are performed using DDC Hardware.	
4	All software has been licensed to the Government	
5	Final As-built Drawings accurately represent the final installed system.	
6	O&M Instructions have been completed and submitted.	
7	All DDC hardware connected or intended to be connected to the IP network is covered under a DIACAP and has a certificate of Networthiness	
8	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings	
9	Connections between the UMCS IP network and ASHRAE 135 building networks is in accordance with ASHRAE 135 Annex J, including BACnet Broadcast Management Devices (BBMDs) as needed.	
10	M&C software supports BIBBS listed for a B-OWS profile in Annex L and uses BACnet/IP in accordance with Annex J to interface to ASHRAE 135 networks.	
11	The M&C software is covered under a DIACAP and has a certificate of Networthiness	

By signing below I verify that all requirements of the contract, including but not limited to the above, been met.

Signature:_____ Date:_____

</UMCS_BACNET><STANDALONE>

Instructions: Initial each item, sign and date verifying that the requirements have been met.

#	Description	Initials
1	All DDC Hardware is installed on a MS/TP or IP local control bus IAW ASHRAE135 section 9 or Annex J.	
2	Communication between DDC Hardware is only via ASHRAE 135. PrivateTransfer, TextMessage, or AtomicFile services have not been used.	
3	All sequences are performed using DDC Hardware.	
4	All software has been licensed to the Government	
5	Final As-built Drawings accurately represent the final installed system.	
6	O&M Instructions have been completed and submitted.	
7	All DDC hardware connected or intended to be connected to the IP network is covered under a DIACAP and has a certificate of Networthiness	

By signing below I verify that all requirements of the contract, including but not limited to the above, been met.

Signature:_____ Date:_____

</STANDALONE><NONE>

SAMPLE

Instructions: Initial each item, sign and date verifying that the requirements have been met.		
#	Description	Initials
1	All DDC Hardware is installed on a MS/TP or IP local control bus IAW ASHRAE135 section 9 or Annex J.	
2	Communication between DDC Hardware is only via ASHRAE 135. PrivateTransfer, TextMessage, or AtomicFile services have not been used.	
3	All sequences are performed using DDC Hardware.	
4	All software has been licensed to the Government	
5	Final As-built Drawings accurately represent the final installed system.	
6	O&M Instructions have been completed and submitted.	
7	All DDC hardware connected or intended to be connected to the IP network is covered under a DIACAP and has a certificate of Networthiness	
By signing below I verify that all requirements of the contract, including but not limited to the above, been met. Signature:_____ Date:_____		

</NONE>

5.8.3.9. Perform a Performance Verification Test (PVT) under Government supervision prior to system acceptance. During the PVT, demonstrate that the system performs as specified, including but not limited to demonstrating that the system is Open and correctly performs the Sequences of Operation.

5.8.3.10. Provide a 1 year unconditional warranty on the installed system and on all service call work. The warranty shall include labor and material necessary to restore the equipment involved in the initial service call to a fully operable condition.

5.8.3.11. Provide training at the project site on the installed building system ***<UMCS_BACNET>***and UMCS***</UMCS_BACNET>***. Upon completion of this training each student, using appropriate documentation, should be able to start the system, operate the system, recover the system after a failure, perform routine maintenance and describe the specific hardware, architecture and operation of the system. ***<UMCS_BACNET>***Operation of the UMCS includes but is not limited to

- Configuring and managing alarms
- Configuring schedules
- Creation and modification of trends
- Creation of reports
- Performing operator overrides. ***</UMCS_BACNET></BACNET><LONWORKS>***

5.8.3. BUILDING AUTOMATION SYSTEM. Provide a Building Automation System consisting of a building control network ***<NEW>***, a Utility Monitoring and Control System (UMCS) ***</NEW><NEW_LNS_NONLNS>***, and integrate the building control network into the UMCS ***</NEW_LNS_NONLNS><STANDALONE_LON>*** and a building management interface to provide a building-level graphical user interface ***</STANDALONE_LON>***as specified.

The building control network shall be a single complete non-proprietary Direct Digital Control (DDC) system for control of the heating, ventilating and air conditioning (HVAC) systems as specified herein. The building control network shall be an Open implementation of LONWORKS® technology using ANSI/EIA 709.1B as the only communications protocol and use only LonMark Standard Network Variable Types (SNVTs), as defined in the LonMark® Resource Files, for communication between DDC Hardware devices to allow multi-vendor interoperability.

<NEW>The UMCS shall use the IP network to perform supervisory control and monitoring of a ANSI/CEA-709.1B (LonWorks) network using LonWorks Network Services (LNS). The UMCS shall communicate with building control systems using ANSI/CEA-852 only.***</NEW>***

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5.8.3.1. The building automation system shall be open in that it is designed and installed such that the Government or its agents are able to perform repair, replacement, upgrades, and expansions of the system without further dependence on the original Contractor. This includes, but is not limited to the following:

(a) Install hardware such that individual control equipment can be replaced by similar control equipment from other equipment manufacturers with no loss of system functionality.

(b) Necessary documentation (including rights to documentation and data), configuration information, configuration tools, programs, drivers, and other software shall be licensed to and otherwise remain with the Government such that the Government or its agents are able to perform repair, replacement, upgrades, and expansions of the system without subsequent or future dependence on the Contractor.

5.8.3.2. All DDC Hardware shall:

(a) Be connected to a TP/FT-10 ANSI/EIA 709.3 control network.

(b) Communicate over the control network via ANSI/EIA 709.1B exclusively.

(c) Communicate with other DDC hardware using only SNVTs

(d) Conform to the LonMark® Interoperability Guidelines.

(e) Be locally powered; link power (over the control network) is not acceptable.

(f) Be fully configurable via standard or user-defined configuration parameter types (SCPT or UCPT), standard network variable type (SNVT) network configuration inputs (*nci*), or hardware settings on the controller itself to support the application. All settings and parameters used by the application shall be configurable via standard or user-defined configuration parameter types (SCPT or UCPT), standard network variable type (SNVT) network configuration inputs (*nci*), or hardware settings on the controller itself

(g) Provide input and output SNVTs required to support monitoring and control (including but not limited to scheduling, alarming, trending and overrides) of the application. Required SNVTs include but are not limited to: SNVT outputs for all hardware I/O, SNVT outputs for all setpoints and SNVT inputs for override of setpoints.

(h) To the greatest extent practical, not rely on the control network to perform the application..

5.8.3.3. Controllers shall be Application Specific Controllers whenever an ASC suitable for the application exists. When an ASC suitable for the application does not exist use programmable controllers or multiple application specific controllers.

5.8.3.4. Application Specific Controllers shall be LonMark Certified whenever a LonMark Certified ASC suitable for the application exists. For example, VAV controllers must be LonMark certified.

5.8.3.5. Application Specific Controllers (ASCs) shall be configurable via an LNS plug-in whenever t an ASC with an LNS plug-in suitable for the application exists.

5.8.3.6. Each scheduled system shall accept a network variable of type SNVT_occupancy and shall use this network variable to determine the occupancy mode. If the system has not received a value to this network variable for more than 60 minutes it shall default to ***<CONFIG_OCC>***a configured occupancy schedule***</CONFIG_OCC><OCC_MODE>***the occupied mode***</OCC_MODE>***.

5.8.3.7. Gateways may be used provided that each gateway communicates with and performs protocol translation for control hardware controlling one and only one package unit.

5.8.3.8. ***<NEW_NO>***Not Used***</NEW_NO><NEW>***Provide a supervisory "Utility Monitoring and Control System" (UMCS) which meets the following requirements:

(a) The UMCS shall perform supervisory control and monitoring of a base-wide ANSI/CEA-709.1B (LonWorks) network using LonWorks Network Services (LNS).

(b) The UMCS shall be ***<DIACAP_CERT>***DIACAP certified***</DIACAP_CERT><DIACAP_PART>***part of the DIACAP certification for the installation's basewide LAN***</DIACAP_PART> <DIACAP_PART_CERT>***DIACAP certified or part of the DIACAP certification for the installation's basewide LAN***</DIACAP_PART_CERT>*** have a Certificate of Networthiness and shall use the installation's basewide IP network to provide connectivity between

SAMPLE

building control systems. DIACAP, Networthiness and access to the IP network shall be coordinated with the installation's IT organization (~~DOIM~~NEC) and the DPW.

(c) The UMCS monitoring and control (M&C) software shall be a LonWorks Network Services (LNS)-compatible client-server software package that performs supervisory monitoring and control functions including but not limited to Scheduling, Alarm Handling, Alarm Generation, Trending, Report Generation and Electrical Peak Demand Limiting. The software shall be expandable in both number of points and number of clients supported in order to support system expansion. The M&C Software may include drivers to other (non-ANSI/CEA-709.1B) protocols.

(d) The software shall be capable of scheduling SNVTs such that it can change the value of a SNVT according to an internal schedule.

(e) The software shall be capable of handling alarms by providing an alarm notification via a pop-up to a user display, printing to a printer, sending an email and sending a numeric page.

(f) The system shall include a ***<WEBBASED>***web based***</WEBBASED>*** Graphical User Interface which allows for hierarchical graphical navigation between systems, graphical representations of systems, access to real-time data for systems, ability to override points in a system, and access to all supervisory monitoring and control functions. Each system display shall clearly distinguish between the following point data types and information: Real-time data, User-entered data, Overridden or operator-disabled points, Devices in alarm (unacknowledged), and Out-of-range, bad, or missing data. The software shall allow the user to create, modify, and delete displays and graphic symbols. Data on graphics pages shall be no more than 10 seconds behind real time.

(g) Provide a network configuration tool. This software shall use LonWorks Network Services (LNS) for all network configuration and management of ANSI/CEA-709.1B devices, be capable of executing LNS plug-ins, and be capable of performing network database reconstruction of an ANSI/CEA-709.1B control network.***</NEW>***

5.8.3.9. ***<NEW_LNS_NONLNS_NO>***Not Used***</NEW_LNS_NONLNS_NO><NEW_LNS_NONLNS>***Perform all necessary actions needed to fully integrate the building control system. These actions include but are not limited to:

- Configure M&C Software functionality including: graphical pages for System Graphic Displays including overrides, alarm handling, scheduling, trends for critical values needing long-term or permanent monitoring via trends, and demand limiting. ***</NEW_LNS_NONLNS><NEW_LNS>***
- Install IP routers or ANSI/CEA-852 routers as needed to connect the building control network to the UMCS IP network. Routers shall be capable of configuration via DHCP and use of an ANSI/CEA-852 configuration server but shall not rely on these services for configuration. All communication between the UMCS and building networks shall be via the ANSI/CEA-709.1B protocol over the IP network in accordance with ANSI/CEA-852.***</NEW_LNS>***

5.8.3.10. Provide the following to the Government for review prior to acceptance of the system:

- The latest version of all software and user manuals required to program, configure and operate the system.
- Points Schedule drawing that shows every DDC Hardware device. The Points Schedule shall contain the following information as a minimum:
    - Device address and NodeID.
    - Input and Output SNVTs including SNVT Name, Type and Description.
    - Hardware I/O, including Type (AI, AO, BI, BO) and Description.
    - Alarm information including alarm limits and SNVT information.
    - Supervisory control information including SNVTs for trending and overrides.
    - Configuration parameters (for devices without LNS plug-ins) Example Points Schedules are available at https://eko.usace.army.mil/fa/besc/
- Riser diagram of the network showing all network cabling and hardware. Label hardware with ANSI.CEA-709.1 addresses***<NEW_LNS_NONLNS>***, IP addresses, and network names***</NEW_LNS_NONLNS>***.
- Control System Schematic diagram and Sequence of Operation for each HVAC system.
- Operation and Maintenance Instructions including procedures for system start-up, operation and shut-down, a routine maintenance checklist, and a qualified service organization list.
- LONWORKS® Network Services (LNS®) database for the completed system.
- Quality Control (QC) checklist (below) completed by the Contractor's Chief Quality Control (QC)

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Representative

Table 5-1: QC Checklist

<NEW_LNS>

Instructions: Initial each item, sign and date verifying that the requirements have been met.		
#	Description	Initials
1	All DDC Hardware is installed on a TP/FT-10 local control bus.	
2	Communication between DDC Hardware is only via EIA 709.1B using SNVTs. Other protocols and network variables other than SNVTs have not been used.	
3	All sequences are performed using DDC Hardware.	
4	LNS Database is up-to-date and accurately represents the final installed system	
5	All software has been licensed to the Government	
6	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings.	
7	Final As-built Drawings accurately represent the final installed system.	
8	O&M Instructions have been completed and submitted.	
9	Connections between the UMCS IP network and ANSI/CEA-709.1B building networks are through ANSI/CEA-852 Routers.	
By signing below I verify that all requirements of the contract, including but not limited to the above, been met.		
Signature:_____ Date:_____		

</NEW_LNS><NEW>

Instructions: Initial each item, sign and date verifying that the requirements have been met.		
#	Description	Initials
1	All DDC Hardware is installed on a TP/FT-10 local control bus.	
2	Communication between DDC Hardware is only via EIA 709.1B using SNVTs. Other protocols and network variables other than SNVTs have not been used.	
3	All sequences are performed using DDC Hardware.	
4	LNS Database is up-to-date and accurately represents the final installed system	
5	All software has been licensed to the Government	
6	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings.	
7	Final As-built Drawings accurately represent the final installed system.	
8	O&M Instructions have been completed and submitted.	
9	Connections between the UMCS IP network and ANSI/CEA-709.1B building networks are through ANSI/CEA-852 Routers.	
10	LonWorks Network Services (LNS) based M&C software was provided	
11	The M&C software is covered under a DIACAP and has a certificate of Networthiness	
By signing below I verify that all requirements of the contract, including but not limited to the above, been met.		
Signature:_____ Date:_____		

</NEW><STANDALONE_LON>

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Instructions: Initial each item, sign and date verifying that the requirements have been met.		
#	Description	Initials
1	All DDC Hardware is installed on a TP/FT-10 local control bus.	
2	Communication between DDC Hardware is only via EIA 709.1B using SNVTs. Other protocols and network variables other than SNVTs have not been used.	
3	All sequences are performed using DDC Hardware.	
4	LNS Database is up-to-date and accurately represents the final installed system	
5	All software has been licensed to the Government	
6	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings.	
7	Final As-built Drawings accurately represent the final installed system.	
8	O&M Instructions have been completed and submitted.	
By signing below I verify that all requirements of the contract, including but not limited to the above, been met. Signature:_____ Date:_____		

</STANDALONE_LON><NONLNS>

Instructions: Initial each item, sign and date verifying that the requirements have been met.		
#	Description	Initials
1	All DDC Hardware is installed on a TP/FT-10 local control bus.	
2	Communication between DDC Hardware is only via EIA 709.1B using SNVTs. Other protocols and network variables other than SNVTs have not been used.	
3	All sequences are performed using DDC Hardware.	
4	LNS Database is up-to-date and accurately represents the final installed system	
5	All software has been licensed to the Government	
6	M&C software monitoring displays have been created for all building systems, including all override and display points indicated on Points Schedule drawings.	
7	Final As-built Drawings accurately represent the final installed system.	
8	O&M Instructions have been completed and submitted.	
By signing below I verify that all requirements of the contract, including but not limited to the above, been met. Signature:_____ Date:_____		

</NONLNS>

SAMPLE

5.8.3.11. Perform a Performance Verification Test (PVT) under Government supervision prior to system acceptance. During the PVT demonstrate that the system performs as specified, including but not limited to demonstrating that the system is Open and correctly performs the Sequences of Operation.

5.8.3.12. Provide a 1 year unconditional warranty on the installed system and on all service call work. The warranty shall include labor and material necessary to restore the equipment involved in the initial service call to a fully operable condition.

5.8.3.13. Provide training at the project site on the installed building system ***<NEW>***and UMCS***</NEW>*** Upon completion of this training each student, using appropriate documentation, should be able to start the system, operate the system, recover the system after a failure, perform routine maintenance and describe the specific hardware, architecture and operation of the system. ***<NEW>***Operation of the UMCS includes but is not limited to

- Configuring and managing alarms
- Configuring schedules
- Creation and modification of trends
- Creation of reports

- Performing operator overrides.***</NEW> </LONWORKS>***

5.8.4. TESTING, ADJUSTING AND BALANCING. Test and balance air and hydronic systems, using a firm certified for testing and balancing by the Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), or the Testing Adjusting, and Balancing Bureau (TABB). The prime contractor shall hire the TAB firm directly, not through a subcontractor. Perform TAB in accordance with the requirements of the standard under which the TAB Firm's qualifications are approved, i.e., AABC MN-1, NEBB TABES, or SMACNA HVACTAB unless otherwise specified herein. All recommendations and suggested practices contained in the TAB Standard shall be considered mandatory. Use the provisions of the TAB Standard, including checklists, report forms, etc., as nearly as practicable to satisfy the Contract requirements. Use the TAB Standard for all aspects of TAB, including qualifications for the TAB Firm and Specialist and calibration of TAB instruments. Where the instrument manufacturer calibration recommendations are more stringent than those listed in the TAB Standard, adhere to the manufacturer's recommendations. All quality assurance provisions of the TAB Standard such as performance guarantees shall be part of this contract. For systems or system components not covered in the TAB Standard, the TAB Specialist shall develop TAB procedures. Where new procedures, requirements, etc., applicable to the Contract requirements have been published or adopted by the body responsible for the TAB Standard used (AABC, NEBB, or TABB), the requirements and recommendations contained in these procedures and requirements are mandatory.

5.8.5. COMMISSIONING: Commission all HVAC systems and equipment, including controls, and all systems requiring commissioning for LEED Fundamental commissioning, in accordance with ASHRAE Guideline 1.1, ASHRAE Guideline 0 and LEED. Do not use the sampling techniques discussed in ASHRAE Guideline 1.1 and in ASHRAE Guideline 0. Commission 100% of the HVAC controls and equipment. The Contractor shall hire the Commissioning Authority (CA), certified as a CA by AABC, NEBB, or TABB, as described in Guideline 1.1. The CA will be an independent contractor and not an employee or subcontractor of the Contractor or any other subcontractor on this project, including the design professionals (i.e., the DOR or their firm(s)). The Contracting Officer's Representative will act as the Owner's representative in performance of duties spelled out under OWNER in Annex F of ASHRAE Guideline 0.

5.9. ENERGY CONSERVATION

5.9.1. The building including the building envelope, HVAC systems, service water heating, power, and lighting systems shall meet the Mandatory Provisions and the Prescriptive Path requirements of ASHRAE 90.1. Substantiation requirements are defined in Section 01 33 16, Design After Award.

5.9.2. Design all building systems and elements to meet the minimum requirements of ANSI/ASHRAE/IESNA 90.1. Design the buildings, including the building envelope, HVAC systems, service water heating, power, and lighting systems to achieve an energy consumption that is at least 30% below the consumption of a baseline building meeting the minimum requirements of ANSI/ASHRAE/IESNA Standard 90.1. Energy calculation methodologies and substantiation requirements are defined in Section 01 33 16, Design After Award.

5.9.3. Purchase Energy Star or FEMP designated products. The term "Energy Star product" means a product that is rated for energy efficiency under an Energy Star program. The term "FEMP designated product" means a product that is designated under the Federal Energy Management Program of the Department of Energy as being among the highest 25 percent of equivalent products for energy efficiency. When selecting integral sized electric motors, choose NEMA PREMIUM type motors that conform to NEMA MG 1, minimum Class F insulation system. Motors with efficiencies lower than the NEMA PREMIUM standard may only be used in unique applications that require a high constant torque speed ratio (e.g., inverter duty or vector duty type motors that conform to NEMA MG 1, Part 30 or Part 31).

5.9.4. Solar Hot Water Heating. Provide at least 30% of the domestic hot water requirements through solar heating methodologies, unless the results of a Life Cycle Cost Analysis (LCCA) developed utilizing the Building Life Cycle Cost Program (BLCC) which demonstrates that the solar hot water system is not life cycle cost effective in comparison with other hot water heating systems. The type of system will be established during the contract or task order competition and award phase, including submission of an LCCA for government evaluation to justify non-selection of solar hot water heating. The LCCA uses a study period of 25 years and the Appendix K utility cost information. The LCCA shall include life cycle cost comparisons to a baseline system to provide domestic hot water without solar components, analyzing at least three different methodologies for providing solar hot water to compare against the baseline system.

SAMPLE

5.9.5. Process Water Conservation. When potable water is used to improve a building's energy efficiency, employ lifecycle cost effective water conservation measures, except where precluded by other project requirements.

5.9.6. Renewable Energy Features. The Government's goal is to implement on-site renewable energy generation for Government use when lifecycle cost effective. See Paragraph 6, PROJECT SPECIFIC REQUIREMENTS for renewable energy requirements for this project.

5.10. FIRE PROTECTION

5.10.1. STANDARDS AND CODES Provide the fire protection system conforming to APPLICABLE CRITERIA.

5.10.2. Inspect and test all fire suppression equipment and systems, fire pumps, fire alarm and detection systems and mass notification systems in accordance with the applicable NFPA standards. The fire protection engineer of record shall witness final tests. The fire protection engineer of record shall certify that the equipment and systems are fully operational and meet the contract requirements. Two weeks prior to each final test, the contractor shall notify, in writing, the installation fire department and the installation public work representative of the test and invite them to witness the test.

5.10.3. Fire Extinguisher Cabinets: Provide fire extinguisher cabinets and locations for hanging portable fire extinguishers in accordance with NFPA 10 Standard for Portable Fire Extinguishers.

5.10.4. Fire alarm and detection system: Required fire alarm and detection systems shall be the addressable type. Fire alarm initiating devices, such as smoke detectors, heat detectors and manual pull stations shall be addressable. When the system is in alarm condition, the system shall annunciate the type and location of each alarm initiating device. Sprinkler water flow alarms shall be zoned by building and by floor. Supervisory alarm initiating devices, such as valve supervisory switches, fire pump running alarm, low-air pressure on dry sprinkler system, etc. shall be zoned by type and by room location.

5.10.5. Fire Protection Engineer Qualifications: In accordance with UFC 3-600-01, FIRE PROTECTION ENGINEERING FOR FACILITIES**,** the fire protection engineer of record shall be a registered professional engineer (P.E.) who has passed the fire protection engineering written examination administered by the National Council of Examiners for Engineering and Surveys (NCEES), or a registered P.E. in a related engineering discipline with a minimum of 5 years experience, dedicated to fire protection engineering that can be verified with documentation.

5.11. SUSTAINABLE DESIGN

5.11.1. STANDARDS AND CODES: Sustainable design shall conform to APPLICABLE CRITERIA. See paragraph 6, PROJECT-SPECIFIC REQUIREMENTS for which version of LEED applies to this project. The LEED-NC Application Guide for Multiple Buildings and On-Campus Building Projects (AGMBC) applies to all projects. Averaging may be used for LEED compliance as permitted by the AGMBC but is restricted to only those buildings included in this project. Each building must individually comply with the requirements of paragraphs ENERGY CONSERVATION and BUILDING WATER USE REDUCTION.

5.11.2. LEED RATING, REGISTRATION, VALIDATION AND CERTIFICATION: See Paragraph PROJECT-SPECIFIC REQUIREMENTS for project minimum LEED rating/achievement level, for facilities that are exempt from the minimum LEED rating, for LEED registration and LEED certification requirements and for other project-specific information and requirements.

5.11.2.1. Innovation and Design Credits. LEED Innovation and Design (ID) credits are acceptable only if they are supported by formal written approval by GBCI (either published in USGBC Innovation and Design Credit Catalog or accompanied by a formal ruling from GBCI). LEED ID credits that require any Owner actions or commitments are acceptable only when Owner commitment is indicated in paragraph PROJECT-SPECIFIC REQUIREMENTS or Appendix LEED Project Credit Guidance

5.11.3. OPTIMIZE ENERGY PERFORMANCE. : Project must earn, as a minimum, the points associated with compliance with paragraph ENERGY CONSERVATION. LEED documentation differs from documentation

SAMPLE

requirements for paragraph ENERGY CONSERVATION and both must be provided. For LEED-NC v2.2 projects you may substitute ASHRAE 90.1 2007 Appendix G in its entirety for ASHRAE 90.1 2004 in accordance with USGBC Credit Interpretation Ruling dated 4/23/2008.

5.11.4. COMMISSIONING. See paragraph 5.8.5 COMMISSIONING for commissioning requirements. USACE templates for the required Basis of Design document and Commissioning Plan documents are available at http://en.sas.usace.army.mil (click on Engineering Criteria) and may be used at Contractor's option.

5.11.5. DAYLIGHTING. Except where precluded by other project requirements, do the following in at least 75 percent of all spaces occupied for critical visual tasks: achieve a 2 percent glazing factor (calculated in accordance with LEED credit EQ8.1) OR earn LEED Daylighting credit, provide appropriate glare control and provide either automatic dimming controls or occupant-accessible manual lighting controls.

5.11.6. LOW-EMITTING MATERIALS. Except where precluded by other project requirements, use materials with low pollutant emissions, including but not limited to composite wood products, adhesives, sealants, interior paints and finishes, carpet systems and furnishings,

5.11.7. CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT. Except where precluded by other project requirements, earn LEED credit EQ 3.1 Construction IAQ Management Plan, During Construction and credit EQ 3.2 Construction IAQ Management Plan, Before Occupancy.

5.11.8. RECYCLED CONTENT. In addition to complying with section RECYCLED/RECOVERED MATERIALS, earn LEED credit MR4.1, Recycled Content, 10 percent except where precluded by other project requirements.

5.11.9. BIOBASED AND ENVIRONMENTALLY PREFERABLE PRODUCTS. Except where precluded by other project requirements, use materials with biobased content, materials with rapidly renewable content, FSC certified wood products and products that have a lesser or reduced effect on human health and the environment over their lifecycle to the maximum extent practicable.

5.11.10. FEDERAL BIOBASED PRODUCTS PREFERRED PROCUREMENT PROGRAM (FB4P). The Farm Security and Rural Investment Act (FSRIA) of 2002 required the U.S. Department of Agriculture (USDA) to create procurement preferences for biobased products that are applicable to all federal procurement (to designate products for biobased content). For all designated products that are used in this project, meet USDA biobased content rules for them except use of a designated product with USDA biobased content is not required if the biobased product (a) is not available within a reasonable time, (b) fails to meet performance standard or (c) is available only at an unreasonable price. For biobased content product designations, see http://www.biopreferred.gov/ProposedAndFinalItemDesignations.aspx.***<MRC2>***

5.12. CONSTRUCTION AND DEMOLITION (C&D) WASTE MANAGEMENT: Achievement of 50% diversion, by weight, of all non-hazardous C&D waste debris is required. Reuse of excess soils, recycling of vegetation, alternative daily cover, and wood to energy are not considered diversion in this context, however the Contractor must tracked and report it. A waste management plan and waste diversion reports are required, as detailed in Section 01 57 20.00 10, ENVIRONMENTAL PROTECTION. ***</MRC2><MRC2_NOT>***

Comment [sdn3]: [NOTE TO SPECIFIER: IF IT IS DETERMINED, JUSTIFIED, AND DOCUMENTED BY THE PDT THAT 50% WASTE DIVERSION IS NOT ECONOMICALLY FEASIBLE OR SIGNIFICANTLY IMPACTS REQUIRED COMPLETION DATE, THE PDT WILL USE ALTERNATE PARAGRAPH 5.12, WITH THE CALCULATED MAXIMUM FEASIBLE DIVERSION RATE NOTED.]

5.12. CONSTRUCTION AND DEMOLITION (C&D) WASTE MANAGEMENT: Achievement of «DIVERSION»% diversion, by weight, of all non-hazardous C&D waste debris is required, however, 50% or better is highly preferred. Reuse of excess soils, recycling of vegetation, alternative daily cover, and wood to energy are not considered diversion in this context, however the Contractor must track and report it. A waste management plan and waste diversion reports are required, as detailed in Section 01 57 20.00 10, ENVIRONMENTAL PROTECTION. ***</MRC2_NOT>***

Comment [sdn4]: [Alternate selection when the installation obtains a waiver from the mandatory 50% waste reduction requirement:]

5.13. SECURITY (ANTI-TERRORISM STANDARDS): Unless otherwise specified in Project Specific Requirements, only the minimum protective measures as specified by the current Department of Defense Minimum Antiterrorism Standards for Buildings, UFC 4-010-01, are required for this project. The element of those standards that has the most significant impact on project planning is providing protection against explosives effects. That protection can either be achieved using conventional construction (including specific window requirements) in conjunction with establishing relatively large standoff distances to parking, roadways, and installation perimeters or through building hardening, which will allow lesser standoff distances. Even with the latter, the minimum standoff distances cannot be encroached upon. These setbacks will establish the maximum

SAMPLE

buildable area. All standards in Appendix B of UFC 4-010-01 must be followed and as many of the recommendations in Appendix C that can reasonably be accommodated should be included. The facility requirements listed in these specifications assume that the minimum standoff distances can be met, permitting conventional construction. Lesser standoff distances (with specific minimums) are not desired, however can be provided, but will require structural hardening for the building. See Project Specific Requirements for project specific siting constraints. The following list highlights the major points but the detailed requirements as presented in Appendix B of UFC 4-010-01 must be followed.

(a) Standoff distance from roads, parking and installation perimeter; and/or structural blast mitigation

(b) Blast resistant windows and skylights, including glazing, frames, anchors, and supports

(c) Progressive collapse resistance for all facilities 3 stories or higher

(d) Mass notification system (shall also conform to UFC 4-021-01, Mass Notification Systems)

(e) For facilities with mailrooms (see paragraph 3 for applicability) – mailrooms have separate HVAC systems and are sealed from rest of building

<IDIQ>End of Section 01 11 00***</IDIQ>***

SAMPLE

6.0 PROJECT SPECIFIC REQUIREMENTS <VER>(REV 2.9 – 31 MAR 2010)</VER>

6.1. GENERAL

The requirements of this paragraph augment the requirements indicated in Paragraphs 3 through 5.

6.2. APPROVED DEVIATIONS

The following are approved deviations from the requirements stated in Paragraphs 3 through 5 that only apply to this project.

«DEVIATIONS»

6.3. SITE PLANNING AND DESIGN

6.3.1. General:

«SITE_PLANNING»

6.3.2. Site Structures and Amenities

«SITE_STRUCTURES_AMENITIES»

6.3.3. Site Functional Requirements:

6.3.3.1. Stormwater Management (SWM) Systems.

«STORMWATER_MANAGEMENT»

6.3.3.2. Erosion and Sediment Control

«EROSION_CONTROL»

6.3.3.3. Vehicular Circulation.

«VEHICULAR_CIRCULATION»

6.4. SITE ENGINEERING

6.4.1. Existing Topographical Conditions

«SITE_EXIST_TOPO»

6.4.2. Existing Geotechnical conditions: See Appendix A for a preliminary geotechnical report.

«SITE_EXIST_GEO»

6.4.3. Fire Flow Tests See Appendix D for results of fire flow tests to use for basis of design for fire flow and domestic water supply requirements.

«SITE_FIREFLOW»

6.4.4. Pavement Engineering and Traffic Estimates:

«SITE_PAVEMENT_ENGINEERING_AND_TRAFFIC»

6.4.5. Traffic Signage and Pavement Markings

Comment [sdn1]: NOTE TO SPECIFIER: Describe the performance requirements for roadways, parking and other pavements, including classification, vehicle types, loadings, design volume, climatic conditions, frost penetration Zones, etc.

SAMPLE

«SITE_TRAFFIC_SIGNAGE»

6.4.6. Base Utility Information

«SITE_BASE»

«SITE_ELEC»

«SITE_WATER»

«SITE_SEWER»

«SITE_GAS»

«SITE_CABLE_TV»

6.4.7. Cut and Fill

Comment [sdn2]: NOTE TO SPECIFIER: DO NOT SPECIFY MINIMUM COMPACTION REQUIREMENTS. THE IBC COVERS THIS AND THE GEOTECH REPORT MUST INCLUDE THE COMPACTION REQUIREMENTS.

«SITE_CUT»

6.4.8. Borrow Material

Comment [sdn3]: NOTE TO SPECIFIER: DESCRIBE SOURCES OF ACCEPTABLE BORROW, OR STATE THAT NO BORROW IS AVAILABLE ON THE INSTALLATION, ETC.

«BORROW_MATERIAL»

6.4.9. Haul Routes and Staging Areas

«SITE_HAUL_ROUTES»

6.4.10. Clearing and Grubbing:

«SITE_CLEAR_GRUB»

6.4.11. Landscaping:

«LANDSCAPING»

6.4.12. Turf:

«TURF»

6.5. ARCHITECTURE

6.5.1. General: To the maximum extent possible within the contract cost limitation, the buildings shall conform to the look and feel of the architectural style and shall use the same colors as adjacent facilities as expressed herein ***<IMCOM_APPROVED>***and shall conform with the «INSTALLATION_NAME»'s Real Property Master Plan***</IMCOM_APPROVED>***. The Government will evaluate the extent to which the proposal is compatible with the architectural theme expressed in the RFP during the contract or task order competition. The first priority in order of importance is that the design provides comparable building mass, size, height, and configuration compared to the architectural theme expressed herein. The second priority is that design is providing compatible exterior skin appearance based upon façade, architectural character (period or style), exterior detailing, matching nearby and installation material/color pallets, as described herein.

6.5.2. **Design**

6.5.2.1. Appendix F is provided "For Information Only", to establish the desired site and architectural themes for the area. Appendix F identifies the desired project look and feel based on **«INSTALLATION_NAME»'s** Installation Architectural Theme from existing and proposed adjacent building forms; i.e. building exterior skin,

SAMPLE

roof lines, delineation of entrances, proportions of fenestration in relation to elevations, shade and shadow effects, materials, textures, exterior color schemes, and organizational layout.

6.5.2.2. The design should address «INSTALLATION_NAME»'s identified preferences. Implement these preferences considering the following:

(a) Achievable within the Construction Contract Cost Limitation (CCL)

(b) Meets Milestones within Maximum Performance Duration.

(c) Achieves Full Scope indentified in this Solicitation

(d) Best Life-Cycle Cost Design

(e) Meets the Specified Sustainable Design and LEED requirements

(f) Complies with Energy Conservation Requirements Specified in this RFP.

6.5.2.3. Priority #1. Visual Compatibility: Facility Massing (Size, Height, Spacing, Architectural Theme, etc.) Exterior Aesthetic Considerations: The buildings massing, exterior functional aesthetics, and character shall create a comprehensive and harmonious blend of design features that are sympathetic to the style and context of the Installation. The Installation's intent for this area is:

«THEME_DESCRIPTION»

6.5.2.4. Priority #2. Architectural Compatibility: Exterior Design Elements (Materials, Style, Construction Details, etc.) Roofs, Exterior Skin, and Windows & Door Fenestrations should promote a visually appealing compatibility with the desired character while not sacrificing the integrity and technical competency of building systems.

6.5.2.5. See Appendix F for exterior colors that apply to Architectural character at «INSTALLATION_NAME». The manufacturers and materials referenced are intended to establish color only, and are not intended to limit manufacturers and material selections.

6.5.2.6. Additional architectural requirements:

(a) Install fall protection anchor points on all roofs with a slope greater than 2:12

«ARCHITECTURE»

6.5.3. ***<UEPH>***Not Used***</UEPH><UEPH_NO>***Programmable Electronic Key Card Access Systems:

«PROGRAMMABLE_KEY_CARD»***</UEPH_NO>***

6.5.4. INTERIOR DESIGN

«INTERIORS»

Interior building signage requirements:

«INTERIOR_SIGNAGE»

6.6. STRUCTURAL DESIGN

«STRUCT_DESIGN»

6.7. THERMAL PERFORMANCE

«THERMAL_PERFORMANCE»

6.8. PLUMBING

Comment [sdn4]: NOTE TO SPECIFIER: For non-UEPH type facilities only. If the installation has information on brand names of existing key card access system, identify here and coordinate with paragraph 3. For UEPH type Facilities NOT USED

Comment [sdn5]: NOTE TO SPECIFIER: PROVIDE SITE SPECIFIC STRUCTURAL LOADING DATA FROM UFC 3-310-01.

SAMPLE

«PLUMBING»

6.9. SITE ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

«SITE_ELECTRICAL»

«SITE_TELECOM»

6.10. FACILITY ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

«FACILITY_ELECTRICAL»

«FACILITY_TELECOM»

6.11. HEATING, VENTILATING, AND AIR CONDITIONING

«HVAC»

<INTEGRATE>Integrate the control system to the installation's existing UMCS. The existing UMCS is «UMCS_DESCRIPTION»***</INTEGRATE>***

<LNS>Integrate the control system to the installation's existing UMCS. The existing UMCS is «UMCS_DESCRIPTION»***</LNS>***

<UMCS>Provide M&C Software with a license for no less than «M&C_LICNUM» clients

Provide M&C Software with a license for no less than «M&C_POINTNUM» points. ***</UMCS>***

6.12. ENERGY CONSERVATION

6.12.1. General

«ENERGY_CONSERVATION»

6.12.2. Inclusion of Renewable Energy Features. The following renewable energy features have been determined lifecycle cost effective, are included in the project budget and shall be provided:

«RENEWABLE_ENERGY_FEATURES»

6.13. FIRE PROTECTION

«FIRE_PROTECTION»

6.14. SUSTAINABLE DESIGN

6.14.1. LEED Rating Tool Version. This project shall be executed using «LEED_VERSION».

6.14.2. ***<ONLY_EXEMPT>***LEED Minimum Rating. This project includes no facilities that are required to achieve a specific LEED achievement level. Project shall achieve and document all points required by other portions of the RFP and all points that are feasible, but there is no minimum required LEED achievement level.***</ONLY_EXEMPT><NOT_ONLY_EXEMPT>*** The minimum requirement for this project is to achieve LEED «LEED_MIN» level. Each non-exempt facility (building plus sitework) must achieve this level. In addition to any facilities indicated as exempt in paragraph 3, the following facilities are exempt from the minimum LEED achievement requirement: «SD_EXEMPT_FACILITIES».***</NOT_ONLY_EXEMPT>***

6.14.3. ***<SINGLECO>***Credit Validation: LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the

Comment [sdn6]: [LEED-NC Version 2.2][LEED-NC Version 3][*text block for other to be filled in by specifier*]

Comment [sdn7]: [Silver][Gold][Platinum]

Comment [sdn8]: Select paragraph below if the project includes COS standard design buildings and a single contractor is doing all buildings and site work in the project. Edit for either Contractor or Government fees and administration (PDT choice). Registration is required.

