

**NAVFAC  
SPECIFICATION**

**6711531  
FRC-EAST, CRANE  
REPLACEMENT AND  
MODERNIZATION**

**MCAS Cherry Point, NC  
AMENDMENT #0001**

## **IMPORTANT**

**This amendment should be acknowledged when your proposal is submitted. Failure to acknowledge the amendment may constitute grounds for rejection of the proposal.**

**If your proposal has been submitted prior to the receipt of this amendment, acknowledgement should be made by telegram, which should state whether the price contained in your proposal is to remain unchanged, is to be decreased by an amount, or is to be increased by an amount. The acknowledgement must be received prior to proposal opening time.**

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE 1	OF PAGES 1
2. AMENDMENT/MODIFICATION NO.  0001	3. EFFECTIVE DATE  3/29/2019	4. REQUISITION/PURCHASE REQ. NO.  6711531	5. PROJECT NO. (If applicable)		
6. ISSUED BY  <b>CG MCAS Cherry Point FACILITIES, ROICC B-163, CURTIS ROAD PSC BOX 8006 CHERRY POINT, NC 28533</b>		Code N40085	7. ADMINISTERED BY (If other than item 6.)		Code
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  <b>AMENDMENT MUST BE ACKNOWLEDGED WITH YOUR PROPOSAL</b>			<input checked="" type="checkbox"/>	9A. AMENDMENT OF SOLICITATION Crane Replacement and Modernization	
			<input type="checkbox"/>	9B. DATED (SEE ITEM 11)	
			<input type="checkbox"/>	10A. MODIFICATION OF CONTRACT/ORDER NO.	
			<input type="checkbox"/>	10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE				

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers  is extended  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning 1 copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS,  
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

<input type="checkbox"/>	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14. ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATION CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103 (b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER: (specify type of modification and authority)
E. IMPORTANT: Contractor <input type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return <b>original</b> to the issuing office.	

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

6711531 – Crane Replacement and Modernization, Marine Corps Air Station Cherry Point, NC

This amendment is being issued to provide responses to the attached RFIs and updated drawing/spec sections as outlined in the continuation sheet attached.

The deadline to submit RFIs is extended to 0900 4 April 2019. RFIs submitted past this date/time may not be answered.

The proposal due date is extended to 15 April 2019 at 1200 local time.

See Attached.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR (Same as Item 8)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

CONTINUATION SHEET

## PROJECT TABLE OF CONTENTS

## SECTION 00 01 15 – LIST OF DRAWINGS

## 1.2 CONTRACT DRAWINGS

The following drawings are revised as of 3/29/2019:

DWG NO.	TITLE
PE-21753 4 of 6 Rev 1	WORK PLAN & NOTES – WORK SITES 3 & 4 – BUILDING 133, revised 3/22/19
PE-21753 5 of 6 Rev 1	PICTURES – WORK SITES 3 & 4 – BUILDING 133, revised 3/22/19
PE-21753 6 of 6 Rev 1	WORK PLAN, WORK NOTES AND PICTURES – WORK SITES 5 & 6 – BUILDING 137, revised 3/22/19

These revised drawings accompany this Amendment.

SECTION 01 14 00, WORK RESTRICTIONS is deleted in its entirety and SECTION 01 14 00, WORK RESTRICTIONS dated 3/29/2017, as shown in the footer, is added to the Project Table of Contents. The revised specification section accompanies and is made part of this Amendment.

SECTION 01 90 00, SCOPE OF WORK is deleted in its entirety and SECTION 01 90 00, SCOPE OF WORK dated 3/29/2017, as shown in the footer, is added to the Project Table of Contents. The revised specification section accompanies and is made part of this Amendment.

RFI Responses:

1. Will there be access to all of these locations during normal working hours or will other arrangements need to be made?

*Response: Please refer to revised specification section 01 14 00, dated 3-29-2019. Submit Proposals in accordance with RFP, Specifications, Drawings, and all Amendments.*

2. In building 137, Crane WHS #132 calls for it to be extended by 25', but there are steam pipes obstructing the path of this that will have to be relocated before this can be installed. As this is not part of the Scope of Work, how would you like us to address this?

*Response: Please refer to revised specification section 01 90 00, dated 3-29-2019. Please also refer to revised drawings PE-21753 4 of 6 Rev 1, PE-21753 5 of 6 Rev 1, and PE-21753 6 of 6 Rev 1. Submit Proposals in accordance with RFP, Specifications, Drawings, and all Amendments.*

3. Is it possible to get the serial number off the Spanmaster bridge in building 245?

*Response: Submit Proposals in accordance with RFP, Specifications, Drawings, and all Amendments.*







**A** PICTURE - EXISTING WHS #218  
 4 5 SCALE: NTS



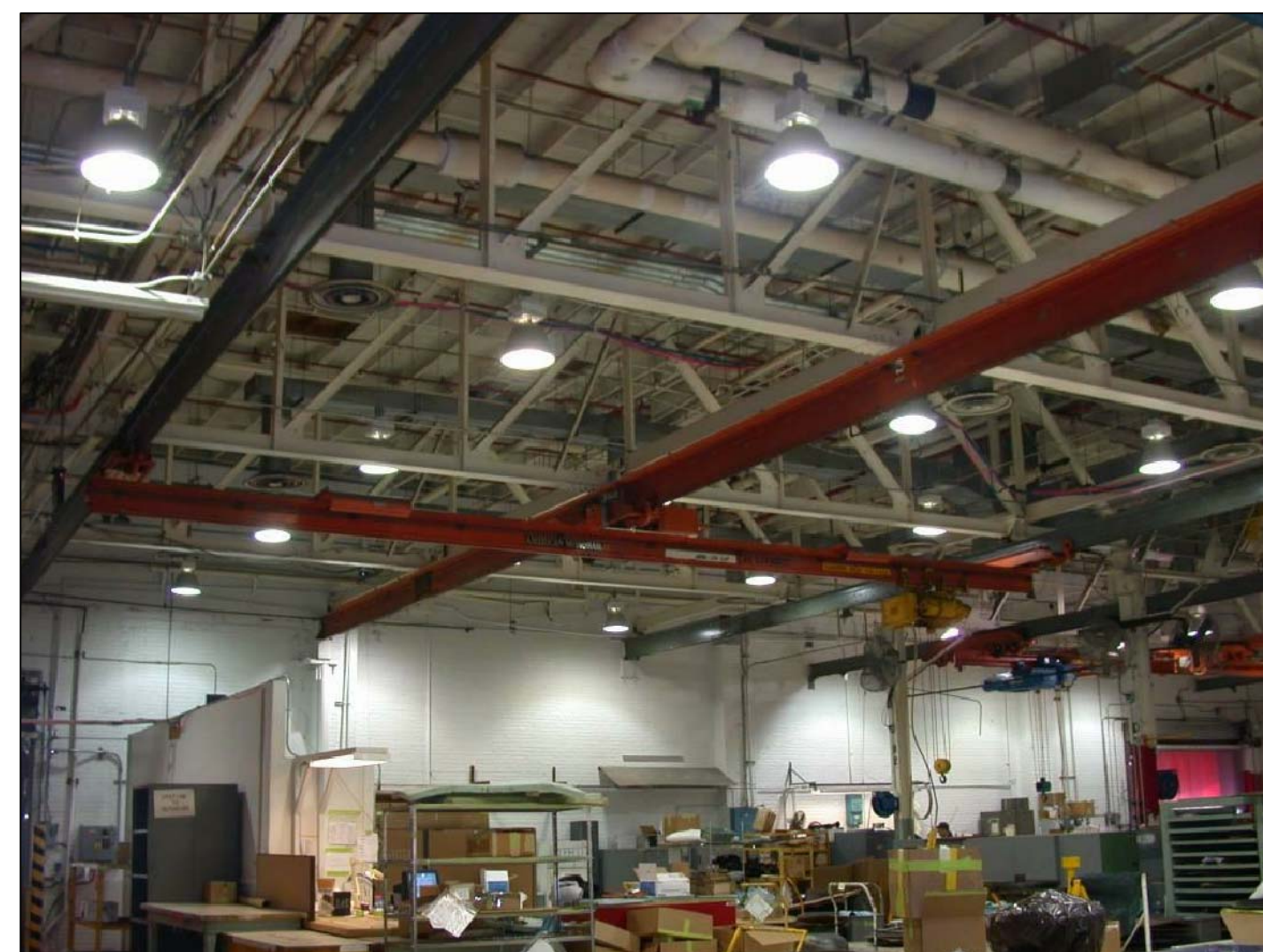
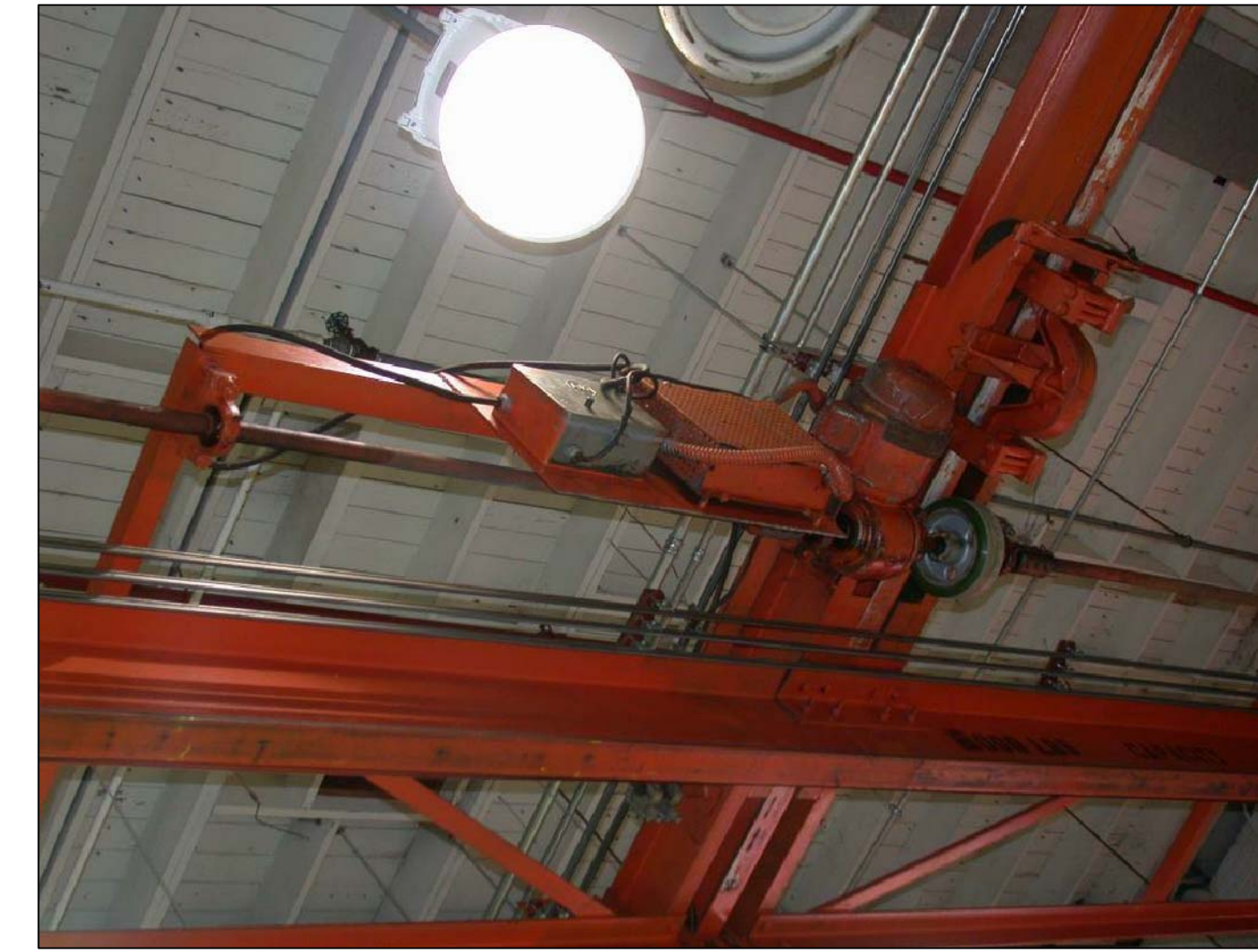
**B** PICTURE - EXISTING BRIDGE DRIVE (WHS #165 AND WHS #205)  
 4 5 SCALE: NTS



