

SECTION 13 12 00 - ALUMINUM HELISLAT ROOFTOP HELISTOP

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes one design build rooftop aluminum Helistop. Package also includes aluminum decking for Helistop and walkway, (2) exit stairs, safety netting, Hydronic Snowmelt, H-2 fire suppression, fuel/ water separator, lighting package, non-skid paint, FAA markings, FAA submittals and installation.

1.02 RELATED SECTIONS

- A. Division 05 – Metals: Provisions for and construction of Helistop Structural Steel for heliport.
- B. Division 09 - Painting: Painting other than paint required by this section.
- C. Division 21 – Fire Suppression: Provisions for and connection to supplied equipment including AFFF foam mixing skid and nozzles.
- D. Division 22 – Plumbing: Provisions for and connection to supplied equipment including fuel/water separator and Hydronic Snowmelt system.
- E. Division 26 – Electrical : Provisions for and connection to supplied equipment including lighted wind cone, obstruction lights, three color beacon, perimeter lights, walkway floodlights, snowmelt skid, and fire suppression skid.

1.03 REFERENCES

- A. American Welding Society AWS D1.1 - Structural Welding Code – Steel or International equivalent.
- B. American Welding Society AWS D1.4 - Structural Welding Code - Reinforcing Steel or International equivalent.
- C. International Organization for Standardization ISO 9000 - Quality Management Systems.
- D. Military Specification MIL-I-45208A - Inspection System Requirements.

1.04 SYSTEM DESCRIPTION

- A. General Description: Aluminum *Helislat*TM deck dimensions as required with an aluminum walkway per drawings. Also included should be (2) exit stairs, safety netting, Hydronic Snowmelt System, H-2 fire suppression, fuel/ water separator, lighting package, non-skid paint, FAA markings, and installation.

1.05 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide Helistop to accommodate the following loading requirements of a 12,000-pound helicopter. Items i, ii and iii apply to helipad landing surface only but do not act simultaneously. Gross weight and Impact loading consist of two point loads 8'-0" apart.
- i. Gross weight of helicopter plus snow load plus dead load. Gross weight is defined as 1/2 of the helicopter maximum take-off weight at each point.
 - ii. Impact load of the helicopter plus dead load. Impact load is defined as 3/4 of the helicopter maximum take-off weight at each point.
 - iii. 100 psf live load plus dead load
 - iv. Uniform load of 50 pounds per lineal foot applied in any direction to top rail of handrail or a concentrated load of 200 pounds applied at any point in any direction to safety rail and safety rail post as required.
 - v. Concentrated load of 250 pounds applied over any one square foot of safety netting or 25 psf live load.

1.06 SUBMITTALS

- A. General: Submit each item in this article according to the conditions of the Contract and Specification Sections.
- B. Helistop manufacturer shall review shop drawings of steel substructure prior to steel fabrication and coordinate Helistop shop drawings with substructure.
- C. Product Data: Submit manufacturer's specifications to evidence compliance with these specifications.
- D. Helistop manufacturer shall be responsible for FAA submittal process.
- E. Owner/General Contractor shall be financially responsible for obtaining any permits as they apply to the Helistop.

1.07 QUALITY ASSURANCE

- A. Designer Qualification:
1. Helistop supplier shall have an approved and documented quality control system equal to Mil-I-45208A or ISO 9000.
 2. Each structural component of the Helistop shall be designed by registered structural engineer, in accordance with the local building codes, and said engineer must be employed by the Helistop manufacturer.
 3. Upon request submit statement certified by the registered structural engineer that the design of the structural components of the Helistop, including connection to the structural frame, is in compliance with provision of the Contract Documents and the Local Building Codes, and is in keeping with generally accepted engineering practice.
 4. If requested, submit design calculations bearing the registered structural engineer's stamp, to the Local Building Code Official.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.09 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.10 WARRANTY

