AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
0006	29-Sep-2008	W91RYO81028949	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
US ARMY ENGINEERING & SUPPORT CENTER CEHNC-CT 4820 UNIVERSITY SQUARE HUNTSVILLE AL 35816-1822	W912DY	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
TEAM Construction, LLC 101-A Middle Street Jacksonville, N.C. 28546	X	9A. AMENDMENT OF SOLICITATION NO. W912DY-08-R-0020
	X	9B. DATED (SEE ITEM 11) 14-May-2008
		10A. MOD. OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] 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 1 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)

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).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

See page 2

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)	
Melissa A. Leifheit, Operating Manager	TEL:	EMAIL:

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
Melissa A. Leifheit (Signature of person authorized to sign)	10-15-08	BY (Signature of Contracting Officer)	29-Sep-2008

Technical Discussion Response

TEAM
Construction, LLC

Technical Factor 1

1) ***RFP requires 50 parking spaces; 25 in the base plan and an additional 25 in Option 1. The proposal contained a total of 48 parking spaces between the base plan and Option 1.***

As previously discussed, the RFP documentation was unclear as to whether 50 spaces are to be built as part of the base bid or as part of Option 1.

We understand now that 25 spaces are to be included in the base plan and 25 are to be included in Option 1. The site plan has been revised to include 13 spaces in the front parking lot, which includes two handicapped accessible. The rear parking lot can accommodate at least 39 spaces, plus one motorcycle space. In the base bid, we will provide at least 12 spaces in the rear parking lot, which will total 25 spaces for the base bid.

Of the remaining 27 spaces in the rear parking lot (39 less the 12 included in the Base Bid), we will provide 26 spaces as Bid Option 1 (the space nearest the access drive will be striped as a no parking space). This will make a total of 51 parking spaces (25 in the Base and 26 in Bid Option 1), plus one motorcycle space.

*Please see attached revised site plan.

2) ***The proposal does not include floor plans of optional facilities.***

Please see the attached floor plan for the Training Area and Equipment Storage buildings.

3) ***The proposal did not provide a feasible strategy for achieving a 30% savings over ANSI/ASHRAE/IESNA Standard 90.1.***

To accomplish the reduction in energy usage to 30% over ASHRAE 90.1 Standards, the facility will include savings in heating and cooling, lighting and water heating systems.

Mechanical Systems – Heating and Cooling
The mechanical equipment will be selected to install a high-efficiency package outdoor chiller for chilled water and a high-efficiency gas boiler for hot-water heating. Chiller efficiencies will exceed the criteria listed in Table 6.8.1C of the Request for Proposal, the gas fired-boiler will exceed the efficiencies listed in Table 7.8.

The HVAC temperature monitoring and control system will have day-night, occupied/unoccupied modes to automatically set room temperatures depending on the use and building occupancy. An 80% efficient energy recovery device is proposed for the outside air intake to pre-condition the make-up air to the system.

Energy efficient "e" series motors will be specified for pumps and air handlers and may involve VFD (variable frequency drives) to reduce the water flow during minimal heating and cooling periods.

Mechanical Systems – Water Heating
The building plumbing system will reduce hot water consumption through the use of metering faucets and low-flow shower heads. The cost for producing hot water will be reduced through the use of a high efficiency gas fired domestic water heater. In remote

areas, hot water for lavatories will be accomplished via a tank-less instantaneous electric water heater located under the sink.

Electrical Systems – Lighting
The majority of the building lighting will be accomplished using energy efficient fluorescent fixtures and occupancy sensors to automatically turn off most or all fixtures in rooms that are not occupied such as toilet rooms, offices, storage areas, and sleeping rooms.

4) ***The proposal states Government furnished contractor installed (GFCI) outlets will be provided in the apparatus bay. However, this is required to be contractor furnished, contractor installed (CFCI).***

We apologize for using acronyms within our technical proposal without definition. All references to "GFCI" outlets are defined as Ground Fault Circuit Interrupters and not Government-Furnished/Contractor-Installed equipment.

