PERFORMANCE WORK STATEMENT

FOR

Communications Fiber Optic Cable Installation

From Building 57026 to Building 49140

AT

CAMP CARROLL, JBER, ALASKA

13 AUGUST 2019

Communications Fiber Optic Cable Installation From Building 57026 to Building 49140

Table of Contents

SECTION I

1.0 **OBJECTIVES.** This is a non-personnel services contract to Engineer, Furnish, Install and Test (EFI&T) fiber optic cabling and associated man holes, hand holes, and duct path between Camp Carroll, Building 57026 and Camp Denali, Building 49140 on JBER.

The Government shall not exercise any supervision or control over the contract service providers performing the services herein. Such contract service providers shall be accountable solely to the Contractor who, in turn is responsible to the Government.

1.1 **REQUIREMENT.** N/A

1.2 **PERIOD OF PERFORMANCE.** All contract requirements must be completed within 1-year (365 days) from contract award.

1.3 **PLACE OF PERFORMANCE.** JBER, Alaska

1.4 **WORK HOURS.** The contractor will be expected to perform contract tasks within an average work week of 40 hours. The average workday is 8 hours and the window in which those 8 hours may be scheduled is between 7:30 AM and 16:30 PM (AST), Monday through Friday other than Holidays, and Base Closures. The government will identify any locations during the planning phase of the project that require installation and cutover after normal business hours which would be necessary to avoid operational mission impacts.

1.5. **OVERVIEW DESCRIPTION OF SERVICES/INTRODUCTION.**

1.5.a. This is a turnkey installation. The Contractor shall provide all management, personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to Engineer, Furnish, Install and Test (EFI&T) fiber optic cabling and associated man holes, hand holes, and duct path between Camp Carroll, Building 57026 and Camp Denali, Building 47140 as defined in this Performance Work Statement. The contractor is responsible for the provisioning of all required hardware, software, ancillary equipment, parts, material and cabling for the installation and full operational use of the fiber optic cabling.

1.5.b. All work that the Contractor shall perform will adhere to the JBER Telecommunications Installation Standards and all applicable references. This includes the planning, coordination, and surveillance of the activities necessary to ensure disciplined work performance and timely resources application to accomplish all tasking under the contract. All work on this effort must use Corning Altos fiber cabling and comply with the JBER Telecommunications Installation Standards dated 18 Dec 2018.

1.5.c. All distances listed are based on GeoBase measurements and are for planning purposes. It is the contractor's responsibility to validate all distances and bid accordingly. Reference associated site plan drawings for additional cable route information. The proposed solution outlined in this PWS was developed as a table top survey only; cable paths, manhole conditions, duct availability, and communications room conditions have not been verified. The contractor will be responsible to validate proposed cable paths, manhole conditions, duct availability, and communications room conditions to ensure availability, to identify any deficiencies/discrepancies, and outline corrective actions when submitting a bid. Any deviations from conditions proposed in this performance work statement must be approved in writing by the contracting officer prior implementing change.

1.5.d. The Contractor shall be responsible for maintaining communication with the Contracting Officer (CO), the government's Project Manager and Contracting Officer Representative (COR) and to immediately notify both the CO and the government's Project Manager and of any problems that would prevent timely performance of this contract. The Contractor is responsible for and required to implement, and maintain management control systems necessary to plan, organize, direct, and control all activities under this contract.

1.6 **INHERENTLY GOVERNMENT FUNCTION**. The Contractor shall not perform inherently governmental functions as defined in FAR Subpart 7.5 in relationship to this PWS.

1.7. **PROJECT OVERVIEW.** The basic goal of this project is to create a new manhole(MH)/hand-hole(HH)/duct path between building 57026 in Camp Carrol and bldg. 49140 in Camp Denali and to provide redundant 72 strand, single mode, fiber optic cables between the two locations, while leaving preparations in place to support connectivity to new construction that will be taking place in the near future. In addition, there will also be some upgrade work to existing maintenance hole/duct systems as well as new duct connectivity to individual building locations along the new duct path. The area of work will be located on the JBER-Richardson, generally along Davis Highway, between the two buildings referenced, as shown on the associated site plans covering a distance of approximately 8500 ft.

This overall work will be divided into three CLINs to help describe, manage, and reference the functional requirements being addressed as part of this project. The goal of CLIN 1 will be to install new manhole duct system and upgrade parts of existing manhole duct system between MH R500 and HH R581, as well as creating new duct connectivity to buildings along the path. The goal of optional CLIN 2 will be to install new and upgrade existing MH/duct system between MH R581 and MH R583. This optional work is to be bid as a separate line item and will be awarded if funding allows as an improvement to the overall project scope. The goal of CLIN 3 will be to install two new 72 strand, single mode, ALTOS type fiber optic cables from building 57026 to MH R581, with cable counts extended into multiple buildings and preparations left in the cable sheaths to support the extension of these cables into a new building projected for construction in the near future. This will include providing and installing items such as CCH-04U type fiber optic patch panels, termination/testing/labeling of fiber optic cables, installation of smaller cable counts into various buildings, providing and installing Fiberlign-type splice cases, and any other material and labor needed to accomplish the overall intended installation requirements. This broad overview should not be considered as a limitation to any particular aspect of providing a complete an interconnected MH/duct system and fiber optic cable system that is ready to have optical based communications equipment connected and brought on line. All work (material, installation practices, testing, documentation, etc.) will adhere to the most current versions of JBER Telecommunications Installation Standards, and other applicable Air Force and industry standards or guidelines. Any work affecting active cables with planned down time will require a minimum 21-day advance notice and a 48-hour confirmation notice, along with an approved work plan by 673CS/SCXP prior to any work taking place.

GENERAL PROJECT CONSIDERATIONS. The major aspects of CLIN 1 will involve providing and installing the following major items - approximately 7500 ft. of 2 x 4" ID buried duct bank, approximately 300 ft. of 4 x 4" ID buried duct bank, approximately, approximately 450 ft. of 6x4" ID duct bank, approximately 150 ft. of 8x4" ID duct bank, approximately 550 ft. of 2 x 2" ID buried HDPE duct, filling approximately 9500 linear ft. of 4" duct with 4x1" corrugated innerduct, 11 (eleven) 4'x4'x4' concrete capture hand holes, five 6'x8'x7' concrete capture manholes, one 8'x10'x7' concrete capture manhole, and all associated support material such as, but limited to direct bury warning tape, toning wire, cable racking hardware in all MH/HH locations, labeling material, potential core drilling, duct protection under vehicle traffic areas, removal/repair of approximately 600 linear ft. of trench path through asphalt paving. Return all paved and landscaped areas to a condition as good as or better than what existed before the project started. Coordinate with 673/773 CES and Alaska Army National Guard regarding areas that may require reseeding after all excavation work is completed.

