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www.GarverUSA.com

ADDENDUM NO. 1

Date:February 22, 2024Project Name:M19 2024 Hangar ConstructionOwner:City of NewportGarver Project No.2300820

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents, and Specifications with which it might conflict. This addendum, including all attachments, shall become part of the Contract and all provisions of the Contract shall apply thereto. The time provided for completion of the Contract has not been changed as noted in this addendum. Acknowledgement of receipt of this addendum must be noted in the appropriate section of the Bid Form and included with the Contract Documents.

- A. SPECIFICATIONS
 - 1. Revise Section SS-295 PRE-ENGINEERED METAL HANGARS as follows:
 - a. Revise the second paragraph in section 295-1.1.
 - i. The hangars shall be the design of a manufacturer who is regularly engaged in the fabrication of aircraft hangar buildings and hangar doors. The hangar package shall be supplied as a complete system and furnished by a manufacturer. The hangar door shall be supplied as indicated in this specification. The contractor shall be responsible for ensuring a watertight seal between the hangar door and metal building package. The contractor shall also be responsible for all connections between the metal building package and the hangar door. All materials shall be new, unused, and free from defect. The manufacturer's standard components may be used if quality levels and requirements meet or exceed that required of this specification. If any requirement of this specification conflicts with the manufacturer's standard model referenced below, the more stringent of the requirements shall be provided. The manufacturer's electrical and mechanical components shall meet the requirements as specified in this Section, including the supplemental and technical specifications and the drawings. Any manufacturer's name, trade name, brand name or catalog number used in these specifications is for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand that meets or exceeds the quality of the specifications listed for any item approved by the City of Newport.

B. OTHER PROJECT INFORMATION

- 1. The meeting minutes and sign-in sheet for the Pre-Bid Conference held on Wednesday, February 21, 2024, are attached hereto.
- 2. The deadline for contractor questions and clarifications shall be the close of business on February 28, 2024, to be responded via Addendum.

C. CONTRACTOR QUESTIONS

1. <u>Question:</u> The specifications state that the hangar package shall be supplied as a complete system and furnished by a manufacturer who provides hangar doors and hangar buildings as an integral hangar building package. As I understand this, it states that the manufacturer of the door and the hangar must be the same. My metal building suppliers do not build hangar doors and the specified Schweiss Doors do not make airport hangars.

Answer: That is not applicable to this project. The hangar door will be manufactured by someone other than the building manufacturer. The contractor is response for ensuring the hangar door and the building provide a weathertight seal and meet the door height and width clearance requirements. The contractor shall also be responsible for the door connections to the metal building.

2. <u>Question:</u> In regard to the 90-day contract days, it can take several weeks to receive the building after ordering.

Answer: The 90 days contract days do not include procurement time. The 90 days will begin once the building has been received. Garver is open to discussing the possibility of the contractor beginning the work for the foundation slab, stopping time, and then resuming time when the building is received.

3. Question: May bidders submit an alternate for a 60-foot door instead of 70-foot?

<u>Answer:</u> At this time, we will move forward with submitting the bid package as-is, but this will be discussed as a possible change order item after bids have been received.

2300820 2024 Hangar Construction ADDENDUM NO. 1

By:

Brendan Oman, P.E. Project Manager



Attachments:

- A. OTHER
 - Pre-Bid Conference Meeting Minutes and Sign-In Sheet
 SS-295 Pre-Engineered Metal Hangars

END OF ADDENDUM NO. 1

Newport Regional Airport



Wednesday, February 21, 2024; 2:00PM

To:	Attendees	Date:	February 21, 2024
From:	Garver	Project #:	2300820

1. Contact Information

Owner: Newport Airport Commission	
Contact: Tommy Sanders, Airport Manager	Office: 870-881-4192 Cell: 870-312-6255
Engineer: Garver, LLC	
Project Manager: Brendan Oman, P.E.	Phone: 501-912-0324
Assistant Project Manager: Jordan Culver, P.E.	Phone: 501-366-3143

2. Bidding

Mr. Oman discussed the bidding details for the project.

- a. Bid Opening: Wednesday, March 6, 2024 @ 2:00 P.M. Sealed bids will be received via the QuestCDN Online Bid Interface.
- b. Plans, Specifications, Plan Holders List available online at www.Planroom.GarverUSA.com. Plans and Specifications can be downloaded for a fee of \$42. eBidDocTM Number of 8972829.
- c. Bids must remain in effect for sixty (60) calendar days after the bid opening date.
- d. Bidders shall follow the instructions listed in Section 00 21 00 Instructions to Bidders.
 - Bidders shall include a bid guaranty in the amount of 5% of total bid in the form of Bid Bond or Certified Check made payable to the City of Newport.
 - Each Bidder shall submit the following in sealed envelope: Acknowledgement of All Addenda, Bid Form, Bid Bond, List of Proposed Subcontractors, Qualifications Statement, Current Automobile and Liability Insurance Coverage
- e. DBE Bidding Requirements None
- f. All inquiries and clarifications of the bid documents shall be submitted in writing via e-mail to <u>BROman@GarverUSA.com</u>. Inquiries and clarification requests shall be submitted no later than the close of business on February 28, 2024, to be responded to via Addendum.
- g. Successful Bidder will be required to return signed contracts to Owner with fifteen (15) days after receipt of award of contract. Documents required:
 - Contract
 - Performance Bond (100%)
 - Payment Bond (100%)
 - Certificates of Insurance and Insurance Policies





Pre-Bid Conference Meeting Minutes Wednesday, February 21, 2024; 2:00PM

3. Scope of Work/Funding

Mr. Oman reviewed the Scope of Work and Funding.

- a. Scope of Work The project consists of only 1 schedule (includes Deductive Alternate #1)
 - Project Scope:
 - Construction of an 80' x 60' Box Hangar to be installed on the north side of the airport.
 - Pre-Engineered Metal Building
 - Contractor to hire structural engineer to design foundation based on their preferred PEMB manufacturer. The bidder's cost should include the cost to design the foundation.
 - Hydraulic Hangar Door Base Bid 70' Width x 18' Height
 - Deductive Alternate 1 Horton Stack Door
 - Two pedestrian Doors
 - Exterior and Interior Lighting
 - Aircraft rated Floor Drain with connection to Oil Water Separator
 - Utility stub ups through slab for installation of future bathroom
 - Utilities to be capped 3' outside of building.
 - Concrete Pavement construction
 - Aircraft rated for ramp on front side of the hangar, and nonaircraft rated for sidewalks surrounding the hangar.
 - Demolition to be performed under separate contract. The hangar site will be prepared to approximately 3' below existing grade.
 - Separate Contract Ramp Rehabilitation Project will be advertising for bid shortly. This
 project will include the demolition and reconstruction of portions of the ramp adjacent to
 the hangar.
- b. Bidders shall provide a unit price for all bid items. No bid will be considered which covers only part of the work.
 - Notice of Award and Notice to Procure is anticipated for Spring 2024.
 - Notice to Proceed is anticipated for Spring/Summer 2024.
 - Project Funding: 90%-10% ADA grant.

4. Project Phasing

Mr. Oman discussed Project Phasing details.

a. Project consists of 1 Phase with construction time of 90 calendar days. Liquidated damages in the amount of \$1,500 per calendar day will be assessed of the Contractor for overrun of Substantial Completion. See Liquidated Damages in Section 00 52 00 for more information.



Newport Regional Airport

Pre-Bid Conference Meeting Minutes Wednesday, February 21, 2024; 2:00PM

- b. Contractor shall issue NOTAM, install barricades, and install staging area. Phase 1 work includes hangar construction, apron construction, and utility installation. At completion, contractor shall remove barricades and clean up the site, and retract the NOTAM.
- c. Contractor shall always strictly adhere to the Construction Safety and Phasing Plan and FAA Advisory Circular 150/5370-2 (Current Edition).
- d. Failure of the Contractor or any subcontractors to comply with Airport Instructions, CSPP, or any other airport requirements shall result in penalties as addressed under Foreign Object Debris (FOD)/Penalty Notes on Drawing GI-002.

5. Specifications

Mr. Oman discussed Project Specifications.

