

SPECIFICATIONS

FOR

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1

XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2

XTLF23-1016 Construct Sidewalks, B07191

XTLF24-1020 Construct Club Access Road, B07161



VANCE AIR FORCE BASE, OKLAHOMA

MARCH 2021

100% BID SPECIFICATIONS

Prepared By

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INDEX TO SPECIFICATIONS

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NOTE: Following sections are from Oklahoma Department of Transportation 2019 Standard Specifications for Highway Construction. Following specifications sections may refer to other section not listed here. The contractor shall conform to all sections of the ODOT specifications that relate to this project

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SECTION 00 01 15 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set, as modified by subsequent Addenda and Contract modifications.

List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

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G002	PROJECT LOCATION & HAUL ROUTE
G003	GENERAL NOTES (1)
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G006	SUMMARY OF QUANTITIES- SIDEWALKS & ACCESS ROAD
G007	SUMMARY OF QUANTITIES-TRAFFIC (1)
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G009	EXISTING CONDITIONS (1)
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G011	EXISTING CONDITIONS (3)
G012	EXISTING DRAINAGE MAP
G013	PROPOSED DRAINAGE MAP
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C102	DEMOLITION PLAN (2) - WB PH1
C103	EROSION CONTROL PLAN (1) - WB PH1
C104	EROSION CONTROL PLAN (2) - WB PH1
C105	ROADWAY PLAN & PROFILE (1) - WB PH1
C106	ROADWAY PLAN & PROFILE (2) - WB PH1
C107	SIDEWALK RAMPS -WB PH1
C108	JOINT LAYOUT (1) - WB PH1
C109	JOINT LAYOUT (2) - WB PH1
C110	STORM SEWER PLAN (1) - WB PH1
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C115	SUGGESTED SEQUENCE OF CONSTRUCTION - WB PH1
C116	ADVANCED SIGNS - WB PH1
C117	SUGGESTED TRAFFIC CONTROL - WB PH1
C118	SIGNING & STRIPING PLAN (1) - WB PH1

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C203	EROSION CONTROL PLAN (1) - EB PH2
C204	EROSION CONTROL PLAN (2) - EB PH2
C205	ROADWAY PLAN & PROFILE (1) - EB PH2
C206	ROADWAY PLAN & PROFILE (2) - EB PH2
C207	SIDEWALK RAMPS- EB PH2
C208	SPOT ELEVATIONS - EB PH2
C209	JOINT LAYOUT (1) - EB PH2
C210	JOINT LAYOUT (2) - EB PH2
C211	STORM SEWER PLAN (1) - EB PH2
C212	STORM SEWER PLAN (2) - EB PH2
C213	STORM SEWER PROFILE (1) - EB PH2
C214	STORM SEWER PROFILE (2) - EB PH2
C215	SUGGESTED SEQUENCE OF CONSTRUCTION - EB PH2
C216	ADVANCED SIGNS - EB PH2
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C218	SUGGESTED TRAFFIC CONTROL (2) - EB PH2B
C219	SIGNING & STRIPING PLAN (1) - EB PH2
C220	SIGNING & STRIPING PLAN (2) - EB PH2
C301	SIDEWALK PLAN (1)- PH3
C302	SIDEWALK PLAN (2)- PH3
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2019 ODOT ROADWAY & TRAFFIC STANDARDS

ROADWAY-STRIPING-TRAFFIC CONTROL-LIGHTING

SSS-2 SOLID SLAB SODDING
TRFD-2 TEMPORARY ROCK FILTER DAMS
ASCD-6 ASPHALT SURFACING CONSTRUCTION DETAILS
CSCD-6 CONCRETE SURFACING CONSTRUCTION DETAILS
LECS-5 JOINTS AND SEALERS- LONGITUDINAL, EXPANSION/ISOLATION AND CONTRACTION
LTU-5 LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS
WCR-4 WHEELCHAIR RAMPS
TWD-2 TACTILE WARNING DEVICES
CDIB30-2 CONCRETE DROP INLETS FOR 30DEG SKEW R.C. BOXES
CDIP30-2 CONCRETE DROP INLETS FOR 30DEG SKEW 18" TO 72" RCP
CI-2 CURB INLETS
MJB-4 MANHOLES AND JUNCTION BOXES
SPB-2 STANDARD PIPE BEDDING
TCS1-1 TRAFFIC CONTROL CONSTRUCTION NOTES
TCS2-1 TRAFFIC CONTROL TABLES AND CHARTS
TCS 3-1 TEMPORARY TRAFFIC CONTROL ELEMENTS
TCS 4-1 TRAFFIC CONTROL DEVICES
TCS 5-1 TYPICAL SIGN INSTALLATION
TCS 6-1 CHANNELIZING DEVICES
TCS 7-1 ADVANCE WARNING SIGNS
TCS 8-1 CONSTRUCTION SIGNS
TCS 9-1 CONSTRUCTION SIGNS
TCS 10-1 CONSTRUCTION SIGNS
TCS 14-1 CONSTRUCTION SIGNS
TCS 15-1 CONSTRUCTION SIGNS
TCS 21-1 CONSTRUCTION ZONE PAVEMENT MARKINGS
TCS 22-1 CONSTRUCTION ZONE PAVEMENT MARKINGS
CCD1-1 TYPICAL CONDUIT CONSTRUCTION DETAILS (FOR UNDERGROUND INSTALLATION)
PBD1-1 TYPICAL PULL BOX DETAILS
SCD1-1 TYPICAL SPLICE AND CONNECTOR DETAILS
TEWD1-2 TYPICAL ELECTRICAL WIRING DETAILS
PM1-1 PAVEMENT MARKING (CROSSWALKS AND LEFT TURN BAY)
PM5-1 PAVEMENT MARKING (WORDS AND NUMERALS)
PM6-1 PAVEMENT MARKING (ARROWS)
MOD1-1 STANDARD MEDIAN OPENING DETAILS (ALL WAY INTERSECTION)
MOD2-1 STANDARD MEDIAN OPENING DETAILS (T-INTERSECTION)
RSD 1-1 REGULATORY SIGN DETAILS (R-SERIES)
RSD 2-1 REGULATORY SIGN DETAILS (R-SERIES)
WSD 1-1 WARNING SIGN DETAILS (W-SERIES)
WSD 3-1 WARNING SIGN DETAILS (W-SERIES)
SBS 1-1 SIGN BLANK AND BRACKET DETAILS

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SBS 2-1 SIGN BLANK AND BRACKET DETAILS
SBS 3-1 SIGN BLANK AND BRACKET DETAILS
SBS 5-1 SIGN BLANK AND BRACKET DETAILS
GMS 1-1 TYPICAL INSTALLATIONS OF GROUND MOUNTED SIGNS
GMS 2-1 TYPICAL INSTALLATIONS OF GROUND MOUNTED SIGNS & OBJECT MARKERS
SSP 1-1 SQUARE TUBE POST DETAILS
SSA 1-1 SHEET SIGN ASSEMBLY DETAILS (SQUARE TUBE)
SSA 2-1 SHEET SIGN ASSEMBLY DETAILS (GALVANIZED PIPE)
FGS 1-1 STANDARD FOOTINGS FOR GROUND MOUNTED SIGNS (GALVANIZED PIPE)

END OF DOCUMENT 00 01 15

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SECTION 01 00 00 - GENERAL PROVISIONS

PART 1 - GENERAL

1.1 SCHEDULE OF WORK

- A. Contractor shall complete work on this contract with minimum interference to normal functions around this area.
- B. Contractor shall be responsible for establishing a schedule to meet construction time.
- C. For this contract, the Contractor shall perform the work according to Schedule “C” attached after this Section.
 - 1. THERE IS CURRENTLY NO FUNDING FOR THIS SOLICITATION. THE U.S. AIR FORCE IS SOLELY RESPONSIBLE FOR PROVIDING ALL FUNDING RELATED TO THE SOLICITATION. SHOULD THE U.S. AIR FORCE NOT FUND THIS PROJECT, NO CONTRACT WILL RESULT. ASRC FEDERAL COMMUNICATIONS ACCEPTS NO RESPONSIBILITY SHOULD THE U.S. AIR FORCE NOT PROVIDE FUNDING. IF FUNDING IS PROVIDED, ASRC WILL AWARD ONE AND ONLY ONE CONTRACT AS A RESULT OF THIS SOLICITATION. AWARD WILL BE BASED ON THE AGGREGATE TOTAL OF ALL UNIT PRICE BASE BID PROVIDING THE BEST VALUE TO THE GOVERNMENT AND ASRC. ASRC RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL OFFERS. FAILURE TO BID ON ALL LINE ITEMS WILL RENDER THE BID AS NON-RESPONSIVE. PRICES SHALL BE EFFECTIVE FOR TWELVE CALENDAR MONTHS FROM DATE OF AWARD SHOULD A CONTRACT RESULT. QUANTITIES ARE ESTIMATED AND PROVIDE FOR BID BASIS ONLY. ACTUAL WORK MAY VARY BUT WILL BE PAID FOR AT THE BID UNIT COSTS.
- D. Contractor shall develop, and submit for approval a Critical Path Method (CPM) schedule indicating all work activities including required interruptions of utilities, facilities activities, traffic flow, etc.
- E. Contractor shall coordinate his work with the Construction Manager to avoid interference with necessary activities within and adjacent to the construction site. The Contractor shall coordinate the work of all trades to prevent any conflicts. The Contractor before proceeding with the construction shall resolve any conflicts of components.
- F. Contractor shall conduct his work so the Government property and personnel, other personnel, and work areas shall be protected at all times from inconvenience, damage of any nature, or injury caused by this work until completion of the contract.
- G. If asbestos or lead materials are present on construction area, the contractor must prepare a remediation plan and submit to the Base Engineer for review and approval
- H. Contractor shall consult with the Bio-Environmental Engineering department at the Base prior to bringing Radioactive Material on the site.
- I. Contractor must perform dust control measures at all times during construction hours.

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1.2 WORKING HOURS

- A. Working Hours: Refer to contract documents.
- B. Contractor shall have all materials for his work delivered during normal working hours and shall have a representative present to receive shipments. The contractor shall be particularly aware that all delivery vehicles are subject to inspection and must have sufficient information as to project's location. This includes name and address of the project site and name of prime contractor and a point of contact for delivery.
- C. Contractor is responsible for obtaining passes to enter the installation. The contractor shall coordinate with Construction Manager to obtain approval and documentation for application of passes/ID.
- D. Contractor shall perform all work during normal working hours except as otherwise approved to accommodate agreed upon "shut-downs" and other required "after hours" work. At no time shall any facility have their services or utilities disrupted during normal working hours without prior approval from the Construction Manager.

1.3 DIRECTIONAL HAUL ROUTE

- A. The Construction Manager shall designate haul routes. These haul routes shall be used by the contractor.