- A. **Warranty Period:** Manufacturer warrants our manufactured products and installed systems for 12 months.
- B. **Product Warranty:** Manufacturer will repair or replace any parts that manufacturer determines are defective during the warranty period.
- C. **System Warranty:** Manufacturer will repair or replace any parts or components of the system that manufacturer determines are defective during the warranty period.
- D. **Customer's Obligations:** The customer shall notify manufacturer of any defects or problems with a part or system within 30 days of the date that the defects or problems were discovered or should have been discovered; failure to notify manufacturer within this 30-day period shall nullify the warranty regarding that defect or problem.
- E. **Maintenance:** The customer is responsible for preventive and routine maintenance.
- F. **Extension of Warranty:** The warranty period shall not be extended.
- G. **Discrete Warranty Claim:** When the system returns to normal operation for a 30-day period following action by manufacturer and the customer under this warranty, the defect or problem shall be considered resolved.
- H. **Other Warranty Provisions:** Customer may not assign this Warranty to any other person or business entity, including a successor in interest to the customer, without manufacturer's written consent.

PART 2 - PRODUCTS AND SUPPLIERS

2.01 Suppliers

- A. Acceptable suppliers of the Helistop and associated equipment:

FEC Heliports, 5298 River Road, Cincinnati, Ohio 45233. Phone toll free 877-HELIPAD, fax 513-621-1116, email: sales@fecheliports.com, www.fecheliports.com.

Standard: Design is based on FEC Heliports Helislat System and other equipment manufactured by FEC Heliports, which is the standard for performance and quality.

2.02 Equipment

- A. Helistop Surface and walkway
1. Helistop and walkway surface shall be the *Helislat*TM system. Slats must be extruded 6005-T5 aluminum a minimum of 6" in height and 6" in width and 50' long. Slats must interlock with a tongue and groove configuration and shall have a petroleum resistant sealant inside each tongue and groove. Extrusion thickness may not be less than .19 in +/- .01. Slats must have a section modulus of no less than 8.72 in³. Slats must have an internal extruded cavity to accept a snow melting system. This cavity must allow the snow-melting element to have contact with the deck surface and must be on 6" centers. Deck surface must be coated with a non-slip coating to ensure safe patient transfer in any weather and to assist in sealing all deck joints against water and fuel leakage.
 2. Helistop walkway shall be HP0355 design to connect to the Helislat tongue and groove system. In addition the walkway shall have the same internal snow melt cavity to coordinate with the *Helislat*TM system. HP0355 shall also be 6005-T5 alloy and be 1½" in height and 6" in width.
- B. Drainage Gutter: Manufacturer's standard HP0259 gutter along low side of deck. Gutter shall have multiple 4" downspout connections.
- C. Safety Net: All safety netting shall be 5'-0" wide minimum and be design build in accordance with manufacturer specifications. All safety netting shall be made from structural tubing and 1¼" 9 gauge fencing. All safety netting components shall be galvanized steel. Heliport supplier shall supply netting, supports and all necessary hardware. Safety netting shall be designed in accordance with structural requirements of section 1.05.
- D. Fuel/Water Separator: HP0285 Weather, gravity separators, having three chambers, discharge, heater with integral thermostat and high level indicator. Each tank shall have a minimum fuel storage capacity of 300 gallons. The tank shall have a 6" inlet. Separator shall sit on roof as designated by Architect. Piping for separator shall be 6" black iron or as stipulated by State or Local Code. Piping shall be supplied by Mechanical Contractor running from gutter to separator and from separator to designated location as shown on Mechanical drawings.