SAMPLE

«ADMIN_PERFORMED_BY». *<USGBC>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is required. The Contractor will obtain LEED certification prior to project closeout. Application, payment of certification of fees and all coordination with USGBC during the certification process will be by the Contractor. GBCI interim review of design phase data is not required by the Government but is recommended. Government validation during project execution does not relieve or modify in any way the Contractor's responsibility to satisfy all requirements for certification as defined by LEED and GBCI. Contractor is not responsible for design phase LEED documentation of any unaltered portion of the design that is accomplished by others. If the project includes unaltered complete design by others, during the certification process Contractor will coordinate all GBCI comments on LEED credits that fall outside Contractor's scope of responsibility with the Government for coordination with the Designer of Record, and Contractor will not be penalized if project fails to achieve certification at the minimum required level due to loss of credits that are the responsibility of others.*</USGBC><USGBC_NO>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with the GBCI and the Contractor will furnish audit data as requested at no additional cost.*</USGBC_NO>
*</SINGLECO><SITE_BLDGOTHER>*Credit Validation: The project is the site work *<ADDITIONAL>*and building(s)*</ADDITIONAL>* portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be *<ADMINGOV>*by the Government*</ADMINGOV><ADMINSHARED>*shared between the Contractor and the Government per Appendix LEED Requirements for Multiple Contractor Combined Projects*</ADMINSHARED>*. *<ADMINCONTRACTOR>*Administration/team management of the online project will be by the Contractor per Appendix LEED Requirements for Multiple Contractor Combined Projects. *</ADMINCONTRACTOR>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</SITE_BLDGOTHER><STDANDSITE>*Credit Validation: The project is a standard design building(s) portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». See Appendix LEED Requirements for Multiple Contractor Combined Projects for information about registered standard designs. Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</STDANDSITE><NSTDMULTI>*Credit Validation: The project is a non-standard design building(s) portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</NSTDMULTI><ONLY_EXEMPT>*Credit Validation: LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is *<CREDIT_NO>*not required. Contractor has the option to register the project, compiling of documentation at LEED OnLine and use the LEED Letter Templates. In this case, payment of registration fees and administration/team management of the online project will be by the Contractor.*</CREDIT_NO><CREDIT>*required. Registration and payment of fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». *</CREDIT></ONLY_EXEMPT>*

6.14.4. Commissioning: See Appendix M for Owner's Project Requirements document(s).

6.14.5. LEED Credits Coordination. The following information is provided relative to Sustainable Sites and other credits. *<MULTI_NOT>*

SS Credit 1 Site Selection:

Project site **«FARMLAND»** considered prime farmland.

Comment [sdn9]: Select paragraph below if the project includes the site work for COS standard design buildings by others. Include bracketed text in first sentence as applicable if project also includes standard design and/or non-standard design buildings in addition to site work for COS buildings by others. Registration and fees may be either by Contractor or Government (PDT choice). Administration may be by Government or shared - Contractor administers until construction phase, when Government must take over administration in order to compile and summarize data from the other contractors (PDT choice).

Comment [sdn10]: Select paragraph below if the project includes COS standard design building(s) only and site work is by others. If only a single contractor will ever be working on all the projects for a particular standard design, the COS may require the Contractor to register the standard design as part of the initial project and administer the online standard design on all subsequent projects. If multiple contractors will be working on projects for a particular standard design, registration and administration must be by the Government (COS).

Comment [sdn11]: Select paragraph below if the project includes non-standard design building(s) only and site work and COS standard design buildings are by others. Edit for either Contractor or Government fees and administration (PDT choice).

Comment [sdn12]: Select paragraph below if the project ONLY has exempt facilities and is not required to achieve LEED Silver.

Comment [sdn13]: Attach Owner Project Requirements (OPR) document for each climate controlled facility/facility type in the project. Obtain OPR for Standard Designs from COS. Develop OPR for each non-standard facility using USACE template at http://en.sas.usace.army.mil. Refer to SOW whenever possible in this document to avoid conflict with SOW.

Comment [sdn14]: If site work and building(s) are by separate contractors, this is a MULTIPLE CONTRACTOR COMBINED PROJECT and you should skip to the MR2 section (edit to indicate whether buildings or site is by others and identify the buildings by others).

SAMPLE

*<FLOOD1>*Project site is five feet or more above 100-year flood elevation.*</FLOOD1><FLOOD2>*Delineation of 100-year flood elevation is shown on site drawings provided in this CONTRACT.*</FLOOD2>*

*<HABITAT1>*Project site contains no habitat for threatened or endangered species.*</HABITAT1><HABITAT2>*Delineation of threatened or endangered species habitat is shown on site drawings provided in this CONTRACT.*</HABITAT2>*

*<WETLAND1>*No portion of project site lies within 100 feet of any water, wetlands or areas of special concern.*</WETLAND1><WETLAND2>*Delineation of water, wetlands and areas of special concern is shown on site drawings provided in this CONTRACT.*</WETLAND2>*

Project site **«PARKLAND»** previously used as public parkland.

SS Credit 2 Development Density & Community Connectivity.

Project site **«DENSITY»** meets the criteria for this credit.

SS Credit 3 Brownfield Redevelopment.

Project site **«BROWN»** meets the criteria for this credit.

SS Credit 4.1 Public Transportation Access.

Project site **«TRANS»** meets the criteria for this credit.

EA Credit 6 Green Power.

35% of the project's electricity **«GREEN»** will be provided through an Installation renewable energy contract. Do not purchase Renewable Energy Credits (REC's) to earn this credit.

*</MULTI_NOT>***MR Credit 2 Construction Waste Management.**

The Installation *<DOESNOT>*does not have an on-post recycling facility available for Contractor's use.*</DOESNOT><DOES>*has an on-post recycling facility.*</DOES> <CONTACT_KNOWN>*Contact «CONSTRUCTION_WASTE_CONTACT» for information about materials accepted.*</CONTACT_KNOWN><LEED3>*

Regional Priority Credits (Version 3 only)

The project zip code is «ZIP_CODE».*</LEED3>*

*<MULTIPLE>*See LEED Multiple Contractor Responsibilities Table(s) for additional information.*</MULTIPLE>*

6.14.6. LEED Credit Preferences, Guidance and Resources. See Appendix L LEED Project Credit Guidance for supplemental information relating to individual credits.

6.14.7. *<MULTI_NOT>*Not Used*</MULTI_NOT><MULTIPLE>*Multiple Contractor Combined Project. When site work and building(s) are accomplished by separate contractors, it is a Multiple Contractor Combined Project for purposes of LEED scoring and documentation. This project is part of a Multiple Contractor Combined Project that includes site work and building(s) accomplished by separate contractors. See Appendix LEED Requirements for Multiple Contractor Combined Projects and Appendix LEED Multiple Contractor Responsibilities Table(s) for special requirements for this project.*</MULTIPLE>*

6.14.8. Additional Information

«MR2»

6.15. ENVIRONMENTAL

Comment [sdn15]: If site work and building(s) are accomplished by separate contractors, identify the project as a Combined Project

If site work and building(s) are accomplished by separate contractors, include general instructions on how LEED is handled for Combined Projects (standard text appendix LEED Requirements for Multiple Contractor Combined Projects), (STANDARD APPENDIX "N" IN WIZARD)

If site work and building(s) are accomplished by separate contractors, include LEED Strategy Tables (STANDARD APPENDIX "O" IN WIZARD), which indicate the status of site selection points, establish the number of points each contractor must earn relative to each building, and establish each contractor's requirements for shared building/site points.

If site work and building(s) are by separate contractors, add the MULTIPLE CONTRACTOR COMBINED PROJECT paragraph below.

Comment [sdn16]: Indicate here all project-specific differences from the default assumptions in Appendix L. For Multiple Contractor Combined Projects, describe here the other contacts and buildings in the combined project.

SAMPLE

«ENVIRONMENTAL»

6.16. PERMITS

«PERMITS»

6.17. DEMOLITION

«DEMOLITION»

6.18. ADDITIONAL FACILITIES

«ADDITIONAL_FACILITIES»

End of Section 01 10 00*<TO>*.«TONUM»*</TO>*

SAMPLE

SECTION 01 33 00*<TO>*.«TONUM»*</TO>*
<VER>REV 1.4 - 30 APR 2010***</VER>***

SUBMITTAL PROCEDURES
(DESIGN-BUILD TASK ORDERS)

1.0 GENERAL

1.13. GOVERNMENT APPROVED OR CONCURRED WITH SUBMITTALS

~~1.13.~~1.14. INFORMATION ONLY SUBMITTALS

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1.0 GENERAL

1.1.1. This section contains requirements specifically applicable to this task order. The requirements of Base ID/IQ contract Section 01 33 30 apply to this task order, except as otherwise specified herein.

1.13. GOVERNMENT APPROVED OR CONCURRED WITH SUBMITTALS

Upon completion of review of submittals requiring Government approval or concurrence, the Government will stamp and date the submittals as approved or concurred. The Government will retain «RETAIN_SUBMITTALS» copies of the submittal and return «RETURN_SUBMITTALS» copy(ies) of the submittal.

1.14. INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. 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; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. The Government will retain «FIO_SUBMITTALS» copies of information only submittals.

End of Section 01 33 00***<TO>***.«TONUM»***</TO>***

Comment [sdn1]: ***[NOTE TO SPECIFIER: Prepare the preliminary Submittal Register, using APPENDIX R, the Excel Spreadsheet format of the RMS Input Form 4288A. The RFP will include it for the Offerors preparing task order or contract proposals. The RMS Input Form initially includes submittals required by the standardized Model RFP Division 00 and Division 01 Sections, except Section 01 10 00, paragraph 3. Examine paragraphs 3 and 6 and any other locally developed portions of the RFP for required submittals and add them to the Input Form. Do not duplicate submittals already listed in the standardized RMS Input Form, as the Contractor needs to submit this information only once. After award, the Government provides the Excel spreadsheet to the selected contractor to develop and input the RMS Input form for the submittal register required in Section 01 33 00, Submittals.]***

Comment [sdn2]: NOTE TO SPECIFIER: Fill in the number of GA or concurrence submittals to be retained by the Government and the number to be returned to the Contractor. The default is two to be retained and two to be returned.

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Comment [JHoffman3]: NOTE TO SPECIFIER: Indicate the number of For Information Only (FIO) submittals required.

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SECTION 01 33 16
*<VER>*REV 2.26 – 30 APR 2010*</VER>*

DESIGN AFTER AWARD

1.0 GENERAL INFORMATION

1.1. INTRODUCTION

1.2. DESIGNER OF RECORD

2.0 PRODUCTS (Not Applicable)

3.0 EXECUTION

3.1. PRE-WORK ACTIVIES & CONFERENCES

3.1.1. Design Quality Control Plan

3.1.2. Post Award Conference

3.1.3. Partnering & Project Progress Processes

3.1.4. Initial Design Conference

3.1.5. Pre-Construction Conference

3.2. STAGES OF DESIGN SUBMITTALS AND OVER THE SHOULDER PROGRESS REVIEWS

3.2.1. Site/Utilities

3.2.2. Interim Design Submittals

3.2.3. Over-the-Shoulder Progress Reviews

3.2.4. Final Design Submissions

3.2.5. Design Complete Submittals

3.2.6. Holiday Periods for Government Review or Actions

3.2.7. Late Submittals and Reviews

3.3. DESIGN CONFIGURATION MANAGEMENT

3.3.1. Procedures

3.3.2. Tracking Design Review Comments

3.3.3. Design and Code Checklists

3.4. INTERIM DESIGN REVIEWS AND CONFERENCES

3.4.1. General

3.4.2. Procedures

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3.4.3. Conference Documentation

3.5. INTERIM DESIGN REQUIREMENTS

3.5.1. Drawings

3.5.2. Design Analyses

3.5.3. Geotechnical Investigations and Reports

3.5.4. LEED Documentation

3.5.5. Energy Conservation

3.5.6. Specifications

3.5.7. Building Rendering

3.5.8. Interim Building Design Contents

3.6. FINAL DESIGN REVIEWS AND CONFERENCES

3.7. FINAL DESIGN REQUIREMENTS

3.7.1. Drawings

3.7.2. Design Analysis

3.7.3. Specifications

3.7.4. Submittal Register

3.7.5. Preparation of DD Form 1354 (Transfer of Real Property)

3.7.6. Acceptance and Release for Construction

3.8. DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

3.9. SUBMITTAL DISTRIBUTION, MEDIA AND QUANTITIES

3.9.1. Submittal Distribution and Quantities

3.9.2. Web based Design Submittals

3.9.3. Mailing of Design Submittals

3.10. AS-BUILT DOCUMENTS

ATTACHMENT A STRUCTURAL INTERIOR DESIGN (SID) REQUIREMENTS

ATTACHMENT B *<UEPH>*NOT USED*</UEPH><UEPH_NOT>*FURNITURE, FIXTURES AND EQUIPMENT REQUIREMENTS*</UEPH_NOT>*

ATTACHMENT C TRACKING COMMENTS IN DRCHECKS

ATTACHMENT D SAMPLE FIRE PROTECTION AND LIFE SAFETY CODE REVIEW

ATTACHMENT E LEED SUBMITTALS

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ATTACHMENT F BUILDING INFORMATION MODELING REQUIREMENTS

ATTACHMENT G DESIGN SUBMITTAL DIRECTORY AND SUBDIRECTORY FILE ARRANGEMENT

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1.0 GENERAL INFORMATION

1.1. INTRODUCTION

1.1.1. The information contained in this section applies to the design required after award. After award, the Contractor will develop the accepted proposal into the completed design, as described herein.

1.1.2. The Contractor may elect to fast track the design and construction that is, proceed with construction of parts of the sitework and facilities prior to completion of the overall design. To facilitate fast tracking, the Contractor may elect to divide the design into no more than ten (10) design packages per major facility type and no more than three (3) design packages for site and associated work. Designate how it will package the design, consistent with its overall plan for permitting (where applicable) and construction of the project. See Sections 01 33 00 SUBMITTAL PROCEDURES and 01 32 01.00 10 PROJECT SCHEDULE for requirements for identifying and scheduling the design packaging plan in the submittal register and project schedule. See also Sections 01 10 00 STATEMENT OF WORK and 01 57 20.00 10 ENVIRONMENTAL PROTECTION for any specified permit requirements. If early procurement of long-lead item construction materials or installed equipment, prior to completion of the associated design package, is necessary to facilitate the project schedule, also identify those long-lead items and how it will assure design integrity of the associated design package to meet the contract requirements (The Contract consists of the Solicitation requirements and the accepted proposal). Once the Government is satisfied that the long-lead items meet the contract requirements, the Contracting Officer will allow the Contractor to procure the items at its own risk.

1.1.3. The Contractor may proceed with the construction work included in a separate design package after the Government has reviewed the final (100%) design submission for that package, review comments have been addressed and resolved to the Government's satisfaction and the Contracting Officer (or the Administrative Contracting Officer) has agreed that the design package may be released for construction.

1.1.4. INTEGRATED DESIGN. To the maximum extent permitted for this project, use a collaborative, integrated design process for all stages of project delivery with comprehensive performance goals for siting, energy, water, materials and indoor environmental quality and ensures incorporation of these goals. Consider all stages of the building lifecycle, including deconstruction.

1.2. DESIGNER OF RECORD

Identify, for approval, the Designer of Record ("DOR") that will be responsible for each area of design. One DOR may be responsible for more than one area. Listed, Professional Registered, DOR(s) shall account for all areas of design disciplines shall be accounted for by a listed. The DOR's shall stamp, sign, and date each design drawing and other design deliverables under their responsible discipline at each design submittal stage (see contract clause Registration of Designers). If the deliverables are not ready for release for construction, identify them as "preliminary" or "not for release for construction" or by using some other appropriate designation. The DOR(s) shall also be 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 designer responsibilities.

2.0 PRODUCTS (Not Applicable)

3.0 EXECUTION

3.1. PRE-WORK ACTIVITIES & CONFERENCES

3.1.1. Design Quality Control Plan

Submit for Government acceptance, a Design Quality Control Plan in accordance with Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL before design may proceed.

3.1.2. Post Award Conference

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3.1.2.1. The government will conduct a post award contract administration conference at the project site, as soon as possible after contract award. This will be coordinated with issuance of the contract notice to proceed (NTP). The Contractor and major sub-contractor representatives shall participate. All designers need not attend this first meeting. Government representatives will include COE project delivery team members, facility users, facility command representatives, and installation representatives. The Government will provide an agenda, meeting goals, meeting place, and meeting time to participants prior to the meeting.

3.1.2.2. The post award conference shall include determination and introduction of contact persons, their authorities, contract administration requirements, discussion of expected project progress processes, and coordination of subsequent meetings for quality control (see Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL), Partnering (see below and SCR: Partnering), and the initial design conference (see below).

3.1.2.3. The government will introduce COE project delivery team members, facility users, facility command representatives, and installation representatives. The DB Contractor shall introduce major subcontractors, and other needed staff. Expectations and duties of each person shall be defined for all participants. A meeting roster shall be developed and distributed by the government with complete contact information including name, office, project role, phone, mailing and physical address, and email address.

3.1.3. Partnering & Project Progress Processes

3.1.3.1. The initial Partnering conference may be scheduled and conducted at any time with or following the post award conference. The Government proposes to form a partnership with the DB Contractor to develop a cohesive building team. This partnership will involve the COE project delivery team members, facility users, facility command representatives, installation representatives, Designers of Record, major subcontractors, contractor quality control staff, and contractor construction management staff. This partnership will strive to develop a cooperative management team drawing on the strengths of each team member in an effort to achieve a quality project within budget and on schedule. This partnership will be bilateral in membership and participation will be totally voluntary. All costs, excluding labor and travel expenses, shall be shared equally between the Government and the Contractor. The Contractor and Government shall be responsible for their own labor and travel costs. Normally, partnering meetings will be held at or in the vicinity of the project installation.

3.1.3.2. As part of the partnering process, the Government and Contractor shall develop, establish, and agree to comprehensive design development processes including conduct of conferences, expectations of design development at conferences, fast-tracking, design acceptance, Structural Interior Design (SID)/ Furniture, Fixtures & Equipment (FF&E) design approval, project closeout, etc. The government will explain contract requirements and the DB Contractor shall review their proposed project schedule and suggest ways to streamline processes.

3.1.4. Initial Design Conference

The initial design conference may be scheduled and conducted at the project installation any time after the post award conference, although it is recommended that the partnering process be initiated with or before the initial design conference. Any design work conducted after award and prior to this conference should be limited to site and is discouraged for other items. All Designers of Record shall participate in the conference. The purpose of the meeting is to introduce everyone and to make sure any needs the contractor has are assigned and due dates established as well as who will get the information. See also Attachment F, BUILDING INFORMATION MODELING REQUIREMENTS for discussion concerning the BIM Implementation Plan demonstration at this meeting. The DB Contractor shall conduct the initial design conference.

3.1.5. Pre-Construction Conference

Before starting construction activities, the Contractor and Government will jointly conduct a pre-construction administrative conference to discuss any outstanding requirements and to review local installation requirements for start of construction. It is possible there will be multiple Pre-Construction Conferences based on the content of the design packages selected by the Contractor. The Government will provide minutes of this meeting to all participants.

3.2. STAGES OF DESIGN SUBMITTALS AND OVER THE SHOULDER PROGRESS REVIEWS

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The stages of design submittals described below define Government expectations with respect to process and content. The Contractor shall determine how to best plan and execute the design and review process for this project, within the parameters listed below. As a minimum, the Government expects to see at least one interim design submittal, at least one final design submittal before construction of a design package may proceed and at least one Design Complete submittal that documents the accepted design. The Contractor may sub-divide the design into separate packages for each stage of design and may proceed with construction of a package after the Government accepts the final design for that package. See discussion on waivers to submission of one or more intermediate design packages where the parties partner during the design process. See also Attachment F, BUILDING INFORMATION MODELING REQUIREMENTS for discussion concerning BIM and the various stages of design submittals and over-the-shoulder progress reviews**.**

3.2.1. Site/Utilities

To facilitate fast-track design-construction activities the contractor may submit a final (100%) site and utility design as the first design submittal or it may elect to submit interim and final site and utility design submittals as explained below. Following review, resolution, and incorporation of all Government comments, and submittal of a satisfactory set of site/utility design documents, after completing all other pre-construction requirements in this contract and after the pre-construction meeting, the Government will allow the Contractor to proceed with site development activities, including demolition where applicable, within the parameters set forth in the accepted design submittal. For the first site and utility design submission, whether an interim or final, the submittal review, comment, and resolution times from this specification apply, except that the Contractor shall allow the Government a 14 calendar day review period, exclusive of mailing time. No on-site construction activities shall begin prior to written Government clearance to proceed.

3.2.2. Interim Design Submittals

The Contractor may submit either a single interim design for review, representing a complete package with all design disciplines, or split the interim design into smaller, individual design packages as it deems necessary for fast-track construction purposes. As required in Section 01 32 01.00 10 PROJECT SCHEDULE, the Contractor shall schedule its design and construction packaging plan to meet the contract completion period. This submission is the Government's primary opportunity to review the design for conformance to the solicitation and to the accepted contract proposal and to the Building Codes at a point where required revisions may be still made, while minimizing lost design effort to keep the design on track with the contract requirements. The requirements for the interim design review submittals and review conferences are described hereinafter. This is 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. See below for a waiver, where the parties establish an effective over-the-shoulder progress review procedure through the partnering process that would eliminate the need for or expedite a formal intermediate design review on one or more individual design packages.

3.2.3. Over-the-Shoulder Progress Reviews

To facilitate a streamlined design-build process, the Government and the Contractor may agree to one-on-one reviewer or small group reviews, electronically, on-line (if available within the Contractor's standard design practices) or at the Contractor's design offices or other agreed location, when practicable to the parties. The Government and Contractor will coordinate such reviews to minimize or eliminate disruptions to the design process. Any data required for these reviews shall normally be provided in electronic format, rather than in hard copy. If the Government and Contractor establish and implement an effective, mutually agreeable partnering procedure for regular (e.g., weekly) over-the shoulder review procedures that allow the Government reviewers the opportunity to keep fully informed of the progress, contents, design intent, design documentation, etc. of the design package, the Government will agree to waive or to expedite the formal intermediate design review period for that package. The Contractor shall still be required to submit the required intermediate design documentation, however the parties may agree to how that material will be provided, in lieu of a formal consolidated submission of the package. It should be noted that Government funding is extremely limited for non-local travel by design reviewers, so the maximum use of virtual teaming methods must be used. Some possible examples include electronic file sharing, interactive software with on-line or telephonic conferencing, televideo conferencing, etc. The Government must still perform its Code and Contract conformance reviews, so the Contractor is encouraged to partner with the reviewers to find ways to facilitate this process and to facilitate meeting or bettering the design-build schedule. The Contractor shall maintain a fully functional configuration management system as described

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herein to track design revisions, regardless of whether or not there is a need for a formal intermediate design review. The formal intermediate review procedures shall form the contractual basis for the official schedule, in the event that the partnering process determines that the formal intermediate review process to be best suited for efficient project execution. However, the Government pledges to support and promote the partnering process to work with the Contractor to find ways to better the design schedule.

3.2.4. Final Design Submissions

This submittal is required for each design package prior to Government acceptance of that design package for construction. The requirements for the final design submittal review conferences and the Government's acceptance for start of construction are described herein after.

3.2.5. Design Complete Submittals

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 shall represent released for construction documents. The requirements for the design complete submittals are described hereinafter.

3.2.6. Holiday Periods for Government Review or Actions

Do not schedule meetings, Government reviews or responses during the last two weeks of December or other designated Government Holidays (including Friday after Thanksgiving). Exclude such dates and periods from any durations specified herein for Government actions.

3.2.7. Late Submittals and Reviews

If the Contractor cannot meet its scheduled submittal date for a design package, it must revise the proposed submittal date and notify the government in writing, at least one (1) week prior to the submittal, in order to accommodate the Government reviewers' other scheduled activities. If a design submittal is over one (1) day late in accordance with the latest revised design schedule, or if notification of a proposed design schedule change is less than seven (7) days from the anticipated design submission receipt date, the Government review period may be extended up to seven (7) days due to reviewers' schedule conflicts. If the Government is late in meeting its review commitment and the delay increases the Contractor's cost or delays completion of the project, the Suspension of Work and Defaults clauses provide the respective remedy or relief for the delay.

3.3. DESIGN CONFIGURATION MANAGEMENT

3.3.1. Procedures

Develop and maintain effective, acceptable design configuration management (DCM) procedures to control and track all revisions to the design documents after the Interim Design Submission through submission of the As-Built documents. During the design process, this will facilitate and help streamline the design and review schedule. After the final design is accepted, this process provides control of and documents revisions to the accepted design (See Special Contract Requirement: Deviating From the Accepted Design). The system shall include appropriate authorities and concurrences to authorize revisions, including documentation as to why the revision must be made. The DCM data shall be available to the Government reviewers at all times. The Contractor may use its own internal system with interactive Government concurrences, where necessary or may use the Government's "DrChecks Design Review and Checking System" (see below and Attachment C).

3.3.2. Tracking Design Review Comments

Although the Contractor may use its own internal system for overall design configuration management, the Government and the Contractor shall use the DrChecks Design Review and Checking System to initiate, respond to, resolve and track Government design compliance review comments. This system may be useful for other data which needs to be interactive or otherwise available for shared use and retrieval. See Attachment C for details on how to establish an account and set-up the DrChecks system for use on the project.

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3.3.3. Design and Code Checklists

Develop and complete various discipline-specific checklists to be used 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 04.00 10 Contractor Quality Control, Attachment D for a Sample Fire Protection and Life Safety Code review checklist and Attachment E for LEED SUBMITTALS.

3.4. INTERIM DESIGN REVIEWS AND CONFERENCES

3.4.1. General

At least one interim design submittal, review and review conference is required for each design package (except that, per paragraph 3.2.1, the Contractor may skip the interim design submission and proceed directly to final design on the sitework and utilities package). The DB Contractor may include additional interim design conferences or over-the-shoulder reviews, as needed, to assure continued government concurrence with the design work. Include the interim submittal review periods and conferences in the project schedule and indicate what part of the design work is at what percentage of completion. The required interim design conferences shall be held when interim design requirements are reached as described below. See also Paragraph: **Over-the-Shoulder Progress Reviews** for a waiver to the formal interim design review.

3.4.2. Procedures

After receipt of an Interim Design submission, allow the Government fourteen (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 or alternative review methods (e.g., over-the–shoulder or electronic file sharing), through the partnering process. For each interim design review submittal, the COR will furnish, to the Contractor, a single consolidated, validated listing of all comments from the various design sections and from other concerned agencies involved in the review process using the DrChecks Design Review and Checking System. The review will be for conformance with the technical requirements of the solicitation and the Contractor's RFP proposal. If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, he/she must clearly outline, with ample justification, the reasons for noncompliance within five (5) days after receipt of these comments in order that the comment can be resolved. Furnish disposition of all comments, in writing, through DrChecks. 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 COR in writing immediately. The Interim Review conference will be held for each design submittal at the installation. Bring the personnel that developed the design submittal to the review conference. The conference will take place the week after the receipt of the comments by the Contractor. For smaller fast-track packages that involve only a few reviewers, the parties may agree to alternative conferencing methods, such as teleconferencing, or televideo, where available, as determined through Partnering.

3.4.3. Conference Documentation

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

3.4.3.2. The DB Contractor shall prepare meeting minutes and enter final resolution of all comments into DrChecks. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the conference adjourns. Unresolved problems will be resolved by immediate follow-on action at the end of conferences. Incorporate valid comments. The Government reserves the right to reject design document submittals if comments are significant. Participants shall determine if any comments are critical enough to require further design development prior to government concurrence. Participants shall also determine how to proceed in order to obtain government concurrence with the design work presented.

3.5. INTERIM DESIGN REQUIREMENTS

Interim design deliverables shall include drawings, specifications, and design analysis for the part of design that the Contractor considers ready for review.

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3.5.1. Drawings

Include comments from any previous design conferences incorporated into the documents to provide an interim design for the “part” submitted.

3.5.2. Design Analyses

3.5.2.1. The designers of record shall prepare and present design analyses with calculations necessary to substantiate and support all design documents submitted. Address design substantiation required by the applicable codes and references and pay particular attention to the following listed items:

3.5.2.2. For parts including sitework, include site specific civil calculations.

3.5.2.3. For parts including structural work, include structural calculations.

(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) Provide calculations for all principal roof, floor, and foundation members and bracing and secondary members.

(d) Provide complete seismic analyses for all building structural, mechanical, electrical, architectural, and building features as dictated by the seismic zone for which the facility is being constructed.

(e) Computer generated calculations must identify the program name, source, and version. Provide input data, including loads, loading diagrams, node diagrams, and adequate documentation to illustrate the design. The schematic models used for input must show, as a minimum, nodes/joints, element/members, materials/properties, and all loadings, induced settlements/deflections, etc., and a list of load combinations. Include an output listing for maximum/minimum stresses/forces and deflections for each element and the reactions for each loading case and combination.

(f) See also the Security (Anti-Terrorism) requirements below for members subject to Anti-Terrorist Force Protection (ATFP) and Progressive Collapse requirements.

(g) 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.

3.5.2.4. For Security (Anti-Terrorism): 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). 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. For 3 story and higher buildings, provide calculations to demonstrate compliance with progressive collapse requirements.

3.5.2.5. For parts including architectural work, include building floor area analysis.

3.5.2.6. For parts including mechanical work, include HVAC analysis and calculations. Include 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. Contractor shall employ commercially available energy analysis techniques to determine the energy performance of all passive systems and features. Use of hourly energy load computer simulation is required (see paragraph 3.5.5.2 for list of acceptable software). 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.

3.5.2.7. For parts including life safety, include building code analysis and sprinkler and other suppression systems. Notwithstanding the requirements of the Codes, address the following:

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(a) A registered fire protection engineer (FPE) must perform all fire protection analyses. Provide the fire protection engineer's qualifications. See Section 01 10 00, paragraph 5 for qualifications.

(b) Provide all references used in the design including Government design documents and industry standards used to generate the fire protection analysis.

(c) Provide classification of each building in accordance with fire zone, building floor areas and height and number of stories.

(d) Provide discussion and description of required fire protection requirements including extinguishing equipment, detection equipment, alarm equipment and water supply. Alarm and detection equipment shall interface to requirements of Electronic Systems.

(e) 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 Contractor's water flow testing done to certify the available water source.

3.5.2.8. For parts including plumbing systems:

(a) List all references used in the design.

(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, etc., as applicable.

(d) 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).

3.5.2.9. For elevator systems:

(a) List all criteria codes, documents and design conditions used.

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

3.5.2.10. For parts including electrical work, 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.

3.5.2.11. For parts including telecommunications voice/data (including SIPRNET, where applicable), include analysis for determining the number and placement of outlets

3.5.2.12. For Cathodic Protection Systems, provide the following stamped report 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. He/she must be accredited or certified by the National Association of Corrosion Engineers (NACE) as a NACE Accredited Corrosion Specialist or a NACE certified Cathodic Protection Specialist, or must be a registered professional engineer with a minimum of five years experience in corrosion control and cathodic protection. Clearly describe structures, systems or components in soil or water to be protected. Describe methods proposed for protection of each.

3.5.3. Geotechnical Investigations and Reports:

3.5.3.1. The contractor's licensed geotechnical engineer shall prepare a final geotechnical evaluation report, to be submitted along with the first foundation design submittal. Make this information available as early as possible during the over-the-shoulder progress review process. Summarize the subsurface conditions and provide recommendations for the design of appropriate utilities, foundations, floor slabs, retaining walls, embankments, and pavements. Include compaction requirements for fill and backfill under buildings, sidewalks, other structures and open areas. 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. Provide an assessment of post-construction settlement potential including total and differential. Provide recommendations

SAMPLE

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. Include calculations to support the recommendations for bearing capacity, settlement, and pavement sections. 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), etc. 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. Include pH tests, salinity tests, resistivity measurements, etc., required to design corrosion control and grounding systems. Include the raw field data. 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. Any equitable adjustment is subject to the provisions of the contract's Differing Site Conditions Clause.

3.5.3.2. Vehicle Pavements: The Contractor's geotechnical report shall contain 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. Provide Information on the types of base course materials available in the area and design strengths.

3.5.3.3. The Contractor and the professional geotechnical engineer consultant shall certify in writing that the design of the project has been developed consistent with the Contractor's final geotechnical report. The certification shall be stamped by the consulting professional geotechnical engineer and shall be submitted with the first design submission. If revisions are made to the initial design submission, a new certification shall be provided with the final design submission.

3.5.4. LEED Documentation:

Assign a LEED Accredited Professional, responsible to track LEED planning, performance and documentation for each LEED credit through construction closeout. Incorporate LEED credits in the plans, specifications and design analyses. Develop LEED supporting documentation as a separable portion of the Design Analysis and provide with each required design submittal. Include the LEED Project checklist for each non-exempt facility (one checklist may be provided for multiple facilities in accordance with the LEED-NC Application Guide for Multiple Buildings and On-Campus Building Projects and the LEED SUBMITTALS (Attachment E, herein) with each submittal. Final design submittal for each portion of the work must include all required design documentation relating to that portion of work (example - all site credit design documents with final site design). Submittal requirements are as indicated in Attachment E, LEED SUBMITTALS. Submit all documentation indicated on Attachment E as due at final design at final design submittal (for fast-track projects with multiple final design submittals, this shall be at the last scheduled final design submittal). All project documentation related to LEED shall conform to USGBC requirements for both content and format, including audit requirements and be separate from other design analyses. Maintain and update the LEED documentation throughout project progress to construction closeout and shall compile product data, receipts, calculations and other data necessary to substantiate and support all credits claimed. The Government may audit any or all individual credits. Audit documentation is not required to be submitted unless requested. These requirements apply to all projects. If the project requires the Contractor to obtain USGBC certification, the Contractor shall also be responsible for obtaining USGBC certification and shall provide written evidence of certification with the construction closeout LEED documentation submittal. Install the USGBC building plaque at the location indicated by the Government upon receipt. If Contractor obtains USGBC interim design review, submit the USGBC review to the Government within 30 days of receipt for information only.

3.5.4.1. LEED Documentation for Technology Solution Set. If the Solicitation provides a Prescriptive Technology Solution Set, use of the Technology Solution set has no effect on LEED documentation requirements. Provide all required LEED documentation, including energy analysis, in accordance with LEED requirements when using the Technology Solution Set.

3.5.5. Energy Conservation:

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3.5.5.1. Refer to Section 01 10 00, Paragraph 5. Interim and Final Design submittals shall demonstrate that each building including the building envelope, HVAC systems, service water heating, power, and lighting systems meet the Mandatory Provisions and the Prescriptive Path requirements of ASHRAE 90.1. Use Compliance Documentation forms available from ASHRAE and included in the ASHRAE 90.1 User's Manual for this purpose. The Architectural Section of the Design Analysis shall include completed forms titled "Building Envelope Compliance Documentation Parts I and II". The Heating Ventilating and Air Conditioning (HVAC) Section of the Design Analysis shall include a completed form titled "HVAC Simplified Approach Option - Part I" if this approach is allowed by the Standard. Otherwise, the HVAC Section of the Design Analysis shall include completed forms titled "HVAC Mandatory Provisions - Part II" and "HVAC Prescriptive Requirements - Part III". The Plumbing Section of the Design Analysis shall include a completed form titled "Service Water Heating Compliance Documentation". The Electrical Section of the Design Analysis shall include an explanatory statement on how the requirements of ASHRAE 90.1-2004 Chapter 8 Power were met. The Electrical Section of the Design Analysis shall also include a completed form titled "Lighting Compliance Documentation".

3.5.5.2. Interim and Final Design submittals which address energy consuming systems, (heating, cooling, service hot water, lighting, power, etc.) must also include calculations in a separate Energy Conservation Section of the Design Analysis which demonstrate and document (a) the baseline energy consumption for the facility or facilities under contract, that would meet the requirements of ANSI/ASHRAE/IESNA Standard 90.1 and (b) the energy consumption of the facility or facilities under contract utilizing the materials and methods required by this construction contract. Use the USGBC Energy and Atmosphere (EA) Credit 1 compliance template / form or an equivalently detailed form for documenting compliance with the energy reduction requirements. This template / form is titled PERFORMANCE RATING METHOD and is available when the project is registered for LEED. The calculation methodology used for this documentation and analysis shall follow the guidelines set forth in Appendix G of ASHRAE 90.1, with two exceptions: a) receptacle and process loads may be omitted from the calculation; and b) the definition of the terms in the formula for Percentage Improvement found in paragraph G1.2 are modified as follows: Baseline Building Performance shall mean the annual energy consumption calculated for a building design intended for use as a baseline for rating above standard design meeting the minimum requirements of the energy standard, and Proposed Building Performance shall mean annual energy consumption calculated for the proposed building design intended for construction. This calculation shall address all energy consuming systems in a single integrated methodology. Include laboratory fume hoods and kitchen ventilation loads in the energy calculation. They are not considered process loads. Individual calculations for heating, cooling, power, lighting, power, etc. systems will not be acceptable. The following building simulation software is acceptable for use in calculating building energy consumption: Hourly Analysis Program (HAP) by Carrier Corp., TRACE 700 by Trane Corp., DOE-2 by US Department of Energy, EnergyPlus by DOD/DOE.