1.4 CONTRACTOR QUALITY ASSURANCE

- A. Contractor shall be responsible for the quality of all completed work. Contractor shall guarantee each entire system and each element thereof against any defect due to faulty workmanship, design or material.
- B. In the event of damages of any nature caused by this work (including maintenance and warranty operations) due to improper protection, precaution, or safety measures, such damages shall be repaired or such property shall be replaced by the Contractor at no expense, cost, or charge to the Government.
- C. In the event the Contractor does not satisfactorily repair or replace such damage caused by the work of the contract, the Government reserves the right to make the necessary corrections and deduct from the contract price the cost to the Government for inconveniences, labor material, etc. involved.
- D. At final acceptance, deliver to the Construction Manager all warranties with terms extending beyond the one-year guarantee period, each warranty instrument being addressed to the Construction Manager and stating the commencement date and term.

1.5 CONSTRUCTION SAMPLING AND TESTING

- A. Contractor shall be responsible for ordering the testing of all construction materials used in the construction of this project and the testing of all construction processes. The testing requirements are identified in each section of the specifications. All tests, test samples and

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test reports shall be performed by a certified commercial testing laboratory and at the Contractor's expense.

- B. Testing laboratory submitted must be licensed to operate in the State of Oklahoma. The laboratory certification shall be submitted to the Construction Manager for approval.
- C. The testing laboratory shall be required to process tests and test results in a timely manner. After each individual test is completed, the Construction Manager, shall receive the PDF copy of the test results not later than 24 hours after completion of each test.
- D. All reports submitted shall contain the Project identification name and number, date of test, type of testing, location of sampling of materials or completed work in the project, name of technician performing the test.

1.6 SPECIAL SAFETY REQUIREMENTS FOR USE OF NUCLEAR DENSITY TEST EQUIPMENT

- A. The following information shall be provided in writing by the Commercial testing laboratory:
 - 1. A description of the proposed tests.
 - 2. The name (s) and qualifications of individual (s) who will be using the equipment.
 - 3. A copy of the applicable NRC agreement or State license.
 - 4. A copy of the license application or pertinent parts thereof.
 - 5. A list of safety procedures for protection of himself and others in the area from the radioactive material.
- B. Coordinate with the Vance AFB Installation Radiation Safety Officer (IRSO) prior to transporting any Radioactive Materials (RAM) onto the base, including any Nuclear Density test equipment. The information from paragraph A will be utilized to produce an authorization letter for the personnel conducting the testing IAW AFMAN 40-201. The IRSO is located in the Bioenvironmental Engineering work center and can be contacted at (580) 213-5424/7241 or at usaf.vance.71-mdg.mbx.71-mdg-bee@mail.mil.

1.7 PROVIDED SERVICES AND UTILITIES

- A. Water: All reasonable required amounts of water will be made available to the Contractor from the overhead fill stand. The overhead water fill stand is located at the south end of the Vance Air Force Base near building number 925. It will be the Contractor's responsibility to furnish all required vehicles to transport water to the job site from the overhead fill stand.
- B. Electricity: All reasonable required amounts of electric power will be made available to the Contractor by Contracting Administrator from the nearest suitable and available connection. The Contractor will furnish all connectors, switches, conductors and other required equipment to provide electricity at the job site from the approved Contracting Administrator source. All electrical equipment and conductors used by the Contractor within 50 feet of any fuel pipes or storage tanks shall be approved for use in Class 1, Division 1, Group C, hazardous areas. Contractor shall provide safety protection and precautions for any electrical exposure.

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- C. Whenever the Contractor uses portable electrical tools or equipment in an outside location or in an interior wet location where floor is conductive such as concrete, the Contractor shall provide and use a portable ground fault circuit interrupter (GFCI). This shall apply wherever electric power is supplied through Government-controlled facilities. The Contractor shall be responsible for maintaining the GFCI in operating condition and testing it before each use.

1.8 INVENTORY OF INSTALLED PROPERTY

- A. A list of that equipment, which requires electrical power or fuel or, requires removal or replacement shall be made and kept up to date as installed. The list should be in the following format.
 - 1. Description
 - 2. Manufacturer Model or Catalog Number
 - 3. Model and Serial Number
 - 4. Size or Capacity
 - 5. Net inventory costs
- B. The final list shall be completed on a form provided by and turned over to the Construction Manager two weeks before to pre-final inspection.

1.9 INSPECTION

- A. The work will be conducted under the general direction of the Construction Manager and is subject to the inspections of the appointed construction management inspectors to ensure strict compliance with the terms of the contract.

1.10 UNDERGROUND UTILITIES

- A. Plans and specifications were prepared using the best available information on utility locations. Any underground utilities within the work areas will initially be located and identified with paint markings on the surface by base personnel. The Contractor shall maintain utility paint markings after base personnel have located them. The Contractor shall not begin any below grade work until he or she has an approved Air Force Form 103, BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST.
- B. After the Contractor requests a digging permit, the Contractor shall allow up three weeks for base personnel to process the permit. After obtaining the completed Air Force Form 103, the Contractor shall expose all utility lines marked in the area (s) of construction by HAND DIGGING ONLY. Hand excavation shall extend a minimum of 24 inches either side of the identifying mark and from existing grade down to the utility line or electrical conduit. The Contractor shall not use any mechanical digging equipment of any kind within this area until each individual utility has been exposed.
- C. Any underground communication lines, utilities, drainage systems, that were properly located and identified with paint markings by base personnel and are damaged shall be repaired by the Contractor. The Contractor shall also repair any drainage and utility manholes, adjacent pavement, structures and fences. The Contractor shall be responsible for contracting and

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paying for all services required repairing of any items damaged. Repairs and restoration of communication lines and/or utilities shall be made before the Contractor leaves the project at the end of the workday in which the interruption takes place. Any items damaged by the Contractor shall be replaced and/or repaired as directed by the Construction Manager.

1.11 UTILITY/ALARM SERVICE INTERRUPTIONS

- A. Any connection to, or relocation of, any existing utility line requiring temporary discontinuation of normal utility services to buildings shall be scheduled and coordinated with representatives of the Construction Manager 21 days in advance. All time required for the installation of any such connections and/or relocations shall be included in the bid. In no case shall the utilities be left disconnected at the end of a workday or over the weekend unless authorized by the Construction Manager. The contractor shall fill out a "Utility Service Outage Request Form" and submit it to the Construction Manager. The contractor may be required to attend a coordination meeting to access the purpose, intent, and impact of the outage request with the facility and any or all operations departments. Contractors shall not shut-down or start-up any mechanical, electrical or plumbing system without the coordination and/or permission from the Construction Manager.
- B. Any existing utilities damaged due to the negligence of any Contractor shall be repaired to the satisfaction of the Construction Manager at no increase in the contract amount. Repairs and restoration of utilities shall be made before workmen leave the project at the end of the workday in which the interruption takes place. Contractor shall include in his bid the cost of furnishing temporary facilities to provide all essential services during interruption of normal utility service.
- C. All fire alarm system disconnects, outages, and returns to service must be coordinated with the fire department and the Construction Manager representative. Provide at least 72 hours' notice of system outage.

1.12 GOVERNING LAWS AND ORDINANCES

- A. Work to be performed under this contract shall be in full accordance with the laws and ordinances pertinent to such work, including all applicable DoD Unified Facilities Criteria. In case of any conflict wherein the methods or standards of installation or the material specified or manufacturer's recommendation do not equal or exceed the requirements of the laws and ordinances, the laws and ordinances shall govern. The words "laws and ordinances" as used herein shall mean all local, state, and national codes, laws, ordinances, standards, rules and regulations of any nature which are in any way pertinent to or regulatory over the work covered in this project.

1.13 CONTRACTOR'S REPRESENTATIVE

- A. A representative of the Contractor shall directly supervise construction of this project. This person shall be responsible for coordinating all phases of work with both the Subcontractors and Construction Management. The representative shall be on the job site or readily accessible at all times work is being performed and shall have authority to execute no cost field changes on behalf of the Contractor if agreed to by all parties involved. This person will

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also be responsible for all Quality Control of the job site and will be held responsible by for the installation of all work in accordance with the specifications. The representative shall be competent and familiar with all phases of work under his authority. The Contractor's representative shall be required to have o possession a mobile phone with the ability to send and receive email. Both the phone number and email address shall be provided to both the Contracting office and the Construction Manager.

1.14 SPECIFICATION AND WORKING DRAWINGS

- A. Work required in any paragraph of any section of these specifications shall not in any way limit responsibility of the Contractor to perform all work and to furnish all material required by these specifications and the drawings. Where any similar materials and/or devices (such as "an electrical component") are specified, applicable references shall be deemed to apply to as many such materials and/or devices as are required to complete the installation as shown on the drawings.
- B. All drawings are diagrammatic and are intended to qualify the materials specified and indicate their intended relationship to each other. The drawings are not to be scaled, rather field conditions should dictate placement. The various scales used on the drawings may not allow the indications of all fittings, offsets, and accessories that may be required. The Contractor is to carefully investigate the conditions that would affect the work to be performed and shall arrange such work accordingly.

1.15 AS-BUILT DRAWINGS

- A. The Contractor shall keep an as-built set of drawings on site. This "Field-Record" or as-built set shall be updated daily or as changes occur. After completion of all work under this contract, the Contractor shall provide Construction Management with one full-size set of marked-up-drawings showing the location of all covered utilities and all changes from original requirements, including amendments, field changes, and change orders. This completed information shall be provided to the Construction Manager before final payment is authorized. All deviations from the original plans shall be marked in red, including dimensions and notes as required.
- B. RE: 01 70 00 "Contract Closeout" for requirements of final deliverables.

1.16 ENVIRONMENTAL PROTECTION

- A. Contractor personnel shall, at all times, perform all work and take such steps required to prevent any interference or disturbances to the ecological balance of the environment. All work must be performed in accordance with applicable Federal, State, Local, and Air Force environmental regulations. Use good management practices to protect air, water, land and wildlife and to prevent noise, solid waste, radiant energy, dust and radioactive pollutants. In the event of a chemical or hazardous material spill, the contractor must immediately notify the Vance AFB Fire Department and the Construction Manager.

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1.17 EXCESS MATERIALS (EXCLUDING HAZARDOUS MATERIALS OR WASTE)

- A. All excess materials resulting from demolition except excavated soil shall become the property of the contractor. All contractor generated rubbish shall be disposed of by the contractor off base at his own expense. All excess excavated soil shall be transported off base as directed by the Construction Manager.
- B. There are no known hazardous materials (such as asbestos) in this project.

1.18 EXCESS MATERIALS (INCLUDING HAZARDOUS MATERIALS OR WASTE)

- A. Lead Based Paint: It is not anticipated that lead based paint will be encountered on this project. Lead content of painted surfaces is unknown. Significant dust generation could cause lead exposure to workers. Should questionable unidentified materials be encountered, the contractor shall notify the Construction Manager immediately for positive identification and disposition instructions.
 - 1. If any lead based paint is encountered it will be handled as follows:
 - a. OSHA requirements as outlined in 29 CFR Part 1926.62.
 - b. Salvageable items and debris containing lead shall remain the property of the government. The salvageable items shall be removed intact, containerized and given to the government.
 - c. Minor items such as paint chips shall be removed in a way to minimize dust generation and migration. These materials shall be containerized and delivered to the government on base.
- B. Asbestos Materials: It is not anticipated that asbestos containing materials (ACM) will be encountered on this project. Should questionable unidentified materials be encountered, the contractor shall notify the Construction Manager immediately for positive identification and disposition instructions.

