



BIDDING DOCUMENTS

FOR

PAMT H-6 AND H-7 CRANE ELECTRIFICATION

Key Items:

MANDATORY PRE-BID MEETING: **Thursday, September 29, 2022 at 10:00 A.M. at Packer Avenue Marine Terminal (PAMT).** PAMT is located at 3301 S. Columbus Blvd., Philadelphia, PA 19148. Pre-bid attendees should meet at the North Gate of PAMT just north of the Walt Whitman Bridge, directly before the security gate. Arrive on time as we will be boarding a bus to transport bidders to the site. All attendees must wear high-visibility safety vests. Those attending the meeting must RSVP with a list of attendees to Procurement@PhilaPort.com prior to the date and time of the meeting.

QUESTIONS: Questions must be in writing and will be sent to the attention of the Procurement Department at e-mail address procurement@philaport.com. List the project name and number in the subject line of the email. Questions must be submitted by **Thursday, October 6, 2022 at 12:00 P.M. (NOON)**

BID SUBMISSION DEADLINE: Bids will be received electronically via the Bonfire Portal until **Thursday, October 20, 2022 at 2:00 PM.** Instructions for submission of proposals can be found in Part 1, Instructions to Bidders.

FEDERAL GRANT INFORMATION AND REQUIREMENTS

THIS PROJECT IS PARTIALLY FUNDED WITH FEDERAL DOLLARS UNDER THE FY 17-18 INFRASTRUCTURE FOR REBUILDING AMERICA (INFRA) GRANT, PROVIDED BY THE UNITED STATES DEPARTMENT OF TRANSPORTATION.

Domestic Preference Requirements: This project is subject to Buy America Act 23 U.S.C. Section 313. PhilaPort has received a federal waiver for the foreign iron and steel components part of a Medium Voltage (MV) Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric. See Part 3, for Flow down Grant Requirements, Buy America Waiver for Cable Reel System, and Special Conditions to the General Conditions for more information

https://www.fhwa.dot.gov/construction/contracts/buyam_ga.cfm

BIDDERS MUST HAVE AN ACTIVE SAM.GOV ACCOUNT PRIOR TO AN AWARD BEING MADE

I N D E X

SUBJECT	PAGE NO.
Index	1
PART 1	
Instructions to Bidders <i>(Instructions Revised per Federal Grant Requirements)</i>	1 – 47
PART 2	
Bid Form	1 - 15
Prevailing Wage Rates	1 - 14
Davis-Bacon Wage Rates	1- 14
PART 3	
Federal Grant Flow Down Requirements	1 - 45
Special Conditions to the General Conditions	1 – 12
Cable Reel System-Buy America Waiver Notice to PhilaPort	1 – 7
Cable Reel System-Buy America Waiver Published	1 - 3
General Conditions	1 - 70
PhilaPort Diversity Inclusion Plan (Exhibit 1) <i>(Plan Revised per Federal Grant Requirements)</i>	1 - 14
PART 4	
Specifications and Drawings	1 - 152

PART 1

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS
FOR
PHILADELPHIA REGIONAL PORT AUTHORITY
CONTRACTS

(Revised as of September 21, 2022)

FOR USE ONLY WITH INVITATIONS TO BID FOR CONSTRUCTION.

Contents

Section 1	Work to be Performed:	1
Section 2	Familiarity with Proposed Work:	1
Section 3	Pre-Bid Conferences:	4
Section 4	Interpretation of Contract Documents:	4
Section 5	Submission of Bids:	6
Section 6	Bid Requirements:	6
Section 7	State of Incorporation:	9
Section 8	Award to a Foreign Corporation:	9
Section 9	Bid Guaranty:	9
Section 10	Timely Delivery of Bids:	10
Section 11	Submission of Bids in Bonfire:	10
Section 12	Withdrawal or Modification of a Bid Prior to Bid Opening:	10
Section 13	Bid Opening Procedure:	11
Section 14	Rejection of Bid Proposal:	11
Section 15	Withdrawal of Bids after Bid Opening:	12
Section 16	Experience Questionnaire and Financial Statement Provided On Request: . . .	12
Section 17	Requests for Additional And Corrected Information:	12
Section 18	Collusive Bids Will Be Rejected:	13
Section 19	Bid Protest Procedure:	13
Section 20	Bidder Certified Not Under Debarment:	14
Section 21	Subcontract with Debarred or Suspended Firm:	14
Section 22	Reimbursement of Costs of Inspector General Investigation:	15
Section 23	Current List of Suspended and Debarred Contractors:	15
Section 24	Assignment of Antitrust Claims:	15
Section 25	Contractor Integrity Provisions:	16
Section 26	Product Discrimination:	21
Section 27	Apprenticeship Training Program Participation:	26
Section 28	Diversity Inclusion Policy and Plan:	26
Section 29	Award of Contract:	26

Section 30	Execution of Contract, Bond and Return of Insurance Certificates:	26
Section 31	Failure to Execute Contract:	27
Section 32	Proof of Surety’s Responsibility on Contract Bond:	28
Section 33	Reinsurance:	28
Section 34	Veteran’s Preference:	28
Section 35	Provisions Concerning The Americans With Disabilities Act:	28
Section 36	Environmental Statement:	29
Section 37	Applicable Laws:	29
Section 38.	Prevailing Wage:	38
39.	Non-Discriminating Provision:	40
Attachment “A”	43
Attachment “B”	44

**FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN THE
REJECTION OF THE BID AS NOT RESPONSIVE**

Section 1 Work to be Performed:

The Work to be performed is described in the Contract Documents for the prime contractor contracts to be awarded on the Project. The Contract Documents may be inspected during regular business hours at the offices of PhilaPort, 3460 N. Delaware Avenue 2nd Floor Philadelphia, Pennsylvania 19134. During the bidding process, the Contract Documents are available on PhilaPort's website www.philaport.com and can be accessed under the procurement tab. Presently there is no charge for obtaining a copy from the website. One or more copies of the Contract Documents may be obtained upon application to the Procurement Department by making a nonrefundable payment in the amount specified by PhilaPort for each set of Plans, Specifications, and Bidding Documents requested.

All contractors must be registered with the Vendor Data Management Unit ("VDMU") of the Commonwealth of Pennsylvania if they wish to do business with PhilaPort. Registration may be done via the internet or via telephone and is required in order to be awarded a contract. VDMU will assign each contractor a vendor ID number which will be used to identify that contractor within the Commonwealth. Please use the following information to complete the vendor registration form, or to make changes to an existing vendor ID number:

Central Vendor Management Unit

Phone 717-346-2676

Toll Free 1-866-435-7363

Web Address: www.vendorregistration.state.pa.us

The Bidding Documents consist of the Notice to Bidders, these Instructions to Bidders, the Bid Form, the Certification Form, Bid Security, submissions related to PhilaPort's Diversity Inclusion Policy and Plan, the Non-collusion Affidavit, and forms and submittals required by the Specifications or other Bidding or Contract Documents to be submitted with the Bid. The Contract Documents are identified in the General Conditions.

Section 2 Familiarity with Proposed Work:

A. The Bidder is responsible for examining the nature and location of the Work for the Project, including the Work of other prime contractors, the conformation of the ground, existing underground conditions and structures, the soil and rock conditions, all utilities, and the character, quality and quantity of the materials that will be required. The Bidder shall also examine the proposed Contract, including plans, specifications and all other documents and data pertaining to the Project, and has obtained all information on or before the submission of his Bid necessary for the submission of his Bid and the completion of the Work. After the award of the contract, the Contractor may not submit any claim alleging insufficient data, incorrectly assumed conditions, or misunderstanding of any kind related to the Project.

B. Bidders are required to comply with any and all access control requirements imposed at the site to gain entry. In addition, to gain access to PhilaPort facilities, Bidders are required to comply with the Maritime Security (“MARSEC”) regulations requiring contractors entering PhilaPort facilities to have knowledge of, thorough training or equivalent job experience, in the following, as appropriate:

1. Relevant Provisions of the Facility Security Plan;
2. The meaning and consequential requirements of the different MARSEC levels as they apply to them, including emergency procedures & contingency plans;
3. Recognition and detection of dangerous substances and devices;
4. Recognition of characteristics and behavior patterns of persons who are likely to threaten security; and
5. Techniques used to circumvent security.

Each marine terminal maintains its own Facility Security Plan and Facility Security Officer. Due to the sensitive security information contained in such plans, they are not available for review. The Facility Security Officer for the terminal will brief you on relevant provisions of the Security Plan and application of the different MARSEC levels. Sections (3) (4) & (5) listed above apply to your operations and their interaction with the Port as a result of working on Port Facilities.

C. Any information obtained as a result of the Geotechnical testing (“Geotechnical Information”) concerning subsurface materials or conditions was obtained by PhilaPort for the Engineer's use in designing the Project. This Geotechnical Information is included in the Specifications for the Project or, in the alternative, available to the Bidders upon request written. Bidder acknowledges that he may request Geotechnical Information.

The technical data found in the Geotechnical Information is represented to be accurate by PhilaPort, but the conclusions and inferences that may be found in or inferred from the Geotechnical Information is not warranted and the accuracy or completeness of any such conclusions and inferences is not guaranteed by PhilaPort. The Contractors must assume all responsibility in excavating for this Project and may rely only upon the factual subsurface information obtained from PhilaPort or Engineer.

Bidders shall make their own investigation of existing subsurface conditions. If Bidder desires to obtain additional information or data to supplement that which exists in the form of Geotechnical Information, Bidder shall make a written request for documents or for access to the site. PhilaPort will, to the extent reasonably feasible, afford the Bidder the opportunity, at Bidder’s own expense, to conduct additional tests and examinations and to make measurements and studies of all kinds; where PhilaPort cannot grant such rights, it will cooperate with Contractor in endeavoring to secure

such rights. The ground and existing structures shall be returned to its original condition as prior to testing. PhilaPort may require a bond to secure the restoration of the original conditions.

Before making any such excavations, borings or soundings, driving test piles, digging test pits on the Site, or undertaking any other examination of the subsurface thereof, the Bidder shall provide to PhilaPort proof of insurance that is satisfactory to PhilaPort. Bidder is responsible for field verifying locations of all existing utilities. Prior to excavation or earth moving, the Bidder is to contact PA One-Call to mark out locations of existing utilities.

D. The Work herein contemplated being public work, the Bidder acknowledges that no mechanics liens may be filed.

E. The Bidder acknowledges that, should Work to be performed be specified or indicated in more than one prime contract and no clarifications received by Addenda prior to Bid date, each Bidder so affected who is submitting a Bid shall consider the Work to be part of his contract. A subsequent determination will be made and an amount commensurate to the labor, material and equipment to be provided will be deducted from the Bidder determined not to be responsible.

F. The Bidder acknowledges that he has ascertained all governmental and utility requirements with respect to wage scales, materials, labor, safety and sanitation and shall base his Bid prices on full compliance therewith.

G. The Bidder acknowledges that he has familiarized himself with labor conditions which might affect or influence the performance of the Work.

H. The Bidder acknowledges that he was afforded the opportunity to attend and participate in the pre-bid meeting.

I. The Bidder acknowledges that he is fully aware of the Owner's status as a governmental entity in relation to this Project and the requirements of Applicable Laws generally, and those specifically related to certain exemptions from the application of sales and use taxes.

J. The Bidder acknowledges that the awarded Contractor on the Project is responsible for coordination of his own construction activities and for resolving coordination issues with his Subcontractors and any other prime contractors.

K. The Bidder acknowledges that he is aware and has been advised that the Contractor is solely responsible for initiating, maintaining and supervising all safety precautions and programs required under his portion of the Work and the Work of the Bidder's Subcontractors and Sub-Subcontractors and that the Bidder has reviewed, evaluated and taken into consideration these requirements when submitting the Bid.

L. The Bidder acknowledges that he is aware and has been advised that his Subcontractors must be given the complete Bidding and Construction Documents for bidding purposes so as to ensure consistency and adherence to the Contract Documents, that the Bidder as Contractor is responsible fully to the Owner for the performance of his Subcontractors and that the Bidder will

require each Subcontractor, through legally enforceable written agreements, to meet all of the responsibilities with respect to any portion of the Work performed by any Subcontractor.

M. The Bidder acknowledges that he assumes all risks resulting from any changes in the conditions which may occur during the progress of the Work, subject to the right of any Contractor to recover from another Prime Contractor damages for interference and delay.

N. The Bidder has reviewed the scheduling requirements issued by and on behalf of the Owner and appearing on the Plans and in the Specifications and has to the extent appropriate incorporated the information set forth therein in preparing his Bid.

Section 3 Pre-Bid Conferences:

A. In the event PhilaPort chooses to conduct a mandatory pre-bid conference, notice of the time and location of such conference will either be provided in the Notice to Bidders, or in the “Notice to Bidders” on the cover page of the Specifications, mailed to each Bidder at the address provided to PhilaPort by the Bidders or posted on PhilaPort’s website. The failure of a Bidder to attend a mandatory pre-bid conference shall result in the Bidder’s Bid being rejected. Minutes taken at such a mandatory pre-bid conference will be maintained by PhilaPort and a copy of the minutes will be provided upon written request to PhilaPort.

B. In the event PhilaPort chooses to conduct an optional pre-bid conference, attendance is not mandatory and notice of the time and location of such conference will either be provided in the Notice to Bidders, or in the “Notice to Bidders” on the cover page of the Specifications, mailed to each Bidder at the address provided to PhilaPort by the Bidders or posted on PhilaPort’s website. Minutes taken at such an optional pre-bid conference will be maintained by PhilaPort and a copy of the minutes will be provided upon written request to PhilaPort.

Section 4 Interpretation of Contract Documents:

A. During the Bidding Phase, every request for interpretation shall be made in writing to the Director of Procurement. All written requests (“Requests for Interpretation”) related to the proposed Work or proposed Contract Documents must be received by the Director of Procurement at the offices of PhilaPort, **no later than close of business ten (10) calendar days prior to the Bid Opening Date.** If a request is received within ten (10) calendar days of the bid opening date, PhilaPort may, in its sole discretion, answer the request. Requests must be submitted by hand-delivery, courier, regular or expedited mail, or facsimile transmission. Requests sent via email will not be considered “written” requests.

B. BIDDERS ARE PROHIBITED FROM SEEKING ANY ORAL INTERPRETATION REGARDING THE MEANING OF THE BIDDING OR CONTRACT DOCUMENTS. ANY CONVERSATION BETWEEN A BIDDER AND PHILAPORT OR THE ENGINEER MAY NOT BE RELIED UPON BY ANY BIDDER, IS NOT BINDING UPON PHILAPORT AND SHALL NOT BECOME PART OF THE CONTRACT DOCUMENTS. ONLY INFORMATION APPEARING IN WRITTEN

BULLETINS ISSUED BY PHILAPORT OR ITS ENGINEER MAY BE RELIED UPON BY THE BIDDERS.

C. PhilaPort's response to any Request for Interpretation will be in the form of a written Addendum or Bulletin signed by PhilaPort. PhilaPort will post all Addenda and Bulletins to its website at www.philaport.com and it shall be the responsibility of the Bidder to check for updates. The Bidder is responsible for all Addenda and Bulletins issued, whether or not reviewed. All addenda and Bulletins become a part of the Contract Documents, and all Bidders are bound by their provisions.

D. Whenever an item is defined in the Bidding or Contract Documents by trade name and catalogue number of a manufacturer or vendor, the term "or approved equal," if not inserted therewith shall be implied. Any reference to a particular manufacturer's product either by trade name or by limited description is solely for the purpose of more clearly indicating the minimum standard of quality desired, except where a "no substitute" is requested. When a "no substitute" is requested, PhilaPort will consider bids for the referenced product only. The term "or approved equal" is defined as meaning any other make which, in the sole opinion of the Engineer, is of such character, quality, and performance equivalence as to meet the standard of quality of products specified for which it is to be used equally as well as that specified.

E. A Bidder who wishes to (i) offer an alternate to the requested item or (ii) include a request for the Engineer to approve an equal, must submit a Request for Interpretation pursuant to Section A. above. The Request for Interpretation must include a complete description of the alternate or equal and must identify the product's deviations from the specifications. For consideration of approved equals, the Request for Interpretation must include the (a) complete identification of the product the Bidder proposes to offer by trade name, brand and/or model number; (b) furnish descriptive literature and data with respect to the substitute product it proposes to furnish; and (c) indicate any known specification deviations from the referenced product. Upon receipt of the Request for Interpretation, the Engineer will determine whether the alternate or equal is acceptable. If the Engineer, in his discretion, determines that the alternate or equal is acceptable, the Director of Procurement will issue an addendum to the Bidding or Contract Documents revising the specification. If the alternate or equal is not accepted, there will be no addendum issued.

F. Unless otherwise specified in these Instructions to Bidder, all products offered by Bidders must be new or re-manufactured. A "new" product is one that will be used first by PhilaPort after it is manufactured or produced. A "re-manufactured" product is one which: 1) has been rebuilt, using new or used parts, to a condition which meets the original manufacturer's most recent specifications for the item; 2) does not, in the opinion of the Engineer, differ in appearance from a new item; and 3) has the same warranty as a new item. Unless otherwise specified in this invitation for bids, used or reconditioned products are not acceptable. This clause shall not be construed to prohibit Bidders from offering products with recycled content, provided the product is new or remanufactured.

G. The Contractor awarded the Contract on the Project is required to pay Pennsylvania Sales and Use Taxes and may claim an exemption only for some construction materials. To obtain exemptions for some of the construction materials, the Contractor must submit an application to

the Pennsylvania Department of Revenue.

H. Should the Work require the use of Steel or Steel Products, Bidders shall note that only steel products produced in the United States of America shall be used. Bidders are required to familiarize themselves with the Commonwealth of Pennsylvania's Act No. 1978-P.L.6 - No. 3, the Steel Procurement Act, as it pertains to this requirement.

In addition to required certifications, Contractor is required to provide photographs to verify the American Made Seal certification for all iron and steel materials used in this project.

I. The Director of Procurement is the single point of contact for the bidding on the Project. PhilaPort reserves the right to reject the Bid of a Bidder who violates this provision.

Section 5 Submission of Bids:

A. All Bids shall be submitted on forms prepared by PhilaPort. All entries on the Bid Form and Certification must be in ink or typewritten, preferably in blue ink to indicate an original writing.

B. All Base Bids will be considered as separate and distinct bids. If a base bid is left blank, PhilaPort will interpret this to mean the Bidder did not submit a bid on that base bid, but this will not invalidate any remaining Base Bids. The Bidder may not, however, withdraw a single base Bid when more than one Base Bid has been submitted. In this circumstance, if the Bidder wishes to withdraw any Base Bid, the Bidder must withdraw every Base Bid he submitted.

Section 6 Bid Requirements:

A. The Bid Form and Signature Page shall be filled out and completed and signed by each Bidder. The signature must be an ORIGINAL and HAND-SCRIPTED signature.

B. Every Bidder must complete and execute (including verification) with the Bid a Non-Collusion Affidavit.

C. All Bids must be sealed, marked, and delivered in accordance with the Notice and these Instructions to Bidders. Bids will be opened and read publicly promptly after the deadline for the submittal of Bids.

D. The failure to execute or complete a blank on the Bid Form shall cause the Bid to be rejected only if the amount of the base Bid or Bid for an Alternate or Unit Price cannot be determined. The failure of the Bidder to sign the Bid Form shall be conclusively treated as a nonresponsive Bid, and the Bid shall be rejected. The failure to attest to the signature made on behalf of a corporate Bidder or a Bidder which is Limited Liability Company shall not make the Bid nonresponsive.

E. The blanks provided for the entry of sums on the Bid Form shall permit the Bidder to enter

his Bid in words, or in numerical figures, or in both words and numerical figures. In case of discrepancy where both words and numerical figures are entered, the numerical figures shall control. No Bid shall be rejected solely by reason of the failure to enter sums in both words and numerical figures provided that a sum is ascertainable. If a sum is ascertainable, the Bid will conclusively be determined to be responsive.

G. All Bids should be regular in every respect. Interlineations, additions, excisions or conditions made or included in the completed Bid Form by the Bidder shall be disregarded and the Bid, if otherwise sufficient, shall be accepted. Only in the event that, notwithstanding the disregard of the interlineation, addition, excision or condition, the amount of the Base Bid or Bid for a Unit Price or an Alternate cannot be determined shall the Bid be rejected.

H. All requested Alternates shall be Bid. If an alternate price called for does not involve a change in price, the Bidder shall so indicate by writing "No Change", "None", "Zero", "0", "No cost", "N/A" or the equivalent of any of these entries, in the space provided. Bidders shall not be permitted to refuse to Bid on an Alternate, and the failure to enter a sum with the intention of refusing to Bid the Alternate shall be disregarded. The use of any of the above-identified entries, or the failure to enter an amount in the blank for an Alternate, shall be treated conclusively as a Bid of zero dollars for the Work described in the Alternate. The failure to indicate whether a sum inserted for an Alternate is an "add" or a "deduct" shall be treated conclusively as a deduction to the base Bid. The failure to make an entry for an Alternate shall not cause the Bid thereby to be made nonresponsive.

I. All requested Unit Prices for which estimated quantities have been provided in the Bid Form shall be bid. If the Unit Price Work will be performed at no cost to PhilaPort, the Bidder shall so indicate by writing "No Change", "None", "Zero", "0", "No cost", "N/A" or the equivalent of any of these entries, in the space provided. Bidders shall not be permitted to refuse to Bid on a Unit Price, and the failure to enter a sum with the intention of refusing to provide with his Bid the cost of the Unit Price Work shall be disregarded. The use of any of these entries, or the failure to enter an amount in the blank for Unit Price Work, shall be treated conclusively as a Bid of zero dollars for that Work. The failure to make an entry for a Unit Price with an estimated quantity shall not cause the Bid thereby to be made nonresponsive. Where an error is made in computing the extension of the per Unit Price to total price, the per Unit Price quoted shall govern.

J. All requested Unit Prices for which no estimated quantities are provided in the Bid Form shall also be bid. If the Unit Price Work will be performed at no cost to PhilaPort, the Bidder shall so indicate by writing "No Change", "None", "Zero", "0", "No cost", "N/A" or the equivalent of any of these entries, in the space provided. The use of any of these entries, or the failure to enter any of these entries or an amount in the blank for Unit Price Work shall be treated conclusively as a Bid of zero dollars for that Work.

K. In the event of a discrepancy between a Unit Price and an extended price, the lesser of (i) recalculation of the extended line based upon the Unit Price; and (ii) value of the extended line as written in the bid, shall govern. In such event, the extended price shall be divided by the estimated quantity for the Work or line item to arrive at a recomputed Unit Price which shall thereafter govern for purposes of payment. In the event the total bid price does not equal the value of the

sum of all the extended line prices, the total of the sum of the extended line prices shall govern (including any recomputed prices as set forth above).

L. The Bidder shall insert the Addenda by numbers in any spaces provided on the Bid Form. The Bidder shall ascertain, prior to submitting a Bid, that the Bidder has received all Bulletins and other Addenda issued. Bidder by the submission of the Bid, acknowledges conclusively that all Addenda properly issued are applicable and operative as a part of the Contract Documents. Failure of any Bidder to receive any Bulletin or Addenda as provided for herein shall not release such Bidder from the obligation of his Bid and the obligation to comply with the provisions of the Addenda. The failure to list one or more of the Addenda numbers on the Bid Form will not make the Bid nonresponsive.

M. The Bidder shall not condition, qualify or otherwise assert a stipulation of any kind in the Bid. Any condition, qualification or stipulation added to the Bid Form shall be disregarded and the Bid accepted as if the condition, qualification or stipulation did not appear. Only in the event that, notwithstanding the disregarding of the condition, qualification or stipulation, the amount of the base Bid or Bid for a Unit Price or an Alternate cannot be determined, shall the Bid be rejected.

N. Bids may be submitted by sole proprietors, partnerships, corporations, limited liability companies and forms of business organizations that are for the purposes of the contract a functional equivalent. Each Bidder must complete the Bid Form by entering the information requested, including for example the name of the Bidder, the name of the person signing the Bid, the Bidder's business address with ZIP code.

O. Bids by sole proprietors must be signed by the individual proprietor and witnessed. Any fictitious name or name under which the sole proprietor trades must be stated.

P. Bids by partnerships must furnish the full name of one or more general partners, and must be signed in the partnership name by one or more general partners, followed by a listing of the names of all partners.

Q. Bids by corporations must be signed by the president of the corporation, a vice president of the corporation, or another corporate representative whose authority is established by an attached resolution. The signature of the representative must be witnessed and attested to by a secretary, assistant secretary, treasurer, assistant treasurer, or another corporate representative whose authority is established by an attached resolution. The Bid of a corporation does not require the affixing of the corporate seal. Any corporate resolutions attached to the Bid in order to establish the authority of a corporate representative may be dated as of the date of the Bid, or for a period of no more than one year prior thereto.

R. Bids by a Limited Liability Company or LLC, or equivalent form of business organization, must submit the Operating Agreement or similar documentation, establishing the authority of the representative who executes the Bid and the authority of the representative who attests to the validity of the signature.

S. When requested by PhilaPort, satisfactory evidence of the authority of the individual

signing on behalf of the Bidder or attesting to the signature shall be furnished. The failure to furnish satisfactory evidence of the authority of the individual with three (3) business days of PhilaPort's request, shall be conclusively treated as a deficiency requiring the rejection of the Bid.

Section 7 State of Incorporation:

As a precondition to the acceptance of any Bid tendered by any corporation not incorporated in the Commonwealth of Pennsylvania, or the Bid of any other form of business organization including, but not limited to, a sole proprietorship, a limited partnership or a limited liability company not domiciled in the Commonwealth, the corporation, limited liability company, limited partnership or sole proprietorship shall comply with any applicable Commonwealth requirements related to registration. If the Bidder is incorporated in a state other than Pennsylvania, the Bidder must state whether the corporation is registered to do business in Pennsylvania. If the Bidder operates under an assumed or fictitious name, the Bidder must state whether such name has been registered in Pennsylvania. The administration of these requirements is through the Pennsylvania Department of State, Corporation Bureau, 206 North Office Building, Harrisburg, PA 17120, telephone (717) 787-1057, facsimile (717) 783-2244.

Section 8 Award to a Foreign Corporation:

No contract will be awarded to a Bidder which is a foreign (out-of-state or non-US) corporation or which is operating under a fictitious or assumed name unless the Bidder has complied with, or agreed to comply with, the registration requirements under the laws of Pennsylvania.

Section 9 Bid Guaranty:

A. All bids shall be accompanied by a certified bank treasurer's or cashier's check drawn in favor of the "Philadelphia Regional Port Authority" or "PhilaPort" in an amount equal to **ten percent (10%) of the gross amount of the Base Bid, excluding Alternates and including Unit Price Work for which estimated quantities have been provided** unless a different specific amount has been established by PhilaPort and set forth in the Bidding Documents. A bid bond from a surety company authorized to business in the Commonwealth is also acceptable.

B. For purposes of estimating the amount of the security, the amount of labor and the quantities of materials or supplies to be furnished, must be consistent and in accordance with the estimated quantities required to perform the Work of the Base Bid in the Contract Documents. PhilaPort shall not be bound by such estimates of the quantities of labor, materials or supplies required to be furnished under the Contract.

C. When bids are opened and the lowest responsible and responsive Bidder has been determined, PhilaPort within thirty (30) calendar days shall return the security provided by the Bidders except for the security submitted by the two apparent lowest responsive and responsible Bidders. The security of these two Bidders, except where forfeiture of security is required, will be returned upon the execution of all Contract Documents by the lowest responsible Bidder. In the

event the contract is not awarded by PhilaPort, the bid guaranty of these two Bidders will be returned on or about the sixty (60) days after the date of bid opening, unless the time for awarding the Bid has been extended by the Bidders or by operation of law.

Section 10 Timely Delivery of Bids:

The Bidder must submit his Bid to PhilaPort prior to the time scheduled for bid opening, regardless of the method of delivery used. Any Bid received after the time set for the bid opening will be rejected and, to the extent practicable, returned to the Bidder without being considered by PhilaPort.

Section 11 Submission of Bids in Bonfire:

To be considered, it is the responsibility of the contractor to ensure that the contractor's bid submission is received by the Authority prior to the time scheduled for the receipt of submissions. **Submissions are due prior to the time set forth on the cover page of this Invitation for Bid.** No submission shall be considered if it arrives after the time set for the deadline of submissions. PhilaPort will be utilizing an e-Sourcing platform called Bonfire. Contractor's must register with Bonfire to submit an electronic submission with PhilaPort. Submissions must be submitted through the online Bonfire Portal at: <https://PHILAPORT.bonfirehub.com>.

Instructions and video tutorial can be found at:

- <https://support.gobonfire.com/hc/en-us/articles/360011135513-Vendor-Registration>.
- and
- <https://support.gobonfire.com/hc/en-us/articles/203903356-Vendor-Registration-and-Submission->

Be sure to register well in advance of the submission date and time. Submissions by other methods will not be accepted. Contractors must use Internet Explorer 11, Microsoft Edge, Google Chrome, or Mozilla Firefox. JavaScript must be enabled. Browser cookies must be enabled. Ensure pop-up blockers are turned off to avoid any issues. Respondents should contact Bonfire at Support@GoBonfire.com for technical questions related to submissions or visit Bonfire's help forum at <https://bonfirehub.zendesk.com/hc>.

Submission materials should be prepared in the file formats listed under Requested Information for this opportunity in the Bonfire Portal. The maximum upload file size is 1000 MB. Documents should not be embedded within uploaded files, as the embedded files will not be accessible or evaluated.

Within one (1) business day of the submission date, the original bid submission, with an original signature must be mailed to:

Kate Bailey
PhilaPort
3460 North Delaware Avenue
2nd Floor
Philadelphia, PA 19134

PhilaPort reserves the right to reject all questionnaires submitted, to cancel the solicitations requested under this notice, and/or to re-advertise solicitation for these services.

Section 12 Withdrawal or Modification of a Bid Prior to Bid Opening:

A. Complete Withdrawal Before Date and Time. Subject to the provisions of Section 5.B, a Bid may be withdrawn by written notice or in person by a Bidder or his authorized representative (if their identity is established by photographic identification and proof of authorization, preferably on Bidder letterhead) and a receipt for the Bid is signed prior to the exact hour and date set for the opening of bids.

B. Modification Before Bid Date or Time of a Bid Already Submitted But Not Opened. If, before the time of the bid opening, a Bidder wishes to modify a Bid already delivered to PhilaPort, the Bidder's authorized representative (if their identity is made known through photographic identification and proof of authorization) may request that PhilaPort return the Bid, but only if the Bidder's representative signs a receipt for the Bid before the exact hour and date set for the opening of bids. The Bidder may then modify the Bid and resubmit the Bid so long as the modified Bid complies with the requirements set forth in these instructions to Bidders. PhilaPort will not, under any circumstances, open a Bid before the bid opening date and time.

Section 13 Bid Opening Procedure:

Bids will be opened and read aloud publicly at the time and place designated in the Notice to Bidders.

No inspection or photocopies of any Bid will be made at the bid opening. The amount of each Bid, together with the name of each Bidder will be recorded. Such recorded information shall be considered unofficial and shall be open to public inspection at the bid opening.

The bid tabulation, listing the Bidders and their bid amount, will formally be made available to interested parties within ten (10) days of the opening.

Section 14 Rejection of Bid Proposal:

PhilaPort reserves the right to reject any or all bids or parts thereof for failure to meet the requirements of these Instructions to Bidders or any other requirements set forth in the Bidding

Documents. A Bid which reflects or shows an omission, alterations of form, additions or deductions not called for, conditional bid or uninvited alternate, or irregularities of any kind shall not be rejected but instead the irregularity shall be disregarded. PhilaPort reserves the right to waive technical defects or irregularities on bids as set forth in these Instructions to Bidders.

Section 15 Withdrawal of Bids after Bid Opening:

Within two (2) days after the opening of the bids, but before award, a Bidder may request permission to withdraw his Bid if it submits a request, in writing, to PhilaPort. The request must be addressed to the Director of the Procurement, Philadelphia Regional Port PhilaPort, 3460 N. Delaware Avenue, Philadelphia, PA 19134. The request may be hand-delivered, emailed to kbailey@philaport.com, or faxed to the same official at (215) 426-6800. The request will not be considered received unless it is delivered as set out in this Section and includes evidence that the requested withdrawal is consistent with the requirements of the Bid Withdrawal Act.

Section 16 Experience Questionnaire and Financial Statement Provided On Request:

At PhilaPort's request, or if specifically required by the Bidding Documents, Bidders shall file an experience questionnaire on the form provided by PhilaPort and an audited financial statement. The questionnaire and statement shall be certified to be true and correct by an affidavit sworn to or affirmed before a Notary Public, or other empowered or administer oaths or affirmations. Falsification of any requested information or documentation shall result in a determination that the Bidder is not responsible, forfeiture of the bid bond and cancellation of any contract award. The Bidder must make a good-faith effort at providing complete information in response to the questions. A Bidder will be disqualified on the ground of nonresponsiveness if the effort at completing the form is substantially incomplete or demonstrates bad faith. The failure to furnish the original questionnaire or to respond to specific inquiry from PhilaPort within three (3) business days of PhilaPort's request shall conclusively disqualify a Bidder. An apparent low Bidder shall upon request submit the most recent audited financial statement or, if an audited financial statement is unavailable, a financial statement prepared after a compilation or review, within three (3) days of PhilaPort's request.

Section 17 Requests for Additional And Corrected Information:

A. Evaluation of Responsibility. In evaluating the Bid Proposal Form, in addition to price, PhilaPort may consider completion time, Bidder's experience, past record of Bidder in meeting commitments and any other general factors that may be deemed pertinent to the Bidder's responsibility as a contractor and the best interests of PhilaPort. PhilaPort reserves the right to request Bidder to provide additional information prior to award of contract.

B. Evaluation of Responsiveness. The failure to execute or complete a blank on the Bid Form shall cause the Bid to be rejected only if the amount of the base Bid or a Unit Price cannot be determined. The failure of the Bidder to sign the Bid Proposal Form shall be conclusively treated as a nonresponsive Bid, and the Bid shall be rejected. The failure to attest to the signature

made on behalf of a corporate Bidder or a Bidder which is Limited Liability Company shall not make the Bid nonresponsive.

C. Conditioned Bid. The Bidder shall not condition, qualify, or otherwise assert a stipulation of any kind in the Bid. Any condition, qualification or stipulation added to the Bid and Certification Form shall be disregarded and the Bid accepted as if the condition, qualification or stipulation did not appear. Only in the event that, notwithstanding the disregarding of the condition, qualification or stipulation, the amount of the Base Bid cannot be determined shall the Bid be rejected.

D. Incomplete and Insufficient Submittals. Provided that the integrity of the amounts of the Base Bid, Alternatives, and Unit Prices are not compromised, the failure of the Bidder to submit with his completed and executed Bid and Certification Form, (1) a document required by these Instructions, including but not limited to a Non-Collusion Affidavit, (2) documents required to establish participation in an approved Apprenticeship Program, (3) documents otherwise required to be included with the Bid, or to provide a complete document, shall be conclusively treated as an irregularity which, in the discretion of PhilaPort may be ignored and the Bid accepted, provided that the omitted document or missing portion of the document is submitted after the Bid within three (3) days of written notice from PhilaPort of the deficiency and of the opportunity to cure. In the event the Bidder fails, refuses or neglects to submit any requested information within the three (3) business days of the request, Bidder's bid guaranty may be forfeited to the use of PhilaPort.

Section 18 Collusive Bids Will Be Rejected:

The Bids of any Bidder or Bidders who engage in collusive bidding will be rejected. Any Bidder who submits more than one Bid in such manner as to make it appear that the bids submitted are on a competitive basis from different parties will be considered a collusive Bidder. Submission of collusive bids will result in a Bidder being rejected as not responsible for subsequent projects. Nothing in this Section prevents a Bidder from superseding a Bid by submitting a subsequent Bid, delivered prior to the bid opening, which expressly revokes the previous Bid.

Section 19 Bid Protest Procedure:

The Commonwealth Procurement Code (62 P.C. § 1711.1, as amended) governs the protest procedure, which is summarized below. In the event this general description conflicts with the statute, the statutory language controls.

- A. Who may File:** Any Bidder or prospective Bidder who is aggrieved in connection with the bid or the award of a contract resulting from the bid may file a protest.
1. Prospective Bidder is an entity that has not submitted a Bid in response to the Notice to Bidders.
 2. Bidder is an entity that has submitted a Bid in response to the Notice to Bidders.

B. Time Limits.

1. If a protest is filed by a Prospective Bidder, a protest must be filed, in writing, with the Executive Director of PhilaPort **prior** to the bid opening date and time described in the Notice to Bidders.
 2. If a protest is filed by a Bidder, the protest must be filed, in writing, with the Executive Director of PhilaPort within seven (7) days after the protesting Bidder knew or should have known of the facts giving rise to the protest **except** in no event may a protest be filed later than seven (7) days after the Notice of Award is posted on PhilaPort (www.philaport.com) website.
 3. Filed – shall be defined as the date upon which the Executive Director of PhilaPort receives the written protest
 4. If the Bidder fails to file a bid protest or files an untimely protest, then he shall be deemed to have waived the right to protest the solicitation or award of the contract in any forum. Untimely protests will be disregarded by PhilaPort.
- C. PhilaPort may cancel an invitation for bids or may reject all bids at any time prior to the time a contract is executed by all parties when it is in the best interests of PhilaPort. The Bidder may not submit a protest relating to cancellation of the bid or rejection of all bids.
- D. A protest shall state all grounds upon which the protestant asserts the solicitation or award of the contract was improper. The protestant may submit with the protest any documents or information it deems relevant to the protest.
- E. The full text of the Bid Protest Procedure can be found at 62 Pa. C.S. § 1711.1 et seq.

Section 20 Bidder Certified Not Under Debarment:

The Bidder must certify following award and in conjunction with the execution of the Contract that he is not currently under suspension or debarment by the Commonwealth, any other state, or the federal government, and if the Bidder cannot so certify, then the Bidder agrees to submit along with the Bid a written explanation of why such certification cannot be made and why the award may nevertheless be made.

Section 21 Subcontract with Debarred or Suspended Firm:

If the successful Bidder enters into subcontracts or employs any subcontractors or individuals who are currently suspended or debarred by the Commonwealth or the federal government or who become suspended or debarred by the Commonwealth or federal government during the term of this contract or any extensions or renewals thereof, PhilaPort shall have the right to require the Contractor to terminate such subcontract or employment.

Section 22 Reimbursement of Costs of Inspector General Investigation:

The Contractor shall reimburse PhilaPort and any other Commonwealth agency for the reasonable costs of investigation incurred by the Office of Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and PhilaPort which result in the suspension or debarment of the Contractor. Such costs shall include, but not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations which do not result in the Contractor's suspension or debarment.

Section 23 Current List of Suspended and Debarred Contractors:

The Bidder may obtain a list of suspended and debarred contractors by referring to the Department of General Services website:

https://www.dgs.internet.state.pa.us/debarment_list/

or by contacting DGS:

Department of General Services
Office of Chief Counsel
603 North Office Building
Harrisburg, Pennsylvania 17125
Telephone No. (717) 783-6472
Fax No. (717) 787-9138

The Bidder may also secure a list of suspended and debarred contractors from the Department of Labor and Industry website:

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=553544&mode=2>

or by contacting L&I:

Department of Labor & Industry
Office of Chief Counsel
10th Floor
Labor & Industry Building
Harrisburg, PA 17120
Telephone No. (717) 787-4186
Fax No. (717) 787-1303

Section 24 Assignment of Antitrust Claims:

The Contractor and PhilaPort recognize that, in actual economic practice, overcharges by the Contractor's suppliers, resulting from the violations of State or Federal antitrust laws, are, in fact,

borne by PhilaPort. As part of the consideration for the award of this contract, and, intending to be legally bound, the Contractor assigns to PhilaPort all right, title and interest in, and to, any claims contractor now has, or may hereafter acquire, under State or Federal antitrust laws relating to the goods or services which are the subject of this contract.

Section 25 Contractor Integrity Provisions:

It is essential that those who seek to contract with PhilaPort observe high standards of honesty and integrity. They must conduct themselves in a manner that fosters public confidence in the integrity of PhilaPort and Commonwealth procurement processes.

In furtherance of this policy, Contractor agrees to the following:

1. Contractor shall maintain the highest standards of honesty and integrity during the performance of this contract and shall take no action in violation of state or federal laws or regulations or any other applicable laws or regulations, or other requirements applicable to Contractor or that governs contracting with PhilaPort or the Commonwealth.
2. Contractor shall establish and implement a written business integrity policy, which includes, at a minimum, the requirements of these provisions as they relate to Contractor employee activity with PhilaPort, the Commonwealth and Commonwealth employees, and which is distributed and made known to all Contractor employees.
3. Contractor, its affiliates, agents and employees shall not influence, or attempt to influence, any Commonwealth employee to breach the standards of ethical conduct for Commonwealth employees set forth in the Public Official and Employees Ethics Act, 65 Pa.C.S. §§ 1101 et seq.; the State Adverse Interest Act, 71 P.S. §776.1 et seq.; and the Governor's Code of Conduct, Executive Order 1980-18, 4 Pa. Code § 7.151 et seq.; or to breach any other state or federal law or regulation.
4. Contractor, its affiliates, agents and employees shall not offer, give, or agree or promise to give any gratuity to a Commonwealth official or employee or to any other person at the direction or request of any Commonwealth official or employee.
5. Contractor, its affiliates, agents and employees shall not offer, give, or agree or promise to give any gratuity to a Commonwealth official or employee or to any other person, the acceptance of which would violate the Governor's Code of Conduct, Executive Order 1980-18, 4 Pa. Code § 7.151 et seq. or any statute, regulation, statement of policy, management directive or any other published standard of the Commonwealth or PhilaPort ethics policy.
6. Contractor, its affiliates, agents and employees shall not, directly or indirectly, offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation, vote, other exercise of discretion, or violation of a known legal duty by any Commonwealth official or employee.

7. Contractor, its affiliates, agents, employees, or anyone in privity with him or her shall not accept or agree to accept from any person, any gratuity in connection with the performance of Work under the contract, except as provided in the contract.
8. Contractor shall not have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material on this project, unless the financial interest is disclosed to PhilaPort and Commonwealth in writing and PhilaPort and Commonwealth consent to Contractor's financial interest prior to PhilaPort's execution of the contract. Contractor shall disclose the financial interest to PhilaPort and Commonwealth at the time of bid or proposal submission, or if no bids or proposals are solicited, not later than Contractor's submission of the contract signed by Contractor.
9. Contractor, its affiliates, agents and employees shall not disclose to others any information, documents, reports, data, or records provided to , or prepared by, Contractor under this contract without the prior written approval of PhilaPort, except as required by the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104, or other applicable law or as otherwise provided in this contract. Any information, documents, reports, data, or records secured by Contractor from PhilaPort or a third party in connection with the performance of this contract shall be kept confidential unless disclosure of such information is:
 - a. Approved in writing by PhilaPort prior to its disclosure; or
 - b. Directed by a court or other tribunal of competent jurisdiction unless the contract requires prior PhilaPort approval; or
 - c. Required for compliance with federal or state securities laws or the requirements of national securities exchanges; or
 - d. Necessary for purposes of Contractor's internal assessment and review; or
 - e. Deemed necessary by Contractor in any action to enforce the provisions of this contract or to defend or prosecute claims by or against parties other than PhilaPort or Commonwealth; or
 - f. Permitted by the valid authorization of a third party to whom the information, documents, reports, data, or records pertain; or
 - g. Otherwise required by law.
10. Contractor certifies that neither it nor any of its officers, directors, associates, partners, limited partners or individual owners has been officially notified of, charges with, or convicted of any of the following and agrees to immediately notify PhilaPort contracting officer in writing if and when it or any officer, director, associate, partner, limited partner or individual owner has been officially notified of, charges with, convicted of, or officially notified of a governmental determination of any of the following:

- a. Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.
- b. Commission of fraud or a criminal offense or other improper conduct or knowledge of, approval of or acquiescence in such activities by Contractor or any affiliate, officer, director, associate, partner, limited partner, individual owner, or employee or other individual or entity associated with:
 - (1) Obtaining;
 - (2) Attempting to obtain; or
 - (3) Performing a public contract or subcontract.

Contractor' acceptance of the benefits derived from the conduct shall be deemed evidence of such knowledge, approval or acquiescence.
- c. Violation of federal or state antitrust statutes.
- d. Violation of any federal or state law regulating campaign contributions.
- e. Violation of any federal or state environmental law.
- f. Violation of any federal or state law regulating hours of labor, minimum wage standards or prevailing wage standards; discrimination in wages; or child labor violations.
- g. Violation of the Act of June 2, 1915 (P.L. 736, No. 338), known as the Workers' Compensation Act, 77 P.S. § 1 et seq. or the Longshore and Harbor Workers' Compensation Act, 33 U.S.C § 901 to 950.
- h. Violation of any federal or state law prohibiting discrimination in employment.
- i. Debarment by any agency or department of the federal government or by any other state.
- j. Any other crime involving moral turpitude or business honesty or integrity.

Contractor acknowledges that PhilaPort may, in its sole discretion, terminate the contract for cause upon such notification or when PhilaPort otherwise learns that Contractor has been officially notified, charged, or convicted.

- 11. If this contract was awarded to Contractor on a non-bid basis, Contractor must, (as required by Section 1641 of the Pennsylvania Election Code) file a report of political contributions with the Secretary of the Commonwealth on or before February 15 of the next calendar

year. The report must include an itemized list of all political contributions known to Contractor by virtue of the knowledge possessed by every officer, director, associate, partner, limited partner, or individual owner that has been made by:

- a. Any officer, director, associate, partner, limited partner, individual owner or members of the immediate family when the contributions exceed an aggregate of one thousand dollars (\$1,000) by any individual during the preceding year; or
- b. Any employee or members of his immediate family whose political contribution exceeded one thousand dollars (\$1,000) during the preceding year.

To obtain a copy of the reporting form, Contractor shall contact the Bureau of Commissions, Elections and Legislation, Division of Campaign Finance and Lobbying Disclosure, Room 210, North Office Building, Harrisburg, PA 17120.

12. Contractor shall comply with requirements of the Lobbying Disclosure Act, 65 PA.C.S. § 13A01 et seq., and the regulations promulgated pursuant to that law. Contractor employee activities prior to or outside of formal PhilaPort and Commonwealth procurement communication protocol are considered lobbying and subjects the Contractor employees to the registration and reporting requirements of the law. Actions by outside lobbyists on Contractor's behalf, no matter the procurement stage, are not exempt and must be reported.
13. When Contractor has reason to believe that any breach of ethical standards as set forth in law, the Governor's Code of Conduct, or in these provisions has occurred or may occur, including but not limited to contact by a Commonwealth officer or employee which, if acted upon, would violate such ethical standards, Contractor shall immediately notify PhilaPort contracting officer or Commonwealth Inspector General in writing.
14. Contractor, by submission of its bid or proposal and/or execution of this contract and by the submission of any bills, invoices or requests for payment pursuant to the contract, certifies and represents that it has not violated any of these contractor integrity provisions in connection with the submission of the bid or proposal, during any contract negotiations or during the term of the contract.
15. Contractor shall cooperate with the Office of Inspector General in its investigation of any alleged Commonwealth employee breach of ethical standards and any alleged Contractor non-compliance with these provisions. Contractor agrees to make indentified Contractor employees available for interviews at reasonable times and places. Contractor, upon the inquiry or request of the Office of Inspector General, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Inspector General to Contractor's integrity and compliance with these provisions. Such information may include, but shall not be limited to, Contractor's business or financial records, documents or files of any type or form that refers to or concern this contract.

16. For violation of any of these Contractor Integrity Provisions, PhilaPort may terminate this and any other contract with Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and debar and suspend Contractor from doing business with the Commonwealth. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those PhilaPort may have under law, statute, regulation, or otherwise.
17. For purposes of these Contractor Integrity Provisions, the following terms shall have the meanings found in this Paragraph 17.
- a. “Confidential information: means information that a (is not already in the public domain; b) is not available to the public upon request; c) is not or does not become generally known to Contractor from a third party without an obligation to maintain its confidentiality; d) has not become generally known to the public through act or omission of Contractor; or e) has not been independently developed by Contractor without the use of confidential information of PhilaPort or Commonwealth.
 - b. “Consent” means written permission signed by a duly authorized officer or employee of PhilaPort, provided that where the material facts have been disclosed, in writing by pre-qualification, bid, proposal or contractual terms, PhilaPort shall be deemed to have consented by virtue of execution of this contract.
 - c. “Contractor” means the individual or entity that has entered into this contract with PhilaPort, including those directors, officers, partners, managers, and owners having more than a five percent interest in Contractor.
 - d. “Financial interest” means:
 - (1) Ownership of more than a five percent interest in any business; or
 - (2) Holding a position as an officer, director, trustee, partner, employee, or holding any position of management.
 - e. “Gratuity” means tendering, giving or providing anything of more than nominal monetary value including, but not limited to, cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. The exceptions set forth in the Governor’s Code of Conduct, Executive Order 1980-18, the 4 Pa. Code § 7.153 (b), shall apply.
 - f. “Immediate family” means a spouse and any unemancipated child.
 - g. “Non-bid basis” means a contract awarded or executed by PhilaPort with Contractor without seeking bids or proposals from any other potential Bidder or offeror.

- h. “Political contribution” means any payment, gift subscription, assessment, contract, payment for services, dues, loan, forbearance, advance or deposit of money or any valuable thing, to a candidate for public office or to a political committee, including but not limited to a political action committee, made for the purpose of influencing any election in the Commonwealth of Pennsylvania or for paying debts incurred by or for a candidate or committee before or after any election.

Section 26 Product Discrimination:

A. Reciprocal Limitations Act.

1. Background Requirements of the Act. The Act (62 Pa.C.S. (2006 Supp.) §107) requires PhilaPort:

- i. In the award of contracts, exceeding \$10,000, for the erection, construction, alteration, improvement or repair of any building or public work, or the purchase or lease of any goods, supplies, equipment, printing or materials, to give resident Bidders a preference against nonresident Bidder from any state that gives or requires a preference to Bidders from that state. The amount of preference shall be equal to the amount of the preference applied by the state of the nonresident Bidder. A resident Bidder is a person, partnership or corporation or other business entity authorized to transact business within Pennsylvania and having a bona fide establishment for transacting business within Pennsylvania at which it was transacting business on the date when bids for the public contract were first solicited.
- ii. In the erection, construction, alteration, improvement or repair of any public building or other public work, and in all purchases of goods, supplies, equipment, printing or materials, not to specify, use or purchase any goods, supplies, equipment, printing or materials which are produced, manufactured, mined, grown or performed in any state that prohibits the specification for use, or purchase of such items in or on its public buildings or other works, when such items are not produced, manufactured, mined, grown or performed in such state.

2. List of Discriminating States.

- i. States which apply preference favoring in-state Bidders and the amount of such preference, (that may affect this contract), as found by the Department of General Services:

STATE	PREFERENCE
1. Arizona	5% (construction material from Arizona resident dealers only)
2. Montana	3%
3. West Virginia	2.5% for construction, repair improvement of any buildings.
4. Wyoming	5%

- ii States which prohibit the use of out-of-state goods, supplies, equipment, materials or printing and the prohibition (that may affect this contract), as found by the Department of General Services:

STATE	PREFERENCE
Georgia	Forest Products only
Indiana	Coal
New Jersey	For Bidders for the following items: major household appliances, chain link fence, portable sanitation units, glass, glazier supplies, storage batteries, carpet and cushion, shades, room air conditioning, electrical supplies, plumbing supplies, hardware supplies, fasteners, lumber, building supplies, audio-visual/video equipment, fire extinguishers, fire hose, motor oils, fuel oil, photographic supplies, Venetian blinds, drapes, paper towel dispensers, water hose
New Mexico	Construction

3. Calculation of Preference.

In calculating the preference for purposes of determining the low Bidder, the amount of a bid submitted by Commonwealth resident Bidder shall be reduced by the percentage preference which would be given to a nonresident Bidder by its state of residence. Similarly, the amount of a bid offering Pennsylvania goods, supplies, equipment, materials and printing shall be reduced by the percentage preference which would be given to another Bidder by the state where the goods, supplies, equipment, materials or printing are produced, manufactured, mined, grown or performed.

B. Trade Practices Act.

It has been the policy of the Commonwealth not to purchase any supplies, equipment or materials manufactured in any foreign country which prohibits the specification for or use of supplies, equipment or materials manufactured in Pennsylvania.

- a. Many world trading countries, directly or indirectly by statute, regulation, policy, procedure or practice, grant or bestow a preference for supplies, equipment or materials manufactured in their country, thereby discriminating against the use of supplies, equipment or materials manufactured in the Commonwealth.
- b. It is the Policy of the Commonwealth that aluminum steel products made in the United States should be purchased by all public agencies in preference to aluminum and steel

products made in foreign countries which discriminate against supplies, equipment or materials manufactured in Pennsylvania.

1. Definitions

- a. The Word “discriminates” means an act, regulation or policy of a foreign country which, directly or indirectly:
 - (i) Prevents the importation, sale or use of any supplies, materials or equipment manufactured in this Commonwealth.
 - (ii) Grants or bestows a preference, discount or other competitive advantage to supplies, materials or equipment manufactured in the foreign country, the effect whereof is to place similar supplies, materials or equipment manufactured in this Commonwealth at a competitive disadvantage;
 - (iii) Restricts the opportunities for persons having a business situs in this Commonwealth to bid on or compete for government contracts including, but not limited to, a preference for residents of the foreign country;
 - (iv) Solicits for, awards or negotiates public works contracts on a selective tender basis;
 - (v) Imposes discriminatory duties, tariffs or border taxed on the importation of supplies, materials or equipment no produced in the foreign country, the effect whereof is to place supplies, materials or equipment manufactured in this Commonwealth at a competitive disadvantage with like goods manufactured in any foreign country; and
 - (vi) Adopts or condones any other unfair method of competition in international trade including, but not limited to, the exportation of aluminum or steel products made in the foreign country through cartels or the subsidization of said products.
- b. The word “person” means natural persons, corporations, partnerships, business units and associations existing under or authorized by the laws of the United States, the laws of any territories or the laws of any state.
- c. The words “public agency” mean:
 - (i) Counties, cities, boroughs, townships, school districts and any other governmental unit or district;
 - (ii) The General State PhilaPort, the State Public School Building PhilaPort, the State Highway and Bridge PhilaPort and any other authority now in existence or hereafter created or organized by the Commonwealth;

- (iii) All municipal or school or other authorities now in existence or hereafter created or organized by any county, city, borough, township or school district or combination thereof; and
 - (iv) Any and all other public bodies, authorities, officers, agencies or instrumentalities, whether exercising a governmental or proprietary function.
- d. The words “public works” mean any structure, building, highway, waterway, street, bridge, pier, transit car or system, airport or other betterment, work or improvement whether of a permanent or temporary nature and whether for governmental or proprietary use contracted for by any public agency or financed in whole or in part by any public agency.
 - e. The words “aluminum or steel products made in a foreign country” mean aluminum or steel products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed or processed by a combination of two or more of such operations, from aluminum or steel not made in the United States.
 - f. The word “importer” means any person registered in the Commonwealth and doing business in the Commonwealth who engages in the receiving, storing, distributing or other processing of aluminum or steel products made in a foreign country; or who engages in the solicitation or acceptance of orders or contracts for the furnishing of or supplying of aluminum or steel products made in a foreign country.

In accordance with the Trade Practices Act (71 P.S. §773.101 *et seq.*) the Contractor shall not use, or permit to be used, in the Work any aluminum or steel products made in a foreign country that discriminates against aluminum or steel products manufactured in Pennsylvania. The countries of Brazil, South Korea, Spain, and Argentina have been found to discriminate against certain products manufactured in Pennsylvania. Therefore, the purchase or use of those countries’ products, as listed below, is not permitted for a project. Penalties for a violation of this paragraph may be found in the Trade Practices Act. Penalties include becoming ineligible for award of any public works contracts for a period of three years.

1. **Brazil:** Welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel products, including hot-rolled stainless steel bar; stainless steel wire rod and cold-formed stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet and cold-rolled carbon steel sheet.
2. **Spain:** Certain stainless steel products, including stainless steel wire rod, hot-rolled stainless steel bars and cold-formed stainless steel bars; pre-stressed concrete steel wire strand; certain steel products including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes, galvanized carbon steel sheet; hot-rolled carbon steel bars and cold-formed carbon steel bars.
3. **South Korea:** Welded carbon steel pipes and tubes; hot-rolled carbon steel plate and hot-rolled carbon steel sheet and galvanized steel sheet.

4. **Argentina:** Carbon steel wire rod and cold-rolled carbon steel sheet.

C. Steel Products Procurement Act.

In accordance with the Steel Products Procurement Act of March 3, 1978, P.L. 6 as amended (73 P.S. Sections 1881 et seq.), only steel products as defined in the Act shall be used or supplied in the performance of the contract or any subcontracts thereunder.

In the performance of the Contract the Contractor, subcontractors, material men or suppliers shall use only: 1) steel products, rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed by a combination of two or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process; and 2) cast iron products made in the United States.

The Contractor shall certify that all steel and cast iron products to be used or supplied in the performance of the Contract comply with this Act. No payment will be made to the Contractor for steel and cast iron products until such certification has been received.

This section shall not apply in any case where the Executive Director of PhilaPort, in writing, determines that steel and/or cast iron products as herein described are not produced in the United States in sufficient quantities to meet the Contract needs.

PhilaPort shall not provide for, or make any payments to any person who has not complied with the Act. Any such payments made by PhilaPort to anyone that should not have been made as a result of the Act shall be recoverable directly from the Contractor, subcontractor, manufacturer or supplier that did not comply with the Act.

In addition to the withholding of payments, any person who willfully violates any of the provisions of the Act shall be prohibited from submitting any bids to any public agency for a period of five (5) years from the date of the determination that a violation has occurred. In the event the person who violated the provisions of the Act is a subcontractor, manufacturer or supplier, such person shall be prohibited from performing any work or supplying any materials to a public agency for a period of five (5) years from the date of the determination that a violation has occurred.

The Contractor shall include the provisions of the Steel Products Procurement Act in every subcontract and supply contract, so that the provisions of the Act shall be binding upon each subcontractor and supplier.

Where trade names, catalog numbers and manufactures of material or equipment are specified, they are mentioned therein for the purpose of establishing a standard of quality, performance and appearance, and for establishing a standard of competitive bidding. The use of this descriptive information will not relieve the Contractor from compliance with all aspects of the Act.

Section 27 Apprenticeship Training Program Participation:

To qualify as a responsive bidder for the purposes of this bid, the Bidder must certify (1) that the Bidder (or the labor force) participates at the time of the bid submission in an approved Apprenticeship Program as defined in the General Conditions for each craft or trade of the labor force contemplated to perform the work, (2) that such Program is currently registered with the Pennsylvania Apprenticeship and Training Council and (3) that such Program has apprentices and trainees currently participating.

To qualify as a responsible contractor and to comply with contractual requirements, the awarded Contractor shall utilize labor enrolled in an approved Apprenticeship Program registered with the Pennsylvania Apprenticeship and Training Council for each craft or trade of the labor force necessary to perform the work for the full duration of the contract Work.

Section 28 Diversity Inclusion Policy and Plan:

PhilaPort has adopted a policy on diversity inclusion, set forth in Part X of the Contracting, Procurement, and Leasing Policies and Procedures, revised as of November 2015 (the “Diversity Inclusion Policy” or the “Policy”). In order to implement this Policy, PhilaPort has further adopted the “Diversity Inclusion Plan (Construction),” appearing here as Attachment “A”. Bidders must comply with the requirements of the Plan to be eligible for the award of the contract, in accordance with the provisions of Attachment “B”.

Section 29 Award of Contract:

If PhilaPort awards a Contract, it will be made to the lowest responsive, responsible Bidder within sixty (60) days from the Bid Opening Date. This 60-day period may be extended by written consent of the lowest responsible Bidder(s) or by operation of law. Notice of Award of Contract will be made by letter mailed to the Contractor and will be effective upon the date mailed. If the lowest Bidder withdraws his bid, declines to extend the bid or refuses the award of contract, PhilaPort may award the Contract to then next lowest responsive, responsible Bidder or reject all bids and re-bid the Contract. The proposed contract shall be considered awarded when both the Bidder and PhilaPort have executed the Agreement. **No contract with PhilaPort exists until the Agreement is fully executed.**

Section 30 Execution of Contract, Bond and Return of Insurance Certificates:

Within ten (10) days after receipt of the Contract, the successful Bidder, must:

- A. Sign and return the Contract to the Philadelphia Regional Port PhilaPort, 3460 N. Delaware Avenue, Philadelphia, PA 19134; and

- B.** Sign and return payment and performance bonds, on a form acceptable to PhilaPort executed by a surety company or companies qualified to do business in Pennsylvania:
- a. A performance bond at 100 percent of the contract amount, conditioned upon the faithful performance of the contract in accordance with the plans, specifications and conditions of the contract. Such bond shall be solely for the protection of PhilaPort. The performance bond shall remain in effect for at least twelve (12) months following the date of final acceptance of the Work.
 - b. A payment bond at 100 percent of the contract amount. Such bond shall be solely for the protection of claimants supplying labor or materials to the prime contractor to whom the contract was awarded, or to any of his subcontractors, in the prompt payment of all such material furnished or labor supplied or performed in the prosecution of the work. "Labor or materials" include public utility services and reasonable rentals of equipment, but only for the periods when the equipment rented is actually used at the site. ; and
- C.** Sign and return all insurance certificates required by the General and/or Special Conditions to the Contract.
- D.** As PhilaPort is an independent agency of the Commonwealth, for the purposes and within the meaning of the Act of October 15, 1980 (P.L. 950, No. 164), known as the Commonwealth Attorneys Act, all Contracts must be approved as to form and legality by the Office of the Attorney General.

Section 31 Failure to Execute Contract:

Failure or refusal of the Contractor to properly execute the Contract Documents and/or to furnish the required Bonds and/or to furnish the required insurance certificate within the 10-day time will be viewed as a refusal to accept the Award. In the event any of these documents are not returned or properly submitted, the successful Bidder shall be required to pay PhilaPort the lesser of the following amounts:

- A.** The amount of the bid guaranty, or
- B.** The difference between the amounts specified in the bid of the lowest responsible Bidder and such larger amount for which PhilaPort may enter into a contract with another party to perform the Work covered by said bid.

If the successful Bidder fails or refuses to properly execute the Contract Documents and/or to furnish the required Bonds and/or to furnish the required insurance certificates within the 10-day time, PhilaPort may award the Contract to the next lowest responsible Bidder, or reject all bids and re-bid the Contract.

Section 32 Proof of Surety's Responsibility on Contract Bond:

The surety company, which is designated by the lowest responsive, responsible Bidder for the faithful performance of the contract and prompt payment of materials, equipment and labor, shall, with his Contract Bond, furnish to PhilaPort a certificate showing that the amount of the Bond is within the limit of net retention, or evidence that appropriate reinsurance or other security has been obtained in conformance with Section 661 of the Pennsylvania Insurance Company Law of 1921 (40 P.S. § 832).

Section 33 Reinsurance:

If the surety has entered into an agreement for reinsurance under the foregoing paragraph, the bond shall be supported by a duplicate original of the reinsurance agreement. the reinsurance agreement must contain a "direct liability to insured" clause, enabling PhilaPort to maintain an action against the company reinsured jointly with the reinsurer, and upon recovering judgment against such reinsured, to have recovery against such reinsurer, for payment to the extent to which it is liable under such reinsurance and in discharge thereof.

Section 34 Veteran's Preference:

PhilaPort recommends that contractors give preference in employment on PhilaPort projects to veterans of the Armed Services of the United States of America.

Section 35 Provisions Concerning The Americans With Disabilities Act:

During the term of this contract, the Contractor agrees as follows:

- A. Pursuant to federal regulations promulgated under the authority of the Americans with Disabilities Act, 28 C.F.R. 35.202 et seq., the contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this contract or from such activities provided for under this contract. As a condition of accepting and executing this contract, the Contractor agrees to comply with the "General prohibitions Against discrimination," 28 C.F.R. 35.130, and all other regulations promulgated under Title II of the American with Disabilities Act which are applicable to the benefits, services, programs, and activities provided by PhilaPort and the Commonwealth of Pennsylvania through contracts with outside contractors.
- B. The Contractor shall be responsible for and agrees to indemnify and hold harmless PhilaPort and the Commonwealth of Pennsylvania from all losses, damages, expenses, claims, and demands, suits, and actions brought by any party against PhilaPort and or the Commonwealth of Pennsylvania as a result of the Contractor's failure to comply with the provisions of paragraph A above.

Section 36 Environmental Statement:

According to the Commonwealth Procurement Code, Act of May 15, 1998, P.L. 358, No. 57, 62 Pa.C.S. §§ 101-4509, all invitations for bids and requests for bids for construction projects issued by any government agency shall set forth any provision of Federal and State statutes, rules and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources that affect the projects.

Section 37 Applicable Laws:

The Contractor shall obey all Federal, State, County, and municipal laws and ordinances in any way pertaining to the Work and shall obtain all permits that may be necessary for his performance if required.

The Bidder is hereby specifically notified that this Project is subject to those statutes, rules and regulations shown on the following list and the Work must be carried out in compliance with these statutes, rules and regulations.

STATE LAW (Updated 6/1/07)**I. Purdon's Statutes – Title 3 (Agriculture)**

Fertilizer Act, Act of Dec. 13, 2001 (P.L. 876, No. 97 § 6701 et seq.

Soil and Plant Amendment Act, Act of Dec. 13, 2001 (P.L.876, No. 97 §1), 3 Pa.C.S.A. § 6901 et seq.

PA Pesticide Control Act of 1973, Act of March 1, 1974 (P.L. 90, No. 24), as amended, 3 P.S. 111.21 et seq.

Agricultural Liming Materials Act, Act of March 17, 1978 (P.L. 15, No.9), as amended, 3 P.S. 132-1 et seq.

The PA Plant Pest Act of 1992, Act of December 16, 1992 (P.L. 1228, No. 162 § 1), as amended, 3 P.S. 258.1 et seq.

Noxious Weed Control Law, Act of April 7, 1982 (P.L. 228, No. 74), as amended, 3 P.S. 255.1 et seq.

Conservation District Law, Act of May 15, 1945 (P.L. 547 § 1), as amended, 3 P.S. 849 et seq.

(Relating to weather modification), Act of January 19, 1968 (P.L. (1967) 1024, § 1), as amended, 3 P.S. 1101 et seq.

II. Purdon’s Statutes – Title 16 (Counties)

(Relating to land use), Act of January 13,1966 (P.L. (1965) 1292, § 1), as amended, 16 P.S. 11941 et seq.

III. Purdon’s Statutes – Title 18 (Crimes and Offenses)

The Crimes Code, Act of December 6, 1972 (P.L. 1482, No. 334), as amended, 18 Pa. C.S.A. 101 et seq.

IV. Purdon’s Statutes – Title 24 (Education)

Public School Code of 1949, Act of March 10, 1949 (P.L. 30, art VII, § 741), as amended,24 P.S. 7-731 et seq.

V. Purdon’s Statutes – Title 30 (Fish)

The Fish and boat Code, Act of October 16, 1980 (P.L. 996, No. 175), as amended, 30 Pa. C.S.A. 101 et seq.

VI. Purdon’s Statutes – Title 32 (Forests, Waters and State Parks)

(Relating to water power and water supply permits), Act of June 14, 1923 (P.L. 704, § 1), as amended, 32 P.S. 591 et seq.

Water Well Drillers License Act, Act of May 29, 1956 (P.L. (1955) 1840, § 1), as amended, 32 P.S. 645.1 et seq.

(Relating to Flood Control), Act of August 7, 1936 (P.L. 106, 1st Ex. Sess., No. 46) as amended, 32 P.S. 653 et seq.

Flood Plain Management Act, Act of October 4, 1978 (P.L. 851, No. 166) , as amended 32 P.S. 679.101 et seq.

Storm Water Management Act, Act of October 4, 1978 (P.L. 864, No. 167), as amended, 32 P.S. 680.1 et seq.

Dam Safety and Encroachments Act, Act of November 26, 1978 (P.L. 1375, No. 325), as amended, 32 P.S. 693.1 et seq.

(Relating to Stream Clearance), Act of June 5, 1947 (P.L. 422, § 1), as amended, 32 P.S. 701 et seq.

(Relating to Potomac River Pollution), Act of May 29, 1945 (P.L. 1134 § 1), as amended, 32 P.S. 741 et seq. Repealed in Part. Section 4 of Act 1981, May 1, P.L. 22 No.9, repeals this section to “the extent it required one of the members of the Interstate Commission on the

Potomac River Basin to be a member of the Pennsylvania Commission on Interstate Cooperation.”

(Relating to Schuylkill River Pollution), Act of June 4, 1945 (P.L. 1383, § 1), as amended, 32 P.S. 751.1 et seq.

(Relating to Delaware River Pollution), Act of April 19, 1945 (P.L. 272, § 1) as amended, 32 P.S. 815.31 et seq.

Delaware River Basin Compact, Act of July 7, 1961 (P.L. 518, §§ 1 to 3), as amended, 32 P.S. 815.101 et seq.

Ohio River Valley Water Sanitation Compact, Act of April 2, 1945 (P.L. 103 § 1), as amended, 32 P.S. 816.1 et seq.

Great Lakes Basin Compact, Act of March 22, 1956 (P.L. (1955) 1333, § 1), as amended, 32 P.S. 817.1 et seq.

Brandywine River Valley Compact, Act of September 9, 1959 (P.L. 848, § 1), as amended, 32 P.S. 818 et seq.

Wheeling Creek Watershed Protection and Flood Prevention District Compact, Act of August 2, 1967 (P.L. 189, § 1), as amended, 32 P.S. 819.1 et seq.

Chesapeake Bay Commission Agreement, Act of June 25, 1985 (P.L. 64, No. 25), as amended, 32 P.S. 820.11 et seq.

Relating to Preservation and Acquisition of Land for Open Space uses), Act of January 19, 1968 (P.L. (1967) 992, § 1), as amended, 32 P.S. 5001 et seq.

Land and Water Conservation and Reclamation Act, Act of January 19, 1968 (P.L. (1967) 996, § 2), as amended, 32 P.S. 5101 et seq.

Bluff Recession and Setback Act, Act of May 13, 1980 (P.L. 122, No. 48), as amended, 32 P.S. 5201 et seq.

Wild Resource Conservation Act, Act of June 23, 1982 (P.L. 597, No. 170), as amended, 32 P.S. 5301 et seq.

VII. Purdon’s Statutes – Title 34 (Game)

The game and Wildlife Code, Act of July 8, 1986 (P.L. 442, No. 93) as amended, 34 Pa. C.S.A. 101 et seq.

VIII. Purdon’s Statutes – Title 35 (Health and Safety)

(Related to public eating and drinking places), Act of May 23, 1945 (P.L. 926, § 1), as amended, 35 P.S. 655.1 et seq. Repealed in Part. Section 6(b) of Act 1994, Dec. 12, P.L. 903, No. 131, repealed this section in so far as it is inconsistent with said act (3 Pa. C.S.A. § 6501 et seq.

The Public Bathing Law, Act of June 23, 1931 (P.L. 899 § 1), as amended, 35 P.S. 672 et seq. (Related to the protection of public water supply), Act of June 22, 1937 (P.L. 1987, art. 1, § 1), as amended, 35 P.S. 691.1 et seq.

PA Safe Drinking Water Act, Act of May 1, 1984 (P.L. 206, No. 43), as amended, 35 P.S. 721.1 et seq.

PA Sewage Facilities Act, Act of January 24, 1966 (P.L. (1965) 1535 § 1), as amended, 35 P.S. 750.1 et seq. Repealed in Part. Section 15 of Act 1990, July 1, P.L. 277, No. 67, repealed this section insofar as it related to fee payments.

PA Solid Waste- Resource Recovery Development Act, Act of July 20, 1974 (P.L. 572, No. 198), as amended, 35 P.S. 755.1 et seq. (Related to Pollution from abandoned mines), Act of December 15, 1965 (P.L. 1075, § 1), as amended, 35 P.S. 760.1 et seq.

Low Level Radioactive Waste Disposal Act, Act of February 9, 1988 (P.L. 31, No. 12, § 101), as amended, 35 P.S. 7130.101 et seq.

(Related to Camp Regulation), Act of November 10, 1959 (P.L. 1400 § 1), as amended 35 P.S. 3001 et seq.

Air pollution Act, Act of January 8, 1960 (P.L. (1959) 2119, § 1), as amended, 35 P.S. 4001 et seq.

Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), as amended, 35 P.S. 6018.101 et seq. Repealed in Part. Section 905(b) of Act 1988, Feb. 9, P.L. 31 No. 12, § 101, the Low-Level Radioactive Waste Disposal Act (35 P.S. § 7130.101 et seq.), repealed this section insofar as it is inconsistent with said act.

Radiation Protection Act, Act of July 10, 1984 (P.L. 688, No. 147, § 101), as amended, 35 P.S. 7110.101 et seq. Repealed in Part. Section 17(b) of Act 1992, Dec. 18, P.L. 1638, No. 180, provides that this section is repealed insofar as it is inconsistent with said act.

Worker and Community Right-to-Know Act, Act of October 5, 1984 (P.L. 734, No. 159), as amended, 35 P.S. 7301 et seq.

IX. Purdon's Statutes – Title 36 (Highways and Bridges)

State Highway Law, Act of June 1, 1945(P.L. 1242 art. I, § 101), as amended, 36 P.S. 670-101 et seq. Repealed in Part. Section 4 of Act 1985, July 3, P.L. 159, No. 43 repealed this act

insofar as it is inconsistent with said act.

(Related to Junkyards along Highways), Act of July 28, 1966 (P.L. 91, § 1, Sp. Sess.), as amended, 36 P.s. 2719.1 et seq.

Highway Vegetation Control Act, Act of December 20, 1983 (P.L. 293, No. 79), as amended, 36 P.S.2720.1 et seq.

X. Purdon's Statutes – Title 37 Appendix (Historical & Museums)

History Code, Act of May 26, 1988 (P.L. 414, No. 72 § 1), as amended, 37 Ps.C.S.A. 101 et seq.

XI. Purdon's Statutes – Title 43 (Labor)

Related to General Safety), Act of May 18, 1937 (P.L. 654, § 1) as amended, 43 P.S. 25-1 et seq.

Seasonal Farm Labor Act, Act of June 23, 1978 (P.L. 537, No. 93, § 101), as amended, 43 P.S. 1301.101 et seq.

XII. Purdon's Statutes – Title 52 (Mines and Mining)

The Coal Min Sealing Act of 1947, Act of June 30, 1947 (P.L. 1177, § 1) as amended, 52 P.S. 28.1 et seq.

Coal Refuse Disposal Control Act, Act of September 24, 1968 (P.L. 1040, No. 318, § 1), as amended, 52 P.S. 30.51 et seq.

(Related to Coal Land Improvements), Act of July 19, 1965 (P.L. 216, No. 117 § 1), as amended, 52 P.S. 30.101 et seq.

(Related to Mine Fires and Subsidence), Act of April 3, 1968 (P.L. 92, No. 42, § 1), as amended, 52 P.S. 30.201 et seq.

PA Anthracite Coal Mine Act, Act of November 10, 1965 (P.L. 721, No. 346, art. I, § 101), as amended, 52 P.S. 70-101 et seq.

(Related to discharge of coal into streams), Act of June 27, 1913 (P.L. 640, § 1), as amended, 52 P.S. 631 et seq.

(Related to Caving-in, Collapse, Subsidence), Act of May 27, 1921 (P.L. 1198, § 1), as amended, 52 P.S. 661 et seq.

(Related to Subsidence), Act of September 20, 1961 (P.L. 1538, § 1), as amended, 52 P.S. 672.1 et seq.

Anthracite Strip Mining and Conservation Act, Act of June 27, 1947 (P.L. 1095, § 2), as amended, 52 P.S. 681.1 et seq. Repealed in Part. Section 16 of Act 1971, Nov. 30, P.L. 554,

No. 147, provided that this section repealed insofar as it is inconsistent with Act No. 147.

(Related to control and drainage of water from coal formations), Act of July 7, 1955 (P.L. 258 § 1), as amended, 52 P.S. 682 et seq.

PA Bituminous Coal Mine Act, Act of July 17, 1961 (P.L. 659, art, I, § 101), as amended, 52 P.S. 701-101 et seq.

(Related to Abandoned Mines), Act of May 7, 1935 (P.L. 141 § 1), as amended, 52 P.S. 809 et seq.

(Related to maps and plans of mines), Act of June 15, 1911 (P.L. 954, § 1), as amended, 52 P.S. 823.

Surface Mining Conservation and Reclamation Act, Act of May 31, 1945 (P.L. 1198, § 1), as amended, 52 P.S. 1396.1 et seq. Repealed in Part. Section 27 of Act 1984, Dec. 19, P.L. 1093, No. 219, provides that, except as provided in § 3304 of this title, this section “is repealed to the extent that it applies to the surface mining of minerals other than bituminous and anthracite coal.”

The Bituminous Mine Subsidence and Land Conservation Act, Act of April 27, 1966 (P.L. 31, 1st Sp.Sess., § 1), as amended, 52 P.S. 1406.1 et seq.

(Related to cave-in or subsidence of surface above mines), Act of July 2, 1937 (P.L. 2787, § 1), as amended, 52 P.S. 1407 et seq.

(Related to Coal Stripping), Act of June 18, 1941 (P.L. 133 § 1), as amended, 52 P.S. 1471 et seq.

(Related to Coal under State Lands), Act of June 1, 1933 (P.L. 1409, § 1), as amended, 52 P.S. 1501 et seq.

(Related to Mining Safety Zones), Act of December 22, 1959 (P.L. 1994, § 1), as amended, 52 P.S. 3101 et seq.

(Related to Coal Mine Subsidence Insurance Fund), Act of August 23, 1961 (P.L. 1068 § 1), as amended, 52 P.S. 3201 et seq.

Interstate Mining Compact, Act of May 5, 1966 (P.L. 40, Sp. Sess. No. 1, § 1), as amended, 52 P.S. 3251 et seq.

Noncoal Surface Mining Conservation and Reclamation Act, Act of December 19, 1984 (P.L. 1093, No. 219, § 1), as amended, 52 P.S. 3301 et seq.

XIII. Purdon’s Statutes – Title 58 (Oil and Gas)

Oil and Gas Conservation Law, Act of July 25, 1961 (P.L. 825, § 1), as amended, 58 P.S. 401

et seq.

PA Used Oil Recycling Act, Act of April 9, 1982 (P.L. 314, No. 89), as amended, 58 P.S. 471 et seq.

Coal and Gas Resource Coordination Act, Act of December 18, 1984 (P.L. 1069, No. 214), as amended, 58 P.S. 501 et seq.

Oil and Gas Act, Act of December 19, 1984 (P.L. 1140, No 223, § 101), as amended, 58 P.S. 601.101 et seq. Repealed in Part. Section 4 of Act 1985, July 11, P.L. 232, No. 57, repealed this act insofar as it is inconsistent with said act.

XIV. Purdon's Statutes Title 63 (Professions and Occupations)

Sewage Treatment Plant and Waterworks Operators' Certification Act, Act of November 18, 1968 (P.L. 1052, No. 322, § 1), as amended, 63 P.S. 1001 et seq.

XV. Purdon's Statutes – Title 64 (Public Lands)

PA Appalachian Trail Act, Act of April 28, 1978 (P.L. 87 No. 41 § 1), as amended, 64 P.S. 801 et seq.

XVI. Purdon's Statutes – Title 71 (State Government)

The Administrative Code of 1929, Act of April 9, 1929 (P.L. 177, art. I, § 1), as amended, 71 P.S. 51 et seq.

XVII. Purdon's Statutes – title 72 (Taxation and Fiscal Affairs)

Project 70 Land Acquisition and Borrowing Act, Act of June 22, 1964 (P.L. 131, Sp. Sess., No.8, § 1), as amended, 72 P.S. 3946.1 et seq.

(Related to Pollution control services), Act of March 4, 1971 (P.L. 6, No. 2 § 602.1, added 1971, Aug. 31, P.L. 362, No. 93 § 6), as amended, 72 P.S. 7602.1 et seq.

Purdon's Statutes – Title 73 (Trade and Commerce)

Infrastructure Development Act, Act of July 11, 1996 (P.L. 677, No. 116 § 1), as amended, 73 P.S. 393.21 et seq.

(Related to Explosives), Act of July 1, 1937 (P.L. 2681, § 1), as amended, 73 P.S. 151 et seq.; Suspended in Part. This section is suspended insofar as it is in conflict with the provisions of Reorganization Plan No. 8 of 1981. See 71 P.S. § 751-35.

(Related to Explosives), Act of July 10, 1957 (P.L. 685, § 1), as amended, 73 P.S. 164 et seq. Suspended in Part. Section 164 is suspended insofar as it is in conflict with the provisions of

Reorganization Plan No. 8 of 1981. See 71 P.S. 751-35.

(Related to Black Powder), Act of May 31, 1974 (P.L. 304, No. 96 § 1) 73 P.S. 169 et seq.

(Related to excavation and demolition), Act of December 10, 1974 (P.L. 852, No. 287, § 1), as amended, 73 P.S. 176 et seq.

XVIII. Purdon's Statutes – Title 75 (Vehicles)

Vehicle Code, Act of June 17, 1976 (P.L. 162 No. 81 § 1), as amended, 75 Ps. C.S.A. 101 et seq.

Snowmobile Law, Act of June 17, 1976 (P.L. 162, No. 81§ 1), as amended, 75 Pa. C.S.A. 7701 et seq.

(Related to hazardous materials transport), Act of June 30, 1984 (P.L. 473, No. 99 § 4), 75 Pa. C.S.A. 8301 et seq.

XX. Purdon's Statutes – Title 77 (Workmen's Compensation)

Worker's Compensation Act, Act of June 2, 1915 (P.L. 736, art. 1, § 101), as amended, 77 P.S. 1 et seq.

PA Occupational Disease Act, Act of June 21, 1939 (P.L. 566, No. 284, § 101), as amended, 77 P.S. 1201 et seq.

XXI. Other Statutes

(Relating to Medical Waste-Manifesting and Transporter Licensing), Act of July 13, 1988 (P.L. 525, No. 93§ 1), 35 P.S. § 6019.1 et seq.

Municipal Waste Planning, Recycling and Waste Reduction Act, Act of July 28, 1988 (P.L. 556, No. 101§ 1501), 53 P.S. § 4000.1501.

Hazardous Sites Cleanup Act, Act of October 18, 1988 (P.L. 756, No. 108 § 101), 35 P.S. § 6020.101.

XXII. Pennsylvania Constitution – Article I, Section 27 (Adopted May 18, 1971)

FEDERAL LAW

Acid Precipitation Act of 1980 (42 U.S.C. 8901-8912).