3.5.6. Specifications

Specifications may be any one of the major, well known master guide specification sources (use only one source) such as MASTERSPEC from the American Institute of Architects, SPECTEXT from Construction Specification Institute or Unified Facility Guide Specifications (UFGS using MASTERFORMAT 2004 numbering system), etc. (including specifications from these sources). Manufacturers' product specifications, utilizing CSI's Manu-Spec, three part format may be used in conjunction with the selected specifications. The designers of record shall edit and expand the appropriate Specifications to insure that all project design requirements, current code requirements, and regulatory requirements are met. Specifications shall clearly identify, where appropriate, specific products chosen to meet the contract requirements (i.e., manufacturers' brand names and model numbers or similar product information).

3.5.7. Building Rendering

Present and provide a draft color computer, artist, or hand drawn rendering with the conceptual design submittal of the building exterior. Perspective renderings shall include a slightly overhead view of the entire building to encompass elevations and the roof configuration of the building. After Government review and acceptance, provide a final rendering, including the following:

Three (3) 18" x 24" color prints, framed and matted behind glass with project title underneath the print.

One (1) Image file (high resolution) in JPG format on CD for those in the submittal distribution list.

3.5.8. Interim Building Design Contents

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The following list represents what the Government considers should be included in the overall completed design for a facility or project. It is not intended to limit the contractor from providing different or additional information as needed to support the design presented, including the require design analyses discussed above. As the Contractor develops individual design packages and submits them for Interim review, include as much of the applicable information for an individual design package as is developed at the Interim design level for review purposes. These pieces shall be developed as the design progresses toward the design complete stage.

3.5.8.1. Lawn and Landscaping Irrigation System

3.5.8.2. Landscape, Planting and Turfing

3.5.8.3. Architectural

(a) Design Narrative

(b) Architectural Floor Plans, Typical Wall and Roof Sections, Elevations

(c) Finish schedule

(d) All required equipment

(e) Special graphics requirements

(f) Door and Window Schedules

(g) Hardware sets using BHMA designations

(h) Composite floor plan showing all pre-wired workstations

(i) Structural Interior Design (SID) package: See ATTACHMENT A for specific requirements

(j) Furniture, Fixtures & Equipment (FF&E) design package: See ATTACHMENT B for specific requirements

3.5.8.4. Structural Systems. Include:

(a) Drawings showing principal members for roof and floor framing plans as applicable

(b) Foundation plan showing main foundation elements where applicable

(c) Typical sections for roof, floor, and foundation conditions

3.5.8.5. Plumbing Systems

(a) Show locations and general arrangement of plumbing fixtures and major equipment

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

(c) Include equipment and fixture connection schedules with descriptions, capacities, locations, connection sizes and other information as required

3.5.8.6. HVAC Systems

(a) Mechanical Floor Plans: The floor plans shall show all principle architectural features of the building which will affect the mechanical design. The floor plans shall also show the following:

(1) Room designations.

(2) Mechanical legend and applicable notes.

(3) Location and size of all ductwork and piping.

(4) Location and capacity of all terminal units (i.e., registers, diffusers, grilles, hydronic baseboards).

(5) Pre-Fabricated Paint Spray Booth (where applicable to project scope)

(6) Paint Preparation Area (where applicable to project scope)

(7) Exhaust fans and specialized exhaust systems.

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(8) Thermostat location.

(9) «TYPE_PLANT»

(10) Location of all air handling equipment.

(11) Air balancing information.

(12) Flue size and location.

(13) Piping diagram for forced hot water system (if used).

(b) Equipment Schedule: Provide complete equipment schedules. Include:

(1) Capacity

(2) Electrical characteristics

(3) Efficiency (if applicable)

(4) Manufacturer's name

(5) Optional features to be provided

(6) Physical size

(7) Minimum maintenance clearances

(a) Details: Provide construction details, sections, elevations, etc., only where required for clarification of methods and materials of design.

(b) HVAC 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.

3.5.8.7. Fire Protection and Life Safety.

(a) Provide 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, exit passageways, etc.

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

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

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

(5) Indicate any hazardous areas and their classification

(6) 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

(b) Working plans and all other materials submitted shall meet NFPA 13 requirements, with respect to required minimum level of detail.

3.5.8.8. Elevators. Provide:

(a) Description of the proposed control system

(b) Description, approximate capacity and location of any special mechanical equipment for elevators.

3.5.8.9. Electrical Systems.

(a) Electrical Floor Plan(s): Show all principle architectural features of the building which will affect the electrical design. Show the following:

(1) Room designations.

(2) Electrical legend and applicable notes.

SAMPLE

(3) Lighting fixtures, properly identified.

(4) Switches for control of lighting.

(5) Receptacles.

(6) Location and designation of panelboards. Clearly indicate type of mounting required (flush or surface) and reflect 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.

(b) Building Riser Diagram(s) (from pad-mounted transformer to unit load center panelboard): Indicate the types and sizes of electrical equipment and wiring. Include grounding and metering requirements.

(c) Load Center Panelboard Schedule(s): Indicate the following information:

(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

(d) Lighting Fixture Schedule(s): Indicate the following information:

(1) Fixture Designation.

(2) General Fixture Description.

(3) Number and Type of Lamp(s).

(4) Type of Mounting.

(5) Special Features.

(e) Details: Provide construction details, sections, elevations, etc. only where required for clarification of methods and materials of design.

3.5.8.10. Electronic Systems including the following responsibilities:

(a) Fire Detection and Alarm System. Design shall include layout drawings for all devices and a riser diagram showing the control panel, annunciator panel, all zones, radio transmitter and interfaces to other systems (HVAC, sprinkler, etc.)

(b) Fire Suppression System Control. Specify all components of the Fire Suppression (FS) System in the FS section of the specifications. Clearly describe how the system will operate and interact with other systems such as the fire alarm system. Include a riser diagram on the drawings showing principal components and interconnections with other systems. Include FS system components on drawing legend. Designate all components shown on floor plans “FS system components” (as opposed to “Fire Alarm components”). Show location of FS control panels, HVAC control devices, sensors, and 120V power panel connections on floor plans. Indicate zoning of areas by numbers (1, 2, 3) and detectors sub-zoned for cross zoning by letter designations (A and B). Differentiate between ceiling mounted and under floor detectors with distinct symbols and indicate sub-zone of each.

(c) Public Address System

(d) Special Grounding Systems. Completely reflect all design requirements in the specifications and drawings. Specifications shall require field tests (in the construction phase), witnessed by the Government, to determine the effectiveness of the grounding system. Include drawings showing existing construction, if any.

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(e) Cathodic Protection.

(f) Intrusion Detection, Card Access System

(g) Central Control and Monitoring System

(h) Mass Notification System

(i) Electrical Power Distribution Systems

3.5.8.11. Information Systems including the following responsibilities:

(a) Telecommunications Cabling

(b) Supporting Infrastructure

(c) Outside Plant (OSP) Cabling - Campus or Site Plans - Exterior Pathways and Inter-Building Backbones

(d) Include a layout of the voice/data outlets (including voice only wall & pay phones) on telecommunication floor plan drawing, location of SIPRNET data outlets (where applicable), and a legend and symbol definition to indicate height above finished floor. Show size of conduit and cable type and size on Riser Diagram. Do not show conduit runs between backboard and outlets on the floor plans. Show underground distribution conduit and cable with sizing from point of presence to entrance facility of building.

(e) Layout of complete building per floor - Serving Zone Boundaries, Backbone Systems, and Horizontal Pathways including Serving Zones Drawings - Drop Locations and Cable ID's

(f) Communication Equipment Rooms - Plan Views - Tech and AMEP/Elevations - Racks and Walls. Elevations with a detailed look at all telecomm rooms. Indicate technology layout (racks, ladder-racks, etc.), mechanical/electrical layout, rack elevation and backboard elevation. They may also be an enlargement of a congested area of T1 or T2 series drawing.

3.6. FINAL DESIGN REVIEWS AND CONFERENCES

A final design review and review conference will be held upon completion of final design at the project installation, or – where equipment is available - by video teleconference or a combination thereof, for any design package to receive Government acceptance to allow release of the design package for construction. For smaller separate design packages, the parties may agree on alternative reviews and conferences (e.g., conference calls and electronic file sharing, etc.) through the Partnering process. Include the final design conference in the project schedule and shall indicate what part of the design work is at 100% completion. The final design conference will be held after the Government has had seven (7) calendar days after receipt of the submission to review the final design package and supporting data. For smaller packages, especially those involving only one or a few design disciplines the parties may agree on a shorter period.

3.7. FINAL DESIGN REQUIREMENTS

Final design deliverables for a design package shall consist of 100% complete drawings, specifications, submittal register and design analyses for Government review and acceptance. The 100% design submission shall consist of drawings, specifications, updated design analyses and any permits required by the contract for each package submitted. In order to expedite the final design review, prior to the conference, ensure that the design configuration management data and all review comment resolutions are up-to-date. Include the 100% SID and 100% FF&E binders for government approval. The Contractor shall have performed independent technical reviews (ITR's) and back-checks of previous comment resolutions, as required by Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL, including providing documentation thereof.

3.7.1. Drawings

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

3.7.1.2. Prepare all drawings with the Computer-Aided Design and Drafting (CADD)/Computer-Aided Design (CAD) system, organized and easily referenced electronically, presenting complete construction information.

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3.7.1.3. Drawings shall be complete. The Contractor is encouraged to utilize graphics, views, notes, and details which make the drawings easier to review or to construct but is also encouraged to keep such materials to those that are necessary.

3.7.1.4. Provide detail drawings that illustrate conformance with the contract. Include room finish schedules, corresponding color/finish/special items schedules, and exterior finish schedules that agree with the submitted SID binders.

3.7.1.5. The design documents shall be in compliance with the latest version of the A/E/C CADD Standard, available at https://cadbim.usace.army.mil/CAD. Use the approved vertical Corps of Engineers title blocks and borders on all drawings with the appropriate firm name included within the title block area.

3.7.1.6. CAD System and Building Information Modeling (BIM) (NOTE: If this is a Single Award or Multiple Award, Indefinite Delivery/Indefinite Quantity Contract, this information will be provided for each task order.)

All CAD files shall be fully compatible with ***<AUTOCAD>***AutoCAD 2000 or higher***</AUTOCAD><MICROSTATION>***MicroStation V8 or higher***</MICROSTATION><ARCHI>***ArchiCAD 10 or higher***</ARCHI>***. Save all design CAD files as ***<AUTOCAD>***AutoCAD 2000 or higher***</AUTOCAD><MICROSTATION>***MicroStation V8 or higher***</MICROSTATION><ARCHI>***ArchiCAD 10 or higher***</ARCHI>*** files. ***<COS>***All submitted BIM Models and associated Facility Data shall be fully compatible with Bentley BIM file format and the USACE Bentley BIM v8 Workspace.***</COS><BIM_APP_NEUTRAL>***Select BIM application(s) and software(s) but all submitted BIM Models and associated Facility Data shall be fully compatible with any of the following file formats: Autodesk Revit 9.0 or higher, Bentley BIM v8 with associated USACE Bentley BIM v8 Workspace, or ArchiCAD 11 or higher.***</BIM_APP_NEUTRAL><BIM_APP_SPECIFIC>*** All submitted BIM Models and associated Facility Data shall be fully compatible with ***<AUTODESK_REVIT>***Autodesk Revit 9.0 or higher***</AUTODESK_REVIT><BENTLEY_BIM>***Bentley BIM v8 with associated USACE Bentley BIM v8 Workspace***</BENTLEY_BIM> <ARCHICAD>***ArchiCAD 11 or higher***</ARCHICAD>*** file formats.***</BIM_APP_SPECIFIC>***

(a) CAD Data Final File Format: During the design development capture geo-referenced coordinates of all changes made to the existing site (facility footprint, utility line installations and alterations, roads, parking areas, etc) as a result of this contract. There is no mandatory methodology for how the geo-referenced coordinates will be captured, however, Engineering and Construction Bulletin No. 2006-15, Subject: Standardizing Computer Aided Design (CAD) and Geographic Information Systems (GIS) Deliverables for all Military Design and Construction Projects identifies the format for final as-built drawings and data sets to be delivered to the government. 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 02.00 10 Closeout Submittals.

(b) Electronic Drawing Files: In addition to the native CAD design files, provide separate electronic drawing files (in editable CAD format and Adobe Acrobat PDF version 7.0 or higher) for each project drawing.

(c) Each file (both CAD and PDF) shall represent one complete drawing from the drawing set, including the date, submittal phase, and border. Each drawing file shall be completely independent of any data in any other file, including fonts and shapes not included with the basic CAD software program utilized. Drawing files with external references or special fonts are not acceptable. All displayed graphic elements on all levels of the drawing files shall be part of the project drawing image. The drawing files shall not contain any graphic element that is not part of the drawing image.

(d) Deliver BIM Model and associated Facility Data files in their native format. At a minimum, BIM files shall address major architecture design elements, major structural components, mechanical systems and electrical/communication distribution and elements as defined in Attachment F. See Attachment F for additional BIM requirements.

(e) Drawing Index: Provide an index of drawings sheet in CAD as part of the drawing set, and an electronic list in Microsoft Excel of all drawings on the CD. Include the electronic file name, the sheet reference number, the sheet number, and the sheet title, containing the data for each drawing.

(f) Hard Copies: Plot submitted hard copy drawings directly from the "electronic drawing files" and copy for quantities and sizes indicated in the distribution list at the end of this specification section. The Designers of

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Record shall stamp, sign and date original hard copy sheets as Released For Construction, and provide copies for distribution from this set.

3.7.2. Design Analyses

3.7.2.1. The designers of record shall update, finalize and present design analyses with calculations necessary to substantiate and support all design documents submitted.

3.7.2.2. The responsible DOR shall stamp, sign and date the design analysis. Identify the software used where, applicable (name, version, vendor). Generally, provide design analyses, individually, in an original (file copy) and one copy for the assigned government reviewer.

3.7.2.3. All disciplines review the LEED design analysis in conjunction with their discipline-specific design analysis; include a copy of the separable LEED design analysis in all design analysis submittals.

3.7.2.4. Do not combine multi-disciplined volumes of design-analysis, unless multiple copies are provided to facilitate multiple reviewers (one copy per each separate design analysis included in a volume).

3.7.3. Specifications

Specifications shall be 100% complete and in final form.

3.7.4. Submittal Register

Prepare and update the Submittal Register and submit it with the 100% design specifications (see Specification Section 01 33 00, SUBMITTAL PROCEDURES) with each design package. Include the required submittals for each specification section in a design package in the submittal register.

3.7.5. 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 from the Corps Construction Division to the Installation's inventory of real property. The Government will furnish the DB 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% design in the Design Analysis. The Corps will use these documents to complete the final DD 1354 upon completion of construction.

3.7.6. Acceptance and Release for Construction

3.7.6.1. At the conclusion of the Final Design Review (after resolutions to the comments have been agreed upon between DOR and Government reviewers), the Contracting Officer or the ACO will accept the Final Design Submission for the design package in writing and allow construction to start for that design package. The Government may withhold acceptance until all major corrections have been made or if the final design submission requires so many corrections, even though minor, that it isn't considered acceptably complete.

3.7.6.2. Government review and acceptance of design submittals is for contract conformance only and shall not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted contract proposal, or limit the Contractor's responsibility of design as prescribed under Special Contract Requirement: "Responsibility of the Contractor for 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.

3.8. DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

After the Final Design Submission and Review Conference and after Government acceptance of the Final Design submission, revise the design documents for the design package to incorporate the comments generated and resolved in the final review conference, perform and document a back-check review and submit the final, design

SAMPLE

complete documents. Label the final design complete documents “FOR CONSTRUCTION” or use similar language. In addition to the final drawings and specifications, the following deliverables are required for distribution and field use. 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 back-check of the released for construction documentation. Promptly correct any errors or omissions found during the Government back-check. The Government may withhold retainage from progress payments for work or materials associated with a final design package until this submittal has been received and the Government determines that it is complete.

3.9. SUBMITTAL DISTRIBUTION, MEDIA AND QUANTITIES

3.9.1. Submittal Distribution and Quantities

Comment [sdn1]: NOTE TO SPECIFIER: Identify the numbers of complete sets and partial sets of design documentation that go to each review office. Do NOT require separate mailings and mailing addresses for offices at the same building location.

General: The documents which the Contractor shall submit to the Government for each submittal are listed and generally described in preceding paragraphs in this Section. Provide copies of each design submittal and design substantiation as follows (NOTE: If this is a Single Award or Multiple Award, Indefinite Delivery/Indefinite Quantity Contract, this information will be provided for each task order):

Activity and Address	Drawing Size (Full Size) «FULL_SIZE» Full Sets/ *Partial Sets	Design Analyses & Specs Full Sets/ *Partial Sets	Drawing Size (Half Size) «HALF_SIZE» Full Sets/ *Partial Sets	Non-BIM Data CD-ROM or DVD as Necessary (PDF& «FILE_EXT»)	Furniture Submittal (FFE)	Structural Interior Design Submittal	BIM Data DVD (Per Attach F)
Commander, U.S.Army Engineer District «CONSTRUCTION_DISTRICT»	«COE_FULL»/«COE_PART»	«COE_SPEC»/«COE_SPEC_PART»	«COE_HALF»/«COE_HALF_PART»	«COE_CD»	«COE_FURN»	«COE_INT»	«COE_BIM»
Commander, U.S.Army Engineer District, Center of Standardization «COS»	«COS_FULL»/«COS_PART»	«COS_SPEC»/«COS_SPEC_PART»	«COS_HALF»/«COS_HALF_PART»	«COS_CD»	«COS_FURN»	«COS_INT»	«COS_BIM»
Installation	«CI_FULL»/«CI_PART»	«CI_SPEC»/«CI_SPEC_PART»	«CI_HALF»/«CI_HALF_PART»	«CI_CD»	«CI_FURN»	«CI_INT»	«CI_BIM»
U.S.Army Corps of Engineers Construction Area Office	«CAO_FULL»/«CAO_PART»	«CAO_SPEC»/«CAO_SPEC_PART»	«CAO_HALF»/«CAO_HALF_PART»	«CAO_CD»	«CAO_FURN»	«CAO_INT»	«CAO_BIM»
Information Systems Engineering Command (ISEC)	0/0	0/1»	0/0	1	1 (Electronic only)	N/A	1

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Activity and Address	Drawing Size (Full Size) «FULL_SIZE» Full Sets/ *Partial Sets	Design Analyses & Specs Full Sets/ *Partial Sets	Drawing Size (Half Size) «HALF_SIZE» Full Sets/ *Partial Sets	Non-BIM Data CD-ROM or DVD as Necessary (PDF& «FILE_EXT»)	Furniture Submittal (FFE)	Structural Interior Design Submittal	BIM Data DVD (Per Attach F)
Other Offices	«MAC_FULL»/ «MAC_PART»	«MAC_SPEC»/«MAC_SPEC_PART»	«MAC_HALF»/«MAC_HALF_PART»	«MAC_CD»	«MAC_FURN»	«MAC_INT»	«MAC_BIM»

***NOTE: For partial sets of drawings, specifications and design analyses, see paragraph 3.9.3.3, below.**

****NOTE: When specified below in 3.9.2, furnish Installation copies of Drawings as paper copies, in lieu of the option to provide secure web-based submittals.**

3.9.2. Web based Design Submittals

Comment [sdn2]: NOTE TO SPECIFIER: Does the Installation requires paper copies of drawing sets for review and use during construction? Answer YES or NO. If not necessary, the Contractor may, at its option, provide a secure Web site with pdf files to reduce reproduction and mailing costs. Some installations are able and willing to review pdf files, which allow additional funding to invest in the construction quality, rather than often wasted paper drawings.

<PAPER_DRAWINGS_YES>Except for full or half-sized drawings for Installation personnel, as designated in the Table above, ***</PAPER_DRAWINGS_YES>***Web based design submittals will be acceptable as an alternative to the paper copies listed in the Table above, provided a single hard-copy PDF based record set is provided to the Contracting Officer for record purposes. Where the contract requires the Contractor to submit documents to permitting authorities, still provide those authorities paper copies (or in an alternate format where required by the authority). Web based design submittal information shall be provided with adequate security and availability to allow unlimited access those specifically authorized to Government reviewers while preventing unauthorized access or modification. File sizes must be of manageable size for reviewers to quickly download or open on their computers. As a minimum, drawings shall be full scale on American National Standards Institute (ANSI) D sheets (34" x 22"). In addition to the optional website, provide the BIM data submission on DVD to each activity and address noted above in paragraph 3.9.1 for each BIM submission required in Attachment F.

3.9.3. Mailing of Design Submittals

3.9.3.1. Mail all design submittals to the Government during design and construction, using an overnight mailing service. The Government will furnish the Contractor addresses where each copy shall be mailed to after award of the contract (or individual task order if this is an indefinite delivery/indefinite quantity, task order contract). Mail the submittals to «ADDITIONAL_ADDRESSES» different addresses. Assemble drawing sheets, specs, design analyses, etc. into individual sets; do not combine duplicate pages from individual sets so that the government has to assemble a set.

3.9.3.2. Each design submittal shall have a transmittal letter accompanying it indicating the date, design percentage, type of submittal, list of items submitted, transmittal number and point of contact with telephone number.

3.9.3.3. Provide partial sets of drawings, specifications, design analyses, etc., as designated in the Table in paragraph 3.9.1, to those reviewers who only need to review their applicable portions of the design, such as the various utilities. The details of which office receives what portion of the design documentation will be worked out after award.

3.10. AS-BUILT DOCUMENTS

Provide as-built drawings and specifications in accordance with Section 01 78 02.00 10, CLOSEOUT SUBMITTALS. Update LEED design phase documentation during construction as needed to reflect construction changes and advancing project completion status (example - Commissioning Plan updates during construction phase) and include updated LEED documentation in construction closeout submittal.

SAMPLE

ATTACHMENT A
STRUCTURAL INTERIOR DESIGN (SID) REQUIREMENTS

1.0 GENERAL INFORMATION

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

2.0 STRUCURAL INTERIOR DESIGN (SID) REQUIREMENTS FOR THE INTERIM AND FINAL DESIGN SUBMITTALS

2.1. FORMAT AND SCHEDULE

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

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.

The SID information and samples are to be submitted in 8 ½" x 11" 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. Fold out items must have a maximum spread of 25 ½". 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.

Design submittal requirements include, but are not limited to:

2.1.1. Narrative of the Structural Interior Design Objectives

The SID shall include a narrative 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.

2.1.2. Interior Color Boards

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.

Material and finish samples shall indicate 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. Finish samples must be large enough to show a complete pattern or design where practical.

Color boards shall include but not be limited to original color samples of the following:

All walls finishes and ceiling finishes, including corner guards, acrylic wainscoting and wall guards/chair rail finishes

All tile information, including tile grout color and tile patterns.

SAMPLE

- All flooring finishes, including patterns.
- All door, door frame finishes and door hardware finishes
- All signage, wall base, toilet partitions, locker finishes and operable/folding partitions and trim
- All millwork materials and finishes (cabinets, counter tops, etc.)
- All window frame finishes and window treatments (sills, blinds, etc.)

Color board samples shall reflect all actual finish textures, patterns and colors required as specified. Patterned samples shall be of sufficient size to adequately show pattern and its repeat if a repeat occurs.

2.1.3. Exterior Color Boards

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

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.

2.2. STRUCTURAL INTERIOR DESIGN DOCUMENTS

2.2.1. General

Structural interior design related drawings must indicate the placement of extents of SID material, finishes and colors and must be sufficiently detailed to define all interior work. The following is a list of minimum requirements:

2.2.2. 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.

2.2.3. Interior Finish Plans

Indicate wall and floor patterns and color placement, material transitions and extents of interior finishes.

2.2.4. Furniture Footprint Plans

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

2.2.5. 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.

2.2.6. Interior Elevations, Sections and Details

Indicate material, color and finish placement.

SAMPLE

ATTACHMENT B
FURNITURE, FIXTURES & EQUIPMENT (FF&E) REQUIREMENTS

1.0 FF&E REQUIREMENTS FOR THE INTERIM AND FINAL DESIGN SUBMITTALS

1.1. *<UEPH>*NOT USED*</UEPH><UEPH_NOT>*FORMAT AND SCHEDULE

Prepare and submit for approval a comprehensive FF&E scheme for an interim design submittal. The Contractor's interior designer, not a furniture dealer, shall develop the design. FF&E is the selection, layout, specification and documentation of furniture includes but is not limited to workstations, seating, tables, storage and shelving, filing, trash receptacles, clocks, framed artwork, artificial plants, and other accessories. Contract documentation is required to facilitate pricing, procurement and installation. The FF&E package is based on the furniture footprint developed in the Structural Interior Design (SID) portion of the interior design. Develop the FF&E package concurrently with the building design to ensure that there is coordination between the electrical outlets, switches, J-boxes, communication outlets and connections, and lighting as appropriate. In addition, coordinate layout with other building features such as architectural elements, thermostats, location of TV's, GF/GI equipment (for example computers, printers, copiers, shredders, faxes), etc. Locate furniture in front of windows only if the top of the item falls below the window and unless otherwise noted, do not attach furniture including furniture systems to the building. If project has SIPRNET and/or NIPRNET, coordinate furniture layout with SIPRNET and NIPRNET separation requirements. Verify that access required by DOIM for SIPRNET box and conduit is provided. The DOR shall interview appropriate Government personnel to determine FF&E requirements for furniture and furnishings prior to preparation of the scheme to be presented. Determine FFE items and quantities by, but not limited to: (1) the number of personnel to occupy the building, (2) job functions and related furniture/office equipment to support the job function, (3) room functions, (4) rank and grade. Present original sets of the scheme to reviewers at an interim design conference upon completion of the interim architectural submittal or three months prior to the submittal of the final FF&E package (whichever comes first).

Design may proceed to final with the FF&E scheme presented at the conclusion of the interim phase, after resolutions to the comments have been agreed upon between DOR and Government reviewers.

Provide six copies of the electronic versions of all documents upon completion of the final architectural submittal or ten months prior to the contract completion date (whichever comes first), to ensure adequate time for furniture acquisition. Provide unbound, electronic drawings in CAD and BIM. Provide all files needed to v,/iew complete drawings. Submit all text documents in Microsoft Word or Excel..

Submit three copies of the final and complete FF&E information and samples in 8 ½" x 11" format using three ring binders with pockets on the inside of the cover upon completion of the final architectural submittal or ten months prior to the contract completion date (whichever comes first). Use more than one binder when there are numerous pages with thick samples. Large D-ring binders are preferred to O-ring binders. Use page protectors that are strong enough to keep pages from tearing out for upholstery and finish boards. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Fold out items must have a maximum spread of 25 ½". Provide cover and spine inserts sheets identifying the document as "Furniture, Fixtures & Equipment" package and include the project title and location, project number, Contractor/A/E name and phone number(s), submittal stage and date.

Provide electronic copies of all documents upon completion of the final architectural submittal or ten months prior to the contract completion date (whichever comes first), to ensure adequate time for furniture acquisition. Provide six compact disks with all drawings files needed to view the complete drawings unbound and in the latest version AutoCAD. Provide six additional compact disks of all text documents in Microsoft Word or Excel.

Design submittal requirements include, but are not limited to:

1.1.1. Narrative of Interior Design Objectives

Provide a narrative description of the furniture, to include functional, safety and ergonomic considerations, durability, sustainability, aesthetics, and compatibility with the building design.

1.1.2. Furniture Order Form

SAMPLE

Prepare one Furnishings Order Form for each item specified in the design. This form identifies all information required to order each individual item. In addition to the project name and location, project number, and submittal phase, the order form must include:

(a) Furniture item illustration and code

(b) Furniture item name

(c) Job name, location, and date

(d) General Services Administration (GSA) FSC Group, part, and section

(e) Manufacturer, Product name and Product model number or National Stock Number (NSN)

(f) Finish name and number (code to finish samples)

(g) Fabric name and number, minimum Wyzenbeek Abrasion Test double rubs (code to fabric samples)

(h) Dimensions

(i) Item location by room number and room name

(j) Quantity per room

(k) Total quantity

(l) Special instructions for procurement ordering and/or installation (if applicable)

(m) Written Product Description: include a non-proprietary paragraph listing the salient features of the item to include but not limited to:

(1) required features and characteristics

(2) ergonomic requirements

(3) functional requirements

(4) testing requirements

(5) furniture style

(6) construction materials

(7) minimum warranty

The following is an example for “m” features and characteristics, ergonomic requirements and functional requirements:

Chair Description:

(1) Mid-Back Ergonomic Task Chair

(2) Pneumatic Gaslift; Five Star Base

(3) Mesh Back; Upholstered Seat

(4) Height and Width Adjustable Task Arms:

a. Arm Height: 6”- 11” (+-1/2”)

b. Arm Width: 2”– 4” adjustment

(5) Height Adjustable Lumbar Support

(6) Adjustable Seat Height 16”-21” (+- 1”)

(7) Sliding Seat Depth Adjustment 15”-18” (+-1”)

(8) Standard Hard Casters (for carpeted areas)

(9) Overall Measurements:

a. Overall width: 25” - 27”

SAMPLE

b. Overall depth: 25”– 28”

(10) Must have a minimum of the following adjustments (In addition to the above):

a. 360 Degree Swivel

b. Knee-Tilt with Tilt Tension

c. Back angle

d. Forward Tilt

e. Forward Tilt and Upright Tilt Lock

For projects with systems furniture, also provide a written description of the following minimum requirements:

(1) Type furniture systems (panel, stacking panels, spine wall, desk based system, or a combination)

(2) Minimum noise reduction coefficient (NRC)

(3) Minimum sound transfer coefficient (STC)

(4) Minimum flame spread and smoke development

(5) UL testing for task lighting and electrical system

(6) Panel widths and heights and their locations (this may be done on the drawings)Worksurface types and sizes (this may be done on the drawings)

(7) Worksurface edge type

(8) Varying panel/cover finish materials and locations (locations may be shown on the drawings)

(9) Storage requirements

(10) Keyboard requirements

(11) Lock and keying requirements

(12) Accessory components (examples: tack boards, marker boards, paper management)

(13) Electrical and communication raceway requirement; type, capacity and location (base, beltline, below and/or above beltline)

(14) Locations of communication cables (base, beltline, below and/or above beltline, top channel)

(15) Types of electrical outlets

(16) Types of communication jacks; provided and installed by others

(17) Locations of electrical outlets and communication jacks (this may be done on the drawings)

(18) Type of cable (examples: Cat. 5, Cat. 6, fiber optic; UTP or STP, etc.) system needs to support; provided and installed by others

1.1.3. Alternate Manufacturer List

Provide a table consisting of major furniture items that lists the manufacturers products specified on the Order Form and two alternate manufacturers. Major furniture items include, but are not limited to, casegoods, furniture systems, seating, and tables. Organize matrix by item code and item name. Supply alternates that are available on GSA Schedule and meet the requirements of the Furniture Order Form. One of the two alternates must be from UNICOR if possible. Provide manufacturer name address, telephone number, product series and product name for each alternate manufacturer.

1.1.4. FF&E Procurement List

Provide a table that lists all FF&E furniture, mission unique equipment and building Contractor Furnished/Contractor Installed (CF/CI) items. Give each item a code and name and designate whether item will be procured as part of the FF&E furniture, mission unique equipment or the building construction contract. Use the item code to key all FF&E documents including location plans, color boards, data sheets, cost estimate, etc.

SAMPLE

1.1.5. Points of Contact (POCs)

Provide a comprehensive list of POCs needed to implement the FF&E package. This would include but not be limited to appropriate project team members, using activity contacts, interior design representatives, construction contractors and installers involved in the project. In addition to name, address, phone, fax and email, include each contact's job function. Divide the FF&E package into different sections based on this listing, applies to order forms and cost estimates.

1.1.6. Color Boards

Provide color boards for all finishes and fabrics for all FF&E items. Finishes to be included but not limited to paint, laminate, wood finish, fabric, etc.

1.1.7. Itemized Furniture Cost Estimate

Provide an itemized cost estimate of furnishings keyed to the plans and specifications of products included in the package. This cost estimate should be based on GSA price schedules. The cost estimate must include separate line items for general contingency, installation, electrical hook-up for systems furniture or other furniture requiring hardwiring by a licensed electrician, freight charges and any other related costs. Installation and freight quotes from vendors should be use in lieu of a percentage allowance when available. Include a written statement that the pricing is based on GSA schedules. An estimate developed by a furniture dealership may be provided as support information for the estimate, but must be separate from the contractor provided estimate.***</UEPH_NOT>***

1.2. ***<UEPH>***NOT USED***</UEPH><UEPH_NOT>***INTERIOR DESIGN DOCUMENTS

1.2.1. Overall Furniture and Area Plans

Provide floor Plans showing locations and quantities of all freestanding, and workstation furniture proposed for each floor of the building. Key each room to a large scale Furniture Placement Plan showing the furniture configuration, of all furniture. Provide enlarged area plans with a key plan identifying the area in which the building is located. Key all the items on the drawings by furniture item code. Do not provide manufacturer specific information such as product names and numbers on drawings, Drawings shall be non-proprietary. This is typical for FFE on all plans, including those mentioned below.

1.2.2. Workstation Plans

Show each typical workstation configuration in plan view, elevations or isometric view. Drawings shall illustrate panels and all major components for each typical workstation configuration. Identify workstations using the same numbering system as shown on the project drawings. Key components to a legend on each sheet which identifies and describes the components along with dimensions. Provide the plan, elevations and isometric of each typical workstation together on the same drawing sheet.

1.2.3. Panel Plans

Show panel locations and critical dimensions from finished face of walls, columns, panels including clearances and aisle widths. Key panel assemblies to a legend which shall include width, height, configuration of frames, panel fabric and finishes (if there are different selections existing within a project), powered or non-powered panel and wall mount locations.

1.2.4. Desk Plans

Provide typical free standing desk configurations in plan view, elevation or isometric view and identify components to clearly represent each desk configuration.

1.2.5. Reflected Ceiling Plans

Provide typical plans showing ceiling finishes and heights, lighting fixtures, heating ventilation and air conditioning supply and return, and sprinkler head placement for coordination of furniture.

SAMPLE

1.2.6. Electrical and Telecommunication Plans

Show power provisions including type and locations of feeder components, activated outlets and other electrical componentsShow locations and quantities of outlets for workstations. Clearly identify different outlets, i.e. electrical, LAN and telecommunication receptacles indicating each type proposed. Show wiring configuration, (circuiting, switching, internal and external connections) and provide as applicable.

1.2.7. Artwork Placement Plans

Provide an Artwork Placement Plan to show location of artwork, assign an artwork item code to each piece of artwork. As an alternative, artwork can be located on the Furniture Plans. Provide a schedule that identifies each piece by room name and number. Provide installation instructions; include mounting height.

1.2.8. Window Drapery Plans

Provide Interior Window Drapery Plans. Key each drapery treatment to a schedule showing color, pattern, material, drapery size and type, draw direction, location and quantities.***</UEPH_NOT>***

1.3. FURNITURE SELECTION

1.3.1. Select furniture from the GSA Schedules. Specify furniture available open market when an item is not available on the GSA Schedules. Provide justification fort items not available on the GSA Schedules.

1.3.2. To the greatest extent possible when specifying furniture work within a manufacturer's family of furniture for selections, example: Steelcase, Turnstone, Brayton International, Metro, and Vecta are all Steelcase companies. Each alternate should also be specified from a manufacturer's family of furniture, example: first set of alternates would be specified from Knoll's family of furniture and the second from Herman Miller family of furniture. It may be necessary to make some selections from other than a manufacturer's family of furniture if costs are not reasonable for particular items, some items are not available or appropriate for the facility or the items are not on GSA Schedule. If this occurs, consider specifying product from an open line that is accessible by numerous dealerships. Select office furniture including case goods, tables, storage, seating, etc. that is compatible in style, finish and color. Select furniture that complies with ANSI/BIFMA and from manufacturer's standard product line as shown in the most recent published price list and/or amendment and not custom product.

1.4. CONSTRUCTION

1.4.1. Provide knee space at workstations and tables that is not obstructed by panels/legs that interfere with knee space of seated person and provide desks, storage and tables with leveling devices to compensate for uneven floors.

1.4.2. Provide worksurface tops constructed to prevent warpage. Provide user friendly features such as radius edges. Do not use sharp edges and exposed connections and ensure the underside of desks, tables and worksurfaces are completely and smoothly finished. Provide abutting worksurfaces that mate closely and are of equal heights when used in side-by-side configurations in order to provide a continuous and level worksurface.

1.4.3. Drawers shall stay securely closed when in the closed position and protect wires from damage during drawer operation. Include a safety catch to prevent accidental removal when fully open

1.4.4. Unless otherwise noted, specify lockable desks and workstations and storage of steel construction. Use tempered glass glazing when glazing is required.

1.5. FINISHES AND UPHOLSTERY

1.5.1. Specify neutral colors for casegoods, furniture systems, storage and tables. Specify desk worksurfaces and table tops that are not too light or too dark in color and have a pattern to help hide soiling. Accent colors are allowed in break and lounge areas. Keep placement of furniture systems panel fabric accent colors to a minimum. All finishes shall be cleanable with ordinary household cleaning solutions.

SAMPLE

1.5.2. Use manufacturer's standard fabrics; including textile manufacturers fabrics that have been graded into the furniture manufactures fabric grades and are available through their GSA Schedule. Customers Own Material (COM) can be used in headquarter buildings in command suites with executive furniture. Coordinate specific locations with Corps of Engineers Interior Designer.

