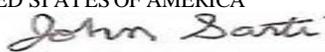
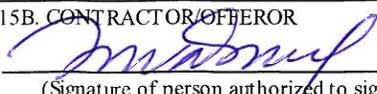


AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES	
			J	1	101
2. AMENDMENT/MODIFICATION NO. 02	3. EFFECTIVE DATE 12-Feb-2015	4. REQUISITION/PURCHASE REQ. NO. SEE SCHEDULE		5. PROJECT NO.(If applicable)	
6. ISSUED BY INSTAL & VEHICLE SUP CONTRACTING DIV 6501 E. 11 MILE ROAD WARREN MI 48397-5000	CODE W56HZV	7. ADMINISTERED BY (If other than item 6) INSTAL & VEHICLE SUP CONTRACTING DIV LAUREN DEROCHE CCTA-HDC-DIMS 350 LAUREN.R.DEROCHE.CIV@MAIL.MIL WARREN MI 48397-5000		CODE	W56HZV
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) DETROIT CONTRACTING, INC. NAFA KHALAF 1412 E 11 MILE RD MADISON HEIGHTS MI 48071-3808			9A. AMENDMENT OF SOLICITATION NO.		
			9B. DATED (SEE ITEM 11)		
			X	10A. MOD. OF CONTRACT/ORDER NO. W912JB-11-D-4016-BR02	
			X	10B. DATED (SEE ITEM 13) 30-Sep-2014	
CODE 3NCU2	FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: mutual agreement of the parties					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Modification Control Number: derochel15130 Reference Purchase Request #0010646308 1. The purpose of this modification is to update the Statement of Work and drawings and to add and fund additional CLINs for new carpet work. 2. Section 1.10 has been revised to reflect calendar dates based on the notice to proceed given on 29 August 2014. 3. Clause 52.211-10 has been corrected to reflect these changes. 4. Section 1.1 has been updated to address the changes to the drawings for the new carpet work. 5. CLIN 0011 has been added and funded in the amount of \$204,291.00. 6. As a result of this modification, the total contract dollar amount has increased by \$204,291.00 from \$997,033.05 to \$1,201,324.05. 7. Except as provided herein, all other terms and conditions of W912JB-11-D-4016 BR02 remain unchanged and in full force and effect.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) JOHN SARTI / CONTRACTING OFFICER TEL: 586-282-6524 EMAIL: john.m.sarti2.civ@mail.mil		
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)		16C. DATE SIGNED 12-Feb-2015

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES	
			J	1	101
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
	04-Feb-2015	SEE SCHEDULE			
6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)		CODE	
INSTAL & VEHICLE SUP CONTRACTING DIV 6501 E. 11 MILE ROAD WARREN MI 48397-5000	W56HZV	INSTAL & VEHICLE SUP CONTRACTING DIV LAUREN DEROCHE CCTA-HDC-DIMS 350 LAUREN.R.DEROCHE.CIV@MAIL.MIL WARREN MI 48397-5000		W56HZV	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			9A. AMENDMENT OF SOLICITATION NO.		
DETROIT CONTRACTING, INC. NAFA KHALAF 1412 E 11 MILE RD MADISON HEIGHTS MI 48071-3808					
			9B. DATED (SEE ITEM 11)		
			X 10A. MOD. OF CONTRACT/ORDER NO. W912JB-11-D-4016-BR02		
			X 10B. DATED (SEE ITEM 13) 30-Sep-2014		
CODE	3NCU2	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended.					
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
See Schedule					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: mutual agreement of the parties					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Modification Control Number: derochel15130 Reference Purchase Request #0010646308 1. The purpose of this modification is to update the Statement of Work and drawings and to add and fund additional CLINs for new carpet work. 2. Section 1.10 has been revised to reflect calendar dates based on the notice to proceed given on 29 August 2014. 3. Clause 52.211-10 has been corrected to reflect these changes. 4. Section 1.1 has been updated to address the changes to the drawings for the new carpet work. 5. CLIN 0011 has been added and funded in the amount of \$204,291.00. 6. As a result of this modification, the total contract dollar amount has increased by \$204,291.00 from \$997,033.05 to \$1,201,324.05. 7. Except as provided herein, all other terms and conditions of W912JB-11-D-4016 BR02 remain unchanged and in full force and effect.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
NAFA KHALAF - CEO					
			TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
		2-9-15	BY _____		
(Signature of person authorized to sign)			(Signature of Contracting Officer)		

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by \$204,291.00 from \$997,033.05 to \$1,201,324.05.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0011 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011	Carpet Add-on FFP FOB: Destination PURCHASE REQUEST NUMBER: 0010646308	1	Job	\$204,291.00	\$204,291.00
				NET AMT	\$204,291.00
ACRN AB CIN: GFEB001064630800001					\$204,291.00

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:

STATEMENT OF WORK

Directorate of Public Works
Detroit Arsenal



Design-Build Statement of Work

**Project Title: Renovate Offices and Secure
Room (SAPF); Building 229, 3rd Floor Work
Order Number GCS000514**

**U.S. Army Garrison - Detroit Arsenal
Directorate of Public Works
Warren, MI**

**26 SEPTEMBER 2014
FINAL**

Project Table of Contents

<u>Spec Section</u>	<u>Section Description</u>	<u>No. of sheets</u>
DIVISION 01 - GENERAL REQUIREMENTS		
01 02 00.15 48	Project Description and Design Requirements	67
01 03 00.00 48	Design and Construction Submission Requirements	24

<u>APPENDIXES</u>		
<u>Appendix #</u>	<u>Description</u>	<u>#.of Sheets</u>
Appendix A-1	Standard Environmental Protection Requirements	32
Appendix A-2	Project Specific Environmental Protection Requirements	26
Appendix B	Other Standard Environmental Protection Requirements	11
Appendix C	Mini Asbestos Building Inspection Report	6
Appendix D	SCIF Requirements, AR-380-5 Dept. of the Army Security Program Information, and JAFAN-Physical Security Standards for SAPF	396
Appendix E	Reference Drawings	(ON CD)
Appendix F	Construction Impact Notification Form and Process	3
Appendix G	HAZMART User's Handbook	16
Appendix H	CADD Drawings	(ON CD)
Appendix I	DPW Drawing Guidelines	5
Appendix J	Proposed Furniture Plan - WORK SET 1A; Dated 05JUN2014	1

EXHIBIT 1 SCOPE OF WORK DRAWINGS				
<u>Sheet No</u>	<u>Discipline Code</u>	<u>Drawing Title</u>	<u>Date</u>	<u>Rev Date</u>
1 of 23	G-001	COVER AND INDEX SHEET	7-02-14	
2 of 23	A-001	OVERALL COMPOSITE WORK PLANS-WORK SET #'S 1, 2, 3, 4, AND BID OPTION #'S 1 & 2 -	7-02-14	
3 of 23	A-101	ARCHITECTURAL DEMOLITION WORK PLAN-NORTH	7-02-14	
4 of 23	A-102	ARCHITECTURAL DEMOLITION WORK PLAN-SOUTH	7-02-14	
5 of 23	A-201	ARCHITECTURAL NEW WORK PLAN-NORTH	7-02-14	
6 of 23	A-202	ARCHITECTURAL NEW WORK PLAN-SOUTH	7-02-14	
7 of 23	I-101	FURNITURE DEMOLITION WORK PLAN-NORTH	7-02-14	
8 of 23	I-102	FURNITURE DEMOLITION WORK PLAN-SOUTH	7-02-14	
9 of 23	I-201	FURNITURE NEW WORK PLAN-NORTH	7-02-14	
10 of 23	I-202	FURNITURE NEW WORK PLAN-SOUTH	7-02-14	
11 of 23	M-101	MECHANICAL DEMOLITION WORK PLAN-NORTH	7-02-14	
12 of 23	M-102	MECHANICAL DEMOLITION WORK PLAN-SOUTH	7-02-14	
13 of 23	M-201	MECHANICAL NEW WORK PLAN-NORTH	7-02-14	
14 of 23	M-202	MECHANICAL NEW WORK PLAN-SOUTH	7-02-14	
15 of 23	E-101	LIGHTING DEMOLITION WORK PLAN-NORTH	7-02-14	
16 of 23	E-102	LIGHTING DEMOLITION WORK PLAN-SOUTH	7-02-14	
17 of 23	E-103	POWER DEMOLITION WORK PLAN-NORTH	7-02-14	
18 of 23	E-104	POWER DEMOLITION WORK PLAN-SOUTH	7-02-14	
19 of 23	E-201	LIGHTING NEW WORK PLAN-NORTH	7-02-14	
20 of 23	E-202	LIGHTING NEW WORK PLAN-SOUTH	7-02-14	
21 of 23	E-203	POWER NEW WORK PLAN-NORTH	7-02-14	
22 of 23	E-204	POWER NEW WORK PLAN-SOUTH	7-02-14	

Project Table of Contents

EXHIBIT 1 SCOPE OF WORK DRAWINGS				
<u>Sheet</u> No	<u>Discipline</u> Code	<u>Drawing</u> Title	<u>Date</u>	<u>Rev</u> Date
23 of 23	E-601	ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES	7-02-14	

SECTION 01 02 10.00 06

PROJECT DESCRIPTION AND DESIGN REQUIREMENTS
04/13

Part 1 DESIGN OBJECTIVES

1.1 PROJECT DESCRIPTION

1.1.1 This project will require design-build construction method, associated with WORK SET 1A and WORK SET 1B, to perform the architectural, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection work as described in this Statement of Work (SOW), as a precursor to the design-build services associated with the remainder of the project (WORK SETS 1A, 1B, 2, 3, 3A, 3B, 3C, and 4 and Bid Options 1 and 2).

1.1.2 This project is a design-build project that will include minor construction and repair and maintenance construction associated with WORK SETS 1A, 1B, 2, 3, 3A, 3B, 3C, and 4, and Bid Options 1 and 2, to design and perform the architectural, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection work as described in this Request for Proposal (RFP).

Please refer to drawings with revision cloud 1 dated 29 October 2014 for modification work.

The scope of work for this project and Bid Options are as follows:

1.2 WORK SET 1A and 1B (General and executive office areas) - Provide design and construction services associated with the floor plan area designated by the WORK SETs 1a and 2b boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option #'s 1 and 2". The general work scope identifies the following:

1.2.1 The contractor shall demolish and replace all existing carpet, tile, flooring, and associated wall base. The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension system components to replace damaged portions.

1.2.2 The contractor shall demolish and replace all existing lighting fixtures, all supply air diffusers and return air grilles, selective hard wall, modular walls, doors, frames, and hardware.

1.2.3 The contractor shall install new metal studs and drywall constructed walls with integral sound insulation, wood doors, steel frames, and hardware.

1.2.4 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.).

1.2.5 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.),

1.2.6 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.2.7 The contractor shall make modifications to the existing HVAC systems, air balancing, and relocate and modify the HVAC temperature control sensor.

1.2.8 The contractor shall demolish lighting and power, new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.2.9 The contractor shall install new communication lines and outlets for ISDN (Integrated Services Digital Network), coaxial, phones, fax, LAN (Local Area Network) & data, IT cover plates, new lighting, new exit signs, emergency ballasts and battery packs.

1.2.10 The contractor shall rework and install exit signs, power and telecommunication for a network printer/copier station/area.

1.2.11 The contractor shall disconnect and reconnect all existing utilities (power, voice and LAN) associated with all of the existing modular furniture workstations that are being removed, refurbished, and/or reinstalled.

1.2.12 All furniture work (disassembly, refurbishment, transportation, storage, and reinstallation) will be performed by a separate Government-provided furniture Contractor

1.2.13 All work shall include asbestos abatement and re-insulation work.

1.2.14 For all work, refer to the Design-Build Scope-of-Work Drawings and the Design-Build Statement-of-Work for additional information.

1.3 WORK SET 2 (Special Access Program Facilities (SAPF) office and support areas) - Provide design and construction services associated with the floor plan area designated by the WORK SET 2 boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option

#'s 1 and 2". The general work scope includes the following:

1.3.1 The contractor shall demolish and replace all existing carpet tile flooring and associated wall base.

1.3.2 The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension systems components, and where necessary, replace damaged portions.

1.3.3 The contractor shall demolish and replace all existing lighting fixtures.

1.3.4 The contractor shall demolish and replace all supply air diffusers and return air grilles.

1.3.5 The contractor shall demolish and replace selective hard wall, modular walls, doors, frames, and hardware and install a new metal stud and drywall constructed wall with integral sound insulation, wood doors, steel frames,

and hardware.

1.3.6 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.),

1.3.7 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.)

1.3.8 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.3.9 The contractor shall make modifications to the existing HVAC systems, air balancing, and relocate and modify the HVAC temperature control sensor.

1.3.10 The contractor shall demolish lighting and power, and install new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/ strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.3.11 The contractor shall install new communication lines and outlets for ISDN (Integrated Services Digital Network), coaxial, phones, fax, LAN (Local Area Network) & data, IT cover plates, new lighting, new exit signs, emergency ballasts and battery packs.

1.3.12 The contractor shall rework and install exit signs, power and telecommunication for a network printer/copier station/area.

1.3.13 The contractor shall disconnect and reconnect all existing utilities (power, voice and LAN) associated with all of the existing modular furniture workstations that are being removed, refurbished, and/or reinstalled.

1.3.14 All furniture work (disassembly, refurbishment, transportation, and reinstallation) will be performed by a separate Government-provided furniture Contractor

1.3.15 All work shall include asbestos abatement and re-insulation work.
Government

1.3.16 The design and construction renovations associated with the WORK SET 2 designated work areas require the space to meet and maintain its current open storage office space security requirements. Refer to Appendix Section D for additional information, references, and requirements, as well as information contained herein.

1.3.17 Project design and construction for all secure rooms and secure facilities shall be in accordance with the latest edition of Army Regulation (AR) 380-5, Department of the Army Information Security Program and Joint Air Force - Army - Navy (JAFAN) Manual 6/9.

1.3.17.1 The contractor shall provide third party testing in accordance with ASTM E336.

1.3.17.2 The contractor shall verify in writing that installed products perform no less than five (5) Field Sound Transmission Class (FSTC) or Noise Isolation Class (NIC) rating points below the specified laboratory Sound Transmission Class (STC) rating.

1.3.17.3 The contractor shall examine, adjust, and retest any installation not meeting that criteria until compliance is obtained in accordance with UFGS requirements.

1.3.18 All alarm security work on Top Secret and Secret SIPRNET rooms, Top Secret and Secret VTC rooms, Top Secret and Secret Open Storage Areas, and all other rooms requiring alarm security work shall be fully compatible with the existing base alarm system. The existing base alarm system is ICIDS-IV/DAQ. ICIDS-IV/DAQ manufacturer and manufacturer certified vendors shall be used. The contractor shall contact DAQ Electronics, LLC for a complete list of manufacturer certified vendors.

1.3.19 Sensitive Compartmented Information Facilities (SCIF) shall be provided in accordance with ICD/ICS 705, *Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities (SCIF)*.

1.3.19.1 Interior walls around the perimeter of the room shall be of permanent drywall with the perimeter walls, floors, and ceilings permanently constructed and attached to each other. Construction shall be done to provide visual evidence of unauthorized penetration.

1.3.19.2 Perimeter walls, doors, floors, and ceilings shall be constructed from the concrete floor to the roof deck and shall provide STC of 45 or better to preclude inadvertent disclosure of conversation.

1.3.19.3 All vents, ducts, and similar openings in excess of 96 square inches that enter or pass through the SCIF construction shall be protected with commercial metal duct sound baffles that meet the STC 45 rating.

1.3.19.3.1 The baffles or wave forms shall be metal, permanently installed, and shall be no more than 6 inches apart in one dimension.

1.3.19.3.2 A deviation of 1/2-inch in vertical or horizontal spacing is permissible.

1.3.20 The Contractor shall allow access to secure rooms for inspection during construction.

1.3.21 The Contractor shall notify the Contracting Officer's Representative (COR) at least 48 hours prior to the start of construction in secure rooms so the COR may schedule inspections.

1.3.21.1 Inspection by the COR will be as frequent as deemed necessary by the COR for visual inspection of the secure space during construction and to certify the secure space meets the requirements of Army Regulation (AR) 380-5, Department of the Army Information Security Program.

1.3.22 Requirements for SAPF (Special Access Program Facility) vault area(WORK SET 2):

Refer to additional information and requirements contained in Specification Section 1.6 FORCE PROTECTION & ANTI-TERRORISM CONSIDERATIONS, associated with the WORK SET 2 work scope.

1.3.22.1 Staff: Minimum of 6 personnel.

1.3.22.2 Facility (The majority of these sub-items already exist, but may require modifications as part of this project):

1.3.22.2.1 Accredited to TOP SECRET, new construction should be built using Intelligence Community Directive (ICD) 705.

1.3.22.2.2 Two private offices, constructed of full-height modular furniture wall panels, Offices must be large enough to support 3 computer systems, printer, scanner, safes, research material/regulations, switch boxes, multiple monitors, STE, ASEP.

1.3.22.2.3 Four full-height, private office (modular furniture) cubicle workstations which provide sound and visual cover. Desks or computers cannot be seen when the door is open. Personnel working with classified material on a constant basis. Phone conversations, computer use, and documents require protection therefore TPO personnel must have the confines to make that possible.

1.3.22.2.4 All modular wall and furniture system private offices (2) and cubicles (4) shall be complete with door and frame assemblies and all required hardware to match the building/DTA base standards. Area must be capable of providing enough space for the following:

- i. Access control station (computer and unique power requirements).
- ii. Large Emergency Backup power unit.
- iii. ASEP Server.
- iv. SIPR server.
- v. Classified copier.
- vi. Destruction shredder.
- vii. Destruction data destroyer.
- viii. Refrigerator and microwave.
- ix. Network printer station (Unclassified, Secret, SAP).
- x. Conference room capable of seating 35 people protected as SAP continuously. Conference room must be equipped with ASEP VTC and be able to display presentations up to TS. NIPR, SIPR, and ASEP must be available in conference room.
- xi. Nine 5 drawer safes.
- xii. Four 2 drawer safes.
- xiii. Seven 4 drawer filing cabinets.
- xiv. Vestibule separating Main Entrance from SAP.
- xv. Wrapping station.
- xvi. Storage area.
- xvii. Power, alarm, and access control boxes.

1.3.22.2.5 Area must be true floor to true ceiling and meet sound attenuation requirements in accordance with AR 380-5.

1.3.22.2.6. Space efficient office furniture and modular furniture office workstations will be provided by the Government as part of a separate contract.

1.4 WORK SET 3 (General office areas)- The contractor shall provide design and

construction services associated with the floor plan area designated by the WORK SET 3 boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option #'s 1 and 2". The general work scope includes the following:

1.4.1 The contractor shall demolish and replace all existing carpet tile flooring and associated wall base.

1.4.2 The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension systems components, where necessary, and replace damaged portions.

1.4.3 The contractor shall demolish and replace all existing lighting fixtures.

1.4.4 The contractor shall demolish and replace all supply air diffusers and return air grilles.

1.4.5 The contractor shall demolish and replace selective hard wall, modular walls, doors, frames, and hardware and the install new metal stud and drywall constructed wall with integral sound insulation, wood doors, steel frames, and hardware.

1.4.6 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.)

1.4.7 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.)

1.4.8 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.4.9 The contractor shall make modifications to the existing HVAC systems, air balancing, and relocate and modify the HVAC temperature control sensor.

1.4.10 The contractor shall demolish lighting and power, new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/ strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.4.11 The contractor shall install new communication lines and outlets for ISDN (Integrated Services Digital Network), coaxial, phones, fax, LAN (Local Area Network) & data, IT cover plates, new lighting, new exit signs, emergency ballasts and battery packs.

1.4.12 The contractor shall rework and install exit signs, power and telecommunication for a network printer/copier station/area.

1.4.13 The contractor shall disconnect and reconnect all existing utilities (power, voice and LAN) associated with all of the existing modular furniture workstations that are being removed, refurbished, and/or reinstalled.
Government

1.4.14 All furniture work (disassembly, refurbishment, transportation, storage, and reinstallation) will be performed by a separate Government-

provided furniture contractor

1.4.15 All work shall include asbestos abatement and re-insulation work.

1.4.16 All new carpet tiles associated with WORK SET 3 shall be as specified on the "Finish

Schedule" shown on Drawing A-202 (Sht #06) and be designated as I.D. Tag "CPT-1", except for the south and southwestern corridor portions adjoining the open office areas associated with WORK SET 3, connecting the main building corridor/elevator lobby to the southwestern stairwell, which shall be "CPT-3" to match the carpet being utilized with the Bid Option Number 2 work scope. This corridor carpet tile will be a distinctive, way-finding style that will identify the main building corridor areas connecting all of the stairwells and the elevator lobby areas.

1.5 WORK SET 3A, WORK SET 3B, and WORK SET 3C (3 existing conference rooms) - The contractor shall replace all existing room finishes associated with each of these 3 existing conference rooms by the WORK SET 3A, 3B, and 3C boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option #'s 1 and 2". For these 3 existing conference rooms, the general work scope includes the following:

1.5.1 The contractor shall remove and replace existing acoustic ceiling tiles.

1.5.2 The contractor shall remove and replace existing lighting fixtures.

1.5.3 The contractor shall remove and replace existing HVAC ceiling supply air diffusers and return air grilles

1.5.4 The contractor shall remove and replace existing carpet tile flooring and associated wall base.

1.5.5 The contractor shall remove and replace existing wall paint finishes and wall coverings.

1.5.6 The contractor shall remove and reinstall all other existing ancillary wall-hung and ceiling mounted devices and items such as room signage, chairs rails/baseboard and wood trim, smoke detectors, exit signs, fire alarms, occupancy sensors, etc.

1.5.7 All furniture work (disassembly, refurbishment, transportation, storage, and reinstallation) will be performed by a separate Government-provided furniture contractor.

1.6 WORK SET 4 (General office areas) - The contractor shall provide design and construction services associated with the floor plan area designated by the WORK SET 4 boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option #'s 1 and 2". The general work scope includes the following:

1.6.1 The contractor shall demolish and replace all existing carpet tile flooring and associated wall base.

1.6.2 The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension systems components, where necessary, and replace damaged portions.

1.6.3 The contractor shall demolish and replace all existing lighting fixtures.

1.6.4 The contractor shall demolish and replace all supply air diffusers and return air grilles.

1.6.5 The contractor shall demolish and replace selective hard wall, modular walls, doors, frames, and hardware and the install new metal stud and drywall constructed wall with integral sound insulation, wood doors, steel frames, and hardware.

1.6.6 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.

1.6.7 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.)

1.6.8 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.6.9 The contractor shall make necessary modifications to the existing HVAC systems, air balancing, and relocate and modify HVAC temperature control sensors.

1.6.10 The contractor shall demolish lighting and power, new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/ strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.6.11 The contractor shall install new communication lines and outlets for ISDN (Integrated Services Digital Network), coaxial, phones, fax, LAN (Local Area Network) & data, IT cover plates, new lighting, new exit signs, emergency ballasts and battery packs.

1.6.12 The contractor shall rework and install exit signs, power and telecommunication for a network printer/copier station/area.

1.6.13 The contractor shall disconnect and reconnect all existing utilities (power, voice and LAN) associated with all of the existing modular furniture workstations that are being removed, refurbished, and/or reinstalled.

1.6.14 All furniture work (disassembly, refurbishment, transportation, storage, and reinstallation) will be performed by a separate Government-provided furniture contractor

1.6.15 All contractor work shall include asbestos abatement and re-insulation work.

1.7 **Bid Option Number 1** (General office areas) - The contractor shall provide design and construction services associated with the floor plan area designated

by the Bid Option No. 1 boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and Bid Option #'s 1 and 2". The general work scope includes the following:

1.7.1 the contractor shall demolish and replacement all existing carpet tile flooring and associated wall base.