Technical Factor 3

1) ***Proposal failed to provide a properly filled-out Fire Station Pricing Template, containing proposed line items and total pricing. Specifically the proposal did not contain pricing on all line items of the Fire station pricing template (attachment 12), Section 00 22 20, Section 7.0 Volume3 – Price and Price Related Information.***

Please see attached Fire Station Pricing Template provided in both hardcopy and electronic (CD) format.

2) ***Proposed total price for Phase I and Phase II are considered unreasonably high.***

Costs associated with Phases I and II include extensive field and design work related to design/build of the Fort Stewart Fire Station. All costs are in accordance with the design requirements that are clearly stated in the RFP. Our design team has reviewed the entire RFP and provided their proposal to prepare the design submittals and services listed. A breakdown of the items required by the design team follows:

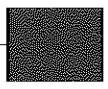
Site Investigation – Phase I

Geotechnical Engineering
KCI Associates will have our Geotechnical Engineer perform necessary borings and site analysis to prepare the Geotechnical Engineering Evaluation Report (01 10 00/5.2.2.2).

Site/Civil Engineering
KCI Associates will have their Site/Civil Engineers confirm site conditions to prepare the required permit applications and pay required fees for the following permits:

- Erosion and Sediment Control (01 10 00/6.3.6)
- Stormwater Pollution Prevention (01 10 00/6.3.9)

KCI Associates will have their Site/Civil Engineers confirm site conditions to prepare the conceptual plans for the following utility systems:



- Stormwater Collection Systems (01 10 00/6.4.2 & 6.16.4)
- Air Permits (01 10 00/6.16.5)
- Sanitary Sewer System (01 10 00/6.3.11)

Design – Phase II

Following award of the contract, KCI Associates will initiate the Phase I Site Investigation efforts to prepare for the Post Award, Initial Partnering and Initial Design Conferences. Their Lead Designer of Record (LDOR) and Design Quality Control Manager (DQCM) will attend the Post Award Conference (01 33 16/3.1.2), the DQCM, and all Designer's of Record (approximately 7 to 8 professionals) will attend the Initial Partnering Conference (01 33 16/3.1.3) and the Initial Design Conference (01 33 16/3.1.4).

KCI and our Architect (STOA) will submit a BIM Implementation Plan prior to the Initial Design Conference and will conduct an Implementation Plan demonstration (01 33 16/Attachment F).

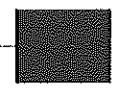
KCI and TEAM Construction will prepare the design submittal schedule for provision to the Contracting Officer Representative (COR). At this time, we anticipate no more than 3 separate packages will be provided:

- Site/Civil – Fast tracked with 2 submittals (100% and Final)
- Fire Station – 3 submittals (50%, 100% and Final)
- Supporting Facilities – 3 submittals (50%, 100% and Final)

Each design submittal will be reproduced and distributed to the COR and TEAM Construction members for review and comment (01 33 16/3.4.1). We anticipate approximately 20 copies will be required for each submittal. Comments and feedback will be provided through the Government's "Dr. Checks Design Review and Checking System" and will be utilized to incorporate responses from the design review (01 33 16/3.3).

The following significant features represent most, but not all of the design requirements, of this contract:

- LEED Documentation (01 33 16/3.5.4 & Attachment E) – KCI's LEED AP will be responsible for tracking LEED planning, performance and documentation to ensure LEED credits are achieved to meet the LEED Silver certification requirements to include Commissioning, documentation and Review Meetings (01 78 02.00 10/1.8).
- Energy Conservation (01 33 16/3.5.5) – KCI's Designers of Record will ensure their building designs not only meet the LEED Silver requirements, but also the greater than 30% over ASHRAE 90.1 requirements.
- Building Rendering (01 33 16/3.5.8) – Our architect (STOA) will prepare the rendering in accordance with the RFP.
- Comprehensive Interior Design (CID) (01 10 00/5.3.6) – KCI and our architect (STOA) will provide the Structural Interior Design (SID) and Furniture, Fixtures and Equipment Design (FF&E).
- Furniture, Fixtures & Equipment (FF&E) Requirements (01 33 16/Attachment B)
- Fire Protection & Life Safety Code Review (01 33 16/Attachment D)
- Building Information Modeling (BIM) (01 33 16/Attachment F)