- a. 00 72 00 FAA General Provisions
 - Sections 10 through 90
 - Section 50-5 The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.
 - Section 50-7 The Contractor is responsible for establishing all layout required for the construction of the project.
 - Five percent retainage will be withheld from each partial pay request until final acceptance is achieved (Section 90).
 - There will be 2 draw requests at 50% and 100%.
- b. Special Provisions: FAA, State, Local Requirements
 - Section A, FAA Boiler Plate Requirements General Civil Rights Provisions, Civil Rights – Title VI Assurances, OSHA
 - Section B, State Terms and Conditions General, Bidding, Bonding
 - Section C, Local Terms and Conditions None
 - Insurance Requirements Commercial General and Umbrella Liability Insurance limit of not less than \$2,000,000. Garver and Owner shall be named as additional insured. CGL shall remain in effect for a minimum of 3 years following substantial completion. Contractor shall maintain professional liability insurance with a limit not less than \$2,000,000 per claim. Auto Insurance limit of not less than \$1,000,000 per accident. Garver and Owner shall be named as additional insured for General and Auto. Contractor shall maintain workers' compensation insurance with limits not less than \$500,000 for each accident for bodily injury by accident or disease. See Special Provision C-01 for additional information.
 - Project Meetings and Coordination (C-04) Pre-Construction Conference scheduled prior to NTP. Contractor's superintendent shall maintain daily communication with the Engineer to coordinate progress and plan upcoming work items.

Newport Regional Airport



Pre-Bid Conference Meeting Minutes Wednesday, February 21, 2024; 2:00PM

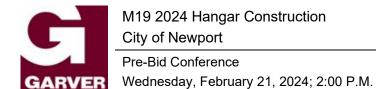
- Extensions of Time (C-05) Liquidated damages were previously discussed. The Contractor shall be responsible for keeping a written record of the weather and site conditions and shall be responsible for requesting which days to be deemed nonconducive by the Engineer each week, by the close of business each Tuesday, for the preceding week. Failure to submit a request for non-conducive days will result in the whole week being deemed productive.
- Submittals (C-11) will be provided electronically via e-mail pdf files. A submittal log of all the required submittals will be provided when the contract is awarded.
- c. Supplemental Specifications
 - SS-120 Construction Safety and Security per lump sum (SS-120-3.1). Compensation for barricades, airport security and safety requirement implementation.
 - SS-230 Portland Cement Concrete Pavement. Included Pay Item per Square Yard for concrete pavement and sidewalk. Concrete shall be in accordance with Section 230 of the Standard Specifications.
- d. Technical Specifications
 - C-105 Mobilization includes mobilization, access/haul routes, staging area, instrument control, and clean up. Measurement and payment will be made on a lump sum basis. Mobilization shall be limited to 10 percent of the total project cost.

6. Plans

- a. Questions regarding Plans? Everybody able to access plans from online planroom?
 - None

7. Other

a. Questions asked by attendees at the Pre-Bid Conference will be included in Addendum No. 1.



SIGN-IN SHEET

Name	Representing	Phone #	Email
Chad Brown	John M Brown and Sons	870-291-7189	Cbrown692003@yahoo.com
Shreekumar Patel	Olympus Construction	870-932-6670	sk@olympusgc.com
Kyle Martin	Frank A. Rogers	870-579-8050	kmartin@gofarco.com
Greg Thomas	Garver	479-287-4609	GJThomas@GarverUSA.com
Brendan Oman	Garver	501-912-0324	BROman@GarverUSA.com
Amber Williamson	Garver	501-553-9969	ADWilliamson@GarverUSA.com
Jordan Culver	Garver	501-537-3254	JCCulver@GarverUSA.com
Blake Roberson	Garver	501-537-3216	BWRoberson@GarverUSA.com
Jim McLarty	Newport Airport Commission	870-512-8189	Jamlaw99@gmail.com

ITEM SS-295 PRE-ENGINEERED METAL HANGARS

DESCRIPTION

295-1.1 Furnish, deliver, and erect the complete pre-engineered metal hangars including foundations; anchor bolts; steel frames; purlins; wall girts; eave girts; exterior and interior wall panels; roof panels; and all miscellaneous framing, trim, fittings, fastening, sealants, glazing and other components to make the steel shell structure conform to these specifications and the contract drawings. Contractor shall also furnish complete foundation design and detailing based on a detailed soils investigation performed by a professional geotechnical engineer, licensed in the state where the construction occurs. The soils investigation will be the responsibility of the contractor to obtain.

The hangars shall be the design of a manufacturer who is regularly engaged in the fabrication of aircraft hangar buildings and hangar doors. The hangar package shall be supplied as a complete system and furnished by a manufacturer. The hangar door shall be supplied as indicated in this specification. The contractor shall be responsible for ensuring a watertight seal between the hangar door and metal building package. The contractor shall also be responsible for all connections between the metal building package and the hangar door. All materials shall be new, unused, and free from defect. The manufacturer's standard components may be used if quality levels and requirements meet or exceed that required of this specification. If any requirement of the requirements shall be provided. The manufacturer's electrical and mechanical components shall meet the requirements as specified in this Section, including the supplemental and technical specifications and the drawings. Any manufacturer's name, trade name, brand name or catalog number used in these specifications is for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand that meets or exceeds the quality of the specifications listed for any item approved by the City of Newport.

295-1.2 The community hangar shall be a Group III Aircraft Hangar, Type II (000) Construction, per NFPA 409 – Standard on Aircraft Hangars and NFPA 220 – Standard on Types of Building Construction.

295-1.3 Electrical work in this hangar project includes, but is not limited to, empty primary electrical conduits with pullwires, transformer pad and grounding accessories for utility pad mount transformer, complete secondary electrical power service and distribution system and equipment, excavation and backfill for electrical work, foundations and pads for electrical work, racks and support structures, temporary electrical service, feeder and branch circuit power wiring and distribution system, grounding systems, lightning protection systems, interior and exterior lighting and lamps, wiring devices, electrical control systems and interlock wiring, labeling and tagging, and conduit/wiring for all built-in equipment.

295-1.4 No bathroom will be constructed with this project. A location for a future bathroom is shown in the plans. Water and sewer stub ups shall be installed at this location for future water and sewer service connection for the following services: toilet, floor drain, and sink.

Additional plumbing facilities will consist of a floor drain within the hangar and installation of an oil-water separator.

295-1.5 In addition to the description above, the community hangar shall include:

- a. 3' pedestrian doors at locations shown in the plans, minimum 2 doors are required
- b. Guttering system for collection of rainwater along the building eave with downspouts located at even spacing along the sides of the building or as directed by the Engineer
- c. Master keys for the Owner

NOTE: The Contractor shall provide written certification that all aspects of the hangar design and hangar construction meet the requirements of this specification and all applicable federal, state and local codes. The certification forms are included in this specification. Letters accompanying the design certification will be completed and signed by a Professional Engineer registered to practice in the State of Arkansas, and shall be furnished to the Owner before construction begins. The certifications shall be completed by the principal or owner of the Contractor's company and furnished to the Owner at defined milestones for use in processing payment.

QUALITY ASSURANCE

295-2.1 General design criteria.

The community hangar shall be constructed per the requirements of NFPA 409 – Standard on Aircraft Hangars, for a Group III Aircraft Hangar classification, to Type II (000) Construction (maximum 12,000 square foot maximum single fire area). Refer to NFPA 220 – Standard on Types of Building Construction for fire resistance rating requirements for Type II (000) construction.

- a. It shall be the Contractor's responsibility to produce and furnish all required construction documents to the appropriate regulatory agencies for their review. It is the Contractor's responsibility to coordinate and furnish all permits, licenses and fees required to construct all aspects of the hangars.
- b. It shall be the Contractor's responsibility to furnish all professional certification required to meet all state and local codes and laws.
- c. The hangar shall be a manufacturer's full nested steel frame, pre-fabricated metal structure. Overall dimensions may vary to suit manufacturer's standard design.
- d. The building shall be designed and fabricated according to AISC and AISI latest specifications.
- e. The building shall be designed to support all mechanical equipment. Additional girts or purlins shall be placed in convenient locations for attachment of all mechanical equipment.
- f. Combination design loads conditions shall be as required by 2021 International Building Code.
- g. The hangar may be "post and beam" for all column lines.
- h. For welded connections, comply with AWS "Structural Welding Code". Welders shall be certified.