Act to Prevent Pollution from Ships (33 U.S.C. 1901-1915).

Americans with Disabilities Act, (42 U.S.C. 121011-12213 and 42 U.S.C. 225 and 611).

Asbestos Hazard Emergency Response Act of 1986 [see Toxic Substances Control Act secs. 201-214 (15 U.S.C. 2641-2656)]

Atomic Energy Act of 1954 (42 U.S.C. 2014, 2021, 2021a, 2022, 2111, 2113, 2114).

Aviation Safety and Noise Abatement Act of 1979 (49 U.S.C. 47501-47510).

Clean Air Act (42 U.S.C. 7401-7642).

Clean Water Act [see Federal Water Pollution Control Act].

Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1466).

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601-9675).

Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001-11050).

Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. 791-798).

Environmental Quality Improvement Act of 1970 (42 U.S.C. 4371-4375).

Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136-136y).

Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701-1784).

Federal Water Pollution Control Act (33 U.S.C. 1251-1387).

Geothermal Energy Research, Development, and Demonstration Act of 1974 (30 U.S.C. 1101-1164).

Global Climate Protection Act of 1987 (15 U.S.C. 2901 note).

Hazardous Substance Response Revenue Act of 1980 (see 26 U.S.C. 4611, 4612, 4661, 4662).

Low-level Radioactive Waste Policy Act (42 U.S.C. 2021b-2021d).

Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401-1445)

National Climate Program Act (15 U.S.C. 2901-2908).

National Environmental Policy Act of 1969 (42 U.S.C. 4321-4370f).

Noise Control Act of 1972 (42 U.S.C. 4901-4918).

Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101-10270).

Outer Continental Shelf Land Act Amendments of 1978 (43 U.S.C. 1801-1866).

Public Health Service Act (42 U.S.C. 300f-300j-11).

Safe Drinking Water Act [see Public Health Services Act secs. 1401-1451 (42 U.S.C. 300f-300j-26).]

Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001-2009).

Solid Waste Disposal Act (42 U.S.C. 6901-6991i).

Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201-1328).

Toxic Substances Control Act (15 U.S.C. 2601-2692).

Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7901-7942).

Water Resources Research Act of 1984 (42 U.S.C. 10301-10309).

Section 38. Prevailing Wage:

Pennsylvania Prevailing Wage Act 442: All employees performing work on the site under this contract shall be paid at least the applicable prevailing wages for the respective occupation classifications designated, as set forth in the minimum wage schedule attached, for the applicable part of the specification. The Contractor shall post the general prevailing minimum wage rates for each craft and classification involved, as determined by the secretary, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the work, or at such place or places as are used by them to pay workmen their wages. The Prevailing Minimum Wage Predetermination, if applicable to the project, is a separate section of these Contract Documents, attached hereto and made a part hereof.

1. The general prevailing minimum wage rates including contributions for employees benefits as shall have been determined by the Secretary of Labor and Industry which must be paid to the workman employed in the performance of the Contract are included in this Project Manual.

The Contract shall specifically provide that the Contractor shall pay no less than the wage rates as determined in the decision of the Secretary of Labor and Industry and shall comply with the conditions of the Pennsylvania Prevailing Wage Act approved August 15, 1961 (Act No. 442), as amended August 9, 1963, (Act No. 342), and the Regulations issued pursuant thereto, to assure the full and proper payment of said rates.

2. The Contract shall contain the stipulation that such workmen shall be paid no less than

such general prevailing minimum wage rates and such other provisions to assure payment thereof as heretofore set forth in this Section.

3. The Contract provisions shall apply to all work performed on the contract by the Contractor and to all work performed on the contract by all Subcontractors.

4. The Contractor shall insert in each of their subcontracts all of the stipulations contained in these required provisions and such other stipulations as may be required.

5. The Contract shall provide that no workmen may be employed on the public work except in accordance with the classifications set forth in the decisions of the Secretary of Labor and Industry. In the event that additional or different classifications are necessary the procedure set forth in Section 7 of these Regulations shall be followed.

6. The Contract shall provide that all workmen employed or working on the public work shall be paid unconditionally, regardless of whether any contractual relationship exists or the nature of any contractual relations which may be alleged to exist between any Contractor, Subcontractor and workmen, not less than once a week without deduction or rebate, on any account, whether directly or indirectly, except authorized deductions, the full amounts due at the time of payment, computed at the rates applicable to the time worked in the contract, the Act, or these Regulations shall prohibit the payment of more than the general prevailing minimum wage rates as determined by the Secretary to any workman on the public work.

7. The Contract shall provide that the Contractor and each Subcontractor shall post for the entire period of construction the wage determination decisions of the Secretary of Labor and Industry, including the effective date of any changes thereof, in a prominent and easily accessible place or places used by them to pay workmen their wages. The posted notices of wage rates must contain the following information:

- a. Name of project.
- b. Name of public Bid of which it is being constructed.
- c. The crafts and classifications of workmen listed in the Secretary's general prevailing minimum wage rate determination for the particular project.
- d. The general prevailing minimum wage rates determined for each craft and classification and the effective date of any changes.
- e. The statement advising workmen that if they have been paid less than the general prevailing minimum wage rate for their job classification or that the Contractor and/or Subcontractor are not complying with the Act or these Regulations in any manner whatsoever, they may file a protest in writing with the Secretary of Labor and Industry within three (3) months of the date of the occurrence, objecting to the payment to any Contractor to the extent of the amount or amounts due or to become due to them as wages for work performed on the public work project. Any workmen paid less than the rate specified in the contract shall have civil right of action for the difference between the wage paid and the wages stipulated in the contract, which right of action must be exercised within six (6) months from the occurrence of the event creating such right.

8. The Contract shall provide that the Contractor and all Subcontractors shall keep an accurate

record showing the name, craft and/or classification, number of hours worked per day and the actual hourly rate of wage paid (including employee benefits) to each workman employed by them in connection with the public work and such record must include any deductions from each workman. The record shall be preserved for two years from the date of payment and shall be open at all reasonable hours to the inspection of the public body awarding the contract and to the Secretary of Labor and Industry or his duly authorized representatives.

9. The Contract shall provide that apprentices shall be limited to such members as shall be in accordance with a bona fide apprenticeship program registered with and approved by the Pennsylvania Apprenticeship and Training Council and only apprentices whose training and employment are in full compliance with the provisions of the Apprenticeship and Training Act approved July 14, 1961 (Act No. 304) and the Rules and Regulations issued pursuant thereto shall be employed on the public work project. Any workman using the tools of a craft who does not qualify as an apprentice within the provisions of this subsection shall be paid the rate predetermined for journeyman in that particular craft and/or classification.

10. Wages shall be paid without any deductions except authorized deductions. Employers not parties to a contract requiring contributions for employee benefits which the Secretary of Labor and Industry has determined to be included in the general prevailing minimum wage rate shall pay the monetary equivalent thereof directly to the workman.

11. Payment of compensation to workmen for work performed on public work on a lump sum basis, or a piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the Act and these Regulations, regardless of the average hourly earnings resulting therefrom.

12. The Contract shall also provide that each Contractor and each Subcontractor shall file a notarized statement each week and a final statement at the conclusion of the work on the contract with PhilaPort, under oath, and in form satisfactory to the Secretary of Labor and Industry, certifying that all workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by this Section 3 of these Regulations, or if any wages remain unpaid to set forth the amount of wages due and owing to each workman respectively. Classification of workman used on the certified payroll form shall exactly match the classifications put forth by the Department of Labor and Industry in their prevailing wage determination for the project.

13. The provisions of the Act and these Regulations shall be incorporated by reference in the contract.

39. Non-Discriminating Provision:

A. The Contractor agrees that he will comply with the provisions of the Pennsylvania Human Relations Act in providing equal employment opportunities in connection with all work performed by him at the job site pursuant to this contract.

The Contractor, therefore, agrees:

1. The Contractor will not discriminate or permit discrimination by his agents, servants or employees against any employee or applicant for employment with record to hiring, tenure of employment, promotion, terms, conditions or privileges of employment at the job site covered by this contract, because of race, color, religion, age or national origin, and will take such affirmative action as in hereinafter set forth to prevent same.

2. The Contractor will, in all publications or advertisements for employees to work at the job site covered by this contract, placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, age or national origin.

3. The Contractor will send to each labor union or representative of the workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Pennsylvania Human Relations Commission, advising the said labor union or workers representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to his employees and applicants for employment.

4. The Contractor shall supply the Owner with a periodic report, called a "Compliance Report", relating to work performed at the job site under this contract as may be required by the Pennsylvania Human Relations Commission. The Commission shall at all times have access to the employment records of said Contractor for purposes of investigation to ascertain compliance with rules, regulations, and orders of the Pennsylvania Human Relations Commission, relating to discrimination.

5. The Contractor shall insert the provisions of subsection c-1, 2, 3 and 4 of the above in all subcontracts which are entered into by the Contractor under this contract requiring work to be done at the job site, as covenants to be binding upon such Subcontractors.

6. Compliance by the Contractor with subsections c-1, 2, 3, 4 and 5, above shall discharge the Contractor from liability hereunder, relating to non-discriminatory provisions of this agreement.

7. The Liability of the Subcontractor: The Subcontractor of the Contractor under subsection c-5 above shall have the same responsibilities and obligations as the Contractor to comply with the provisions of subsections c-1, 2, 3, 4 and 5 thereof, and shall be subject to the applicable penalties for failure to comply as hereinafter set forth in subsection c-8 hereinafter.

8. Penalties for failure to comply: It is hereby agreed that the failure to comply with the foregoing requirements shall constitute a substantial breach of this contract.

B. In the event the Pennsylvania Human Relations Commission, after investigation and hearing, shall determine that the Contractor or Subcontractor, as the case may be, has failed to comply with any of the provisions of subsections c-1, 2, 3, 4, 5 and 6 hereof, the Commission in addition to issuing any order it deems appropriate pursuant to Section 9 of the Pennsylvania Human Relations Act, shall certify such findings to the Owner with a recommendation for termination of the contract or subcontract, as the case may be, or with a recommendation that such Contractor or Subcontractor be declared ineligible for any further public works contracts or subcontracts for a period of not more than two years from the date of such recommendations.

C. Should the Owner adopt the recommendation to direct the Contractor to terminate a subcontract entered into by the Contractor under this contract, written notice of this fact shall be given to the Contractor by registered mail addressed to the Contractor registered office in Pennsylvania, and it shall then be the obligation of the Contractor to terminate such subcontract pursuant to said written notice.

D. Should the Owner adopt the recommendation to declare the Contractor or Subcontractor, as the case may be, ineligible for further public works contracts or subcontracts, written notice of this fact and of the duration of such period of ineligibility shall be given to the Contractor or Subcontractor by registered mail addressed to the Contractor or Subcontractor registered office in Pennsylvania.

E. From any order of the Pennsylvania Human Relations Commission, the Contractor or Subcontractor, as the case may be, shall have a right of appeal as in other cases provided by law, and the Owner shall not act upon the recommendation of the Commission specified in subsection 8 above until the Contractor or Subcontractor has exhausted the right-to-appeal provided by law, or the time for such appeal shall have expired.

Attachment “A”

See Part 3 of Bid Document for Diversity and Inclusion Plan for Construction

Attachment “B”

See Part 3 of Bid Document for Minimum Participation Levels for this Project

PART 2

BID FORM

I. Monetary Section:

The undersigned, _____ (“Bidder”), having familiarized himself with the local conditions affecting the cost of the Work and with the Bidding and Contract Documents, including (A) this Bid Form, which includes (i) the Monetary Section, (ii) the Bidder Responsiveness Section, (iii) the Bidder Responsibility Section, (iv) the Project Point of Contact Section, (v) the Acknowledgment of Disclaimers Section and (vi) the Representation and Authorization Section, (B) the Instructions to Bidders, (C) the Diversity Inclusion Plan Forms, (D) General Conditions and Grant Flow Down Requirements, and (E) the Plans and Specifications, hereby proposes to perform the Work, and to provide and furnish all labor, material, necessary tools, equipment, and all utility and transportation services necessary to perform and complete in a workmanlike manner all of the Work required to be performed within (see performance period below), counting from the date of notice to proceed, for the following prices:

PERIOD OF PERFORMANCE:

H-7 (South crane):

Substantial Completion NTP + 430 calendar days

Final Completion NTP + 440 calendar days

H-6 (North Crane):

Substantial Completion NTP + 450 calendar days

Final Completion NTP + 460 calendar days

BID FORM PROVIDED ON FOLLOWING PAGE:

Item No.	Item Description	Unit	Units	One (1) Crane	Two Cranes (2) Crane
BASE BID				Written in Numbers	Written in Numbers
001	-All material, labor, and equipment necessary to perform the work identified in the Contract Documents. -Shall consider the Specification and shall consider all Drawings.	1	Lump Sum	\$	\$

Item No.	Item Description	Unit	Units	Unit Price Written In Numbers
GUP-001	Furnish of 13.2KV Cable Reel and Cable (Section 8), One (1) Crane	Lump Sum	1	\$
GUP-002	Furnish of MV Switchgear, MSW (Section 10), One (1) Crane	Lump Sum	1	\$
GUP-003	Furnish of 13.2KV/460V Transformer, DSW (Section 11), One (1) Crane	Lump Sum	1	\$
GUP-004	Furnish of 13.2KV/480V Auxiliary Transformer, ASW (Section 12), One (1) Crane	Lump Sum	1	\$
GUP-005	Furnish and install 12" Cable tray B-Line 368-SS6-09-12-144	12ft Section	Each	\$
GUP-006	Furnish and install 18" Cable tray B-Line 368-SS6-09-18-144	12ft Section	Each	\$
GUP-007	Furnish and install 3" Rigid Galv. Steel conduit	10ft section	Each	\$
GUP-008	Furnish and install 2" Rigid Galv. Steel conduit	10ft section	Each	\$
GUP-009	Furnish and install 1" Rigid Galv. Steel conduit	10ft section	Each	\$
GUP-010	Furnish and install ¾" Rigid Galv. Steel conduit	10ft section	Each	\$
GUP-011	Furnish and install Fiber, 12 strand multi-mode with terminations on both ends	250ft Length	Each	\$
GUP-012	Furnish and install Cable – 3/C # 10 with ground Southwire 45109	150ft Length	Each	\$
GUP-013	Furnish and install Cable – 3/C # 12 with ground Southwire 45109	150ft Length	Each	\$
GUP-014	Furnish and install Cable – 7/C # 14 with overall shield Southwire 45158	300ft Length	Each	\$
GUP-015	Furnish and install Cable – 4 pair shielded # 18 Beldon 1476A	300ft Length	Each	\$

* Provide the name of the 13.2KV Cable Reel Manufacturer: _____

NOTE: BIDS WILL BE EVALUATED BASED ON THE BASE BID ITEM #001 ONLY.

II. Bidder Responsiveness Section:

- A. The Bidder certifies to the best of his knowledge, information and belief that:
- i. That for the Bidder and his Subcontractors required to be disclosed or approved by PhilaPort, and as of the date of its execution of this Bid, neither the Bidder, nor any such Subcontractors, are under suspension or debarment by the Commonwealth or any governmental entity, instrumentality, or authority and, if the Bidder cannot so certify, then it agrees to submit, along with its Bid, a written explanation of why such certification cannot be made and why the Contract should nonetheless be awarded to Bidder.
 - ii. That as of the date of its execution of this Bid, the Bidder has no tax liabilities or other Commonwealth obligations, or has filed a timely administrative or judicial appeal if such liabilities or obligations exist, or is subject to a duly approved deferred payment plan if such liabilities exist.
 - iii. That the Bidder possesses all required business, contracting and trade licenses required to perform the Work.
 - iv. That the Bidder possesses all the technical qualifications and resources, including equipment, personnel and financial resources, to perform the Work.
 - v. (1) That the Bidder (and the labor force) participates at the time of bid submission in an approved Apprenticeship Program as defined in the General Conditions for each craft or trade of the labor force contemplated to perform the work, (2) that such Program is currently registered with the Pennsylvania Apprenticeship and Training Council and (3) that such Program has apprentices and trainees currently participating.
 - vi. That the information provided in connection with PhilaPort's Diversity Inclusion Plan Forms is accurate and the mandatory information on form is filled out completely.
- B. The bidder acknowledges by submission of this bid, that the Bidder shall perform on the site and with his own organization at least twenty percent (20%) of the total amount of Work to be performed under this contract, exclusive of profit, overhead and the costs of procuring insurance and bonds. The bidder shall submit with his bid a complete description of the work that will be performed (e.g., earthwork, paving, brickwork, roofing, etc.), the percentage of the total work this represents, and the estimated dollar value thereof, as set forth below:
-

The Bidder shall perform the following Work:

Percentage of Work to be performed by my organization _____%

Estimate cost of Work to be performed by my organization

\$ _____

III. Bidder Responsibility Section:

A. The Bidder certifies that:

- i. He has a satisfactory record of past contract performance and past law compliance that demonstrates a solid history of both technical competency and business integrity sufficient to justify receiving a Port PhilaPort contract; and
- ii. He currently possesses all qualifications, skills, resources, equipment personnel, financial resources and other required performance capabilities needed to successfully complete the prospective contract it is seeking to perform; and
- iii. He will comply with all relevant security requirements;
- iv. He will have sufficient workforce that possess Transportation Worker Identification Credentials to gain access and properly perform the Work by the date of Notice to Proceed with the Work.
- v. He will utilize labor enrolled in approved Apprenticeship Programs as defined in the General Conditions for the full duration of the contract Work.

B. The Bidder certifies the following responses to the questions posed to assist PhilaPort in its determination of Bidder Responsibility:

1. Has the Bidder been suspended and/or debarred or voluntarily agreed not to bid as a result of an action by any federal, state or local government agency or authority in the past three years?

Yes No

2. Has any officer, director, owner or managerial employee of the Bidder been convicted of a felony relating to construction, maintenance, service or repair contracting industries?

Yes No

3. Has the Bidder defaulted on any project in the past three years?

Yes No

4. Has the Bidder had any type of business, contracting or trade license revoked or suspended by any government agency or authority in the past three (3) years?

Yes No

5. Has the Bidder been found in violation of any other law relating to its contracting business, including, but not limited to antitrust laws, licensing laws, tax laws, wage or hour laws, environmental or safety* laws, by a final decision of a court or government agency authority in the past three (3) years?

Yes No

*For purposes of this question, violations of safety laws may be limited to serious or willful safety violations.

6. Has the Bidder been the subject of voluntary or involuntary bankruptcy proceedings at any time in the past three years?

Yes No

C. Bidder's Vendor Data Management Unit Number is: _____

IV. Bidder's Point of Contact Section:

Contact Information for the Bidder on this project (for purposes of affirming bid price, issuing notice to proceed, insurance information, diversity information, etc.):

Name: _____

Title: _____

Phone: _____

Email: _____

V. Acknowledgment and Disclaimers Section:

It is understood that the right is reserved by PhilaPort to reject any or all bids and to waive any informalities in the Bid, as may be provided in the Instructions to Bidders.

Submission of false or misleading information or statements in connection with this Certification shall render the Bidder ineligible to perform work for PhilaPort and/or shall be considered a material breach of any contract entered and entitle PhilaPort to all applicable remedies available at law or in equity.

Further, in the event Contractor fails to gain entry or cannot perform Work due to noncompliance, the Authority reserves the right to provide escorts to be billed to the Contractor with no increase in cost under the contract or terminate the contract for failure to perform.

VI. Representation and Authorization Section:

By making this Bid, Bidder understands, represents, acknowledges and certifies:

- a) That the foregoing representations regarding the past performance and present qualifications of the undersigned Bidder are true and correct;
- b) The Bidder has read and understands the terms and conditions of the Invitation for Bids and this Bid is made in accordance with those terms and conditions;
- c) The item(s) offered in the Bid will be in conformance with the specifications referenced in the Instructions for Bids without exceptions;
- d) The price(s) and amount of the Bid have been arrived at independently and without consultation, communication, or agreement with any other contractor, bidder or potential bidder;
- e) Neither the price(s) nor the amount of the Bid, and neither the approximate price(s) nor the approximate amount of the bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed prior to the bid opening;
- f) No attempt has been made or will be made to induce any firm or person to refrain from bidding on the contract, or to submit a bid higher than the bid, or to submit an intentionally high or noncompetitive bid or other form of complementary bid;

- g) The Bid is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid;
- h) This bid has been completed by an authorized representative of the Bidder that the sufficient knowledge and information to address all matter addressed herein;
- i) If an award is made to the Bidder, the Bidder agrees that it intends to be legally bound to the contract that is formed between PhilaPort and the Bidder; and
- j) If an award is made to the Bidder, the Bidder will enter into and execute a contract based upon this bid, without delay, upon notice of award of contract, and will not withdraw this bid in accordance with the Instructions to Bidders and Applicable Law.

[Signature pages to follow; select the page that is appropriate to your form of business organization.]

[SIGNATURE PAGE FOR INDIVIDUAL BIDDER]

Name of Bidder (Printed)

Signature of Individual

Trading and doing business as:

Business Address:

Tax Identification Number:

**If fictitious or trade name is employed in conduct of business, complete, by deletion as appropriate, the following statement:*

[Foregoing fictitious or trade name (has) (has not) been registered by the individual proprietorship under Pennsylvania Law.]

[SIGNATURE PAGE FOR PARTNERSHIP BIDDER]

Name of Partnership

Name of General Partner (Printed)

By: _____
(Signature of General Partner)

Witness: _____

Business Address:

Tax Identification Number:

The partners constituting the partnership herein named are:

Partner: _____

Address: _____

Partner: _____

Address: _____

Add additional lines for the names and addresses of additional Partners, if there are more than four Partners in the Partnership, by attaching an additional page or pages to this Bid.

*If fictitious or trade name is employed by the partnership in conduct of its business, insert name here:

Next, complete, by deletion as appropriate, the following statement:

[Foregoing fictitious or trade name (has) (has not) been registered by the partnership under Pennsylvania Law.

[SIGNATURE PAGE FOR CORPORATE BIDDER]

Name of Corporation

Attest:

Signature of Secretary, Assistant Secretary
Treasurer, Assistant Treasurer or
other authorized representative**

By:

Signature of President, Vice President or
other authorized representative*

(Print Name of Representative)

(Print Name of Representative)

** If a representative other than the President or a Vice President of the Corporation signs this Bid on its behalf, then attach a valid corporate resolution or other appropriate proof, dated prior to or as of the date of the Bid, evidencing authority to execute this Bid on behalf of the Corporation.*

*** If a representative other than the Secretary, an Assistant Secretary, the Treasurer or an Assistant Treasurer attests to the signature of the corporate representative, then attach a valid corporate resolution or other appropriate proof, dated prior to or as of the date of the Bid, evidencing authority to attest to the execution of this Bid on behalf of the Corporation.*

Business Address:

Tax Identification Number:

(1) Complete the following statement: The Corporation has been organized and is existing under laws of the State/Commonwealth of: _____.

(2) If Corporation has been organized under laws of a State other than those of the Commonwealth of Pennsylvania, complete, by deletion as appropriate, the following statement:

[The Corporation (has) (has not) been granted a certificate of authority to do business in the Commonwealth of Pennsylvania under applicable laws.]

(3) If Corporation has been organized under laws other than those of the Commonwealth of Pennsylvania and has NOT been granted a certificate of authority, complete, by deletion as appropriate, the following statement:

[SIGNATURE PAGE FOR CORPORATE BIDDER]

[The Corporation (has) (has not) applied for a certificate of authority to do business in the Commonwealth of Pennsylvania and (has) (has not) attached a copy of the pending application to this Bid.]

[SIGNATURE PAGE FOR A LIMITED LIABILITY COMPANY (LLC) BIDDER]

Name of Limited Liability Company

Attest:

By:

Signature of an Authorized Representative*

Signature of Authorized Representative**

(Print Name of Representative)

(Print Name of Representative)

** The individual attesting verifies and represents that the person whose signature is affixed to this Bid on behalf of the Limited Liability Company (LLC) is duly authorized in accordance with the representations hereafter set forth.*

*** Check the box which applies to this Bid:*

_____ *The Certificate of Organization provides that LLC is to be managed by managers, and this Bid has been executed by a Manager fully authorized by the Certificate, by the Operating Agreement and by Resolutions of the LLC. Copies of the relevant documents are provided with the Bid or can be provided upon request within three (3) working days.*

_____ *The Certificate of Organization does not provide that LLC is to be managed by managers, and this Bid has been executed by a Member fully authorized by the Certificate, by the Operating Agreement and by Resolutions of the LLC. Copies of the relevant documents are provided with the Bid or can be provided upon request within three (3) working days.*

_____ *This Bid has been executed by a representative of the LLC who is not a Manager or a Member of the LLC, and instead who holds the office of _____ (insert title), and the execution of this Bid is fully authorized by the Certificate, by the Operating Agreement and by Resolutions of the LLC. Copies of the relevant documents are provided with the Bid or can be provided upon request within three (3) working days. The Bidder and the individuals signing and attesting to the execution of this document further represent that (1) execution of the Bid is carrying on business in the usual way; (2) the LLC authorizes the execution of this Bid even if execution and submission of this Bid is not carrying on business in the usual way for the LLC; and (3) to the best of the individuals' information and belief, the Owner has no knowledge of the Member's or the Manager's lack of actual authority, or of any applicable and relevant restriction on his or her authority.*

Business Address:

Tax Identification Number:

[SIGNATURE PAGE FOR A LIMITED LIABILITY COMPANY (LLC) BIDDER]

(1) Complete the following statement: The LLC has been organized and is existing under laws of the State/Commonwealth of _____.

(2) If the LLC has been organized under laws of a State other than those of the Commonwealth of Pennsylvania, complete, by deletion as appropriate, the following statement:

[The LLC (has) (has not) been granted a certificate of authority to do business in the Commonwealth of Pennsylvania under applicable laws.]

(3) If the LLC has been organized under laws other than those of the Commonwealth of Pennsylvania and has NOT been granted a certificate of authority, complete, by deletion as appropriate, the following statement:

[The LLC (has) (has not) applied for a certificate of authority to do business in the Commonwealth of Pennsylvania and (has) (has not) attached a copy of the pending application to this Bid.]

PREVAILING WAGE RATES

"General Decision Number: PA20220003 07/29/2022

Superseded General Decision Number: PA20210003

State: Pennsylvania

Construction Type: Building

County: Philadelphia County in Pennsylvania.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.

Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
---	---

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.
---	--

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this

wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	02/11/2022
3	02/25/2022
4	05/06/2022
5	05/13/2022
6	06/10/2022
7	06/17/2022
8	07/01/2022
9	07/15/2022
10	07/29/2022

ASBE0014-001 05/01/2022

Rates	Fringes
-------	---------

Asbestos Workers/Insulator Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems.....	\$ 56.65	40.65
---	----------	-------

BOIL0013-001 01/01/2022

Rates	Fringes
-------	---------

BOILERMAKER.....	\$ 50.17	34.96
------------------	----------	-------

BRPA0001-006 05/01/2021

Rates	Fringes
-------	---------

BRICKLAYER.....	\$ 45.45	30.16
-----------------	----------	-------

BRPA0001-008 05/01/2021

Rates	Fringes
-------	---------

TILE SETTER.....	\$ 48.01	28.67
------------------	----------	-------

BRPA0001-011 05/01/2021

Rates	Fringes
-------	---------

MASON - STONE.....\$ 44.90 30.75

BRPA0001-015 05/01/2021

Rates Fringes

Pointer, caulker and cleaner.....\$ 46.75 29.25

* CARP0158-001 05/01/2022

Rates Fringes

Carpenter/Lather.....\$ 50.75 28.96

* CARP0219-005 05/01/2022

Rates Fringes

MILLWRIGHT.....\$ 49.83 33.96

* CARP0251-001 05/01/2022

Rates Fringes

FLOOR LAYER: Carpet.....\$ 52.49 29.46

* CARP0441-004 05/01/2022

Rates Fringes

PILEDRIVERMAN.....\$ 45.73 37.99

ELEC0098-003 05/02/2022

Rates Fringes

ELECTRICIAN.....\$ 65.76 61%+1.98

ELEC0098-014 05/02/2022

Rates Fringes

ELECTRICIAN (Sound and
Communication Technician)
(Installation of Voice Data,
IT Network, Wifi)).....\$ 63.97 30.40

ELEV0005-001 01/01/2022

Rates Fringes

ELEVATOR MECHANIC.....\$ 63.52 36.885+a+b

FOOTNOTES FOR ELEVATOR MECHANICS:

A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.

B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday after Thanksgiving Day, and Christmas Day.

* ENGI0542-002 05/01/2021

Rates Fringes

Power equipment operators:

GROUP 1.....	\$ 49.50	31.51
GROUP 1a.....	\$ 52.51	32.39
GROUP 2.....	\$ 49.25	31.44
GROUP 2a.....	\$ 52.27	32.31
GROUP 3.....	\$ 45.16	30.24
GROUP 4.....	\$ 44.86	30.15
GROUP 5.....	\$ 43.14	29.64
GROUP 6.....	\$ 42.16	29.34

FOOTNOTE: A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day and Christmas Day

TOXIC/HARARDOUS WASTE REMOVAL

Add 20 per cent to basic hourly rate for all classifications

BOOM LENGTH PAY:

On all machines with booms, jibs, masts and leads, including tower cranes, 100 ft. from ground up, fifty cents (\$.50) per hour additional will be paid for each increment of 25 ft. over 100 ft. On cranes with booms (including jibs, masts and leads) 200 ft. and over, two (2) operators will be required. When two (2) operators are employed, no Oiler will be required. Booms to be measured from the ground up. Tower cranes calculated from ground up and out for purpose of boom pay.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Handling steel and stone in connection with erection, cranes doing hook work, any machine handling machinery, helicopters, concrete pumps building machines similar to the above, including remote, robotic or laser

control equipment.

GROUP 1a: Machines handling steel, or the functional equivalent, and stone in connection with erection 15 ton and over factory rating; Cranes doing hook work 15 ton and over factory rating; Any machines handling machinery; High Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Concrete Pumps (Building) 120 feet of Boom length or less (200 yard pour or less); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: All types of cranes, All types of backhoes, Cableways, Draglines, Keystones, all types of shovels, Derricks, Pavers 21E and over, Trenching machines, Trench shovel, Gradalls, Front-End loaders, Boat Captain, Pippin type backhoes, Tandems scrapers, Towers type crane operation erecting, Dismantling, Jumping or Jacking, Drills (self-contained), (drillmaster type) forklift (20 ft. and over), Motor patrols (fine grade), Batch plant with mixer, Carryalls, Scraper, Tronapulls, Roller (High Grade Finishing), Spreaders (asphalt), Bulldozers and Tractors, Mechanic welder, Conveyor loaders (euclid-type wheel), Concrete pump, Milling Machines, Hoist with two towers, Building hoist double drum (unless used as a single drum), Mucking machines in tunnel, All auto grade and concrete finishing machines, Bundle pullers/extractors (tubular), bobcat. side broom, directional boring machines, vermeer saw type machines (other than than hand held tractor mounted hydro axe, chipper with boom, all) machine similar to the above including remote, robotic or laser control equipment.

GROUP 2a: Crawler backhoes and Crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Concrete Pumps (Heavy/Highway); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Asphalt plant engineers, Well drillers, Ditch witch (small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guillotine only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boliers Elevator Operator (New Construction) Machine similar to the above, including remote, robotic or laser control equipment

GROUP 4: Seaman, Pulverzer form line grader, Farm tractors, road finishing, Concrete spreader, Power broom (self-contained), Seed spreader, Grease truck, toxic/hazardous waste removal rate 20 per cent added to all

classifications and machines similar to the above including remote, robotic or laser control equipment.

GROUP 5: Compressors pumps, Well point pumps, Welding machines Tireman, Power equipment, Maintenance engineer (power boats), Elevator Operators (Renovations) and machine similar to the above including remote, robotic or laser control equipment.

GROUP 6: Fireman, Oilers and deck hands (personnel boats), grease truck. Machines similar to the above including remote, robotic or laser control equipment.

IRON0401-002 07/01/2022

Rates Fringes

IRONWORKER, STRUCTURAL AND
ORNAMENTAL.....\$ 49.70 39.10

IRON0405-002 07/01/2022

Rates Fringes

IRONWORKER, REINFORCING.....\$ 47.41 33.00

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

IRON0405-004 07/01/2022

Rates Fringes

IRONWORKER (Rigger and
Machinery Mover).....\$ 43.72 32.75

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday.

Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

LABO0332-001 05/01/2022

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 35.20	26.19
GROUP 2.....	\$ 35.30	26.19
GROUP 3.....	\$ 35.35	26.19
GROUP 4.....	\$ 35.50	26.19
GROUP 5.....	\$ 35.60	26.19
GROUP 6.....	\$ 35.34	26.19
GROUP 7.....	\$ 36.45	26.19
GROUP 8.....	\$ 36.60	26.19
GROUP 9.....	\$ 36.75	26.19
GROUP 10.....	\$ 37.00	26.19
GROUP 11.....	\$ 35.57	26.19

LABORERS CLASSIFICATIONS

GROUP 1: Building site work; Stripping and dismantling concrete form work; loading, unloading, carrying and handling of all reinforced steel and steel mesh; handling lumber and other building materials; operating jackhammers, paving breakers and all other pneumatic tools; building scaffolds; raking, shoveling and tamping of asphalt; spading and concrete pit work; grading; form pinning; shoring; demolition except burners; laying conduits and ducts; sheathing; lagging; laying non-metallic pipe and caulking; all other types of laborers; pouring concrete; operating vibrator; free air tunnels: miners.

GROUP 2: Power buggies; burners on demolition

GROUP 3: Wagon drill operator (single)

GROUP 4: Powdermen; wagon drill operator (multiple); circular caisson excavation; underpinning excavation

GROUP 5: Caisson bottom man

GROUP 6: Yard workers

GROUP 7: Trackmen; brakemen; groutmen; bottom shaft men; all other men in free air tunnels

GROUP 8: Form setters

GROUP 9: Miners bore driver; blasters; drillers; pneumatic

shield operators

GROUP 10: Welders and burners

GROUP 11: Mason Tender

LABO0332-002 05/01/2022

Rates Fringes

LABORER (Asbestos Abatement,
Toxic and Hazardous Waste
Removal, Lead Based Paint
Removal).....\$ 36.70 26.44

LABO0413-004 05/01/2021

Rates Fringes

Landscape Laborer
Farm Tractor Driver,
Hydroseeder Nozzleman and
Mulcher Nozzleman.....\$ 27.15 23.30+A

FOOTNOTE:

A. PAID HOLIDAYS: Independence Day, Labor Day, and
Thanksgiving Day.

MARB0001-003 05/01/2021

Rates Fringes

MARBLE FINISHER.....\$ 25.10 20.75
TERRAZZO FINISHER.....\$ 27.03 20.58
TILE FINISHER.....\$ 25.10 20.75

MARB0003-002 05/01/2021

Rates Fringes

MARBLE SETTER.....\$ 44.90 30.75
TERRAZZO WORKER/SETTER.....\$ 48.01 28.67

PAIN0021-001 05/01/2021

Rates Fringes

Painters:
Brush, Roller.....\$ 41.24 28.10
Spray, Steel and Swing.....\$ 42.49 28.10

PAIN0021-012 05/01/2021

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 41.36	29.20

PAIN0252-001 06/01/2021

	Rates	Fringes
Window Tinter.....	\$ 25.02	13.06

PAIN0252-006 05/01/2021

	Rates	Fringes
GLAZIER.....	\$ 45.67	33.60

PLAS0008-001 05/01/2022

	Rates	Fringes
PLASTERER.....	\$ 41.97	32.20

PLAS0592-011 05/01/2022

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 42.05	33.26

PLUM0420-008 05/01/2021

	Rates	Fringes
Steamfitter.....	\$ 62.32	38.73

* PLUM0690-002 05/01/2022

	Rates	Fringes
PLUMBER.....	\$ 62.73	36.21

ROOF0030-001 05/01/2022

	Rates	Fringes
Roofers:		
Composition.....	\$ 41.48	33.37+A
Shingles.....	\$ 31.25	21.75+A
Slate and Tile.....	\$ 34.25	21.75+A

FOOTNOTE (Composition Roofer only):

A. PAID HOLIDAY: Election Day

SFPA0692-001 01/01/2022

Rates Fringes

SPRINKLER FITTER.....\$ 60.29 30.88

SHEE0019-008 05/01/2022

Rates Fringes

SHEET METAL WORKER.....\$ 55.75 45.78

* SHEE0019-023 07/15/2022

Rates Fringes

SHEET METAL WORKER (Sign
Makers & Hangers).....\$ 30.54 24.35

TEAM0107-001 05/01/2020

Rates Fringes

TRUCK DRIVER (BUILDING
CONSTRUCTION)

GROUP 1.....\$ 33.22 19.675+a+b

GROUP 2.....\$ 33.32 19.675+a+b

GROUP 3.....\$ 33.57 19.675+a+b

TRUCK DRIVER (SITE
PREPARATION, PAVING AND
UTILITIES ON BUILDING
CONSTRUCTION)

GROUP 1.....\$ 33.07 19.675+a+b

GROUP 2.....\$ 33.17 19.675+a+b

GROUP 3.....\$ 33.42 19.675+a+b

TRUCK DRIVERS CLASSIFICATIONS (BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), 11/2 ton and under
vehicles

GROUP 2 - Truck driver over 11/2 tons, dump trucks, tandem
and batch trucks, semi-trailers, agitator mixer trucks and
dumcrete type vehicle, asphalt distributors, farm tractors
when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment - back or
belly dump trucks and double-hitched equipment, straddle
(ross) carrier, lowbed trailers

TRUCK DRIVERS CLASSIFICATIONS (SITE PREPARATION, PAVING AND
UTILITIES ON BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), dumpster

GROUP 2 - Dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks, and dumperete type vehicles, asphalt distributors, farm tractor when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment or bell dump trucks and double hitched equipment, staddle (ross) carrier, low-bed trailers

FOOTNOTE:

A. PAID HOLIDAYS: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and five personal holidays provided employee works at least one day in the three work days before and at least one day in the three work days after the said holiday. Employee earns a personal holiday every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five per calendar year. After 130 work days the employee is entitled to all five personal holidays.

B. PAID VACATION: Employee will earn one vacation day for every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five vacation days per calendar year. After 130 workdays the employee is entitled to all five days of vacation. Employees with 5 years of seniority, earn an additional week of vacation, accrued in the same way.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISIO"

DAVIS-BACON WAGE RATES

"General Decision Number: PA20220003 07/29/2022

Superseded General Decision Number: PA20210003

State: Pennsylvania

Construction Type: Building

County: Philadelphia County in Pennsylvania.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.

Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
---	---

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.
---	--

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this

wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	02/11/2022
3	02/25/2022
4	05/06/2022
5	05/13/2022
6	06/10/2022
7	06/17/2022
8	07/01/2022
9	07/15/2022
10	07/29/2022

ASBE0014-001 05/01/2022

Rates	Fringes
-------	---------

Asbestos Workers/Insulator Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems.....	\$ 56.65	40.65
---	----------	-------

BOIL0013-001 01/01/2022

Rates	Fringes
-------	---------

BOILERMAKER.....	\$ 50.17	34.96
------------------	----------	-------

BRPA0001-006 05/01/2021

Rates	Fringes
-------	---------

BRICKLAYER.....	\$ 45.45	30.16
-----------------	----------	-------

BRPA0001-008 05/01/2021

Rates	Fringes
-------	---------

TILE SETTER.....	\$ 48.01	28.67
------------------	----------	-------

BRPA0001-011 05/01/2021

Rates	Fringes
-------	---------

MASON - STONE.....\$ 44.90 30.75

BRPA0001-015 05/01/2021

Rates Fringes

Pointer, caulker and cleaner.....\$ 46.75 29.25

* CARP0158-001 05/01/2022

Rates Fringes

Carpenter/Lather.....\$ 50.75 28.96

* CARP0219-005 05/01/2022

Rates Fringes

MILLWRIGHT.....\$ 49.83 33.96

* CARP0251-001 05/01/2022

Rates Fringes

FLOOR LAYER: Carpet.....\$ 52.49 29.46

* CARP0441-004 05/01/2022

Rates Fringes

PILEDRIVERMAN.....\$ 45.73 37.99

ELEC0098-003 05/02/2022

Rates Fringes

ELECTRICIAN.....\$ 65.76 61%+1.98

ELEC0098-014 05/02/2022

Rates Fringes

ELECTRICIAN (Sound and
Communication Technician)
(Installation of Voice Data,
IT Network, Wifi)).....\$ 63.97 30.40

ELEV0005-001 01/01/2022

Rates Fringes

ELEVATOR MECHANIC.....\$ 63.52 36.885+a+b

FOOTNOTES FOR ELEVATOR MECHANICS:

A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.

B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday after Thanksgiving Day, and Christmas Day.

* ENGI0542-002 05/01/2021

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 49.50	31.51
GROUP 1a.....	\$ 52.51	32.39
GROUP 2.....	\$ 49.25	31.44
GROUP 2a.....	\$ 52.27	32.31
GROUP 3.....	\$ 45.16	30.24
GROUP 4.....	\$ 44.86	30.15
GROUP 5.....	\$ 43.14	29.64
GROUP 6.....	\$ 42.16	29.34

FOOTNOTE: A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day and Christmas Day

TOXIC/HARARDOUS WASTE REMOVAL

Add 20 per cent to basic hourly rate for all classifications

BOOM LENGTH PAY:

On all machines with booms, jibs, masts and leads, including tower cranes, 100 ft. from ground up, fifty cents (\$.50) per hour additional will be paid for each increment of 25 ft. over 100 ft. On cranes with booms (including jibs, masts and leads) 200 ft. and over, two (2) operators will be required. When two (2) operators are employed, no Oiler will be required. Booms to be measured from the ground up. Tower cranes calculated from ground up and out for purpose of boom pay.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Handling steel and stone in connection with erection, cranes doing hook work, any machine handling machinery, helicopters, concrete pumps building machines similar to the above, including remote, robotic or laser

control equipment.

GROUP 1a: Machines handling steel, or the functional equivalent, and stone in connection with erection 15 ton and over factory rating; Cranes doing hook work 15 ton and over factory rating; Any machines handling machinery; High Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Concrete Pumps (Building) 120 feet of Boom length or less (200 yard pour or less); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: All types of cranes, All types of backhoes, Cableways, Draglines, Keystones, all types of shovels, Derricks, Pavers 21E and over, Trenching machines, Trench shovel, Gradalls, Front-End loaders, Boat Captain, Pippin type backhoes, Tandems scrapers, Towers type crane operation erecting, Dismantling, Jumping or Jacking, Drills (self-contained), (drillmaster type) forklift (20 ft. and over), Motor patrols (fine grade), Batch plant with mixer, Carryalls, Scraper, Tronapulls, Roller (High Grade Finishing), Spreaders (asphalt), Bulldozers and Tractors, Mechanic welder, Conveyor loaders (euclid-type wheel), Concrete pump, Milling Machines, Hoist with two towers, Building hoist double drum (unless used as a single drum), Mucking machines in tunnel, All auto grade and concrete finishing machines, Bundle pullers/extractors (tubular), bobcat. side broom, directional boring machines, vermeer saw type machines (other than than hand held tractor mounted hydro axe, chipper with boom, all) machine similar to the above including remote, robotic or laser control equipment.

GROUP 2a: Crawler backhoes and Crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Concrete Pumps (Heavy/Highway); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Asphalt plant engineers, Well drillers, Ditch witch (small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guillotine only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boliers Elevator Operator (New Construction) Machine similar to the above, including remote, robotic or laser control equipment

GROUP 4: Seaman, Pulverzer form line grader, Farm tractors, road finishing, Concrete spreader, Power broom (self-contained), Seed spreader, Grease truck, toxic/hazardous waste removal rate 20 per cent added to all

classifications and machines similar to the above including remote, robotic or laser control equipment.

GROUP 5: Compressors pumps, Well point pumps, Welding machines Tireman, Power equipment, Maintenance engineer (power boats), Elevator Operators (Renovations) and machine similar to the above including remote, robotic or laser control equipment.

GROUP 6: Fireman, Oilers and deck hands (personnel boats), grease truck. Machines similar to the above including remote, robotic or laser control equipment.

IRON0401-002 07/01/2022

Rates Fringes

IRONWORKER, STRUCTURAL AND
ORNAMENTAL.....\$ 49.70 39.10

IRON0405-002 07/01/2022

Rates Fringes

IRONWORKER, REINFORCING.....\$ 47.41 33.00

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

IRON0405-004 07/01/2022

Rates Fringes

IRONWORKER (Rigger and
Machinery Mover).....\$ 43.72 32.75

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday.

Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

LABO0332-001 05/01/2022

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 35.20	26.19
GROUP 2.....	\$ 35.30	26.19
GROUP 3.....	\$ 35.35	26.19
GROUP 4.....	\$ 35.50	26.19
GROUP 5.....	\$ 35.60	26.19
GROUP 6.....	\$ 35.34	26.19
GROUP 7.....	\$ 36.45	26.19
GROUP 8.....	\$ 36.60	26.19
GROUP 9.....	\$ 36.75	26.19
GROUP 10.....	\$ 37.00	26.19
GROUP 11.....	\$ 35.57	26.19

LABORERS CLASSIFICATIONS

GROUP 1: Building site work; Stripping and dismantling concrete form work; loading, unloading, carrying and handling of all reinforced steel and steel mesh; handling lumber and other building materials; operating jackhammers, paving breakers and all other pneumatic tools; building scaffolds; raking, shoveling and tamping of asphalt; spading and concrete pit work; grading; form pinning; shoring; demolition except burners; laying conduits and ducts; sheathing; lagging; laying non-metallic pipe and caulking; all other types of laborers; pouring concrete; operating vibrator; free air tunnels: miners.

GROUP 2: Power buggies; burners on demolition

GROUP 3: Wagon drill operator (single)

GROUP 4: Powdermen; wagon drill operator (multiple); circular caisson excavation; underpinning excavation

GROUP 5: Caisson bottom man

GROUP 6: Yard workers

GROUP 7: Trackmen; brakemen; groutmen; bottom shaft men; all other men in free air tunnels

GROUP 8: Form setters

GROUP 9: Miners bore driver; blasters; drillers; pneumatic

shield operators

GROUP 10: Welders and burners

GROUP 11: Mason Tender

LABO0332-002 05/01/2022

Rates Fringes

LABORER (Asbestos Abatement, Toxic and Hazardous Waste Removal, Lead Based Paint Removal).....	\$ 36.70	26.44
---	----------	-------

LABO0413-004 05/01/2021

Rates Fringes

Landscape Laborer Farm Tractor Driver, Hydroseeder Nozzleman and Mulcher Nozzleman.....	\$ 27.15	23.30+A
--	----------	---------

FOOTNOTE:

A. PAID HOLIDAYS: Independence Day, Labor Day, and Thanksgiving Day.

MARB0001-003 05/01/2021

Rates Fringes

MARBLE FINISHER.....	\$ 25.10	20.75
TERRAZZO FINISHER.....	\$ 27.03	20.58
TILE FINISHER.....	\$ 25.10	20.75

MARB0003-002 05/01/2021

Rates Fringes

MARBLE SETTER.....	\$ 44.90	30.75
TERRAZZO WORKER/SETTER.....	\$ 48.01	28.67

PAIN0021-001 05/01/2021

Rates Fringes

Painters:

Brush, Roller.....	\$ 41.24	28.10
Spray, Steel and Swing.....	\$ 42.49	28.10

PAIN0021-012 05/01/2021

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 41.36	29.20

PAIN0252-001 06/01/2021

	Rates	Fringes
Window Tinter.....	\$ 25.02	13.06

PAIN0252-006 05/01/2021

	Rates	Fringes
GLAZIER.....	\$ 45.67	33.60

PLAS0008-001 05/01/2022

	Rates	Fringes
PLASTERER.....	\$ 41.97	32.20

PLAS0592-011 05/01/2022

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 42.05	33.26

PLUM0420-008 05/01/2021

	Rates	Fringes
Steamfitter.....	\$ 62.32	38.73

* PLUM0690-002 05/01/2022

	Rates	Fringes
PLUMBER.....	\$ 62.73	36.21

ROOF0030-001 05/01/2022

	Rates	Fringes
Roofers:		
Composition.....	\$ 41.48	33.37+A
Shingles.....	\$ 31.25	21.75+A
Slate and Tile.....	\$ 34.25	21.75+A

FOOTNOTE (Composition Roofer only):
A. PAID HOLIDAY: Election Day

SFPA0692-001 01/01/2022

	Rates	Fringes
SPRINKLER FITTER.....	\$ 60.29	30.88

SHEE0019-008 05/01/2022

	Rates	Fringes
SHEET METAL WORKER.....	\$ 55.75	45.78

* SHEE0019-023 07/15/2022

	Rates	Fringes
SHEET METAL WORKER (Sign Makers & Hangers).....	\$ 30.54	24.35

TEAM0107-001 05/01/2020

	Rates	Fringes
TRUCK DRIVER (BUILDING CONSTRUCTION)		
GROUP 1.....	\$ 33.22	19.675+a+b
GROUP 2.....	\$ 33.32	19.675+a+b
GROUP 3.....	\$ 33.57	19.675+a+b
TRUCK DRIVER (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)		
GROUP 1.....	\$ 33.07	19.675+a+b
GROUP 2.....	\$ 33.17	19.675+a+b
GROUP 3.....	\$ 33.42	19.675+a+b

TRUCK DRIVERS CLASSIFICATIONS (BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), 11/2 ton and under vehicles

GROUP 2 - Truck driver over 11/2 tons, dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks and dumcrete type vehicle, asphalt distributors, farm tractors when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment - back or belly dump trucks and double-hitched equipment, straddle (ross) carrier, lowbed trailers

TRUCK DRIVERS CLASSIFICATIONS (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), dumpster

GROUP 2 - Dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks, and dumperete type vehicles, asphalt distributors, farm tractor when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment or bell dump trucks and double hitched equipment, staddle (ross) carrier, low-bed trailers

FOOTNOTE:

A. PAID HOLIDAYS: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and five personal holidays provided employee works at least one day in the three work days before and at least one day in the three work days after the said holiday. Employee earns a personal holiday every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five per calendar year. After 130 work days the employee is entitled to all five personal holidays.

B. PAID VACATION: Employee will earn one vacation day for every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five vacation days per calendar year. After 130 workdays the employee is entitled to all five days of vacation. Employees with 5 years of seniority, earn an additional week of vacation, accrued in the same way.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISIO"

PART 3

FEDERAL GRANT FLOW DOWN REQUIREMENTS

(Including Appendix II of Code of Federal Regulations)

EXHIBIT C
APPLICABLE FEDERAL LAWS AND REGULATIONS

By entering into the agreement for an INFRA Grant, the Recipient assures and certifies, with respect to this Grant, that it will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance, and use of Federal funds for this Project. Performance under this agreement shall be governed by and in compliance with the following requirements, as applicable, to the type of organization of the Recipient and any applicable sub-recipients. The applicable provisions to the agreement include, but are not limited to, the following:

General Federal Legislation

- a. Davis-Bacon Act - 40 U.S.C. §§ 3141, et seq., as applicable under 23 U.S.C. 113
- b. Federal Fair Labor Standards Act - 29 U.S.C. §§ 201, et seq.
- c. Hatch Act - 5 U.S.C. §§ 1501, et seq.
- d. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 - 42 U.S.C. §§ 4601, et seq.
- e. National Historic Preservation Act of 1966 - Section 106 - 54 U.S.C. § 306108
- f. Archeological and Historic Preservation Act of 1974 - 54 U.S.C. §§ 312501, et seq.
- g. Native American Graves Protection and Repatriation Act - 25 U.S.C. §§ 3001, et seq.
- h. Clean Air Act, P.L. 90-148, as amended - 42 U.S.C. §§ 7401, et seq.
- i. Section 404 of the Clean Water Act, as amended - 33 U.S.C. § 1344
- j. Section 7 of the Endangered Species Act, P.L. 93-205, as amended - 16 U.S.C. § 1536
- k. Coastal Zone Management Act, P.L. 92-583, as amended - 16 U.S.C. §§ 1451, et seq.
- l. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. § 4012a
- m. Age Discrimination Act of 1975 - 42 U.S.C. §§ 6101, et seq.
- n. American Indian Religious Freedom Act, P.L. 95-341, as amended
- o. Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. §§ 1101, et seq.
- p. The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, P.L. 91-616, as amended - 42 U.S.C. §§ 4541, et seq.
- q. Sections 523 and 527 of the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 290dd through 290dd-2
- r. Architectural Barriers Act of 1968 - 42 U.S.C. § 4151, et seq.
- s. Power Plant and Industrial Fuel Use Act of 1978, P.L. 100-42 - Section 403 - 42 U.S.C. § 8373
- t. Contract Work Hours and Safety Standards Act - 40 U.S.C. § 3701, et seq.
- u. Copeland Anti-kickback Act, as amended - 18 U.S.C. § 874 and 40 U.S.C. § 3145
- v. National Environmental Policy Act of 1969 - 42 U.S.C. §§ 4321, et seq.
- w. Wild and Scenic Rivers Act, P.L. 90-542, as amended – 16 U.S.C. §§ 1271, et seq.
- x. Federal Water Pollution Control Act, as amended - 33 U.S.C. §§ 1251-1376
- y. Single Audit Act of 1984 - 31 U.S.C. §§ 7501, et seq.
- z. Americans with Disabilities Act of 1990 - 42 U.S.C. § 12101, et seq.
- aa. Title IX of the Education Amendments of 1972, as amended - 20 U.S.C. § 1681 through § 1683, and § 1685 through § 1687
- bb. Section 504 of the Rehabilitation Act of 1973, as amended - 29 U.S.C. § 794
- cc. Title VI of the Civil Rights Act of 1964 - 42 U.S.C. §§ 2000d *et seq.*
- dd. Title IX of the Federal Property and Administrative Services Act of 1949 - 40 U.S.C. §§

- 1101 -1104, 541, et seq.
- ee. Limitation on Use of Appropriated Funds to Influence Certain Federal Contracting and Financial Transactions – 31 U.S.C. § 1352
- ff. Freedom of Information Act - 5 U.S.C. § 552, as amended
- gg. Magnuson-Stevens Fishery Conservation and Management Act – 16 U.S.C. § 1855
- hh. Farmland Protection Policy Act of 1981 – 7 U.S.C. § 4201, et seq.
- ii. Noise Control Act of 1972 – 42 U.S.C. § 4901, et seq.
- jj. Fish and Wildlife Coordination Act of 1956 – 16 U.S.C. § 661, et seq.
- kk. Section 9 of the Rivers and Harbors Act and the General Bridge Act of 1946 - 33 U.S.C. §§ 401 and 525
- ll. Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303 and 23 U.S.C. § 138
- mm. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended --42 U.S.C. §§ 9601, et seq.
- nn. Safe Drinking Water Act -- 42 U.S.C. §§ 300f to 300j-26
- oo. Wilderness Act -- 16 U.S.C. §§ 1131-1136
- pp. Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 -- 42 U.S.C. § 6901, et seq.
- qq. Migratory Bird Treaty Act 16 U.S.C. § 703, et seq.
- rr. The Federal Funding Transparency and Accountability Act of 2006, as amended (Pub. L. 109–282, as amended by section 6202 of Public Law 110–252)
- ss. Cargo Preference Act of 1954 – 46 U.S.C. § 55305

Executive Orders

- a. Executive Order 11246 - Equal Employment Opportunity
- b. Executive Order 11990 - Protection of Wetlands
- c. Executive Order 11988 – Floodplain Management
- d. Executive Order 12372 - Intergovernmental Review of Federal Programs
- e. Executive Order 12549 – Debarment and Suspension
- f. Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- g. Executive Order 13166 – Improving Access to Services for Persons With Limited English Proficiency

General Federal Regulations

- a. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards – 2 C.F.R. Parts 200, 1201
- b. Non-procurement Suspension and Debarment – 2 C.F.R. Parts 180, 1200
- c. Investigative and Enforcement Procedures - 14 C.F.R. Part 13
- d. Procedures for predetermination of wage rates - 29 C.F.R. Part 1
- e. Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States - 29 C.F.R. Part 3
- f. Labor standards provisions applicable to contracts governing federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act) - 29 C.F.R. Part 5

- g. Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements) - 41 C.F.R. Parts 60, et seq.
- h. Contractor Qualifications - 48 C.F.R. Part 9
- i. New Restrictions on Lobbying – 49 C.F.R. Part 20
- j. Nondiscrimination in Federally Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 – 49 C.F.R. Part 21
- k. Uniform relocation assistance and real property acquisition for Federal and Federally assisted programs - 49 C.F.R. Part 24
- l. Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance - 49 C.F.R. Part 25
- m. Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance - 49 C.F.R. Part 27
- n. DOT's oversight of DOJ's ADA regulations for non-transit programs, including the ADA Accessibility Guidelines, required by the DOJ regulations at 28 C.F.R. Part 35
- o. Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of Transportation – 49 C.F.R. Part 28
- p. Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors - 49 C.F.R. Part 30
- q. Governmentwide Requirements for Drug-Free Workplace (Financial Assistance) – 49 C.F.R. Part 32
- r. DOT's implementing ADA regulations for transit, including the ADA Accessibility Guidelines in Part 37, Appendix A - 49 C.F.R. Parts 37 and 38
- s. Procedures for Transportation Workplace Drug and Alcohol Testing Programs – 49 C.F.R. Part 40
- t. Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs – 49 C.F.R. Part 26

Office of Management and Budget Circulars

- a. Any applicable OMB Circular based upon the specific FY 2017-2018 INFRA Grant Recipient.

Highway Federal Legislation

- a. Highways – Title 23, U.S.C.
- b. Brooks Act (for FHWA projects, this incorporates Title IX of the Federal Property and Administrative Services Act of 1949 (formerly 40 U.S.C. § 541, et seq.)) - 40 U.S.C. §§ 1101-1104; 23 U.S.C. § 112(b)(2)
- c. Highway Design and Construction Standards, 23 U.S.C. § 109
- d. Prevailing Rate of Wage, 23 U.S.C. 113
- e. Planning, 23 U.S.C. §§ 134 and 135 (except for projects that are not regionally significant that do not receive funding under Title 23 or Chapter 53 of Title 49)
- f. Tolls, 23 U.S.C. § 301 (to the extent the recipient wishes to toll an existing free facility that has received Title 23 funds in the past); except as authorized by 23 U.S.C. §§ 129 and 166.
- g. Size, Weight, and Length Limitations - 23 U.S.C. § 127, 49 U.S.C. § 31101 et seq.
- h. Buy America Act – 23 U.S.C. § 313
(see http://www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm)

- i. Nondiscrimination – 23 U.S.C. § 140
- j. Efficient Environmental Reviews - 23 U.S.C. § 139

Federal Highway Regulations

- a. Planning 23 C.F.R. Part 450 (except for projects that are not regionally significant that do not receive funding under Title 23 or Chapter 53 of Title 49)
- b. National Highway System Design Standards – 23 C.F.R. Part 625
- c. Manual on Uniform Traffic Control Devices – 23 C.F.R. Part 655
- d. Environmental Impact and Related Procedures – 23 C.F.R. Part 771
- e. Procedures for Abatement of Highway Traffic and Construction Noise -- 23 C.F.R. Part 772
- f. Procedures Implementing Section 4(f) of the Department of Transportation Act – 23 C.F.R. Part 774
- g. Permitting Requirements under the National Pollutant Discharge Elimination System – 40 C.F.R. Part 122
- h. Required Contract Provisions – 23. C.F.R. Part 633 (Form 1273)
- i. External Programs – 23 C.F.R. Part 230.

Specific assurances required to be included in the INFRA Grant agreement by any of the above laws, regulations, or circulars are hereby incorporated by reference into the agreement.

EXHIBIT D
GRANT ASSURANCES

EXHIBIT D 1

TITLE VI ASSURANCE (Implementing Title VI of the Civil Rights Act of 1964, as amended)

ASSURANCE CONCERNING NONDISCRIMINATION IN FEDERALLY-ASSISTED PROGRAMS AND ACTIVITIES RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE

(Implementing the Rehabilitation Act of 1973, as amended, and the Americans With Disabilities Act, as amended)

49 C.F.R. Parts 21, 25, 27, 37 and 38

The United States Department of Transportation (USDOT)

Standard Title VI/Non-Discrimination Assurances

DOT Order No. 1050.2A

By signing and submitting the Technical Application and by entering into the agreement under the INFRA Grant program, the Recipient **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), it is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation—Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the “Acts” and “Regulations,” respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

“No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity,” for which the Recipient receives Federal financial assistance from DOT.

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non-discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted INFRA Grant program:

1. The Recipient agrees that each “activity,” “facility,” or “program,” as defined in §§ 21.23 (b) and 21.23 (e) of 49 C.F.R. § 21 will be (with regard to an “activity”) facilitated, or will be (with regard to a “facility”) operated, or will be (with regard to a “program”) conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with the INFRA Grant and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

“The Recipient, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.”

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.

5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
 - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:
 - a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, the Recipient also agrees to comply (and require any sub-recipients, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing DOT's access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by DOT. You must keep records, reports, and submit the material for review upon request to DOT, or its designee in a timely, complete, and accurate

way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

The Recipient gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the Maritime Administration under the INFRA Grant Program. This ASSURANCE is binding on the Recipient, other recipients, sub-recipients, sub-Recipients, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the INFRA Grant Program.

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or DOT to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or DOT, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or DOT may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant

thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or DOT may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Specific Assurance 4:

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the Recipient will accept title to the lands and maintain the project constructed thereon in accordance with Fixing America's Surface Transportation Act (FAST ACT) (Pub. L. 114-94, Section 1105, (23 U.S.C. 117)) the Regulations for the Administration of FY 2017-2018 INFRA Grant Program, and the policies and procedures prescribed by the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the Recipient all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto Recipient and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the Recipient, its successors and assigns.

The Recipient, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the Recipient will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non- discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

APPENDIX C

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the Recipient pursuant to the provisions of Specific Assurance 7(a):

- A. The (Recipient, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add “as a covenant running with the land”] that:
 - 1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (Recipient, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, Recipient will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*
- C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the Recipient will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the Recipient and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by Recipient pursuant to the provisions of Specific Assurance 7(b):

- A. The (Recipient, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, “as a covenant running with the land”) that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (Recipient, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, Recipient will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, Recipient will there upon revert to and vest in and become the absolute property of Recipient and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 C.F.R. Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 C.F.R. Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 C.F.R. Parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

EXHIBIT D 2

DISCLOSURE OF LOBBYING ACTIVITIES

Certification for Contracts, Grants, Loans, and Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any grant agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or grant agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or grant agreement, the undersigned shall complete and submit Standard Form-LLL (Rev. 7-97), "Disclosure of Lobbying Activities," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans and grant agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352, title. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

EXHIBIT D 3

CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS IN THE PERFORMANCE OF THE FY 2017-2018 INFRA GRANT PROGRAM

The Recipient certifies that it will, or will continue, to provide a drug-free workplace by:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Recipient's workplace, and specifying the actions that will be taken against employees for violation of such prohibition.
2. Establishing an ongoing drug-free awareness program to inform employees about:
 - (a) The dangers of drug abuse in the workplace;
 - (b) The Recipient's policy of maintaining a drug-free workplace;
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs; and,
 - (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
3. Making it a requirement that each employee to be engaged in the performance of work supported by the grant award be given a copy of the statement required by paragraph 1.
4. Notifying the employee in the statement required by paragraph 1 that, as a condition of employment supported by the grant award, the employee will:
 - (a) Abide by the terms of the statement; and
 - (b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.
5. Notifying the agency in writing, within ten calendar days after receiving notice under paragraph (d)(2) from an employee or otherwise receiving actual notice of conviction. Employers of convicted employees must provide notice, including position title, to the Department. Notice shall include the order number of the grant award.
6. Taking one of the following actions, within 30 days of receiving notice under paragraph 4(b), with respect to any employee who is so convicted:
 - (a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended, or
 - (b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement, or other appropriate agency.

7. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).
8. The Recipient *may*, but is not required to, provide the site for the performance of work done in connection with the specific grant. For the provision of services pursuant to the agreement, workplaces include outstations, maintenance sites, headquarters office locations, training sites and any other worksites where work is performed that is supported by the grant award. If the Recipient does so, please insert in article 11 of the agreement the following information from subsection (a) below:
 - (a) Identify the Places of Performance by listing the street address, city, county, state, zip code. Also identify if there are workplaces on file that are not identified in this section of the agreement.

EXHIBIT D 4

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS -- PRIMARY COVERED TRANSACTIONS

2 C.F.R. Parts 180 and 1200

These assurances and certifications are applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring MARAD approval or that is estimated to cost \$25,000 or more – as defined in 2 C.F.R. Parts 180 and 1200.

By signing and submitting the Technical Application and by entering into the agreement under the FY 2017-2018 INFRA Grant program, the Recipient is providing the assurances and certifications for First Tier Participants and Lower Tier Participants in the INFRA Project, as set out below.

1. Instructions for Certification – First Tier Participants:

a. The prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms “covered transaction,” “civil judgment,” “debarred,” “suspended,” “ineligible,” “participant,” “person,” “principal,” and “voluntarily excluded,” as used in this clause, are defined in 2 C.F.R. Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a Recipient or sub-recipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction

under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a Recipient or sub-recipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions,” provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment, including a civil settlement, rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior MARAD approval or estimated to cost \$25,000 or more - 2 C.F.R. Parts 180 and 1200)

a. The prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms “covered transaction,” “civil settlement,” “debarred,” “suspended,” “ineligible,” “participant,” “person,” “principal,” and “voluntarily excluded,” as used in this clause, are defined in 2 C.F.R. Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a Recipient or sub-recipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered

transaction with a Recipient or sub-recipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction,” without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

EXHIBIT D5

REQUIREMENTS REGARDING DELINQUENT TAX LIABILITY OR A FELONY CONVICTION UNDER ANY FEDERAL LAW

The funds provided under this award shall not be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to, any corporation or Recipient that:

- (1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or
- (2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

The Recipient therefore agrees:

1. **Definitions.** For the purposes of this exhibit, the following definitions apply:

“**Covered Transaction**” means a transaction that uses any funds under this award and that is a contract, memorandum of understanding, cooperative agreement, grant, loan, or loan guarantee.

“**Felony Conviction**” means a conviction within the preceding 24 months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the United States Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. 3559.

“**Participant**” means the Recipient, an entity who submits a proposal for a Covered Transaction, or an entity who enters into a Covered Transaction.

“**Tax Delinquency**” means an unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2. **Mandatory Check in the System for Award Management.** Before entering a Covered Transaction with another entity, a Participant shall check the System for Award Management (*the “SAM”*) at <http://www.sam.gov/> for an entry describing that entity.

3. Mandatory Certifications.

(a) By entering into this grant agreement with the Government, the Recipient shall:

- (1) Certify whether the Recipient has a Tax Delinquency; and
- (2) Certify whether the Recipient has a Felony Conviction.

(b) Before entering a Covered Transaction with another entity, a Participant shall require that entity to:

- (1) Certify whether the entity has a Tax Delinquency; and
- (2) Certify whether the entity has a Felony Conviction.

4. Prohibition. If

- (1) the SAM entry for an entity indicates that the entity has a Tax Delinquency or a Federal Conviction;
- (2) an entity provides an affirmative response to either certification in section 3; or
- (3) an entity's certification under section 3 was inaccurate when made or became inaccurate after being made

then a Participant shall not enter or continue a Covered Transaction with that entity unless the USDOT has determined in writing that suspension or debarment of that entity are not necessary to protect the interests of the Government.

5. Mandatory Notice to the USDOT.

(a) If the SAM entry for a Participant indicates that the Participant has a Tax Delinquency or a Felony Conviction, the Recipient shall notify the USDOT in writing of that entry.

(b) If a Participant provides an affirmative response to either certification in section 3, the Recipient shall notify the USDOT in writing of that affirmative response. The Authorizing Official then shall:

- Promptly, upon receipt of notice, request such additional information from the Recipient as the Authorizing Official deems necessary to demonstrate the Participant's present responsibility;
- Notify, in accordance with agency procedures, the agency's Suspending and Debarring Official; and
- Not award to the Participant unless an agency or Secretarial Office Suspending and Debarring Official has considered suspension or debarment, and made a determination that suspension or

debarment on this tax delinquency or felony basis is not necessary to protect the interest of the Government.

(c) If the Recipient knows that a Participant's certification under section 3 was inaccurate when made or became inaccurate after being made, the Recipient shall notify the USDOT in writing of that inaccuracy.

6. **Flow Down.** For all Covered Transactions, including all tiers of subcontracts and subawards, the Recipient shall:

- (1) require the SAM check in section 2;
- (2) require the certifications in section 3;
- (3) include the prohibition in section 4; and
- (4) require all Participants to notify the Recipient in writing of any information that would require the Recipient to notify the USDOT under section 5.

EXHIBIT E
RESPONSIBILITY AND AUTHORITY OF THE RECIPIENT

1. Legal Authority.

The Recipient affirms that it has the legal authority to apply for the grant, and to finance and carry out the proposed project identified in its Technical Application; that a resolution, motion or similar action has been duly adopted or passed as an official act of the Recipient's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the Recipient to act in connection with the application and to provide such additional information as may be required.

2. Funds Availability.

Recipient affirms that it has sufficient funds available for that portion of the project costs that are not to be paid by the Government. Recipient also affirms that it has sufficient funds available to assure operation and maintenance of items funded under the agreement that it will own or control.

3. Preserving Rights and Powers.

Recipient will not take or permit any action that would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in the agreement without the written approval of the Government, and will act promptly to acquire, extinguish, or modify any outstanding rights or claims of right of others that would interfere with such performance by the Recipient. The Recipient agrees that this will be done in a manner acceptable to the Government.

4. Accounting System, Audit, and Record Keeping Requirements.

(a) The Recipient agrees to keep all project accounts and records that fully disclose the amount and disposition by the Recipient of the proceeds of the grant, the total cost of the project in connection with which the grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that meets the requirements of 2 C.F.R. 200.301 – 200.303 and 2 CFR 200 Subpart F and will facilitate an effective audit in accordance with the Single Audit Act of 1984, as amended (31 U.S.C. §§ 7501-7507).

(b) The Recipient agrees to make available to the Government and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the Recipient that are pertinent to the grant. The Government may require that a Recipient conduct an appropriate audit. In any case in which an independent audit is made of the accounts of a Recipient relating to the disposition of the proceeds of a grant or relating to the project in connection with which the grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

5. Minimum Wage Rates. It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this agreement that involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. § 3141, et seq.) or 23 U.S.C. 113 as applicable, which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.

6. Engineering and Design Services. It will award each contract or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping, or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under the Brooks Act (40 U.S.C. §§ 1101-1104) as implemented in 23 U.S.C.112(b)(2) or an equivalent qualifications-based requirement prescribed for or by the Recipient as approved by the Secretary.

7. Foreign Market Restrictions. It will not allow funds provided under this grant to be used to fund any project that uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.

8. Relocation and Real Property Acquisition. (1) It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 C.F.R. Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B. (2) It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 C.F.R. Part 24. (3) It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 C.F.R. Part 24.

9. Use and Disposition of Property, Equipment and Supplies:

Unless otherwise approved by MARAD, the following conditions apply to property, equipment, and supplies funded under this Agreement:

- a. Use of Property, Equipment and Supplies. The Recipient shall use Project real property, as defined by 2 C.F.R § 200.85, in accordance with the Property Standards of 2 C.F.R. § 200.211.
- b. General Federal Requirements. The Recipient will comply with the property management standards of 2 C.F.R. §§ 200.310 through 200.316, including any amendments thereto, and other applicable guidelines or regulations that are issued. Exceptions to the requirement must be specifically approved by MARAD in writing.
- c. Maintenance. The Recipient agrees to maintain the Project property and equipment in good operating order, and in accordance with any guidelines, directives, or regulations that MARAD may issue.

- d. Records. The Recipient agrees to keep satisfactory records with regard to the use of the property, equipment, and supplies, and submit to MARAD, upon request, such information as may be required to assure compliance with this section of this Agreement.
- e. Transfer of Project Property, Equipment or Supplies. The Recipient agrees that MARAD may require the Recipient to transfer title to, or direct the disposition of, any property, equipment, or supplies financed with MARAD assistance made available by this Agreement, as required by 2 C.F.R. §§ 200.311 – 200.316.
- f. Withdrawn Property, Equipment or Supplies. If any Project property, equipment, or supplies are not used for the Project for the duration of their useful lives, as determined by MARAD, whether by planned withdrawal, misuse or casualty loss, the Recipient agrees to notify MARAD immediately. Disposition of withdrawn property, equipment, or supplies shall be in accordance with 2 C.F.R. §§ 200.311 – 200.316 and Recipient agrees to request disposition instructions from the Government.
- g. Encumbrance of Project Property or Equipment. Unless expressly authorized in writing by MARAD, the Recipient agrees not to:
 - 1) Execute any transfer of title, lease, lien, pledge, mortgage, encumbrance, contract, grant anticipation note, alienation, or other obligation that in any way would dispose of or encumber the Recipient's title or other interest in any Project property or equipment; or
 - 2) Obligate itself in any manner to any third party with respect to Project property or equipment. The Recipient shall refrain from taking any action or acting in a manner that would adversely affect MARAD's interest or impair the Recipient's continuing control over the use of Project property or equipment.

EXHIBIT F
REIMBURSEMENT OF PROJECT COSTS

1. The Recipient will be reimbursed in accordance with the terms of a Grant Agreement between the Government (Modal Administration) or other specified form or agreement as determined by the Government that incorporates this agreement by reference.
2. The Recipient shall have entered into obligations for services and goods associated with the Project prior to seeking reimbursement from the Government. Reimbursement will only be made for costs incurred after execution of a grant agreement unless specifically allowed by this Agreement, otherwise permitted by Federal law or regulation, or unless MARAD states in writing to the contrary.
3. The Recipient shall ensure that the funds provided by the Government are not misappropriated or misdirected to any other account, need, project, line-item, or unrelated activity.
4. Any Federal funds not expended in conjunction with the Project will remain the property of the Government.
5. Financial Management System: By signing this agreement, the Recipient verifies that it has, or will implement, a financial management system adequate for monitoring the accumulation of costs and that it complies with the financial management system requirements of 2 C.F.R. Part 200, Subpart D, and Title 23, U.S.C.. The Recipient's failure to comply with these requirements may result in agreement termination.
6. Allowable Costs: Determination of allowable costs will be made in accordance with the applicable Federal cost principles, e.g., 2 C.F.R. Part 200 Subpart E. Disallowed costs are those charges determined to not be allowed in accordance with the applicable Federal cost principles or other conditions contained in this agreement.

EXHIBIT G
GRANT REQUIREMENTS AND CONTRACT CLAUSES

1. The Fixing America's Surface Transportation Act (FAST Act) (Pub. L. 114-94, Section 1105, (23 U.S.C. 117)), regarding the Nationally Significant Freight and Highway Projects Program (FY 2017-2018 INFRA Discretionary Grants) (referred to as "INFRA Grants") requires that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of Title 40, United States Code.
2. Pursuant to Reorganization Plan No. 14 and the Copeland Act, 40 U.S.C. § 3145, the Department of Labor has issued regulations at 29 C.F.R. Parts 1, 3, and 5 to implement the Davis-Bacon and related Acts. Regulations in 29 C.F.R. 5.5 instruct agencies concerning application of the standard Davis-Bacon contract clauses set forth in that section. Federal agencies providing grants, cooperative agreements, and loans under the Act shall ensure that the standard Davis-Bacon contract clauses found in 29 C.F.R. 5.5(a) are incorporated in any resultant covered contracts that are in excess of \$2,000 for construction, alteration or repair (including painting and decorating).
3. Federal agencies providing grants, grant agreements, and loans under the Act shall ensure that the standard Davis-Bacon contract clauses found in 29 C.F.R. 5.5(a) are incorporated in any resultant covered contracts that are in excess of \$2,000 for construction, alteration or repair (including painting and decorating).
4. For additional guidance on the wage rate requirements of the Act, contact your awarding agency. Recipients of grants, grant agreements and loans should direct their initial inquiries concerning the application of Davis-Bacon requirements to a particular federally assisted project to the Federal agency funding the project. The Secretary of Labor retains final coverage authority under Reorganization Plan Number 14.

EXHIBIT G1
TRANSPARENCY ACT AWARD TERM

I. Reporting Sub-awards and Executive Compensation.

a. *Reporting of first-tier sub-awards.*

1. *Applicability.* Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a sub-award to an entity (see definitions in paragraph e. of this award term).

2. *Where and when to report.*

i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.

ii. For sub-award information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. *Reporting Total Compensation of Recipient Executives.*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

i. the total Federal funding authorized to date under this award is \$25,000 or more;

ii. in the preceding fiscal year, you received—

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal

Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph b.1. of this award term:

- i. As part of your registration profile at <https://www.sam.gov>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. *Reporting of Total Compensation of Sub-recipient Executives.*

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph d. of this award term, for each first-tier sub-recipient under this award, you shall report the names and total compensation of each of the sub-recipient's five most highly compensated executives for the sub-recipient's preceding completed fiscal year, if—

i. in the sub-recipient's preceding fiscal year, the sub-recipient received—

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and sub-awards); and

ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report sub-recipient executive total compensation described in paragraph c.1. of this award term:

i. To the recipient.

ii. By the end of the month following the month during which you make the sub-award. For example, if a sub-award is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the sub-recipient by November 30 of that year.

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

i. Sub-awards,

and

ii. The total compensation of the five most highly compensated executives of any sub-recipient.

e. *Definitions*. For purposes of this award term:

1. *Entity* means all of the following, as defined in 2 CFR part 25:

i. A Governmental organization, which is a State, local government, or Indian tribe;

ii. A foreign public entity;

iii. A domestic or foreign nonprofit organization;

iv. A domestic or foreign for-profit organization;

v. A Federal agency, but only as a sub-recipient under an award or sub-award to a non-Federal entity.

2. *Executive* means officers, managing partners, or any other employees in management positions.

3. *Sub-award*:

i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible sub-recipient.

ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. .210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations").

iii. A sub-award may be provided through any legal agreement, including an agreement that you or a sub-recipient considers a contract.

4. *Sub-recipient* means an entity that:

- i. Receives a sub-award from you (the recipient) under this award; and
 - ii. Is accountable to you for the use of the Federal funds provided by the sub-award.
5. *Total compensation* means the cash and noncash dollar value earned by the executive during the recipient's or sub-recipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):
- i. *Salary and bonus.*
 - ii. *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
 - iii. *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
 - iv. *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.
 - v. *Above-market earnings on deferred compensation which is not tax-qualified.*
 - vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

EXHIBIT G2
Single Audit Information for Recipients of INFRA GRANT Funds

1. To maximize the transparency and accountability of funds authorized under the Act as required by Congress and in accordance with 2 C.F.R. Part 200 Subparts C – E Common Rules provisions, recipients agree to maintain records that identify adequately the source and application of INFRA Grant funds.
2. For recipients covered by the Single Audit Act Amendments of 1996 and the audit requirements of 2 C.F.R. Part 200, Subpart F recipients agree to separately identify the expenditures for Federal awards under the Act on the Schedule of Expenditures of Federal Awards (SEFA) and the Data Collection Form (SF–SAC) required by 2 C.F.R. Part 200. This shall be accomplished by identifying expenditures for Federal awards made under the Act separately on the SEFA, and as separate rows under Item 6 of Part III on the SF–SAC by CFDA number, and inclusion of the prefix “FY 2017-2018 INFRA program” in identifying the name of the Federal program on the SEFA and as the first characters in Item 6c of Part III on the SF–SAC.

EXHIBIT G3
SYSTEM FOR AWARD MANAGEMENT AND UNIVERSAL IDENTIFIER
REQUIREMENTS

A. Requirement for System for Award Management

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the SAM until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

B. Requirement for unique entity identifier

If you are authorized to make sub-awards under this award, you:

1. Must notify potential sub-recipients that no entity (see definition in paragraph C of this award term) may receive a sub-award from you unless the entity has provided its unique entity identifier to you.

2. May not make a sub-award to an entity unless the entity has provided its unique entity identifier to you.

C. Definitions

For purposes of this award term:

1. *System for Award Management (SAM)* means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the SAM Internet site (currently at <http://www.sam.gov>).

2. *Unique entity identifier* means the identifier required for SAM registration to uniquely identify business entities.

3. *Entity*, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:

- a. A Governmental organization, which is a State, local government, or Indian Tribe;
- b. A foreign public entity;
- c. A domestic or foreign nonprofit organization;
- d. A domestic or foreign for-profit organization; and

e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

4. *Sub-award*:

a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible sub-recipient.

b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR 200.330).

c. A sub-award may be provided through any legal agreement, including an agreement that you consider a contract.

5. *Sub-recipient* means an entity that:

a. Receives a sub-award from you under this award; and

b. Is accountable to you for the use of the Federal funds provided by the sub-award.

EXHIBIT G4
AWARD TERM AND CONDITION FOR RECIPIENT INTEGRITY AND
PERFORMANCE MATTERS

A. Reporting of Matters Related to Recipient Integrity and Performance

1. General Reporting Requirement

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

2. Proceedings About Which You Must Report

Submit the information required about each proceeding that:

a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;

b. Reached its final disposition during the most recent five year period; and

c. Is one of the following:

(1) A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;

(2) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more;

(3) An administrative proceeding, as defined in paragraph 5. of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of \$5,000 or more or reimbursement, restitution, or damages in excess of \$100,000; or

(4) Any other criminal, civil, or administrative proceeding if:

(i) It could have led to an outcome described in paragraph 2.c.(1), (2), or (3) of this award term and condition;

(ii) It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and

(iii) The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

3. Reporting Procedures

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

4. Reporting Frequency

During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than \$10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

5. Definitions

For purposes of this award term and condition:

a. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.

b. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.

c. Total value of currently active grants, cooperative agreements, and procurement contracts includes—

(1) Only the Federal share of the funding under any Federal award with a recipient cost share or match; and

(2) The value of all expected funding increments under a Federal award and options, even if not yet exercised.

B. [Reserved]

APPENDIX II TO PART 200, TITLE 2

This content is from the eCFR and is authoritative but unofficial.

Title 2 - Grants and Agreements

Subtitle A - Office of Management and Budget Guidance for Grants and Agreements

Chapter II - Office of Management and Budget Guidance

Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

Source: 85 FR 49543, Aug. 13, 2020, unless otherwise noted.

Source: 85 FR 49539, Aug. 13, 2020, unless otherwise noted.

Authority: 31 U.S.C. 503

Source: 78 FR 78608, Dec. 26, 2013, unless otherwise noted.

Appendix II to Part 200 - Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

- (A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
- (B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.
- (C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."
- (D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by

Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

- (E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
- (F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.
- (G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended - Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- (H) Debarment and Suspension (Executive Orders 12549 and 12689) - A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- (I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352) - Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See § 200.323.