- Design Quality Control Plan and Management (01 42 04.003.2.2) – KCI will assign a DQCM who will prepare the DQC Plan and attend required coordination meetings. KCI will provide additional CQC personnel for the following disciplines:
  - Registered Fire Protection Engineer (01 45 04.00 10/3.4.4.1.9)
  - Telecommunications (RCDD) (01 45 04.00 10/3.4.4.1.10)
- Submittal Reviews (01 78 02.00 10/1.2.2) – KCI's Designers of Record will review the project submittals to ensure concurrence with the design and RFP.
- Final As-Builts BIM and CAD Data (01 33 16/3.6) – KCI will prepare and submit the final Model, Facility Data and CAD files reflecting as-built conditions for Government Approval.

Given the extensive nature of the requirements in Phase I and II of the project, we believe that associated costs are in fact reasonable.

3) ***Proposed price for Insurance is considered unreasonably high.***

Due to the weather risk associated with high winds and hurricanes in the Fort Stewart region, we have included Builder's Risk Insurance for this project. The insurance rates included are standard rates and are established by our insurance carrier.

4) ***Proposed price for profit is considered unreasonably high.***

Profit included on this project was calculated at 7.7%, which is, in our opinion, a low rate given the risk associated with the design/build nature of the project and the fast track schedule. TEAM Construction regularly negotiates profit rates in the 8% to 12% range and typically includes a rate of 10% in our firm fixed price bids.

5) ***Total price including options exceeds the construction cost limitation.***

Since the development of the Government's construction cost limitation and corresponding estimate, the cost of various building materials such as steel and concrete, as well as those made from a petroleum base, have had several price escalations. In addition, the costs of manufacturing and transporting building supplies have also escalated due to increases in the cost of oil that have affected all building products.

6) ***Proposal did not contain a price breakdown in Excel format as required by the RFP, Section 00 21 00 Instructions, Conditions and Notices to Offerors, Para 1.11.a(ii)(b) (Page 11 of 110).***

Please see attached Fire Station Pricing Template provided in both hardcopy and electronic (CD) format.

7) ***The total proposed price for the basic fire station without options contains a mathematical error. The proposed priced should be $ 6,158,981.***

Technical Discussion Response

TEAM
Construction, LLC

Please see attached revised price proposal provided in both hardcopy and electronic format.

REVISION IN RESPONSE TO AM #6

TEAM
Construction, LLC

101-A Middle Street
Jacksonville, NC 28546

Phone: 910-353-3797
Fax: 910-353-3073

Via E-mail

DATE: October 15, 2008

ATTN: Marcus Adams

RE: Design/Build Fire Station at Fort Stewart, Georgia
Solicitation No. W912DY-08-R-0020

In reference to the above project, we offer the following changes/deletions to reduce the total proposal price offered:

1. Delete requirement for BIM Model preparation and design submittals. $ 25,000
2. Delete LEED Requirements from Silver Certified (33 points through USGBC) to LEED Certifiable (26 points – self certified) **$ 25,000**
3. Reduce requirements for all Designers of Record to attend Design Kick-off Meetings and Partnering Meetings to lead designers, project managers and DQCM from KCI and STOA. **$ 3,000**
4. Chiller, boiler, pumps, piping central air handler, VAV boxes, and PTAC units to be replaced by eight (8) split system heat pump units. 100% OA unit serving the berths to be eliminated. All outside air to the facility will be introduced through the energy recovery ventilator and ducted to the individual split system air handling units. **$142,500**
5. All sensor operated plumbing fixtures to be eliminated in lieu of standard flush valves and lever faucets. Waterless urinals to remain. **$ 2,500**
6. Roof changes per the attached. **$260,000**

In addition to the above reductions which would require a revision in the RFP Scope of work, we offer the following reductions by obtaining better pricing from material suppliers and subcontractors: **$210,000**

Total Deductions offered: **$668,000**

TEAM
Construction, LLC

101-A Middle Street
Jacksonville, NC 28546

Phone: 910-353-3797
Fax: 910-353-3073

Also attached is a revised Mechanical and Plumbing System narrative and Materials Matrix with changes in red.