295-2.2 Structural design loads. Basic design loads as well as deflection limits are as follows:

a.	Design Loads Dead Load of Building (D)		Compute	for	actual	building
			components		uotuui	ballanig
	Dead Load allowance electrical	for	5 lbs./sq. ft.			
	Roof Live Load (R)		In conformat Building Coc		n 2021 Inte	rnational
	Wind Load (horizontal) (W)		In conformat Building Coc		n 2021 Inte	rnational
	Seismic (EQ)		In conformat Building Coc		n 2021 Inte	rnational
	Snow Load(s)		In conformat Building Coc		n 2021 Inte	rnational

b. Deflection Limits (under total load)

Roof sheets and siding sheets	L/180
Roof and wall framing other	L/180
than sheets	
Sidesway at top of sidewall	L/180 or 2" whichever is less

295-2.3 Structural member design. Design each member to withstand stresses resulting from combinations of loads that produce maximum ratio of actual allowable stress in that member, as prescribed in 2021 International Building Code. If required by building size and use, seismic design shall be performed per Arkansas Act 1100.

295-2.4 Mechanical and electrical standards. Mechanical and Electrical work shall be performed in accordance with current editions of the standards listed below. Contractor shall utilize the most current editions of standards, which are current at the time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

- a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
 - (1) NFPA 70 National Electrical Code, including specific work requirements listed in Article 513 – Aircraft Hangars. Including Chapter 8 as revised by the Little Rock Code of Ordinances.
 - (2) NFPA 70E Standard for Electrical Safety in the Workplace.
 - (3) NFPA 101 Life Safety Code.
 - (4) NFPA 220 Types of Building Construction.
 - (5) NFPA 409 Aircraft Hangars.
 - (6) Internet Website: <u>http://www.nfpa.org</u>
- b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
 - (1) 29 CFR 1910 Occupational Safety and Health Standards (OSHA)
 - (2) 29 CFR 1926 Safety and Health Regulations for Construction.
 - (3) Internet Website: <u>http://www.gpoaccess.gov/cfr/index.html</u>
- c. Applicable ANSI and IEEE codes, including but not limited to:
 - (1) ANSI/IEEE C2 National Electric Safety Code
- d. NECA 1 Standard for Good Workmanship in Electrical Construction.
- e. Applicable Federal, State, and Local Electrical Codes.
- f. Applicable Federal, State, and Local Energy Codes.
- g. Applicable Federal, State, and Local Building Codes.
- h. Applicable Federal, State, and Local Fire Codes.
- i. Applicable City Electrical Code.
- j. Applicable City Ordinances pertaining to electrical work.
- k. Applicable Federal, State and Local Environmental, Health and Safety Laws and Regulations.
- I. State of Arkansas Mechanical Code.

295-2.5 Plumbing standards. Plumbing work shall be performed in accordance with the current editions of the standards listed below.

a. Applicable State and City Plumbing Codes.

CONSTRUCTION DOCUMENTATION

295-3.1 General certification. The Owner shall not provide review, comment or approve of any Contractor construction documents. The Contractor shall provide written certification that all aspects of the hangar design, hangar construction, and materials meet the requirements of this specification and all applicable federal, state and local codes. The certification forms are included in this specification. The design certification will be completed and signed by a Professional Engineer registered to practice in the

State of Arkansas, and shall be furnished to the Owner before construction begins. The construction certifications shall be completed by the principal or owner of the Contractor's company, and furnished to the Owner at defined construction milestones for use in processing payment.

295-3.2 Construction record document. Furnish two (2) complete sets of foundation, structural, electrical and mechanical construction record documents to the Owner, following completion and acceptance of the hangar. These documents shall be for the Owner's records only, and no review, comment or approval shall be made or implied.

295-3.3 Shop drawings. In addition to the above, provide, in reproducible form with prints made by a process approved by the Engineer, shop drawings for major materials where called for and when requested by the Engineer.

Electrical Shop Drawings:

- (1) Lockout/Tagout Program and Safety Program.
 - a) The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.
 - b) The Lockout/Tagout Program shall comply with Part 1910 Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.
 - c) Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.
 - d) The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.
 - e) Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.
- (2) Switchboards, panelboards, surge arresters, and disconnect switches.
- (3) Motor starters and contactors including custom control wiring diagrams.
- (4) Overcurrent devices including circuit breakers and fuses.
- (5) Light fixtures and lamps.
- (6) Conductors, cables, boxes, and conduits.
- (7) Manholes, handholes, and pull boxes.
- (8) Wiring devices and plates.
- (9) Grounding system and layout.

295-3.4 Operations and maintenance manuals (O&Ms):

- a. O&Ms shall comply with the General and Special Provisions and with the General and Supplemental Conditions. Furnish two (2) complete sets.
- b. Securely bind each O&M set in a separate heavy-duty 3-ring, hardcover binder. Group materials by their Specification number. Provide type written index label tabs and a type written label for the spine of the binder, which indicates the included equipment types.
- c. Provide complete descriptions, illustrations, specification data, etc., of all materials, fittings, devices, fixtures, special systems, etc., as required by the individual sections of this

Division.

- d. O&Ms of shop drawings, product data and samples will be accepted only when furnished by the Contractor. Data furnished from subcontractors and material suppliers directly to the Engineer will not be processed.
- e. All O&Ms shall provide the following information:
 - (1) General Contractor.
 - (2) Sub-Contractor
 - (3) Distributor and/or Supplier
 - (4) Sales Agency
- f. O&Ms shall not be approved or rejected by the Owner. These documents shall be for the Owner's records only, and no review, comment or approval shall be made or implied.

DELIVERY, STORAGE AND HANDLING

295-4.1 Deliver and store pre-fabricated components, sheets, panels, and other manufactured items so they will not be damaged or deformed. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight ventilated covering. Store metal sheets or panels so that weather accumulations will drain freely. Do not store sheets or panels in contact with other materials which might cause deflecting.

WARRANTY

295-5.1 General. Any warranties listed in this section shall be in addition to the Owner's general warranties included in the Contract documents.

295-5.2 Roofing and siding panel finish warranty. Furnish the roofing and siding panel manufacturer's written warranty, covering failure of the factory-applied exterior finish on metal wall, roof panels, and liner panels within the warranty period.

295-5.3 Warranty period. The warranty period for factory-applied exterior finishes on wall and roof panels is 20 years after the date of Substantial Completion.

COORDINATION

295-6.1 The Contractor is responsible for coordinating dimensions and foundation details with the building supplier, reinforcing steel supplier, subcontractors, his forces and any other affected parties to assure a complete, sound and finished project. Contractor shall carefully examine all items of work to be thoroughly familiar with items that require connections and coordination. Notify other tradesman of any deviations or special conditions necessary for the installation of the work. Interference between works of various disciplines shall be resolved by the Contractor prior to installation. Work installed not in compliance with the standards listed and without properly checking and coordinating as specified above shall, if necessary, be removed and properly reinstalled without additional cost to the Owner.

295-6.2 Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

295-6.3 Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes in slabs to be properly sealed, fire proofed and water proofed.

INSPECTION FEES AND PERMITS

295-7.1 Obtain and pay for <u>all</u> necessary permits and inspection fees required for construction. It shall be the Contractor's responsibility to become familiar with all permits and inspection fees associated with the corporate hangar construction at the site.

295-7.2 Contractor shall coordinate with utility companies and shall be responsible for all underground or aboveground differential costs charged by the utilities for new services to the facility.

MATERIALS

295-8.1 Hot-rolled structural shapes. ASTM A 36 or A 572.

295-8.2 Tubing or pipe. ASTM A 500, Grade B; ASTM A 501; or ASTM A 53.

295-8.3 Members fabricated from plate or bar stock. 42,000 psi minimum yield strength; ASTM A 529, A 570, or A 572.

295-8.4 Members fabricated by cold forming. ASTM A 607, Grade 50.

295-8.5 Galvanized steel sheets. ASTM A 446 with G90 coating; "Class" to suit building manufacturer's standards.

295-8.6 Anchor bolts. A307 non-headed, Grade C.

295-8.7 Concrete. Minimum 3,500 psi compressive strength at 28 days, or as specified by the structural engineer of record.

295-8.8 Reinforcing steel. ASTM A 615, Grade 60; deformed billet steel bars, unfinished.

295-8.9 Welded wire fabric. ASTM A 185.

STRUCTURAL FRAMING COMPONENTS

295-9.1 Steel frames. Hot rolled structural steel shapes or tubing. Factory welded and shop painted. The main structural steel frames may be of post and beam or rigid frame at the Contractor's option. Furnish complete with attached plates, bearing plates, and splice members. Factory drilled for bolted field assembly.

295-9.2 End wall framing. May be post and beam or rigid frame at Contractor's option.

295-9.3 End wall columns. Hot rolled structural shapes or tubing. Shop painted.