1.19 CONSTRUCTION AND DEMOLITION DEBRIS WASTE MANAGEMENT AND DISPOSAL

- A. All materials resulting from construction and demolition activities, not required for backfill, shall become the property of the Contractor. The Base may be able to accept some good topsoil.
- B. The Contractor shall use all available means to divert construction and demolition debris from landfills to the greatest extent that is both practical and economically feasible. The Contractor shall provide weight tickets of all salvaged and recycled materials, and also all materials that are disposed of in the landfill. The contractor will provide the weight tickets to the Construction Manager to coordinate with Environmental Branch. The base Defense Reutilization and Marketing Office, DRMO, will accept scrap metal that is offloaded by the Contractor, separated by type of metal and in pieces up to three feet in length. Deliveries to DRMO will be accomplished no later than 1530 hours. Truck scales will be provided at DRMO to weigh before and after the delivery of the scrap metal material. The Contractor may call DRMO at 213-7684 if any question arises about what they will and will not accept as recyclable or salvageable materials. Any construction and demolition materials that are not delivered to

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DRMO shall be hauled off Vance Air Force Base at the Contractor's expense. Any material hauled off base that cannot be salvaged or recycled shall be disposed of properly in an approved sanitary landfill. All materials shall be properly loaded and covered on the truck so that no materials fall off the truck in route to the landfill. Should questionable unidentified material be encountered, the Contractor shall cease work in the area of question and notify the Construction Manager immediately for positive identification and disposition instructions.

- C. Clean concrete, brick, rock, and dirt do not require disposal in a certified landfill. This material shall be disposed off base in any legal manner that will not result in liability to the United States Air Force. Payment for services to the Contractor shall not be released until Contractor has provided copies of all landfill receipts to the Construction Manager. The Contractor shall comply with all state, local, federal, and military Authorities Having Jurisdiction (AHJ).
- D. No Class I Ozone Depleting Chemical (ODC's) have been specified, and shall not be used unless otherwise allowed by the Construction Manager.

1.20 SPECIAL MATERIALS

- A. Prohibited Material: The manufacturer of traffic marking paint shall certify that the product does not contain mercury, toluene, chlorinated solvents, hydrolysable chlorine derivatives, ethylene based glycol ethers and their acetates, nor any carcinogen, as defined in 29 CFR 1910.1200. Traffic marking paint furnished will not contain Lead and hexavalent chromium compounds. In addition, the Contractor shall comply with Federal Regulation 16 CFR-1303 in the use of lead, used for paints, children's articles, toys, playground equipment, furniture, or any exterior or interior surface of a dwelling or facility. When tested as specified ASTM - D 3335, the lead content shall not exceed 0.006 percent by weight of the dry film and the test for chromium content shall be negative.

1.21 BARRICADES/CONTRACTOR PARKING

- A. The Contractor shall install and maintain suitable barricades, to protect traffic while work is in progress. The barricades shall be of light construction and anchored with sandbags. The face of each barrier will be marked with alternating diagonal orange and white stripes of at least 6 inches and not over 8 inches in width. The area is outlined with single barricade every 25 feet or less between corners. The barricades shall be either new or a minimum of good condition and repair.
- B. The Contractor shall notify their employees to park Contractor equipment, vehicles and employee vehicles on site areas or areas designated by Construction Manager.
- C. The Contractor shall notify Construction Management and the Vance Fire Department a minimum of 24 hours prior to installing barricades near fire hydrants.

1.22 CONTRACTOR CONSTRUCTION SITE, STAGING AND STORAGE AREA MAINTENANCE

- A. To prevent Foreign Object Debris (FOD) from blowing onto active airfield pavements, and possibly damaging aircraft, the Contractor shall keep all debris and rubbish picked up in the project and storage areas on a continual basis. The Contractor shall mow and trim all grass

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and weeds around stored equipment and materials in the construction storage area and mow all grass and weeds surrounding the construction areas on a weekly basis.

- B. Project site and lay down / staging areas shall be enclosed with a 6' chain link fence with 9 gauge wire, hot-dipped galvanized steel supports, framing, fittings and brown fabric screening. Items stored in the lay down area shall be arranged neatly.
- C. All temporary storage trailers and storage containers shall present a neat and clean appearance and shall be in a state of good repair and shall be located within the fenced area described in paragraph above.
- D. An office mobile unit may be located outside of a fenced area, obtain approval from Construction Manager. At a minimum, this unit shall be in a paved area and shall present a neat, professional appearance with presentable skirting and access stairs. Ancillary items, such as porches and canopies, shall be neat and painted. Office shall be clearly labeled with the Corporate logo and a phone number for after-hours contact.
- E. Execution of work may require excavation or other type of work both at and away from primary work area. These areas shall be secured and work times shall be kept to a minimum. Open excavations shall be directly in progress or shall be covered directly after work complete. Open excavations requiring extended period of inactivity shall be temporarily backfilled. In no case shall an excavation be open for more than 72 hours. Contractor shall be responsible for the storage of all materials and equipment. All items shall be properly stored to maintain their original condition until actually installed.
- F. The Contractor storage area shall be designated by the Construction Manager.

1.23 REPAIR OF GOVERNMENT OWNED FACILITIES

- A. In order to complete the work on this project, certain Government-owned facilities may have to be removed or altered in some way and others may be inadvertently damaged. It is the responsibility of the Contractor to return these facilities to a condition acceptable to the Government.

1.24 PRE-BID CONFERENCE AND SITE VISIT

- A. It is recommended that all prospective Contractors attend the pre-bid conference and visit the project site.

1.25 PRE-CONSTRUCTION CONFERENCE

- A. Contractor will be required to attend a pre-construction conference that will be scheduled at Vance AFB. This conference will be held before actual commencement of work. The Contractor will be notified by the Contracting Office as to the time and date that the pre-work conference is to be held.

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1.26 CLEANLINESS OF CONTRACTOR'S EQUIPMENT

- A. Equipment used in the accomplishment of this contract shall be cleaned of all debris before bringing this equipment on Government property.

1.27 CONSTRUCTION AREAS AND PROJECT PHASING

- A. Required phasing, if any, is described in Schedule F. Phased work shall be limited to only one construction area at a time.
- B. Requirements of construction phasing will be discussed with the Contractor during the pre-construction conference.

1.28 CONTRACTOR INGRESS AND EGRESS TO WORK AREA

- A. Contractor will be responsible for employees' ingress and egress to the working areas as specified at the pre-work conference.
- B. Contractor vehicles and equipment shall follow a traffic route as discussed at the pre-construction conference. During the periods of time when the Contractor is not engaged in work, all equipment and vehicles shall be withdrawn to the Contractors storage areas designated.

1.29 BASE REGULATIONS

- A. The Contractor shall conform to base regulations and directives pertaining to the following insofar as they pertain to the Contractor's activities as directed by the:
 - 1. Security and personnel clearances.
 - 2. Traffic and safety.
 - 3. Severe weather warning requirements.
 - 4. Vance AFB Fire Department regulations.
 - 5. Overall Protection of Vance Air Force Base property.
 - 6. Contractor employees are prohibited from possessing weapons, firearms, or ammunition on themselves or within Contractor-owned or privately owned vehicles while on Vance AFB.

1.30 SITE SAFETY REQUIREMENTS

- A. All work shall be done in compliance with the safety standards as defined in AFI 91-203
- B. The Contractor shall comply with all applicable standards and provisions of the Occupational Safety and Health Act (OSHA).
- C. The Contractor shall take all necessary and prudent safety precautions to ensure the safety of the workforce and other exposed personnel.

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- D. Contractor shall implement local Base procedures for entries to Air Force control/restricted areas where Contractor personnel will work.

1.31 SEVERE WEATHER WARNING REQUIREMENTS

- A. When it is apparent, that adverse weather conditions may exist for the area in which the contract is being executed, the Contractor shall take every precaution to minimize danger to persons and damage to property. These precautions shall be coordinated through the government, (government technical monitor) and shall include closing all openings, removing all loose materials, tools and equipment from exposed locations, removing or securing scaffolding and other temporary work and taking necessary action to tie down and secure all materials on the job site that could blow about as a result of strong surface winds, thunderstorms, etc. This action requirement also includes all non-regular working periods such as nights, Saturdays, Sundays and holidays.

1.32 OBSTRUCTIONS

- A. Contractor will be required to work around and protect all existing underground communication lines, utilities, drainage systems, drainage and utility manholes, adjacent pavement, structures, fences and all other items shown to remain within the work site. The Contractor shall bear all costs for the adjustment, resetting, of those items affected due to elevation change.

1.33 GENERAL REQUIREMENTS

- A. Standard Products: All material and equipment furnished by the contractor shall be new, unused material of high quality. All equipment shall comply with the buy American Act. Contractor shall notify Construction Manager if a deviation is required.
- B. Verification of Dimensions: It is the contractor's responsibility to verify these dimensions in the field prior to the order of materials. Any differences between drawings and a verified dimension shall be noted on the red-lie copy. Any affects to the constructability shall be addressed in written form as a Request for Information (RFI), RE:
- C. Contractor will be required to obtain permits as required by, Vance AFB or the Oklahoma Department of Environmental Quality (ODEQ) in the performance of their work. Contractor shall post or have readily available all permits before work commences.

Dig Permit –Customer Service

Burn Permit – Vance AFB Fire Department

- D. Portable sanitation units for the project shall be supplied by the contractor. This includes maintenance, transportation to and from project site, secure placement of unit as not to obstruct normal public activity, and unit clean-out as needed. The type units provided and placement location(s) shall be approved by the Government.

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1.34 CONTAMINATED SOIL

- A. Contaminated soil from a Trichloroethene (TCE) plume, Benzene plume, Vinyl Chloride plume, and Toxicity Characteristic Leachate Procedure (TCLP) VOCs and Semivolatiles is possible on the base. However, the area within this project location are not expected to encounter any contaminated soils. In all work areas if there is a change in soil color or unusual odor during excavation, the construction contractor shall stop work and notify Vance Construction Management.

- B. When open trenching or digging in areas marked for potential soil contamination, the construction contractor shall excavate and maintain soil removed to a six-foot depth below grade for backfill. Any extracted materials during excavation, digging, or boring below six feet in possibly contaminated areas shall be containerized in a covered roll off container and tested. CONTRACTOR SHALL PROVIDE DOT-APPROVED 55-GALLON DRUMS FOR CONTAMINATED SOIL. If 55-gallon drums are used due to a smaller expected quantity of soil excavated, fill only 50% to prevent injuries during transport. Contact Vance Environmental Branch for testing requirements. If a determination is made that the soil is hazardous waste, the containers will have to be disposed of at a RCRA Permitted Hazardous Waste Disposal Facility. Shipping manifests will be required to be signed by 71 ISS/CE prior to disposal.
 - 1. If excavated material is not contaminated, the construction contractor shall place the material on the top-soil pile in the south-east quadrant of the base as directed by Construction Management.
 - 2. If additional soil is required for back-filling due to the volume of material placed in the containers for testing, the construction contractor may obtain the required soil from the top-soil pile located in the south-east quadrant of the base as directed by Construction Manager.