1.5.3. Specify seating upholstery that meets Wyzenbeek Abrasion Test, 55,000 minimum rubs. Specify a soil retardant finish for woven fabrics if Crypton or vinyl upholstery is not provided for seating in dining areas. Use manufacturer's standard fabrics. This includes textile manufacturers fabrics that have been graded into the furniture manufactures fabric grades and are available through their GSA Schedule. Specify upholstery and finish colors and patterns that help hide soiling. Specify finishes that can be cleaned with ordinary household cleaning solutions.

1.6. ACCESSORIES

1.6.1. Specify all accessories required for completely finished furniture installation. Provide filing cabinets and storage for office supplies. Provide tack surfaces at workstations with overhead storage. Provide tackable surfaces at workstations with overhead storage.

1.6.2. Not Used.

1.6.3. Workstations are to be equipped with stable keyboard trays that have height adjustability, tilting capability, including negative tilt, have a mouse pad at same height as the keyboard tray that can accommodate both left and right handed users, and retractable under worksurface.

1.7. MISSION UNIQUE EQUIPMENT

Funding for FF&E furniture items and mission unique equipment (MUE) items are from two different sources. Separate the designs and procurement documentation for FFE items and MUE. MUE includes, but is not limited to, items such as industrial shelving, workbenches, appliances, fitness equipment, IT equipment and supporting carts. The User will purchase and install mission unique equipment items, unless otherwise noted. Identify locations of known MUE items such as industrial shelving, workbenches, appliances, etc. for space planning purposes.

1.8. SUSTAINABILITY

1.8.1. For all designs provided regardless of facility type, make every effort to implement all aspects of sustainability to the greatest extent possible for all the selections made in the FF&E package. This includes but is not limited to the selection of products that consider: **Material Chemistry and Safety of Inputs** (What chemicals are used in the construction of the selections?); **Recyclability** (Do the selections contain recycled content?); **Disassembly** (Can the selections be disassembled at the end of their useful life to recycle their materials?).

1.8.2. Make selections to the greatest extent possible of products that possess current McDonough Braungart Design Chemistry (MBDC) certification or other "third-party" certified Cradle to Cradle program, Forest Stewardship Council (FSC) certification, GREENGAURD certification or similar "third-party" certified products consisting of low-emitting materials.

1.9. FURNITURE SYSTEMS

1.9.1. General.

Where appropriate, design furniture systems in open office areas. Coordinate style and color of furniture systems with other storage, seating, etc. in open office areas. Minimize the number of workstation typicals and the parts and pieces required for the design to assist in future reconfiguration and inventorying.

1.9.2. Connector Systems.

Specify a connector system that allows removal of a single panel or spine wall within a typical workstation configuration without requiring disassembly of the workstation or removal of adjacent panels. Specify connector

SAMPLE

system with tight connections and continuous visual seals. When Acoustical panels are used, provide connector system with continuous acoustical seals. Specify concealed clips, screws, and other construction elements, where possible.

1.9.3. Panels and Spine Walls

Specify panels and spine walls with hinged or removable covers that permit easy access to the raceway when required but are securely mounted and cannot be accidentally dislodged under normal conditions. Panels shall be capable of structurally supporting more than 1 fully loaded component per panel per side. Raceways are to be an integral part of the panel and must be able to support lay-in cabling and have a large capacity for electrical and IT. Do not thread cables through the frame.

1.9.4. Electrical And Information/Technology (IT)

Design furniture with electrical systems that meets requirements of UL 1286 when powered panels are required and UL approved task lights that meet requirements of NFPA 70. Dependent on user requirements and Section 01 10 00, paragraph 3 requirements, it is recommended that workstation electrical and IT wiring entry come from the building walls to eliminate the use of power poles and access at the floor. Design electrical and IT systems that are easily accessed in the spine wall and panels without having to move return panels and components. Electrical and IT management will be easily accessible by removable wall covers which can be removed while workstation components are still attached. Specify connector system that has continuation of electrical and IT wiring within workstations and workstation to workstation.

1.9.5. Pedestals

Specify pedestals that are interchangeable from left to right, and right to left, and retain pedestal locking system capability.

1.10. EXECUTIVE FURNITURE

1.10.1. Design for executive furniture in command areas, coordinate specific locations with Corps of Engineers Interior Designer. Use upgraded furniture, upholsteries and finishes in command suites. This includes but is not limited to wood casegoods, seating and tables. Select executive furniture casegoods from a single manufacturer and style line, to include workstations, credenzas, filing, and storage, etc.

1.10.2. Specify furniture with wood veneer finish (except worksurfaces) with mitered solid wood edge of same wood type. Provide worksurface plastic laminate that closely matches adjacent wood veneer. Other executive office furniture such as seating, tables, executive conference room furniture, etc. shall be compatible in style, finish and color with executive furniture casegoods.

1.11. SEATING

1.11.1. General

Specify appropriate chair casters and glides for the floor finish where the seating is located. Universal casters that are appropriate for both hard surface flooring and carpet are preferred. All seating shall support up to a minimum of 250 lbs.

1.11.2. Desk and Guest Seating

Select ergonomic desk chairs with casters, non-upholstered adjustable arms, waterfall front, swivel, tilt, variable back lock, adjustable back height or adjustable lumbar support, pneumatic seat height adjustment, and padded, contoured upholstered seat and back. Desk and guest chair backs may be other than upholstered such as mesh fabric if it is ergonomically designed, forms to back and is comfortable. Depending on scale of desk chair provide seat pan forward and back adjustment to increase or decrease depth of seat pan. All desk chairs shall have an adjustable seat height range of 4 1/2", range to include 16 1/2-20". Select guest chairs that are compatible in style, finish and color with the desk chairs.

SAMPLE

1.11.3. Conference Room Seating

At tables, select ergonomic conference seating with casters, non-upholstered arms, waterfall front, swivel, tilt, pneumatic seat height adjustment, and padded, contoured seat and back, unless otherwise noted. Select arm height and/or design that allows seating to be moved up closely to the table top. Conference chair backs may be other than upholstered such as mesh fabric if it is ergonomically designed, forms to back and is comfortable. Perimeter conference chairs shall be compatible in style, finish and color with conference seating at the tables.

1.11.4. Lounge, Waiting and Reception Area Seating

Select seating with arms and cushioned, upholstered seat and back. In heavy use areas, arms shall be easily cleaned such as non-upholstered arms or upholstered arms with wood arm caps unless otherwise noted.

1.11.5. Break Room Seating

Select stackable seating that is easily cleaned. Seating shall be appropriate for table and counter heights as applicable with non-upholstered arms if arms are required. Chairs shall have metal legs and composite materials for seats.

1.11.6. Lounge, Waiting and Reception Furniture.

Design for end and coffee tables with plastic laminate tops that are compatible in style finish and color with the seating.

1.12. FILING AND STORAGE.

Select storage and shelving units that meet customer's functional load requirements for stored items. Specify counterweights for filing cabinets when required by the manufacturer for stability. File drawers shall allow only one drawer to be opened at a time. Provide heavy duty storage and shelving if information is not available.

1.13. TRAINING TABLES.

Don't use plastic laminate self edge. Training tables shall be reconfigurable, moveable and storable; lighter weight folding with dollies or castered as necessary. Specify dollies if required.

1.14. FURNITURE WARRANTIES.

Specify manufacturer's performance guarantees or warranties that include parts, labor and transportation as follows:

Furniture System, unless otherwise noted – 10 year minimum
Furniture System Task Lights – 2 year minimum, excluding bulbs
Furniture System Fabric – 3 year minimum
Desks - 10 year minimum
Seating, unless otherwise noted - 10 year minimum
Seating Mechanisms and Pneumatic Cylinders - 10 years
Fabric - 3 years minimum
Filing and Storage - 10 year minimum
Tables, unless otherwise noted - 10 year minimum
Table Mechanisms – 5 year
Table Ganging Device - 1 year
Items not listed above - 1 year minimum

SAMPLE

ATTACHMENT C
TRACKING COMMENTS IN DRCHECKS

1.0 General

The Government and DB Contractor shall set up the project in Dr Checks. Throughout the design process, the parties shall enter, track, and back-check comments using the DrChecks system. Government reviewers enter design review comments into DrChecks. Designers of Record shall annotate comments timely and specifically to indicate exactly what action will be taken or why the action is not required. Comments considered critical by the conference participants shall be flagged as such.

2.0 DrChecks Review Comments

The Contractor and the Government shall monitor DrChecks to assure all comments are annotated and agreed to by the designers and reviewers prior to the next submittal. The DrChecks comments and responses shall be printed and included in the design analysis for record.

2.1. Conference participants (reviewers) will expect coordination between Design Analysis calculations and the submitted design. Reviewers will also focus on the design submittal's satisfaction of the contract requirements.

2.2. The Designers of Record shall answer each comment in DrChecks with a formal response prior to the next submittal, clearly indicating what action will be taken and what drawing/spec will change. Designers of Record are encouraged to directly contact reviewers to discuss and agree to the formal comment responses rather than relying only on DrChecks and review meetings to discuss comments. With the next design conference, reviewers will back-check answers to the comments against the submittal, in addition to reviewing additional design work.

2.3. Comments that, in the DB Contractor's opinion, require effort outside the scope of the contract shall be clearly indicated as such in DrChecks. The DB Contractor shall not proceed with work outside the contract until a modification to the contract is properly executed, if one is necessary.

3.0 DrChecks Initial Account Set-Up

To initialize an office's use of DrChecks, choose a contact person within the office to call the DrChecks Help Desk at 800-428-HELP, M-F, 8AM-5PM, Central time. This POC will be given an office password to distribute to others in the office. Individuals can then go to the hyperlink at http://www.projnet.org and register as a first time user. Upon registration, each user will be given a personal password to the DrChecks system.

3.1. Once the office and individuals are registered, the COE's project manager or lead reviewer will assign the individuals and/or offices to the specific project for review. At this point, persons assigned can make comments, annotate comments, and close comments, depending on their particular assignment.

4.0 DrChecks Reviewer Role

The Contractor is the technical reviewer and the Government is the compliance reviewer of the DB designers design documents. Each reviewer enters their own comments into the Dr Checks system. To enter comments:

4.1. Log into DrChecks.

4.2. Click on the appropriate project.

4.3. Click on the appropriate review conference. An Add comment screen will appear.

4.4. Select or fill out the appropriate sections (particularly comment discipline and type of document for sorting) of the comment form and enter the comment in the space provided.

SAMPLE

4.5. Click the Add Comment button. The comment will be added to the database and a fresh screen will appear for the next comment you have.

4.6. Once comments are all entered, exit DrChecks by choosing “My Account” and then Logout.

5.0 DrChecks Comment Evaluation

The role of the designers of record is to evaluate and respond to the comments entered by the Government reviewers and by the DB Contractor. To respond to comments:

5.1. Log into DrChecks.

5.2. Click on the appropriate project.

5.3. Under “Evaluate” click on the number under “Pending”.

5.4. Locate the comments that require your evaluation. (Note: If you know the comment number you can use the Quick Pick window on your home page in DrChecks; enter the number and click on go.)

5.5. Select the appropriate evaluation (concur, non-concur, for information only, or check and resolve) and add the response.

5.6. Click on the Add button. The evaluation will be added to the database and a fresh screen will appear with the next comment.

5.7. Once evaluations are all entered, exit DrChecks by choosing “My Account” and then Logout.

6.0 DrChecks Back-check

At the following design conference, participants will back-check comment annotations against newly presented documents to verify that the designers' responses are acceptable and completed. The Contractor and Government reviewers shall either enter additional back-check comments, as necessary or close those that are resolved as a result of the design conferences:

6.1. Log into DrChecks.

6.2. Click on the appropriate project.

6.3. Under “My Backcheck” click on the number under “Pending”.

6.4. If you agree with the designer’s response select “Close Comment” and add a closing response if desired.

6.5. If you do not agree with the designer’s response or the submittal does not reflect the response given, select “Issue Open”, enter additional information.

6.6. Click on the Add button. The back-check will be added to the database and a fresh screen will appear with the next comment.

6.7. Once back-checks are all entered, exit DrChecks by choosing “My Account” and then Logout. The design is completed and final when there are no pending comments to be evaluated and there are no pending or open comments under back-check.

SAMPLE

ATTACHMENT D
SAMPLE FIRE PROTECTION AND LIFE SAFETY CODE REVIEW

Instructions: Use the information outlined in this document 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".

1.0 SAMPLE FIRE PROTECTION AND LIFE SAFETY CODE REVIEW

1.1. Project Name (insert name and location)

1.2. Applicable Codes and Standards

1.2.1. Unified Facilities Criteria (UFC): 3-600-01, Design: Fire Protection Engineering For Facilities

1.2.2. International Building Code (IBC) for fire resistance requirements, allowable floor area, building height limitations and building separation distance requirements, except as modified by UFC 3-600-01.

1.2.3. National Fire Protection Association (NFPA) 101 Life Safety Code (latest edition), for building egress and life safety and applicable criteria in UFC 3-600-01.

1.2.4. ADA and ABA Accessiblity Guidelines. For Buildings and Facilities See Section 01 10 00, Paragraph 3 for facility specific criteria.

1.3. Occupancy Classification
IBC chapters 3 and 4

1.4. Construction Type
IBC chapter 6

1.5. Area Limitations
IBC chapter 5, table 503

1.6. Allowable Floor Areas
IBC section 503, 505

1.7. Allowable area increases
IBC section 506, 507

1.8. Maximum Height of Buildings
IBC section 504

1.9. Fire-resistive substitution

1.10. Occupancy Separations
IBC table 302.3.2

1.11. Fire Resistive Requirements

1.11.1. Exterior Walls - [_____] hour rating, IBC table 601, 602

1.11.2. Interior Bearing walls - [_____] hour rating

1.11.3. Structural frame - [_____] hour rating

SAMPLE

1.11.4. Permanent partitions - [_____] hour rating

1.11.5. Shaft enclosures - [_____] hour rating

1.11.6. Floors & Floor-Ceilings - [_____] hour rating

1.11.7. Roofs and Roof Ceilings - [_____] hour rating

1.12. Automatic Sprinklers and others used to determine the need for automatic Extinguishing Equipment, Extinguishing Systems, Foam Systems, Standpipe

1.12.1. UFC 3-600-01, chapters 4 and 6 systems, wet chemical systems, etc. State which systems are required and to what criteria they will be designed.

1.12.2. UFC 3-600-01, Appendix B Occupancy Classification. Note the classification for each room. This may be accomplished by classifying the entire building and noting exceptions for rooms that differ (E.g. The entire building is Light Hazard except boiler room and storage rooms which are [_____], etc.)

1.12.3. UFC 3-600-01, Chapter 3 Sprinkler Design Density, Sprinkler Design Area, Water Demand for Hose Streams (supply pressure and source requirements).

1.12.4. UFC 3-600-01, Chapter 4 Coverage per sprinkler head. Extended coverage sprinkler heads are not permitted.

1.12.5. Available Water Supply. Provide the results of the water flow tests showing the available water supply static pressure and residual pressure at flow. Based on this data and the estimated flow and pressure required for the sprinkler system, determine the need for a fire pump.

1.12.6. NFPA 13, Para. 8.16.4.6.1. Provide backflow preventer valves as required by the local municipality, authority, or water purveyor. Provide a test valve located downstream of the backflow preventer for flow testing the backflow preventer at full system demand flow. Route the discharge to an appropriate location outside the building.

1.13. Kitchen Cooking Exhaust Equipment

Describe when kitchen cooking exhaust equipment is provided for the project. Type of extinguishing systems for the equipment should be provided. per NFPA 96. Show all interlocks with manual release switches, fuel shutoff valves, electrical shunt trips, exhaust fans, and building alarms.

1.14. Portable Fire Extinguishers, fire classification and travel distance. per NFPA 10

1.15. Enclosure Protection and Penetration Requirements. - Opening Protectives and Through Penetrations

1.15.1. IBC Section712, 715 and Table 715.3. Mechanical rooms, exit stairways, storage rooms, janitor [_____] hour rating. IBC Table 302.1.1

1.15.2. Fire Blocks, Draft Stops, Through Penetrations and Opening Protectives

1.16. Fire Dampers. Describe where fire dampers and smoke dampers are to be used (IBC Section 716 and NFPA 90A}. State whether isolation smoke dampers are required at the air handler.

1.17. Detection Alarm and Communication. UFC 3-600-01, (Chapter 5); NFPA 101 para. 3.4 (chapters 12-42); NFPA 72

1.18. Mass Notification. Describe building/facility mass notification system (UFC 4-021-01) type and type of base-wide mass notification/communication system. State whether the visible notification appliances will be combined with the fire alarm system or kept separate. (Note: Navy has taken position to combine visible notification appliances with fire alarm).

SAMPLE

1.19. Interior Finishes (classification). NFPA 101.10.2.3 and NFPA 101.7.1.4

1.20. Means of Egress

1.20.1. Separation of Means of Egress, NFPA 101 chapters 7 and 12-42; NFPA101.7.1.3

1.20.2. Occupant Load, NFPA101.7.3.1 and chapters 12-42.

1.20.3. Egress Capacity (stairs, corridors, ramps and doors) NFPA101.7.3.3

1.20.4. Number of Means of Egress, NFPA101.7.4 and chapters 12-42.

1.20.5. Dead end limits and Common Path of Travel, NFPA 101.7.5.1.6 and chapters 12-42.

1.20.6. Accessible Means of Egress (for accessible buildings), NFPA101.7.5.4

1.20.7. Measurement of Travel Distance to Exits, NFPA101.7.6 and chapters 12-42.

1.20.8. Discharge from Exits, NFPA101.7.7.2

1.20.9. Illumination of Means of Egress, NFPA101.7.8

1.20.10. Emergency Lighting, NFPA101.7.9

1.20.11. Marking of Means of Egress, NFPA101.7.10

1.21. Elevators, UFC 3-600-01, Chapter 6; IBC and ASME A17.1 - 2000,(Safety Code for Elevators and Escalators)

1.22. Accessibility Requirements, ADA and ABA Accessibility Guidelines for Buildings and Facilities

1.23. Certification of Fire Protection and Life Safety Code Requirements. (Note: Edit the Fire team membership if necessary). Preparers of this document certify the accuracy and completeness of the Fire Protection and Life Safety features for this project in accordance with the attached completed form(s).

1.24. Designer of Record. Certification of Fire protection and Life Safety Code Requirements. (Note: Edit the Fire team members if necessary). Preparers of this document certify the accuracy and completeness of the Fire Protection and Life Safety features of this project.

Fire Protection Engineer of Record:

_____

Signature and Stamp

Date

OR

Architect of Record:

_____

Signature and Stamp

Date

Mechanical Engineer of Record:

_____

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Signature and Stamp

Date

Electrical Engineer of Record:

_____

Signature/Date

SAMPLE

ATTACHMENT E
LEED SUBMITTALS

SAMPLE

LEED Credit Paragraph	Contractor Check Here if Credit is Claimed	**LEED-NC v3 Submittals (OCT09)**		Provide for Credit Audit Only		Date Submitted (to be filled in by Contractor)	Government Reviewer's Use
PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
GENERAL							
	GENERAL - All calculations shall be in accordance with LEED 2009 Reference Guide.						
	GENERAL: Obtain excel version of this spreadsheet at http://en.sas.usace.army.mil/enWeb, "Engineering Criteria".						
	GENERAL - For all credits, narrative/comments may be added to describe special circumstances or considerations regarding the project's credit approach.						
	GENERAL - Include all required LEED drawings indicated below in contract drawings with applicable discipline drawings, labeled For Reference Only.						
	NOTE: Each submittal indicated with "**" differs from LEED certified project submittals by either having a different due date or being an added submittal not required by GBCI.						
	NOTE: Projects seeking LEED certification need only submit to GBCI whatever documentation is acceptable to GBCI (for example, licensed professional certifications). This checklist identifies what must be submitted to the Government for internal review purposes. Government review of LEED documentation in no way supercedes or modifies the requirements and rulings of of GBCI for purposes of compliance with project requirement to obtain LEED certifiaction.						
	GENERAL - Audit documentation may include but is not limited to what is indicated in this table.						
			Closeout		List of all Final Design submittals revised after final design to reflect actual closeout conditions. Revised Final Design submittals. - OR - Statement confirming that no changes have been made since final design that effect final design submittal documents.		Proj Engr (PE)
CATEGORY 1 - SUSTAINABLE SITES							
SSPR1		Construction Activity Pollution Prevention (PREREQUISITE)	**Final Design		List of drawings and specifications that address the erosion control, particulate/dust control and sedimentation control measures to be implemented.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			**Final Design		Narrative that indicates which compliance path was used (NPDES or Local standards) and describes the measures to be implemented on the project. If a local standard was followed, provide specific information to demonstrate that the local standard is equal to or more stringent than the NPDES program.		CIV
SS1		Site Selection	Final Design		Statement confirming that project does not meet any of the prohibited criteria.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design	X	LEED Site plan drawing that shows all proposed development, line depicting boundary of all bodies of water and/or wetlands within 100 feet of project boundary and a line depicting 5' elevation above 100 year flood line that falls within project boundary. Not required if neither condition applies.		CIV
SS2		Development Density & Community Connectivity	Final Design		Option 1: LEED Site vicinity plan showing project site and surrounding development. Show density boundary or note drawing scale.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Table indicating, for project site and all surrounding sites within density radius (keyed to site vicinity plan), site area and building area. Project development density calculation. Density radius calculation. Development density calculation within density radius.		CIV
			Final Design		Option 2: LEED Site vicinity plan showing project site, the 1/2 mile community radius, pedestrian walkways and the locations of the residential development(s) and Basic Services surrounding the project site.		CIV
			Final Design		Option 2: List (including business name and type) of all Basic Services facilities within the 1/2 mile radius, keyed to site vicinity plan.		CIV
SS3		Brownfield Redevelopment	Final Design		Narrative describing contamination and the remediation activities included in project. Include statement indicating how site was determined to be a brownfield.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS4.1		Alternative Transportation: Public Transportation Access	Final Design		Statement indicating which option for compliance applies. State whether public transportation is existing or proposed and, if proposed, cite source of this information.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: LEED Site vicinity plan showing project site, mass transit stops and pedestrian path to them with path distance noted.		CIV
			Final Design		Option 2: LEED Site vicinity plan showing project site, bus stops and pedestrian path to them with path distance noted.		CIV
SS4.2		Alternative Transportation: Bicycle Storage & Changing Rooms	Final Design		FTE calculation. Bicycle storage spaces calculation. Shower/changing facilities calculation.		CIV
			Final Design		List of drawings that show the location(s) of bicycle storage areas. Statement indicating distance from building entrance.		CIV
			Final Design		List of drawings that show the location(s) of shower/changing facilities and, if located outside the buiding, statement indicating distance from building entrance.		ARC

SAMPLE

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
SS4.3		Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	Final Design		Statement indicating which option for compliance applies. FTE calculation. Statement indicating total parking capacity of site.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Low-emission & fuel-efficient vehicle calculation.		CIV
			Final Design		Option 1: List of drawings and specification references that show location and number of preferred parking spaces for low-emission & fuel-efficient vehicles and signage.		CIV
			Final Design		Option 1: Statement indicating quantity, make, model and manufacturer of low-emission & fuel-efficient vehicles to be provided. Statement confirming vehicles are zero-emission or indicating ACEEE vehicle scores.		CIV
			Final Design		Option 2: Low-emission & fuel-efficient vehicle parking calculation.		CIV
			Final Design		Option 2: List of drawings and specification references that show location and number of preferred parking spaces and signage.		CIV
			Final Design		Option 3: Low-emission & fuel-efficient vehicle refueling station calculation.		CIV
			Final Design		Option 3: List of drawings and specifications indicating location and number of refueling stations, fuel type and fueling capacity for each station for an 8-hour period.		CIV
			Closeout	X	Option 3: Construction product submittals indicating what was provided and confirming compliance with respect to fuel type and fueling capacity for each station for an 8-hour period.		CIV
SS4.4		Alternative Transportation: Parking Capacity	Final Design		Statement indicating which option for compliance applies.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Preferred parking calculation including number of spaces required, total provided, preferred spaces provided and percentage.		CIV
			Final Design		Option 2: FTE calculation. Preferred parking calculation including number of spaces provided, preferred spaces provided and percentage.		CIV
			Final Design		Options 1 and 2: List of drawings and specification references that show location and number of preferred parking spaces and signage.		CIV
			Final Design		Option 3: Narrative indicating number of spaces required and provided and describing infrastructure and support programs with description of project features to support them.		CIV
SS5.1		Site Development: Protect or Restore Habitat	**Final Design		Option 1: List of drawing and specification references that convey site disturbance limits.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			**Final Design		Option 2: LEED site plan drawing that delineates boundaries of each preserved and restored habitat area with area (sf) noted for each.		CIV
			**Final Design		Option 2: Percentage calculation of restored/preserved habitat to total site area. List of drawings and specification references that convey restoration planting requirements.		CIV
SS5.2		Site Development: Maximize Open Space	Final Design		Option 2: LEED site plan drawing delineating boundary of vegetated open space adjacent to building with areas of building footprint and designated open space noted.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS6.1		Stormwater Design: Quantity Control	Final Design		Statement indicating which option for compliance applies.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Indicate pre-development and post-development runoff rate(cfs) and runoff quantity (cf) -OR - Narrative describing site conditions, measures and controls to be implemented to prevent excessive stream velocities and erosion.		CIV
			Final Design		Option 2: Indicate pre-development and post-development runoff rate(cfs) and runoff quantity (cf). Indicate percent reduction in each.		CIV
SS6.2		Stormwater Design: Quality Control	Final Design		For non-structural controls, list all BMPs used and, for each, describe the function of the BMP and indicate the percent annual rainfall treated. List all structural controls and, for each, describe the pollutant removal and indicate the percent annual rainfall treated.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS7.1		Heat Island Effect: Non-Roof	**Final Design		LEED site plan drawing indicating locations and quantities of each paving type, including areas of shaded pavement. Percentage calculation indicating percentage of reflective/shaded/open grid area.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV

SAMPLE

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
SS7.2		Heat Island Effect: Roof	Final Design		Option 1: Percentage calculation indicating percentage of SRI compliant roof area. List of drawings and specification references that convey SRI requirements and roof slopes.		ARC
			Final Design		Option 1: List of specified roof materials indicating, for each, type, manufacturer, product name and identification if known, SRI value and roof slope.		ARC
			**Closeout		Option 1: List of installed roof materials indicating, for each, manufacturer, product name and identification, SRI value and roof slope.		PE
			Closeout	X	Option 1: Manufacturer published product data or certification confirming SRI		PE
			Final Design		Option 2: Percentage calculation indicating percentage of vegetated roof area.		ARC
			Final Design		Option 3: Combined reflective and green roof calculation.		ARC
			Final Design		Option 3: List of specified roof materials indicating, for each, type, manufacturer, product name and identification if known, SRI value and roof slope.		ARC
			**Closeout		Option 3: List of installed roof materials indicating, for each, manufacturer, product name and identification, SRI value and roof slope.		PE
			Closeout	X	Option 3: Manufacturer published product data or certification confirming SRI		PE
SS8		Light Pollution Reduction	Final Design		Interior Lighting: List of drawings and specification references that convey interior lighting requirements (location and type of all installed interior lighting, location of non-opaque exterior envelope surfaces, allowing confirmation that maximum candela value from interiorfixtures does not intersect non-opaque building envelope surfaces). - OR - List of drawings and specification references that show automatic lighting controls compliance with credit requirement.		ELEC
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		ELEC
			Final Design		Exterior Lighting: List of drawings and specification references that convey exterior lighting requirements (location and type of all site lighting and building façade/landscape lighting).		ELEC
			Final Design		Exterior Site Lighting Power Density (LPD): Tabulation for exterior site lighting indicating, for each location identification or description, units of measure, area or distance of the location, actual LPD using units consistent with ASHRAE 90.1, and the ASHRAE allowable LPD for that type of location. Percentage calculation of actual versus allowable LPD for all site lighting.		ELEC
			Final Design		Exterior Building Facade/Landscape Lighting Power Density (LPD): Tabulation for exterior building facade/landscape lighting indicating, for each location identification or description, units of measure, area or distance of the location, actual LPD using units consistent with ASHRAE 90.1, and the ASHRAE allowable LPD for that type of location. Percentage calculation of actual versus allowable LPD for all building facade/landscape lighting.		ELEC
			Final Design		Exterior Lighting IESNA Zone: Indicate which IESNA zone is applicable to the project.		ELEC
			Final Design		Exterior Lighting Site Lumen table indicating, for each fixture type, quantity installed, initial lamp lumens per luminaire, initial lamp lumens above 90 degrees from Nadir, total lamp lumens and total lamp lumens above 90 degrees. Percentage of site lamp lumens above 90 degrees from nadir to total lamp lumens.		ELEC
			Final Design		Exterior Lighting Narrative describing analysis used for addressing requirements for light trespass at site boundary and beyond.		ELEC
CATEGORY 2 – WATER EFFICIENCY							
WEPR1		Water Use Reduction: 20% Reduction	Final Design		Statement confirming which occupancy breakdown applies (default or special). For special occupancy breakdown, indicate source and explanation for ratio.		MEC
			Final Design		Occupancy calculation including male/female numbers for FTEs, visitors, students, customers, residential and other type occupants/users		MEC
			Final Design		Statement indicating percent of male restrooms with urinals. Statement indicating annual days of operation.		MEC

SAMPLE

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Final Design		Baseline flush fixture calculation spreadsheet indicating, for each fixture type, gender, flush rate, daily uses per person for each occupant type identified in occupancy calculation and annual baseline flush fixture water usage.		MEC
			Final Design		Design case flush fixture calculation spreadsheet indicating, for each fixture type, gender, fixture manufacturer, fixture model number, flush rate, percent of occupants using this fixture type, daily uses per person for each occupant type identified in occupancy calculation and annual design case flush fixture water usage.		MEC
			Closeout	X	Manufacturer published product data or certification confirming fixture water usage.		PE
WE1.1		Water Efficient Landscaping: Reduce by 50%	Final Design		Statement indicating which option for compliance applies.		CIV
			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Calculation indicating, for baseline and design case, total water applied, total potable water applied, total non-potable water applied. Design case percent potable water reduction. If nonpotable water is used, indicate source of nonpotable water.		CIV
			Final Design		List of landscape plan drawings.		CIV
			Final Design		Narrative describing landscaping and irrigation design strategies, including water use calculation methodology used to determine savings and, if non-potable water is used, specific information about source and available quantity.		CIV
WE1.2		Water Efficient Landscaping: No Potable Water Use or No Irrigation	Same as WE1.1		Same as WE1.1		CIV
WE2		Innovative Wastewater Technologies	Final Design		Statement confirming which option for compliance applies.		MEC
			Final Design		Statement confirming which occupancy breakdown applies (default or special). For special occupancy breakdown, indicate source and explanation for ratio.		MEC
			Final Design		Occupancy calculation including male/female numbers for FTEs, visitors, students, customers, residential and other type occupants/users		MEC
			Final Design		Statement indicating percent of male restrooms with urinals. Statement indicating annual days of operation.		MEC
			Final Design		Baseline flush fixture calculation spreadsheet indicating, for each fixture type, gender, flush rate, daily uses per person for each occupant type identified in occupancy calculation and annual baseline flush fixture water usage.		MEC
			Final Design		Design case flush fixture calculation spreadsheet indicating, for each fixture type, gender, fixture manufacturer, fixture model number, flush rate, percent of occupants using this fixture type, daily uses per person for each occupant type identified in occupancy calculation and annual design case flush fixture water usage.		MEC
			Final Design		Option 1: If onsite non-potable water is used, identify source(s), indicate annual quantity from each source and indicate total annual quantity from all onsite non-potable water sources.		MEC
			Final Design		Option 1: Summary calculation indicating baseline annual water consumption, design case annual water consumption, non-potable annual water consumption and total percentage annual water savings.		MEC
			Final Design		Option 2: Statement confirming on-site treatment of all generated wastewater to tertiary standards and all treated wastewater is either infiltrated or used on-site.		MEC
			Final Design		Option 2: List of drawing and specification references that convey design of on-site wastewater treatment features.		CIV
			Final Design		Option 2: On-site water treatment quantity calculation indicating all on-site wastewater source(s), annual quantity treated, annual quantity infiltrated and annual quantity re-used on site from each source and totals for annual quantity treated, annual quantity infiltrated and annual quantity re-used on site from all sources.		CIV
			Final Design		Option 2: Wastewater summary calculation indicating design case annual flush fixture water usage, annual on-site water treatment and percentage sewage convyance reduction.		MEC
			Final Design		Narrative describing project strategy for reduction of potable water use for sewage conveyance, including specific information on reclaimed water usage and treated wastewater usage.		MEC
WE3		Water Use Reduction: 30% - 40% Reduction	Same as WEPR1		Same as WEPR1		MEC
CATEGORY 3 – ENERGY AND ATMOSPHERE							

SAMPLE

LEED Credit Paragraph	Contractor Check Here if Credit is Claimed	**LEED-NC v3 Submittals (OCT09)**		Provide for Credit Audit Only		Date Submitted (to be filled in by Contractor)	Government Reviewer's Use
PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
EAPR1		Fundamental Commissioning of the Building Energy Systems (PREREQUISITE)	**Final Design		**Owner's Project Requirements document		ALL
			**Final Design		**Basis of Design document for commissioned systems		MEC, ELEC
			**Final Design		**Commissioning Plan		MEC, ELEC
			Closeout		Statement confirming all commissioning requirements have been incorporated into construction documents.		PE
			Closeout		Commissioning Report		PE
EAPR2		Minimum Energy Performance (PREREQUISITE)	Final Design		Statement listing the mandatory provisions of ASHRAE 90.1 that project meets relative to compliance with this prerequisite and indicating which compliance path was used.		MEC ELEC ARC
			Final Design		Statement indicating which compliance path option applies.		MEC
			Final Design		Option 1: Statement confirming simulation software capabilities and confirming assumptions and methodology.		MEC
			Final Design		Option 1: General information including simulation program, principal heating source, percent new construction and renovation, weather file, climate zone and Energy Star Target Finder score.		MEC
			Final Design		Option 1: Space summary listing, for each building use, the conditioned area, unconditioned area and total area and include total area for each category		MEC
			Final Design		Option 1: List of all simulation output advisory message data and show difference between baseline and proposed design		MEC
			Final Design		Option 1: Comparison summary for energy model inputs including description of baseline and design case energy model inputs, showing both by element type		MEC
			Final Design		Option 1: Energy type summary lising, for each energy type, utility rate description, units of energy and units of demand		MEC
			Final Design		Option 1: Statement indicating whether project uses on-site renewable energy. If yes, list all sources and indicate, for each source, backup energy type, annual energy generated, rated capacity and renewable energy cost		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, statement describing how exceptional calculation measure cost savings is determined		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, for each exceptional calculation method indicate energy types and, for each energy type, annual energy savings, annual cost savings, and brief descriptive narrative		MEC
			Final Design		Option 1: Baseline performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand for all four orientations. For each orientation indicate total annual energy use for each orientation and total annual process energy use.		MEC
			Final Design		Option 1: Baseline energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Proposed Design performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand, baseline annual and peak energy demand and percent savings. Indicate total annual energy use and total annual process energy use for both proposed design and baseline and percent savings.		MEC
			Final Design		Option 1: Proposed Design energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Energy cost and consumption by energy type report indicating, for each energy type, proposed design and baseline annual use and annual cost, percent savings annual use and annual cost. Indicate for renewable energy annual energy generated and annual cost. Indicate exceptional calculations annual energy savings and annual cost savings. Indicate building total annual energy use, annual energy cost for proposed design and baseline and indicate percent savings annual energy use and annual energy cost.		MEC

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Final Design		Option 1: Compliance summaries from energy simulation software. If software does not produce compliance summaries provide output summaries and example input summaries for baseline and proposed design supporting data in the tables. Output summaries must include simulated energy consumption by end use and total energy use and cost by energy type. Example input summaries should represent most common systems and must include occupancy, use pattern, assumed envelope component sizes and descriptive features and assumed mechanical equipment types and descriptive features		MEC
			Final Design		Option 1: Energy rate tariff from project energy providers (only if not using LEED Reference Guide default rates)		MEC
EAPR3		Fundamental Refrigerant Management (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies.		MEC
			Final Design		Option 2: Narrative describing phase out plan, including specific information on phase out dates and refrigerant quantities.		MEC
EA1		Optimize Energy Performance	Final Design		Statement indicating which compliance path option applies.		MEC
			Final Design		Option 1: Statement confirming simulation software capabilities and confirming assumptions and methodology.		MEC
			Final Design		Option 1: General information including simulation program, principal heating source, percent new construction and renovation, weather file, climate zone and Energy Star Target Finder score.		MEC
			Final Design		Option 1: Space summary listing, for each building use, the conditioned area, unconditioned area and total area and include total area for each category		MEC
			Final Design		Option 1: List of all simulation output advisory message data and show difference between baseline and proposed design		MEC
			Final Design		Option 1: Comparison summary for energy model inputs including description of baseline and design case energy model inputs, showing both by element type		MEC
			Final Design		Option 1: Energy type summary lising, for each energy type, utility rate description, units of energy and units of demand		MEC
			Final Design		Option 1: Statement indicating whether project uses on-site renewable energy. If yes, list all sources and indicate, for each source, backup energy type, annual energy generated, rated capacity and renewable energy cost		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, statement describing how exceptional calculation measure cost savings is determined		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, for each exceptional calculation method indicate energy types and, for each energy type, annual energy savings, annual cost savings, and brief descriptive narrative		MEC
			Final Design		Option 1: Baseline performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand for all four orientations. For each orientation indicate total annual energy use for each orientation and total annual process energy use.		MEC
			Final Design		Option 1: Baseline energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Proposed Design performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand, baseline annual and peak energy demand and percent savings. Indicate total annual energy use and total annual process energy use for both proposed design and baseline and percent savings.		MEC
			Final Design		Option 1: Proposed Design energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Energy cost and consumption by energy type report indicating, for each energy type, proposed design and baseline annual use and annual cost, percent savings annual use and annual cost. Indicate for renewable energy annual energy generated and annual cost. Indicate exceptional calculations annual energy savings and annual cost savings. Indicate building total annual energy use, annual energy cost for proposed design and baseline and indicate percent savings annual energy use and annual energy cost.		MEC