- E. Accessories and Anchors:
1. Provide manufacturer's standard 1/8" neoprene isolation between all aluminum and steel support structure as required.
 2. Provide manufacturer's standard HP0226 clamping hardware, isolation pads and other items as required for separation of aluminum members and materials from other non-aluminum metals.
- F. Lighting Fixtures:
1. Provide HP0590G Green LED perimeter lights as shown on drawings.
 2. Provide HP0582P Red LED obstruction lights as shown on drawings.
 3. Provide HP0168 floodlights to illuminate walkway as shown on drawings.
 4. Provide HP0683 LED Three Color Locating Beacon as shown on drawings.
 5. Provide HP0456 Radio/Receiver Controller as shown on drawings.
- G. Wind Cone and Post: Provide (1) HP0907 LED externally lighted wind cone. Mount in location as indicated on drawings.
- H. Foam Fire Suppression System: HP0796 provided to meet the requirements of FAA for an H-2 category pad. All piping required to connect equipment to the hospital and to connect skid to deck equipment shall be supplied and installed by Sprinkler Contractor. Refer to Mechanical/Fire Protection drawings for pipe sizing and location.
- I. Snow Melt Equipment: Helipad supplier shall provide (1) HP0300-2S snowmelt control skid, all deck tubing and manifolds. Snowmelt skid shall be manufactured and assembled by the helipad supplier and shall include but is not limited to 2 circulating pumps, a Tekmar 664 control panel, heat exchanger, expansion tank and all other required items. All deck tubing shall be rubber 5/8" I.D. x 1" O.D. Deck manifolds shall be stainless steel with ball valves for balancing and individual tube isolation on both supply and return manifolds. Piping from skid to deck manifolds to be supplied and installed by Mechanical Contractor.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine and verify that receiving substrate surfaces of the structure have no defects or errors which would result in poor or potentially defective application or cause latent defects in workmanship.

3.02 PREPARATION

- A. Substructure Adequacy: Prepare the structure to insure proper and adequate structural support of the materials specified.
- B. Substrate Surface: Prepare substrate surfaces to insure proper and adequate installation, in accordance with the Contract Documents and approved Shop Drawings or manufacturer's requirement.

- C. Field Measurement/Verifications: Field measure and verify dimensions as required.
- D. Protection of Adjacent Areas or Surfaces: Owner/General Contractor shall protect adjacent areas or surfaces from damage as a result of the Work of this Section.

3.03 ERECTION

- A. Erect in accordance with manufacturer's latest published requirements, instructions, specifications, details and approved Shop Drawings.
- B. Helistop members shall be set, leveled, aligned and anchored in method approved by the Helistop manufacturer.
- C. Helistop manufacturer shall provide full-time installation crew to coordinate installation with the general contractor and GC shall certify in writing at completion that Helistop is installed in accordance with manufacturer's recommendations.
- D. Helistop manufacturer shall coordinate requirements for on-site support required for erection of items supplied, and is responsible for supplying and delivering to the site components required for complete and usable installation whether or not shown or specified by these documents.
- E. Field drill holes in Helistop purlins to align with holes provided in steel column studs. Bolt field connections. HP0226 Clamping hardware to be used to connect deck to steel structure as needed. Provide temporary shoring and bracing members as required.
- F. Set deck members to proper slope as shown such that entire deck surface drains to perimeter gutter system. Provide elevations and alignment as required.
- G. Install isolation material between dissimilar metals to prevent galvanic action furnished by Helistop supplier.

3.04 PAINTING

- A. Complete painted markings following erection. Markings shall be in colors as indicated on plan and as dictated by ICAO Annex 14 and Heliport Manual. Paint shall be manufacturers' standard non-skid deck paint. Application shall be according to manufacturer's written directions. Provide abrasive additive to maintain the Helistop deck's non-skid surface.

3.05 WORK NOT IN CONTRACT

- A. Heliport supplier shall not be responsible for taxes, bonding, and permitting, hoisting, offloading, electrical or mechanical work as described, wall penetrations, any roof work or any items not specifically listed in the final contract.

PART 4 - APPROVED SOURCES OF SUPPLY

"Approved Sources" must show evidence that their materials and products meet the requirements of the Contract Documents.

4.01 Helistop and Associated Equipment

FEC Heliports, a division of Federal Equipment Company

Helistat[™] System

5298 River Rd.

Cincinnati, Ohio 45233

Phone: 513-621-5260

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END OF SECTION