1.7.2 The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension systems components, where necessary, and replace damaged portions.

1.7.3 The contractor shall demolish and replace all existing lighting fixtures.

1.7.4 The contractor shall demolish and replace all supply air diffusers and return air grilles.

1.7.5 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.

1.7.6 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.)

1.7.7 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.7.8 The contractor shall demolish lighting and power, new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/ strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.7.9 The contractor shall make necessary modifications to existing HVAC, electrical power systems, lighting systems, fire alarm and detection systems, and telecommunication systems.

1.7.10 The contractor shall disconnect and reconnect all existing utilities (power, voice and LAN) associated with all of the existing modular furniture workstations that are being removed, refurbished, and/or reinstalled.

1.7.11 All furniture work (disassembly, refurbishment, transportation, storage, and reinstallation) will be performed by a separate Government-provided furniture contractor

1.7.12 All work shall include asbestos abatement and re-insulation work.
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1.8 Bid Option Number 2 (Main building corridor areas) - The contractor shall provide design and construction services associated with the floor plan area designated by the Bid Option No. 2 boundary limits as shown on Drawing A-001 (Sht #2), entitled "Overall Composite Work Plan- WORK SET #'s 1, 2, 3, 4, and

Bid Option #'s 1 and 2". The general work scope includes the following:

1.8.1 the contractor shall demolish and replace all existing carpet tile flooring and associated wall base.

1.8.2 The contractor shall demolish and replace all existing acoustical lay-in ceiling tiles (existing ceiling grid shall remain) and install new lay-in ceiling grid and suspension systems components, where necessary, and replace damaged portions.

1.8.3 The contractor shall demolish and replace all existing lighting fixtures.

1.8.4 The contractor shall demolish and replace all supply air diffusers and return air grilles.

1.8.5 The contractor shall remove, salvage, and reinstall all other ceiling mounted devices (i.e.: smoke detectors, fire alarm devices, exit signs, etc.

1.8.6 The contractor shall remove all existing wall coverings and repaint all existing hard surfaces (walls, ceilings/soffits, column enclosures, doors/frames, etc.)

1.8.7 The contractor shall remove and replace all existing building signage, and remove and reinstall all other wall and/or ceiling hung appurtenances.

1.8.8 The contractor shall demolish lighting and power, new electric power, and dedicated circuits, conduits, wiring and duplexes, remove and relocate existing fire alarm devices and install new smoke detectors and new horn/ strobes, dedicated circuits, disconnect switches, and conduit for general receptacles.

1.8.9 The contractor shall make necessary modifications to existing HVAC, electrical power systems, lighting systems, fire alarm and detection systems, and telecommunication systems.

1.8.10 All work shall include asbestos abatement and re-insulation work.

1.8.11 All new carpet tiles associated with Bid Option Number 2 shall be as specified on the "Finish Schedule" shown on Drawing A-202 (Sht #06) and be designated as I.D. Tag "CPT-3". This carpet will be a distinctive, way-finding style that will identify the main building corridor areas connecting all of the stairwells and the elevator lobby areas. There will also be the same type of carpet tiles used for the south and southwestern corridor portions associated with WORK SET 3, connecting the main building corridor/elevator lobby to the southwestern stairwell.

1.9 The following information pertains to all WORK SETs and BID OPTIONS:

1.9.1 The Contractor shall work with and coordinate all furniture related work with the DTA furniture contractor and shall provide all necessary furniture utility disconnections and hook-ups and shall incorporate the work into the design documents.

1.9.2 The Contractor shall confirm the locations of all existing and new/proposed equipment during the preliminary design phase and shall provide all utility connections at these locations.

1.9.3 The Contractor shall provide design and construction for the

telecommunication systems and the conduit and wiring installation as described in this RFP. The Network Enterprise Center (NEC) Contractor will provide final LAN and telephone connections to the panel. The Contractor shall coordinate with the NEC by scheduling a meeting thru the COR.

1.9.4 The Contractor shall thoroughly field survey and verify the existing field conditions associated with the project area, research available reference drawings provided by the DPW, and incorporate all findings into their design documents.

1.9.5 Electronic MicroStation V8 XM computer-aided design and drafting (CADD) files or Adobe Acrobat Portable Document Format (PDF) files, which may include the existing building floor plans and utility plans, may be provided by the Detroit Arsenal (DTA) Directorate of Public Works (DPW) on compact disc (CD) as part of this RFP for design development. Additional files for the Contractor's reference may also be provided on this CD. The Contractor shall field verify all files and drawings provided by the Detroit Arsenal DPW for accuracy prior to cost proposal submission.

1.9.6 Design and construction shall comply with the requirements contained in this Request for Proposal (RFP). The design and technical criteria contained and cited in this RFP, the Detroit Arsenal Installation Design Guide (IDG), the Department of Defense (DoD) Unified Facilities Criteria (UFC), and the Unified Facilities Guide Specifications (UFGS) establish minimum standards for design and construction quality.

1.9.6.1 The Contractor shall adhere to the requirements included in the Detroit Arsenal (DTA) IDG. The Contractor shall adhere to the International Building Code (IBC), published by the International Code Council, as referenced by the UFC and UFGS.

1.9.6.2 The Designers of Record shall use the Unified Facilities Guide Specifications and the requirements contained in this RFP to fully develop the technical specifications and construction drawings.

1.9.6.3 The Contractor shall comply with the latest editions of all codes, standards, regulations, specifications, and requirements as of the date of issuance of this RFP.

1.9.6.4 If there is a conflict between requirements in this RFP and the UFGS then the requirements of this RFP shall take precedence and shall be adhered to.

1.9.7 The Contractor shall provide extended parts and labor warranties on all equipment, products, and items, including but not limited to, roofs, HVAC equipment, pumps, motors, transformers, fire protection and fire alarm equipment, lightning protection equipment, and all other equipment as specified in the Unified Facilities Guide Specifications (UFGS). In addition to submitting warranty information when specified in the Unified Facility Guide Specifications, all product warranty information shall also be provided at the time product data information is submitted to the Government for review. Parts and labor warranties shall be provided for the maximum number of years specified in the Unified Facilities Guide Specifications for all products.

1.9.8 Room numbers physically located in the facility may deviate from the room numbers specified in the appendix. Contractor shall refer to room numbers specified in the appendix where discrepancies exist.

1.9.9 The entire existing area located within the boundaries of the project shall be modified to meet the latest edition of UFC, National Fire Protection Association (NFPA), and Architectural Barriers Act (ABA) Standard for Department of Defense (DoD) Facilities. These requirements shall be determined and included in the cost proposal for this project.

1.10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

1.10.1 Associated with WORK SET 1A and 1B-

1.10.1.1 The contractor shall commence work under this contract within the time allotted under the Request for Proposal (RFP)

1.10.1.2 The contractor shall prepare and submit shop drawing submittals for Government approval of the following materials, not later than 10 calendar days after date of receipt of notice to proceed: Carpet tiles, wall base, acoustic ceiling tiles, lighting fixtures, and paint/stain.

1.10.1.3 The contractor shall complete all construction to be ready for use not later than 15 December 2014.

1.10.1.3.1 The time stated for completion shall include final inspection punch list item completion and Government acceptance, final cleanup, and completion of all requirements to authorize beneficial occupancy.

1.10.1.3.2 Work includes the complete installation of the new carpet tiles, new wall base, new painting/staining, new lighting fixtures, and new ceiling tiles not later than 45 days from the date of Government approval of the respective shop drawings.

1.10.1.3.3 The Government furniture Contractor will be starting the installation of the modular furniture and wall system components no later than 29 December 2014, to allow this area to be occupied as soon as possible.

1.10.1.4 Other design and construction work associated with WORK SET 1A and WORK SET 1B work areas shall follow the normal design/build process as described below, with all additional construction work being performed on off-hours, either during the evenings on weekdays and/or during weekends, since these areas will be occupied.

1.10.1.5 In addition, the general Contractor shall disconnect all existing modular furniture power, voice and LAN no later than 10 calendar days after the date of receipt of notice to proceed, prior to the Government furniture contractor disassembling and removing the existing furniture. The general Contractor shall provide all utility connections (electrical power and communications) associated with all new and reconfigured modular furniture and modular wall systems and components, once the modular furniture systems and components are installed by the Government furniture contractor.

1.10.1.6 The contractor shall incorporate the construction work associated with WORK SET 1A and 1B into the 65 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 15 December 2014.

1.10.1.7 The contractor shall incorporate the construction work associated

with WORK SET 1A and 1B into the 100 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 12 January 2015.

1.10.1.8 The contractor shall incorporate the construction work associated with WORK SET 1A and 1B into the entire project design ready for construction (Released for Construction Design submittal), including submission of written responses to all Government comments and completion of the design review meeting, not later than 11 February 2015.

1.10.1.9 The contractor shall complete the entire work not later than 26 June 2015. The time stated for completion shall include as-built drawings, operation and maintenance manuals, operational tests, reports, equipment lists, training, instructions, and all other required project closeout documents.

1.10.2 Associated with WORK SET 2

1.10.2.1 The contractor shall commence work under this contract within the time allotted under the Request for Proposal (RFP).

1.10.2.2 The contractor shall complete the 65 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 15 December 2014.

1.10.2.3 The contractor shall complete the 100 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 12 January 2015.

1.10.2.4 The contractor shall complete the entire project design ready for construction (Released for Construction Design submittal), including submission of written responses to all Government comments and completion of the design review meeting, not later than 11 February 2015.

1.10.2.5 The contractor shall complete all construction to be ready for use not later than 27 May 2015. The time stated for completion shall include final inspection punch list item completion and Government acceptance, final cleanup, and completion of all requirements to authorize beneficial occupancy.

1.10.2.6 The contractor shall complete the entire work not later than 26 June 2015. The time stated for completion shall include as-built drawings, operation and maintenance manuals, operational tests, reports, equipment lists, training, instructions, and all other required project closeout documents.

1.10.3 Associated with WORK SET 3, 3A, 3B, 3C

1.10.3.1 The contractor shall commence work under this contract within the time allotted under the Request for Proposal (RFP),

1.10.3.2 The contractor shall complete the 65 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 15 December 2014.

1.10.3.3 The contractor shall complete the 100 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 12 January 2015.

1.10.3.4 The contractor shall complete the entire project design ready for construction (Released for Construction Design submittal), including submission of written responses to all Government comments and completion of the design review meeting, not later than 11 February 2015.

1.10.3.5 The contractor shall complete all construction to be ready for use not later than 30 March 2015. The time stated for completion shall include final inspection punch list item completion and Government acceptance, final cleanup, and completion of all requirements to authorize beneficial occupancy.

1.10.3.6 The contractor shall complete the entire work not later than 26 June 2015. The time stated for completion shall include as-built drawings, operation and maintenance manuals, operational tests, reports, equipment lists, training, instructions, and all other required project closeout documents.

1.10.4 Associated with WORK SET 4 and BID OPTION 1

1.10.4.1 The contractor shall commence work under this contract within the time allotted under the Request for Proposal (RFP)

1.10.4.2 The contractor shall complete the 65 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 15 December 2014.

1.10.4.3 The contractor shall complete the 100 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 12 January 2015.

1.10.4.4 The contractor shall complete the entire project design ready for construction (Released for Construction Design submittal), including submission of written responses to all Government comments and completion of the design review meeting, not later than 11 February 2015.

1.10.4.5 The contractor shall complete all construction to be ready for use not later than 27 May 2015. The time stated for completion shall include final inspection punch list item completion and Government acceptance, final cleanup, and completion of all requirements to authorize beneficial occupancy.

1.10.4.6 The contractor shall complete the entire work not later than 26 June 2015. The time stated for completion shall include as-built drawings, operation and maintenance manuals, operational tests, reports, equipment lists, training, instructions, and all other required project closeout documents.

1.10.5 Associated with BID OPTION 2

1.10.5.1 The contractor shall commence work under this contract within the time allotted under the Request for Proposal (RFP)

1.10.5.1 The contractor shall complete the 65 Percent Design submittal, including submission of written responses to all Government comments and completion of the design review meeting, not later than 15 December 2014.

1.10.5.2 The contractor shall complete the 100 Percent Design submittal, including submission of written responses to all Government comments and

completion of the design review meeting, not later than 12 January 2015.

1.10.5.3 The contractor shall complete the entire project design ready for construction (Released for Construction Design submittal), including submission of written responses to all Government comments and completion of the design review meeting, not later than 11 February 2015.

1.10.5.4 The contractor shall complete all construction to be ready for use not later than 27 May 2015. The time stated for completion shall include final inspection punch list item completion and Government acceptance, final cleanup, and completion of all requirements to authorize beneficial occupancy.

1.10.5.5 The contractor shall complete the entire work not later than 26 June 2015. The time stated for completion shall include as-built drawings, operation and maintenance manuals, operational tests, reports, equipment lists, training, instructions, and all other required project closeout documents.

1.11 CONSTRUCTION PHASING/SEQUENCING CRITERIA

1.11.1 WORK SET 1A and 1B

1.11.1.1 All construction work associated with these work area designations shall be completed before the start of construction associated with all other WORK SETS and Bid Options.

1.11.2 WORK SET 2

1.11.2.1 All construction work associated with this work area designation can start upon the completion of all construction work associated with WORK SET 1A and 1B. The duration of construction work associated with this work area designation can run concurrently with the construction work of WORK SET 3, WORK SET 3A, WORK SET 3B, WORK SET 3C, WORK SET 4, and Bid Options 1 and 2.

1.11.3 WORK SET 3, 3A, 3B, and 3C

1.11.3.1 All construction work associated with these work area designations can start upon the completion of all construction work associated with WORK SET 1A and 1B and all construction work shall be complete before the start of construction work associated with WORK SET 4 and Bid Option Number 1.

1.11.4 WORK SET 4 and Bid Option Number 1

1.11.4.1 All construction work associated with these work area designations can start upon the completion of all construction work associated with WORK SET 3, 3A, 3B, and 3C.

1.11.5 Bid Option Number 2

1.11.5.1 All construction work associated with this work area designation can run concurrently with the construction work associated with WORK SET 4 and Bid Option 1 work.

1.11.5.2 All construction work associated with Bid Option Number 2 shall be performed during off-hours (weeknights, weekends, holidays, etc.) and the work shall be scheduled as such by the contractor to maintain the

operation and usage of the main corridor areas and elevator lobby areas for emergency egress usage. All fire alarm and fire protection devices and other life safety devices shall be operational, or provisions made and coordinated with the DTA Fire Department, to ensure the life safety building systems are fully-functioning during all periods of construction.

1.12 APPLICABLE CRITERIA

1.12.1 Applicable design and construction criteria are specifically indicated in Department of Defense (DoD) Unified Facilities Criteria (UFC) and the Unified Facilities Guide Specifications (UFGS). Criteria shall be taken from the most current references as of the date of issue of the RFP, unless noted otherwise. Referenced codes and standards are minimum acceptable criteria. Administrative, contractual, and procedural features of the contract shall be as described in other sections of the RFP.

1.13 ENERGY STANDARD COMPLIANCE

1.13.1 The building shall comply with the provisions of the Energy Policy Act (EPAct) 2005, in addition to American Society of Heating, Refrigerating and Air-Condition Engineers (ASHRAE) Standard 90.1 - Energy Standard for Buildings. As a separate part or section of the Design Analysis, demonstrate compliance with the EPAct using calculations, vendor literature, equipment catalog sheets, compliance forms, worksheets, and narrative descriptions of the building envelope, heating, ventilating, and air-conditioning (HVAC) systems, service water heating, electrical power, lighting, and other equipment and systems.

1.14 ACCESSIBILITY REQUIREMENTS

1.14.1 The facility shall be fully accessible to physically disabled persons and shall conform to the *Architectural Barriers Act (ABA) Standard for Department of Defense (DoD) Facilities*.

1.15 FORCE PROTECTION & ANTI-TERRORISM CONSIDERATIONS

1.15.1 Project design and construction shall comply with the UFC 4-010-01, Department of Defense Minimum Antiterrorism Standards for Buildings.

1.15.2 Mass notification systems shall be in accordance with UFC 4-021-01, Mass Notification Systems.

1.15.3 Electronic security shall be provided in accordance with UFGS DIVISION 28 - ELECTRONIC SAFETY AND SECURITY.

1.16 HAZARDOUS MATERIALS ABATEMENT

1.16.1 Asbestos abatement is required during demolition.

1.16.2 Lead-based paint is present in the building and shall be considered for workers during demolition.

1.16.3 The Designer of Record shall edit UFGS Specification Section 02 82 14.00 10, ASBESTOS HAZARD CONTROL ACTIVITIES for abatement of asbestos and UFGS Specification Section 02 82 33.13 20, REMOVAL/CONTROL AND DISPOSAL OF PAINT WITH LEAD for worker safety in removing materials coated with lead-based paint.

1.16.4 All asbestos insulation that is removed shall be replaced with non-asbestos insulation material in accordance with UFC and UFGS insulation specifications.

1.16.5 The Contractor shall adhere to the third party neutral consultant final clearance requirements stated in the "ASBESTOS" paragraph of the contract.

1.16.6 The Contractor shall maintain floor material warranties when abatement measures are taken on existing floors.

1.16.7 Hazardous materials abatement shall be performed in accordance with Appendix A, Standard Environmental Protection Requirements and Appendix B, Other Standard Environmental Protection Requirements.

1.17 Asbestos Survey

1.17.1 Available asbestos survey information is included in the appendices for use in preparing proposals.

1.17.2 The Contractor shall remove all asbestos identified in the asbestos report throughout the entire project area as part of this project except for the following items if they are not affected by this project: caulking that is not affected by this project, asbestos below a raised access floor that is not affected by this project, and asbestos that is obstructed by furniture that is not affected by this project.

1.17.3 The Contractor's cost proposal shall include the removal of all asbestos which is identified as "Assumed" asbestos indicated in the asbestos report and the removal of all known asbestos indicated in the asbestos report except for the exceptions listed above.

1.17.4 Asbestos shall be removed and disposed of in accordance with Federal, state, and installation requirements. The asbestos waste shall be disposed of via HAZMART.

1.17.5 The proposed work areas of this project have the potential to disturb known or assumed ACM's, as indicated on the attached supporting documentation (Refer to Appendix Section C, "Mini Asbestos Building Inspection"). Generally, the proposed work area within Building 229 contains the following know ACMs: white paper gasket, and brown duct joint caulk. In addition, the following suspect materials were not sampled and are presumed asbestos containing materials (PACMs): Fire doors and associated door frames, CMU walls and associated mortar, and vermiculite insulation within CMU walls.

1.18 PERMITS

1.18.1 The Contractor shall be responsible for preparing, filing, and paying for any fees required to obtain all necessary permits for the construction of this project.

1.18.2 Permits shall be prepared and filed in accordance with Appendix A, Standard Environmental Protection Requirements and Appendix B, Other Standard Environmental Protection Requirements.

1.19 FINAL CLEANING

1.19.1 The contractor shall clean the premises in accordance with FAR clause 52.236-12, as indicated in the base MATOC, and additional requirements stated here.

1.19.2 The contractor shall remove stains, foreign substances, and temporary labels from surfaces.

1.19.3 The contractor shall vacuum carpets and soft surfaces.

1.19.4 The contractor shall clean equipment and fixtures to a sanitary condition.

1.19.5 The contractor shall clean or replace filters of operating equipment if cleaning is not possible or practicable.

1.19.6 The contractor shall remove waste, surplus materials, and rubbish from the site.

1.19.7 The contractor shall remove all temporary structures, barricades, project signs, fences, and construction facilities.

1.19 FURNITURE RECONFIGURATION, REMOVAL, AND COORDINATION

1.19.1 The Government will provide a separate furniture contractor that will remove all furniture and equipment identified for demolition, refurbishment, and/or relocation from the work area.

1.19.2 The contractor shall disconnect all existing electrical power and communications tied to the furniture and equipment and perform all required work in coordination with the Government's furniture contractor associated with all furniture and equipment being removed, refurbished, and/or relocated.

1.19.2.1 The Contractor shall coordinate with the Contracting Officer's Representative (COR) and DTA Directorate of Logistics (DOL) on all furniture items which are scheduled to be turned over to DTA for reuse.

1.19.2.2 All other furniture and equipment shall be disposed of in conformance with the recyWork Setg requirements of the environmental specifications, and will be the responsibility of the Government furniture Contractor.

1.19.3 All new furniture and equipment, reconfigured furniture and equipment, or reused furniture and equipment will be provided separately from this contract.

1.19.3.1 The Contractor shall coordinate with the Furniture Contractor

through the COR.

1.19.4 The contractor shall provide power wiring, local area network (LAN) wiring, and telephone wiring to all new and relocated furniture workstations and equipment in conformance with UFGS specifications and this SOW.

1.19.5 All furniture and equipment which will be temporarily or permanently relocated as part of this project shall be relocated by the Government's furniture Contractor.

1.19.5.1 The contractor shall disconnect all existing electrical power and communications to the furniture and equipment and perform all required work for furniture and equipment relocation and reinstallation.

1.19.5.2 The general Contractor shall be responsible for connecting electrical power and communication utilities to all relocated, refurbished, and/or new furniture being provided and installed by the Government's furniture Contractor.

1.20 COORDINATION

1.20.1 The contractor shall coordinate, through the COR, with the proposed tenant for the placement, installation, finish selections, of tenant furnished material and equipment.

1.20.2 The contractor shall coordinate with other contractors and the COR to prevent interference with their work and to allow them access to the work areas.

1.20.3 Certain portions of the project area may need to remain occupied by the tenant during construction. If it becomes necessary to interrupt work activities in buildings and/or areas for construction purposes, permission to do so must be requested in writing to the Contracting Officer 14 calendar days prior to commencing work and shall be subject to COR approval.

1.20.4 Work in connection with this contract which requires utility outages (electrical, water, gas, steam,...) which will close down or limit (as determined by the Contracting Officer) normal activities in the building, construction area, or other affected areas, shall be performed by the Contractor at a time other than regular working hours of the organization occupying the facility.

1.20.5 Work in connection with this contract which requires road closures shall be performed by the Contractor at a time other than regular working hours.

1.20.6 Work required by the Contractor on non-standard basis or at premium pay shall be done at no additional cost to the Government.

1.20.7 The contractor shall submit requests for utility outages to the COR, in writing, 14 calendar days prior to commencing work and shall be subject to COR approval.

1.20.8 The contractor shall obtain DPW approval of interruption by submitting the Construction Impact Notification Form in accordance with the contract.

1.20.9 The Contractor shall coordinate work efforts with all affected utility companies. This includes initial contact to each utility company and

coordination prior to and during construction.

1.21 CONSTRUCTION SITE PLAN

1.21.1 Prior to the start of work, the contractor shall submit a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area, and details of the fence installation).

1.22.1.2 The contractor shall identify any areas which may have to be graveled to prevent the tracking of mud.

1.22.1.3 The contractor shall indicate if the use of a supplemental or other staging area is desired.

1.22.1.4 The contractor shall show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

1.22.1.5 All Contractor staging areas and storage areas shall be limited to areas within five feet of the project area boundaries.

1.22.1.6 The Contractor shall comply with UFGS Specification Section 01 50 00, TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS.

PART 2 DESIGN AND CONSTRUCTION REQUIREMENTS

2.1 FUNCTIONAL AND AREA REQUIREMENTS

2.1.1 Net Area Definition

Net area is measured to the inside face of the room or space walls.