PART 2 - PRODUCTS

2.1 MATERIAL AND MANUFACTURERS

- A. Material and manufacturers for this project shall be in accordance with the Buy America Act. All material and equipment shall be new, shall be of the best quality and design, shall be free from defects and imperfections; and shall have markings or a nameplate identifying the manufacturer and providing sufficient reference to establish quality, size and capacity. All material and equipment of the same type shall be made by the same manufacturer whenever that is practicable. All materials shall be in accordance with the 2019 ODOT Standard Specifications.

2.2 EQUIPMENT

- A. All hoists, scaffolds, staging, runways, tools, machinery and equipment required for the performance of the work shall be furnished by the contractor or subcontractor.

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PART 3 - EXECUTION

3.1 PREPARATION

- A. The contractor shall show, on prints designated for that purpose, all changes and variances from the original drawings, including actual submitted products and materials, made during installation of his work, and shall file them with the Construction Manager when the work is completed.

3.2 ADJUSTING AND CLEANING

- A. All equipment furnished and installed under this contract shall be adjusted to operate as intended by the specifications. Contractor shall furnish all equipment required to perform the tests and adjustments.
- B. Keep all motors and other equipment covered until directed otherwise by the Construction Manager, so as to keep same free from dirt, dust and moisture.
- C. Test new safety devices, in the presence of the Construction Manager representative.
- D. Clean sites of all construction related and project related debris on a regular basis or as required by the Construction Manager.
- E. Remove waste and surplus materials, rubbish, and construction facilities from the work areas and the site.
- F. All base roads are to be cleaned of dirt/debris as directed.
- G. Execute final cleaning prior to the final inspection.

3.3 WELDING, CUTTING, AND BRAZING

- A. Contractor must obtain a welding and cutting permit from the Vance Air Force Base Fire Department before accomplishing any type of welding and/or cutting operation.

3.4 FIRE PROTECTION

- A. Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.5 DUST CONTROL

- A. Dust control methods and procedures must be approved by the Construction Manager. Treat dust abatement on access roads with applications of water sprinklers, or similar methods or treatment. Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Acceptable cleaning techniques include vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris

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such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete.

3.6 TRAFFIC PROVISIONS

- A. Maintenance of Traffic: Conduct operations in a manner that will not close any thoroughfare or interfere in any way with traffic on base streets except with written permission of the Construction Manager at least 15 calendar days prior to the proposed modification date. Notify the Vance Fire Department a minimum of 24 hours before closing any streets or thoroughfares.
- B. Conduct work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times. Obtain approval from the Construction Manager prior to starting any activity that will obstruct traffic.
- C. Provide, erect, and maintain, at contractor's expense, lights, barriers, signals, passageways, detours, and other items, that may be required.

3.7 QUALITY ASSURANCE

- A. Prior to final inspection, the Contractor shall test all systems. The Contractor shall perform the testing using only qualified personnel. The Contractor shall provide a minimum of 48 hours advance notice prior to testing.

3.8 PROJECT CLEANUP

- A. Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away.
- B. No removed items will be reused in this contract unless specifically listed in these specifications and/or on the drawings. All removed equipment becomes the property of the Contractor unless noted otherwise. The Contractor will be required to furnish lifting equipment as necessary to remove the equipment, and shall provide all equipment to transport the removed items off base. All unused material or debris will be removed from Government-controlled property. Use of Government-contracted dumpsters is prohibited. Unused materials, debris and rubbish shall be disposed of off base in a permitted landfill.
- C. All base roads are to be cleaned of dirt/debris as directed.
- D. Execute final cleaning prior to the final inspection.

3.9 RESTORATION OF STORAGE AREA

- A. Upon completion of the project remove signs, barricades, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore to the original or better condition, areas used by the Contractor for the storage of equipment or material, or

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other use. Gravel used to traverse grassed areas must be removed and the area restored to its original condition, including top soil and sodding as necessary.

END OF SECTION 01 00 00

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SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work under separate contracts.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.
8. Miscellaneous provisions.

1.2 PROJECT INFORMATION

1. Project Identification:
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2. Project Location: Brown Parkway, Vance AFB, Enid, Oklahoma.
3. Owner: Vance AFB.
4. TNAP Manager: Jomara Ortiz-Lopez
5. Vance AFB Design Reviewer: Christopher Taylor, PE
6. Designer: Liesel Polwort, P.E., Derick Millican, P.E.
7. Construction Manager: Jason Weber

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- ##### **A. The Work of Project is defined by the Contract Documents and consists of the following:**
1. Full reconstruction of Brown Parkway pavement
 2. Demolition of some existing pavement & structures. Removal of some trees
 3. Construct storm sewer inlets & pipes
 4. Grading
 5. Construct new Curb & gutter
 6. Construct new sidewalk and ramps
 7. Pavement markings, signing & striping
 8. Lighted bollards along Brown Parkway and the intersection of Gott rd.
 9. Traffic control during construction.
 10. Construction of new access road to club.

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11. New headquarters barrier protection.

The following project numbers will be **BASE BID** as asphalt construction and **ALTERNATE BID** as concrete construction as shown in schedule C of contract documents:

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- B. Type of Contract.

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Limits: Confine construction operations to areas where work is permitted.
 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.5 COORDINATION WITH OCCUPANTS

- A. Owner Occupancy: Owner will occupy the premises during entire construction period. Contractor will need to work closely with the facility personnel to ensure that mission of the facilities is not compromised. Facilities personnel will need to have constant access to the existing buildings.
- B. The contractor will obtain through contracting office:
 1. A Certificate of Substantial Completion.

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2. A Certificate of Occupancy from Authorities Having Jurisdiction (AHJ).
3. Prior to Certificate request, mechanical and electrical systems shall be fully operational, and required tests and inspections shall have been successfully completed.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Refer to the Contract Documents.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Construction Manager not less than two days in advance of proposed utility interruptions.
 2. Obtain Construction Manager's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 1. Notify Construction Manager not less than two days, preferably 5 days, in advance of proposed disruptive operations.
 2. Obtain Construction Manager's written permission before proceeding with disruptive operations.
- E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

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- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

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SCHEDULE "F"

BREAK DOWN OF SCHEDULE

- 1) Descriptions of major components of work to be performed:
1. Full reconstruction of Brown Parkway pavement
 2. Demolition of some existing pavement & structures. Removal of some trees
 3. Construct storm sewer inlets & pipes
 4. Grading
 5. Construct new Curb & gutter
 6. Construct new sidewalk and ramps
 7. Pavement markings, signing & striping
 8. Lighted bollards along Brown Parkway and the intersection of Gott rd.
 9. Traffic control during construction.
 10. Construction of new access road to club.
 11. New headquarters barrier protection.

CONTRACT PERIOD

Contract will commence upon the notice to proceed (NTP).

SCHEDULE OF PERFORMANCE

Note: The number of days below include weekends and holidays unless noted otherwise.

Non Performance Period (Submittals and acquisition of materials)	60 Days
Performance Period (Construction of work)	
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XTLF24-1020 Construct Club Access Road, B07161	90 Days
Total Period	630 Days

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SECTION 01 22 00 - UNIT PRICES.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. 2019 ODOT Standard Specifications for Highway Construction
 - 2. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section

1.2 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1
XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2
XTLF23-1016 Construct Sidewalks, B07191
XTLF24-1020 Construct Club Access Road, B07161

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Reference Schedule “C” attached after this Section as Appendix “C”

END OF SECTION 01 22 00

SCHEDULE "C"

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1

PAY ITEMS

PAY ITEMS-REPAIR PAVEMENTS-BROWN PARKWAY WESTBOUND, B07161, PH1								
ASPHALT OPTION			XTLF21-1045PA					
PAY ITEM NO.	ODOT ITEM NO.	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY		UNIT PRICE	COST
					BASE BID	ALTERNATE		
1	201(A)	CLEARING AND GRUBBING	(6)	LSUM	1.00	1.00		
2	202(A)	UNCLASSIFIED EXCAVATION	(R-2)(1)	CY	95.00	95.00		
3	202(D)	UNCLASSIFIED BORROW	(R-2)(R-3)(1)	CY	706.00	706.00		
4	205(A)	TYPE A-SALVAGED TOPSOIL	(R-4)	LSUM	1.00	1.00		
5	221(F)	TEMPORARY ROCK FILTER DAM TYPE 4		CY	368.00	368.00		
6	221(H)	(SP)TEMPORARY INLET SEDIMENT FILTER	(R-8)(2)	EA	14.00	14.00		
7	240(A)	REMOVING TREES 19" TO 24" IN DIAMETER		EA	4.00	4.00		
8	242	(PL)STABILIZED CONSTRUCTION EXIT		EA	1.00	1.00		
9	303(A)	AGGREGATE BASE TYPE A		CY	701.00	462.66		
10	307(H)	LIME STABILIZED SUBGRADE		SY	3162.22	3162.22		
11	326(A)	GEOTEXTILE REINFORCEMENT		SY	3162.22	3162.22		
12	407(B)	TACK COAT	(R-24)	GAL	474.33	0.00		
13	408	PRIME COAT	(R-21)	GAL	318.22	0.00		
14	411(B)	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-25)	TON	531.25	0.00		
15	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-25)	TON	531.25	0.00		
16	414(B)	DOWEL JOINTED P.C.C. PAVT. (PLACEMENT)		SY	0.00	3162.22		
17	509(B)	CLASS A CONCRETE		CY	0.00	527.04		
18	609(B)	1'-8" COMB. CRB. & GUT. (6" BARRIER)		LF	2273.00	2273.00		
19	610(A)	4" CONCRETE SIDEWALK		SY	26.00	26.00		
20	611(A)	MANHOLE (4' DIA.)	(R-33)	EA	9.00	9.00		
21	611(G)	INLET CI DES. 2 (STD)	(R-32)(R-33)	EA	15.00	15.00		
22	611(G)	INLET CDI RCB DES. 5		EA	1.00	2.00		
23	611(G)	INLET CDI RCB DES. 6 (TEMPORARY STRUCTURE)		EA	1.00	2.00		
24	613(E)	12" CMP		LF	30.00	30.00		
25	613(E)	18" CMP		LF	66.00	66.00		
26	613(A)	18" R.C.PIPE CLASS IV		LF	715.00	715.00		
27	613(A)	24" R.C.PIPE CLASS IV		LF	390.00	390.00		
28	619(B)	REMOVAL OF CURB AND GUTTER	(R-38)(R-39)	LF	2330.00	2330.00		
29	619(B)	REMOVAL OF ASPHALT PAVEMENT	(R-38)(R-39)	SY	3378.22	3378.22		
30	619(B)	REMOVAL OF DRAINAGE INLETS	(R-38)(R-39)	EA	6.00	6.00		
31	619(B)	REMOVAL OF MANHOLES	(R-38)(R-39)	EA	2.00	2.00		
32	619(B)	REMOVAL OF SIDEWALK	(R-38)(R-39)	SY	23.33	23.33		
33	619(B)	REMOVAL OF EXISTING PIPE	(R-38)(R-39)	LF	777.00	777.00		
34	619(C)	SAWING PAVEMENT		LF	336.00	336.00		
35	641	MOBILIZATION		LSUM	1.00	1.00		
36	642(A)	CONSTRUCTION STAKING LEVEL I		LSUM	1.00	1.00		
37	805(A)	REMOVAL OF EXISTING SIGNS		LSUM	1.00	1.00		
38	805(D)	REMOVE AND STORE GROUND MOUNTED FLAG POLES		EA	41.00	6.00		
39	805(D)	REMOVE AND RESET GROUND MOUNTED SIGNS		LSUM	1.00	1.00		
40	850(A)	SHEET ALUMINUM SIGNS	(TS-34)	SF	47.29	47.29		
41	851(C)	2 1/4" SQUARE TUBE POST	(TS-33)	LF	34.00	34.00		
42	851(C)	2 1/2" SQUARE TUBE POST	(TS-33)	LF	46.50	46.50		
43	854(A)	TRAFFIC STRIPE (PAINT) (6" WIDE)	(TS-24)	LF	505.00	505.00		
44	854(A)	TRAFFIC STRIPE (PAINT) (24" WIDE)	(TS-28)	LF	88.00	88.00		
45	854(B)	TRAFFIC STRIPE (PAINT) (ARROWS)		EA	28.00	28.00		
46	854(B)	TRAFFIC STRIPE (PAINT) (SYMBOLS)		EA	6.00	6.00		
47	854(B)	TRAFFIC STRIPE (PAINT) (WORDS)		EA	4.00	4.00		
48	880(J)	CONSTRUCTION TRAFFIC CONTROL	(TC-25)(TC-33)	LSUM	1.00	1.00		
49	SP	BONDS AND INSURANCE		LSUM	1.00	1.00		