(K) See § 200.216.

(L) See § 200.322.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014; 85 FR 49577, Aug. 13, 2020]

SPECIAL CONDITIONS TO THE GENERAL CONDITIONS

**SPECIAL CONDITIONS TO THE
GENERAL CONDITIONS**

PROJECT 22-074.0

I. Cable Reel Waiver Information

Buy America Act, 23 U.S.C. § 313; 23 C.F.R. § 635.410 (“BAA”) Waiver for MV Cable Reel System

As published in ‘Federal Register /Vol. 87, No. 142 /Tuesday, July 26, 2022 /Notices’, a Buy America Waiver has been granted to Philadelphia Regional Port Authority (PhilaPort) for the foreign iron and steel components part of a Medium Voltage (MV) Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes’ drive power supply from diesel to electric. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

A copy of the posted notice and waiver are attached to these Special Conditions to the General Conditions for Project 22-074.0.

Note that all other components of the project (22-074.0), except the steel components identified in the waivers as part of a MV Cable Reel System, must comply with Buy America Act, 23 U.S.C. § 313; 23 C.F.R. § 635.410.

II. Warranty Information

The warranties below supersede the minimum one-year warranty in the general conditions. Warranty shall begin upon substantial completion of the work.

Description	Warranty Period
Workmanship	2 years
Electrical Systems and Components	2 years
Mechanical Systems and Components	5 years
Structural	10 years
Paint	5 years

III. Payment/Stored Materials

The successful vendor will be required to submit payment applications monthly or as otherwise acceptable to the PhilaPort Project Manager. Each payment request will initially be submitted as a pencil copy. The pencil copy will be verified by the project manager and field inspectors ensuring the amount billed agrees with actual work performed during the time period. Should changes be necessary, the vendor will be notified in writing. Once the pencil copy is approved, a formal payment request with all supporting documentation is to be submitted by the vendor to finance@philaport.com, with a copy to the PhilaPort

Project Manager. The vendor will be paid in accordance with terms reflected in Section XV of the General Terms and Conditions.

The successful bidder will be provided all documents and or links to forms needed to submit a payment application including but not limited to: GSC Forms, Final & Partial Release of Claims, Certified Payroll and Stored Material Forms. Any requests for payment against stored materials must utilize the Stored Materials Form and include the required information.

IV. Liquidated Damages

This section shall replace the section in General Conditions, Page 30, Section VIII, B. – Liquidated Damages.

1. Delay in completion of the Work.

The Contractor acknowledges and agrees that PhilaPort will incur substantial damages if the Work is not performed in accordance with the requirements of this Agreement. The parties agree that it would be extremely difficult and impractical under the presently known and anticipated facts and circumstances to ascertain and fix actual damages that PhilaPort would incur under these circumstances, and, accordingly, the parties agree that PhilaPort's remedy shall be to recover from the Contractor as liquidated damages, and not as a penalty the Contract Sum multiplied by 0.005 for each and every calendar day that the Work remains incomplete. The liquidated damages identified in this Section relate solely to the Contractor's delay in completing the Work in accordance with the requirements of this Agreement and not to other breaches, actions or omissions of the Contractor. The liquidated damages identified in this Section shall not limit PhilaPort's remedies for other breaches, actions, or omissions of the Contractor, including termination for failure to complete the Work. Below are the time periods liquidated damages begin accruing:

- H-7 (South Crane) Day 1 of crane out of service + 89 days
- H-6 (North Crane) Day 1 of crane out of service + 111 days
- 460 days after NTP

The period in which the cranes are taken out of service is critical to PhilaPort operations and time is of the essence. Commencing on day 91 of taking cranes out of service for H-7 crane, and/or on day 112 for H-6 crane, and/or 460 days after NTP is issued, liquidated damages will accrue at the rate set forth above if substantial completion has not been achieved.

NOTE: Both cranes should be taken out of service on approximately the same day and the work on both cranes should be performed parallel and not consecutively, to minimize the period of operational impacts on the terminal

- ##### **2. Failure to meet Diversity Inclusion participation levels.**
- The Contractor acknowledges that the diversity and inclusion commitments submitted as part of its bid were an integral

part of its bid and contracting requirements. The Contractor and agrees that PhilaPort will incur substantial damages to its efforts to promote diversity and inclusion if the commitment levels for the Work are not achieved in accordance with the requirements of this Agreement. The parties agree that it would be extremely difficult and impractical under the presently known and anticipated facts and circumstances to ascertain and fix actual damages that PhilaPort would incur under these circumstances, and, accordingly, the parties agree that PhilaPort's remedy shall be to recover from the Contractor as liquidated damages, and not as a penalty the dollar value of the participation committed multiplied by 0.10. The liquidated damages identified in this Section relate solely to the Contractor's failure to meet its commitment of diversity and inclusion in accordance with the requirements of this Agreement and not to other breaches, actions or omissions of the Contractor. The liquidated damages identified in this Section shall not limit PhilaPort's remedies for other breaches, actions, or omissions of the Contractor, including termination for failure to complete the Work.

BUY AMERICA WAIVER INFORMATION FOR CABLE REEL SYSTEM



DEPARTMENT OF TRANSPORTATION

Maritime Administration

Buy America Waiver Notification

AGENCY: Maritime Administration, U.S. Department of Transportation (DOT).

ACTION: Notice.

SUMMARY: This notice provides information regarding the finding of the Maritime Administration (MARAD), in coordination with the Federal Highway Administration (FHWA), that it is appropriate to grant a Buy America waiver based on nonavailability to the Philadelphia Regional Port Authority (PhilaPort) for procurement of foreign iron and steel components for the Packer Avenue Marine Terminal (PAMT) Capacity and Warehouse Relocation FY2017-2018 Infrastructure for Rebuilding America (INFRA) project. The foreign iron and steel components are part of a Medium Voltage (MV) Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

DATES: The effective date of the waiver is [*Insert date one day after publication in Federal Register*].

FOR FURTHER INFORMATION CONTACT: For questions about this notice, please contact Robert Bouchard, Director, Office of Port Infrastructure Development, 202-366-5076 or via e-mail at Robert.Bouchard@dot.gov. For legal questions, please contact Lauren Gill, MARAD Office of Chief Counsel, 202-366-2150, or via e-mail at Lauren.Gill@dot.gov.

SUPPLEMENTARY INFORMATION:

Electronic Access

An electronic copy of this document may be downloaded from the *Federal Register's*

home page at: www.FederalRegister.gov and the Government Publishing Office's database at: www.GovInfo.gov.

Background

PhilaPort's FY2017-2018 INFRA Project is required to follow the FHWA's Buy America requirements at 23 U.S.C. 313 and implementing regulations at 23 CFR 635.410. FHWA's Buy America regulation in 23 CFR 635.410 requires a domestic manufacturing process for any steel or iron products (including protective coatings) that are permanently incorporated in a Federal-aid construction project. The regulation also provides for a waiver of the Buy America requirements when the application would be inconsistent with the public interest or when satisfactory quality domestic steel and iron products are not produced in the United States in sufficient and reasonably available quantities. This notice provides information regarding MARAD's finding that it is appropriate to grant the PhilaPort a Buy America waiver based on nonavailability for procurement of foreign iron and steel components for the MV Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

Background on the Project: The DOT awarded PhilaPort¹ a \$25.5M FY2017-2018 INFRA grant² for its PAMT Capacity and Warehouse Relocation Project, which has a total project cost of roughly \$122M.³ MARAD is designated as the DOT operating agency responsible for administering the Project. The Project includes the electrification of two existing Hyundai STS diesel cranes (referred to as H-6 and H-7) to eliminate air emissions

¹ PhilaPort's Unique Entity Identifier (UEI) is J4QYLRK4VSR5.

² The INFRA program is described under the assistance listing program title "Nationally Significant Freight and Highway Projects" (assistance listing number 20.934).

³ The Federal Award Identification Number (FAIN) for the INFRA project is 693JF71910026.

and improve operational reliability. The cranes were installed at PAMT in 2004 and are the most utilized cranes on the terminal for unloading cargo from container vessels. According to PhilaPort, depending on the workload, the cranes can consume between 20 to 100 gallons of diesel fuel per hour.

PhilaPort determined that delivering utility-supplied electric power to the STS cranes required a trailing MV Cable Reel System. The MV Cable Reel System allows the STS cranes to be mobile along the dock by reeling cable in and out from a motorized and synchronized cable drum as the crane moves along the berth. The cable also delivers fiber communications to and from the cranes and the terminal. PhilaPort currently has five other STS cranes that operate alongside the H-6 and H-7 cranes that use a similar MV Cable Reel system. Additionally, the dock where H-6 and H-7 operate has been retrofitted to allow for the electrification of the two cranes via this system.

The crane electrification project will have substantial environmental benefits due to the elimination of harmful air emissions after the transition to electric drives. PhilaPort's PAMT has a planned annual container throughput that is forecasted to require 4,103 hours of operation for both H-6 and H-7. At this level of operation, PhilaPort estimates that converting the cranes to utility-supplied electricity would eliminate 109,896 of diesel crane hours and over 100,000 tons of harmful air emissions over their lifetime. Additionally, the conversion of the cranes from diesel to electric will result in significant cost savings to PhilaPort due to the reduction in fuel usage, energy costs, and improvements in efficiency and reliability of the cranes.

Background on the Waiver Request: PhilaPort began designing the crane electrification project in April 2020, at which point it became apparent that a Buy America-compliant MV Cable Reel System could not be sourced domestically. After further discussions with MARAD, PhilaPort requested that the design engineer perform a market study among potential suppliers. The design engineer contacted three known suppliers in the industry and one potential supplier in

a related industry. All four respondents confirmed that they could not supply a fully Buy America-compliant MV Cable Reel System.

After receiving the results of the market study and discussing with MARAD, PhilaPort proceeded to bid the crane electrification project in the hope that bidding contractors could engage resources to identify a fully Buy America-compliant MV Cable Reel System. On June 28, 2021, PhilaPort received bids on the Project from only two contractors, both of whom proposed the same non-compliant supplier for the MV Cable Reel System.

After unsuccessfully identifying domestic manufacturers of the MV Cable Reel System, on September 8, 2021, PhilaPort submitted a Buy America waiver request to MARAD for the procurement of an MV Cable Reel System containing foreign iron and steel components needed to complete the PAMT INFRA Project. The foreign components⁴ include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

The MV Cable Reel System is included under an approximately \$5.5 million contract to complete the crane electrification project. PhilaPort estimates that the MV Cable Reel System itself will cost \$410,000 out of that total project cost. Of the \$410,000, approximately \$110,000, or 2% of the total contract cost, is the cost of the foreign steel and iron components contained in the MV Cable Reel System. The remaining \$300,000 is non-steel/iron electrical trailing cable. All other costs associated with this contract are expected to comply with Buy America requirements.

In accordance with the statutory requirement at 23 U.S.C. 313(g), MARAD published a notice of intent to issue a waiver on the FHWA website on April 27, 2022, at <https://www.fhwa.dot.gov/construction/contracts/waivers.cfm?id=165>. MARAD received no

⁴ Depending on which vendor is selected by PhilaPort, the country of origin for these components will most likely be either Germany or Italy.

comments in response to the publication. Additionally, the PhilaPort point of contact similarly did not receive any comments or inquiries. Thus, PhilaPort did not receive any new information indicating that the subject components could be produced by domestic manufacturers.

Although PhilaPort did not identify a Buy America-compliant MV Cable Reel System, it provided information to MARAD supporting its waiver request, including information:

- Supporting the necessity of the MV Cable Reel System for converting the STS cranes from diesel to electric;
- Documenting efforts to locate compliant manufactured products;
- Demonstrating that alternative designs were infeasible; and
- Describing the effects of denying the request.

Although ultimately unsuccessful, PhilaPort made substantial efforts to find a Buy America-compliant MV Cable Reel System.

Timing and Need for a Waiver. According to PhilaPort, the approval of a Buy America waiver for the MV Cable Reel System is critical to maintain the schedule of ongoing construction on the INFRA Project. Currently, the lead time for this major component is between 20 to 30 weeks, so any delay in approving the waiver will result in project delays and additional time the STS cranes will operate under diesel power. Without the waiver for the relevant system, the crane electrification project cannot move forward, and the environmental and operational benefits of the project would be lost.

Executive Order 14005. Executive Order 14005, “Ensuring the Future is Made in All of America by All of America’s Workers,” provides that agencies should, consistent with applicable law, maximize the use of goods, products, and materials produced in, and services offered in, the U.S. 86 FR 7475 (Jan. 28, 2021). Based on the information contained in the waiver request from PhilaPort and the lack of comments following publication of a notice seeking comment on April 27, 2022, regarding available domestic manufacturers for the subject parts, MARAD concludes that issuing a waiver is consistent with Executive Order 14005.

Finding and Request for Comments

Based on all the information available to the Agency, MARAD concludes that there are no Buy America-compliant relevant components for the MV Cable Reel System needed for the Project, including: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide. This finding only includes components identified in the waiver request and supporting documents included on FHWA's Website.

The PhilaPort and its contractors and subcontractors involved in the procurement of the relevant components are reminded of the need to comply with the Cargo Preference Act in 46 CFR part 381, if applicable.

To avoid the possibility of requiring waivers for these items in the future, MARAD will work with industry to better understand the demand for these components and the potential for domestic production of these items in the future. We will then follow-up with the Office of Management and Budget's Made in America Office and the U.S. Department of Commerce, as appropriate, to assess the potential for domestic production to meet the forecasted demand for these items.

In accordance with the provisions of Section 117 of the SAFETEA-LU Technical Corrections Act of 2008 (Pub. L. 110-244, 122 Stat. 1572), MARAD is providing this notice as its finding that a waiver of Buy America requirements is appropriate. MARAD invites public comment on this finding for an additional 5 days following the effective date of the finding. Comments may be submitted to FHWA's Website via the link provided to the waiver page noted above.

(Authority: 23 U.S.C. 117; 23 U.S.C. 313; Pub. L. 110-244; 23 CFR 635.410)

By order of the Maritime Administrator.

T. Mitchell Hudson, Jr.,

Secretary, Maritime Administration.

[FR Doc. 2022-16012 Filed: 7/25/2022 8:45 am; Publication Date: 7/26/2022]

(UAS) Support Center Case Management System (CMS) will streamline how respondents' questions will be answered. Specifically, the UAS Support Center CMS Customer Inquiry form allows the public and other stakeholders to ask the FAA questions, as well as get the appropriate answer/information that is needed to operate their UAS or drone safely.

The UAS Support Center will have a publicly available form to submit inquiries. This form will allow the UAS Support Center to collect the appropriate information about the respondent's name (*i.e.*, first and last), preferred method of communications (*i.e.*, email or phone), email address, phone number, zip code (if needed), self-identification of type of flyer (*i.e.*, recreational, commercial/business, public safety, local government, educational/research, Eyewitness Report, I don't know, and other), the subject of the inquiry, and inquiry/question. This information will allow the UAS Support Center Analysts more information to efficiently answer the respondent's specific question.

The respondents public form process starts with submitting an inquiry by using the public webform, shared email inbox, or by calling the UAS Support Center Analysts. Once the public user submits an inquiry, they will receive an automated system email receipt that includes inquiry reference number, created date, "tell us about yourself," subject, and their inquiry/question. The public users can also use the inquiry status public page to check their inquiry status. For a public user to check the status of an inquiry, the system requires the user to have and enter the reference number and email address that is used to when creating the inquiry. Once the system confirms that the email address and reference number match with the inquiry record that's currently in the system, it will display inquiry status and created date of the inquiry.

The FAA received comments to the 60-day **Federal Register** Notice from the Small UAV Coalition, MAC Law, and one individual.

- The FAA considered all comments equally.
- The FAA agrees with the request for the system to send a confirmation email with the confirmation tracking code to track the status of the inquiry, similar to the www.regulations.gov website. This functionality is built into the system and will not allow for members of the public to view the status of another stakeholder's inquiry.
- The Case Management System collects appropriate information about the stakeholder's name, preferred

method of communication, phone number, zip code, and type of flyer to facilitate quick resolution of stakeholder inquiries. It will provide a historical record of an individual's inquiries for the UAS Support Center to reference.

- The FAA references the support center on FAA.gov/uas, UAS events, community partnerships and social media.
- The FAA provides the opportunity for a stakeholder to contact the FAA UAS Support Center by phone and/or email. The FAA commits to protecting personally identifiable information (PII) in response to a Freedom of Information Act request, under 5 U.S.C. 552(b)(6). In response, a text-based warning to avoid including PII will be included on the inquiry page to prevent unnecessary collection of this information.

Respondents: Anyone may use the publicly available form to submit an inquiry. The respondent may submit any number of inquiries.

Frequency: N/A.

Estimated Average Burden per Response: Less than two minutes for a typical inquiry.

Estimated Total Annual Burden: The majority of respondents submit a one-time inquiry. The annual burden per respondent per inquiry is two minutes. Estimate around 22,000 inquiries per year equating to 44,000 minutes of total burden to the public per year.

Issued in Washington, DC.

Danielle Corbett,

Manager, UAS Integration Office, Program and Data Management, AUS-410.

[FR Doc. 2022-15894 Filed 7-25-22; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

Buy America Waiver Notification

AGENCY: Maritime Administration, U.S. Department of Transportation (DOT).

ACTION: Notice.

SUMMARY: This notice provides information regarding the finding of the Maritime Administration (MARAD), in coordination with the Federal Highway Administration (FHWA), that it is appropriate to grant a Buy America waiver based on nonavailability to the Philadelphia Regional Port Authority (PhilaPort) for procurement of foreign iron and steel components for the Packer Avenue Marine Terminal (PAMT) Capacity and Warehouse Relocation FY2017–2018 Infrastructure for Rebuilding America (INFRA) project. The foreign iron and steel components

are part of a Medium Voltage (MV) Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

DATES: The effective date of the waiver is July 27, 2022.

FOR FURTHER INFORMATION CONTACT: For questions about this notice, please contact Robert Bouchard, Director, Office of Port Infrastructure Development, 202-366-5076 or via email at Robert.Bouchard@dot.gov. For legal questions, please contact Lauren Gill, MARAD Office of Chief Counsel, 202-366-2150, or via email at Lauren.Gill@dot.gov.

SUPPLEMENTARY INFORMATION:

Electronic Access

An electronic copy of this document may be downloaded from the **Federal Register's** home page at: www.FederalRegister.gov and the Government Publishing Office's database at: www.GovInfo.gov.

Background

PhilaPort's FY2017–2018 INFRA Project is required to follow the FHWA's Buy America requirements at 23 U.S.C. 313 and implementing regulations at 23 CFR 635.410. FHWA's Buy America regulation in 23 CFR 635.410 requires a domestic manufacturing process for any steel or iron products (including protective coatings) that are permanently incorporated in a Federal-aid construction project. The regulation also provides for a waiver of the Buy America requirements when the application would be inconsistent with the public interest or when satisfactory quality domestic steel and iron products are not produced in the United States in sufficient and reasonably available quantities. This notice provides information regarding MARAD's finding that it is appropriate to grant the PhilaPort a Buy America waiver based on nonavailability for procurement of foreign iron and steel components for the MV Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/

legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

Background on the Project: The DOT awarded PhilaPort¹ a \$25.5M FY2017–2018 INFRA grant² for its PAMT Capacity and Warehouse Relocation Project, which has a total project cost of roughly \$122M.³ MARAD is designated as the DOT operating agency responsible for administering the Project. The Project includes the electrification of two existing Hyundai STS diesel cranes (referred to as H–6 and H–7) to eliminate air emissions and improve operational reliability. The cranes were installed at PAMT in 2004 and are the most utilized cranes on the terminal for unloading cargo from container vessels. According to PhilaPort, depending on the workload, the cranes can consume between 20 to 100 gallons of diesel fuel per hour.

PhilaPort determined that delivering utility-supplied electric power to the STS cranes required a trailing MV Cable Reel System. The MV Cable Reel System allows the STS cranes to be mobile along the dock by reeling cable in and out from a motorized and synchronized cable drum as the crane moves along the berth. The cable also delivers fiber communications to and from the cranes and the terminal. PhilaPort currently has five other STS cranes that operate alongside the H–6 and H–7 cranes that use a similar MV Cable Reel system. Additionally, the dock where H–6 and H–7 operate has been retrofitted to allow for the electrification of the two cranes via this system.

The crane electrification project will have substantial environmental benefits due to the elimination of harmful air emissions after the transition to electric drives. PhilaPort's PAMT has a planned annual container throughput that is forecasted to require 4,103 hours of operation for both H–6 and H–7. At this level of operation, PhilaPort estimates that converting the cranes to utility-supplied electricity would eliminate 109,896 of diesel crane hours and over 100,000 tons of harmful air emissions over their lifetime. Additionally, the conversion of the cranes from diesel to electric will result in significant cost savings to PhilaPort due to the reduction in fuel usage, energy costs, and improvements in efficiency and reliability of the cranes.

¹ PhilaPort's Unique Entity Identifier (UEI) is J4QYLRK4VSR5.

² The INFRA program is described under the assistance listing program title "Nationally Significant Freight and Highway Projects" (assistance listing number 20.934).

³ The Federal Award Identification Number (FAIN) for the INFRA project is 693JF71910026.

Background on the Waiver Request: PhilaPort began designing the crane electrification project in April 2020, at which point it became apparent that a Buy America-compliant MV Cable Reel System could not be sourced domestically. After further discussions with MARAD, PhilaPort requested that the design engineer perform a market study among potential suppliers. The design engineer contacted three known suppliers in the industry and one potential supplier in a related industry. All four respondents confirmed that they could not supply a fully Buy America-compliant MV Cable Reel System.

After receiving the results of the market study and discussing with MARAD, PhilaPort proceeded to bid the crane electrification project in the hope that bidding contractors could engage resources to identify a fully Buy America-compliant MV Cable Reel System. On June 28, 2021, PhilaPort received bids on the Project from only two contractors, both of whom proposed the same non-compliant supplier for the MV Cable Reel System.

After unsuccessfully identifying domestic manufacturers of the MV Cable Reel System, on September 8, 2021, PhilaPort submitted a Buy America waiver request to MARAD for the procurement of an MV Cable Reel System containing foreign iron and steel components needed to complete the PAMT INFRA Project. The foreign components⁴ include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.

The MV Cable Reel System is included under an approximately \$5.5 million contract to complete the crane electrification project. PhilaPort estimates that the MV Cable Reel System itself will cost \$410,000 out of that total project cost. Of the \$410,000, approximately \$110,000, or 2% of the total contract cost, is the cost of the foreign steel and iron components contained in the MV Cable Reel System. The remaining \$300,000 is non-steel/iron electrical trailing cable. All other costs associated with this contract are expected to comply with Buy America requirements.

In accordance with the statutory requirement at 23 U.S.C. 313(g), MARAD published a notice of intent to

⁴ Depending on which vendor is selected by PhilaPort, the country of origin for these components will most likely be either Germany or Italy.

issue a waiver on the FHWA website on April 27, 2022, at <https://www.fhwa.dot.gov/construction/contracts/waivers.cfm?id=165>. MARAD received no comments in response to the publication. Additionally, the PhilaPort point of contact similarly did not receive any comments or inquiries. Thus, PhilaPort did not receive any new information indicating that the subject components could be produced by domestic manufacturers.

Although PhilaPort did not identify a Buy America-compliant MV Cable Reel System, it provided information to MARAD supporting its waiver request, including information:

- Supporting the necessity of the MV Cable Reel System for converting the STS cranes from diesel to electric;
- Documenting efforts to locate compliant manufactured products;
- Demonstrating that alternative designs were infeasible; and
- Describing the effects of denying the request.

Although ultimately unsuccessful, PhilaPort made substantial efforts to find a Buy America-compliant MV Cable Reel System.

Timing and Need for a Waiver. According to PhilaPort, the approval of a Buy America waiver for the MV Cable Reel System is critical to maintain the schedule of ongoing construction on the INFRA Project. Currently, the lead time for this major component is between 20 to 30 weeks, so any delay in approving the waiver will result in project delays and additional time the STS cranes will operate under diesel power. Without the waiver for the relevant system, the crane electrification project cannot move forward, and the environmental and operational benefits of the project would be lost.

Executive Order 14005. Executive Order 14005, "Ensuring the Future is Made in All of America by All of America's Workers," provides that agencies should, consistent with applicable law, maximize the use of goods, products, and materials produced in, and services offered in, the U.S. 86 FR 7475 (Jan. 28, 2021). Based on the information contained in the waiver request from PhilaPort and the lack of comments following publication of a notice seeking comment on April 27, 2022, regarding available domestic manufacturers for the subject parts, MARAD concludes that issuing a waiver is consistent with Executive Order 14005.

Finding and Request for Comments

Based on all the information available to the Agency, MARAD concludes that there are no Buy America-compliant

relevant components for the MV Cable Reel System needed for the Project, including: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide. This finding only includes components identified in the waiver request and supporting documents included on FHWA's website.

The PhilaPort and its contractors and subcontractors involved in the procurement of the relevant components are reminded of the need to comply with the Cargo Preference Act in 46 CFR part 381, if applicable.

To avoid the possibility of requiring waivers for these items in the future, MARAD will work with industry to better understand the demand for these components and the potential for domestic production of these items in the future. We will then follow-up with the Office of Management and Budget's Made in America Office and the U.S. Department of Commerce, as appropriate, to assess the potential for domestic production to meet the forecasted demand for these items.

In accordance with the provisions of Section 117 of the SAFETEA-LU Technical Corrections Act of 2008 (Pub. L. 110-244, 122 Stat. 1572), MARAD is providing this notice as its finding that a waiver of Buy America requirements is appropriate. MARAD invites public comment on this finding for an additional 5 days following the effective date of the finding. Comments may be submitted to FHWA's website via the link provided to the waiver page noted above.

(Authority: 23 U.S.C. 117; 23 U.S.C. 313; Pub. L. 110-244; 23 CFR 635.410)

By order of the Maritime Administrator.

T. Mitchell Hudson, Jr.,

Secretary, Maritime Administration.

[FR Doc. 2022-16012 Filed 7-25-22; 8:45 am]

BILLING CODE 4910-81-P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2022-0043]

Agency Information Collection Activities; Notice and Request for Comment; Consolidated Labeling Requirements for Motor Vehicles (Except the VIN)

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Notice and request for comments on a request for extension of a currently-approved information collection.

SUMMARY: The National Highway Traffic Safety Administration (NHTSA) invites public comments about our intention to request the Office of Management and Budget (OMB) approval to renew an information collection. Before a Federal agency can collect certain information from the public, it must receive approval from OMB. Under procedures established by the Paperwork Reduction Act of 1995, before seeking OMB approval, Federal agencies must solicit public comment on proposed collections of information, including extensions and reinstatement of previously approved collections. *This document describes a collection of labeling information on seven Federal Motor Vehicle Safety Standards (FMVSS) for which NHTSA intends to seek OMB approval. The labeling requirements include brake fluid warning, glazing labeling, air bag warning labels, seat belt labeling, compressed natural gas (CNG) vehicle fuel label, and CNG fuel container labels.*

DATES: Comments must be submitted on or before September 26, 2022.

ADDRESSES: You may submit comments, identified by the NHTSA docket number identified above, through any of the following methods:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the online instructions for submitting comments.

- **Fax:** 1-202-493-2251.

- **Mail or Hand Delivery:** Docket Management, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building, Room W12-140, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except on Federal holidays.

Instructions: All submissions must include the agency name and docket number for this proposed collection of information. Note that all comments

received will be posted without change to <http://www.regulations.gov>, including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78) or you may visit <https://www.transportation.gov/privacy>.

Docket: For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> or the street address listed above. Follow the online instructions for accessing the dockets via internet.

FOR FURTHER INFORMATION CONTACT: For additional information or access to background documents, contact James Myers, NHTSA, 1200 New Jersey Avenue SE, West Building, Room W43-320, NRM-100, Washington, DC 20590. Mr. Myers' telephone number is 202-366-1810. Please identify the relevant collection of information by referring to its OMB Control Number.

SUPPLEMENTARY INFORMATION: Under the Paperwork Reduction Act of 1995, before an agency submits a proposed collection of information to OMB for approval, it must first publish a document in the **Federal Register** providing a 60-day comment period and otherwise consult with members of the public and affected agencies concerning each proposed collection of information. The OMB has promulgated regulations describing what must be included in such a document. Under OMB's regulation (at 5 CFR 1320.8(d)), an agency must ask for public comment on the following:

(i) whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;

(ii) the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

(iii) how to enhance the quality, utility, and clarity of the information to be collected;

(iv) how to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other technological

STORED MATERIALS FORM

STORED MATERIALS

Project No: _____
 Contract No: _____
 Project Title: _____
 Location: _____
 Contractor: _____

Materials or equipment that have not yet been incorporated into the work may be delivered and suitably stored, at the site. The materials or equipment listed below have been estimated at 100% of the cost and will be stored on site. PhilaPort will reimburse the contractor based upon the prices included on the Schedule of Values Form less the cost of installation. The Contractor must complete sufficient copies of the "Stored Materials Form", to accompany the Invoice Approval - Pay Application (INVPA). The Contractor shall secure the signature of its bonding company on all forms and shall also provide a Power of Attorney from the bonding company.

SCHEDULE

Quantity	Material/Equipment	Item in Schedule of Values		Unit Wholesale Price	Extended Wholesale Price
		Item No.	Unit Price		
					\$0.00
					\$0.00
					\$0.00
				Total	\$ \$0.00

Surety _____ By: _____
POWER of ATTORNEY MUST BE ATTACHED Attorney-in-Fact
 Date: _____

BILL OF SALE

The Contractor, _____, (will store/has stored) certain materials and /or equipment, herein called materials, (at the site of this project/at an approved warehouse/at bonded warehouse) and will be paid in accordance with the provisions of PhilaPort General Conditions.

In consideration of the sum of \$ _____ paid to the Contractor by PhilaPort and, in compliance with the provisions of the Contract, and, with the intention to be legally bound, the Contractor does hereby grant, bargain, sell and deliver unto PhilaPort, its successors and assigns, all and singular, the materials described in the schedule above. The Contractor agrees that:

1. Contractor has good title to the materials, free and clear of all liens and encumbrances, and title is granted to PhilaPort;
2. The materials will be used only in the construction of the above referenced project, under the provisions of the Contract, and will not be diverted elsewhere without the prior written consent of PhilaPort;
3. The materials have been delivered to and are at the onsite location approved for storage, and they are clearly marked and identified as the property of PhilaPort and are stored in a safe and secure manner to protect from damage or loss;
4. The Contractor will pay all expenses in connection with the sale, delivery, storage, protection and insurance of materials granted to PhilaPort and will remain responsible for the materials, which will remain under its custody and control for all losses, regardless of exclusions in insurance policies required under this document. The Contractor has insured the materials against loss or damage by fire (with extended coverage), theft and burglary, with loss payable to PhilaPort;

5. The Contractor agrees that the quantities of materials set forth in the Schedule of Values, represents the maximum quantities for which it may be entitled to payment under the provisions of the Contract;
6. The following information is included with this form: (1) Pay Application (INVPA); (2) An invoice or photostatic copy of an invoice for materials stored; (3) Evidence of payment; (4) Photographs showing the stored materials and its location; (5) a fire and theft insurance policy rider for the stored materials.

Witness:

By: _____(SEAL)

Principal-Individual

Witness:

Principal-Partnership

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

Attest:

Secretary

By: _____

Principal-Corporation

President

VERIFICATION

This document has been reviewed and the following is verified:

1. The description of the line items on the vendor's invoice is identical to the description on this form and the Schedule of Values. If the item(s) description on the vendor's invoice is not identical, the Contractor has clearly described, either on the vendor's invoice or an attachment, the invoiced item(s), as related to the item(s) on this Schedule of Values Form. For an item to be payable as stored materials, the entire line item must be completely broken down into a schedule of values, not just for the stored material(s).
2. The vendor's invoice shows the "Unit Wholesale Price" and the "Extended Wholesale Price". It is permissible for the Contractor to add information to the vendor's invoice for the purpose of clarity. If Items that are being claimed for Stored Materials are intermingled with other items on a vendor's invoice, the claimed items have been highlighted or underlined.
3. If the vendor's invoice includes two or more separate items that are component parts of a single line item previously submitted on a Schedule of Value Form has been submitted and approved prior to requesting this payment for Stored Materials. Line items with differing unit prices have been shown as separate items on the Supplemental Schedule of Values. Each component part has been shown as an individual line item.
4. The Contractor has identified each package, bundle, box, container or item of the materials. Identification is legible and securely attached and protected so it will not become erased. The Contractor is responsible for proper storage of the materials at the project site. The materials are stored off the ground and properly protected from the elements.
5. This form is being submitted with a Pay Application (INVPA) No. _____. In addition, the following documents are included with the with this form:
 - a. Vendor's Invoice
 - b. Photographs of material
 - c. Fire and theft insurance policy rider for materials
 - d. Evidence of payment (as provided in item 6 of the previous section)

Contractor

PhilaPort Representative

Title

Date

GENERAL CONDITIONS

9/26/2018

**GENERAL CONDITIONS OF
PHILADELPHIA REGIONAL PORT AUTHORITY
CONTRACTS
(Revised as of September 26, 2018)**

**INDEX TO THE GENERAL CONDITIONS OF
PHILADELPHIA REGIONAL PORT AUTHORITY CONTRACTS**

Table of Contents

I. Definitions: 1

II. Contract Award & Contractor Responsibility: 3

A. PhilaPort’s Right to Award Separate Contracts:..... 3

B. Mutual Responsibility of Contractors: 3

C. Cooperation with Other Contractors: 4

D. Execution of the Contract Documents: 4

E. Subcontracts: 5

F. Contractor’s Obligations:..... 6

G. Supervision and Procedures:..... 6

H. Contractor Integrity:..... 7

I. Offset of Tax Liability:..... 8

J. Commonwealth Audit: 9

K. Contractor Responsibility Provision: 9

L. Professional Services: 9

M. Status and PhilaPort of the Engineer:..... 9

N. Third-party Actions..... 10

III. General Legal Compliance: 11

A. Laws and Ordinances:..... 11

B. Hours and Conditions of Employment:..... 11

C. Americans with Disabilities Act: 11

D. Equal Employment Opportunities:..... 12

E. Prevailing Wages:..... 14

F. Preferential Hiring of Veterans: 14

G. Environmental Laws: 15

H. Taxes: 16

I. Permits and Licenses: 16

J. Maintenance of Waterways:..... 16

IV. Specific Legal Requirements: 17

A. Assignment of Antitrust Claims: 17

B. Accidents:..... 17

C. Indemnification:	17
D. Intellectual Property:.....	18
E. Patented Appliances, Products or Processes:	18
F. No Estoppel or Waiver of Legal Rights:	18
G. Legal Relations and Responsibilities:	19
H. Unauthorized Acts:	19
I. Successors and Assigns:	19
J. Governing Law:.....	19
V. Standards of Review & Project Compliance:	19
A. Sketch Drawings:	19
B. Chases and Openings:	20
C. Shop Drawings and Samples:.....	20
D. Plans and Specifications:	21
E. Copies Furnished and Ownership of the Contract Documents:	22
F. Standards of Quality:	23
G. Quantities are Approximate:	23
H. Methods to be Approved:.....	24
I. Completeness of Data:.....	24
J. Lines and Grades; City Datum:	24
K. As-Built Documents:.....	24
VI. Insurance:	25
A. Contractor's Insurance:	25
B. Contractor's Liability Insurance:	27
VII. Safety:	27
A. Safety of Persons and Property:	27
B. Safety Precautions and Programs:.....	28
C. Emergencies:	28
D. Access to Fire Hydrants and Fire Alarm Boxes:.....	28
E. Safety and Sanitary Provisions:.....	29
F. Danger Signals:.....	29
VIII. Contract Time and Change Orders:	29
A. Contract Time:	29
B. Liquidated Damages:.....	30
C. Progress Schedule:	31

D. Progress Meetings:..... 32

E. Change Orders:..... 32

F. Claims for Additional Cost or Time:..... 34

G. Minor Changes in the Work:..... 34

H. Field Orders: 34

I. Force Account: 35

IX. Acceptance of Work: 36

 A. Tests:..... 36

 B. Uncovering the Work:..... 37

 C. Correction of the Work: 37

 D. Acceptance of Nonconforming Work:..... 39

 E. Materials and Workmanship: 39

 F. Inspection:..... 39

 G. Investigation of the Work: 40

 H. Defective Work:..... 40

 I. Restoration of Prior Conditions:..... 40

X. X. Disputes & Contract Violations between the Contractor and PhilaPort: 41

 A. Three-Step Resolution Process 41

 B. Step One: FDR Meeting..... 41

 C. Step Two: Claim Settlement Conference 43

 D. Step Three: Filing a Claim at the Board of Claims..... 45

XI. Disputes Between Contractors: 46

 A. Damage; Injury; Delay 46

 B. Breach..... 47

 C. Demand for Arbitration..... 47

XII. Contract Violations:..... 47

 A. Violations of the Contract:..... 47

XIII. Suspension of Work: 48

 A. Suspension of the Work Due to Unfavorable Conditions:..... 49

 B. Suspension of the Work for the Convenience of PhilaPort:..... 49

 C. Suspension of the Work and Fault of the Contractor: 50

XIV. Termination:..... 50

 A. Termination by the Contractor:..... 50

 B. Termination by PhilaPort: 50

XV. Payments:	51
A. Scope of Payments:.....	51
B. Mobilization:.....	52
C. Payment to Subcontractors:.....	52
D. Progress Payments:.....	52
E. Application for Payment:.....	53
F. Failure of Payment:.....	54
G. Substantial Completion Inspection:.....	54
H. Final Payment:.....	55
I. Interest on Final Payment:.....	56
XVI. Completion:	56
A. Substantial Completion:.....	56
B. Final Completion:.....	56
XVII. Warranty:	57
A. Maintenance After Completion and the Contractor's Guarantee:.....	57
XVIII. Work Site Conditions:	58
A. Performance of the Work:.....	58
B. Maintenance of Traffic and Access to Property:.....	58
C. Temporary Buildings:.....	58
D. Temporary Ventilation:.....	59
E. Detour Signs:.....	59
F. Contract Identification Signs:.....	59
G. Storage Space:.....	59
H. Night Work:.....	59
I. Power and Light:.....	60
J. Use of Water:.....	60
K. Prevention of Dust and Smoke:.....	60
L. Explosives:.....	60
M. Work in Freezing Weather:.....	60
N. Cooperation with Public Utility Companies:.....	61
O. Gas Pipes:.....	61
P. Traffic Control Apparatus:.....	62
Q. Interruption of Existing Services:.....	62
R. Support and Protection:.....	62

S. Structures Interfering with Construction: 62
T. Abandonment of Structures: 63
U. Insulation for Construction Projects:..... 63

**GENERAL CONDITIONS OF
PHILADELPHIA REGIONAL PORT AUTHORITY
CONSTRUCTION CONTRACTS**

I. Definitions:

A. The following terms and expressions used in the Contract Documents shall be defined and understood as follows:

“Agreement” shall mean the document executed by PhilaPort and the Contractor that incorporates the additional Contract Documents.

“City” shall mean the City of Philadelphia.

“Claim Settlement Conference” shall mean the dispute resolution process, as more particularly described in Article X.

“Commonwealth” shall mean the Commonwealth of Pennsylvania.

“Contract” shall mean the complete contractual understanding between PhilaPort and the Contractor. The Contract may also be referred to as the “Agreement.”

“Contract Documents” shall mean the documents described in Article VI of the Contract and otherwise identified in these General Conditions.

“Contractor” shall mean the party of the second part to the Contract.

“Contract Sum” shall mean the amount stated in Article III of the Contract for the payment to the Contractor.

“Contracting Officer” The Contracting Officer shall be the Procurement Director prior to the issuance of the notice to proceed. Subsequently, the Contracting Officer shall be the Chief Engineer of PhilaPort.

“Date of Completion” shall mean the date determined in accordance with the provisions of Article IV of the Agreement for the substantial completion of the Work.

“Day(s),” whether or not capitalized, shall mean the number of days, excluding the first and including the last day of such period. Whenever the last day of any such period shall fall on a Saturday or Sunday or on any day made a legal holiday by the laws of the Commonwealth or the United States, such day shall be omitted from the computation.

“Dispute Designee” shall mean the Chief Counsel of PhilaPort, or any deputy or substitute who may be so designated in writing by the Executive Director.

“Engineer” shall mean either the Chief Engineer of PhilaPort, or any successor or successors duly appointed in writing by the Chief Engineer, or any deputy or substitute who may be so designated, in writing, by the Executive Director or through a duly authorized representative within the scope of the particular duties assigned such representative. PhilaPort may also designate an outside design professional as the Professional to perform duties on behalf of the Engineer.

“Executive Director” shall mean the Executive Director of PhilaPort, or any deputy or substitute who may be so designated in writing by the Executive Director.

“FDR Meeting” shall mean a Field Dispute Review Meeting, as more particularly described in Article X.

“Inspector” shall mean the representative of the Engineer assigned to the inspection of the Work under the Contract.

“PhilaPort” shall mean the Philadelphia Regional Port Authority, also referred to as, “Owner” and “PRPA.”

“Plans” shall mean the general plans and designs accompanying the Specifications and such supplementary drawings as may be furnished from time to time.

“Professional” shall mean the Engineer unless designated otherwise.

“Project” shall mean the total of the Work to be performed under the Contract and any other separate prime contracts as so designated by PhilaPort.

“Samples” are physical examples furnished by the Contractor to illustrate materials, equipment or workmanship, and to establish standards by which the Work will be judged.

“Shop drawings” are drawings, diagrams, illustrations, schedules, performance charts, brochures, catalog data, and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor, and which illustrate some portion of the Work.

“Site” shall mean the location where the construction or services will be performed or where the materials or equipment will be used pursuant to the Contract.

“Special Conditions” shall mean those special conditions which modify the General Conditions.

“Specifications” shall mean the written documentation accompanying the Plans, which set forth the Work to be performed and the methods to be used to perform the Work.

“Subcontractor” shall mean persons, firms, or corporations having a direct contract with the Contractor to perform a portion of the Work or to furnish materials or equipment.

“Substantial Completion” or “Substantially Complete” shall mean The time at which the Work

(or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended.

“Work” shall mean the subject matter of the Contract, i.e., the labor or service to be performed and/or the material and/or equipment to be supplied, delivered and/or installed as stated in Article II of the Contract or otherwise as described in the Contract Documents.

“Working Day” shall mean a calendar day except Saturday, Sunday, and any day made a legal holiday by the laws of the Commonwealth or the United States.

B. Wherever in the Specifications or the Plans the words “directed”, “required”, “permitted”, “ordered”, “designated”, “prescribed”, or words of similar meaning are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended, and similarly the words “approved”, “acceptable”, “satisfactory”, or words of similar meaning, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Executive Director.

II. Contract Award & Contractor Responsibility:

A. PhilaPort’s Right to Award Separate Contracts:

PhilaPort reserves the right to award other contracts in connection with other portions of the Project under these or similar conditions of the Contract. When separate prime contracts are awarded for different portions of the Project, the “Contractor” in the Contract Documents in each case shall be the contractor who signs a separate prime contract.

B. Mutual Responsibility of Contractors:

1. If any part of the Contractor’s Work depends for proper execution or results upon the work of any other prime contractors or their subcontractors, the Contractor shall inspect and promptly report in writing to the Engineer and PhilaPort any apparent discrepancies or defects in such work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other prime contractors’ or their subcontractors’ work as fit and proper to receive the Contractor’s Work, except as to defects which may develop in the other prime contractors’ or their subcontractors’ work after the execution of the Contractor’s Work.
2. The Work shall be conducted so as not to interfere with the work of other contractors. If any part of the Contractor’s Work depends for proper execution or results upon work being done by other prime contractors or their subcontractors not under contract with the Contractor, the Contractor shall inspect and promptly report in writing to the Engineer and PhilaPort any interference, defects, or delays in the work done or being done by the other prime contractors or their subcontractors. In the event that any prime contractor shall not complete the various portions of the Project in general harmony, and another

prime contractor shall be caused damage or injury by the failure to so act in harmony, the prime contractor damaged or injured shall have the right to settle by agreement or arbitration such claim or disputes in accordance with the provisions of Section XI herein. PhilaPort, however, shall not be liable to any prime contractor for any increased costs or damages resulting from the defective work, interference, or delays of other prime contractors.

C. Cooperation with Other Contractors:

1. The Contractor shall cooperate with any other contractors on concurrent work that may be on or adjacent to the Contractor's Work, and shall afford reasonable facilities and access to them. Except as provided in Section XI, herein, the Engineer will decide any matters in dispute as to the performance of the Work, including access to the Site and priority of performance on either side of the division line between contiguous Contract sections.
2. The Contractor shall afford other prime contractors and their subcontractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate the Contractor's Work with the work awarded by PhilaPort to other contractors.
3. Where any portion of the Work is done in combination with or affects in any way the progress of the work of other contractors, the Contractor shall cooperate with such contractors and shall perform the details of the Contract at such time and in such a manner that the Work and all other work may proceed without interruption. Where electrical, plumbing, heating, or mechanical equipment is installed under separate contracts, concurrently with construction contracts, the equipment contractors shall keep in close touch with the construction work; and the contractor for the main construction shall give the equipment contractors at least twenty-four (24) hours' notice, excepting Saturdays, Sundays, and those days made a legal holiday by the laws of the Commonwealth or the United States, of any intention to place concrete, do backfilling, or perform similar work affecting the installation of such equipment. The equipment contractors shall thereupon promptly furnish and install their equipment as required. Should the equipment contractors fail to do such work within a reasonable time after having been so notified, and the progress of the Work is thereby delayed, the Engineer shall have the right to order the installation work performed by another contractor and to deduct the cost thereof from any monies due under the equipment contract.

D. Execution of the Contract Documents:

By executing the Contract, the Contractor represents that the Contractor has visited the Site and by careful personal examination is satisfied as to the Contract Documents and the physical condition of the location where the Work is to be performed, and that the Contractor has correlated these personal observations with the requirements of the Contract Documents. The Contractor shall assume all risks resulting from the Contractor's reliance upon test data provided for reference only by PhilaPort as provided in Section 3.C of the Instructions to

Bidders, and the Contractor shall assume all risks resulting from any changes in the conditions of the Site which may occur during the progress of the Work except as provided in Section VIII.E herein.

E. Subcontracts:

1. The Contractor shall not assign the Contract or any part thereof, and the Contractor shall not assign any right to any monies to be paid to the Contractor under the Contract without the prior written consent of PhilaPort. The Contract as a whole shall not be sublet. No portion of the Work shall be sublet without the approval of the Engineer, and no Subcontractor shall be employed unless in the opinion of the Engineer the Subcontractor is reliable, responsible, and competent to perform the Work in compliance with the Contract Documents. All entities so employed shall be bound by the terms and provisions of the Contract, and neither the Contractor nor the Contractor's sureties will be relieved from the terms and conditions of the Contract or their duties or responsibilities under the same by reason of such employment.
2. The Contractor shall perform at least twenty percent (20%) of the total amount of the Work with the Contractor's own organization based upon the Contract Sum.
3. All Work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor (and, where appropriate, between Subcontractors and sub-subcontractors). All agreements between the Contractor and Subcontractors and between Subcontractors and sub-subcontractors for Work performed under the Contract shall be forwarded to PhilaPort for approval prior to the commencement of any Work by a Subcontractor or a sub-subcontractor and shall contain provisions, acceptable to PhilaPort, that:
 - a. preserve and protect the rights of PhilaPort, and the Engineer with respect to the Work to be performed under the subcontract so that the subcontracting thereof will not prejudice any such rights;
 - b. require that such Work be performed in accordance with the Contract Documents;
 - c. require submission to the Contractor of applications for payment under each subcontract to which the Contractor is a party, in reasonable time to enable the Contractor to apply for payment in accordance with Section XIV, herein;
 - d. require that all claims for additional costs, extensions of time or otherwise with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any Subcontractor or sub-subcontractor where appropriate) in the time and manner provided in the Contract Documents for like claims by the Contractor against PhilaPort;
 - e. require that each Subcontractor to fully warrant and guarantee for the benefit of PhilaPort the effectiveness, fitness for the purpose intended, quality and

merchantability of any item provided and/or installed by such Subcontractor;

- f. require that the Subcontractor is without privity of contract to PhilaPort and that the Subcontractor agrees by signing the subcontract that the Subcontractor neither acquires nor intends to acquire any rights against PhilaPort pursuant to a third party beneficiary theory or any other theory; and
- g. obligate each Subcontractor (and sub-subcontractor) to specifically consent to all provisions of this Section II.E.

F. Contractor's Obligations:

The Work to be done under the Contract is indicated in detail in the Contract Documents. The Contractor shall furnish all labor, materials, plans, tools, and appliances necessary to complete the Work to the satisfaction of the Engineer in the manner and within the time required in the Contract Documents at the prices bid, agreed upon, and fixed therefore. If, at any time, the Contractor's methods, force, or equipment appear to the Engineer to be unsafe, insufficient, or inadequate for the proper performance of the provisions of the Contract, the Engineer may order the Contractor to make such changes as the Engineer may deem necessary, and the Contractor shall comply with such orders, but the failure of the Engineer to make such demands shall not relieve the Contractor of its obligations under the Contract Documents. The Contractor shall maintain an office where orders and instructions may be delivered, and shall give personal attention to the faithful performance of the Work. The Contractor shall employ a competent representative or superintendent who shall have full authority to receive and execute orders, and to supply such labor, tools, and materials as may be required for the proper performance of the Work. The Contractor shall be responsible to the Engineer and to PhilaPort and to all other Contractors for the acts and/or omissions of the Contractor's employees and Subcontractors, their agents and employees, and all other persons performing any of the Work under a contract with the Contractor. The Contractor, its agents and employees, shall act in an independent capacity and shall not act or be deemed to act as employees, officers, or agents of PhilaPort or the Commonwealth.

G. Supervision and Procedures:

1. The Contractor shall be solely responsible for all means, techniques, and portions of the Work to be performed under the Contract, whether by the Contractor, a Subcontractor or otherwise.
2. The Contractor shall provide continuous supervision of the Work by a duly authorized and competent superintendent. At the time that PhilaPort, or the Engineer acting on behalf of PhilaPort, issues the notice to proceed with the Work, the Contractor shall submit to PhilaPort the name and qualifications of a superintendent acceptable to PhilaPort. The Contractor shall not change the superintendent without the prior written approval of PhilaPort, and the Contractor must submit to PhilaPort, in writing, the justification for any such change, along with the name and qualifications of the individual whom the Contractor proposes to be the new superintendent.

3. PhilaPort may demand of the Contractor the dismissal of any person employed by the Contractor who, in the sole opinion of PhilaPort, is incompetent or guilty of misconduct.
4. PhilaPort may withhold any payments which are or may become due the Contractor or PhilaPort may suspend the Work at the expense of the Contractor, if the Contractor fails to comply with the provisions of this Section II.G.

H. Contractor Integrity:

1. The following terms used in this Section II.H shall be defined and understood as follows:
 - a. “Confidential” means information that is not public knowledge, or available to the public on request, disclosure of which would give an unfair, unethical, or illegal advantage to another desiring to contract with PhilaPort.
 - b. “Consent” means written permission by a duly authorized member or employee of PhilaPort, provided that where the material facts have been disclosed, in writing, by prequalification or contractual terms, PhilaPort shall be deemed to have consented by virtue of execution of the Contract.
 - c. “Financial Interest” means ownership of more than a five percent (5%) interest in any business; or holding a position as an officer, director, trustee, partner, employee, or the like, or holding any position of management.
 - d. “Gratuity” means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment or contracts of any kind.
2. The Contractor shall maintain the highest standards of integrity in the performance of the Contract and shall take no action in violation of Federal or Commonwealth laws, regulations, or other requirements that govern contracting with the Commonwealth or PhilaPort.
3. The Contractor shall not disclose to others any confidential information gained by virtue of the Contract.
4. The Contractor shall not, in connection with the Contract or any other contract with PhilaPort or the Commonwealth, directly or indirectly, offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation, vote, other exercise of discretion, or violation of a known legal duty by any member or employee of PhilaPort or the Commonwealth.
5. The Contractor shall not, in connection with the Contract or any other contract with PhilaPort or the Commonwealth, directly or indirectly, offer, give, or agree or promise to give to anyone any gratuity for the benefit of or at the direction or request of any member

or employee of PhilaPort or the Commonwealth.

6. Except with the consent of PhilaPort or the Commonwealth, neither the Contractor nor anyone in privity with the Contractor shall accept or agree to accept from, or give or agree to give to, any person, any gratuity from any person in connection with the performance of the Work under the Contract except as provided therein.
7. Except with the consent of PhilaPort, the Contractor shall not have a financial interest in any other contractor, Subcontractor providing services, labor, or materials for the Work.
8. The Contractor, upon being informed that any violation of this Section II.H has occurred or may occur, shall immediately notify PhilaPort in writing.
9. The Contractor, by execution of the Contract and by the submission of any bills or invoices for payment pursuant thereto, certifies and represents that the Contractor has not violated any of these provisions.
10. The Contractor shall, upon request of PhilaPort or the Office of State Inspector General, reasonably and promptly make available to PhilaPort and that office and its representatives, for inspection and copying, all business and financial records of the Contractor of, concerning, and referring to the Contract or which are otherwise relevant to the enforcement of this Section II.H
11. For a violation of this Section II.H, PhilaPort may terminate the Contract and any other contract with the Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of this Section II.H, claim damages for all expenses incurred in obtaining another contractor to complete performance under the Contract, and debar and suspend the Contractor from doing business with PhilaPort. These rights and remedies are cumulative, and the use or nonuse of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those PhilaPort and/or the Commonwealth may have under law, statute, regulation or otherwise.

I. Offset of Tax Liability:

1. By executing the Contract, the Contractor:
 - a. Certifies that the Contractor has no outstanding tax liability to the Commonwealth;
 - b. Authorizes the Department of Revenue of the Commonwealth to release information related to its tax liability to PhilaPort and the Commonwealth's Department of General Services; and
 - c. Authorizes the Commonwealth and PhilaPort to set off any state and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount

due to the Commonwealth from the Contractor, against any payment due to the Contractor under the Contract.

2. The certification of no outstanding tax liability is a material representation of fact upon which reliance is placed by PhilaPort in entering into the Contract. If it is later determined that the Contractor knowingly rendered an erroneous certification, PhilaPort may find the Contractor in default and terminate the Contract. Erroneous certification may also be grounds for the initiation of civil or criminal proceedings.

J. Commonwealth Audit:

1. The funds for the Contract are subject to audit by PhilaPort and other agencies and representatives of the Commonwealth in accordance with applicable laws and regulations. PhilaPort reserves the right to perform additional audits of a financial/compliance, economy/efficiency or program results nature, if deemed necessary.
2. The Contractor will submit to PhilaPort copies of any audit conducted by or at the request of the Contractor that involves the funds for the Contract.

K. Contractor Responsibility Provision:

1. By executing the Contract, the Contractor certifies that it is not currently under suspension or debarment by the Commonwealth, any other state or the federal government. The Contractor also acknowledges that if it is currently under suspension or debarment, its bid, in most instances, will not be accepted or considered.
2. If the Contractor enters into any subcontracts under the Contract with subcontractors who are currently suspended or debarred by the Commonwealth during the term of the Contract or any extensions or renewals thereof, PhilaPort shall have the right to require the Contractor to terminate such contracts.

L. Professional Services:

If the Professional is one other than the Engineer, at the time of execution of the agreement between PhilaPort and the Professional, PhilaPort may at PhilaPort's sole discretion require the Professional to give security for the full and faithful performance of such agreement by the Professional. Nothing herein creates any rights on the part of the Contractor or any other party.

M. Status and PhilaPort of the Engineer:

Unless otherwise delegated to the Professional, the Engineer shall have the status and authority as provided in this Section II.M. The Engineer shall have responsibility for the general supervision and direction of the Work, the interpretation of the Plans and Specifications, the ordering of additions to or deductions from the Work, and the

determination of procedure. The Engineer shall give all orders and directions contemplated under the Contract Documents. The actions of the Engineer shall in no way alter the status of the Contractor as an independent contractor, and no action of the Engineer shall be interpreted as making the Contractor an agent of PhilaPort. The Engineer shall in all cases determine the amount, quality, acceptability, and fitness of the Work to be paid for under the Contract, and shall have the authority to reject all Work which does not conform to the Contract Documents. The Engineer shall determine all other questions that may arise in relation to the execution of the Work. The Engineer shall adjust and decide any differences or conflicts that may arise between the Contractor and other contractors for concurrent work.

N. Third-party Actions

1. The Agreement between PhilaPort and the Contractor and the other Contract Documents, and information supplied to the Contractor in connection with this Project, including any deficiency, inconsistency or misrepresentation therein, shall not create any cause of action in favor of or against any third party, whether such action may be for breach of contract, breach of warranty, negligence, misrepresentation or other tort, or otherwise including claims against the architect and its consultants, and their employees, officers and representatives.
2. Except when Contractor is required to pursue a claim directly against another contractor or a Subcontractor as directed elsewhere in the Contract Documents, Contractor agrees that any and all claims, disputes or legal actions filed or pursued by the Contractor in connection with this Contract, the Contract Documents or the Project, shall be filed or pursued only against PhilaPort under the claims procedures set forth in the General Conditions and that no claims or legal actions will be filed or pursued against PhilaPort's design professionals, administrators, officers, directors, their employees, representatives, or consultants, or their employees or representatives. Contractor agrees that this paragraph shall survive termination of this agreement. Contractor also agrees that this paragraph shall be binding whether or not it claims prior breach of this contract and that this paragraph shall apply to any and all claims including breach of contract, breach of warranty, negligence, misrepresentation or other tort, or otherwise.
3. If any portion of the Contract Documents shall be in conflict with any other portion after the application of the rules of interpretation set forth elsewhere in these General Conditions, the various documents comprising the Contract Documents shall govern in this order and sequence, with the document listed first controlling over the document listed thereafter:
 - a. Amendments and other Modifications issued subsequent to the execution of this Agreement
 - b. Agreement or Contract between PhilaPort and the Contractor

- c. Addenda issued prior to execution of the Contract
- d. General Conditions, as amended and modified
- e. Notice or Notices to Proceed
- f. General or Special Requirements
- g. Plans and Specifications
- h. Instructions to Bidders
- i. Performance and Payment Bonds
- j. Other documents referenced in the Contract Documents or attached to another Contract Document and not specifically excluded as a Contract Document

Where two documents are of equal precedence, the document with the later date of execution shall control.

III. General Legal Compliance:

A. Laws and Ordinances:

The Contractor shall give all notices and comply with all applicable laws, ordinances, regulations, rules, and orders of any public authority bearing on the Work, as may be amended from time to time (“Applicable Laws”). If the Contractor observes that any of the Contract Documents are in conflict with any Applicable Laws in any respect, the Contractor shall promptly notify the Engineer in writing. If the Contractor performs any Work knowing it to be contrary to Applicable Laws, with or without such written notice to the Engineer, the Contractor shall assume full responsibility therefor and shall bear all costs attributable thereto.

B. Hours and Conditions of Employment:

The Contractor agrees to abide and be bound by the laws of the Commonwealth relating to and regulating the hours and conditions of employment by Acts of Assembly in such case made and provided.

C. Americans with Disabilities Act:

1. Pursuant to federal regulations promulgated under the authority of the Americans With Disabilities Act, 28 C.F.R. § 35.101 et seq., the Contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in the Contract or from activities provided for under the Contract. As a condition of accepting and executing the Contract, the Contractor agrees to comply with the “General Prohibitions Against Discrimination,” 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of the Americans With Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Commonwealth through contracts with outside contractors.

2. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth and PhilaPort from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Commonwealth or PhilaPort as a result of the Contractor's failure to comply with the provisions of this Section III.C.

D. Equal Employment Opportunities:

1. In accordance with Pa. Stat. Ann. tit. 55, § 697.16, the nondiscrimination and contract compliance plans used by PhilaPort are required to be the same as those used by the Commonwealth's Department of General Services.
2. During the term of the Contract, the Contractor agrees to comply with the following "nondiscrimination clause":
 - a. The Contractor shall not discriminate against any employee, applicant for employment, independent contractor, or any other person because of race, color, religious creed, ancestry, national origin, age, or sex. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees or agents are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, age, or sex. Such affirmative action shall include, but is not limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training. The Contractor shall post in conspicuous places, available to employees, agents, applicants for employment and other persons, a notice setting forth the provisions of this nondiscrimination clause.
 - b. The Contractor shall in advertisements or requests for employment placed by it or on its behalf state that all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, or sex.
 - c. The Contractor shall send each labor union or workers' representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this nondiscrimination clause. Similar notice shall be sent to every other source of recruitment regularly utilized by the Contractor.
 - d. It shall be no defense to a finding of noncompliance with the Contract Compliance Regulations (the "Contract Compliance Regulations", 16 Pa. Code Chapter 49) issued by the Pennsylvania Human Relations Commission (the "Commission") or with the terms and provisions of this nondiscrimination clause that the Contractor had delegated some of its employment practices to any union, training program, or other source of recruitment which prevents it from meeting its obligations. However, if the evidence indicates that the Contractor was not on

notice of the third-party discrimination or made a good faith effort to correct such discrimination, such factor shall be considered in mitigation in determining appropriate sanctions.

- e. Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that the Contractor will be unable to meet its obligations under the Contract Compliance Regulations or pursuant to the terms and provisions of this nondiscrimination clause, the Contractor shall then employ and fill vacancies through other nondiscriminatory employment procedures.
- f. The Contractor shall comply with the Contract Compliance Regulations, which are incorporated herein by reference as if fully set forth herein, and with all laws prohibiting discrimination in hiring or employment opportunities. In the event of the Contractor's noncompliance with the terms and provisions of this nondiscrimination clause or with any such laws, the Contractor may, after hearing and adjudication, be terminated or suspended, in whole or in part, and the Contractor may be declared temporarily ineligible for other contracts with agencies of the Commonwealth, and such other sanctions may be imposed and remedies invoked as provided by the Contract Compliance Regulations.
- g. The Contractor shall furnish to PhilaPort and the Commission, all necessary employment documents and records and shall permit access by PhilaPort and the Commission to the Contractor's books, records, and accounts, for purposes of investigation to ascertain compliance with the provisions of the Contract Compliance Regulations. If the Contractor does not possess documents or records reflecting the necessary information requested, it shall furnish such information on reporting forms supplied by PhilaPort or the Commission.
- h. The Contractor shall actively recruit minority Subcontractors and Subcontractors with substantial minority representation among their employees. The Contractor shall comply with its obligations under the Diversity Inclusion Plan, including specifically the periodic submittal of forms and reports.
- i. The Contractor shall include the provisions of this nondiscrimination clause in every subcontract, so that such provisions will be binding upon each Subcontractor.
- j. The terms used in this nondiscrimination clause shall have the same meanings as used in the Contract Compliance Regulations.
- k. The Contractor's obligations under this nondiscrimination clause are limited to the Contractor's facilities within the Commonwealth, or, where the Contract is for the purchase of goods manufactured outside of the Commonwealth, the facilities at which such goods are actually produced.

3. It is hereby agreed that any failure to comply with the foregoing nondiscrimination clause shall constitute a substantial breach of the Contract. It is further agreed that in the event PhilaPort, or the Commission if the Commission assumes sole responsibility for the determination of the compliance status of the Contractor, determines after a hearing and adjudication that the Contractor or any Subcontractor or any person acting on behalf of the Contractor or of any Subcontractor hereunder, has failed to comply with any of the provisions of the foregoing nondiscrimination clause, PhilaPort or the Commission may provide for the fixed-period suspension of the remaining obligations under the Contract pending compliance by the Contractor with the Contract Compliance Regulations; provided that the failure of the Contractor to comply with the adjudication within the fixed-period stated in the order, but not fewer than thirty (30) days, shall be considered a material breach and shall give the Commonwealth the right to bring an action against the Contractor and the surety on the Contractor's bond to recover expenses incurred in re-letting the Contract, delay in performance, or other verifiable damages.

E. Prevailing Wages:

1. The Contractor and all Subcontractors are subject to the provisions, duties, obligations, remedies, and penalties of the Pennsylvania Prevailing Wage Act, Pa. Stat. Ann. tit. 43, §165-1 et seq., which is incorporated herein by reference as if fully set forth herein. Not less than the prevailing minimum wages as determined by the Secretary of Labor and Industry of the Commonwealth shall be paid to all workers employed by the Contractor and all Subcontractors.
2. The Contractor and all Subcontractors of whatever tier agree to employ or utilize labor that participates in an approved Apprenticeship Program as defined herein for each craft or trade of the labor force performing the Work. An approved Apprenticeship Program is one that is registered at the time the Contract is executed with the Pennsylvania Apprenticeship and Training Council. Apprentices employed on the Project shall be those participating in the approved Apprenticeship Program and whose training and employment are in full compliance with the provisions of the Act dated July 14, 1961 (P.L. 604), as amended, known as "The Apprenticeship and Training Act" and the rules and regulations issued pursuant thereto. Any employee using the tools of a craft who does not qualify as an apprentice within the provisions shall be paid the minimum wage predetermined for journeymen in that particular craft and/or classification
3. Should the Contract Documents include information on Davis-Bacon wage rates, Contractor shall pay the higher of the Pennsylvania Prevailing Wage rate and the Davis-Bacon wage rate.

F. Preferential Hiring of Veterans:

The Contractor, Subcontractor(s) or any person in either of their behalf, shall carry out the provisions of Section 1 of the Act of August 1, 1975 (P.L. 233, No. 92), 51 Pa. C.S.A. §7106, which concerns the giving of preferences to honorably discharged persons who have served in the armed forces of the U.S. during any war or armed conflict, in determining who shall be

employed on public works, which act in part provides:

Whenever the Commonwealth issues specifications for the construction, alteration or repair of any public works, such specifications shall include a provision under which the contractors and subcontractors shall agree to give a preferential rating similar to that given by the Commonwealth to any soldier making application for employment upon such public works.

G. Environmental Laws:

1. The Contractor shall be required to comply strictly with the provisions of all Federal, Commonwealth, multi-state, local, county, municipal or any other governmental law, directive, statute, ordinance, rule, regulation, or standard, common law or any judgment, order, writ, notice, decree, permit, license, approval, consent or injunction, relating to any environmental, health or safety matters or conditions, hazardous materials, pollution or protection of the environment, as amended, including, but not limited to: the Act to Prevent Pollution from Ships, 33 U.S.C. § 1901 et seq.; the Clean Air Act, 42 U.S.C. § 7401 et seq.; the Coastal Zone Management Act of 1972, 16 U.S.C. § 1451 et seq.; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601 et seq.; the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11001 et seq.; the Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq.; the Noise Control Act of 1972, 42 U.S.C. § 4901 et seq.; the Ocean Dumping Ban Act of 1988, 33 U.S.C. §§ 1414b, 1414c; the Public Health Service Act, 42 U.S.C. §§ 300f - 300j-26; the Toxic Substances Control Act, 15 U.S.C. § 2601 et seq.; the Air Pollution Control Act, 35 P.S. § 4001 et seq.; the Boiler and Unfired Pressure Vessel Law, 35, P.S. § 1331 et seq.; the Building Energy Conservation Act, 35 P.S. § 7201 et seq.; the Clean Streams Law, 35 P.S. § 691.1 et seq.; the Dam Safety Act, 32 P.S. § 693.1 et seq.; the Fire and Panic Act, 35 P.S. § 1221 et seq.; the Hazardous Sites Cleanup Act, 35 P.S. § 6020.101 et seq.; the Municipal Waste Planning, Recycling and Waste Reduction Act, 53 P.S. § 4000.101 et seq.; the Pennsylvania State Police Code (Fire Marshal Code), 37 Pa. Code Chapters 11, 13; the Storage Tank and Spill Prevention Act, 35 P.S. § 6021 et seq.; the Pennsylvania Sewage Facilities Act, 35 P.S. § 750.1 et seq.; the Storm Water Management Act, 32 P.S. § 680.1 et seq.; the Worker and Community Right to Know Act 35 P.S. § 7301 et seq.; and the Air Management Code, Philadelphia, Pa., Code § 3-101 et seq. and applicable provisions of local fire codes.
2. If the Contractor must undertake additional Work due to the enactment of new or the amendment of existing statutes, rules or regulations occurring after the submission of the Contractor's bid, PhilaPort shall issue a change order setting forth the additional Work that must be undertaken, which shall not invalidate the Contract. The cost of such a change order shall be determined in accordance with Section VIII.E herein, provided, however, that such additional costs to undertake Work not specified in the invitation for bids shall not be approved unless written authorization is given the Contractor prior to the undertaking of such additional Work.

3. PhilaPort shall not be responsible for any asbestos, PCBs, petroleum, hazardous waste, radioactive materials, or other toxic materials uncovered or revealed at the Site which were brought to the Site by the Contractor, any Subcontractor, anyone else for whom the Contractor is responsible, or any other person.

H. Taxes:

The Contractor shall pay all sales, mercantile, consumer, use, service, and other similar taxes which are required by Applicable Laws for the Work or portions thereof provided by the Contractor. The Contractor is required to pay Pennsylvania Sales and Use Taxes and may claim an exemption only for some construction materials. The Contractor shall pay all Federal Excise Taxes if due.

I. Permits and Licenses:

The Contractor shall obtain all permits and licenses required by Federal, State, and local laws, ordinances, and regulations which are applicable to the Contractor and the Work, unless otherwise specifically directed; and the Contractor shall pay all necessary fees, costs, or expenses incurred in obtaining such permits and licenses including, but not limited to, building permits, water permits, air permits and certificates of occupancy. In addition, the Contractor will be required to pay the fee where a service is rendered or materials, supplies, or equipment is provided.

J. Maintenance of Waterways:

1. In and around navigable waterways, the Work shall be carried on in full compliance with applicable requirements of the United States Department of Defense, Coast Guard, the Philadelphia Department of Commerce, and any other governmental agency having jurisdiction. Movement of boats and vessels of all kinds shall be maintained unless interference is permitted otherwise by the United States Department of Defense and the Navigation Commission for the Delaware River and its Navigable Tributaries, and any other governmental agency having jurisdiction, and then only within the limits and times specified. Should the Contractor, during the progress of the Work, sink or lose any material, plant, machinery, etc., which may be dangerous to or obstruct navigation, the Contractor shall forthwith recover and remove the same. The Contractor shall give immediate notice to the proper authorities of such obstruction, and, if required, shall, under the directions of said authorities, mark or buoy such obstructions until the same are removed.
2. Upon the completion of the Work affecting waterways of any character, all equipment shall be removed, and material deposited in such waterways shall also be removed unless otherwise ordered or permitted, so as to leave an unobstructed channel of not less than the

same width and depth and with the banks, retaining structures, or wharves in a condition at least equal to that existing before the beginning of the Work.

IV. Specific Legal Requirements:

A. Assignment of Antitrust Claims:

The Contractor and PhilaPort recognize that in actual economic practice, overcharges by the Contractor's Subcontractors resulting from violations of State or Federal antitrust laws are in fact borne by PhilaPort. As part of the consideration for the award of the Contract, and intending to be legally bound, the Contractor assigns to PhilaPort all right, title and interest in and to any claims the Contractor now has or may hereafter acquire under State or Federal antitrust laws relating to the goods or services which are provided under the Contract.

B. Accidents:

The Contractor shall be deemed and considered an independent contractor with respect to the Work, and shall assume all risks and responsibility for casualties of every description in connection with the Work. The Contractor shall have charge of the Work until completion and acceptance, and shall alone be liable and responsible for any accidents to persons and any loss or damage to property, buildings, or adjacent work that may occur as a consequence of or during the progress of the Work, whether such damage or accident is due to the negligence of the Contractor's servants, agents, employees, or whether such damage or accident is due to the inherent nature of the Work. It is not the intention of this Section IV.B or of anything herein provided to confer a third party beneficiary right of action upon any person whatsoever and nothing hereinbefore or hereinafter set forth shall be construed so as to confer upon any person other than PhilaPort a right of action either under the Contract or in any manner whatsoever.

C. Indemnification:

The Contractor shall indemnify, defend, and hold harmless PhilaPort, the agent of PhilaPort acting as Construction Manager, the Commonwealth, and the tenants of any facilities affected by the Work, and their officers, employees, and agents, from and against any and all losses, costs (including litigation costs and counsel fees), claims, suits, actions, damages, liability, and expenses in connection with loss of life, bodily injury, personal injury, or damage to tangible property to the extent occasioned wholly or in part by the Contractor's act or omission or the act or omission of the Contractor's agents, contractors (including subcontractors and suppliers), officers, employees, or servants pursuant to the Contract.

D. Intellectual Property:

As part of the consideration for the award of the Contract, the Contractor agrees to assign to PhilaPort all of its rights, title, and interest in its inventions, patents, patent applications, copyrights, ideas, improvements, trade secrets, know-how, technical data, drawings and manufacturing information (the “Intellectual Property”) which arise out of or relate to the Work, Plans, or Specifications, but only insofar as such have been prepared for the purposes of the Project. The Contractor shall promptly disclose the Intellectual Property to PhilaPort, and shall keep confidential the Intellectual Property which is not publicly known. Upon request by PhilaPort, the Contractor shall take all actions, including execution of documents, to assist PhilaPort in documenting, recording, registering, perfecting, or otherwise securing, maintaining, and enforcing the Intellectual Property rights, title and interest. Upon request by PhilaPort, the Contractor shall promptly deliver to PhilaPort all documents or other tangible materials which comprise or embody the Intellectual Property.

E. Patented Appliances, Products or Processes:

To the fullest extent permitted by law, the Contractor agrees to indemnify, defend, and hold harmless PhilaPort, all its members, officers, and employees from all suits and actions of every name, nature, and description brought against them, or any of them, for or on account of the use of patented appliances, products, processes, constructions, designs, or methods, or the infringement of any patent, trademark, or copyright, and the Contractor shall pay all royalties, charges, and penalties which may become due or payable by reason of such use or infringement. Prior to the issuance of the final estimate, upon request by the Engineer, the Contractor shall submit evidence of the full payment of such royalties, charges, and penalties, or in lieu thereof the Contractor shall give such security, approved by PhilaPort’s legal counsel, as may in the opinion of the Engineer be necessary to indemnify and hold harmless PhilaPort, all its members, officers, and employees as aforesaid.

F. No Estoppel or Waiver of Legal Rights:

Neither PhilaPort nor the Engineer shall be precluded or estopped by the approved applications for payment or payments made or given by any of them or by any of their agents or employees, under any provision or provisions herein, at any time, either before or after the completion and acceptance of the Work and payment thereof, from showing the true and correct amount and character of the Work performed by the Contractor; nor from showing at any time, that any such approved applications for payment or payments are untrue or incorrectly made in any particular; or that the Work or any part thereof does not conform to the Contract Documents. PhilaPort shall have the right to reject the whole or any part of the aforesaid Work should the said approved applications for payment or payments be found or be known to be inconsistent with the terms of the Contract Documents, or otherwise improperly given; and PhilaPort shall not be precluded or estopped, notwithstanding any such approved applications for payment or payments, from demanding and recovering from the Contractor or the surety or both such damages as PhilaPort may sustain by reason of the failure to comply with the terms of the Contract Documents, or on account of any overpayments made. Neither the acceptance by PhilaPort or the Engineer or any of their

agents or employees, nor any certificate approved for payment of money, nor any payments for, nor acceptance of the whole or any part of the Work by PhilaPort, nor any extension of time, nor any position taken by PhilaPort or its employees, shall operate as a waiver of any portion of the Contract or any power herein reserved by PhilaPort or any right to damages; nor shall any waiver of any breach of the Contract be held to be a waiver of any other subsequent breach.

G. Legal Relations and Responsibilities:

1. The Contract is not to be construed as being made for the benefit of any person or political subdivision not a party to the Contract, nor shall the Contract be construed to authorize any person or political subdivision not a party to the Contract to maintain any lawsuit hereunder, nor shall the Contract be construed to constitute the basis for the maintenance of any lawsuit by any person, other than as provided in Section IV(B) herein, or political subdivision not a party hereto.
2. The Contractor acknowledges that PhilaPort, as an agency of the Commonwealth, enjoys sovereign immunity as provided in Section 18 of the Philadelphia Regional Port Authority Act, 55 P.S. §697.18.

H. Unauthorized Acts:

Any act of an PhilaPort representative, official, agent, or employee, that is not within the scope of that person's authority or employment as delineated in the Contract Documents, shall not be binding on PhilaPort nor shall it be deemed to be a defense by the Contractor for the breach of any of the conditions and provisions of the Contract.

I. Successors and Assigns:

The Contract shall be binding on the parties hereto, their heirs, executors, administrators, successors, and assigns, but it may not be assigned by the Contractor without the prior written consent of PhilaPort.

J. Governing Law:

The Contract shall be governed by and construed and enforced in accordance with the laws of the Commonwealth of Pennsylvania, without giving effect to the principles of conflicts of law thereof.

V. Standards of Review & Project Compliance:

A. Sketch Drawings:

If the Contractor requires sleeves and openings for the Work in any deck, concrete slab or wall, the Contractor shall furnish to PhilaPort and all other prime contractors involved a complete set of location sketch drawings in triplicate showing size and shape of openings. Each prime contractor shall be responsible for reviewing the drawings in order that there will be no interference and/or conflict in their respective portions of the Work. When this review is finalized, the Contractor shall submit these drawings to PhilaPort and the Engineer in a final workable form.

B. Chases and Openings:

1. The contractor for general construction will construct or have built into building walls, partitions, and floors all such chases and openings as are required. Each prime contractor will be responsible to see that the chases and openings affecting their work are installed in accordance with the Plans submitted to the contractor for general construction.
2. All construction pertaining to the cutting of chases and openings shall be done to the entire satisfaction of PhilaPort and the Engineer. Should the cutting of such chases and openings be required after construction of walls, partitions, floors or other work are completed, PhilaPort may require such work to be performed in a manner so as to result in unmarred work even to the extent of requiring the removal and rebuilding of walls, partitions, and other work, all of which shall be at the sole cost and expense of the responsible prime contractor.

C. Shop Drawings and Samples:

1. The Contractor shall submit all necessary shop drawings or catalog data to the Engineer in accordance with a priority schedule established by the Engineer.
2. When drafting is required, transparent reproductions of shop drawings (one of each drawing) shall be submitted by the Contractor during the checking period prior to the required submittal and within the time period which is established in the Contract Documents, in order to enable the Engineer to make corrections in pencil, reproduce them for the Engineer's records, and return for correction the original shop drawing tracings. The Contractor shall include in the Contractor's submittal one line print of each transparency for the Engineer to keep as a record. Until shop drawings have received the Engineer's approval as being in compliance with the Contract Documents, the Contractor shall resubmit them in the manner last marked for correction. When shop drawings are noted "Approved" for compliance with the Contract Documents by the Engineer, the Contractor shall have ten (10) sets of final shop drawings or catalog data printed and furnished to the Engineer. Where no special drafting is involved, such as cuts of standard equipment, catalog cuts, and other matter so printed in quantity, the printed matter may be submitted instead of the transparencies.
3. The Contractor shall review, stamp with approval and submit, with reasonable promptness in an orderly sequence so as to cause no delay in the Work or in the work of

any other contractor, all shop drawings and samples required by the Contract Documents or required subsequently by the Engineer for modifications. Shop drawings and samples shall be properly identified as specified, or in such manner as the Engineer may require. If the shop drawings show variations from the Contract Documents because of standard shop practice or other reason, the Contractor shall make specific mention of such variations on the shop drawings and in the Contractor's letter of submission, in order that, if accepted, suitable action may be taken for proper adjustment by way of increase or decrease in the Contract Sum; otherwise, the Contractor will not be relieved of the responsibility for executing the Work in complete conformity with the Contract even though the shop drawings, samples or catalog data have been approved.

4. By approving and submitting shop drawings and samples, the Contractor thereby represents that the Contractor has determined and verified all applicable field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that the Contractor has checked and coordinated each shop drawing and sample with the requirements of the Work and the Contract Documents.
5. The Engineer will review and approve shop drawings and samples with reasonable promptness, but the Engineer's review and approval is only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Engineer's approval of a separate item shall not indicate approval of an assembly in which the item functions.
6. The Contractor shall make any corrections required by the Engineer and shall resubmit the required number of corrected copies of shop drawings or new samples until approved, which resubmission shall be acted upon by the Engineer with reasonable promptness. When resubmitting shop drawings, the Contractor shall direct specific attention to any revisions made, other than the corrections requested by the Engineer on previous submissions, by noting such revisions on the resubmitted shop drawings.
7. The Engineer's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents, unless the Contractor has informed the Engineer in writing of such deviation at the time of submission, has noted the deviation on the shop drawings, and the Engineer and PhilaPort have given written approval of the specific deviation; nor shall the Engineer's approval relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.
8. No portion of the Work requiring a shop drawing or sample submission shall be commenced until the submission has been approved by the Engineer. Any Work commenced by the Contractor prior to final approval of the shop drawings and/or samples by the Engineer shall be performed by the Contractor at the Contractor's own risk.

D. Plans and Specifications:

1. The Plans, with all notes thereon, and the Specifications are intended to be correlative and of equal force and effect. However, if a discrepancy arises between them, the more stringent standard shall apply. The Plans give general dimensions and sizes, and such details as are required to cover special features. Figures shall have preference over scale in reading dimensions. The Plans and Specifications are intended to provide a standard of quality and quantity. The Contractor is required to field verify all dimensions, sizes, quantities, etc. prior to beginning Work.
2. The organization of the Specifications into divisions, sections and articles, and the arrangement of drawings shall not control the Contractor in dividing the Work among any Subcontractors or in establishing the extent of the Work to be performed by any trade. The thorough and complete coordination of all aspects of the Project is the responsibility of the Contractor.
3. Where the Work is shown in complete detail on only a portion of a drawing, or there is an indication of continuation the remainder being shown in outline, the Work drawn out in detail shall be understood to apply to other like portions of the Work. On all Work of a remodeling nature or installation within present buildings, the actual situation at the Site controls any information given which may affect the quantity, size and quality of materials required for a satisfactorily completed Contract, whether or not such information is indicated on the Plans or within the Specifications.
4. The Contractor shall maintain at the Site for PhilaPort and the use of the Engineer one (1) copy of all Plans, Specifications, bulletins, addenda, approved shop drawings, catalog data, manufacturers' operating and maintenance instructions, certificates, warranties, guarantees and other operating and maintenance data, change orders, and other modifications, including as-built drawings (to be printed on mylar), in good order and marked daily by the Contractor to record all approved changes made during the Work. These shall be turned over to the Engineer by the Contractor at the time of the Substantial Completion of the Contract for the purpose of assembling and correlating said material for use by PhilaPort.

