Procurement and Contracting Services

ADDENDUM #1

Request for Bids For
6.5M Lifting Fixture

Please mark all proposal submission envelopes with the following information:

RFB #S111905.01

Due on April 11, 2019 at 3:00 PM/MST.
This addendum contains the following information:

1. Drawing Modification - Hole pattern change on two drawings:
   27263b Inner Lifting Frame Weldment
   27275b Hoist Block, Lifting Ring

2. Drawing Modification - Added additional torque values to Note 2 on drawing 27266b Lifting & Box Frame Assembly

3. Is drawing 27265 missing from the drawing packet?
   No, Drawing 27265 is just the substar assembly that is for UA internal use only.

4. Are there recommended shipping/rigging companies U of A utilizes?
   U of A, RFC Mirror Lab has experience with Hook Crane Services, Inc. hookcrane@hookcrane.com, Precision Heavy Haul jim@precisionheavyhaul.com and Southwest Industrial Rigging shofhine@swirusa1.com
NOTES:

1. MATERIAL: ASTM A572 GR 50 STEEL PLATE OR BAR.
2. BREAK SHARP EDGES & DEBURR.
3. MACHINED FILLETS TO BE R.015 MAX.
4. MACHINED SURFACES TO BE 500 Ra (uin) OR BETTER.
5. FINISH:
   ALL SURFACES, EXCEPT AS NOTED BELOW, ARE TO BE PAINTED WITH:
   A. MACROPOXY 646-100 FAST CURE EPOXY, COLOR: WHITE.
   FOLLOW MANUFACTURER’S DIRECTIONS FOR SURFACE PREPARATION, NUMBER OF COATS, & ANY OTHER REQUIREMENTS.

PAINTING EXCEPTIONS:

A. HOLES DO NOT NEED TO BE PAINTED, PAINT OVERSPRAY ACCEPTABLE.
B. MASK OFF THREADS.
6. DIMENSIONS ARE BEFORE PAINTING.
<table>
<thead>
<tr>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>VENDOR</th>
<th>ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72</td>
<td>98023A036 WASH, FLAT, 3/4&quot; SCREW, .112 ID x 1.469 OD x .108-160, GR 8 STEEL, Zn-PLT</td>
<td>McMaster-Carr</td>
<td>27</td>
</tr>
<tr>
<td>36</td>
<td>94895A038</td>
<td>NUT, HEX, 3/4-10 UNC x 1 1/8&quot; HEX x 41/64&quot; HT, GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>28</td>
</tr>
<tr>
<td>504</td>
<td>94895A035</td>
<td>NUT, HEX, 5/8-11 UNC x 1 15/16&quot; HEX x 35/64&quot; HT, GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>25</td>
</tr>
<tr>
<td>18</td>
<td>93839A840</td>
<td>NUT, HEX, THIN, 3/4-16 UNF x 1 1/8&quot; HEX x 27/64&quot; HT, GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>24</td>
</tr>
<tr>
<td>396</td>
<td>92620A802</td>
<td>HHS, 5/8-11 UNC x 2&quot;, GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>23</td>
</tr>
<tr>
<td>36</td>
<td>91257A844</td>
<td>HHS, 3/4-10 UNC x 2 3/4&quot;, GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>22</td>
</tr>
<tr>
<td>36</td>
<td>91257A805</td>
<td>HHS, 5/8-11 UNC x 2 3/4&quot; (PARTIAL THREAD), GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>21</td>
</tr>
<tr>
<td>48</td>
<td>91257A803</td>
<td>HHS, 5/8-11 UNC x 2 1/4&quot; (PARTIAL THREAD), GR 8 STEEL, Zn YEL-CHROMATE PLT</td>
<td>McMaster-Carr</td>
<td>20</td>
</tr>
<tr>
<td>24</td>
<td>90126A904</td>
<td>SHCS, 5/8-11 UNC x 2 1/2&quot; (PARTIAL THREAD), ALY STL, Zn-PLT</td>
<td>McMaster-Carr</td>
<td>19</td>
</tr>
</tbody>
</table>

**Parts List Legend:**
- HHS = HEX HEAD SCREW
- SHCS = SOCKET HEAD CAP SCREW

**Revision History:**
- **Rev. A**Initial Release
- **Rev. B**Added additional torque values to note 2
NOTES:

1. THIS DRAWING SHOWS THE LIFTING FRAME ASSEMBLY IN TWO CONFIGURATIONS:
   A. MIRROR LIFTING CONFIG TO BE USED FOR ASSEMBLY BY THE "RICHARD F. CARIS MIRROR LAB" (RFCML) TECHNICIANS.
   B. LOAD TEST CONFIG TO BE USED BY THE RFCML FABRICATOR (SEE SHT 10).
   NOTE: LOAD TEST SUBSTAR ASSEMBLY DOES NOT NEED TO BE ASSEMBLED IN SAME ANGULAR POSITION AS ITEM 4 MIRROR LIFTING SUBSTAR AS SHOWN IN SECTION G-G (SHT 9).