Please feel free to contact me at 910-353-3797 for any clarifications.

Respectfully,

Melissa A. Leifheit

Melissa A. Leifheit
President

Together Everyone Achieves More

- Metal Roof Narrative

Roofing Systems:

Consistent with RFP preferences, a metal roof will be provided in conjunction with the pre-engineered metal building. The 24 gauge metal roof will be on purlins spaced to sustain the wind load requirements. A vapor barrier with a maximum perm rating of .05 will be provided as well as multiple layers of batt insulation supported by straps to achieve R-30. Metal soffits and overhangs will be provided as well as gutters and downspouts sized for a 100 year event.

Fort Stewart – Fire Station
Fort Stewart, Georgia

MECHANICAL SYSTEMS

- The design of the mechanical systems will provide for a cost effective environment that meets or exceeds the requirements for indoor air quality in terms of temperature, humidity, and cleanliness. The various components of the mechanical system have been selected and located to provide superior quality equipment, installed with easy access for maintenance personnel. Special consideration has been given to equipment location to minimize the impact on facility operations due to maintenance.

Central Heating / Cooling Equipment

- None

Pumps

- None

Air Handling Equipment

Fire Station

- The building will have eight (8) ducted split system air handling units and associated heat pumps. The air handling units will be located above the ceiling while the heat pump units will be located outside on grade. The air handling units will contain a constant volume fan, direct expansion heating/cooling coil, supplemental electric strip heater, and 30% prefilter (standard).

- Ductless split system air conditioning systems (less than 2 tons) will be provided for communication rooms where strict cooling demands with dedicated thermostats are required. These split systems will be sized to accommodate the expected load from the sensitive equipment. The condensing (outdoor) units will be located on ground outside the building. Refrigerant piping will be routed from these units up to their respective air handling (indoor) units. The air handling units will be installed either in the ceiling or just below the ceiling (high wall) of the space they serve.

- Exhaust air is removed from the building by means of wall, inline, or ceiling exhaust fans. For the mechanical and electrical rooms and the Apparatus Bay, wall-mounted propeller type exhaust fans used in conjunction with louvers will provide high volume ventilation of the space. Restroom exhaust is removed by means of inline or ceiling fans. Specialized exhaust (vehicle emissions) is removed from the Apparatus Bay by means of inline blowers and extraction arms.

- Modulating natural gas-fired infrared unit heaters will provide heat and drying capability for the Apparatus Bay.

- Wall-mounted electric unit heaters will provide heat to the mechanical rooms and other spaces requiring heat only or freeze protection.

Training Support Building

- The building will have one (1) ducted split system heat pump unit. The air handler will be located above the ceiling of the Training Room and the heat pump will be located on the ground outside the building. The air handling unit will be draw-through type, double-walled with 2" thick insulation. A supplemental electric reheat coil will be provided. The air handling unit will be sized to provide the required ventilation as set forth by ASHRAE 62.1-2004. The air handling unit will contain a 30% prefilter (standard).

- A packaged terminal air conditioning (PTAC) unit will be provided for the Office and located along the exterior wall. This unit will provide full temperature and fan speed control to the occupant.

- Exhaust air is removed from the ADA Toilet by means of a ceiling exhaust fan.

Equipment Storage Building

- Exhaust air is removed from the building by means of a sidewall exhaust fan in conjunction with a louver mounted on the opposite wall.

Air Distribution System

- Air distribution systems shall be constructed according to SMACNA standards for low and medium pressure sheet metal duct. Fire dampers with access doors will be provided where required by NFPA 90. All concealed ductwork will be externally insulated with minimum 2 inches of foil backed insulation. Exposed ductwork inside mechanical rooms will be externally insulated with minimum 2 inches insulation with integral vapor barrier and jacket. All insulation will have a minimum installed R-value of 6.0.