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			Final Design		Option 1: Compliance summaries from energy simulation software. If software does not produce compliance summaries provide output summaries and example input summaries for baseline and proposed design supporting data in the tables. Output summaries must include simulated energy consumption by end use and total energy use and cost by energy type. Example input summaries should represent most common systems and must include occupancy, use pattern, assumed envelope component sizes and descriptive features and assumed mechanical equipment types and descriptive features		MEC
			Final Design		Option 1: Energy rate tariff from project energy providers (only if not using LEED Reference Guide default rates)		MEC
EA2.1		On-Site Renewable Energy	Final Design		Statement indicating which compliance path option applies.		ELEC
			Final Design		List all on-site renewable energy sources and indicate, for each source, backup energy type, annual energy generated, rated capacity and renewable energy cost. Indicate total annual energy use (all sources), total annual energy cost (all sources) and percent renewable energy cost.		ELEC MEC
			Final Design		Option 1: Indicate, for renewable energy,proposed design total annual energy generated and annual cost.		ELEC MEC
			Final Design		Option 2: Indicate CBECS building type and building gross area. Provide the following CBECS data: median annual electrical intensity, median annual non-electrical fuel intensity, average electric energy cost, average non-electric fuel cost, annual electric energy use and cost, annual non-electric fuel use and cost.		ELEC MEC
			Final Design		Option 2: Narrative describing renewable systems and explaining calculation method used to estimate annual energy generated, including factors influencing performance.		ELEC MEC
EA2.2		On-Site Renewable Energy	Same as EA2.1		Same as EA2.1		ELEC MEC
EA2.3		On-Site Renewable Energy	Same as EA2.1		Same as EA2.1		ELEC MEC
EA3		Enhanced Commissioning	**Final Design		**Owner's Project Requirements document (OPR)		ALL
			**Final Design		**Basis of Design document for commissioned systems (BOD)		ELEC MEC
			**Final Design		**Commissioning Plan		ELEC MEC
			Closeout		Statement confirming all commissioning requirements have been incorporated into construction documents.		PE
			Closeout		**Commissioning Report		PE
			**Final Design		Statement by CxA confirming Commissioning Design Review		
			Closeout		Statement by CxA confirming review of Contractor submittals for compliance with OPR and BOD		PE
			Closeout		**Systems Manual		PE
			Closeout		Statement by CxA confirming completion of O&M staff and occupant training		PE
			Closeout		**Scope of work for post-occupancy review of building operation, including plan for resolution of outstanding issues		PE
			**Predesign		Statement confirming CxA qualifications and contractual relationships relative to work on this project, demonstrating that CxA is an independent third party.		MEC
EA4		Enhanced Refrigerant Management	Final Design		Refrigerant impact calculation table with all building data and calculation values as shown in LEED 2009 Reference Guide Example Calculations		MEC
			Final Design		Narrative describing any special circumstances or explanatory remarks		
			Closeout	X	Cut sheets highlighting refrigerant data for all HVAC components.		PE
EA5		Measurement & Verification	Closeout		Statement indicating which compliance path option applies.		PE
			Closeout		Measurement and Verification Plan including Corrective Action Plan		PE
			Closeout		**Scope of work for post-occupancy implementation of M&V plan including corrective action plan.		PE
EA6		Green Power	Closeout		Statement indicating which compliance path option applies.		PE
			Closeout		Option 1: Indicate proposed design total annual electric energy usage		PE
			Closeout		Option 2: Indicate actual total annual electric energy usage		PE
			Closeout		Option 3: Calculation indicating building type, total gross area, median electrical intensity and annual electric energy use		PE

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Closeout		Green power provider summary table indicating, for each purchase type, provider name, annual quantity green power purchased and contract term. Indicate total annual green power use and indicate percent green power		PE
			Closeout		Narrative describing how Green Power or Green Tags are purchased		PE
CATEGORY 4 – MATERIALS AND RESOURCES							
MRPR1		Storage & Collection of Recyclables (PREREQUISITE)	Final Design		Statement confirming that recycling area will accommodate recycling of plastic, metal, paper, cardboard and glass. Narrative indicating any other materials addressed and coordination with pickup.		ARC
MR1.1		Building Reuse: Maintain 55% of Existing Walls, Floors & Roof	**Final Design		If project includes a building addition, confirm that area of building addition does not exceed 2x the area of the existing building.		ARC
			**Final Design		Spreadsheet listing, for each building structural/envelope element, the existing area and reused area. Total percent reused.		ARC
MR1.2		Building Reuse: Maintain 75% of Existing Walls, Floors & Roof	Same as MR1.1		Same as MR1.1		ARC
MR1.3		Building Reuse: Maintain 95% of Existing Walls, Floors & Roof	Same as MR1.1		Same as MR1.1		ARC
MR1.4		Building Reuse: Maintain 50% of Interior Non-Structural Elements	**Final Design		If project includes a building addition, confirm that area of building addition does not exceed 2x the area of the existing building.		ARC
			**Final Design		Spreadsheet listing, for each building interior non-structural element, the existing area and reused area. Total percent reused.		ARC
MR2.1		Construction Waste Management: Divert 50% From Disposal	**Preconstruction		Waste Management Plan		PE
			**Construction Quarterly and Closeout		Spreadsheet calculations indicating material description, disposal/diversion location (or recycling hauler), weight, total waste generated, total waste diverted, diversion percentage		PE
			**Construction Quarterly and Closeout		Receipts/tickets for all items on spreadsheet		PE
MR2.2		Construction Waste Management: Divert 75% From Disposal	Same as MR2.1		Same as MR2.1		PE
MR3.1		Materials Reuse: 5%	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each reused/salvaged material, material description, source or vendor, cost. Total reused/salvaged materials percentage.		PE
MR3.2		Materials Reuse: 10%	Same as MR3.1		Same as MR3.1		PE
MR4.1		Recycled Content: 10% (post-consumer + 1/2 pre-consumer)	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each recycled content material, material name/description, manufacturer, cost, post-consumer recycled content percent, pre-consumer recycled content percent, source of recycled content data. Total post-consumer content materials cost, total pre-consumer content materials cost, total combined recycled content materials cost, recycled content materials percentage.		PE
			Final Design or NLT Preconstruction		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal.		PE
			Closeout	X	Manufacturer published product data or certification, confirming recycled content percentages in spreadsheet		PE
MR4.2		Recycled Content: 20% (post-consumer + 1/2 pre-consumer)	Same as MR4.1		Same as MR4.1		PE
MR5.1		Regional Materials:10% Extracted, Processed & Manufactured Regionally	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each regional material, material name/description, manufacturer, cost, percent compliant, harvest distance, manufacture distance, source of manufacture and harvest location data. Total regional materials cost, regional materials percentage.		PE
			Preconstruction		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal.		PE
			Closeout	X	Manufacturer published product data or certification confirming regional material percentages in spreadsheet		PE

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MR5.2		Regional Materials:20% Extracted, Processed & Manufactured Regionally	Same as MR5.1		Same as MR5.1		PE
MR6		Rapidly Renewable Materials	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each rapidly renewable material, material name/description, manufacturer, cost, rapidly renewable content percent, rapidly renewable product value. Total rapidly renewable product value, rapidly renewable materials percentage.		PE
			Final Design		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal.		ARC
			Closeout	X	Manufacturer published product data or certification confirming rapidly renewable material percentages in spreadsheet		PE
MR7		Certified Wood	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each certified wood material, material name/description, vendor, cost, wood component percent, certified wood percent of wood component, FSC chain of custody certificate number. Total certified wood product value, certified wood materials percentage.		PE
			Final Design or NLT Preconstruction		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal.		PE
			Closeout	X	Vendor invoices, FSC chain of custody certificates and anufacturer published product data or certification confirming all certified wood materials percentages in spreadsheet.		PE
INDOOR ENVIRONMENTAL QUALITY							
EQPR1		Minimum IAQ Performance (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies, stating applicable criteria/requirement, and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design, including specifics about fresh air intake volumes and special considerations.		MEC
EQPR2		Environmental Tobacco Smoke (ETS) Control (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies, stating applicable criteria/requirement, and confirming that project has been designed to meet the applicable requirements.		ARC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements (signage, exhaust system, room separation details, etc).		ARC
EQ1		Outdoor Air Delivery Monitoring	Final Design		Statement indicating which option for compliance applies and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design and CO2 monitoring system, including specifics about monitors, operational parameters and setpoints.		MEC
			Closeout	X	Cut sheets for CO2 monitoring system.		PE
EQ2		Increased Ventilation	Final Design		Statement indicating which option for compliance applies and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design, including specifics about zone fresh air intake volumes and demonstrating compliance.		MEC
			Final Design		Option 2: Narrative describing design method used for determining natural ventilation design, including calculation methodology/model results and demonstrating compliance.		MEC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements.		MEC
EQ3.1		Construction IAQ Management Plan: During Construction	**Preconstruction		Construction IAQ Management Plan		PE
			Closeout		Statement confirming whether air handling units were operated during construction		PE
			Closeout		Dated jobsite photos showing examples of IAQ management plan practices being implemented. Label photos to indicate which practice they demonstrate. Minimum one photo of each practice at each building.		PE

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			Closeout		Spreadsheet indicating, for each filter installed during construction, the manufacturer, model number, MERV rating, location installed, and if it was replaced immediately prior to occupancy.		PE
EQ3.2		Construction IAQ Management Plan: Before Occupancy	**Preconstruction		Construction IAQ Management Plan		PE
			Closeout		Statement indicating which option for compliance applies and confirming that required activities have occurred that meet the applicable requirements.		PE
			Closeout		Option 1a: Narrative describing the project's flushout process, including specifics about temperature, airflow and duration, special considerations (if any) and demonstrating compliance.		PE
			Closeout		Option 1b: Narrative describing the project's pre-occupancy and post-occupancy flushout processes, including specifics about temperature, airflow and duration, special considerations (if any) and demonstrating compliance.		PE
			Closeout		Option 2: Narrative describing the project's IAQ testing process, including specifics about contaminants tested for, locations, remaining work at time of test, retest parameters and special considerations (if any).		PE
			Closeout		Option 2: IAQ testing report demonstrating compliance.		PE
EQ4.1		Low Emitting Materials: Adhesives & Sealants	Closeout		Spreadsheet indicating, for each applicable indoor adhesive, sealant and sealant primer used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data.		PE
			Closeout		Spreadsheet indicating, for each applicable indoor aerosol adhesive, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data - OR - Statement confirming no indoor aerosol adhesives were used for the project.		PE
			Closeout	X	Manufacturer published product data or certification confirming material VOCs in spreadsheet		PE
EQ4.2		Low Emitting Materials: Paints & Coatings	Closeout		Spreadsheet indicating, for each applicable indoor paint and coating used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data.		PE
			Closeout		Spreadsheet indicating, for each applicable indoor anti-corrosive/anti-rust paint and coating used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data - OR - Statement confirming no indoor anti-corrosive/anti-rust paints were used for the project .		PE
			Closeout	X	Manufacturer published product data or certification confirming material VOCs in spreadsheet		PE
EQ4.3		Low Emitting Materials: Flooring Systems	Closeout		Spreadsheet indicating, for each indoor flooring system used, the manufacturer, product name/model number, if it meets LEED requirement (yes/no) and source of LEED compliance data.		PE
			Closeout		Spreadsheet indicating, for each indoor carpet cushion used, the manufacturer, product name/model number, if it meets LEED requirement (yes/no) and source of LEED compliance data - OR - Statement confirming no indoor carpet cushion was used for the project.		PE
			Closeout	X	Manufacturer published product data or certification confirming material compliance label in spreadsheet		PE
EQ4.4		Low Emitting Materials: Composite Wood & Agrifiber Products	Closeout		Spreadsheet indicating, for each indoor composite wood and agrifiber product used, the manufacturer, product name/model number, if it contains added urea formaldehyde (yes/no) and source of LEED compliance data.		PE
			Closeout	X	Manufacturer published product data or certification confirming material urea formaldehyde in spreadsheet		PE
EQ5		Indoor Chemical & Pollutant Source Control	Closeout		Spreadsheet indicating, for each permanent entryway system used, the manufacturer, product name/model number and description of system.		PE
			Final Design		List of drawing and specification references that convey locations and installation methods for entryway systems.		ARC
			Final Design		Spreadsheet indicating, for each chemical use area, the room number, room name, description of room separation features (walls, floor/ceilings, openings) and pressure differential from surrounding spaces with doors closed - OR - Statement confirming that project includes no chemical use areas and that no hazardous cleaning materials are needed for building maintenance.		ARC MEC
			Final Design		If project includes chemical use areas: List of drawing and specification references that convey locations of chemical use areas, room separation features and exhaust system.		ARC MEC

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			Final Design		If project includes places where water and chemical concentrate mixing occurs: List of drawing and specification references that convey provisions for containment of hazardous liquid wastes OR - Statement confirming that project includes no places where water and chemical concentrate mixing occurs.		ARC MEC
			Closeout		If project includes chemical use areas: Spreadsheet indicating, for AHUs/mechanical ventilation equipment serving occupied areas, the manufacturer, model number, MERV rating, location installed, and if it was replaced immediately prior to occupancy (yes/no) - OR - Statement confirming that project does not use mechanical equipment for ventilation of occupied areas.		PE
EQ6.1		Controllability of Systems: Lighting	Final Design		Calculation indicating total number of individual workstations, number of workstations with individual lighting controls and the percentage of workstations with individual lighting controls.		ELEC
			Final Design		For each shared multi-occupant space, provide a brief description of lighting controls.		ELEC
			Final Design		Narrative describing lighting control strategy, including type and location of individual controls and type and location of controls in shared multi-occupant spaces.		ELEC
EQ6.2		Controllability of Systems: Thermal Comfort	Final Design		Calculation indicating total number of individual workstations, number of workstations with individual thermal comfort controls and the percentage of workstations with individual thermal comfort controls.		MEC
			Final Design		For each shared multi-occupant space, provide a brief description of thermal comfort controls.		MEC
			Final Design		Narrative describing thermal comfort control strategy, including type and location of individual and shared multi-occupant controls.		MEC
EQ7.1		Thermal Comfort: Design	Final Design		Design criteria spreadsheet indicating, for spring, summer, fall and winter, maximum indoor space design temperature, minimum indoor space design temperature and maximum indoor space design humidity.		MEC
			Final Design		Narrative describing method used to establish thermal comfort control conditions and how systems design addresses the design criteria, including compliance with the referenced standard.		MEC
EQ7.2		Thermal Comfort: Verification	Final Design		Narrative describing the scope of work for the thermal comfort survey, including corrective action plan development		MEC
			Final Design		List of drawing and specification references that convey permanent monitoring system.		MEC
EQ8.1		Daylight & Views: Daylight 75% of Spaces	Final Design		Option 2: Table indicating all regularly occupied spaces with space area and space area with compliant daylight zone. Sum of regularly occupied areas and regularly occupied areas withcompliant daylight zone. Percentage calculation of areas withcompliant daylight zone to total regularly occupied areas.		ARC
			Final Design		Option 1: Simulation model method, software and output data		ELEC
			Final Design		Option 1: Table indicating all regularly occupied spaces with space area, space area with minimum 25 footcandles daylighting illumination, and method of providing glare control. Sum of regularly occupied areas and regularly occupied areas with 25 fc daylighting. Percentage calculation of areas with 25 fc daylighting to total regularly occupied areas.		ELEC
			Final Design		For all occupied spaces excluded from the calculation, provide narrative indicating reasons for excluding the space.		ARC
			Final Design		List of drawing and specification references that convey exterior glazed opening head and sill heights, glazing performance properties and glare control/sunlight redirection devices.		ARC
			Closeout	X	Manufacturer published product data or certification confirming glazing Tvis in spreadsheet		PE
EQ8.2		Daylight & Views: Views for 90% of Spaces	Final Design		Table indicating all regularly occupied spaces with space area and space area with access to views. Sum of regularly occupied areas and regularly occupied areas with access to views. Percentage calculation of areas with views to total regularly occupied areas.		ARC
			Final Design		For all occupied spaces excluded from the calculation, provide narrative indicating reasons for excluding the space.		ARC
			Final Design		LEED Floor plan drawings showing line of sight diagramming of views areas in each regularly occupied space. List of drawing/specification references that convey exterior glazed opening head and sill heights.		ARC
INNOVATION & DESIGN PROCESS							

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IDc1.1		Innovation in Design	Final Design		Narrative decribing intent, requirement for credit, project approach to the credit. List of drawings and specification references that convey implementation of credit. All other documentation that validates claimed credit.		
IDc1.2		Innovation in Design	Final Design				
IDc1.3		Innovation in Design	Final Design				
IDc1.4		Innovation in Design	Final Design				
IDc2		LEED Accredited Professional	Final Design		Narrative indicating name of LEED AP, company name of LEED AP, description of LEED AP's role and responsiblilities in the project.		ARC

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
GENERAL							
	GENERAL - All calculations shall be in accordance with LEED 2.2 Reference Guide.						
	GENERAL: Obtain excel version of this spreadsheet at http://en.sas.usace.army.mil/enWeb, "Engineering Criteria". OCT09REV						
	GENERAL - For all credits, narrative/comments may be added to describe special circumstances or considerations regarding the project's credit approach.						
	GENERAL - Include all required LEED drawings indicated below in contract drawings with applicable discipline drawings, labeled For Reference Only.						
	NOTE: Each submittal indicated with "**" differs from LEED certified project submittals by either having a different due date or being an added submittal not required by GBCI. OCT09REV						
	OCT09REV GENERAL - Audit documentation may include but is not limited to what is indicated in this table.						
			Closeout		List of all Final Design submittals revised after final design to reflect actual closeout conditions. Revised Final Design submittals. - OR - Statement confirming that no changes have been made since final design that effect final design submittal documents.		Proj Engr (PE)
CATEGORY 1 - SUSTAINABLE SITES							
SSPR1		Construction Activity Pollution Prevention (PREREQUISITE)	**Final Design		List of drawings and specifications that address the erosion control, particulate/dust control and sedimentation control measures to be implemented.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			**Final Design		Narrative that indicates which compliance path was used (NPDES or Local standards) and describes the measures to be implemented on the project. If a local standard was followed, provide specific information to demonstrate that the local standard is equal to or more stringent than the NPDES program.		CIV
SS1		Site Selection	Final Design		Statement confirming that project does not meet any of the prohibited criteria.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design	X	LEED Site plan drawing that shows all proposed development, line depicting boundary of all bodies of water and/or wetlands within 100 feet of project boundary and a line depicting 5' elevation above 100 year flood line that falls within project boundary. Not required if neither condition applies.		CIV
SS2		Development Density & Community Connectivity	Final Design		Option 1: LEED Site vicinity plan showing project site and surrounding development. Show density boundary or note drawing scale.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Table indicating, for project site and all surrounding sites within density radius (keyed to site vicinity plan), site area and building area. Project development density calculation. Density radius calculation. Development density calculation within density radius.		CIV
			Final Design		Option 2: LEED Site vicinity plan showing project site, the 1/2 mile community radius, pedestrian walkways and the locations of the residential development(s) and Basic Services surrounding the project site.		CIV
			Final Design		Option 2: List (including business name and type) of all Basic Services facilities within the 1/2 mile radius, keyed to site vicinity plan.		CIV
SS3		Brownfield Redevelopment	Final Design		Narrative describing contamination and the remediation activities included in project. Include statement indicating how site was determined to be a brownfield.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS4.1		Alternative Transportation: Public Transportation Access	Final Design		Statement indicating which option for compliance applies. State whether public transportation is existing or proposed and, if proposed, cite source of this information.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: LEED Site vicinity plan showing project site, mass transit stops and pedestrian path to them with path distance noted.		CIV
			Final Design		Option 2: LEED Site vicinity plan showing project site, bus stops and pedestrian path to them with path distance noted.		CIV
SS4.2		Alternative Transportation: Bicycle Storage & Changing Rooms	Final Design		FTE calculation. Bicycle storage spaces calculation. Shower/changing facilities calculation.		CIV
			Final Design		List of drawings that show the location(s) of bicycle storage areas. Statement indicating distance from building entrance.		CIV
			Final Design		List of drawings that show the location(s) of shower/changing facilities and, if located outside the buiding, statement indicating distance from building entrance.		ARC
SS4.3		Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	Final Design		Statement indicating which option for compliance applies. FTE calculation. Statement indicating total parking capacity of site.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Low-emission & fuel-efficient vehicle calculation.		CIV

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Final Design		Option 1: List of drawings and specification references that show location and number of preferred parking spaces for low-emission & fuel-efficient vehicles and signage.		CIV
			Final Design		Option 1: Statement indicating quantity, make, model and manufacturer of low-emission & fuel-efficient vehicles to be provided. Statement confirming vehicles are zero-emission or indicating ACEEE vehicle scores.		CIV
			Final Design		Option 2: Low-emission & fuel-efficient vehicle parking calculation.		CIV
			Final Design		Option 2: List of drawings and specification references that show location and number of preferred parking spaces and signage.		CIV
			Final Design		Option 3: Low-emission & fuel-efficient vehicle refueling station calculation.		CIV
			Final Design		Option 3: List of drawings and specifications indicating location and number of refueling stations, fuel type and fueling capacity for each station for an 8-hour period.		CIV
			Closeout	X	Option 3: Construction product submittals indicating what was provided and confirming compliance with respect to fuel type and fueling capacity for each station for an 8-hour period.		CIV
SS4.4		Alternative Transportation: Parking Capacity	Final Design		Statement indicating which option for compliance applies.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Preferred parking calculation including number of spaces required, total provided, preferred spaces provided and percentage.		CIV
			Final Design		Option 2: FTE calculation. Preferred parking calculation including number of spaces provided, preferred spaces provided and percentage.		CIV
			Final Design		Options 1 and 2: List of drawings and specification references that show location and number of preferred parking spaces and signage.		CIV
			Final Design		Option 3: Narrative indicating number of spaces required and provided and describing infrastructure and support programs with description of project features to support them.		CIV
SS5.1		Site Development: Protect or Restore Habitat	**Final Design		Option 1: List of drawing and specification references that convey site disturbance limits.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			**Final Design		Option 2: LEED site plan drawing that delineates boundaries of each preserved and restored habitat area with area (sf) noted for each.		CIV
			**Final Design		Option 2: Percentage calculation of restored/preserved habitat to total site area. List of drawings and specification references that convey restoration planting requirements.		CIV
SS5.2		Site Development: Maximize Open Space	Final Design		Option 2: LEED site plan drawing delineating boundary of vegetated open space adjacent to building with areas of building footprint and designated open space noted.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS6.1		Stormwater Design: Quantity Control	Final Design		Statement indicating which option for compliance applies.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Option 1: Indicate pre-development and post-development runoff rate(cfs) and runoff quantity (cf) -OR - Narrative describing site conditions, measures and controls to be implemented to prevent excessive stream velocities and erosion.		CIV
			Final Design		Option 2: Indicate pre-development and post-development runoff rate(cfs) and runoff quantity (cf). Indicate percent reduction in each.		CIV
SS6.2		Stormwater Design: Quality Control	Final Design		For non-structural controls, list all BMPs used and, for each, describe the function of the BMP and indicate the percent annual rainfall treated. List all structural controls and, for each, describe the pollutant removal and indicate the percent annual rainfall treated.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS7.1		Heat Island Effect: Non-Roof	**Final Design		LEED site plan drawing indicating locations and quantities of each paving type, including areas of shaded pavement. Percentage calculation indicating percentage of reflective/shaded/open grid area.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
SS7.2		Heat Island Effect: Roof	Final Design		Option 1: Percentage calculation indicating percentage of SRI compliant roof area. List of drawings and specification references that convey SRI requirements and roof slopes.		ARC

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Final Design OCT09REV		Option 1: List of specified roof materials indicating, for each, product type, manufacturer, product name and identification if known, SRI value and roof slope. OCT09REV		ARC
			**Closeout OCT09REV		Option 1: List of installed roof materials indicating, for each, manufacturer, product name and identification, SRI value and roof slope.		PE
			Closeout	X	Option 1: Manufacturer published product data or certification confirming SRI		PE
			Final Design		Option 2: Percentage calculation indicating percentage of vegetated roof area.		ARC
			Final Design		Option 3: Combined reflective and green roof calculation.		ARC
			Final Design OCT09REV		Option 3: List of specified roof materials indicating, for each, product type, manufacturer, product name and identification if known, SRI value and roof slope. OCT09REV		
			**Closeout OCT09REV		Option 3: List of installed roof materials indicating, for each, manufacturer, product name and identification, SRI value and roof slope.		PE
			Closeout	X	Option 3: Manufacturer published product data or certification confirming SRI		PE
SS8		Light Pollution Reduction	Final Design		Interior Lighting: List of drawings and specification references that convey interior lighting requirements (location and type of all installed interior lighting, location of non-opaque exterior envelope surfaces, allowing confirmation that maximum candela value from interiorfixtures does not intersect non-opaque building envelope surfaces). - OR - List of drawings and specification references that show automatic lighting controls that turn off non-essential lighting during non-business hours.		ELEC
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		ELEC
			Final Design		Exterior Lighting: List of drawings and specification references that convey exterior lighting requirements (location and type of all site lighting and building facade/landscape lighting).		ELEC
			Final Design		Exterior Site Lighting Power Density (LPD): Tabulation for exterior site lighting indicating, for each location identification or description, units of measure, area or distance of the location, actual LPD using units consistent with ASHRAE 90.1, and the ASHRAE allowable LPD for that type of location. Percentage calculation of actual versus allowable LPD for all site lighting.		ELEC
			Final Design		Exterior Building Facade/Landscape Lighting Power Density (LPD): Tabulation for exterior building facade/landscape lighting indicating, for each location identification or description, units of measure, area or distance of the location, actual LPD using units consistent with ASHRAE 90.1, and the ASHRAE allowable LPD for that type of location. Percentage calculation of actual versus allowable LPD for all building facade/landscape lighting.		ELEC
			Final Design		Exterior Lighting IESNA Zone: Indicate which IESNA zone is applicable to the project.		ELEC
			Final Design		Exterior Lighting Site Lumen table indicating, for each fixture type, quantity installed, initial lamp lumens per luminaire, initial lamp lumens above 90 degrees from Nadir, total lamp lumens and total lamp lumens above 90 degrees. Percentage of site lamp lumens above 90 degrees from nadir to total lamp lumens.		ELEC
			Final Design		Exterior Lighting Narrative describing analysis used for addressing requirements for light trespass at site boundary and beyond.		ELEC
CATEGORY 2 – WATER EFFICIENCY							
WE1.1		Water Efficient Landscaping: Reduce by 50%	Final Design		Statement indicating which option for compliance applies.		CIV
OCT09REV			**Final Design		Delineation and labeling of "LEED Project site boundary" on site plan.		CIV
			Final Design		Calculation indicating, for baseline and design case, total water applied, total potable water applied, total non-potable water applied. Design case percent potable water reduction. If nonpotable water is used, indicate source of nonpotable water.		CIV
			Final Design		List of landscape plan drawings.		CIV
			Final Design		Narrative describing landscaping and irrigation design strategies, including water use calculation methodology used to determine savings and, if non-potable water is used, specific information about source and available quantity.		CIV
WE1.2		Water Efficient Landscaping: No Potable Water Use or No Irrigation	Same as WE1.1		Same as WE1.1		CIV
WE2		Innovative Wastewater Technologies	Final Design		Statement confirming which option for compliance applies.		MEC

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			Final Design		Statement confirming which occupancy breakdown applies (default or special). For special occupancy breakdown, indicate source and explanation for ratio.		MEC
			Final Design		Occupancy calculation including male/female numbers for FTEs, visitors, students, customers, residential and other type occupants/users		MEC
			Final Design		Statement indicating percent of male restrooms with urinals. Statement indicating annual days of operation.		MEC
			Final Design		Baseline flush fixture calculation spreadsheet indicating, for each fixture type, gender, flush rate, daily uses per person for each occupant type identified in occupancy calculation and annual baseline flush fixture water usage.		MEC
			Final Design		Design case flush fixture calculation spreadsheet indicating, for each fixture type, gender, fixture manufacturer, fixture model number, flush rate, percent of occupants using this fixture type, daily uses per person for each occupant type identified in occupancy calculation and annual design case flush fixture water usage.		MEC
			Final Design		Option 1: If onsite non-potable water is used, identify source(s), indicate annual quantity from each source and indicate total annual quantity from all onsite non-potable water sources.		MEC
			Final Design		Option 1: Summary calculation indicating baseline annual water consumption, design case annual water consumption, non-potable annual water consumption and total percentage annual water savings.		MEC
			Final Design		Option 2: Statement confirming on-site treatment of all generated wastewater to tertiary standards and all treated wastewater is either infiltrated or used on-site.		MEC
			Final Design		Option 2: List of drawing and specification references that convey design of on-site wastewater treatment features.		CIV
			Final Design		Option 2: On-site water treatment quantity calculation indicating all on-site wastewater source(s), annual quantity treated, annual quantity infiltrated and annual quantity re-used on site from each source and totals for annual quantity treated, annual quantity infiltrated and annual quantity re-used on site from all sources.		CIV
			Final Design		Option 2: Wastewater summary calculation indicating design case annual flush fixture water usage, annual on-site water treatment and percentage sewage convyance reduction.		MEC
			Final Design		Narrative describing project strategy for reduction of potable water use for sewage conveyance, including specific information on reclaimed water usage and treated wastewater usage.		MEC
WE3.1		Water Use Reduction: 20% Reduction	Final Design		Statement confirming which occupancy breakdown applies (default or special). For special occupancy breakdown, indicate source and explanation for ratio.		MEC
			Final Design		Occupancy calculation including male/female numbers for FTEs, visitors, students, customers, residential and other type occupants/users		MEC
			Final Design		Statement indicating percent of male restrooms with urinals. Statement indicating annual days of operation.		MEC
			Final Design		Baseline flush fixture calculation spreadsheet indicating, for each fixture type, gender, flush rate, daily uses per person for each occupant type identified in occupancy calculation and annual baseline flush fixture water usage.		MEC
			Final Design		Design case flush fixture calculation spreadsheet indicating, for each fixture type, gender, fixture manufacturer, fixture model number, flush rate, percent of occupants using this fixture type, daily uses per person for each occupant type identified in occupancy calculation and annual design case flush fixture water usage.		MEC
			Closeout	X	Manufacturer published product data or certification confirming fixture water usage.		PE
WE3.2		Water Use Reduction: 30% Reduction	Same as WE3.1		Same as WE3.1		MEC
CATEGORY 3 – ENERGY AND ATMOSPHERE							
EAPR1		Fundamental Commissioning of the Building Energy Systems (PREREQUISITE)	**Final Design		**Owner's Project Requirements document		ALL
			**Final Design		**Basis of Design document for commissioned systems		MEC, ELEC
			**Final Design		**Commissioning Plan		MEC, ELEC

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			Closeout		Statement confirming all commissioning requirements have been incorporated into construction documents.		PE
			Closeout		Commissioning Report		PE
EAPR2		Minimum Energy Performance (PREREQUISITE)	Final Design		Statement listing the mandatory provisions of ASHRAE 90.1 that project meets relative to compliance with this prerequisite and indicating which compliance path was used.		MEC ELEC ARC
EAPR3		Fundamental Refrigerant Management (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies.		MEC
			Final Design		Option 2: Narrative describing phase out plan, including specific information on phase out dates and refrigerant quantities.		MEC
EA1		Optimize Energy Performance	Final Design		Statement indicating which compliance path option applies.		MEC
			Final Design		Option 1: Statement confirming simulation software capabilities and confirming assumptions and methodology.		MEC
			Final Design		Option 1: General information including simulation program, principal heating source, percent new construction and renovation, weather file, climate zone and Energy Star Target Finder score.		MEC
			Final Design		Option 1: Space summary listing, for each building use, the conditioned area, unconditioned area and total area and include total area for each category		MEC
			Final Design		Option 1: List of all simulation output advisory message data and show difference between baseline and proposed design		MEC
			Final Design		Option 1: Comparison summary for energy model inputs including description of baseline and design case energy model inputs, showing both by element type		MEC
			Final Design		Option 1: Energy type summary lising, for each energy type, utility rate description, units of energy and units of demand		MEC
			Final Design		Option 1: Statement indicating whether project uses on-site renewable energy. If yes, list all sources and indicate, for each source, backup energy type, annual energy generated, rated capacity and renewable energy cost		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, statement describing how exceptional calculation measure cost savings is determined		MEC
			Final Design		Option 1: If analysis includes exceptional calculation methods, for each exceptional calculation method indicate energy types and, for each energy type, annual energy savings, annual cost savings, and brief descriptive narrative		MEC
			Final Design		Option 1: Baseline performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand for all four orientations. For each orientation indicate total annual energy use for each orientation and total annual process energy use.		MEC
			Final Design		Option 1: Baseline energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Proposed Design performance rating compliance report table indicating, for each energy end use, whether it is a process load, energy type, annual and peak energy demand, baseline annual and peak energy demand and percent savings. Indicate total annual energy use and total annual process energy use for both proposed design and baseline and percent savings.		MEC
			Final Design		Option 1: Proposed Design energy cost table indicating, for each energy type, annual cost for all four orientations and building total energy cost.		MEC
			Final Design		Option 1: Energy cost and consumption by energy type report indicating, for each energy type, proposed design and baseline annual use and annual cost, percent savings annual use and annual cost. Indicate for renewable energy annual energy generated and annual cost. Indicate exceptional calculations annual energy savings and annual cost savings. Indicate building total annual energy use, annual energy cost for proposed design and baseline and indicate percent savings annual energy use and annual energy cost.		MEC

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PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Final Design		Option 1: Compliance summaries from energy simulation software. If software does not produce compliance summaries provide output summaries and example input summaries for baseline and proposed design supporting data in the tables. Output summaries must include simulated energy consumption by end use and total energy use and cost by energy type. Example input summaries should represent most common systems and must include occupancy, use pattern, assumed envelope component sizes and descriptive features and assumed mechanical equipment types and descriptive features		MEC
			Final Design		Option 1: Energy rate tariff from project energy providers (only if not using LEED Reference Guide default rates)		MEC
EA2.1		On-Site Renewable Energy	Final Design		Statement indicating which compliance path option applies.		ELEC
			Final Design		List all on-site renewable energy sources and indicate, for each source, backup energy type, annual energy generated, rated capacity and renewable energy cost. Indicate total annual energy use (all sources), total annual energy cost (all sources) and percent renewable energy cost.		ELEC MEC
			Final Design		Option 1: Indicate, for renewable energy,proposed design total annual energy generated and annual cost.		ELEC MEC
			Final Design		Option 2: Indicate CBECS building type and building gross area. Provide the following CBECS data: median annual electrical intensity, median annual non-electrical fuel intensity, average electric energy cost, average non-electric fuel cost, annual electric energy use and cost, annual non-electric fuel use and cost.		ELEC MEC
			Final Design		Option 2: Narrative describing renewable systems and explaining calculation method used to estimate annual energy generated, including factors influencing performance.		ELEC MEC
EA2.2		On-Site Renewable Energy	Same as EA2.1		Same as EA2.1		ELEC MEC
EA2.3		On-Site Renewable Energy	Same as EA2.1		Same as EA2.1		ELEC MEC
EA3		Enhanced Commissioning	**Final Design		**Owner's Project Requirements document (OPR)		ALL
			**Final Design		**Basis of Design document for commissioned systems (BOD)		ELEC MEC
			**Final Design		**Commissioning Plan		ELEC MEC
			Closeout		Statement confirming all commissioning requirements have been incorporated into construction documents.		PE
			Closeout		**Commissioning Report		PE
			**Final Design		Statement by CxA confirming Commissioning Design Review		
			Closeout		Statement by CxA confirming review of Contractor submittals for compliance with OPR and BOD		PE
			Closeout		**Systems Manual		PE
			Closeout		Statement by CxA confirming completion of O&M staff and occupant training		PE
			Closeout		**Scope of work for post-occupancy review of building operation, including plan for resolution of outstanding issues		PE
			**Predesign		Statement confirming CxA qualifications and contractual relationships relative to work on this project, demonstrating that CxA is an independent third party.		MEC
EA4		Enhanced Refrigerant Management	Final Design		Refrigerant impact calculation table with all building data and calculation values as shown in LEED 2.2 Reference Guide Example Calculations		MEC
			Final Design		Narrative describing any special circumstances or explanatory remarks OCT09REV		
			Closeout	X	Cut sheets highlighting refrigerant data for all HVAC components.		PE
EA5		Measurement & Verification	Closeout		Statement indicating which compliance path option applies.		PE
			Closeout		Measurement and Verification Plan		PE
			Closeout		**Scope of work for post-occupancy implementation of M&V plan		PE
EA6		Green Power	Closeout		Statement indicating which compliance path option applies.		PE
			Closeout		Option 1: Indicate proposed design total annual electric energy usage		PE
			Closeout		Option 2: Indicate actual total annual electric energy usage		PE
			Closeout		Option 3: Calculation indicating building type, total gross area, median electrical intensity and annual electric energy use		PE

