

APPENDIX - A

DESCRIPTION OF WORK

For

REQUEST FOR PROPOSAL

**CONSTRUCT B15 & 29
REPLACEMENT/CONSOLIDATION**

TYNDALL AFB FLORIDA

FOR PROJECT XLWU204016

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1.0 SCOPE

1.1 Purpose

- A. The purpose of the Tyndall Air Force Base (TAFB) project XLWU 20-4016, Building 15 and 29 Consolidation, is to repair/upgrade hurricane damage GATR facilities by constructing a new building in B15 area for full compliance with current building codes, including the DoD Building Code, and the portion of the Florida Building Code that contains the High Velocity Hurricane Zone (HVHZ) provisions.
- B. The scope of work is based on HVHZ FBC, section 1602.2 criteria for Miami Dade County Risk Category III Buildings and Structures meeting 165 mph. Based upon our AF Structural SME recommendations and in alignment with the SecAF directed Severe Weather Readiness Assessment recommendations, the Tyndall PMO will use the UFC 3-301-01 and the following Tyndall design wind speeds based upon Risk Category III. RC III 165 mph (Risk categories are defined by UFC 03-301-01, Table 2-2).
- C. All exterior building envelope materials such as, but not limited to windows, glazing, roofing systems, concrete masonry unit, and doors shall have a current Miami-Dade Notice of Acceptance (N0A) and installed to HVHZ standards that match the specified wind requirement. Our construction industry partners shall continue to have the option of submitting test results or drawings sealed by a Professional Engineer stating conformance with HVHZ standards in lieu of materials pre-approved by Miami-Dade County.
- D. While we should always use our Unified Facilities Criteria as the basis for all our facilities designs, we will also integrate the best practices from the Florida Building Code (FBC) High-Velocity Hurricane Zone (HVHZ) into this design guidance to further improve facility resiliency at Tyndall. Other details from the memorandum may apply as well.
- E. A Risk Category III is applicable to the new buildings and support structures since it is designated as a normally unoccupied space and must meet the requirements for a 165 mph wind speed. Support structures include but are not limited to porches, awnings, canopies, etc. The building envelope is required to be built to those standards at this time. The repairs and new installation work must meet all current codes and standards.
- F. This task order delivery method is Design-Build (D-B). Work on supporting facilities includes external building fixtures, building utilities within the Points of Demarcation (POD) for privatized utilities, and work within the Building. The Contractor shall be responsible for providing all labor, equipment, tools,

materials, and services necessary to complete the project within the allotted timeframe.

- G. This project has an estimated period of performance from Notification to Proceed (NTP) through completion and turnover of the facility back to the Government for mission operations of 210 calendar days.
- H. Implementation of work will not start until an approved 100% Design has been issued. Ordering of long lead items may be coordinated with CO.
- I. The latest IFC is to be used for color selection to assure base uniformity. Match existing colors as close as possible. Lighter colors are encouraged. Colors will be approved for use on a per building basis.

1.2 General:

- A. Field Changes: The Contractor and the Government may agree to perform a no cost field change. Field changes are made when the change appears to be mutually beneficial to all parties and would not require changing the negotiated items. All field changes must be approved by the CO prior to execution. Only the CO may authorize field changes or deviations from the SOW.
- B. Surveys: A Survey for asbestos, mold and lead paint should be conducted prior to any demolition or rehabilitation, though demolition is not expected to be a part of this project.
- C. Ancillary Task: The tasks in this scope of work do not describe all the ancillary tasks required to complete the task. The contractor is required to complete all ancillary tasks to meet codes and standards that results in a complete and useable facility. Any task omissions by the contractor in their proposal will be the responsibility of the contractor.
- D. Quantities and Measurements: All quantities, square footage, linear footage, etc. are estimate to assist contractor in determining scale and scope of this project. Contractor is responsible to verifying and calculating his own quantities for his proposal and estimates do not relieve contractor from providing required quantities and cost to successfully complete project. For example measurements for drywall and painting is a square footage for the room versus the actual wall square footage. Contractor shall provide all calculations, and quantities for government review/approval.
- E. The building is being made to ADA or ABA standards.
- F. The Fire Protection is being made to meet current standards.
- G. Available drawings can be provided upon request.