HVAC System Control Equipment

- All control and monitoring points will be connected through a single complete BAS system suitable for direct digital control of all HVAC system components. The BAS shall utilize LONWORKS technology as the communication platform between devices, with all devices conforming to LONWORKS Interoperability Guidelines. The BAS shall have expansion capability with no interruption to the existing system.

- Emergency shutoff switches will be provided that will shut down the entire HVAC air distribution system. A minimum of one switch will be provided and located based on building user input. A plastic laminate sign will be provided for each switch that reads "BUILDING VENTILATION SYSTEM EMERGENCY SHUTOFF SWITCH".

Energy Conservation Features

- The building will utilize an energy recovery ventilator (heat wheel) to allow for pre-treatment of outside air. This will eliminate the need for excessive conditioning of the outside air by the air handling unit or a dedicated outdoor air unit. The energy recovery ventilator (ERV) will be installed in the mechanical room. Pre-treated (tempered) ventilation air will be routed to the return ducts of the eight (8) split systems serving the facility. The ERV will be sized to provide the required ventilation as set forth by ASHRAE 62.1-2004.

PLUMBING SYSTEMS

- The plumbing systems for the Fire Station will include the following: domestic hot and cold, domestic water heater system, sanitary sewer and vent piping, storm piping system, natural gas system and compressed air piping system.

- The plumbing systems for the Training Support Building will include the following: domestic hot and cold, instantaneous domestic water heater system, sanitary sewer and vent piping, and storm piping system.

- Domestic water service will enter the slab of the first floor mechanical room. A shut off valve and reduced pressure-type backflow preventer will be provided. Domestic water pipe shall be CPVC or Type L copper above slab, and Type K copper below slab. Domestic water piping for the Training Support Building will be routed from the Fire Station via underground piping. Piping will enter the Training Support Building through the slab of the ADA Toilet. A shut-off valve will be provided at the point of entry.

- Sanitary drainage from the Fire Station will be provided via below grade piping to the existing site sanitary system. Drainage from the mechanical rooms, restrooms, janitor's closet, and water coolers shall be routed directly to the building drainage system. Drainage from the Training Support Building shall be routed directly to the sanitary sewer system. The drainage systems will utilize PVC pipe and fittings.

- Drainage from the Fire Station's equipment wash room and Apparatus Bay will be routed to an oil-water separator located outside the facility. After passing through the separator, the waste will be routed to the site sanitary sewer system.

- Gutters and downspouts will be provided at all sloped roofs and connected to the site storm system. A separate emergency roof drainage system (with visible detection of use) will be installed per code. The storm drainage system will utilize PVC pipe and fittings.

- Natural gas piping systems will be provided in the Fire Station to serve the gas-fired water heater in the mechanical room and the gas-fired infrared unit heaters in the Apparatus Bay. Above ground natural gas piping will be Schedule 40 black iron. Piping 2" and smaller will be welded or threaded. Piping larger than 2" will be welded. Pipe fittings will not be located in concealed locations or return air plenums. All gas-fired equipment shall have easily accessible gas shutoff valves and couplings.

- Compressed air systems shall be provided in the Fire Station including: storage tank, piping, and distribution points. Compressed air piping will be Schedule 40 black iron. Piping 2" and smaller will be welded or threaded. Piping larger than 2" will be welded. Each compressed air service point shall terminate with a ball-type shutoff valve suitable for compressed air use.

- An overhead compressed air distribution system will be provided in the Fire Station Apparatus Bay and will include compressed air hose reels.

Fixtures

- As part of the plan for obtaining LEED certification, low-flow (tankless) water closets, waterless urinals and low-flow shower heads will be installed. A hot water circulation pump will be installed in the Fire Station Mechanical Room to eliminate the need of waiting for the water to warm up.