2.1.2 Net Area Requirements

Proposed new room locations, footprints, proximities to other adjacent rooms, and arrangements are provided as a guideline for the basis of design. The Designer-of-Record shall use this information as a starting point for their design. Room names and departmental designations have been provided where possible. Minimum net area requirements for programmed spaces can be determined based on the Architectural Proposed New Work Floor Plans and are approximate. The final design shall incorporate these room areas and should list them in tabular form with each room/space identified and their respective square foot areas shown. Net areas for building circulation and utility rooms shall be sized to accommodate the required function and equipment, comply with code requirements, enhance constructability, and comply with other requirements of this RFP.

2.2 ARCHITECTURAL

2.2.1 Technical Requirements

2.2.1.1 Design and Installation Standards and Codes

The architectural design and construction shall conform to the current versions of all applicable Unified Facilities Criteria (UFC). The project architectural design and construction shall be in accordance with the latest edition of the Department of Defense (DoD) Unified Facilities Guide Specifications (UFGS). The design and construction shall conform to all standards and codes referenced in the UFGS specifications under the applicable architectural specification sections.

Major criteria references for building design are listed below (additional requirements are included throughout the UFGS specification sections):

National Fire Codes, published by the National Fire Protection Association (NFPA), including NFPA 101 Life Safety Code

International Building Code (IBC)

Architectural Barriers Act (ABA) Standard for Department of Defense (DoD) Facilities

UFC 4-010-01 Department of Defense Minimum Antiterrorism Standards for Buildings

UFC 3-600-01 Design: Fire Protection Engineering for Facilities

2.2.1.2 Scope of Work

The work includes completion of architectural design as described herein and

as detailed by the Architect Designer of Record. Refer to the Scope-of-Work drawings for additional information.

A preliminary floor plan layout is included in the Scope-of-Work documents for the Contractor/Designer to use in further developing their design documents. The locations, arrangements, and quantities of rooms/areas shown shall be adhered to and not changed by the Contractor/Designer. The room and area dimensions shall be refined and adjusted by the Contractor/Designer based on actual field measurements and existing as-built conditions, and only minor dimensional changes will be accepted.

The Contractor/Designer-of-Record shall provide further design and room finish replacements and enhancements to fully develop and define each specific room/area of the renovation.

The Contractor shall repair all damaged existing wall and building components within the entire project work area that are to remain.

2.2.1.3 Detroit Arsenal Specific Requirements

Where existing walls are removed, the Contractor shall provide design and construction to relocate existing appurtenances; such as, fire extinguisher cabinets. The Contractor shall propose new appurtenance location in the design drawings for Government review and approval.

All piping, ductwork, conduit, wiring, and cabling shall be routed within walls, ceilings, or pipe chases to the maximum extent possible.

In areas where emergency egress requires electric door strikes, electric door strikes shall be Fail-Safe/Time Release type utilizing HES, Inc. SMART Pac or approved equal. In applications where security is required; such as, computer rooms, electric door strikes shall be selected by the Designer of Record.

All paint work shall be performed in accordance with UFGS Specification Section 09 90 00, PAINTS AND COATINGS.

Pest management during construction shall be performed in accordance with UFGS Specification Section 01 57 16, TEMPORARY PEST CONTROL.

2.2.1.4 Design Goals

Provide a functional, low maintenance, visually appealing facility to adequately support the User.

2.2.1.5 Interior Design Objectives

Interior design for the project shall enhance the working environment, emphasizing durable materials and furnishings that can be easily maintained and replaced. The structural interior design (SID) for finishes shall be included in the construction contract. The comprehensive interior design (CID) is included in the construction contract; however, the furnishings and

demountable partitions shall be purchased and installed by the Government through a separate contract. Finishes shall be provided to fully develop the SID.

2.2.1.6 IBC Occupancy and Building Type Classifications

Occupancy classification, construction type, allowable areas, maximum building height, and fire separation requirements shall comply with the requirements of UFC 3-600-01 Fire Protection Engineering for Facilities and the International Building Code.

2.2.1.7 Room Noise Criteria and Sound Attenuation

Room noise criteria establishes acceptable background sound in rooms over the frequency range 16 Hz to 4000 Hz, particularly measuring rumbling, rattling, buzzing, hissing, and humming from building mechanical and electrical systems. Rooms shall not exceed the Room Criteria (RC) indicated below. All RC ratings shall be neutral (N). Designers of Record shall determine adequate construction requirements to achieve the following RC limits:

- SCIF areas
- RC 30(N) Open offices
- RC 35(N) Private offices
- RC 30(N) Conference rooms

2.2.1.8 Noise Testing

Test all rooms with all building systems operating. Measure the sound pressure level in dB referenced to 20 micro Pascals.

2.2.1.9 Noise Test Reports

Report the results of the tests by plotting the sound pressure level in each octave band from 32 to 4000 Hertz on Room Criterion Curve sheets published by ASHRAE. Provide an individual plot for each room and a narrative discussion explaining the test results.

After construction is complete the Contractor shall certify in writing that all rooms meet RC levels above.

2.2.1.10 Sound Attenuation

As a minimum, all gypsum board partitions separating spaces shall be provided with 3-1/2-inch thickness of sound attenuation insulation and shall extend to the roof deck unless otherwise indicated in this RFP.

2.2.1.11 STRUCTURAL INTERIOR DESIGN (SID)

Minimum interior finishes and wall types are indicated in this specification for each space in the project. Items not specifically identified shall be coordinated in the SID and provided based on suitability of use, durability, and aesthetic character. Corner guards shall be provided on all outside corners and coordinated with the SID. Interior finishes shall be in accordance with the DTA IDG. Snap-on corner guards formed from high impact resistant resilient material, mounted on a continuous aluminum retainer, shall extend from floor to ceiling. Wood chair rails shall be solid hardwood stained to match the wood door finish and coordinated with the SID.

2.2.1.12 Carpet Tile

Carpet tile and installation shall comply with the DTA IDG. The UFGS Specification Section 09 68 00 shall be edited to include the DTA IDG requirements.

Furnish extra carpet materials from same dye lot for future maintenance to assure matching carpet tile is available for potential future carpet tile replacement. Furnish two percent of total square yards of each carpet type, pattern, and color.

Refer to drawings for schedule.

2.2.1.13 Interior Walls and Partitions

Non-combustible construction shall be provided, even where combustible materials are allowed by code. Wall finish materials shall be as specified in functional and area requirements listed in this specification section. Wall finishes shall be provided in accordance with the DTA IDG.

2.2.1.14 Metal Wall Support Systems

Non-load bearing metal studs and furring for interior walls shall comply with ASTM C 645; stud gauge shall be as required by height and loading, but 20 gauge stud thickness is minimum thickness permissible. Maximum stud spacing is 16 inches on center. Provide galvanized finish. Metal wall support systems shall be provided in accordance with UFGS Specification Section 09 22 00, SUPPORTS FOR PLASTER AND GYPSUM BOARD.

2.2.1.15 Gypsum Wallboard

Comply with ASTM C 1396. Minimum panel thickness shall be 5/8-inch. All gypsum wallboard panels shall be Type X fire-rated panels. Joint treatment shall be per ASTM C 475. Screws shall be per ASTM C 1002. Drywall installation shall be per ASTM C 840.

2.2.1.16 Ceilings

Non-combustible construction shall be provided, even where combustible materials are allowed by code. All new acoustical ceiling systems shall be fire resistive ceilings and shall be provided in accordance with UFGS specifications. Ceiling finish materials shall be as specified in functional and area requirements listed in this specification section. Ceiling heights shall match existing ceiling heights unless otherwise indicated or shown. New acoustical ceiling tiles shall have a NRC of 0.95, a AC of 190, a LR of 0.90, and a square tegular edge profile, with a fine textured appearance. The depth of the tegular edge shall match the existing edge depth of the existing ceiling tiles that are being replaced, either 15/16" or 9/16". New (replacement) ceiling tiles shall be "Armstrong", model "Optima", and shall be 24" x 48" x 1" panels to match the existing ceiling grid system that is to remain.

Furnish spare tiles, from the same lot as those installed, of each color at the rate of 5 tiles for each 1000 tiles installed.

Refer to drawings for schedule.

2.2.1.17 Interior Doors and Frames

Provide solid wood core doors with hollow metal door frames for all interior doors. All frames shall be hollow metal. All new office doors shall be provided with locksets. Interior doors shall be provided in accordance with the DTA IDG.

Provide interior door acoustical sound seals along entire perimeter of all interior doors associated with private offices, conference rooms, and other sound sensitive areas. Sound seals shall consist of silicon or neoprene type jamb and head seals and automatic door bottom seals mortised into the bottom door edge. Provide other hardware as necessary for a complete installation.

Paint on doors and door frames shall not cover Underwriters Laboratories (UL) labels or any other label installed on the door or door frame.

Refer to drawings for schedule.

2.2.1.18 Wood Doors

Provide flush wood solid core doors complying with National Wood Window and Door Association (NWWDA) I.S.-1A. Stile edges shall be non-finger jointed hardwood compatible with face veneer. Provide American Woodwork Institute (AWI) Grade A hardwood face veneer for transparent finished doors. Coordinate transparent door stain with SID and with demountable partition doors. Wood doors shall be provided in accordance with the DTA IDG.

2.2.1.19 Hollow Metal Frames

Comply with ANSI A250.8/SDI 100. Frames shall be Level 2, 16 gauge, with continuously welded corners and seamless face joints; factory primed. Anchors and accessories shall be zinc coated. Frames in masonry shall have bituminous back-coating, plaster guards, and shall be grouted solid.

2.2.1.20 Fire-Rated Doors and Frames

Comply with International Building Code (IBC), NFPA 80, and requirements of labeling authority. Doors and frames shall bear labels from IBC approved testing laboratory. Comply with positive pressure testing requirements of IBC.

2.2.1.21 Interior Door Hardware

Interior door hardware shall include the following items. Items not specifically identified shall be provided based on suitability of use, durability, aesthetic character, and cost efficiency. Finishes on hardware shall match throughout facility, shall be coordinated with SID, and shall not be a surface finish that shall rub off with extended use.

2.2.1.22 Interior Door Hinges

Hinges shall comply with ANSI/BHMA A156.1; template, full mortise, heavy duty, ball bearing, minimum size 4-1/2" x 4-1/2", non-ferrous base metal, non-removable pins.

2.2.1.23 Interior Door Locksets

Locksets shall comply with ANSI/BHMA A156.2; series 4000, Grade 1, non-

ferrous base metal, removable core. Lever handles shall be provided per *Architectural Barriers Act (ABA) Standard for Department of Defense (DoD) Facilities*.

2.2.1.24 Interior Door Exit (Panic) Devices

Interior exit (panic) devices shall comply with ANSI/BHMA A156.3; heavy-duty touch-pad type, through-bolted mounting. Interior exit (panic) devices shall be listed and labeled for panic protection based on UL 305.

2.2.1.25 Interior Door Closers

Closers shall comply with ANSI/BHMA A156.4; series C02000, Grade 1, hydraulic, factory-sized, adjustable to meet field conditions, mounted on interior of doors. Provide closers on all doors where required by Code.

2.2.1.26 Interior Door Auxiliary Hardware

Auxiliary hardware shall comply with ANSI/BHMA A156.16. Provide wall or floor stops and door silencers for all interior doors. Provide other hardware as necessary for a complete installation.

2.2.1.27 Interior Door Kick Plates

Kick plates shall comply with ANSI/BHMA A156.6 and shall be non-ferrous metal. Provide on all doors except closets, janitor closets, and small storage space doors.

2.2.1.28 Window Treatments

Window treatments, including vertical and horizontal blinds, shall be coordinated in the SID and therefore, included in the construction project. Draperies shall be coordinated and provided through the CID, purchased by the Government. Window treatments shall be provided in accordance with UFGS Specification Section 12 20 00, CURTAINS AND DRAPES.

2.2.1.29 Mini-Blinds

Provide replacement horizontal aluminum mini-blinds at all exterior office and conference room windows, coordinating with user requirements that are being renovated as part of the project scope. Mini-blinds shall have one-inch wide x .008-inch thick slats with anti-static, anti-microbial polyester baked enamel finish. Provide heavy duty 1" x 1-1/2" steel head rail, and tubular steel bottom rail finished to match slats.

2.2.1.30 Interior Signage

Interior signage for the project shall be provided to include room identification for all spaces. Interior signage shall be provided in accordance with UFC 3-120-01. Signage schedule, plan, and details shall be included in the construction drawings. Interior signage, to include sizes, shall comply with UFC 3-120-01 and the DTA IDG for all areas including the areas identified below:

- Room Identification
- Office Identification
- Office Cubicle Workstations

Information: "In Case of Fire" Directional
Fire Extinguisher
Freestanding Announcement

2.2.1.31 Demountable Partitions

All demountable partitions shall be designed, provided, and installed by the Government's furniture Contractor. The general contractor shall coordinate with the furniture contractor's latest design layout and provide all necessary utilities as required to connect and feed all modular furniture workstations and associated demountable, modular furniture wall panel system components. The use of demountable partitions shall be maximized by the modular furniture manufacturer, as determined by and approved by the Government. The demountable partitions shall be installed during the construction phase of the project by the Contractor. The floor and ceiling finishes shall run continuous above and below the demountable partitions, changing floor and ceiling finishes within the width of the partitions.

2.2.1.32 Utilities

The Contractor shall install electrical junction boxes at the ceiling. Communication lines shall be "pigtailed" enough to feed through the demountable partitions from the ceiling. The Contractor shall be responsible for pulling the communication lines through the demountable partitions upon installation of the partitions. Electrical work shall be coordinated and installed by the Contractor from the junction boxes to the electrical and communications devices placed in the demountable partition walls.

2.2.1.33 Finishes and Accessories (Demountable Partitions)

Demountable partitions shall include doors, frames, door hardware, sidelights, and surface finishes. Finishes; such as, wood door stain and finish, hardware, wall covering, and wall base shall be coordinated with the SID.

2.2.2 Drawings

The drawings shall be complete, include all necessary and required details, shall be thoroughly checked, and shall be fully coordinated with the technical specifications and all other construction documents. Previous comments and applicable criteria changes shall have been incorporated into the design. Removal work and details shall be shown on separate drawings. The contract drawings shall fully describe the type and the scope of work required. The layout of individual sheets and the organization of the assembled set shall follow and communicate a logical sequence. General information shall be presented first which shall then progress to more detailed information. When assembling details, begin in the upper left-hand corner of the sheet and have letters progress to the right and down. When dimensioning, use arrowheads, not dots or slashes. Where major structural elements are included as parts of architectural detailing do not indicate sizes. These elements must be fully defined in the structural design documents.

A furniture footprint indicating proposed furniture layout shall be incorporated into the drawings. Drawings shall be at (1/4" = 1'-0")1:100 scale. Identify on the drawings whether the furniture is part of the contract or not.

Provide drawings listed below (in addition to drawings required by the

Designer of Record):

- Interior Elevations and Details
- Building Cross-Sections
- Floor Plans
- Reflected Ceiling Plans and Ceiling Details
- Door Details
- Window Details
- Wall Plan Details and Sections
- Fire Wall Details and Penetration Conditions
- Sealant Details
- Fire Protection Plans

2.2.2.1 Floor Plans

Provide a double line composite floor plan of the entire building, drawn at the largest scale practicable to include the entire building on a single sheet. This building is of a size that will require the floor plans to be divided into multiple areas. Floor plans shall essentially be complete with the exception of large scale detail referencing. Floor plans shall be scaled double-line drawings showing the functional arrangement and location of all openings and plumbing fixtures, all section cuts, wall types, all notes and leaders, all general notes, and all dimensions. The plans shall indicate door swings, door numbers and window type; door and window schedules are required. A north arrow shall be shown on each floor plan. Enlarged toilet and stair plans shall also be included. The first composite plan sheet shall include a gross area tabulation comparing the actual square feet with the authorized square feet of the facility. The Architect Designer of Record suggestions for plan improvement shall be fully shown and justified. Include the following:

- Overall, control, and door and window opening dimensions
- Match lines for combining individual portions of floor plans
- Room names and numbers
- Structural column or bay indicators
- Wall and building section cuts
- Door swings and door numbers
- Window types
- Area in square feet
- General notes

Also provide a key plan at a uniform location on all floor plan sheets which shows the interrelationships between the building portions. The key plan shall be scaled and oriented in the same manner as the floor plan for all plan type drawings of all disciplines. When dimensioning, use arrowheads, not dots or slashes. Where major structural elements are included as parts of architectural detailing the sizes shall not be indicated. These elements shall all be fully defined as part of the structural design documents. Major elements of mechanical and electrical equipment affecting room size or shape, shall be shown on the architectural plans to a practicable extent and coordinated with other respective disciplines. When applicable, Government furnished and contractor installed items or Government furnished and Government installed items shall be shown as dashed lines.

2.2.2.2 Reflected Ceiling Plans

Reflected ceiling plans shall be complete including all notes, complete legends, and all materials to be used. Reflected ceiling plans shall be provided for all spaces in the building. Reflected ceiling plans shall show the ceiling tile layout and location of gypsum wallboard and other ceiling

types. All light fixtures, air diffusers, grilles, registers, PA speakers, sprinkler heads, smoke and heat detectors, and other ceiling mounted items shall also be shown on the reflected ceiling plans. The fixtures and other equipment shall be laid out in a regular pattern symmetrical with the ceiling tile grid or symmetrical with the room centerlines, columns, windows, or other features that dominate. All ceiling mounted items shown shall be fully coordinated with all other disciplines.

2.2.2.3 Building Sections

Building cross-section and longitudinal sections shall be included to show general interior volumes, construction methods, and height of ceilings and partitions. Identify materials used and necessary dimensions.

2.2.2.4 Wall Sections

Drawings shall include all wall sections and stair section conditions including corridors, showing vertical control elevations and dimensions, with all materials labeled. The sections shall normally be cut through doors, windows, and other critical wall section locations. Wall sections shall not be broken. Additional details shall be included when necessary to illustrate important or unusual features. All horizontal dimensions shall occur on the plans and vertical dimensions on the sections and elevations.

2.2.2.5 Room Finish Schedules

Room finish schedules for each room in the project area shall be provided to include flooring type and color, base type and color, wall type and color, ceiling type and color, and all other necessary information as determined by the Designer of Record.

2.2.2.6 Door, Window, and Louver Schedules

Schedule shall include door and frame types, except referencing to door details and hardware sets. Window and louver schedules shall be complete including window and louver types except referencing to details.

2.2.2.7 Fire Ratings

Wall ratings and fire hazards shall be clearly indicated as required by fire protection criteria. Wall fire ratings shall be graphically shown by a continuous symbol within the wall on a fire protection and life safety plan. When other functions coexist with the fire protection functions, their integration shall be clearly indicated, with an analysis that describes how both functions will be served. Provide a separate composite type floor plan which makes an accurate presentation of these various features and functions.

2.2.2.8 Drawing Scales

Architectural work shall be drawn at the scales listed below. Other scales may be used only by written authorization through the Contracting Officer's Representative (COR). Units of measurements shown on the drawings shall be done in English units. All disciplines shall use the same scale for plan sheets. The following is a comparison guide to establish equivalent scaling of drawings:

Composite Plans (Note 1)

Varies

Floor Plans	1/4-Inch = 1'-0" Reflected
Ceiling Plans	1/8-Inch = 1'-0" Detail
Plans (Note 2)	1/2-Inch = 1'-0"
Interior Elevations	1/2-Inch = 1'-0"
Building Cross-Sections	1/4-Inch = 1'-0"
Wall Sections	3/4-Inch = 1'-0"
Details (Note 2)	3-Inches = 1'-0"
Wall Types	3/4-Inch = 1'-0"
Fire Protection Plans (Note 1)	(Varies)

Notes:

1. Scale of composite plan shall be as required so that the entire facility is drawn on one sheet without break lines.
2. The goal of this requirement is that the details be large enough to show all fixtures, accessories, equipment, materials, manner of construction, clearances required for proper maintenance, and complete dimensions. Toilet rooms and equipment rooms are examples of the kind of spaces which shall be drawn as a detail plan.

2.2.2.9 Legends

Standard architectural material symbols used on the drawings shall be provided as a separate architectural legend drawing located just in front of the architectural drawings in the set. Additional material symbols shall be added to the legend sheet for the project.

2.2.2.10 North Arrows

North arrows shall be oriented the same direction on all plan sheets and by all disciplines; including site and civil drawings. Plan north shall be "up" or to the left on the drawings. Indicate true north on composite plan drawings. North arrows shall be located approximately at the same location on all sheets.

2.2.2.11 Modular Design

Modular Design practices shall be followed in the design of all masonry buildings or components of buildings. Dimensions shall be figured to whole or half-unit lengths of standard units in order to reduce on-site cutting of masonry.

2.2.2.12 Symbols

The room and door numbering system shall be consistent. The standard symbols for amendments (a triangular box) or modifications (a type of circular box) to the contract shall not be used for any other purpose, and care must be taken to avoid using even similar appearing but technically different symbols. Room numbering shall be in accordance with DTA standards.

2.2.2.13 Schedules

Schedules for room finish, doors, windows, and louvers shall be clear and complete. As many columns as necessary shall be provided in order to present the essential information. The "Remarks" column shall not be used as a

substitute for an information column. Normally a single item shall be presented on each schedule line. Other scheduling methods as standard with

the Design-Build Contractor may be used if approved by written authorization from the COR.

Color schedule, in accordance with UFGS Specification Section 09 06 90, shall be provided. Color references shall include the manufacturer, pattern name (when applicable), and color name of the finish (example: Vinyl Composition Tile: XYZ Co., Pattern Stonegate, Color Tourmaline #136). The Color Schedule may contain a reference to another specification section where the color is designated. (Example: Signage: See Section 10 14 02 INTERIOR SIGNAGE for color). When multiple colors of the same material are specified, add finish color codes and notes within the color listing to identify location of different material colors. For instance, Vinyl Composition Tile (VCT-1): XYZ Co., Pattern Stonegate, Color Shale #18 shall be located in offices and Vinyl Composition Tile (VCT-2): XYZ Co., Pattern Stonegate #39, Color Grey shall be located in storage rooms. To further clarify location of finish colors used in floor and wall patterns or other details, use the finish color code in the specification and on the drawings as a cross-reference tool.

2.2.2.14 Notes

Notes may be placed on drawings to reduce the amount of repetitive drafting, provided that clarity is not lost. General notes shall be placed at the right-hand edge of the sheet and, if possible, shall be located on the first sheet in the set. Notes that pertain to each drawing, however, shall be placed on each drawing.

2.2.2.15 Dimensions

Dimensions must be complete, accurate and fully coordinated. Dimensions shall be to points easily measurable in the construction and shall be laid out to eliminate refiguring in the field. Dimensions shall be tied-in to column lines, and other similar building elements, to facilitate checking. Plan dimensions for frame construction shall be to face of stud for exterior walls, to one face of stud for interior partitions, and to centerline of openings. For masonry construction, dimensions shall be to one or both nominal faces of masonry and to jambs of openings.

2.2.2.16 Facility Elevation

The level of finished floor shall be indicated as EL. = 100 000. Elevations for footings, and other similar building elements, shall be related to this figure. Sea level elevations shall not be shown on the building drawings.

2.2.2.17 Access to Utilities

All utilities within the building, such as piping, ductwork, electrical work, shall be concealed in finished areas. Provide plumbing chases in toilet areas. The clear space above ceilings and the size of chases must be carefully figured to accommodate piping slopes and connections, ductwork crossovers, and similar situations. Access must be provided to valves, cleanouts, and other similar appurtenances. Space provided for utility systems must be adequate but shall not be excessive.

2.2.2.18 Sketches

All sketches presented during the design phase shall be reduced to 8-1/2" by 11" and included in the design analysis to document the design options and decisions evaluated during the design process.