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			Closeout		Green power provider summary table indicating, for each purchase type, provider name, annual quantity green power purchased and contract term. Indicate total annual green power use and indicate percent green power		PE
			Closeout		Narrative describing how Green Power or Green Tags are purchased		PE
CATEGORY 4 – MATERIALS AND RESOURCES							
MRPR1		Storage & Collection of Recyclables (PREREQUISITE)	Final Design		Statement confirming that recycling area will accommodate recycling of plastic, metal, paper, cardboard and glass. Narrative indicating any other materials addressed and coordination with pickup.		ARC
MR1.1		Building Reuse: Maintain 75% of Existing Walls, Floors & Roof	**Final Design		If project includes a building addition, confirm that area of building addition does not exceed 2x the area of the existing building.		ARC
			**Final Design		Spreadsheet listing, for each building structural/envelope element, the existing area and reused area. Total percent reused.		ARC
MR1.2		Building Reuse: Maintain 95% of Existing Walls, Floors & Roof	Same as MR1.1		Same as MR1.1		ARC
MR1.3		Building Reuse: Maintain 50% of Interior Non-Structural Elements	**Final Design		If project includes a building addition, confirm that area of building addition does not exceed 2x the area of the existing building.		ARC
			**Final Design		Spreadsheet listing, for each building interior non-structural element, the existing area and reused area. Total percent reused.		ARC
MR2.1		Construction Waste Management: Divert 50% From Disposal	**Preconstruction		Waste Management Plan		PE
			**Construction Quarterly and Closeout		Spreadsheet calculations indicating material description, disposal/diversion location (or recycling hauler), weight, total waste generated, total waste diverted, diversion percentage		PE
					OCT09REV		
			**Construction Quarterly and Closeout		Receipts/tickets for all items on spreadsheet		PE
MR2.2		Construction Waste Management: Divert 75% From Disposal	Same as MR2.1		Same as MR2.1		PE
MR3.1		Materials Reuse: 5%	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each reused/salvaged material, material description, source or vendor, cost. Total reused/salvaged materials percentage.		PE
MR3.2		Materials Reuse: 10%	Same as MR3.1		Same as MR3.1		PE
MR4.1		Recycled Content: 10% (post-consumer + 1/2 pre-consumer)	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each recycled content material, material name/description, manufacturer, cost, post-consumer recycled content percent, pre-consumer recycled content percent, source of recycled content data. Total post-consumer content materials cost, total pre-consumer content materials cost, total combined recycled content materials cost, recycled content materials percentage.		PE
			Final Design or NLT Preconstruction		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal. OCT09REV		PE
			Closeout	X	Manufacturer published product data or certification, confirming recycled content percentages in spreadsheet		PE
MR4.2		Recycled Content: 20% (post-consumer + 1/2 pre-consumer)	Same as MR4.1		Same as MR4.1		PE
MR5.1		Regional Materials:10% Extracted, Processed & Manufactured Regionally	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each regional material, material name/description, manufacturer, cost, percent compliant, harvest distance, manufacture distance, source of manufacture and harvest location data. Total regional materials cost, regional materials percentage.		PE
			Preconstruction OCT09REV		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal. OCT09REV		PE
			Closeout	X	Manufacturer published product data or certification confirming regional material percentages in spreadsheet		PE

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MR5.2		Regional Materials:20% Extracted, Processed & Manufactured Regionally	Same as MR5.1		Same as MR5.1		PE
MR6		Rapidly Renewable Materials	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each rapidly renewable material, material name/description, manufacturer, cost, rapidly renewable content percent, rapidly renewable product value. Total rapidly renewable product value, rapidly renewable materials percentage.		PE
			Final Design OCT09REV		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal. OCT09REV		ARC
			Closeout	X	Manufacturer published product data or certification confirming rapidly renewable material percentages in spreadsheet		PE
MR7		Certified Wood	Closeout		Statement indicating total materials value and whether default or actual.		PE
			Closeout		Spreadsheet calculations indicating, for each certified wood material, material name/description, vendor, cost, wood component percent, certified wood percent of wood component, FSC chain of custody certificate number. Total certified wood product value, certified wood materials percentage.		PE
			Final Design or NLT Preconstruction		**Purchasing Plan consisting of spreadsheet indicated above, filled in with estimated quantities to show strategy for achieving goal. OCT09REV		PE
			Closeout	X	Vendor invoices, FSC chain of custody certificates and anufacturer published product data or certification confirming all certified wood materials percentages in spreadsheet.		PE
CATEGORY 5 – INDOOR ENVIRONMENTAL QUALITY							
EQPR1		Minimum IAQ Performance (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies, stating applicable criteria/requirement, and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design, including specifics about fresh air intake volumes and special considerations.		MEC
EQPR2		Environmental Tobacco Smoke (ETS) Control (PREREQUISITE)	Final Design		Statement indicating which option for compliance applies, stating applicable criteria/requirement, and confirming that project has been designed to meet the applicable requirements.		ARC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements (signage, exhaust system, room separation details, etc).		ARC
EQ1		Outdoor Air Delivery Monitoring	Final Design		Statement indicating which option for compliance applies and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design and CO2 monitoring system, including specifics about monitors, operational parameters and setpoints.		MEC
			Closeout	X	Cut sheets for CO2 monitoring system.		PE
EQ2		Increased Ventilation	Final Design		Statement indicating which option for compliance applies and confirming that project has been designed to meet the applicable requirements.		MEC
			Final Design		Narrative describing the project's ventilation design, including specifics about zone fresh air intake volumes and demonstrating compliance.		MEC
			Final Design		Option 2: Narrative describing design method used for determining natural ventilation design, including calculation methodology/model results and demonstrating compliance.		MEC
			Final Design		List of drawing and specification references that convey conformance to applicable requirements.		MEC
EQ3.1		Construction IAQ Management Plan: During Construction	**Preconstruction		Construction IAQ Management Plan		PE
			Closeout		Statement confirming whether air handling units were operated during construction		PE
			Closeout		Dated jobsite photos showing examples of IAQ management plan practices being implemented. Label photos to indicate which practice they demonstrate. Minimum one photo of each practice at each building.		PE
			Closeout		Spreadsheet indicating, for each filter installed during construction, the manufacturer, model number, MERV rating, location installed, and if it was replaced immediately prior to occupancy.		PE
EQ3.2		Construction IAQ Management Plan: Before Occupancy	**Preconstruction		Construction IAQ Management Plan		PE

SAMPLE

LEED Credit Paragraph	Contractor Check Here if Credit is Claimed	**LEED-NC v2.2 Submittals (OCT09REV)**		Provide for Credit Audit Only		Date Submitted (to be filled in by Contractor)	Government Reviewer's Use (OCT09REV)
PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
			Closeout		Statement indicating which option for compliance applies and confirming that required activities have occurred that meet the applicable requirements.		PE
			Closeout		Option 1a: Narrative describing the project's flushout process, including specifics about temperature, airflow and duration, special considerations (if any) and demonstrating compliance.		PE
			Closeout		Option 1b: Narrative describing the project's pre-occupancy and post-occupancy flushout processes, including specifics about temperature, airflow and duration, special considerations (if any) and demonstrating compliance.		PE
			Closeout		Option 2: Narrative describing the project's IAQ testing process, including specifics about contaminants tested for, locations, remaining work at time of test, retest parameters and special considerations (if any).		PE
			Closeout		Option 2: IAQ testing report demonstrating compliance.		PE
EQ4.1		Low Emitting Materials: Adhesives & Sealants	Closeout		Spreadsheet indicating, for each applicable indoor adhesive, sealant and sealant primer used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data.		PE
			Closeout		Spreadsheet indicating, for each applicable indoor aerosol adhesive, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data - OR - Statement confirming no indoor aerosol adhesives were used for the project.		PE
			Closeout	X	Manufacturer published product data or certification confirming material VOCs in spreadsheet		PE
EQ4.2		Low Emitting Materials: Paints & Coatings	Closeout		Spreadsheet indicating, for each applicable indoor paint and coating used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data.		PE
			Closeout		Spreadsheet indicating, for each applicable indoor anti-corrosive/anti-rust paint and coating used, the manufacturer, product name/model number, VOC content, LEED VOC limit, and source of VOC data - OR - Statement confirming no indoor anti-corrosive/anti-rust paints were used for the project .		PE
			Closeout	X	Manufacturer published product data or certification confirming material VOCs in spreadsheet		PE
EQ4.3		Low Emitting Materials: Carpet Systems	Closeout		Spreadsheet indicating, for each indoor carpet used, the manufacturer, product name/model number, if it meets LEED requirement (yes/no) and source of LEED compliance data.		PE
			Closeout		Spreadsheet indicating, for each indoor carpet cushion used, the manufacturer, product name/model number, if it meets LEED requirement (yes/no) and source of LEED compliance data - OR - Statement confirming no indoor carpet cushion was used for the project.		PE
			Closeout	X	Manufacturer published product data or certification confirming material CRI label in spreadsheet		PE
EQ4.4		Low Emitting Materials: Composite Wood & Agrifiber Products	Closeout		Spreadsheet indicating, for each indoor composite wood and agrifiber product used, the manufacturer, product name/model number, if it contains added urea formaldehyde (yes/no) and source of LEED compliance data.		PE
			Closeout	X	Manufacturer published product data or certification confirming material urea formaldehyde in spreadsheet		PE
EQ5		Indoor Chemical & Pollutant Source Control	Closeout OCT09REV		Spreadsheet indicating, for each permanent entryway system used, the manufacturer, product name/model number and description of system. Roll-up and carpet systems requiring weekly cleaning to earn this credit are not a permitted option for Army projects.		PE
			Final Design		List of drawing and specification references that convey locations and installation methods for entryway systems.		ARC
			Final Design		Spreadsheet indicating, for each chemical use area, the room number, room name, description of room separation features (walls, floor/ceilings, openings) and pressure differential from surrounding spaces with doors closed - OR - Statement confirming that project includes no chemical use areas and that no hazardous cleaning materials are needed for building maintenance.		ARC MEC
			Final Design		If project includes chemical use areas: List of drawing and specification references that convey locations of chemical use areas, room separation features and exhaust system.		ARC MEC
			Closeout OCT09REV		If project includes chemical use areas: Spreadsheet indicating, for AHUs/mechanical ventilation equipment serving occupied areas, the manufacturer, model number, MERV rating, location installed, and if it was replaced immediately prior to occupancy (yes/no) - OR - Statement confirming that project does not use mechanical equipment for ventilation of occupied areas.		PE

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LEED Credit Paragraph	Contractor Check Here if Credit is Claimed	**LEED-NC v2.2 Submittals (OCT09REV)**		Provide for Credit Audit Only		Date Submitted (to be filled in by Contractor)	Government Reviewer's Use (OCT09REV)
PAR		**FEATURE**	**DUE AT**		**REQUIRED DOCUMENTATION**	**DATE**	**REV**
EQ6.1		Controllability of Systems: Lighting	Final Design		Calculation indicating total number of individual workstations, number of workstations with individual lighting controls and the percentage of workstations with individual lighting controls.		ELEC
			Final Design		For each shared multi-occupant space, provide a brief description of lighting controls.		ELEC
			Final Design		Narrative describing lighting control strategy, including type and location of individual controls and type and location of controls in shared multi-occupant spaces.		ELEC
EQ6.2		Controllability of Systems: Thermal Comfort	Final Design		Calculation indicating total number of individual workstations, number of workstations with individual thermal comfort controls and the percentage of workstations with individual thermal comfort controls.		MEC
			Final Design		For each shared multi-occupant space, provide a brief description of thermal comfort controls.		MEC
			Final Design		Narrative describing thermal comfort control strategy, including type and location of individual and shared multi-occupant controls.		MEC
EQ7.1		Thermal Comfort: Design	Final Design		Design criteria spreadsheet indicating, for spring, summer, fall and winter, maximum indoor space design temperature, minimum indoor space design temperature and maximum indoor space design humidity.		MEC
			Final Design		Narrative describing method used to establish thermal comfort control conditions and how systems design addresses the design criteria, including compliance with the referenced standard.		MEC
EQ7.2		Thermal Comfort: Verification	Final Design		Narrative describing the scope of work for the thermal comfort survey, including corrective action plan development		MEC
EQ8.1		Daylight & Views: Daylight 75% of Spaces	Final Design		Option 1: Table indicating all regularly occupied spaces with space area and space area with 2% daylighting factor. Sum of regularly occupied areas and regularly occupied areas with 2% daylighting factor. Percentage calculation of areas with 2% daylighting factor to total regularly occupied areas.		ARC
			Final Design		Option 1: Glazing factor calculation table		ARC
			Final Design		Option 2: Simulation model method, software and output data		ARC
			Final Design		Option 2: Table indicating all regularly occupied spaces with space area, space area with minimum 25 footcandles daylighting illumination, and method of providing glare control. Sum of regularly occupied areas and regularly occupied areas with 25 fc daylighting. Percentage calculation of areas with 25 fc daylighting to total regularly occupied areas.		ARC
			Final Design		For all occupied spaces excluded from the calculation, provide narrative indicating reasons for excluding the space.		ARC
			Final Design		List of drawing and specification references that convey exterior glazed opening head and sill heights and glazing performance properties.		ARC
			Closeout	X	Manufacturer published product data or certification confirming glazing Tvis in spreadsheet		PE
EQ8.2		Daylight & Views: Views for 90% of Spaces	Final Design		Table indicating all regularly occupied spaces with space area and space area with access to views. Sum of regularly occupied areas and regularly occupied areas with access to views. Percentage calculation of areas with views to total regularly occupied areas.		ARC
			Final Design		For all occupied spaces excluded from the calculation, provide narrative indicating reasons for excluding the space.		ARC
			Final Design		LEED Floor plan drawings showing line of sight diagramming of views areas in each regularly occupied space. List of drawing/specification references that convey exterior glazed opening head and sill heights.		ARC
CATEGORY 6 – FACILITY DELIVERY PROCESS							
IDc1.1		Innovation in Design	Final Design OCT09REV		Narrative decribing intent, requirement for credit, project approach to the credit. List of drawings and specification references that convey implementation of credit. All other documentation that validates claimed credit.		
IDc1.2		Innovation in Design	Final Design OCT09REV				
IDc1.3		Innovation in Design	Final Design OCT09REV				
IDc1.4		Innovation in Design	Final Design OCT09REV				
IDc2		LEED Accredited Professional	Final Design		Narrative indicating name of LEED AP, company name of LEED AP, description of LEED AP's role and responsiblilities in the project.		ARC

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<COS> **ATTACHMENT F**

BUILDING INFORMATION MODELING REQUIREMENTS

<REV>Version 02-03-2010</REV>

[NOTE TO SPECIFIER: – The BIM language applies to the following:

DESIGN-BUILD/FFP, BIM Scope of Services – CoS, Bentley BIM Submittals

- A Design-Build, Firm Fixed-Price contract
- A project that DOES involve a COS (Center of Standardization) facility.
- The Contractor is NOT directed which BIM application to use for design/construction activities, but is required to provide BIM Model and associated Facility Data in the Bentley BIM format for all submittals and asbuilts.
- Cost estimating, project scheduling and COBIE initiatives are Contractor implementation electives. If the Contractor proposes to implement one or more electives in its accepted contract or task order proposal, those criteria become a contract requirement.]

Section 1 - Submittal Format

1.1 Design Deliverables. Develop all designs using Building Information Modeling (BIM) and Computer Aided Design (CAD) software. Design submittal drawings shall be [fullSize] size, suitable for half-size scaled reproduction.

Section 2 – General Requirements

2.1 BIM Model and Facility Data. Contractor shall use BIM application(s) and software(s) to develop project designs. "Facility Data" is defined as associated intelligent attribute data. The "Model" is defined as 3D graphics that includes Facility Data and output as described in the paragraph 'Output' below. Contractors will use the Model to produce accurate Construction Documents. For each Center of Standardization (CoS) facility type included in this project, all BIM Models and associated Facility Data shall be submitted in Bentley Systems BIM using the USACE Bentley BIM [BENTLEY_VERSION] with associated USACE Bentley BIM Workspace (which includes specific standard BIM libraries and definitions). This Workspace can be downloaded from the CAD/BIM Technology Center. [Where available, the workspace will be specific to this CoS Facility Standard Design. The Contractor will be provided a baseline multi-discipline BIM Project Model for the CoS Facility Standard Design type, where such a model exists (for the purposes of site adaptation).] The USACE Bentley BIM Workspace is dependent on specific versions of the Bentley BIM suite of products and only the versions of the software that are listed in the Contractor instructions included with the USACE BIM Workspace are permitted to be used.

2.1.1 Reference. Refer to ERDC TR-06-10, "U.S. Army Corps of Engineers Building Information Modeling Road Map" from the CAD/BIM Technology Center website for more information on the USACE BIM implementation goals.

2.2 Drawings. Deliver CAD files used for the creation of the Construction Documents Drawings per requirements in Section 01 33 16, the criteria of the USACE [ISSUING_DISTRICT] District, and as noted herein. Specification of a CAD file format for these Drawings does not limit which BIM application(s) or software(s) may be used for project development and execution.

2.2.1 IFC Support. The Contractor's selected BIM application(s) and software(s) must support the IFC (Industry Foundation Class - see www.iai-tech.org). Submit any deviations from or additions to the IFC property sets for any new spaces, systems, and equipment for Government approval.

2.2.2 Submittal Requirements. BIM submittals shall be fully interoperable, compatible, and editable with the Bentley BIM tools. Use the specified version of the USACE Bentley BIM Workspace and conform to the requirements of **Sections 3 and 4 below**.

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2.2.3 BIM Project Execution Plan.

2.2.3.1 Develop a BIM Project Execution Plan ("Plan" or "PxP") documenting the BIM and analysis technologies selected for the Project Model (integrated with the AEC CAD Standard) from concept development through As-Builts as a design, production, coordination, construction, and documentation tool and the collaborative process by which it shall be executed. See Section 7 for additional guidance on developing the Plan.

2.2.4 BIM Requirements.

2.2.4.1 Facility Data. Develop the Facility Data consisting of a set of intelligent elements for the Model (e.g., doors, air handlers, electrical panels). This Facility Data shall include all material definitions and attributes that are necessary for the Project facility design and construction. Additional data in support of Section 6 Contractor Electives is encouraged.

2.2.4.2 Model Content. The Model and Facility Data shall include, at a minimum, the requirements of Section 4 below.

2.2.4.3 Model Granularity. Models may vary in level of detail for individual elements within a model, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'0") scaled drawing (e.g. at least 1/16th, 1/8th and 1/4th), or appropriately scaled civil drawings.

2.2.4.4 Output. Submitted CAD drawings (e.g., plans, elevations, sections, schedules, details, etc.) shall be derived (commonly known as extractions, views or sheets) and maintained from the submitted Model and Facility Data.

2.3 Quality Control. Implement quality control (QC) parameters for the Model, including:

2.3.1 Model Standards Checks. QC validation used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements. Report non-compliant elements and corrective action plan to correct non-compliant elements. Provide the government with detailed justification and request government approval for any non-compliant element which the contractor proposes to be allowed to remain in the Model.

2.3.2 CAD Standards Checks. QC checking performed to ensure that the fonts, dimensions, line styles, levels and other construction document formatting issues are followed per the A/E/C CADD Standard.

2.3.3 Other Parameters. Develop such other QC parameters as Contractor deems appropriate for the Project and provide to the Government for concurrence.

2.4 Design and Construction Reviews. Perform design and construction reviews at each submittal stage under Section 3 to test the Model, including:

2.4.1 Visual Checks. Check to ensure the design intent has been followed and that there are no unintended elements in the Model.

2.4.2 Interference Management Checks. Locate conflicting spatial data in the Model where two elements are occupying the same space. Log hard interferences (e.g., mechanical vs. structural or mechanical vs. mechanical overlaps in the same location) and soft interferences, (e.g., conflicts regarding equipment clearance, service access, fireproofing, insulation) in a written report and resolve.

2.4.3 IFC Coordination View. Provide an IFC Coordination View in IFC Express format for all deliverables. Provide exported property set data for all IFC supported named building elements.

2.4.4 Other Parameters. Develop such other Review parameters as the Contractor deems appropriate for the Project and provide to the Government for concurrence.

Section 3 – Submittal Requirements

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3.1 General Submittal Requirements.

3.1.1 Provide submittals in compliance with BIM Project Execution Plan deliverables at stages as described hereinafter.

3.1.2 At each Stage in Paragraphs 3.3 through 3.6, provide a Contractor-certified written report confirming that consistency checks as identified in Paragraphs 2.3 and 2.4 have been completed. This report shall be discussed as part of the review process and shall address cross-discipline interferences, if any.

3.1.3 At each Stage in Paragraphs 3.3 through 3.6, provide the Government with:
- The Model, Facility Data, Workspace and CAD Data files in native Bentley BIM/CAD.
- A 3-D interactive review format of the Model in Bentley Navigator, Autodesk Navisworks, Adobe 3D PDF 7.0 (or later), Google Earth KMZ or other format per Plan requirements. The file format for reviews can change between submittals.
- A list of all submitted files. The list should include a description, directory, and file name for each file submitted. For all CAD sheets, include the sheet title and sheet number. Identify files that have been produced from the submitted Model and Facility Data.

3.1.4 The Government shall confirm acceptability of all submittals identified in Section 3 in coordination with the USACE Geographic District BIM Manager.

3.2 Initial Design Conference Submittal.

3.2.1 Submit a digital copy of the Plan where, in addition to Paragraph 3.1.4, the USACE Geographic District BIM Manager will coordinate with the USACE CoS BIM Manager to confirm acceptability of the Plan or advise as to additional processes or activities necessary to be incorporated.

3.2.2 Within thirty (30) days after the approval of the Plan, conduct a demonstration to review the Plan for clarification, and to verify the functionality of Model technology workflow and processes. If modifications are required, the Contractor shall complete the modifications and resubmit the Plan and perform subsequent demonstration for Government acceptance. There will be no payment for design or construction until the Plan is acceptable to the Government. The Government may also withhold payment for design and construction for unacceptable performance in executing the approved Plan.

3.3 Interim Design Submittals.

3.3.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4 as applicable to the Interim Design package(s).

3.4 Final Design Submissions and Design Complete Submittals.

3.4.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4. Acceptance according to Paragraph 3.1.4 is required before commencement of construction, as described in Paragraph 3.7.6 of Section 01 33 16.

3.5 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model, including interference management and design change tracking information.

3.6 Final As-Builts BIM and CAD Data Submittal. Submit the final Model, Facility Data, and CAD files reflecting as-built conditions for Government Approval, as specified in Section 01 78 02.00 10, PROJECT CLOSEOUT.

Section 4 – BIM Model Minimum Requirements and Output

4.1 General Provisions. The deliverable Model shall be developed to include the systems described below as they would be built and the processes of installing them, and to reflect final as-built conditions. The deliverable model at the interim design stage and at the final design stage ("released for construction")

SAMPLE

shall be developed to include as many of the systems described below as are necessary and appropriate at that design stage.

4.2 Architectural/Interior Design. The Architectural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Additional minimum Model requirements include:

4.2.1 Spaces. The Model shall include spaces defining accurate net square footage and net volume, and holding data for the room finish schedule for including room names and numbers. Include Programmatic Information provided by the Government or validated program to verify design space against programmed space, using this information to validate area quantities.

4.2.2. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

4.2.3 Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.

4.2.4 Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and generic wall sections where roof design elements are depicted.

4.2.5 Floors. The floor slab shall be developed in the structural Model and then referenced by the architectural Model for each floor of the Project building.

4.2.6 Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and generic wall sections where ceiling design elements are depicted.

4.2.7 Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.8 Architectural Specialties and Woodwork. All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and woodwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.9 Signage. The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.

4.2.10 Schedules. Provide door, window, hardware sets using BHMA designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.

4.3 Furniture. The furniture systems Model may vary in level of detail for individual elements within a Model, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing, and have necessary intelligence to produce accurate plans. Representation of furniture elements is to be 2D. Contractor may provide a minimal number of 3D representations as examples. Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage.

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4.3.1 Furniture Coordination. Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data.

SAMPLE

4.4 Equipment. The Model may vary in level of detail for individual elements within a Model. Equipment shall be depicted to meet layout requirements with the necessary intelligence to produce accurate plans and minimum schedules depicting their configuration. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines and microwaves.

4.4.1 Schedules. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

4.5 Structural. The structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Additional minimum Model requirements include:

4.5.1 Foundations. All necessary foundation and/or footing elements, with necessary intelligence to produce accurate plans and elevations.

4.5.2 Floor Slabs. Structural floor slabs shall be depicted, including all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted.

4.5.3 Structural Steel. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans and related building/wall sections.

4.5.4 Cast-in-Place Concrete. All walls, columns, and beams, including necessary intelligence to produce accurate plans and building/wall sections depicting cast-in-place concrete elements.

4.5.5 Expansion/Contraction Joints. Joints shall be accurately depicted.

4.5.6 Stairs. The structural Model shall include all necessary openings and framing members for stair systems, including necessary intelligence to produce accurate plans and building/wall sections depicting stair design elements.

4.5.7 Shafts and Pits. The structural Model shall include all necessary shafts, pits, and openings, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.

4.6 Mechanical. The mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Small diameter (less than 1-1/2" NPS) field-routed piping is not required in the model. Additional minimum Model requirements include:

4.6.1 HVAC. All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution ducts for supply, return, and ventilation and exhaust ducts, including control system, registers, diffusers, grills and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.

4.6.1.1 Mechanical Piping. All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.

4.6.2 Plumbing. All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.

4.6.3 Equipment Clearances. All HVAC and Plumbing equipment clearances shall be modeled for use in interference management and maintenance access requirements.

4.6.4 Elevator Equipment. The Model shall include the necessary equipment and control system, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

SAMPLE

4.7 Electrical/Telecommunications. The electrical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Small diameter (less than 1-1/2"Ø) field-routed conduit is not required in the model. Additional minimum Model requirements include:

4.7.1 Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general purpose power receptacles, lighting fixtures, panelboards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled.

4.7.2 Special Electrical Systems. All necessary special electrical components (i.e., security, Mass Notification, Public Address, nurse call and other special occupancies, and control systems), including necessary intelligence to produce accurate plans, details and schedules.

4.7.3 Grounding Systems. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, bonding), including necessary intelligence to produce accurate plans, details and schedules.

4.7.4 Communications. All existing and new communications service controls and connections, both above ground and underground with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.

4.7.5 Exterior Building Lighting. All necessary exterior lighting with necessary intelligence to produce accurate plans, elevations and schedules. The exterior building lighting Model shall include all necessary lighting, relevant existing and proposed support utility lines and equipment required with necessary intelligence to produce accurate plans, details and schedules.

4.7.6 Equipment Clearances. The model shall incorporate and define all electrical and communications working spaces, clearances, and required access

4.8 Fire Protection. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Additional minimum Model requirements include:

4.8.1 Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

4.8.2 Fire Alarms. Fire alarm/mass notification devices and detection system shall be indicated with necessary intelligence to produce accurate plans depicting them.

4.9 Civil. The civil Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a one inch (1"=100') scaled drawing. Additional minimum Model requirements include:

4.9.1 Terrain (DTM). All relevant site conditions and proposed grading, including necessary intelligence to produce accurate Project site topographical plans and cross sections.

4.9.2 Drainage. All existing and new drainage piping, including upgrades thereto, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.3 Storm Water and Sanitary Sewers. All existing and new sewer structures and piping, including upgrades thereto, on the Project site with necessary connections to mains or other distribution points as appropriate, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.4 Utilities. All necessary new utilities connections from the Project building(s) to the existing or newly-created utilities, and all existing above ground and underground utility conduits, including necessary intelligence to produce accurate plans and site-sections.

SAMPLE

4.9.5 Roads and Parking. All necessary roadways and parking lots or parking structures, including necessary intelligence to produce accurate plans, profiles and cross-sections.

Section 5 - Ownership and Rights in Data

5.1 Ownership. The Government has ownership of and rights at the date of Closeout Submittal to all CAD files, BIM Model, and Facility Data developed for the Project in accordance with FAR Part 27, clauses incorporated in Section 00 72 00, Contract Clauses and Special Contract Requirement 1.14 GOVERNMENT RE-USE OF DESIGN (Section 00 73 00). The Government may make use of this data following any deliverable.

Section 6 – Contractor Electives

6.1 Applicable Criteria. If the Contractor elected to include one or more of the following features as an elective in its accepted contract proposal for additional credit during the source selection, as described in the proposal submission requirements and evaluation criteria, the following criteria are requirements, as applicable to those elective feature(s).

6.2 COBIE Compliance. The Model and Facility Data for the Project shall fulfill Construction Operations Building Information Exchange (COBIE) requirements as defined by the Whole Building Design Guide organization, including all requirements for the indexing and submission of Portable Document Format (PDF) and other appropriate file formats that would otherwise be printed and submitted in compliance with Project operations and maintenance handover requirements.

6.3 Project Scheduling using the Model. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of the project construction schedule.

6.3.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver the construction schedule with information derived from the Model.

6.3.1.2 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model for project scheduling.

6.4 Cost Estimating. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of cost estimating requirements, or other applications such as cost analysis and estimate validation.

6.4.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver cost estimating information derived from the Model.

6.4.2 Project completion. At project completion, the Contractor shall provide an MII (Micro Computer Aided Cost Estimating System Generation II) Cost Estimate which follows the USACE Cost Engineering Military Work Breakdown System (WBS), a modified Uniformat, to at least the sub-systems level and uses quantity information supplied directly from BIM output to the maximum extent possible, though other "Gap" quantity information will be included as necessary for a complete and accurate cost estimate.

6.4.2.1 Sub system level extracted quantities from the BIM for use within the estimate shall be provided according to how detailed line items or tasks should be installed/built so that accurate costs can be developed and/or reflected. Therefore, when developing a BIM, the designer shall be cognizant of what tasks need to be separated appropriately at the beginning stages of model development, such as tasks done on the first floor versus the same task on higher floors that will be more labor intensive and therefore need to have a separate quantity and be priced differently. Tasks and their extracted quantities from the BIM shall be broken done by their location (proximity in the structure) as well as the complexity of its installation.

SAMPLE

6.4.2.2 At all design stages it shall be understood that BIM output as described in this document will not generate all quantities that are necessary in order to develop a complete and accurate cost estimate of the project based on the design. An example of this would be plumbing that is less than 1.5" diameter and therefore not expected to be modeled due to granularity; this information is commonly referred to as The Gap. Quantities from The Gap and their associated costs shall be included in the final project actual cost estimates as well.

6.5 Other Analyses and Reports. Structural, energy and efficiency, EPACT 2005 & EISA 2007, lighting design, daylighting, electrical power, psychrometric processing, shading, programming, LEED, fire protection, code compliance, Life Cycle Cost, acoustic, plumbing.

Section 7 – BIM Project Execution Plan Template

7.1 Contractors will utilize the latest version of the USACE BIM PROJECT EXECUTION PLAN (USACE PxP) Template to develop an acceptable Plan. The template can be downloaded from the CAD/BIM Technology Center website.</COS>

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<BIM_App_Neutral> **ATTACHMENT F**

BUILDING INFORMATION MODELING REQUIREMENTS

<REV>Version 02-03-2010</REV>

[NOTE TO SPECIFIER: – The BIM language applies to the following:

DESIGN-BUILD/FFP, BIM Scope of Services – BIM Application Neutral

- A Design-Build, Firm Fixed-Price contract
- A project that DOES NOT involve a COS facility and the customer DOES NOT have a specific BIM format delivery requirement.
- The customer will receive the BIM model in the format used by the winning contractor.
- Cost estimating, project scheduling and COBIE initiatives are Contractor implementation electives. If the Contractor proposes to implement one or more electives in its accepted contract or task order proposal, those criteria become a contract requirement.]

Section 1 - Submittal Format

1.1 Design Deliverables. Develop all designs using Building Information Modeling (BIM) and Computer Aided Design (CAD) software. Design submittal drawings shall be [fullSize] size, suitable for half-size scaled reproduction.

Section 2 – General Requirements

2.2 BIM Model and Facility Data. Contractor shall use BIM application(s) and software(s) to develop project designs. "Facility Data" is defined as associated intelligent attribute data. The "Model" is defined as 3D graphics that includes Facility Data and output as described in the paragraph 'Output' below. Contractors will use the Model to produce accurate Construction Documents.

2.2.1 Reference. Refer to ERDC TR-06-10, "U.S. Army Corps of Engineers Building Information Modeling Road Map" from the CAD/BIM Technology Center website for more information on the USACE BIM implementation goals.

2.2 Drawings. Deliver CAD files used for the creation of the Construction Documents Drawings per requirements in Section 01 33 16, the criteria of the USACE [ISSUING_DISTRICT] District, and as noted herein. Specification of a CAD file format for these Drawings does not limit which BIM application(s) or software(s) may be used for project development and execution.

2.2.1 IFC Support. The Contractor's selected BIM application(s) and software(s) must support the IFC (Industry Foundation Class - see www.iai-tech.org). Submit any deviations from or additions to the IFC property sets for any new spaces, systems, and equipment for Government approval.

2.2.2 Submittal Requirements. BIM submittals shall conform to the requirements of **Sections 3 and 4 below**.

2.2.3 BIM Project Execution Plan.

2.2.3.1 Develop a BIM Project Execution Plan ("Plan" or "PxP") documenting the BIM and analysis technologies selected for the Project Model (integrated with the AEC CAD Standard) from concept development through As-Builts as a design, production, coordination, construction, and documentation tool and the collaborative process by which it shall be executed. See Section 7 for additional guidance on developing the Plan.

2.2.4 BIM Requirements.

2.2.4.5 Facility Data. Develop the Facility Data consisting of a set of intelligent elements for the Model (e.g., doors, air handlers, electrical panels). This Facility Data shall include all material definitions and attributes that are necessary for the Project facility design and construction. Additional data in support of Section 6 Contractor Electives is encouraged.

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2.2.4.6 Model Content. The Model and Facility Data shall include, at a minimum, the requirements of Section 4 below.

2.2.4.7 Model Granularity. Models may vary in level of detail for individual elements within a model, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'0") scaled drawing (e.g. at least 1/16th, 1/8th and 1/4th), or appropriately scaled civil drawings.

2.2.4.8 Output. Submitted CAD drawings (e.g., plans, elevations, sections, schedules, details, etc.) shall be derived (commonly known as extractions, views or sheets) and maintained from the submitted Model and Facility Data.

2.3 Quality Control. Implement quality control (QC) parameters for the Model, including:

2.3.4 Model Standards Checks. QC validation used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements. Report non-compliant elements and corrective action plan to correct non-compliant elements. Provide the government with detailed justification and request government approval for any non-compliant element which the contractor proposes to be allowed to remain in the Model.

2.3.5 CAD Standards Checks. QC checking performed to ensure that the fonts, dimensions, line styles, levels and other construction document formatting issues are followed per the A/E/C CADD Standard.

2.3.6 Other Parameters. Develop such other QC parameters as Contractor deems appropriate for the Project and provide to the Government for concurrence.

2.4 Design and Construction Reviews. Perform design and construction reviews at each submittal stage under Section 3 to test the Model, including:

2.4.5 Visual Checks. Check to ensure the design intent has been followed and that there are no unintended elements in the Model.

2.4.6 Interference Management Checks. Locate conflicting spatial data in the Model where two elements are occupying the same space. Log hard interferences (e.g., mechanical vs. structural or mechanical vs. mechanical overlaps in the same location) and soft interferences, (e.g., conflicts regarding equipment clearance, service access, fireproofing, insulation) in a written report and resolve.

2.4.7 IFC Coordination View. Provide an IFC Coordination View in IFC Express format for all deliverables. Provide exported property set data for all IFC supported named building elements.

2.4.8 Other Parameters. Develop such other Review parameters as the Contractor deems appropriate for the Project and provide to the Government for concurrence.

Section 3 – Submittal Requirements

3.1 General Submittal Requirements.

3.1.1 Provide submittals in compliance with BIM Project Execution Plan deliverables at stages as described hereinafter.

3.1.2 At each Stage in Paragraphs 3.3 through 3.6, provide a Contractor-certified written report confirming that consistency checks as identified in Paragraphs 2.3 and 2.4 have been completed. This report shall be discussed as part of the review process and shall address cross-discipline interferences, if any.

3.1.3 At each Stage in Paragraphs 3.3 through 3.6, provide the Government with:
- The Model, Facility Data, and CAD Data files.
- A 3-D interactive review format of the Model in Bentley Navigator, Autodesk Navisworks, Adobe 3D PDF 7.0 (or later), Google Earth KMZ or other format per Plan requirements. The file format for reviews can change between submittals.

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- A list of all submitted files. The list should include a description, directory, and file name for each file submitted. For all CAD sheets, include the sheet title and sheet number. Identify files that have been produced from the submitted Model and Facility Data.

3.1.4 The Government shall confirm acceptability of all submittals identified in Section 3 in coordination with the USACE [ISSUING_DISTRICT] BIM Manager.

3.2 Initial Design Conference Submittal.

3.2.1 Submit a digital copy of the Plan where, in addition to Paragraph 3.1.4, the USACE [ISSUING_DISTRICT] District BIM Manager will confirm acceptability of the Plan or advise as to additional processes or activities necessary to be incorporated.

3.2.2 Within thirty (30) days after the approval of the Plan, conduct a demonstration to review the Plan for clarification, and to verify the functionality of Model technology workflow and processes. If modifications are required, the Contractor shall complete the modifications and resubmit the Plan and perform subsequent demonstration for Government acceptance. There will be no payment for design or construction until the Plan is acceptable to the Government. The Government may also withhold payment for design and construction for unacceptable performance in executing the approved Plan.

3.3 Interim Design Submittals.

3.3.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4 as applicable to the Interim Design package(s).