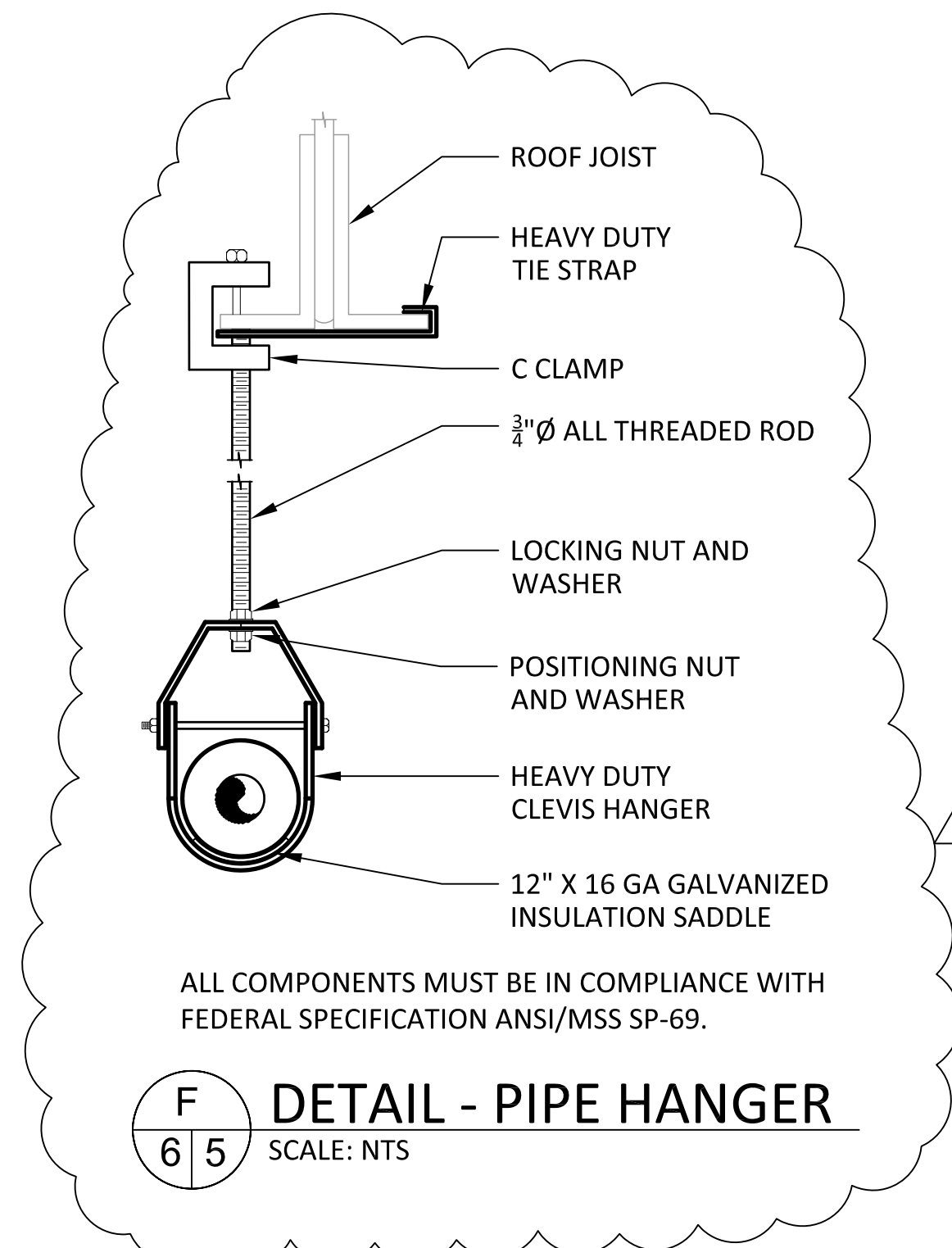
**C** DETAIL - EXISTING WHS #165 TROLLEY  
 4 5 SCALE: NTS



**D** PICTURE - EXISTING WHS #337  
 4 5 SCALE: NTS

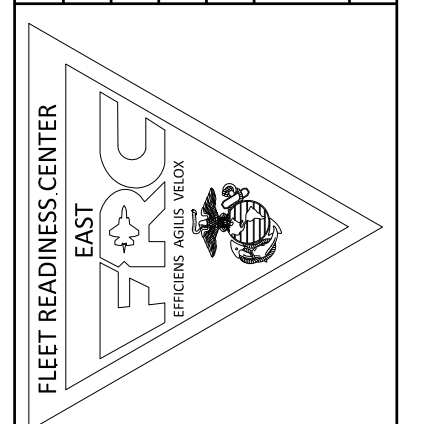


**E** PICTURE - EXISTING WHS #181  
 4 5 SCALE: NTS



ZONE	REV	DESCRIPTION	DATE	APPR.
	A	DETAIL "F" ADDED	3/22/19	

REVISION HISTORY  
 THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED  
 BEFORE USE, VERIFY THIS IS THE CURRENT VERSION. COMPLIANCE IS MANDATORY  
 \\\PE-DRAWINGS\21000-21999\21753M\21753M\_5

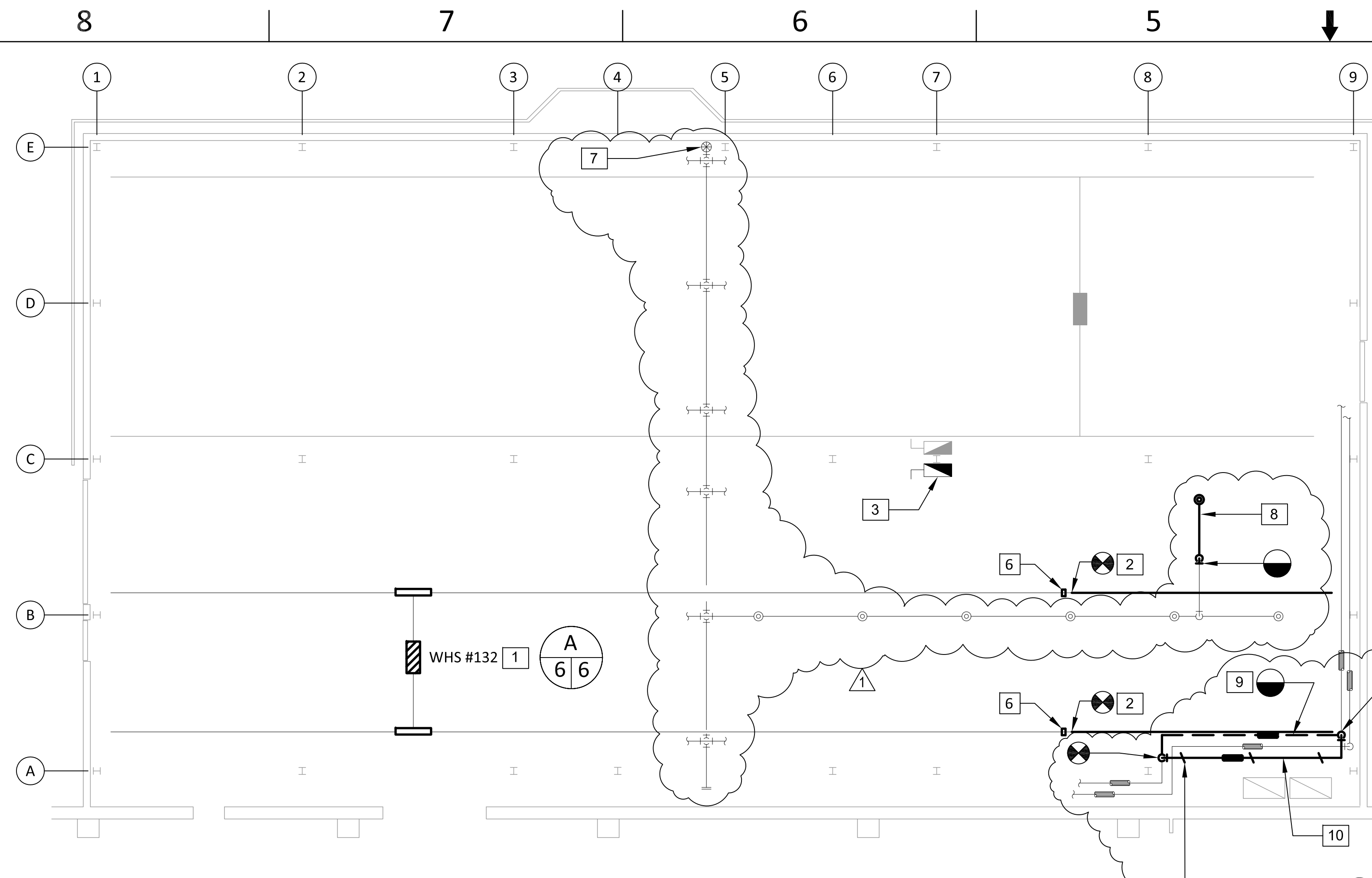


DESIGNER	J.PADRO
DRAWN	J.PADRO
CHECKED	J.PADRO
REVIEWED	E.DIAZ
OSH	D.PATTERSON
FIRE DEPT	
ENVR	
APPROVED	S.DEVIANCZYK

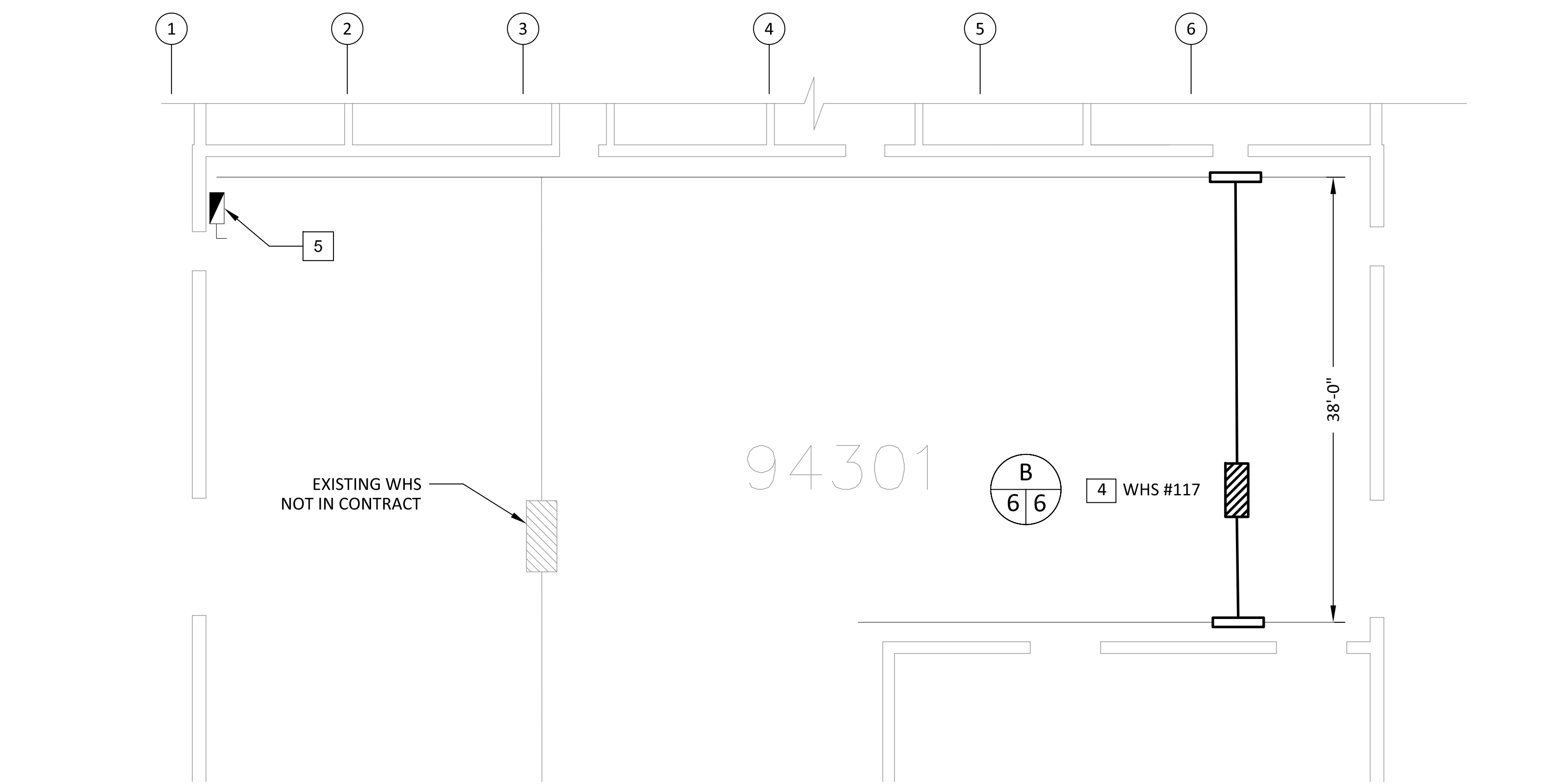
FLEET READINESS CENTER EAST  
 U.S. MARINE CORPS AIR STATION, CHERRY POINT, NC  
**2018 CRANES REPLACEMENT AND MODERNIZATION PLAN**  
 PICTURES - WORK SITES 3 & 4 - BUILDING 133  
 PRODUCTION PLANNING (PE) DRAWING NO  
**PE-21753**