2.2.3 Specifications

The technical specifications shall be complete and fully coordinated with the drawings. Special sections shall be prepared to cover those subjects for which no pattern guide specifications are available. Notes to the designer that accompany specifications shall be used in editing technical guide specifications. All specification indexes shall be completely edited to reflect the paragraphs retained in the body of the specification. All UFGS specifications shall be edited in accordance with the requirements stated in this RFP.

2.2.3.1 Design Analysis Narrative

The design analysis shall be complete with emphasis on the following:

2.2.3.1.1 Basic Criteria Statement

A statement indicating the basic criteria to be applied to the design including type of construction, for instance noncombustible, category of construction, for instance permanent, major fire protection, and exit requirements.

In addition, the design analysis shall contain an explanation of the desired image or visual appearance of the interior of the facility and the design intent.

2.2.3.1.2 Description of Materials

A description of materials for all major building components and all interior and exterior finishes ascertaining their matching of existing. The description of materials must include type of exterior wall construction, room finish schedule, window types, and panel materials. The description of materials shall follow the continuity of UFC 3-101-01, Architecture. The description of finishes may be presented in schedule form.

2.2.3.1.3 Additional Criteria/Clarification

Provide a list of items on which additional criteria, clarification, or guidance is required.

2.2.3.1.4 Reason for Selection

The written presentation must include the designer's reasons for selecting specific materials, architectural compatibility, and architectural treatment in all cases in which the reason for selection is not obvious.

2.2.3.1.5 Site Adaptation of Standard Drawings

Site adaptation of standard drawings shall include the following in the design analysis.

a. An outline of the selections made where the standards permit the designer a choice of design or material.

b. An outline of items on the standard that do not conform to current criteria or to the design instructions and suggested methods for changing the standards.

c. An outline of errors found in the standards and suggested methods for correction.

d. An outline of improvements the designer feels should be made to the standards including full explanation and justification.

2.2.3.1.6 General Parameters

The design analysis shall follow the format described herein.

a. The purposes, overall functions, and total capacities of the facility b. The design theme or visual appearance of the exterior and interiors of the building and how this facility coordinates with the image criteria of the installation on which it will be constructed c. The number of personnel to use facility

d. The type of activities and equipment involved

e. The anticipated life of the functions to be accommodated

f. The category of construction; permanent

2.2.3.1.7 Functional and Technical Requirements

a. Functional areas, occupant capacities, and allocation, including a functional relationship matrix.

b. All items of equipment required c. Occupational safety and health d.

Handicapped accessibility

e. Energy conservation energy budget goals f. Sound and vibration control

g. Interior service areas

h. Physical security; lock and keying, intrusion-detection, alarms, restricted access areas, interior guard support, and ties to local authorities

i. Justification for selection of exterior and interior finishes and materials

j. Moisture vapor control

k. Lessons learned incorporated into the design

2.2.3.1.8 Design Objectives and Provisions

- a. Adaptation of the building to the size, shape, and orientation of the site
- b. Building layout to establish convenient circulation flows during normal operation and emergency evacuation activities, for materials, equipment, services, and people
- c. Grouping spaces into sound-compatible zones and protective construction zones, for instance, fire and storm
- d. Space layout compatible with modular (structural and environmental) support systems
- e. Type of construction materials, architectural systems, and finishes f. Building expandability and changeability
- g. Physical security
- h. Barrier-free design
- i. Energy conservation (insulation and orientation)
- j. Acoustical design
- k. Moisture vapor condensation design
- l. Composition of masses and spaces architectural compatibility and architectural details to reflect the design theme and desired image and the scale and nature of the activities involved
- m. Perception of the building details and volumes (specific provisions made, for instance, an identifiable sequence of viewing positions for experiencing the interior and exterior architectural design)
- n. Enhancement of materials and systems maintenance and operation
- o. Economy of building construction, operation, and maintenance: life-cycle cost effectiveness

2.2.3.1.9 Coordination with Installation or Outside Agencies

- a. Physical security support
- b. Occupational safety and health as required
- c. Government furnished equipment
- d. Operations and maintenance support

2.2.3.1.10 Checklists

Fire Protection Code Analysis and Handicapped Checklist shall be included in the Design Analysis.

2.2.3.2 Design Analysis Calculations

- a. Net room areas, occupant capacity, and gross building areas. Categorize areas and capacities under the titles of "Operational Space Requirements," "Administrative Space Requirements," "Storage Space Requirements," and "Support Space Requirements."
- b. Acoustics.

2.2.3.3 Color Boards and Legends

Color boards shall show actual color samples of all proposed exterior and interior finishes. A color board legend shall accompany the boards and shall clearly identify all finishes. Clarification of finish placement shall be required when more than one color of a single finish is proposed. Color boards shall be 8 1/2" x 11" in size and be provided in a three ring binder. Include project name and location, design stage, and date on the front cover and spine of the binder. Color boards shall be submitted with the design analysis and prior to interior and exterior product data submittals. Color boards shall be provided as stated in UFGS.

2.2.3.4 Common Deficiencies

Some repeated errors have occurred in the preparation of design documents in the past. Subsequently these errors have been identified and the Contractor directed to make corrections. The work involved in such corrections becomes lost effort and time for the designer. The Contractor shall:

- a. Use correct abbreviations or terminology on the drawings. Abbreviations must match what is used on the standard abbreviation sheet and terminology must match what is used in the standard technical guide specifications.
- b. Use the correct scales, north arrow designation, section cut system, or incomplete dimensioning on the drawings.
- c. Provide sufficient space for door operation hardware at doors which swing into a wall running perpendicular to the opening.
- d. Provide correct and complete Design Analysis information written in the present tense. The Design Analysis will be written following the format indicated herein. A separate Fire Protection section in the Design Analysis with input from all disciplines is one area which is often overlooked and shall be included.
- e. Provide a structural stoop at exterior doors where the slab is at the same approximate elevation as the interior floor. The use of simple slabs on exterior grade leads to lifting of the slab in below- freezing temperatures which interferes with the safe operation of the door.
- f. Correctly present or coordinate (to avoid interference) features of Fire Protection, Noise Control, and Physical Security.
- g. Correctly reference and cross-reference building sections, wall sections, and details.

- h. Read and use technical notes in editing the Technical Guide Specifications.
- i. Coordinate all disciplines prior to submittal of projects for review.
- j. Properly use fire-retardant wood. Fire-retardant wood is combustible; its use in buildings that are of noncombustible construction is extremely limited (see the International Building Code (IBC) for the minor allowable uses). Because of the potential for severe degradation, fire retardant plywood shall not be used in a roof or roofing system, or in structural applications.
- k. Correctly list trade names in door hardware specifications in lieu of ANSI numbers and correctly specify hardware finishes.
- l. Show control joints in CMU walls and brick expansion joints in face brick on architectural plans, elevations, and structural plans. Note control joint locating and coordination for floor tile per Tile Council of America recommendations.
- m. Delete all publications which do not apply to the particular project.
- n. Orientate north the same direction on all sheets.

2.3 HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

2.3.1 Technical Requirements

2.3.1.1 Design and Installation Standards and Codes

The HVAC design and installation shall conform to the current versions of all applicable Unified Facilities Criteria (UFC), the International Mechanical Code (as referenced by the UFC and UFGS), National Fire Protection Association (NFPA) 90A Standard for the Installation of Air- Conditioning and Ventilating Systems, the National Electrical Code, and ASHRAE Standard 62.1 Ventilation for Acceptable Indoor Air Quality. All new heating, ventilating, and air-conditioning (HVAC) systems and equipment shall conform to the Energy Policy Act (EPAct) of 2005. The selection of new HVAC systems shall be based on life cycle cost analysis. The project HVAC design and construction shall be in accordance with the latest edition of the Department of Defense (DoD) Unified Facilities Guide Specifications (UFGS). The design and installation shall conform to all standards and codes referenced in the UFGS specifications.

2.3.1.2 Scope of Work

The work includes completion of HVAC system design and construction to

provide completely functional HVAC systems as described herein and as detailed by the HVAC System Designer of Record.

2.3.1.3 Detroit Arsenal Specific Requirements

All abandoned HVAC systems, equipment, ductwork, piping, equipment pads, and any other abandoned HVAC system component within the project area boundaries shall be removed.

All ductwork and piping shall be photographed by the Contractor and shall be inspected by the Contractor and COR prior to burying, covering, or concealing. The Contractor shall provide all photographs to the COR in electronic Adobe Acrobat Portable Document Format (PDF).

Provide new duct mounted smoke detectors in all new or modified air distribution systems in accordance with UFGS requirements and in accordance with the latest edition of NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems.

All new or relocated DDC system controllers shall be provided and placed in areas fully accessible to maintenance personnel. All new or relocated DDC system controllers shall be provided in mechanical rooms, closets, etc. which are fully accessible. New or relocated DDC system controllers shall not be placed above ceilings or any other inaccessible area. Mount the center of all new or relocated DDC system controllers 5 feet above finished floor unless specified otherwise by the DDC system controller manufacturer.

All new or relocated space temperature sensors shall be installed in locations that are accessible and provide a good representation of the space temperature. Space temperature sensors shall not be placed near heat sources; such as, copy machines, or locations by supply air outlet drafts. Mount the center of the space temperature sensor 54-inches above the floor to meet ABA requirements. Space temperature sensors shall not be placed behind furniture partitions which obstruct the sensor.

Space temperature setpoint shall not be controlled by occupant-adjustable thermostats unless written approval is granted by the COR.

All new duct mounted smoke detectors shall be wired back to existing or new fire alarm panels, shall shutdown the air handling unit, shall be hard wired to the existing JACE Tridium DDC system, and shall report a duct smoke detector alarm to the JACE Tridium DDC system.

The Contractor shall notify the COR and the DTA DPW Base Operations Contractor of the proposed times and dates of DDC control system testing. The tests shall be witnessed by the COR and by a DTA DPW Base Operations Contractor representative. The Government will have final approval of the times and dates of the tests.

The indoor design temperature for comfort cooling shall be sized for 72°F. The indoor temperature setpoint for comfort cooling shall be 74°F. The indoor design temperature and setpoint for comfort heating shall be 72°F. The unoccupied heating indoor temperature for administrative office type occupancies shall be 55°F. The unoccupied cooling indoor temperature for administrative office type occupancies shall be 85°F.

The outdoor air temperature design for comfort heating shall be the 99.6 percent dry bulb temperature. The outdoor air temperature design for comfort cooling shall be the 0.4 percent dry bulb temperature.

2.3.1.4 Ventilation Air

Ventilation air quantities shall be calculated using the Indoor Air Quality Procedure outlined in the current version of ASHRAE Standard 62.1 Ventilation for Acceptable Indoor Air Quality. Ventilation air for mechanical rooms shall be introduced into the space using supply fans. Mechanical room supply fans shall be operated by a thermostat so that the fan operates when the space temperature rises above 85°F. Storage areas shall be ventilated using air intake louvers with exhaust fans controlled by a thermostat so that the fan operates when the space temperature rises above 85°F. Toilets, lockers, and utility closets shall be at a negative pressure relative to adjacent areas by exhausting air transferred from these adjacent areas to the outdoors. Where possible, the heating equipment capacity or energy consumption shall not be increased by these areas.

2.3.1.5 Air Distribution Systems

Ductwork and ductwork components (including diffusers, registers, and grilles) shall be installed in accordance with the requirements of UFGS Specification Section 23 00 00 AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM.

Take-offs shall be SMACNA 45° take-offs (spin-in types are not acceptable). Volume dampers shall be provided at all take-offs. Ductwork pressure class and sealing requirements are 2-inch minimum. Conform to SMACNA ductwork construction standards.

Provide flexible duct in accordance with UFGS requirements. Flexible ductwork length shall not exceed 5 feet. For round/oval ducts, secure the flexible material by, stainless steel or zinc-coated, iron Work Setch-type draw bands. For rectangular ducts, install the flexible material locked to metal collars using normal duct construction methods.

Supply air diffuser noise criteria (NC) rating shall not exceed 30 in administrative areas, offices, and conference rooms.

2.3.1.6 Insulation

Ductwork, and equipment insulation shall be installed in accordance with requirements of UFGS Specification Section 23 07 00 THERMAL INSULATION FOR MECHANICAL SYSTEMS.

All new supply air ductwork and return air ductwork shall be insulated with tape-sealed foil-faced fiberglass insulation with vapor barrier on the exterior of the ductwork. All existing un-insulated supply air ductwork and return air ductwork serving any spaces in the project area shall be insulated with new tape-sealed foil-faced fiberglass insulation with vapor barrier on the exterior of the ductwork.

2.3.1.7 Direct Digital Control (DDC) System

Existing controls shall remain and shall be modified as required so they are fully functional.

2.3.1.8 Testing, Adjusting, and Balancing

Testing, adjusting, and balancing of each HVAC system shall be accomplished in accordance with the requirements of UFGS Specification Section 23 05 93.00 10 TESTING, ADJUSTING, AND BALANCING OF HVAC SYSTEMS.

2.3.2 HVAC Drawings

The design drawings shall be fully coordinated with the design analysis and specifications. Depict all items to be removed, for instance, HVAC equipment, chilled water piping, ductwork, HVAC systems and components, and any other HVAC system components, on HVAC demolition drawings. Provide plans, piping diagrams and isometrics, mechanical room sections, water and air flow diagrams, details, schedules, control diagrams, sequences of operation, and other applicable details as necessary to define the design requirements. Large-scale plans of congested areas shall be provided. Coordinate with architectural design for provision of access panels for all concealed valves, traps, and air vents. Floor plans shall use the architectural floor plans as a basis, with the building outline half-toned. Unless otherwise indicated, all floor plans shall be drawn at (1/8" = 1'-

0")1:100 scale and shall show all room names and numbers. An exception to this is administrative areas being air-conditioned shall be (1/4" = 1'-0") 1:50 scale and mechanical room plans shall be (1/2" = 1'-0")1:20 scale. Sheet reference number sequencing shall be in accordance with the U.S. National CAD Standard requirements.

Show on mechanical HVAC drawings, all items of mechanical equipment, including boiler room equipment, HVAC equipment layout, air handling units, air distribution and exhaust systems, and any other applicable HVAC equipment to determine proper space allocation within the intent of the architectural layout requirements. Plans, elevations, and sections shall be developed to insure that major equipment items, piping, and ductwork cause no interference with structural members, electrical equipment, or other building or system elements.

An index sheet identifying all HVAC drawings shall be provided. The index shall include drawing design file numbers, drawing numbers, sheet numbers, and drawing descriptions.

An HVAC abbreviation, legend, and general notes sheet shall be provided. This sheet shall include all HVAC abbreviations and symbols that will be used on the drawings. Symbols shall be grouped into sections.

All existing exterior mechanical utilities and utilities which are to be removed shall be indicated on the Site Removal Plan located in the civil section of the drawing package.

All existing and new mechanical utilities shall be indicated on the Site Composite Utilities Plan located in the civil section of the drawing package. The location of existing exterior utilities shall be thoroughly checked and indicated on plans and profiles, thus preventing interference with new services. The utility drawing shall indicate all new utilities, including tie-in points, and existing utilities which are to be abandoned.

2.3.4 Specifications

UFGS specification sections shall be edited and coordinated with the drawings and design analysis to identify the proposed product and installation requirements.

The HVAC UFGS specification sections shall include (in addition to additional HVAC UFGS specifications required by the Designer of Record):

23 00 00 AIR-SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM
 23 05 93 TESTING, ADJUSTING AND BALANCING OF HVAC SYSTEMS
 23 07 00 THERMAL INSULATION FOR MECHANICAL SYSTEMS

The specifications shall be updated, shall be completely edited, and shall be fully coordinated with the drawings to accurately and clearly identify the final product and installation requirements for the facility.

2.3.5 Design Analysis Narrative

The narrative portion of the design analysis shall contain a narrative description and analysis for the HVAC portions of the design. The basis and reasons for specific engineering decisions, special features, and unusual requirements shall be explained or summarized. If it is necessary to deviate from criteria or standard practice, reasons shall also be included. Design statements shall be provided in sufficient detail to enable the reviewer to get a clear picture and understanding of all included work. Narrative shall be complete relative to scope and intended design approaches. The total scope projected to final design shall be outlined in a form that will be conveniently adapted, expanded, and detailed at the final design stage. If alternatives were to be evaluated and selected by the designer, findings, and conclusions shall be included. The design analysis shall carry a complete narrative for every item and system covered in the design, and shall include the following:

2.3.5.1 Index

Provide a design analysis index identifying all main and sub-paragraph headings.

2.3.5.2 Project Summary

Provide a brief description of the HVAC design objectives.

2.3.5.3 Applicable Criteria

A list of all applicable criteria used for basis of design.

2.3.5.4 Technical Specifications

Provide a list of specifications that will be used for the project.

2.3.6 Design Analysis Calculations

2.3.6.1 Index

Provide a design analysis index identifying all calculation items.

2.3.7 Energy Conservation

Mechanical designs shall be economical, maintainable, and energy conservative with full consideration given to the functional requirements and planned life of the facility. Emphate shall be given to heat

reclamation, outside air usage, and other energy conservation measures for mechanical systems.

2.4 ELECTRICAL

2.4.1 Technical Requirements

2.4.1.1 Design and Installation Standards and Codes

The electrical design and installation shall conform to the current versions of all applicable Unified Facilities Criteria (UFC), all applicable National Fire Protection Association (NFPA) standards, all applicable Institute of Electrical and Electronics Engineers (IEEE) standards, all applicable National Electrical Manufacturers Association (NEMA) standards, all applicable Illumination Engineering Society (IES) standards, all applicable Electronic Industries Alliance/Telecommunications Industry Association (EIA/TIA) standards, and all standards and codes referenced in the UFGS specifications. All distribution equipment/devised shall be UL listed and conform to NEC and the standards of IEEE, ANSI, and NEMA. Publications, codes, specifications, and standards shall be used as the basis for the project design. Publications and codes that imply recommendations shall be taken to be mandatory. Where there are conflicting criteria, the most stringent requirements take precedence.

2.4.1.2 Scope of Work

The work includes completion of electrical system design and construction to provide completely functional electrical systems as described herein and as detailed by the Electrical Designer of Record. The electrical system shall be designed under the supervision of a registered professional electrical engineer for quality assurance.

2.4.1.3 Detroit Arsenal Specific Requirements

All abandoned electrical systems, equipment, lighting, conduit, equipment pads, and any other abandoned electrical system component within the project area boundaries shall be removed.

All conduit, wiring, and cabling shall be photographed by the Contractor and shall be inspected by the Contractor and COR prior to burying, covering, or concealing. The Contractor shall provide all photographs to the COR in electronic Adobe Acrobat Portable Document Format (PDF).

All furniture (workstations and desks) shall be provided with electrical power wiring. All dedicated branch circuits shall be 20A.

All new restroom doors must be equipped with power access automatic door openers with push switches on walls.

All lighting, occupancy sensors, and all other electrical system components which will be tied to the Detroit Arsenal base wide building automation system shall be provided with single complete non-proprietary controls as specified herein. All controls shall be an open implementation of LonWorks

technology using ANSI/CEA 709.1B as the only communications protocol and shall use only LonMark Standard Network Variable Types (SNVTs), as defined in the LonMark Resource Files, for communication between control hardware devices to allow multi-vendor interoperability. Controllers shall be designed and installed in accordance with UFC 3-410-02, LONWORKS DIRECT DIGITAL CONTROL FOR HVAC AND OTHER LOCAL BUILDING SYSTEMS. Controllers shall be designed and installed in accordance with UFGS Specification Section 23 09 23 LONWORKS DIRECT DIGITAL CONTROL FOR HVAC AND OTHER BUILDING CONTROL SYSTEMS and UFGS Specification Section 25 10 10 LONWORKS UTILITY MONITORING AND CONTROL SYSTEM (UMCS), developed by the Designer of Record. The control system shall be designed and installed in accordance with Construction Engineering Research Laboratory (CERL) requirements (CorpsLON). The system shall be an open system with complete interoperability. CorpsLON eliminates contractor and vendor dependence. Cooperation between contractors is via specification requirements and submittals. The Government owns the system with ability to repair, replace, and upgrade without further dependence on the original contractor. Additional information is available in UFC 3-410-02A Heating, Ventilating, and Air Conditioning (HVAC) Control Systems and UFC 3-401-01FA Utility Monitoring and Control Systems. Refer to template drawings specified in UFGS Specification Section 23 09 23 LONWORKS DIRECT DIGITAL CONTROL FOR HVAC AND OTHER BUILDING CONTROL SYSTEMS. The new controls shall include integration to the existing Detroit Arsenal base wide JACE Tridium System. The control system shall integrate into the existing building management interface. The control system shall be fully compatible, fully read and write programmable, and fully configurable with the existing JACE Tridium System without any second party software. 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.

2.4.1.4 Coordination of Electrical Criteria

Electrical criteria provided in this section shall be coordinated with the architectural section, mechanical section, fire protection section, structural section, interior design section, civil and site section, force protection and security section, and all other sections of this RFP. The number and location of electrical equipment indicated in the electrical requirements are approximate. Contractor design shall meet the intent of the electrical requirements provided in this section. Contractor shall coordinate the final locations of electrical equipment with the Contracting Officer.

2.4.1.5 Materials and Equipment

All material and equipment shall conform to the requirements of the American National Standards Institute (ANSI), the American Society of Testing and Materials (ASTM), or other national trade associations.

2.4.1.6 Electrical Space Requirements

Electrical space shall be provided for all electrical equipment. Space shall provide clearances and working areas as required by the latest edition of NEC, article 110.26 and article 110.27. Coordinate locations to consider factors such as ease of maintenance, proximity to loads being served, and accessibility.

2.4.1.7 Interior Branch and Control Wiring

Interior branch and control wiring shall be stranded copper, THHN/THWN, and shall be run in rigid metal conduit (RMC) or electrical metallic tubing (EMT). Interior branch and control wiring running in hollow metal stud partitions or running through non-masonry walls may be metal clad cable (MC) if #6AWG or smaller, metal clad cable shall be a maximum of 6-feet in length. In areas where walls are not disturbed or reconstructed and wiring cannot be run within existing walls, surface metal raceway may be used within the habitable space of the room. All above ceiling and in wall wiring shall be in conduit and sized according to the NEC. Minimum conductor size for branch and control circuit wiring shall be No. 12AWG. All equipment and circuit grounds shall be provided, installed and connected with green wire in strict accordance with the requirements of NFPA 70 (NEC). Minimum interior conductor raceway size shall be 3/4". If existing control wiring in the project area located above plenum ceilings is plenum rated without conduit then the Contractor shall install plenum rated control wiring without conduit. Interior branch and control wiring installation shall be in accordance with UFC 3-520-01 and UFGS DIVISION 26.

All existing circuits that are replaced shall be demolished including associated wiring and conduit which shall be removed back to the source. Electrical service to and in the building shall be maintained at all times. In the event a power disruption is necessary, the contractor shall submit the Construction Impact Notification Form in accordance with the contract.

2.4.1.8 Receptacles

Unless otherwise indicated, provide white, specification grade, 20A duplex receptacles and coordinating cover plates and provide white surface mounted raceway. If existing receptacles and cover plates and existing surface mounted raceways in the project area are not white then match existing receptacle and cover plate color and existing surface mounted raceway color. All duplex receptacles dedicated for computer use shall be of the isolated ground type. Isolated ground circuits shall feed no more than four computer dedicated duplex receptacles. The neutral conductor shall be #10AWG minimum from the source circuit breaker to all modular furniture workstations. In private offices, duplex receptacles shall be provided every 10 linear feet of wall. Housekeeping receptacles shall be provided every 25 feet in corridors and in open, non-administrative areas. Unless otherwise indicated, wall mounted duplex receptacles shall be mounted 18 inches above the finished floor.