The major aspects of CLIN 2 will involve providing and installing the following major items - approximately 220 ft. of 2x4" ID buried duct bank, approximately 300 ft. of 4x4" ID buried duct bank,

one 6'x8'x7' concrete capture manhole, filling approx. 900 linear feet of 4" duct with 4x1" corrugated innerduct, and all associated support material such as, but limited to direct bury warning tape, toning wire, cable racking hardware in all MH/HH locations, labeling material, potential core drilling, duct protection under vehicle traffic areas, removal/repair of approximately 220 linear ft. of trench path through asphalt paving. Return all paved and landscaped areas to a condition as good as or better than what existed before the project started. Coordinate with 673/773 CES and Alaska Army National Guard regarding areas that may require reseeding after all excavation work is completed.

The major aspects of CLIN 3 will involve providing and installing the following major items – approximately 8200 linear feet of 2 x 72 strand single mode ALTOS type cables (two parallel sheaths in this path) with 20 service loop locations (to include one location with extended length service loops as noted in the detail listing), approximately 600 feet of 12 strand single mode ALTOS type fiber optic cable with four service loop locations, approximately 600 feet of 24 strand single mode ALTOS type fiber optic cable with three service loop locations, approximately five total CCH-04U fiber optic patch panels at four different locations (57026, 57040, 57024, 49140), termination of fiber optic cables with ST style hot melt type connectors in 57026-57040-57024-49140, splicing of fiber optic cables in various locations, prepping and sealing in a splice case the ends of any fiber cables not otherwise terminated or spliced, and fully testing/labeling/routing/managing all cables as per JBER standards. In the case of fiber optic strands that will not be permanently terminated on both ends as part of this project, those strands will have temporary connectors installed on all strands not scheduled for permanent termination and the cables will then be fully tested. Once the cables have passed all tests and performance criteria, those strands will have the temporary connectors removed and they will be prepped for future splicing and then sealed in a splice case.

Nothing listed in the major aspects descriptions of each CLIN should be considered a limitation to the labor or materials needed to create a fully functional installation. In support of the major project aspects listed, the contractor will provide all material necessary and any labor necessary to fully accomplish this installation effort, to include but not limited to, things like fiber optic cable, fiber patch panels and coupler plates, fiber splice cases and splice managers, cable labeling material, cable racking and management material, fiber optic hot melt single mode ST connectors, cable preparation material, fan-out kits, and any other material necessary to complete a fully functional, turn-key type installation. All OSP fiber optic cable referenced in this project will be fully compatible (mechanically, dimensionally, thermally, optically, etc.) with Corning ALTOS, all di-electric, dry water blocked, single mode fiber.

All distances listed are based on GeoBase measurements and are for planning purposes. It is the contractor's responsibility to validate all distances and bid accordingly. The fully completed installation will require the termination and/or splicing of each cable segment at the noted locations, along with JBER standard service loops at each cable access point (mx holes, pull boxes, cable termination locations, etc.). Any cable segment left with an unterminated/unspliced cable end will have that end of the cable dressed out and prepped for future splicing, then will be sealed in a Fiberlign splice case and properly labeled/managed at those respective locations.

In addition to any allied support upgrades and functional fiber optic cable installation requirements listed elsewhere, final deliverables related to this project will also include, at a minimum, various documentation such as test results in a format to be approved by 673CS, maintenance hole/hand hole butterfly drawings showing how all ducts/innerducts are utilized (to include annotating cable names on the drawings where the cables are labeled in the vaults), and rack elevation or wall layout drawings where new equipment is installed as part of the project (these drawings will show all equipment in the respective racks or in the general area around the new equipment on the wall to give perspective on the location of the new equipment). Hand drawn sketches are acceptable for the butterfly and rack/wall equipment layout drawings, as long as they are legible and can be readily interpreted by 673CS personnel. Any new buried duct segments being installed will be geosurveyed as per JBER Telecommunications Installation Standards and compatible with the JBER GeoBase database format, prior to the duct paths/trenches being backfilled. All areas disturbed by any allied support activities will be

returned a condition that is equal to or better than it was in prior to the project beginning to meet 673CES requirements and standards.

In addition, intermediate deliverables required as the project progresses will include a working material list (LOM) and a detailed fiber optic cable migration plan for any location requiring existing cables to be moved or affected as part of fiber optic patch panel replacement or OSP demark refurbishment, as well as any other functional working documents agreed upon to help facilitate the timely and accurate completion of the project. The LOM will contain a listing of major component or technical component materials such as fiber optic cable type, fiber optic patch panel models, fiber optic connectors, hand hole/manhole assemblies, duct/innerduct types, etc., along with projected quantities of material, to validate that material being proposed will be compatible with existing material already in use on base and of sufficient proposed quantities to demonstrate an accurate understanding of the intended scope of work. The LOM will be required as part of the bid proposal submittal to aid in evaluating the bid proposals. The approval of this LOM will be for conceptual purposes and should not be considered as government validation of specific quantities or a limitation as to all material that might be needed to complete a fully functional installation.

This project will require working in confined entry work spaces (manholes) and accommodations for this will need to be factored into the project.

1.8. **SPECIFIC REQUIREMENTS.** The following work bullets cover the fundamental requirements, but should not be considered as a limitation as to the listing of every aspect of the work required to create a complete and usable fiber optic cable transport system between two locations. Unless otherwise clearly specified as being government furnished, it should be assumed that all material referenced, either literally or by implication as necessary to a fully operational installation, will be contractor provided as part of the project. These descriptions reference the associated cable sheath installation plan. All aspects of the installation will adhere to JBER Telecommunications Installation Standards and other relevant Air Force and industry standards regarding things like service loops, termination material and methods, testing procedures, cable naming conventions, etc. In locations where a manhole may have an extended depth neck, additional length should be allowed for service loop length to ensure the cable is long enough to be comfortably elevated out of the manhole to support maintenance work such as above ground splicing or mid-sheath access to the cable. Ensure all manhole and hand hole structures and associated covers are vehicle traffic load rated. It is not considered mandatory to work the project in the order shown. It is expected the contractor will provide a work plan, showing an efficient order of work that also minimizes both risk to existing material and any required down time to active circuits.