BUILDING:	133
SHOP:	VARIOUS
SIZE	CAGE CODE
<b>D</b>	<b>96916</b>
<b>PE-21753</b>	
SCALE:	AS NOTED
WO:	XA43284
SHEET	5 OF 6





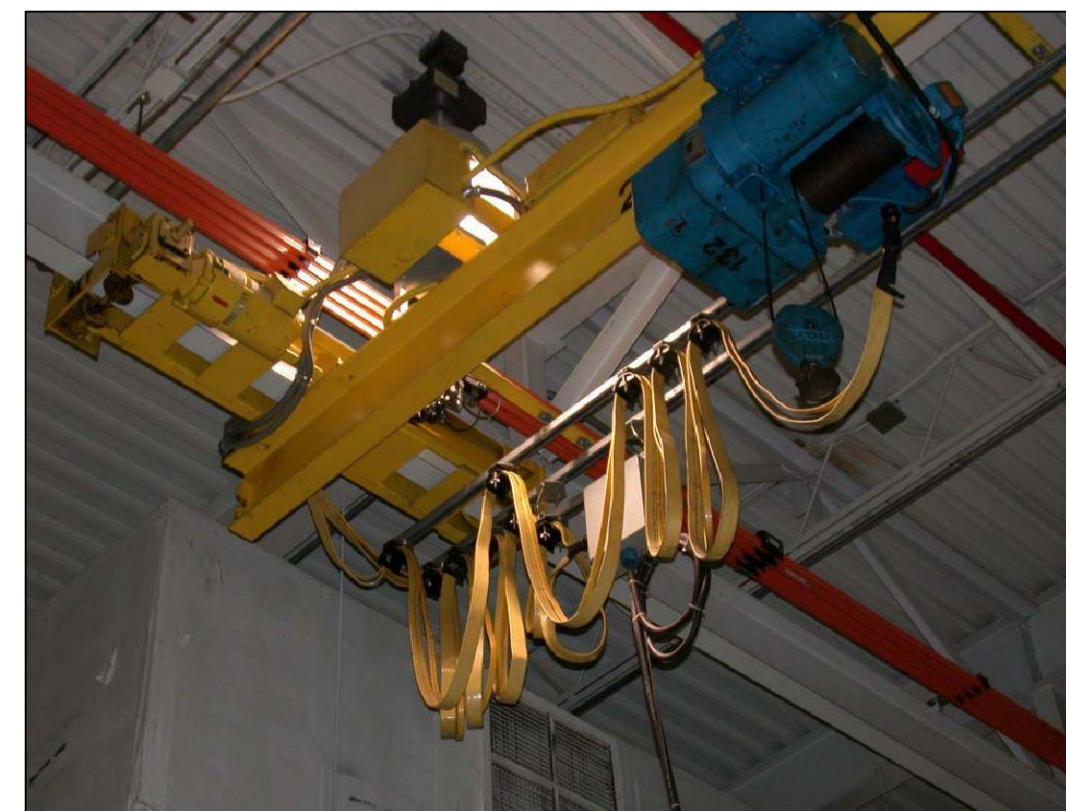
**WORK PLAN - WORK SITE 5 - BUILDING 137**  
SCALE: 1/8" = 1'-0"



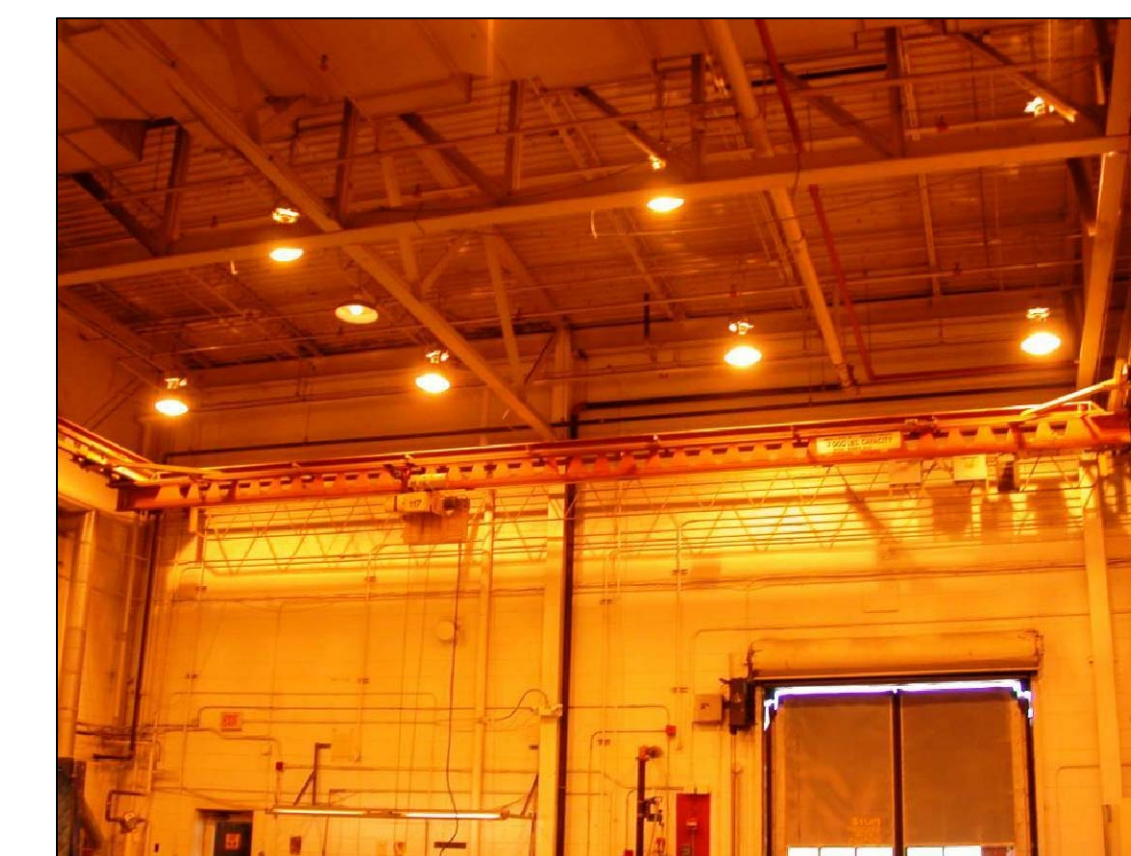
**WORK PLAN - WORK SITE 6 - BUILDING 137**  
SCALE: 1/8" = 1'-0"

**WORK NOTES ( THIS SHEET ONLY ) :**

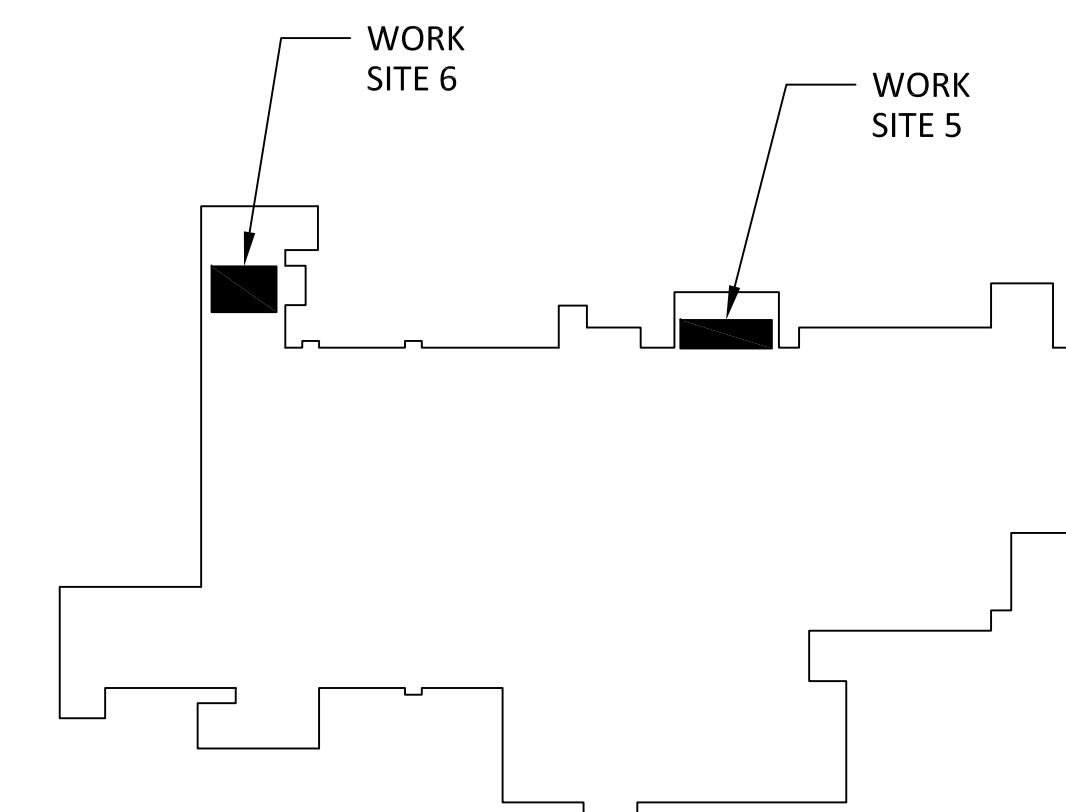
- 1 WHS #132 TO BE UPGRADED PER STATEMENT OF WORK (BRIDGE GIRDER = 9 1/2" H X 6" TOP FLANGE X 3 3/8" BOTTOM FLANGE, CRANE RAIL WITH FLAT TREAD AREA. TLE = 18'-0" AFF).
- 2 RUNWAY RAILS AND ELECTRIFICATION SYSTEM TO BE EXTENDED PER STATEMENT OF WORK (9 1/2" H X 6" TOP FLANGE X 3 3/8" BOTTOM FLANGE, CRANE RAIL WITH FLAT TREAD AREA. TLE = 18'-10" AFF).
- 3 30A, 600V, SQUARE D, HEAVY DUTY, ELECTRICAL DISCONNECT SWITCH TO REMAIN. ELECTRICAL SERVICE ON SITE 480V / 3PH / 60HZ.
- 4 WHS # 117 TO BE UPGRADED PER STATEMENT OF WORK.
- 5 60A, 240VAC, SQUARE D - GENERAL DUTY, ELECTRICAL DISCONNECT SWITCH. 208V / 3PH / 60HZ ELECTRICAL SERVICE.
- 6 EXISTING BRIDGE TRAVEL END STOPS. STOPS MUST REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE CONTRACTING OFFICER.
- 7 4" FIRE RISER SERVING WORK SITE #5. FIRE SPRINKLERS PIPE MODIFICATIONS CAN'T BE STARTED WITHOUT THE PREVIOUS AUTHORIZATION OF THE FIRE DEPARTMENT. THE FIRE DEPARTMENT NEEDS TO BE NOTIFIED A MINIMUM OF 14 DAYS IN ADVANCE, OF THE NEED TO HAVE THEM DRAIN THE SYSTEM AND TEMPORARY BY-PASS THE FIRE ALARM SYSTEM.
- 8 1"Ø FIRE SPRINKLER PIPE AND SPRINKLER HEAD TO BE DEMOLISHED. DEMOLISH PIPE UP TO ABOVE ROOF TRUSSES AND CAP IT. OBSTRUCTION THAT PROVOKED THE NEED OF A LOWER LEVEL SPRINKLER WAS REMOVED; HENCE SPRINKLER HEAD IS NO LONGER REQUIRED.
- 9 EXISTING 2 1/2"Ø LOW PRESSURE STEAM PIPE @ 15'-0" AFF (APPROX.) TO BE REROUTED TO ALLOW FOR RUNWAY RAILS EXTENSION. A MINIMUM CLEARANCE OF 12" MUST BE PROVIDED BETWEEN THE WHS AND ANY BUILDING COMPONENT.
- 10 NEW RE-ROUTED 2 1/2"Ø LOW PRESSURE STEAM PIPE. PIPE AND FITTINGS MUST BE SCHEDULE 40 SEAMLESS OR ELECTRIC RESISTANCE WELDED BLACK CARBON STEEL CONFORMING TO ASTM A53/A53M. PIPE MUST BE INSULATED USING 3" THICK CELLULAR GLASS INSULATION TYPE II, CONFORMING TO ASTM C552. SUPPLY THE INSULATION WITH MANUFACTURER RECOMMENDED FACTORY APPLIED JACKET.