E. Copies Furnished and Ownership of the Contract Documents:

1. Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge by PhilaPort (or the Engineer acting on behalf of PhilaPort), one (1) complete set of Plans and Specifications if such are needed for the Work. If additional sets are required, PhilaPort (or the Engineer, at the direction of PhilaPort) shall be reimbursed by the Contractor for the cost of providing the additional sets.
2. All Plans, Specifications and copies thereof furnished by PhilaPort or the Engineer are and shall remain the property of PhilaPort. They are not to be used on any other project, and with the exception of one (1) set for each party to the Contract, are to be returned at the completion of the Work to PhilaPort within thirty (30) days of PhilaPort's request for such documents.

3. The Contractor expressly agrees and acknowledges that the Engineer and PhilaPort will not be responsible for the acts or omissions of any contractor under the Project, or any Subcontractor, or any of their agents or employees, or any other persons performing any of the Work under the Project.
4. If corrective work or drawings are required of the Engineer due to defective or nonconforming work by the Contractor, the cost for additional professional services shall be borne by the Contractor, provided that the Engineer submits those costs to PhilaPort and the Contractor within thirty (30) days after the completion of said additional services. PhilaPort shall review for approval the corrective work and/or drawings which are prepared by the Engineer in order to determine that the corrective work and/or drawings fall within the original scope of the Contract.

F. Standards of Quality:

1. Where trade names, catalog numbers and manufacturers of material or equipment are specified in the Contract Documents, except where specific requirements are noted, they are mentioned therein for the purpose of establishing a standard of quality, performance, and appearance, and for establishing a standard of competitive bidding. Should the Contractor desire to deliver or install material or equipment other than that which is specified, the Contractor shall certify that the proposed substitute material or the equipment is equal in quality, performance and appearance to that identified in the Specifications, and the Contractor shall submit to the Engineer and PhilaPort, subsequent to the award of the Contract, a request to deliver or install such material or equipment. The Contractor's request shall include a comprehensive description of the proposed substituted material or equipment, including engineering, construction, dimension and performance data, along with a statement of cost involved. Within thirty (30) days after receipt of the Contractor's request, the Engineer, with the approval of PhilaPort, shall render a written determination to the Contractor which shall be final and conclusive. If the Contractor shall refuse or fail to proceed as directed by PhilaPort, PhilaPort may declare the Contractor in default.
2. The Contractor shall be responsible for any and all costs incurred as a result of any substitution. If the cost of the substituted item is less than the specified item, PhilaPort is entitled to a credit for the difference between the cost of the substituted item and the cost of the item specified.

G. Quantities are Approximate:

When quantities of the various classes of the Work to be done and materials to be furnished under the Contract are stated, they are estimated and approximate. When stated in the Proposal they are given only for the purpose of comparing the bids on a uniform basis. PhilaPort does not guarantee that the amount stated will correspond to the actual amounts that are eventually comprised in the Work, and no claim for damages, for anticipated profit, or for loss of profit, will be allowed the Contractor in the event of a disagreement with the final estimate of the Work completed. PhilaPort reserves the right to increase or decrease the

quantities or to entirely omit any of the items as contained in the Proposal, to the extent found necessary by the Engineer.

H. Methods to be Approved:

Before commencing the Work, the Contractor shall, when required by the Engineer, submit for approval the proposed methods of performing the Work, including maintaining travel, underpinning, bulkheading, shoring, sinking foundations, handling spoils, lighting, maintaining structures, street surfaces, and drainage, and all other branches of operations. Such approval is reserved in order to safeguard PhilaPort's interest, but it will in no way relieve the Contractor of the obligation or responsibility for the safe and proper conduct of the Work.

I. Completeness of Data:

The term "structures" as used in the Contract shall apply to all surface, subsurface and overhead structures of whatever character within the zone of influence of the Work, including buildings situated in or adjacent to the excavation. Where these structures are shown or indicated on the Plans, the information given is in accordance with the best information in the possession of PhilaPort, but is approximate only. The data is not warranted to be either complete or correct, and the Contractor shall assume all risks resulting from the conditions differing from the approximations shown.

J. Lines and Grades; City Datum:

Vertical dimensions are given in United States standard feet and fractions thereof. Unless otherwise stated, elevations preceded by a plus ("+") or a minus ("-") sign refer respectively to distances above or below the established City Datum, which is two and one quarter (2.25) feet above mean high water on the Delaware River at Chestnut Street, Philadelphia. Dimensions locating buildings and structures shall be verified and checked in the field by the Contractor before proceeding with construction details affected thereby. Any of the Work improperly done without lines, levels or instructions shall be removed and replaced by the Contractor at the Contractor's own expense. Failure to do so in the sole judgment of the Engineer may be considered by PhilaPort as a violation of the Contract.

K. As-Built Documents:

At the time of Substantial Completion, as such term is defined in Section XVI herein, the Contractor shall provide to the Engineer one set of all as-built drawings, and six copies of each shop drawing, catalog data, manufacturers' operating and maintenance instructions, certificates, warranties, written guarantees and related documents required by the Contract Documents. In addition, the Contractor shall supply electronic copies of each as-built drawings in Auto Cad latest version and .PDF.

If any portion of the Work is designed by the Contractor (for example, sprinkler calculations) the engineer of record performing such work shall issue a letter of certification indicating that

the work as installed meets the design intent, is in compliance with applicable codes and that it is approved by said engineer.

VI. Insurance:

A. Contractor's Insurance:

1. The Contractor shall, at its sole cost and expense, procure and maintain in full force and effect, covering the performance of the Work, the types of insurance specified in this Section VI.A. The insurance shall be procured from reputable insurers, acceptable to PhilaPort and authorized to do business in the Commonwealth. The insurance required, except the Professional Liability Insurance, shall be written on an "occurrence" basis and not a "claims-made" basis. In no event shall Work be performed pursuant to the Contract until the required evidence of insurance has been furnished and approved to PhilaPort. If the Contractor fails to obtain or maintain the required insurance, PhilaPort shall have the right to treat such failure as a material breach of the Contract and to exercise all appropriate rights and remedies. The Contractor shall provide for at least thirty (30) days' prior written notice to be given to PhilaPort in the event coverage is materially changed, cancelled or non-renewed.
2. PhilaPort, the Commonwealth, and the tenants of any facilities affected by the Work, their officers, employees, and agents are to be named as additional insureds on the General Liability Insurance policy of the Contractor. In addition, an endorsement to the insurance policy is required stating that the coverage afforded PhilaPort, the Commonwealth, and the tenants of any facilities affected by the Work, and their officers, employees, and agents as additional insureds will be primary to any coverage available to the Contractor.
3. The amount of insurance required by this Section VI.A is as follows:
 - a) Workers Compensation and Employers Liability and/or Harbor Worker's Compensation Act, the Jones Act or other Maritime Employer's Liability Act:
 1. Workers Compensation: Statutory limits.
 2. Employers Liability: \$500,000 each accident - bodily injury by accident; \$500,000 each employee - bodily injury by disease; and \$500,000 policy limit - bodily injury by disease.
 3. Other States' coverage and Pennsylvania endorsement.
 - b) General Liability Insurance:
 1. Limit of Liability: \$1,000,000 per occurrence combined single limit for bodily injury and property damage; \$1,000,000 personal and advertising injury; and \$2,000,000 general aggregate.

2. Coverage: Premises operations; blanket contractual liability; personal injury liability (employee exclusion deleted); products and completed operations; independent contractors; employees and volunteers as additional insureds; cross liability; and broad form property damage (including completed operations)

c) Automobile Liability:

1. Limit of Liability: \$1,000,000 per occurrence combined single limit for bodily injury and property damage liability.
2. Coverage: Owner, non-owned and hired vehicles.

d) Professional Liability Insurance (if required):

1. Professional Liability Insurance for projects that involve design services, including, but not limited to, design/build contracts.
2. Limit of Liability: \$1,000,000 with a deductible not to exceed \$25,000.
3. Coverage: Errors and omissions.
4. Coverage for occurrences happening during the performance of the Work shall be maintained in full force and effect under the insurance policy or “tail” coverage for a period of at least two (2) years after completion of the Work.

e) Pollution Liability Insurance at a minimum of \$1,000,000 per occurrence with an aggregate of \$2,000,000.

4. Certificates of insurance evidencing the required coverages shall be submitted to PhilaPort’s Insurance Department at least ten (10) days before work on site is begun. This ten (10) day requirement for advance documentation of coverage may be waived in situations where such waiver will benefit PhilaPort, but under no circumstances shall the Contractor actually begin Work without providing the required evidence of insurance. PhilaPort reserves the right to require the Contractor to furnish certified copies of the original policies of all insurance required under the Contract Documents at any time upon ten (10) days’ prior written notice to the Contractor.
5. It is expressly understood and agreed that the furnishing of insurance pursuant to this Section VI.A shall in no way limit the liability or responsibilities and obligations of the Contractor as provided in the Contract Documents.
6. Where applicable, all insurance shall provide coverage for work being performed within fifty (50) feet of a railroad.

B. Contractor's Liability Insurance:

1. The Contractor's certificate of insurance for general liability shall contain the following statement: "The risks covered in this policy include all risks inherent in performing demolition work, including but not limited to the following: explosion, collapse, and underground hazards."
2. The Contractor's certificate of insurance for workmen's compensation shall contain the following statement: "All workers performing demolition work under this contract are covered under the classification for demolition workers."
3. The Contractor's and the Subcontractors' liability insurance shall include adequate protection against the special hazard of blasting in the amount of at least three hundred thousand dollars (\$300,000).

VII. Safety:

A. Safety of Persons and Property:

1. The Contractor shall take all necessary precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
 - a. all employees on the Site, and all other persons who may be affected by the Work;
 - b. the Work, whether in storage on or off the Site, under the care, custody or control of the Contractor or any Subcontractors or sub-subcontractors; and
 - c. other property at the Site or adjacent thereto which may be affected by the Work, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of the Work.
2. All damages or loss to any property referred to in Sections VII.A.1.b and c caused in whole or in part by the Contractor, any Subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable to faulty Plans or Specifications or to the acts or omissions of PhilaPort or Engineer or anyone employed by either of them or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.
3. The Contractor is responsible for safety. The Contractor shall submit a site specific safety plan. The Contractor shall comply with all applicable, laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Contractor shall erect

and maintain as required by existing conditions and progress of the Work, until the acceptance of the completion of the Contractor's portion of the Project, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

4. If and when the use of explosives and other hazardous materials or equipment is necessary for the prosecution of the Work, the Contractor shall observe the utmost care, performing such Work with experienced workers and in accordance with all Federal, Commonwealth, City and institutional regulations, so as not to endanger life or property. Rock encountered within a minimum of five (5) feet of pipe lines or buildings shall be removed without blasting. All explosives shall be stored in a secure and safe manner, in strict conformity with all Commonwealth and City regulations and all such storage shall be marked clearly, "Dangerous-Explosives" and shall be in the care of competent watch people at all times.
5. Prior to the initiation of any work on site, the Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to PhilaPort and the Professional.
6. The Contractor shall not load or permit any part of the Work to be loaded so as to endanger the safety of the Work.

B. Safety Precautions and Programs:

The Contractor shall be responsible for initiating, maintaining and supervising all Federal, Commonwealth and City safety precautions and programs required on the Site during the term of the Contract.

C. Emergencies:

In any emergency affecting the safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Sections VIII.E through I herein.

D. Access to Fire Hydrants and Fire Alarm Boxes:

The Contractor must comply with all applicable fire codes and regulations. Fire hydrants shall be left at all times clear of obstructions and readily accessible for fire apparatus and no material or other obstructions shall be placed within fifteen (15) feet of a fire hydrant. Fire alarm boxes shall be supported and protected and maintained so as to be readily accessible and open to view. Excavations shall be decked or bridged, where necessary, to permit the safe passage of fire apparatus and to give access to fire hydrants and to adjacent buildings for the extinguishing of fires. Where necessary, branch pipes shall be extended from the nozzles

of the fire hydrants for convenient attachment to the fire engines. The pipes connecting the fire hydrants to the mains shall be protected from freezing, and the fire hydrants (particularly the high pressure type) shall, where necessary, be braced or tied to the connecting pipes to prevent movement under water pressure.

E. Safety and Sanitary Provisions:

The Contractor shall provide means and appliances and shall enforce suitable rules for the safe performance of the Work and for the safety and health of workers. The completed portions of the Work shall be kept clean and in a sanitary condition. The Contractor shall provide and maintain properly secluded sanitary facilities, in accordance with existing Federal, Commonwealth and City regulations, for the exclusive use of workers. When directed by PhilaPort, the Contractor shall dismantle and remove these facilities.

F. Danger Signals:

The Contractor, at the Contractor's own expense, shall erect and maintain all necessary warning buoys, barricades, red lanterns, and danger signals as required by the applicable laws and regulations. The lights shall be kept burning from sunset until sunrise, and necessary watchpersons shall be provided for the safety of the public. The Contractor shall observe such rules relative to signals and safeguards as the police regulations, harbor and other regulations, laws, and ordinances require.

VIII. Contract Time and Change Orders:

A. Contract Time:

1. Time is an essential element and of the essence of the Contract. Unless otherwise specifically provided in the Contract Documents, or authorized in writing by PhilaPort or the Engineer, the Contractor shall begin the Work within ten (10) Working Days from the date of notice to proceed, and shall complete all of the Work under the Contract on or before the date determined in accordance with the Agreement.
2. The Contractor will not be required to proceed with the Work, if, for any reason for which the Contractor is not responsible, the Work cannot be commenced within three (3) months from the date of execution of the Contract, and in such case, at the request of the Contractor, the Contract shall be declared null and void. This shall not apply to contracts, the beginning of which is dependent upon the progress of other contracts, where this condition is plainly indicated by PhilaPort in the Contract Documents or in another order written by PhilaPort.
3. Should PhilaPort cause any delay in the completion of the Contract, by failure to give possession of the Site, by changes in the Plans and Specifications, or by requiring for any cause the suspension of the Work, the Contractor will be entitled to a reasonable extension of the time specified for the completion of the Work. Any claim arising from

such delay must be made in writing to the Engineer immediately upon the occurrence of the delay, and the Engineer will determine what allowance, if any, shall be made, but no additional compensation for consequential damages arising from such delay will be allowed. The time allowed for any delay will be added to and will correspondingly extend the Date of Completion.

4. For a contract whose Date of Completion is on or before a specified number of calendar days, no allowance will be made for non-Working Days or delays due to unfavorable weather, to the removal, relocation or fulfillment of other requirements by utilities, or to the failure to obtain material and equipment.
5. For a contract whose Date of Completion is on or before a specified number of Working Days, allowances will be made for days or portions of days, in increments of one-quarter day, for conditions entirely beyond the control of the Contractor. An allowance shall be made for unsuitable weather necessitating a suspension of the Work or other unfavorable conditions when the operation which controls the progress of the Work is suspended. A record of the Working Days shall be kept by PhilaPort; and this record shall be available to the Contractor on request. The Contract time shall start with the first Working Day after the date of the notice to proceed and the scheduled Date of Completion shall be that established by the specified number of Working Days plus the allowances.
6. Notwithstanding the above provisions of this Section VIII, the Contractor will not be liable or responsible for delays or damage to the Work caused by acts of God, acts of public enemy, acts of Government, quarantine restrictions, general strikes throughout the trade, or freight embargoes not caused or participated in by the Contractor.

B. Liquidated Damages:

1. **Delay in completion of the Work.** The Contractor acknowledges and agrees that PhilaPort will incur substantial damages if the Work is not performed in accordance with the requirements of this Agreement. The parties agree that it would be extremely difficult and impractical under the presently known and anticipated facts and circumstances to ascertain and fix actual damages that PhilaPort would incur under these circumstances, and, accordingly, the parties agree that PhilaPort's remedy shall be to recover from the Contractor as liquidated damages, and not as a penalty the Contract Sum multiplied by 0.005 for each and every calendar day that the Work remains incomplete. The liquidated damages identified in this Section relate solely to the Contractor's delay in completing the Work in accordance with the requirements of this Agreement and not to other breaches, actions or omissions of the Contractor. The liquidated damages identified in this Section shall not limit PhilaPort's remedies for other breaches, actions, or omissions of the Contractor, including termination for failure to complete the Work.
2. **Failure to meet Diversity Inclusion participation levels.** The Contractor acknowledges that the diversity and inclusion commitments submitted as part of its bid were an integral part of its bid and contracting requirements. The Contractor and agrees that PhilaPort will incur substantial damages to its efforts to promote diversity and inclusion if the

commitment levels for the Work are not achieved in accordance with the requirements of this Agreement. The parties agree that it would be extremely difficult and impractical under the presently known and anticipated facts and circumstances to ascertain and fix actual damages that PhilaPort would incur under these circumstances, and, accordingly, the parties agree that PhilaPort's remedy shall be to recover from the Contractor as liquidated damages, and not as a penalty the dollar value of the participation committed multiplied by 0.10. The liquidated damages identified in this Section relate solely to the Contractor's failure to meet its commitment of diversity and inclusion in accordance with the requirements of this Agreement and not to other breaches, actions or omissions of the Contractor. The liquidated damages identified in this Section shall not limit PhilaPort's remedies for other breaches, actions, or omissions of the Contractor, including termination for failure to complete the Work.

C. Progress Schedule:

1. Immediately upon receipt of notice of the award of the Contract, the contractor for general construction on the Project shall furnish to each separate prime contractor within seven (7) days a schedule for the proposed prosecution of the Work under the Contract. Thereafter, each separate prime contractor shall submit to the contractor for general construction within fourteen (14) days after receipt of notice of the award of the Contract, a schedule for the proposed prosecution of the Work under their respective contracts. The contractor for general construction shall then submit to the Engineer and PhilaPort within twenty-one (21) days after receipt of notice of the award of the Contract, a complete set of progress schedule signed by all prime contractors indicating their approval, and showing in detail to the satisfaction of the Engineer and PhilaPort, the proposed coordinated dates for the performance of each phase of work under each contract on the Project. The date of notice from the Engineer to proceed with the Work will be the actual start date of the Contract. The time period from the date of the notice from the Engineer to proceed with the Work to the commencement of on-site Work is part of the time period of the Contract, and is for the purpose of performing all off-site Work including the preparation by the Contractor of all documents required by PhilaPort. No extensions of time will be granted to the Contractor for the time period commencing with the notice from the Engineer to proceed with the Work and ending with the commencement of on-site Work. In the event that PhilaPort, for any period after the commencement of on-site Work, grants an extension of time for sixty (60) days or more to the Contractor, the Contractor shall prepare a revised progress schedule and obtain the signatures of all prime contractors indicating their approval, and shall forward the revised progress schedule to the Engineer within twenty (20) days from the approval of the extension. In no event will the granting of an extension of time to any contractor under the Project automatically entitle any other prime contractor to an extension of time. In the event that the Contractor is the only contractor under the Project, the Contractor shall submit a progress schedule to the Engineer and PhilaPort within ten (10) days of receipt of notice of the award of the Contract.
2. The Contractor is to routinely update the schedule to accurately reflect the work that has

been performed as well as keep the future tasks on schedule with the completion date. The project schedule should be submitted to PhilaPort at least on a monthly basis.

3. The Contractor shall complete portions of the Work in such order of time as may be stated in the Specifications or as required in the progress charts as approved by all prime contractors and PhilaPort. PhilaPort may require the Contractor, at no additional cost to PhilaPort, to supply additional forces, equipment, tools and materials and/or provide for an increase in working hours, and/or increase the number of Working days per week in order to keep up with the progress chart. If the Contractor shall refuse or fail to proceed as directed by PhilaPort, PhilaPort may find the Contractor in breach of the Contract and/or declare the Contractor in default.
4. PhilaPort shall have the right to use or occupy any completed or partially completed portions of the Work, whether or not the time may have expired for completing the entire Work or said portions of the Work, but such use or occupancy shall not be deemed an acceptance of the Work so taken or used, or any portion thereof. Prior, however, to such use or occupancy, PhilaPort shall inspect the Work to be occupied to determine if it is in conformity with the Contract, and any subsequent damage thereto due solely to the use and occupancy of the completed portion, will not be the responsibility of the Contractor.

D. Progress Meetings:

Progress meetings may be held as often as required by the Engineer and must be attended by the Contractor and his representatives who are authorized to make decisions and representations affecting the progress of the Work on the Project. The dates and time of progress meetings will be given to all concerned parties and these conferences shall be attended whether or not a particular contractor may be affected. A failure to attend shall be construed to be a violation of the contract.

E. Change Orders:

1. If changes in the design of any portion of the Work or the requirements of the Specifications are deemed necessary by the Engineer in order to carry out and complete more fully the Work agreed to be performed under the Contract, the Engineer may order alterations to or changes in the Work covered by the Contract Documents, and the Contractor shall comply with such orders. All such changes in the Work shall be authorized by change order. If such changes increase the cost of the Work to the Contractor, additional compensation will be allowed by PhilaPort. If such changes diminish the cost of the Work to the Contractor, the amount of such diminution shall be deducted by PhilaPort in its sole discretion. No consequential loss of profit on account of changes or of the Work not executed will be allowed the Contractor, but the Contractor may be entitled to an extension of time on this account.
2. A change order is a written order to the Contractor, signed by PhilaPort and issued after the execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Date of Completion. The Contract Sum and the Date of Completion

may be changed only by a change order.

3. The cost or credit to PhilaPort resulting from a change in the Work shall be determined in one or more of the following ways in accordance with the current administrative procedures of PhilaPort, at the option of PhilaPort:
 - a. by unit prices stated in the Proposal, Specifications, or from prices agreed upon in the breakdown sheet;
 - b. by a detailed cost breakdown properly itemized, the breakdown shall include size, quantity, type, etc. and may include a maximum of fifteen percent (15%) markup to labor costs for overhead and profit and a maximum of ten percent (10%) markup to material costs for overhead and profit; or
 - c. if neither method set forth in Sections VIII.E.3.a and b are utilized after good faith negotiations, PhilaPort may direct the Contractor to proceed with the Work involved on a force account basis for which payment shall be made as provided in Section VIII.I herein.
4. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a proposed change order that application of the agreed unit price to the quantities of Work proposed will create a hardship on PhilaPort or the Contractor, the applicable unit prices shall be equitably adjusted by a change order to prevent such hardship.
5. If the Contractor claims that additional cost or time is involved because of:
 - a. any written interpretation issued;
 - b. any order issued by the Engineer to stop the Work, provided that the Contractor was not at fault; or
 - c. any written order for a minor change in the Work;

then, pursuant to Section VIII.F herein, the Contractor shall make such claims for additional cost or time and PhilaPort shall determine if such claims are appropriate.

6. Upon the issuance of a change order, the Contractor shall proceed to perform the Work in accordance with the Contract Documents, even if the amount of additional payment or credit or adjustment in the Contract Sum or the extent of any change in the Date of Completion, if any, resulting from such Work has not yet been determined and even if there is a disagreement between PhilaPort and the Contractor as to whether the Contractor is entitled to additional payment or an extension of time for performing such Work.

7. Should concealed conditions be encountered which are unascertainable from the Contract Documents, visits to the Site and reasonable investigation, and which are at variance with the conditions indicated by the Contract Documents; or should there be encountered unknown physical conditions below the surface of the ground of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract; the Contract Sum shall be equitably adjusted by a change order upon claim by either party made within seven (7) Working Days after the first observance of the conditions. No adjustment shall be made to the Contract Sum, however, for concealed conditions encountered during the cutting and patching of the Work.

F. Claims for Additional Cost or Time:

1. If the Contractor wishes to make a claim for an increase in the Contract Sum or an extension in the Date of Completion, the Contractor shall give PhilaPort written notice thereof in accordance with the requirements of Section X.A herein, but in no case more than thirty (30) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property, in which case the Contractor shall proceed in accordance with Section VII.C herein. No such claim shall be valid unless so made. If PhilaPort and the Contractor cannot agree on the amount of the adjustment in the Contract Sum or the Date of Completion, it shall be determined by PhilaPort. Any determination to change the Contract Sum or Date of Completion resulting from such claim, shall be authorized by a change order.
2. No claims for increased costs, charges, expenses, or damages of any kind, unless otherwise provided herein, shall be made by the Contractor against PhilaPort for any delays or hindrances from any cause whatsoever, including but not limited to strikes, walkouts or work stoppages during the progress of any portion of the Work; provided, however, that PhilaPort, in its discretion, may compensate the Contractor for any such delays by extending the Date of Completion, which extension shall constitute the exclusive remedy between the parties.

G. Minor Changes in the Work:

PhilaPort may order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Date of Completion and not inconsistent with the intent of the Contract Documents. Such changes may be effected by written field order as provided in Section VIII.H herein or by other written order. Such changes shall be binding on PhilaPort and the Contractor.

H. Field Orders:

After an interpretation of the Contract Documents by the Engineer, PhilaPort may issue

written field orders consistent with the Contract Documents without changing the Contract Sum or Date of Completion. The Contractor shall carry out such field orders promptly.

I. Force Account:

1. Payment under Force Account will be for the actual and necessary direct cost of the Work in accordance with the orders of the Engineer, and in addition thereto the percentage of such cost hereafter stated. "Actual and necessary direct cost" shall be deemed to include the following:
 - a. For contracts for Goods and Materials only, the actual and necessary direct cost of the work done under Force Account as noted above, ten percent (10%) will be added to the actual expenditure in Work.
 - b. For Service contracts and Construction contracts, the actual and necessary direct cost shall be:
 1. The actual expenditure for labor for the time actually engaged in the Work, including the distributed cost of foremen in direct charge of such labor, insurance, taxes, and other payments applicable to such labor.
 2. The actual expenditure for materials used by or incorporated in the Work.
 3. A reasonable hourly, weekly or monthly rental as applicable, as determined by the Engineer, for use of motor trucks and special equipment such as power-operated shovels, cranes, drills, paving breakers, etc. (but not including small hand tools or company provided vehicles), at a rate not to exceed the current local rate charged for the type of equipment used, for the time that such equipment is required on the Site for the performance of Force Account work exclusively. The rental price shall be for the equipment provided on the Site and shall include transportation to and from the Site, fuel, power, lubricants, operating tools, repairs, insurance, depreciation, replacements, and the sharpening of drills and other tools required to keep them in the best working condition.
2. To the actual and necessary direct cost of the Work done under Force Account as noted above, fifteen percent (15%) will be added to the expenditure for labor as set forth in Section VIII.I.1.b.1 above and ten percent (10%) will be added to the expenditure for materials as set forth in Section VIII.I.1.b.2 above. No additions will be allowed to the rental of trucks and special equipment as set forth in Section VIII.I.1.b.3 above. These percentages, and the rental price for equipment furnished, shall be deemed to cover the cost of heat, light, use and upkeep of small hand tools, administration, engineering, superintendence, all loss, damage, risk, and expenses incidental to the Work and profit. The Contractor shall have no claim in excess of the above, such payments being in full compensation for the performance of the Work and the furnishing of such materials and for all expenses in connection therewith and incidental thereto.

3. Should the Contractor sublet any portion of the Work to be executed under Force Account with the approval of PhilaPort, payment for that portion will be computed as the actual and necessary direct cost as defined above, exclusive of any profit to the Subcontractor, plus the percentages allowed, plus five percent (5%) of the total paid to the Subcontractor.
4. The Contractor shall submit daily a statement in duplicate of the Work done on a Force Account basis within twenty-four (24) hours of the time the Work is done, and representatives of PhilaPort and the Contractor shall make daily comparison of the actual and necessary direct costs incurred, as given therein. After correction, if necessary, this comparison shall be signed by each and filed with the Engineer and the Contractor. The Contractor shall submit to the Engineer monthly, prior to each current estimate, four (4) copies of an itemized statement of the amount and value of labor and/or materials furnished, accompanied by the original receipted bills for commodities purchased or for the Work performed under a subcontract, and by an affidavit certifying the correctness of the said statement. The Engineer shall have access to any books, vouchers, records, and memoranda showing the labor employed and/or the materials actually used on the specific operation and the actual net cost thereof.
5. Work done under Force Account shall be subject to all of the requirements of the Contract Documents. It shall be performed in an orderly and economical way, and the prices paid for labor and/or materials and the method of performing the Work shall be subject to the approval of the Engineer. No Work will be paid for under Force Account unless it is ordered as such in writing.

IX. Acceptance of Work:

A. Tests:

1. If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction hereof require any of the Work to be inspected, tested or approved, the Contractor shall give PhilaPort timely notice of its readiness and of the date arranged so that the Engineer may observe such inspection, testing, or approval.

The Contractor shall bear all costs of such inspections, tests and approvals unless otherwise provided. With regard to samples:

- a. All expenses incurred in the collection, packing, and delivering of samples or materials or equipment to the testing site shall be paid for by the Contractor.
- b. The Contractor shall pay the costs of transporting samples to the laboratory and the testing of same, except where otherwise noted in the General Conditions, Specifications, or called for in the Contract Documents.

- c. Approved samples to be incorporated in the Work shall be returned to the Contractor by the testing laboratory under the supervision of the Contractor.
2. If after the commencement of the Work, PhilaPort determines that any portion of the Work requires special inspection, testing, or approval, PhilaPort will, by written authorization, instruct the Contractor to order such special inspection, testing, or approval, and the Contractor shall give notice as provided for in this Section IX.A. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents or with respect to the performance of the Work, with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction hereof, the Contractor shall bear all costs thereof, including the Engineer's additional services made necessary by such failure; otherwise, PhilaPort shall bear such costs, and an appropriate change order shall be issued.
3. Required certificates of inspection, testing, or approval shall be obtained by the Contractor and promptly delivered by the Contractor to the Engineer and PhilaPort.
4. If the Engineer wishes to observe the inspections, tests, or approvals required by this Section IX, the Engineer shall do so promptly and, where practicable, at the source of supply.
5. Neither the observations of the Engineer in the administration of the Contract, nor inspections, tests, or approvals by persons other than the Contractor shall relieve the Contractor from obligations to perform the Work in accordance with the Contract Documents.

B. Uncovering the Work:

1. If any Work should be covered contrary to the request of PhilaPort or Engineer, it must, if required by PhilaPort or Engineer, be uncovered for its observation and replaced, at the Contractor's expense.
2. If any other Work has been covered which PhilaPort or Engineer has not specifically requested to observe prior to being covered, PhilaPort or Engineer may request to see such Work and it shall be uncovered by the Contractor. If such Work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall, by an appropriate change order, be charged to PhilaPort. If such Work is found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it is found that this condition was caused by another prime contractor, and in that event PhilaPort shall pay the Contractor for such costs and require reimbursement of such costs from the responsible prime contractor.

C. Correction of the Work:

1. The Contractor shall promptly correct all Work rejected by PhilaPort or Engineer as defective or nonconforming or as failing to conform to the Contract Documents, whether observed before or after the Date of Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Engineer's additional services thereby made necessary and any additional cost incurred by PhilaPort.
2. If, within one (1) year after the date of final acceptance of all Work required under the Contract Documents, or within such other period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any of the Work is found by PhilaPort to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from PhilaPort to do so, unless PhilaPort has previously given the Contractor a written acceptance of such specific condition. PhilaPort shall give such notice promptly after discovery of the condition. The performance bond required shall provide a guarantee in the sum of one hundred percent (100%) of the total Contract Sum for the correction and remedy of such defect. Should the Contractor or the Contractor's surety fail to comply with the orders of the Engineer to replace or repair defective material, workmanship, or equipment within ten (10) days from the date of notice thereof, PhilaPort shall have the right to declare the Contractor and/or the Contractor's surety in default, and to proceed with the correction of the defect.
3. All such defective or nonconforming Work under Sections IX.C.1 and 2 shall be promptly removed from the Site by the Contractor, and the Work shall be corrected to comply with the Contract Documents without cost to PhilaPort.
4. The Contractor shall bear the cost of making good all work of other prime contractors or Subcontractors destroyed or damaged by such removal or correction.
5. If the Contractor does not remove such defective or nonconforming Work within the time fixed by written notice from PhilaPort, PhilaPort may remove it and may store the materials and/or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, PhilaPort may upon ten (10) additional days' written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor pursuant to the provisions of this Section IX.C. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate change order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and/or the Contractor's surety shall pay the difference to PhilaPort.
6. If the Contractor fails to correct such defective or nonconforming Work, PhilaPort may correct the Work at the Contractor's expense.
7. The obligations of the Contractor under this Section IX.C shall be in addition to and not

in limitation of any obligations imposed upon the Contractor by special guarantees required by the Contract Documents or otherwise prescribed by law.

D. Acceptance of Nonconforming Work:

If PhilaPort elects to accept nonconforming Work, it may do so instead of requiring its removal and correction, in which case a change order shall be issued to reflect an appropriate reduction in the Contract Sum or, if the amount is determined after final payment, it shall be paid by the Contractor and/or the Contractor's surety.

E. Materials and Workmanship:

Where no requirements are specified for materials or for the methods of testing materials or equipment, they shall at least be equal to the latest standard or tentative specifications of nationally recognized standardizing agencies, including, but not limited to, the American Society for Testing and Materials, the American Water Works Association, the American Society of Mechanical Engineers, the latest codes of the National Board of Fire Underwriters or, as they may be applicable, the regulations of the pertinent Departments of the City and the Commonwealth.

The materials used in the Work shall conform to the requirements of the Specifications and shall be those best adapted for the kind of service required. The workmanship shall be equal to the best standard practice. Work of reconstruction and restoration of Commonwealth, City, PhilaPort, or privately owned structures shall be in accordance with the rules and regulations of the owners thereof. No materials shall be used on the Work until accepted and approved by the Engineer.

F. Inspection:

All of the Work shall be subject to supervision and inspection by the Engineer, and the Contractor shall cooperate and afford every facility for the inspection of the Work. Authorized representatives of PhilaPort shall be permitted access at all reasonable times to all portions of the Work, and to such portions of the place of manufacture of fabricated materials as may be necessary for complete inspection. Before beginning the Work, the Contractor shall notify the Engineer of the type and source of supply of the principal materials which the Contractor proposes to furnish, and, as soon as possible thereafter, shall furnish samples of materials, fixtures, and appliances offered for approval. Before beginning the fabrication of materials, or before shipping materials of a specified type, the Contractor shall notify the Engineer in ample time to permit inspection at the place of manufacture, should the Engineer so desire. Such materials shall be delivered to the Site or other location as designated in the Contract Documents properly marked for identification and shall be subject to re-inspection and final acceptance or rejection. Materials shall be delivered in sufficient time to allow for proper sampling and testing. All materials rejected by the Engineer as unsuitable or not in conformity with the Plans or Specifications shall be immediately removed. Unless otherwise specifically provided for, the cost of inspection and testing will be borne by the Contractor. Work shall be done only during regular working hours unless specifically authorized or

directed otherwise by the Engineer. The presence of the Inspector shall not lessen the obligation of the Contractor in accordance with the Contract Documents, or be deemed a defense on the part of the Contractor for infraction thereof. The Inspector is not authorized to revoke, alter, enlarge, relax, or release any of the requirements of the Contract Documents.

G. Investigation of the Work:

Should the Engineer at any time have reason to suspect that defective Work has been done, the Engineer may order an investigation made, and the Contractor shall furnish the necessary labor, appliances, Plans, Specifications, and all other material which PhilaPort finds relevant to the investigation. If any part of the Work is thus found to be defective, the Contractor shall reconstruct it to the satisfaction of the Engineer, and the cost thereof and of the investigation shall be at the sole expense of the Contractor. If the Work is found to be in accordance with the Contract Documents, the Contractor will be reimbursed for the expense incurred because of the examination.

H. Defective Work:

The Contractor shall remove, at the Contractor's own expense, any Work determined by the Engineer to be defective and not in accordance with the Contract Documents, and shall rebuild and replace the same without additional compensation. Failure to do so shall be deemed a violation of the Contract and subject to the procedures established in Section XI.A herein. Any omission or failure on the part of the Engineer to disapprove or reject any Work shall not be construed to be an acceptance of any such defective Work.

I. Restoration of Prior Conditions:

1. The Contractor shall remove promptly from the Site all rubbish and all unused materials and tools, and as the Work progresses the Site shall be carefully cleaned and kept clean from such rubbish and refuse. Before the Work will be considered as having been completed, the Site and places affected by the Work shall be thoroughly cleared and left clean by the Contractor; free from debris, construction plant, buildings, and materials; fit for travel or other proper use; and in as good of a condition as existed before the Work was begun. Grass plots disturbed shall be resodded or planted anew and shrubbery destroyed shall be replaced. Structures shall be broom clean, free from stains, spots or other blemishes, and ready for use, and all glass shall be washed. The restoration work shall be governed by the record of existing conditions made and filed in the office of the Engineer prior to the commencement of the Work.
2. If the Contractor fails to comply with this Section IX.I, PhilaPort may assign the Work to another contractor and the cost thereof shall be charged to the Contractor.
3. If a dispute arises between the Contractor and any other prime contractor as to their respective responsibilities under this Section IX.I, PhilaPort may authorize another contractor to perform the maintenance duties hereunder and charge the cost thereof to the several contractors as PhilaPort shall determine to be just.

X. X. Disputes & Contract Violations between the Contractor and PhilaPort:

A. Three-Step Resolution Process

1. The Contractor and PhilaPort agree that any and all disputes arising out of this Contract, which total more than five thousand dollars (\$5,000.00) in value, are subject to a three-step resolution process described in this Article X. The Contractor and PhilaPort agree that participation in each preceding step is a condition precedent to the Contractor's right to pursue any and all unresolved disputes to the next step. The Contractor expressly agrees that it shall carry on the Work during any proceedings under this Article X unless otherwise agreed by the Contractor and PhilaPort in writing.

B. Step One: FDR Meeting

1. The FDR Meeting is the initial step in identifying and attempting to reach a timely and equitable resolution of the variety of issues that arise on any construction project. The nature and structure of each FDR Meeting shall be flexible and consist of an informal, good-faith discussion of the current status of the Project, and identification of potential and actual disputes.
2. Project Intervals: A FDR Meeting will be scheduled by the Engineer to discuss issues arising as of the following intervals of the Project:
 - a. At any time an issue or dispute arises and more than 3% of the Contract Sum has been expensed by the Contractor and the Contractor provides written notice to the Engineer of such issue or dispute; and
 - b. 50% of the Contract duration has elapsed; and
 - c. 75% of the Contract duration has elapsed; and
 - d. 100% of the Contract duration has elapsed; or
 - e. At any time deemed necessary by PhilaPort.
3. Location: PhilaPort will schedule a mutually convenient date and time for each FDR Meeting. If possible, the FDR Meeting should be convened at the Project site.
4. Attendees: All prime contractors and the Engineer shall attend each FDR Meeting. The Engineer will chair the Meeting.
5. Procedure: As the Project progresses and the time for a FDR Meeting approaches, PhilaPort should establish the date for the meeting during Progress Meetings.
6. The Contractor must fill out a FDR Meeting form, a copy of which can be provided by PhilaPort. This form should be submitted to PhilaPort and provided to the other prime contractors approximately one (1) week prior to the FDR meeting. The information on this form should provide sufficient information to allow attendees to research potential

disputes, review the Contract Documents, review the project schedule and examine site conditions prior to the FDR Meeting. In all cases of misunderstanding and disputes, allegations that verbal instruction was given will not be considered. The Contractor must produce written documentation in support of its contentions and shall advance no claim in the absence of such written documentation, or use or attempt to use any conversation with any parties against the Engineer or PhilaPort, or in prosecuting any claim against the Engineer or PhilaPort.

7. PhilaPort shall convene the FDR Meeting and, if necessary, ensure that attendees are introduced to each other.
8. The FDR Meeting shall not be subject to 2 Pa.C.S. (relating to administrative law and procedure).
9. Neither audio recording nor videotaping will be allowed during the FDR Meeting.
10. No transcripts will be taken but attendees are free to take their own notes.
11. The FDR Meeting may be moved out to the field for visual inspection of the condition if necessary to understand and resolve the issue.
12. PhilaPort will allow all parties a reasonable time to present and discuss the disputes raised in the prime contractors' FDR Meeting forms.
13. A representative of the Contractor (an employee in the field familiar with the day-to-day work on this Contract) shall present a description of:
 - a. The Work performed since the last FDR Meeting; and
 - b. The Work to be performed in the near future; and
 - c. The status of disputes raised at the previous FDR Meeting; and
 - d. New disputes that have arisen since the previous FDR Meeting. For each new dispute, the representative shall:
 - i. Set forth the schedule impacts, which may only be presented using the current project schedule; and
 - ii. Set forth a proposed solution to the dispute, including:
 1. Days needed in any extension of time; and/or
 2. Damages attributed to the dispute; and
 3. Identification of the party the Contractor believes is responsible for

creating the dispute.

14. A representative of PhilaPort (and/or another prime contractor if so identified in above) shall present a description of:
 - a. Their understanding of the Work performed since the last FDR Meetings; and
 - b. The Work to be performed in the near future; and
 - c. The status of disputes raised at the previous FDR Meeting; and
 - d. A response to the new dispute(s) raised by the Contractor, including:
 - i. PhilaPort's and/or the Contractor's view of the schedule impact, which may only be presented using the current project schedule; and
 - ii. PhilaPort's and/or the Contractor's response to the original Contractor's proposed solution; and
 - iii. The identity of the party PhilaPort and or the Contractor believes is responsible for creating the dispute.
15. Within two weeks of the FDR Meeting, PhilaPort will render a written decision on the issues raised during the FDR Meeting. The decision will be issued to all attendees. The decision is not binding upon any party. PhilaPort will include in the decision the name of the employee or other representative who will serve as the Dispute Designee.
16. If any party is dissatisfied with the decision reached at the FDR Meeting, they may appeal the decision to the second step in the dispute process.
17. ANY ISSUE OR DISPUTE ARISING ON THE PROJECT MUST BE PRESENTED AT THE FIRST FDR MEETING AFTER THE DISPUTE AROSE. IF A CONTRACTOR FAILS TO RAISE AN ISSUE AT THE APPROPRIATE FDR MEETING THEN THE CONTRACTOR IS DEEMED TO HAVE WAIVED THE ISSUE.
18. ONLY CLAIMS RAISED DURING AN FDR MEETING MAY BE APPEALED TO THE CLAIM SETTLEMENT CONFERENCE STAGE.

C. Step Two: Claim Settlement Conference

1. The second step in the dispute resolution process is a Claim Settlement Conference, which is a more formal step in the process and is described in general in §1712.1 of the Commonwealth Procurement Code.
2. Time to File A Claim: Under this second step of the process, a Contractor may appeal the FDR Meeting decision by submitting a written claim to the Dispute Designee.

- a. ANY ISSUE OR DISPUTE ARISING ON THE PROJECT THAT IS NOT MUTUALLY RESOLVED AT THE FDR MEETING STAGE MAY ONLY BE APPEALED TO THE CLAIM SETTLEMENT CONFERENCE STAGE. IF THE CONTRACTOR FAILS TO PURSUE ANY UNRESOLVED FDR MEETING ISSUE TO A CLAIM SETTLEMENT CONFERENCE WITHIN THE 6-MONTH TIME FRAME SET FORTH BELOW, THEN THE CONTRACTOR IS DEEMED TO HAVE WAIVED THE ISSUE.
 - b. A CLAIM ACCRUES UPON THE DATE OF THE AUTHORITY'S WRITTEN DECISION IN STEP ONE. IF THE CONTRACTOR DECIDES TO APPEAL THE DECISION REACHED AT THE FDR MEETING, THE CONTRACTOR MUST FILE AN APPEAL OF THE DECISION TO THE DISPUTE DESIGNEE WITHIN SIX MONTHS OF THE DATE OF THE AUTHORITY'S WRITTEN DECISION. IF THE CONTRACTOR FAILS TO FILE A WRITTEN REQUEST WITHIN THIS TIME PERIOD, THE CONTRACTOR IS DEEMED TO HAVE WAIVED ITS RIGHT TO ASSERT THE CLAIM IN ANY FORUM. THE DISPUTE DESIGNEE WILL DISREGARD UNTIMELY CLAIMS.
3. Contents of the Claim: The claim filed by the Contractor with the Dispute Designee shall state ALL GROUNDS upon which the Contractor asserts a controversy exists. The claim must contain, at a minimum:
 - a. A Claim Settlement Conference Request Form, a copy of which can be provided by PhilaPort
 - b. The documentation submitted by the Contractor to PhilaPort during the FDR Meeting to substantiate the Contractor's view of the issue; and
 - c. PhilaPort's decision.
4. Date of the Claim Settlement Conference: The Dispute Designee will schedule a mutually convenient date and time for the Claim Settlement Conference.
5. Attendees: All parties identified in the claim packet or deemed necessary by PhilaPort shall attend the Claim Settlement Conference. At a minimum, the Contractor and the Engineer shall attend the Claim Settlement Conference.
6. Procedure: The Dispute Designee will convene the Claim Settlement Conference.
 - a. The Claim Settlement Conference shall not be subject to 2 Pa.C.S. (relating to administrative law and procedure).
 - b. Neither audio recording nor videotaping will be allowed during the Claim Settlement Conference.

- c. No transcripts will be taken but attendees are free to take their own notes.
 - d. The Dispute Designee will allow all parties a reasonable time to present and discuss the issues.
 - e. A representative of the Contractor shall present a description of the issue, including:
 - i. The factual background of the issue;
 - ii. The schedule impacts, which may only be presented using the current project schedule; and
 - iii. The proposed solution to the dispute, including:
 - 1. Days needed in any extension of time; and/or
 - 2. Damages attributed to the dispute; and
 - 3. Identification of the party the Contractor believes is responsible for creating the dispute.
 - f. A representative of PhilaPort (or other prime contractor if so identified above) shall present a description of, including
 - i. A response to the dispute(s) raised by the Contractor; and
 - ii. PhilaPort's and/or the Contractor's view of the schedule impact, which may only be presented using the current project schedule; and
 - iii. PhilaPort's and/or the Contractor's-response to the Contractor's proposed solution; and
 - iv. Identification of the party PhilaPort and/or the Contractor believes is responsible for creating the dispute.
7. The Dispute Designee will render a final determination on the issue(s) raised during the Claim Settlement Conference within 120 days of the receipt of the claim by the Dispute Designee. The parties may, during the 120-day period, mutually agree to extend the 120-day deadline. If extended, PhilaPort will issue written confirmation of the extension. If no decision is rendered within the 120 days, the claim is deemed to be denied on the 120th day. The determination of the Dispute Designee shall be the final order of PhilaPort with regard to the issue(s).

D. Step Three: Filing a Claim at the Board of Claims

1. The third step in the dispute resolution process is filing a Statement of Claim with the Board of Claims, which is a more formal step in the process and is described in general in §1712.1 and §1721 et seq. of the Commonwealth Procurement Code.
2. Time to File a Statement of Claim: Within fifteen (15) days of:
 - a. The mailing date of the Dispute Designee's final determination denying a claim;
or
 - b. Within 135 days of the date the Contractor files a claim with the Dispute Designee, if no final determination has been rendered and no extension has been agreed to, whichever occurs first, the Contractor may proceed to the third stage of the dispute resolution process by filing a claim with the Board of Claims in Harrisburg.
3. ONLY CLAIMS THAT WERE RAISED ON A TIMELY BASIS DURING A CLAIM SETTLEMENT CONFERENCE MAY PROCEED TO THE BOARD OF CLAIMS.

XI. Disputes Between Contractors:

A. Damage; Injury; Delay

1. Should the Contractor, personally or by any Subcontractor or their respective agents, servants, or employees, cause damage or injury to the property or work of any prime contractor or contractors, or by failing to perform the Work hereunder with due diligence (including the Work of the Subcontractors), delay any prime contractor or contractors who shall suffer additional expense or damage thereby, the parties involved in such dispute shall settle by agreement or arbitrate said claim, dispute or disputes by referring same to the American Arbitration Association. Said dispute or disputes shall be determined pursuant to the applicable arbitration rules of the American Arbitration Association then in effect. PhilaPort shall not be a party to disputes or actions between prime contractors or subcontractors concerning such additional expense or damage, and such disputes shall not be subject to the Board of Claims proceedings provided for in Section X.A.1 herein. It is agreed by all parties that disputes or actions between contractors concerning the additional expense or damage hereinbefore mentioned shall not delay completion of the Work which shall be continued by the parties, subject to the rights hereinbefore provided. It is agreed by the parties to the Contract (PhilaPort as promisee and the Contractor as promisor) that the intent of this Section XI.A.1 is to benefit the other prime contractors on the Project or related projects and to serve as an indication of the mutual intent of PhilaPort and the Contractor that this Section XI.A.1 raise such other prime contractors to the status of third party beneficiaries only as to the terms and conditions of Sections II.A and B and XI herein. The Contractor agrees that these Sections as a benefit to the Contractor and that they specifically exclude claims against PhilaPort for delay or other damages resulting from the actions and omissions of other contractors and subcontractors.

B. Breach

1. The Contractor agrees that all claims, disputes and other matters in question between prime contractors, which arise out of, or are related to the Contract or the breach thereof, shall be settled by agreement or resolved by arbitration in accordance with the applicable arbitration rules of the American Arbitration Association then in effect, unless the parties mutually agree otherwise. The agreement to arbitrate shall be in consideration of the fact that all other prime contractors agree to the same arbitration provision as provided in each separate prime contract required for the Project, and shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. PhilaPort shall not be a party to the arbitration nor shall such claim or dispute be subject to the Board of Claims proceedings provided for in Section X.A.1 herein.

C. Demand for Arbitration

1. Notice of the demand for arbitration shall be filed in writing with the other prime contractors and with the Philadelphia Regional Office of the American Arbitration Association or such other location as the American Arbitration Association may request, and a copy shall be filed with the Engineer and PhilaPort. The demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. PhilaPort shall not be a party to the claim, dispute or other matter in question, but shall be a witness in any arbitration at the request of any party to the arbitration.

XII. Contract Violations:

A Violations of the Contract:

1. If the Contractor shall abandon the Work, or, in the sole opinion of the Engineer neglect or fail to perform the Work with promptness and diligence, or unreasonably delay the Work so that it may not be completed within the time specified in the Contract, or if the Contractor shall neglect or refuse to furnish on a timely basis suitable materials in place of any which may be rejected by the Engineer as unsuitable, or shall refuse or neglect to furnish and supply on a timely basis a sufficiency of properly skilled workers and necessary equipment or either, or if the Contractor shall execute any of the Work improperly, carelessly, or in bad faith, and refuse to remove on a timely basis any of the Work which, in the opinion of the Engineer, is defective and unsuitable, and to replace it on a timely basis in accordance with the Contract Documents, or if the Contractor shall default in the performance of any of the terms, conditions, and provisions of the Contract Documents, then and in that event the Executive Director may provide written notice to the Contractor and the Contractor's surety to remedy the neglect or default, and require the Contractor to comply with the terms, conditions, and provisions of the Contract which are being violated. If the said notification is without effect forty-eight (48) hours after the delivery thereof, or twenty-four (24) hours when, in the opinion of the Executive Director, immediate action is necessary to safeguard life or property, the Executive

Director shall have the right to declare the Contractor in default, and to notify the Contractor to discontinue the Work or any part thereof under the Contract, and to call upon the surety to complete the same through contractors which meet the approval of the Executive Director and, in the opinion of the Executive Director, have qualifications at least equal to those required of the original Contractor. If the surety fails to begin to fully and completely perform the Work by means of such approved contractors within ten (10) days, or within twenty-four (24) hours when, in the opinion of the Executive Director, immediate action is necessary to safeguard life or property, the Executive Director shall have the right to declare the surety in default and, at the Executive Director's option:

- a. to determine the Work which needs to be completed to maintain conditions; to obtain bids, if circumstances will allow, for all or any portion of the Work; and to enter into a new contract to complete the Work of the original Contractor; or
 - b. in the case of an emergency, including but not limited to danger to life or property, or serious interference with traffic or the movement of cargo, to terminate the Work, and to then and there secure in the open market, from any person or party, at the then-current market prices, the materials of the quality and quantity required, the necessary workers and mechanics, and the required equipment to continue the Work and complete the Contract.
2. Upon default by the Contractor as hereinabove set forth, all monies due the Contractor upon estimates, retained percentage or otherwise, materials delivered, materials built into the Work, and the Contractor's plant (including, but without limitation, tools, appliances, materials, and equipment on the Site), shall upon such default become the property of PhilaPort for use in the completion of the Work, and resort shall be had thereto by PhilaPort to the extent necessary to maintain and complete the Work and reimburse PhilaPort for its outlays and expenditures.
 3. In case of such default by the Contractor, the remedies herein provided shall be in addition to, and not in substitution of, the rights and remedies which would otherwise be vested in PhilaPort, all of which rights and remedies are specifically reserved to PhilaPort. The failure of PhilaPort to exercise any of the remedies herein provided shall not preclude PhilaPort from seeking any other appropriate remedy or remedies.
 4. The use of specific remedies herein provided shall not prevent subsequent or concurrent resort to any other remedy which by law or equity would be vested in PhilaPort for the recovery of damages or otherwise, in the event of default by the Contractor.
 5. The Contractor and the Contractor's surety shall pay to PhilaPort on demand, all loss, expense, cost, or damage suffered or incurred by PhilaPort by reason of any default.

XIII. Suspension of Work:

A. Suspension of the Work Due to Unfavorable Conditions:

1. If, in the judgment of PhilaPort, the Contractor is taking undue risk of damage by proceeding with the Work during unfavorable weather or other conditions, which is not for the joint benefit of PhilaPort and the Contractor, or for the sole benefit of PhilaPort, then PhilaPort may suspend the Work temporarily, either wholly or in part for such periods as may be necessary on account of unsuitable weather or other conditions unfavorable to the safe and proper prosecution of the Work. In the case of such suspension, a proper extension of time will be allowed as provided herein, but no allowance will be made to the Contractor for any expenses or damages resulting therefrom. It shall be clearly understood that the failure of PhilaPort to suspend the Work shall not relieve the Contractor of the Contractor's responsibility to perform the Work in accordance with the Contract Documents.
2. PhilaPort has the right to require a suspension of the Work if in its opinion unforeseen conditions warrant such a suspension. When PhilaPort directs resumption of the Work, the Contractor shall resume full operations within a period of ten (10) days after receipt of written notice to do so. PhilaPort shall not be held liable for any damage or anticipated profits on account of the Work being suspended. Any Work done by the Contractor during the period of suspension shall be the Contractor's responsibility and the Contractor shall receive no payment therefor unless the Work is subsequently resumed and the Work done during the interval of suspension can be utilized in the resumed Work. Suspensions of Work as outlined above shall not in themselves operate to extend the Date of Completion. Requests for extensions of time must be submitted in writing by the Contractor setting forth the Contractor's reasons for such an extension.

B. Suspension of the Work for the Convenience of PhilaPort:

1. PhilaPort may, in writing, order the Contractor to suspend all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of PhilaPort, except that this Section XIII.B shall not apply under the conditions enumerated in Section XII.A herein.
2. If the performance of all or any part of the Work is, for an unreasonable period of time, suspended by PhilaPort, an adjustment shall be made for any increase in the cost of performance of the Contract (excluding anticipated profit) necessarily caused by such unreasonable suspension, and the Contract shall be modified in writing accordingly. However, no adjustment shall be made under this Section XIII.B for any suspension to the extent:
 - a. that performance would have been so suspended by any other cause, including the fault or negligence of the Contractor; or
 - b. for which an equitable adjustment is provided for or excluded under any other provision of the Contract.

3. No claim under this Section XIII.B shall be allowed unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, but not later than the date of final inspection under the Contract.

C. Suspension of the Work and Fault of the Contractor:

Should the Contractor fail to comply with the orders of PhilaPort relative to any particular part of the Work, PhilaPort may suspend the Work on any or all parts until its orders respecting the particular parts are complied with. In the case of such a suspension, which shall be considered due to the fault of the Contractor, no extension of time shall be given and no allowance will be made for the expenses incurred by the Contractor during the period of such suspension.

XIV. Termination:

A. Termination by the Contractor:

If the Work is stopped for a period of thirty (30) days or more under an order of any court or other public authority having jurisdiction thereof, through no act or fault of the Contractor or any Subcontractor or their agents or employees or any other persons performing any of the Work, including other prime contractors, or if the Work should be stopped for a period of thirty (30) days or more by the Contractor for PhilaPort's or the Commonwealth's failure to make payment pursuant to Section XV.F herein, then the Contractor may, upon seven (7) days' written notice to PhilaPort, terminate the Contract and recover payment for all Work performed as provided in Section XV.E herein.

B. Termination by PhilaPort:

1. PhilaPort shall have the right at any time and for any reason, to terminate the Contract. In such case, the Contractor shall be paid (and shall accept payment) for that portion of the entire Contract actually performed to the date of termination, excluding, however, any loss of anticipated profits. Disputes as to the sum then payable to the Contractor shall be settled in accordance with the provisions of Section X.A herein.
2. Such termination shall be effective in the manner and at the time specified in the notice of termination and shall be without prejudice to any claims which PhilaPort may have against the Contractor. Upon receipt of such notice from PhilaPort, the Contractor shall immediately discontinue all Work and the placing of all orders for materials and equipment, facilities and supplies in connection with the performance of the Work, and shall proceed to cancel promptly all existing orders and terminate Work under all subcontracts so far as such orders and Work are chargeable to the Contract; provided, however, that the Contractor shall take such measures for the protection of the property of PhilaPort as may be directed by PhilaPort. Upon termination of the Contract, full and complete adjustment and payment of all amounts due the Contractor arising out of the Contract as determined by an audit conducted by or for PhilaPort, shall as soon as practicable after such termination be made as follows:

- a. the Contractor shall be reimbursed for all costs incurred to the date of termination, including reasonable overhead and expenses directly applicable to the Project, made in the performance of the Contract less amounts previously paid;
- b. the Contractor shall be reimbursed for all costs to which the Contractor has been subjected to or which the Contractor is legally liable for by reason of the termination of the Contract, including reasonable costs relating to cancellation of orders, termination of subcontracts, and other similar charges to the extent the Contractor is liable therefor;
- c. the Contractor shall be reimbursed for the reasonable cost of providing protection of the property of PhilaPort as directed by the notice of termination;
- d. the sum total of the payments made under this Section XIII.B shall not exceed the authorized total amount of the Contract less payments previously made;
- e. title to all property accruing to PhilaPort by reason of the termination of the Contract shall immediately vest in PhilaPort and the Contractor shall execute and deliver to PhilaPort all papers necessary to transfer title;
- f. coincident with the making of final payment, the Contractor shall furnish PhilaPort with a final release; and
- g. PhilaPort or its representatives shall be afforded full access to all books, correspondence and papers of the Contractor relating to the Contract in order to determine the amount due thereunder.

XV. Payments:

A. Scope of Payments:

Payment for the cost of all labor, materials, and services required to be done or furnished to complete the Work, as specified in the Contract Documents (except where payment is otherwise specifically provided), will be made at the price(s) specified in the bid. If the Work includes the supply and/or installation of materials, the prices bid shall each cover the supply and/or installation, in a good, sound, substantial, and workmanlike manner, of everything required for and incidental to the full completion of the Work of that item as called for by the Plans and/or as specified, including its proportionate share of the expense of all plant, tools, and equipment required; the cost of all bonds, fees, and permits; of all administration, superintendence, and insurance; and of any loss or damage arising out of the nature of the Work, from the action of the elements, from any unforeseen difficulties encountered in the performance of the Work, and from risks of all kinds connected with the Work.

B. Mobilization:

The Contractor may include in the Contractor's breakdown a line item for mobilization in an amount of 1.5 percent of the contract award up to a maximum of \$90,000. Mobilization costs shall be limited to the cost of the Contractor's field office and the cost of heat, lights and telephone for the field office.

C. Payment to Subcontractors:

In accordance with 55 P.S. § 697.11(a), and 62 P.S.C.A § 3933, the Contractor will pay for all materials furnished and services rendered for the performance of the Contract, and any Subcontractor furnishing such materials or rendering such services may maintain an action to recover for the same against the Contractor, as though the Subcontractor was named in the Contract, provided that the action is brought within one (1) year after the time the cause of action accrued, and without prejudice to any other rights or remedies available pursuant to contract, statute or law.

D. Progress Payments:

1. Unless otherwise provided in the Contract Documents, during the progress of the Work, the Contractor shall prepare periodic current estimates of the value of the Work performed and shall submit to PhilaPort itemized applications for payment to the Accounts Payable Department of PhilaPort on the form provided by PhilaPort. The applications shall be supported by data substantiating the Contractor's right to payment, as PhilaPort may require. The Engineer and PhilaPort will review the applications for validity.
2. Prime Contractor shall submit monthly HUB reports. Specifically, Prime Contractor shall submit the Prime Contractor HUB Monthly Reporting Form Summarizing Payments (see Exhibit 2 of PhilaPort's Diversity & Inclusion Policy) made for each project as well as proof of payment in the form of invoices from subcontractors. Both form and proof of payment to subcontractors should be submitted to the Finance Department along with the Prime Contractor's monthly invoicing. PhilaPort reserves the right to reject the monthly progress payment request if the HUB monthly reporting is not deemed sufficient.
3. Unless otherwise provided in the Contract Documents, and as provided in Section XV.E herein, upon the determination of PhilaPort as to reasonableness, payments may be made to the Contractor on account of materials or equipment especially fabricated for the Work, which materials or equipment are delivered and suitably stored at the Site or on PhilaPort property. However, such payments shall be conditioned upon submission by the Contractor of bill of sale forms provided by or otherwise acceptable to, PhilaPort to establish PhilaPort's title to such materials or equipment. The Contractor shall remain responsible for all losses of materials and equipment which remain under the Contractor's custody and control regardless of the exclusions in the insurance policies as required under PhilaPort's bill of sale form or the location of such, whether on or off of the Site.

4. Unless otherwise provided in the Contract Documents, the Contractor warrants and guarantees that title to all materials and equipment covered by an application for payment, whether incorporated in the Project or not, will pass to PhilaPort upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances; and that no materials or equipment covered by an application for payment will have been acquired by the Contractor, or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

E. Application for Payment:

1. If the Contractor has made an application for payment, and subject to the schedule for payment provided in Section XIV.D herein, the Engineer will, within seven (7) days after the receipt of the application, unless otherwise provided in the Contract Documents, process the application for payment to PhilaPort, with a copy to the Contractor, for such amount as the Engineer determines to be properly due, or state in writing the Engineer's reasons for withholding the application.
2. By approving an application for payment, the Engineer shall not thereby be deemed to represent that the Engineer has made exhaustive or continuous inspections to check the quality or quantity of the Work, or that the Engineer has reviewed the Contractor's means, methods, techniques, sequences or procedures, or that the Engineer has made any examination to ascertain how or for what purpose the Contractor has used the moneys previously paid on account of the Contract Sum.
3. In the case of projects funded by Commonwealth capital funds, after the Engineer and PhilaPort have approved the application for payment, PhilaPort shall forward the application for payment to the Commonwealth and the Commonwealth shall make payment directly to the Contractor in the manner provided in the Contract Documents. In the case of projects funded by PhilaPort operating funds, payment shall be made to the Contractor by PhilaPort in the manner provided in the Contract Documents. In the absence of good and sufficient reasons, within twenty (20) days of the receipt of payment by the Contractor, the Contractor shall pay all Subcontractors, with whom the Contractor has contracted, their earned share of the payment the Contractor received.
4. No application for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project shall constitute an acceptance of any Work not in accordance with the Contract Documents, nor shall any payment constitute a waiver by PhilaPort of its right to assert a claim with respect to any matter arising under or relating to the Contract or the services provided thereunder.
5. Progress payments on contracts other than equipment contracts, will be reduced by ten percent (10%) until the Substantial Completion of the Work, as such term is defined in Section XV.A herein; provided, however, that when the amount of the progress payments reaches fifty percent (50%) of the Contract Sum, and all of the requirements of the

Contract, including its satisfactory progress, have been complied with, no additional percentage will be retained on succeeding payments during the continuation of such satisfactory performance of the Work. Progress payments will be the amount of the payment as thus reduced less the sum of all previous payments. When the Contract is fifty percent (50%) completed, one-half of the amount retained by PhilaPort shall be returned to the Contractor; provided, that the Engineer approves the application for payment; and provided further, that the Contractor is making satisfactory progress and there is no specific cause for greater withholding. The sum or sums withheld by PhilaPort from the Contractor after the Contract is fifty percent (50%) completed shall not exceed five percent (5%) of the value of completed Work based on monthly progress payment requests; provided, however, that in the event a dispute arises between PhilaPort and any contractor, which dispute is based upon increased costs claimed by one contractor occasioned by delays or other actions of another contractor, additional retainage in the sum of one and one-half (1½) times the amount of any possible liability may be withheld until such time as a final resolution is agreed to by all parties directly or indirectly involved, unless the Contractor causing the additional claim furnishes a bond satisfactory to PhilaPort to indemnify PhilaPort against the claim. However, all such monies retained by PhilaPort may be withheld from the Contractor until Substantial Completion of the Contract.

6. Progress payments on contracts for furnishing and/or installing electrical, mechanical, plumbing, heating, and other equipment subject to test, will include an allowance of fifty percent (50%) of the price bid for the units especially fabricated therefor (or the apportioned value thereof), when such equipment is delivered on the Site or on PhilaPort property. A further allowance of twenty-five percent (25%) will be made when the equipment is installed and ready for test.
7. This Section XIV.E shall apply unless otherwise provided in the Contract Documents.

F. Failure of Payment:

If PhilaPort or the Commonwealth should fail to make payment to the Contractor as provided in Section XV.E herein within sixty (60) days after receipt of an application for payment that was approved by PhilaPort for payment, such failure shall afford the Contractor the right to an immediate Claim Settlement Conference before a Dispute Designee as provided in Section X.A herein. The Contractor shall not be entitled to stop Work in any event unless PhilaPort exercises its right to suspend the Work as provided in Sections XIII.A and B herein. Under this Section XV.F, after a decision has been rendered by the Dispute Designee, the Contractor may file a claim with the Board of Claims as provided in Section X.A herein.

G. Substantial Completion Inspection:

1. When the Contractor requests a substantial completion inspection of the Work or a designated portion thereof, the Engineer and PhilaPort shall make a substantial completion inspection within thirty (30) calendar days of the request. At any time during the progress of the Work, however, PhilaPort may schedule a substantial completion

inspection. During the substantial completion inspection, a punch list will be compiled by the Engineer listing the items to be completed or corrected to achieve Final Completion. The failure to include any items on such list shall not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. If the Engineer and PhilaPort, on the basis of a substantial completion inspection, determine that the Work is Substantially Complete, then the Engineer will issue a certificate of substantial completion, which shall establish the date of Substantial Completion, shall state the responsibilities of the Contractor for maintenance, heat and utilities and other items, if applicable, and shall fix the time within which the Contractor shall complete the items listed therein, said time to be before the Date of Completion or any extension thereof. The substantial completion certificate of completion shall be submitted by the Engineer to PhilaPort and the Contractor for their written acceptance of the responsibilities assigned to them in such certificate.

2. Following the substantial completion inspection, if there are items to be completed and/or corrected, PhilaPort and the Engineer will determine the dollar value to be withheld by PhilaPort. The Contractor shall complete all items to be corrected and/or completed within thirty (30) days after the date of substantial completion inspection or show just cause to the satisfaction of the Engineer and PhilaPort why they cannot be completed. If the Contractor does not complete the items to be corrected and/or completed within thirty (30) days, or show just cause to the satisfaction of the Engineer and PhilaPort why they cannot be completed, PhilaPort will have the right to correct those items at the Contractor's expense.
3. At no time after the date of substantial completion inspection shall the Contractor be permitted to file any claim, arising under the Contract, against PhilaPort; provided, however, that this shall not preclude the Contractor from filing claims against PhilaPort which arise subsequent to the date of substantial completion inspection and prior to acceptance by the Contractor of final payment.

H. Final Payment:

1. Final payment, constituting the entire unpaid balance of the Contract Sum, shall be paid to the Contractor as provided in Section XV herein forty-five (45) days after the issuance of the certificate of final completion and the final application for payment; provided that the Work has then been fully completed and accepted by PhilaPort, and Final Completion has occurred.
2. If, after Substantial Completion of the Work, Final Completion is materially delayed through no fault of the Contractor, and the Engineer and PhilaPort so confirm, then upon certification by the Engineer, and without terminating the Contract, payment of the balance due for that portion of the Work fully completed and accepted shall be made to the Contractor as provided in Section XV herein. If the remaining balance of the Work not fully completed or corrected is less than the retainage stipulated in Section XIV herein, and if the appropriate bonds have been furnished, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and

accepted shall be submitted by the Contractor to PhilaPort prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of any of the claims of PhilaPort against the Contractor.

3. The making of final payment shall constitute a waiver of all claims by PhilaPort except those arising from:
 - a. unsettled claims;
 - b. faulty or defective Work;
 - c. failure of the Work to comply with the requirements of the Contract Documents;
or
 - d. terms of any special guarantees required by the Contract Documents.
4. Acceptance of the Final Payment shall constitute a waiver of all claims by the Contractor.

I. Interest on Final Payment:

In accordance with Pa. Stat. Ann. tit. 62, § 3941(b), the final payment due the Contractor after Substantial Completion of the Contract shall bear interest at a rate of ten percent (10%) per annum, such interest to begin after the date that such payment shall become due and payable to the Contractor; provided, that where PhilaPort has issued bonds to finance the Project, interest shall be payable to the Contractor at the rate of interest of the bond issue or at the rate of ten percent (10%) per annum, whichever is less. The acceptance of the final payment shall constitute a waiver of all claims and liens by the Contractor not filed prior to such acceptance.

XVI. Completion:

A. Substantial Completion:

The date of Substantial Completion of the Work, or designated portion thereof, is the date on which the Engineer certifies, and PhilaPort approves, that the Work is sufficiently complete, in accordance with the Contract Documents, so that the Work, or designated portion thereof, is available for the use for which it is intended, excepting only minor punch list items in non-completion of which does not interfere with the Work's intended use. Upon Substantial Completion, PhilaPort shall accept the Work or designated portion thereof, which acceptance shall not unreasonably be withheld. Upon substantial completion, Contractor will provide all documents referenced in Sections V.E and K.

B. Final Completion:

1. The date of Final Completion of the Work is the date when all of the items set forth

below are achieved:

- a. All of the Work has been completed and accepted by PhilaPort, including but not limited to all items on the punch list;
- b. The Contract is fully performed as provided in the Contract Documents; and
- c. The following have been provided to PhilaPort;
 - i. an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which PhilaPort might in any way be responsible, have been paid or otherwise satisfied;
 - ii. statements of the surety and the Contractor which are satisfactory to PhilaPort as to the Contractor's payment of all claims for labor and materials; and
 - iii. if required by PhilaPort, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by PhilaPort. Such information includes, but is not limited to, proof of actual MBE/WBE Participation.
 - iv. all documentation referenced in Sections V.E and K.
2. If any Subcontractor refuses to furnish a release or waiver required by PhilaPort, the Contractor may furnish a bond satisfactory to PhilaPort to indemnify PhilaPort against any such potential or actual lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to PhilaPort all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.
3. Neither the final payment nor any remaining retained percentage shall become due until the Contractor submits to PhilaPort the items set forth in Section XVI.B.1.c above.

XVII. Warranty:

A. Maintenance After Completion and the Contractor's Guarantee:

1. The Contractor shall guarantee the Work against defects of material and workmanship for a period of one (1) year from the date of final acceptance by PhilaPort, unless another period is specified in the Contract Documents, and shall guarantee all equipment to perform the duty specified. PhilaPort shall have the benefit of all guaranties and warranties, including all equipment and material guaranties and warranties. When individual items of the Contract are accepted and used by PhilaPort prior to the Date of Completion, the period of guarantee for said items shall begin from the date of

acceptance of such items. If, within the said period of guarantee, any of the Work shall prove to be defective either in material or workmanship, or if damage occurs by settlement of any backfill placed under the Contract, or if any part or parts of equipment furnished shall prove to be inadequate, insufficient, or defective either in design, material, or workmanship, the Contractor shall, immediately upon demand from the Engineer (whose decision as to such inadequacy, insufficiency, or defectiveness shall be binding and conclusive upon the parties hereto), repair and replace the same, and shall repair and replace any consequential damage to other parts or structures, at the Contractor's own cost and expense, without cost or expense to PhilaPort, and to the approval and satisfaction of the Engineer.

2. Should the Contractor or the Contractor's sureties fail to comply with the orders of the Engineer to replace or repair defective material, workmanship, or equipment within ten (10) days from the date of such notice, PhilaPort shall have the right to declare the Contractor and/or the Contractor's surety in default, and to proceed with the correction of the defect in accordance with the provisions of these General Conditions.

XVIII. Work Site Conditions:

A. Performance of the Work:

The method of procedure shall be subject to approval as best adapted for the safe, efficient, and expeditious performance of the Work, with a minimum of interference with public traffic or convenience, or the movement of vehicular traffic or cargo on the Site. The Work shall be performed at such times and at such places as may be ordered or approved by the Engineer.

B. Maintenance of Traffic and Access to Property:

Traffic of all kinds shall be maintained continuously and access to buildings shall be provided for at all times, except where otherwise specifically permitted by the Contract Documents, or where temporary interference is authorized by the Engineer, in which case it shall be interrupted only for such time as is necessary to provide temporary substitutes for surfaces disturbed by the Work and to restore street and sidewalk surfaces after the completion of the Work. Where partial occupation of the street is allowed, materials and equipment shall be so placed as to insure a minimum of interference with traffic. No materials shall be placed on the sidewalk within one (1) foot of the curb line, and a clear sidewalk passage not less than four (4) feet in width shall be maintained at all times. The flow in gutters and inlets shall be maintained.

C. Temporary Buildings:

Buildings, fences, and equipment erected by the Contractor shall be neat in appearance, shall be approved by the Engineer, and shall be painted a medium blue or other color as designated by the Engineer. No advertising matter, other than Contract information and the name and address of the Contractor, shall be displayed on the Work.

D. Temporary Ventilation:

The Contractor shall provide temporary ventilation to remove from the structure any excessive humidity in enclosed portions of the Work resulting from the Work so that the Work may be performed without interruption and under correct conditions including required dryness for installation of the various materials. Any dangerous or noxious fumes or particles suspended in the air shall be the responsibility of the contractor whose work caused those conditions to exist. Temporary equipment used shall produce no hazard to the Work or to any person in or near the Work. The Contractor shall furnish all such equipment, pay all costs for it and for its operation, including fuel and power supplies during operation both in and out of normal working hours, and the Contractor shall remove it when no longer required.

E. Detour Signs:

When permission is given to close a highway during Contract operations and to divert the traffic therefrom, the Contractor, at the Contractor's own expense, shall erect and maintain highway barricades. Detour signs shall be placed by the Department of Streets of the City and/or the Pennsylvania Department of Transportation, as applicable. The Contractor will be required to notify PhilaPort seven (7) Working Days prior to the date of starting the Work and one (1) Working Day prior to the Date of Completion. Copies of these notices shall be sent to the Traffic Engineer of the Department of Streets and the Pennsylvania Department of Transportation.

F. Contract Identification Signs:

When so directed by the Engineer in writing, the Contractor shall, at the Contractor's own expense, erect and maintain in a prominent position upon the Work a suitable sign, plainly lettered with the name and address of the Contractor, the character of the Work and the name of PhilaPort. No advertising matter other than the signs above noted shall be displayed on the Work.

G. Storage Space:

Buildings, yards, or sidings that may be required for the delivery or storage of materials shall be provided by and at the cost of the Contractor. The use of streets for storing materials will not be permitted, unless specifically authorized in writing by the Engineer.

H. Night Work:

Work during the night shall be carried on with due regard to the comfort of nearby residents, and the method of performance shall be subject to the approval of the Engineer, who may, if conditions so require, order that no night work be done in specific localities. Workers shall refrain from loud noises, calls, or whistles; and the operation of air compressors, rock drills, and blasting is prohibited between the hours of 7:00 p.m. and 7:00 a.m. unless specifically

permitted by the Engineer.

I. Power and Light:

The Contractor shall use either electric, compressed air or internal combustion engine power, unless conditions are such that use of steam power is not objectionable and its use is approved by the Engineer. When compressed air or internal combustion engines are used the exhaust shall be muffled. Only electric lights shall be used in or under buildings or anywhere on the Site below the surface of the street.

J. Use of Water:

The Contractor shall make all necessary arrangements and obtain all permits for the use of water from the City or otherwise, and Contractor shall pay for all water used and permits required.

K. Prevention of Dust and Smoke:

The Contractor shall keep the surface of the sidewalks and streets affected by the Work, including, but without limitation, decking and temporary paving, in a clean and neat condition. The Contractor shall sprinkle with water or otherwise treat the surface sufficiently to keep the dust laid during the progress of the Work. Piles of dirt or other material shall not be left on the surface. The above mentioned requirements are not intended to take the place of the usual duties of the Department of Streets or the Pennsylvania Department of Transportation, as applicable, but to supplement them. No fires of any kind or burning of debris on the Site or adjacent to it will be permitted; debris shall not be disposed of on the Site.

L. Explosives:

If any blasting is involved in the performance of the Contract, the Contractor must obtain a blasting permit from the Department of Licenses and Inspections of the City and all such other licenses or permits as shall be required. Permits will be issued only upon approval of the appropriate governmental agency or official, and posting of a bond or delivery of a certificate of insurance covering personal injuries and property damage. Blasting may be done only by licensed blasters duly licensed by the City. The Contractor must also obtain all necessary licenses or permits for the storage of explosives and the transportation of explosives to the Site, which are issued by the Department of Licenses and Inspections of the City subject to prior approval of the appropriate governmental agency or official.

M. Work in Freezing Weather:

Masonry of all kinds, pointing, grouting, plastering, and other Work subject to the action of frost shall not be done when exposed to freezing weather, except under conditions where the Engineer may specifically direct or permit such Work, subject to the heating of materials, the

protection of finished Work, and such other measures as may be deemed necessary. The Contractor's work should take into account the possibility of normal weather conditions and the Engineer is not required to authorize additional time or money for the completion of the Work. If operations are suspended on account of freezing weather, the Work shall be properly protected until the resumption of Work is permitted. If a suspension of the Work on account of freezing weather or from any other cause is necessary, the Site shall be cleaned up and left in good order during the period of such suspension.

N. Cooperation with Public Utility Companies:

Notice shall be given by the Contractor to all individuals, companies, and the proper City officials owning or having charge of structures along any part of the Work, of the Contractor's intention to commence operations along such part of the route, at least seven (7) days in advance, and a copy of such notice shall be filed with the Engineer. The Contractor shall cooperate with other contractors and with the employees, officers, and agents of the City, Commonwealth and Federal departments and of the various companies which own, operate, or have supervision over the structures encountered, and shall conform to the reasonable requirements of the owners of such structures with regard to their safe maintenance. The Contractor shall give to authorized representatives of said departments and companies free access at all times to the excavation and to the Site to inspect the condition and support of their structures. Suitable arrangements shall be provided to facilitate access to valves and manholes. Ventilation openings shall be provided where gas is likely to accumulate. Where structures are to be constructed under the facilities of any public utility company, the Contractor shall arrange with the public utility company for the removal or support and maintenance of such facilities.

O. Gas Pipes:

The performance of any necessary alterations to the gas mains and gas service pipes, including temporary or permanent relocations thereof, are the responsibility of the Contractor and shall be performed by the Contractor or the Philadelphia Gas Works. The mains and services that have been removed may be replaced in their permanent position after the backfilling has been sufficiently compacted.

P. Traffic Control Apparatus:

The Contractor shall support and maintain in their present locations, or in approved temporary locations, any existing traffic signs or traffic control masts, signals, signs, apparatuses, and their connecting cables, in the proper condition to permit the uninterrupted functioning of the signals during the progress of the Work, on temporary poles if necessary, and in a manner satisfactory to the City's Department of Streets and/or the Pennsylvania Department of Transportation, as applicable. If the existing signal apparatus is supported on poles and these poles are moved to a temporary location during the progress of the Work, the Contractor shall either erect temporary signal poles in the approximate locations of the original poles and erect the signals thereon, or shall extend the electrical connection to the poles as relocated, as may be ordered by the Engineer. Upon the restoration of surface conditions, the Contractor shall restore the equipment, including cables and electrical connections, to its original position and condition. The Contractor's obligations under this Section XVII (P) shall be done without additional compensation.

Q. Interruption of Existing Services:

Whenever it becomes necessary to interrupt existing services in use, such as sewer, water, gas and steam lines, and electric service, the Work shall continue on a twenty-four (24) hour basis until it is completed and the service restored, or at such alternate time required by PhilaPort.

R. Support and Protection:

All structures unless specifically designated by the Engineer to be abandoned or relocated, shall be supported and protected at all times from injury, including damage from freezing, and maintained continuously in service. Should any injury occur while the Work is in progress and the structures are under the protection of the Contractor, the Contractor shall fully restore such structures to as good a condition as existed before the injury was done. The above, including also such changes of structures as are for the Contractor's own convenience in executing the Work, shall be done without additional compensation, unless otherwise specifically provided for in the Contract Documents.

S. Structures Interfering with Construction:

If, in the course of the Work, it is found that any of the existing structures occupy space required by any other structure or appurtenances thereto to be constructed under the Contract, or that they are so situated as to render it impracticable, in the opinion of the Engineer, to do the Work called for under the Contract in the manner specified, the Contractor shall excavate and uncover the portions of the structures within the pavement lines for excavating under the Contract and shall maintain such structures in service and shall notify the Engineer, who will arrange for the relocation, changing, or removal of the interfering pipes or structures within a reasonable time. The Contractor shall not move nor disturb the structures in any way without consultation with the owners and the approval of the Engineer. Structures belonging to public utility companies, which are ordered by the Engineer to be removed or relocated, will

be so removed or relocated and permanent supports placed. The Contractor, however, shall support and protect them up to the time of their removal, shall cooperate with their owners during the process of relocation, and shall maintain and protect them if and when they are relocated within the zone of influence of the Work. This Work shall be done by the Contractor without additional compensation from PhilaPort. Sewers, water pipes, electrical conduits, and other structures shall be constructed, relocated, or reconstructed as shown on the Plans or as may be ordered in the course of the Work. Payment for this Work will be made at the applicable prices in the Contract Documents unless otherwise specifically provided. If approval is given by the Engineer to a request by the Contractor to effect a temporary or permanent relocation of structures, for the Contractor's own convenience, and satisfactory arrangements can be made with the owners thereof, this Work will be done at the expense of the Contractor.

T. Abandonment of Structures:

In the case of structures, the service of which is permanently abandoned, the Engineer will designate which of the materials are to be salvaged and which are to be abandoned in the trench or otherwise disposed of. The Contractor shall remove and deliver to a designated point of storage materials ordered to be salvaged, and payment therefore will be made at the appropriate prices of the Contract, unless otherwise specifically provided. The Contractor shall allow owners of privately owned structures reasonable facilities for salvaging their property.

U. Insulation for Construction Projects:

All Insulation incorporated into the Project **must** contain the minimum percentage of postconsumer recovered paper or recovered material a shown below for the applicant product.