**1.3.1 Exterior Windows, Curtain Walls, Storefronts, Doors, and Louvers
Architectural Design Criteria:**

- A. Approved products with test reports for use in the FBC HVHZ and their respective Florida Product Approval (FPA) that has been tested to the FBC standards of TAS 201, 202, and 203.
- B. Blast resistant as per UCF 4-010-01(12 December 2018) DoD Minimum Antiterrorism Standards for Buildings. The design criteria based on a secure site, existing building, and inhabited occupancy; the “Design Basis Threat” and “Level of Protection” as established by the Tyndall AFB Antiterrorism Plan or unless otherwise as directed by the Contracting Officer.
- C. Anodized, blue tinted low e windows and storefronts are to be used for window replacement if all the windows are being replaced. Refer to the IFS exterior finish palette. Visual transmittance (T_{vis}) for exterior glazing is 45% or less in accordance with Chapter 62B-55 model lighting ordinance for marine turtle protection.
- D. Provide Stainless Steel 316 Hardware for resiliency.

1.3.2 HVHZ Windows and Storefronts Performance Requirements:

- A. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load as indicated on the Structural Drawings. The design pressures are based on the FBC for the geographical location of Miami-Dade County.
- B. Air Infiltration: Test the specimen in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cubic foot per minute per square foot (0.3 liter per second per square meter) at a static air pressure differential of 6.24 psf (300 Pa).
- C. Water Resistance: Test the specimen in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 12 psf (575 Pa) as defined in AAMA 501.
- D. Uniform Load: Apply a static air design load of 65 psf (3,112 Pa) in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/180 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.4% of their clear spans shall occur.

- E. Windborne-debris-impact-resistance Performance: Test in accordance with ASTM E 1886 and information in ASTM E 1996 and/or AAMA 506.
 - a. Large-missile Impact: For aluminum-framed systems located within 30 feet (9.1 meters [m]) of grade.
 - b. Small-missile Impact: For aluminum-framed systems located more than 30 feet (9.1 m) above grade.
- F. Exterior glazing shall be large impact-rated in compliance with FBC Chapter 14; maximum glass sizes as per ASTM E1300; low thermal emissivity-type, insulated and tinted. Dry glazing gaskets are in accordance with ASTM C864 or ASTM C509 per FBC Chapter 14.

1.3.3 Lighting

- A. The interior lighting replacements will be LED lights with a CRI 90
- B. The exterior lighting replacement will be LED lights with a CRI 80 and a minimum of 4000K unless wildlife preservation lighting is required. 4000K has been found to be the best color temperature for visual acuity at night and will aid in the safety of pedestrians and hazard identification for nighttime drivers.
- C. Wildlife Preservation Lighting for all exterior lighting for Tyndall AFB, southwest of US Highway 98.
 - a. Provide LED light engines that work with Amber color with a wavelength higher than 560 nm.
 - b. All exterior fixtures on the seaward and the shore perpendicular sides of the building (and on the landward side of the building if they are visible from the beach). This lighting will take precedence over the other lighting requirements within the area.
 - c. Exterior light fixtures should illuminate at 560 nanometers (nm) with an amber light color and all lights shall be located as low as possible.
 - d. Any light that is a bright white, blue, etc (longer nm) and can be seen from the property coastline at night is considered “unfriendly” lighting for turtle nesting per PCFUSFWS, 2006, page 4.
- D. Exit lights will be LED

1.3.4 Carpeting

- A. If required, the AF GSA carpeting program must be met for quality and pricing if carpeting is used.

1.3.5 Exterior Hollow Metal Doors:

- A. Doors shall be as a minimum 14 Gauge, heavy-duty, level 2, physical performance level B, model 2 with an R-10 insulated core.
- B. Provide Stainless Steel 316 Hardware for resiliency.
- C. Door lock cores will be Best with 7 pin cylinders. The Flightline side uses “K” keyway and Base Support side uses “J” keyway.
- D. All doors shall be tested by Underwriters Laboratories and ITS/WH certified to the following standards:
 - a. ANSI A250.13
 - b. ASTM E330/E1886/E1996
 - c. PA201, PA 202, PA203
 - d. TAS201, TAS202, TAS203
- E. Provide Americans with Disabilities Act (ADA)-compliant door hardware, heavy-duty and heavy-weight type on all new exterior doors, finish to match existing hardware.

1.3.6 Rollup Doors:

- A. Doors shall be minimum of 20 Gauge aluminum with 24 gauge frames.
- B. Provide explosion proof motors and controls where hazardous vapors may be encountered.

1.3.7 Louvers:

- A. Exterior Building Louvers must meet the wind speed requirements
- B. New louvers must be AMCA 550 certified per IMC 2018 401.5. Per FBC 2017 1626.2.1, the new louver must pass large-missile impact testing.
- C. Antiterrorism/force protection (AT/FP) require louvers to be located at least 10 feet, 0 inches above finished grade.