295-9.4 Rod bracing. Adjustable, threaded steel rods, $\frac{1}{2}$ diameter minimum; ASTM A 36 or A 572, Grade D.

- a. <u>Secondary Framing:</u> Purlins, eave struts, wall girts, flange and sag bracing; minimum 16 gage rolled formed sections. Shop painted.
- b. Base channel, sill angle, end wall structural members (except columns and beams), purlin spacers; minimum 14 gage cold formed steel, galvanized.

295-9.5 Bolts. ASTM A 325 as necessary for design loads and connection details. Shop painted, except

provide zinc plated units when in direct contact with panels.

ROOFING AND SIDING

295-10.1 General. Provide manufacturer's standard roofing and siding sheets. Provide flashings, closers, fillers, metal expansions joints, ridge covers, fascias, soffits and other sheet metal accessories, factory formed of same materials and finish as roofing and siding.

295-10.2 Siding sheets.

- a. For exterior walls, interior walls, and liner panels, provide Standard 26 Ga. galvalume coated wall sheets by the building manufacturer or approved equal. Exterior and interior wall sheets shall be furnished full height. Exterior wall sheets shall be painted on one side with the painted side facing the exterior of the building; interior wall sheets and liner panels shall not be painted.
- b. Exterior wall sheet shall cover all structural members of the building when the building is closed.
- c. Exterior trim pieces shall be provided in manufacturer's standard configuration and attachment. Trim finish shall conform to siding finish.
- d. Fasteners to be self-drilling sheet metal screws finished to match siding. Fasteners shall have bonded sealing washers.
- e. Finish color shall be selected from the owner from the manufacturer's list of standard colors.

295-10.3 Roof system. All Roofing: Roof sheets shall be standard 26 Ga. galvalume coated panels by the building manufacturer or approved equal. Roof panels shall be painted PAC-CLAD Metallic Finished Weathered Zinc. Panels shall be furnished full length from building eave to ridge purlin. A pre-formed ridge cap shall be provided. Furnish written twenty-year (20) warranty on materials.

MISCELLANEOUS MATERIALS

295-11.1 Flexible closure strips. Closed-cell, expanded cellular rubber, self-extinguishing, cut or premolded to match corrugation configuration of roofing and siding sheets. Provide necessary to ensure weathertight construction.

295-11.2 Sealing tape. 100% solids, pressure sensitive grey polyisobutylene compound tape with release paper backing. Not less than $\frac{1}{2}$ wide and $\frac{1}{8}$ thick, nonsag, nontoxic, nonstaining and permanently elastic.

295-11.3 Joint sealant. As standard with the building manufacturer.

295-11.4 Door stops. Door stops shall be provided for all pedestrian doors to ensure that adjacent walls are not damaged and locking systems are not affected.

295-11.5 Insulation. Insulation with white WMP-50 facing on roof, exterior walls, and doors. "R" value shall be R13. Wall insulation shall be R13 with white WMP-50 facing. Roof insulation shall be R19 with white WMP-50 facing.

295-11.6 Fire extinguishers, cabinet and accessories. Larsen's Manufacturing Company is specified. Equivalent products of J. L. Industries and Potter Roemer are acceptable.

a. Each installation shall be in accordance with NFPA 10, Standard for Portable Fire

Extinguishers, including mounting heights.

- b. Extinguisher: UL Rating 80B:C, minimum 10 lb. capacity, the fire-fighting agent shall be Purple K dry chemical.
- c. Cabinet: Architectural Series, Model 2409-SM steel cabinet for surface mounted installation with full wire glass vision panel. Provide cabinet in manufacture's standard white color. Provide with standard brackets. Provide with minimum 3 keys per each lockable cabinet.
- d. Sign: Double-sided 4"x18" photo-luminescent sign with text "FIRE EXTINGUISHER", mounted directly above the cabinet with BOTTOM of sign at 80" above finished floor.
- e. Installation: Install Cabinet and Extinguisher so that the handle of extinguisher is 48" above finished floor. Fire extinguisher cabinets shall be mounted to a 1 5/8" galvanized unistrut which is attached to the concrete floor with galvanized steel mounting bracket and sidewall girt.

295-11.7 Pedestrian Doors.

- a. Steel Door
 - i. Manufacturers: Steelcraft (Allegion), Ceco Door Products (ASSA Abloy Group Company), Curries Company (ASSA Abloy Group Company), or approved equal.
 - ii. Heavy Duty Doors: ANSI/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B.
 - 1. Type: As indicated, refer to details.
 - 2. Thickness: 1-34".
 - 3. Face: Metallic-coated steel sheet, minimum 0.042 inch thickness, ASTM A 653, A60 galvanneal coating.
 - 4. Edge Construction: Model 2, Seamless construction (no visible seams on face or vertical edge).
 - 5. Edge Bevel: Provide manufacturer's standard beveled or square edges.
 - 6. Top Edge Closures: Close top edges of doors with flush closure of same material as face sheets. Seal joints against water penetration.
 - 7. Bottom Edges: Close bottom edges of doors, where required for attachment of weatherstripping, with end closures or channels of same material as face sheets. Provide weephole openings in bottoms of exterior doors to permit moisture to escape.
 - 8. Core: Manufacturer's standard.
 - iii. Frames: ANSI A250.8, Level 3, Model 2, Performance Level 3; fully-welded, metallic-coated steel sheet, 0.053 inch minimum thickness, ASTM A 653, A60 galvanneal coating; combination stop and frame channel section, rabbeted for doors, of type and style indicated.
 - 1. Anchors/Fasteners: Supply the proper fastenings and/or anchors to secure frames in each type of structural framing indicated.
 - 2. Silencers/Mutes: Drill stops to receive a minimum of 3 silencers on strike jamb.
 - iv. Primer; manufacturer's standard rust inhibitive touch up primer.
 - v. Anchors, Fasteners, Accessories; manufacturer's standard.
 - vi. Channel Fillers: Flush steel at top channel of exterior doors.
 - vii. Hardware: Comply with requirements of ANSI A 250.6 and ANSI A 115 for door and frame preparation for hardware.
 - viii. Preparation: Prepare hollow metal units to receive mortised and concealed finished hardware, including cutouts, reinforcing, drilling and tapping, in accordance with final approved Finish Hardware and templates provided by the

hardware supplier. Reinforce hollow metal units to receive surface-applied hardware. Drilling and tapping for surface-applied hardware will be done on the job site.

- ix. Location of Hardware: Locate finish hardware as indicated in final shop drawings and/or in compliance with ANSI A 250.8.
- x. Finish: Dress tool marks and surface imperfections to smooth surfaces and remove irregularities. Chemically treat and clean doors and frames. Apply manufacturer's standard baked-on rust inhibitive primer complying with ANSI A 250.10 for performance and acceptance criteria.
- b. Hardware
 - i. Furnish complete hardware of every sort and description as required to adequately equip all movable parts throughout the building for perfect operation. Furnish hardware not specified but obviously required for completion of the project, conforming to size, function, quality, and utility of other hardware specified. Hardware shall be in compliance with ADA requirements.
 - ii. Qualification of Supplier: The finish hardware supplier shall have in his employ an AHC member of the American Society of Architectural Hardware Consultants.
 - iii. AHC Inspection: Before final inspection of work under this contract and acceptance of project by Owner, visit the site and carefully inspect hardware for conformance to specification, adequacy for intended use, proper functioning, appearance, finish, and successful operation, assuming joint responsibility with Contractor for achievement of these characteristics and a satisfactory installation.
 - iv. Manufacturers: Obtain each type of hardware (locksets, hinges, etc.) from a single manufacturer.
 - v. Locksets: Furnish Best 45H Series mortise locks conforming to ANSI A156.1 Series 1000 Grade 1 and Federal Specification Series 87. All locks are to be UL approved for fire doors whether specifically used on fire doors or not. Latchbolts are to have full 3/4" throw of the anti-friction type.
 - 1. Lock trim is to be Best 14H design.
 - 2. Locks are to be Best as specified, no substitutions.

SHEET METAL ACCESSORIES

295-12.1 General: Unless otherwise indicated, provide coated steel accessories with coated steel roofing and siding; coating shall be same as adjoining sheets and shall be fully covered by guarantee for adjoining sheets.