CLIN 1 – Mandatory MH/duct work from MH R500 (bldg. 57026) to HH R581 (bldg. 49140)

A) Replace/upgrade existing HH R581 near bldg. 49140 with a new capture type, concrete 6’x8’x7’ manhole. Capture all existing government cables and conduit that pass thru or near the existing HH R581 location. Install as per JBER standards, to include items like gravel bedding, labeling, ground rods, sealant, etc. Exact orientations of manholes and hand holes to be developed as part of construction survey effort and will require 673CS/SCXP approval prior to placement.

B) Install four new 6’x8’x7’ concrete manholes at locations MH R524, R526, R528, and R531. Install one new 8’x10’x7’ concrete manhole at location MH R534. Install 11 new 4’x4’x4’ concrete hand holes at locations HH R500A, R520, R521, R522, R523, R525, R527, R529, R530, R532, and R533. Capture all existing, buried government comm cables and conduits at the MH R531 and R534 locations in the new manholes. Capture existing government cables and conduits at all other new manhole and hand hole locations as much as possible. Locations shown on the associated site plan are approximate. Exact locations will be determined by site conditions, once dig permits are accomplished and all relevant buried features are located. Install all manholes and hand holes as per JBER standards, to include items like gravel bedding, labeling, ground rods, sealant, etc. Exact

orientations of manholes and hand holes to be developed as part of construction survey effort and will require 673CS/SCXP approval prior to placement.

C) Install 2 x 4"ID buried duct bank from MH R500 to MH R532, connecting via all intermediate new manhole and hand hole locations. Fill one duct in each segment between MH and/or HH locations with 4x1" corrugated innerduct bundles. Install duct bank as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. New duct bank route should be placed as close to existing buried comm cables as possible to facilitate future dig permit locate efforts. Coordinate duct entry location into MH R500 with 673CS/SCXP prior to work taking place at this location. Geosurvey duct paths prior to backfilling the trench lines.

D) Install 4x4" ID buried duct bank from MH R532 to MH R534, via R533. Fill two duct in each segment with 4x1" corrugated innerduct. Install duct bank as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. New duct bank route should be placed as close to existing buried comm cables as possible to facilitate future dig permit locate efforts. Geosurvey prior to backfilling the trench line.

E) Install 6x4" ID buried duct bank from MH R534 to MH R581. Fill three duct in this segment with 4x1" corrugated innerduct. Install duct bank as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. New duct bank route should be placed as close to existing buried comm cables as possible to facilitate future dig permit locate efforts. Geosurvey duct paths prior to backfilling the trench lines.

F) While installing the new duct bank segment between HH R500A and HH R520, install a 1x2" direct bury rated, solid wall HDPE duct from HH R500A to building 57040, using the new trench line as much as possible. Route the new 2" duct to a point on the building below where the existing aerial fiber optic cable enters the building. Create a building penetration in order to establish the most efficient internal route from the building penetration to the existing fiber optic demark location. Included in this work will be the creation of the internal cable path. Install duct as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. Geosurvey duct paths prior to backfilling the trench lines.

G) While installing the new duct bank segment between MH R526 and HH R527, install a 1x2" direct bury rated, solid wall HDPE duct from MH R526 to building 58508, using the new trench line as much as possible. Route the new 2" duct to a point on the building to be determined once all buried features have been located. Create a building penetration in order to establish a conduit path between MH R526 and bldg. 58508. Install duct as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. Geosurvey duct paths prior to backfilling the trench lines.

H) Stub out 8x4" ID duct bank from MH R534 to the approximate location of the projected Camp Denali ITN building. Include an external toning wire properly routed within the MH and left with a 100 ft. coil of extra length on the other end. Leave this coil neatly managed and fastened to the duct bank a few feet back from the end of the duct so that it is easily found and can be extended into the new building when that construction takes place. Leave a buried marker ring, such as a 3M #1250 over the end of the stubbed out duct bank. Also leave approximately 100 ft. of extra buried marker tape at the end of the duct bank. Seal/cap all ducts to protect from foreign objects entering duct bank prior to being extended to the new building. Geosurvey duct path prior to backfilling the trench line. Exact format of duct bank will be developed as part of the site survey effort (two tall by four wide, etc.) and will require approval by 673CS prior to installation.

CLIN 2 – Optional MH/Duct work from MH R581 to MH R583 to be bid as a separate line item.

I) Install new 6'x8'x7' concrete manhole at location MH R581A. Capture existing government cables and conduits in the proximity of manhole location as much as possible, to include possible excavation to expose cables to allow them to flex into the new MH if feasible. Location shown on the associated site plan is approximate. Exact location will be determined by site conditions, once dig permits are accomplished and all relevant buried features are located. Install all manholes and hand holes as per JBER standards, to include items like gravel bedding, labeling, ground rods, sealant, etc. Orientation of MH to be with narrow side pointed toward MH R581.

J) Install a new 4x4" ID buried duct bank from existing MH R581 to MH R581A to MH R582. Fill two duct in each segment with 4x1" corrugated innerduct. Install duct banks as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. Geosurvey duct paths prior to backfilling the trench lines. Coordinate duct entry location into MH R582 with 673CS/SCXP prior to work taking place. Route duct bank between MH R581A and MH R582 as close to existing, buried government cables and ducts as possible to facilitate future dig permit/cable locate efforts.

K) Reinforce existing buried duct path between MH R582 and MH R583 with 2x4" ID duct to supplement existing duct bank. Fill one duct with 4x1" corrugated innerduct. Place new ducts directly adjacent to existing ducts. Install ducts as per JBER standards, including buried warning tape, external toning wire, protection under vehicle traffic areas, etc. Leave all unused duct and innerduct with a pull rope/mule tape installed. Route and label toning wire up to MH cover/neck ring locations as per JBER standards. Geosurvey duct paths prior to backfilling the trench lines. Coordinate duct entry location into MH R582 and R583 with 673CS/SCXP prior to work taking place.

CLIN 3 – Fiber Optic Cable from building 57026 to Building 49140 and fiber counts to 57040 and 49140

> CLIN 3 Cannot be accomplished without CLIN 1 being accomplished first. CLIN 2 also being accomplished adds additional capability to what CLIN 3 can accomplish.

L) Install two new CCH-04U fiber optic patch panels, fully populated with single mode, six port, ST type coupler plates in bldg. 57026.

M) Using existing cable path from bldg. 57026 to MH R500, then new innerduct path from MH R500 to new MH R534, install 2 x 72 strand, single mode ALTOS fiber optic cables (FO2615:1-72 and FO2616:1-72), each in a separate innerduct from MH R500 thru the new system. These two cables should share an innerduct path from bldg. 57026 out to MH R500. Terminate the cables in the new CCH-04U fiber patch panels in bldg. 57026 using ST style, single mode, hot melt type connectors. Install as per JBER Standards with regard to service loops, labeling, management, etc.