1.3.8 Chillers

- A. All new chillers will be Trane per memorandum on HVAC.
- B. All Controls will be Siemens per memorandum on HVAC controls with backwards compatibility with existing devices.

1.3.9 VAVs

- A. VAVs should be utilized for new systems.

1.3.10 System Controls

- A. The control system should be a BAS or equivalent capable of controlling/monitoring the entire heating, ventilation, air conditioning system. The system shall also include the ability to calculate compressor runtime and include the following points:

<ul style="list-style-type: none"> • VAV Boxes 	<ul style="list-style-type: none"> • AHUs
<ul style="list-style-type: none"> • Exhaust Fans 	<ul style="list-style-type: none"> • Boilers (Heating/Domestic Water)
<ul style="list-style-type: none"> • Chillers 	<ul style="list-style-type: none"> • Chilled/Hot Water Pumps
<ul style="list-style-type: none"> • Ambient Temperature and Humidity 	<ul style="list-style-type: none"> • Domestic Hot Water Recirculation Pumps

- B. The system shall be interfaced with the building fire alarm system and shall be provided with additional devices required by AT/FP standards to permit system shutdown in an emergency. All air-handling system(s) over 2,000 CFM shall be interfaced with the building fire alarm system and be capable of emergency shutdown. The system shall be capable of temperature control, occupied/unoccupied scheduling, night setback control, and alarms.
- C. The guidance in TAFB APPENDIX L - FRCS GUIDE 02-17-21 shall be used for designing controls for Fire Protection, HVAC, and other related Siemens controls for Tyndall

1.3.11 Fire Alarm System

- A. The fire alarm and mass notification systems shall be a combined system in compliance with UFC 3-600-01, UFC 4-021-01, and National Fire Protection Association (NFPA) 72 for the entire building. The new fire alarm system shall include the initiation detectors for the sprinkler system. Ultra-sensitive sensors must be installed in the Data Center, Test Area, and similar priority

areas.

1.3.12 Automatic Bathroom and Kitchen Accessories

- A. This does not apply to this contract.

1.3.13 Roof Access

- A. When required, roof access will be provided by building-mounted external ladders secured by locked cages or similar mechanisms. Access to keys will be limited to appropriate facility users, maintenance personnel, and emergency responders. Reference request for deviation F325CES-E20-04 10/30/2020.

1.3.14 Design Flood Elevation

BFE is defined in UFC 3-201 -01, civil engineering, as the, "elevation of flooding, including wave height, having a 1% change of being equaled or exceeded in a given year." BFE is also used to refer to the 100-year flood (or 1 % annual chance event (ACE)).

- A. For the Gulf side (generally southwesterly of Highway 98) the DFE is 19' above today's mean sea-level (MSL); and
- B. For the East Bay side, generally northeasterly of Highway 98, the DFE is 14' above MSL

1.3.15 Inspections

The Contractor shall advise the Government 48 hours before performing any concrete pouring, backfilling, wall covering, or test operation that will encase or cover his work. For soil compaction tests, a minimum of 72 hours notification shall be required.

2.0 Summary of Work

Tyndall AFB is working to get a Ground Air Transmit Receive (GATR) facility built and operational. Maps and Drawings are provided in Appendix B.

The work site is adjacent to the airfield. Foreign Object Debris (FOD) is a serious hazard to an aircraft's turbine engines. All reasonable efforts will be made to minimize FOD. This shall include but is not limited to keeping trash cans covered, dumpsters closed, and the regular removal or securing of objects which could be reasonably believed to be wind driven.

Pictures are prohibited on or around the airfield without a camera pass. Access to the airfield is strictly prohibited except in emergency situations. Specifics of locations and required construction details are covered in Appendix B. Appendix C gives additional information which may be helpful.