Domestic Hot Water Generator

- The Fire Station domestic hot water system will include a natural gas-fired water heater and hot water circulation return pump. The pump will keep water circulating through the hot water piping system so that hot water will be available within a few seconds of operation from any hot water fixture.

- The Training Support Building domestic hot water system will include an electric instantaneous water heater mounted on the wall below the lavatory.

Energy Conservation

- The natural gas-fired water heater is a high-efficiency type that provides a minimum .62 energy factor. Various features on the water heater provide the maximum amount of hot water per unit of natural gas consumed.

COMMISSIONING

- All commissioning shall be performed under the supervision of an authority certified by AABC, NEBB, or TABB. Performance of duties is as spelled out under OWNER in Appendix A2 of ASHRAE Guidelines 1.

AT/FP CONSIDERATIONS

- All equipment, ductwork, and piping located inside the building will be installed and supported in compliance with UFC 410-01.

- All outside air intakes for distribution to the occupied spaces will be located a minimum of 10 feet above finished grade.

- Emergency air distribution shutoff switches will be provided as described above.

- For equipment located outside the building and within the 33 foot wide unobstructed zone, if walls or other screening devices with more than two sides are placed around the equipment, it will be enclosed on all four sides and the top. Openings in the screening materials and gaps between the ground and screens or walls making up the enclosure will not be greater than 6 inches. Any surface of the enclosure that can be opened will be secured so that unauthorized personnel cannot gain access.

Materials Matrix
Ft. Stewart Fire Station
Mechanical / Plumbing Equipment

Item/Description	Location / Serves	Type/Color	Capacity/ Size	MFR/Model	Warranty/ Misc. Data	Notes
PROPOSED MATERIAL IDENTIFICATIONS						
(c) Mechanical Systems						
Air Handling Equipment - Fire Station						
AH-1 thru 8 & HP-1 thru 8 - Split System Heat Pumps	Above ceiling & outside on grade	Indoor fan coil unit with outdoor air-cooled heat pump unit	2 to 5 nominal tons	Trane / 4TWB3024 thru 60 (HP) Trane / 4TEC3024 thru 60 (AHU)		Eight (8) split systems required
DAH-1,2 & CU-1 - DX Air Cond Unit & Air-Cooled Condensing Unit	Inside room served & outside on grade	DX ductless split with air-cooled condensing unit	1 nominal ton	EMI / WLCA12, S1CA2	5yr comp & 1yr parts wty std 10yr complete wty - $150	One (1) ductless system required
EF-1 thru 8 - Exhaust fans	Above ceiling, in-line or sidewall	Above ceiling, in-line or sidewall	100-5,000 CFM	Greenheck / BCF, SP, SBE		Three (3) in-line, two (2) ceiling, and three (3) sidewall required
IH-1,2	Apparatus Bay	Infrared unit heater	52 MBH min. input 80 MBH max. input	Roberts-Gordon / CTH3-80		Two (2) req'd for Apparatus Bay
L-1,2,3,4 - Louver w/ integral damper	Mechanical Room, Electrical Room, Apparatus Bay	Extruded aluminum	3,000 CFM / 33"Hx33"W 200 CFM / 16"Hx16"W (2)5,000 CFM / 40"Hx40"W	Greenheck / EAC-601		One (1) req'd for bldg and Mech Rm One (1) req'd for Electrical Rm Two (2) req'd for Apparatus Bay
VERS - Vehicle Exhaust Removal System	Apparatus Bay	Dual hose, in-line blower	300 CFM (max)	Airflow Systems / VES Series		Two (2) required
Air Handling Equipment - Training Support Building						
AHU/HP-TSB - Air Handling unit w/ DX Coil & Air-Cooled Heat Pump Unit	Above ceiling & outside on grade		5 nominal tons	Trane / 4TEC Trane / 4TWB	6 years compressor and 1 year parts and labor warranty	One (1) required
EF-TSB - Exhaust fan	ADA Toilet	Above ceiling	100 CFM	Greenheck / SP		One (1) required
PTAC-TSB - Packaged Terminal Air Conditioner (Heat Pump)	Training Office	Thru-wall heat pump	7,000 btuh cooling 6,500 btuh heating	Carrier / 52MQ-U07	5yr comp,1yr parts std 10yr complete wty - $50	One (1) required
Air Handling Equipment - Equipment Storage Building						
EF-ESB - Exhaust fan	Sidewall	Propeller	1,800 CFM	Greenheck / SBE		One (1) required
L-ESB - Louver w/ integral damper	Sidewall	Extruded aluminum	1,800 CFM / 27"Hx27"W	Greenheck / EAC-601		One (1) required
HVAC System Control Equipment						
DDC Utility Monitoring and Control System (UMCS)		Open protocol based on LonWorks technology			1 year parts and labor warranty	
Energy Conservation Features						
ERV - Energy Recovery Ventilator	Mechanical Room		2,000 CFM	Greenheck / ERV-	1 year parts and labor warranty	One (1) required
Mechanical Betterments						