N) In MH R534, leave FO2615:1-72 with a 400 ft. service loop and seal the end, once cable is tested and

accepted, for future installation to a building yet to be constructed. In MH E534, leave FO2616:1-72 with an 800 ft. service loop and continue pulling the cable to MH R581A and prep for splicing, then seal in a fully populated Fiberlign splice case, once all splicing and testing is accomplished. Label the FO2616 sheath as FO3500:1-72 from MH R534 to MH R581A, in preparation for the 800 ft. service loop to be split and both tails routed and separately terminated in a new building at a later date. Manage the cable passing through HH R581 so that a mid-sheath opening/splice can be accomplished at a later date.

O) Install a new CCH-04U fiber patch panel, fully populated with single mode, six port, ST type coupler plates in bldg. 49140. Using new and existing conduit path from MH R581A, install a new 24 strand, single mode, ALTOS fiber optic cable (FO3500:1-24) and splice into the appropriate strand count in the FO3500:1-72 sheath in MH R581A to create connectivity between 57026 and 49140. Label and manage all cable sheaths as per JBER Standards. Terminate the 24 strand cable sheath in the new CCH-04U patch panel in bldg 49140 using ST style, single mode, hot melt type connectors. Approximate cable path length for the 24 strand sheath is 600 ft. plus three service loop locations.

P) Using new and existing buried cable paths, install a new 12 strand, single mode, ALTOS fiber optic cable (FO3407B:1-12) from bldg. 57024 to bldg. 57040. Install new or upgrade existing FOPP locations as needed to terminate the new cable. Terminate the new cable with ST style, single mode, hot melt type connectors at each end. Label and manage the new cable sheath as per JBER standards. If the building can accept service down time, then it is acceptable to replace the existing aerial fiber optic cable and terminate the new cable sheath at the same location as the existing cable and reuse the existing fiber patch panels if they will accept single mode, ST style connectors. BECAUSE THIS IS AN ACTIVE CABLE, A MINIMUM OF 21 DAY ADVANCE NOTICE AND A 48 HOUR CONFIRMATION NOTICE OF DOWN TIME WILL BE REQUIRED, ALONG WITH WRITTEN APPROVAL FROM 673CS/SCXP WILL BE REQUIRED BEFORE AFFECTING THE EXISTING CABLE. IF THE EXISTING CABLE IS TAKEN OUT OF SERVICE, IT WILL BE FULLY REMOVED FROM THE CABLE PATH AND THE CABLE SHEATH DISPOSED OF.

Q) Fully test/label/manage/route all fiber optic cables as per JBER standards. Document all cable installation features (MH/HH butterfly sketches, rack elevation drawings, etc.). Provide all documents and test results to 673CS/SCXP for final approval and acceptance prior to the project being completed. In the case of strands that are not to be permanently terminated as part of this project, they will have temporary connectors installed on those strand ends so that all strands installed by this project can be fully tested as per JBER standards. Once all cables/strands have fully passed all tests and met functional specifications, the temporary connectors will be removed and the strands will be prepped for splicing at a future date, before being appropriately sealed in a Fiberlign splice case.

1.9. See Appendix 2 for Overview Reference Image

1.10. DELIVERABLES. Below is a list of deliverables under this contract**.**

Support Area	Title	Delivery Date/Description
Management/ Technical	Preliminary Schedule	Within 7 days of contract award
Management/Technical	Project Plan	Within 30 days of contract award
Management/ Technical	Coordinate Arrival	30 Days before on-site arrival
Technical Report	Test Procedures/Results	When installation is complete
Technical Report	As built drawings/manuals	When installation is complete
Quality Control	Quality Control Plan	Within 30 days of contract award

1.11. INSPECTION. Deliverables will be inspected by the Government and accepted or provided to contractor for corrections within 5 workdays of receipt. Progress meetings may be held as required.

1.12. ACCEPTANCE. Government acceptance consists of a review of the contractor's physical installation, a review to ensure all PWS requirements are met and comply with the JBER telecom standard, a review of fiber optic cable test results to ensure all strands are within prescribed tolerances, and a validation of the accuracy of contractor's as-installed drawings. Following site acceptance an AFTO Form 747 (Cyberspace Infrastructure Systems Acceptance) will be processed to signify formal project acceptance.

SECTION II

2.0. SERVICE SUMMARY. The Contractor service requirements are summarized into performance objectives that relate directly to mission essential items. The performance threshold briefly describes the minimum acceptable levels of service required for each requirement. These thresholds are critical to mission success.

Performance Objective (The Service required—usually a shall statement)	**PWS Paragraph**	**Performance Threshold** (This is the maximum error rate. It could possibly be "Zero deviation from standard")	**Method of Surveillance**
The Contractor shall adhere to all installation requirements in the JBER Telecommunication Standard	1.8	Any deviation from standard must be approved by 673 SCXP before proceeding	Visual inspection
All Fiber must be tested per the JBER Telecommunication Standard, including testing at all three (1310, 1490, 1550) identified wavelengths	1.8	Zero deviation from standard	Visual inspection and performance testing
All disturbed grounds will be returned to previous condition, Seeded and watered until seedlings reach 2" long.	1.8	Any deviation must be approved by 673 SCXP	Visual Inspection
Test Results and As-built drawings must be provided	1.8	Zero deviation from standard	Visual Inspection

SECTION III

3.0. GOVERNMENT FURNISHED PROPERTY, EQUIPMENT, AND SERVICES

3.1. Government Furnished Facilities. N/A

3.2. Government Furnished Equipment. N/A

3.3. Government Furnished Materials. N/A

3.4. Government Furnished Services. N/A

SECTION IV

4.0 GENERAL INFORMATION

RECOGNIZED HOLIDAYS.

New Year's Day	Labor Day
Martin Luther King Jr.'s Birthday	Columbus Day
President's Day	Veteran's Day
Memorial Day	Thanksgiving Day
Independence Day	Christmas Day

*If the holiday falls on a Saturday, it will be observed on the preceding Friday. If the holiday falls on Sunday, it will be observed on the following Monday.

HOURS OF OPERATION. The Contractor is responsible for conducting business between the hours of **0730 to 1630** Monday thru Friday except Federal holidays or when the Government facility is closed due to local or national emergencies, administrative closings, or similar Government directed facility closings. For other than firm fixed price contracts, the Contractor will not be reimbursed when the Government facility is closed for the above reasons. On occasion, an employee will be required to work on weekends and Federal Holidays. The Government will notify the Contractor within 24 hours of such occurrence. The Contractor must at all times maintain an adequate workforce for the uninterrupted performance of all tasks defined within this PWS when the Government facility is not closed for the above reasons. When hiring personnel, the Contractor shall keep in mind that the stability and continuity of the workforce are essential.