2.4.1.9 Distribution Panels and Panel Boards

Receptacle and other miscellaneous loads shall be served from 208/120V, 3-phase, 4-wire panel boards centrally located or as required. A 3-phase, delta/wye, dry-type transformer shall be provided to transform 480V power to 208/120V. Transformer shall be sized for a minimum of 10 percent future expansion. Distribution panels shall be of the circuit breaker type and shall have bolt-on breakers, main lugs only or main breakers as required, and copper bus. Panel boards shall be for molded case thermal magnetic circuit breakers and shall be sized for 42 single pole breakers. Distribution panel and panel board over-current protective device interrupting ratings shall be fully rated for the maximum available fault current and shall have a UL Listed interrupting rating of 66kA maximum and minimum interrupting rating of 22kA. Distribution panels and panel boards shall be NEMA 1 type construction. Install surface mounted panel boards in unfinished areas of buildings.

Install flush or semi-flush panel boards in other areas. All panels shall be sized for a minimum of 20 percent future expansion. Provide spare single pole circuit breakers and spaces for future expansion. Distribution panels and panel boards shall be provided and installed in accordance with UFC 3-520-01 and UFGS DIVISION 26.

2.4.1.10 Interior Lighting

Interior lighting systems shall be established in accordance with NFPA 101 and the IES Lighting Handbook. For energy conservation, occupancy sensors shall be provided. All lighting design shall incorporate the latest techniques of energy savings applied to lighting systems. All wires associated with replaced and relocated light fixtures shall be checked for degradation and discoloration and be replaced where necessary.

Interior lighting shall be provided by two independent systems. Normal overhead space lighting shall be powered by the building equipment power system and controlled by the facility's energy management system. For areas that are not regularly occupied, for instance, single occupant offices, break rooms, copy rooms, restrooms, shall also be controlled by occupancy sensors. Occupancy sensors shall be appropriate to the area and shall be rated for the square footage of the space. Occupancy sensors shall be ultrasonic or passive infrared technologies. Dual band occupancy sensors are not accepted. Programming for the lighting controls will be 0500 to 1900 hours M-F, 0600 - 1200 Saturday, off Sunday with an override on the graphics with a 3 hour time limit. Also included shall be an "ALL OFF" program at midnight, every night, unless there is an override.

Exit lighting shall be white housing with red lettering, UL listed with a 100-foot visibility; LED type with a minimum of 1.5 hour battery backup. Incandescent lamps are not allowed.

Emergency/Exit combo units are not allowed.

Interior lighting and controls shall be provided and installed in accordance with UFC SERIES 3-500: ELECTRICAL and UFGS DIVISION 26.

Refer to drawings for schedule.

2.4.1.11 Normal Lighting

Normal lighting branch circuits shall be fed from 208/120V breaker panels with 20A single pole circuit breakers loaded to no more than 16A maximum. Wiring for lighting branch circuits shall be #12AWG minimum.

2.4.1.12 Lamping

For all suspended ceilings with lay-in troffer fixtures, surface mounted fixtures, and pendent fixtures, 32 Watt T8 fluorescent linear tubes shall be used with a color rendering index (CRI) of 86, color temperature of 4100K with a mean lumen rating of 2800 unless otherwise indicated.

For all architectural lighting (i.e. sconces, etc.) compact fluorescent lamps shall be used with a color rendering index (CRI) of 70 or greater, color temperature of 4100K, cool white lamp, unless otherwise indicated.

For all high bay lighting applications, 32 Watt T8 fluorescent linear tubes shall be used with a color rendering index (CRI) of 86 and color temperature

of 4100K with a mean lumen rating of 2800, unless otherwise indicated.

U-shaped and circular shaped fluorescent lamps and incandescent lamps shall not be used in any fixtures.

2.4.1.13 Office Areas, Corridors, and Restrooms

Normal lighting in office areas, corridors, and restrooms with suspended ceilings shall generally be provided by fluorescent luminaires, 2ft. x 4ft. lay-in troffers. The indirect/direct architectural luminaire shall be finished with highly reflective matte white enamel and include a white flush steel door frame with a reverse apex acrylic lens. The luminaires shall be securely fastened to the ceiling framing members by mechanical means such as bolts, screws, or rivets. Listed clips are permitted, providing they are identified for use with the type of ceiling framing members and luminaires. Luminaires shall use multi-tap instant start, electronic, thermally protected ballasts with a total harmonic distortion (THD) of 10 percent or less. Areas without suspended ceilings shall be provided with surface or pendant mounted luminaires.

2.4.1.14 Mechanical, Electrical, Storage, and Janitor Rooms

Pendant mounted, fluorescent fixtures shall be provided and operate at 120V. Fixtures shall contain T-8 lamps, high-power factor, high efficiency, and thermally protected ballasts and shall conform to UL 1570. Fixtures shall receive one or more rust inhibitive coatings before the application of the finish coat. Where required in wet locations, the fluorescent light fixtures shall be enclosed and gasketed.

2.4.1.15 Emergency Egress Lighting

Emergency egress lighting shall be powered by 90-minute NiCad battery pack style emergency light fixtures; low-profile thermoplastic housing, with white finish, 24 hour recharge time, and low-voltage disconnect. LED light fixtures shall be provided for all new emergency egress lighting. Un-switched power by dedicated lighting circuit shall be provided for all new emergency egress lighting. Lighting shall be provided in accordance with NFPA 101 Life Safety Code.

Emergency egress lighting shall be tied to emergency generators wherever generators are serving the existing building and where new generators are provided. Where emergency egress lighting is tied to new or existing generators, provide a UL924 emergency bypass/shunt relay to turn on emergency lighting regardless of the light switch position.

Exit signs shall be red LED type.

2.4.1.16 Cable Television (CATV) System

Refer to the "Installation Information Infrastructure Architecture (I3A) Design and Implementation Guide." Provide TV outlets in the project area where indicated. For additional requirements, see section on Telecommunications.

2.4.2 Drawings

Drawing scale shall match architectural drawing requirements. Drawings shall be complete and accurate in every detail and shall include arrangements and types of light fixtures, receptacles, switching, location of special features, and necessary details. Drawings shall also include legends, fixture schedules, panel schedules, one-line diagrams, layout or functional diagrams for each of the various systems, riser diagrams if applicable, estimated maximum demand for each panel and for the entire building, and any other relative information which will help clear up any questionable items on the plans or in the specifications.

All drawings provided to the Contractor shall be field verified for accuracy.

2.4.2.1 Lighting Layout and List of Fixtures

Complete lighting layouts of all areas shall be provided. The type of fixture shall be indicated on the drawing. A complete list of fixtures proposed with type of lamp and wattage shall be provided.

2.4.2.2 Receptacle Layout

Complete receptacle layouts shall be provided for all areas to indicate project requirements.

2.4.2.3 Power Equipment Layout

Power equipment layouts, such as, switchboard, panel boards, and large motor driven items shall be provided.

2.4.2.4 Power One Line Diagram

Power one line diagrams shall be shown to indicate arrangement of the system.

2.4.2.5 Floor Plans

All rooms must be identified by name and number. Plans must be legible. Plans shall be developed using the same scale and areas as the architectural floor plans. Separate floor plans must be provided for lighting, power, and fire detection.

2.4.2.6 Diagrams

The power one-line diagrams shall be on a dedicated sheet. The diagram shall show ratings of major equipment including short circuit ratings. Power, communications diagrams, fire detection, and telephone diagrams shall be on separate sheets also.

2.4.2.7 Schedules

Provide panel board and lighting fixture schedules. Panel board schedules shall include the designation, location, mounting (flush or surface), number of phases and wires, voltage, amp, capacity total connected load, and demand load. Indicate the trip rating, frame size, interrupting rating and number of poles for each circuit breaker in the panel boards. List the circuit number, circuit description, and load for each branch circuit.

2.4.2.8 Exterior Drawings

Drawings shall be complete and accurate in all details and shall include the routing of all feeder and branch circuits.

2.4.3 Specifications

Submit prescriptive specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed electrical design.

2.4.4 Design Analysis Narrative

The design analysis shall contain a description and analysis of the electrical portions of the design. Special features and unusual requirements shall be noted.

2.4.5 Design Analysis Calculations

Data shall be furnished to support basic design decisions related to sizing of major equipment and materials, selection of economic alternatives, and performance of specific systems and equipment. Calculations may be performed by manual or computerized procedures. Use of standardized charts, curves, tables, graphs will generally be acceptable for portions of required calculations or in lieu of specific calculation procedures. Such data must be from a recognized source which is identified in the design analysis. If possible, a copy of applicable sheets or pages shall be included with the calculations. For given equipment, the calculations must conform to requirements identified under subsequent paragraphs herein pertaining to the equipment.

2.4.5.1 Transformers

Provide sizing of all transformers. Generally, for dry type transformers, one or two samples of detailed calculations to identify the method are sufficient (if input data for remaining units can be derived from panels or feeder sizing data).

2.4.5.2 Feeders

Provide sizing of feeders. One detailed sample calculation is sufficient to establish the procedure. Remaining data shall be included on schedules and tables.

2.4.5.3 Panel Boards

Provide sizing and loading of panel boards and distribution equipment.

2.4.5.4 Voltage Drop Determination

Provide voltage drop calculations in accordance with IEEE Standard 241 to demonstrate that the voltage drop requirements of National Fire Protection Association (NFPA) 70 are satisfied.

2.4.5.5 Illumination Calculations

Data shall identify target and calculated illumination levels for all rooms and areas. Calculations shall be adjusted to compensate for special applications, such as, irregularly shaped rooms, open sides, ceiling obstructions (beams and ductwork), corridors, and any other special application. If the lumen method is used for corridor calculations, the calculations shall be performed using a module in which the length does not exceed three times the width (a 2:1 ratio is preferred).

Provide calculations for each room or area for both normal and for emergency/egress lighting, if so equipped. Standard lighting levels shall be in accordance with IES recommendations and the emergency/egress lighting levels shall be in accordance with NFPA 101. The emergency/egress lighting calculations shall indicate the average, the minimum, and the uniformity of each area.

2.4.5.6 Protective Coordination Analysis

A protective coordination study shall be performed to show that the power system is selectively coordinated and is fully coordinated with the upstream breakers. In addition, the study shall include all existing and new devices in the base power plant affected by the installation of the space test and evaluation facility. The protective coordination and short circuit study shall be complete and approved by the Government before any changes are made to the existing equipment.

2.4.5.7 Specialized Applications

Additional engineering data shall be included to address special requirements such as accommodation of nonlinear loads, harmonics analysis, and energy studies.

2.5 TELECOMMUNICATIONS

2.5.1 Technical Requirements

2.5.1.1 Design and Installation Standards and Codes

The telecommunications design and installation shall conform to the current versions of all applicable Unified Facilities Criteria (UFC), Technical Criteria for Installation Information Infrastructure Architecture (I3A), ANSI/TIA/EIA specifications and all standards and codes referenced in the UFGS specifications. Publications, codes, specifications, and standards shall be used as the basis for the project design. Publications and codes that imply recommendations shall be taken to be mandatory. Where there are conflicting criteria, the most stringent requirements take precedence.

2.5.1.2 Scope of Work

The work includes completion of telecommunications system design and installation to provide completely functional telecommunication systems as described herein and as detailed by the Designer of Record. The Network Enterprise Center (NEC) representative shall be consulted prior to project design and installation for additional telecommunications system requirements.

2.5.1.3 Detroit Arsenal Specific Requirements (Network Enterprise Center)

All abandoned telecommunication systems, equipment, wiring, conduit, and any other abandoned telecommunication system components associated with this project and within the project area boundaries shall be removed by the Contractor.

All conduit, wiring, and cabling shall be photographed by the Contractor and shall be inspected by the Contractor and COR prior to burying, covering, or concealing. The Contractor shall provide all photographs to the COR in electronic Adobe Acrobat Portable Document Format (PDF).

Telecommunications inspections conducted by a Network Enterprise Center representative will be required for all projects at the following intervals:

- Pre-Installation Meeting to address any Contractor RFIs and to communicate Network Enterprise Center specific requirements.
- 50% Installation Inspection to review progress of telecommunications installation at the 50% phase for adherence to specifications and standards.
- 100% Installation Inspection to review the final telecommunications installation at the 100% phase for adherence to specifications and standards.

All cabling test results and as-built drawings in CAD format shall be submitted together to the Network Enterprise Center representative for approval prior to 100% Installation Inspection.

All furniture (workstations and desks) shall be provided with communication wiring (LAN and telephone wiring).

Category 5e LAN cable may be reused if existing with approval from the Detroit Arsenal NEC representative through the COR. The Contractor shall be responsible for replacing any existing Category 5e LAN cables that are deemed unusable, damaged, or otherwise fail testing requirements after cabling has been reinstalled. It shall not be "assumed" that all existing Category 5e cabling is in good working order.

Category 3 telephone cable may NOT be reused if existing. All existing

Category 3 telephone cable found to be part of the project shall be replaced with Category 6 rated cabling. All new telephone cabling shall be Category 6 as specified below.

The Network Enterprise Center at Detroit Arsenal requires only qualified and experienced telecommunications contractors perform installation services in the construction of the Detroit Arsenal structured cabling infrastructure. The Contractor, by responding to a bid, represents that their company possesses the qualifications, certifications, capabilities, test equipment, expertise, and personnel necessary to provide an efficient and successful installation of properly operating components. It is required that the Telecommunications Contractor supervisor/foreman must be a Building Industry Consulting Service International (BICSI) certified ITS Technician and a BICSI member in good standing. It is also required that a minimum 25% of the Telecommunication Contractor's installers must be BICSI certified ITS Installers and BICSI members in good standing.

2.5.1.4 Telecommunications

Installation shall be in accordance with the Technical Criteria for the Installation Information Infrastructure Architecture (I3A) and other requirements as follows. Cable and jacks shall be Category 6 per EIA/TIA 568B, Commercial Building Telecommunications Cabling Standard. Provide wiring from outlet jack to termination on applicable patch panel. All components within cabling system shall conform to the category rating specified herein. Follow requirements of ANSI/TIA/EIA-569-B for telecommunications closets and equipment rooms. Telecommunications work shall be in accordance with UFC 3-580-01 and UFGS DIVISION 26. All cable ties installed within telecommunications rooms shall be Velcro strap type, no Nylon tie wraps will be accepted.

2.5.1.5 Telephone Distribution System

The telephone distribution system shall be plenum rated, Category 6, unshielded twisted pair (UTP) cable, blue in color, to support voice connectivity requirements.

All jacks shall be provided and installed in locations as required. Category 6 UTP voice cables shall be terminated on Category 6 rated, 110/RJ-45, 568A/B patch panels. Unless otherwise directed by NEC representative (through the COR), both voice and LAN cables from the same outlet shall be terminated in the same equipment rack to either the same or separate patch panels and shall be individually identified. Reference I3A Sections 2.4.1.1, 2.4.2.2, Figures B-2 and B-3A. All components within cabling system shall conform to the category rating specified herein.

The user end of the Category 6 UTP voice cables shall be terminated 568B standard on RJ-45 jacks (white).

2.5.1.6 Local Area Network (LAN) Distribution System

The LAN distribution system shall be plenum rated, Category 6, unshielded twisted pair (UTP) cable, yellow in color, to support data connectivity requirements.

All jacks shall be provided and installed in locations as required.

As required, 48 port Category 6, 110/RJ-45, 568A/B patch panels shall be provided and installed in Government furnished equipment racks (if existing). If new racks/cabinets are required as part of the installation, these shall be supplied and installed by the Contractor with NEC representative approval of product submittals.

Unless otherwise directed by NEC representative, both voice and LAN cables from the same outlet shall be terminated in the same equipment rack to either the same or separate patch panels and shall be individually identified. Reference I3A Sections 2.4.1.1, 2.4.2.2, Figures B-2 and B-3A.

The user end of the Category 6 UTP data cables shall be terminated 568B standard on RJ-45 jacks (orange). Each LAN drop location shall receive one individual Category 6 UTP data cable.

All Category 6 UTP data cables shall be run continuous, without splices, and shall not exceed 295 feet in total length. Above the false ceiling at each LAN jack drop location, for each individual data cable run, a three foot slack coil of cable shall be provided to facilitate future moves.

2.5.1.7 Fiber Optic Backbone Distribution System

Not Applicable

2.5.1.8 MGTV Network Distribution System

The MGTV network distribution system shall be plenum rated, RG-6 quad shielded coaxial cable, to support MGTV connectivity requirements.

Coaxial connectors shall be "F" type connectors. The use of other connector types; such as, BNC, shall only be considered if specifically required by the User. Verify connector type prior to purchase and installation.

2.5.1.9 Testing Criteria

Horizontal Cable:

All Category 6 circuits, to include both data and voice cables, shall be tested with a Category 6 rated tester, stated by the manufacturer as being capable of testing to 350MHz. All category 6 circuits shall be tested using a test set that meets the accuracy requirements stated within ANSI/TIA/EIA-568-B.1 and ANSI/TIA/EIA-568-B.2.

The Category 6 rated test set utilized shall be able to measure and report the following link parameters for permanent link test configurations as specified within ANSI/TIA/EIA-568-B.1 and ANSI/TIA/EIA-568-B.2:

- Wire map, including shield connection if present
- Insertion loss
- Length
- NEXT loss, pair-to-pair, measured from local end
- NEXT loss, pair-to-pair, measured from far end
- NEXT loss, power sum, measured from local end
- NEXT loss, power sum, measured from far end
- ELFEXT, pair-to-pair

- ELFEXT, power sum
- Return loss, measured from local end
- Return loss, measured from far end
- Propagation delay
- Delay skew

The cables shall be tested and certified that they meet the maximum requirements for Category 6 performance standards as specified in the Electronic Industry Association/Telecommunications Industry Association (EIA/TIA) specifications. Printed certification of all Category 6 drops shall be provided. All Category 6 drops shall meet the manufacturer's specification for acceptance.

All RG-6 coaxial cabling shall be tested for continuity, shorts, and opens. Characteristic impedance and attenuation shall be verified over the range of intended operation. Cable length shall be verified and documented. Printed test results shall be provided.

Backbone Cable:

Multi-Pair Copper Voice Backbone cables shall be tested for proper identification and continuity on all metallic cable pairs. All opens, shorts, crosses, grounds, and reversals shall be corrected. Correct color-coding and termination of each pair shall be verified at both termination points.

Fiber Optic Cable tests shall consist of Optical Time Domain Reflectometer (OTDR) measurements for one strand in each 12-strand bundle of fiber and Power Source/Power Meter tests on every strand in all cables. This applies to Multimode Fiber Optic Cable at both wavelengths (850nm and 1300nm) and Single mode Fiber Optic Cable at both wavelengths (1310nm and 1550nm).

Upon testing completion, provide diagrams and test records on all cables to the Detroit Arsenal Network Enterprise Center (NEC) representative.

2.5.1.10 General Notes

Telecommunication drop location drawings and telecommunication rack drawings shall be provided, two of each (30" x 42"), prior to final acceptance. Each telecommunication drop shall be annotated with the drop location, for example "B1". The rack drawing shall depict the equipment installed in an elevation view.

All installed telecommunications cabling shall meet the latest editions of ANSI/EIA/TIA specifications, the Technical Criteria for Installation Information Infrastructure Architecture (I3A), the Institute of Electrical and Electronic Engineers (IEEE) 802 series standards, and the NEC National Electrical Code (NFPA 70).

Telecommunications system labeling shall be completed in accordance with ANSI/TIA/EIA-606-A and shall conform to the Network Enterprise Center standard. All cabling shall be labeled on both ends, within 12 inches of the end of the cable jacket with the horizontal link identifier, which shall be visible on the exposed part of the cable jacket. This shall include each cable end in the telecommunications room and at the work area. Labels shall

be made using commercially available label makers. Handwritten labels shall not be used for the final configuration and will not be accepted.

For cable management, open top J-hook style and closed ring cable supports shall be required to route the data telecommunication cables above the suspended ceiling which shall be provided and installed. Cabling shall be installed within existing pathways if available, or new pathways shall be established and installed. Cabling shall be installed in a perpendicular and parallel pattern to building steel and shall not be installed in diagonal runs. The cable supports shall be installed on 5 foot centers maximum to adequately support and distribute cable weight. No cable support shall carry more than 50 cables. Cables shall be installed with minimum 8-inches of clear vertical space above the ceiling tiles and ceiling support channels. Open top and closed ring cable supports shall be suspended from or attached to the building structure. Cables shall not be run through structural members or in contact with pipes, electrical conduits, suspended ceiling supports, ductwork, or other potentially damaging items. Placement of cables parallel to power conductors shall be avoided where possible; a minimum separation of 12 inches shall be maintained when such placement cannot be avoided.

If necessary, cable racks/cabinets shall be provided and installed by the Contractor. All cabling shall follow one path and branch out to the different end points in a "tree" pattern.

All faceplate terminations shall be installed in accordance with ANSI/EIA/TIA and IEEE 802 series standards.

All termination components; such as, RJ-45 connectors, punch down blocks, patch panels, shall meet or exceed the quality standards for Category 6 testing. All telecommunications system components shall be rated as Category 6 by the manufacturer. Cables shall have Category 6 factory markings on the cable sheath.

2.5.2 Drawings

Drawing scale shall match architectural drawing requirements. Drawings shall be complete and accurate in every detail and shall be coordinated with all other work. Drawings shall be sufficiently cross-referenced to other drawings and specifications and shall include appropriate notes, schedules, diagrams, and details. Drawings shall be organized and shall demonstrate that the work complies with all requirements of the RFP as follows:

2.5.2.1 Voice and Data Plans

Complete layout of all areas and outlets shall be provided. The type of outlets and outlet labeling shall be indicated. Indicate areas served by TR's and equipment rooms. Cable tray, conduits, and other pathways shall be

shown with sizes indicated. Racks, cabinets, and other equipment shall be shown and identified.

2.5.2.2 Riser Diagrams

Provide riser diagrams that indicate the ER and TR's, risers, backbone trays and conduits, backbone termination areas, racks and cabinets, service entrance configurations, typical horizontal cabling, and all backbone cabling (including types, counts, and labeling). Provide separate diagrams for each system. Identify interfaces to other systems; such as, fire alarm systems and EMCS.

2.5.2.3 Outlet Configurations

Show all unique outlet configurations including connector types and quantities and labeling conventions.

2.5.2.4 Rack, Cabinet, and Equipment Elevations

Show individual elevations of each type of rack, cabinet, or other equipment or termination enclosures, including cable management, grounding, power, patch panels, and connectors.

2.5.2.5 Enlarged Room Plans

Provide enlarged room plans, drawn at 1/4" = 1', of every room containing one or more racks or cabinets. Include scaled outlines of racks, backboards, cabinets, and cables.

2.5.2.6 Details

Provide installation details that fully define installation requirements for typical and special conditions including all termination enclosures, break-out boxes, and consolidation point or box which includes termination or cable management hardware. Provide manhole details and elevations. Provide duct bank configuration and construction details.

2.5.2.7 PDS Drawings

Provide a separate set of drawings for each PDS. Provide plan drawings that include conduit routing, boxes, and enclosures. All materials used in the PDS shall be identified and defined including conduit type, conduit fittings, boxes, enclosures, locking mechanisms, and alarm devices.

2.5.2.8 Plans

Show all devices and equipment for Public Address and CATV.

2.5.2.9 Riser Diagrams

Provide a separate riser diagram for each system, showing all major components, typical minor components, such as, speakers and volume controls, and interconnecting cabling.

2.5.3 Specifications

Submit prescriptive specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed telecommunications design.

2.5.4 Design Analysis Narrative

The design analysis shall contain a description and analysis of the telecommunication portions of the design. Special features and unusual requirements shall be noted.