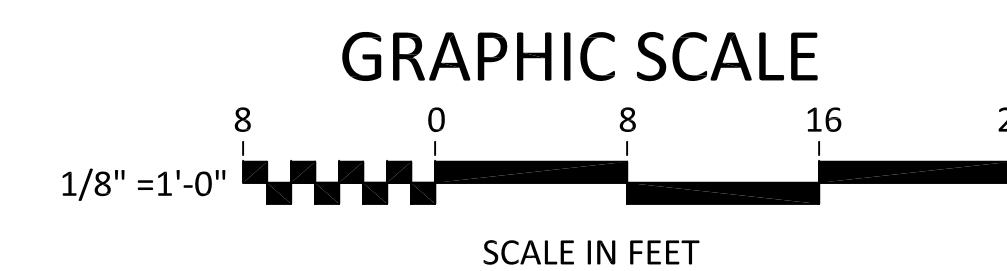
**A 6/6 PICTURE - EXISTING WHS #132**  
SCALE: NTS



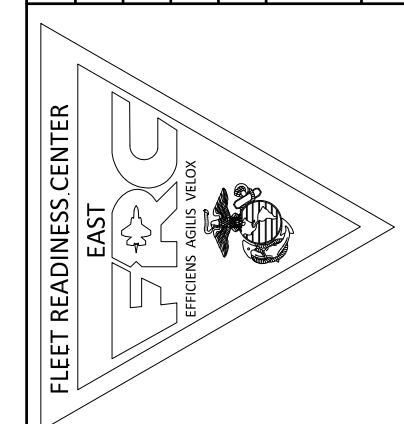
**B 6/6 PICTURE - EXISTING WHS #117**  
SCALE: NTS



**BUILDING 137  
WORK LOCATION PLAN**  
SCALE: NOT TO SCALE



ZONE	REV	DESCRIPTION	DATE	APPR.
		WHS #132 SCOPE OF WORK REVISED	3/22/19	



DESIGNER	DRAWN	CHECKED	REVIEWED	OSH	FIRE DEPT	ENVR	APPROVED
J.PADRO	J.PADRO	J.PADRO	E.DIAZ	D.PATTERSON			S.DEVIANCYK

FLEET READINESS CENTER EAST  
U.S. MARINE CORPS AIR STATION, CHERRY POINT, NC  
**2018 CRANES REPLACEMENT AND MODERNIZATION PLAN**  
WORK PLAN, WORK NOTES AND PICTURES - WORK SITES 5 & 6 - BUILDING 137  
PRODUCTION PLANNING AND DRAWINGS ID  
**PE-21753**

BUILDING: 137	
SHOP: VARIOUS	
SIZE: D	CAGE CODE: 96916
<b>PE-21753</b>	
SCALE: AS NOTED	
WO: XA43284	
SHEET 6	OF 6



## SECTION 01 14 00

## WORK RESTRICTIONS

11/11

## PART 1 GENERAL

## 1.1 SUBMITTALS

Government approval is required for all submittals. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

## List of Contact Personnel

## 1.2 SPECIAL SCHEDULING REQUIREMENTS

- a. Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work.
- b. The buildings will remain in operation during the entire construction period. The Contractor must conduct his operations so as to cause the least possible interference with normal operations of the activity.
- c. Permission to interrupt any Activity roads, railroads, or utility service must be requested in writing a minimum of 30 calendar days prior to the desired date of interruption.
- e. The work under this contract requires special attention to the scheduling and conduct of the work in connection with existing operations. Identify on the construction schedule each factor which constitutes a potential interruption to operations.

The following conditions apply:

- (1) All on-site work must be conducted during second shift (1530-2400), Monday through Friday, or any time on Saturdays, Sundays, or Government Holidays.

## 1.3 CONTRACTOR ACCESS AND USE OF PREMISES

DBIDS has gone live at MCAS Cherry Point. In order to reduce wait time when exchanging your RapidGate credential, it is highly recommended each applicant pre-register at <https://dbids-global.dmdc.mil/enroll#!/>

Non-DoD cardholding visitors to Marine Corps Installations with a driver's license or ID issued by a state that is not compliant with the Real ID Act of 2005 will now need to provide an alternate form of acceptable identification to gain entry, or be escorted by an authorized patron of the air station.

North Carolina now issues REAL ID compliant drivers licenses, but many drivers have yet to be issued the new license. Drivers may get a North Carolina REAL ID driver's license at any NCDMV driver's license office.

The Act established minimum security standards for license issuance and production and prohibits Federal agencies from accepting driver's licenses

and identification cards from states not meeting the Act's minimum standards.

In absence of a compliant state issued driver's license or ID, one of the following federally approved forms of identification must also be provided in addition to the non-compliant driver's license or ID:

1. U.S. Passport
2. U.S. Passport Card
3. U.S. Coast Guard Merchant Mariner Card
4. Personal Identity Verification (PIV) Card
5. Personal Identity Verification - Interoperable (PIV-I)
6. U.S. State Department Driver's License
7. Veteran's Health Identification Card (Issued by the U.S. Department of Veterans Affairs)
8. U.S. Permanent Resident Card (Form I-551)
9. U.S. Certificate of Naturalization or Certificate of Citizenship (Form N-550)
10. Department of Homeland Security Employment Authorization Document (Form I-766)

#### 1.3.1 Activity Regulations

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, fire, traffic and security regulations. Keep within the limits of the work and avenues of ingress and egress. Wear hard hats in designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. Mark Contractor equipment for identification.

##### 1.3.1.1 Subcontractors and Personnel Contacts

Provide a list of contact personnel of the Contractor and subcontractors including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

##### 1.3.1.2 Installation Access

Obtain access to Navy and Marine Corps installations through participation in the Defense Biometrics Identification System (DBIDS). Requirements for Contractor employee registration, and transition for employees currently under Navy Commercial Access Control System (NCACS), are available at <https://www.cnic.navy.mil/om/dbids.html>. No fees are associated with obtaining a DBIDS credential.

Participation in DBIDS is not mandatory, and Contractor personnel may apply for One-Day Passes at the Base Visitor Control Office to access an installation.

##### 1.3.1.2.1 Registration for DBIDS

Registration for DBIDS is available at <https://www.cnic.navy.mil/om/dbids.html>. Procedure includes:

- a. Present a letter or official award document (i.e. DD Form 1155 or SF 1442) from the Contracting Officer, that provides the purpose for access, to the base Visitor Control Center representative.



- b. Present valid identification, such as a passport or Real ID Act-compliant state driver's license.
- c. Provide completed SECNAV FORM 5512/1 to the base Visitor Control Center representative to obtain a background check. This form is available for download at <https://www.cnic.navy.mil/om/dbids.html>.
- d. Upon successful completion of the background check, the Government will complete the DBIDS enrollment process, which includes Contractor employee photo, finger prints, base restriction and several other assessments.
- e. Upon successful completion of the enrollment process, the Contractor employee will be issued a DBIDS credential, and will be allowed to proceed to worksite.

#### 1.3.1.2.2 DBIDS Eligibility Requirements

Throughout the length of the contract, the Contractor employee must continue to meet background screen standards. Periodic background screenings are conducted to verify continued DBIDS participation and installation access privileges. DBIDS access privileges will be immediately suspended or revoked if at any time a Contractor employee becomes ineligible.

An adjudication process may be initiated when a background screen failure results in disqualification from participation in the DBIDS, and Contractor employee does not agree with the reason for disqualification. The Government is the final authority.

#### 1.3.1.2.3 DBIDS Notification Requirements

- a. Immediately report instances of lost or stolen badges to the Contracting Officer.
- b. Immediately collect DBIDS credentials and notify the Contracting Officer in writing under the following circumstances:
  - (1) An employee has departed the company without having properly returned or surrendered their DBIDS credentials.
  - (2) There is a reasonable basis to conclude that an employee, or former employee, might pose a risk, compromise, or threat to the safety or security of the Installation or anyone therein.

#### 1.3.1.2.4 One-Day Passes

Personnel applying for One-Day passes at the Base Visitor Control Office are subject to daily mandatory vehicle inspection, and will have limited access to the installation. The Government is not responsible for any cost or lost time associated with obtaining daily passes or added vehicle inspections incurred by non-participants in DBIDS.

#### 1.3.1.3 No Smoking Policy

Smoking is prohibited within and outside of all buildings on installation, except in designated smoking areas. This applies to existing buildings, buildings under construction and buildings under renovation. Discarding tobacco materials other than into designated tobacco receptacles is



considered littering and is subject to fines. The Contracting Officer will identify designated smoking areas.

#### 1.3.2 Working Hours

Regular working hours must consist of an 8 1/2 hour period, between 3:30 p.m. and 12:00 midnight, Monday through Friday, and any time on Saturdays, Sundays, or Government Holidays.

#### 1.3.3 Work Outside Regular Hours

Work outside regular working hours requires Contracting Officer approval. Make application 30 calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress, giving the specific dates, hours, location, type of work to be performed, contract number and project title. Based on the justification provided, the Contracting Officer may approve work outside regular hours. During periods of darkness, the different parts of the work must be lighted in a manner approved by the Contracting Officer. Make utility cutovers after normal working hours or on Saturdays, Sundays, and Government holidays unless directed otherwise.

#### 1.3.4 Occupied Buildings

The Contractor shall be working in and around existing buildings which are occupied. Do not enter the buildings without prior approval of the Contracting Officer.

The existing buildings and their contents must be kept secure at all times. Provide temporary closures as required to maintain security as directed by the Contracting Officer.

Provide dust covers or protective enclosures to protect existing work that remains and Government material located in the buildings during the construction period.

Relocate movable furniture as required to perform the work, protect the furniture, and replace the furniture in its original location upon completion of the work. Leave attached equipment in place, and protect it against damage, or temporarily disconnect, relocate, protect, and reinstall it at the completion of the work.

#### 1.3.5 Utility Cutovers and Interruptions

- a. Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and Government holidays. Conform to procedures required in paragraph WORK OUTSIDE REGULAR HOURS.
- b. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.
- c. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, and compressed air are considered utility cutovers pursuant to the paragraph WORK OUTSIDE REGULAR HOURS.
- d. Operation of Station Utilities: The Contractor must not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government



will operate the control devices as required for normal conduct of the work. The Contractor must notify the Contracting Officer giving reasonable advance notice when such operation is required. THE CONTRACTOR WILL BE RESPONSIBLE FOR PERFORMING ALL OUTAGES RELATED TO THE FIRE ALARM SYSTEM, TO INCLUDE INTERRUPTING FIRE ALARM SERVICE, PROVIDING ANY REQUIRED FIRE WATCHES, AND PLACING THE FIRE ALARM SYSTEM BACK INTO SERVICE.

#### 1.4 SECURITY REQUIREMENTS

##### 1.4.1 Station Regulations

No employee or representative of the contractor will be admitted to the work site without an Identification Badge or is specifically authorized admittance to the work site by the FEAD, Facilities Engineering & Acquisition Division.

IMPORTANT NOTE: FEAD personnel (Construction Managers, Engineers/Architects, Engineering Technicians, Contract Specialists, or Contract Surveillance Representatives) will not receive, process, re-transmit or otherwise handle IN ANY WAY Personally Identifiable Information (PII) related to the badging process. Do NOT forward any of this information to the FEAD.

##### 1.4.2 Contractor Access to MCAS Cherry Point and Outlying Areas

1. Documentation requirements for granting access to MCAS Cherry Point for commercial and contract employers and employees. This document is an aid in meeting ASO 5560.6A requirements and is not a substitute for the order.

2. The Pass & Identification Office at Building 251 will issue credentials to authorized contractors. Sub-Contractors and suppliers must coordinate through the Prime-Contractor:

3. Criminal Activity. In accordance with ASO 5560.6A, the below list of criminal activities within an applicant's record are considered not in the best interest of the Marine Corps and will be grounds for automatic denial of access aboard the Installation:

- a. Conviction of any felony offense.
- b. Conviction of any misdemeanor offense, which was the result of a plea bargain of a felony offense.
- c. Conviction of any offense involving a weapon.
- d. Conviction of any drug offense involving manufacturing or trafficking.
- e. More than one misdemeanor conviction of drug related offenses over the applicant's lifetime or one misdemeanor drug related offense within the last five years.
- f. Conviction of any assault charge.
- g. Conviction of any offense involving theft or larceny.
- h. Conviction of any offense of domestic violence.