Material Type:	Percent by Weight:
Cellulose loose – fill and spray on	75% postconsumer recovered paper
Perlite Composite Board	23% postconsumer recovered paper
Plastic rigid foam, polyisocyanurate/polyurethane	
Rigid Foam	9% recovered material
Foam-in-Place	5% recovered material
Glass Rigid Foam	6% recovered material
Phenolic Rigid Foam	5% recovered material
Rock Wool	50% recovered material

Postconsumer recovered paper is defined as “Any paper, paperboard and fibrous wastes from retail stores, office buildings, homes and so forth, after they have been passed through their end-usage as a consumer item including; used corrugated boxes, old newspapers, old magazines, mixed waste paper, tabulating cards and used cordage, as well as all paper, paperboard, and fibrous wastes that enter and are collected from municipal solid waste.”

Recovered materials are defined as “waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.”

The Contractor may be required to provide PhilaPort with documentary evidence that the insulation provided for the Project was produced with the required minimum percentage of postconsumer recovered paper or recovered material.

**PHILAPORT DIVERSITY AND
INCLUSION PLAN**

(HUB POLICY)

03/23/2022

**PHILADELPHIA REGIONAL PORT AUTHORITY
(PHILAPORT)**

Diversity Inclusion Plan

REVISED FOR PROJECT 22-074.0

**THE DIVERSITY AND INCLUSION GOAL, OR MINIMUM
PARTICIPATION LEVEL (MPL), FOR PROJECT 22-013.0
HAS BEEN SET TO 20% DBE PARTICIPATION**

DIVERSITY AND INCLUSION POLICY MINIMUM PARTICIPATION LEVELS

Due to federal funding by the EPA, 40 CFR Part 33 applies to this procurement. In order to qualify as a HUB prime or subcontractor under EPA's DBE Program, an entity must establish that it is owned and controlled by socially and economically disadvantaged individuals who are of good character and citizens of the United States. **To qualify for HUB credit, the concern must be certified by one of the following:**

1. The United States Small Business Administration (SBA), under its 8(a) Business Development Program ([13 CFR part 124, subpart A](#)) or its Small Disadvantaged Business (SDB) Program, ([13 CFR part 124, subpart B](#));
2. Pennsylvania Unified Certification Program DBE Certification (or equivalent UCP certification by another state program under 49 CFR Part 26);
3. EPA's 8% or 10% Certification.

The foregoing certifications shall be considered the only acceptable certifications for establishing HUB status as appropriate under EPA's DBE Program.

BID RESPONSIVENESS/GOOD FAITH EFFORTS

The Prime Bidder shall submit the HUB Solicitation and Commitment Statement attached as Exhibit 1 with its bid, showing efforts made to solicit HUB Subcontractors, and written confirmations of the intent to use the identified Subcontractors if awarded the prime contract. Prime Contractor's HUB Contact/Solicitation and Commitment Statement shall include the names of all companies and individuals contacted or solicited for participation in the project, the type of work, material, supplies or equipment involved in the solicitation, the total dollar amount of each quote received, the time of solicitation, and, where applicable, the total dollar amount of each subcontract that would be awarded.

Contractor's must follow the Six Good Faith Efforts found in 49 CFR § 26.53. Bidders are required to make the following good faith efforts whenever procuring construction, equipment, services and supplies, even if it has achieved the HUB Participation goal for this procurement:

- (a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities.
- (b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- (c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs.

- (d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
- (e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.
- (f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in [paragraphs \(a\)](#) through [\(e\)](#) of this section.

Bidders are required to maintain documentation to demonstrate compliance with the foregoing. In the absence of evidence to the contrary, compliance with the requirements under this Plan to demonstrate bidder responsiveness is presumed if MPLs are achieved. If MPLs are not met, the Prime Bidder shall document the Good Faith Efforts undertaken to solicit HUB Subcontractors and submit evidence that failure to achieve MPLs was not motivated by consideration of race or gender, or other disadvantaged status; that HUBs were not treated less favorably than others; that solicitation and commitment decisions were not based upon policies which disparately affect HUBs. Justification for not meeting the MPLs may include impediments encountered despite actions taken. A bidder's compliance with the Good Faith Efforts is required for a bid to be deemed responsive.

HUB/DBE CREDIT

HUB subcontracts will be credited toward the MPLs at 100%. HUB manufacturers are credited at 100%. HUB stocking suppliers, which are commonly and ordinarily the custom in the industry and a part of the industry's trade practices, are credited at 60%. Non-stocking suppliers, which are not commonly and ordinarily the custom in the industry nor a part of the industry's trade practice, are not credited.

A HUB which is the Prime Bidder on a project with a contract valued at \$100,000 or less will receive full MPL credit for its own work effort for services provided. Such a business bidding as Prime Contractor should nonetheless attempt to hire and solicit other, certified HUBs for participation in subcontracts.

HUB Subcontractors providing labor must perform at least seventy-five percent (75%) of the cost of the subcontract, not including the cost of materials, with its own employees.

HUB participation percentages must be inclusive of all project change order amounts.

HUB/DBE SUBCONTRACT REQUIREMENTS

The Prime Contractor has the responsibility to meet its commitments made during bidding by utilizing each Subcontractor it selected to the full extent of the subcontract value. The failure to meet minimum participation levels at the completion of the project shall warrant Prime Contractor's disqualification from contracting with PHILAPORT for a period of three years and the imposition of liquidated damages in the amount of 10% of the dollar amount of the shortfall in the commitment to compensate PHILAPORT for the administrative costs of addressing the deficiency and not as a penalty.

The prime contractor shall comply with and incorporate the following terms into its DBE subcontracts, as applicable:

- (a) The contractor must pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from PhilaPort.
- (b) The contractor must notify PhilaPort in writing prior to any termination of a DBE subcontractor for convenience by the prime contractor.
- (c) If a DBE subcontractor fails to complete work under the subcontract for any reason, the contractor must employ the six good faith efforts described in [§ 33.301](#) if soliciting a replacement subcontractor.
- (d) The contractor must employ the six good faith efforts described in [§ 33.301](#) even if the prime contractor has achieved its fair share objectives under [subpart D of this part](#).
- (e) The contractor must provide EPA Form 6100-2 - DBE Program Subcontractor Participation Form to all of its DBE subcontractors. EPA Form 6100-2 gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have, for example reasons why the DBE subcontractor believes it was terminated by the prime contractor. DBE subcontractors may send completed copies of EPA Form 6100-2 directly to the appropriate EPA DBE Coordinator.
- (f) The contractor must require its DBE subcontractors complete EPA Form 6100-3 - DBE Program Subcontractor Performance Form. All completed forms must be submitted as part of the contractor's bid or proposal package.
- (g) The contractor must complete and submit EPA Form 6100-4 - DBE Program Subcontractor Utilization Form as part of the contractor's bid or proposal package.
- (h) The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.
- (i) Availability of records. (1) In responding to requests for information concerning any aspect of EPA's DBE Program, EPA complies with the provisions of the Federal Freedom of Information and Privacy Acts (5 U.S.C. 552 and 552a). EPA may make available to the public any information concerning EPA's DBE Program release of which is not prohibited by Federal law or regulation, including EPA's Confidential Business Information regulations at 40 CFR part 2, subpart B. (2) The contractor shall safeguard from disclosure to unauthorized persons information that may reasonably be considered as confidential business information, consistent with Federal, state, and local law.
- (j) *Cooperation.* The contractor is required to cooperate fully and promptly with EPA, EPA Private Certifiers and EPA recipients in reviews, investigations, and other requests for information. Failure to do so shall be a ground for appropriate action against the party involved in accordance with 40 CFR § 33.105.
- (k) *Intimidation and retaliation.* The contractor must not intimidate, threaten, coerce, or discriminate against any individual or firm for the purpose of interfering with any right or

privilege secured by this part. Violation of this prohibition shall be a ground for appropriate action against the party involved in accordance with 40 CFR § 33.105.

PAYMENT APPLICATIONS

Prime Contractor shall submit monthly reports as specified in the Contract Documents. Specifically, Prime Contractor shall submit the Prime Contractor's HUB Monthly Reporting Form Summarizing Payments (Exhibit 2) – located at the end of this Diversity and Inclusion Plan for Construction) - as well as proof of payment in the form of canceled checks (both sides of check), or ACH records, along with copies of the subcontractor invoices related to the project. Both form and proof of payment to subcontractors should be submitted to the Finance Department (finance@philaport.com) along with the Prime Contractor's monthly invoicing. PhilaPort reserves the right to withhold payment to Prime Contractor until the HUB monthly reporting is up- to-date and in accordance with the MPLs submitted with the bid. All HUB percent participation shall also be inclusive of any contract change orders.

PRIME CONTRACT TERMS

A. General Conditions

PHILAPORT will include following provisions in construction contracts, establishing requirements applicable to Prime Contractor.

1. Reporting Requirements After Award

Prime contractors must provide PHILAPORT directly with the Prime Contractor's HUB Monthly Reporting Form Summarizing Payments Made (Exhibit 2) for each project that is underway and for which payment applications are being submitted. The report shall include the names of and the total dollar amount paid to all HUB Subcontractors utilized under this contract. PHILAPORT reserves the right to verify payments to subcontractors at any time.

2. Joint Ventures and Subcontracting

a. Joint Venture.

Project-related contracts that involve a joint venture with a HUB firm must include the following clause:

If the joint venture relationship identified as the _____ is dissolved, or otherwise

Joint Venture Firm Name

discontinued, (_____),

Name of Replacement Prime Contractor

Replacement Prime Contractor, as the successor on the contract, shall continue this commitment by entering into contractual agreements with other appropriate firms to perform work on this contract. Replacement Prime Contractor must submit all requests

for change orders to PHILAPORT for approval.

b. Subcontracting.

Subcontracts with HUB firms must include the following clause:

If the subcontracting commitment made to the _____
Name of Subcontractor
is terminated or materially reduced, _____
Name of Prime Contractor
agrees that the termination or material reduction is subject to the approval of PHILAPORT, which approval shall not be withheld unreasonably.

PROCEDURE TO EVALUATE BIDS

A. Responsiveness

1. The Prime Bidder must complete and submit the HUB Solicitation and Commitment Statement (Exhibit 1 – located at the end of this policy) with the bid. Failure to submit a completed form with the bid will result in the bid being rejected as nonresponsive.
2. The Prime Bidder should only solicit HUB Subcontractors whose labor, equipment, materials or supplies are within the scope of work and which the Prime Bidder reasonably believes it could choose to subcontract with or purchase from.
3. Prime Bidders failing to meet the MPLs must submit concurrently with the bid, an explanation of why the MPLs have not been met. This explanation must demonstrate that the Prime Bidder has not engaged in discriminatory practices in the solicitation and utilization of HUBs to perform as Subcontractors on the project. The evidence submitted by the Prime Bidder must demonstrate the following:
 - a. indicate whether HUB firms were solicited for each type of work the Prime Bidder expects to subcontract for and for all materials which the Prime Bidder expects to procure and, if not, the reason(s) why no such solicitation was made;
 - b. indicate the reason why commitments were not made to HUB firms for a type of subcontract labor, equipment, materials or supplies in any areas where quotes were received from such firms; and
 - c. in any case where no quotations are received from, nor commitments made to HUB firms, indicate on Exhibit 1 that no quotes were received, and if there is another reason for no commitments being made, the reason for the lack of commitments.
4. If the Prime Bidder fails to submit such evidence, the bid submission shall

be considered non-responsive and the bid shall be rejected.

5. Information related to the above shall be submitted on Exhibit 1 with the bid and on such additional materials as the Prime Bidder wishes to attach.

B. Responsibility

1. The submittals of each Prime Bidder are subject to review by PHILAPORT to determine whether the Prime Bidder has discriminated in the selection of Subcontractors.

Where the MPLs are not met, PHILAPORT will determine whether discrimination has occurred. If, after investigation including a review of Exhibit 1, other materials submitted by the Prime Bidder, and such additional documents and information as PHILAPORT has secured, it is determined that discrimination has occurred, the Prime Bidder shall be deemed to be not responsible and the bid will be rejected.

2. Documentation submitted by the Prime Bidder should meet the following standards for review:
 - a. the Prime Bidder whose actions resulted in a limited or no commitment to HUB firms was not motivated by consideration of race or gender;
 - b. HUB firms were not treated less favorably than other businesses in the hiring and/or contract solicitation and commitment processes; and
 - c. solicitation and commitment decisions were not based upon policies that disparately affect HUB firms.
3. Commitments to HUB firms at the time of bidding must be maintained throughout the project unless a change in commitment is approved in advance by PHILAPORT. Such approval shall not unreasonably be withheld.

C. Access to Information

PHILAPORT may obtain documents and information from any Prime Bidder and any Subcontractor as may be required to ascertain Prime Bidder's contractor responsibility. Failure to provide requested information may result in the Prime Bidder's bid being declared non-responsive, the Prime Bidder being declared not responsible, or both.

PROCEDURES – RECORDS AND REPORTS

A. Records and Reports

1. PHILAPORT will review all reports received to determine if the commitments made by Prime Contractors in their bids are being met. This

review is to be done contemporaneously with the receipt of payment applications, and in any event prior to final payment being made to Prime Contractor.

2. PHILAPORT will keep such records as are necessary to determine compliance with its HUB requirements. These records must be in sufficient detail to indicate the prime contract work performed, and the percentages of project-related work that is being performed by HUBs.
3. Prime Contractor must retain HUB records related to the construction period for a period of seven years after final completion of the project. If any litigation, claim, negotiation, audit, or other action has been commenced before the previously mentioned record retention periods, the records must be retained until the completion of the action and resolution of all issues which arise from it or until the end of the previously referenced record retention period, whichever is later.

Exhibit 1

HUB Solicitation and Commitment Statement

Exhibit 1

HUB SOLICITATION AND COMMITMENT STATEMENT Instructions and Explanation of Columns

Project owners and all prime bidders will complete this form to document all businesses solicited and all businesses that provided solicited or unsolicited quotes for project-related contracts.

1. Provide your company name, address, telephone number.
2. Provide the project name, project number, bid opening date, contract award date, and a contact person's name.
3. For each business solicited and each quote/bid received, enter the firm name, Employer Identification Number (EIN) or Social Security Number (SSN) for a sole proprietorship, telephone number with area code, and e-mail address. Only the company's name is a mandatory item.
4. Indicate the certification type of the entity, add the identity of the certifying entity and the HUB's certification number.
5. Indicate the type of work to be performed and/or material to be supplied.
6. Enter the total dollar amount of the quote received.
7. Enter the total dollar (\$) amount of the commitment which you have made to the DBE. If no amount is provided in this space, it will be presumed that your firm made no commitment to the DBE Business Enterprise.
8. Enter the total percentage (%) of the commitment which you have made to the DBE. If no amount is provided in this space, it will be presumed that your firm made no commitment to the DBE.
9. NOTE: You must include information on both solicited and unsolicited quotes. Failure to include a firm providing solicited or unsolicited quotes may result in the rejection of the bid or a determination that you are not a responsible contractor. Adequate time equivalent to that provided to other Subcontractor proposers must be provided for HUB Subcontractors and suppliers to respond to bids.
10. Indicate the name, telephone number and e-mail address of the person(s) who prepared the form.

Exhibit 1 – (Use additional sheets if necessary)

HUB SOLICITATION AND COMMITMENT STATEMENT

(1) OWNER / PRIME BIDDER'S FIRM NAME				(2) PROJECT NAME PROJECT #			
ADDRESS				BID OPENING DATE		CONTRACT AWARD DATE	
TELEPHONE NUMBER				CONTACT PERSON (Name and Email Address)			
(3)	(4)	(4)	(4)	(5)	(6)	(7)	(8)
COMPANY NAME, EIN/SSN, TELEPHONE NUMBER	DATE OF SOLICITATION	Indicate type of Certification (MUST BE DBE Certified)	Certification Program and Number	TYPE OF WORK TO BE PERFORMED AND/OR MATERIAL TO BE SUPPLIED	TOTAL DOLLAR AMOUNT OF QUOTE RECEIVED	TOTAL COMMITMENT DOLLAR AMOUNT	TOTAL COMMITMENT PERCENTAGE %
(9) Note: List those certified HUB Subcontractors from which you solicited quotes or which contacted you and gave you quotes in regard to this invitation to bid. Contact with HUB Subcontractors should be at least equivalent to the notice given to other subcontractor proposers.							
(10) PREPARED BY (please print)				TELEPHONE NUMBER		E-MAIL	

Exhibit 2

Prime Contractor's HUB Monthly Reporting Form Summarizing Payments Made

EXHIBIT 2

Mandatory Monthly Submission

Prime Contractor's Monthly HUB Payment Report

Name of Project _____

Contract No.: _____

Prime Original Contract Value: _____

Report for the Month of: _____

Change Orders (Overall Add/Deduct): _____

Notice to Proceed Date: _____

Total Contract Amount to Date: _____

Project Mgr. Name: _____

Total Payments Issued from _____ to _____ (date)

Assigned HUB Goal %: _____

Name of HUB Subcontractor	Work Task Performed	Original Contract Amount (\$)	Change Order Amount \$ (+/-)	Amount of Invoice Received this Month	Date of Invoice Received in this Month	Payments Made to HUB in this Month (\$)	Date(s) Payments Made this Month	Total HUB Payments Made to Date in \$	% Overall Work Finished	Final Payment (Y/N)
	Total(s) →	\$	\$	\$	Total(s)	\$	Total(s)	\$		

Itemize payments/invoices and dates if paid/received more than one payment/invoice between the 1st and 31st of this Month.

Prime Contractor Information:

Prime Firm Name: _____

Project Director Name: _____

Address: _____

Project Director Signature: _____

Telephone No.: _____ Date: _____

EIN # / TIN # _____

Prime's Past Due Invoice Information: List any invoice more than _____ days past due from the date **submitted** to _____ at the time you complete this form.

Invoice #	Invoice Date	Invoice Amount (\$)	No. of Days Past Due	Comments

Prime Contractor's Monthly HUB Payment Report

1. Have all HUB Subcontractors with executed subcontracts been paid amounts due from previous progress payments?

If Yes, skip the next section and go to Number 3.

If No, please complete fields in box below (use additional paper, if necessary)

Subcontractor Name	Amount Withheld from Invoice (\$)	Total of Invoice Amount (\$)	Invoice No.	Invoice Date	Specific Reason for Withholding

2. Have you notified the HUB Subcontractor(s) that you are withholding payment and the reason(s) why?

If Yes, provide a copy of written notification to the HUB Subcontractor with this form, indicating the date of notification.

If No, lack of prior written notification to the HUB(s) that you are withholding payment may violate the prompt payment clause guidelines.

Please contact the HUB immediately, and provide a copy of written notification to the Subcontractor with this form.

3. By signing this form, I certify that all of the above represent true and accurate information.

Project Director Name (Print)

Project Director (Signature)

____/____/____
Date

Additional Reasons/Comments for Withholding Payment:

DO NOT WRITE BELOW

This Form is Due on the _____ of each Month.

Please forward to: _____

Approved

Denied _____

PART 4

SPECIFICATIONS AND DRAWINGS



IFB DESIGN SUBMISSION

FOR

H-6 & H-7 CRANE ELECTRIFICATION
PRPA PROJECT NO. 22-074.0

LOCATED AT

PACKER AVENUE MARINE TERMINAL
PHILADELPHIA, PENNSYLVANIA

REVISION	A
REVISION DATE	16 SEPT 2022

PREPARED BY

BOOS NAVARRE, LLC
DAPHNE, AL

INDEX

- TECHNICAL SPECIFICATION
- APPENDIX A - DRAWINGS
- APPENDIX B - REFERENCE DOCUMENTS

TECHNICAL SPECIFICATION



CRANE ELECTRIFICATION
TECHNICAL SPECIFICATIONS

FOR

H-6 & H-7 CRANE ELECTRIFICATION
PRPA PROJECT NO. 22-074.0

LOCATED AT

PACKER AVENUE MARINE TERMINAL
PHILADELPHIA, PENNSYLVANIA

REVISION	A
REVISION DATE	16 SEPTEMBER 2022

PREPARED BY

BOOS NAVARRE, LLC
DAPHNE, AL

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

Table of Contents.....3

1. Document Control1

 1.1. Document History..... 1

2. General3

 2.1. Technical Specification Intent..... 3

 2.2. Site Location..... 3

 2.3. Buy America Act 23 US Code 313 3

 2.4. Value Engineering Change Proposals (VECP)..... 3

 2.5. Approved Equal and Requests for Substitutions..... 4

 2.6. Designated Work Area..... 4

 2.7. Work Area Allowable Service Load 5

 2.8. Contact Information 5

 2.9. Project Schedule and Sequence of Work 5

 2.10. Warranty Period..... 6

 2.11. Submittals 6

3. Existing Crane Configuration.....9

 3.1. General Description 9

 3.2. Crane Numbering..... 9

 3.3. Capacity..... 9

 3.4. Dimensions..... 9

 3.5. Speeds and Accelerations..... 9

4. Site Interface 11

 4.1. Temperature and Humidity 11

 4.2. Wind Speeds..... 11

 4.3. Electrical Supply..... 11

5. General Requirements..... 13

 5.1. General 13

 5.2. Standards and Codes..... 13

 5.3. Serviceability During Crane Useful Life 14

 5.4. Safety 14

6. Contractor Scope of Supply 15

 6.1. General 15

 6.2. Contractor Proposal 15

 6.3. MV Cable Reel and Lower Portal Frame 16

 6.4. Engine House Modifications 17

 6.5. Fuel Supply Pump..... 19

 6.6. Spill Kit and Life Ring..... 19

6.7.	Machinery House and Electrical Control Room	20
6.8.	Cab Demo.....	20
6.9.	Trailing Cable Termination at STS Pit No.2.....	20
6.10.	Testing and Commissioning.....	21
6.11.	Work By Others	21
7.	Electrical Specifications	23
7.1.	General	23
7.2.	Grounding	23
7.3.	Wiring and Conductors	23
7.4.	Cables.....	24
7.5.	Fiber Optic	24
7.6.	Conduit Raceways	24
7.7.	Cable Tray Raceway.....	25
7.8.	Terminations	25
7.9.	Marking and Labeling.....	25
7.10.	Enclosures.....	26
8.	13.2 KV Cable Reel & Cable	27
8.1.	Scope of Supply.....	27
8.2.	Performance Characteristics / Interface Requirements	27
8.3.	Testing of Cable Reel.....	28
8.4.	MV Cable	28
8.5.	MV Cable Reel.....	28
9.	13.2 KV Cable to MV Switchgear (MSW)	31
9.1.	Scope of Supply.....	31
9.2.	General	31
9.3.	Design and Fabrication	32
10.	13.2 KV Switchgear on Crane (MSW)	35
10.1.	Scope of Supply.....	35
10.2.	Equipment Specification.....	35
11.	13.2 KV / 460V Transformer (DSW)	43
11.1.	Scope of Supply.....	43
11.2.	Standards.....	43
11.3.	Enclosure.....	43
11.4.	Design.....	43
11.5.	Testing.....	44
12.	13.2 KV / 480V Aux Power Transformer (ASW)	45
12.1.	Scope of Supply.....	45
12.2.	Standards.....	45

12.3. Enclosure.....	45
12.4. Equipment Specifications.....	45
12.5. Testing.....	45
13. Control System Modifications	47
13.1. Existing PLC Demo I/O Points.....	47
13.2. New PLC Additional I/O Points	47
13.3. Fiber Breakout Box Hardware Addition.....	47
14. Structural Steel Materials, Fabrication, & Erection	49
14.1. General	49
14.2. New Construction	49
14.3. Materials.....	49
14.4. Welding.....	49
14.5. Weld Repairs.....	50
14.6. Bolted Connections	50
14.7. Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.....	50
15. Access Systems.....	51
15.1. General	51
15.2. Stairs.....	51
15.3. Grating.....	51
15.4. Handrails	51
15.5. Toe Plates.....	51
16. Corrosion Protection.....	53
16.1. General	53
16.2. General Cleaning and Surface Preparation	53
16.3. Coating Application and Methods	54
16.4. Exterior Repair	54
16.5. Interior Non-Sealed Repair	55
16.6. Exterior New Steel.....	55
16.7. Interior Sealed Repair.....	56
16.8. Anti-Skid Surfaces	56
16.9. Paint Color Scheme	56
17. Contractor Oversight and Reports	59
17.1. General	59
17.2. Records.....	59
17.3. Quality Assurance and Quality Control.....	59
17.4. Fabrication Inspection & Testing	60
17.5. Weekly Progress Meeting.....	62
18. Subcontractors	63

18.1. General	63
19. Testing and Commissioning.....	65
19.1. General	65
19.2. Site Functional Acceptance Test	65
20. Certification	67
20.1. General	67
20.2. OSHA.....	67
21. Final Inspection, Punch List, Training	69
21.1. Final Inspection	69
21.2. Final Punch List	69
21.3. Training.....	69

APPENDIX A - DRAWINGS

APPENDIX B - REFERENCE DOCUMENT

1. Document Control

1.1. Document History

Revision	Date of Issuance	Description of Revisions
A	16 SEPT	ISSUED FOR BID

THIS PAGE IS INTENTIONALLY LEFT BLANK

2. General

2.1. Technical Specification Intent

- 2.1.1. These Specifications are intended to provide the basis for the Contractor work associated with all modifications, fabrication, installation, testing, and commissioning required for the electrification of the two (2) existing Hyundai Ship-to-Shore ("STS") Container Handling Gantry Cranes ("Cranes") located at the Packer Avenue Marine Terminal ("PAMT") in Philadelphia, Pennsylvania. All work to be performed by the Contractor shall be in accordance with the Contract Documents.
- 2.1.2. This Specification is written for one (1) Crane; the Contractor shall consider all required works for two (2) Cranes in their proposal, unless noted otherwise.
- 2.1.3. All aspects of the Contractor's work shall meet or exceed the minimum requirements of these Specifications unless a deviation has been authorized in writing by Engineer. Refer to Section 2.6.

2.2. Site Location

- 2.2.1. The Cranes are located at the Packer Avenue Marine Terminal owned by PhilaPort ("PRPA", "Owner") and operated by Greenwich Terminals LLC ("Tenant") located in Philadelphia, Pennsylvania. The Cranes are currently in-service at the north end of the Berth.
- 2.2.2. The Contractor shall complete all required work in the IFB Documents Designated Work Area.

2.3. Buy America Act 23 US Code 313

- 2.3.1. The Project is funded by an Infrastructure for Rebuilding America ("INFRA") Grant No. 693JF71010026 issued by the Department of Transportation Maritime Administration ("Government") to the Port ("Grant"). The Grant incorporates the Buy America Act, 23 U.S.C. §313.
- 2.3.2. Contractor is responsible for verifying all supplied components are in compliance with Buy America Act, 23 U.S.C. §313.
- 2.3.3. As published in 'Federal Register /Vol. 87, No. 142 /Tuesday, July 26, 2022 /Notices', a Buy America Waiver has been granted to PRPA for the foreign iron and steel components part of a Medium Voltage (MV) Cable Reel System, which is necessary for the conversion of two ship-to-shore (STS) cranes' drive power supply from diesel to electric.
 - 2.3.3.1. The non-domestic parts include: (i) Drive Gearbox and Motors; (ii) Electrical and Communications Collector System; (iii) MV cable drum; (iv) MV cable guides and diverter mounted to STS structure/legs; and (v) Gantry level bi-directional multi-roller, curved cable guide.
 - 2.3.3.2. A copy of the waiver is included in the bid documents.
 - 2.3.3.3. Note that all other components of the project (22-074.0), except the steel components identified in the waivers as part of a MV Cable Reel System shall comply with Buy America Act, 23 U.S.C. § 313; 23 C.F.R. § 635.410.

2.4. Value Engineering Change Proposals (VECP)

- 2.4.1. The Contractor will bring experience and specific expertise to the project. Based on that expertise, the Contractor is encouraged to develop, prepare, and submit "Value Engineering Change Proposals (VECP's)" voluntarily. The Contractor shall keep VECPs separate from the Contract scope of work.

- 2.4.2. The acceptance of any component or system proposed by the Contractor as “equal”, “approved equal” or “alternative” design or component supplier will be at the sole discretion of the Owner’s Engineer. Refer to Section 2.6.

2.5. Approved Equal and Requests for Substitutions

- 2.5.1. It is assumed that when a material or equipment is noted in the Drawings or specified in the Specifications a substitute or “or approved equal” item of material or equipment may be furnished or used by the Contractor if acceptable to Engineer.
- 2.5.2. Should the Contractor want to make alterations or substitutions during the contract period of any nature whatsoever, he/she shall formally request approval of the same, in writing, from the Engineer.
- 2.5.3. Applications are to be transmitted to Owner and Engineer via email. Refer to section 2.8 for contact information.
- 2.5.4. Such approval of a change or substitution will only be valid when issued to the Contractor, in writing, over the signature of the Owner and Engineer.
- 2.5.5. The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or “or approved equal” items.

2.6. Designated Work Area

- 2.6.1. The Cranes are located in the immediate vicinity of on-going vessel and truck loading/unloading operations at PAMT. These operations will continue throughout the construction period for this project. The Contractor’s work plan shall include any/all safety provisions required at the Owner’s site.
- 2.6.2. It is the responsibility of the Contractor to coordinate all construction activities in such a manner as to minimize all potential conflicts with the Tenant operations. Any required construction activities which may directly affect Tenant operations shall be closely coordinated with Tenant and Engineer to help avoid conflicts.
- 2.6.3. The Contractor shall perform all work within the Owner designated work areas, located on Berth1, as indicated on Drawing 0034.0004.10-003.
- 2.6.4. Contractor to perform electrification works with boom in the stowed position.
- 2.6.5. The Tenant will provide power for the existing Crane auxiliary power connection. Refer to Appendix B – Reference Drawings, 359B6117AE_SHTC2 for auxiliary power functions.
- 2.6.6. The Contractor is not permitted to use the following on the Cranes during the Project:
- 2.6.6.1. Elevator
 - 2.6.6.2. Welding outlets
- 2.6.7. Only essential Contractor vehicles will be allowed in the Work Area. All other personal vehicles shall be parked on nearby designated property. Contractor shall be responsible for supplying transportation (van, bus, etc.) for personnel from the designated parking area to the Work Area.
- 2.6.8. Contractor will be allowed access to the Terminal 24 hours per day, 7 days a week provided sufficient notification is given.
- 2.6.9. All Contractor personnel shall have TWIC identification credentials.
- 2.6.10. Contractor shall be responsible for the supply and maintenance of temporary office(s) and restroom facilities for Contractor personnel use.

- 2.6.11. The Tenant will provide power and potable water source for the Contractor's site trailers at the Northwest end of the Work Area.
- 2.6.12. The Contractor shall be responsible for repair of any damage to the Designated Work Area as a result of the Contractor completing the Scope of Supply. Contractor shall complete any/all required repairs prior to Final Acceptance.

2.7. Work Area Allowable Service Load

- 2.7.1. The allowable ground bearing pressure between the crane rails is 1,000 psf.

2.8. Contact Information

- 2.8.1. The following personnel are responsible for this project and all communication shall be addressed as follows.

 - 2.8.1.1. COMMERCIAL

Title	Contact Information
Owner	PhilaPort (PRPA)
Owner's Representative	Ms. Amna Ali, PMP aali@philaport.com

 - 2.8.1.2. TECHNICAL

Title	Contact Information
	PhilaPort (PRPA)
Owner's Representative	Ms. Amna Ali, PMP aali@philaport.com
Engineer	Boos Navarre, LLC
Engineer's Representative	Mr. Matt Boos mboos@boosnavarre.com

2.9. Project Schedule and Sequence of Work

- 2.9.1. Contractor shall satisfy all the requirements per this Specification to achieve Final Acceptance after the Owner issuance of the Notice to Proceed (NTP) on or before the following dates:
 - 2.9.1.1. H-7 (South Crane)
 - 2.9.1.1.1. Substantial Completion NTP + 430 calendar days
 - 2.9.1.1.2. Final Completion NTP + 440 calendar days
 - 2.9.1.2. H-6 (North Crane)
 - 2.9.1.2.1. Substantial Completion NTP + 450 calendar days
 - 2.9.1.2.2. Final Completion NTP + 460 calendar days
- 2.9.2. Upon receipt of NTP, the Contractor may begin to coordinate access to the Cranes in such a manner as to minimize all potential conflicts with the Tenant operations. Any required construction activities which may directly affect Tenant operations shall be closely coordinated with Tenant and Engineer to help avoid conflicts.

2.9.3. Sequence of Work

- 2.9.3.1. The Contractor will be permitted to take the Cranes out of service, in the designated work area, for a period of ninety (90) continuous calendar days, per Crane.
- 2.9.3.2. H-7 (South Crane) shall be prioritized and returned to service before H-6 (North Crane).
- 2.9.3.3. Cranes to remain in operation by the Tenant until a formal request from the Contractor is made. Prior to requesting the Cranes be taken from operation, the Contractor must:
 - 2.9.3.3.1.1. Have all required submittals approved by the Engineer
 - 2.9.3.3.1.2. Have all required materials in local possession, and confirmed by the Engineer
 - 2.9.3.3.1.3. Have a detailed site work plan and schedule submitted to approved by the Owner, Engineer, and Tenant
 - 2.9.3.3.1.4. Provide a written notice of fourteen (14) days to the Owner, Engineer and Tenant.

2.10. Warranty Period

2.10.1. The following workmanship and component warranty shall be provided:

Description	Warranty Period
Workmanship	2 years
Electrical Systems and Components	2 years
Mechanical Systems and Components	5 years
Structural	10 years
Paint	5 years

The warranty period shall commence upon Substantial Completion of the Crane.

2.11. Submittals

2.11.1. General

- 2.11.1.1. In order to demonstrate Specification compliance, the Contractor shall submit the required documentation provided in these Specifications for the Owner's and Engineer's review.
- 2.11.1.2. For all components requiring an engineered design, all calculations and drawings shall be prepared, reviewed, approved, and stamped by a qualified, registered professional engineer.
- 2.11.1.3. The Owner and Engineer will review the documents for general specification compliance, design concept, maintenance and accessibility, and application of sound engineering principles and practice. Lack of comments provided or return of documents without stated exceptions does not relieve the Contractor from meeting the requirements of these Specifications.

2.11.2. Submittal Process

- 2.11.2.1. The Contractor shall electronically submit all required documents for review by the Owner and the Engineer according to the described submittal process.
- 2.11.2.2. All submittal packages shall contain a transmittal sheet that contains the following information:

- 2.11.2.2.1. Contractor's name and contact information
- 2.11.2.2.2. Project name and Contractor's project number
- 2.11.2.2.3. Submittal number (sequential numbering based on order of submittals)
- 2.11.2.2.4. Submittal revision number/letter
- 2.11.2.2.5. Submittal date
- 2.11.2.2.6. Table of documents submitted which includes:
 - 2.11.2.2.6.1. Document number
 - 2.11.2.2.6.2. Document revision number/letter
 - 2.11.2.2.6.3. Document title/description
- 2.11.2.3. The transmittal cover sheet shall be provided in Microsoft Word format with the table of documents created using the embedded table function of Microsoft Word.
- 2.11.2.4. All submittals shall be in high quality, PDF format of reasonable file sizes.
- 2.11.2.5. Every document submitted shall have a document number that follows a standard, simple, and logical format. Documents submitted without an appropriate document number will not be reviewed.
- 2.11.2.6. Deviations
 - 2.11.2.6.1. Deviations to these Specifications will not be approved through the submittal process.
 - 2.11.2.6.2. Deviations included in the submitted documents, with or without comments from the Owner or the Engineer do not constitute approval of the deviation.
 - 2.11.2.6.3. Any deviations that the Contractor would like the Engineer to consider for approval must be submitted in writing. The Engineer will respond to each request in writing with either acceptance or rejection or request for further information. The Engineer's decisions are final.
 - 2.11.2.6.4. Each deviation should be submitted in a format similar to document submittals and include:
 - 2.11.2.6.4.1. A deviation request number
 - 2.11.2.6.4.2. Request date
 - 2.11.2.6.4.3. Deviation description
 - 2.11.2.6.4.4. Reason for the request
 - 2.11.2.6.4.5. Supporting documentation (as necessary)
 - 2.11.2.6.5. The Engineer will maintain a deviation request log.
 - 2.11.2.6.6. Deviations which have not been approved according to this Section that are discovered during any phase of the project will be rejected even if they are shown in the submittal documents.
- 2.11.2.7. Reviewed submittals will be signed, dated, and returned to the Contractor with marked up notes/comments on each document. Reviewed submittals will be identified as:
 - 2.11.2.7.1. No Exceptions Taken (NET) – Do not resubmit unless the design/calculation/etc. changes.

- 2.11.2.7.2. Make Corrections Noted (MCN)– Make the corrections as noted, but do not re-submit.
- 2.11.2.7.3. Amend and resubmit (A&R)– Make the correction as noted and re-submit for review.
- 2.11.2.7.4. Respond to Comments (RTC) – Do not resubmit unless the document is revised based on the comment response. Documents including RTC may also include NET, MCN, or A&R designation.
- 2.11.2.7.5. Rejected – Correct submittal and re-submit.
- 2.11.2.8. Submitted documents will generally be reviewed within seven (7) calendar days; however, occasionally some submittals may take more time to review.
- 2.11.2.9. The Contractor should indicate if any submittal requires expedited review, and the Engineer will attempt to meet any reasonable request.
- 2.11.3. Work Plan
 - 2.11.3.1. Within seven (7) consecutive calendar days after Notice to Proceed (NTP), the Contractor shall prepare and submit for approval a Work Plan.
 - 2.11.3.2. The Work Plan shall include, at a minimum, the following:
 - 2.11.3.2.1. Order in which the Contractor proposes to accomplish the work.
 - 2.11.3.2.2. Detailed project schedule
 - 2.11.3.2.3. Work schedule (i.e. days per week, hours per day)
 - 2.11.3.2.4. Manpower allocation
 - 2.11.3.2.5. Subcontractor List and respective scope of work
 - 2.11.3.2.6. Project Organization Chart and contact information
 - 2.11.3.3. Contractor shall contact the Owner’s designated PAMT operations person on a weekly basis to coordinate the Contractor’s work plans with the anticipated vessel berthing requirements.
- 2.11.4. Detailed Project Schedule
 - 2.11.4.1. Contractor’s proposal shall include a project schedule which considers the Contract Agreement Exhibit F – Construction Milestone Schedule notice to proceed (NTP) date, Owner supplied component delivery dates, Substantial Completion and Final Acceptance dates, etc. for both cranes.
 - 2.11.4.2. Within one (1) week after NTP, the Contractor will be required to provide an updated detailed project schedule based upon the final agreed upon scope of work.
 - 2.11.4.3. The schedule shall include the anticipated start and completion dates for each of the various phases of construction (including procurement of materials and equipment).
 - 2.11.4.4. The schedule shall include a progress chart which indicates the percentage of work completed at any time and the anticipated progress payments.
 - 2.11.4.5. During the work the Contractor shall provide updated project schedules on a bi-weekly basis.

3. Existing Crane Configuration

3.1. General Description

- 3.1.1. The Cranes are rail mounted Ship-to-Shore (STS) container handling gantry cranes with the primary operational function of loading and unloading standard ISO shipping containers from vessels, to/from bombcarts, chassis, and ground.
- 3.1.2. In general, the two Cranes original design are identical with some modifications between the Cranes since placing into service in 2006.

3.2. Crane Numbering

- 3.2.1. Crane numbering/designation shall be as follows:
- 3.2.1.1. H-6 – North Crane
- 3.2.1.2. H-7 – South Crane

3.3. Capacity

- 3.3.1. The overall lifting capacity of the Crane shall consider the combined weights of the lifting system devices and the maximum Rated Load.

Description	English Capacity	Metric Capacity
Single Lift under Spreader	65 LT	66.04 t
Heavy Lift under Cargo Beam	75 LT	76.2 t

3.4. Dimensions

- 3.4.1. The Crane dimensional parameters, as follows:

Description	English Capacity	Metric Capacity
Operating Outreach (from W.S. rail)	150 ft	45.72 m
Operating Backreach (from L.S. rail)	80 ft	24.38 m
Gantry Rail Gage (Rail Span)	90 ft	27.43 m
Lift Above W.S. Rail (under spreader)	110 ft	33.53 m
Lift Below W.S. Rail (under spreader)	45 ft	13.72 m
Total Lift	155 ft	47.25 m

3.5. Speeds and Accelerations

- 3.5.1. Crane Design Speed Parameters, as follows:

Description	English Speed	Metric Speed
Main Hoist (65 LT under Cargo Beam)	174 ft/min	53 m/min
Main Hoist (50 LT under spreader)	194 ft/min	59 m/min
Main Hoist (empty spreader)	558 ft/min	170 m/min
Trolley Travel (0 – 50 LT under spreader)	787 ft/min	240 m/min
Gantry Travel (0 – 50 LT under spreader)	197 ft/min	60 m/min
Boom Hoisting Time (80°)	5 min	

3.5.2. Crane Acceleration Parameters, as follows:

Description	Acceleration/Deceleration Time (sec)
Hoist with LS+LL, zero to base	1.9 / 1.9
Hoist with LS, zero to top	3.5 / 3.5
Lower with LS+LL, zero to base	1.9 / 1.9
Lower with LS, zero to top	3.5 / 3.5
Trolley Travel no load	4.5 / 4.5
Trolley Travel with LL	4.5 / 4.5
Gantry Travel with LL	6

3.5.1. Within 30 days of Contract award, Contractor to prepare and submit a plan to the Engineer which verifies and documents the current Crane operation and above speeds, accelerations. These test results will be the baseline for the post-electrification Test and Commissioning.

4. Site Interface

4.1. Temperature and Humidity

- 4.1.1. All structural, mechanical, and electrical work and installed components shall consider the following ambient temperature range, effect of solar radiation, and humidity:

Description	English	Metric
Minimum Ambient Temperature	-4° F	-20° C
Maximum Ambient Temperature	104° F	40° C
Maximum Temperature from Solar Radiation	122° F	50° C
Maximum Relative Humidity	100%	

4.2. Wind Speeds

Description	English	Metric
Maximum Operating Wind Speed	56 mph	25 m/s
Maximum Stowed (out-of-service) Wind Speed	110 mph	49 m/s

4.3. Electrical Supply

4.3.1. Main Power Supply

- 4.3.1.1. The new electrical supply voltage to the Crane will be 13.2 kV, 3PH, 60 Hz power from the terminal STS substation feed to the Crane connection point, STS Pit No.2, located at the north end of Berth 3.
- 4.3.1.2. The new contractor supplied MV cable reel will be mounted on the left (facing waterside) portal beam.
- 4.3.1.3. The medium voltage power trailing cable will terminate at STS Pit No. 2 located inboard of the waterside gantry rail at the north end of Berth 3.
- 4.3.1.3.1. The Contractor shall be responsible to install the crane MV trailing cable from the MV cable reel to the site connection manhole and terminating the MV cable power cable in STS Pit No.2. The Tenant will terminate the trailing cable fiber to the connection point in STS Pit No.2.
- 4.3.1.3.2. The Contractor shall be responsible for testing the MV trailing cable fiber connectivity from the STS Pit No 2 to MV switch gear room. Refer to this Specification for further requirements.
- 4.3.1.3.3. The Contractor shall be responsible for Hi-Pot testing to the crane MV trailing cable from the new MV switch gear room to STS Pit No 2. Refer to this Specification for further requirements.
- 4.3.1.4. The medium voltage power trailing cable(s) will be placed in the panzerbelt cover cable trench (landside of waterside rail).

4.3.2. Communication

- 4.3.2.1. Communication with the terminal operations and maintenance buildings will be via single mode fiber optic cable through the medium voltage trailing cable.

4.3.3. Crane Voltages

- 4.3.3.1. Main Transformer to Invertors: 480 VAC, 3Ph, 60 Hz.
- 4.3.3.2. Auxiliary Transformer to equipment: 480 VAC 3Ph, 60 Hz.

4.3.3.3. Controls: 120 VAC, 1 Ph, 60 Hz and/or 24 VDC

5. General Requirements

5.1. General

- 5.1.1. The performance of the electrical equipment and MV cable reel system installed on the Cranes by the Contractor will be verified during the testing and commissioning phase. The tests will consist of voltage/local operations testing of the MV Cable reel, MV switchgear and transformers. Due to other works being executed on the Cranes by the Tenant, actual drive performance and full Crane operational testing will not be required of the Contractor.
- 5.1.2. Contractor shall be responsible for being knowledgeable of all the specific performance, operational, safety, and maintenance requirements for the Cranes.
- 5.1.3. The Contractor's work shall not restrict or alter the performance characteristics of the crane.

5.2. Standards and Codes

- 5.2.1. The Contractor work and all supplied components shall be in accordance with the latest version of all applicable standards.
- 5.2.2. All electrical components and systems shall comply with NEMA, National Electrical Code (NEC)-NFPA 70, NFPA 79 Electrical Standard for Industrial Machinery, UL, IEC, IEEE, ASME B30.24 and with the latest version of regulatory requirements in effect at the Owner's site.
- 5.2.3. The following table provides a list of regulations referred to in these Specifications.

5.2.3.1. Standards Table

Abbreviation	Title / Description
ABMA	American Bearing Manufacturers Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction (ASD)
AISI	American Iron and Steel Institute
AIST	Associations of Iron and Steel Technology (formerly AISE)
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
ASM	American Society for Metals
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWS	American Welding Society – Bridges and Dynamically Loaded Structures
CMAA	Crane Manufacturer's Association of America
FEM	Federation Europeenne de la Manutention
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
ISO	International Standards Organization
JIC	Joint Industrial Council
NACE	NACE International (formerly National Association of Corrosion Engineers)
NEC	National Electric Code
NEMA	National Electrical Manufacturer's Association
NETA	International Electrical Testing Association
NFPA	National Fluid Power Association
NFPA	National Fire Protection Association

OSHA	Occupational Safety and Health Administration of the United States Department of Labor
SAE	Society of Automotive Engineers
SSPC	Steel Structures Painting Council
UL	Underwriters Laboratory

5.3. Serviceability During Crane Useful Life

- 5.3.1. The electrified Cranes are expected to continue in service for a minimum of 15-20 years.
- 5.3.2. All materials and secondary components provided by the Contractor shall either be suitable for the full extended useful life of the Cranes or replacements shall be locally sourced.
- 5.3.3. All components installed on the Crane, inclusive of the electrical control system, shall be supported by the component or system manufacturer for a minimum of fifteen (15) years after Final Acceptance of the Cranes unless otherwise approved by Engineer.

5.4. Safety

- 5.4.1. The Crane electrification works of this project shall be performed in a manner that ensures maximum safety of the operators, maintenance personnel, ground personnel, terminal tractor drivers, and any other personnel in the vicinity of the Crane during operation.
- 5.4.2. All work shall be performed in accordance with all local and international safety regulations referred to in this Specification and applicable at the Terminal.
- 5.4.3. The Crane components, systems, and configuration shall be in accordance with OSHA regulations.
- 5.4.4. Safety Signage
 - 5.4.4.1. Safety signage or Owner approved painted or adhesive type labels shall be applied at all areas of potential personnel hazard and as required by the applicable codes, as a minimum, as follows:
 - 5.4.4.1.1. High Voltage Warning
 - 5.4.4.1.2. Arc Flash Warning
 - 5.4.4.1.3. Moving Equipment Warning
 - 5.4.4.1.4. Trip Hazards
 - 5.4.4.1.5. Low Head Room Hazard
 - 5.4.4.2. All layouts and details of safety signage and labels, capacity signage, etc. shall be submitted to the Engineer for review and approval.
- 5.4.5. Fire Extinguishers
 - 5.4.5.1. Reference Contractor Scope of Supply for the quantity and installation location of fire extinguishers.
 - 5.4.5.2. If, in Contractor's opinion to maximize safety or in order to meet required codes, additional fire extinguishers may be installed on the Crane.
 - 5.4.5.3. Fire extinguisher type and capacity shall be suitable for the location installed.
 - 5.4.5.4. If a fire extinguisher must be installed that is not suitable for use on electrical components, it shall be clearly marked with "Do not use on live electrical equipment".
 - 5.4.5.5. Any fire extinguisher which could cause harm to personnel shall be clearly labeled identifying the danger.

6. Contractor Scope of Supply

6.1. General

- 6.1.1. The project objective is a conversion of the existing Hyundai ship-to-shore cranes at the Packer Avenue Marine Terminal, referred to as H-6 and H-7, from primary on-board diesel genset power supply to cable reel grid power supply. The existing genset power supply shall be removed from the cranes. A new cable reel system shall be mounted on the left portal beam of the cranes and allow for 1,200 linear feet of crane travel in either direction of the crane power interface pit. Required electrical and control equipment shall be installed in the vacated Engine House. The new electrical equipment shall be capable of supplying power for a future 460VAC drive and drive motor system, which will be installed by the Tenant upon completion of this Project.
- 6.1.2. The Contractor is responsible for furnishing all material, labor, and equipment necessary to perform the work identified in the Contract Documents.
- 6.1.3. Unless noted otherwise, the Contractor shall make complete submittal of all shop drawings, proposed systems and equipment, including datasheets, technical information, calculations, and other information requested, to the Owner and the Owner's designated Engineer. Submittal of information will be in a timely manner, to allow owner at least 2 weeks for comments prior to commencement of work on the system represented by the submittal.
- 6.1.4. Unless noted otherwise, all Contractor supplied equipment shall be designed for an ambient temperature between 3 degrees Celsius and 40 degrees Celsius plus an allowance for solar radiation which may increase surface temperatures to 50degrees Celsius.
- 6.1.5. Contractor shall obtain all required permits.
- 6.1.6. Contractor is solely responsible for planning the work in a manner that minimizes impact to on-going Tenant operations.
- 6.1.7. Furnish and install all steel structure, supports, weldments, and walkways per the Contract Documents.
- 6.1.8. Furnish and install all required brackets, fasteners, and incidentals required for the components described in the Contract Documents and for components supplied by the Contractor.
- 6.1.9. Repair coating system on existing components damaged by the Works and those identified in the Contract Documents.
- 6.1.10. Furnish and or relocate safety signage identified in the Contract Documents.
- 6.1.11. Unless note otherwise, Contractor shall remove from site and dispose of all items which are noted and/or incidental to the scope of this Project.
- 6.1.11.1. Contractor shall bear all costs associated with the removal from site and disposal.
- 6.1.12. Contractor shall adhere to all local laws and regulations pertaining to disposal.

6.2. Contractor Proposal

- 6.2.1. Base Bid (Lump Sum, Per One (1) Crane, Per Two (2) Cranes)
- 6.2.1.1. All material, labor, and equipment necessary to perform the work identified in the Contract Documents for two (2) Cranes.
- 6.2.1.2. Base bid shall consider this Specification and all drawings in Appendix A and reference documents in Appendix B.

- 6.2.2. For the Base bid, Contractor shall provide Guaranteed Unit pricing for the following items. Note that furnish and install pricing shall include all incidental costs- fasteners, couplings, consumables, etc.
 - 6.2.2.1. Furnish of 13.2KV Cable Reel and Cable (Section 8), One (1) Crane
 - 6.2.2.2. Furnish of MV Switchgear, MSW (Section 10), One (1) Crane
 - 6.2.2.3. Furnish of 13.2KV/460V Transformer, DWS (Section 11), One (1) Crane
 - 6.2.2.4. Furnish of 13.2KV/480V Auxiliary Transformer, ASW (Section 13), One (1) Crane
 - 6.2.2.5. Commissioning Engineer (Section 13) daily rate
 - 6.2.2.6. Furnish and install 12" Cable tray B-Line 368-SS6-09-12-144, each
 - 6.2.2.7. Furnish and install 24" Cable tray B-Line 368-SS6-09-24-144, each
 - 6.2.2.8. Furnish and install 3" Rigid Galv. Steel conduit - 10' section
 - 6.2.2.9. Furnish and install 2" Rigid Galv. Steel conduit - 10' section
 - 6.2.2.10. Furnish and install 1" Rigid Galv. Steel conduit - 10' section
 - 6.2.2.11. Furnish and install ¾" Rigid Galv. Steel conduit - 10' section
 - 6.2.2.12. Furnish and install Fiber, 12 strand multi-mode with terminations on both ends 250'
 - 6.2.2.13. Furnish and install Cable - 3/C # 10 with ground Southwire 45109 - 150'
 - 6.2.2.14. Furnish and install Cable - 3/C # 12 with ground Southwire 45109 - 150'
 - 6.2.2.15. Furnish and install Cable - 7/C # 14 with overall shield Southwire 45158 - 300'
 - 6.2.2.16. Furnish and install Cable - 4 pair shielded # 18 Beldon 1476A - 300'

6.3. MV Cable Reel and Lower Portal Frame

- 6.3.1. Demo (Ref. Dwg 0034.0004.10-101)
 - 6.3.1.1. Left Portal Beam at location of new cable reel system
 - 6.3.1.1.1. Remove (4) existing walkway lights.
 - 6.3.1.1.2. Remove and relocate 2 floodlights.
 - 6.3.1.1.3. Remove misc. structural members and attachments as required which conflict with new cable reel system.
 - 6.3.1.1.4. Remove and reroute lighting conduit and cabling as required which conflict with new cable reel system.
 - 6.3.1.1.5. Remove and relocate signage- "S.W.L. 65LT, Under Spreader".
 - 6.3.1.2. Leg#2, far left bogie, LS face
 - 6.3.1.2.1. Remove and relocate life ring and support from bogie to LS face of WS storm pin bracket (coordinate with Engineer).
 - 6.3.1.2.2. Remove misc. structural members and attachments as required which conflict with new cable reel system.
 - 6.3.1.2.3. Remove and or reroute conduit and cabling as required which conflict with new cable reel system.
- 6.3.2. Structural (Ref. Dwg 0034.0004.10-200)
 - 6.3.2.1. Left Portal Beam at location of new cable reel system (Ref. Dwg 0034.0004.1-206)

- 6.3.2.1.1. Fabricate and install new cable reel support platform as shown on the drawings.
- 6.3.2.1.2. Fabricate and install new accessway as shown on the drawings; terminate to existing accessway as required.
- 6.3.2.1.3. Fabricate and install new cable reel guide support platform as shown on the drawings.
- 6.3.2.2. Leg#2 (Ref. Dwg 0034.0004.10-210)
 - 6.3.2.2.1. Fabricate and install MV cable roller supports as shown on the drawings.
- 6.3.2.3. Leg#2, far left bogie, LS face (Ref. Dwg 0034.0004.10-211)
 - 6.3.2.3.1. Fabricate and install MV cable diverter as shown on the drawings.
- 6.3.3. Electrical
 - 6.3.3.1. Furnish, install, and terminate MV cable reel system. Refer to Specifications and drawings for additional requirements. (Ref. Dwg 0034.0004.10-300,301,302,303,304,305,306,307,309)
 - 6.3.3.1.1. Cable reel and MV cable
 - 6.3.3.1.2. Controls and communications for cable reel
 - 6.3.3.1.3. Diverter limit switches
 - 6.3.3.1.4. Manual control station
 - 6.3.3.1.5. Cable tray
 - 6.3.3.1.5.1. 13.2kV from Cable reel to Engine House, 480V, 120V, Controls will be installed within the same cable tray with dividers.
 - 6.3.3.2. Furnish, install, and terminate new accessway lighting per the drawings. (Ref. Dwg 0034.0004.10-308)
 - 6.3.3.2.1. Mounting hardware
 - 6.3.3.2.2. Conduit and cabling
 - 6.3.3.2.3. Install a new circuit to the new access way lights from the Machinery House E/C room per the attached GE Toshiba drawings.
 - 6.3.3.3. Furnish and install a trailing cable ground check termination device (LittleFuse SE-TA6A) and terminate trailing cable ground check cable on this device in the slip ring housing.

6.4. Engine House Modifications

- 6.4.1. Demo (Ref. Dwg 0034.0004.10-102)
- 6.4.2. Determinate and remove cabling for the following (Item 'A', Ref. Dwg 0034.0004.10-103):
 - 6.4.2.1.1. Generator
 - 6.4.2.1.2. Cables from generator to Machinery House E/C Room
 - 6.4.2.1.3. Fuel system control wiring
 - 6.4.2.1.4. Battery charger wiring
- 6.4.3. Remove generator and skid base (Item 'B', Ref. Dwg 0034.0004.10-103)

- 6.4.3.1. Contactor to land the generator and skid base on ground below crane. The Tenant shall take possession and remove from the work area.
- 6.4.4. Remove generator muffler components (Item 'C', Ref. Dwg 0034.0004.10-104)
- 6.4.5. Remove and dispose batteries and enclosure (Item 'D', Ref. Dwg 0034.0004.10-104)
- 6.4.6. Remove and dispose of battery charger (Item 'D', Ref. Dwg 0034.0004.10-104)
- 6.4.7. Remove and dispose fuel supply system (Item 'E', Ref. Dwg 0034.0004.10-104,105)
- 6.4.8. Remove and dispose fuel storage system (Item 'F', Ref. Dwg 0034.0004.10-105)
- 6.4.9. Remove and dispose fuel supply line (Item 'G', Ref. Dwg 0034.0004.10-105)
- 6.4.10. Remove grating to allow for installation of switchgear supports (Item 'H', Ref. Dwg 0034.0004.10-105)
- 6.4.11. Remove and dispose of fuel filter system (Item 'I', Ref. Dwg 0034.0004.10-106)
- 6.4.12. Remove existing cowling screen (Item 'J', Ref. Dwg 0034.0004.10-106)
- 6.4.13. Remove and dispose oil filter system (Item 'K', Ref. Dwg 0034.0004.10-106)
- 6.4.14. Remove generator support weldments (Item 'L', Ref. Dwg 0034.0004.10-106)
- 6.4.15. Clean, degrease inside of Engine House (Item 'M', Ref. Dwg 0034.0004.10-107)
 - 6.4.15.1. Solvent and heated water as required.
 - 6.4.15.2. Repair engine house coating system as required.
- 6.4.16. Remove Engine House East Wall Louvers (Item 'N', Ref. Dwg 0034.0004.10-107)
- 6.4.17. Structural (Ref. Dwg 0034.0004.10-201)
- 6.4.18. Furnish and install new cowling screen (Item 'A', Ref. Dwg 0034.0004.10-202)
- 6.4.19. Furnish and install new exhaust fan supports and sheeting (Item 'B', Ref. Dwg 0034.0004.10-202)
- 6.4.20. Repair muffler wall penetration (Item 'C', Ref. Dwg 0034.0004.10-202).
- 6.4.21. Seal Engine House wall penetrations (Item 'D', Ref. Dwg 0034.0004.10-202).
- 6.4.22. Seal Engine House East Wall (Item 'E', Ref. Dwg 0034.0004.10-202).
 - 6.4.22.1. Install corrugated plate in place of removed louvers.
- 6.4.23. Furnish and install supports for the following electrical equipment (Item 'F', Ref. Dwg 0034.0004.10-203):
 - 6.4.23.1. ASW
 - 6.4.23.2. DSW
- 6.4.24. Furnish and install grating over tank support and fuel supply line penetration (Item 'G', Ref. Dwg 0034.0004.10-204).
- 6.4.25. Furnish and install supports for the following electrical equipment (Item 'J', Ref. Dwg 0034.0004.10-204):
 - 6.4.25.1. MSW
- 6.4.26. Cap abandoned diesel supply line (Item 'I', Ref. Dwg 0034.0004.10-204).
- 6.4.27. Furnish and install supports for the following electrical equipment (Item 'J', Ref. Dwg 0034.0004.10-205):
 - 6.4.27.1. SWX, SWP

- 6.4.28. Furnish and install supports for the following electrical equipment (Item's 'L' & 'M', Ref. Dwg 0034.0004.10-205):
 - 6.4.28.1. PCD
- 6.4.29. Electrical (Ref. Dwg 0034.0004.10-305):
 - 6.4.29.1. Furnish and install conduit, cable tray and cables as indicated on the installation drawings.
 - 6.4.29.2. Furnish, install, and terminate MSW.
 - 6.4.29.3. Furnish, install, and terminate MSW.S1.
 - 6.4.29.4. Furnish, install, and terminate DWS.
 - 6.4.29.5. Furnish, install, and terminate AWS.
 - 6.4.29.6. Furnish, install, and terminate SWX.
 - 6.4.29.7. Furnish, install, and terminate SWP.
 - 6.4.29.8. Furnish, install, and terminate PCD.
 - 6.4.29.9. Furnish, install, and terminate the Fiber Optic Patch Panel
 - 6.4.29.10. Furnish, install, and terminate room ventilation fan with the following specifications:
 - 6.4.29.10.1. 7500 cfm, minimum
 - 6.4.29.10.2. 120VAC
 - 6.4.29.10.3. 120VAC adjustable thermostat sized for fan rating
 - 6.4.29.10.4. Local disconnect switch
 - 6.4.29.10.5. Local On/off switch for fan
 - 6.4.29.11. Furnish and install two (2) 10lb Type C Fire extinguishers.
 - 6.4.29.11.1. Wall mounted, near LS (West) Engine House door
 - 6.4.29.11.2. Wall mounted, near right (South) Engine House door

6.5. Fuel Supply Pump

- 6.5.1. Item 'O' (Ref. Dwg 0034.0004.10-108)
- 6.5.2. Demo
 - 6.5.2.1. Remove the fuel supply pump and piping located at the gantry level of Leg #4 (piping from gantry level to trolley girder to remain, capped).
 - 6.5.2.2. At the gantry level flange, cap and seal (silicone) the fuel supply pipe designated to remain.
 - 6.5.2.3. Remove the conduit and wiring for the pump back to a conduit fitting and abandon in place.
 - 6.5.2.4. Remove the controls and wiring from the landside gantry control stations associated with the fuel supply pump.

6.6. Spill Kit and Life Ring

- 6.6.1. Item 'P' (Ref. Dwg 0034.0004-108)
- 6.6.2. Relocate existing life ring (H-6 and H-7) and spill kit (H-7 only) to Tenant field designated location on WS Sill Beam (landside face).

- 6.6.3. Restore coating system at affected areas.

6.7. Machinery House and Electrical Control Room

- 6.7.1. Ref. Dwg 0034.0004.10-304/305
- 6.7.2. Demo
 - 6.7.2.1. Control wiring in PLC for 1 analog and 3 digital inputs along with removal of 3 relays.
 - 6.7.2.2. Several circuits in the 120 VAC panelboard MH shall be deleted per the marked-up GE Toshiba drawings.
- 6.7.3. Electrical
 - 6.7.3.1. Furnish and install cable in existing cable tray from Motor Control Center Panel 2 to 30 KVA Transformer SWX in the Engine house (feeder F10).
 - 6.7.3.2. Furnish and install cable in existing cable tray from Motor Control Center Panel 2 to Power Cable Drive (PCD) in the Engine house (feeder C2).
 - 6.7.3.3. Furnish and install 2 – 40A breakers in Motor Control Center Panel 2.
 - 6.7.3.4. Furnish and install fiber optic cable in existing cable tray from Master PLC Panel to Fiber Optic Patch Panel in the Engine House (feeder FO2).
 - 6.7.3.5. Furnish and install cable in existing cable tray from Main Drive Transformer (DSW) to the Master PLC Panel (feeder C16).
 - 6.7.3.6. Furnish and install cable in existing cable tray from Aux Power Transformer (ASW) to the Master PLC Panel (feeder C22).
 - 6.7.3.7. Furnish and install cable in existing cable tray from Cable Reel (PCR) to the Master PLC Panel (feeder C17).

6.8. Cab Demo

- 6.8.1. Demo the two pushbuttons and two indicating lights in the cab associated with the generator engine. Determine the wiring and secure them and abandon. Plug the pushbutton and light openings in place.
 - 6.8.1.1. Engine Start pushbutton
 - 6.8.1.2. Engine Stop pushbutton
 - 6.8.1.3. Engine Start red light
 - 6.8.1.4. Low Fuel Level amber light

6.9. Trailing Cable Termination at STS Pit No.2

- 6.9.1. Ref. Dwg 0034.0004.10-309
- 6.9.2. Electrical
 - 6.9.2.1. Furnish and install 15kV, 200A load break elbows on the trailing cables to land on existing load break connectors (furnished by others)
 - 6.9.2.2. Install the crane MV trailing cable from the MV cable reel to STS Pit No.2
 - 6.9.2.3. Terminate the MV cable power cable, ground cable, ground check cable, and fiber cores in STS Pit No.2.

- 6.9.2.4. The Contractor shall be responsible for Hi-Pot testing to the crane MV trailing cable from the new MV switch gear room to STS Pit No 2. Refer to this Specification for further requirements.
- 6.9.2.5. The Contractor shall be responsible for light testing the MV trailing cable fiber from the new cable reel to STS Pit No 2. Refer to this Specification for further requirements.

6.10. Testing and Commissioning

- 6.10.1. Provide all labor and equipment to fully test all new electrical component per the manufacturer, relevant code, governing regulatory agencies, and Engineer requirements.
- 6.10.2. Provide labor and equipment to perform the Site Functional Acceptance Test described in this Specification.

6.11. Work By Others

- 6.11.1. Ongoing construction projects on Berths 1, 2 and 3 at the Terminal will provide MV power (13.2kV) and communications (single mode fiber) to STS Pit No. 2.
- 6.11.2. The Berth 1, 2 and 3 contractor will supply MV power termination panel and supply required load break termination points. This project's Contractor shall make up the trailing cables and provide load break elbows and terminate in the MV power panel.
- 6.11.3. The Berth 1, 2 and 3 contractor will supply a single mode fiber patch panel. The Tenant shall terminate the single mode fiber in the MV trailing cable into the provided fiber patch panel.
- 6.11.4. The Berth 1, 2 and 3 contractor will supply a single ground check cable inside STS Pit No. 2 for connection by this project's Contractor.
- 6.11.5. The Berth 1, 2 and 3 contractor will supply a grounding inside STS Pit No. 2 for ground cable connection by this project's Contractor.
- 6.11.6. The Tenant may elect to perform non-project related maintenance work on the Cranes during this Project. Contractor to accommodate the Tenant within reason. All Tenant works to be coordinated with the Contractor, Owner, and Engineer.
- 6.11.7. Portal beam OCR camera will be temporary relocated and reinstalled post Contractor Works by the Tenant.

THIS PAGE IS INTENTIONALLY LEFT BLANK

7. Electrical Specifications

7.1. General

- 7.1.1. The Contractor shall provide all components, wiring, terminations, labor, installation, testing, certification, etc. as required to complete all work in accordance with the Contract documents.
- 7.1.2. All enclosures, cable trays, equipment, etc. installed on the Crane shall be rated for the heavy shock and vibration conditions of the Crane as well as the all-weather marine environment.
- 7.1.3. All components, fasteners, mounting brackets, attachments, etc. shall be 316 stainless steel unless specifically approved in writing by Engineer.
- 7.1.4. Threaded fasteners, U-bolts, etc. shall not be painted.
- 7.1.5. All fasteners shall be secured with double nuts, the use of split type or other locking washers is prohibited.
- 7.1.6. All components and/or systems shall bear a UL or equivalent CE mark applicable for the Crane specific application.
- 7.1.7. Contractor shall make reasonable effort to make components and material installed on the Crane of the same or similar type as the original manufacturer.
- 7.1.8. All existing circuits cable connections at voltages of 240V and above shall be inspected and tested for tightness. Circuits shall also be tested for continuity.

7.2. Grounding

- 7.2.1. All electrical equipment and motors shall be grounded by copper conductors sized, bonded, and installed in accordance with local codes and NEC.
- 7.2.2. Copper conductors for grounding shall be sized per NEC 250.
- 7.2.3. Grounding cables shall be terminated in mechanical lugs bolted to the ground terminals of the equipment.
- 7.2.4. Series connections for grounding is prohibited.

7.3. Wiring and Conductors

- 7.3.1. Wire sizes shall conform to AWG standard.
- 7.3.2. Wiring external to panels shall not be smaller than #12 AWG unless otherwise noted.
- 7.3.3. Wiring internal to panels shall not be smaller than #14 AWG. Standard wiring used in properly mounted factory-assembled static regulators can vary from this limitation or when part of multiconductor communication cables.
- 7.3.4. Conductors installed in conduits or trays shall be tray cable, copper multistrand THHN or THWN with minimum 600 volt insulation, rated for minimum 90°C temperature rise.
- 7.3.5. The ampacity of each conductor shall be de-rated as prescribed in NEC.
- 7.3.6. Twisted shielded pairs used for communications links shall be of the type, size, and impedance characteristics recommended by the electrical equipment manufacturer. Such wires shall not be less than #16AWG unless impedance requirements for the specific system in question mandate a smaller wire.
- 7.3.7. Conductors shall be color-coded to match the crane's existing wiring to denote phase, ground, neutral, etc., and shall be numbered in accordance with the control supplier's elementary diagrams.

- 7.3.8. Color coding of power supply conductors shall be consistent. Where colors are incompatible, colored synthetic tubing of the correct color shall be applied at conductor ends and identified with the circuit letter and number.
- 7.3.9. Contractor shall “ring out” and test all conductors using a calibrated insulation resistor tester manufactured by a major electrical test equipment supplier primarily engaged in the manufacture of electrical testing equipment such as Fluke, Biddle or Owner approved other. The results from each circuit test shall be recorded. Contractor shall identify any discrepancies or omissions with respect to the drive system vendor’s final drawings, and all such discrepancies and omissions shall be corrected and brought into accord with the drawings. Complete records of all tests and corrections shall be presented to the drive system vendor and the Owner’s Engineer prior to Substantial Completion.
- 7.3.10. All wire entering or exiting any enclosure, duct, cabinets, cable trays, etc. shall be protected from chafing.

7.4. Cables

- 7.4.1. Cable entrances to panel boards, junction boxes, and other enclosures exposed to weather, shall be from below.
- 7.4.2. Cables used in cable trays shall be cable tray rated.
- 7.4.3. All cables entering or exiting any enclosure, duct, cabinets, cable trays, etc. shall be protected from chafing.
- 7.4.4. All cable shall be run in conduit, tray, or raceway.
- 7.4.5. Cable ties for outdoor and indoor installations shall be resistant against sun radiation (UV-light) and chemical corrosion (ozone).

7.5. Fiber Optic

- 7.5.1. All fiber optic lines, including required spare lines, shall be terminated and tested.
- 7.5.2. All fiber cables entering or exiting any enclosure, duct, cabinets, cable trays, etc. shall be protected from chafing via methods approved by Engineer.
- 7.5.3. Bending radius of fiber cables shall be carefully monitored as to not crimp the fibers.

7.6. Conduit Raceways

- 7.6.1. Conduits shall be sized with 20% more area than required by NEC.
- 7.6.2. Wiring for lighting, computers, programmable controllers, and intercom shall be kept separate from power and control wiring, in separate conduits and junction boxes.
- 7.6.3. Communication cables shall be installed in separate conduits or cable trays.
- 7.6.4. Conduit shall be rigid, galvanized steel with a minimum diameter of 0.75 inch.
- 7.6.5. Flexible conduit shall only be used to accommodate relative motion between machine components and the structure in accordance with NEC Article 350, or with the approval of the Owner’s Engineer. Flexible conduit runs shall not exceed 3 ft in length.
- 7.6.6. Conduits shall be clamped at intervals not exceeding 10 ft. Welds shall not be used to support conduits except where conduits penetrate structural members. Conduits shall be supported by drilled structural angles welded to the structure and painted.
- 7.6.7. Conduits shall run parallel or perpendicular to the edges of the elements to which they are attached. Conduits shall be spaced apart, and away from structural steel, to facilitate painting of the supporting structure. Rigid right-angle turns shall be made with cast metal fittings or symmetrical bends. Offsets shall be avoided.

- 7.6.8. Low point drains shall be installed at the low points of all vertical conduit runs exposed to weather. Conduit runs on the boom shall have drains positioned to provide drainage when the boom is raised above the horizontal.

7.7. Cable Tray Raceway

- 7.7.1. Cable trays shall be installed as required by NEMA VE-1 and VE-2.
- 7.7.2. New cable tray installed shall be B-Line model 368-SS6-09-X-X (6" deep, 316 Stainless Steel, 9" ladder rung space, with covers) or equal with the approval of the Owner's Engineer. Non-ventilated (fully enclosed) trough (SB) shall be used on the Portal Beam where the tray is installed under the handrail.
- 7.7.3. All new cable tray raceways shall be installed with B-Line model 80-2-316-X-X (solid, flanged, 316 Stainless Steel) covers or equal with the approval of the Owner's Engineer.
- 7.7.4. Contractor shall include grounding jumpers, end plates, bends, support brackets, and cable dividers for all cable tray installations as required.
- 7.7.5. Cable ties shall be used to fix cables on cable ladders and cable trays every 3 ft. Vertical main runways shall have rubber or plastic covered stainless-steel cable ties every 3 ft.

7.8. Terminations

- 7.8.1. Conductors of sizes #10 AWG and smaller shall be terminated at terminal strips and at components having screw-type or compression type clamp terminals.
- 7.8.2. Fork type connections are prohibited.
- 7.8.3. Conductors of larger size (greater than #10 AWG) shall be terminated on either power terminal blocks, plated copper or aluminum bus tabs, or directly to power terminals on devices. Crimps shall be made with ratchet-type crimpers specifically manufactured for the purpose.
- 7.8.4. No more than two (2) wires shall terminate at one connection.
- 7.8.5. Terminations to distributed I/O devices and similar control connections shall be by crimp-style insulated ferrules. Panel wiring from the control or I/O device shall be routed to terminal strips at the edge of the panel for connection of external wiring.
- 7.8.6. Splices in raceways and fittings are prohibited. Splices and joints in feeders or branches are prohibited.
- 7.8.7. Splices and taps shall only be used with the approval of the Owner's Engineer. Splices and taps in wires of #8 AWG and larger shall be made using compression-type connectors approved by the Owner's Engineer and taped to provide insulation at least equal to the conductor.
- 7.8.8. All conductors of different voltage or power levels shall be separated within a junction box by a metal partition.
- 7.8.9. Junction boxes holding conductors over 600 V shall be labeled "High Voltage" and "Authorized, Qualified Personnel Only" as well as required per OSHA, NEC, NFPA, etc.
- 7.8.10. Conduit unions shall be made with "Erickson" type couplings only. Other couplings are prohibited. Threaded connections between conduit and fittings shall be coated with a conductive, corrosion-resistant compound such as T&B Kopy-Shield.

7.9. Marking and Labeling

- 7.9.1. All wires and cables shall be marked and labeled on both ends with numbering consistent with the circuit diagram/electrical schematics.

- 7.9.2. Cable cores shall be identified with purpose made labels.
- 7.9.3. All wires shall be identified with heat shrink labels on each end. All wires visible within a pull box shall also be identified with labels. The cable marking scheme and labeling details shall be submitted to the Owner's Engineer for approval.

7.10. Enclosures

- 7.10.1. All enclosures for structural, mechanical, electrical, electronics, and miscellaneous components shall be 316 stainless steel with a 2.0mm minimum thickness, unless specifically noted otherwise. Welding to any enclosure is prohibited.
- 7.10.2. All enclosures shall include a permanently installed, engraved, or embossed, 316 stainless steel nameplates describing the enclosure contents/purpose.

8. 13.2 KV Cable Reel & Cable

8.1. Scope of Supply

- 8.1.1. The Supplier shall supply MV power supply equipment as specified in this IFB for each crane including:
- 8.1.1.1. MV power cable
 - 8.1.1.2. MV cable reel
 - 8.1.1.3. Cable reel drives (PCD)
 - 8.1.1.4. Gantry level bi-directional multi-roller, curved cable guide
 - 8.1.1.5. Vertical cable guides
 - 8.1.1.6. 90° cable directional guide (portal beam level)
- 8.1.2. Onsite Support
- 8.1.2.1. Supplier shall provide a qualified engineer(s) or technician(s) onsite to provide oversight of the cable reel and components installation by the Owner's Contractor, verify the installation, settings, commissioning, testing, operation and performance of the supplied components installed on the Cranes.
- 8.1.3. Warranty
- 8.1.3.1. Supplier shall provide the following warranty periods:
 - 8.1.3.1.1. Electrical Components 2 yrs
 - 8.1.3.1.2. Mechanical Components 5 yrs
 - 8.1.3.1.3. Structural Components 10 yrs

8.2. Performance Characteristics / Interface Requirements

- 8.2.1. The Cranes are rail mounted STS container handling gantry crane with the primary operational function of loading and unloading standard ISO shipping containers from vessels, to/from bombcarts, chassis, and ground.
- 8.2.2. Speeds

Description	English	Metric
Gantry Travel Speed	200 fpm	60mpm

- 8.2.3. Gantry Travel / Cable Length

Description	English	Metric
Gantry Travel Each Way	1200 ft	365 m
Crane Drum, Travel up leg, Pit Drum Length	243 ft	75 m
Required MV Cable Length	1443 ft	440 m

- 8.2.4. Supplier Performance History
- 8.2.4.1. Supplied system shall have minimum five (5) years of consistent installed service in the marine container handling industry.
 - 8.2.4.2. Installed service shall be specific to ship-to-shore (STS) gantry cranes OR on rail-mounted gantry cranes (RMG) with similar sized components and operational characteristics.

8.2.5. Supplier Service and Support

8.2.5.1. System supplier must have established regional support team which can be mobilized quickly in case of emergency.

8.2.5.2. System supplier must have regional spare parts inventory. Spare parts inventory shall include critical, long lead, and unique components.

8.2.6. Electrical Supply

8.2.6.1. Electrical supply voltage to the Crane shall be 13.2 kV, 3Ph, 60 Hz power from the terminal feed to the Crane connection point to be located between Berth 2 and Berth 3 at the center of the terminal.

8.2.7. Communication

8.2.7.1. Communication with the terminal operations and maintenance buildings shall be via single mode fiber optic cable through the medium voltage trailing cable.

8.3. Testing of Cable Reel

8.3.1. Contractor shall be responsible for function testing the Cable Reel systems through the normal power supply to the Cable Reel. Contractor may utilize temporary power to pre-test the Cable Reel if desired. See Section 19 for system testing details.

8.4. MV Cable

8.4.1. The MV cable shall be PROTOLON(SM-R), or approved equal, cable with a minimum cross section conductor size of # 2 AWG; ground size to be # 4 AWG; insulated (600V) ground check size to be # 8 AWG. The cable shall be 3-conductor, 15KV semi-conductive rubber shielded, with insulated ground, insulated ground check and twelve (12) 9/125 micron single-mode optical fibers. The cable shall comply with UL, IPCEA, and NEMA standards and be suitable for marine wharf cable tray application.

8.4.2. The cable length shall be as specified in 8.2.3.

8.4.3. The Owner's Contractor will terminate the reel cables at the switch gear enclosure and provide all equipment, material and labor required on the wharf.

8.4.4. The cable manufacturer, cable type / model number, and voltage rating shall be stamped on the cable jacket.

8.4.5. The cable shall meet grounding requirements in accordance with local codes and standards.

8.5. MV Cable Reel

8.5.1. General

8.5.1.1. The cable reel shall be the mono-spiral type.

8.5.1.2. The reels shall be of stainless steel or hot dip galvanized steel after fabrication. All hardware shall be 316 stainless steel.

8.5.1.3. The cable reel shall be adjustable to handle a cable with the same maximum continuous safe reeling tension rating to that specified.

8.5.1.4. The cable reel drives shall be provided by the Supplier.

8.5.1.5. Local manual operating station shall be provided for maintenance and startup of the cable reels.

8.5.1.6. A multi roller radius cable guide mounted on the leg adjacent to the reel shall be provided to lead the cable from the reel (portal beam level) down the leg.

- 8.5.1.7. A minimum of five cable guide assemblies shall be provided to prevent the vertical run of cable from whipping during gantry travel or high winds.
- 8.5.1.8. A bi-directional multi-roller, curved cable guide shall be provided at the wharf level so that the cable can be retrieved from either direction parallel to the crane rails. The bi-directional cable guide shall, as a minimum:
 - 8.5.1.8.1. Spring-loaded mounting to relieve tension from over-tensioned cables.
 - 8.5.1.8.2. Prevent the cable from exiting the cable trench beyond the crane operating envelope.
 - 8.5.1.8.3. Proximity sensors to detect overtravel of the cable to the waterside or landside with control system interlocks
 - 8.5.1.8.4. The distance of the cable from the rail shall be adjustable +/- 12 in (300 mm) from the design location.
 - 8.5.1.8.5. The radius of all cable guides shall be as recommended by the cable manufacturer but not less than 15 times the outside diameter of the cable.
 - 8.5.1.8.6. Guarding shall be provided to protect the bi-directional cable guide and prevent inattentive persons from being trapped or injured.
 - 8.5.1.8.7. The multi roller radius cable guide, the vertical cable guides and the bi-directional multi roller shall be arranged in a way, which avoids unnecessary bending and deflection of the cable.
- 8.5.1.9. There shall be no fleet angle of the cable between the cable reel and cable tray.
- 8.5.1.10. The cable reel system shall be equipped with interlocks for slack cable, over tension, and each direction over travel rotary cam and direction sensing.
- 8.5.1.11. The cable retrieval drive shall be electrically powered and mechanically design in accordance with FEM Classification M5.
- 8.5.1.12. The drive shall provide adequate torque and speed to lift the cable from the wharf and prevent slack under any operating condition.
- 8.5.1.13. A spring set brake shall be provided which shall prevent the cable from spooling off the reel when the drive is de-energized.
- 8.5.1.14. The drive shall be capable of stalling for a period of two hours without overheating.
- 8.5.1.15. Upon loss of power while gantry traveling, the cable shall not be stressed beyond the cable manufacturer's maximum continuous safe reeling tension rating.
- 8.5.1.16. Under all other operating conditions, the cable shall not be stressed beyond 85% of the cable manufacturer's maximum continuous safe reeling tension rating.
- 8.5.1.17. Upon loss of power while retrieving the cable, the gantry will continue to travel until stopped while the cable reels may stop instantly, which may cause the slack cable/direction sensor to change position. The control logic shall recognize this and ensure that gantry motion is not allowed until the cable is properly tensioned.
- 8.5.1.18. The enclosure for the slip rings shall be 316 stainless steel with a 2.0mm minimum thickness. Welding to the enclosure is prohibited.
- 8.5.1.19. The enclosure shall include a permanently installed engraved or embossed 316 stainless-steel nameplates describing the enclosure contents/purpose.