BASE BID – HYDRAULIC HANGAR DOOR

295-13.1 The hangar door shall be a single-panel hydraulic door as manufactured by Schweiss, Hydroswing, Powerlift, Higher Power, or an approved equal. Door and all operating components shall be as manufactured by the door manufacturer or an approved equal, and shall be integral with hangar building design. The door shall be designed to withstand a 115 mph ASCE 7-16 wind load while closed and at least 45% wind load while open. Door framing members shall be welded in full size panels. Door frames shall have pre-located top hinges factory located to align with door truss hinges. Structural steel shall be ASTM, A36, A572 or A500 Grade B. Doors shall be hydraulically operated.

295-13.2 The door shall be installed according to manufacturer's installation instructions.

295-13.3 The door opening for aircraft access shall have minimums as follows:

	Schedule 1
Clear Width	70'-0"

M19 2024 Hangar Construction

Nominal Clear Height	18'-0"	
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295-13.4 Provide door locking mechanism.

295-13.5Door motors shall be 208 volt, single phase. See the one-line diagram for additional requirements. Submit complete power and control diagrams for door motors, disconnects, starters and open/stop/close control stations.

DEDUCTIVE ALTERNATE 01 – HORTON STACK HANGAR DOOR

295-13.6 The hangar door shall be a Horton stack sliding door as manufactured by Horton, Inc. ,or approved equal.

295-13.7 The door shall be installed according to manufacturer's installation instructions.

295-13.8 The door opening for aircraft access shall have minimums as follows:

	Schedule 1
Clear Wdith	70'-0"
Nominal Clear Height	18'-0"

295-13.9 Provide door locking mechanism.

ELECTRICAL EQUIPMENT AND MATERIALS

295-14.1 All materials and equipment used in carrying out this contract shall be American made, shall be new, and shall have UL listing, or listing by other recognized testing laboratory when such listings are available.

ERECTION

295-15.1 General. Erection shall be as specified and in accordance with the erection instructions and drawings furnished by the manufacturer. Finished structure shall be proven weathertight. Dissimilar materials which are not compatible when contacting each other shall be insulated from each other by means of gaskets or insulating compounds. Improper or mislocated drill holes where permitted by the Engineer shall be plugged with an oversize screw fastener and gasketed washer; however, sheets with an excess of such holes or with such holes in critical locations shall not be used. Exposed surfaces shall be kept clean and free from sealants, metal cuttings, and other foreign materials. Stained, discolored or damaged sheets shall be removed from the site.

295-15.2 Framing and structural members. Anchor bolts shall be accurately set by template while the concrete is in a plastic state. Uniform bearing under base plates and sill members shall be provided using a nonshrinking grout when necessary. Members shall be accurately spaced to assure proper fitting of covering. As erection progresses, the work shall be securely fastened to resist the dead load, and wind and erection stresses.

WALL COVERING

295-16.1 Wall covering shall be applied with the longitudinal configurations in the vertical position. Accessories shall be fastened into framing members, except as otherwise approved. Closure strips shall be provided as indicated and where necessary to provide weathertight construction.

295-16.2 Lap for wall panels. Eliminate end laps to greatest extend possible. Where required, end laps shall be made over framing members with fasteners into framing members approximately 2 inches from the end of the overlapping sheet. Side laps shall be laid away from prevailing winds. Side lap distances, end lap distances, joint sealing, and spacing and fastening of fasteners shall be in accordance with the manufacturer's standard practice insofar as the maximum spacings specified are not exceeded and provided such standard practice will result in a structure which will be free from water leaks and meet design requirements. Exposed fasteners shall be installed in straight lines and shall present an orderly appearance. Spacing shall not exceed: 8 inches on center at end laps of covering, 12 inches on center at connection of covering to intermediate supports, and 18 inches on center at side laps of wall coverings except when otherwise approved. Method of applying joint sealant shall conform to the manufacturer's recommendation. Fasteners shall be installed in straight lines within a tolerance of ½ inch in the length of a bay. Fasteners shall be driven normal to the surface and to a uniform depth to properly seat the gasketed washers.

ROOF COVERING

295-17.1 Roof panels. Roof panels shall be fastened to framing members with self-drilling fasteners standard with the manufacturer. Spacing of fasteners shall be in accordance with the manufacturer's written instruction. Interlocking ribs shall be sealed. End laps of covering sheets and joints at accessories shall be sealed. Roof covering shall be applied with the longitudinal configurations in the direction of the roof slope. Closure strips shall be provided and as required to provide weathertight installation.

FIELD PAINTING

295-18.1 Immediately upon detection, abraded or corroded spots on shop-painted surfaces shall be wire brushed and touched up with the same material used for the shop coat. Shop-primed ferrous surfaces exposed on the building and all shop-primed surfaces of doors and windows shall be finish painted for protection. Factory color finished surfaces shall be touched up as necessary with the manufacturer's recommended touch-up paint.

ELECTRICAL

295-19.1 General.

- a. Install a new and complete electrical service to the new hangar building. Refer to the Plans for details. Refer to the Specifications, including SS-300, for electrical equipment requirements.
- b. Coordinate the new electrical service installation requirements with the Engineer, the Owner and the local electrical utility prior to installation work.
- c. Furnish and install all electrical equipment, materials and appurtenances, including but not limited to all labor, equipment, tools, and incidentals necessary to install complete systems for all electrical equipment including power, lighting and equipment connections.
- d. Coordinate all electrical work with the building manufacturer and equipment suppliers prior to installation.
- e. Provide all electrical facilities required for connection to mechanical equipment and other special equipment. Disconnects shall be provided for all equipment and shall be rated for the load and for the environment in which they are installed.

M19 2024 Hangar Construction

- f. <u>Hazardous Locations:</u>
 - (1) The aircraft bay area inside the Hangar building shall be classified as hazardous locations in accordance with NEC Article 513. Refer to the Hangar Notes in the drawing for specific details. The intent is to avoid installing electrical equipment within these classified areas. However, any electrical work installed within classified hazardous areas shall be installed in accordance with NEC for a hazardous location area, including but not limited to explosion-proof rated enclosures, switches, receptacles, conduit seals, etc.
 - (2) The other rooms or areas inside the Hangar building that are NOT both suitably cut off and ventilated from the hangar bays shall be classified as hazardous location in accordance with NEC Article 513, Class I Division 2, from the floor to a height of 18" above finished floor. The intent is to avoid installing electrical equipment within these classified areas by installing all electrical items in these other areas at least 24" above finished floor.
 - (3) Adjacent areas in which flammable liquids or vapors are not likely to be released, such as electrical rooms, storage rooms, or other similar locations, shall not be classified where adequately ventilated and where effectively cut off from the hangar itself by walls or partitions. Install all electrical items in these areas at least 24" above finished floor.
- g. <u>Exterior Locations:</u> Exterior areas shall be classified as wet locations. The exterior electrical work shall be installed in accordance with NEC for a wet location area. This shall include NEMA 3R enclosures and weatherproof switches, receptacles, etc.
- h. <u>Interior Non-Hazardous Locations:</u> Utilize specification grade equipment installed in accordance with NEC.
- i. All electrical systems shall be tested to the satisfaction of the Owner/Engineer.

295-19.2 Power.

- a. Refer to the electrical one-line diagram in the plans for service and power distribution requirements. Coordinate and provide all appurtenances for a complete installation.
- b. Install the underground secondary service feeder with minimum 30" cover.
- c. Mark all underground duct and conduit locations by installing a 3" wide detectable warning tape, 12" below grade.
- d. Install the new building's main disconnect mounted on an exterior wall surface at 5'-6" above finished grade and clearly labeled as the building disconnect with weatherproof nameplate "MAIN SERVICE DISCONNECT HANGAR".
- e. Install the grounding electrode system in accordance with NEC including bonding to the building steel and to the reinforcing steel in the foundation.
- f. Install the new main panelboard mounted on an interior wall surface at 5'-6" above finished grade. The panelboard shall be NEMA 1 enclosed, copper bussed, with copper neutral and ground bars. Provide a main circuit breaker panel with circuits indicated and required; refer to the panel schedule in the Plans for circuit descriptions and quantity of

branch circuit breakers. Provide branch circuit breakers for all equipment and loads within and on the new facility. Fill the remainder of the panel with spare circuit breakers unless otherwise noted. Label all breakers and install nameplates and signage on the panel in accordance with NEC and NFPA 70E.

- g. Install new transformer, manual transfer switch and panelboard for connection of Owner's backup generator, configured to power the hangar door and specified interior lighting as indicated in the Plans. Coordinate weather proof receptacle type with generator plug. See SS-300 for equipment requirements.
- h. Install new surge protective devices as indicated on the Plans. See SS-300 for equipment requirements.