- i. Conviction of any offense related to the abuse/neglect of a child.
- j. Conviction of any sexual in nature related offense or registration as a sex offender.
- k. Commission of any grievous criminal offense/misconduct while aboard any Federal installation, including blatant disregard for rules and regulations of the Installation, but excluding minor traffic offenses.
- l. Other than Honorable, Bad Conduct, and Dishonorable discharges from the U.S. Military.
- m. Those identified as undocumented citizens.
- n. Those on the National Terrorist Watch List.
- o. Any individual who attempts to hide or purposely fails to disclose all past criminal history during the vetting process.
- p. Any individual that the Provost Marshal's Office determines to present a risk to the security and safety of the Installation and whose access is deemed not in the best interest of the Marine Corps.
- q. Any individual who has been debarred from the Installation by the Installation Commander or is currently listed as debarred from any other Federal installation.
- r. Any individual with an outstanding warrant for their arrest or apprehension.
- s. Any individual with a pending criminal court case that, if convicted, would result in access denial in accordance with the criteria listed above.

#### 1.4.3 FLEET READINESS CENTER, EAST (FRC EAST) REQUIREMENTS

Work involved under this contract is in the FRC East Maintenance Depot and Flightline Area. No employee or representative of the Contractor will be admitted to the work site unless they (1) are specifically authorized admittance by the FEAD, and (2) has a security badge. The Contractor shall obtain clearance and FRC East security badges for all personnel required to be on the project site prior to performing any work. The Contractor shall submit a written request for security badges to the FEAD and to FRC East Security. Each employee will be required to go to Trailer 32 to obtain his security badge with FRC East access. A limited number of Contractor vehicles will be allowed access to the site of work subject to meeting regular access requirements. No personal vehicles will be allowed behind the security fence. Parking of vehicles shall be restricted to the immediate project site as determined by the FRC East Security. The security badges issued under this contract are valid for this specific project and are not transferable to another project.

FRC East is registered to the ISO 9001, ANSI 9100, ISO 14001, and OSHAS 18001 standards. In addition to these, registration under the Occupational Safety and Health Administration's Voluntary Protection Program is in progress. To adhere to the standards required of these programs, FRC East

must ensure that all individuals accessing the facility are aware of the conditions and factors that affect the well-being of all employees, temporary workers, contractor personnel, visitors, and any other person in the workplace.

The following are requirements for granting access to Fleet Readiness Center East (FRC East) for commercial and contract employers and employees.

- a. The Contractor shall complete a "Contractor Work Notice- Form FRC-East 5000/10" and provide the Notice to the appropriate shop supervisor for signature and leave the top part of the Notice with the shop supervisor to post in a prominent location in the work area. The Contractor shall keep the bottom portion of the "Contractor Work Notice" for his records and provide a copy to the Contracting Officer. A blank copy of this form is included at the end of this section.
- b. In the event of an emergency, including hazardous material spills, the individual discovering the emergency shall call 911 from any FRC East phone. Relay the grid number listed on the phone for location assistance. If you are calling from a cell phone, call 252-466-3616 - Fire Department Dispatch.
- c. Badges will be displayed at all times and shall be returned upon completion of visit/work. Every badge is considered Government Property and all lost badges will be reported to the FRC East Badge and Decal Office located in Trailer 32.
- d. The facility must be kept clean and orderly at all times. Ensure that you place all waste in proper receptacles so that the facility is maintained in a "Clean as you go" condition.
- e. When in the FRC East industrial areas, wear the personal protective equipment (PPE) required for that area. PPE requirements are generally marked but if there is uncertainty, check with the area supervisor. Typically, safety glasses with side shields and steel toed shoes are required in most shops.
- f. Smoking is NOT authorized while traveling from one facility location to another while walking or in a vehicle being operated anywhere within the FRC East compound. ABSOLUTELY NO SMOKING on the property except in Designated Smoking Areas.
- g. Extra caution shall be taken around the flight line and aircraft turn-up areas to control trash, debris, and materials. Additionally, all personnel on the flight line must be continuously alert and stay clear of helicopter and jet operations in progress.
- h. Vehicles must not obstruct aircraft movement or other daily operations.
- i. If an emergency situation occurs which would endanger the health or safety of personnel, the area shall be evacuated. Re-entry to affected buildings will be at the discretion of uniformed guards, fire department, or safety office personnel only.
- j. Decisions to evacuate will be from the FRC East Commanding Officer or his/her representative. Visitors/contractors, along



with non-essential facility personnel, south of Harrison Drive, adjacent to Building 4224, will evacuate the facility first. Fifteen minutes later, the visitors/contractors south of Curtis Road, between Buildings 83 & 84, will evacuate the facility. Fifteen minutes later the visitors/contractors north of Curtis Road will evacuate the facility.

k. Cellular phones and photographic equipment are not authorized within FRC East unless they are approved in advance by the Security Office (252-464-7999). Cellular phones may be used on roof areas for emergency purposes only.

l. All vehicles must have proper passes, and no pass may be transferred between vehicles.

m. All vehicles will follow posted speed limits, which are: "Do not exceed 5 MPH on the outside of buildings, nor 3 MPH inside of any building".

n. Vehicle headlights must be on at all times within the facility.

o. All vehicles are required to slow down, sound horn, and proceed with caution at all cross aisles and other locations where vision is obstructed.

p. Personnel are strictly forbidden to introduce any substance into the storm drain system including catch basins, roof drains, and floor drains.

q. All facility entrants are responsible for all materials they bring into the facility and shall handle them in such a manner to ensure they are not left as "foreign objects" anywhere in the facility.

r. In case of a utility emergency on weekends or after normal work hours, call the Public Works Department trouble call desk at 252-466-4363.

s. The use of gasoline is prohibited for any purpose other than fueling motor vehicles. All gasoline-powered vehicles are prohibited inside FRC East buildings.

#### 1.4.4 Mandatory Contract Performance Requirements for FRC East

a. All personnel working on site at FRC East under this contract must document their receipt and review of the information listed in FRCEASTINST 5000.1A, enclosure (1), annually. The Security Department will provide a means of completing initial review prior to FRC East entrance.

b. Foreign object (FO) is defined as any article or substance alien to the aircraft or assembly which is allowed to invade the product. Foreign Object Damage (FOD) is the damage that occurs due to these FOs. All FRC East work sites will be maintained in such a manner as to prevent FOD to aircraft and/or aircraft components. Work sites shall be kept clean at all times. All debris, scrap material, tools, and equipment will be cleared from the work site as work progresses. At no time will hoses, power cords, materials, etc. be permitted to create tripping hazards in

areas of the work site.

c. In those cases where a contractor supervisor determines that solving a safety or health problem is beyond their control, but within the control of FRC East, the contractor shall notify the Contracting Officer.

d. All contractor employees performing work on site at FRC East shall immediately report any safety, security, or environmental violation to the Contracting Officer, who will notify the cognizant FRC East Safety/Security/Environmental Office. The initial FRC East notification can be made via phone or e-mail and should include as many applicable details as possible (date, time, identification numbers, tags, company, etc.). This initial notification will be made as soon as possible. A safety incident will require the contractor to complete and submit an incident memo to the Contracting Officer, who will forward a copy to the FRC Safety Office within 24 hours of the accident/incident. This incident memo will include the full name of the person involved in the incident, their age, sex, job title, the name of the employing company, and the contract number/title. In addition, this memo will include the severity of the illness or injury, indirect cause(s) of the accident, and whether personal protective equipment was available and used.

e. All contractors and sub-contractors working within FRC East must develop and operate effective safety and health programs.

#### 1.4.4.1 Additional Contract Performance Requirements for FRC East

a. Work above or anywhere near aircraft or passageways shall be avoided whenever possible. If this is not possible, the cognizant shop supervisor will be informed so arrangements can be made to protect, move, or evacuate assets from the area to minimize foreign object debris potential. The area below the elevated work area will be adequately marked and barricaded at all times. Under no circumstances will work be performed over unprotected spaces.

b. Constant control of tools and materials is required at all times in the following critical areas: Shop 94304 (Rotor Head Shop); Shop 94601 (Ordinance/Survival Shop); Shop 93117 (Aircraft Paint Shop); Shop 93111 (Aircraft Clean Shop); Shop 96552, 96555, and 96556 (Aircraft Engine Shops); all shops in Building 4225 (Blade Vane); and all Shop 95000 Aircraft Hangars.

c. Buildings 131, 137, 188, 245, 4224, and 4247 are classified as hazardous areas and have special requirements. Do not utilize any ignitable items powered by electric motors or internal combustion engines unless they are determined to be suitable to the conditions of the buildings.

d. The recharging of mobile equipment shall not take place inside any FRC-East building.

e. Tools and hardware will be controlled at all times to prevent migration out of the work site. Lost tools shall be reported to the Contracting Officer who will then notify the FRC East Tool Control Manager at 252-464-9741. Tools found unattended will be confiscated and reported to the Contracting Officer.



f. Personnel working on the flight line must be continuously alert, and stay clear of helicopter and jet operations in progress.

g. Work requiring any modification to an air pollution control device must be approved in advance by the Contracting Officer, who will obtain approval from the FRC East Air Quality Program Manager. These devices are marked with a 5" x 9" red placard and a contact number, 252-464-8412.

h. Work accomplished that will impact industrial ventilation systems or fans will require prior notification of the Contracting Officer, who will then notify the FRC East Air Quality Program Manager at 252-464-8412. These systems are continuously monitored.

1.4.5 Staging Area

As indicated on the plans, the Contractor staging area will be (PM to coordinate). Amount of material on site shall be kept to a minimum and shall only be material that is pertinent to the work currently being performed. All stockpiling of equipment and materials shall be closely coordinated with the Government and shall not disrupt activities at the site.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

## DOCUMENT 01 90 00

## SCOPE OF WORK

02/16

## PART 1 SCOPE

This Statement of Work (SOW) describes the Government's minimum requirements for a Contractor to accomplish the upgrade of 16 Weight Handling Systems (WHS) segregated into six (6) different work sites among four (4) separated buildings at the Fleet Readiness Center East (FRC-East), MCAS Cherry Point, North Carolina. Refer to Work Sites Location Plan on FRC East Drawing PE-21753 (Sheet 1 of 6).

## PART 2 APPLICABLE DOCUMENTS

## 2.1 References

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

## AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7-10 (2010; Change 2010; Change 2011; Errata 2011; Change 2011) Minimum Design Loads for Buildings and Other Structures

## ASME INTERNATIONAL (ASME)

ASME B30.16 (2017) Overhead Underhung and Stationary Hoists

ASME HST-1 (2012) Performance Standard for Electric Chain Hoists

ASME HST-4 (2016) Performance Standard for Overhead Electric Wire Rope Hoists

ASME HST-5 (2014) Performance Standard for Air Chain Hoists

## AMERICAN WELDING SOCIETY (AWS)

AWS D14.1/D14.1M (2005; Amd 1 2017) Specification for Welding of Industrial and Mill Cranes and Other Material Handling Equipment

## ASTM INTERNATIONAL (ASTM)

ASTM A275/A275M (2008) Standard Test Method for Magnetic Particle Examination of Steel Forgings

## CRANE MANUFACTURERS ASSOCIATION OF AMERICA (CMAA)

CMAA 74 (2015) Specifications for Single Girder Cranes



## INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)

ANSI/ISEA Z87.1	(2010) Occupational and Educational Personal Eye and Face Protection Devices
ANSI/ISEA Z89.1	(2009) American National Standard for Requirements for Industrial Head Protection

## NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250	(2014) Enclosures for Electrical Equipment (1000 Volts Maximum)
NEMA ICS 8	(2011) Crane and Hoist Controllers

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 51B	(2014) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2017; ERTA 1-2 2017; TIA 17-1; TIA 17-2; TIA 17-3; TIA 17-4; TIA 17-5; TIA 17-6; TIA 17-7; TIA 17-8; TIA 17-9; TIA 17-10; TIA 17-11; TIA 17-12; TIA 17-13; TIA 17-14) National Electrical Code

## PART 3 SPECIFIC REQUIREMENTS

## 3.1 Work Site 1 - Building 245

3.1.1 WHS #24 and WHS#239 are identical pneumatic bridge crane systems located in the Final Finish Paint Hangar of Building 245. This hangar is classified as a Class I - Division 1 - Groups C & D hazardous location as defined by NFPA 70. New equipment shall be identified by the manufacturer for operation in that hazardous environment. In addition, all construction support equipment like forklifts, scissor lifts, and power tools shall be rated for use in such location.

3.1.2 Upgrades involve the replacement of two (2) pneumatic powered trolley hoist units, pendant controllers, pneumatic accessories, bridge drives, bridge truck wheels, supply air hoses and festoon system, and main air shut-off valves. Runway rails and bridge girders shall be re-used. Refer to FRC East Drawing PE-21753 (sheet 2 of 6) for further details.