2.5.5 Design Analysis Calculations

Data shall be furnished to support basic design decisions related to sizing of cable trays and conduits.

2.6 FIRE PROTECTION

2.6.1 Technical Requirements

2.6.1.1 Design and Installation Standards and Codes

The fire protection design for all facilities shall be in accordance with the current version of UFC 3-600-01 Fire Protection Engineering for Facilities and with the current versions of the International Building Code (as referenced by the UFC and UFGS) and the National Fire Protection Association (NFPA) standards and codes.

2.6.1.2 Scope of Work

The work includes completion of fire protection system design and construction to provide completely functional fire protection systems as described herein and as detailed by the Fire Protection Engineer.

2.6.1.3 Detroit Arsenal Specific Requirements

All abandoned fire protection systems, equipment, piping, and any other abandoned fire protection system component within the project area boundaries shall be removed.

All piping, conduit, wiring, and cabling shall be photographed by the Contractor and shall be inspected by the Contractor and COR prior to burying, covering, or concealing. The Contractor shall provide all photographs to the COR in electronic Adobe Acrobat Portable Document Format (PDF).

Use of halon for fire suppression systems or fire extinguishers is prohibited.

The Contractor shall assess existing walls and doors in the project area to determine whether the walls and doors require modification to meet wall and door fire rating requirements in conformance with UFC, NFPA, DTA IDG, and UFGS requirements. These requirements shall be determined and included in the cost proposal for this project. Fire damper, smoke damper, HVAC, electrical, and all other work to meet this requirement shall be provided in the cost proposal. All fire protection requirements shall be included in the cost proposal.

The Contractor shall notify the COR, the DTA Fire Protection and Prevention Division, and the DTA DPW Base Operations Contractor of the proposed times and dates of fire suppression system and fire alarm system testing at least 7 calendar days prior to any tests. The tests shall be witnessed by the COR, by a Detroit Arsenal fire inspector, and by a DTA DPW Base Operations Contractor representative. The Government will have final approval of the times and dates of the tests.

The Detroit Arsenal DPW, the Detroit Arsenal Fire Protection and Prevention Division, and the Detroit Arsenal DPW Base Operations Contractor representative shall be notified two weeks prior to work on fire suppression systems and fire alarm systems.

The Government may perform testing of existing fire alarm systems in the existing building where this project will be performed prior to the start of construction. If fire alarm system testing is performed by the Government, the Contractor shall attend. The COR will notify the Contractor of the fire alarm system testing scheduled date and time.

The Contractor shall provide a fire watch during construction in accordance with UFC and NFPA requirements for fire protection system down time during construction. The fire watch shall cover all areas of the facility where the fire protection systems are down due to project construction. Impairments affecting the performance of installed fire protection features shall be corrected immediately. The Contractor shall strictly adhere to the requirements of the latest edition of UFC 3-601-02 Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems for systems out-of-service or impaired systems. The procedures specified shall be followed by the Contractor and the signage required shall be provided by the Contractor.

The Contractor shall be aware of all parking signs. Parking in any fire lanes is prohibited and all violators will be ticketed. Vehicles leaking liquids must be taken off base, additionally, vehicles leaking large amounts of liquid are subject to be towed off the installation at the discretion of the DTA Fire Department Incident Commander.

The Contractor shall provide Material Safety Data Sheets (MSDS) to the DTA Fire Department for all chemicals to be used and stored on the premises. MSDS will be provided to the HAZMART and bar coding for all chemical products used and stored on the premise. All chemicals shall be stored in safe and proper containers when not in use.

The General Contractor's superintendent or safety officer only will be issued a hot work permit. The Contractor shall require a hot work permit for all work producing sparks, flames, or heat occurring within the confines of the installation (indoors or outdoors). The Detroit Arsenal fire inspectors issue hot work permits on a daily basis. The Contractor shall request the hot work permit by contacting the Detroit Arsenal Fire Department business number at (586) 282-6021 or (586) 282-5564.

A hot work permit will be issued after completion of inspection of the work area. The Contractor shall provide the proper size and type of fire extinguisher at the work site. The Contractor is not permitted to use building facility fire extinguishers. The Contractor responsible for the work being performed shall be required to sign the hot work permit. The Contractor must observe a 30-minute cool down period after all hot work is

completed. Afterwards, the Contractor must contact the DTA Fire Department to re-inspect the work. After all conditions are safe and met, the permit will be cancelled out.

Contractors shall not leave the job site without closing the permit. Failure to do so will result in no further permits being issued to the Contractor. All sub-contractors shall adhere to the aforementioned requirements in order to maintain the permit.

Where Automated External Defibrillators (AEDs) are required to be relocated, the Contractor shall provide design and construction to relocate the AEDs, AED cabinets, and AED cabinet cardiovascular system LAN drop. The cabinet power supply and door alarm shall be connected to the DTA fire alarm system. Cabinets for AEDs shall be provided with supervisory switch monitored by the DTA fire alarm system.

The Contractor shall be aware of all work within a building involving raising dust or producing smoke that may set off a smoke detector, requiring the fire protection system to be put on a bypass in order to prevent trouble signals.

Provide new duct mounted smoke detectors in all new or modified air distribution systems in accordance with UFGS requirements and in accordance with the latest edition of NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems.

Shutdown of alarm devices for demolition or construction work will be completed by the DTA Base Operations Contractor and shall be coordinated with the DTA Fire Department to insure the downstream (outside work area) devices remain operational. Where fire alarm devices are required to be shutdown in a project work area, the Contractor shall perform all work required to bypass any area inside the project work area to insure all downstream fire alarm devices serving any other portion of the facility remain operational. The Contractor shall provide design, material furnishing, and installation of all wiring and components to bypass the project work area fire alarm devices. The Contractor shall coordinate this work on the fire alarm system with the DTA Base Operations Contractor and the DTA Fire Department. Work shall not begin until approved by the COR.

2.6.1.4 Fire Protection Engineer

The Contractor shall provide the services of a qualified registered fire protection engineer. A qualified registered fire protection engineer shall meet one of the following requirements: (a) An engineer having a Bachelor of Science or Master of Science Degree in Fire Protection Engineering from an accredited university engineering program, plus a minimum of 5 years work experience in fire protection engineering; (b) A registered professional engineer (P.E.) who has passed the National Council of Examiners for Engineering and Surveys (NCEE) fire protection engineering written examination. The Fire Protection Engineer shall be an integral part of the design team and shall be involved in all aspects of the design of the fire protection systems. The Contractor shall submit the credentials of the qualified Fire Protection Engineer to the Contracting Officer's Representative (COR). The Fire Protection Engineer shall certify in writing that the design is in compliance with the current edition of UFC 3-600-01 and all applicable criteria. This certification shall be submitted with the 100 percent design submission.

2.6.1.5 Fire Protection and Life Safety Code Review

The Fire Protection Engineer and the Architectural Designer of Record shall perform and coordinate a fire protection and life safety code review of the proposed design.

The code review shall be submitted with the 100 Percent Design submittal and the Released for Construction Design submittal on a drawing sheet and in the design analysis. The code review shall include type of construction; height and area limitations; classification of occupancy; building separation or exposure protection; specific compliance with Unified Facilities Criteria, NFPA codes, and the IBC. The code review shall include requirements for fire-rated walls, doors, and fire dampers and an analysis of automatic fire suppression systems and protected areas, water supplies, smoke control systems, fire alarm systems, including connection to the base-wide system, fire detection systems, standpipe systems, fire extinguishers, interior finish ratings, and other pertinent fire protection data.

The 100 Percent Design submittal and the Released for Construction Design submittal shall include life safety floor plans indicating egress travel distances, occupancy hazard areas, ratings and locations of fire-resistive assemblies, fire extinguisher locations, fire alarm pull box locations, exit sign locations, emergency light locations, heat and smoke detector locations, visual fire alarm signal locations, fire alarm locations, fire department connection, and other data necessary to exhibit compliance with life safety code requirements.

2.6.1.6 Fire Extinguishers

If the design requires fire extinguisher(s), provide all new fire extinguishers and fire extinguisher cabinets in accordance with UFGS Specification Section 10 44 16, FIRE EXTINGUISHERS. All new fire extinguishers and fire extinguisher cabinets shall be provided in accordance with the latest edition of UFC 3-600-01 and NFPA 10, Standard for Portable Fire Extinguishers requirements.

All new ABC type fire extinguishers shall be minimum 10 pounds. All new ABC type fire extinguishers shall be provided in new fire extinguisher cabinets with new fire extinguisher signage. Where new 10 pound ABC type fire extinguishers are provided, all new ABC type fire extinguisher cabinets shall be sized for a minimum 20 pound fire extinguisher capacity. New fire extinguisher cabinets shall be aluminum.

2.6.1.7 Fire Alarm and Detection Systems

Provide a complete fire alarm and detection system, conforming to requirements of UFC 3-600-01, NFPA 72, and NFPA 101. Speakers integrated with strobes shall be used for annunciation. Manual pull stations shall be located near each exit, adjacent to the fire alarm control panel (FACP), and along each path of egress. Water flow indicators shall be used to monitor sprinkler risers. Water flow alarms shall transmit a signal to the fire alarm panel. Tamper monitoring switches shall be located on the sprinkler control valves. An alarm shall release magnetic door holders and shall activate dampers and shutdown fans. Smoke detectors shall be located throughout the project area in all unsprinklered areas and shall be provided where required by UFC and NFPA standards, including one located above the FACP. All new fire sprinkler systems shall activate both local and remote (fire department) alarms in accordance with UFC requirements. Prior to cost proposal submission, the Contractor shall verify all existing fire sprinkler systems throughout the entire project area activate both local and remote (fire department) alarms. If any fire sprinkler system throughout the entire project area does not activate both local and remote (fire department) alarms then the Contractor shall provide design and construction to tie the fire sprinkler system into the fire alarm systems to activate both local and remote (fire department) alarms. Duct mounted smoke detectors shall be installed in accordance with the latest edition of NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems for automatic shutdown in the event of a fire. Air handling unit starters shall be equipped with normally closed contacts for fire alarm system interface to avoid unit shutdown with electrical power removed from the fire alarm panel. Initiation of a detector, sprinkler flow switch, or manual pull station shall sound all alarms in the building, shut down air handlers, and signal the Detroit Arsenal Fire Protection and Prevention Division.

All new and existing initiation and notification devices shall be addressable devices, unless specifically approved otherwise by the Government.

Addressable smoke detectors and pull stations shall be provided in accordance with UFC 3-600-01 and NFPA 72 requirements.

All new fire alarm control panels shall be SimplexGrinnell 4100ES panels with fiber optic communication to the Detroit Arsenal fire station. The central alarm panel shall be located in an occupied central location. Addressable smoke detectors and pull stations shall be utilized in accordance with UFC 3-600-01 and NFPA 72. All new fire alarm control panels shall have 25 percent spare capacity for adding circuits. Locate all end-of-line resistors in the fire alarm system control panel for maintenance purposes. In addition, provide fire alarm outputs for control of HVAC equipment shutdown, door release, and elevator recall to be controlled by the fire panel rather than directly by the initiation devices in the field.

Such releases, recalls, and shutdowns shall be arranged such that loss of 120VAC or 24VDC power by the fire panel will not activate the release, recall, or shutdown functions.

The circuitry configuration for initiation and notification devices may be Class B unless specified otherwise by the Government.

All new and existing fire alarm wiring shall be in 3/4-inch red conduit and all new and existing junction boxes that contain fire alarm wiring shall be painted red. All fire alarm related work shall meet Simplex specifications for installation and operation.

Utilize wire types and gauges as recommended by the equipment manufacturer. Copper conductors shall be used.

AC power or AC control wiring are not to be run in the same conduit as 24VDC fire alarm wiring or fire alarm communication wiring.

Personnel responsible for making final connections at the fire alarm panel and personnel responsible for supervision of final connections at all field devices shall be National Institute for Certification in Engineering Technologies (NICET), Fire Alarm Systems Level II certified, in accordance with NFPA standards.

The Contractor shall coordinate routing of the fire alarm system with the COR, the DTA Fire Protection and Prevention Division, and the DTA DPW Base Operations Contractor.

The Contractor shall test the fire alarm and fire detection systems in accordance with the latest editions of NFPA 72, National Fire Alarm and Signaling Code, UFGS fire alarm and fire detection system testing specifications, and the manufacturer's recommendations. The Contractor shall verify that all new and existing fire alarm initiation devices tied to the fire alarm control are fully functional for the entire system reporting back to the fire station. The Contractor shall coordinate verification testing with the COR, the DTA Fire Protection and Prevention Division, and the DTA DPW Base Operations Contractor after all system testing has been completed by the Contractor. The Contractor shall notify the COR, the DTA Fire Protection and Prevention Division, and the DTA DPW Base Operations Contractor of the proposed times and dates of fire alarm and fire detection system testing at least 7 calendar days prior to any tests.

The fire alarm transmitter shall be fully compatible with the existing proprietary supervising station receiving equipment manufactured by SimplexGrinnell presently in use at the Detroit Arsenal.

The system shall be connected to the head end equipment by two (2) 6-strand dedicated fiber optic circuits. Programming is required to fully integrate the facility into the existing Fire Department Central Reporting System. Provide all head end programming and graphics to make the system fully operational and functional. This includes data entry for all the new points connected to the system as well as making any additions or changes in the system configuration files. The Contractor must provide all the graphics development and entry to include attaching the proper points to each graphic display. All graphics shall match the existing system graphics; including, color, layout, legend, and all other existing graphic schemes.

2.6.2 Drawings

Features of fire protection, their ratings, and the hazards requiring them, shall be clearly indicated. Fire alarm systems and fire detection systems shall all be clearly indicated on the drawings. Fire detection, mass notification, and fire alarm systems shall be laid out and detailed sufficiently to indicate the designers understanding of UFGS DIVISION 28 - ELECTRONIC SAFETY AND SECURITY. When other functions co-exist with the fire protection functions, their integration shall be clearly indicated, with an analysis that describes how both functions will be served. Provide a separate, composite type floor plan which makes an accurate presentation of these various features and functions. As part of the submittal, provide a set of plans that show emergency egress for the facility. Depict all items to be removed, for instance, fire alarm panels, fire sprinkler piping, and any other fire protection system component, on the fire protection demolition drawings.

2.6.3 Specifications

The Contractor's project Fire Protection Engineer shall provide edited UFGS fire alarm system, fire detection system, and mass notification specification sections from UFGS DIVISION 28 - ELECTRONIC SAFETY AND SECURITY. Specification sections shall be coordinated with the drawings to accurately and clearly identify the product and installation requirements for the facility.

All items identified in the specifications that are not required shall be marked for deletion in accordance with the requirements stated in this RFP. Those items of equipment, materials, or installation requirements that are required are not permitted to be modified or changed from that presently shown.

2.6.4 Design Analysis

The design analysis shall include a separate fire protection report containing review statements and comments on the following items:

- a. Location and rating of fire walls and fire partitions
- b. Column, floor, and roof protection
- c. Path of travel for emergency egress and operation of panic exits
- d. Access to building for fire fighting
- e. Design and placement of fire and smoke stop doors
- f. Labeled windows, where required
- g. Venting of smoke
- h. Placement of hand fire extinguisher cabinets
- i. Complete description, including type and adequacy, of the fire sprinkler system
- j. Building exterior fire protection facilities and building clearances

- k. Type of occupancy
- l. Zoning of fixed fire protection systems
- m. Complete description, including type and adequacy of fire alarm systems (including fire alarm zones) and detection systems
- n. Zoning of fire alarm and detection systems
- o. Number of zones of fire alarm and detection systems that are separately transmitted to the base or installation fire department
- p. List of design criteria q. Design conditions
- r. Design calculations
- s. Complete description of the building fire protection features
- t. Other pertinent information of value for future use in construction contract administration, substantiation of design methods, or permanent record shall be included

2.7 ENVIRONMENTAL PROTECTION COMPLIANCE

Environmental protection shall be in accordance with Appendix A, Standard Environmental Protection Requirements and Appendix B, Other Standard Environmental Protection Requirements.

2.8 SAFETY

2.8.1 Technical Requirements

The Contractor shall adhere to the current installation safety requirements, MIOSHA safety requirements, OSHA safety requirements, the safety requirements included in UFGS Specification Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS, and the United States Army Corps of Engineer's codes and standards.

The Contractor shall provide preparation and submittal of a site specific Accident Prevention Plan and/or a Health and Safety Plan. The Contractor safety plan shall comply with Michigan OSHA requirements and the latest edition of U.S. Army Corps of Engineers Manual EM-385-1-1. The safety plan shall establish a comprehensive training program which consists of engineering, education, training, and enforcement of safety standards and shall comply with regulatory directives regarding accident prevention and control and safety education and promotion. The Contractor shall construct dust barrier partitions as required to separate construction areas from occupied areas. Exits shall be clear of equipment, materials, and debris. Construction partitions shall be provided in accordance with EM-385-1-1.

2.8.2 Drawings

The drawings shall clearly identify the amounts and locations of hazardous material.

2.8.3 Specifications

At a minimum, the pertinent UFGS specifications shall be completely edited and coordinated with the drawings.

01 35 26	GOVERNMENTAL SAFETY REQUIREMENTS
01 35 30	SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)
01 35 29	SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS
02 82 14.00 10	ASBESTOS HAZARD CONTROL ACTIVITIES
02 82 33.13 20	REMOVAL/CONTROL AND DISPOSAL OF PAINT WITH LEAD
02 83 13.00 20	LEAD IN CONSTRUCTION
02 84 16	HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBS AND MERCURY
02 84 33	REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBS)
31 21 13	RADON MITIGATION

Any interference with the civil, mechanical, electrical, geotechnical, and environmental specifications shall be addressed and reviewed to extract the list of sampling and analysis requirements.

2.8.4 Design Analysis Narrative

The Design Analysis Narrative shall list all conditions impacting safe work on the project for each of the sections listed above. Potentially hazardous conditions, such as, materials shall be identified. The basis and reasons for specific decisions, special features, and unusual requirements shall be explained or summarized. If it is necessary to deviate from criteria or standard practice, reasons shall be included. Design statements shall be provided in sufficient detail to enable the reviewer to get a clear picture and understanding of all included work. Narrative shall be complete relative to scope and design approaches. The design analysis shall carry a complete narrative for every item covered in the design.

2.8.5 Design Analysis Calculations

Amount and location of hazardous materials (asbestos, lead paint, PCBs, and other hazardous materials) shall be addressed.

2.8.6 Basis, Specific Goals, Objectives, and Priorities for Hazardous Material

The Design Analysis shall establish specific goals, objectives, and priorities for safety (including the removal, handling, and disposal of hazardous materials). Identify, explain, and document use of design criteria and state how the design meets goals, objectives, and priorities. Identify the preferred site development concept. Show how systematic planning has been used in the design and will meet the objectives. Systematic planning ensures high decision confidence and stakeholder satisfaction. It shall list various regulatory, scientific, and engineering decisions that must be made in order to achieve the desired outcome. List unknowns that stand in the way of making those decisions and strategies to eliminate or manage the unknowns.

2.9 SUSTAINABLE DESIGN

The goals for improving the sustainability of facilities include: (a) use resources efficiently and minimize raw material resource consumption, including energy, water, land and materials, both during the construction process and throughout the life of the facility, (b) maximize resource reuse while maintaining financial stewardship, (c) move away from fossil fuels towards renewable energy sources, (d) create a healthy and productive work environment for all who use the facility, (e) build facilities of long-term value, and (f) protect and, where appropriate, restore the natural environment.

Sustainable design techniques shall be considered as they relate to building design, construction, operation, and deconstruction. Techniques which conserve energy, improve livability, and can be justified by life cycle cost analysis as cost effective are encouraged.

2.10 DEMOLITION AND DECONSTRUCTION

Demolition and deconstruction shall be performed in accordance with UFGS Specification Section 02 41 00, DEMOLITION AND DECONSTRUCTION. Deconstructed materials shall become the property of the Contractor as indicated in UFGS Specification Section 02 41 00, DEMOLITION AND DECONSTRUCTION unless otherwise indicated or specified. Materials not owned by the Government and not used in construction shall be disposed of on Government property. Any material to be disposed of in a landfill shall be no larger than 2 ft by 3 ft and no thicker than 18 in.

2.11 COST ENGINEERING INSTRUCTIONS

The Contractor shall submit a professional quality cost proposal in accordance with the policies and procedures stated in the "Cost Estimates" paragraph of the contract.

PART 3 NOT USED

-- End of Section --

SECTION 01 03 00.00 06

DESIGN AND CONSTRUCTION SUBMISSION REQUIREMENTS
04/13

PART 1 GENERAL

1.1 INTRODUCTION

a. Design

This section includes general requirements for developing and submitting a design including preparation of drawings, specifications, design analyses and other design deliverables conforming to the requirements contained in this section. Distribution requirements for design deliverables is also covered in this section.

b. Construction

This section includes distribution requirements for the construction set of design deliverables and distribution requirements for DD Form 1354 and as-built drawings. Included also are the construction submittal classifications for use in editing the technical guide specifications and instructions on revisions to accepted design during construction.

1.2 DESIGNER OF RECORD

The Design-Build (D-B) Contractor shall identify the Designer of Record for each area of work, also to be indicated in the Design Quality Control Plan. One Designer of Record may be responsible for not more than two design disciplines. All areas of design disciplines including architectural, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection shall be accounted for by a listed, Professional Registered, Designer of Record. The Designers of Record shall stamp, sign, and date each design drawing submitted under their responsible discipline for the 100 Percent Design; Corrected Final Design; and Released for Construction Design submittals.

Designers of Record shall be employees of, or contracted directly by, the Prime Contractor, or shall be an employee of an independent design firm that is contracted directly by the Prime Contractor. The Designer of Record shall not be an owner, employee, agent, or consultant of a construction subcontractor hired for this project.

1.3 REFERENCES

1.3.1 The Construction Specifications Institute (CSI)

CSI MasterFormat (latest edition) Master List of Section Titles and Numbers

1.3.2 U.S. National CAD Standard

(a) The A/E/C CAD Standard (compliant with the U.S. National CAD Standard) can be found at:

<https://cadbim.usace.army.mil/CAD>

1.3.3 Web Sites

In addition to the web sites listed in this section, other Request for Proposal (RFP) Sections may list web sites where design criteria references used in this solicitation package may be found.

(a) UNIFIED FACILITIES CRITERIA (UFC), TECHNICAL MANUALS (TM), TECHNICAL INSTRUCTIONS (TI), AIR FORCE MANUALS (AFM), ENGINEERING TECHNICAL LETTERS (ETL), ARMY ARCHITECTURAL AND ENGINEERING DESIGN CRITERIA (AEI), SUSTAINABLE DESIGN DOCUMENTS, AND MILITARY HANDBOOKS (MIL HNDBK) can be obtained from the following internet addresses:

<http://www.hnd.usace.army.mil/techinfo/engpubs.htm>. <http://www.wbdg.org/>

Additional web sites are as follows:

(1) TECHNICAL MANUALS, ETL's, ETC.:

www.usace.army.mil/inet/usace-docs

Click on "Information", then the desired publication.

(2) AIR FORCE DESIGN CRITERIA: <http://afpubs.hq.af.mil>

(3) UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS)

http://www.wbdg.org/ccb/browse_org.php?o=70

Guide specification numbers and titles referenced in the solicitation may vary from the actual specification numbers and titles available at the website listed above.

SpecsIntact software may be downloaded at the following Internet address:

<http://si.ksc.nasa.gov/SpecsIntact/software/software.htm>

SI Version 4.0 (Version SI4.2.0.785) or later shall be used. The new unified submittal format shall be selected for file format.