- 8.5.1.20. The slip ring housings shall include thermostatically controlled space heaters.
 - 8.5.1.21. The slip ring assembly shall have, at a minimum, double brushes and brush holders for the three phases, ground check, and ground. Ground circuit shall have multiple parallel slip rings.
 - 8.5.1.22. The slip ring access cover shall be secured by the Crane trapped key interlock system. Opening the slip-ring cover shall only be possible with the key inside the lock, while removing the key shall only be possible with the cover properly closed.
 - 8.5.1.23. The slip ring enclosure shall have large (200 mm x 200 mm) Lexan covers for inspection of the slipring without opening the cover.
 - 8.5.1.24. The slip ring crane medium voltage cable entry shall be on the vertical face closest to Leg 2 (waterside face). Cable penetration shall be as close to bottom as possible.
 - 8.5.1.25. Cable reel slip rings and reel cable shall be “hi-potential” tested when installed and after completion of all terminations.
 - 8.5.1.26. The slip ring enclosure shall also contain rotary hub for the fiber optic cables. The rotary hub shall have channels for twelve (12) 9/125 micron single-mode optical fibers.
- 8.5.2. A trapped key interlock system will be provided by the Contractor to restrict access and ensure safety of MV components between the site switchgear and the Crane MV components (STS Substation, MV slip ring, MV Switch, main transformer, etc.). Supplier componentry will be required to interface with the trapped key interlock system.

9. 13.2 KV Cable to MV Switchgear (MSW)

9.1. Scope of Supply

- 9.1.1. This specification describes the minimum technical requirements for design, material, construction, inspection, testing, and shipping of solid dielectric insulated shielded copper conductor cable, 5 kV to 46 kV, rated for use on a Ship-To-Shore Crane.
- 9.1.2. This specification describes requirements in U.S. Customary units and in accordance with North American standards in jurisdictions where National Fire Protection Association (NFPA) 70, the National Electrical Code (NEC), governs.
- 9.1.3. This specification does not include requirements for metric power cables governed by International Electrotechnical Commission standards.

9.2. General

- 9.2.1. INDUSTRY CODES & STANDARDS
 - 9.2.1.1. Association of Edison Illuminating Companies (AEIC)
 - 9.2.1.1.1. CS8 Specification for Extruded Dielectric Shielded Power Cables Rated 5 through 46kV
 - 9.2.1.2. ASTM International (ASTM)
 - 9.2.1.2.1. B3 Standard Specification for Soft or Annealed Copper Wire
 - 9.2.1.2.2. B8 Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
 - 9.2.1.2.3. B496 Standard Specification for Compact Round Concentric-Lay-Stranded Copper Conductors
 - 9.2.1.3. Institute of Electrical and Electronics Engineers (IEEE)
 - 9.2.1.3.1. 1202 Standard for Flame-Propagation Testing of Wire and Cable
 - 9.2.1.3.2. 1580 Recommended Practice for Marine Cable for Use on Shipboard and Fixed or Floating Facilities
 - 9.2.1.4. Insulated Cable Engineers Association (ICEA)
 - 9.2.1.4.1. A-9-428 Wire and Cable Reels
 - 9.2.1.4.2. S-93-639 (NEMA WC 74)
 - 9.2.1.4.3. 5–46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy
 - 9.2.1.4.4. S-97-682 Standard for Utility Shielded Power Cables Rated 5 Through 46 kV
 - 9.2.1.5. National Electrical Manufacturers Association (NEMA)
 - 9.2.1.5.1. WC 26 Binational Wire and Cable Packaging Standard
 - 9.2.1.6. National Fire Protection Association
 - 9.2.1.6.1. 70 National Electrical Code
 - 9.2.1.7. Underwriters Laboratories (UL)
 - 9.2.1.7.1. 1072 Medium-Voltage Power Cables
- 9.2.2. ACRONYMS
 - 9.2.2.1. ASD—Adjustable Speed Drive

- 9.2.2.2. AWG—American Wire Gauge
 - 9.2.2.3. CPE—Chlorinated Polyethylene
 - 9.2.2.4. CSPE—Chlorosulfonated Polyethylene
 - 9.2.2.5. ESC—End Sealing Cap
 - 9.2.2.6. EPR—Ethylene Propylene Rubber
 - 9.2.2.7. MC-HL—Metal Clad Cable for Hazardous Location
 - 9.2.2.8. MV—Medium Voltage
 - 9.2.2.9. PE—Polyethylene
 - 9.2.2.10. PO—Purchase Order
 - 9.2.2.11. PVC—Polyvinyl Chloride
 - 9.2.2.12. TC—Tray Cable
 - 9.2.2.13. TRXLPE—Tree-Retardant Cross-Linked Polyethylene
 - 9.2.2.14. XLPE—Cross-Linked Polyethylene
- 9.2.3. REQUIREMENTS
- 9.2.3.1. Cables shall be suitable for installation in wet or dry locations, indoors, outdoors (exposed to direct sunlight), cable tray (sunlight resistant), direct burial or conduit, underground duct or any other raceway, or messenger supported, unless otherwise noted.

9.3. Design and Fabrication

- 9.3.1. Conductors
- 9.3.1.1. Conductors shall be bare uncoated annealed copper in accordance with ASTM B3. Copper shall be new; recycled copper shall not be acceptable.
 - 9.3.1.2. Conductors shall be round concentric-lay-stranded in accordance with ASTM B8 Class B or compact stranded in accordance with ASTM B496 unless otherwise specified in the data sheet.
 - 9.3.1.3. Conductor diameter shall be in accordance with ICEA S-97-682. If left blank in the data sheet, conductors shall be either concentric stranded in conformance with ASTM B8 or compact-round-stranded in conformance with ASTM B496. When specified in the data sheet, the conductor shall be configured accordingly.
- 9.3.2. Conductor Shield (Stress Control Layer)
- 9.3.2.1. Conductor shield shall be in accordance with ICEA S-97-682, AEIC CS8, and UL 1072.
 - 9.3.2.2. Semiconducting tape shield shall not be acceptable.
- 9.3.3. Insulation
- 9.3.3.1. Insulation shall be manufactured from high-quality heat-, moisture-, ozone-, and corona-resistant ethylene propylene rubber (EPR) compounds in accordance with ICEA S-97-682, AEIC CS8, and UL 1072.
 - 9.3.3.2. Insulation type, voltage rating, and insulation level (100% or 133%) shall be in accordance with the data sheet.
 - 9.3.3.3. The following requirements shall apply to EPR insulation:

- 9.3.3.3.1. It shall not contain fillers that would make the insulation susceptible to “treeing.”
 - 9.3.3.3.2. The conductor shield, insulation, and insulation shield shall be single-pass triple head or single-pass triple tandem extruded and cured simultaneously, and shall meet or exceed the electrical and physical requirements of ICEA S-97-682, AEIC CS8-07, and UL 1072.
 - 9.3.3.3.3. Insulation thickness (level) for shielded cables rated 5001 V and above shall be in accordance with the 133 percent insulation level requirements of NFPA 70 (NEC Table 310.104[E]), unless otherwise specified in the data sheet.
 - 9.3.3.3.4. Unless otherwise specified in the data sheet, cable shall be rated a minimum of 90°C for normal operation, 140°C for emergency overload conditions, and 250°C for short-circuit conditions.
 - 9.3.3.3.5. Unless otherwise specified in the data sheet, individual conductor phase identification shall be manufacturer’s standard.
 - 9.3.3.3.6. Cross-linked polyethylene (XLPE), tree-retardant cross-linked polyethylene (TRXLPE), or other insulating materials shall not be provided without Owner’s acceptance.
- 9.3.4. Insulation Shielding
- 9.3.4.1. Insulation shielding shall be in accordance with ICEA S-97-682, AEIC CS8, and UL 1072.
 - 9.3.4.2. Nonmetallic semiconducting covering shall be extruded and in accordance with ICEA S-97-682, AEIC CS8-07, and UL 1072.
 - 9.3.4.3. Unless otherwise indicated in the data sheet, a nonmagnetic metallic tape shield shall be applied directly over the semiconducting covering.
 - 9.3.4.4. Unless otherwise specified in the data sheet, the metal tape shall be minimum 5.0 mil bare copper, continuous length, and applied helically with a 12.5 percent minimum overlap and in accordance with other requirements of ICEA S-97-682.
 - 9.3.4.5. Shield drain wire(s) shall be supplied if specified in the data sheet.
- 9.3.5. Inner Conductor Jacket
- 9.3.5.1. If specified in the data sheet for multiconductor cables, an inner jacket shall be provided over the conductor assembly. Wall thicknesses and tolerances shall be in accordance with ICEA S-97-682.
 - 9.3.5.2. Unless specified otherwise in the data sheet, inner jacket material shall be flame-retardant polyvinyl chloride (PVC).
- 9.3.6. Ground Conductor(s)
- 9.3.6.1. Unless specified otherwise in the data sheet, minimum ground conductor(s) for multiconductor-cable shall be supplied and shall be sized in accordance with UL 1072 as summarized in the following table:

Table 1: Minimum Ground Conductor Sizes

Copper Power Conductor Sizes	Minimum Grounding Conductor Size
8 AWG	8 AWG or 3 x 12 AWG
6–2 AWG	6 AWG or 3 x 10 AWG

1–2/0 AWG	4 AWG or 3 x 8 AWG
3/0 AWG–4/0 AWG	3 AWG or 3 x 7 AWG
250–350 kcmil	2 AWG or 3 x 6 AWG
400–500 kcmil	1 AWG or 3 x 5 AWG
550–750 kcmil	1/0 AWG or 3 x 4 AWG
800–1000 kcmil	2/0 AWG or 3 x 13 AWG

- 9.3.6.2. Cable for adjustable speed drive (ASD) applications shall be 3-conductor cable provided with an overall sheath (continuous aluminum welded and corrugated sheath) and shall be provided with three symmetrical ground conductors located in the outer interstices between the phase conductors.
- 9.3.7. Fillers and Binder Tape
- 9.3.8. For multiple conductor cables, the insulated single conductors shall be cabled together with non-hygroscopic filler material and an overall binder tape.
- 9.3.9. Armor Assembly
- 9.3.9.1. Unless otherwise specified in the data sheet, metallic armor and associated coverings for multiple conductor cables shall be provided in accordance with ICEA S-93-639, Section 7.3, Division I-type protective armor and associated coverings.
- 9.3.9.2. The armor shall be in accordance with ICEA S-93-639 for MC-HL cables.
- 9.3.10. Outer Jacket
- 9.3.10.1. Unless otherwise specified in the data sheet, an outer protective flame-retardant PVC jacket shall be applied over the completed cable assembly.
- 9.3.10.2. Jacket shall be in accordance with ICEA S-93-639.
- 9.3.10.3. Unless otherwise specified in the data sheet, jacket color shall be manufacturer’s standard.
- 9.3.10.4. Jacket shall be oil resistant and sunlight resistant in accordance with UL 1072.
- 9.3.11. Cable Type and Identification
- 9.3.11.1. The cable shall be marked and identified in accordance with NEC.
- 9.3.11.2. Cables shall be NEC type MV (medium voltage), MC-HL if armored or TC for unarmored, and marked “Sunlight Resistant,” “For Use in Cable Tray,” and “Direct Burial,” in accordance with UL 1072, unless otherwise specified.

10. 13.2 KV Switchgear on Crane (MSW)

10.1. Scope of Supply

- 10.1.1. The Contractor shall furnish and install the medium voltage metal enclosed switchgear equipment as specified herein and as shown on the contract drawings.

10.2. Equipment Specification

- 10.2.1. Ambient Temperature: -20 Deg. C to +40 Deg. C
- 10.2.2. Enclosure: NEMA 3R (NEMA 4X Construction), gasketed, structure suitable for reliable long life operation under the "Crane Duty Environment" conditions listed later in this specification.
- 10.2.3. Ventilation: Convection Cooling. If ventilation openings are required, suitable screens shall be provided which preclude the entry of solid objects greater than 2.5 mm in diameter. No forced cooling shall be utilized.
- 10.2.4. Mounting: Floor, back-to-wall configuration with all components and incoming and outgoing AC line power feeder connections accessible from the front or side only. It must be possible to remove all equipment with access to the front or side only.
- 10.2.5. Include a 4" tall wireway at the bottom of the entire structure to allow for MV and LV wiring to exit the gear at the left side. Allocations must be included to separate the MV and LV wiring.
- 10.2.6. Dimensions: 106 inches Wide x 112 inches High x 40 inches Deep
- 10.2.7. Door Swing: Hinged access doors must be limited to a 43 inches maximum swing radius.
- 10.2.8. Nominal Voltage Rating: 15 kV, 3 Phase, 60 Hz. Class
- 10.2.9. System Voltage (Nominal): 13.2 kVAC (L-L), 3 Phase, 60 Hz. , 7.63 kVAC (L-N)
- 10.2.10. System Voltage (Maximum): 14.52 kVAC (L-L), 3 Phase, 60 Hz., 8.39 kVAC (L-N)
- 10.2.11. System Voltage (Minimum): 11.22 kVAC (L-L), 3 Phase, 60 Hz. , 6.48 kVAC (L-N)
- 10.2.12. Equipment BIL Rating: 95 kV BIL
- 10.2.13. Crane Load Profile: Total
- 10.2.13.1. Feeder for main drives transformer
- 10.2.13.1.1. 50 Amperes RMS or Continuous
- 10.2.13.1.2. 60 Amperes Max. Steady State for 60 Sec., occasionally repeated.
- 10.2.13.1.3. 106 Amperes Peak for 3 Sec., frequently repeated once every 60 Sec.
- 10.2.13.2. Feeder for auxiliary transformer
- 10.2.13.2.1. 15 Amperes RMS or Continuous
- 10.2.14. System SCC @ Crane Bus: The system shall be designed for 10,000 Amperes Symmetrical RMS short circuit capacity for 3 Sec.
- 10.2.15. Standards: All units must supplied with UL label to comply with the requirements and shall be constructed and tested to comply with the latest applicable standards of ANSI, IEEE, and NEMA SG5.
- 10.2.16. Power Bus: Incoming Power Feeder Bus
- 10.2.16.1. Factory installed vertical and/or horizontal, silver plated copper power bus which facilitates the connection of the following incoming power feeders:

- 10.2.16.1.1. No. of Conductors/Phase: 1
- 10.2.16.1.2. Conductor Size: #1/0 AWG
- 10.2.16.1.3. Terminal Bolt Hole Diameter: 0.5" x 2(Provide 2 x 0.5625 in. dia. Holes, 1.75 in vertical spacing in bus bar.)
- 10.2.16.1.4. The AC incoming feeders will enter and terminate at the bottom of the center section. Space and bus provisions must be adequate to accommodate customer connections, medium voltage stress cone terminations, and meet IEC minimum bending radii. The bus ampacity rating shall be adequate for the worst case RMS current and frequently repeated short time Crane Profile Loading as indicated above. All power bus shall be rated 600 A (min.) and suitably braced based on short circuit current (RMS Symmetrical) available from the source. Line side entry shall be thru the bottom of the middle section. All terminations shall be accessible from the front without the necessity of removing the side covers. Terminal bolt holes as specified above shall be drilled or punched and plated thru, i.e. plating shall be done after the holes are drilled or punched.

10.2.17. Main Transformer Feeder

- 10.2.17.1. Factory installed vertical and/or horizontal, silver plated copper power bus which facilitates the connection of the transformer primary winding feeder:
- 10.2.17.2. No. of Conductors/Phase: 1
- 10.2.17.3. Conductor Size: #1/0 AWG
- 10.2.17.4. Terminal Bolt Hole Diameter: 0.5" x 2(Provide 2 x 0.5625 in. dia. Holes, 1.75 in vertical spacing in bus bar.)

10.2.18. Auxiliary Transformer Feeder

- 10.2.18.1. Factory installed vertical and/or horizontal, silver plated copper power bus which facilitates the connection of the transformer primary winding feeder:
 - 10.2.18.1.1. No. of Conductors/Phase: 1
 - 10.2.18.1.2. Conductor Size: # 1/0 AWG
- 10.2.18.2. Terminal Bolt Hole Diameter: Terminal Bolt Hole Diameter: 0.5" x 2(Provide 2 x 0.5625 in. dia. Holes, 1.75 in vertical spacing in bus bar.)
- 10.2.18.3. The transformer feeder will terminate on the load side of the power fuses in the feeder sections. Space and bus provisions must be adequate to accommodate customer connections, medium voltage stress cone terminations, and meet UL and NEC minimum bending radii. The bus ampacity rating shall be adequate for the worst case RMS current and frequently repeated short time Crane Profile Loading as indicated above. All power bus shall be rated 600 A (min.) and suitably braced based on short circuit current (RMS Symmetrical) available from the source. The transformer feeder shall exit the LH and RH sections through the bottom. All terminations shall be accessible from the front or side panels. Terminal bolt holes as specified above shall be drilled or punched and plated thru, i.e. plating shall be done after the holes are drilled or punched.

10.2.19. Ground Bus

- 10.2.19.1. Silver or tin plated copper ground bus shall be provided with the following holes drilled or punched and plated thru:
- 10.2.19.2. Qty. 2 – M10 Diameter

10.2.19.3. Qty. 4 – M6 Diameter

10.2.19.4. The ground bus shall be permanently bonded to the enclosure base near the bottom. The ground bus shall be totally contained within the enclosure to facilitate all ground connections within the protected area of the enclosure.

10.2.20. Cable/Conduit Entry

10.2.20.1. All cables and conduits shall enter the enclosure through suitable fittings and cable glands supplied by others.

10.2.21. Space Heaters

10.2.21.1. Thermostatically controlled, anti-condensation, 120 VAC, single phase space heaters factory installed in each section and wired to terminal boards. All heaters shall be connected to the CPT in the switchgear, the heaters shall be wired so that it can be powered from an external source by others if necessary. Include foreign voltage warning signs or labels on the door of the low voltage compartment or where applicable. The low voltage thermostat shall be supplied with a remote sensing element such that the thermostat is accessible for service without exposing maintenance personnel to live medium voltage parts.

10.2.22. Wiring

10.2.22.1. All interconnecting power and control wiring shall be stranded copper. All terminations shall utilize crimp type, 15 kV (medium voltage power wiring) two hole lugs, and 600 VAC (control) ring tongue type terminals. Wiring shall be suitable for the applications as defined by applicable sections of NEC. No splicing of wire or cable is acceptable. All cables and wires shall be identified on both ends with suitable permanent, oil and water resistant, computer generated labels or markers.

10.2.22.2. All power wiring shall be color coded in the following manner using either color coded sleeves or shrink tubing over the last 6 inches of cable or wire: Phase A=Brown, Phase B=Orange, Phase C=Yellow

10.2.22.3. Other wire colors shall be as below:

10.2.22.3.1. 1-Phase Ac Power: L=BLACK, Neutral (grounded)=WHITE (For Lighting / Heating /Outlets)

10.2.22.3.2. - DC Control: DC(+)/DC(-) = BLUE

10.2.22.3.3. - AC Control (120VAC): L=RED, Neutral (grounded)=WHITE (For Control Power Single Phase)

10.2.22.3.4. - Earth Ground=GREEN

10.2.22.4. Medium voltage cable bend radii must conform to NEC & UL standards. The use of non-shielded medium voltage cable is limited to 15 m in length.

10.2.22.5. 20% spare terminal board points shall be supplied. Terminal boards must be constructed of corrosion resistant materials suitable for a marine salt water environment.

10.2.23. Finish

10.2.23.1. Standard medium gray, two-part epoxy or polyurethane paint finish coat and polyurethane primer coat suitable for indoor use in a marine, salt water laden atmosphere environment. Alternative paint systems or finishes must be submitted for approval.

10.2.24. Hardware and Fasteners

10.2.24.1. All hardware and fasteners shall be made of high grade stainless steel suitable for a dock side, salt water laden atmosphere. Silicone bronze or stainless steel bolts shall be used for all electrical power connections and terminations.

10.2.25. Enclosure Features

10.2.25.1. All welded construction using A-60 galvaneal steel, 12 gauge or 2.5 to 3.0 mm thickness (min.), or equivalent corrosion proof materials submitted for approval.

10.2.25.2. Impact resistant, steel reinforced glass window in the access door directly in front of any disconnect switches which allows easy viewing of the isolator switch and grounding switch blade positions while standing at floor level. Visual indication by other approved physical methods shall be considered, but must be submitted for approval.

10.2.25.3. Lifting angle, channel, or eye-bolts that facilitate lifting the entire lineup or assembly using a single point or two point pick form the top either at the center of the enclosure or from the two ends.

10.2.25.4. Structural channels located at the bottom of the enclosure with mounting holes to anchor the enclosure to the machinery house deck on board the crane. Location, location tolerance, size, and size tolerance for all mounting holes must be shown on the approval or review drawings submitted.

10.2.25.5. All components and connections shall be accessible thru hinged access doors and door latching shall be accomplished utilizing three point latches or captivated, stainless steel screw fasteners along one edge of the door to prevent inadvertent entry by unqualified personnel. Hinge and hinge pins shall be made of stainless steel.

10.2.25.6. A small low voltage compartment which houses the space heater thermostat, space heater and control fuses, protection and ground fault relays, and any control voltage level terminal boards shall be incorporated in the enclosure in a location that provides easy access and visibility of metering while standing on the floor. A separate hinged, and gasketed door with screw fasteners along one side shall be provided for access.

10.2.25.7. Where hinged doors provide access to medium voltage equipment or wiring, there shall be provisions for padlocking the door in the closed position.

10.2.25.8. This equipment must be designed for coordination with a Kirk-Key mechanical type key interlock system. (Kirk-Key interlock requirements are described in more detail later in this specification).

10.2.25.9. A means for padlocking the main isolator switches in the open position shall be provided on the exterior of the enclosure in addition to the Kirk Key interlock requirements.

10.2.25.10. NEMA Type GPO-3 (GPO-1 and GPO-2 are not acceptable) glass reinforced polyester barriers shall be provided to allow proper phase to phase and phase to ground insulation for safe operation when required.

- 10.2.25.11. The enclosure construction must be suitable to withstand crane duty shock and vibration criteria outlined below under “Crane Duty Environment”.
- 10.2.25.12. Bolt-on Lexan or other approved GPO-3 rated glass reinforced barriers shall be installed over the incoming AC customer connection buses and line side of the disconnect.
- 10.2.25.13. Provisions shall be made at the top four corners on the ends of the enclosure which facilitate anchoring the enclosure to the deck to resist overturning moments during high seas shipping and during crane operation.

10.2.26. Nameplates

- 10.2.26.1. All function and operator device nameplates installed on the exterior or interior of the enclosure shall be made of engraved stainless steel (black letters on white background).
- 10.2.26.2. All function and operator device nameplates shall be attached with either stainless steel screws or stainless steel rivets. Adhesive backing attachment is not acceptable.
- 10.2.26.3. Standard instruction and warning labels on the interior of the enclosure may be printed and applied with adhesive backing, however, the material must be resistant to solvents used to wipe the enclosure during maintenance cleanups.
- 10.2.26.4. Specific nameplates required for this application are found elsewhere in the specification. However, the following nameplate requirements must be included on all applications:
 - 10.2.26.4.1. Permanent stamped or engraved, stainless steel nameplate on the exterior of each section indicating the fuse types and power equipment ratings used within that section.
 - 10.2.26.4.2. Permanent stamped or engraved, stainless steel nameplate on the exterior of each section indicating the isolator switch ratings (voltage, load break current rating, etc.) as required by UL standards.
 - 10.2.26.4.3. HAZARD WARNING SIGN
 - 10.2.26.4.3.1. Hazard Warning Sign is required ONE FOR EACH DOOR AND EACH BOLT-ON REMOVAL COVER.

10.2.27. AC Incoming and Metering Section

- 10.2.27.1. Qty. 1 – Door Interlock, KEY interlock, single cylinder for locking the door in the closed position, factory assembled.
- 10.2.27.2. Qty. 1 – Nameplate, black letters on white background, 9.5 mm high characters minimum, engraved as follows: “MV INCOMING SECTION”. This nameplate must be located on center section where the customer incoming cables are terminated.
- 10.2.27.3. Qty. 3 – CT (Current Transformer), 15 kV, 60 Hz., 200:5 ratio, +/- 0.1% instrument class window type located over the A, B and C phase legs of the bus. (A bar type CT, 15 kV, 95 kV BIL, may be offered as an alternative.) The window type CT must have suitable dielectric rating, BIL rating and enclosure construction techniques

that include suitable insulated bushings and barriers to maintain the appropriate clearances, flashover distances, and keep the conductors or bus bar centered in the CT window. These CT's will be used for instrumentation of the total crane load current and must be UL certified.

- 10.2.27.4. Qty. 2 – PT (Potential Transformer), 13,200 VAC primary, 120 VAC secondary, 60 Hertz, +/- 0.1% instrument class, 95 kV BIL, two (2) single phase units connected in an open delta, between phases A and B and B and C of the main incoming power feeder for monitoring the AC line voltage and UL certified.. All PT's shall be supplied with primary medium voltage fuses per UL requirements. These instrument class PT's will be used strictly for metering and instrumentation.
- 10.2.27.5. Qty. 1 – Power Meter, SATEC PM174-u-60hz-5-ACDC-A04-ETH.
- 10.2.27.6. Qty. 1 – Basler Overvoltage/Undervoltage Relay; ES-27/59-3AB1NONO.
- 10.2.27.7. Qty. 6 – Basler Overcurrent Relay; BE-1-50/51B-107. (To be used for feeders)
- 10.2.27.8. Qty. 1 - CPT (Control Power Transformer), single phase, 13.2 kV primary, 120 VAC, 50/60 Hz., single phase secondary, current limiting primary fuse protection per UL, and secondary fuse protection properly co-ordinated with the primary protection shall be supplied. This CPT will be used to power fuse loss indicators, space heaters, indicator lights, etc. supplied as part of this equipment.
- 10.2.27.9. Qty. 1– Bus Bar, tin or silver plated, that facilitates customer connections to the AC incoming feeder described elsewhere in the specification. All customer connection bus bars shall be identified by the capital letters A, B, C respectively with permanent oil and water resistant labels. The letters, in that order, shall indicate the phase sequence.
- 10.2.27.10. Qty. 1 – Space Heater, 150 Watt (Min.), 120 VAC, single phase, thermostatically controlled, UL certified.

10.2.28. Main Drives Transformer Feeder Section

- 10.2.28.1. Qty. 1 – Door Interlock, KEY interlock, single cylinder for locking the door in the closed position, factory assembled.
- 10.2.28.2. Qty. 1 – Nameplate, black letters on white background, 9.5 mm high characters minimum, engraved as follows: “MAIN DRIVES TRANSFORMER FEEDER SECTION”. This nameplate must be located where it is easily associated with the disconnect handle.
- 10.2.28.3. Qty. 1- Square D HVL/cc OEM SF6 Load Current Interrupter switch element and operating mechanism. Fused switch ratings 17.5 KV max, 600A, 40kA (ASYM), 60 KV BIL, 50/60 HZ. Fault close current 40 kA (ASYM), 25 kA (SYM) short time, 36 kA withstand, 120 VAC motor operator with stored energy mechanism (SEM), 120 VAC trip coil.
- 10.2.28.4. Qty. 1 – Square D 3 Phase fuse assembly, HVL/cc SF⁶ interrupter switch, 5/15 kV, 600A compatible with 175DE080 Fuses, supplied with cables.
- 10.2.28.5. Qty. 3 – CT (Current Transformer), 15 kV, 60 Hz., 100:5 ratio, +/- 0.1% instrument class window type located over the A, B and C phase legs of the bus. (A bar type CT, 15 kV, 95 kV BIL, may be offered as an alternative.) The window type CT must have suitable dielectric rating, BIL rating and enclosure construction techniques that include suitable insulated bushings and barriers to maintain the appropriate clearances, flashover distances, and keep the conductors or bus bar centered in the CT window. These CT's will be used for instrumentation of the total crane load current and must be UL certified.

- 10.2.28.6. Qty. 2 – PT (Potential Transformer), 13,200 VAC primary, 120 VAC secondary, 60 Hertz, +/- 0.1% instrument class, 95 kV BIL, two (2) single phase units connected in an open delta, between phases A and B and B and C of the main incoming power feeder for monitoring the AC line voltage and UL certified.. All PT's shall be supplied with primary medium voltage fuses per UL requirements. These instrument class PT's will be used strictly for metering and instrumentation.
- 10.2.28.7. Qty. 1 – Nameplate, black letters on white background, 9.5 mm high characters minimum, engraved as follows: “MAIN DRIVES TRANSFORMER DISCONNECT AND FUSE”. This nameplate must be located where it is easily associated with the isolator switch operating handle.
- 10.2.28.8. Qty. 1 – Bus Bar, tin or silver plated that facilitates customer connections to the transformer feeder described elsewhere in the specification. All customer connection bus bars shall be identified by the capital letters A, B, and C respectively with permanent oil and water resistant labels. The letters, in that order, shall indicate the phase sequence.
- 10.2.28.9. Qty. 1 – Space Heater, 150 Watt (Min.), 120 VAC, single phase, thermostatically controlled, UL certified.
- 10.2.29. Aux Power Transformer Feeder Section
- 10.2.29.1. Qty. 1 – Door Interlock, KEY interlock, single cylinder for locking the door in the closed position, factory assembled.
- 10.2.29.2. Qty. 1 – Nameplate, black letters on white background, 9.5 mm high characters minimum, engraved as follows: “AUX POWER TRANSFORMER FEEDER SECTION”. This nameplate must be located where it is easily associated with the disconnect handle.
- 10.2.29.3. Qty. 1- Square D HVL/cc OEM SF6 Load Current Interrupter switch element and operating mechanism. Fused switch ratings 17.5 KV max, 600A, 40kA (ASYM), 60 KV BIL, 50/60 HZ. Fault close current 40 kA (ASYM), 25 kA (SYM) short time, 36 kA withstand, 120 VAC motor operator with stored energy mechanism (SEM), 120 VAC trip coil.
- 10.2.29.4. Qty. 1 – Square D 3 Phase fuse assembly, HVL/cc SF⁶ interrupter switch, 5/15 kV, 600A compatible with 175DE025 Fuses, supplied with cables.
- 10.2.29.5. Qty. 3 – CT (Current Transformer), 15 kV, 60 Hz., 50:5 ratio, +/- 0.1% instrument class window type located over the A, B and C phase legs of the bus. (A bar type CT, 15 kV, 95 kV BIL, may be offered as an alternative.) The window type CT must have suitable dielectric rating, BIL rating and enclosure construction techniques that include suitable insulated bushings and barriers to maintain the appropriate clearances, flashover distances, and keep the conductors or bus bar centered in the CT window. These CT's will be used for instrumentation of the total crane load current and must be UL certified.
- 10.2.29.6. Qty. 2 – PT (Potential Transformer), 13,200 VAC primary, 120 VAC secondary, 60 Hertz, +/- 0.1% instrument class, 95 kV BIL, two (2) single phase units connected in an open delta, between phases A and B and B and C of the main incoming power feeder for monitoring the AC line voltage and UL certified.. All PT's shall be supplied with primary medium voltage fuses per UL requirements. These instrument class PT's will be used strictly for metering and instrumentation.
- 10.2.29.7. Qty. 1 – Nameplate, black letters on white background, 9.5 mm high characters minimum, engraved as follows: “AUX POWER TRANSFORMER DISCONNECT AND FUSE”. This nameplate must be located where it is easily associated with the isolator switch operating handle.

- 10.2.29.8. Qty. 1 – Bus Bar, tin or silver plated that facilitates customer connections to the transformer feeder described elsewhere in the specification. All customer connection bus bars shall be identified by the capital letters A, B, and C respectively with permanent oil and water resistant labels. The letters, in that order, shall indicate the phase sequence.
- 10.2.29.9. Qty. 1 – Space Heater, 150 Watt (Min.), 120 VAC, single phase, thermostatically controlled, UL certified.

11. 13.2 KV / 460V Transformer (DSW)

11.1. Scope of Supply

- 11.1.1. This specification covers the minimum requirements for design, fabrication, inspection, testing, and shipment of medium voltage, crane duty, dry type transformer.

11.2. Standards

- 11.2.1. CSA C22.2 No 47
11.2.2. CSA C9
11.2.3. IEEE C57.12.91
11.2.4. IEEE C57.12.01 for Sound Level

11.3. Enclosure

- 11.3.1. Galvanized sheet steel construction with epoxy powder coat or polyurethane paint finish.
11.3.2. ANSI 61 Grey Powder Coat
11.3.3. Primary & Secondary cable penetrations from below.
11.3.4. Kirk-Key Interlock cabinets

11.4. Design

- 11.4.1. Pri. KVA Rating 1250, Configuration: 3 Phase - Three Wire, Impedance (max.) 4.00 %, RMS Current 57 Primary Amps, Peak Current 114 Primary Amps, Primary Voltage 13,200 VAC, Secondary Voltage 460 VAC, Frequency 60 HZ, Dry Type, Primary Connection – Delta, Secondary Connection – Wye, BIL Rating 95 KV, Service Factor 1.15, Enclosure NEMA 1, Floor Mounting, Aluminum Windings, Ambient Temperature 40 C, Minimum Temperature 0 C, Altitude < 3300 Ft., H-220 Deg C Insulation; Temperature Rise 150 Deg C., UL Listed, Convection Cooling; Indoor location, Primary Taps – 2.5, 5.0, 7.5% FCAN,FCBN, Winding Thermostats – N.C. contacts, each winding, Ground Fault detection, Neutral Grounding Resistor 350 ohm, 350 watt, 120VAC Space heater; K5 factor for PWM Source with DC fed AC inverter drives, 25kA Sym/ASYM RMS SCC at Primary.
- 11.4.2. Drive Feeder Breakers
- 11.4.2.1. 2 – 1200 Amp Frame Circuit Breakers 3 Pole 460 VAC, LSI Electronic Trip Unit, min. 52 kA short circuit IC
- 11.4.2.2. 2 – 1000 Amp Plugs
- 11.4.2.3. 2 – Shunt Trip (120VAC coil)
- 11.4.2.4. 2 – Auxiliary Contact
- 11.4.3. Filter Feeder Breaker
- 11.4.3.1. 1 – 600 Amp Frame Circuit Breaker 3 Pole, 460 VAC, LSI Thermal and Magnetic Trip Unit, min. 52 kA short circuit IC
- 11.4.3.2. 1 – 500 Amp Plug
- 11.4.3.3. 1 – Shunt Trip (120VAC coil)
- 11.4.3.4. 1 – Auxiliary Contact

11.5. Testing

- 11.5.1. Standard Production Tests (per IEEE C57.12.91)
 - 11.5.1.1. Winding Resistance
 - 11.5.1.2. Turns Ratio
 - 11.5.1.3. Polarity and Phase Relation
 - 11.5.1.4. No-Load Loss and Excitation Current
 - 11.5.1.5. Load Loss & Impedance
 - 11.5.1.6. Applied Potential
 - 11.5.1.7. Induced Potential
 - 11.5.1.8. Partial Discharge

12. 13.2 KV / 480V Aux Power Transformer (ASW)

12.1. Scope of Supply

- 12.1.1. This specification covers the minimum requirements for design, fabrication, inspection, testing, and shipment of medium voltage, crane duty, dry type transformer.

12.2. Standards

- 12.2.1. CSA C22.2 No 47
- 12.2.2. CSA C9
- 12.2.3. IEEE C57.12.91
- 12.2.4. IEEE C57.12.01 for Sound Level

12.3. Enclosure

- 12.3.1. Galvanized sheet steel construction with epoxy powder coat or polyurethane paint finish.
- 12.3.2. ANSI 61 Grey Powder Coat
- 12.3.3. Primary & Secondary cable penetrations from below.
- 12.3.4. Kirk-Key Interlock cabinets

12.4. Equipment Specifications

- 12.4.1. Pri. KVA Rating 275, Configuration: 3 Phase - Three Wire, Impedance (max.) 5.00 %, RMS Current 12 Primary Amps, Primary Voltage 13,200 VAC, Secondary Voltage 480 VAC, Frequency 60 HZ, Dry Type, Primary Connection - Delta, Secondary Connection - Wye, BIL Rating 95 KV, Service Factor 1.0, Enclosure NEMA 1, Floor Mounting, Aluminum Windings, Ambient Temperature 40 C, Minimum Temperature 0 C, Altitude < 3300 Ft., H-220 Deg C Insulation; Temperature Rise 150 Deg C., UL Listed, Convection Cooling; Indoor location, Primary Taps - 2 x 2.5% FCAN, 2 x 2.5% FCBN , Winding Thermostats - N.C. contacts, each winding, Ground Fault detection, Neutral Grounding Resistor 350 ohm, 350 watt, 120VAC Space heater; K4 factor for PLCs and solid state controls, 25kA Sym/ASYM RMS SCC at Primary.
- 12.4.2. Feeder Breaker
 - 12.4.2.1. 1 - 600 Amp Frame Circuit Breaker 3 Pole 460V LSIG Electronic Trip Unit, min. 65 kA short circuit IC
 - 12.4.2.2. 1 - 500 Amp Plugs
 - 12.4.2.3. 1 - Shunt Trip (120VAC coil)
 - 12.4.2.4. 1 - Auxiliary Contact

12.5. Testing

- 12.5.1. Standard Production Tests (per IEEE C57.12.91)
 - 12.5.1.1. Winding Resistance
 - 12.5.1.2. Turns Ratio
 - 12.5.1.3. Polarity and Phase Relation
 - 12.5.1.4. No-Load Loss and Excitation Current

- 12.5.1.5. Load Loss & Impedance
- 12.5.1.6. Applied Potential
- 12.5.1.7. Induced Potential
- 12.5.1.8. Partial Discharge

13. Control System Modifications

13.1. Existing PLC Demo I/O Points

- 13.1.1. Existing points are to be removed from I/O via hardware and software programming per the attached GE Toshiba marked up drawings including the following locations:
 - 13.1.1.1. Landside Gantry Station – 3 Digital
 - 13.1.1.2. Cab Station – 4 Digital
 - 13.1.1.3. Master Control – 1 Analog, 3 Digital, 3 Relays.

13.2. New PLC Additional I/O Points

- 13.2.1. New I/O points are to be added to the I/O hardware in Master Control as well as software programming per the items listed below:
 - 13.2.1.1. Medium Voltage Switch – 6 Digital, Ethernet for PQM
 - 13.2.1.2. Low Voltage Transformers – 12 Digital
- 13.2.2. New Fiber Optics communications from the Engine House Fiber Breakout Box to the Master PLC/CMS System for the following items listed below:
 - 13.2.2.1. Power Cable Reel Communications
 - 13.2.2.2. Trailing Cable Communications
 - 13.2.2.3. Power Metering Communications

13.3. Fiber Breakout Box Hardware Addition

- 13.3.1. Provide and install a cabinet to be located inside the Engine House next to the Power Cable Reel Drive.
- 13.3.2. Provide communications hardware for fiber patch panels and ethernet to fiber communications inside the cabinet for the new I/O listed above.

THIS PAGE IS INTENTIONALLY LEFT BLANK

14. Structural Steel Materials, Fabrication, & Erection

14.1. General

- 14.1.1. All Crane structural works materials and workmanship shall comply with the technical requirements of these Specifications and the Contract documents.
- 14.1.2. The existing Crane main structure consists of fabricated box sections and tubular members. The structural configuration of the main structure components, bracing or connections shall not be modified unless indicated on the Contract documents or approved by the Engineer.

14.2. New Construction

- 14.2.1. The Contractor shall submit for the Engineer's review detailed shop drawings for any/all bracing, brackets, lifting lugs, etc. to be attached to the Crane as required to complete the Crane electrification works.
- 14.2.2. Built up sections of back-to-back channels, angles, plates, or other similar built up sections are prohibited.
- 14.2.3. Crimping or flattening of tubular members is prohibited.
- 14.2.4. All welds, unless inside airtight sections, shall be 100% fillet welded.

14.3. Materials

- 14.3.1. All steel structure members installed on the Crane shall be new A36 material with a minimum thickness of 6mm unless otherwise specified on the Contract documents.
- 14.3.2. Contractor shall maintain material traceability for all structural members. Original mill test reports, documenting compliance with these Specifications, shall be made available at Engineer's request.
- 14.3.3. All plates, bars, and sections shall be cleanly rolled to the full sections, free from cracks, surface flaws, laminations, roughness, and other defects.
- 14.3.4. All materials and component design shall maximize corrosion prevention.

14.4. Welding

- 14.4.1. All welding shall be performed in accordance with AWS D1.1 and other relevant AWS standards such as those for dynamically loaded structures.
- 14.4.2. All welders shall be certified to AWS D1.1 by an independent laboratory for the material, process, and type of weld being performed. Welder certifications shall be current.
- 14.4.3. Copies of the testing procedures, welder qualification certificates, and welding procedures shall be made available at Engineer's request.
- 14.4.4. Welding performed using unqualified procedures or non-certified welders shall be subject to rejection by Engineer.
- 14.4.5. All welds shall be installed in accordance with the drawing dimensions and approved procedures.
- 14.4.6. Welds shall be clean and of regular appearance and free from porosity, slag inclusions, undercuts, and other defects.
- 14.4.7. Welding shall be performed to ensure that the weldment is of proper alignment and position, free from distortion, and a homogeneous section of correct dimension.
- 14.4.8. As much as possible, welding shall be installed in the 1G horizontal/flat position and executed by means of automated or semi-automated processes.

14.4.9. Contractor shall be responsible for any required non-destructive testing (NDT) of welds per AWS D1.1 for dynamically loaded structures.

14.4.10. All welding inspectors shall be AWS D1.1 certified level II or level III.

14.4.11. All welding deficiencies shall be repaired in accordance with AWS for dynamically loaded structures.

14.5. Weld Repairs

14.5.1. The Contractor shall submit to the Engineer for evaluation any/all found existing weld deficiencies. The Engineer will provide repair recommendations, if any, to the Contractor.

14.6. Bolted Connections

14.6.1. All bolts to be replaced shall be tightened in accordance with AISC turn-of-the-nut method.

14.6.2. Structural flat washers shall be used in conjunction with proper length bolts to ensure that the nut does not bear on the shank of the bolt when tightened. A minimum of 2 full threads shall protrude beyond all tightened nuts.

14.6.3. All non-structural screws, bolts, nuts, washers, pins, studs, shafts, springs, wire rope, and other hardware, fasteners, and fittings shall be 316 stainless steel unless stated otherwise in these Specifications.

14.6.4. All bolts to be replaced shall be submitted to the Engineer for approval.

14.7. Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

14.7.1. Components which are specified as galvanized, Hot-Dip Galvanized (HDG), or similar shall comply to ASTM A123 Standard Specification for Zinc Coatings on Iron and Steel.

14.7.2. Contractor shall submit certifications to the Engineer for review.

15. Access Systems

15.1. General

- 15.1.1. New access systems/platforms shall be provided on the Cranes as indicated in Project Drawings
- 15.1.2. The access systems on the Crane shall be in full compliance with OSHA, F.E.M., local requirements, and any Owner requirements.
 - 15.1.2.1. Head clearances along either stairways or walkways which are less than the OSHA clearance requirements shall be clearly marked with yellow safety paint.
- 15.1.3. The Contractor shall prepare and submit for the Engineer review the details of all access system supports, grating, stair threads, connections, etc.
- 15.1.4. Where walkways are along the Crane structure, the walk surfaces shall be painted in accordance with these specifications for non-slip/skid additive in the final coat.

15.2. Stairs

- 15.2.1. Unless approved by Engineer or specified otherwise in these Specifications or Project Drawings, vertical access throughout the Crane shall be by stairs only.
- 15.2.2. Stair systems shall comply with OSHA; however, the angle of the stair system shall not exceed 45°.
- 15.2.3. Stair treads shall be hot dip galvanized heavy duty bar grating bolted to the stringers.
- 15.2.4. All stairway system components, except treads, shall be painted in accordance with these specifications and Contract Documents.
- 15.2.5. The height of the handrail from the stair tread shall be measured from the nose of the stair tread.

15.3. Grating

- 15.3.1. Grating for platforms shall be hot dip galvanized heavy duty bar grating bolted to the support structure with 316 stainless steel hardware, unless otherwise specified on the Contract documents.

15.4. Handrails

- 15.4.1. Handrails shall be provided on both sides of all stairs, platforms, and walkways.
- 15.4.2. Handrails shall be constructed from Sch. 40 pipe, with a top rail diameter of 1.5 in.
- 15.4.3. Handrail stanchions shall be constructed from angle iron. Where angle iron is not practical, standard plate, bar, or rolled steel may be considered.
- 15.4.4. All handrail system components shall be hot dip galvanized and then painted in accordance with these specifications and Contract Documents.
- 15.4.5. Clearance around top rail shall be no less than 6 in.

15.5. Toe Plates

- 15.5.1. Toe plates with a minimum height of 4 in above the top of grating shall be provided on both sides and ends of all walkways and platforms.
- 15.5.2. Toe plates shall be attached by bolting.
- 15.5.3. All toe plate components shall be hot dip galvanized and then painted in accordance with these specifications and Contract Documents.

THIS PAGE IS INTENTIONALLY LEFT BLANK

16. Corrosion Protection

16.1. General

- 16.1.1. All new steel shall be painted except for 316 stainless steel components (unless required otherwise in these Specifications), nameplates, and machined components where seals, bearings or other rotating mechanisms will be running.
- 16.1.2. All existing steel components whose coating system is damaged during the Works of this project shall be painted.
- 16.1.3. A coating supplier and coating system shall be submitted to and approved by the Engineer. The following suppliers, or approved equals, will be considered:
 - 16.1.3.1. Sherwin-Williams
 - 16.1.3.2. Hempel
 - 16.1.3.3. International
 - 16.1.3.4. Tnemec
 - 16.1.3.5. Carboline
- 16.1.4. Once a coating system supplier is selected by the Contractor, Contractor shall perform adhesion tests at each coating system repair location, for each proposed coating system.
 - 16.1.4.1. Contractor shall comply with either of the following testing methods-
 - 16.1.4.1.1. ASTM D 3359-17 Standard Test Methods for Rating Adhesion by Tape Test
 - 16.1.4.1.2. ASTM D 4541-17 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
 - 16.1.4.2. Contractor shall submit a report(s) with findings to the Engineer for review.
- 16.1.5. The coating system shall be warranted for a full five (5) years from Final Acceptance of the Crane.
- 16.1.6. Coating system warranty applies to all Contractor applied coating systems with no exceptions.
- 16.1.7. Corrosion or damage caused by physical or mechanical damage, fire, explosions, welding, or similar actions are excluded from the warranty.
- 16.1.8. Warranty claims shall be based on corrosion of substrata in excess of ASTM-D610/SSPC-Vis2 Grade 5 on 1% of the total area or 3% of an area of 10m².

16.2. General Cleaning and Surface Preparation

- 16.2.1. Prior to surface preparation, Contractor shall install an appropriate containment system which includes reasonable means to remove contaminants from runoff water. Such means may include but are not limited to water diversion, absorbent boom, water treatment, etc. Contractor to submit containment plan to Engineer for review no less than thirty (30)
- 16.2.2. Where noted in the Contract Documents and as required, hand clean the local areas of heavy contamination.
- 16.2.3. In accordance with SSPC HPW, clean and lift contaminants with degreasing agent areas noted in the Contract Documents and those of coating restoration.
- 16.2.4. In accordance with SSPC HPW, pressure wash clean, with heated water, areas noted in the Contract Documents and those of coating restoration.

- 16.2.5. Contractor shall notify the Engineer of any areas where base metal loss exceeds 20%. Additional work scope may be required as advised by the Engineer.
- 16.2.6. At areas of heavy corrosion, mechanically remove contaminants.

16.3. Coating Application and Methods

- 16.3.1. All materials for coating application shall be new, unopened, and purchased specifically and solely for use on these Cranes.
- 16.3.2. Mixing of different coatings is prohibited.
- 16.3.3. Coating application shall be performed in strict compliance with paint supplier's instructions.
- 16.3.4. Thinning of coating shall be performed in strict compliance with paint supplier's instructions.
- 16.3.5. Environmental conditions must be within the requirements of the paint supplier for coating application to be performed. In the absence of requirements from the paint supplier:
 - 16.3.5.1. Relative humidity, ambient temperature, and steel surface temperatures shall meet paint supplier recommendations.
 - 16.3.5.2. Wind velocity shall be less than 15 mph at the time of application.
 - 16.3.5.3. Steel surface shall be dry.
- 16.3.6. Application of additional coats shall be performed within the recoat interval of the paint supplier.
- 16.3.7. Coating shall be applied uniformly over the complete surface without skims, skips, sags, drips, runs, pinholes, mud cracks, or other application defects. All defects shall be repaired.
- 16.3.8. Coating application shall be performed to minimize damage to completed coatings.
- 16.3.9. Dry film thickness of each coat shall meet the requirements of these Specifications.
- 16.3.10. Each coat shall be of contrasting color; finish coat colors shall be in accordance with these Specifications.
- 16.3.11. All coating application equipment and materials shall be cleaned, monitored, protected, mixed, etc. according to the paint supplier's requirements.
- 16.3.12. Recommended pot life shall not be exceeded.
- 16.3.13. Use of materials beyond the suppliers recommended shelf life is prohibited. All coatings shall be applied by brush or roller application. Conventional or airless spray application is prohibited.
- 16.3.14. Maximum film thickness is not to be exceeded and sags, runs, mud cracks, and other application defects are to be avoided.
- 16.3.15. Stripe coating or special attention during application shall be performed for all crevices, corners, and other areas where wet coating can collect to ensure voids, mud cracks, and bubbles are avoided.

16.4. Exterior Repair

- 16.4.1. The intent is for the Contractor to only repair coating system of areas directly affected by the Works of this Project.
- 16.4.2. At areas of coating system restoration, prepare the surface according to 'General Cleaning and Surface Preparation' and or coating system supplier recommendations.

- 16.4.3. In accordance with SSPC HPW, pressure wash clean, with hot water and suitable cleaners, the entire area of coating restoration.
- 16.4.4. At areas of heavy corrosion, mechanically remove contaminants and debris in accordance with SSPC SP2 Hand Tool Clean and/or SP3 Power Tool Cleaning methods.
- 16.4.5. Prep and spot prime, per manufacturer recommendation, exterior areas of the STS where the coating system has failed or is missing.
- 16.4.6. Coating system classification- ISO 12944:2018 C5-High.
- 16.4.7. Recommended Coating System:

Coat	Product	Application Requirement (DFT)
Primer	Hempaprime Multi 500 45950/3	120µm
Intermediate	Hempaprime Multi 500 45950/3	120µm
Topcoat	Hempathane 55610	80µm
	Total DFT	320µm

- 16.4.8. Note that Contractor may submit an equivalent alternate proposed coating system for approval. Approval of the equivalent alternate proposed coating system will be at the discretion of the Engineer and Owner.

16.5. Interior Non-Sealed Repair

- 16.5.1. The intent is for the Contractor to clean and degrease the entire interior of the Engine House. Full coating restoration is not requested nor expected. Areas of heavy contamination may require coating system repairs. Contractor to assume this in their bid.
- 16.5.2. Clean the interior of the entire Engine House according to 'General Cleaning and Surface Preparation'.
- 16.5.3. If required, mechanically remove all contaminants and debris in accordance with SSPC SP2 Hand Tool Clean and/or SP3 Power Tool Cleaning methods.
- 16.5.4. If required, prep and spot prime, per manufacturer recommendation, interior surfaces of the Crane where the coating system has failed or is missing.
- 16.5.5. Coating system classification- ISO 12944:2018 C4-High.
- 16.5.6. Recommended Coating System:

Coat	Product	Application Requirement.
Intermediate	Hempaprime Multi 500 45950/3	120µm
Topcoat	Hempaprime Multi 500 45950/3	120µm
	Total DFT	240µm

- 16.5.7. Note that Contractor may submit an equivalent alternate proposed coating system for approval. Approval of the equivalent alternate proposed coating system will be at the discretion of the Engineer and Owner.

16.6. Exterior New Steel

- 16.6.1. Prepare all new steel surface in accordance with Sa2.5 or SSPC - SP 10.
- 16.6.2. Prep and spot prime, per manufacturer recommendation, exterior areas of the STS where the coating system has failed or is missing.
- 16.6.3. Coating system classification- ISO 12944:2018 C5-High.
- 16.6.4. Recommended Shop Applied Coating:

Coat	Product	Application Requirement.
Primer	Hempadur Avantguard 750	60µm
Intermediate	Hempaprime Multi 500 45950/3	120µm
Topcoat	Hempathane 55610	80µm
	Total DFT	260µm

16.6.5. Note that Contractor may submit an equivalent alternate proposed coating system for approval. Approval of the equivalent alternate proposed coating system will be at the discretion of the Engineer and Owner.

16.7. Interior Sealed Repair

- 16.7.1. At locations of coating system damage, mechanically remove all contaminants and debris in accordance with SSPC SP2 Hand Tool Clean and/or SP3 Power Tool Cleaning methods.
- 16.7.2. Prep and spot prime, per manufacturer recommendation, exterior areas of the STS where the coating system has failed or is missing.
- 16.7.3. Coating system classification- ISO 12944:2018 C4-High.
- 16.7.4. Recommended New Steel Field Applied and New Steel Repair Coating System:

Coat	Product	Application Requirement.
Topcoat	Hempaprime Multi 500 45950/3	120µm
	Total DFT	120µm

16.7.5. Note that Contractor may submit an equivalent alternate proposed coating system for approval. Approval of the equivalent alternate proposed coating system will be at the discretion of the Engineer and Owner.

16.8. Anti-Skid Surfaces

- 16.8.1. Crane structure which is or can be utilized for access shall have an anti-skid surface application.
- 16.8.2. During the application of the coating mid coat, an anti-skid sand shall be applied uniformly to surface while the paint is still wet.
 - 16.8.2.1. The application method, rate of application, and resulting surface texture from the anti-skid sand shall be confirmed with a field mockup.
 - 16.8.2.2. The Engineer and/or coating supplier representative will review and approve the anti-skid surface application prior to being applied to the STS.
- 16.8.3. After the paint dries, sweep out excess material and apply the topcoat.
- 16.8.4. If necessary, ASTM E303 - 93(2013), Standard Test Method for Measuring Surface Frictional Properties, may be applied to confirm the roughness parameters of the anti-skid surface.

16.9. Paint Color Scheme

- 16.9.1. Contractor to confirm and match existing color scheme.
- 16.9.2. In general, the topcoat colors of the Crane are as follows:

Description	RAL #	Special Instructions
Crane Main Structure	5015	
Boom	9010	
Girder	9010	

Accessways (handrails and supports)	5015	
Engine House, Machinery House - Exterior & Interior Walls and Roof	9010	
Floor, floor supports and Weldments Inside of Engine House	Hunter Green	Match existing EH floor color
Floor and Weldments - Inside of Trolley Machinery House	7040	
Safety Striping	1003/9005	

- 16.9.3. Trip hazards and other obstructions shall be painted with diagonal yellow and black stripes.
- 16.9.4. Owner reserves right to change RAL prior to Contractor application.

THIS PAGE IS INTENTIONALLY LEFT BLANK

17. Contractor Oversight and Reports

17.1. General

- 17.1.1. Contractor shall provide qualified personnel who shall be responsible for the electrification, final assembly, testing, commissioning and certification of the Crane in accordance with the requirements of these Specifications. Personnel shall include as a minimum:
 - 17.1.1.1. Project Manager
 - 17.1.1.2. Superintendent
 - 17.1.1.3. Quality Control Inspector
- 17.1.2. Contractor shall not change key personnel assigned to the project without approval of the Owner/Engineer.
- 17.1.3. Contractor shall establish a Quality Assurance and Quality control program to ensure that all materials, fabrications, machining, assembly, erection, testing, and all other aspects of manufacture are supplied and conducted in accordance with these Specifications, Project Drawings, and required codes.
- 17.1.4. Contractor shall provide dedicated and qualified supervisors and inspectors to carry out the necessary inspections and document the results for permanent record keeping.

17.2. Records

- 17.2.1. Records of all work performed shall be maintained by Contractor in electronic format (either prepared electronically or written and legibly scanned).
- 17.2.2. The Contractor shall maintain and as-built set of drawings on a daily basis to document all as-built modifications and conditions of the Crane.
- 17.2.3. Weekly progress reports shall be submitted to the Engineer which include work accomplishment to date and detail work planned for the next 10 days. The reports shall include:
 - 17.2.3.1. Percent complete and overall project status in comparison to the construction schedule
 - 17.2.3.2. Status of procurement and delivery of components
 - 17.2.3.3. Identify any items/areas of concern or non-conformance

17.3. Quality Assurance and Quality Control

- 17.3.1. Records of all inspections and quality issues/concerns shall be maintained by the Contractor in electronic format (either prepared electronically or written and legibly scanned).
- 17.3.2. Bi-weekly inspection reports shall be submitted to the Owner to alert the Owner of any quality issues throughout manufacturing and to provide an update on manufacturing progress.
- 17.3.3. Inspection forms and reports shall contain the following information:
 - 17.3.3.1. Contractor's name
 - 17.3.3.2. Project name and number
 - 17.3.3.3. Crane number
 - 17.3.3.4. Component Inspected
 - 17.3.3.5. Inspection type and method

- 17.3.3.6. Inspection location
- 17.3.3.7. Inspection date
- 17.3.3.8. Inspector's signature
- 17.3.3.9. Comments and remarks
- 17.3.4. All manufacturer's certificates, welder certificates, radiographic film, etc. shall be submitted to the Owner for review.
- 17.3.5. A progress report shall be submitted weekly to the Owner and include digital photographs to document the work performed each week.
- 17.3.6. The Owner may elect to contract their own Third-Party Inspection Agency (TPIA) to verify compliance with Contract on the Owner's behalf. The Contractor shall coordinate all activities and inspections with the Owner's TPIA and ensure advanced notice is provided for the TPIA to witness inspections.
 - 17.3.6.1. Inspections made by the Owner's TPIA do not relieve the Contractor of any responsibility of the quality control requirements.
 - 17.3.6.2. TPIA personnel are not authorized to make or agree to changes to the Contract or these Specifications without written approval by the Engineer.

17.4. Fabrication Inspection & Testing

- 17.4.1. General
 - 17.4.1.1. The Contractor shall develop a complete Inspection and Testing Plan (ITP) specifically tailored to the requirements of these Specifications.
 - 17.4.1.2. Records of all inspections performed as required in these Specifications shall be submitted to the Owner in accordance with Section 0.
- 17.4.2. Structural
 - 17.4.2.1. Materials
 - 17.4.2.1.1. All structural materials are to be inspected upon receipt for any visual defects and verification of size.
 - 17.4.2.1.2. All welding electrodes and welding flux container labels are to be inspected for compliance with these Specifications.
 - 17.4.2.1.3. All structural fasteners are to be inspected upon receipt for any visual defects and verification of type, size, and quantity. Structural fastener mechanical properties shall be tested in accordance with these Specifications.
 - 17.4.2.2. Structural members shall be regularly inspected throughout fabrication for visual defects or damage.
 - 17.4.2.3. Dimensional verification of structural members shall be performed by the Contractor at each stage of the manufacturing process to confirm compliance with the design drawings and these Specifications.
 - 17.4.2.4. Ground pre-assembly of all structural components shall be performed to ensure proper fit up of connections (welded, bolted, pin, etc.).
 - 17.4.2.5. Final inspection of structural components shall be performed after ground pre-assembly prior to releasing each component for painting. The final inspection shall include all required visual, dimensional, alignment, and NDT inspections and tests.

17.4.2.6. Weld Inspections

17.4.2.6.1. All weld inspections shall be performed in accordance with AWS D1.1 and requirements for dynamically loaded structures.

17.4.2.6.2. Full penetration welds

17.4.2.6.2.1. All full penetration welds (complete joint penetrations) shall be tested by 100% UT.

17.4.2.6.2.2. All full penetration welds used in tension members and members subject to reverse loading, inclusive of flanges of members in bending, shall also be inspected by x-ray along 20% of its length.

17.4.2.6.2.3. In the event that defects are discovered, the amount of x-ray length to be inspected shall be increased up to 100% of the weld length at the discretion of the Engineer.

17.4.2.6.3. Non-full penetration welds

17.4.2.6.3.1. All welds that are not full penetration welds, including, but not limited to, fillet welds, groove welds, partial penetration welds, etc. in members subjected to a fatigue range exceeding 70% of the maximum allowable stress shall be inspected by MT 100%.

17.4.2.6.3.2. Where the weld is not accessible for MT, the weld shall be inspected by UT or other method approved by the Engineer.

17.4.2.7. Structural members designed as airtight, shall be air tested in accordance with this specification, after blasting, but prior to applying exterior coatings or coatings to the interior welds. The air test shall be re-performed after all access covers are installed and painting has been completed. The Contractor shall seal weld around the plug after completion of the air test.

17.4.2.8. All main structural members which are not airtight are to be tested by either water hose testing or air hose testing prior to coating the interior or exterior of the member.

17.4.2.9. Structural fasteners permanently installed during fabrication shall be tested by the torque test requirements of these Specifications.

17.4.3. Mechanical

17.4.3.1. Materials

17.4.3.1.1. Certificates for mechanical components shall be verified upon receipt.

17.4.3.1.2. Purchased components and machinery shall be inspected upon receipt for any visual defects, damage, and verification of type, model, size, quantity, etc.

17.4.3.1.3. All castings, forgings, pins, axles, etc. shall be tested by either Ultrasonic Testing (UT) or Radiographic Testing (x-ray) by an independent inspection agency upon receipt.

17.4.3.1.4. Mechanical property testing shall be performed in accordance with these Specifications.

17.4.3.2. Mechanical components shall be regularly inspected throughout fabrication and machining for visual defects or damage.

- 17.4.3.3. Dimensional verification of mechanical components shall be performed by the Contractor at each stage of the manufacturing process to confirm compliance with the design drawings, proper machinist practices, and these Specifications.
- 17.4.4. Electrical
 - 17.4.4.1. Materials
 - 17.4.4.1.1. All electrical components including wiring, conduit, motors, control panels, transformers, generators, switches, safety devices, etc. shall be visually inspected for defects or damage upon receipt.
 - 17.4.4.1.2. Specified electrical equipment must contain quality inspection testing results as part of their documentation requirements.
 - 17.4.4.2. Wiring and conduit installation performed during prior to assembly and erection shall be visually inspected for compliance with:
 - 17.4.4.2.1.1. These Specifications
 - 17.4.4.2.1.2. Regulatory codes and regulations
 - 17.4.4.2.1.3. Wiring diagrams
- 17.4.5. Corrosion Prevention
 - 17.4.5.1. Materials
 - 17.4.5.1.1. All stainless-steel components shall be verified as 316 stainless steel. 304 stainless steel is prohibited.
 - 17.4.5.1.2. All blasting, cleaning, painting, thinning, and other materials shall be verified to be in accordance with the approved coating system requirements.
 - 17.4.5.2. All blasted surfaces shall be inspected visually prior to application of coatings.
 - 17.4.5.3. Application of each coat shall be visually inspected to verify conformance with these Specifications.
 - 17.4.5.4. Dry film thickness (DFT) readings shall be taken every 2m² for each coat.
 - 17.4.5.5. Ten percent (10%) of all readings shall be taken on surfaces which are not easily accessible for coating, such as the backside of angle stiffeners.

17.5. Weekly Progress Meeting

- 17.5.1. There will be at minimum weekly progress meetings held at location within the Terminal.
- 17.5.2. The meetings will be attended by the Owner, Engineer, Contractor, and other relevant attendees as required.
- 17.5.3. Required Contractor meeting attendees:
 - 17.5.3.1. Project Manager
 - 17.5.3.2. Superintendent
 - 17.5.3.3. Quality Control Inspector
 - 17.5.3.4. Major Subcontractors with work planned within the next two weeks.
- 17.5.4. Prior to each weekly progress meeting, Contractor to submit the weekly progress report for review and discussion at the meeting.
- 17.5.5. The Contractor shall keep meeting minutes of the weekly progress meetings and distribute to the group within 24hrs.

18. Subcontractors

18.1. General

- 18.1.1. The use of subcontractors shall be limited to those as approved by the Owner in the Agreement. The use of any subcontractors beyond those listed in the Agreement is prohibited.
- 18.1.2. Generally, regarding the requirement of this Section, a subcontractor is considered any facility or company that manufactures components according to Contractor's drawings as opposed to manufacturing their own standard product for use on the Crane.
- 18.1.3. The Owner or its Engineer will have final determination if a supplier is considered a subcontractor.
- 18.1.4. Contractor is responsible for ensuring that the quality control and quality assurance procedures at any approved subcontractor are equal to or exceed the requirements of Contractor's own procedures and these Specifications.
- 18.1.5. Contractor shall provide one (1) of their qualified personnel to remain at the subcontractor facility full time during all activities related to this project.

THIS PAGE IS INTENTIONALLY LEFT BLANK

19. Testing and Commissioning

19.1. General

- 19.1.1. Within sixty (60) days of NTP, the Contractor shall, prepare and submit a complete site testing and commissioning plan for all components and systems of the Crane.
- 19.1.2. The Contractor's suppliers shall provide a qualified engineer on site during testing and commissioning of the Crane.
- 19.1.3. Contractor shall supply manpower as necessary for testing and commissioning of the Crane.
 - 19.1.3.1. One (1) week per STS
- 19.1.4. If necessary, Contractor to assume that Owner or Tenant to provide Crane operators for testing and commissioning of the Crane.

19.2. Site Functional Acceptance Test

- 19.2.1. Contractor prepared test and commissioning plan shall include at minimum the test sections identified herein.
- 19.2.2. ELECTRICAL TESTING AND VERIFICATION
 - 19.2.2.1. Hi-Pot testing of medium voltage cables
 - 19.2.2.2. Breaker Coordination Electrical study / setting
 - 19.2.2.2.1. Contractor shall provide a study with breaker/device coordination curves for review for equipment on the Crane
 - 19.2.2.2.2. Coordination of the electrical feeder breaker off the Crane will be executed by others
 - 19.2.2.3. Arc Flash study with labels attached to equipment
- 19.2.3. CABLE REEL SYSTEM TESTS
 - 19.2.3.1. Contractor shall have the Cable Reel supplier perform site function/commissioning tests after installation of components has been completed.
 - 19.2.3.2. Contractor shall perform Hi-Pot testing of trailing cable.
 - 19.2.3.3. Ethernet communications shall be tested locally at the PCD only and witnessed as functioning properly.
 - 19.2.3.4. At the time of commissioning, gantry operation of the Crane will not be possible. Therefore, some functions of the Cable Reel commissioning may be omitted, including:
 - 19.2.3.4.1. Final setting of the Cam limit switches for drum full/empty.
 - 19.2.3.4.2. Final adjustment of Cable Reel encoder.
 - 19.2.3.4.3. Automatic reel functions from the Crane PLC communications.

THIS PAGE IS INTENTIONALLY LEFT BLANK

20. Certification

20.1. General

- 20.1.1. Contractor shall be responsible for obtaining all certifications and certificates required by all governing regulatory agencies.
- 20.1.2. A copy of all certifications shall be provided to the Owner prior to Substantial Completion.
- 20.1.3. All certifications described in this Section shall be provided even if it is determined that they are not required by regulatory agencies.

20.2. OSHA

- 20.2.1. An inspector licensed to certify cranes in accordance with the United States Department of Labor division of Occupational Safety and Health Administration (OSHA) must perform a complete inspection of the Crane.
- 20.2.2. The OSHA inspection shall include inspection and certification of the Crane, all lifting system components, and all service cranes.

THIS PAGE IS INTENTIONALLY LEFT BLANK

21. Final Inspection, Punch List, Training

21.1. Final Inspection

- 21.1.1. Upon successful completion of the acceptance and performance tests as well as all certification tests, Engineer shall perform a final inspection of the Crane. The inspection shall identify remaining work, missing parts/components, defects, damage, and any other Agreement deficiencies.
- 21.1.2. Contractor shall be present with Engineer during this inspection in order to ensure proper understanding of each issue raised by Engineer.

21.2. Final Punch List

- 21.2.1. A final punch list will be issued after completion of this inspection.
- 21.2.2. The final punch list will consist of any/all remaining punch list items from the punch list developed throughout the refurbishment, electrifications, testing, and commissioning of the Crane as well as any items discovered during the final inspection.
- 21.2.3. Substantial Completion will not be considered until Contractor, the Owner, and Engineer agree upon the final punch list.
- 21.2.4. Final Acceptance will not be considered until the entire final punch list has been completed to the satisfaction of Engineer.
- 21.2.5. Contractor shall verify completion of all final punch list items before requesting a follow up inspection by Engineer.

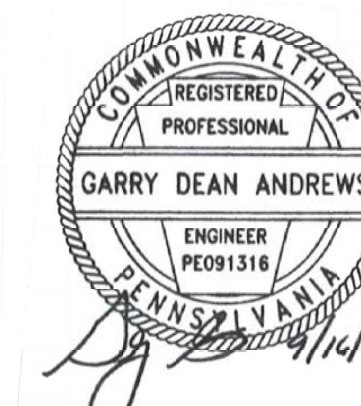
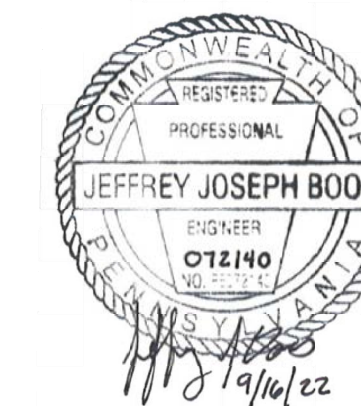
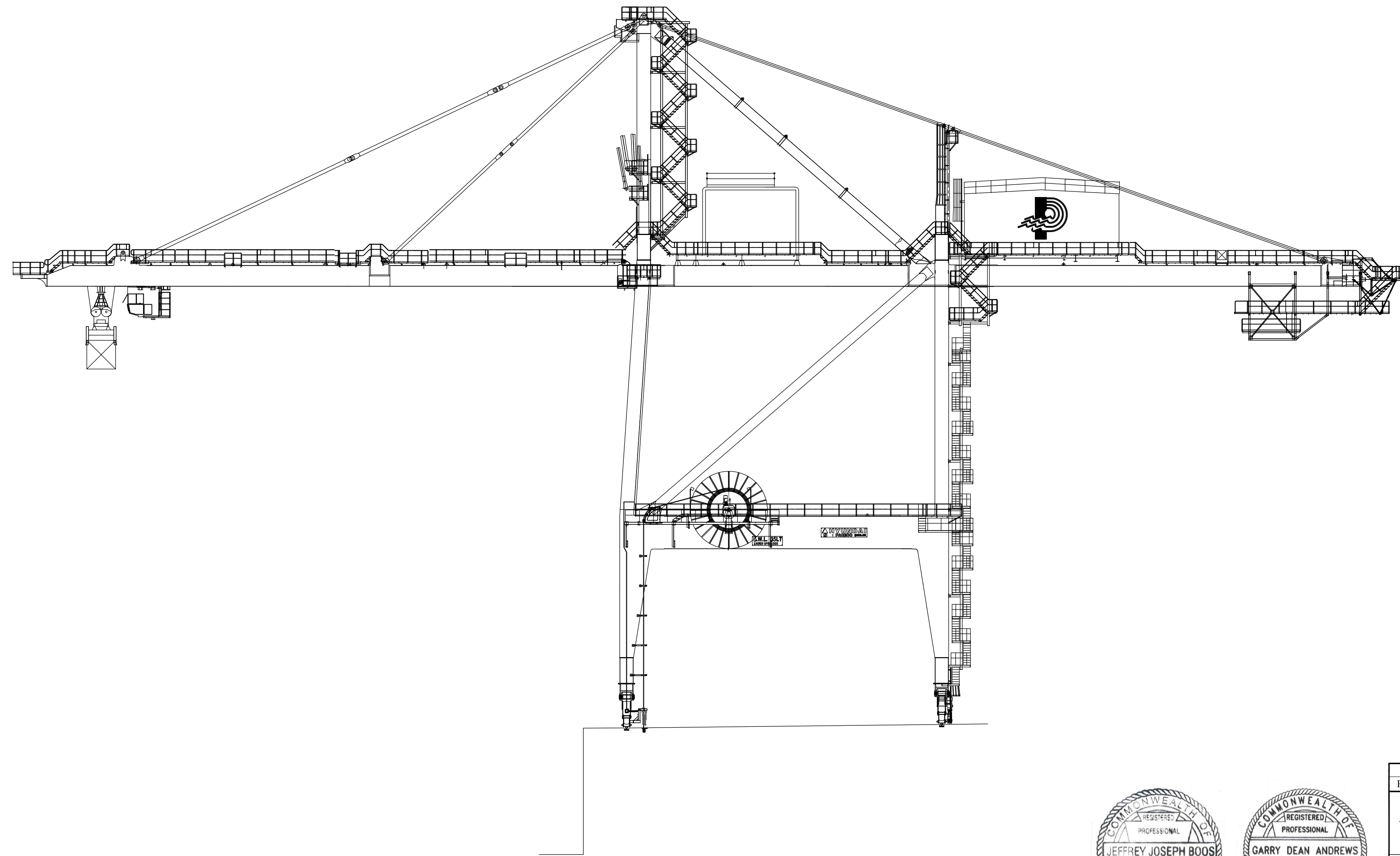
21.3. Training

- 21.3.1. Contractor shall provide on-site training for the Tenant personnel, direct from the major component supplier, for the following components:
 - 21.3.1.1. 13.2KV Cable Reel and Cable (Section 8)
 - MV Switchgear, MSW (Section 10), including power quality meter and overcurrent relays.
 - 21.3.1.2. DSW and ASW Transformer breaker (Section 11/12)
- 21.3.2. Training shall take place at the Terminal, over a period of two (2) days.
- 21.3.3. Contractor to coordinate training of the Tenant personnel through the Engineer and Owner.

APPENDIX A - DRAWINGS

PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY

H-6 & H-7 CRANE ELECTRIFICATION PRPA PROJECT NO. 22-074.0 SEPTEMBER 2022



ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.
			P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE COVER SHEET			
DRAWN	A.M.G.	DATE	03/31/2020
APPROVED	M.J.B.	DATE	03/31/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NONE	SIZE	24"x36"
DWG. NO.	0034.0004.10-001		REV
			A

Z:\Projects\0034-PhiladelphiaPort\004-HH 6 & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-001_RevA_2022-09-16.dwg, BN 24x36, 9/15/2022 10:14:34 AM, Adobe PDF

Z:\Projects\0034-Philadelphia-Port\0004-HH 6 & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031_0004_10-002_RevA_2022-09-16.dwg, BN 24x36, 9/19/2022 11:57:02 AM, Adobe PDF

DRAWING INDEX:

GENERAL - 000

DRAWING NO.	REVISION	DRAWING TITLE
0034.0004.10-001	A	COVER SHEET
0034.0004.10-002	A	DRAWING INDEX & GENERAL NOTES
0034.0004.10-003	A	SITE PLAN

ARRANGEMENTS - 100

DRAWING NO.	REVISION	DRAWING TITLE
0034.0004.10-100	A	GENERAL ARRANGEMENT
0034.0004.10-101	A	DEMOLITION ARRANGEMENT
0034.0004.10-102	A	ENGINE HOUSE DEMO
0034.0004.10-103	A	ENGINE HOUSE DEMO ITEMS A & B
0034.0004.10-104	A	ENGINE HOUSE DEMO ITEMS C,D,E
0034.0004.10-105	A	ENGINE HOUSE DEMO ITEMS E,F,G,H
0034.0004.10-106	A	ENGINE HOUSE DEMO ITEMS I,J,K,L
0034.0004.10-107	A	ENGINE HOUSE DEMO ITEM M,N
0034.0004.10-108	A	DEMO ITEM "O" & ITEM "P"

STRUCTURAL - 200

DRAWING NO.	REVISION	DRAWING TITLE
0034.0004.10-200	A	STRUCTURAL ARRANGEMENT
0034.0004.10-201	A	ENGINE HOUSE STRUCTURAL MODIFICATIONS
0034.0004.10-202	A	ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS A,B,C,D,E
0034.0004.10-203	A	ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEM F
0034.0004.10-204	A	ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS G,H,I
0034.0004.10-205	A	ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS J,K,L
0034.0004.10-206	A	PORTAL FRAME STRUCTURAL ARRANGEMENT
0034.0004.10-207	A	CABLE REEL ACCESS PLATFORM
0034.0004.10-208	A	MV CABLE REEL SUPPORT STRUCTURE
0034.0004.10-209	A	90' MV CABLE DIVERTER SUPPORT
0034.0004.10-210	A	MV CABLE ROLLER GUIDE SUPPORTS
0034.0004.10-211	A	MV CABLE DIVERTER MOUNTING DETAILS

ELECTRICAL - 300

DRAWING NO.	REVISION	DRAWING TITLE
0034.0004.10-300	A	CRANE ELECTRICAL SINGLE LINE
0034.0004.10-301	A	MV CABLE REEL INTERCONNECT & WIRING DIAGRAM
0034.0004.10-302	A	ELECTRICAL CABLE SCHEDULE
0034.0004.10-303	A	ELECTRICAL ARRANGEMENT
0034.0004.10-304	A	E/C HOUSE HOUSE ELECTRICAL EQUIPMENT LAYOUT
0034.0004.10-305	A	ENGINE HOUSE ELECTRICAL LAYOUT
0034.0004.10-306	A	CRANE LEG ELECTRICAL LAYOUT
0034.0004.10-307	A	PORTAL BEAM ELECTRICAL LAYOUT
0034.0004.10-308	A	PORTAL BEAM LIGHTING
0034.0004.10-309	A	CABLE REEL DIVERTER & STS PIT NO. 2

GENERAL NOTES:

- DRAWINGS INDICATE QUANTITIES FOR ONE (1) CRANE. CONTRACTOR SHALL CONSIDER QUANTITIES FOR TWO (2) CRANES IN THEIR PROPOSAL.
- THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL CRANE INTERFACE DIMENSIONS AND EXISTING STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS PRIOR TO PROCUREMENT OF NEW COMPONENTS AND CONSTRUCTION. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER IN WRITING.
- ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE OWNER AT LEAST 48 HOURS IN ADVANCE.
- ALL TERMINAL MAJOR TRAFFIC MUST BE MAINTAINED CLEAR AT ALL TIMES THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH ADJACENT SITE CONTRACTORS.
- THE CONTRACTOR SHALL STORE MATERIALS IN DESIGNATED WORK AREA ONLY.
- ALL WORK PERFORMED SHALL MEET ALL LOCAL, STATE AND FEDERAL CODES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL INSPECTIONS AND TO COMPLY WITH PERMIT REQUIREMENTS AS REQUIRED TO COMPLETE THE JOB.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING EXISTING STRUCTURE COATING SYSTEMS AS REQUIRED TO COMPLETE THE WORKS.
- COATING SYSTEMS THAT HAVE BEEN DAMAGED BY WELDING, CUTTING, BURNING OR OTHER DAMAGE INCURRED DURING INSTALLATION SHALL BE REPAIRED TO PROVIDE A FINISH IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF ALL FUEL, OIL, BATTERIES, COOLANTS, ETC. WITHIN THE PROJECT DEMO SCOPE.

MATERIALS:

- WELDING ELECTRODES USED FOR FIELD CONNECTIONS SHALL CONFORM TO AWS A5.1, CLASS E70XX UNLESS NOTED OTHERWISE ON THE DRAWINGS. WELDING ELECTRODES USED FOR SHOP CONNECTIONS SHALL CONFORM TO AWS A5.1 WITH A MINIMUM ELECTRODE TENSILE STRENGTH OF 70 KSI, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- ALL ACCESSWAY COMPONENTS (SUPPORTS, FRAMING, HANDRAIL, GRATING, ETC.) SHALL BE HOT DIP GALVANIZED AND SUBSEQUENTLY PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL BOLTS, IF NOT DESIGNATED, SHALL BE GALVANIZED $\frac{3}{8}$ " A325 MIN. UNLESS NOTED OTHERWISE.
- ALL MATERIALS SHALL BE NEW AND UNUSED.
- ALL STRUCTURAL STEEL COMPONENTS SHALL BE A36 GRADE MATERIAL UNLESS NOTED OTHERWISE.
- ALL MATERIALS FOR STRUCTURAL MEMBERS SHALL BE TRACEABLE; UPON REQUEST, MILL TEST CERTIFICATES AND OTHER REQUIRED TEST RESULTS SHALL BE PROVIDED TO OWNER IN ACCEPTABLE FASHION.
- PLATES WHICH ARE SUBJECT TO THROUGH PLATE TENSION SHALL BE INSPECTED UT 100% FOR MATERIAL LAMINATION AND DEFECTS. ANY DEFECTS FOUND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND THE DEFECTIVE MATERIAL REPLACED BY THE CONTRACTOR.
- ALL BOLTS, FASTENERS AND HARDWARE REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

WELDING:

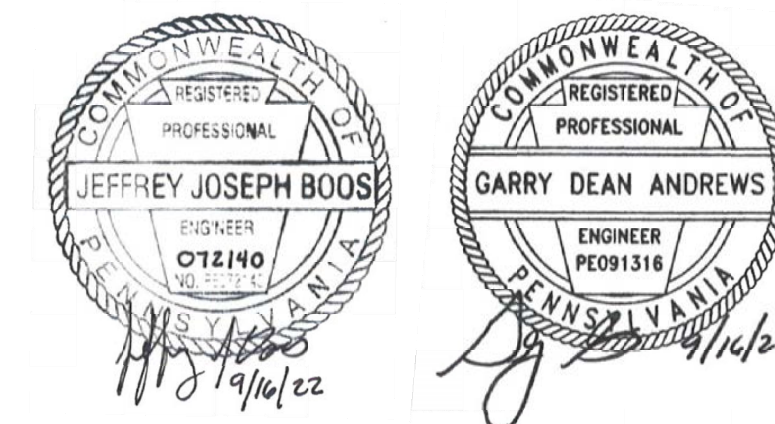
- WELDING ELECTRODES USED FOR FIELD CONNECTIONS SHALL CONFORM TO AWS A5.1, CLASS E70XX UNLESS NOTED OTHERWISE ON THE DRAWINGS. WELDING ELECTRODES USED FOR SHOP CONNECTIONS SHALL CONFORM TO AWS A5.1 WITH A MINIMUM ELECTRODE TENSILE STRENGTH OF 70 KSI, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL STRUCTURAL STEEL, MISCELLANEOUS STEEL, HANDRAIL AND LADDERS SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL BOLTS, IF NOT DESIGNATED, SHALL BE GALVANIZED $\frac{3}{8}$ " A325 MIN. UNLESS NOTED OTHERWISE.
- ALL WELDING AND WELD JOINTS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY AWS D1.1 FOR DYNAMICALLY LOADED STRUCTURES.
- ALL WELDERS, WELDING OPERATORS AND TACKERS SHALL HAVE CURRENT CERTIFICATION FOR THE MATERIALS, PROCESSES AND TYPES OF WELDING PERFORMED. CERTIFICATIONS SHALL BE PROVIDED UPON REQUEST.
- WELDS INSTALLED USING UNQUALIFIED PROCEDURES OR PERFORMED BY NON-CERTIFIED/QUALIFIED WELDERS SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE, SUBJECT TO THE ENGINEER'S DISCRETION.
- UNLESS NOTED OTHERWISE, ALL WELDING SHALL BE CONTINUOUS $\frac{1}{4}$ " FILLET WELDS UNLESS REQUIRED OTHERWISE BY APPLICABLE CODES.