3.1.3 Upgraded systems shall comply with the following requirements:

## 3.1.3.1 Hoists:

- a) Rated capacity of 2,000 pounds.
- b) Pneumatically powered and rated for a compressed air supply ranging from 80 psig to 100 psig.
- c) Welded link load chain as the lifting medium.
- d) Manufacturer certified spark resistant construction to include but not be limited to stainless steel load chain, top lug, load hook and latch, and stainless steel hardware. Documentation shall be provided from the manufacturer that the replacement hoist is capable of operating in the intended hazardous or unique environment.
- e) Fully enclosed "Weston Type" mechanical load brake capable of

stopping and holding a load equal to 131.25% of its rated capacity in the event of a loss of air supply.

- f) Infinitely variable lifting and lowering speeds of 0 to 30 fpm.
- g) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- h) Have a mechanical over-load limiting device.
- i) Duty cycle of A4 per ASME HST-5.
- j) Lug mounted to trolley
- k) Chain container.
- l) Limit stops to limit hook over-travel in both the raising and lowering direction.
- m) Designed to withstand test loads of 131.25% of nameplate capacity for initial certification and annual re-certification. Documentation from manufacturer is required.
- n) 16 oz. minimum bowl capacity lubricator installed within 18" and above its air inlet.

#### 3.1.3.2 Trolley:

- a) Rated capacity of 2,000 pounds.
- b) Pneumatically powered and rated for a compressed air supply ranging from 80 psig to 100 psig.
- c) Manufacturer certified spark resistant construction to include but not be limited to solid bronze wheels.
- d) Under running type compatible with existing bridge girder.
- e) Extended wrap-around frame plates with elastomeric bumpers. Bumpers shall be suitable for existing end stops.
- f) Easily accessible brake or non-coasting drive.
- g) Have infinitely variable traveling speed of 5-25 fpm.

#### 3.1.3.3 Bridge drives:

- a) Manufacturer certified spark resistant construction.
- b) Pneumatic powered rated for a compressed air supply ranging from 80 psig to 100 psig.
- c) Compatible with existing truck frame.
- d) Original Equipment Manufacturer (OEM) sized compressed air line filter.
- e) 16 oz. minimum bowl capacity lubricator installed within 18" above its air inlet.
- f) Infinitely variable speeds of 5-25 fpm.

#### 3.1.3.4 Truck Wheels:

- a) Manufacturer certified spark resistant construction compatible with existing trucks frame.

#### 3.1.3.5 Controls:

- a) One (1) pendant controller per system (hoist, trolley and bridge).
- b) Pendant controller attached to hoist.

#### 3.1.3.6 Supply air hoses:

- a) Rated by manufacturer for use in hazardous locations.
- b) Maximum working pressure of 200 psig.



### 3.2 Work Site 2 - Building 1794

3.2.1 WHS #384 and #385 share a common runway and electrification system. Runway rails will be re-used. The electrification system shall be replaced. Refer to FRC East Drawing PE-21753 (sheet 3 of 6) for further details.

3.2.2 Upgrades involve the replacement of two (2) 1,000-pound under running electrically-powered bridge crane systems, electrically-powered trolley hoist units, festoon systems and control centers.

3.2.3 Upgraded systems shall comply with the following requirements:

#### 3.2.3.1 Hoists:

- a) 1,000 pounds rated capacity.
- b) Electrically powered through a floating festoon system. Refer to drawing PE-21753 (sheet 3 of 6) for available electrical service.
- c) Welded link load chain as the lifting medium.
- d) Lug mounted into manual trolley.
- e) Remote controlled.
- f) Conform to ASME B30.16 and ASME HST-1.
- g) Equipped with a mechanical load brake and an electro-mechanical brake (shoe or disc). Each brake independently shall be capable of stopping and holding a load equal to 131.25% of rated capacity.
- h) Equipped with an overload limiting device.
- i) VFD controlled.
- j) Maximum and minimum speeds of 16 FPM and 4 FPM.
- k) Have primary (adjustable) lower and upper stops to prevent over travel in raising and lowering. A stop shall be provided to prevent chain from coming out in case of limit failure. Hoist must also have a backup paddle/whisker upper limit switch.
- l) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- m) Be capable of being periodically load tested to 131.25% of its rated capacity. Documentation from the manufacturer shall be provided.

#### 3.2.3.2 Trolleys:

- a) 1,000 pounds rated capacity.
- b) Manual operation.
- c) Equipped with safety lugs (drop stops) or a functionally equivalent feature.
- d) Machined or forged hardened steel wheels. No stamped steel or cast iron wheels permitted.
- e) Extended wrap-around frame plates with elastomeric bumpers. Bumpers shall be suitable for new travel end stops (trolley wheels shall not contact the end stops).

#### 3.2.3.3 Bridge systems:

- a) 1,000 pounds rated capacity.
- b) Electrically powered. Electrical service and dimensions per FRC East Drawing PE-21753 (sheet 3 of 6).
- c) Installed in accordance with the manufacturer's directions or by the stamped design of a licensed professional engineer.
- d) Calculations showing adequacy of the design in accordance with CMAA-74 shall be provided.

e) Under running type trucks with hardened, machined or forged steel wheels and elastomeric bumpers compatible with existing runway rails and stops, and equipped with mounted tandem collectors compatible with existing electrification system. No stamped steel or cast iron wheels permitted.

f) Patented track single girder.

g) Equipped with end stops.

h) VFD controlled.

i) Programmed maximum and minimum speeds of 40 FPM and 5 FPM.

j) DC disc brakes with manual external release easily accessible for disassembly and not installed between the motor and gear case.

#### 3.2.3.4 Electrification System:

a) Four (4) conductor bars. Three (3) hot rails and one (1) grounding rail.

b) Galvanized steel construction.

c) Discreet rail type.

d) Safety enclosed insulated type for personnel safety. Grounding rail insulation to be green.

e) Positive pressure tandem collectors.

#### 3.2.3.5 Control Centers:

a) NEMA 1 rated enclosure cabinet.

b) Electrical and mechanical interlocks for directional contactors.

c) Mainline contactor along with the Stop-Start, Off-On, or Power Off-Power-On circuitry, designed to remove power from the drive motors, brakes, and control circuit. The control circuit shall not be capable of being operated unless the ON button, Power On button or Start button is depressed.

d) Overcurrent protection for the control circuit, including control circuit transformer, in accordance with NFPA 70.

e) Fuse or circuit breaker protection for branch circuits in accordance with NFPA 70.

f) Overload protection for each motor, motor controller, and branch circuit conductor in accordance with NFPA 70.

g) VFD. Documentation from the OEM regarding VFD crane design parameters range which are anticipated to need adjustment during the life of the crane shall be provided. Crane design parameters range must be the applicable portion of the drive's default range for each parameter and must be in the range in which each parameter can be safely tuned by the end user.

h) Backup paddle/whisker upper limit switch must be wired to remove all power from the hoist drive motor and brakes independent of the microprocessor drive.

i) By-pass switch for hoist primary upper limit and over-load limit for use during testing.

#### 3.2.3.6 Floating Festoon Systems:

a) Flat cables suspended from a carrier riding on c-track or similar system.

b) 20% spare wires capacity.

#### 3.2.3.7 Remote Controls:

a) Designed and installed in accordance with ECMA 15 and NEMA ICS 8, Part 9.

b) Digitally pulse encoded transmitter signals with error detection.

- c) Continuous status signal to the associated receiver during operation.
- d) Contact or output relay monitoring board, or some other form of command confirmation with the crane radio system receiver.
- e) No interference with the other crane remote control to mitigate the possibility of inadvertent crane operation by use of the wrong remote unit.
- f) Frequency for radio control within the unlicensed FCC Part 15 range.
- g) Form DD 1494 shall be submitted for information.
- h) Minimum of two (2) identical transmitters shall be furnished.
- i) Radio transmitters are required to include a key operated battery power switch, an indication of battery power and transmitting status, rechargeable type batteries (minimum of 2 sets), and signal limiting devices to limit the distance an operator can be away from the crane and operate the radio controller.

### 3.3 Work Sites 3 and 4 - Building 133

#### 3.3.1 WHS #19, #60, and #318

3.3.1.1 These systems share a common runway which is attached to the building structure. WHS #19 and WHS #60 are pneumatic chain hoists with manual trolleys operating on manual bridges. WHS #318 is a manual bridge with no trolley or hoist on it. Systems shall be demolished entirely. Demolition includes the removal and disposal of the bridges, runway rails and related building attachments. Hoists #19 and #60 including their trolleys shall be turned in back to FRC East. Call David M. Powell (252-464-9095) for pick up. Refer to FRC East Drawing PE-21753 (sheet 4 of 6) for further details.

#### 3.3.2 WHS #165 and #205

3.3.2.1 WHS #165 and WHS #205 share a common runway and electrification system. Runway rails shall be extended and existing electrification system shall be replaced. WHS #165 and #205 will be re-used as they are with the exception of a few minimal upgrades..

3.3.2.2 Upgrades to WHS #205 involve the replacement of the bridge drive collectors to match the new electrification system.

3.3.2.3 Upgrades to WHS #165 involve the replacement of the bridge drive collectors to match the new electrification system and the installation of a tractor drive for the trolley.

##### 3.3.2.4 Trolley tractor:

- a) Electrically powered with a rated capacity suitable for a 4,000 pounds trolley hoist. For electrical service available refer to FRC East Drawings PE-21753 (sheet 4 of 6).
- b) Under running type with machined or forged hardened steel wheels compatible with existing bridge girder. No stamped steel or cast iron wheels permitted. For bridge girder information refers to FRC East Drawings PE-21753 (sheet 4 of 6).
- c) Safety lugs (drop stops).
- d) Elastomeric bumpers suitable for existing stops.
- e) Motor brakes easily accessible and not installed between the motor and the gear case (No double C face).
- f) VFD controlled.



g) Complete with Variable Frequency Drive (VFD) with interface board. VFD and board shall be mounted inside a control enclosure and be programmed for infinitely variable speed with a maximum of 25 FPM and a minimum of 5 FPM.

#### 3.3.2.5 Electrification System:

- a) Four (4) conductor bars. Three (3) hot rails and one (1) grounding rail.
- b) Galvanized steel construction.
- c) Discreet rail type.
- d) Safety enclosed insulated type for personnel safety. Grounding rail insulation to be green.
- e) Positive pressure tandem collectors.
- f) Total length per FRC East Drawing PE-21753 (sheet 4 of 6).

#### 3.3.2.6 Runway rails extensions:

- a) Same type and model as the existing runways. Refer to FRC East Drawing PE-21753 (sheet 4 of 6).
- b) Installed in accordance with the manufacturer's directions or by the stamped design of a licensed professional engineer.
- c) Calculations showing adequacy of the design in accordance with CMAA-74 shall be provided.
- d) End stops compatible with existing bridge cranes.
- e) True to the existing runway within the tolerances given in CMAA-74.
- f) Painted to match the existing rails and cover any burn or handling marks on the rails or supporting structure.
- g) Welds shall be certified to meet the requirements of AWS D1.1 and/or D14.1 as applicable.

#### 3.3.3 WHS #337

3.3.3.1 Upgrades involve the replacement of the trolley hoist unit, the replacement of the rigid bar trolley hoist electrification system with a floating festoon type system, the replacement of the bridge drive with tractor drives, the replacement of the runway electrification system, the replacement of the control center, and the relocation of the system's disconnect switch.

#### 3.3.3.2 Disconnect switch relocation:

- a) Disconnect switch shall be relocated near existing WHS #64's disconnect switch (WHS #64 not in contract). Refer to FRC East Drawing PE-21753 (sheet 4 of 6) for further details.
- b) Disconnect switch shall be interlocked with WHS #64 disconnect switch. A UL listed transfer switch shall be provided, to ensure only alternate operation of these systems.

#### 3.3.3.3 Trolley Hoist:

- a) 6,000 pounds rated capacity.
- b) Electrically powered through a floating festoon system. Refer to FRC East Drawing PE-21753 (sheet 4 of 6) for available electrical service.
- c) Low headroom type. A minimum clear hook height of 12'-9" must be obtained.
- d) Welded link load chain as the lifting medium.