BID ITEM TOTAL \$

SCHEDULE "C"

XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2

PAY ITEMS

PAY ITEMS-REPAIR PAVEMENTS-BROWN PARKWAY EASTBOUND, B07161, PH2								
ASPHALT OPTION				XTLF21-1045PB				
PAY ITEM NO.	ODOT ITEM NO.	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY		UNIT PRICE	COST
					BASE BID	ALTERNATE		
1	201(A)	CLEARING AND GRUBBING	(6)	LSUM	1.00	1.00		
2	202(A)	UNCLASSIFIED EXCAVATION	(R-2)(1)	CY	514.00	95.00		
3	202(D)	UNCLASSIFIED BORROW	(R-2)(R-3)(1)	CY	609.00	706.00		
4	205(A)	TYPE A-SALVAGED TOPSOIL	(R-4)	LSUM	1.00	1.00		
	221(F)	TEMPORARY ROCK FILTER DAM TYPE 4		CY	339.00	339.00		
5	221(H)	(SP)TEMPORARY INLET SEDIMENT FILTER	(R-8)(2)	EA	12.00	12.00		
6	240(A)	REMOVING TREES 19" TO 24" IN DIAMETER		EA	4.00	4.00		
7	242	(PL)STABILIZED CONSTRUCTION EXIT		EA	1.00	1.00		
8	303(A)	AGGREGATE BASE TYPE A		CY	756.43	499.24		
9	307(H)	LIME STABILIZED SUBGRADE		SY	3593.44	3593.44		
10	326(A)	GEOTEXTILE REINFORCEMENT		SY	3593.44	3593.44		
11	407(B)	TACK COAT	(R-24)	GAL	539.02	0.00		
12	408	PRIME COAT	(R-21)	GAL	359.34	0.00		
13	411(B)	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-25)	TON	603.70	0.00		
14	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-25)	TON	603.70	0.00		
15	414(B)	DOWEL JOINTED P.C.C. PAVT. (PLACEMENT)		SY	0.00	3593.44		
16	509(B)	CLASS A CONCRETE		CY	0.00	598.91		
17	609(B)	1'-8" COMB. CRB. & GUT. (6" BARRIER)		LF	1538.00	1538.00		
18	610(A)	4" CONCRETE SIDEWALK		SY	73.00	73.00		
19	611(A)	MANHOLE (4' DIA.)	(R-33)	EA	2.00	2.00		
20	611(A)	MANHOLE (6' DIA.)	(R-33)	EA	2.00	2.00		
21	611(G)	INLET CI DES. 2 (STD)	(R-32)(R-33)	EA	7.00	7.00		
22	611(G)	INLET CDI RCB DES. 5		EA	1.00	1.00		
23	613(A)	18" R.C.PIPE CLASS IV		LF	483.00	483.00		
24	613(A)	24" R.C.PIPE CLASS IV		LF	55.00	55.00		
25	613(A)	48" R.C.PIPE CLASS IV		LF	30.00	30.00		
26	619(B)	REMOVAL OF CURB AND GUTTER	(R-38)(R-39)	LF	1430.00	1430.00		
27	619(B)	REMOVAL OF CONCRETE PAVEMENT	(R-38)(R-39)	SY	84.04	84.04		
28	619(B)	REMOVAL OF ASPHALT PAVEMENT	(R-38)(R-39)	SY	4243.33	4243.33		
29	619(B)	REMOVAL OF DRAINAGE INLETS	(R-38)(R-39)	EA	7.00	7.00		
30	619(B)	REMOVAL OF MANHOLES	(R-38)(R-39)	EA	2.00	2.00		
31	619(B)	REMOVAL OF SIDEWALK	(R-38)(R-39)	SY	290.00	23.33		
32	619(B)	REMOVAL OF EXISTING PIPE	(R-38)(R-39)	LF	467.00	467.00		
33	619(C)	SAWING PAVEMENT		LF	141.00	141.00		
34	641	MOBILIZATION		LSUM	1.00	1.00		
35	642(A)	CONSTRUCTION STAKING LEVEL I		LSUM	1.00	1.00		
36	804(A)	STRUCTURAL CONCRETE-CLASS A		CY	1.04	1.04		
37	804(B)	REINFORCING STEEL		LB	152.00	152.00		
38	805(A)	REMOVAL OF EXISTING SIGNS		LSUM	1.00	1.00		
39	805(D)	REMOVE AND RESET GROUND MOUNTED SIGN		LSUM	1.00	1.00		
40	850(A)	SHEET ALUMINUM SIGNS	(TS-34)	SF	150.89	150.89		
41	851(B)	3 1/2" @ 9.11 GALV. STEEL PIPE POST	(TS-33)	LF	71.00	71.00		
42	851(C)	2 1/4" SQUARE TUBE POST	(TS-33)	LF	22.00	22.00		
43	851(C)	2 1/2" SQUARE TUBE POST	(TS-33)	LF	31.00	31.00		
44	854(A)	TRAFFIC STRIPE (PAINT) (6" WIDE)	(TS-24)	LF	795.00	795.00		
45	854(A)	TRAFFIC STRIPE (PAINT) (24" WIDE)	(TS-28)	LF	203.00	203.00		
46	854(B)	TRAFFIC STRIPE (PAINT) (ARROWS)		EA	8.00	8.00		
47	854(B)	TRAFFIC STRIPE (PAINT) (SYMBOLS)		EA	11.00	11.00		
48	854(B)	TRAFFIC STRIPE (PAINT) (WORDS)		EA	11.00	11.00		
49	880(J)	CONSTRUCTION TRAFFIC CONTROL	(TC-25)(TC-33)	LSUM	1.00	1.00		
50	SP	BONDS AND INSURANCE		LSUM	1.00	1.00		

BID ITEM TOTAL \$

SCHEDULE "C"

XTLF23-1016 Construct Sidewalks, B07191

PAY ITEMS

PAY ITEMS-CONSTRUCT SIDEWALKS, B07191								XTLF23-1016	
PAY ITEM NO.	ODOT ITEM NO.	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY		UNIT PRICE	COST	
					BASE BID	ALTERNATE			
1	610(A)	4" CONCRETE SIDEWALK		SY	1096.00				
2	641	MOBILIZATION		LSUM	1.00				
3	642(A)	CONSTRUCTION STAKING LEVEL I		LSUM	1.00				
4	802(B)	1 1/2" PVC SCH.40 PLASTIC CONDUIT BORED		LF	3400.00				
5	802(B)	1 1/2" PVC SCH.40 PLASTIC CONDUIT TRENCHED		LF	550.00				
6	803(A)	PULL BOX (SIZE I)		EA	14.00				
7	804(A)	STRUCTURAL CONCRETE-CLASS A		CY	1.56				
8	804(B)	REINFORCING STEEL		LB	228.00				
9	806(D)	(SP)LIGHTED BOLLARD	(101)	EA	134.00				
10	811	1/C NO.8 ELECT.COND.		LF	28000.00				
11	811	1/C NO.10 ELECT. COND.		LF	13500.00				
12	850(A)	SHEET ALUMINUM SIGNS	(TS-34)	SF	96.00				
13	850(D)	SPECIAL SIGNS	(102)	SF	108.00				
14	851(B)	3 1/2" @ 9.11 GALV. STEEL PIPE "A"	(TS-33)	LF	99.00				
15	851(C)	2 1/2" SQUARE TUBE POST	(TS-33)	LF	60.00				
16	880(J)	CONSTRUCTION TRAFFIC CONTROL	(TC-25)(TC-33)	LSUM	1.00				
17	SP	BONDS AND INSURANCE		LSUM	1.00				
18	SP	PROTECTION BARRIER-OPTION 1 (PLANTERS WITH LIGHTED BOLLARDS)		LSUM	1.00				

BID ITEM TOTAL \$

SCHEDULE "C"

XTLF24-1020 Construct Club Access Road, B07161

PAY ITEMS

PAY ITEMS---CONSTRUCT CLUB ACCESS ROAD, B07161										
ASPHALT OPTION					XTLF24-1020					
PAY ITEM NO.	ODOT ITEM NO.	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY		UNIT PRICE		COST	
					BASE BID	ALTERNATE	BASE BID	ALTERNATE	BASE BID	ALTERNATE
1	201(A)	CLEARING AND GRUBBING	(6)	LSUM	1.00	1.00				
2	202(A)	UNCLASSIFIED EXCAVATION	(R-2)(1)	CY	25.00	25.00				
3	202(D)	UNCLASSIFIED BORROW	(R-2)(R-3)(1)	CY	25.00	25.00				
4	205(A)	TYPE A-SALVAGED TOPSOIL	(R-4)	LSUM	1.00	1.00				
5	221(H)	(SP)TEMPORARY INLET SEDIMENT FILTER	(R-8)(2)	EA	2.00	2.00				
6	240(A)	REMOVING TREES 19" TO 24" IN DIAMETER		EA	2.00	2.00				
7	242	(PL)STABILIZED CONSTRUCTION EXIT		EA	1.00	1.00				
8	303(A)	AGGREGATE BASE TYPE A		CY	129.89	85.73				
9	307(H)	LIME STABILIZED SUBGRADE		SY	779.33	779.33				
10	326(A)	GEOTEXTILE REINFORCEMENT		SY	779.33	779.33				
11	407(B)	TACK COAT	(R-24)	GAL	116.90	0.00				
12	408	PRIME COAT	(R-21)	GAL	77.93	0.00				
13	411(B)	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-25)	TON	130.93	0.00				
14	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-25)	TON	130.93	0.00				
15	414(B)	DOWEL JOINTED P.C.C. PAVT. (PLACEMENT)		SY	0.00	779.33				
16	509(B)	CLASS A CONCRETE		CY	0.00	389.67				
17	609(B)	1'-8" COMB. CRB. & GUT. (6" BARRIER)		LF	676.00	676.00				
18	619(B)	REMOVAL OF CURB AND GUTTER	(R-38)(R-39)	LF	200.00	200.00				
19	619(B)	REMOVAL OF ASPHALT PAVEMENT	(R-38)(R-39)	SY	70.33	70.33				
20	619(C)	SAWING PAVEMENT		LF	141.00	141.00				
21	641	MOBILIZATION		LSUM	1.00	1.00				
22	642(A)	CONSTRUCTION STAKING LEVEL I		LSUM	1.00	1.00				
23	860(J)	CONSTRUCTION TRAFFIC CONTROL	(TC-25)(TC-33)	LSUM	1.00	1.00				
24	SP	BONDS AND INSURANCE		LSUM	1.00	1.00				

BID ITEM TOTAL \$

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2019 ODOT STANDARD SPECIFICATIONS AND ROADWAY AND TRAFFIC DESIGN STANDARDS. THE CODES LISTED ON THE COVER SHEET SHALL BE USED IF THE REQUIREMENTS LISTED IN THEM ARE MORE STRINGENT.