3.4 Final Design Submissions and Design Complete Submittals.

3.4.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4. Acceptance according to Paragraph 3.1.4 is required before commencement of construction, as described in Paragraph 3.7.6 of Section 01 33 16.

3.5 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model, including interference management and design change tracking information.

3.6 Final As-Builts BIM and CAD Data Submittal. Submit the final Model, Facility Data, and CAD files reflecting as-built conditions for Government Approval, as specified in Section 01 78 02.00 10, PROJECT CLOSEOUT.

Section 4 – BIM Model Minimum Requirements and Output

4.1 General Provisions. The deliverable Model shall be developed to include the systems described below as they would be built and the processes of installing them, and to reflect final as-built conditions. The deliverable model at the interim design stage and at the final design stage ("released for construction") shall be developed to include as many of the systems described below as are necessary and appropriate at that design stage.

4.2 Architectural/Interior Design. The Architectural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Additional minimum Model requirements include:

4.2.1 Spaces. The Model shall include spaces defining accurate net square footage and net volume, and holding data for the room finish schedule for including room names and numbers. Include Programmatic Information provided by the Government or validated program to verify design space against programmed space, using this information to validate area quantities.

4.2.2. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and

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exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

4.2.3 Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.

4.2.4 Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and generic wall sections where roof design elements are depicted.

4.2.5 Floors. The floor slab shall be developed in the structural Model and then referenced by the architectural Model for each floor of the Project building.

4.2.6 Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and generic wall sections where ceiling design elements are depicted.

4.2.7 Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.8 Architectural Specialties and Woodwork. All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and woodwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.9 Signage. The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.

4.2.10 Schedules. Provide door, window, hardware sets using BHMA designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.

4.3 Furniture. The furniture systems Model may vary in level of detail for individual elements within a Model, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing, and have necessary intelligence to produce accurate plans. Representation of furniture elements is to be 2D. Contractor may provide a minimal number of 3D representations as examples. Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage.

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4.3.1 Furniture Coordination. Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data.

4.4 Equipment. The Model may vary in level of detail for individual elements within a Model. Equipment shall be depicted to meet layout requirements with the necessary intelligence to produce accurate plans and minimum schedules depicting their configuration. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines and microwaves.

4.4.1 Schedules. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

4.5 Structural. The structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Additional minimum Model requirements include:

4.5.1 Foundations. All necessary foundation and/or footing elements, with necessary intelligence to produce accurate plans and elevations.

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4.5.2 Floor Slabs. Structural floor slabs shall be depicted, including all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted.

4.5.3 Structural Steel. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans and related building/wall sections.

4.5.4 Cast-in-Place Concrete. All walls, columns, and beams, including necessary intelligence to produce accurate plans and building/wall sections depicting cast-in-place concrete elements.

4.5.5 Expansion/Contraction Joints. Joints shall be accurately depicted.

4.5.6 Stairs. The structural Model shall include all necessary openings and framing members for stair systems, including necessary intelligence to produce accurate plans and building/wall sections depicting stair design elements.

4.5.7 Shafts and Pits. The structural Model shall include all necessary shafts, pits, and openings, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.

4.6 Mechanical. The mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Small diameter (less than 1-1/2” NPS) field-routed piping is not required in the model. Additional minimum Model requirements include:

4.6.1 HVAC. All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution ducts for supply, return, and ventilation and exhaust ducts, including control system, registers, diffusers, grills and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.

4.6.1.1 Mechanical Piping. All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.

4.6.2 Plumbing. All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.

4.6.3 Equipment Clearances. All HVAC and Plumbing equipment clearances shall be modeled for use in interference management and maintenance access requirements.

4.6.4 Elevator Equipment. The Model shall include the necessary equipment and control system, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

4.7 Electrical/Telecommunications. The electrical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Small diameter (less than 1-1/2”Ø) field-routed conduit is not required in the model. Additional minimum Model requirements include:

4.7.1 Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general purpose power receptacles, lighting fixtures, panelboards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled.

4.7.2 Special Electrical Systems. All necessary special electrical components (i.e., security, Mass Notification, Public Address, nurse call and other special occupancies, and control systems), including necessary intelligence to produce accurate plans, details and schedules.

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4.7.3 Grounding Systems. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, bonding), including necessary intelligence to produce accurate plans, details and schedules.

4.7.4 Communications. All existing and new communications service controls and connections, both above ground and underground with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.

4.7.5 Exterior Building Lighting. All necessary exterior lighting with necessary intelligence to produce accurate plans, elevations and schedules. The exterior building lighting Model shall include all necessary lighting, relevant existing and proposed support utility lines and equipment required with necessary intelligence to produce accurate plans, details and schedules.

4.7.6 Equipment Clearances. The model shall incorporate and define all electrical and communications working spaces, clearances, and required access

4.8 Fire Protection. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Additional minimum Model requirements include:

4.8.1 Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

4.8.2 Fire Alarms. Fire alarm/mass notification devices and detection system shall be indicated with necessary intelligence to produce accurate plans depicting them.

4.9 Civil. The civil Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a one inch (1”=100’) scaled drawing. Additional minimum Model requirements include:

4.9.1 Terrain (DTM). All relevant site conditions and proposed grading, including necessary intelligence to produce accurate Project site topographical plans and cross sections.

4.9.2 Drainage. All existing and new drainage piping, including upgrades thereto, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.3 Storm Water and Sanitary Sewers. All existing and new sewer structures and piping, including upgrades thereto, on the Project site with necessary connections to mains or other distribution points as appropriate, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.4 Utilities. All necessary new utilities connections from the Project building(s) to the existing or newly-created utilities, and all existing above ground and underground utility conduits, including necessary intelligence to produce accurate plans and site-sections.

4.9.5 Roads and Parking. All necessary roadways and parking lots or parking structures, including necessary intelligence to produce accurate plans, profiles and cross-sections.

Section 5 - Ownership and Rights in Data

5.1 Ownership. The Government has ownership of and rights at the date of Closeout Submittal to all CAD files, BIM Model, and Facility Data developed for the Project in accordance with FAR Part 27, clauses incorporated in Section 00 72 00, Contract Clauses and Special Contract Requirement 1.14 GOVERNMENT RE-USE OF DESIGN (Section 00 73 00). The Government may make use of this data following any deliverable.

Section 6 – Contractor Electives

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6.1 Applicable Criteria. If the Contractor elected to include one or more of the following features as an elective in its accepted contract proposal for additional credit during the source selection, as described in the proposal submission requirements and evaluation criteria, the following criteria are requirements, as applicable to those elective feature(s).

6.2 COBIE Compliance. The Model and Facility Data for the Project shall fulfill Construction Operations Building Information Exchange (COBIE) requirements as defined by the Whole Building Design Guide organization, including all requirements for the indexing and submission of Portable Document Format (PDF) and other appropriate file formats that would otherwise be printed and submitted in compliance with Project operations and maintenance handover requirements.

6.3 Project Scheduling using the Model. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of the project construction schedule.

6.3.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver the construction schedule with information derived from the Model.

6.3.1.2 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model for project scheduling.

6.4 Cost Estimating. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of cost estimating requirements, or other applications such as cost analysis and estimate validation.

6.4.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver cost estimating information derived from the Model.

6.4.2 Project completion. At project completion, the Contractor shall provide an MII (Micro Computer Aided Cost Estimating System Generation II) Cost Estimate which follows the USACE Cost Engineering Military Work Breakdown System (WBS), a modified Uniformat, to at least the sub-systems level and uses quantity information supplied directly from BIM output to the maximum extent possible, though other "Gap" quantity information will be included as necessary for a complete and accurate cost estimate.

6.4.2.2 Sub system level extracted quantities from the BIM for use within the estimate shall be provided according to how detailed line items or tasks should be installed/built so that accurate costs can be developed and/or reflected. Therefore, when developing a BIM, the designer shall be cognizant of what tasks need to be separated appropriately at the beginning stages of model development, such as tasks done on the first floor versus the same task on higher floors that will be more labor intensive and therefore need to have a separate quantity and be priced differently. Tasks and their extracted quantities from the BIM shall be broken done by their location (proximity in the structure) as well as the complexity of its installation.

6.4.2.2 At all design stages it shall be understood that BIM output as described in this document will not generate all quantities that are necessary in order to develop a complete and accurate cost estimate of the project based on the design. An example of this would be plumbing that is less than 1.5" diameter and therefore not expected to be modeled due to granularity; this information is commonly referred to as The Gap. Quantities from The Gap and their associated costs shall be included in the final project actual cost estimates as well.

6.5 Other Analyses and Reports. Structural, energy and efficiency, EPACT 2005 & EISA 2007, lighting design, daylighting, electrical power, psychrometric processing, shading, programming, LEED, fire protection, code compliance, Life Cycle Cost, acoustic, plumbing.

Section 7 – BIM Project Execution Plan Template

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7.1 Contractors will utilize the latest version of the USACE BIM PROJECT EXECUTION PLAN (USACE PxP) Template to develop an acceptable Plan. The template can be downloaded from the CAD/BIM Technology Center website.

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<BIM_App_Specific> **ATTACHMENT F**

BUILDING INFORMATION MODELING REQUIREMENTS

<REV>Version 02-03-2010</REV>

[NOTE TO SPECIFIER: – The BIM language applies to the following:

DESIGN-BUILD/FFP, BIM Scope of Services – BIM Application Specific

- A Design-Build, Firm Fixed-Price contract
- A project that DOES NOT involve a COS facility and the customer DOES have a specific BIM format delivery requirement.
- Cost estimating, project scheduling and COBIE initiatives are Contractor implementation electives. If the Contractor proposes to implement one or more electives in its accepted contract or task order proposal, those criteria become a contract requirement.]

Section 1 - Submittal Format

1.1 Design Deliverables. Develop all designs using Building Information Modeling (BIM) and Computer Aided Design (CAD) software. Design submittal drawings shall be [fullSize] size, suitable for half-size scaled reproduction.

Section 2 – General Requirements

2.3 BIM Model and Facility Data. Contractor shall use BIM application(s) and software(s) to develop project designs. "Facility Data" is defined as associated intelligent attribute data. The "Model" is defined as 3D graphics that includes Facility Data and output as described in the paragraph 'Output' below. Contractors will use the Model to produce accurate Construction Documents. All submitted BIM Models and associated Facility Data shall be fully compatible with <Autodesk_Revit>Autodesk Revit 9.0 or higher</Autodesk_Revit><Bentley_BIM>Bentley BIM [BENTLEY_VERSION] with associated USACE Bentley BIM Workspace</Bentley_BIM> <ArchiCAD>ArchiCAD 11 or higher</ArchiCAD>

2.3.1 Reference. Refer to ERDC TR-06-10, "U.S. Army Corps of Engineers Building Information Modeling Road Map" from the CAD/BIM Technology Center website for more information on the USACE BIM implementation goals.

2.2 Drawings. Deliver CAD files used for the creation of the Construction Documents Drawings per requirements in Section 01 33 16, the criteria of the USACE [ISSUING_DISTRICT] District, and as noted herein. Specification of a CAD file format for these Drawings does not limit which BIM application(s) or software(s) may be used for project development and execution.

2.2.1 IFC Support. The Contractor's selected BIM application(s) and software(s) must support the IFC (Industry Foundation Class - see www.iai-tech.org). Submit any deviations from or additions to the IFC property sets for any new spaces, systems, and equipment for Government approval.

2.2.2 Submittal Requirements. BIM submittals shall conform to the requirements of **Sections 3 and 4 below**.

2.2.3 BIM Project Execution Plan.

2.2.3.1 Develop a BIM Project Execution Plan ("Plan" or "PxP") documenting the BIM and analysis technologies selected for the Project Model (integrated with the AEC CAD Standard) from concept development through As-Builts as a design, production, coordination, construction, and documentation tool and the collaborative process by which it shall be executed. See Section 7 for additional guidance on developing the Plan.

2.2.4 BIM Requirements.

2.2.4.9 Facility Data. Develop the Facility Data consisting of a set of intelligent elements for the Model (e.g., doors, air handlers, electrical panels). This Facility Data shall include all material definitions and

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attributes that are necessary for the Project facility design and construction. Additional data in support of Section 6 Contractor Electives is encouraged.

2.2.4.10 Model Content. The Model and Facility Data shall include, at a minimum, the requirements of Section 4 below.

2.2.4.11 Model Granularity. Models may vary in level of detail for individual elements within a model, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'0") scaled drawing (e.g. at least 1/16th, 1/8th and 1/4th), or appropriately scaled civil drawings.

2.2.4.12 Output. Submitted CAD drawings (e.g., plans, elevations, sections, schedules, details, etc.) shall be derived (commonly known as extractions, views or sheets) and maintained from the submitted Model and Facility Data.

2.3 Quality Control. Implement quality control (QC) parameters for the Model, including:

2.3.7 Model Standards Checks. QC validation used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements. Report non-compliant elements and corrective action plan to correct non-compliant elements. Provide the government with detailed justification and request government approval for any non-compliant element which the contractor proposes to be allowed to remain in the Model.

2.3.8 CAD Standards Checks. QC checking performed to ensure that the fonts, dimensions, line styles, levels and other construction document formatting issues are followed per the A/E/C CADD Standard.

2.3.9 Other Parameters. Develop such other QC parameters as Contractor deems appropriate for the Project and provide to the Government for concurrence.

2.4 Design and Construction Reviews. Perform design and construction reviews at each submittal stage under Section 3 to test the Model, including:

2.4.9 Visual Checks. Check to ensure the design intent has been followed and that there are no unintended elements in the Model.

2.4.10 Interference Management Checks. Locate conflicting spatial data in the Model where two elements are occupying the same space. Log hard interferences (e.g., mechanical vs. structural or mechanical vs. mechanical overlaps in the same location) and soft interferences, (e.g., conflicts regarding equipment clearance, service access, fireproofing, insulation) in a written report and resolve.

2.4.11 IFC Coordination View. Provide an IFC Coordination View in IFC Express format for all deliverables. Provide exported property set data for all IFC supported named building elements.

2.4.12 Other Parameters. Develop such other Review parameters as the Contractor deems appropriate for the Project and provide to the Government for concurrence.

Section 3 – Submittal Requirements

3.1 General Submittal Requirements.

3.1.1 Provide submittals in compliance with BIM Project Execution Plan deliverables at stages as described hereinafter.

3.1.2 At each Stage in Paragraphs 3.3 through 3.6, provide a Contractor-certified written report confirming that consistency checks as identified in Paragraphs 2.3 and 2.4 have been completed. This report shall be discussed as part of the review process and shall address cross-discipline interferences, if any.

3.1.3 At each Stage in Paragraphs 3.3 through 3.6, provide the Government with:
- The Model, Facility Data, and CAD Data files.

SAMPLE

- A 3-D interactive review format of the Model in Bentley Navigator, Autodesk Navisworks, Adobe 3D PDF 7.0 (or later), Google Earth KMZ or other format per Plan requirements. The file format for reviews can change between submittals.
- A list of all submitted files. The list should include a description, directory, and file name for each file submitted. For all CAD sheets, include the sheet title and sheet number. Identify files that have been produced from the submitted Model and Facility Data.

3.1.4 The Government shall confirm acceptability of all submittals identified in Section 3 in coordination with the USACE [ISSUING_DISTRICT] BIM Manager.

3.2 Initial Design Conference Submittal.

3.2.1 Submit a digital copy of the Plan where, in addition to Paragraph 3.1.4, the USACE [ISSUING_DISTRICT] BIM Manager will confirm acceptability of the Plan or advise as to additional processes or activities necessary to be incorporated.

3.2.2 Within thirty (30) days after the approval of the Plan, conduct a demonstration to review the Plan for clarification, and to verify the functionality of Model technology workflow and processes. If modifications are required, the Contractor shall complete the modifications and resubmit the Plan and perform subsequent demonstration for Government acceptance. There will be no payment for design or construction until the Plan is acceptable to the Government. The Government may also withhold payment for design and construction for unacceptable performance in executing the approved Plan.

3.3 Interim Design Submittals.

3.3.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4 as applicable to the Interim Design package(s).

3.4 Final Design Submissions and Design Complete Submittals.

3.4.1 BIM and CAD Data. The Model shall include the requirements identified in Paragraph 2.2.4. Acceptance according to Paragraph 3.1.4 is required before commencement of construction, as described in Paragraph 3.7.6 of Section 01 33 16.

3.5 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model, including interference management and design change tracking information.

3.6 Final As-Builts BIM and CAD Data Submittal. Submit the final Model, Facility Data, and CAD files reflecting as-built conditions for Government Approval, as specified in Section 01 78 02.00 10, PROJECT CLOSEOUT.

Section 4 – BIM Model Minimum Requirements and Output

4.1 General Provisions. The deliverable Model shall be developed to include the systems described below as they would be built and the processes of installing them, and to reflect final as-built conditions. The deliverable model at the interim design stage and at the final design stage ("released for construction") shall be developed to include as many of the systems described below as are necessary and appropriate at that design stage.

4.2 Architectural/Interior Design. The Architectural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Additional minimum Model requirements include:

4.2.1 Spaces. The Model shall include spaces defining accurate net square footage and net volume, and holding data for the room finish schedule for including room names and numbers. Include Programmatic Information provided by the Government or validated program to verify design space against programmed space, using this information to validate area quantities.

SAMPLE

4.2.2. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

4.2.3 Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.

4.2.4 Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and generic wall sections where roof design elements are depicted.

4.2.5 Floors. The floor slab shall be developed in the structural Model and then referenced by the architectural Model for each floor of the Project building.

4.2.6 Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and generic wall sections where ceiling design elements are depicted.

4.2.7 Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.8 Architectural Specialties and Woodwork. All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and woodwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.

4.2.9 Signage. The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.

4.2.10 Schedules. Provide door, window, hardware sets using BHMA designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.

4.3 Furniture. The furniture systems Model may vary in level of detail for individual elements within a Model, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing, and have necessary intelligence to produce accurate plans. Representation of furniture elements is to be 2D. Contractor may provide a minimal number of 3D representations as examples. Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage.

4.3.1 Furniture Coordination. Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data.

4.4 Equipment. The Model may vary in level of detail for individual elements within a Model. Equipment shall be depicted to meet layout requirements with the necessary intelligence to produce accurate plans and minimum schedules depicting their configuration. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines and microwaves.

4.4.1 Schedules. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

4.5 Structural. The structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Additional minimum Model requirements include:

4.5.1 Foundations. All necessary foundation and/or footing elements, with necessary intelligence to produce accurate plans and elevations.

SAMPLE

4.5.2 Floor Slabs. Structural floor slabs shall be depicted, including all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted.

4.5.3 Structural Steel. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans and related building/wall sections.

4.5.4 Cast-in-Place Concrete. All walls, columns, and beams, including necessary intelligence to produce accurate plans and building/wall sections depicting cast-in-place concrete elements.

4.5.5 Expansion/Contraction Joints. Joints shall be accurately depicted.

4.5.6 Stairs. The structural Model shall include all necessary openings and framing members for stair systems, including necessary intelligence to produce accurate plans and building/wall sections depicting stair design elements.

4.5.7 Shafts and Pits. The structural Model shall include all necessary shafts, pits, and openings, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.

4.6 Mechanical. The mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Small diameter (less than 1-1/2” NPS) field-routed piping is not required in the model. Additional minimum Model requirements include:

4.6.1 HVAC. All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution ducts for supply, return, and ventilation and exhaust ducts, including control system, registers, diffusers, grills and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.

4.6.1.1 Mechanical Piping. All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.

4.6.2 Plumbing. All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.

4.6.3 Equipment Clearances. All HVAC and Plumbing equipment clearances shall be modeled for use in interference management and maintenance access requirements.

4.6.4 Elevator Equipment. The Model shall include the necessary equipment and control system, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

4.7 Electrical/Telecommunications. The electrical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Small diameter (less than 1-1/2”Ø) field-routed conduit is not required in the model. Additional minimum Model requirements include:

4.7.1 Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general purpose power receptacles, lighting fixtures, panelboards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled.

4.7.2 Special Electrical Systems. All necessary special electrical components (i.e., security, Mass Notification, Public Address, nurse call and other special occupancies, and control systems), including necessary intelligence to produce accurate plans, details and schedules.

SAMPLE

4.7.3 Grounding Systems. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, bonding), including necessary intelligence to produce accurate plans, details and schedules.

4.7.4 Communications. All existing and new communications service controls and connections, both above ground and underground with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.

4.7.5 Exterior Building Lighting. All necessary exterior lighting with necessary intelligence to produce accurate plans, elevations and schedules. The exterior building lighting Model shall include all necessary lighting, relevant existing and proposed support utility lines and equipment required with necessary intelligence to produce accurate plans, details and schedules.

4.7.6 Equipment Clearances. The model shall incorporate and define all electrical and communications working spaces, clearances, and required access

4.8 Fire Protection. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4”=1’0”) scaled drawing. Additional minimum Model requirements include:

4.8.1 Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

4.8.2 Fire Alarms. Fire alarm/mass notification devices and detection system shall be indicated with necessary intelligence to produce accurate plans depicting them.

4.9 Civil. The civil Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a one inch (1”=100’) scaled drawing. Additional minimum Model requirements include:

4.9.1 Terrain (DTM). All relevant site conditions and proposed grading, including necessary intelligence to produce accurate Project site topographical plans and cross sections.

4.9.2 Drainage. All existing and new drainage piping, including upgrades thereto, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.3 Storm Water and Sanitary Sewers. All existing and new sewer structures and piping, including upgrades thereto, on the Project site with necessary connections to mains or other distribution points as appropriate, including necessary intelligence to produce accurate plans and profiles for the Project site.

4.9.4 Utilities. All necessary new utilities connections from the Project building(s) to the existing or newly-created utilities, and all existing above ground and underground utility conduits, including necessary intelligence to produce accurate plans and site-sections.

4.9.5 Roads and Parking. All necessary roadways and parking lots or parking structures, including necessary intelligence to produce accurate plans, profiles and cross-sections.

Section 5 - Ownership and Rights in Data

5.1 Ownership. The Government has ownership of and rights at the date of Closeout Submittal to all CAD files, BIM Model, and Facility Data developed for the Project in accordance with FAR Part 27, clauses incorporated in Section 00 72 00, Contract Clauses and Special Contract Requirement 1.14 GOVERNMENT RE-USE OF DESIGN (Section 00 73 00). The Government may make use of this data following any deliverable.

Section 6 – Contractor Electives

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6.1 Applicable Criteria. If the Contractor elected to include one or more of the following features as an elective in its accepted contract proposal for additional credit during the source selection, as described in the proposal submission requirements and evaluation criteria, the following criteria are requirements, as applicable to those elective feature(s).

6.2 COBIE Compliance. The Model and Facility Data for the Project shall fulfill Construction Operations Building Information Exchange (COBIE) requirements as defined by the Whole Building Design Guide organization, including all requirements for the indexing and submission of Portable Document Format (PDF) and other appropriate file formats that would otherwise be printed and submitted in compliance with Project operations and maintenance handover requirements.

6.3 Project Scheduling using the Model. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of the project construction schedule.

6.3.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver the construction schedule with information derived from the Model.

6.3.1.2 Construction Submittals – Over-The-Shoulder Progress Reviews. Periodic quality control meetings or construction progress review meetings shall include quality control reviews on the implementation and use of the Model for project scheduling.

6.4 Cost Estimating. In the BIM Execution Plan and during the Preliminary BIM Execution Plan Review, provide an overview of the use of BIM in the development and support of cost estimating requirements, or other applications such as cost analysis and estimate validation.

6.4.1 Submittal Requirements. During the Submittal stages, the Contractor shall deliver cost estimating information derived from the Model.

6.4.2 Project completion. At project completion, the Contractor shall provide an MII (Micro Computer Aided Cost Estimating System Generation II) Cost Estimate which follows the USACE Cost Engineering Military Work Breakdown System (WBS), a modified Uniformat, to at least the sub-systems level and uses quantity information supplied directly from BIM output to the maximum extent possible, though other "Gap" quantity information will be included as necessary for a complete and accurate cost estimate.

6.4.2.3 Sub system level extracted quantities from the BIM for use within the estimate shall be provided according to how detailed line items or tasks should be installed/built so that accurate costs can be developed and/or reflected. Therefore, when developing a BIM, the designer shall be cognizant of what tasks need to be separated appropriately at the beginning stages of model development, such as tasks done on the first floor versus the same task on higher floors that will be more labor intensive and therefore need to have a separate quantity and be priced differently. Tasks and their extracted quantities from the BIM shall be broken done by their location (proximity in the structure) as well as the complexity of its installation.

6.4.2.2 At all design stages it shall be understood that BIM output as described in this document will not generate all quantities that are necessary in order to develop a complete and accurate cost estimate of the project based on the design. An example of this would be plumbing that is less than 1.5" diameter and therefore not expected to be modeled due to granularity; this information is commonly referred to as The Gap. Quantities from The Gap and their associated costs shall be included in the final project actual cost estimates as well.

6.5 Other Analyses and Reports. Structural, energy and efficiency, EPACT 2005 & EISA 2007, lighting design, daylighting, electrical power, psychrometric processing, shading, programming, LEED, fire protection, code compliance, Life Cycle Cost, acoustic, plumbing.

Section 7 – BIM Project Execution Plan Template

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7.1 Contractors will utilize the latest version of the USACE BIM PROJECT EXECUTION PLAN (USACE PxP) Template to develop an acceptable Plan. The template can be downloaded from the CAD/BIM Technology Center website.</BIM_App_Specific>

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ATTACHMENT G
DESIGN SUBMITTAL DIRECTORY AND SUBDIRECTORY FILE ARRANGEMENT

Organize electronic design submittal files in a subdirectory/file structure in accordance with the following table. The Contractor may suggest a slightly different structure, subject to the discretion of the government.

Design Submittal Directory and Subdirectory File Arrangement.

Directory	Sub-Directory	Sub-Directory or Files	Files
Submittal/Package Name	Narratives	PDF file or files with updated design narrative for each applicable design discipline	
	Drawings	PDF (subdirectory)	Single PDF file with all applicable drawing sheets - bookmarked by sheet number and name
		BIM (subdirectory) See Attachment F.	BIM project folder (with files) per the USACE Workspace. Include an Excel drawing index file with each drawing sheet listed by sheet #, name and corresponding dgn file name (Final Design & Design Complete only)
	Design Analysis & Calculations	Individual PDF files containing design analysis and calculations for each discipline applicable to the submittal	
		PDF file with Fire Protection and Life Safety Code Review checklist	
	LEED	PDF file with updated Leed Check List	
		PDF file or files with LEED Templates for each point with applicable documentation included in each file.	
		LEED SUBMITTALS	
	Energy Analysis	PDF with baseline energy consumption analysis	
		PDF with actual building energy consumption analysis	
	Specifications	Single PDF file with table of contents and all applicable specifications sections.	
		Submittal Register (Final Design & Design Complete submittal only)	
	Design Quality Control	PDF file or files with DQC checklist(s) and/or statements	
	Building Rendering(s)	PDF file of rendering for each building type included in contract (Final Design & Design Complete).	

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*<VER>*REV 2.12 – 30 APR 2010*</VER>*

CONTRACTOR QUALITY CONTROL

1.0 GENERAL

1.1. REFERENCES

1.2. PAYMENT

2.0 PRODUCTS (NOT APPLICABLE)

3.0 EXECUTION

3.1. GENERAL REQUIREMENTS

3.2. QUALITY CONTROL PLAN

3.3. COORDINATION MEETING

3.4. QUALITY CONTROL ORGANIZATION

3.5. SUBMITTALS AND DELIVERABLES

3.6. CONTROL

3.7. TESTS

3.8. COMPLETION INSPECTION

3.9. DOCUMENTATION

3.10. NOTIFICATION OF NONCOMPLIANCE

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1.0 GENERAL

1.1. 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. Refer to the latest edition, as of the date of the contract solicitation.

- ASTM INTERNATIONAL (ASTM)
- ASTM D 3740 Minimum Requirements for Agencies

  Engaged in the Testing and/or Inspection
  of Soil and Rock as Used in Engineering
  Design and Construction
- ASTM E 329 Agencies Engaged in the Testing

  and/or Inspection of Materials Used in
  Construction
- U.S. ARMY CORPS OF ENGINEERS (USACE)

  ER 1110-1-12 Quality Management

1.2. PAYMENT

There will be no separate payment for providing and maintaining an effective Quality Control program. Include all costs associated therewith in the applicable unit prices or lump-sum prices contained in the Contract Line Item Schedule.

2.0 PRODUCTS (Not Applicable)

3.0 EXECUTION

3.1. GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product, which complies with the contract requirements. The system shall cover all design and construction operations, both onsite and offsite, and shall be keyed to the proposed design and construction sequence. The site project superintendent is responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2. QUALITY CONTROL PLAN

Furnish for Government review, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Design and construction may begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. The Government will not permit work outside of the features of work included in an accepted interim plan to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started. Where the applicable Code issued by the International Code Council calls for an inspection by the Building Official, the Contractor shall include the inspections in the Quality Control Plan and shall perform the inspections. The Designer of Record shall develop a program for any special inspections

SAMPLE

required by the applicable International Codes and the Contractor shall perform these inspections, using qualified inspectors. Include the special inspection plan in the QC Plan.

3.2.1. Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all design and construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents subcontractors, designers of record, consultants, architect/engineers (AE), fabricators, suppliers, and purchasing agents:

3.2.1.1. A description of the quality control organization. Include a chart showing lines of authority and an acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. A CQC System Manager shall report to the project superintendent or someone higher in the contractor's organization.

3.2.1.2. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function. Also include those responsible for performing and documenting the inspections required by the International Codes and the special inspection program developed by the designer of record.

3.2.1.3. A copy of the letter to the CQC System Manager, signed by an authorized official of the firm, which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Furnish copies of these letters.

3.2.1.4. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents subcontractors, designers of record, consultants, architect engineers (AE), offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

3.2.1.5. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. Use only Government approved Laboratory facilities.

3.2.1.6. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

3.2.1.7. Procedures for tracking design and construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

3.2.1.8. Reporting procedures, including proposed reporting formats.

3.2.1.9. A list of the definable features of work. A definable feature of work is a task, which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.1.10. A list of all inspections required by the International Codes and the special inspection program required by the code and this contract.

3.2.2. Additional Requirements for Design Quality Control (DQC) Plan

The following additional requirements apply to the Design Quality Control (DQC) plan:

3.2.2.1. The Contractor's QCP Plan shall provide and maintain a Design Quality Control (DQC) Plan as an effective quality control program which will assure that all services required by this design-build contract are performed and provided in a manner that meets professional architectural and engineering quality standards. As a minimum, competent, independent reviewers identified in the DQC Plan shall review all documents. Use

SAMPLE

personnel who were not involved in the design effort to produce the design to perform the independent technical review (ITR). The ITR is intended as a quality control check of the design. Include, at least, but not necessarily limited to, a review of the contract requirements (the accepted contract or task order proposal and amended RFP), the basis of design, design calculations, the design configuration management documentation and check the design documents for errors, omissions, and for coordination and design integration. The ITR team is not required to examine, compare or comment concerning alternate design solutions but should concentrate on ensuring that the design meets the contract requirements. Correct errors and deficiencies in the design documents prior to submitting them to the Government.

3.2.2.2. Include in the DQC Plan the discipline-specific checklists to be used during the design and quality control of each submittal. Submit these completed checklists at each design phase as part of the project documentation.

3.2.2.3. A Design Quality Control Manager, who has the responsibility of being cognizant of and assuring that all documents on the project have been coordinated, shall implement the DQC Plan This individual shall be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or architect. Notify the Government, in writing, of the name of the individual, and the name of an alternate person assigned to the position.

3.2.3. Acceptance of Plan

Government acceptance of the Contractor's plan is required prior to the start of design and construction. Acceptance is conditional and will be predicated on satisfactory performance during the design and construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4. Notification of Changes

After acceptance of the CQC Plan, notify the Government in writing of any proposed change. Proposed changes are subject to Government acceptance.

3.3. COORDINATION MEETING

After the Postaward Conference, before start of design or construction, and prior to acceptance by the Government of the CQC Plan, the Contractor and the Government shall meet and discuss the Contractor's quality control system. Submit the CQC Plan for review a minimum of 7 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, design activities, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. The Government will prepare minutes of the meeting for signature by both parties. . The minutes shall become a part of the contract file. There may be occasions when either party will call for subsequent conferences to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4. QUALITY CONTROL ORGANIZATION

3.4.1. Personnel Requirements

The requirements for the CQC organization are a CQC System Manager, a Design Quality Manager, and sufficient number of additional qualified personnel to ensure contract compliance. The CQC organization shall also include personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly furnish complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

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3.4.2. CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a BA/BS graduate of an ACCE accredited construction management college program. The CQC system Manager may alternately be an engineering technician with at least 2 years of college and an ICC certification as a Commercial Building Inspector (Residential Building Inspector certification will be required for Military Family Housing projects). In addition, the CQC system manager shall have a minimum of 5 years construction experience on construction similar to this contract. The CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. Assign the CQC System Manager no other duties (except may also serve as Safety and Health ~~Manager~~Officer, if qualified and if allowed by Section 00 73 00). Identify an alternate for the CQC System Manager in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager but the alternate may have other duties in addition to serving in a temporary capacity as the acting QC manager.

3.4.3. CQC Personnel

3.4.3.1. In addition to CQC personnel specified elsewhere in the contract provide specialized CQC personnel to assist the CQC System Manager in accordance with paragraph titled Area Qualifications.

3.4.3.2. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; **are not intended to be full time, but must be physically present at the construction site during work on their areas of responsibility**; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan. **One person may cover more than one area, provided that they are qualified to perform QC activities for the designated areas below and provided that they have adequate time to perform their duties:**

3.4.4. Experience Matrix

3.4.4.1. Area Qualifications

3.4.4.1.1. Civil - Graduate Civil Engineer or (BA/BS) graduate in construction management with 4 years experience in the type of work being performed on this project or engineering technician with 5 yrs related experience.

3.4.4.1.2. Mechanical - Graduate Mechanical Engineer or (BA/BS) graduate in construction management with 4 yrs related experience or engineering technician with an ICC certification as a Commercial Mechanical Inspector with 5 yrs related experience.

3.4.4.1.3. Electrical - Graduate Electrical Engineer or (BA/BS) graduate in construction management with 4 yrs related experience or engineering technician with an ICC certification as a Commercial Electrical Inspector with 5 yrs related experience.

3.4.4.1.4. Structural - Graduate Structural Engineer or (BA/BS) graduate in construction management with 4 yrs related experience or person with an ICC certification as a Reinforced Concrete Special Inspector and Structural Steel and Bolting Special Inspector (as applicable to the type of construction involved) with 5 yrs related experience.

3.4.4.1.5. Plumbing - Graduate Mechanical Engineer or (BA/BS) graduate in construction management with 4 yrs related experience, or person with an ICC certification as a Commercial Plumbing Inspector with 5 yrs related experience.

3.4.4.1.6. Concrete, Pavements and Soils Materials Technician (present while performing tests) with 2 yrs experience for the appropriate area

SAMPLE

3.4.4.1.7. Testing, Adjusting and Balancing Specialist must be a member (TAB) Personnel of AABC or an experienced technician of the firm certified by the NEBB (present while testing, adjusting, balancing).

3.4.4.1.8. Design Quality Control Manager Registered Architect or Professional Engineer (not required on the construction site)

3.4.4.1.9. Registered Fire Protection Engineer with 4 years related experience or engineering technician with 5 yrs related experience (but see requirements for Fire Protection Engineer of Record to witness final testing in Section 01 10 00, paragraph 5.10, Fire Protection).

3.4.4.1.10. QC personnel assigned to the installation of the telecommunication system or any of its components shall be Building Industry Consulting Services International (BICSI) Registered Cabling Installers, Technician Level. Submit documentation of current BICSI certification. In lieu of BICSI certification, QC personnel shall have a minimum of 5 years experience in the installation of the specified copper and fiber optic cable and components. They shall have factory or factory approved certification from each equipment manufacturer indicating that they are qualified to install and test the provided products. QC personnel shall witness and certify the testing of telecommunications cabling and equipment.

3.4.5. Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management for Contractors". This course is periodically offered at «COURSE_LOCATION». Inquire of the District or Division sponsoring the course for fees and other expenses involved, if any, for attendance at this course.

3.4.6. Organizational Changes

When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5. SUBMITTALS AND DELIVERABLES

Make submittals as specified in Section 01 33 00 ***SUBMITTAL PROCEDURES***. The CQC organization shall certify that all submittals and deliverables are in compliance with the contract requirements.

3.6. CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. The CQC organization shall conduct at least three phases of control for each definable feature of the construction work as follows:

3.6.1. Preparatory Phase

Perform this phase prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

3.6.1.1. A review of each paragraph of applicable specifications, reference codes, and standards. Make a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field at the preparatory inspection. Maintain these copies in the field, available for use by Government personnel until final acceptance of the work.

3.6.1.2. A review of the contract drawings.

3.6.1.3. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

3.6.1.4. Review of provisions that have been made to provide required control inspection and testing.

SAMPLE

3.6.1.5. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

3.6.1.6. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

3.6.1.7. A review of the appropriate activity hazard analysis to assure safety requirements are met.

3.6.1.8. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

3.6.1.9. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

3.6.1.10. Discussion of the initial control phase.

3.6.1.11. Notify the Government at least 24 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2. Initial Phase

Accomplish this phase at the beginning of a definable feature of work. Include the following actions:

3.6.2.1. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

3.6.2.2. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

3.6.2.3. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

3.6.2.4. Resolve all differences.

3.6.2.5. Check safety to include compliance with and upgrading of the Accident Prevention plan and activity hazard analysis. Review the activity analysis with each worker.

3.6.2.6. Notify the Government at least 24 hours in advance of beginning the initial phase. The CQC System Manager shall prepare and attach to the daily CQC report separate minutes of this phase. Indicate exact location of initial phase for future reference and comparison with follow-up phases.