Materials Matrix
Ft. Stewart Fire Station
Mechanical / Plumbing Equipment

Item/Description	Location / Serves	Type/Color	Capacity/ Size	MFR/Model	Warranty/ Misc. Data	Notes
CF-1,2 - Ceiling Fans	Fitness Room	Ceiling mounted		Broan / P502		Two (2) required
Plumbing Systems						
BFP - Backflow Preventor	Mechanical Room - Fire Station	Double check valve reduced pressure zone assembly, provided with isolation valves		Watts / 009		One (1) required
Fixtures - Fire Station						
CAHR - Compressed Air Hose Reel	Apparatus Bay SCBA Maintenance Room	Compressed air hose on self-retracting reel		Reel Master / 1400 Series		Qty: 5
CO - Cleanout		Adjustable Floor Cleanout with Nickel Bronze Top		Zurn / Z1400 "Level-Trol"		Qty: TBD
EWC - Electric Water Cooler	Outside Mens and Wmns RR	Single basin, ADA compliant		Elkay / EZS		Qty: 1
FD - Floor Drain		Deep Seal Trap and 5" Strainer		Zurn / Z453B		Qty: 12
HB - Hose Bib	Near floor drains inside building and in Apparatus Bay	Backflow protected / Chrome		Woodford / 26		Qty: 11
JSINK - Janitor's Sink	Janitor & Laundry	Floor mounted and provided with exposed yoke utility faucet	24" Square	Acorn Engineering / TSH-24-KF24 "Terrazzo-Ware" American Standard / 8344.112		Qty: 1
KSINK1 - Kitchen sink, single bowl	Kitchenette	Countertop mounted, stainless steel, ADA comliant, single bowl, with single lever operated faucet	25"x21"	Dayton / GE12521L Delta / 100		Qty: 1
KSINK2 - Kitchen sink, double bowl	Kitchen	Countertop mounted, stainless steel, double bowl, with single lever operated faucet	33"x22"	Dayton / D23322 Delta / 100		Qty: 1
MSINK - Mop Sink	Apparatus Bay	Floor mounted and provided with exposed yoke pedal operated utility faucet	24" Square	Acorn Engineering / TSH-36 "Terrazzo-Ware" Zurn / Z85500-WM		Qty: 1
LAV - Lavatory		Countertop lavatory, vitreous china, with single lever faucet w/ grid strainer	20"x17"	American Standard / 0476.028 Delta / 505		Qty: 7
LAV-H - ADA Lavatory		Wall hung lavatory, vitreous china, with single lever faucet w/ grid strainer	20"x18"	American Standard / 0476.028 Delta / 505		Qty: 2