2.1 Task 1.0 Install radio shelter with a footprint of at least 20' x 40'

- 1. Construct building IAW applicable UFC's and Appendix B that meets Tyndall IFS and WBDG standards.**
- 2. Install underground 4" conduit between building 15 and new shelter. Core 4" cable port into the wall at each location. Terminate conduit an exterior wall of each location with one 24" x 24" x 6" NEMA box. Reference PSA Sketch 1, Sheet 3, Keynotes 1 – 3 in Appendix B. HAND DIG ONLY. Conduit shall be buried 18 – 24".**
- 3. Connect electrical power to the secondary side of GCEC transformer. Coordinate with GCEC for connection requirements. HAND DIG ONLY.**
- 4. Install one 2-hole 4" cable entry port above cable ladder in four locations. Refer to PSA Sketch 1, Sheet 2, Keynote 2.**
- 5. Install one galvanized 1-5/8 uni-strut on exterior of shelter above each 2-jhole cable entry port (4 locations). Reference PSA Sketch 1, Sheet 2, Keynote 2, Figures 1 – 3.**
- 6. Provide 12 inch wide cable ladder above equipment racks with access to cable entry ports and demarcation board. Reference PSA Sketch 1, Sheet 2, Keynote 3.**
- 7. Provide 4' x 8' fire rated demarcation back board inside shelter. Reference PSA Sketch 1, Sheet 2, Keynote 5.**
- 8. Shelter shall be capable of being kept between 50 degrees F and 140 degrees F from 10% to 80% humidity (non-condensing) for all anticipated weather extremes. (Maximum radio heat load is 87,000 BTU.)**
- 9. Install 16 receptacles above equipment racks in raceway (120 Volt/20 Amp/L5-20R NEMA). Reference PSA Sketch 1, Sheet 2, Keynote 4, in Appendix B.**
- 10. Install 3 of 120V/20 Amp receptacles with shut off boxes mounted on the exterior of the building for the three towers. A Certified electrician will need to make the final connections to tower obstruction light circuits to CE shut-off boxes mounted on the exterior of the building. Reference PSA Sketch 1, Sheet 2, Kynote 6 in Appendix B.**
- 11. Install 10 convenience receptacles, (five on each 30' wall), evenly spaced with 120V/20A receptacles per NEC.**
- 12. Install lighting such that it is not directly over the scheduled electronics racks.**
- 13. Provide buried Earth Electro Subsystem (EES) around perimeter of shelter. Reference PSA Sketch 1, Sheet 4 Keynotes 1 through 4 and Figure 4-1. Install**

per MIL-STD-188-124C, MIL-SPK-419, NFP 780, NEC, MIL-HDBK-232, ANSI/EIA/TIA 607C and 607D

14. EES ring conductor shall be 2/0 AWG stranded Cu, buried 2-4 feet from structure footing and 18-24" deep.
15. Vertically driven EES rod electrodes shall be 10' a 3/4" Cu clad steel with tops driven to 12" below grade. Connections to ground ring shall use exothermic welds or listed compression connections.
16. An overall resistance of the EES ring shall be 10 Ohms or less.
17. Mounted TGB on backboard with 1/0 AWG connected to buried EES. Reference PSA Sketch 1, Sheet 4, Keynotes 3 and 4, and Figure 4-2.

2.2 Task 2.0 Construct generator shelter and install 80 KW generator per specification.

1. Construct generator shelter with 80 KW generator. Provide Automatic Transfer Switch (ATS) of applicable rating. Install Fuel tank outside building. Recommend Onan/Cummins Generator and shall be manufactured in the USA.
2. Generator shall be capable of running without being refueled for 72 hours.

2.3 Task 3.0 Connection of backup generator to radio shelter and fiber optics to shelter.

1. Install 4" buried conduit per drawings. Ref. Sketch 1, sheet 3, keynotes 1 through 3, and Figure 3-1. HAND DIG ONLY. Conduit shall be buried 18 – 24". Also in section 2.1.2.
2. Trench from power backup location to shelter
3. Connect backup power to shelter per UFC. A professionally licensed electrician shall install this equipment per the National Electric Code (NEC)
4. Back fill trenches.

2.4 Task 4.0 Re-pave road area and establish gravel parking area.

1. An existing 60 CY paved road with the approximate length, width, and depth of 180 FT x 12 FT x 8 IN shall be restored to provide access to the new facility.
2. A new paved parking lot with an area about 500 SF, depth of 8 IN, and a volume of 14 CY will be constructed with gravel. The parking lot shall have 3 parking spaces with the rough length of 18 FT and the width of 9 FT. (Gravel area need not be striped).

3.0 POINTS OF CONTACT (POCs)

- 3.1 POCs will be coordinated through the CO.

3.2 Contracting Officer Authority:

- A. CO, the term used herein, does not include any representative not acting within the scope of his/her authority. Notwithstanding any of the provisions of this contract, the CO shall be the only individual authorized to in any way amend or modify the terms of this contract.

3.3 Project Manager (PM):

- A. The PM Nels Neumann nels.neumann.ctr@us.af.mil
Program Manager
325th Civil Engineering Squadron (CES)
1-850-381-5155 (cell)
Bldg. 36234
Tyndall AFB, FL 32043

3.4 User Contact

- A. TBD

3.5 Building Contact

- A. TBD

END OF DOCUMENT