1.4 ENGLISH UNITS REQUIREMENTS

Drawings shall be stated in English units of measure. Specifications shall be stated in English units of measure, unless the UFGS specifications provide only a metric unit followed by the English equivalency in parentheses or where requirements for equipment are only available in metric units.

1.5 SUBMISSION OF DESIGN DRAWINGS, SPECIFICATIONS, AND DESIGN ANALYSES

1.5.1 Design Certification

Within each design submittal, the Contractor shall certify that all items submitted in the design documents (after construction award) comply with this RFP, the Division 1 specifications, the Detroit Arsenal Installation Design Guide (IDG), and mandatory requirements of the UFGS. The criteria specified in this RFP are binding contract criteria and in case of any conflict, after award, between the RFP criteria and Contractor's submittals, the RFP criteria will govern unless there is a written and signed agreement between the Contracting Officer and the Contractor waiving a specific requirement. The Contractor shall present with the letter of transmittal for each design submittal (including the Released for Construction Design submittal) a certification that the submittal (plans, specifications, design analysis, etc.) complies with the requirements stated above, similar to that shown at Attachment A of this section. The Contractor's Designers of Record shall confirm and be responsible for the technical accuracy and adequacy of all aspects of the project design.

1.5.2 Deviations

Deviations from the RFP technical requirements shall be identified in the letter of transmittal and design certification letter. Deviations from the RFP technical requirements will be considered and accepted by the Contracting Officer, if the changes result in a significant improvement to the project or if the changes exceed the minimum RFP technical requirements.

1.5.3 Field Inspection

The Contractor shall verify field conditions which are significant to design, by field inspection, researching and obtaining all necessary existing facility as-built drawings and reproducing them for his own use as necessary, and discussing status with knowledgeable personnel. The information shall be reflected in the design documents.

1.5.3.1 Photographs

The Contractor shall furnish digital photographs on CD-ROM depicting the progress of work during construction and after final inspection by the Contracting Officer's Representative (COR) of the conditions at the completion of the contract.

The monthly photography shall be performed between the first and fifth of each month and the CD's with digital photographs shall be submitted no later than the 10th of each month during the construction phase of the contract (from start of construction through completion of final inspection). The photograph CD shall be submitted in accordance with the submittal requirements of this RFP. A minimum of six views from different positions shall be taken as direction to show, as much as possible, work accomplished during the previous month, and a minimum of six views shall be taken of the completed work. Additional views and positions may be required by the COR to depict the work done.

Photographs shall be at least 4 megapixels and shall be in JPEG format. Each CD shall be identified with the date made, contract title and number, location of work, and a brief description of the work depicted.

No separate payment will be made for these services and all costs in connection thereto shall be considered a subsidiary obligation of the Contractor.

1.5.4 Drawings

1.5.4.1 Software Requirements

All design drawings shall be done by the Contractor using MicroStation V8 (.dgn) file format. The format shall conform to the U.S. National CAD Standard.

1.5.4.2 RFP Drawings

The drawings furnished with this solicitation will be furnished to the Contractor in AutoCAD (.dwg) file format or MicroStation V8 (.dgn) file format.

1.5.5 Design Documents

Design documents, as required by the 65 Percent Design and 100 Percent Design submittals stated hereafter, shall include construction drawings, specifications, design analysis, and other design deliverables for categories; such as, architectural, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection. Specifications shall be in sufficient detail to fully describe and demonstrate the quality of materials, the installation and performance of equipment, and the quality of workmanship. Detailing and installation of all equipment and materials shall comply with the manufacturer's recommendations. The design analysis shall be for each discipline of work and shall include all features with the necessary calculations, tables, methods and sources used in determining equipment and material sizes and capacities, and shall provide sufficient information to support the design.

1.5.6 Conferences

After contract award, the Prime Contractor and the Contractor Designer of Record representatives shall attend the Preconstruction Conference at the Detroit Arsenal (DTA) Directorate of Public Works (DPW).

In addition, a minimum of one design review conference during design will be held at the DTA DPW at the 65 percent completion stage of the design. The Prime Contractor and the Contractor Designer of Record representatives shall attend the design review conference, visit the site, meet with key using agency points of contact, address any appropriate discussion items, and make additional trips as necessary during the design to accomplish the work.

1.5.7 Document Packaging

The 65 Percent Design submittal includes the site and utility design and the building design complete to a 65 percent level. These documents shall be packaged and stamped "For Review Only - 65 Percent Design"; and each sheet of the drawings shall also be stamped. The 100 Percent Design submittal includes 100 percent complete site and utility design and building design and shall be stamped "For Review Only - 100 Percent Design", and each sheet of the drawings shall also be stamped. The design submittal(s) after the

Government review of the 100 Percent Design shall be stamped "Released for Construction Design"; and each sheet of the drawings shall also be stamped. The Released for Construction Design submittal is for making corrections resulting from review comments and for preparing the final project documents. No additional time for completion of the contract will be granted to the Contractor due to insufficient design submittals.

PART 2 PRODUCTS (NOT APPLICABLE) PART 3 EXECUTION

3.1 CONTRACTOR'S GENERAL DESIGN SUBMITTAL REQUIREMENTS

The design submittals for this project shall be submitted as indicated below. The design submittals shall be submitted to the Distribution Addresses listed below and shall include specifications, drawings, and design analysis in electronic format on CD as described below. Drawings shall be submitted in hardcopy and electronic format.

65 Percent Design for all disciplines.
 100 Percent Design for all disciplines.
 Released for Construction Design for all disciplines.

3.2 CONSTRUCTOR'S ROLE DURING DESIGN

The Contractor's construction management key personnel shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. In addition to the typical required construction activities, the constructor's involvement includes actions such as: integrating the design schedule into the master project schedule to maximize the effectiveness of fast-tracking design and construction (within the limits allowed in the contract), ensuring constructability and economy of the design, integrating the shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing the construction Quality Control (QC) program with the design QC program, and maintaining and providing the design team with accurate, up-to-date, redline and as-built documentation. The Contractor shall require and manage the active involvement of key trade subcontractors in the above activities. All work shall be performed in accordance with the Construction Quality Management (CQM) process in UFGS Specification Section 01 45 00.00 10 QUALITY CONTROL.

The project schedule shall be provided in accordance with UFGS Specification Section 01 32 01.00 10 PROJECT SCHEDULE. The Contractor shall, within five calendar days after contract notice to proceed, prepare and submit for approval the practicable project schedule. The project schedule shall show the order in which the Contractor proposes to perform the work and the dates on which the Contractor contemplates starting and completing the salient features of work. The work shall be scheduled so that, upon the start of design and the start of construction, work progresses in a continuous and diligent manner. A project schedule that does not reflect steady and reasonable progress throughout the design and construction periods will be rejected by the Government. Weekly progress reports and contractor progress reports are required covering the period from notice to proceed through final inspection and contract closeout. The project schedule shall be submitted to the COR in electronic Adobe Acrobat Portable Document Format

(PDF) and electronic Microsoft Project format. The ENG Form 4025 shall be submitted in electronic Adobe Acrobat Portable Document Format (PDF) and shall be digitally signed by the Contractor.

3.3 DRAWINGS

Prepare, organize, and present drawings in the format specified herein. Provide drawings complete, accurate and explicit enough to show compliance with the RFP requirements and to permit construction. Drawings illustrating systems proposed to meet the requirements of the RFP performance specifications shall reflect proper detailing for each system to assure appropriate use, proper fit, compatibility of components and coordination with the design analysis and specifications required by this section. Coordinate drawings to ensure there are no conflicts between design disciplines and between drawings and specifications. The electronic drawings shall be in accordance with both the U.S. National CAD Standard and the Detroit Arsenal (DTA) Directorate of Public Works (DPW) CADD Standard which includes graphics (text fonts, text heights, and line weights), naming conventions (file names, sheet names, and level names), drawing assembly (referencing), sheet file composition, and all other specifications of the U.S. National CAD Standard and DTA DPW CADD Standard. A copy of the DTA DPW CADD Standard will be provided to the Contractor upon written request to the COR.

3.3.1 Drawings Format

Full size drawings are considered Arch D (24 inches x 36 inches). Half-size drawings are considered Arch C (18 inches x 24 inches). With written approval from the Contracting Officer's Representative, the Contractor may choose to consider the use of Arch 30 (30 inches x 42 inches), where size or scope of the project requires the use of larger drawing sheets. Title block shall be as indicated in the U.S. National CAD Standard and shall be based on the Detroit Arsenal title block. The Cover Sheet of the Contractor prepared drawings shall bear the stamp or seal and signature of the registered architect or appropriate engineer responsible for the work. One full size and one half size hardcopy set of drawings shall be sent to the Activity Distribution Addresses listed below. Electronic copies of drawings, provided on CD, shall be sent to the Activity Distribution Addresses listed below, in MicroStation V8 format and Adobe Acrobat Portable Document Format (PDF). The drawings in Adobe Acrobat PDF format shall be provided in one single file containing all drawings in the design package. The drawings in Adobe Acrobat PDF format shall be directly converted from the source files and shall be searchable Adobe Acrobat PDF files (the drawing files shall not be scanned). The hardcopy and electronic drawings shall be provided for the 65 Percent Design submission, the 100 Percent Design submission, the Released for Construction Design submission, and the As-Built Drawing submission.

3.3.2 Drawings Sequence

Arrange drawings by design discipline in accordance with the U.S. National CAD Standard.

3.3.3 Drawings Required

As a minimum, the Contractor shall prepare and submit the following design drawings:

- a. Title Sheet, Index of Drawings, Legend and Abbreviations
- b. Architectural Drawings
- c. Interior Design Drawings
- d. Mechanical Drawings
- e. Electrical Drawings
- f. Communications Drawings
- g. Fire Protection Drawings

3.4 SPECIFICATIONS

3.4.1 Project Specifications

3.4.1.1 General Requirements

The Contractor shall develop project specifications utilizing unedited Unified Facilities Guide Specifications (UFGS), designated specification sections furnished with this RFP, and the development of additional project specifications not covered by UFGS. UFGS may be downloaded in SpecsIntact SGML (zipped) file format at the internet address listed above. Specifications shall be edited utilizing the latest edition of MasterFormat numbering system. The Contractor shall utilize SpecsIntact software.

3.4.1.2 Technical Specifications

The Contractor shall be required to use unedited UFGS sections for developing project specifications. Specification paragraphs and subparagraphs shall not be rewritten to lessen the quality of the original technical specification sections, unless directed otherwise. The technical guide specifications describe the type and quality of material and installation normally acceptable for United States Army Corps of Engineers construction, and often represent specific agreement between the Government and the applicable industry. The provision of the technical guide specification shall not be changed without justification. Justifications and identification for additional materials shall be identified in the design analysis under the appropriate design discipline. Designer notes shall not appear in any design submittals. Only bracketed choices and inapplicable items shall be marked for deletion. These items shall be removed in the Released for Construction Design specifications submittal. The Contractor shall complete the editing of all options in these specifications. Where designer notes are provided, the Contractor shall edit the choice in accordance with the recommendations and guidance of the notes, except where specific guidance has been provided with this RFP (i.e. submittal paragraph).

3.4.1.3 Editing Technical Specifications

- (1) Incorporating Established RFP Requirements into Guide Specifications

Where specific requirements in regards to materials, methods, and end function requirements are provided in the edited RFP Division 1 provided in

this RFP, the unedited Unified Facilities Guide Specifications (UFGS) shall be edited to reflect these requirements. Variations to these requirements will not be permitted, unless authorized as a design deviation by the Contracting Officer.

(2) Requirements of Guide Specifications Not Established By RFP Requirements

Where specific direction has not been provided in regards to materials, methods, and end function requirements, the final requirements will be a result of the completed design by the Contractor.

The applicable unedited UFGS sections, Divisions 2 through 49, shall be edited to:

- (a). Provide the highest quality that can be provided within the cost and time authorized;
- (b). Meet or exceed the criteria requirements established by the solicitation;
- (c). Meet applicable Federal, state, and local codes; and
- (d). Do not sacrifice aesthetics, user requirements established by the solicitation, life-cycle economy, energy conservation, environmental protection or life safety.

Lessening the quality of the UFGS specifications shall not be made unless the Contractor provides the Contracting Officer documentation as to why the standards established by the UFGS sections cannot be made and the Contracting Officer approves. This documentation shall be included as a design deviation.

(3) ADDITIONS: If the specifications of the UFGS do not cover a feature that is in the project, new sentences and/or paragraphs shall be inserted in the proper locations to adequately cover the feature of work. Additions shall not lessen the quality of materials indicated by the specifications. If a new material is added, it shall be properly referenced in "Applicable Publications," "MATERIALS," "SUBMITTAL," "TESTS," and "INSTALLATION" paragraphs.

(4) DELETION OF INAPPLICABLE TEXT MATERIAL, AS NECESSARY, TO TAILOR THE SPECIFICATIONS TO FIT THE PROJECT: After deletion has been made to all inapplicable paragraphs, subparagraphs, choices, and schedules from the body of the specifications (including the correction of lists in "Submittals," "Tests," and "Installation" paragraphs), delete all non-applicable references listed in the preceding "APPLICABLE PUBLICATIONS" and "MATERIALS" paragraphs. Deletions shall not lessen the quality of materials indicated by the specifications.

(5) Do not remove any special code markings for submittals, references, tests or section references, unless the text is not required.

(6) REFERENCES TO SPECIFICATION SECTIONS: The Contractor shall be responsible for coordinating section references, along with the technical requirements, to specific specification sections (number and title) within the project specifications. Section references (title and number) shall be revised to reflect the titles and numbers of specification sections used.

(7) REFERENCES: The Contractor shall be responsible for coordinating references or publications referenced in the text of each specification with those references listed at the beginning of each section. See paragraph: Reports below. The SpecsIntact software removes references or publications not referenced in the text from the Reference Article, when printing from the Jobs menu.

(8) SUBMITTALS: Each section of the specifications includes a submittal paragraph which lists all applicable Contractor submittals. Submittals shall be properly marked as outlined in the SpecsIntact documentation and in this section. These codings are used for automatic generation of the Submittal Register in the SpecsIntact Software. These codings must not be deleted from the text, unless the submittal is not required. The Submittal Item text between the coding shall be identical (word for word, including punctuation and spacing) to the paragraph text in the reference paragraph(s). Text may be either upper or lower case letters. An example of a submittal paragraph is provided in Attachment C, "Sample Submittal Paragraph".

During the design phase, the Contractor's designer(s) shall develop a complete list of required construction submittals in each technical specification. The list is to be used in preparing the Submittal Register for approval by the Contracting Officer's Representative (COR).

See UFGS Specification Section 01 33 00 SUBMITTAL PROCEDURES, for complete instructions related to submittal descriptions, classifications, numbers, and submittal process. Unless directed otherwise by the Contracting Officer, the words "Government Approval" associated with "G" designated submittals shall be interpreted as defined herein and in section 01 33 00 SUBMITTAL PROCEDURES.

Submittal Classifications defined in Section 01 33 00 are G-DO, G-AO, and FIO. One of these designations shall be used for all submittal requirements. For each submittal requirement in the guide specification, designers shall indicate a submittal type (G-DO, G-AO, or FIO) or shall delete the requirement for the submittal if it is not required. The references to "G-AE" and "G-PO" submittal types in the designer notes of the technical guide specifications shall be disregarded and submittals shall be designated G-DO, G-AO, or FIO as determined by the Designer in accordance with the instructions in this section and Section 01 33 00 SUBMITTAL PROCEDURES. There shall be no "G-AE" or "G-PO" submittals in the submittal register.

To designate a submittal item as FIO, mark the semi-colon following the submittal item and also the submittal tags up to the Item tag for deletion (i.e. "; [], []"). Designers shall identify submittal classifications for all required submittals.

(9) USE OF UFGS SECTIONS: Unless directed otherwise, use UFGS sections. UFGS sections are joint effort of the U.S. Army Corps of Engineers (USACE), the Naval Facilities Engineering Command (NAVFAC), National Aeronautics and Space Administration (NASA) and the Air Force Civil Engineer Support Agency (AFCEA). In instances where more than one UFGS section addresses the same material or system requirement, use the section developed by the USACE specification proponent (general rule of thumb). Available UFGS sections with the numbers ending ".00 10", ".00 20" or ".00 40" following the section number are sections that have not yet been unified by the different

Government design agencies. The ending numbers designate the specification proponent (".00 10" is for USACE, ".00 40" for NASA and ".00 20" is for NAVFAC). Where UFGS sections include tailoring options for both the various proponents (Army, NASA, and Navy) use the Army tailoring option unless otherwise indicated in this RFP. Where conflicts exist that cannot be resolved, the Contracting Officer shall be contacted to resolve the issue.

3.4.1.4 Developing Additional Project Specifications

If the need should arise for developing project specifications on materials and items not covered by the UFGS, the Contractor shall develop specifications utilizing commercial Construction Specifications Institute (CSI), 49 Division, 3 Part Section Format. These specifications shall conform to the applicable criteria requirements indicated in the solicitation. For these specification sections, write at the Mediumscope level of detail as described in CSI MasterFormat. Use Mediumscope level section numbers and titles as identified in CSI MasterFormat. Adjust section numbers which conflict with the specifications used in the project specifications. Each of these developed specification sections shall be in the same format as the CSI format specifications included in the UFGS (including the submittal paragraph). Commercially available guide specifications such as "SpecText" published by The Construction Specifications Institute and "MasterSpec" published by The American Institute of Architects may be used, subject to the format, coding and submittal paragraph requirements if UFGS specification sections are not available. References to the "Architect/Engineer" and the "Owner" shall be changed to refer to the "Government" or "Contracting Officer," as appropriate. The specifications shall clearly identify, where appropriate, the specific products chosen to meet the requirements of the specifications manufacturers' brand names and model numbers or similar product information). The Contractor shall be responsible for coordinating references, along with the technical requirements, to specific specification sections (number and title) within the project specifications. Section references (title and number) shall be revised to reflect the titles and numbers of specification sections used.

3.4.1.5 Division 0 and 1 Sections

Include Division 0 and 1 specification sections indicated below as part of the project specifications, unless directed otherwise:

01 32 01.00 10 PROJECT SCHEDULE,
 01 33 00 SUBMITTAL PROCEDURES,
 01 35 26 GOVERNMENT SAFETY REQUIREMENTS,
 01 45 01 USACE QUALITY CONTROL,
 01 57 20.00 10 ENVIRONMENTAL PROTECTION,
 01 62 35 RECYCLED / RECOVERED MATERIALS,
 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT,
 01 78 00 CLOSEOUT SUBMITTALS,
 01 78 23 OPERATION AND MAINTENANCE DATA,

All other Division 1 Specifications required by the Contract shall be the responsibility of the Contractor.

3.4.1.6 Format for Project Specifications

Submit the project specifications, including a cover page and table of contents, printed with a word processor (using SpecsIntact software) using good quality white paper. For the 65 percent and 100 Percent Design submittals, editing of the UFGS shall be shown as indicated in the SpecsIntact documentation for text deletions and for text insertions (i.e. 65 percent and 100 percent review specifications shall be printed to show all insertions and deletions). The Released for Construction Design specifications with review comments incorporated shall be cleaned up (markings for insertion and deletion removed) and shall be submitted in electronic format on electronic media (a Microsoft Windows compatible CD-ROM and compatible with the "SpecsIntact" micro computer software package). The cover page and attachments to specification sections shall be prepared in a Microsoft Word (compatible with Microsoft Word 2007) format. In addition to the electronic SpecsIntact formatted specifications, a single Adobe Acrobat PDF file, containing all specification sections for this project, shall be provided on CD with the 65 Percent Design, the 100 Percent Design, and the Released for Construction Design submittals.

Format shall be as outlined in the SpecsIntact documentation.

Each specification section shall include a Section Table of Contents which is combined with the page numbering of the specification section.

The Cover page shall be similar to the RFP Cover page and shall include:

- a. Project title, project number, and activity and location
- b. Construction contract number
- c. Construction Contractor's name and address
- d. Design firm's name and address
- e. Names of design team members (Designers of Record) responsible for each Contractor prepared technical discipline of the project specification
- f. Name and signature of a Principal of the design firm

The Table of Contents shall list the specification section numbers and titles contained in the project specifications.

3.4.1.7 Reports

The Contractor shall submit the following SpecsIntact reports with the 100 Percent Design and the Released for Construction Design submittals: Address Verification, Reference Verification, Section Verification, Bracket Verification, Submittal Verification, and Submittal Register. References shall be reconciled when printing reports. The reports to be submitted for review shall be after the Contractor has corrected the errors generated by these reports. From the errors generated by the reference verification reports, fix only those errors where there is a discrepancy with the issue date of a publication (i.e., NFPA 70, revise to the latest code requirement). Address, Reference, and Submittal Reconciliation shall be completed prior to submittal of the 100 Percent Design.

3.4.2 Construction Submittals

All construction submittals shall be in accordance with Specification Section 01 33 00, "SUBMITTAL PROCEDURES".

Construction submittal types and products, including the submittal description numbers and data package numbers, shall be included in the specification sections, where required. When appropriate, use specific product terms instead of the generic product terms contained in the specifications sections (e.g., asphalt shingles, built-up roofing, EPDM single ply, etc. vs. roof covering; concrete masonry units, brick, metal siding, etc. vs. exterior skin; mineral fiber board, block, batt or blanket, polystyrene, polyurethane, polyisocyanurate board vs. insulation).

All submittals shall be provided in electronic Adobe Acrobat Portable Document Format (PDF). The ENG Form 4025 shall be provided in electronic Adobe Acrobat Portable Document Format (PDF) and shall be digitally signed by the Contractor. Submittals which require hardcopy submission; such as samples, shall be provided in hardcopy format (one hardcopy of the submittal) and shall be provided with an accompanying electronic digitally signed Adobe Acrobat PDF copy of the ENG Form 4025 and a hardcopy of the ENG Form 4025. One electronic copy and two hardcopies shall be provided for all drawing submittals. Electronic copies of design submittals shall be provided in the formats specified in this Request for Proposal (RFP).

Submittal review comments and submittal classification will be provided in hardcopy or electronic format by the Government.

The Government will have 14 calendar days to review and respond to construction submittals after date of receipt of the construction submittal.

3.4.2.1 Submittals Register (Form)

Prepare and maintain a Submittals Register. The Submittal Register (ENG Form 4288 "Submittal Register") shall be prepared using SpecsIntact Software. Additional instructions for completing the form are contained in Specification Section 01 33 00, "SUBMITTAL PROCEDURES."

Fill in columns "c" through "f" and submit with the 100 Percent Design submittal. The Submittal Register will be returned to the Contractor along with the reviewed and accepted design.

Resubmit the Submittal Register as a construction submittal as required in Specification Section 01 33 00, "SUBMITTAL PROCEDURES." The Contractor shall provide an electronic copy of the accepted submittal register (navy4288.txt file), generated by the SpecsIntact software, in both SpecsIntact file format and Adobe Acrobat Portable Document Format (PDF), seven calendar days prior to the pre-construction conference. Remaining columns will be filled in at the appropriate time and by the appropriate authorities during construction.

3.5 DESIGN ANALYSES

Prepare design analyses (basis of design and calculations) for each design discipline. Specific requirements relative to the technical content to be provided are specified herein. The design analyses shall include a basis of design and calculations for each discipline. The design analyses shall be a presentation of facts to demonstrate that the concept of the project is fully

understood and that the design is based on sound engineering. The design analysis for each discipline shall include:

- a. A basis of design consisting of:
 - (1) An introductory description of the project concept which addresses the salient points of the design;
 - (2) An orderly and comprehensive documentation of criteria, rationale, assumptions, and reasoning for system selection.
- b. Calculations required to support the design.

The Contractor shall not make reference to the RFP to avoid stating the requirements for the basis for design.