PLACE OF PERFORMANCE. The work to be performed under this contract will be performed at Joint Base Elmendorf Richardson**.**

CONTRACT MANAGER. The Contractor shall provide a contract manager and alternate(s) who are knowledgeable of outside plant fiber optic cable installations. The Contractor shall submit the name, address, telephone number and a resume of the Project Manager to the Contracting Officer within two days of contract start date. The list shall be kept current throughout the life of the contract.

The contract manager or alternate(s) shall have full authority to act for the Contractor on all contract matters relating to daily operation of this contract.

The contract manager or alternate(s) shall be available within 24 hours to meet on the installation with Government personnel designated by the CO to discuss problem areas.

The contract manager and alternate(s) shall be able to read, write, and speak English.

CONTRACTOR EMPLOYEES.

Alcohol/Drug Use. The consumption of alcoholic beverages or illegal drugs by Contractor personnel, while on duty, is strictly forbidden. The Contractor shall immediately remove any employee who is under the influence of alcohol or drugs.

Certifications. Contractor employees shall have current and valid professional certifications and licenses required to perform the work in this PWS. All certification and licensing requirements by Federal, State, and local agencies shall be complied with at the Contractor's expense.

Contractor Qualifications. Contractor shall utilize employees possessing adequate training, skills, and knowledge to perform the requirements of this contract.

Employee Training. Contractor shall give all training required to meet requirements of the PWS unless otherwise specified within the PWS or as otherwise approved by the CO. The Contractor shall maintain training and experience records for each employee during the period of this contract that reflect sufficient personnel are qualified to accomplish all tasks required by this contract. Provide status of employee training upon Government request.

English Language. Employees who deal directly with customers will be required to effectively communicate with the customers in English. This requirement is strictly for the purpose of efficiently performing the contract tasks. The Contract Manager will be required to read and write English.

Identification of Contractor Employees. All contract personnel attending meetings, answering Government telephones, and working in other situations where their Contractor status is not obvious to third parties are required to identify themselves as such to avoid creating an impression in the minds of members of the public that they are Government officials. They must also ensure that all documents or reports produced by Contractors are suitably marked as Contractor products or that Contractor participation is appropriately disclosed.

Performance Flexibility. Contractor shall maintain the flexibility to perform command-related tasks as deemed absolutely necessary for successful mission accomplishment.

Personnel Roster. Contractor may be required to provide a personnel roster consisting of names and other pertinent personnel data to the requiring activity for the purposes of 100% accountability real-world and exercise situations. The personnel roster shall be updated as individuals are removed and added.

Privately Owned Vehicles. Each Contractor employee driving a privately owned vehicle on the installation must carry minimum liability insurance as required by the State of Alaska. Contractor employees shall adhere to all posted speed limits and shall not use hand-held cellular telephones while driving on the installation for phone calls or texting. Use of seatbelts is mandatory. Any Contractor employee cited for driving under the influence will have their driving privileges immediately revoked for a period to be determined.

Safety Equipment. Contractor shall furnish personal safety equipment for its employees in performance of this contract. Safety equipment includes shoes or boots, eyewear, respirators, and gloves.

Safety Threats. Contractor shall not employ persons for work on this contract if such employees are identified to the Contractor by the CO as a potential threat to the health, safety, security, general well- being or operational mission of the installation and its population.

Services Summary (SS). A summary of the performance objective and performance threshold required by the Government in concessionaire performance. Also known as a Performance Requirements Summary or Services Delivery Summary or Performance Requirements Document.

Security Requirements.

Contractor Access To Air Force Installations.

4.1. The Contractor shall obtain base identification and vehicle passes, if required, for all Contractor personnel who make frequent visits to or perform work on the Air Force installation(s) cited in the contract. Contractor personnel are required to wear or prominently display installation identification badges or Contractor-furnished, Contractor identification badges while visiting or performing work on the installation.

4.2. The Contractor shall submit a written request on company letterhead to the Contracting Officer listing the following: contract number, location of work site, start and stop dates, and names of employees and subcontractor employees needing access to the base. The letter will also specify the individual(s) authorized to sign for a request for base identification credentials or vehicle passes. The Contracting Officer will endorse the request and forward it to the issuing base pass and registration office or security police for processing. When reporting to the registration office, the authorized Contractor individual(s) should provide a valid driver's license, current vehicle registration, and valid vehicle insurance certificate, to obtain a vehicle pass.

4.3. During performance of the contract, the Contractor shall be responsible for obtaining required identification for newly assigned personnel and for prompt return of credentials and vehicle passes for any employee who no longer requires access to the work site. When work under this contract requires unescorted entry to controlled or restricted areas, the Contractor shall comply with AFI 31-101, Volume 1, The Air Force Installation Security Program, and AFI 31-501, Personnel Security Program Management. Upon completion or termination of the contract or expiration of the identification passes, the prime Contractor shall ensure that all base identification passes issued to employees and subcontractor employees are returned to the issuing office. Failure to comply with these requirements may result in withholding of final payment.

MISCELLANEOUS PARAGRAPHS:

1.5.e. **Permits**. The Contractor shall be solely responsible for obtaining at its cost and expense any environmental permits and dig permits required for its operations under the Contract, independent of any existing permits held by the Government. Any and all environmental permits required for any of the Contractor's operations or activities would be subject to prior concurrence of Government. The Contractor acknowledges that the Government will not consent to being named a secondary discharger or co- permittee for any operations or activities of the Contractor under the Contract. In the event the Government is named as a secondary discharger or co-permittee for any activity or operation of the Contract, the Government shall have the right to take reasonable actions necessary to prevent, suspend, or terminate such activity or operation, including terminating this Contract, without liability or penalty. Contractor shall obtain JBER Dig Permit and Construction General Permit with Alaska Department of Environmental Conservation to include the necessary Stormwater Pollution Prevention Plan (SWPPP).

Flightline Driving. Employees who are required to drive vehicles on the flight line, cross the runway and shall have a Certificate of Competency, AF Form 483, a valid civilian and military driver's license, IAW AFMAN 24-306, page 25-1 and 3WGI 13-205.

Notification of Debarment/Suspension Status. The Contractor shall provide immediate notice to the Contracting Officer in the event of being suspended, debarred or declared ineligible by any other Federal Department or agency, or upon receipt of a notice of proposed debarment from another DOD Agency, during the performance of this contract.