GEOTECHNICAL ENGINEERING REPORT: VANCE AIR FORCE BASE, BROWN PARKWAY PAVEMENT DESIGN, ENID, OKLAHOMA, SEPTEMBER 24, 2020 HAS BEEN PREPARED FOR THIS PROJECT AND WILL BE AVAILABLE UPON REQUEST FROM THE BASE ENGINEER.

PAY QUANTITY NOTES

- (R-2) ESTIMATED QUANTITY ONLY. TO BE USED IN A MANNER APPROVED BY THE ENGINEER. FOR MISCELLANEOUS GRADING.
- (R-3) INCLUDES 25 CU. YDS. FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS EARTHWORK.
- (R-4) AN ESTIMATED QUANTITY OF 25 C.Y. TOPSOIL TO BE RESERVED FOR REPLACEMENT OF APPROXIMATELY 5" ON COMPLETED FORESLOPES, DITCHES, AND BACKSLOPES. THIS QUANTITY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUIRED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSOIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PRICE BID.
- (R-8) PRICE BID TO INCLUDE COST OF ALL NECESSARY MAINTENANCE, MAINTAINING DEVICE IN PROPER UPRIGHT POSITION, REMOVAL OF DEVICE, AND REMOVAL OF SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE DEVICE.
- (R-21) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.
- (R-24) ESTIMATED AT 0.075 GALLONS PER SQUARE YARD OF ORIGINAL EMULSION OF TACK COAT (BEFORE DILUTION FOR APPLICATION) IN ACCORDANCE WITH SECTION 407 OF THE STANDARD SPECIFICATIONS.
- (R-25) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.
- (R-32) PRICE BID TO INCLUDE COST OF _ -4" MOUNTABLE CURB HOODS, _ -6" MOUNTABLE CURB HOODS, _ -6" BARRIER CURB HOODS, _ -8" BARRIER CURB HOODS.
- (R-33) THE PRECAST CONCRETE OPTION MAY BE USED INSTEAD, PER DIRECTION OF THE ENGINEER.
- (R-38) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-39) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.
- (TC-25) CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION), AND APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION).
- (TS-24) QUANTITY SHOWN INCLUDES 345 L.F. TRAFFIC STRIPE (PAINT)(WHITE) FOR WESTBOUND LANES AND 400 L.F. TRAFFIC STRIPE (PAINT)(WHITE) FOR EASTBOUND LANES. QUANTITY SHOWN INCLUDES 160 L.F. TRAFFIC STRIPE (PAINT)(YELLOW) FOR WESTBOUND LANES AND 395 L.F. TRAFFIC STRIPE (PAINT)(YELLOW) FOR EASTBOUND LANES. QUANTITY WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

- (TS-28) QUANTITY SHOWN INCLUDES 35 L.F. TRAFFIC STRIPE (PAINT)(WHITE) FOR THE EASTBOUND LANES AND 216 L.F. TRAFFIC STRIPE (PAINT)(WHITE) FOR THE SIDEWALK/LIGHTING WORK ITEMS. QUANTITY WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.
- (TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1-(LATEST REVISION).
- (TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.
- (1) PRICE BID INCLUDES ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR REMOVAL OF EXISTING MATERIAL UNDERNEATH THE EXISTING PAVEMENT TO BE REMOVED AND FOR THE CONSTRUCTION AND PREPARATION OF EARTHWORK TO SUPPORT THE RECONSTRUCTED PAVEMENT AREA(S), AS REQUIRED IN THE PLANS.
- PRICE BID INCLUDES QUANTITY FOR ANY UNSUITABLE MATERIAL ENCOUNTERED DURING EXCAVATION.
- (2) EROSION CONTROL ITEMS SHALL BE PLACED IN A MANNER AND LOCATION AS APPROVED BY THE ENGINEER.
- (101) LIGHTED BOLLARDS ALONG BROWN PARKWAY SIDEWALK, BOLLARD NOS. B01 TO B109, SHALL BE HYDREL "3110C-H42-4COB-AMBLW-MVOLT-FT-BLS-LDIM-BL" OR APPROVED EQUAL.
- SECURITY-RATED LIGHTED BOLLARDS ON THE WEST END OF BROWN PARKWAY, BOLLARD NOS. SB01 TO SB24, SHALL BE BEGA "LED SYSTEM BOLLARD UNSHIELDED LIGHT WITH SAFETY GUARD (180") INSTALLED IN ACCORDANCE WITH HIGH-SECURITY BOLLARD REQUIREMENTS WITH BLACK FINISH". PAYMENT
- PAYMENT SHALL INCLUDE LUMINAIRE, BOLLARD INSTALLATION, FOOTING, WIRING CONNECTION, AND ANY INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION AT EACH LOCATION AS SHOWN IN THE PLANS.
- (102) PRICE BID TO INCLUDE FLASHING LED SIGNS THAT SHALL BE MUTCD COMPLIANT. PAYMENT SHALL BE MEASURED AND PAID FOR BASED ON THE SQUARE FEET (S.F.) AREA OF THE SIGN FACE ONLY. PRICE BID SHALL INCLUDE ALUMINUM SIGN PANELS WITH REQUIRED SHEETING, LEDS, SOLAR PANELS, ELECTRICAL WIRING, CONTROL CIRCUIT, BATTERIES, AND ALL HARDWARE AND COMPONENTS NECESSARY TO CONSTITUTE A COMPLETE FLASHING LED SIGN ASSEMBLY.
- SHALL BE TAPCO "BLINKERSIGN" OR APPROVED EQUAL.

The following project numbers will be **BASE BID** as asphalt construction and **ALTERNATE BID** as concrete construction as shown above:

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1
 XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2
 XTLF24-1020 Construct Club Access Road, B07161

FUNDING NOTICE

FUNDING IS CURRENTLY NOT AVAILABLE FOR THIS SOLICITATION. THE U.S. AIR FORCE IS SOLELY RESPONSIBLE FOR PROVIDING ALL FUNDING RELATED TO THE SOLICITATION. SHOULD THE U.S. AIR FORCE NOT FUND EACH PROJECT IN ITS ENTIRETY, NO CONTRACT WILL RESULT. ASRC ACCEPTS NO RESPONSIBILITY SHOULD THE U.S. AIR FORCE NOT PROVIDE ALL FUNDING REQUIRED. IF COMPLETE FUNDING IS PROVIDED, ASRC WILL AWARD ONE AND ONLY ONE CONTRACT AS A RESULT OF THIS SOLICITATION. AWARD WILL BE BASED ON THE PROJECTS' TOTAL BID PROVIDING THE BEST VALUE TO THE GOVERNMENT AND ASRC. BEST VALUE IS THE LOWEST PRICE TECHNICALLY ACCEPTABLE. ASRC RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL OFFERS. FAILURE TO BID ON ALL LINE ITEMS WILL RENDER THE BID AS NON-RESPONSIVE. BID PRICES MUST BE VALID FOR 90 DAYS FROM DATE OF BID OPENING.

COMPANY NAME _____

BID DATE _____

NAME OF COMPANY'S REPRESENTATIVE _____

REPRESENTATIVE PHONE NUMBER _____

REPRESENTATIVE'S EMAIL ADDRESS _____

PHYSICAL ADDRESS _____

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SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.3 ACTION SUBMITTALS

- A. Basis of Design
 - 1. Where Specifications name a basis-of-design (BOD) product BOD Products are identified as such with a "BOD" designation either in these specifications, on schedules or on drawings, or refer to a basis-of-design product indicated on Drawings, and other products or manufacturers are not listed, provide the specified or indicated product or an approved equal product.
 - 2. Review 2.1 "Submittals", this specification for "Or equal" substitution procedure.
- B. Substitution Requests due to unforeseen conditions: Submit as an emailed PDF to the construction manager a request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Submit a substitution request as an email to the Contract Officer.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

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- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from applicable Air Force UFC and ETL documents.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Engineer's Action: If necessary, the Engineer will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. The Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if the Engineer does not issue a decision on use of a proposed substitution within time allocated.

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1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Basis of Design (BOD) Substitutions

1. Or equal substitutions requests to BOD Product identified as such with a “BOD” designation either in these specifications, on schedules or on drawings shall be considered and responded to based on the following procedures:
 - a. All BOD substitutions shall be made using the public website contract was advertised upon.
 - b. Timeline:
 - 1) Bid timeline of 60 days: BOD substitution requests shall be made no later than 30 days after the bid opening date. BOD Substitution requests shall be posted publically to the project bid site and will be responded to within seven working days of the request. Responses to BOD Substitution requests will be posted to the public advertisement site for all other bidders to review and adjust accordingly.
 - 2) Bid timeline of 45 days: BOD substitution requests shall be made no later than 23 days after the bid opening date. These requests shall be posted to the site and will be responded to within seven working days of request. Responses to these submissions will be posted to the public advertisement for all other bidders to review and adjust accordingly.
 - c. Any BOD submittals received after the bid opening that were either not approved or not submitted per this specification will be rejected.

- B. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: The Engineer will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution will not adversely affect Contractor's construction schedule.

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- c. Requested substitution has received necessary approvals of authorities having jurisdiction.
- d. Requested substitution is compatible with other portions of the Work.
- e. Requested substitution has been coordinated with other portions of the Work.
- f. Requested substitution provides specified warranty.
- g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

C. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

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26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Engineer will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on a web based software.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Engineer will issue through Construction Manager a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Engineer or Construction Manager are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect.
- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to the Engineer through the Construction Manager.

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1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Work Change Proposal Request Form: Use form acceptable to Engineer.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Contracting Office will issue a Change Order.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction or Work Change Directive: Contracting Office may issue a Construction or Work Change Directive. Construction or Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction or Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction or Work Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

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SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values Air Force Form 3065 (Contracting Office) along with progress schedule other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values through Construction Manager at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Sub schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values coordinated with each phase of payment.
- B. Format and Content: Use Project Specifications index as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Project number.
 - c. Contractor's name and address.
 - d. Date of submittal.