3.5.1 Format

The design analysis shall include: a cover page indicating the stage of design "PRELIMINARY DESIGN ANALYSIS" for 65 Percent Design submittal and "FINAL DESIGN ANALYSIS" for 100 Percent Design submittal, the project title, the fiscal year, the location, name of designer who prepared the design analysis ("Prepared By:") followed by the Name of Architect-Engineer (A-E) Contractor and Construction Contractor, location of A-E and Construction Contractor Office involved with the design, construction contract number, table of contents, and tabbed separations for each part of design analysis for quick reference. The cover sheet shall indicate the volume number and total number of volumes for the project. Provide a cover sheet for each volume. Submit design analyses prepared on 8 1/2 by 11 inch white paper. The design analysis for all disciplines shall be bound in one volume, excluding calculations. Multiple volumes for individual disciplines, appropriately numbered, may be provided, when required. An electronic copy of the design analysis submittal shall be submitted in Adobe Acrobat PDF format. Narratives shall be provided in decimal paragraph numbering system (i.e. 1, 1.1, 1.1.1, 1.1.1.1 etc.). Narratives shall be an original document that does not copy the text from the RFP document sections, unless directed otherwise, and shall be written in the same tense (Past or Present) for the entire design analysis. Each part of the design analysis shall include part numbering and page numbering (consecutive page numbering for each part). Organize design analysis narrative into the following parts, as follows:

3.5.1.1 Part 1 - General Description.

This part will provide statements of purpose, authority and applicable criteria. A description of the project and a summary of the economic factors influencing the choice of the architectural, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection systems used in the project shall be provided along with an indication of how initial costs and life cycle costs were considered.

a. Purpose. Include the following statement under the heading of "PURPOSE": "Sample Statement: The purpose of this project is to provide a facility which allows for adequate comprehensive programs for both military personnel and their dependents. The anticipated average daily attendant for this facility will be 450 persons. The facility provides for adequate support for athletics, aerobic activities, auxiliary administrative support, parking and support area."

b. Authority. Provide the following authorization statement under the heading "AUTHORITY" for the project:

"Sample: The preparation of design documents was authorized by Design Directive dated (31 January 2009)."

c. Applicable Criteria. Provide a list of the general criteria that pertains to all disciplines used in the design. Specific criteria used in a particular engineering/architectural discipline shall be listed in the text of the appropriate discipline in Part 2 of the design analysis. Such criteria shall be referenced accordingly.

d. Project Description. Provide a description of the project and summary of economic factors influencing the choice of materials and systems used in the project.

3.5.1.2 Part 2 - Design Requirements and Provisions.

This part of the design analysis shall provide statements of factors considered and provided in the design along with supporting justification of design decisions and design calculations. Include narratives for each of the following areas or disciplines; Architectural, Heating, Ventilating, and Air Conditioning (HVAC), Electrical, Communications, Fire Protection, Environmental Protection Compliance, Safety, and Sustainable Design.

3.5.2 Calculations

All calculations shall be placed in separate appendix volume(s). Calculations shall include a cover page similar to the design analysis narrative cover page, a table of contents, index page, a summary of criteria for each appendix, the project title, and the location identified on every page of the calculations. All calculation pages shall be clearly legible. Each discipline which requires calculations shall be consecutively numbered (Example: A-1, A-2, A-3 etc. for Water Supply and Wastewater Calculations and B-1, B-2, B-3, etc. for Structural Calculations) and the date. Cite criteria from which the calculations, rationale, and formulae are extracted by publication number, title, edition, and page number. The cover page and each page of calculations shall also include the names of the persons originating and checking the calculations. The person checking the calculations shall be a registered professional engineer other than the originator. In addition, the signature and seal of the appropriate registered professional engineer responsible for the work shall appear on the cover page of the calculations for each discipline. Each appendix index page shall list subtopics (e.g. for Structural - Loads, Materials, References, Wind Analysis, Footing Design, Wall Design, Column Design, etc.) with pages numbers where each of these subtopics can be found in the calculations.

Computer printouts shall be consecutively page numbered and identified similar to the calculations. Identify the computer program name, source,

and version. All schematic models used for computer input shall be provided.

3.5.3 Design Review Meetings

Formal design review meetings shall be held at DTA DPW Building 205 Conference Room for the following milestone meetings:

65 Percent Design Submittal
100 Percent Design Submittal

The design review meetings shall be scheduled after all comments have been received and addressed by the Contractor. The Contractor shall provide all design review comment responses to the COR. The COR will schedule the design review meeting with the Contractor and appropriate Government personnel.

Design review meetings shall not be taken as an approval or acceptance and do not relieve the Contractor from responsibility for compliance with the RFP solicitation, code regulations, or betterments, either listed with the Contractor's proposal or identified during the proposal evaluation.

For each design review meeting, the Contractor shall provide adequate copies of annotated comments to all conference participants. Unresolved comments and problems will be resolved by immediate follow-on action at the end of the meetings. Valid comments will be incorporated.

In addition, the Contractor shall request a design progress meeting to the COR after 35 percent design is complete. The COR may schedule the design progress meeting with the Contractor and appropriate Government personnel. The Contractor shall bring 35 percent design drawings and specifications to the meeting. The Contractor shall brief the Government personnel on all aspects of the 35 percent design package. The intent of the 35 percent design progress meeting is to address all design issues, conflicts, concerns, and questions. Additional design progress meetings may be requested by the Contractor or the COR and may be scheduled by the COR to address issues, conflicts, concerns, and questions.

3.5.4 Requests for Information, Meeting Minutes, and Comments

Copies of Requests for Information (RFIs) made by the Contractor to the Government shall be included as an appendix to the design analysis. An index of each RFI, which documents the RFI number, the date the RFI was given to the Government, the date the RFI was answered by the Government, and the response provided by the Government shall be provided. The Government will have 14 calendar days to respond to RFIs after date of receipt of the RFI.

The Contractor shall record meeting minutes at each meeting attended. The Contractor shall submit the meeting minutes to each person that attended the meeting via e-mail message no later than three calendar days after the meeting occurs. Any RFI, from any meetings, shall be formally submitted separately by the Contractor. A copy of all meeting minutes and design review comments (if any) with responses shall be included as an appendix to the design analysis.

Appendices for RFIs, meeting minutes, and design review comments shall have page numbering that follows the same format as for Calculations listed above.

3.6 DESIGN CERTIFICATION

The Contractor shall provide certification signed by an officer of the Contractor's company attesting that the drawings, specifications, and design analyses prepared for construction meet the requirements of the RFP. The certification shall accompany the submission of the design documents along with names and disciplines for the Designers of Record. This design certification shall include a list of deviations (variations) from the solicitation or accepted final design. Prepare the design certification and transmittal letter in the format shown on Attachment A or Attachment B included at the end of this section.

3.7 65 PERCENT DESIGN SUBMITTALS

The 65 Percent Design submittal shall consist of 65 percent complete drawings and specifications for all areas of design disciplines including architectural, interior design, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection. All design calculations for all disciplines shall be provided with the 65 Percent Design submittal. The design calculations provided with the 65 Percent Design submittal shall be 100 percent complete. The design analysis shall be 100 percent complete and shall be provided with the 65 Percent Design submittal.

3.8 100 PERCENT DESIGN SUBMITTALS

The 100 Percent Design submittal shall consist of 100 percent complete drawings, specifications, and design analysis for all areas of design disciplines including architectural, interior design, heating, ventilating, and air conditioning (HVAC), electrical, communications, and fire protection.

3.9 REVIEW BY GOVERNMENT

3.9.1 Distribution of Design Documents for Conformance Review

(a) The Government shall receive design submittal review responses from the Contractor prior to design review conferences as specified in the paragraph below. All submittals shall be transmitted by express mail. Originals of transmittal letters shall be sent to the Detroit Arsenal Directorate of Public Works and copies shall accompany each mail package. Transmittal letters shall indicate distribution by use of the "ATTN" code shown in the address. Design document sets shall include the items listed below. Some of the construction submittals are also listed. Design submittals shall be submitted as a complete package (i.e. drawings, specifications, design analysis,...). The distribution listed below also applies to all design reviews and design packages accepted for construction.

(b) For the 65 Percent Design, the 100 Percent Design, and the Released for Construction Design submittals, if the Government requires more time than the number of days specified, the Contractor will be granted an extension of time equal to the number of calendar days of delay.

3.9.1.1 Design Submittal Items

Electronic copies of each required submittal (unless specified otherwise in this RFP); Design Analysis, Specifications, Drawings (half size hardcopy set, full size hardcopy set, and electronic copy), Submittal Register, Review Comments, Requests For Information, Meeting Minutes, Design Certification Letter, Operation and Maintenance Manuals, As-Built Drawings (half size hardcopy set, full size hardcopy set, and electronic copy), and DD Form 1354 - Transfer and Acceptance of Military Real Property, shall be sent to the Activity Distribution Addresses listed in the paragraph below as required for the 65 Percent Design submittal, the 100 Percent Design submittal, the Released for Construction Design submittal, and for the project completion submittals.

3.9.1.2 Activity Distribution Addresses

Department of the Army
US Army Garrison - Detroit Arsenal
6501 East Eleven Mile Road
Mail Stop 117 (Attn: Karen Carnago) Warren, Michigan 48397-5000

Army Contracting Command - Warren (ACC-WRN)
6501 East Eleven Mile Road
Mail Stop 350 (Attn: John Sarti) Warren, Michigan 48397-5000

3.9.2 Review Comments

For each design submittal, the Contractor will be furnished comments from the Detroit Arsenal Directorate of Public Works, and other agencies involved in the review process, approximately 14 calendar days after receipt, unless indicated otherwise. Annotated comments and responses to all design review comments, including the disposition of all comments, shall be furnished in writing by the Contractor within seven (7) calendar days of the review comments receipt. The Government will schedule the design review conference within seven (7) calendar days from receipt of the design review responses from the Contractor.

In responding to review comments presented by the Government, the Contractor's designer shall state how and where comments were addressed or will be addressed with the next design submittal.

All Government review comments on the 65 Percent Design shall be resolved prior to distribution of the 100 Percent Design documents. The Contractor shall furnish copies of annotated review comments indicating disposition of all comments with the 100 Percent Design document set.

All Government review comments on the 100 Percent Design shall be resolved prior to distribution of the Released for Construction Design documents. The Contractor shall furnish copies of annotated review comments indicating disposition of all comments with the Construction document set.

For each design review meeting, the Contractor shall provide adequate copies of annotated comments to all conference participants. Unresolved comments and problems will be resolved by immediate follow-on action at the end of the conferences. Valid comments shall be incorporated.

After receipt of final corrected Released for Construction Design documents, the Detroit Arsenal Directorate of Public Works will recommend acceptance to proceed with construction as stated in this RFP.

3.9.3 Delays

Delays caused by the Contractor in completion of the 65 Percent Design, the 100 Percent Design, or the Released for Construction Design will not be considered as valid reasons to delay completion of the entire design. The Government may not be held liable for delays caused by re-submittal efforts caused by designs submitted which are rejected by the reviewers.

3.10 RELEASED FOR CONSTRUCTION DESIGN

Upon the Contractor's completion of the Released for Construction Design submittal, the Contractor shall reproduce copies of the design documents (accepted for the purposes of beginning construction) subject to the incorporation of the 100 Percent Design review comments. The Cover Sheet of the Contractor prepared drawings shall bear the stamp or seal and signature of the registered architect or appropriate engineer responsible for the work. The date on each drawing shall reflect the month and year that the drawings were cleared for the purposes of beginning construction. The cover sheet of the drawings, the cover sheet of the specifications, and the cover sheet of the design analysis shall include the date that the design documents were cleared for the purposes of beginning construction. The Contractor shall provide the design analysis, the design drawings, and the specifications in electronic formats as specified above. Drawings shall be provided in electronic and hardcopy format as specified above. Distribution shall be as indicated above. The originals will be retained by the Contractor for recording of as-built conditions. Upon completion of the project, the accepted design documents corrected to reflect as-built conditions shall be supplied to the Government.

The Contractor will be notified in writing by the Contracting Officer's Representative (COR) of Construction Notice to Proceed (NTP) when the design has been cleared for construction, accepted by the Government, and therefore considered Released for Construction Design documents.

3.10.1 Accuracy and Completeness of Design

Reviews by the Government of the design documents shall not be construed to be an endorsement of the accuracy or completeness of the design. Design deficiencies or omissions in the accepted design shall be the responsibility of the Contractor.

3.11 REVISIONS TO THE ACCEPTED DESIGN

3.11.1 Minimization of Design Revisions

The accepted design will be used by all parties involved in construction and in administration of the contract. Therefore, it is imperative that the design documents be kept up to date and an effective system of making and distributing changes be implemented. Since changes to the design increase risk of construction errors and deplete available administrative resources, every effort shall be made to minimize revisions to the accepted design. One of the measures of the Contractor's effectiveness of management will be how well the goal of minimizing changes to the accepted design is met. The use of effective

quality control during design and the utilization of experienced and capable designers are some of the means that are expected to be used to accomplish this goal.

3.11.2 Supplemental Design Package and Certification

If revisions to the accepted design (Released for Construction Design) become necessary, the Contractor shall submit a Supplemental Design Package using Attachment B "Supplemental Design Certification and Transmittal Form" attached at the end of this specification section. This Supplemental Design Package shall be submitted as a "G-DO" construction submittal in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. The revisions will be considered a "Variation" and the list of deviations from the accepted design shall be identified on the Supplemental Design Certification and Transmittal Form and on the construction submittal form ENG Form 4025. Variations from the Released for Construction Design set must be approved by the Contractor's Designer and the Contractor's Quality Control Representative and shall be accepted by the Contracting Officer as conforming with the RFP before construction of items affected by these revisions may commence. The Contractor shall comply with all the requirements of paragraph "VARIATIONS" of Section 01 33 00 SUBMITTAL PROCEDURES in preparation of the Supplemental Design Package.

3.12 AS-BUILT DRAWING SUBMITTALS

An as-built drawing is a construction drawing revised to reflect the final as-built conditions of the project as a result of modifications and corrections to the project design required during construction. The final as-built drawings shall not have the appearance of marked up drawings. The final as-built drawings shall appear as professionally prepared drawings as if they were the "as-designed" drawings.

As-Built Drawings shall be provided in accordance with UFGS Specification Section 01 78 00 CLOSEOUT SUBMITTALS. Redline as-built drawings shall be provided to the Contracting Officer's Representative (COR) prior to the pre-final and final inspections.

3.12.1 Maintenance of As-Built Drawings

The Contractor shall keep a record set of working as-built drawings at the job site, marked in red, of all changes and corrections from the contract drawings. The Contractor shall enter changes and corrections on drawings promptly to reflect "Current Construction". The CADD files shall be updated at least on a monthly basis. The marked-up set of drawings shall reflect any changes, alterations, adjustments, or modifications. Changes must be reflected on all sheets affected by the change. Changes shall include marking the drawings to reflect structural details, foundation layouts, equipment sizes, and other extensions of design. Both paper and electronic documents shall be available at all times and shall be provided promptly to the Contracting Officer when requested.

Final as-built drawings shall reflect actual room numbers adopted by the end user.

3.12.2 Computer-Aided Design and Drafting (CADD) As-Built Drawings

Only personnel proficient in the preparation of CADD drawings shall be employed to prepare and modify the construction drawings or prepare additional new drawings. As-Built drawings shall be provided in MicroStation format. As-Built drawings shall be provided in conformance with the U.S. National CAD Standard. Additions and corrections to the construction drawings shall be in conformance with the Nation CADD Standard. The Contractor shall provide as-built drawings in MicroStation format in conformance with the U.S. National CAD Standard regardless of the software and standard in which the CADD drawings are provided to the Contractor by the Government. Conversions and corrections to the drawings provided by the Government to the Contractor shall be made by the Contractor. Line work, line weights, lettering, layering conventions, and symbols shall be in conformance with the U.S. National CAD Standard. If additional drawings are required, they shall be prepared in MicroStation format and shall be in conformance with the U.S. National CAD Standard. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings.

All work by the Contractor shall be done on files in MicroStation format. Translation of files to a different format, for the purpose of as-built production, and then retranslating back to the format originally provided, will not be acceptable unless the Government provided the files in AutoCAD format. If the Government provided drawings are in AutoCAD format then the Contractor shall convert the files to MicroStation format and provide the drawings in MicroStation format. The Government will review final as-built drawings for accuracy and the Contractor shall make all required corrections, changes, additions, and deletions.

When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor. All other contract drawings shall be marked in the bottom right-hand corner of each drawing either "AS-BUILT" drawing denoting no revisions on the sheet, or "REVISED AS-BUILT" denoting one or more revisions. Original contract drawings shall be dated in the revision block.

3.12.3 As-Built Conditions that are Different from Contract Drawings

All as-built conditions that are different, such as dimensions, road alignments and grades, and drainage and elevations, from the contract drawings shall be accurately reflected on each drawing. Any options shown on drawings and not selected shall be deleted and options selected shall be clearly reflected on final as-built drawings.

In addition, as-built information that exceeds the detail shown on the contract drawings include those that reflect structural details, foundation layouts, equipment, sizes, mechanical and electrical room layouts, and other extensions of design, that were not shown in the project design documents because the exact details were not known until after the time of approved shop drawings. It is recognized that these shop drawing submittals (revised showing as-built conditions) will serve as the as-built record without actual incorporation into the contract drawings. Furnish all such shop drawings in CADD format. Fire protection details shall be included such as wiring, piping, and equipment drawings.

3.12.4 Final As-Built Drawings

At the time of Beneficial Occupancy of the project or at a designated phase of the project, final as-built CADD files shall be provided to the Contracting Officer to include the following:

- (1) On CD in MicroStation V8 format
- (2) On CD in Adobe Acrobat PDF format (one file of all drawings)
- (3) The record set of approved working as-built drawings (one full size hardcopy set and one half size hardcopy set)

In the event the Contractor accomplishes additional work after this submittal, which changes the as-built conditions, the Contractor shall furnish a new CD with all drawing sheets (MicroStation V8 and Adobe Acrobat PDF files) and a new full size set of affected sheets.

Title Blocks shall be clearly marked to indicate final as-built drawings. All other documents such as; design analysis, catalog cuts, and certification documents, which are not available in native electronic format, shall be scanned and provided in an organized manner in Adobe Acrobat PDF format.

3.13 OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. The subcontractors shall compile and prepare data and deliver to the Contractor prior to the training of Government personnel. The Contractor shall compile and prepare aggregate O&M data including clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. The O&M Data shall be provided in accordance with the requirements of UFGS Specification Section 01 78 23 OPERATION AND MAINTENANCE DATA.

The Contractor shall provide one complete electronic copy of the final O&M data in Adobe Acrobat PDF format on CD to the COR. The ENG Form 4025 shall be provided in Adobe Acrobat PDF format and shall be digitally signed by the Contractor.

3.14 DD FORM 1354, TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

The Contractor shall prepare and provide, for acceptance, completed DD Form 1354 "Transfer and Acceptance of Military Real Property." The DD Form 1354 shall be filled out in accordance with the latest edition of UFC 1-300-08, Criteria for Transfer and Acceptance of Military Real Property. The Contractor shall provide all three types of DD Form 1354; including, Draft, Interim, and Final, as described in UFC 1-300-08. Each submittal of the DD Form 1354 shall be provided electronically in Adobe Acrobat PDF format.

Attachment A - DESIGN CERTIFICATION AND TRANSMITTAL LETTER [Contractor's Letterhead]

[Date: _____]
[Contract No. _____]

[Reviewing Component Address]

Subj: DESIGN CERTIFICATION AND TRANSMITTAL LETTER [Project Title __]
[Project Location _____] [Contract No. ____]

Gentlemen

Enclosed are the following documents, which I hereby certify are in compliance with the contract requirements and can be used to commence construction subject to Government Conformance Review:

- 1. Design Drawings
- 2. Project Specification
- 3. Design Analysis a. Civil
 - b. Water Supply and Wastewater Collection
 - c. Architectural
 - d. Interior Design
 - e. Structural
 - f. Mechanical
 - g. Fire Protection
 - h. Electrical
 - i. Communications
 - j. Environmental Protection, Compliance and Permits
 - k. Health and Safety
 - l. Sustainable Design
- 4. Submittals Register
- 5. All other Design Deliverables
- 6. Deviations (List of Deviations with Justification Attached) [Typed]

Name and Signature of an
Officer of the Contractor's Company]

Copy to:
[As standard with the Contractor]

Attachment B - SUPPLEMENTAL DESIGN CERTIFICATION AND TRANSMITTAL FORM

[Contractor's Letterhead]

[Date: _____]
[Contract No. _____]

[Reviewing Component Address]

Subj: SUPPLEMENTAL DESIGN CERTIFICATION AND TRANSMITTAL FORM
[Project Title _____] [Project Location
] [Contract No. _____]

Gentlemen:

The supplemental design items listed below and the attached documents, unless identified otherwise, I hereby certify are in compliance with the contract requirements and are compatible with other elements of work, subject to Government conformance review:

1. Nature and Features of the Design Variation(s):
2. Why each Design Variation is desirable and Beneficial to the Government:
3. List of any additional Deviations from the RFP:
4. List of Specific Documents Supporting Design Variation(s):
 - a. Design Drawings
 - (1) Sketches:
 - (2) Reissued Drawings:
 - (3) Descriptive Changes:
 - b. Project Specifications
 - (1) Reissued or New Sections: (2) Descriptive Changes:
 - c. Design Analysis
 - (1) Reissued Pages:
 - (2) Reissued or New Calculations:
 - d. Any other Design Deliverable:

[Typed Name and Signature of an
Officer of the Contractor's Company]

Copy to:

[As standard with the Contractor]

ATTACHMENT C SAMPLE SUBMITTAL PARAGRAPH

The below listing is an example of a typical submittal paragraph as it may appear within the technical guide specifications and with the appropriate text for the submittal review designations, G-DO, G-AO, or FIO (blank).

1.4_ SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Fire Sprinkler Design Drawings; G-DO SD-03 Product Data

Meters

Regulators

SD-08 Manufacturer's Instructions

Dielectric Unions

Pressure Reducing Valves

SD-10 Operation and Maintenance Data

Wet Pipe Sprinkler System; G-AO

-- End of Section --

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0011:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	Government	N/A	Government

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
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POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7
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To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0002 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
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POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7
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To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0004 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0005 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0006 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0007 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0008 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0009 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item for CLIN 0010 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 14-OCT-2014 TO 11-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

The following Delivery Schedule item has been added to CLIN 0011:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
POP 29-OCT-2014 TO 26-JUN-2015	N/A	IMCOM KAREN CARNAGO KAREN E. CARNAGO IMNI-PWF KAREN.E.CARNAGO.CIV@MAIL.MIL WARREN MI 48397-5000 586-282-9369 FOB: Destination	W56JK7

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by \$204,291.00 from \$997,033.05 to \$1,201,324.05.

CLIN 0011:

Funding on CLIN 0011 is initiated as follows:

ACRN: AB

CIN: GFEB001064630800001

Acctng Data: 02120152015202000004424232542ACT0022 S.0029742.1.5 6100.9000021001

Increase: \$204,291.00

Total: \$204,291.00

Cost Code: A5XGJ

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The following have been modified:

LIST OF ATTACHMENTS

List of Attachments

Statement of Work Drawings GCS000514 26 SEPTEMBER 2014

CADD Drawings GCS000514 26 SEPTEMBER 2014

Davis-Bacon Wage Determination MI140091

Updated statement of work drawings dated 29 October 2014. See revisions on sheets 01-G-001, 04-A-102, 06-A-202, 07-A-203 for modification 01 work.

(End of Summary of Changes)