INSPECTION:

- QUALITY CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HE SHALL BE CAPABLE OF PERFORMING ALL NECESSARY INSPECTIONS.
- WELD INSPECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROCEDURES AND THE CONTRACTOR'S QUALIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER.
- ALL VISUAL AND NON-DESTRUCTIVE WELD INSPECTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ALSO INCLUDED IN THE PROJECT RECORDS SUBMITTED TO THE PORT.

ELECTRICAL NOTES:

- THE INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL INSTALLATION AND WITH THE REGULATIONS OF THE LATEST PUBLISHED EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THOSE LAWS AND ORDINANCES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES, AND AFTER COMPLETION OF THE WORK, SHALL FURNISH THE OWNER A CERTIFICATE OF FINAL INSPECTION.
- PROVIDE GROUNDING AND BONDING SYSTEMS IN STRICT ACCORDANCE WITH THE LATEST PUBLISHED EDITION OF N.E.C. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE SPECIFIED HEREIN. INSTALL GROUNDING CONDUCTORS TO PERMIT SHORTEST AND MOST DIRECT PATH TO GROUND. WHERE GROUNDING CONDUCTORS ARE IN RACEWAY, BOND CONDUCTOR AND RACEWAY AT BOTH ENDS. GROUNDING AND BONDING FITTINGS USED SHALL BE LISTED AND COMPATIBLE WITH METALS USED IN SYSTEM. SHEET METAL TYPE STRAP ARE NOT ACCEPTABLE. A GREEN INSULATED GROUND CONDUCTOR SHALL BE RUN IN ALL BRANCH CIRCUIT AND FEEDER CONDUITS WITH PHASE AND/OR NEUTRAL CONDUCTORS. GROUND CONDUCTOR SHALL BE SIZED PER N.E.C. OR AS NOTED ON DRAWINGS. MINIMUM SIZE #12 AWG. CONDUIT BOX TO DEVICE STRAP OR YOKE SCREW CONNECTION IS NOT SUFFICIENT.

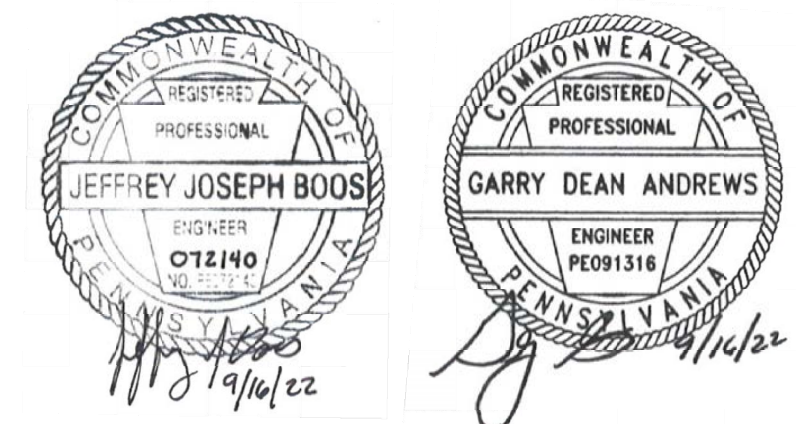
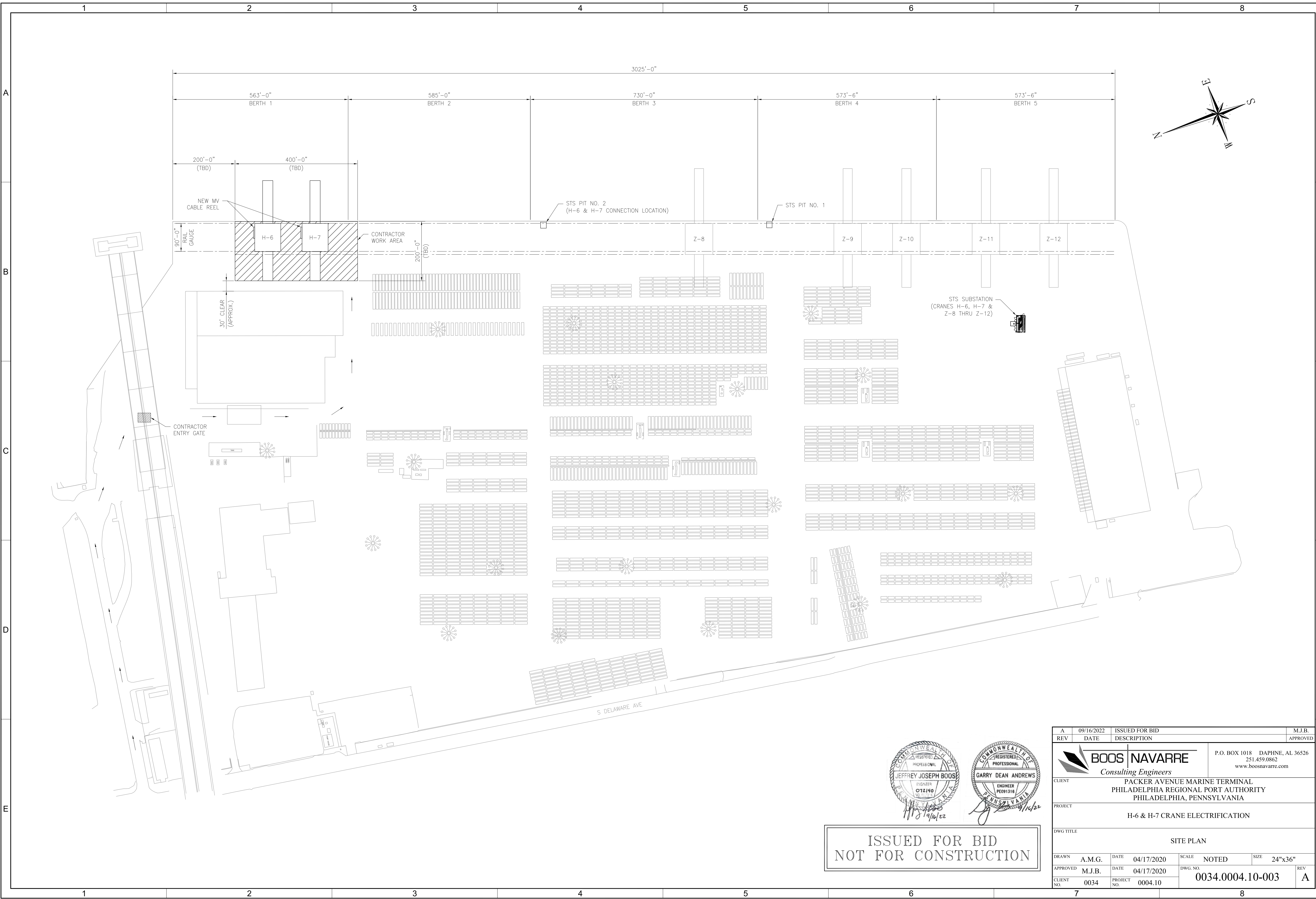


ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE Consulting Engineers		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE DRAWING INDEX & GENERAL NOTES			
DRAWN	A.M.G.	DATE 03/31/2020	SCALE NONE SIZE 24"x36"
APPROVED	M.J.B.	DATE 03/31/2020	DWG. NO. 0034.0004.10-002 REV A
CLIENT NO.	0034	PROJECT NO.	0004.10

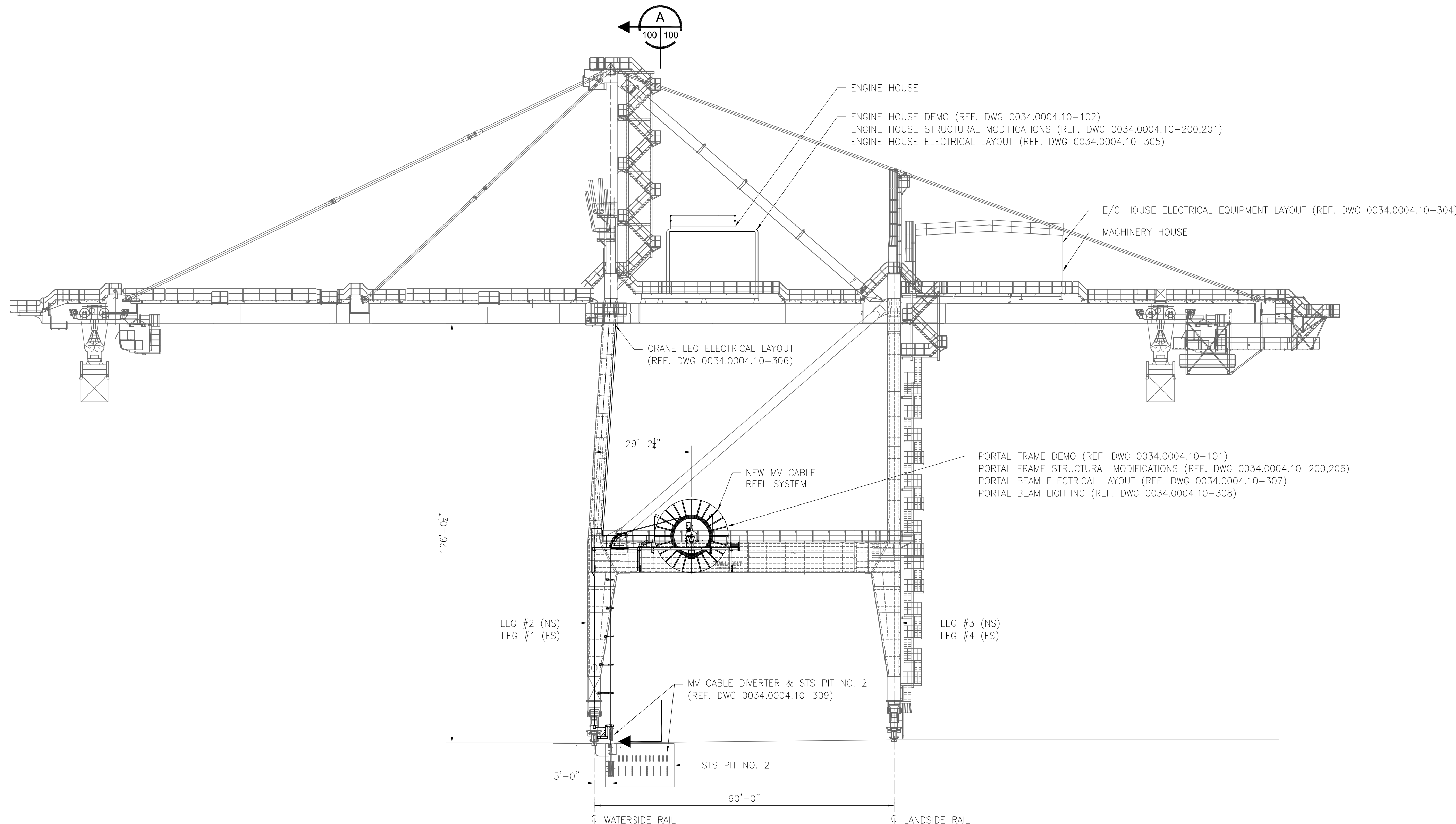
Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-003 RevA. 2022-09-16.dwg, BN 24x36, 9/15/2022 10:18:30 AM, Adobe PDF



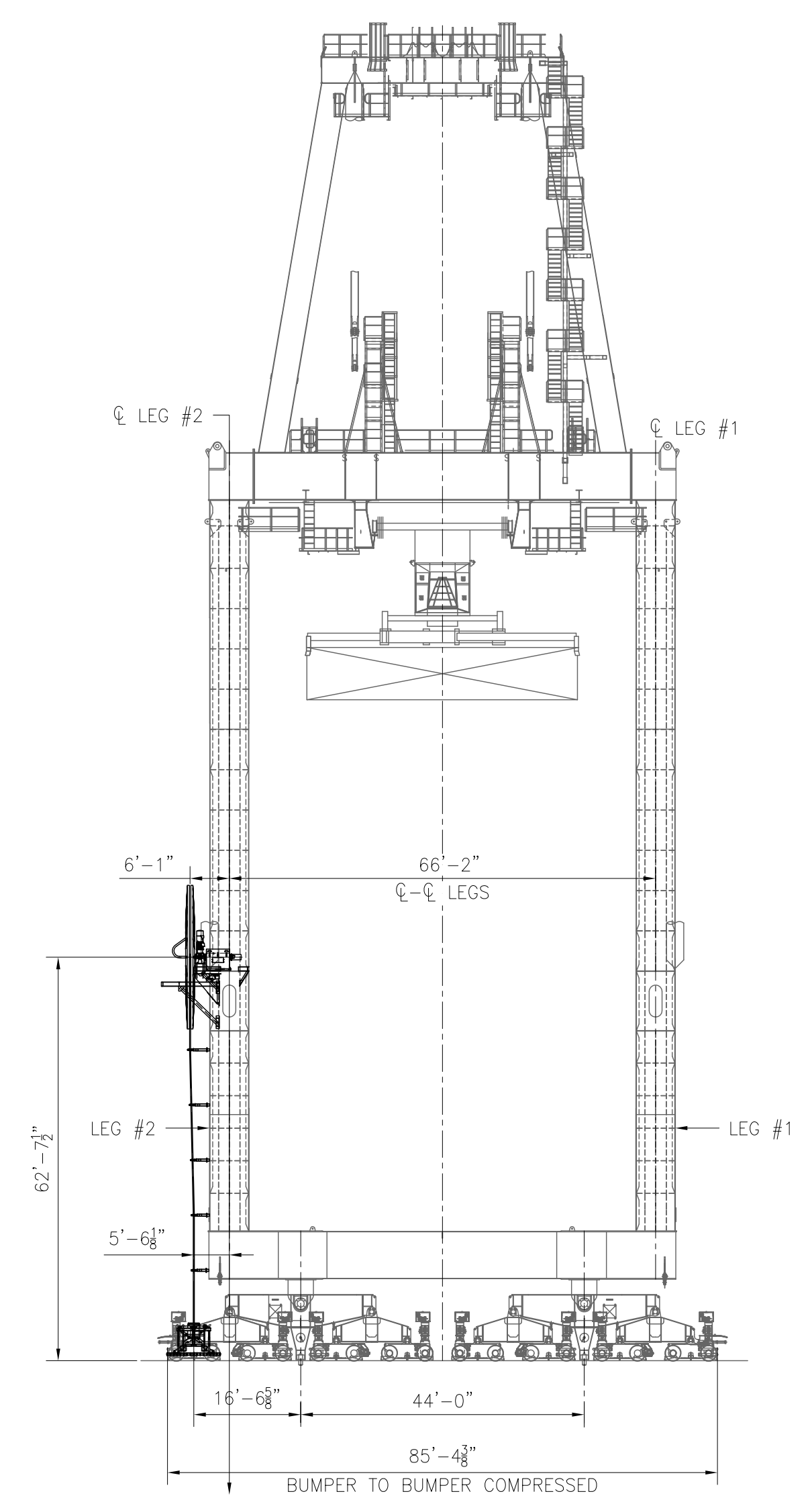
ISSUED FOR BID
NOT FOR CONSTRUCTION

A	09/16/2022	ISSUED FOR BID	M.J.B.
REV	DATE	DESCRIPTION	APPROVED
P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com			
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE SITE PLAN			
DRAWN	A.M.G.	DATE 04/17/2020	SCALE NOTED SIZE 24"x36"
APPROVED	M.J.B.	DATE 04/17/2020	DWG. NO. 0034.0004.10-003 REV A
CLIENT NO.	0034	PROJECT NO.	0004.10

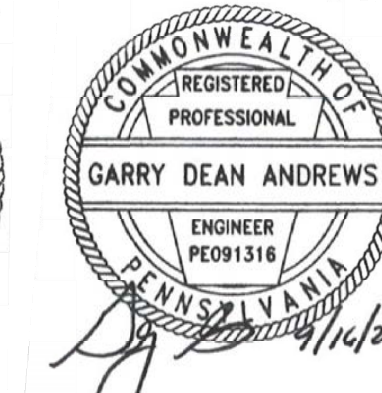
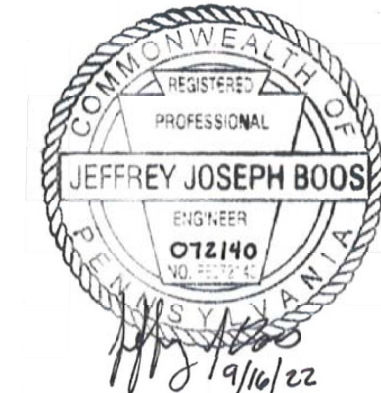
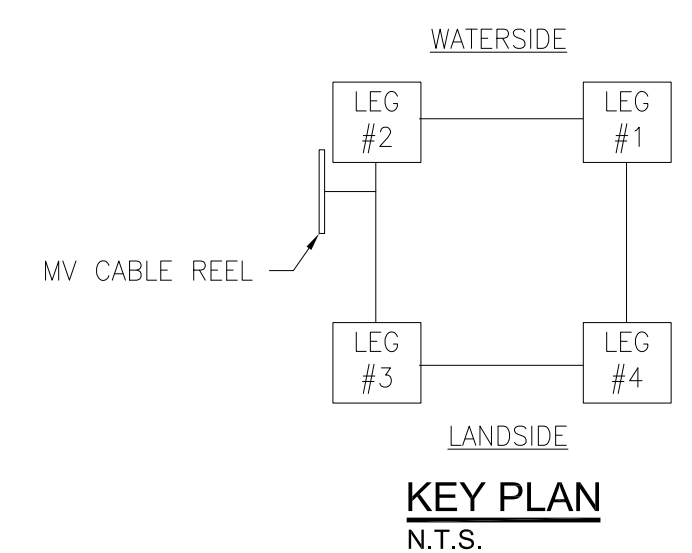
Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-100 RevA 2022-09-16.dwg, BN 24x36, 9/16/2022 11:44:56 AM, Adobe PDF



ELEVATION
1"=20'-0"



SECTION A
1"=20'-0"

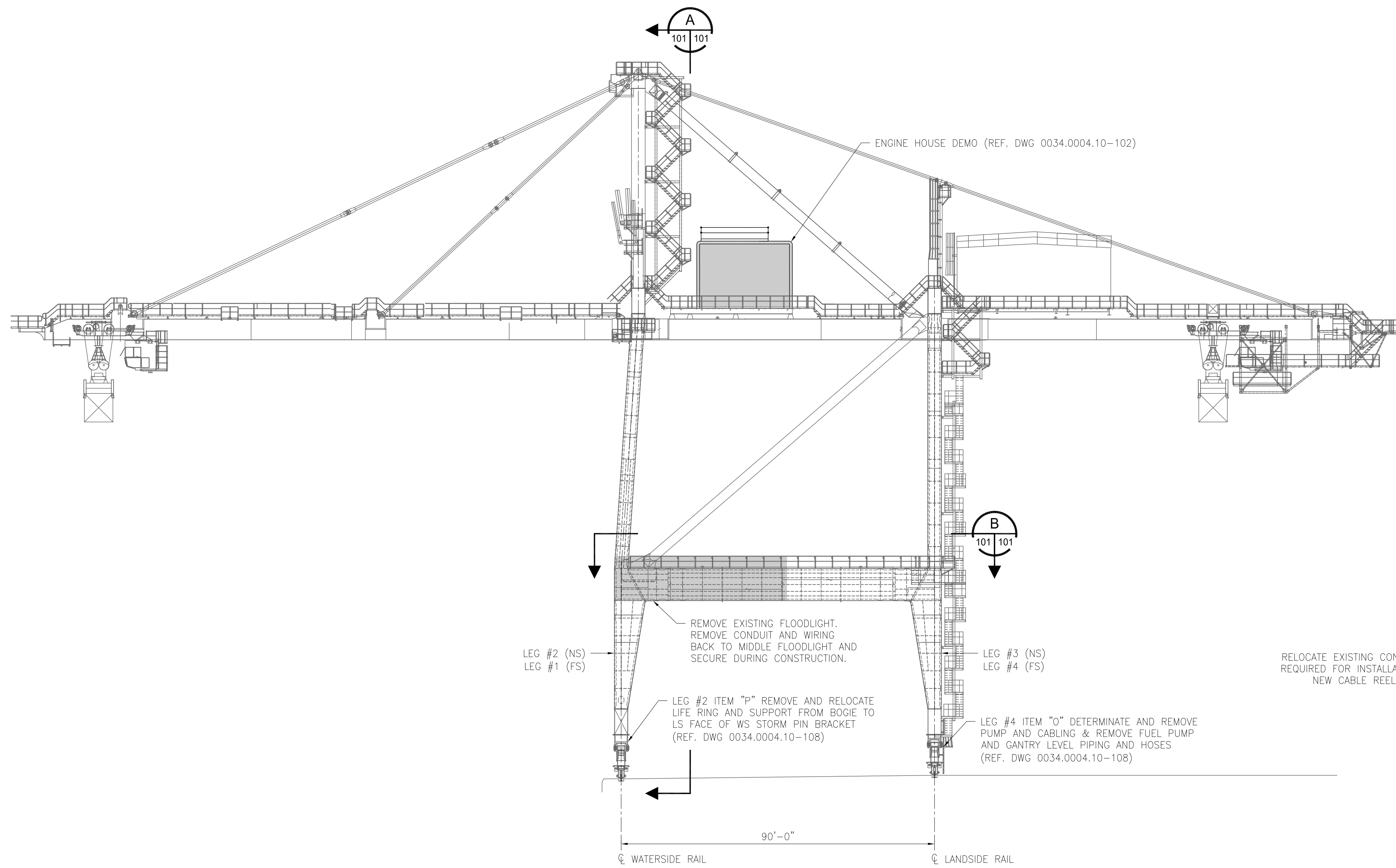


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

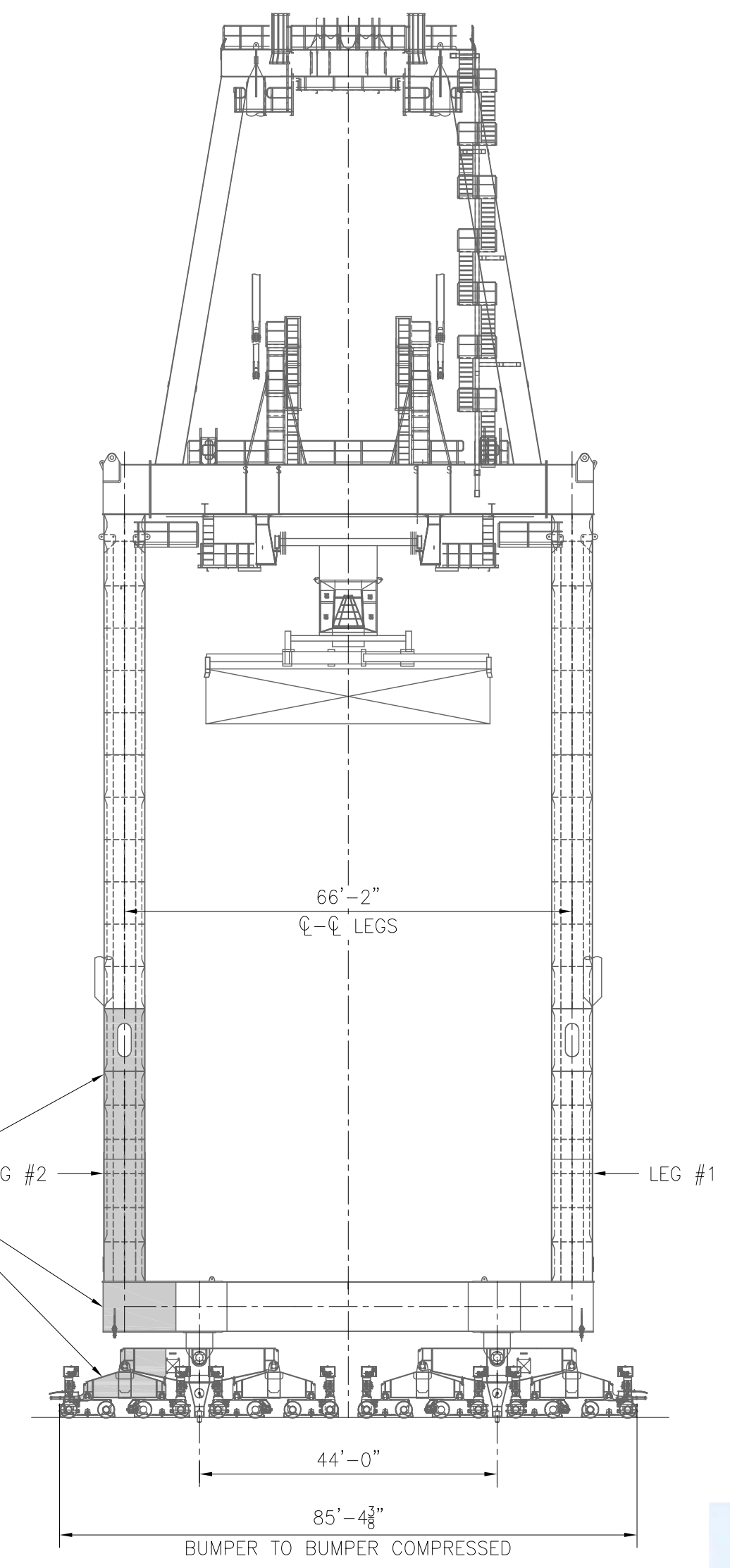
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE Consulting Engineers		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE GENERAL ARRANGEMENT			
DRAWN	A.M.G.	DATE	07/24/2020
APPROVED	M.J.B.	DATE	07/24/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-100		REV
			A

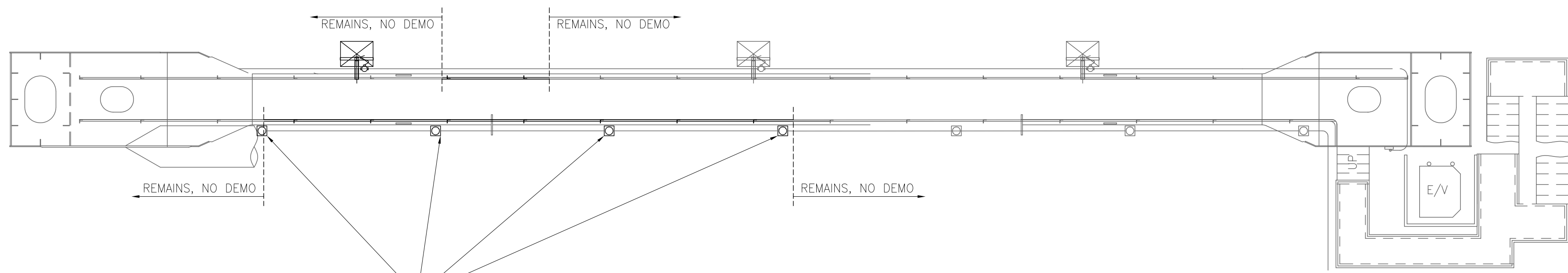
Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0034.0004.10-101 RevA.2022-09-16.dwg, BN 24x36, 9/16/2022 11:02:13 AM, Adobe PDF



ELEVATION
1"=20'-0"

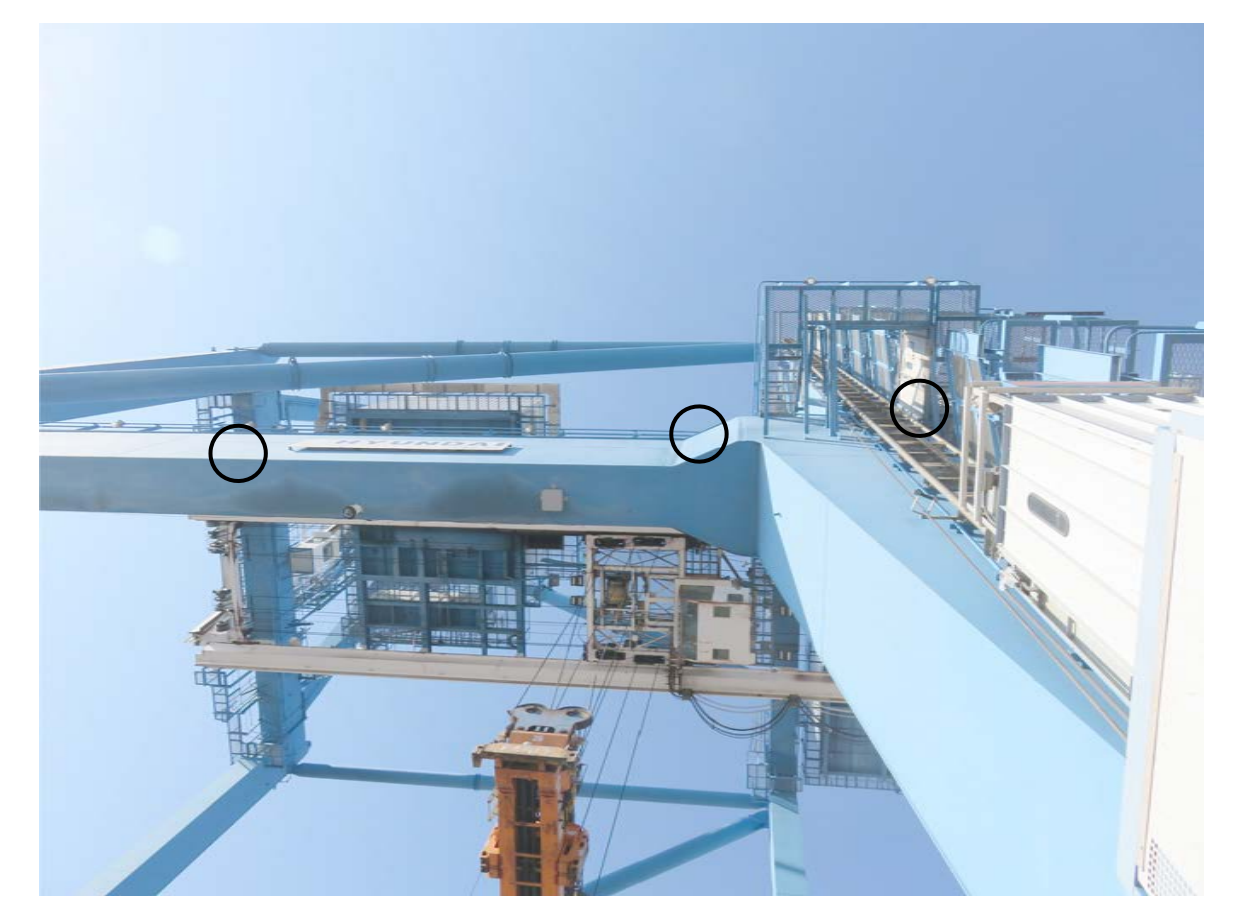
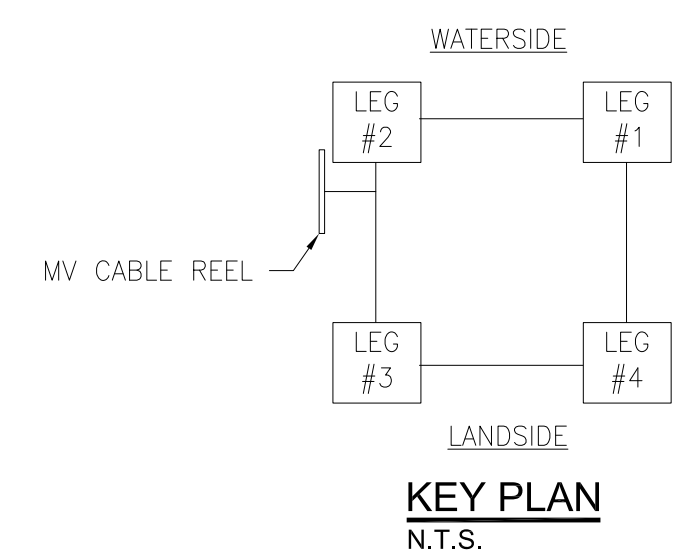


SECTION A
1"=20'-0"



REMOVE (4) EXISTING WALKWAY LIGHTS. REMOVE CONDUIT AND WIRING BACK TO NEXT LIGHT FIXTURE AND SECURE DURING CONSTRUCTION.

SECTION B
3/16"=1'-0"



NOTES:
1. OCR DEVICES TO BE REMOVED BY OTHERS PRIOR TO CONTRACTOR START OF WORK. DEVICES WILL BE REINSTALLED AFTER CONTRACTOR COMPLETION OF WORK. DO NOT DAMAGE THIS AREA.

ISSUED FOR BID
NOT FOR CONSTRUCTION

JEFFREY JOSEPH BOOS
REGISTERED PROFESSIONAL ENGINEER
012140
12/17/17

GARRY DEAN ANDREWS
REGISTERED PROFESSIONAL ENGINEER
PE091316
12/17/17

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE
Consulting Engineers
P.O. BOX 1018 DAPHNE, AL 36526
251.459.0862
www.boosnavarre.com

CLIENT: PACKER AVENUE MARINE TERMINAL
PHILADELPHIA REGIONAL PORT AUTHORITY
PHILADELPHIA, PENNSYLVANIA

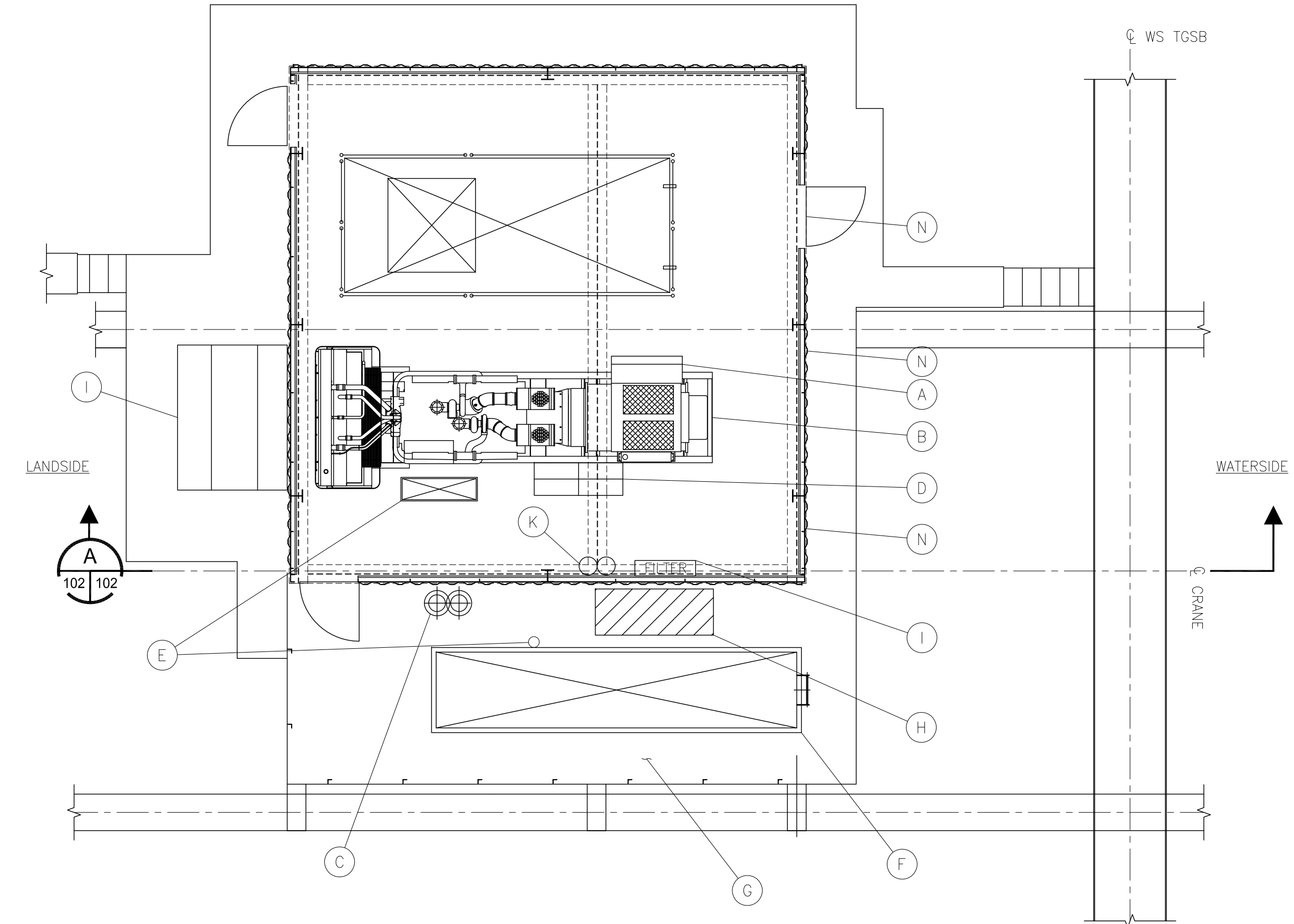
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION

DWG TITLE: DEMOLITION ARRANGEMENT

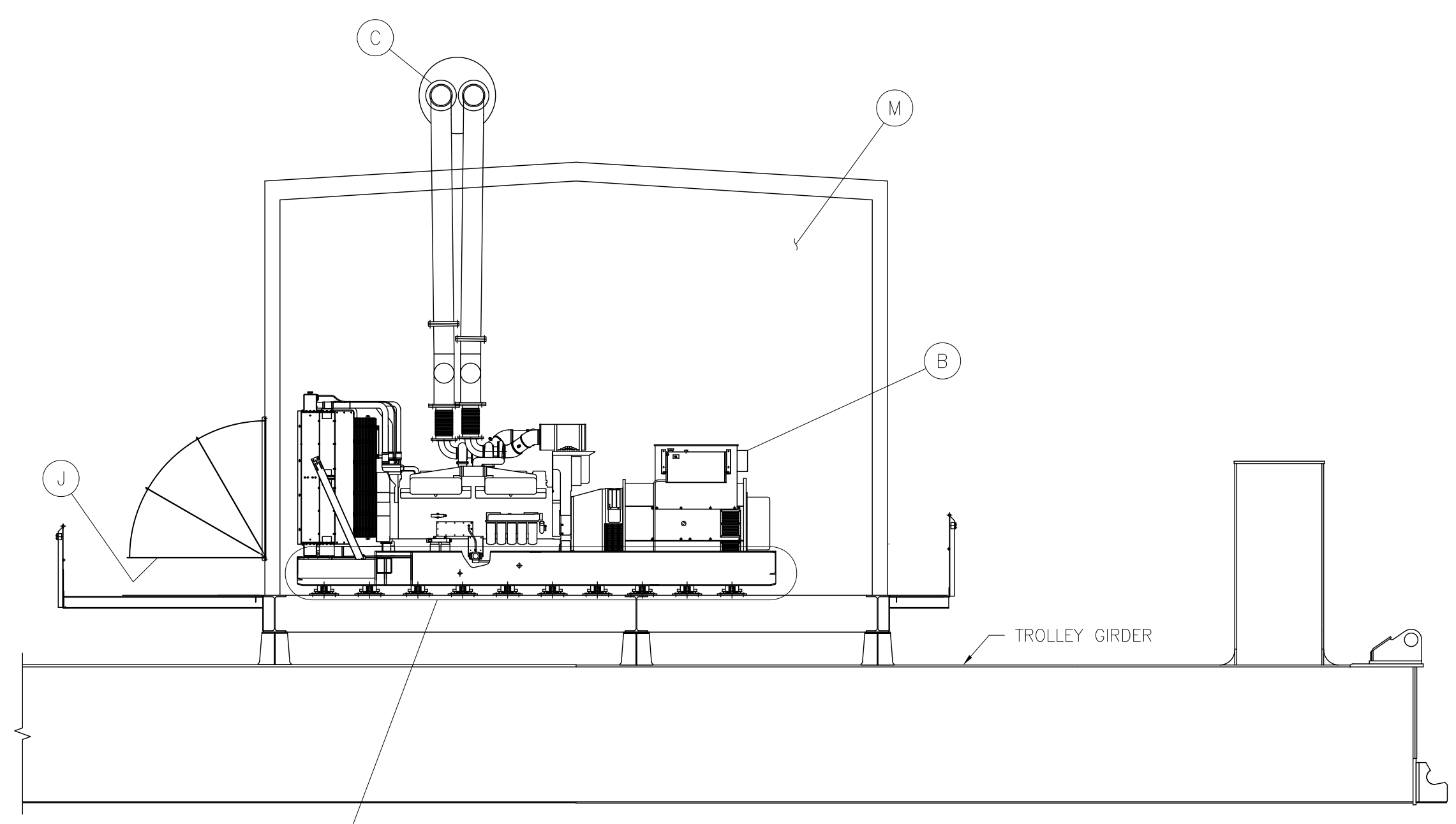
DRAWN	A.M.G.	DATE	03/31/2020	SCALE	NOTED	SIZE	24"x36"
APPROVED	M.J.B.	DATE	03/31/2020	DWG. NO.	0034.0004.10-101		
CLIENT NO.	0034	PROJECT NO.	0004.10	REV	A		

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID_2022-09-16\0031.0004.10-102 RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 10:02:15 AM, Adobe PDF

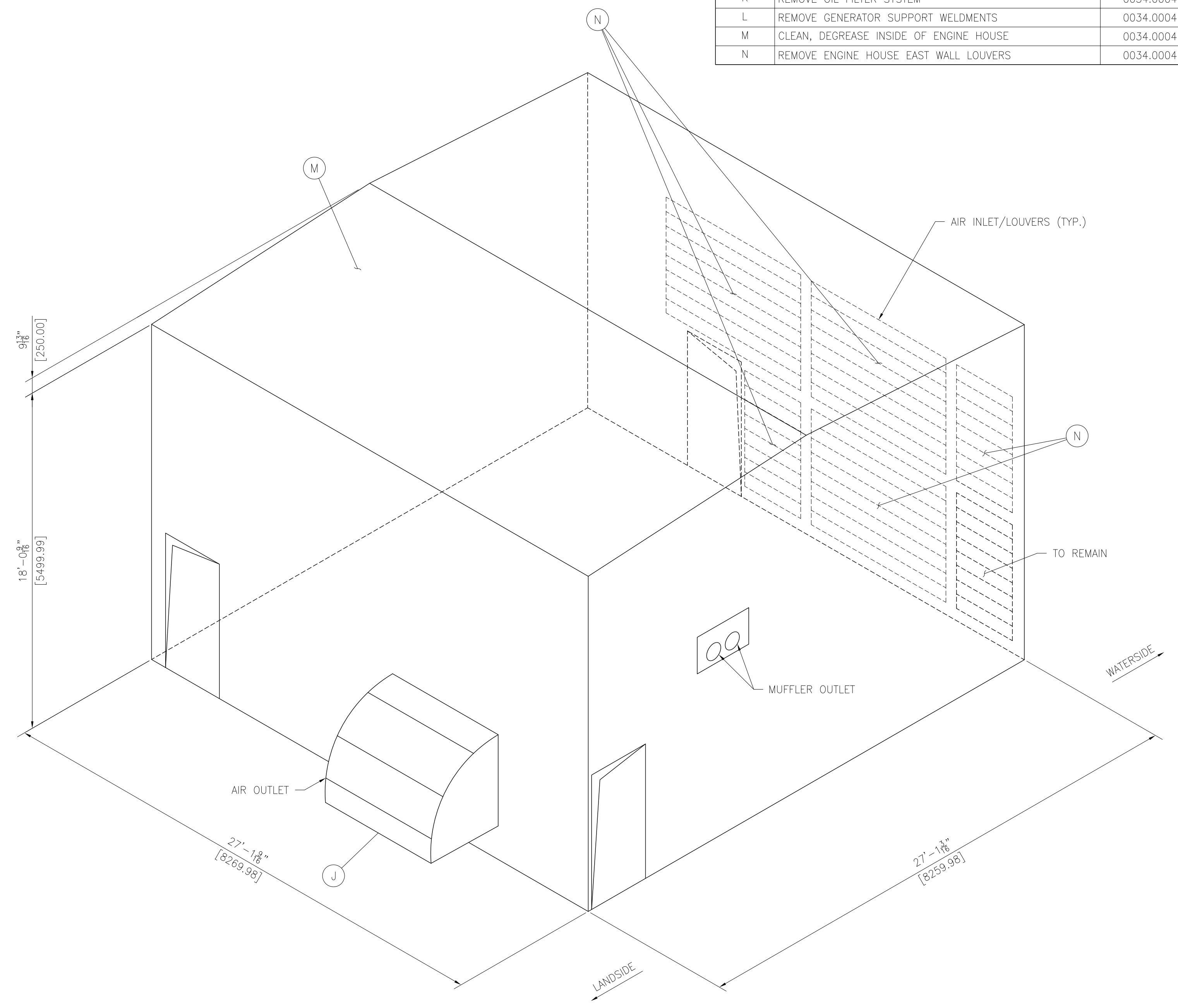
SCOPE ITEMS		
ITEM	DESCRIPTION	DRAWING NO.
A	DETERMINE AND REMOVE CABLING	0034.0004.10-103
B	REMOVE GENERATOR AND SKID BASE	0034.0004.10-103
C	REMOVE MUFFLER COMPONENTS	0034.0004.10-104
D	REMOVE BATTERIES AND ENCLOSURE	0034.0004.10-104
E	REMOVE FUEL SUPPLY SYSTEM	0034.0004.10-104,105
F	REMOVE FUEL STORAGE SYSTEM	0034.0004.10-105
G	REMOVE FUEL SUPPLY LINE	0034.0004.10-105
H	REMOVE GRATING FOR SWITCHGEAR SUPPORTS	0034.0004.10-105
I	REMOVE FUEL FILTER SYSTEM	0034.0004.10-106
J	REMOVE COWLING SCREEN	0034.0004.10-106
K	REMOVE OIL FILTER SYSTEM	0034.0004.10-106
L	REMOVE GENERATOR SUPPORT WELDMENTS	0034.0004.10-106
M	CLEAN, DECREASE INSIDE OF ENGINE HOUSE	0034.0004.10-107
N	REMOVE ENGINE HOUSE EAST WALL LOUVERS	0034.0004.10-107



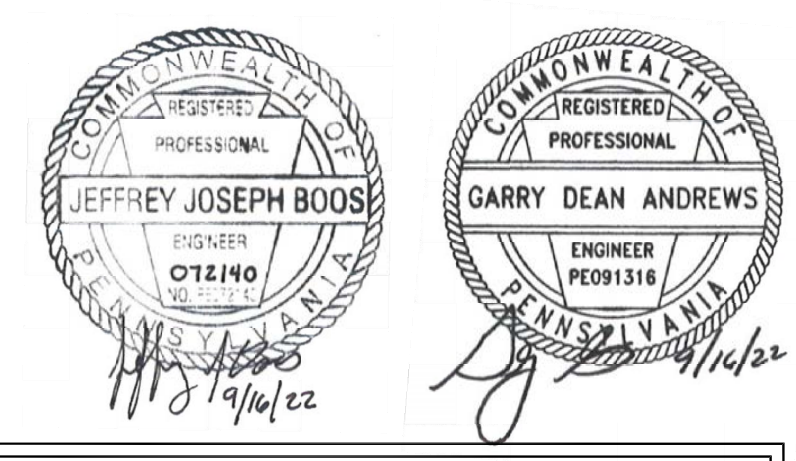
ENGINE HOUSE PLAN



SECTION A
102 | 102



ENGINE HOUSE ISOMETRIC VIEW



ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE DEMO			
DRAWN	A.M.G.	DATE	07/01/2020
APPROVED	M.J.B.	DATE	07/01/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NTS	SIZE	24"x36"
DWG. NO.	0034.0004.10-102		REV
			A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrical\0004-HH1 B & 7 RevA.dwg, BN 24x36, 9/15/2022 10:59:15 AM, Adobe PDF



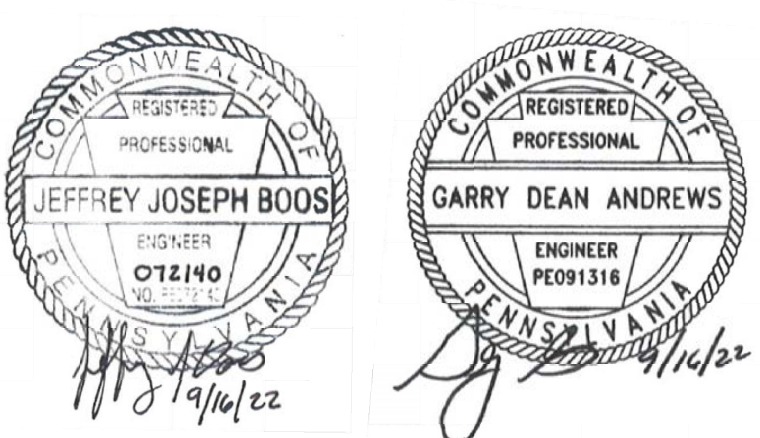
DISCONNECT & DEMO EXISTING CONTROLS FROM GENERATOR PANEL TO MACHINERY HOUSE. (SEE GE TOSHIBA MARKUP DRAWINGS FOR DETAILS)

CONTRACTOR TO REMOVE GENERATOR (ENGINE, RADIATOR, GENERATOR) SKID BASE. IF THE CONTRACTOR CHOOSES, THE EXISTING ENGINE HOUSE 10 TON SERVICE CRANE AND MAINTENANCE HATCH MAY BE USED FOR REMOVAL.

DISCONNECT & DEMO EXISTING (9) - 1/C #350 MCM PER PHASE CABLES FROM GENERATOR TO MACHINERY HOUSE

ITEM "A" - DETERMINATE GENERATOR AND CABLING
ITEM "B" - REMOVE GENERATOR AND SKID BASE

REMOVE CABLE GUARD AND THREADED STUDS/BOLTS. RESTORE COATING AS REQUIRED.



**ISSUED FOR BID
NOT FOR CONSTRUCTION**

HYUNDAI-PRPA CRANE GENSET LIST OF WEIGHTS			
ITEM	DESCRIPTION	EST. WEIGHT (LBS)	NOTES
ENGINE	CUMMINS KTA50-G9	10,700	DRY WEIGHT
RADIATOR	UNIT MOUNTED, RADIATOR FOR JACKET WATER AND AFTER-COOLERS	2,010	DRY WEIGHT
GENERATOR	NEWAGE LVS1824F2 GENERATOR AND CLOSE COUPLED ADAPTER	17,040	
COUPLING	RENOLD ELASTOMERIC COUPLING SET	525	APPROX. 155 OF THIS IS PERMANENT ON GEN SHAFT WHEN INSTALLED
BASERAIL	GENSET SKIDBASE	5,049	
MISC.	A) CIRCUIT BREAKER AND CONTROL B) OIL LEVEL MAINTAINER SYSTEM	800 120	
FLUIDS	STANDARD FILLING OF: A) LUBRICATING OIL, INCLUDING LUBE OIL MAKEUP TANK CAPACITY B) COOLANT (ENGINE AND RADIATOR)	500 800	
A V/M'S	1 LOT OF 20 VIBRATION MOUNTS PER UNIT, SHIPPED LOOSE	280	NOT PART OF UNIT WEIGHT, PART OF SHIPPING WEIGHT
MISC.	ENGINE OPTIONS SUCH AS JACKET WATER HEATERS, AIR CLEANERS, "HAVE ME MISSED ANYTHING" FACTOR	500	
TOTAL		38,324 PER UNIT	

ACCURACY NOTE:
 ESTIMATES ARE FROM STANDARD PRODUCT SPEC. SHEETS FOR STANDARD ITEMS AND CATALOGUE CUT SHEETS/CALCULATIONS FOR SPECIAL ITEMS. ACTUAL WEIGHTS MAY VARY. COMPONENTS MAY VARY MORE ± THAN TOTAL CALCULATED WEIGHT.

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE DEMO ITEMS A & B			
DRAWN	A.M.G.	DATE	07/15/2020
APPROVED	M.J.B.	DATE	07/15/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NTS	SIZE	24"x36"
DWG. NO.		0034.0004.10-103	
			REV A

Z:\Projects\0034-PhiladelphiaPort\004-HH1B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID_2022-09-16\0034.0004.10-104_RevA_2022-09-16.dwg, BN 24x36, 9/15/2022 11:07:20 AM, Adobe PDF



ITEM "C" - REMOVE MUFFLER COMPONENTS

ITEM "C" - REMOVE MUFFLER COMPONENTS

ITEM "C" - REMOVE MUFFLER COMPONENTS



ITEM "D" - REMOVE BATTERIES AND ENCLOSURE



ITEM "D" - REMOVE BATTERIES AND ENCLOSURE



ITEM "E" - REMOVE FUEL SUPPLY SYSTEM

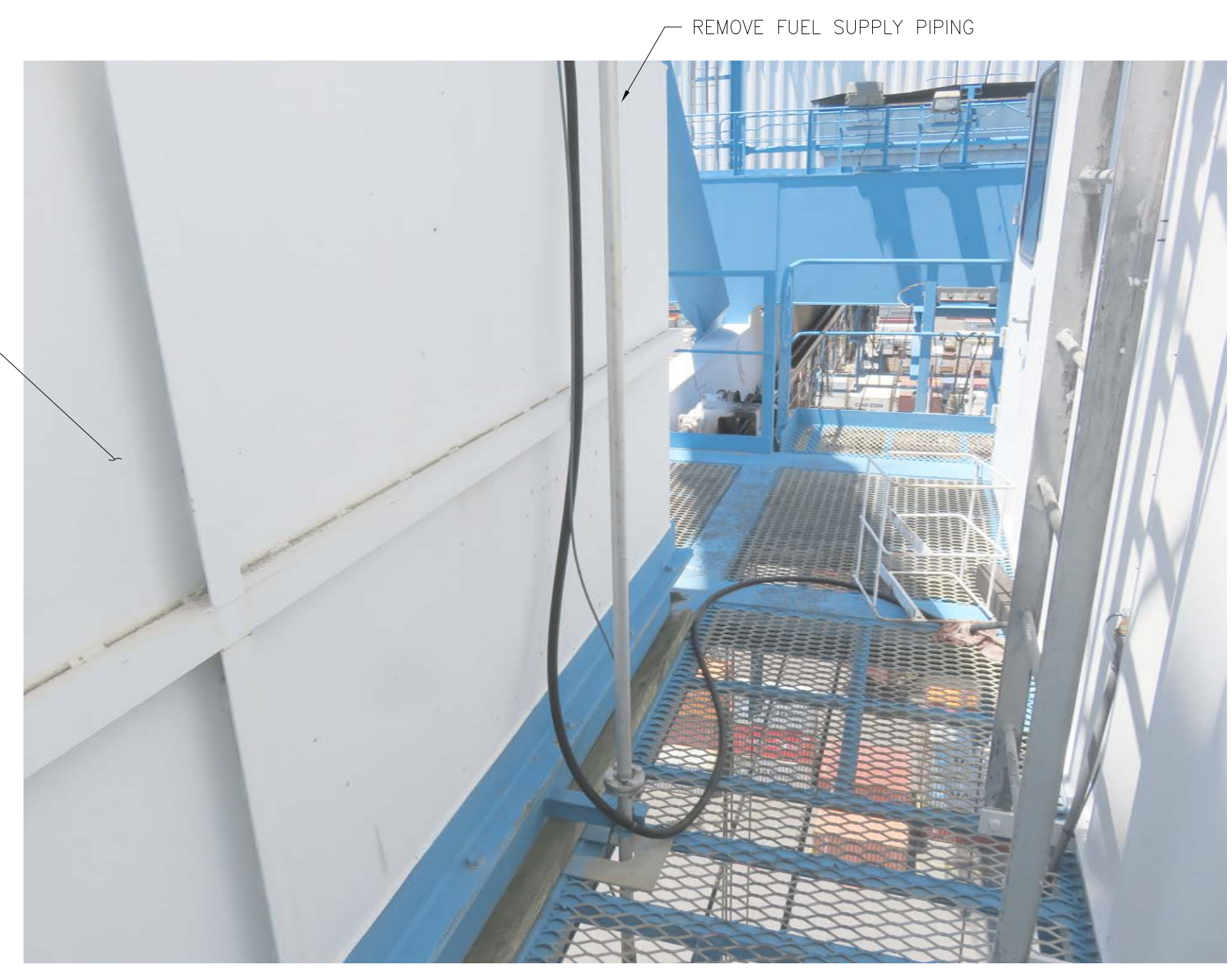
Professional Engineer seals for Jeffrey Joseph Boos (PE012140) and Garry Dean Andrews (PE091316), dated 9/16/22.

**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE DEMO ITEMS C, D, E			
DRAWN	A.M.G.	DATE	07/15/2020
APPROVED	M.J.B.	DATE	07/15/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NTS	SIZE	24"x36"
DWG. NO.		0034.0004.10-104	
			REV A

Z:\Projects\0034-Philadelphia\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-105 RevA 2022-09-16.dwg, BN 24x36, 9/15/2022 2:18:08 PM, Adobe PDF



FUEL STORAGE TANK

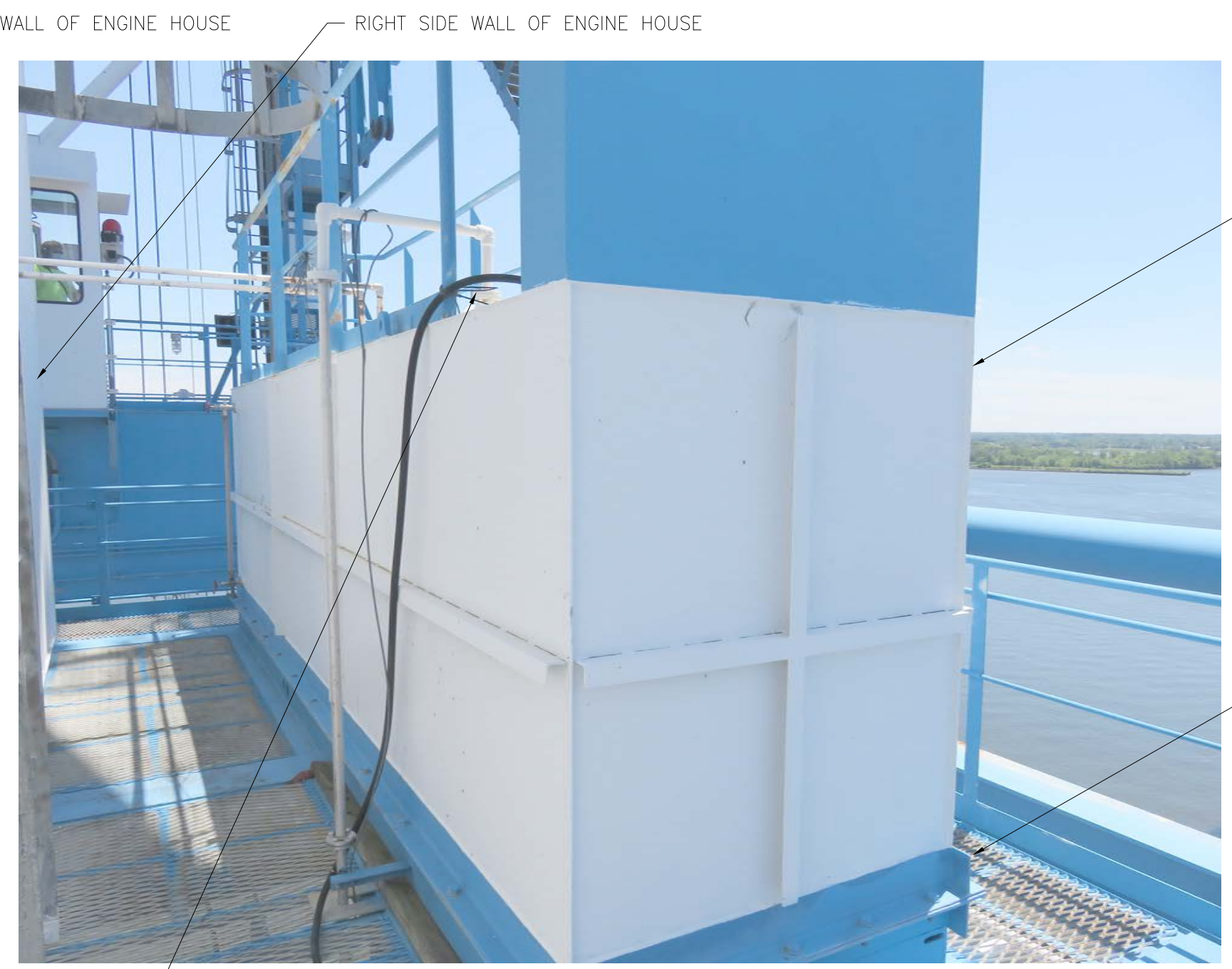
REMOVE FUEL SUPPLY PIPING

ITEM "E" - REMOVE FUEL SUPPLY SYSTEM



REMOVE FUEL SUPPLY PIPING

ITEM "E" - REMOVE FUEL SUPPLY SYSTEM



RIGHT SIDE WALL OF ENGINE HOUSE

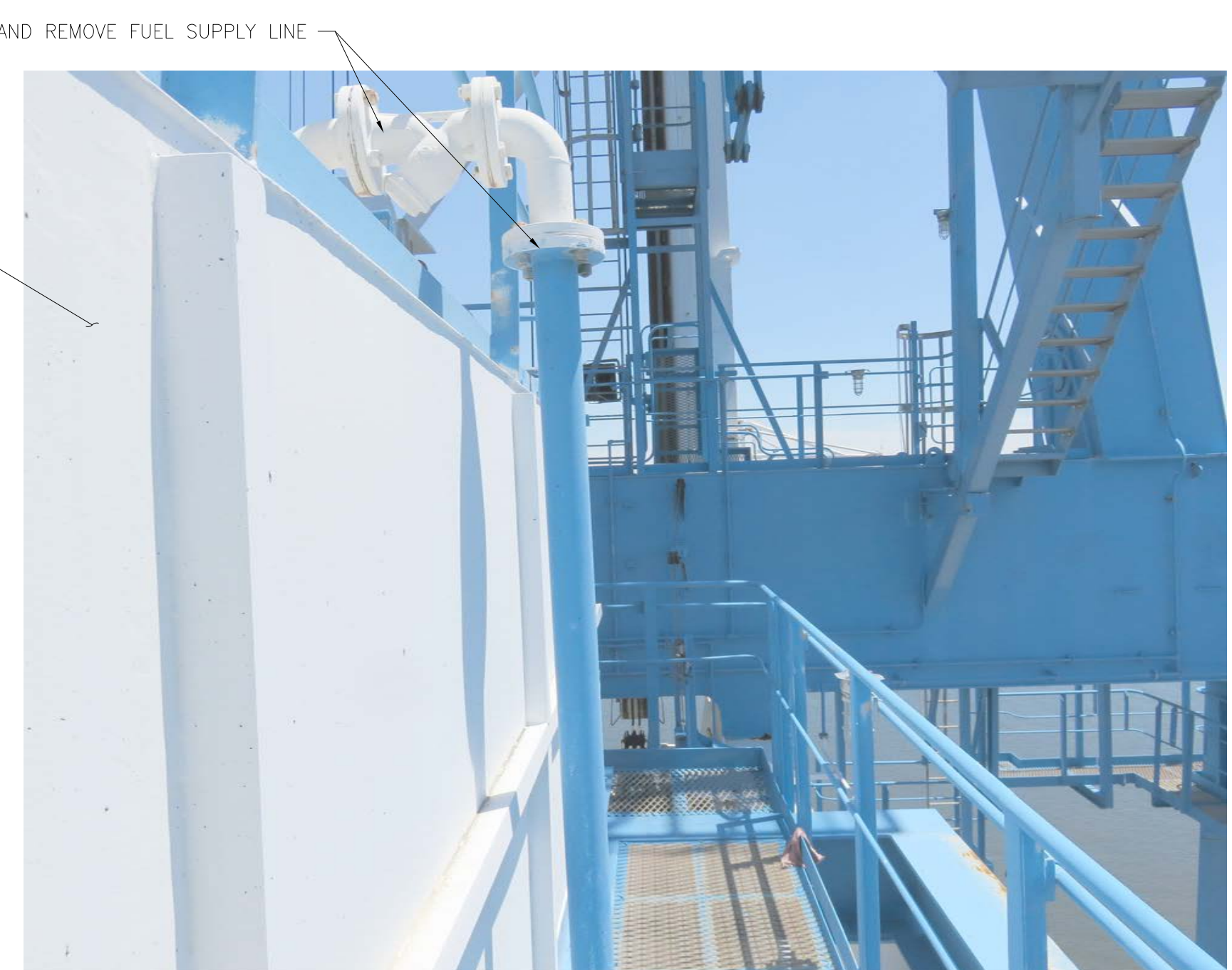
RIGHT SIDE WALL OF ENGINE HOUSE

REMOVE AND DISPOSE OF FUEL STORAGE TANK. DRAIN AND DISPOSE OF DIESEL FUEL AS REQUIRED.

REPAIR EXISTING COATING SYSTEM AS REQUIRED

ITEM "F" - REMOVE FUEL STORAGE SYSTEM

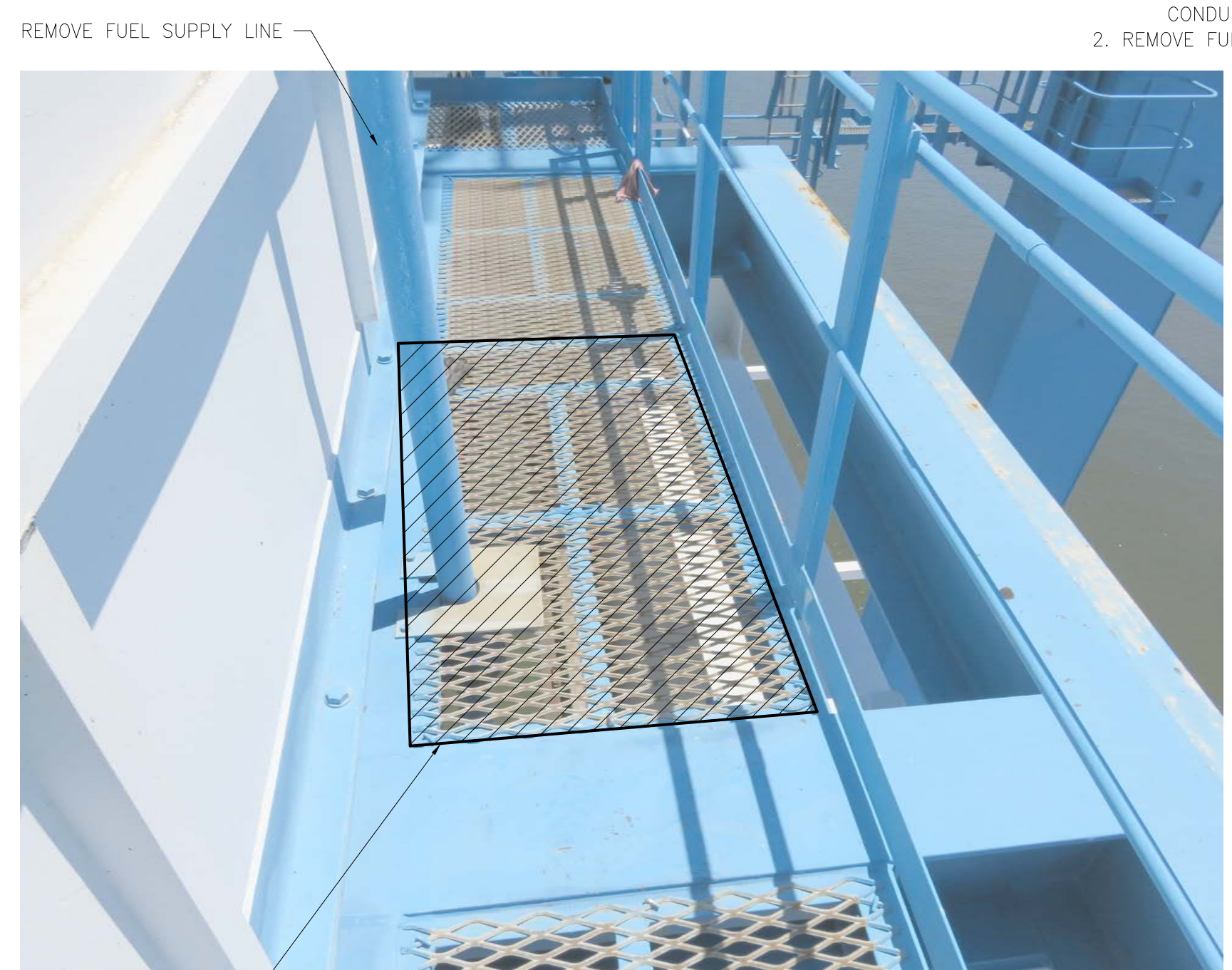
1. DETERMINE AND REMOVE WIRING BACK TO SECURE LOCATION AND ABANDON IN CONDUIT. PLUG CONDUIT IN PLACE.
2. REMOVE FUEL LEVEL SENSORS (QTY. 2) AND TRANSMITTER



UNBOLT AND REMOVE FUEL SUPPLY LINE

FUEL STORAGE TANK

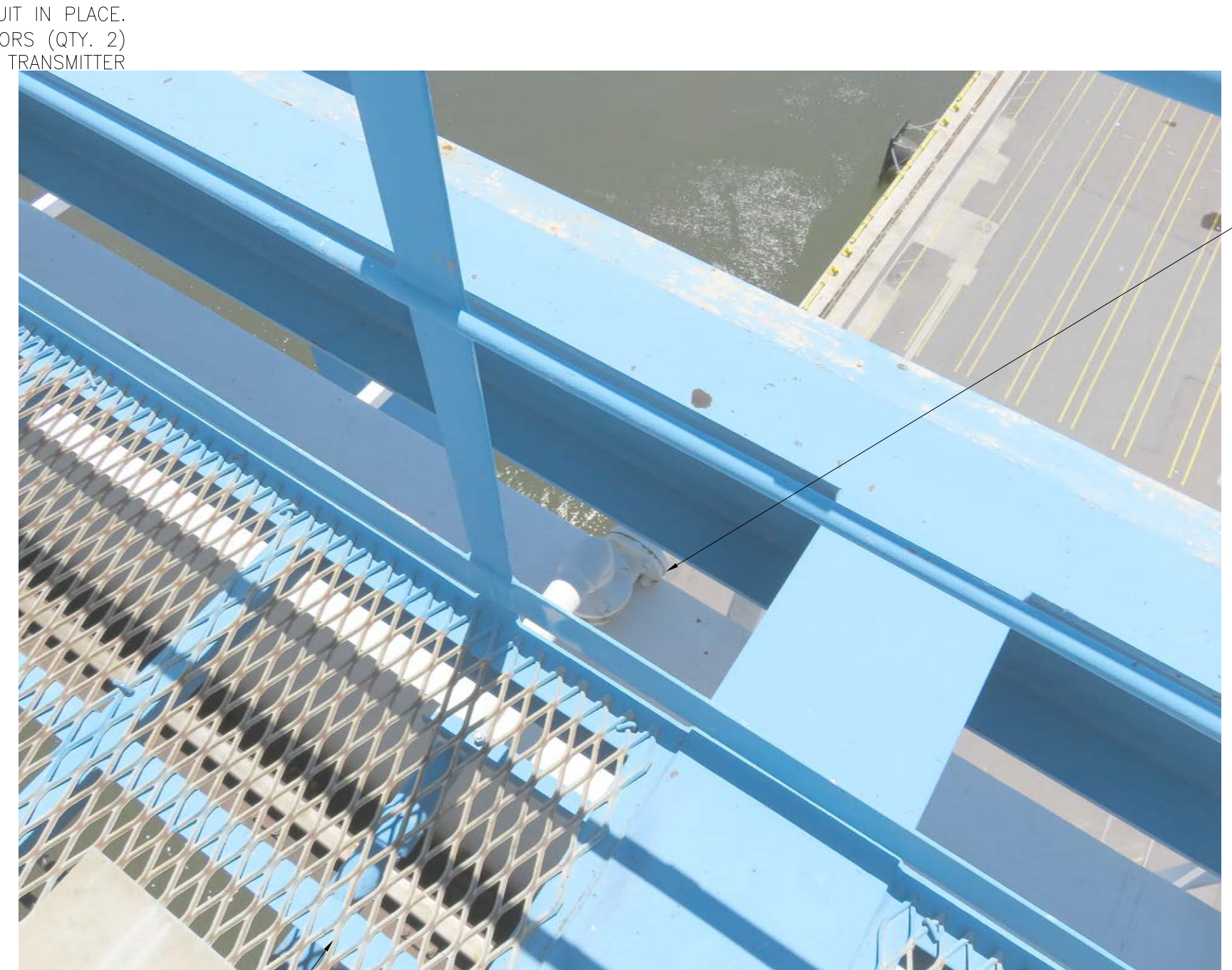
ITEM "G" - REMOVE FUEL SUPPLY LINE



REMOVE FUEL SUPPLY LINE

ITEM "G" - REMOVE FUEL SUPPLY LINE

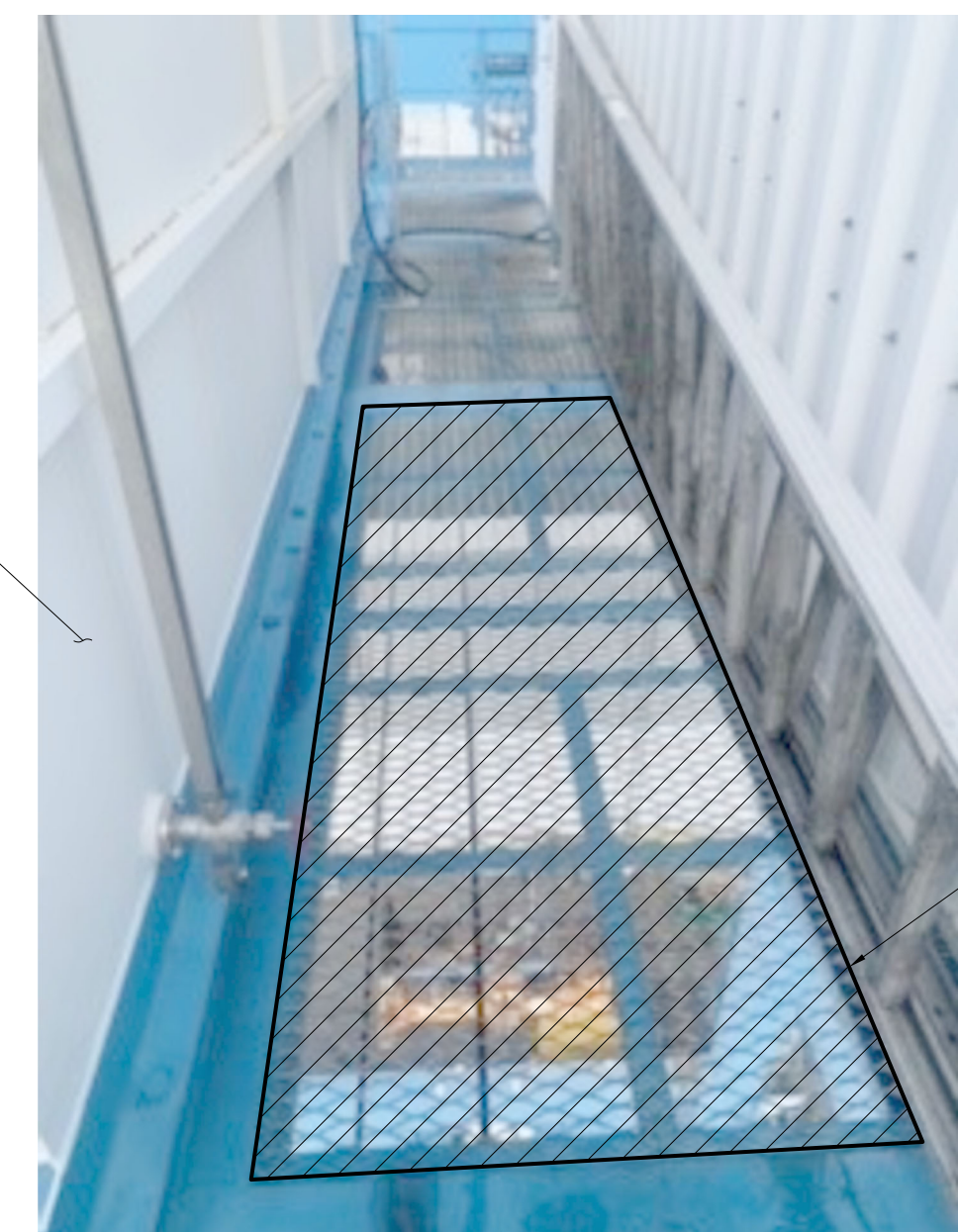
REMOVE EXISTING EXP. METAL GRATING SECTION AT FUEL SUPPLY LINE PENETRATION



UNBOLT FUEL SUPPLY LINE AT FLANGE. REFER TO 200 SERIES DRAWINGS FOR MODIFICATIONS.