Materials Matrix
Ft. Stewart Fire Station
Mechanical / Plumbing Equipment

Item/Description	Location / Serves	Type/Color	Capacity/ Size	MFR/Model	Warranty/ Misc. Data	Notes
OWS - Oil Water Separator	Outside building near Apparatus Bay	Fiberglass oil water separator system	125 gal volume, 25 gpm capacity	Pan America Environmental / OSF8F		Qty: 1
SH - Shower		Terrazzo shower base with pressure balance and shower head		Acorn Engineering / SBS-32-3F "Terrazzo-Ware" Delta / T13220		Qty: 4
SS-EW - Safety shower with eye wash	Apparatus Bay			Acorn Engineering / SBS-32-3F "Terrazzo-Ware" Delta / T13220		Qty: 4
TD - Trench Drain	Apparatus Bay	Precast polyester concrete channel with integral ductile iron, heavy-duty grate		Jay R. Smith / Series 9828 "Brute" S300		Qty: 4
U - Urinal		Waterless wall mounted urinal / White		Waterless / 2004 "No-Flush Sonora"		Qty: 2
WB - Washer Box	Janitor & Laundry Protective Clothing Laundry	Stainless steel, recessed, hot and cold supply and waste hose box		Acorn Engineering / 8186		Qty: 2
WC - Water Closet		Elongated toilet, siphon jet action, white, with flush valve and open front seat	1.6 GPF	American Standard / 2234.015 "Madera" Sloan / 111 Church / 9500C		Qty: 2
WC-H - Water Closet Handicap		ADA elongated toilet, siphon jet action, white, with flush valve and open front seat	1.6 GPF	American Standard / 3043.102 "Madera" Sloan / 111 Church / 9500C		Qty: 4
WH - Wall Hydrant	On face of each exterior wall	Backflow protected, freezeless, chrome finish with flush mounted wall box		Woodford / B65		Qty: 4
WSINK - Work Sink	Equipment Washing & Disinfection	Stainless steel, double basin with drainboard, all-welded construction, with wall-mounted commercial faucet		Elkay / WNSF8236L Delta / LK940AT12W4S		Qty: 1
Fixtures - Training Support Building						
CO - Cleanout	ADA Toilet	Adjustable Floor Cleanout with Nickel Bronze Top		Zurn / Z1400 "Level-Trol"		Qty: TBD
FD - Floor Drain	ADA Toilet	Deep Seal Trap and 5" Strainer		Zurn / Z453B		Qty: 12
HB - Hose Bib	ADA Toilet	Backflow protected / Chrome		Woodford / 26		Qty: 11
LAV-H - ADA Lavatory	ADA Toilet	Wall hung lavatory, vitreous china, with sensor operated, hard wired faucet w/ grid strainer	20"x18"	American Standard / 0355.012 Zurn / 6915-CWB "Aquasense"		Qty: 2

Materials Matrix
Ft. Stewart Fire Station
Mechanical / Plumbing Equipment

Item/Description	Location / Serves	Type/Color	Capacity/ Size	MFR/Model	Warranty/ Misc. Data	Notes
WC-H - Water Closet Handicap	ADA Toilet	ADA elongated toilet, siphon jet action, white, with sensor flush valve and open front seat	1.6 GPF	American Standard / 3043.102 "Madera" Sloan / 111 ES-S Church / 9500C		Qty: 4
Domestic Hot Water Generator - Fire Station						
GWH - Gas-fired Water Heater	Mechanical Room	Gas-fired, direct-vent, 94% thermal efficiency	60 gallon capacity, 125 MBH input, 142 gph @ 100 F rise	A.O. Smith / BTH-125 "Cyclone XHE"	10 year limited warranty on heat exchanger	One (1) required
HWCP - Hot Water Circulation Pump	Mechanical Room	Hot Water Circulator	5 GPM	TACO / 006		One (1) required
TMV - Thermostatic mixing valve	Mechanical Room	Temperature actuated, high capacity, high-low assembly, ASSE 1017	1" inlets, 1-1/4" outlet	Leonard / TM-820	1 year parts and labor warranty"	One (1) required
Domestic Hot Water Generator - Training Support Building						
IWH - Instantaneous water heater	ADA Toilet	Electric, wall-mounted, white	0.5 gpm @ 40 deg F rise	Bradford White / ES-3000-1-S-10 "Single Point"	1 year parts and labor warranty"	One (1) required