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2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Specifications Index. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
5. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
6. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
7. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by the Contracting Office.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
 2. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 3. Include amounts of Change Orders issued before last day of construction period covered by application.
 4. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement
 5. Submit Application for Payment to Construction Manager by the first day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 6. Submit draft copy of Application for Payment seven days prior to due date for review by Construction Manager
- B. Each Application for Payment shall be submitted in format as instructed by the Contracting Office.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

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SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination drawings.
 - 2. Requests for Information (RFIs).
 - 3. Project meetings.

1.2 DEFINITIONS

- A. RFI: Request from Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Indicate the following as to each entity performing work under primary contractor:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.

1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.

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- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to the Engineer indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Site Layout Plans: Show areas with joint or pavement repair.
 2. Review: Engineer will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

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1. Engineer will return RFIs submitted to the Engineer by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of the Engineer and Construction Manager.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: Use standard form provided by Contracting Office.
- D. Engineer's and Construction Manager's Action: Engineer and Construction Manager will review each RFI, determine action required, and respond. Allow seven working days for Engineer's response for each RFI. RFIs received by Engineer or Construction Manager after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Engineer's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt of additional information.
 3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."

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- a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer and Construction Manager in writing within 10 days of receipt of the RFI response.

1.7 PROJECT MEETINGS

- A. General: Construction Manager will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Construction Manager, and Engineer, within three days of the meeting.
- B. Preconstruction Conference: The Contracting Office will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Engineer.
 1. Attendees: Owner's Engineer and Construction Manager, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Submittal procedures.
 - j. Preparation of record documents.
 - k. Use of the premises.
 - l. Work restrictions.
 - m. Working hours.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Procedures for moisture and mold control.
 - q. Procedures for disruptions and shutdowns.

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- r. Construction waste management and recycling.
 - s. Parking availability.
 - t. Office, work, and storage areas.
 - u. Equipment deliveries and priorities.
 - v. First aid.
 - w. Security.
 - x. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Construction Manager will conduct progress meetings at weekly intervals.
- 1. Attendees: In addition to the Construction Manager and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Sequence of operations.
 - 2) Status of submittals.
 - 3) Deliveries.
 - 4) Off-site fabrication.
 - 5) Progress cleaning.
 - 6) Quality and work standards.
 - 7) Status of correction of deficient items.
 - 8) Field observations.
 - 9) Status of RFIs.
 - 10) Status of proposal requests.
 - 11) Status of Change Orders.
 - 12) Pending claims and disputes.

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3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

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SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Site condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF electronic file sent to the construction manager.

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- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit at weekly intervals.
- E. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work or the Notice to Proceed to date of Substantial Completion or final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 2. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 - 3. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.

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4. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for commencement of the Work or the Notice to Proceed.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events.
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.

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12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial completions and occupancies.
 19. Substantial Completions authorized.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 00

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SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 2. Section 01 25 00 "Substitution Procedures".

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Engineer will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. Engineer makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

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- a. Engineer and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's and Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer and Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Submittals requiring samples will not be deemed received until samples are logged by construction management.
- D. Electronic Submittals: Place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Include the following information for processing and recording action taken:
 - a. Project name including Project number listed on cover of these specifications.
 - b. Date.
 - c. Name of Contractor.
 - d. Name of subcontractor.
 - e. Name of supplier.
 - f. Name of manufacturer.
 - g. Number and title of appropriate Specification Section.
 - h. Drawing number and detail references, as appropriate.
 - i. Location(s) where product is to be installed, as appropriate.
 - j. Other necessary identification.
- E. Sample submittal
1. Samples shall be labeled as follows:
 - a. Project name
 - b. Date
 - c. Submittal number
 - d. Spec section
 - e. Drawing number reference
 - f. Identify range of selection
 - 2.
- F. Options: Identify options requiring selection by Engineer.

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- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Engineer's and Construction Manager's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements:
 - 1. Prior to commencement of actual work and within 15 days after signing the Notice to Proceed, or as otherwise established by the Contracting Office, all materials and articles requiring approval, as contemplated by the Schedule "E" (material submittal list), shall be submitted by the Contractor using AF Form 3000.
 - 2. Submittals shall be accepted only from the Contractor (not subcontractor or material supplier), who shall review submittals for completeness, accuracy for construction purposes, and conformance with contract requirements and shall indicate his approval on each submittal.
 - 3. Any submittal required by the specifications and inadvertently omitted from Schedule "E", is still required to be submitted.
 - a. Email submittals to the Construction Manager.
 - 4. Submit electronic submittals via email as PDF electronic files.
 - a. Engineer, through Construction Manager, will return annotated file. Annotate and retain one copy of file as an electronic Project record

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5. Action Submittals: Submit PDF via email of each submittal unless otherwise indicated. Engineer, through Construction Manager, will return one copy.
 6. Informational Submittals: Submit PDF via email of each submittal unless otherwise indicated. Engineer and Construction Manager will not return copies.
 7. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Submit all request for approval of substitutions to the Engineer and Construction Manager.
 4. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 5. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 6. Submit Product Data before or concurrent with Samples.
 7. Submit Product Data in the following format:
 - a. PDF electronic file.

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- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Engineer's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed. Samples of materials, catalog cuts, manufacturer's description and/or certificate of compliance being submitted for approval must be clearly marked on the Schedule "E" Material Submittal List.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: See this section Pt1, 1.3, D
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

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5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer, through Construction Manager, will return submittal with options selected.
 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Coordination Drawings Submittals: Comply with requirements specified in Section 01 31 00 "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Section 01 32 00 "Construction Progress Documentation."
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 01 29 00 "Payment Procedures."
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 01 40 00 "Quality Requirements."
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 77 00 "Closeout Procedures."
- K. Maintenance Data: Comply with requirements specified in Section 01 78 23 "Operation and Maintenance Data."
- L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of engineers and owners, and other information specified.

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- M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- U. Schedule of Tests and Inspections: Comply with requirements specified in Section 01 40 00 "Quality Requirements."
- V. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- W. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- X. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

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- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

2.3 MATERIAL SAFETY DATA SHEET (MSDS)

1. The Contractor shall submit for approval 4 copies of a Material Safety Data Sheet (MSDS) and Environmental Data Sheet (attached at the end of this section) for all materials used on this project.

2. The Contractor shall submit for approval a Hazard Warning Label for any items brought onto Vance AFB that is considered hazardous or listed in the Federal Standard 313, regardless whether or not the item will be used on this project. No item in this category shall be brought onto the base until approval is received. This requirement also applies to items substituted for those already approved.

3. A copy of the MSDS and Hazard Warning Labels shall be kept with the item with another copy kept in the Contractor's office.

4. The Contractor shall make his submissions on behalf of their subcontractors and be responsible for ensuring compliance. Failure to comply will result in shutdown of the project for which no compensation will be received.

5. All barrels and containers of any kind shall be properly marked and identified.

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PART 3 - EXECUTION

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SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Engineer, Owner Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
 - 3. Specific test and inspection requirements are not specified in this Section.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer or Construction Manager.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by a Nationally Recognized Testing Lab or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

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- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of **five** previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Engineer.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Engineer.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications

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in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and re-inspection.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

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- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer/Architect Qualifications:** A professional engineer or Architect who is current in registration and in good standing with the state board of licensure having jurisdiction within the state the project is located. Said individual shall not be permitted to act outside of his experience and training in providing engineering services. i.e.: A Civil engineer cannot provide insight or design services related to installation of HVAC units. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** A Nationally Recognized Testing Lab, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329 and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

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1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Engineer and Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and re-inspection of construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

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- C. **Manufacturer's Field Services:** Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. **Retesting/ re-inspection:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspection, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Testing Agency Responsibilities:** Cooperate with Engineer and Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Engineer, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- F. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. **Test and Inspection Log:** Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Engineer.
 - 4. Identification of testing agency or special inspector conducting test or inspection.

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- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Engineer's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 73 00 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

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SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01 25 00 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

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1. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer will notify Contractor through Construction Manager of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Section 01 33 00 "Submittal Procedures."
- b. Use product specified if Engineer does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 33 00 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
- 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

- 1. Store products to allow for inspection and measurement of quantity or counting of units.
- 2. Store materials in a manner that will not endanger Project structure.

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3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. **Manufacturer's Warranty:** Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. **Special Warranty:** Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. **Special Warranties:** Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. **Manufacturer's Standard Form:** Modified to include Project-specific information and properly executed.
 2. **Specified Form:** When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. **Submittal Time:** Comply with requirements in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. **General Product Requirements:** Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. **Standard Products:** If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

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3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Engineer will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. All products supplied as part of this contract shall comply with the Federal Acquisition Regulation (FAR) Part 25.

B. Product Selection Procedures:

1. **Basis-of-Design (BoD) Product:** As indicated in drawings and specifications indicates the minimum acceptable standards of comparable submittal. For materials and equipment, BoD designations do not limit the submission of any alternate products, but instead, set a minimum acceptable standard to weigh acceptable alternates. This is the minimum standard that will be used to evaluate alternate submissions.

C. Visual Matching Specification: Where Specifications require "match Engineer's sample", provide a product that complies with requirements and matches Engineer's sample. Engineer's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Engineer from manufacturer's full range" or similar phrase, select a product that complies with requirements. Engineer will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:

1. The comparable product is consistent with the Contract Documents and product performance is factually or demonstrably equal to or better than BoD listed in drawings and/or specifications.
2. Evidence that the proposed product does not require revisions to the Contract Documents.
3. The comparable product is compatible with other portions of the Work.
4. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

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5. Evidence that proposed product provides specified warranty.
6. List of similar installations for completed projects with project names and addresses and names and addresses of engineers and owners, if requested.
7. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

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SECTION 01 61 00 MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1. GENERAL REQUIREMENTS

- A. An inventory list of equipment and materials that may require periodic or eventual removal or replacement shall be kept up to date as items are installed or claimed for payment as material on hand. The list will be reviewed periodically by the construction manager to ensure completeness and accuracy.

1.2. SCRAP MATERIAL

- A. Material specified to be removed and become the property of the contractor are designated as scrap, and the bidder shall make due allowance in his bid for the value, if any, of such scrap.

PART 2 PRODUCT – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION 01 61 00

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SECTION 01 70 00 CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 AS-BUILT DRAWINGS

A. GENERAL

- 1 The Contractor shall be responsible to prepare and maintain the as-built drawings for this project. "As-built" drawings are a specific and distinct deliverable item under the terms of the contract. Failure to maintain and deliver these drawings will be treated by the Government in a manner similar to the failure to provide a specified item of construction material or equipment. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

B. AS-BUILT DRAWING COMPONENTS

- 1 Working as-built drawings;
- 2 Electronically formatted as-built CAD drawings with printed final drawing set.