295-19.3 Lighting.

- a. Interior Locations in Hangar: Install light fixtures within the aircraft hangar bay above the floor at a minimum height of 20'-0" above the finished floor. Provide junction box and conduit pendant mounts for all fixtures. Fixtures shall be totally enclosed, damp location rated, high bay style fixtures, high impact shatter resistant acrylic lens, constructed to prevent escape of sparks or hot metal particles, see schedule on the drawings.
 - The interior lighting levels shall be designed to meet Illuminating Engineering Society (IES) minimum lighting design requirements for a Category I space, 30 foot-candles maintained average, medium and small scale visual tasks.
- b. Exterior Locations: Install light fixtures on the exterior walls for safety and security lighting. Exterior light fixtures shall be full cutoff type, wet location rated, see schedule on the drawings. Coordinate mounting heights prior to construction and secure fixtures to the building. A load rated 120-277V heavy-duty twist-lock weatherproof photocell with surge arrestor mounted above the roof level facing north shall control all exterior lighting. Coordinate exact location with Engineer prior to installation.
 - (1) The exterior lighting levels shall be designed to meet the Illuminating Engineering Society (IES) minimum lighting level requirements for the immediate hangar apron area surrounding the hangar, a 1 foot-candle maintained average.
 - (2) Control exterior lighting loads utilizing a load rated photocell.
 - (3) For the ramp lighting, the lights over the hangar door shall have an override switch to disconnect from the photocell. Locate the override switch near the panelboard. Label the switch (per Section SS-300) as "RAMP LIGHTS OVERRIDE".
- c. All fixtures shall be LED type.

295-19.4 Wiring devices.

- a. Provide only specification grade wiring devices. Attach weather-proof permanent labels to all switches, receptacles and other disconnects to clearly indicate the panelboard and its circuit number, for example "HDP".
- b. Light switches that control hangar lighting and door push-button control stations that control hangar bay motorized doors shall be located within a maximum of three horizontal

feet of personnel entries at 48" above finished floor, outside the hazardous location. Light switches shall be 120-volt, 20-amp rated.

- c. Receptacles within the hangar bay shall be 120-volt, 20-amp, duplex, ground fault circuit interruption type, non-feed through type circuiting, mounted 48" above finished floor, and located on the wall of the bay outside the hazardous location.
- d. All receptacles installed in aircraft hangars shall have ground fault circuit interruption protection for personnel.
- e. Exterior receptacles shall be the 120-volt, 20-amp, duplex, ground fault circuit interruption type, weather-proof while-in-use cover, and mounted 48" above finished floor.

295-19.5 Conduits.

- a. All conductors shall be installed in conduit. Aluminum conduit shall not be used.
- b. Install conduit systems overhead from main disconnect to panelboard and from panelboard to lighting, devices and equipment. The intent is for all conduit systems to avoid penetrating hazardous locations, including the 18" high hazardous location area at the floor.
- c. Outdoors, below grade: Use Schedule 80 PVC rigid nonmetallic conduit for straight runs underground with select backfill and buried to a depth of not less than 30" to the top. Use rigid steel conduit for all elbows, bends and vertical risers from below grade to above grade.
- d. Outdoors, above grade: galvanized rigid steel conduit.
- e. Interior Non-Hazardous Locations: Conduit shall be steel and be installed in accordance with NEC requirements.
- f. If conduits are installed within hazardous locations, then all the requirements within NEC Article 501 - Class I Locations and Article 513 – Aircraft Hangars apply including but not limited to utilizing only galvanized rigid steel conduit, installing explosion-proof conduit seals in Class I Division 1 and Class I Division 2 locations, installing explosion-proof rated equipment, etc.

295-19.6 Conductors.

- a. Service entrance, feeder and branch circuit wiring shall be Type THHN/THWN-2 minimum, 600 volt rated.
- b. Branch circuit wiring shall be minimum No. 12 AWG size.
- c. Provide copper conductors only. Aluminum conductors shall not be used.
- d. Utilize the standard color code for the voltage system. Typically, black (Phase A), red (Phase B), blue (Phase C) white (neutral), green (ground) for a 120/208-volt system. Install color code identification nameplate on the front of the lighting panelboard and the main disconnect switch.
- e. Provide weather-proof self-laminating labels to label all conductors within junction boxes

and other accessible locations.

295-19.7 Grounding and lightning protection systems.

- a. An equipment green ground conductor shall be installed in all feeder and branch circuits.
- b. All junction and pull boxes and panels shall be grounded by means of grounding type conduit bushings.
- c. Ground rods shall be ³/₄" x 10'-0" copper-clad type connected utilizing exothermic welds only.
- d. Install grounding in accordance with NEC Article 250 Grounding and connect grounding system to building steel and foundation reinforcing steel.
- e. Coordinate locations prior to work and install the aircraft grounding receptacles including #1/0 bare copper conductors and ground rods, with connection to the power grounding system.

295-19.8 Equipment accessories.

- a. Provide dedicated disconnect switches for the equipment within the hangar bay, mounted and located adjacent to the unit, clearly labeled, NEMA 12 interior, NEMA 3R exterior, totally enclosed and gasketed, with disconnects located outside hazardous locations.
- b. For hangar door power, provide dedicated branch circuit for each door and provide disconnect and/or receptacle as required for final door power connections. The door motor shall not be located above wings and engine enclosures of aircraft and shall be located outside all hazardous location areas.
- c. Interior non-hazardous locations, enclosures shall be NEMA 1 unless otherwise noted.
- d. Exterior non-hazardous locations, enclosures shall be NEMA 3R.

295-19.9 Accessories and appurtenances.

- a. For indoor locations, utilize hot-dipped galvanized steel strut with stainless steel mounting hardware.
- b. For outdoor and indoor wet and damp locations, utilize stainless steel strut with stainless steel mounting hardware.
- c. Provide conduit clamps with vibra-cushions to support and protect the conduits.
- d. Provide end caps on steel struts for protection.
- e. Equipment racks, strut support systems, mounting hardware, and other accessories shall be corrosion resistant hot-dipped galvanized steel. Provide a complete equipment rack shop drawing for the electrical equipment showing attachment to building structure, floor anchoring, submitted equipment dimensions, conduits, and appurtenances. Equipment racks and strut support systems shall be adequate in size and strength for the equipment to be installed.

f. Provide outlet boxes and conduit pendants to support all light fixtures.

IDENTIFICATION OF ELECTRICAL EQUIPMENT

295-20.1 Properly identify the following:

- a. Main disconnect switch
- b. Panelboards and individual devices within it
- c. Safety switches and disconnect switches
- d. Contactors and lighting control center, including all branch circuits.
- e. Individually mounted circuit breakers
- f. Starters and relays
- g. Transformers

295-20.2 Utilize permanent nameplates with engraved lettering. Utilize UL listed wire labels rated for the specific area or environment.

295-20.3 Install all identification and warning nameplates and labels as required by the National Electrical Code.

TEMPORARY LIGHTS AND POWER

295-21.1 Provide a temporary electrical lighting and power distribution system of adequate size to properly serve the following requirements, including adequate feeder sizes to prevent excessive voltage drop. Temporary work shall be installed in a neat and safe manner in accordance with the NEC Article 305, and as required by OSHA and applicable local safety codes. The Contractor will pay for power consumption.

ELECTRICAL TESTING

295-22.1 On completion of work, installation shall be completely operational and entirely free from ground, short circuits, and open circuits. Perform a thorough operational test. Furnish all labor, materials and instruments for above tests.

295-22.2 Prior to final observation and acceptance test, all electrical systems and equipment shall be in satisfactory operating condition, including, but no limited to the following:

- a. Electrical Distribution System
- b. Electric Motors for All Equipment
- c. Electric Lighting

MECHANICAL

295-23.1 The mechanical systems shall be installed in accordance with the current adopted mechanical code of the State of Arkansas as well as any local codes or requirements.

295-23.2 The Contractor shall prepare the location for the future addition of a full functioning restroom. At some point, the restroom will be installed at the location shown in the plans, the specific location will be determined by the Owner.

295-23.3 The restroom shall be provided with plumbing stub out connections for one floor mount water closet, one floor drain, and one wall hung lavatory. Each of the plumbing fixture water connections shall

M19 2024 Hangar Construction

be provided with an angle water stop valve. Water connections shall be capped for future use. Water lines shall be carried out five foot beyond the building line and marked for future service connections. All clean-outs shall be provided with nickel bronze or cast iron tops.