Post Award Conference. The Contractor agrees to attend any post award conference convened by the Contracting Officer IAW FAR Part 42.5. These meetings shall be at no additional cost to the Government.

Safety Concerns. The Contractor is solely responsible for compliance with OSHA standards for the protection of their employees. The contract manager shall ensure specific safety requirements in AFOSH standards and Air Force technical orders are complied with by Contractor personnel when non- compliance would clearly present the potential to harm or damage Government resources. (See AFI 91- 301, paragraph 9 and AFI 21-101 paragraph 2.16.) The Air Force is not responsible for ensuring that Contractors comply with "personal" safety requirements that do not present the potential to damage Government resources.

Weapons, Firearms, and Ammunition. Contractor employees are prohibited from possessing weapons, firearms, or ammunition on themselves or within their Contractor-owned privately owned vehicles while on JBER.

SECTION V

APPENDIX 1

1.0. DEFINITIONS

Contract Administrator (CA). The individual within the contracting office who performs the day-to-day administration of the contract. The contract administrator may also be the contracting officer.

Contracting Officer (CO). The duly appointed Government agent authorized to award or administer contracts. The contracting officer is the only person authorized to contractually obligate the Government.

Contracting Officer Representative (COR). Individual who monitors a Contractor on a daily basis and who is involved in every aspect of a contract to ensure the Contractor is in compliance with that contract.

Corrective Action Report (CAR). Used to document unacceptable performance by the Contractor.

Defect. Any non-conformance with requirements specified in the contract.

Defective Service. A service output that does not meet the standard of performance specified in the contract for that service.

Fair Wear and Tear. The deterioration of items attributed to normal usage.

Government Furnished Property (GFP). Facilities, equipment, tools, supplies, parts, or any other items furnished for the concessionaire's use by the Government.

Major discrepancy. A major finding is defined as a condition that would endanger personnel, jeopardize equipment or system reliability, affect safety of flight, or warrant discontinuing the process or equipment operation.

Minor discrepancy. A minor finding is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing a process or equipment operation.

Performance Assessment. A process that measures success towards achieving defined performance objectives or goals defined within the performance thresholds in the services summary or the process of assessing progress towards achieving the objectives/goals developed in a performance plan or partnering agreement.

Performance Indicator. A measurable characteristic of an output of a work process. Generally synonymous with attribute.

Performance Management. The use of performance measurement information to effect positive change in organizational culture, systems, and processes, by helping to set agreed upon performance goals, allocating and prioritizing resources, informing managers to either confirm or change current policy or program directions to meet those goals, and sharing results of performance in pursuing those goals.

Performance Objective. The outcome associated with successful contract performance in a specific area. This is a critical success factor in achieving the organization's mission, vision and strategy which, if not achieved, would likely result in a significant decrease in customer satisfaction or risk mission failure. Obtaining multi-services/sub-services performed at a certain measurable standard and consistently ensures success in achieving the objectives critical to the mission.

Performance Threshold. The minimum performance level of a performance objective required by the Government.

Quality Assurance (QA). Those actions taken by the Government to assure services meet the requirements of the Performance Work Statement (PWS).

Quality Assurance Personnel (QA or QAP). Individual who monitors a Contractor on a daily basis and who is involved in every aspect of a contract to ensure the Contractor is in compliance with that contract.

Quality Assurance Program Coordinator (QAPC). The individual designated by the contracting squadron commander to manage the installation QA program.

Quality Control (QC). Those actions taken by a Concessionaire to control the performance of services so that they meet the requirements of the SOW.

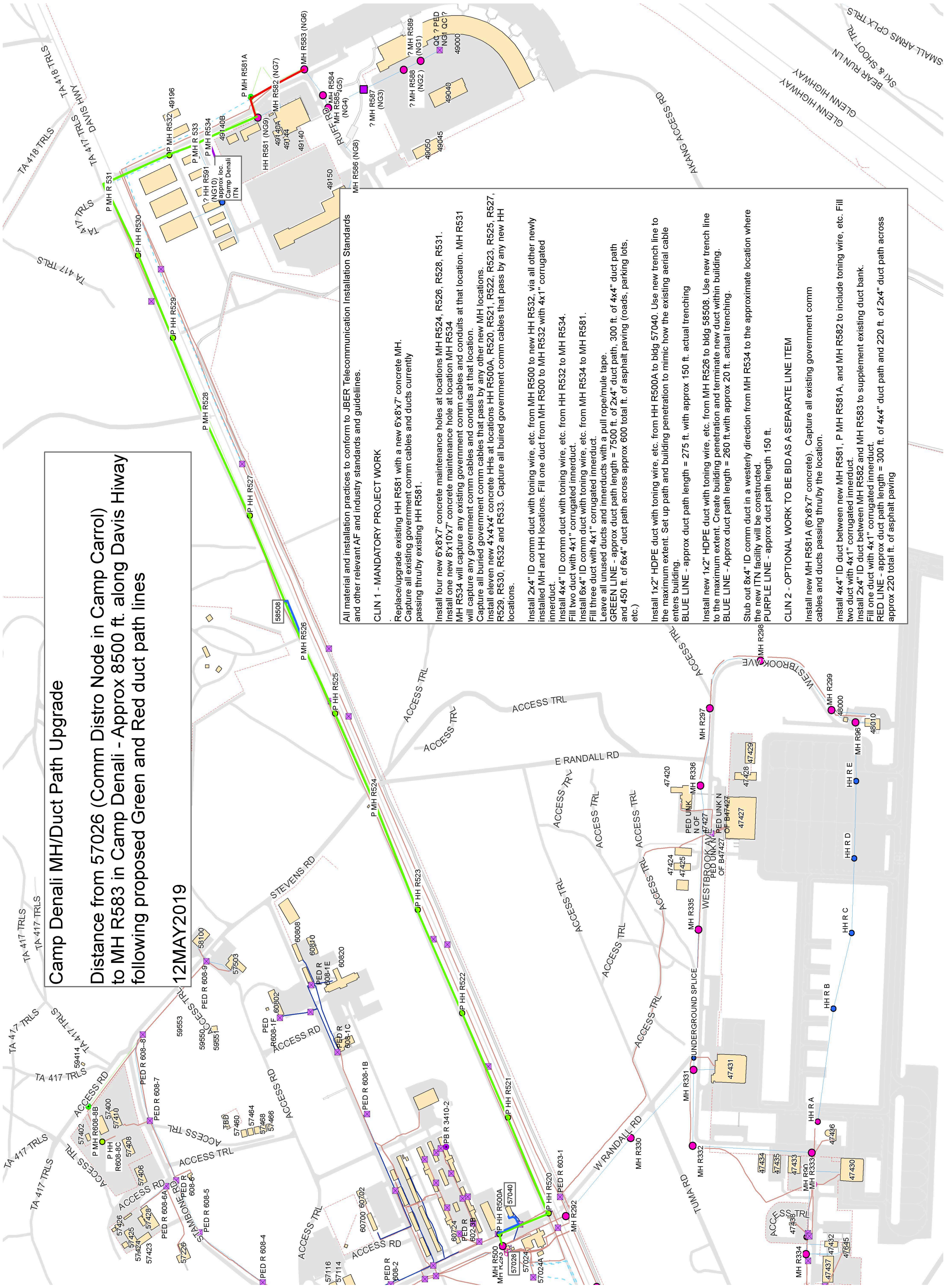
Services Summary (SS). A summary of the performance objective and performance threshold required by the Government in concessionaire performance. Also known as a Performance Requirements Summary or Services Delivery Summary or Performance Requirements Document.