3.6.2.7. Repeat the initial phase any time acceptable specified quality standards are not being met.

3.6.3. Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Conduct final follow-up checks and correct deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

3.6.4. Additional Preparatory and Initial Phases

SAMPLE

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7. TESTS

3.7.1. Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements and project design documents. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory, or establish an approved testing laboratory at the project site. The Contractor may elect to use a laboratory certified and accredited by the Concrete and cement Reference Laboratory (CCRL) or by AASHTO Materials Reference Laboratory (AMRL) for testing procedures that those organizations certify. The Contractor shall perform the following activities and record and provide the following data:

3.7.1.1. Verify that testing procedures comply with contract requirements and project design documents.

3.7.1.2. Verify that facilities and testing equipment are available and comply with testing standards.

3.7.1.3. Check test instrument calibration data against certified standards.

3.7.1.4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

3.7.1.5. Include results of all tests taken, both passing and failing tests, recorded on the CQC report for the date taken. Include specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2. Testing Laboratories

3.7.2.1. Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2. Capability Recheck

If the selected laboratory fails the capability check, the Government will assess the Contractor a charge of $1,375 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3. Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4. Furnishing or Transportation of Samples for Government Quality Assurance Testing

SAMPLE

The Contractor is responsible for costs incidental to the transportation of samples or materials. Deliver samples of materials for test verification and acceptance testing by the Government to the Corps of Engineers Laboratory, f.o.b., at the following address:

- For delivery by mail:

  «LAB_NAME»

  «LAB_ATTN»

  «LAB_MAIL»

  «LAB_STATE»
- For other deliveries:

  «LAB_NAME_OTHER»

  «LAB_ATTN_OTHER»

  «LAB_MAIL_OTHER»

  «LAB_STATE_OTHER»

The area or resident office will coordinate, exact delivery location, and dates for each specific test.

3.8. COMPLETION INSPECTION

3.8.1. Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the SPECIAL CONTRACT REQUIREMENTS Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. Prepare a punch list of items which do not conform to the approved drawings and specifications and include in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2. Pre-Final Inspection

As soon as practicable after the notification above, the Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. Accomplish these inspections and any deficiency corrections required by this paragraph within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3. Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall attend the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups and major commands may also attend. The Government will formally schedule the final acceptance inspection based upon results of the Pre-Final inspection. Provide notice to the Government at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9. DOCUMENTATION

SAMPLE

3.9.1. Maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers using government-provided software, QCS (see Section 01 45 01.10). The report includes, as a minimum, the following information:

3.9.1.1. Contractor/subcontractor and their area of responsibility.

3.9.1.2. Operating plant/equipment with hours worked, idle, or down for repair.

3.9.1.3. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

3.9.1.4. Test and/or control activities performed with results and references to specifications/drawings requirements. Identify the applicable control phase (Preparatory, Initial, Follow-up). List deficiencies noted, along with corrective action.

3.9.1.5. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

3.9.1.6. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

3.9.1.7. Offsite surveillance activities, including actions taken.

3.9.1.8. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

3.9.1.9. Instructions given/received and conflicts in plans and/or specifications.

3.9.1.10. Provide documentation of design quality control activities. For independent design reviews, provide, as a minimum, identity of the ITR team, the ITR review comments, responses and the record of resolution of the comments.

3.9.2. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, submit one report for every 7 days of no work and on the last day of a no work period. Account for all calendar days throughout the life of the contract. The first report following a day of no work shall be for that day only. The CQC System Manager shall sign and date reports. The report shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel. The Contractor may submit these forms electronically, in lieu of hard copy.

3.10. NOTIFICATION OF NONCOMPLIANCE

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 work site, 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.

SAMPLE

End of Section 01 45 04.00 10

SECTION 01 50 02*<TO>*.«TONUM»*</TO>*
<VER>REV 1.4 - 30 APR 2010***</VER>***

TEMPORARY CONSTRUCTION FACILITIES

1.0 OVERVIEW

1.1. GENERAL REQUIREMENTS

1.3. BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN***<FIELD_OFFICE>***

1.6. GOVERNMENT FIELD OFFICE***</FIELD_OFFICE>***

SAMPLE

1.0 OVERVIEW

1.1. GENERAL REQUIREMENTS

1.1.1. This section contains requirements specifically applicable to this task order. The requirements of Base ID/IQ contract Section 01 50 02 apply to this task order, except as otherwise specified herein.

1.3. BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

1.3.1. Bulletin Board (As Specified in Base contract)

1.3.2. Project and Safety Signs (Added to Stress standardization of signs, in the event that the Base ID/IQ Section 01 50 02 does not contain this information)

Erect a project sign and a site safety sign with informational details as provided by the Government at the Post award conference, within 15 days prior to any work activity on project site. Update the safety sign data daily, with light colored metallic or non-metallic numerals. Remove the signs from the site upon completion of the project. Engineer Pamphlet EP 310-1-6a contains the standardized layout and construction details for the signs. It can be found through a GOOGLE Search or try http://www.usace.army.mil/publications/eng-pamphlets/ep310-1-6a/s-16.pdf.***<FIELD_OFFICE>***

1.6. GOVERNMENT FIELD OFFICE

1.6.1. Resident Engineer's Office

Provide the Government Resident Engineer with an office, approximately «FIELD_OFFICE_AREA» square feet in floor area, co-located on the project site with the Contractor's office and providing space heat, air conditioning, electric light and power, power and communications outlets and toilet facilities consisting of at leastone lavatory and at least one water closet complete with connections to water and sewer mains ***<REMOTE_LOCATION>***, except that where no water and sewer service is available for connection, provide ***<UNISEX_PORTABLE>***a unisex portable toilet ***</UNISEX_PORTABLE><SEPARATE_PORTABLES>***separate portable toilets for men and women***</SEPARATE_PORTABLES>*** with hand sanitizing feature, maintained by the Contractor in lieu of toilet facilities connected to water and sewer mains ~~***<REMOTE_TOILET_OTHER>***«RESIDENT_OFFICE_TOILET»***</REMOTE_TOILET_OTHER><REMOTE_TOILET>***or 1 each, men's and women's portable toilets with hand sanitizing feature, maintained by the Contractor***</REMOTE_TOILET><\/REMOTE_LOCATION>***. Provide a mail slot in the door or a lockable mail box mounted on the surface of the door. Provide outlets for «LAN_PHONE_QUANTITY» government phones and same number of LAN connections for Government computers. Coordinate with the Resident Engineer for locations. Provide a conference room with space large enough for «CONFERENCE_ROOM_PERSONNEL» personnel to hold meetings. Provide a minimum of two outlets per government work station and at least one outlet per 10 feet of wall space for other government equipment. Provide at least twice weekly janitorial service. Remove the office facilities upon completion of the work and restore those areas. Connect and disconnect utilities in accordance with local codes and to the satisfaction of the Contracting Officer.

1.6.2. Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer and providing as a minimum the facilities specified above***<REMOTE_LOCATION><REMOTE_TOILET_OTHER>***«TRAILER-TYPE_TOILET»***</REMOTE_TOILET_OTHER><REMOTE_TOILET>*** except that a unisex portable toilet with hand sanitizing feature, maintained by the Contractor, may be provided in lieu of toilet facilities connected to water and sewer mains***</REMOTE_TOILET><\/REMOTE_LOCATION>***. Securely anchor the trailer to the ground at all four corners to guard against movement during high winds, per EM 385-1-1.***</FIELD_OFFICE>***

End of Section 01 50 02***<TO>***.«TONUM»***</TO>***

Comment [sdn1]: NOTE TO SPECIFIER: To accommodate remote locations, without access to water or sewer or locations, such as Alaska, the Specifier can choose to allow a portable toilet facility.

SAMPLE

APPENDIX A
Geotechnical Information

Not Used

SAMPLE

APPENDIX B
List of Drawings

Not Used

SAMPLE

APPENDIX C
Utility Connections

Not Used

SAMPLE

APPENDIX D
Results of Fire Flow Tests

Not Used

SAMPLE

APPENDIX E
Environmental Information

Not Used

SAMPLE

APPENDIX F
Photos of Surrounding Buildings

Not Used

SAMPLE

APPENDIX G
GIS Data

Not Used

SAMPLE

APPENDIX H
Exterior Signage

Not Used

SAMPLE

APPENDIX I
Acceptable Plants List

Not Used

SAMPLE

APPENDIX J
Drawings

Not Used

SAMPLE

APPENDIX K
Life Cycle Cost Analysis Fuel Cost Information

The following utility rates for this installation are provided for design

Electrical:
Demand Charge - $xx.xx per kilowatt

Energy Charge - $ x.xx per kilowatt-hour Blended Rate - $ x.xx per kilowatt-hour (blended annual energy and demand cost)

Natural Gas:
Commodity Charge Rate - $ x.xx per thousand cubic feet

Water:
Commodity Charge Rate - $x.xx per [volume]

Sewer:
Commodity Charge Rate - $x.xx per [volume]

Purchased/Central Steam:
Commodity Charge Rate - $x.xx per [unit of measure]

Purchased High Temperature Water:
Commodity Charge Rate - $x.xx per [unit of measure]

Purchased Chilled Water:
Commodity Charge Rate - $x.xx per [unit of measure]

SAMPLE

Appendix L

LEED Project Credit Guidance (OCT 09)

This spreadsheet indicates Army required credits, Army preferred credits, project-specific ranking of individual point preferences, assumptions guidance for individual credits, and references to related language in the RFP for individual credits.

SAMPLE

LEED Credit Paragraph	LEED Project Credit Guidance	Army Guidance: Required - Preferred - Avoid	Project Preference Ranking: (1=most preferred, blank=no preference, X=preference not applicable to this credit, Rqd=required)	
PAR	**FEATURE**			**REMARKS**
SUSTAINABLE SITES				
SSPR1	Construction Activity Pollution Prevention (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met.
SS1	Site Selection		X	See paragraph LEED CREDITS COORDINATION.

SS2	Development Density & Community Connectivity - OPTION 1 DENSITY		X	See paragraph LEED CREDITS COORDINATION.
	Development Density & Community Connectivity - OPTION 2 CONNECTIVITY		X	See paragraph LEED CREDITS COORDINATION.
SS3	Brownfield Redevelopment		X	See paragraph LEED CREDITS COORDINATION.
SS4.1	Alternative Transportation: Public Transportation Access		X	See paragraph LEED CREDITS COORDINATION.
SS4.2	Alternative Transportation: Bicycle Storage & Changing Rooms	Pref		Assume that non-transient building occupants are NOT housed on Post unless indicated otherwise.
SS4.3	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles - OPTION 1			Requires provision of vehicles, which cannot be purchased with construction funds. Assume Government will not provide vehicles unless indicated otherwise. Assume that 50% of GOV fleet is NOT alternative fuel vehicles unless indicated otherwise.
SS4.3	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles - OPTION 2	Pref		
SS4.3	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles - OPTION 3			Requires provision of vehicle refueling stations. Installation must support type of fuel and commit to maintaining/supporting refueling stations.
SS4.4	Alternative Transportation: Parking Capacity	Pref		

SAMPLE

SS5.1	Site Development: Protect or Restore Habitat			
SS5.2	Site Development: Maximize Open Space	Pref		Assume AGMBC option for aggregated open space at another location on the installation is not available to the project unless indicated otherwise.
SS6.1	Stormwater Design: Quantity Control	Pref		See paragraph STORMWATER MANAGEMENT.
SS6.2	Stormwater Design: Quality Control	Pref		See paragraph STORMWATER MANAGEMENT.
SS7.1	Heat Island Effect: Non-Roof			
SS7.2	Heat Island Effect: Roof	Pref		Coordinate with nearby airfield requirements, which may preclude this credit.
SS8	Light Pollution Reduction	Pref		
WATER EFFICIENCY				
WEPR1	Water Use Reduction (Version 3 only)	Rqd	Rqd	All LEED prerequisites are required to be met.
WE1.1	Water Efficient Landscaping: Reduce by 50%	Pref		See paragraph IRRIGATION. Project must include landscaping to be eligible for this credit.
WE1.2	Water Efficient Landscaping: No Potable Water Use or No Irrigation	Pref		Project must include landscaping to be eligible for this credit.
WE2	Innovative Wastewater Technologies - OPTION 1			
WE2	Innovative Wastewater Technologies - OPTION 2			
WE3	Water Use Reduction	Pref		See paragraph BUILDING WATER USE REDUCTION.

SAMPLE

ENERGY AND ATMOSPHERE				
EAPR1	Fundamental Commissioning of the Building Energy Systems (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met.
EAPR2	Minimum Energy Performance (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met.
EAPR3	Fundamental Refrigerant Management (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met.
EA1	Optimize Energy Performance	Rqd	1	Earning of LEED EA1 points as indicated in paragraph ENERGY CONSERVATION, as a minimum, is required.
EA2.1	On-Site Renewable Energy	Pref		See paragraph ENERGY CONSERVATION.
EA3	Enhanced Commissioning			The Commissioning Authority may be provided through the Design-Build Contractor only if in accordance with USGBC Credit Interpretation Ruling (CIR) dated 9/15/06. Commissioning Authority activities begin during design phase and continue well beyond beneficial occupancy. Assume Government will not provide CxA post-occupancy activities unless indicated otherwise.
EA4	Enhanced Refrigerant Management			
EA5	Measurement & Verification			Assume Government will not provide post-occupancy activities unless indicated otherwise.
EA6	Green Power		X	See paragraph LEED CREDITS COORDINATION.
MATERIALS AND RESOURCES				

SAMPLE

MRPR1	Storage & Collection of Recyclables (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met. Coordinate with Installation during design development on collection service and receptacles.
MR1	Building Reuse			
MR2.1	Construction Waste Management: Divert 50% From Disposal	Pref		See paragraph CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT.
MR2.2	Construction Waste Management: Divert 75% From Disposal	Pref		
MR3	Materials Reuse			
MR4.1	Recycled Content: 10% (post-consumer + 1/2 pre-consumer)	Pref		See paragraph RECYCLED CONTENT.
MR4.2	Recycled Content: 20% (post-consumer + 1/2 pre-consumer)	Pref		
MR5.1	Regional Materials:10% Extracted, Processed & Manufactured Regionally			
MR5.2	Regional Materials:20% Extracted, Processed & Manufactured Regionally			
MR6	Rapidly Renewable Materials	Pref		See paragraph BIOBASED AND ENVIRONMENTALLY PREFERABLE MATERIALS and

SAMPLE

				paragraph FEDERAL BIOBASED PRODUCTS PREFERRED PROCUREMENT PROGRAM.
MR7	Certified Wood	Pref		See paragraph BIOBASED AND ENVIRONMENTALLY PREFERABLE MATERIALS.
INDOOR ENVIRONMENTAL QUALITY				
EQPR1	Minimum IAQ Performance (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met.
EQPR2	Environmental Tobacco Smoke (ETS) Control (PREREQUISITE)	Rqd	Rqd	All LEED prerequisites are required to be met. Assume all buildings are smoke free unless indicated otherwise (family housing, barracks and other lodging are facility types where smoking may be permitted in some cases).
EQ1	Outdoor Air Delivery Monitoring			
EQ2	Increased Ventilation			
EQ3.1	Construction IAQ Management Plan: During Construction	Pref		See paragraph CONSTRUCTION IAQ MANAGEMENT.
EQ3.2	Construction IAQ Management Plan: Before Occupancy	Pref		See paragraph CONSTRUCTION IAQ MANAGEMENT.
EQ4.1	Low Emitting Materials: Adhesives & Sealants	Pref		See paragraph LOW-EMITTING MATERIALS.
EQ4.2	Low Emitting Materials: Paints & Coatings	Pref		See paragraph LOW-EMITTING MATERIALS.
EQ4.3	Low Emitting Materials: Carpet/Flooring Systems	Pref		See paragraph LOW-EMITTING MATERIALS.
EQ4.4	Low Emitting Materials: Composite Wood & Agrifiber Products	Pref		See paragraph LOW-EMITTING MATERIALS.
EQ5	Indoor Chemical & Pollutant Source Control	Pref		System requiring weekly cleaning to earn this credit is not a permitted option unless indicated

SAMPLE

				otherwise.
EQ6.1	Controllability of Systems: Lighting			
EQ6.2	Controllability of Systems: Thermal Comfort			
EQ7.1	Thermal Comfort: Design	Pref		See paragraph APPLICABLE CRITERIA
EQ7.2	Thermal Comfort: Verification			Project must earn credit EQ7.1 to be eligible for this credit. Assume Government will not provide post-occupancy activities unless indicated otherwise.
EQ8.1	Daylight & Views: Daylight 75% of Spaces	Pref		See paragraph DAYLIGHTING.
EQ8.2	Daylight & Views: Views for 90% of Spaces	Pref		
INNOVATION & DESIGN PROCESS				
IDc1.1	Innovation in Design			See paragraph INNOVATION AND DESIGN CREDITS. Assume Government will not provide any activities associated with ID credits.
IDc1.2	Innovation in Design			
IDc1.3	Innovation in Design			
IDc1.4	Innovation in Design			
IDc2	LEED Accredited Professional	Rqd	Rqd	LEED AP during design and construction is required.
REGIONAL PRIORITY CREDITS (Version 3 only)				See paragraph LEED CREDITS COORDINATION.

SAMPLE

APPENDIX M
LEED Owner's Project Requirements

Not Used

SAMPLE

LEED Requirements for Multiple Contractor Combined Projects (29 Sep 09)

When site work and building(s) for a project are accomplished by separate contractors, it is referred to as a Combined Project for purposes of LEED scoring and documentation and the following is required:

- LEED points relating to site work must be combined with the LEED points for each building to arrive at a single LEED Combined Project score.
- LEED points having both building requirements and site requirements (combined bldg/site points) must be coordinated between the contractors.
- LEED aggregate materials points must be coordinated between the contractors and a division of responsibilities for each contractor's required contribution to the point must be developed.
- LEED Project documentation from separate contractors must be combined.

Multiple Contractor Combined Project Definition. See paragraph MULTIPLE CONTRACTOR COMBINED PROJECT in paragraph PROJECT SPECIFIC REQUIREMENTS of the Statement of Work to see if this project is part of a Multiple Contractor Combined Project. A summary of the separate projects that constitute the Combined Project may be provided at paragraph SUSTAINABLE DESIGN – ADDITIONAL INFORMATION or may be obtained from the Contracting Officer's Representative. Typical Multiple Contractor Combined Projects are comprised of the site work contract and all the building-only contracts for buildings that the site work is provided for in the separate site work contract.

LEED Points Coordination. See Appendix LEED Multiple Contractor Responsibilities Table(s) for the total number of points each contractor is responsible for obtaining, for special requirements relating to combined building/site points and for each contractor's requirement relating to aggregate materials points each portion of this Multiple Contractor Combined Project. Each contractor providing a building is referred to as Building CTR and Site CTR refers to the contractor providing the site development. For each building included in the site work contract, the site work contractor is both Building CTR and Site CTR for that building. Aggregate materials percentages indicated in the table(s) are percentage of that contractor's materials total.

Point Substitutions. During preparation of the Proposal, each contractor is free to substitute other LEED points for those indicated in the LEED Multiple Contractor Responsibilities Table(s), except points marked "NO" in the "Building CTR Substitutions Permitted" column may not be deleted or added by substitution by building contractor and points marked "NO" in the "Site CTR Substitutions Permitted" column may not be deleted or added by substitution by site contractor. Credit substitutions after award are not permitted except with the advance approval of the Contracting Officer.

LEED Documentation. Each contractor is responsible for developing all project LEED documentation demonstrating compliance for their portion of the work and must utilize the LEED Letter Templates. Each contractor is responsible for updating construction phase LEED documentation at least monthly until construction closeout. No CTR will duplicate the data of another CTR within their own documentation. Each contractor will include the contractor name, project name and number and individual building description as applicable on each Letter Template. The LEED Letter Templates are copyright protected and shall be used only for this specific contract and this registered project.

Compiling LEED Documentation from Multiple Contractors. At completion and acceptance of final design submittals the completed design phase letter templates and their attachments from all CTRs in the Multiple Contractor Combined Project will be compiled at the registered site project. All CTRs will furnish electronic copies of their completed letter templates and their attachments for this purpose. Monthly during construction and at construction closeout all CTRs current construction phase letter templates and their attachments will be compiled at the registered site project. Summary letter templates for all aggregate credits (see AGMBC for which credits are aggregate credits) will be created and maintained monthly with summary data from all from all CTRs in the Multiple Contractor Combined Project at the registered site project. All CTRs will furnish

SAMPLE

electronic copies of the current updated templates and their attachments for this purpose monthly and at closeout.

Site Work Portion of Multiple Contractor Combined Project, Administration by the Government. If paragraph 16.4.2 CREDIT VALIDATION indicates this is the site work portion of a Multiple Contractor Combined Project and that administration of the online project is by the Government, the Government will provide access to blank Letter Templates for site CTRs use and the Government will perform the compiling indicated in paragraph Compiling LEED Documentation from Multiple Contractors above.

Site Work Portion of Multiple Contractor Combined Project, Shared Administration. If paragraph 16.4.2 CREDIT VALIDATION indicates this is the site work portion of a Multiple Contractor Combined Project and that administration of the online project is shared between Contractor and Government, the Contractor will administer the registered site project until final design acceptance, at which point administration will be transferred to the Government. The Government will administer the project during construction and the Government will perform the compiling indicated in paragraph Compiling LEED Documentation from Multiple Contractors above.

Site Work Portion of Multiple Contractor Combined Project, Administration by the Contractor. If paragraph 16.4.2 CREDIT VALIDATION indicates this is the site work portion of a Multiple Contractor Combined Project and that administration of the online project is by the Contractor, the Contractor will administer the project and **the Contractor will perform the compiling indicated in paragraph Compiling LEED Documentation from Multiple Contractors above**.

Standard Design Building(s) portion of Multiple Contractor Combined Project, Administration by the Government. If paragraph 16.4.2 CREDIT VALIDATION indicates this is a standard design building(s) portion of a Multiple Contractor Combined Project and that administration of the online project is by the Government, the Government will provide access to blank Letter Templates for standard design building CTRs use as follows:

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Instructions for Obtaining LEED Letter Templates for Registered Army Standard Designs

General. Contractors providing Army standard design buildings only (site work by another contractor) in a Multiple Contractor Combined project obtain their LEED Letter Templates for the project from the Center of Standardization (COS) for that standard design.

Information You Need to Provide. After award, contact the COS POC indicated below requesting LEED Letter Templates for your project. In your request, indicate the following:
Project name, location, Contractor name, PN number and contract number
Description of building(s) you are responsible for (example: S/M/L/L COF w/detached admin)
LEED Documentation Responsible Party name, phone number, email contact info
Responsible party certification of understanding that Letter Templates furnished by the Government for this project are copyright protected and will not be used for any purposes other than for this project documentation.
Attach the LEED Registered Project Checklist from conformed proposal which indicates the points the project will earn/contribute to.
****
SAMPLE EMAIL REQUEST:

To: (COS POC below)
CC: (Contracting Officer's Representative (COR) for your contract)
Subject: COS LEED Letter Templates Request

We have an awarded contract and request COS LEED Letter Templates for:

Project: 4th BCT Complex
Location: Fort Bragg, NC
Contractor: Great Design Builder Inc.
Project Number/Contract Number: PN 65555, W912HN-08-C-0001

Standard Design Building Type(s): Large Brigade HQ, Medium Battalion HQ

Our **Responsible Party** for LEED Documentation for this project is (name, phone number, email).

Certification: I, (sender name), certify that the LEED Letter Templates furnished by the Government for this project are copyright protected and I will ensure that they are not used for any purpose other than project documentation for this project only.

Attached Checklist: Please see attached LEED Project Checklist, which indicates the points this project will earn.

Salutation,
Name
****

COS Points of Contact for Obtaining Letter Templates. Email your request to the applicable POC indicated below. If there is no POC indicated for the standard design you are providing, contact your project COR for direction.

Army Standard Design	**Point of Contact**
Army Family Housing	Lisa.A.Bobotas@usace.army.mil
Battalion Headquarters	judith.f.milton@usace.army.mil
Brigade Headquarters	judith.f.milton@usace.army.mil
Company Operations Facilities (COF)	judith.f.milton@usace.army.mil
Criminal Investigation Facilities	Matthew.C.Scanlon@usace.army.mil
Enlisted Personnel Dining Facilities	David.A.Gary@usace.army.mil
General Instruction Buildings/Classroom XXI	Huong.M.Huynh@usace.army.mil
Military Entrance Processing Stations	Lisa.A.Bobotas@usace.army.mil
Tactical Equipment Maintenance Facilities (TEMF)	judith.f.milton@usace.army.mil
Transient Officer's Quarters (part of ORTC)	paul.m.kai@usace.army.mil

Furnishing Completed Documentation to COS Letter Template Library. Certain completed design phase letter templates with attachments may be requested by the COS for future use as part of the standard design. If requested, provide an electronic copy to the COS Point of Contact indicated above. The Center of Standardization (COS) for individual Army standard designs may maintain a library of completed LEED documentation for that standard design. The Government will make the completed templates available to subsequent standard design projects in order to reduce duplication of documentation effort to the extent possible. To inquire about reviewing or obtaining completed LEED documentation that may be applicable to a particular project, contact the Center of Standardization POC.

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APPENDIX O
LEED Strategy Tables

Not Used

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APPENDIX P

REV 1.0 - 30 NOVEMBER 2008

USGBC Registration of Army Projects

Typical Registration Procedure

1. Complete the online registration form (see guidance below) at the USGBC website http://www.usgbc.org/showfile.aspx?documentid=875 and submit it online.
2. Pay the registration fee via credit card (USACE staff: credit card PR&C is funded by project design or S&A funds).
3. The USGBC will follow up with a final invoice, the LEED-online passwords and template information.
4. If you have any questions, the USGBC contact (as of October 08) is:
Courtney Yan, LEED Program Assistant
U.S. Green Building Council
202/587-7180
cyan@usgbc.org

Completing the Registration Form

BEFORE YOU BEGIN:

Create a personal account with USGBC if you do not have one.
You will need the following information:
Project name as it appears in P2 (obtain from USACE Project Manager)
Building number/physical address of project
Zip code for Installation/project location
Total gross area all buildings in project
Total construction cost for buildings only (see Project Details Section instructions below)

ACCOUNT/LOGIN INFORMATION SECTION

1. The person registering the project **must have an account with USGBC** (login and password) to complete the form. If you have an account, select "I already have a USGBC Web site account" and enter email and password (twice). If you do not have an account, you may select "Create a new USGBC website account" and follow the instructions. It is recommended that you create an account separately on the USGBC website before you start the form. IMPORTANT: USACE team members are members of USGBC and are eligible for Member prices. USACE team members registering projects should be sure to include the USACE Corporate Access ID on the form (if you do not have it contact richard.l.schneider@usace.army.mil or judith.f.milton@usace.army.mil for the number).
2. The Account/Login Information section is filled out by the person registering the project. It may be a Contractor or a USACE staff member.

PROJECT TYPE SECTION

Self-explanatory. As of October 08 USACE projects use LEED for New Construction V2.2. USACE staff members are USGBC members.

GENERAL PROJECT INFORMATION SECTION

Project Title: Match the project name used in P2. Contact the USACE Project Manager for this information.
Is Project Confidential: Indicate NO except if project has security sensitivity (elements that are FOUO or higher security) indicate YES.
Project Address 1 and 2: This is the physical location of the project. Provide building number, street address, block number or whatever is known to best describe the location of the project on the Installation.

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Project City: Installation Name
State, Country, Zip Code: Self-explanatory
How Did You Hear About LEED: USACE requirement

PRIMARY CONTACT INFORMATION

The Primary Contact may be a Contractor or a USACE staff member. USGBC considers this individual the primary point of contact for all aspects of the project. It is recommended this person be the Contractor Project Manager or the USACE Project Manager.

PROJECT OWNER INFORMATION

Project Owner First Name, Last Name, email: The Project Owner is the USACE Project Manager.
Organization Name: U.S. Army Corps of Engineers. This field MUST be completed this way because it will be used as a search field by higher HQ to find all USACE registered projects.

PROJECT DETAILS

Owner Type: Military Base
Project Scope: Provide brief description (example: barracks complex)
Site Conditions: Provide brief description (example: wooded with steep grades)
Occupant Type: Provide brief description (example: military and civilian employees)
Owner Occupied: No
Gross Square Footage: Provide total area all buildings in project
Project Budget: Do not include the cost for design, site work, demolition, abatement or other work – do not include Government contingency or supervision costs. For design-build and construction projects registered after award, use the awarded contract cost for construction of buildings only. For projects registered prior to award of design-build or construction contract, use the total Primary Facility cost from DD1391 or updated Primary Facility cost based on design development if available.
Current Project Phase: Identify phase at time of registration (example: design start, construction start)
Project Type: Self-explanatory

PAYMENT INFORMATION

Self-explanatory

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APPENDIX Q
REV 1.1 – 31 MAY 2009
AREA COMPUTATIONS

Computation of Areas: Compute the "gross area" and "net area" of facilities (excluding family housing) in accordance with the following subparagraphs:

(1) Enclosed Spaces: The "gross area" is the sum of all floor spaces with an average clear height ≥6'-11" (as measured to the underside of the structural system) and having perimeter walls which are ≥4'-11". The area is calculated by measuring to the exterior dimensions of surfaces and walls.

(2) Half-Scope Spaces: Areas of the following spaces shall count as one-half scope when calculating "gross area":

- Balconies
- Porches
- Covered exterior loading platforms or facilities
- Covered but not enclosed passageways and walks
- Open stairways (both covered and uncovered)
- Covered ramps
- Interior corridors (Unaccompanied Enlisted Personnel Housing Only)

(3) Excluded Spaces: The following spaces shall be excluded from the "gross area" calculation:

- Crawl spaces
- Uncovered exterior loading platforms or facilities
- Exterior insulation applied to existing buildings
- Open courtyards
- Open paved terraces
- Uncovered ramps
- Uncovered stoops
- Utility tunnels and raceways
- Roof overhangs and soffits measuring less than 3'-0" from the exterior face of the building to the fascia

(4) Net Floor Area: Where required, "net area" is calculated by measuring the inside clear dimensions from the finish surfaces of walls. If required, overall "assignable net area" is determined by subtracting the following spaces from the "gross area":

- Basements not suited as office, special mechanical, or storage space
- Elevator shafts and machinery space
- Exterior walls
- Interior partitions
- Mechanical equipment and water supply equipment space
- Permanent corridors and hallways
- Stairs and stair towers
- Janitor closets
- Electrical equipment space
- Electronic/communications equipment space

SAMPLE

RMS SUBMITTAL REGISTER INPUT FORM

CONTRACT NUMBER

DELIVERY ORDER

TITLE AND LOCATION

Button <-----Right click for Instructions

SECTION	PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	TYPE OF SUBMITTAL											CLASSIFICATION						REVIEWING OFFICE					
			01 - PRECON SUBMITTALS	02 - SHOP DRAWINGS	03 - PRODUCT DATA	04 - SAMPLES	05 - DESIGN DATA	06 - TEST REPORTS	07 - CERTIFICATES	08 - MFRS INSTRUCTIONS	09 - MFRS FIELD REPORT	10 - O&M DATA	11 - CLOSEOUT SUBMITTALS	FIO - FOR INFORMATION ONLY	GA - GOVERNMENT APPROVED	DA - DESIGNER OF RECORD APPROVAL	CR - CONFORMANCE REVIEW	DA / CR	DA / GA	DO - DISTRICT OFFICE	AO - AREA OFFICE	RO - RESIDENT OFFICE	PO - PROJECT OFFICE	DR - DESIGNER OF RECORD	AE - ARCHITECT / ENGINEER
00 72 00	52.236-13	Accident Prevention Plan	X														X				X				
00 73 00	1.11	Dev. From Accept. Design. No Deviation from Contract					X											X			X			X	
00 73 00	1.11	Dev. From Accepted Design - Deviates from Contract					X												X		X			X	
00 73 00	1.17	Supplemental Price Breakdown	X											X							X				
00 73 00	1.18	SSHO Qualifications	X												X						X				
01 10 00	5.2.3.1	(if concrete pavement) Joint Layout Plan with design drawings					X										X								
01 10 00	5.5.2	Building Envelope Sealing Performance Testing						X						X							X				
01 10 10	***	Tests as Req by Codes - DOR Develops Test Program						X						X							X			X	
01 10 00	5.8.3	BAS Review Information		X														X		X	X			X	
01 10 00	5.8.3	BAS Performance Verification Test						X						X							X			X	
01 10 00	5.8.4	Testing Adjusting and Balancing						X						X							X			X	
01 10 00	5.8.5	Commissioning						X						X							X			X	
01 10 00	6.15	Environmental As Required for Site Specific					X										X				X			X	
01 10 00	6.16	Permits as required for Site specific					X										X				X			X	
01 10 00	5.10.2	Fire Protection Tests						X	X					X							X			X	
01 32 01.00 10	3.4.1	Preliminary Project Schedule	X												X						X				
01 32 01.00 10	3.4.2	Initial Project Schedule	X												X						X				
01 32 01.00 10	3.4.3	Design Package Schedule	X												X						X				
01 32 01.00 10	3.6.1	Periodic schedule updates from the Contractor	X												X						X				
01 32 01.00 10	3.7	Time Extension Request (Schedule)	X												X						X				
01 33 00	1.8	Submittal Register - DOR Input Required	X												X						X			X	
01 33 00	1.8	Submittal Register Updates (Design Packages, etc.)	X												X						X			X	
01 33 00	1.3.1	Substitution of Manuf or Model Named in Proposal		X	X													X			X			X	
01 33 16	1.2	Identify Designer(s) of Record	X												X						X				
01 33 16	1.1.2 / 3.2.4	Fast Track Design Package(s)					X										X			X	X				
01 33 16	1.2	Identification of all Designers of Record	X														X				X				
01 33 16	3.2.1	Site and Utility Des Package, incl. Substantiation					X										X			X	X				
01 33 16	3.2.2/3.5	Interim Des Subm Package(s), incl. Substantiation					X										X			X	X				
01 33 16	3.5.1	Drawings					X										X			X	X				
01 33 16	3.5.2.2	Sitework Design Analyses					X										X			X	X				
01 33 16	3.5.2.3	Structural Design Analyses					X										X			X	X				
01 33 16	3.5.2.4	Security Design Analyses					X										X			X	X				
01 33 16	3.5.2.5	Architectural Design Analyses					X										X			X	X				
01 33 16	3.5.2.6	Mechanical Design Analyses					X										X			X	X				
01 33 16	3.5.2.7	Life Safety Design Analyses					X										X			X	X				
01 33 16	3.5.2.8	Plumbing Design Analyses					X										X			X	X				
01 33 16	3.5.2.9	Elevator Design Analyses (as Applicable)					X										X			X	X				
01 33 16	3.5.2.10	Electrical Design Analyses					X										X			X	X				
01 33 16	3.5.2.11	Telecommunications Design Analyses					X										X			X	X				
01 33 16	3.5.2.12	Cathodic Protection Design Analyses					X										X			X	X				
01 33 16	3.5.3	Geotechnical Investigations and Reports					X										X			X	X				
01 33 16	3.5.4	LEED Submittals					X										X			X	X				
01 33 16	3.5.5	Energy Conservation Documentation					X										X			X	X				
01 33 16	3.5.6	Specifications					X										X			X	X				
01 33 16	3.5.7	Building Rendering					X										X			X	X				
01 33 16	3.2.4/3.7	Final Des Submittal Package(s), incl. Substantiation					X										X			X	X				
01 33 16	3.7.5	DD Form 1354 (Transfer of Real Property)											X				X				X				
01 33 16	3.2.5/3.8	Design Complete Submittal Package(s)					X										X			X	X				
01 33 16	3.3.3	Design and Code Review Checklists					X										X			X	X				
01 33 16	A-2.0	SID - Interim and Final (as applicable)			X	X	X								X						X				
01 33 16	B-2.0	FFE (as Applicable)					X								X						X				
01 45 04.00 10	3.2	Design and Construction QC Plan	X														X				X				
01 57 20.00.10	1.2	Environmental Protection Plan	X														X				X				
01 78 02.00 10	1.2.1	Final as-Built Drawings											X		X										
01 78 02.00 10	1.2.7	Provide final as-built CADD and BIM Model files											X		X						X				
01 78 02.00 10	1.2.9	Provide scans of all other docs in Adobe.pdf format											X		X						X				
01 78 02.00 10	1.3.1	Equip-in-Place list of all installed equip and cost											X		X						X				
01 78 02.00 10	1.3.2	Data on equip not addressed in O&M manuals											X		X						X				
01 78 02.00 10	1.3.3	Final as-built specs - electronic files											X		X						X				
01 78 02.00 10	1.4.2.1	Warranty management plan - FAR 52.246-21											X		X						X				
01 78 02.00 10	1.4.2.1	Certificates of Warranty for extended warranty items											X		X						X				
01 78 02.00 10	1.4.2.1	Contractor's POCs for implementing warranty process											X		X						X				
01 78 02.00 10	1.4.2.1	List of each warranted equip, item, feature or system											X		X						X				
01 78 02.00 10	1.5	See also Section 01 10 00 par. 5.8.4 and 5.8.5											X		X						X				
01 78 02.00 10	1.6.1.2	Equipment O&M Manuals - 1 electronic / 2 hard copies											X		X						X				
01 78 02.00 10	1.7	Field Training DVD Videos										X		X							X				
01 78 02.00 10	1.8	Pricing of CF/CI and GF/CI Property											X	X							X				
01 78 02.00 10	1.11	List of Completed Cleanup Items											X				X				X				

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Export to RMS in CSV(MS-DOS) (*.csv) Format

Note: Reviewing Office Optional