The entire plumbing system shall be installed in accordance with the current adopted plumbing code of the State of Arkansas as well as any local codes or requirements.

295-23.4 Floor Drain and Oil Interceptor.

1. Floor Drain

- a. The floor drain shall be cast into the hangar foundation slab and shall have a minimum load rating of 15,000lb.
- b. The floor drain shall be a minimum of 9" Diameter.
- c. The floor drain shall be connected under the slab to the Oil Interceptor utilizing piping in accordance with local plumbing codes.

2. Precast Concrete Oil Interceptors

- a. Shall feature a minimum capacity of 515 gallons.
- b. Shall comply with ASTM C913.
- a. Include rubber-gasketed joints, vent connections, manholes, compartments or baffles, and piping or openings to retain grease and to permit wastewater flow.
- b. Structural Design Loads:
 - i. Light-Traffic Load: Comply with ASTM C890, A-8.
 - ii. Medium-Traffic Load: Comply with ASTM C890, A-12.
 - iii. Heavy-Traffic Load: Comply with ASTM C890, A-16.
 - iv. Walkway Load: Comply with ASTM C890, A-03.
- d. Resilient Pipe Connectors: ASTM C923, cast or fitted into interceptor walls, for each pipe connection.
- e. Steps: ASTM A615/A615M, deformed, 1/2-inch steel reinforcing rods encased in ASTM D4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of interceptor to finished grade is less than 60 inches.
- g. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover.
- i. Manhole Frames and Covers: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inchminimum-width flange and 26-inch-diameter cover.
 - i. Ductile Iron: ASTM A536, Grade 60-40-18, unless otherwise indicated.
 - ii. Gray Iron: ASTM A48/A48M, Class 35, unless otherwise indicated.
 - iv. Include indented top design with lettering cast into cover, using wording equivalent to "OIL INTERCEPTOR"
- j. Installation:
 - i. Install in accordance with ASTM C891.
 - ii. Set interceptor level and plumb.
 - iii. Install manhole risers from top of underground concrete interceptors to manholes and gratings at finished grade.
 - iv. Set tops of manhole frames and covers flush with finished surface in pavements.
 - 1. Set tops 3 inches above finish surface elsewhere unless otherwise indicated.
 - v. Set tops of grating frames and grates flush with finished surface.
 - vi. Install oil interceptors, including trapping, venting, and flow-control fitting, according to authorities having jurisdiction and with clear space for servicing.

FOUNDATION

295-24.1 Hangar foundation slab shall be concrete with thickness and reinforcing as determined by the Contractor's licensed engineer. Floor slab shall be sloped as shown in the construction plans. Final contraction joint layout is the responsibility of the Contractor and shall be as required to insure the slab on grade does not crack. Contraction joints shall be sealed with an appropriate sealer. See grading plans for slab edge elevations. Hangar foundations shall be designed to accommodate an aircraft weighing 30,000 pounds with a dual wheel gear configuration.

295-24.2 See grading plans for slab edge elevations.

295-24.3 Concrete Foundation Seal. The top surface of the concrete slab shall be sealed with Everclear acrylic concrete cure and seal or approved equal that prevents stains associated with grease and oil. Contractor shall be responsible for protecting the foundation from spills, leaks, and stains during construction. All spills shall be cleaned immediately.

GUARANTEE

295-26.1 The building shall be guaranteed against water leaks arising out of or caused by ordinary wear and tear by the elements for a period of five years. Such guarantee shall start upon acceptance of the work or the date the Owner takes beneficial possession, whichever is earlier.

295-26.2 The Contractor shall guarantee that the hangar foundations shall drain incidental surface water across the sloped portion of the floor slab to the exterior edge of the floor slab.

295-26.3 The Contractor shall furnish manufacturer's guarantees for roof and wall panels.

METHOD OF MEASUREMENT

295-27.1 Hangars will be measured for each item completed in-place according to the construction milestones below. Prior to beginning construction, the <u>Contractor Certification for Design</u> shall be completed and submitted to the Engineer.

295-27.2 <u>50%</u> Completion – Fifty percent completion shall be considered construction of the foundation (including footings, slabs and anchor bolt installation), construction of the finished slab, and installation of all underground electrical and mechanical items. <u>Contractor Certification For Construction - 50% Complete</u> shall be completed and submitted to the Engineer at the completion of this work.

295-27.3 <u>95%</u> Completion – Ninety five percent completion shall be considered substantial completion of the complete building, including all siding, roofing, and all electrical and mechanical items. At the completion of this work, the building shall be ready for final inspection and a final punch-list by the Owner and Engineer. <u>Contractor Certification For Construction - 95% Complete</u> shall be completed and submitted to the Engineer at the completion of this work.

295-27.4 <u>100%</u> Completion – Final completion shall be considered complete when the Owner's final punchlist is completed, the building occupancy permit is obtain, and occupancy of the building is available for tenants.

BASIS OF PAYMENT

295-28.1 Hangars constructed and measured as provided above shall be paid for at the unit bid price per each item constructed for each size of hangar constructed. This price shall be full compensation for all work contained required to construct the hangars and associated items as noted in the plans.

Payment will be made under:

Schedule 1 Base Bid:

Item SS-295-28.1 80' x 60' Box Hangar w/ 70' x 18' Aircraft Door – per Lump Sum

Schedule 1 - Deductive Alternates:

Deductive Alternate #1: Horton Stack Door

Deductive Alternate #1 shall consist of the price reduction remove the hydraulic hangar door and replace with the Horton Stack door listed in paragraph 295-13.6.

Newport Regional Airport M19 2024 Hangar Construction

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CONTRACTOR CERTIFICATION FOR DESIGN

Newport Regional Airport M19 2024 Hangar Construction

Owner Name: <u>Newp</u>	ort Regional Airport	
Airport: <u>Newport Reg</u>	lional Airport	
Project Description:	M19 2024 Hangar Construction	
Contractor:		

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar design and construction. The following list of certified items includes major requirements for design. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. The certification must be signed by a Professional Engineer registered to practice in the State of Arkansas. Every certified item below must be initialed by a Professional Engineer registered to practice in the State of Arkansas. This certification shall be completed and furnished to the Owner <u>before</u> construction begins. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The design of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes_____No____*

2. **Article 2.1 - Quality Assurance:** The design of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes_____No____*

3. **Article 3.1 – Construction Documentation:** The design of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes_____No____*

4. **Article 4.1 - Delivery, Storage and Handling:** The design of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes_____No____*

5. **Article 5.1 - Warranty:** The design of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes_____No____*

6. **Article 6.1 - Coordination:** The design of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes_____No____*

7. Article 7.1 – Inspection Fees and Permits: The design of the hangars has been completed in accordance with all items contained in article 7.1, "Inspection Fees and Permits" Yes_____No_____*

M19 2024 Hangar Construction

8. **Article 8.1 – Materials:** The design of the hangars has been completed in accordance with all items contained in article 8.1, "Materials".

Yes_____No____*

9. **Article 9.1 – Structural Framing Components:** The design of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components".

Yes_____No____*

10. **Article 10.1 – Roofing and Siding:** The design of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding".

Yes_____No____*

11. **Article 11.1 – Miscellaneous Materials:** The design of the hangars has been completed in accordance with all items contained in article 11.1, "Miscellaneous Materials".

Yes_____No____*

12. **Article 12.1 – Sheet Metal Accessories:** The design of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories".

Yes_____No____*

13. **Article 13.1 – Hangar Door:** The design of the hangars has been completed in accordance with all items contained in article 13.1, "Hangar Doors".

Yes_____No____*

14. **Article 14.1 – Electrical Equipment and Materials:** The design of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials".

Yes_____No____*

15. **Article 15.1 – Erection:** The design of the hangars has been completed in accordance with all items contained in article 15.1, "Erection".

Yes_____No____*

16. **Article 16.1 – Wall Covering:** The design of the hangars has been completed in accordance with all items contained in article 16.1, "Wall Covering".

Yes_____No____*

17. **Article 17.1 – Roof Covering:** The design of the hangars has been completed in accordance with all items contained in article 17.1, "Roof Covering".