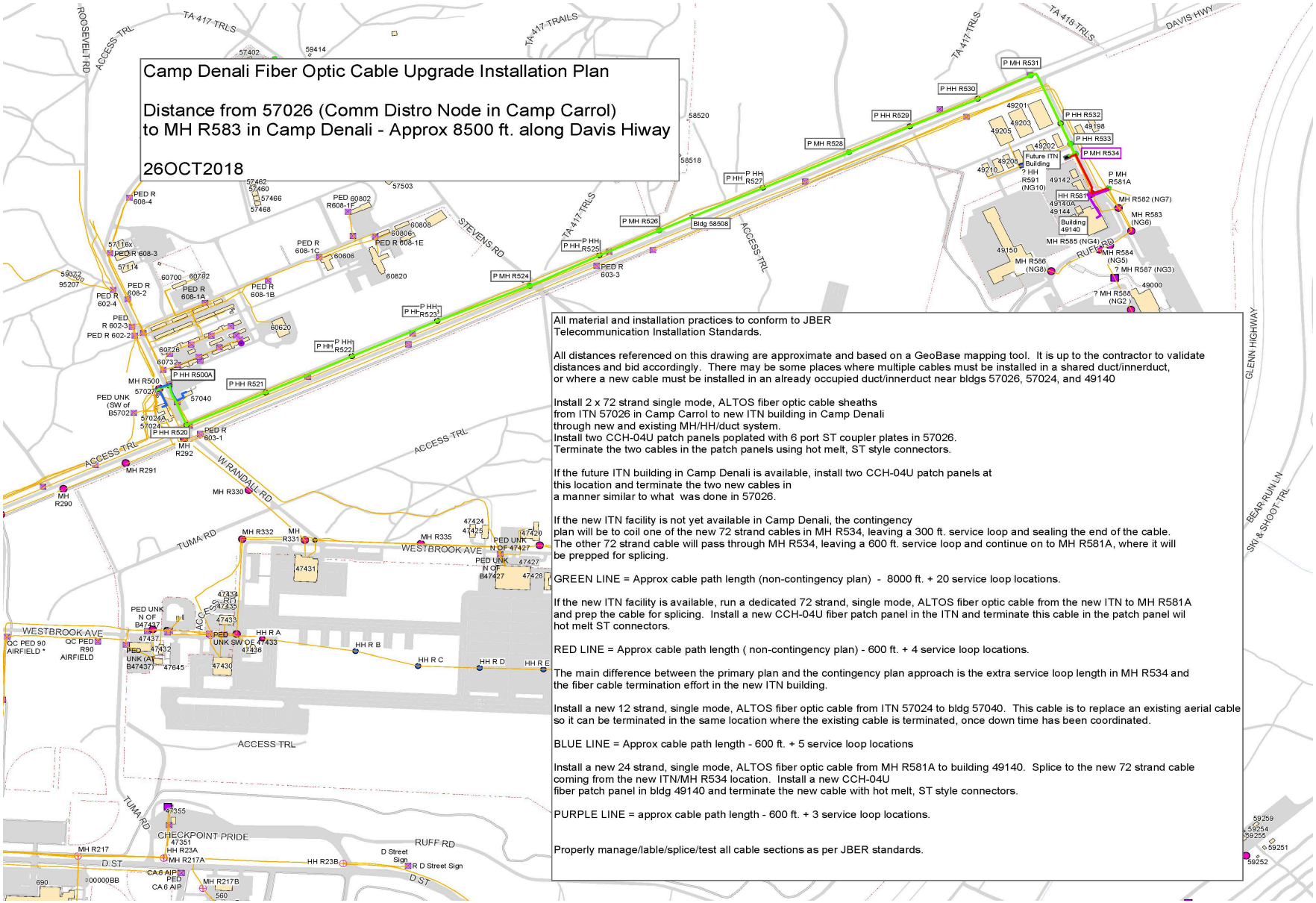
Standard. An exact value, a physical entity, or an abstract concept, established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results. A fixed quantity or quality. A defined measure of comparison.

2.0. ACRONYMS

AFI	Air Force Instruction
ADPE	Automated Data Processing Equipment
AFOSH	Air Force Occupational Safety and Health
AGE	Aerospace Ground Equipment
CM	Contract Manager
CO	Contracting Officer
DV	Distinguished Visitor
FC	Functional Commander
GFP	Government-Furnished Property
IAW	In Accordance With
QAP	Quality Assurance Personnel