2. ASSEMBLY:
   A. TORQUE SCREWS / NUTS AS FOLLOWS:
      1. 1/2-13 UNC: 90 FT-LBS (FOR LOAD TEST SUBSTAR ASSEMBLY, SEE SHT 10).
      2. 5/16-11 UNC: 158 FT-LBS.
      3. 3/4-10 UNC: 350 FT-LBS.

3. STENCIL THE FOLLOWING APPROX WHERE SHOWN USING 2" HIGH LETTERS; ANY BEAM WEB AROUND THIS OUTER SURFACE OF ITEM 2 CAN BE USED:

(REF) 2

LIFTING FIXTURE: 12,039 LBS
LIFTING FIXTURE + BOX FRAME: 18,704 LBS
LOAD RATING: 48,000 LBS

NOTE: LIFTING FIXTURE + BOX FRAME WEIGHT ALSO INCLUDES ALL BRACKETS, PLATE CONNECTORS, & ATTACHING HARDWARE.

4. PARTS LIST: VENDORS / VENDOR PART NOs ARE AS LISTED -OR- EQUIVALENTS.
-1 LIFTING & BOX FRAME ASSEMBLY
MIRROR LIFTING CONFIGURATION

(27050 6.5 m MIRROR - FINISHED DIMENSIONS)
-1 LIFTING & BOX FRAME ASSEMBLY
SCALE 1/48
MIRROR LIFTING CONFIGURATION
-3 LIFTING & BOX FRAME ASSEMBLY

LOAD TEST CONFIGURATION
SAME AS -1 EXCEPT FOR ITEMS AS ASSEMBLED FOR LOAD TEST SUBSTAR
-3 WEIGHT = 16,195 LBS

(350 1/4 [29'-2 1/4"])

SCALE 1/48

SCALE 1/16
SEE SHTs 2 THRU 7 FOR FABRICATION / ASSEMBLY VIEWS

NOTES:

1. MATERIAL:
   A. WIDE FLANGE BEAMS (W): STRUCTURAL, ASTM A36 OR ASTM A992 STEEL.
   B. PLATE (PL): ASTM A572 GRADE 50 STEEL.
   NOTE: BARS MAY BE USED IN PLACE OF PLATE WHERE APPLICABLE.

2. BREAK SHARP EDGES & DEBURR.

3. MACHINED SURFACES TO BE 500 Ra (uin) OR BETTER.

4. WELDING:
   WELD ALL ITEMS TOGETHER IN EACH SEGMENT USING 3/16" WELDS (SEE SHT 7);
   WELD PROCESS PER APPROVED SHOP PRACTICES FOR MAX STRENGTH & MINIMUM DISTORTION WITHOUT CRACKING.

5. FABRICATION / ASSEMBLY:
   A. FABRICATOR TO USE THOSE DIMENSIONS THAT BEST SUIT THEIR MANUFACTURING METHODS & WHETHER FEATURES
      WILL BE ADDED BEFORE -OR- AFTER WELDING, E.G. HOLE LOCATIONS.
   B. "MATCH MARK" SEGMENT ENDS FOR ASSEMBLY REPEATABILITY. MARKING MUST BE PERMANENT & VISIBLE AFTER
      PAINTING.
   C. TORQUE 5/8-11 UNC HEX HEAD SCREWS TO 158 FT-LBS.

6. FINISH:
   ALL SURFACES, EXCEPT AS NOTED BELOW, ARE TO BE PAINTED WITH:
   A. MACROPOXY 648-100 FAST CURE EPOXY, COLOR: WHITE.
   FOLLOW MANUFACTURER’S DIRECTIONS FOR SURFACE PREPARATION, NUMBER OF COATS, & ANY OTHER
   REQUIREMENTS.
   PAINTING EXCEPTIONS:
   A. HOLES DO NOT NEED TO BE PAINTED; PAINT OVERSPLAY ACCEPTABLE.

7. DIMENSIONS ARE BEFORE PAINTING.

8. DIMENSIONS ARE ALSO FRACTIONAL WITH A TOLERANCE OF +/−1/16" UNLESS OTHERWISE SPECIFIED.

9. PARTS LISTS: VENDORS / VENDOR PART NOs. ARE AS LISTED -OR- EQUIVALENTS.

PARTS LIST LEGEND:
HHS = HEX HEAD SCREW

LAST LETTER USED: C
INNER LIFTING FRAME WELDMENT-ASSEMBLY
SEE SHTs 3 THRU 7 FOR ADDITIONAL FABRICATION / ASSEMBLY VIEWS
4X Ø.688 THRU TOP & BOTTOM FLANGES

4X Ø.688 THRU

12

4

1 9/16

1 5/16

4 5/16

1 3/16

4 3/16

2 3/16

12

VIEW B-B

HOLE LOCATION TOLERANCE = +/-1/32"