Yes_____No____*

18. **Article 18.1 – Field Painting:** The design of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

M19 2024 Hangar Construction

Yes_____No____*

19. **Article 19.1 – Electrical:** The design of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No____*

20. **Article 20.1 – Identification of Electrical Equipment:** The design of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes____No___*

21. **Article 21.1 – Temporary Lights and Power:** The design of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No____*

22. **Article 22.1 – Electrical Testing:** The design of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No____*

23. **Article 23.1 – Mechanical:** The design of the hangars has been completed in accordance with all **items** contained in article 23.1, "Mechanical".

Yes_____No____*

24. **Article 24.1 – Foundation:** The design of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No____*

25. **Article 25.1 – Floor Coating:** The design of the hangars has been completed in accordance with all items contained in article 25.1, "Floor Coating".

Yes_____No____*

26. **Article 26.1 – Guarantee:** The design of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes No *

27. **Engineering Certifications:** Attached to this document are signed letters from registered Professional Engineer, as applicable, that certifies that the design of the hangars has been completed in accordance with these specifications and meets all applicable federal, state and local codes.

 Structural
 Yes
 No
 *

 Electrical
 Yes
 No
 *

Mechanical

Yes_____No____

Newport Regional Airport M19 2024 Hangar Construction

M19 2024 Hangar Construction

"No" answers are further explained by the enclosed attachments.

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, that the design of the Hangars meets all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed:

Contractor's Authorized Representative

Date:

Typed Name and Title of Contractor's Representative

M19 2024 Hangar Construction

CONTRACTOR CERTIFICATION FOR CONSTRUCTION - 50% COMPLETE FOUNDATION AND UNDERGROUND UTILITIES COMPLETE

Owner Name:	Newport Regional Airport
Airport: New	port Regional Airport
Project Description	on: M19 2024 Hangar Construction
Contractor:	

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar construction. The following list of certified items includes major requirements for this aspect of project implementation. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. Every certified item below must be initialed, and the certification must be signed, by a principal or owner of the Contractor's company. This certification shall be completed and furnished to the Owner at the indicated construction milestones, as determined by the Engineer. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The construction of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes_____No____*

2. **Article 2.1 - Quality Assurance:** The construction of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes_____No____*

3. **Article 3.1 – Construction Documentation:** The construction of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes_____No____*

4. **Article 4.1 - Delivery, Storage and Handling:** The construction of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes_____No____*

5. **Article 5.1 - Warranty:** The construction of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes_____No____*

6. **Article 6.1 - Coordination:** The construction of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes_____No____*

Article 7.1 – Inspection Fees and Permits: The construction of the hangars has been completed in accordance with all items contained in article 7.1, "Inspection Fees and Permits".

Yes_____No____*

7. **Article 8.1 – Materials:** The construction of the hangars has been completed in accordance with all items contained in article 8.1, "Materials".

Yes_____No____*

8. **Article 9.1 – Structural Framing Components:** The construction of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components".

Yes_____No____*

9. **Article 10.1 – Roofing and Siding:** The construction of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding".

Yes_____No____*

10. **Article 11.1 – Miscellaneous Materials:** The construction of the hangars has been completed in accordance with all items contained in article 11.1, "Miscellaneous Materials".

Yes_____No____*

11. **Article 12.1 – Sheet Metal Accessories:** The construction of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories".

Yes_____No____*

12. **Article 13.1 – Hangar Door:** The construction of the hangars has been completed in accordance with all items contained in article 13.1, "Hangar Doors".

Yes_____No____*

13. **Article 14.1 – Electrical Equipment and Materials:** The construction of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials".

Yes_____No____*

14. **Article 15.1 – Erection:** The construction of the hangars has been completed in accordance with all items contained in article 15.1, "Erection".

Yes_____No____*

15. **Article 16.1 – Wall Covering:** The construction of the hangars has been completed in accordance with all items contained in article 16.1, "Wall Covering".

Yes No *

16. **Article 17.1 – Roof Covering:** The construction of the hangars has been completed in accordance with all items contained in article 17.1, "Roof Covering".

M19 2024 Hangar Construction

Yes_____No____*

17. **Article 18.1 – Field Painting:** The construction of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

Yes No *

18. **Article 19.1 – Electrical:** The construction of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No____*

19. **Article 20.1 – Identification of Electrical Equipment:** The construction of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes_____No____*

20. **Article 21.1 – Temporary Lights and Power:** The construction of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No____*

21. **Article 22.1 – Electrical Testing:** The construction of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No____*

22. **Article 23.1 – Mechanical:** The construction of the hangars has been completed in accordance with all items contained in article 23.1, "Mechanical".

Yes No *

23. **Article 24.1 – Foundation:** The construction of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No____*

24. **Article 25.1 – Floor Coating:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Floor Coating".

Yes_____No____*

25. **Article 26.1 – Guarantee:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes_____No____*

* "No" answers are further explained by the enclosed attachments.

M19 2024 Hangar Construction

50% Completion: I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, the construction was completed in accordance with all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed:

Date:

Contractor's Authorized Representative

Typed Name and Title of Contractor's Representative

Newport Regional Airport M19 2024 Hangar Construction

CONTRACTOR CERTIFICATION FOR CONSTRUCTION - 95% COMPLETE BUILDINGS COMPLETE

Owner Name: <u>N</u>	Newport Regional Airport
Airport: <u>Newpor</u>	t Regional Airport
Project Description:	M19 2024 Hangar Construction
Contractor:	

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar construction. The following list of certified items includes major requirements for this aspect of project implementation. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. Every certified item below must be initialed, and the certification must be signed, by a principal or owner of the Contractor's company. This certification shall be completed and furnished to the Owner at the indicated construction milestones, as determined by the Engineer. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The construction of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes_____No____*

2. **Article 2.1 - Quality Assurance:** The construction of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes_____No____*

3. **Article 3.1 – Construction Documentation:** The construction of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes_____No____*

4. **Article 4.1 - Delivery, Storage and Handling:** The construction of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes_____No____*

5. **Article 5.1 - Warranty:** The construction of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes_____No____*

6. **Article 6.1 - Coordination:** The construction of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes_____No____*

Article 7.1 - Inspection Fees and Permits: The construction of the hangars has been completed in

M19 2024 Hangar Construction

accordance with all items contained in article 7.1, "Inspection Fees and Permits".

Yes No 7. Article 8.1 - Materials: The construction of the hangars has been completed in accordance with all items contained in article 8.1, "Materials". Yes No * 8. Article 9.1 - Structural Framing Components: The construction of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components". Yes No * 9. Article 10.1 - Roofing and Siding: The construction of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding". Yes______ No_____ * Article 11.1 - Miscellaneous Materials: The construction of the hangars has been completed in 10. accordance with all items contained in article 11.1, "Miscellaneous Materials". Yes No * 11. Article 12.1 - Sheet Metal Accessories: The construction of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories". Yes_____No_____* Article 13.1 -Hangar Door: The construction of the hangars has been completed in accordance 12. with all items contained in article 13.1, "Hangar Doors". Yes No * 13. Article 14.1 - Electrical Equipment and Materials: The construction of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials". Yes______No____* Article 15.1 - Erection: The construction of the hangars has been completed in accordance with 14. all items contained in article 15.1, "Erection". Yes No * Article 16.1 - Wall Covering: The construction of the hangars has been completed in 15. accordance with all items contained in article 16.1, "Wall Covering". Yes______No_____* Article 17.1 - Roof Covering: The construction of the hangars has been completed in 16. accordance with all items contained in article 17.1. "Roof Covering". Yes <u>No</u>*

M19 2024 Hangar Construction

17. **Article 18.1 – Field Painting:** The construction of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

Yes_____No____*

18. **Article 19.1 – Electrical:** The construction of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No____*

19. **Article 20.1 – Identification of Electrical Equipment:** The construction of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes_____No____*

20. **Article 21.1 – Temporary Lights and Power:** The construction of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No____*

21. **Article 22.1 – Electrical Testing:** The construction of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No____*

22. **Article 23.1 – Mechanical:** The construction of the hangars has been completed in accordance with all items contained in article 23.1, "Mechanical".

Yes_____No____*

23. **Article 24.1 – Foundation:** The construction of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No____*

24. **Article 25.1 – Floor Coating:** The construction of the hangars has been completed in accordance with all items contained in article 25.1, "Floor Coating".

Yes_____No____*

25. **Article 26.1 – Guarantee:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes_____No____*

* "No" answers are further explained by the enclosed attachments.

95% Completion: I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, the construction was completed in accordance with all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed: _____ Date:

Addendum No. 1

Contractor's Authorized Representative

Typed Name and Title of Contractor's Representative