- e) Remote controlled.
- f) Conform to ASME B30.16 and ASME HST-1.
- g) Equipped with a mechanical load brake and an electro-mechanical brake (shoe or disc). Each brake independently shall be capable of stopping and holding a load equal to 131.25% of rated capacity.
- h) Equipped with an overload limiting device.
- i) VFD controlled.
- j) Maximum and minimum speeds of 16 FPM and 2 FPM.
- k) Have primary (adjustable) lower and upper stops to prevent over travel in raising and lowering. A stop shall be provided to prevent chain from coming out in case of limit failure. Hoist must also have a backup paddle/whisker upper limit switch.
- l) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- m) Be capable of being periodically load tested to 131.25% of its rated capacity. Documentation from the manufacturer shall be provided.
- n) Programmed with hoist speeds as follows: Max 15 FPM and min 2 FPM.
- o) Programmed with trolley speeds as follows: Max 25 FPM and min 5 FPM.
- p) Trolley integral with hoist.
- q) Trolley must possess hardened wheels, rubber bumpers and drop lugs. No stamped steel or cast iron wheels permitted.
- r) Complete with end stop to be mounted on existing bridge girder.

#### 3.3.3.4 Bridge tractor drives:

- a) Three (3) tractor drives required.
- b) Electric powered with a rated capacity suitable for a 6,000 pounds trolley hoist. For electrical service available refer to FRC East Drawings PE-21753 (sheet 4 of 6).
- c) Under running type with machined or forged hardened steel wheels compatible with existing runway rail. No stamped steel or cast iron wheels permitted. For bridge girder information refers to FRC East Drawings PE-21753 (sheet 4 of 6).
- d) Safety lugs (drop stops).
- e) Elastomeric bumpers suitable for existing stops.
- f) Motor brakes easily accessible and not installed between the motor and the gear case (No double C face).
- g) VFD controlled.
- h) Complete with Variable Frequency Drive (VFD) with interface board. VFD and board shall be mounted inside a control enclosure and be programmed for infinitely variable speed with a maximum of 25 FPM and a minimum of 5 FPM.

#### 3.3.3.5 Crane control center:

- a) NEMA 1 rated enclosure cabinet.
- b) Electrical and mechanical interlocks for directional contactors.
- c) Mainline contactor along with the Stop-Start, Off-On, or Power Off-Power-On circuitry is designed to remove power from the drive motors, brakes, and control circuit. The control circuit shall not be capable of being operated unless the ON button, Power On button or Start button is depressed.
- d) Overcurrent protection for the control circuit, including control circuit transformer, in accordance with NFPA 70.
- e) Fuse or circuit breaker protection for branch circuits in accordance with NFPA 70.

f) Overload protection for each motor, motor controller, and branch circuit conductor in accordance with NFPA 70.

g) VFD. Documentation from the OEM regarding VFD crane design parameters range which are anticipated to need adjustment during the life of the crane shall be provided. Crane design parameters range must be the applicable portion of the drive's default range for each parameter and must be in the range in which each parameter can be safely tuned by the end user.

h) Backup paddle/whisker upper limit switch must be wired to remove all power from the hoist drive motor and brakes independent of the microprocessor drive.

i) By-pass switch for hoist primary upper limit and over-load limit for use during testing.

#### 3.3.3.6 Electrification System:

a) Four (4) conductor bars. Three (3) hot rails and one (1) grounding rail.

b) Galvanized steel construction.

c) Discreet rail type.

d) Safety enclosed insulated type for personnel safety. Grounding rail insulation to be green.

e) Positive pressure tandem collectors.

#### 3.3.3.7 Floating Festoon Systems:

a) Consist of flat cables suspended from a carrier riding on c-track or similar system.

b) 20% spare wires capacity.

#### 3.3.3.8 Remote Controls:

a) Designed and installed in accordance with ECMA 15 and NEMA ICS 8, Part 9.

b) Digitally pulse encoded transmitter signals with error detection.

c) Continuous status signal to the associated receiver during operation.

d) Contact or output relay monitoring board, or some other form of command confirmation with the crane radio system receiver.

e) No interference with the other crane remote control to mitigate the possibility of inadvertent crane operation by use of the wrong remote unit.

f) Frequency for radio control within the unlicensed FCC Part 15 range.

g) Form DD 1494 shall be submitted for information.

h) Minimum of two (2) identical transmitters shall be furnished.

i) Radio transmitters are required to include a key operated battery power switch, an indication of battery power and transmitting status, rechargeable type batteries (minimum of 2 sets), and signal limiting devices to limit the distance an operator can be away from the crane and operate the radio controller.

#### 3.3.4 WHS #181 and #218

3.3.4.1 These systems share a common runway and electrification system. The electrification system shall be replaced. WHS #181 will be upgraded entirely while WHS #218 will be re-used as is with the exception of minimal upgrades detailed below. Refer to FRC East Drawing PE-21753 (sheet 4 of 6) for further details.



## 3.3.4.2 WHS #218 upgrades involve:

- a) Replacement of bridge drive collectors to match new electrification system.
- b) Replacement of the trolley hoist unit rigid bar electrification system and pendant controller with a floating festoon type system and remote control.

## 3.3.4.3 WHS #181 upgrades involve:

- a) Replacement of trolley hoist units.
- b) Replacement of the trolley hoist unit rigid bars electrification system and pendant controller with a floating festoon type system and remote control.
- c) Replacement of the bridge drives with tractor drives.

## 3.3.4.4 Trolley Hoist (#181):

- a) 4,000 pounds rated capacity.
- b) Electrically powered through a floating festoon system. For electrical service refer to FRC East Drawing PE-21753 (sheet 4 of 6).
- c) Welded link load chain as the lifting medium.
- d) Conform to ASME B30.16 and ASME HST-1.
- e) Equipped with a mechanical load brake and an electro-mechanical brake (shoe or disc). Each brake independently shall be capable of stopping and holding a load equal to 131.25% of rated capacity.
- f) Equipped with an overload limiting device.
- g) VFD controlled hoist and trolley.
- h) Have maximum and minimum speeds of 16 FPM and 2 FPM.
- i) Primary (adjustable) lower and upper geared limits to prevent over travel in raising and lowering. A stop shall be provided to prevent chain from coming out in case of limit failure. Hoist must also have a backup paddle/whisker upper limit switch.
- j) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- k) Capable of being periodically load tested to 131.25% of its rated capacity. Manufacturer documentation shall be provided.
- l) Integral with trolley.
- m) Extended wrap-around trolley frame plates with elastomeric bumpers.
- n) Easily accessible trolley brake or non-coasting drive.
- o) Machined or forged hardened steel trolley wheels. No stamped steel or cast iron wheels permitted.

## 3.3.4.5 Bridge tractor drives:

- a) Three (3) tractor drives required.
- b) Electrically powered with a rated capacity suitable for a 4,000 pound bridge. For electrical service available refer to FRC East Drawings PE-21753 (sheet 4 of 6).
- c) Under running type with machined or forged hardened steel wheels compatible with existing runway rail. No stamped steel or cast iron wheels permitted. For bridge girder information refers to FRC East Drawings PE-21753 (sheet 4 of 6).
- d) Safety lugs (drop stops).
- e) Elastomeric bumpers suitable for existing stops.
- f) Motor brakes easily accessible and not installed between the motor and the gear case (No double C face).

- g) VFD controlled
- h) Complete with Variable Frequency Drive (VFD) with interface board. VFD and board shall be mounted inside a control enclosure and be programmed for infinitely variable speed with a maximum of 25 FPM and a minimum of 5 FPM.

#### 3.3.4.6 Crane control center:

- a) NEMA 1 rated enclosure cabinet.
- b) Electrical and mechanical interlocks for directional contactors.
- c) Mainline contactor along with the Stop-Start, Off-On, or Power Off-Power-On circuitry is designed to remove power from the drive motors, brakes, and control circuit. The control circuit shall not be capable of being operated unless the ON button, Power On button or Start button is depressed.
- d) Overcurrent protection for the control circuit, including control circuit transformer, in accordance with NFPA 70.
- e) Fuse or circuit breaker protection for branch circuits.
- f) Short circuit and ground fault protection in accordance with NFPA 70.
- g) Overload protection for each motor, motor controller, and branch circuit conductor in accordance with NFPA 70.
- h) VFD. Documentation from the OEM regarding VFD crane design parameters range which are anticipated to need adjustment during the life of the crane shall be provided. Crane design parameters range must be the applicable portion of the drive's default range for each parameter and must be in the range in which each parameter can be safely tuned by the end user.
- i) Backup paddle/whisker upper limit switch must be wired to remove all power from the hoist drive motor and brakes independent of the microprocessor drive.
- j) By-pass switch for hoist primary upper limit and over-load limit for use during testing.

#### 3.3.4.7 Electrification System:

- a) Four (4) conductor bars. Three (3) hot rails and one (1) grounding rail.
- b) Galvanized steel construction.
- c) Discreet rail type.
- d) Safety enclosed insulated type for personnel safety. Grounding rail insulation to be green.
- e) Positive pressure tandem collectors.

#### 3.3.4.8 Floating Festoon Systems:

- a) Consist of flat cables suspended from a carrier riding on c-track or similar system.
- b) 20% spare wires capacity.

#### 3.3.4.9 Remote Controls:

- a) Designed and installed in accordance with ECMA 15 and NEMA ICS 8, Part 9.
- b) Digitally pulse encoded transmitter signals with error detection.
- c) Continuous status signal to the associated receiver during operation.
- d) Contact or output relay monitoring board, or some other form of command confirmation with the crane radio system receiver.
- e) No interference with the other crane remote control to mitigate

the possibility of inadvertent crane operation by use of the wrong remote unit.

- f) Frequency for radio control within the unlicensed FCC Part 15 range.
- g) Form DD 1494 shall be submitted for information.
- h) Minimum of two (2) identical transmitters shall be furnished.
- i) Radio transmitters are required to include a key operated battery power switch, an indication of battery power and transmitting status, rechargeable type batteries (minimum of 2 sets), and signal limiting devices to limit the distance an operator can be away from the crane and operate the radio controller.

### 3.3.5 WHS #278 and #279

3.3.5.1 Systems are located in the Fuel Control Repair and Test Shop of Building 133. This shop is classified as Class I Division 1 Group G hazardous location as defined by NFPA 70. New equipment shall be certified by manufacturer for operation in such location. In addition all construction support equipment like forklifts, scissor lifts, and power tools shall be rated for use in such location.

3.3.5.2 Existing systems shall be demolished. They are under running pneumatic powered 250# load chain hoist mounted on a manual trolley operating on a wall mounted jib. Each system is mounted separately inside a fuel controls test booth. Refer to FRC East Drawing PE-21753 (sheet 4 of 6) for further details.

3.3.5.3 Systems will be replaced with one (1) floor mounted articulating jib crane with boom tip mounted pneumatic chain hoist, which will serve both test stands.

#### 3.3.5.4 Articulating jib:

- a) Rated capacity of 250 pounds.
- b) Boom height 7'-0" and boom total length 10'-0". Exact dimension to be field coordinated.
- c) Free standing articulating jib consisting of a steel mast and a 360-degree rotating articulating boom.
- d) Hexagonal steel base plate welded to mast for anchoring jib to concrete foundation cast flush with floor slab.
- e) ASTM A36 steel sections construction with finished ends and surfaces.
- f) Mast top to be equipped with plate and pivot pin to receive head assembly.
- g) Wide flange steel beam boom bolted to head assembly.
- h) Head assembly to have welded steel plate and channel fabrication fitted over mast, bolted to boom, and designed to transfer boom load to mast and to rotate. Assembly shall allow for installation of head prior to boom attachment and provide maximum hoist lift.
- i) Top pivot bearing assembly shall be designed to connect head assembly to mast and transfer load from boom. Weight bearing channel connecting sides of head assembly shall contain tapered roller bearings allowing easy rotation.
- j) Retaining pin shall be inserted through mast pivot pin above weight bearing channel to prevent accidentally dislodging head assembly. Cranes without retaining pin are not acceptable.
- k) Roller assembly shall be designed to rotate around mast and transmit moment force from boom to mast. Provide rollers with tapered bearings held in steel channel with 1 inch diameter bolts. Masts less than

18 inches diameter shall have two (2) rollers and larger masts shall have four (4) rollers. Assembly shall rotate around mast with full roller face contact. Roller surface shall be sufficiently large to prevent cutting into mast. CRANES WITH SMALL ROLLERS OR CAMS REQUIRING WEAR BAND ON MAST ARE NOT ACCEPTABLE.

m) Similar to Gorbel AJ360-F-250-7-10.