C. SCOPE OF AS-BUILT DRAWINGS.

- 1 The as-built drawings shall be a record of the construction as installed and completed by the Contractor. They shall include the information shown on the contract set of drawings and a record of deviations, modifications or changes from the contract drawings.
 - a. Level of detail provided on as-built drawings shall match that of the original contract drawings.
 - b. Drawings depicting proper operation and maintenance of project provide equipment shall be provided in Operations and Maintenance Manuals.

D. GIS REQUIREMENTS (NOT USED)

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E. WORKING AS-BUILT DRAWINGS

- 1 The Contractor shall maintain a red-lines set of working as-built drawings depicting variations to the stamped design drawings. Information incorporated into as-built drawings shall be at a level of detail consistent with the original drawings.
 - a. The location and description of utility lines or other installations of any kind or description known to exist within the construction area. Exterior utilities shall be located in both the horizontal and vertical planes. Dimensions shall be within an accuracy of approximately 100 mm or 4 inches. Vertical location shall be referenced to finished grade or floor level and the horizontal location referenced to a permanent structure such as the face of a building or street curb.
 - b. The location and dimensions of changes within the building, structure and pavement areas. Accuracy of dimensions will match the level of accuracy of the original contract drawings. Items depicted symbolically shall use the same symbology of the original drawings. Items depicted on the original drawings without dimensions shall be shown in their approximate actual "as-constructed" location.
 - c. Correct grade or alignment of roads, structures, or utilities if changes were made from contract plans.
 - d. Correct elevations if changes were made in site grading.
 - e. Changes in details of design or additional information obtained from shop drawings prepared or furnished by the Contractor.
 - f. The topography and grades of drainage constructed or affected as a part of the construction.
 - g. Changes or modifications resulting from the final inspection.
 - h. Where contract drawings or specifications allow options, the option selected for construction shall be shown on the as-built drawings.

F. FINAL DRAWINGS (CAD)

- 1 Upon approval of the working red-lines, (paper), no later than thirty (30) days, the Contractor shall modify the provided project CAD drawing files to bring them into agreement with the working as-built prints. If additional drawings are required, they shall be prepared in AutoCAD format using the provided title blocks. All as-built drawings shall adhere to the drawing standards contained in the A/E/C CADD Standards available at <http://tsc.wes.army.mil/products/standards/aec/aecstdweb.asp>.

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- 2 This work can be performed by contractor staff or contracted out as a sub contract to any Architecture or Engineering firm performing like disciplined work.
- 3 Final deliverables shall be:
 - a. Electronic final as-built CAD drawings in AutoCAD Version 2014 or later format stored on CD or DVD R/W disc.
 - b. One (1) copy of the final As-Built set with the following written at the bottom right in 3/16" lettering using Ariel font: "As-Built Drawings" and the submission date. Any revisions will include REV and the number in series with the accepted final revision showing the accepted date. Final revisions will require resubmission of paper copies.
 - c. Final Submittal shall occur no later than 30 days after the approval of the working red-line drawings.
 - d. Final submittal shall be presented with a completed Air Force form 3000.

1.2 OPERATING AND MAINTENANCE INSTRUCTIONS

A. General

- 1 Operating and maintenance (O&M) instructions shall be furnished for equipment and systems. The operating and maintenance instructions shall include two separate manuals:
 - a. Operations Manual and a Maintenance Manual.
 - i. The Contractor shall assemble two (2) complete bound Operations Manuals and two (2) complete bound Maintenance Manuals.
 - ii. Each system or piece of equipment shall be covered in the two separate manuals regardless of the number of suppliers or subcontractors involved.
 - iii. Combining more than one system or piece of equipment into the same manuals may be permitted if the manuals are indexed by section and do not exceed 4 inches in thickness.
 - iv. Operations and maintenance data shall be submitted within 30 days after approval of the equipment or system and not less than 60 days prior to scheduled testing. Operations and maintenance data shall also be submitted and approved by the time the project reaches 90 percent completion. Unless otherwise authorized by the Construction Manager the Government will not accept the equipment or systems nor will the Government take possession of the associated work until O & M data are submitted and approved.

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b. Training

- i. The contractor shall arrange through construction manager training user sessions for the operation of any provided equipment.
- ii. The OPERATIONS MANUAL shall include a record of those trained on any provided equipment.

1. Training record shall include the following:

- a. Name
- b. Employee number
- c. Employee contact information including duty station, duty station phone number, direct supervisor and supervisor duty station and duty station phone.

- iii. The MAINTENANCE MANUAL shall include a record of those trained on all maintenance including filter changes, fluid changes, and any other user serviceable requirements required to maintain the warranty.

1. Training record shall include the following:

- a. Name
- b. Employee number
- c. Employee contact information including duty station, duty station phone number, direct supervisor and supervisor duty station and duty station phone.

B. Operations Manual

- 1 The Operations Manual shall show operating procedures, sequences, and precautions. The Contractor shall coordinate subcontractors, suppliers, and manufacturers to assure complete submittals on interrelated components. Include adequate illustrative material to identify and locate operating controls, indicating devices and locations of areas or items requiring operation or adjustments. As a minimum, the manual shall include piping and equipment layout and simplified wiring and control diagrams of the complete system as installed. Describe, in detail, starting and stopping procedures for components, adjustments required to obtain optimum equipment performance, and corrective actions for malfunctions. Catalog cuts describing equipment operating procedures shall not be used as system operating instructions.

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C. Maintenance Manual

- 1 The Maintenance manual shall provide instructions for routine and preventive maintenance showing lubrication, dismantling, assembly, repair, and adjustment, electric schematic and connection diagrams, hydraulic circuit diagrams with control and relief valve settings, control and interlock system diagrams, and lists of special tools required. Lubrication instructions shall be for service intended and shall include tables indicating items, frequencies, grades, and types of lubricants. Instructions shall include clearances, bolt torques, pressure settings, and other data. The nature and frequency of routine maintenance and procedures shall be indicated. The materials and test equipment that may be required shall be noted. Performance sheets and graphs, as applicable, showing capacity data, efficiencies, electrical characteristics, pressure drops, and flow rates shall be included. Marked-up catalogs or catalog pages shall not be used for this purpose. Performance information shall be presented concisely and shall contain only data pertaining to equipment actually installed. Spare parts data and catalogs showing identification, nomenclature, part numbers, required parts, recommended spare parts stocked, and spare parts supplied shall be included. Local source of parts and dated current price list shall be included. Data shall match equipment furnished. Standard catalog data may be used only if irrelevant parts are marked out or relevant parts are clearly identified. Repair information shall show diagrams and schematics, guidance for diagnosing problems, and detailed instructions for making repairs. Troubleshooting information shall be provided that includes a statement of the indication or symptom of trouble and the sequential instructions necessary. Test hookups to determine the cause of trouble, special tools and test equipment, and methods for returning the equipment to operating conditions shall be identified. Information may be in chart form or in tabular format with appropriate headings.

PART 2 - PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 - PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 70 00

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SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
1. Construction layout.
 2. Installation of the Work.
 3. Cutting and patching.
 4. Coordination of Owner-installed products.
 5. Progress cleaning.
 6. Starting and adjusting.
 7. Protection of installed construction.
- B. Related Requirements:
1. Section 01 10 00 "Summary of Work" for limits on use of Project site.
 2. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 2. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

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PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
 - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

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- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Any existing utilities not identified on the site drawings, or existing utility or other site changes that will be covered with back fill, notify construction management prior to cover so a GIS technician may get access to locate placement..
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Construction Manager according to requirements in Section 01 31 00 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Construction Manager promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

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- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, notify construction manager.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

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- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

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3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in Sections 01 00 00 “General Provisions” and 01 74 19 “Construction Waste Management and Disposal” for removal of waste materials and debris.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly and notify Construction Manager and Civil Engineering Environmental Office.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

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- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements"

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

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SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
1. Salvaging nonhazardous demolition and construction waste.
 2. Recycling nonhazardous demolition and construction waste.
 3. Disposing of nonhazardous demolition and construction waste.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Facilitate recycling and salvage of materials. Verify capabilities of local recycling facilities.
1. Standing seam metal fascia to be reused or recycled.

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2. Concrete
3. Concrete reinforced steel
4. Concrete masonry units
5. Equipment
6. Electrical conduit

1.4 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for commencement of work.

1.5 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
 1. Material category.
 2. Generation point of waste.
 3. Total quantity of waste in tons.
 4. Quantity of waste salvaged, both estimated and actual in tons.
 5. Quantity of waste recycled, both estimated and actual in tons.
 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

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1.6 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

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- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with Section 02 61 00 "Environmental Protection" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items Not permitted on Project site.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following:
 - 1. Vance AFB Defense Reutilization and Marketing Office (scrap metal – see 01 00 00 General Provisions).
 - 2. Air Force Resource Recovery & Recycling Program (RRRP) -
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be shared equally by Owner and Contractor.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

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3.4 RECYCLING DEMOLITION WASTE

- A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 - 1. Pulverize concrete to maximum 4-inch (100-mm) size.
- B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 - 1. Pulverize masonry to maximum 4-inch (100-mm) size.
 - 2. Clean and stack undamaged, whole masonry units on wood pallets.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
 - 1. Structural Steel: Stack members according to size, type of member, and length.
 - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- F. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
 - 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

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3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials and dispose of at designated spoil areas on Owner's property.
- D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

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SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties manual.
 - 4. Final cleaning.
 - 5. Repair of the Work.

1.2 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: RE: 01 70 00 "CONTRACT CLOSEOUT.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

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- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 3. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect and/or Construction Manager. Label with manufacturer's name and model number where applicable. Submit test/adjust/balance records.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to construction manager.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Schedule operations and training sessions through Construction Manager as required in specification 01 70 00 "Contract closeout".
 6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 8. Complete final cleaning requirements, including touchup painting.
 9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

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1.6 FINAL COMPLETION PROCEDURES

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report and warranty.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection to determine acceptance. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- a. Construction manager in conjunction with the design professionals will prepare and maintain a punch list. This punch list will be reviewed at the weekly construction meeting

1.8 SUBMITTALS

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed

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description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

PART 2 - PRODUCTS

PART 3 - PRODUCTS

3.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 4 - EXECUTION

4.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Contractor shall employ insured professional cleaning service. Contractor to submit credentials as to qualifications to Construction manager. Site cleanup to be performed by construction staff unless specified elsewhere in this specifications packet.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

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- b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Remove snow and ice to provide safe access to building.
- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- h. Sweep concrete floors broom clean in unoccupied spaces.
- i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- k. Remove labels that are not permanent.
- l. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- o. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- p. Leave Project clean and ready for occupancy.

4.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1

XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2

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1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00

XTLF21-1045PA Repair Pavements – Brown Parkway Westbound, B07161, Ph 1
XTLF21-1045PB Repair Pavements – Brown Parkway Eastbound, B07161, Ph 2
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**OKLAHOMA DEPARTMENT OF TRANSPORTATION 2019 STANDARD SPECIFICATIONS
FOR HIGHWAY CONSTRUCTION**

PART 1 - For materials and other sections not listed above, refer to ODOT 2019 Standard Specifications for Highway Construction. Refer to Index for list of ODOT Specifications used on this project.

1.1 ODOT Standard Specifications are available to download from ODOT's web site.

END OF SECTION