APPENDIX 2


Camp Denali MH/Duct Path Upgrade
Distance from 57026 (Comm Distro Node in Camp Carrol) to MH R583 in Camp Denali - Approx 8500 ft. along Davis Hiway following proposed Green and Red duct path lines
12MAY2019
All material and installation practices to conform to JBER Telecommunication Installation Standards and other relevant AF and industry standards and guideliines.
CLIN 1 - MANDATORY PROJECT WORK
Replace/upgrade existing HH R581 with a new 6'x8'x7' concrete MH. Capture all existing government comm cables and ducts currently passing thru/by existing HH R581.
Install four new 6'x8'x7' concrete maintenance holes at locations MH R524, R526, R528, R531.
Install one new 8'x10'x7' concrete maintenance hole at location MH R534
MH R534 will capture any existing government comm cables and conduits at that location. MH R531 will capture any government comm cables and conduits at that location.
Capture all buried government comm cables that pass by any other new MH locations.
Install eleven new 4'x4'x4' concrete HHs at locations HH R500A, R520, R521, R522, R523, R525, R527, R529, R530, R532 and R533. Capture all buried government comm cables that pass by any new HH locations.
Install 2x4" ID comm duct with toning wire, etc. from MH R500 to new HH R532, via all other newly installed MH and HH locations. Fill one duct from MH R500 to MH R532 with 4x1" corrugated innerduct.
Install 4x4" ID comm duct with toning wire, etc. from HH R532 to MH R534.
Fill two duct with 4x1" corrugated innerduct.
Install 6x4" ID comm duct with toning wire, etc. from MH R534 to MH R581.
Fill three duct with 4x1" corrugated innerduct.
Leave all unused ducts and innerducts with a pull rope/mule tape.
GREEN LINE - approx duct path length = 7500 ft. of 2x4" duct path, 300 ft. of 4x4" duct path and 450 ft. of 6x4" duct path across approx 600 total ft. of asphalt paving (roads, parking lots, etc.)
Install 1x2" HDPE duct with toning wire, etc. from HH R500A to bldg 57040. Use new trench line to the maximum extent. Set up path and building penetration to mimic how the existing aerial cable enters building.
BLUE LINE - approx duct path length = 275 ft. with approx 150 ft. actual trenching
Install new 1x2" HDPE duct with toning wire, etc. from MH R526 to bldg 58508. Use new trench line to the maximum extent. Create building penetration and terminate new duct within building.
BLUE LINE - Approx duct path length = 260 ft.with approx 20 ft. actual trenching.
Stub out 8x4" ID comm duct in a westerly direction from MH R534 to the approximate location where the new ITN facility will be constructed.
PURPLE LINE - approx duct path length 150 ft.
CLIN 2 - OPTIONAL WORK TO BE BID AS A SEPARATE LINE ITEM
Install new MH R581A (6'x8'x7' concrete). Capture all existing government comm cables and ducts passing thru/by the location.
Install 4x4" ID duct between new MH R581, P MH R581A, and MH R582 to include toning wire, etc. Fill two duct with 4x1" corrugated innerduct.
Install 2x4" ID duct between MH R582 and MH R583 to supplement existing duct bank.
Fill one duct with 4x1" corrugated innerduct.
RED LINE - approx duct path length = 300 ft. of 4x4" duct path and 220 ft. of 2x4" duct path across approx 220 total ft. of asphalt paving
approx loc. Camp Denali ITN
MH R583 (NG6)
P MH R581A
MH R582 (NG7)
HH R581 (NG9)
P MH R 531
P HH R530
P HH R529
P MH R528
P HH R527
P MH R526
P HH R525
P MH R524
P HH R523
P HH R522
P HH R521
P HH R520
HH R500A
MH R500
57026
57040
58508
DAVIS HWY
GLENN HIGHWAY
AKANG ACCESS RD
E RANDALL RD
W RANDALL RD
WESTBROOK AVE
STEVENS RD
TUMA RD
ACCESS RD
ACCESS TRL


Camp Denali Fiber Optic Cable Upgrade Installation Plan
Distance from 57026 (Comm Distro Node in Camp Carrol)
to MH R583 in Camp Denali - Approx 8500 ft. along Davis Hiway
26OCT2018
All material and installation practices to conform to JBER
Telecommunication Installation Standards.
All distances referenced on this drawing are approximate and based on a GeoBase mapping tool. It is up to the contractor to validate distances and bid accordingly. There may be some places where multiple cables must be installed in a shared duct/innerduct, or where a new cable must be installed in an already occupied duct/innerduct near bldgs 57026, 57024, and 49140
Install 2 x 72 strand single mode, ALTOS fiber optic cable sheaths from ITN 57026 in Camp Carrol to new ITN building in Camp Denali through new and existing MH/HH/duct system.
Install two CCH-04U patch panels poplated with 6 port ST coupler plates in 57026.
Terminate the two cables in the patch panels using hot melt, ST style connectors.
If the future ITN building in Camp Denali is available, install two CCH-04U patch panels at this location and terminate the two new cables in a manner similar to what was done in 57026.
If the new ITN facility is not yet available in Camp Denali, the contingency plan will be to coil one of the new 72 strand cables in MH R534, leaving a 300 ft. service loop and sealing the end of the cable. The other 72 strand cable will pass through MH R534, leaving a 600 ft. service loop and continue on to MH R581A, where it will be prepped for splicing.
GREEN LINE = Approx cable path length (non-contingency plan) - 8000 ft. + 20 service loop locations.
If the new ITN facility is available, run a dedicated 72 strand, single mode, ALTOS fiber optic cable from the new ITN to MH R581A and prep the cable for splicing. Install a new CCH-04U fiber patch panel in the ITN and terminate this cable in the patch panel wil hot melt ST connectors.
RED LINE = Approx cable path length (non-contingency plan) - 600 ft. + 4 service loop locations.
The main difference between the primary plan and the contingency plan approach is the extra service loop length in MH R534 and the fiber cable termination effort in the new ITN building.
Install a new 12 strand, single mode, ALTOS fiber optic cable from ITN 57024 to bldg 57040. This cable is to replace an existing aerial cable so it can be terminated in the same location where the existing cable is terminated, once down time has been coordinated.
BLUE LINE = Approx cable path length - 600 ft. + 5 service loop locations
Install a new 24 strand, single mode, ALTOS fiber optic cable from MH R581A to building 49140. Splice to the new 72 strand cable coming from the new ITN/MH R534 location. Install a new CCH-04U fiber patch panel in bldg 49140 and terminate the new cable with hot melt, ST style connectors.
PURPLE LINE = approx cable path length - 600 ft. + 3 service loop locations.
Properly manage/lable/splice/test all cable sections as per JBER standards.
ROOSEVELT RD
ACCESS TRL
TA 417 TRLS
DAVIS HWY
GLENN HIGHWAY
STEVENS RD
RUFF RD
TUMA RD
W RANDALL RD
WESTBROOK AVE
CHECKPOINT PRIDE
BEAR RUN LN
SKI & SHOOT TRL
Bldg 58508
Future ITN Building
Building 49140
MH R291
MH R292
MH R330
MH R331
MH R332
MH R335
MH R217
MH R217A
MH R217B
MH R581A
MH R582 (NG7)
MH R583 (NG6)
MH R584 (NG5)
MH R585 (NG4)
MH R586 (NG8)
? MH R587 (NG3)
? MH R588 (NG2)
P MH R531
P HH R530
P HH R529
P MH R528
P MH R526
P MH R524
P HH R500A
P HH R521
P HH R520
HH R A
HH R B
HH R C
HH R D
HH R E
HH R23A
HH R23B
D Street Sign
D ST

APPENDIX 3

APPLICABLE PUBLICATIONS AND FORMS –

- **JBER Telecommunication Installation Standards – 18 Dec 2018**