#### 3.3.5.5 Hoist:

- a) Rated capacity of 250 pounds.
- b) Pneumatically powered rated for a compressed air supply ranging from 80 psig to 100 psig.
- c) Welded link load chain as the lifting medium.
- d) Small frame type.
- e) Manufacturer certified spark resistant construction to include but not be limited to stainless steel load chain, top and bottom hooks and latches, and stainless steel hardware.
- f) Externally adjustable heavy duty shoe type brake.
- g) Infinitely variable lifting and lowering speeds of 0 to 30 fpm.
- h) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- i) Have a over-load limiting device.
- j) Duty cycle of A4 per ASME HST-5.
- k) Chain container.
- l) Limit stops to limit hook over-travel in both the raising and lowering direction.
- m) Designed to withstand test loads of 131.25% of nameplate capacity for initial certification and annual re-certification. Documentation from manufacturer is required.

#### 3.3.5.6 Jib Crane Concrete Foundation:

- a) Contractor is responsible for the design of foundation. Design, including calculations, must be stamped and signed by a registered Professional Engineer and submitted for approval.
- b) Foundation shall be designed for an existing 6" thick concrete slab and a soil bearing pressure of 1500 psf.

### 3.4 Work Sites 5 and 6 - Building 137

#### 3.4.1 WHS #117

3.4.1.1 WHS #117 shares a common runway, electrification system and disconnect switch with bridge crane #89 which is not part of this contract.

3.4.1.2 Upgrades involve the replacement of WHS #117 bridge system entirely (including bridge girder), and the replacement of the disconnect switch. Refer to FRC East Drawing PE-21753 (sheet 6 of 6) for further details.

#### 3.4.1.3 Trolley Hoist unit:

- a) 4,000 pounds rated capacity.
- b) Electrically powered through a floating festoon system. For electrical service refer to FRC East Drawing PE-21753 (sheet 6 of 6).
- c) Welded link load chain as the lifting medium.
- d) Remote controlled.
- e) Conform to ASME B30.16 and ASME HST-1.



- f) Equipped with a mechanical load brake and an electro-mechanical brake (shoe or disc). Each brake independently shall be capable of stopping and holding a load equal to 131.25% of rated capacity.
- g) Equipped with an overload limiting device.
- h) VFD controlled hoist and trolley.
- i) Have maximum and minimum speeds of 16 FPM and 4 FPM.
- j) Primary (adjustable) lower and upper stops to prevent over travel in raising and lowering. A stop shall be provided to prevent chain from coming out in case of limit failure. Hoist must also have a backup paddle/whisker upper limit switch.
- k) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- l) Capable of being periodically load tested to 131.25% of its rated capacity. Manufacturer documentation shall be provided.
- m) Integral with trolley.
- n) Extended wrap-around trolley frame plates with elastomeric bumpers.
- o) Easily accessible trolley brake or non-coasting drive.
- p) Machined or forged hardened steel trolley wheels. No stamped steel or cast iron wheels permitted.

#### 3.4.1.4 Bridge systems:

- a) 4,000 pounds rated capacity.
- b) Electrically powered. Electrical service and dimensions per FRC East Drawing PE-21753 (sheet 6 of 6).
- c) Installed in accordance with the manufacturer's directions or by the stamped design of a licensed professional engineer.
- d) Calculations showing adequacy of the design in accordance with CMAA-74 shall be provided.
- e) Under running type trucks with hardened, machined or forged steel wheels and elastomeric bumpers compatible with existing runway rails and stops, and equipped with mounted tandem collectors compatible with existing electrification system. No stamped steel or cast iron wheels permitted.
- f) Patented track single girder.
- g) Equipped with end stops.
- h) VFD controlled.
- i) Programmed maximum and minimum speeds of 40 FPM and 5 FPM.
- j) DC disc brakes with manual external release easily accessible for disassembly and not installed between the motor and gear case.

#### 3.4.1.5 Control center:

- a) NEMA 1 rated enclosure cabinet.
- b) Electrical and mechanical interlocks for directional contactors.
- c) Mainline contactor along with the Stop-Start, Off-On, or Power Off-Power-On circuitry is designed to remove power from the drive motors, brakes, and control circuit. The control circuit shall not be capable of being operated unless the ON button, Power On button or Start button is depressed.
- d) Overcurrent protection for the control circuit, including control circuit transformer, in accordance with NFPA 70.
- e) Fuse or circuit breaker protection for branch circuits.
- f) Short circuit and ground fault protection in accordance with NFPA 70.
- g) Overload protection for each motor, motor controller, and branch circuit conductor in accordance with NFPA 70.

h) VFD. Documentation from the OEM regarding VFD crane design parameters range which are anticipated to need adjustment during the life of the crane shall be provided. Crane design parameters range must be the applicable portion of the drive's default range for each parameter and must be in the range in which each parameter can be safely tuned by the end user.

i) Backup paddle/whisker upper limit switch must be wired to remove all power from the hoist drive motor and brakes independent of the microprocessor drive.

j) By-pass switch for hoist primary upper limit and over-load limit for use during testing.

3.4.1.6 Collectors and conductor bar shall be of the tandem type compatible with existing conductor bars.

3.4.1.7 Floating Festoon Systems:

a) Consist of flat cables suspended from a carrier riding on c-track or similar system.

b) 20% spare wires capacity.

3.4.1.8 Remote Controls:

a) Designed and installed in accordance with ANSI ECMA 15 and NEMA ICS 8, Part 9.

b) Digitally pulse encoded transmitter signals with error detection.

c) Continuous status signal to the associated receiver during operation.

d) Contact or output relay monitoring board, or some other form of command confirmation with the crane radio system receiver.

e) No interference with the other crane remote control to mitigate the possibility of inadvertent crane operation by use of the wrong remote unit.

f) Frequency for radio control within the unlicensed FCC Part 15 range.

g) Form DD 1494 shall be submitted for information.

h) Minimum of two (2) identical transmitters shall be furnished.

i) Radio transmitters are required to include a key operated battery power switch, an indication of battery power and transmitting status, rechargeable type batteries (minimum of 2 sets), and signal limiting devices to limit the distance an operator can be away from the crane and operate the radio controller.

3.4.2 WHS #132

3.4.2.1 Upgrades involve the replacement of the trolley hoist unit, control center and bridge drives and the extension of runway rails and rigid bars electrification system. In order to be able to achieve the runway extension, the contractor must clear the crane's path by relocating existing utility pipes. Refer to FRC East Drawing PE-21753 (sheet 6 of 6) for further details.

3.4.2.2 Trolley Hoist unit:

a) 2,000 pounds rated capacity.

b) Electrically powered through a floating festoon system. For electrical service refer to FRC East Drawing PE-21753 (sheet 6 of 6).

c) Welded link load chain as the lifting medium.

d) Remote controlled.

e) Conform to ASME B30.16 and ASME HST-1.

- f) Equipped with a mechanical load brake and an electro-mechanical brake (shoe or disc). Each brake independently shall be capable of stopping and holding a load equal to 131.25% of rated capacity.
- g) Equipped with an overload limiting device.
- h) VFD controlled hoist and trolley.
- i) Have maximum and minimum speeds of 16 FPM and 4 FPM.
- j) Primary (adjustable) lower and upper stops to prevent over travel in raising and lowering. A stop shall be provided to prevent chain from coming out in case of limit failure. Hoist must also have a backup paddle/whisker upper limit switch.
- k) Removable hook with a safety latch (welding prohibited). The entire hook must be accessible for Non-Destructive Inspection by the Government.
- l) Capable of being periodically load tested to 131.25% of its rated capacity. Manufacturer documentation shall be provided.
- m) Integral with trolley.
- n) Extended wrap-around trolley frame plates with elastomeric bumpers.
- o) Easily accessible trolley brake or non-coasting drive.
- p) Machined or forged hardened steel trolley wheels. No stamped steel or cast iron wheels permitted.

#### 3.4.2.3 Bridge drives:

- a) Motors shall be 60 minutes duty rated, class F minimum insulation, be equipped with thermal overload and overcurrent protection, TEFC or TENV type, and be suitable for VFD operation.
- b) Programmed for speeds of: 40 FPM (max), 5 FPM (min).
- c) Not be the center drive type.
- d) Geared reducers for Class C cranes.
- e) Hardened steel wheels. No stamped steel or cast iron wheels permitted.

#### 3.4.2.4 Control center:

- a) NEMA 1 rated enclosure cabinet.
- b) Electrical and mechanical interlocks for directional contactors.
- c) Mainline contactor along with the Stop-Start, Off-On, or Power Off-Power-On circuitry is designed to remove power from the drive motors, brakes, and control circuit. The control circuit shall not be capable of being operated unless the ON button, Power On button or Start button is depressed.
- d) Overcurrent protection for the control circuit, including control circuit transformer, in accordance with NFPA 70.
- e) Fuse or circuit breaker protection for branch circuits.
- f) Short circuit and ground fault protection in accordance with NFPA 70.
- g) Overload protection for each motor, motor controller, and branch circuit conductor in accordance with NFPA 70.
- h) VFD. Documentation from the OEM regarding VFD crane design parameters range which are anticipated to need adjustment during the life of the crane shall be provided. Crane design parameters range must be the applicable portion of the drive's default range for each parameter and must be in the range in which each parameter can be safely tuned by the end user.
- i) Backup paddle/whisker upper limit switch must be wired to remove all power from the hoist drive motor and brakes independent of the microprocessor drive.
- j) By-pass switch for hoist primary upper limit and over-load limit for use during testing.

3.4.2.5 Collectors and conductor bar shall be of the tandem type compatible with existing conductor bars.

3.4.2.6 Floating Festoon Systems:

- a) Consist of flat cables suspended from a carrier riding on c-track or similar system.
- b) 20% spare wires capacity.

3.4.2.7 Remote Controls:

- a) Designed and installed in accordance with ANSI ECMA 15 and NEMA ICS 8, Part 9.
- b) Digitally pulse encoded transmitter signals with error detection.
- c) Continuous status signal to the associated receiver during operation.
- d) Contact or output relay monitoring board, or some other form of command confirmation with the crane radio system receiver.
- e) No interference with the other crane remote control to mitigate the possibility of inadvertent crane operation by use of the wrong remote unit.
- f) Frequency for radio control within the unlicensed FCC Part 15 range.
- g) Form DD 1494 shall be submitted for information.
- h) Minimum of two (2) identical transmitters shall be furnished.
- i) Radio transmitters are required to include a key operated battery power switch, an indication of battery power and transmitting status, rechargeable type batteries (minimum of 2 sets), and signal limiting devices to limit the distance an operator can be away from the crane and operate the radio controller.

3.4.2.8 Electrification System and runway extension:

- a) Same type and model as the existing runways.
- b) Installed in accordance with the manufacturer's directions or by the stamped design of a licensed professional engineer.
- c) Calculations showing adequacy of the design in accordance with CMAA-74 shall be provided.
- d) Relocation of the existing end stops.
- e) Be true to the existing runway within the tolerances given in CMAA-74.
- f) Painted to match the existing rails and cover any burn or handling marks on the rails or supporting structure.
- g) All welds shall meet the requirements of AWS D1.1 and/or D14.1 as applicable.
- h) Removable stops shall be installed where the new rail meets the existing rail. Contractor shall submit documentation certifying the structural adequacy of stops/spacers.

#### PART 4 LABOR

4.1 Contractor is responsible to design, manufacture, furnish and install a weight handling system that will fit the area, hence, Contractor shall conduct an initial on-site visit with an FRC-East Plant Engineering Branch representative to verify dimensions, clearances and obstructions, and to collect the field data needed for the design of the new system.

4.2 Only individuals certified per AWS D14.1 shall perform welding on the



crane. No welding shall take place without proof of certification.

4.3 The contractor shall provide one (1) electronic package for review and approval by the FRC-East Chief Crane Engineer PRIOR to ordering material or commencing on-site work. The package shall include structural, mechanical and electrical drawings, structural design calculations STAMPED BY A LICENSED PROFESSIONAL ENGINEER, catalog cuts, etc. FRC East shall make recommendations, if needed, to ensure compliance with this SOW. Contractor shall submit package within 15 days of contract award. GOVERNMENT will return commented and/or approved submittals within two (2) weeks of day of submission.

4.4 All installation work shall be in compliance with NFPA 70, NFPA 70E and CMAA 78.

4.5 Upon completion of installation, CONTRACTOR shall turn off and lock out the crane electrical disconnect switch and request the visit of the Crane Inspector and Load Test Director to perform the acceptance test per Section 5.0.

#### PART 5 ACCEPTANCE TEST

5.1 Contractor shall be present at all times during the acceptance testing. Testing estimated duration time is four (4) hours per system for a total of approximately 64 hours.

5.2 Contractor shall remove the hook and retaining nut or eye pin (and swivel eye bar as applicable) for a Non-Destructive Inspection (NDI), by the Government, in accordance with ASTM A275.

5.3 The Government Inspector will inspect and load test new system per Appendix E of NAVFAC P-307.

-- End of Section --