REMOVE FUEL SUPPLY LINE

ITEM "G" - REMOVE FUEL SUPPLY LINE

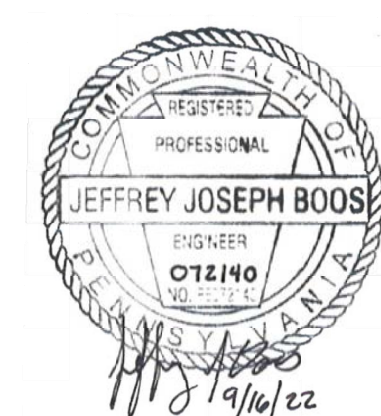


FUEL STORAGE TANK

RIGHT SIDE WALL OF ENGINE HOUSE

DEMO EXISTING EXP. METAL GRATING & SUPPORT MEMBERS IN BETWEEN MAIN STRUCTURAL BEAMS

ITEM "H" - REMOVE GRATING SECTION FOR SWITCHGEAR SUPPORTS



ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE DEMO ITEMS E, F, G, H			
DRAWN	A.M.G.	DATE	07/15/2020
APPROVED	M.J.B.	DATE	07/15/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NTS	SIZE	24"x36"
DWG. NO.		0034.0004.10-105	
REV			A

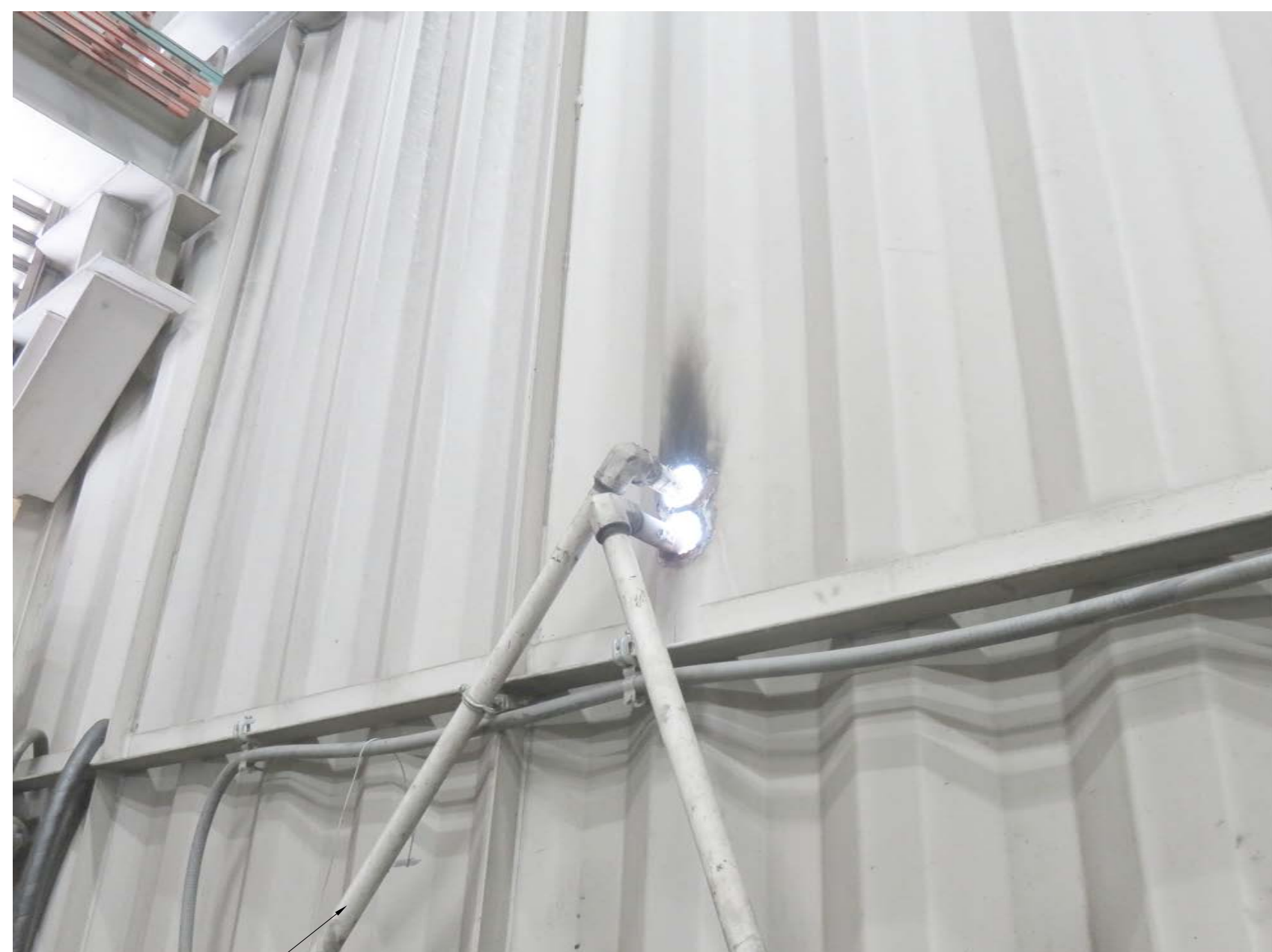
Z:\Projects\0034-Philadelphia\004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-106 RevA 2022-09-16.dwg, BN 24x36, 9/15/2022 2:40:01 PM, Adobe PDF



DETERMINE AND REMOVE CABLING

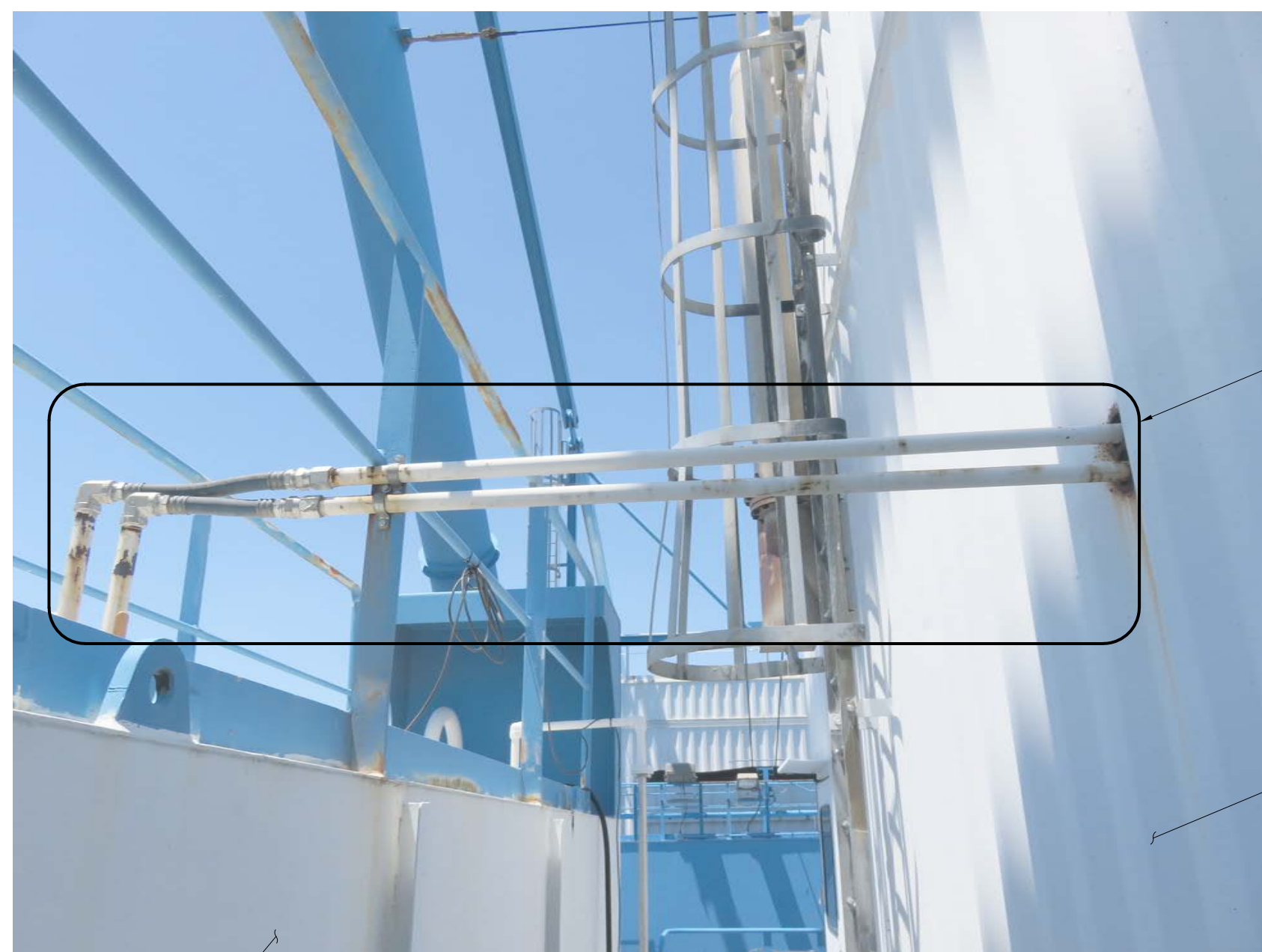
REMOVE AND DISPOSE OF FUEL FILTER SYSTEM AS REQUIRED

ITEM "I" - REMOVE FUEL FILTER SYSTEM



REMOVE FUEL FILTER SYSTEM PIPING

ITEM "I" - REMOVE FUEL FILTER SYSTEM

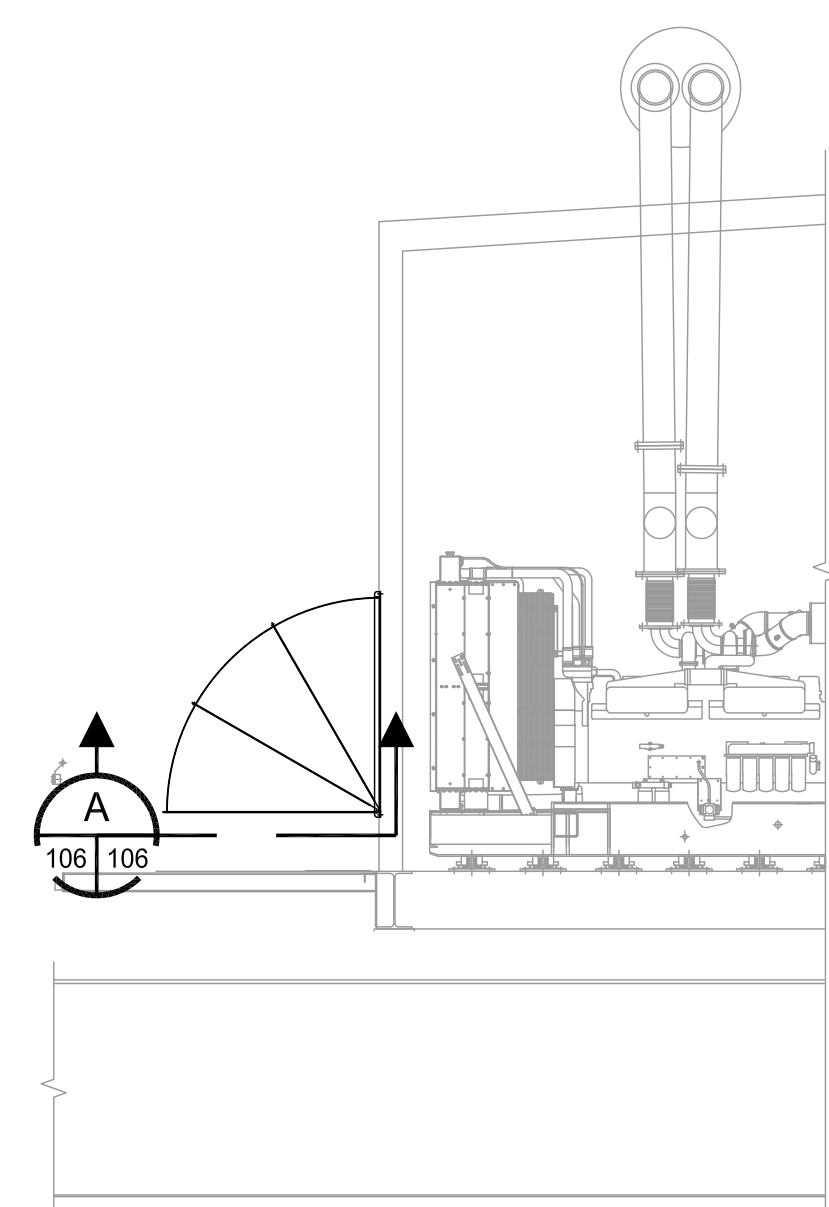


REMOVE FUEL FILTER SYSTEM PIPING

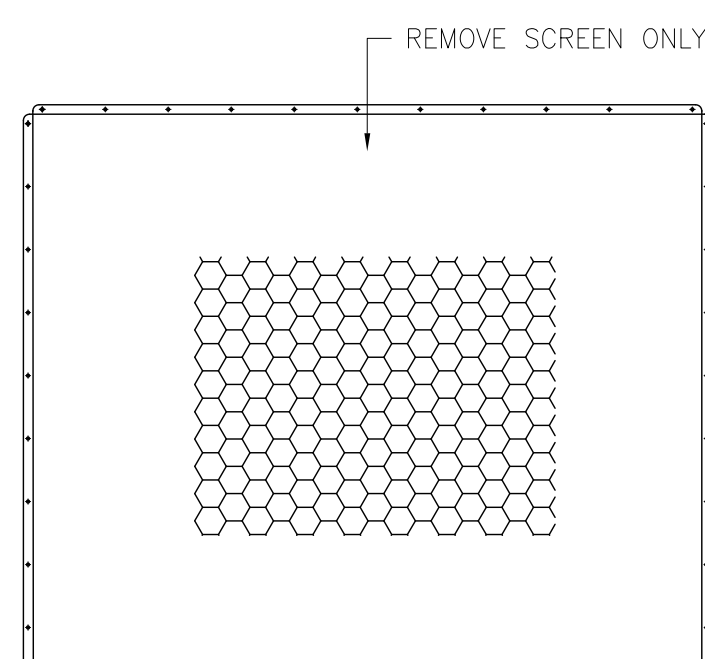
RIGHT SIDE WALL OF ENGINE HOUSE

FUEL STORAGE TANK

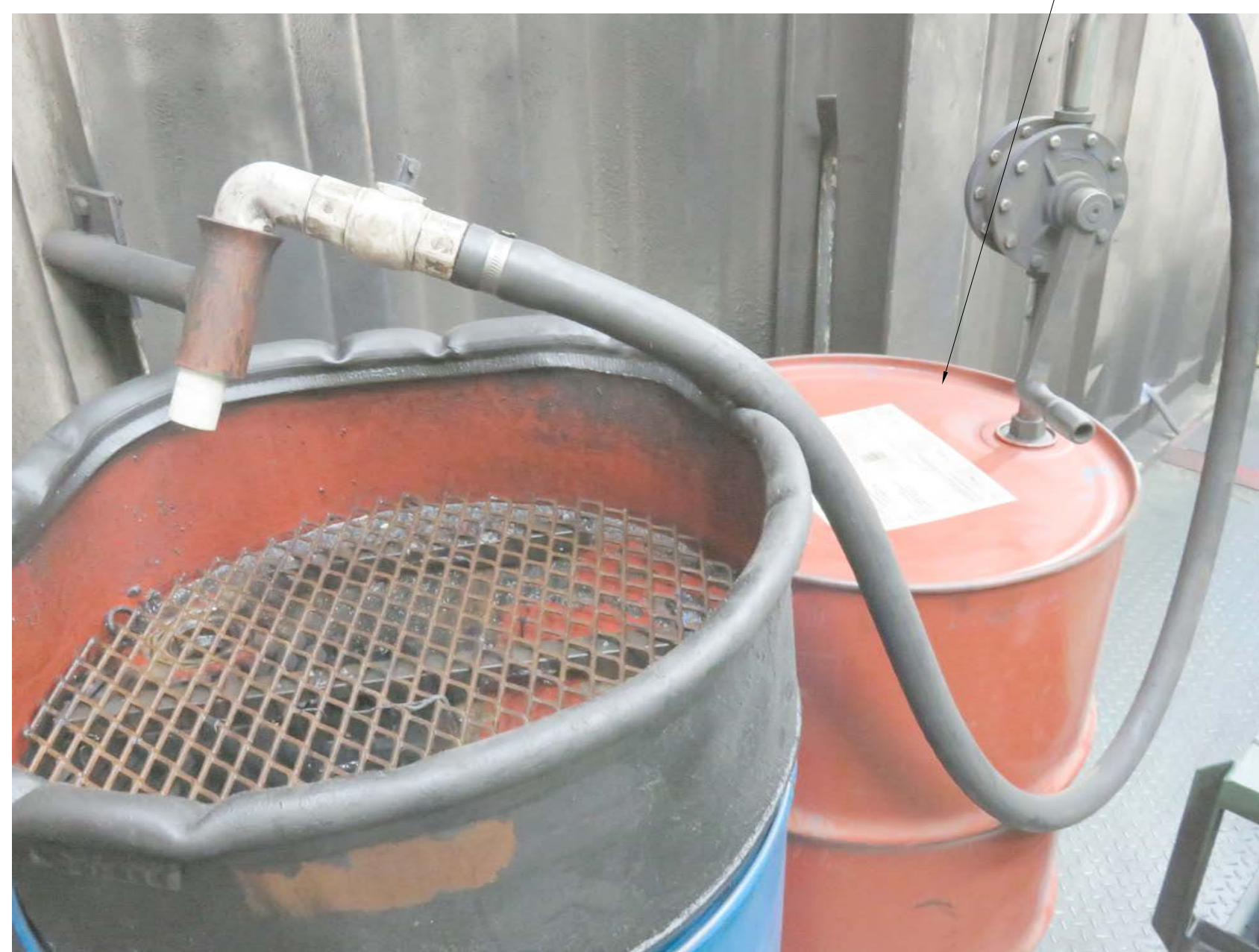
ITEM "I" - REMOVE FUEL FILTER SYSTEM



ITEM "J" - REMOVE COWLING SCREEN

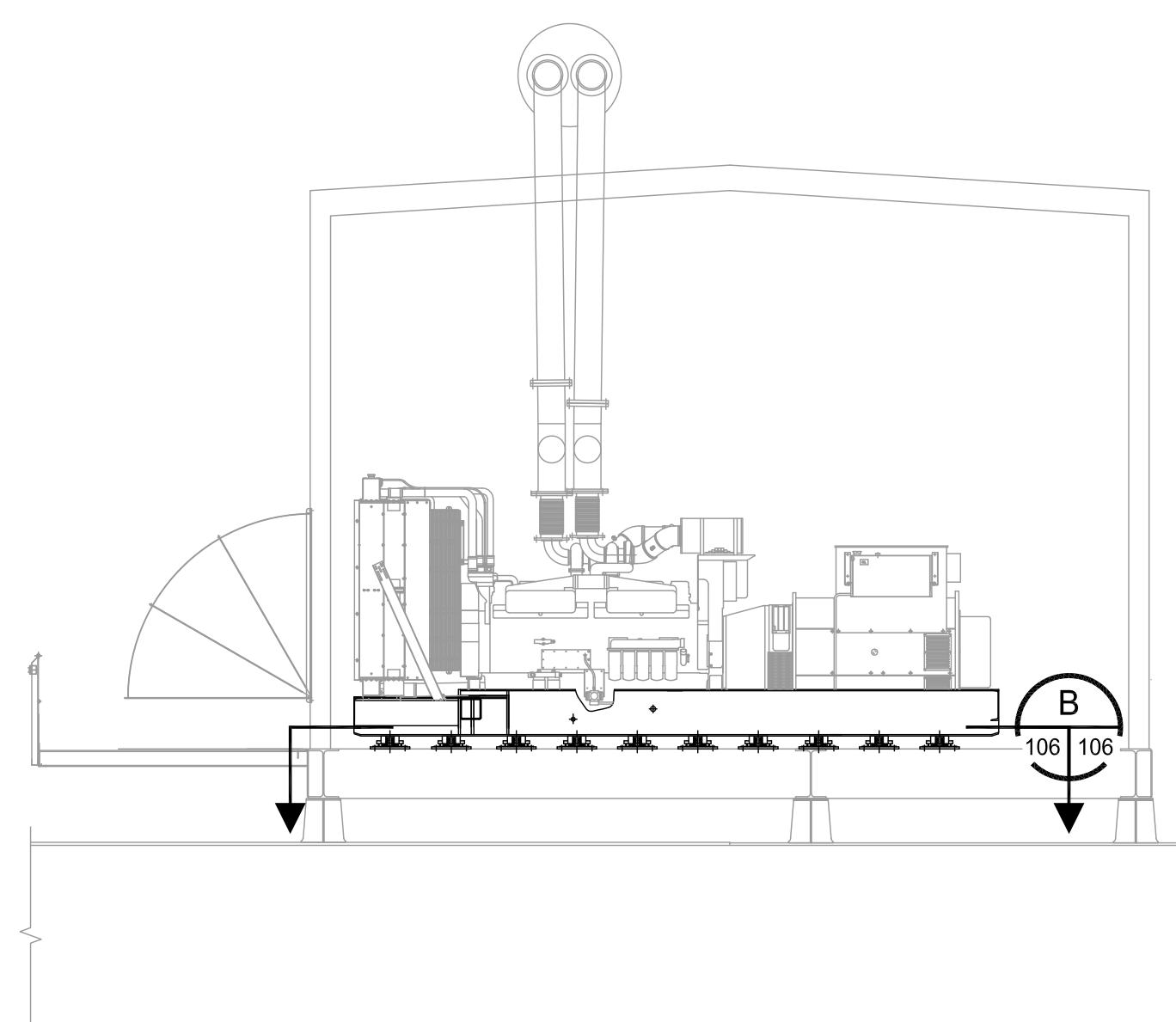


SECTION A
106 106

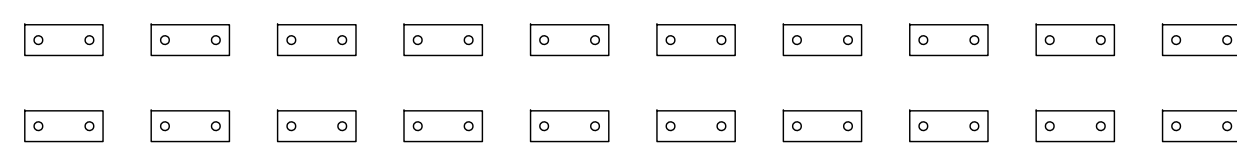


REMOVE AND DISPOSE OF OIL FILTER SYSTEM AS REQUIRED

ITEM "K" - REMOVE OIL FILTER SYSTEM



ITEM "L" - REMOVE GENERATOR SUPPORT WELDMENTS

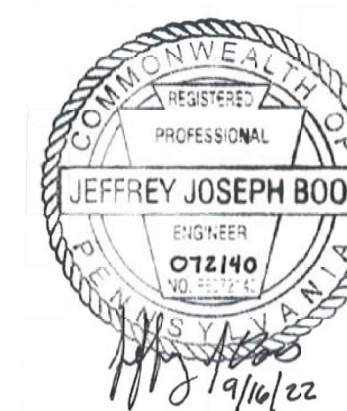


GENSET SUPPORTS: QTY. 20, NOT TO SCALE
REMOVE, GRIND FLUSH AND REPAIR COATING SYSTEM AS REQUIRED

SECTION B
106 106



TYPICAL GENSET SUPPORT



**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE Consulting Engineers		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com			
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA					
PROJECT H-6 & H-7 CRANE ELECTRIFICATION					
DWG TITLE ENGINE HOUSE DEMO ITEMS I, J, K, L					
DRAWN	A.M.G.	DATE 07/15/2020	SCALE NTS	SIZE 24"x36"	
APPROVED	M.J.B.	DATE 07/15/2020	DWG. NO.	REV	
0034		0004.10		0034.0004.10-106	A



CLEAN AND DEGREASE INSIDE OF ENGINE HOUSE. REFER TO TECHNICAL SPECIFICATION FOR REQUIREMENTS.

ITEM "M" - CLEAN, DEGREASE INSIDE OF ENGINE HOUSE



CLEAN AND DEGREASE INSIDE OF ENGINE HOUSE. REFER TO TECHNICAL SPECIFICATION FOR REQUIREMENTS.

ITEM "M" - CLEAN, DEGREASE INSIDE OF ENGINE HOUSE



CLEAN AND DEGREASE INSIDE OF ENGINE HOUSE. REFER TO TECHNICAL SPECIFICATION FOR REQUIREMENTS.

ITEM "M" - CLEAN, DEGREASE INSIDE OF ENGINE HOUSE

REMOVE LOUVERS & GRATING

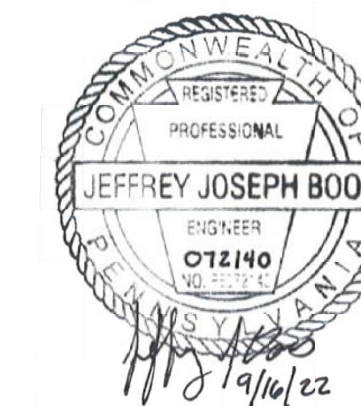


ITEM "N" - REMOVE ENGINE HOUSE EAST WALL LOUVERS

REMOVE LOUVERS & GRATING



ITEM "N" - REMOVE ENGINE HOUSE EAST WALL LOUVERS



**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE DEMO ITEMS M, N			
DRAWN	A.M.G.	DATE	07/15/2020
APPROVED	M.J.B.	DATE	07/15/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NTS	SIZE	24"x36"
DWG. NO.	0034.0004.10-107		
REV	A		

Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0_CADD\1_DWG\6_ISSUED FOR BID 2022-09-16\0034.10-108 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 8:14:13 AM, Addba PDF



LEG #4

LEG PIPING TO REMAIN. FURNISH AND INSTALL CAP AT FLANGE

DETERMINE AND REMOVE PUMP AND CABLING

REMOVE FUEL PUMP AND GANTRY LEVEL PIPING AND HOSES

ITEM "O" - FUEL SUPPLY PUMP DEMO



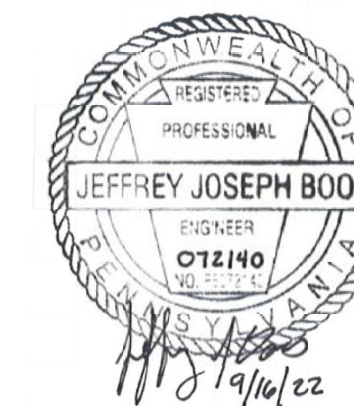
RELOCATE AS REQUIRED

ITEM "P" - RELOCATE LIFE RING (H-6)



RELOCATE AS REQUIRED

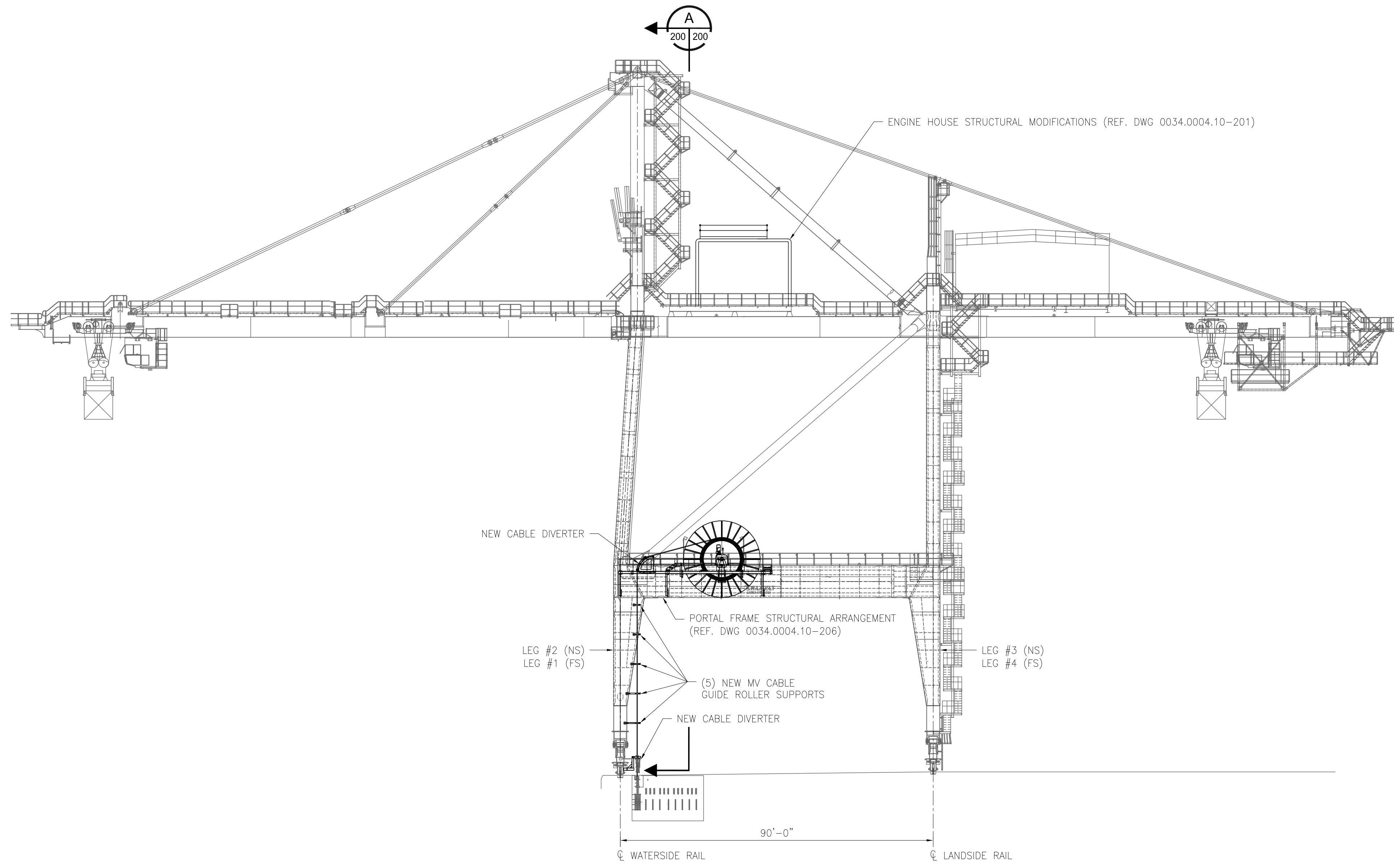
ITEM "P" - RELOCATE LIFE RING & SPILL KIT (H-7)



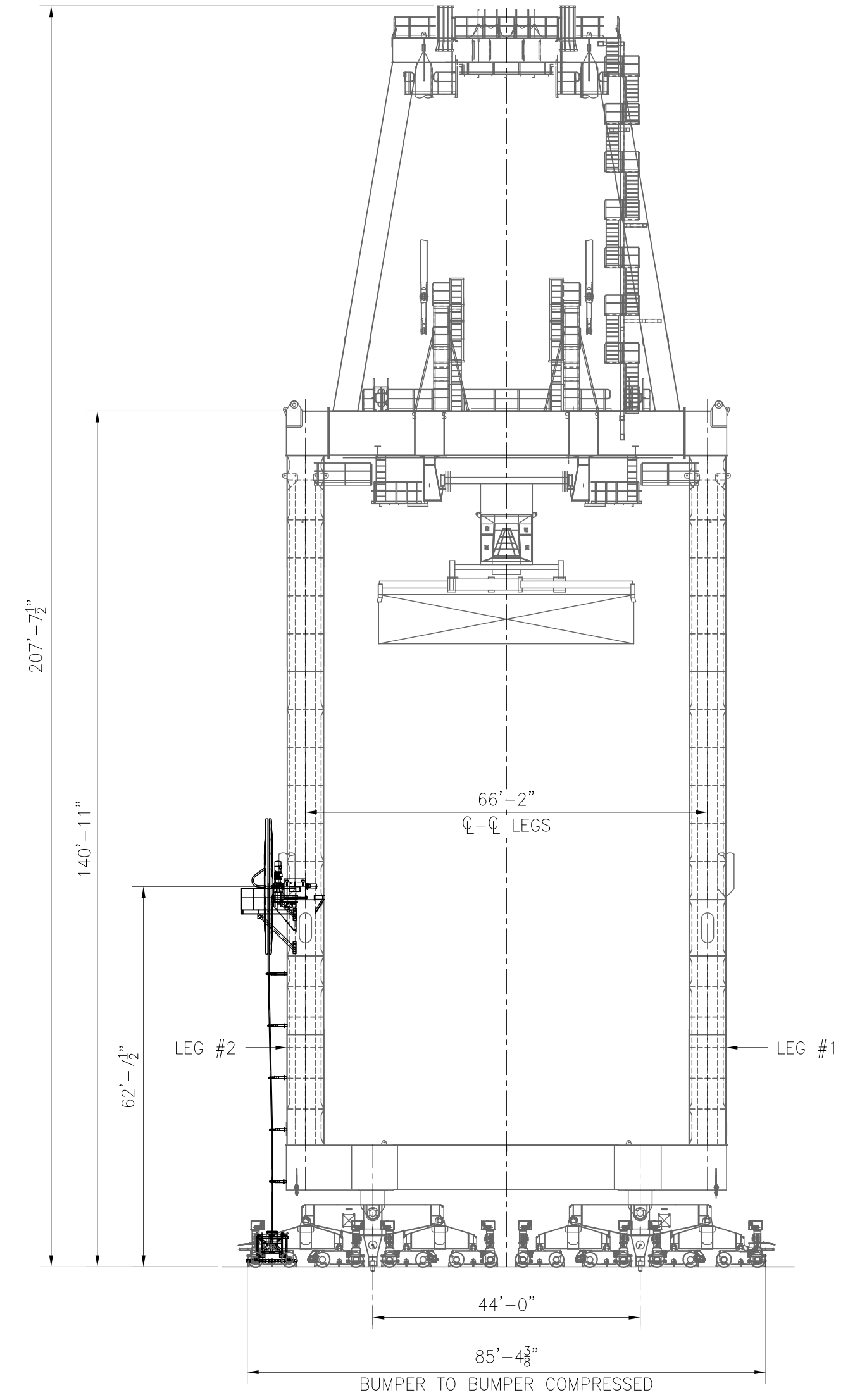
ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.
P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com			
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: DEMO ITEM "O" & ITEM "P"			
DRAWN	A.M.G.	DATE 07/24/2020	SCALE NTS SIZE 24"x36"
APPROVED	M.J.B.	DATE 07/24/2020	DWG. NO. 0034.0004.10-108
CLIENT NO.	0034	PROJECT NO.	0004.10
			REV A

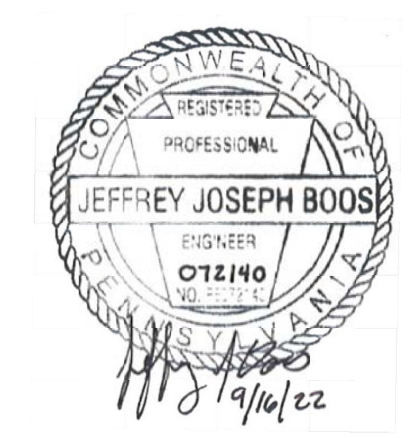
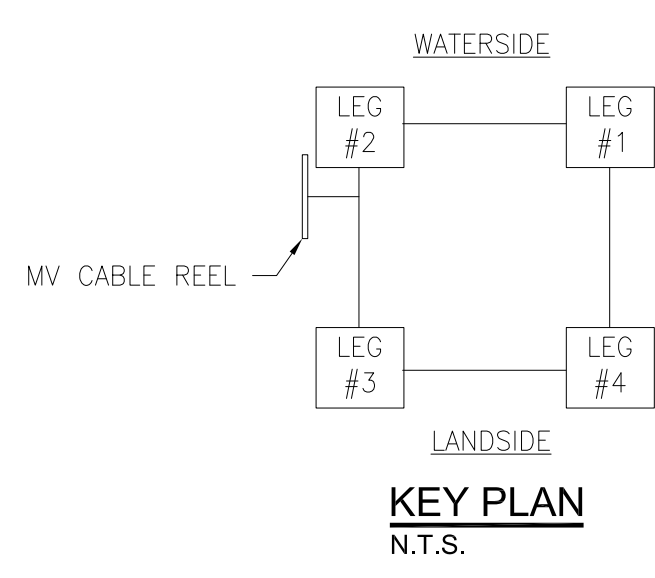
Z:\Projects\0034-PhiladelphiaPort\004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-200_RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 8:23:00 AM, Adobe PDF



ELEVATION
1"=20'-0"



SECTION A
1"=20'-0"

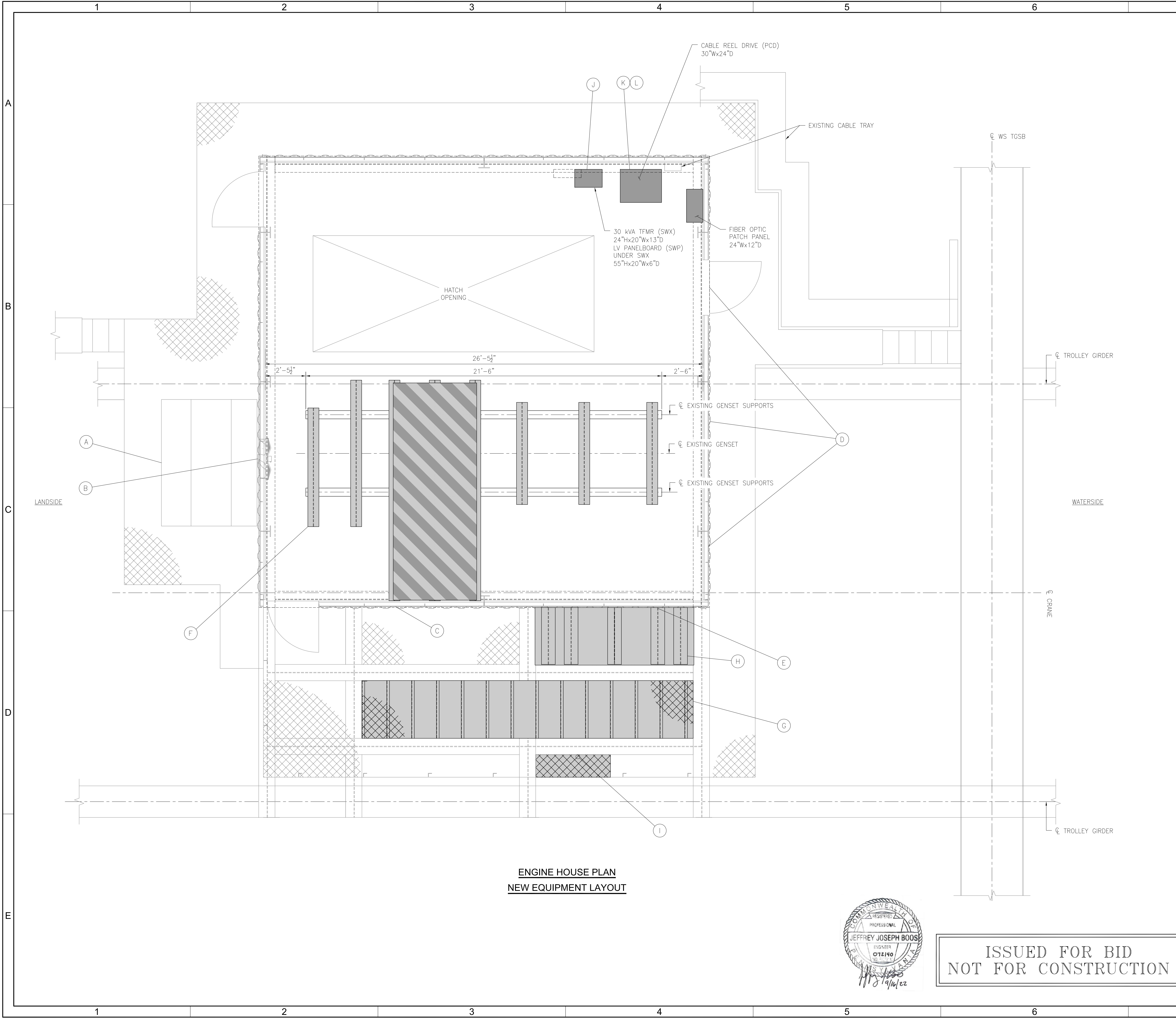


ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE STRUCTURAL ARRANGEMENT			
DRAWN	A.M.G.	DATE	07/24/2020
APPROVED	M.J.B.	DATE	07/24/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-200		REV
			A

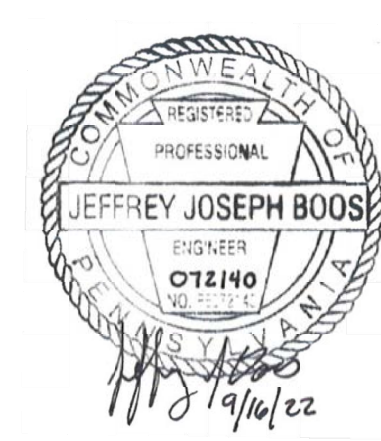
Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-201 RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 1:25:36 PM, Adobe PDF



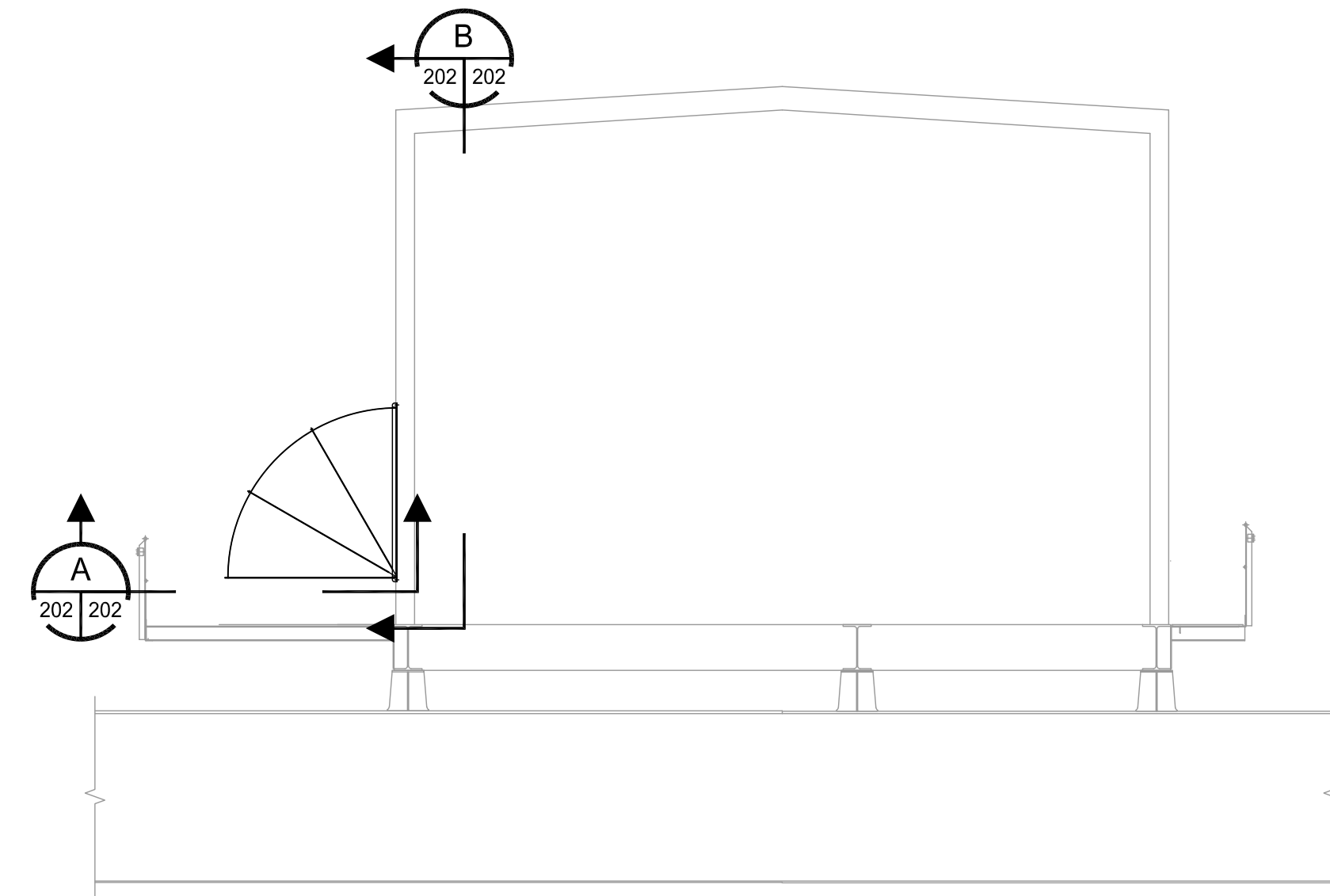
SCOPE ITEMS		
ITEM	DESCRIPTION	DRAWING NO.
A	INSTALL NEW COWLING SCREEN	0034.0004.10-202
B	INSTALL NEW VENTILATION FAN	0034.0004.10-202
C	REPAIR MUFFLER WALL PENETRATION	0034.0004.10-202
D	SEAL ENGINE HOUSE EAST WALL	0034.0004.10-202
E	SEAL ENGINE HOUSE WALL PIPE PENETRATION	0034.0004.10-202
F	INSTALL ASW, DSW SUPPORT FRAME	0034.0004.10-203
G	INSTALL GRATING OVER TANK SUPPORT	0034.0004.10-204
H	INSTALL MAIN SWITCHGEAR SUPPORT FRAME	0034.0004.10-204
I	CAP ABANDONED DIESEL SUPPLY LINE	0034.0004.10-204
J	INSTALL SWX/SWP SUPPORTS	0034.0004.10-205
K	INSTALL PCD SUPPORTS	0034.0004.10-205
L	INSTALL PCD RESTRAINT	0034.0004.10-205

- NOTES:
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

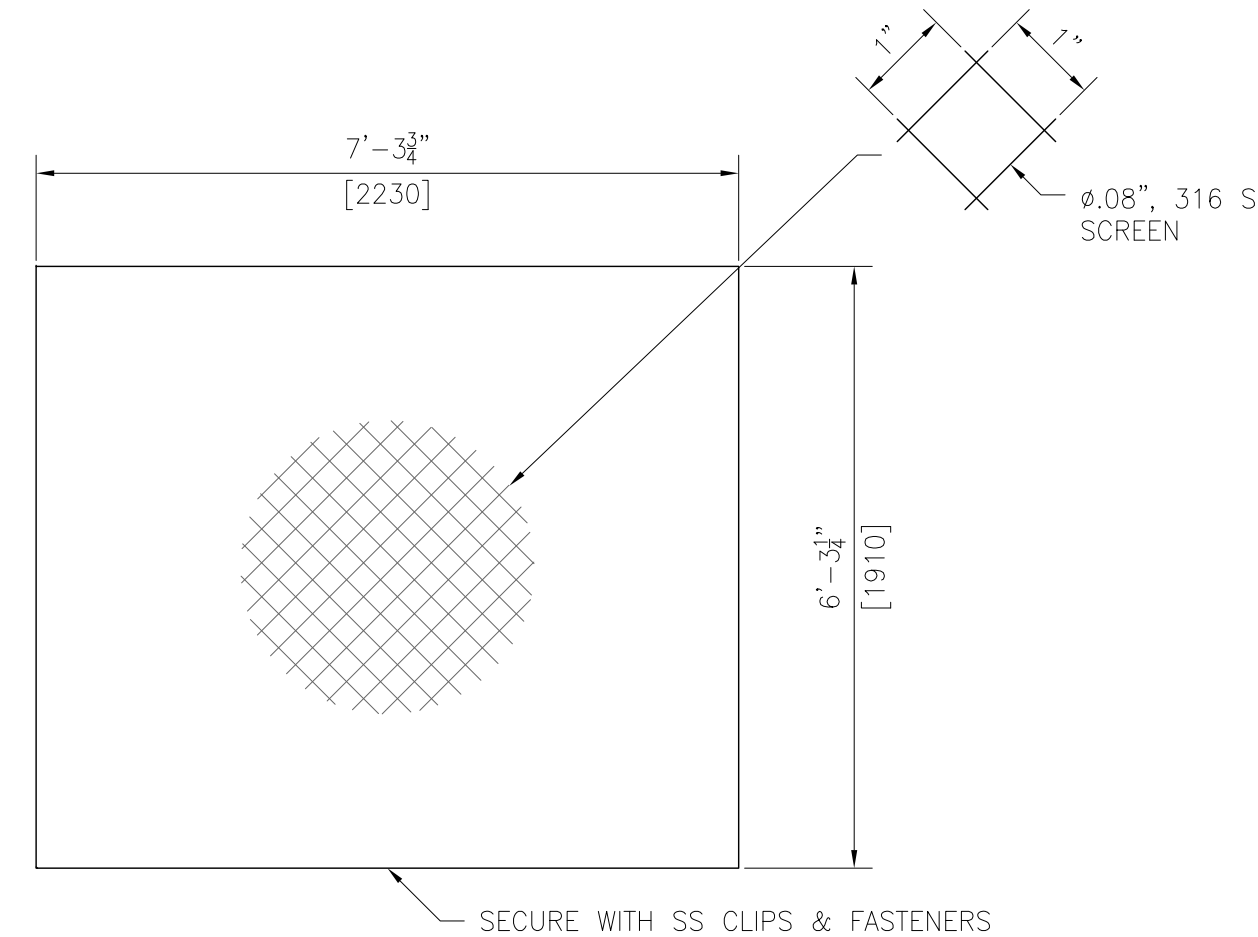
A	09/16/2022	ISSUED FOR BID	M.J.B.
REV	DATE	DESCRIPTION	APPROVED
		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE ENGINE HOUSE STRUCTURAL MODIFICATIONS			
DRAWN	A.M.G.	DATE	07/07/2020
APPROVED	M.J.B.	DATE	07/07/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO. 0034.0004.10-201		REV A	



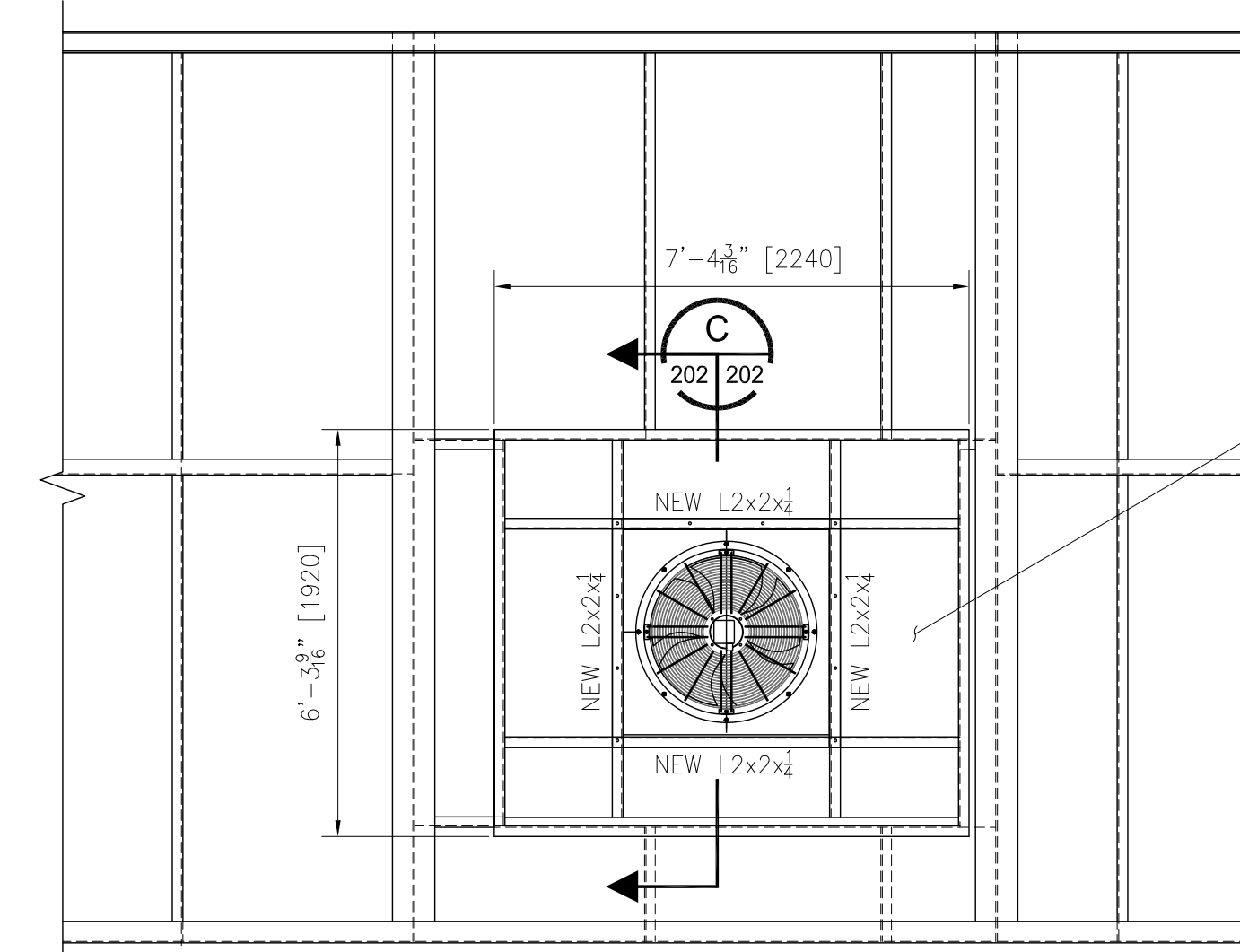
ISSUED FOR BID
 NOT FOR CONSTRUCTION



ITEM "A" - INSTALL NEW COWLING SCREEN
3/16"=1'-0"

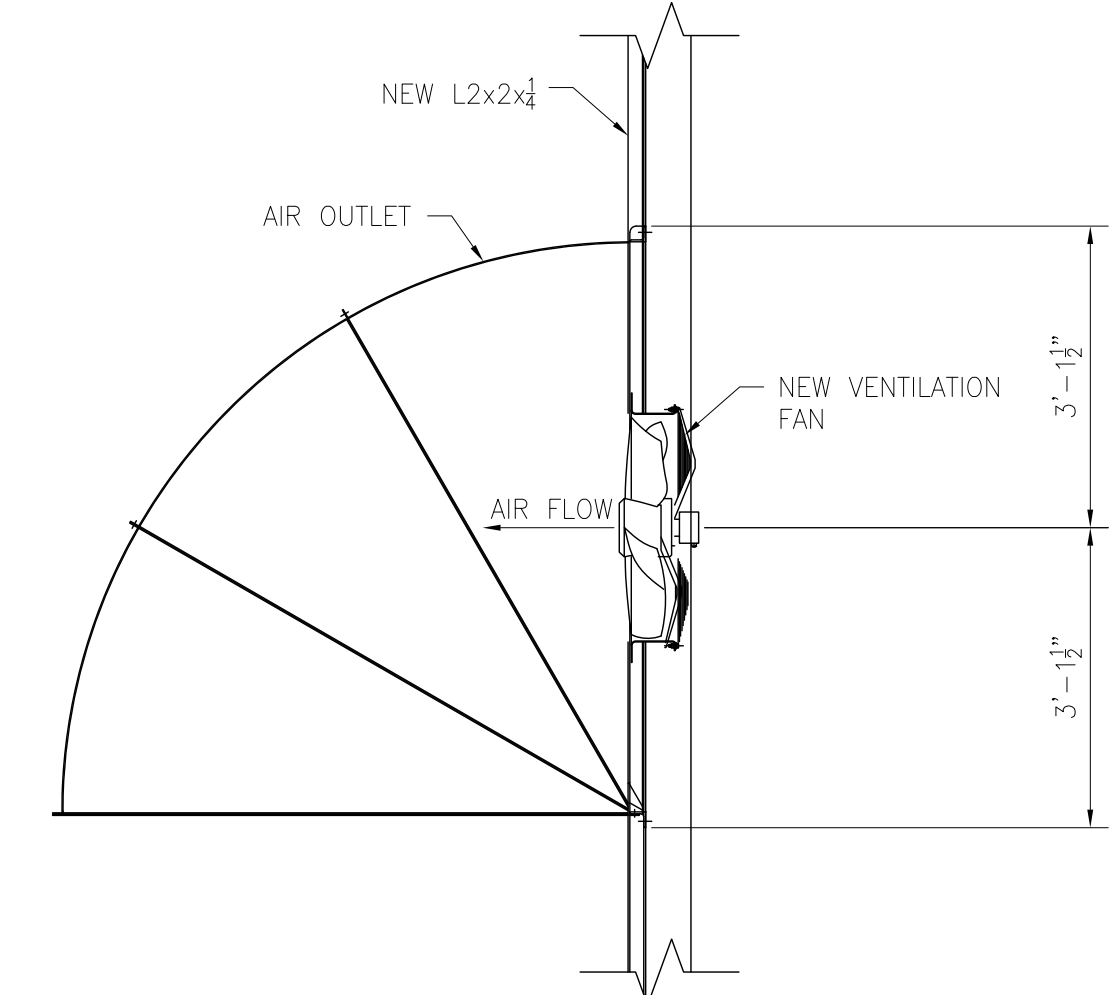


SECTION A
1/2"=1'-0"

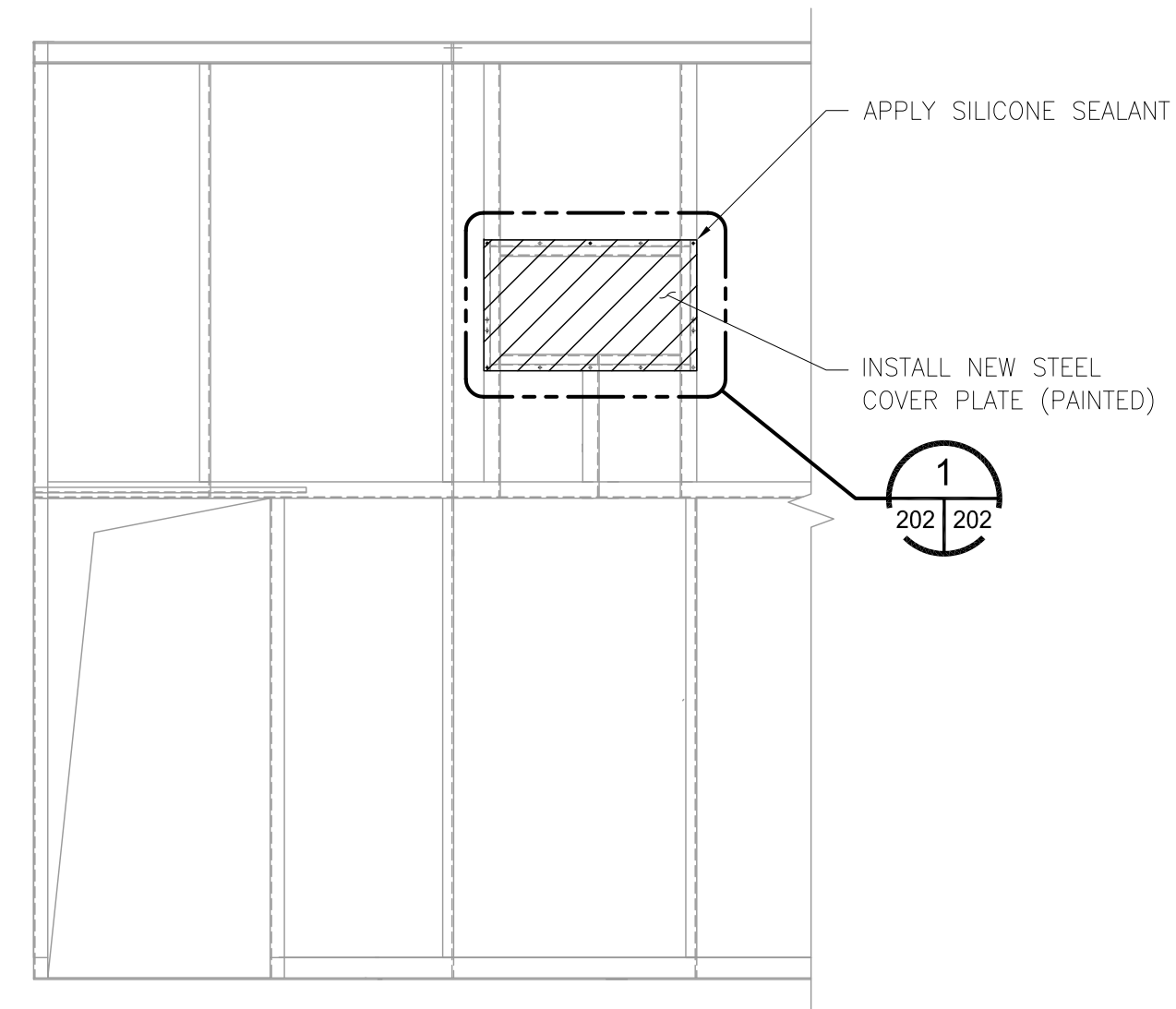


ITEM "B" - INSTALL NEW VENTILATION FAN

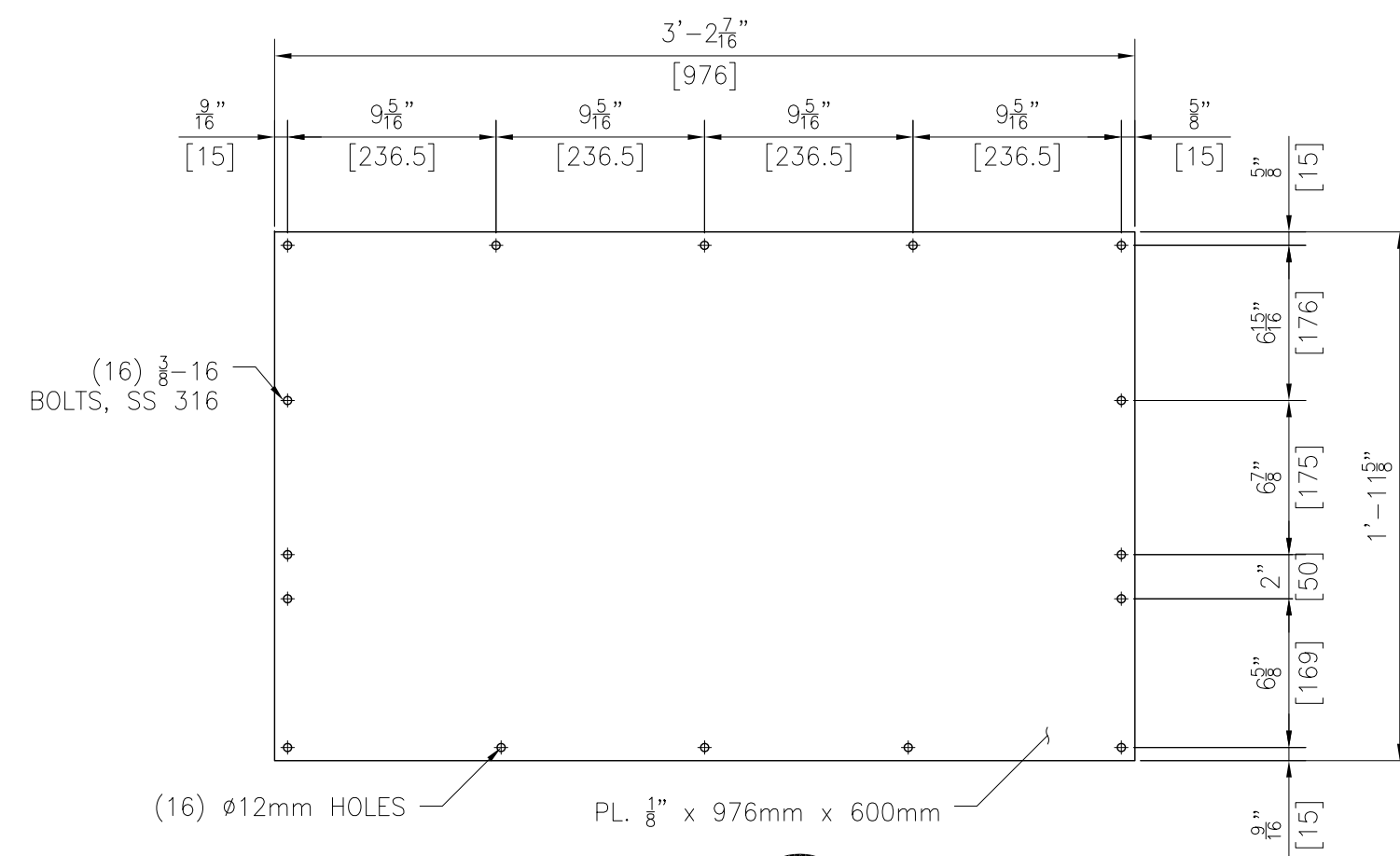
SECTION B
3/8"=1'-0"



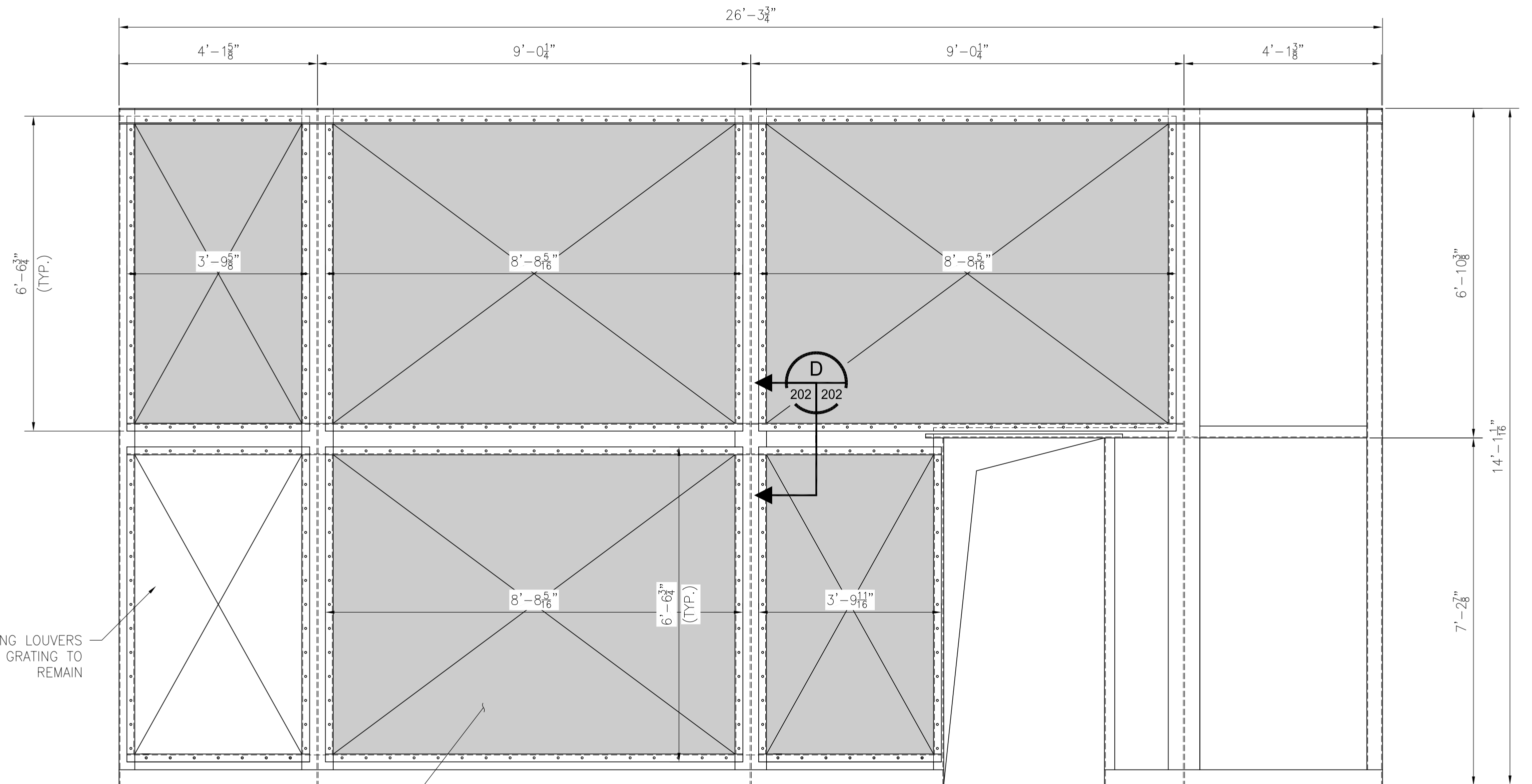
SECTION C
3/8"=1'-0"



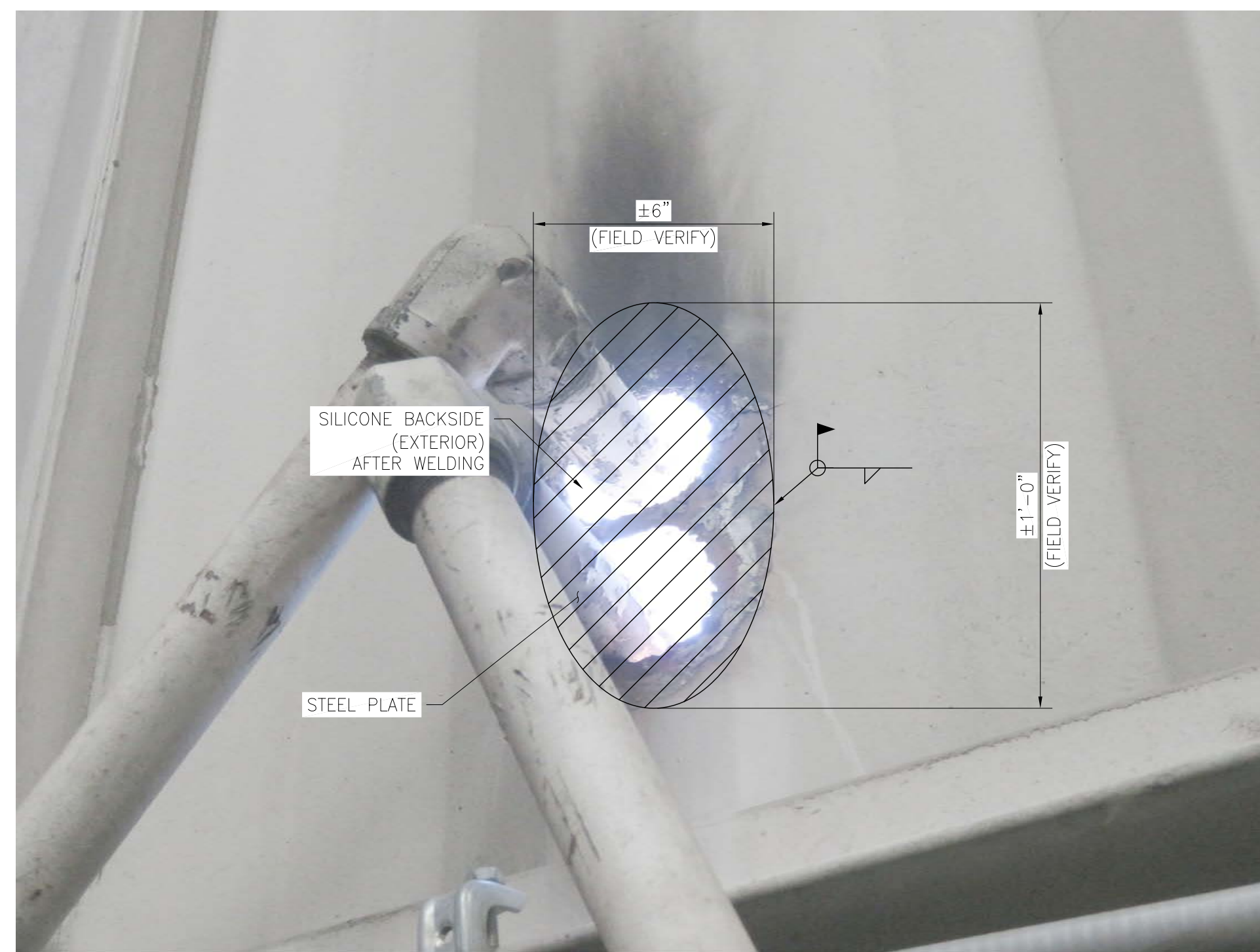
ITEM "C" - REPAIR MUFLER WALL PENETRATION



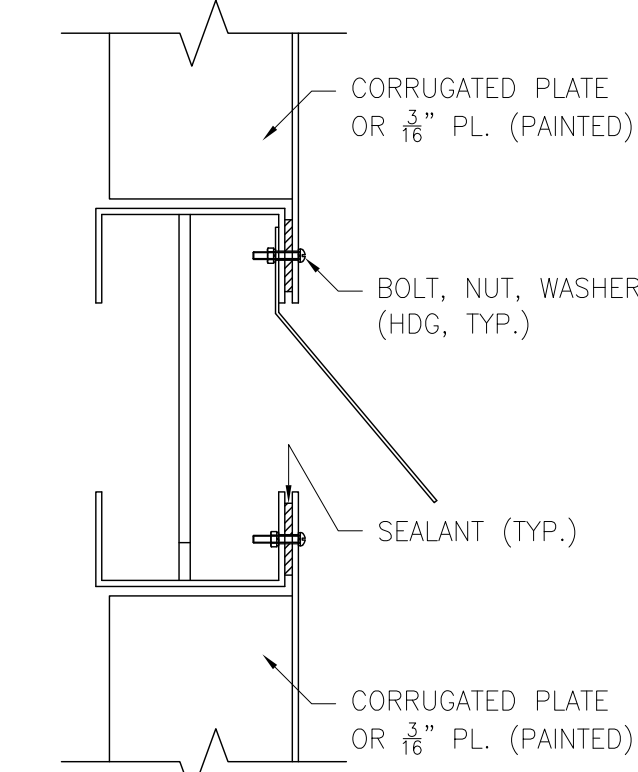
DETAIL 1
1-1/2"=1'-0"



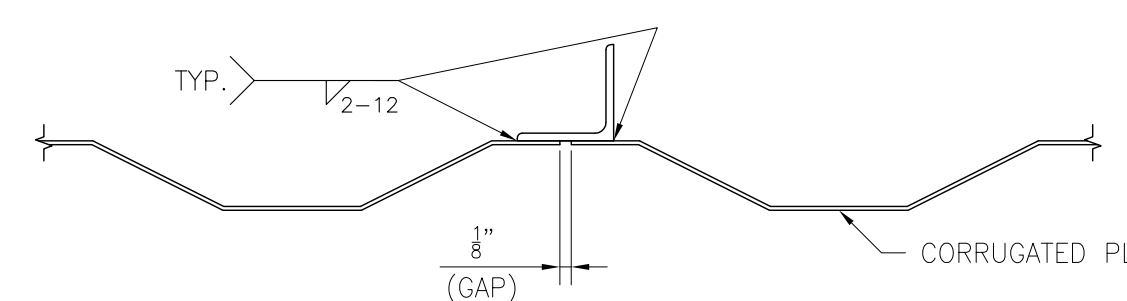
ITEM "D" - SEAL OUTSIDE EAST WALL
1/2"=1'-0"
(REF. OEM DWG 01-T11BN-22-2E002)



ITEM "E" - SEAL ENGINE HOUSE WALL PIPE PENETRATION
NTS
TWO (2) EA. LOCATIONS



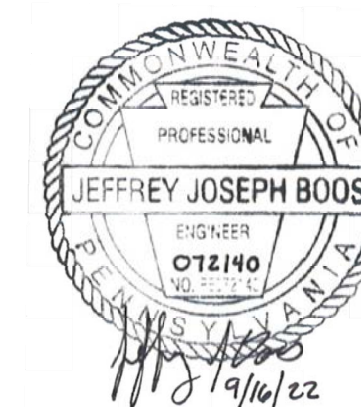
SECTION D
3"=1'-0"



TYPICAL WALL CORRUGATED PLATE SECTION
6"=1'-0"

NOTES:

- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
- ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
- CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
- CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
- CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

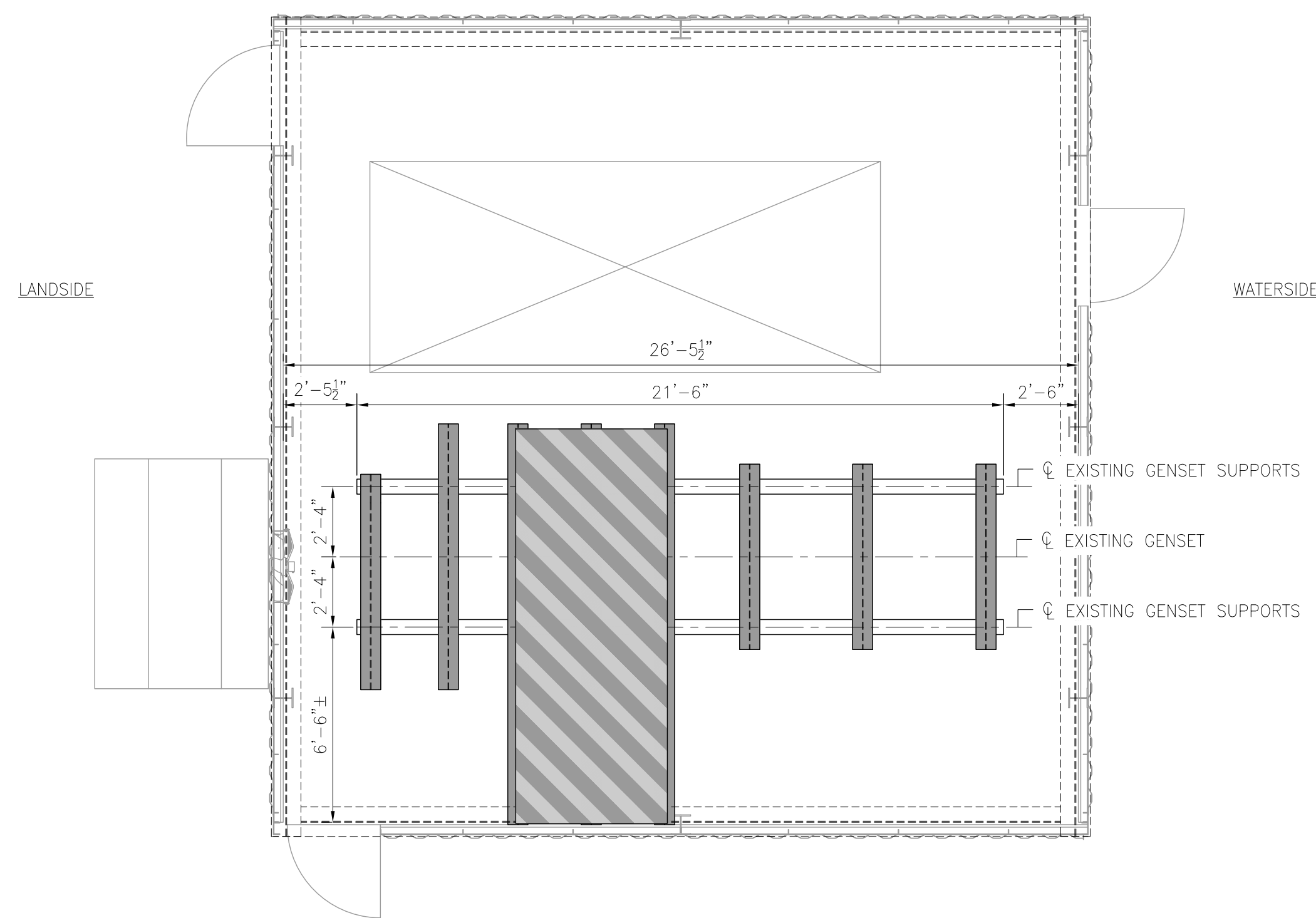


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

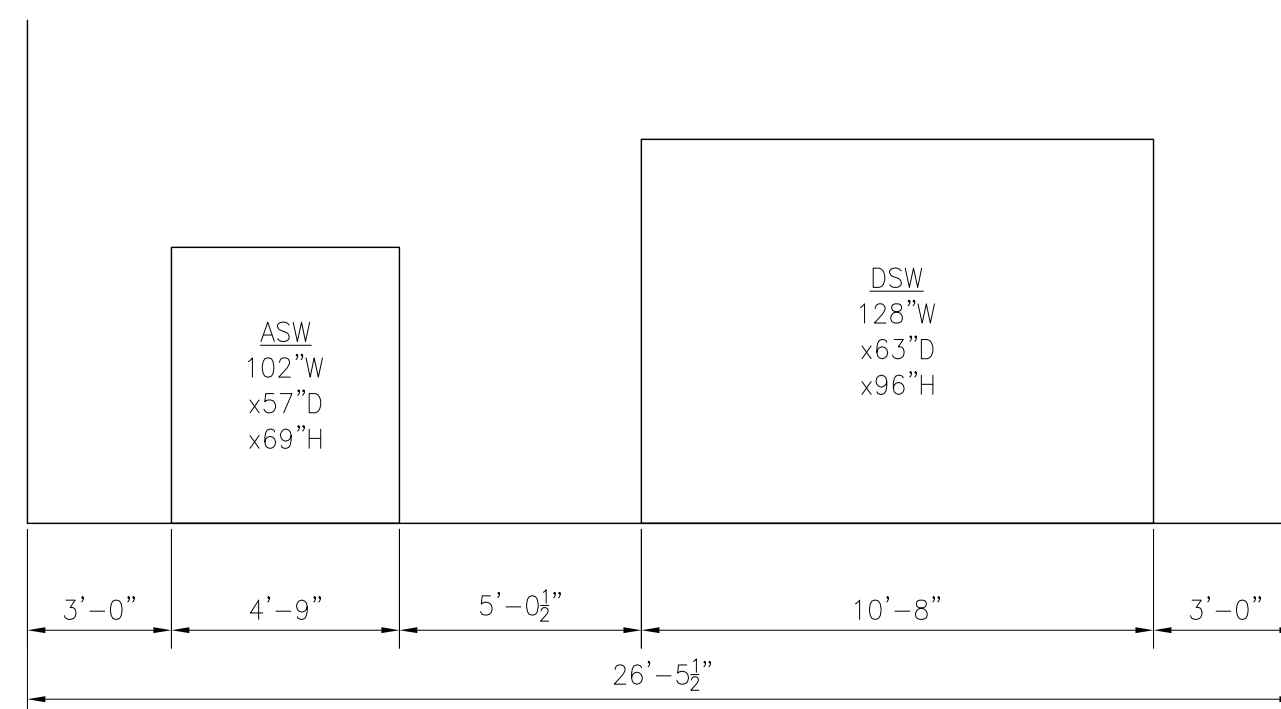
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE <i>Consulting Engineers</i>		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: Packer Avenue Marine Terminal Philadelphia Regional Port Authority Philadelphia, Pennsylvania			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS A, B, C, D			
DRAWN	A.M.G.	DATE	07/18/2020
APPROVED	M.J.B.	DATE	07/18/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.		0034.0004.10-202	
REV			A

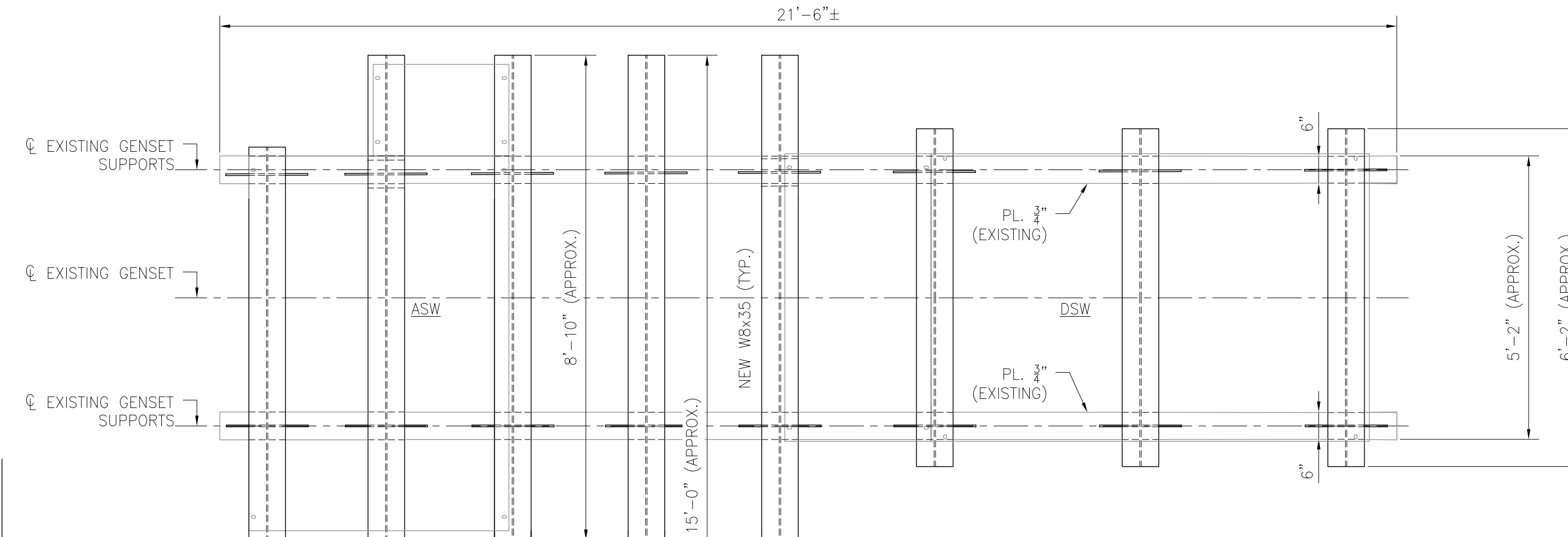
Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-203 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 1:27:53 PM, Adobe PDF



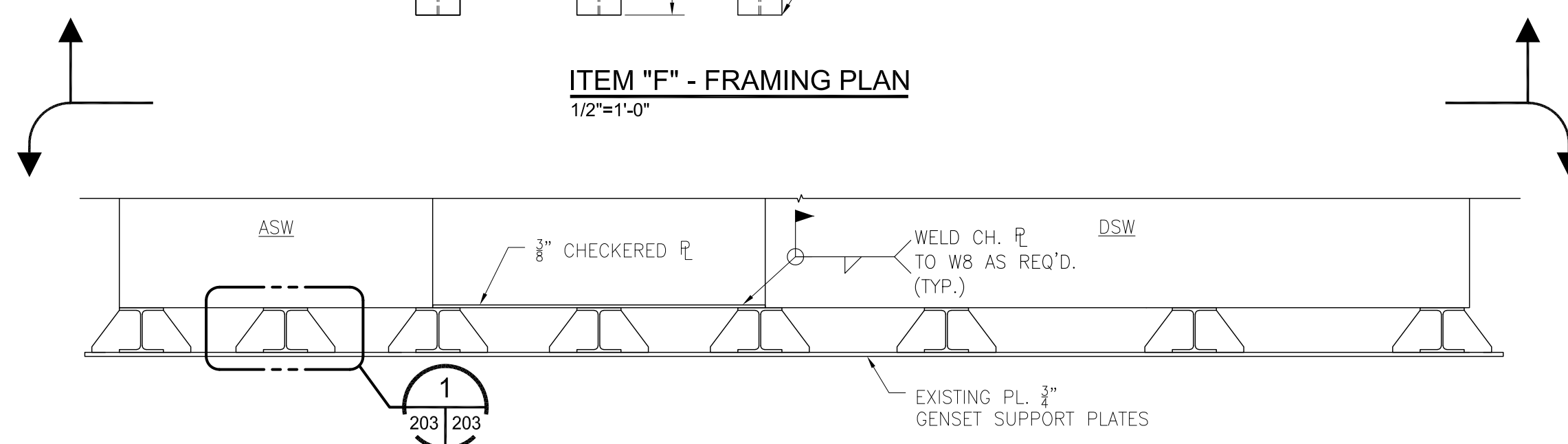
ITEMS "F" - PLAN VIEW
1/2"=1'-0"



ITEM "F" - INSTALL ASW, DSW SUPPORT FRAME
1/4"=1'-0"



ITEM "F" - FRAMING PLAN
1/2"=1'-0"



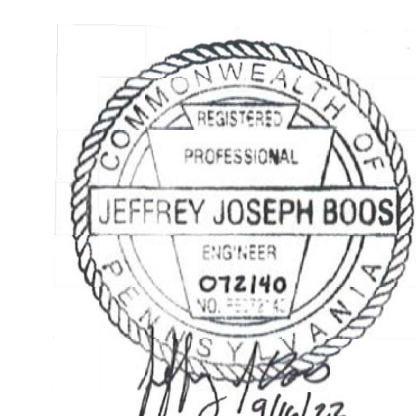
DETAIL 1
1-1/2"=1'-0"

EXTEND TO WALL PENETRATION
(REF. DWG 0034.0004.10-305)

NOTE:
CONTRACTOR TO COORDINATE ALL
FASTENING OF ELECTRICAL EQUIPMENT &
ALIGNMENT, LENGTH OF W8x35 SUPPORTS
WITH ELECTRICAL COMPONENT SUPPLIER.

- NOTES:
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

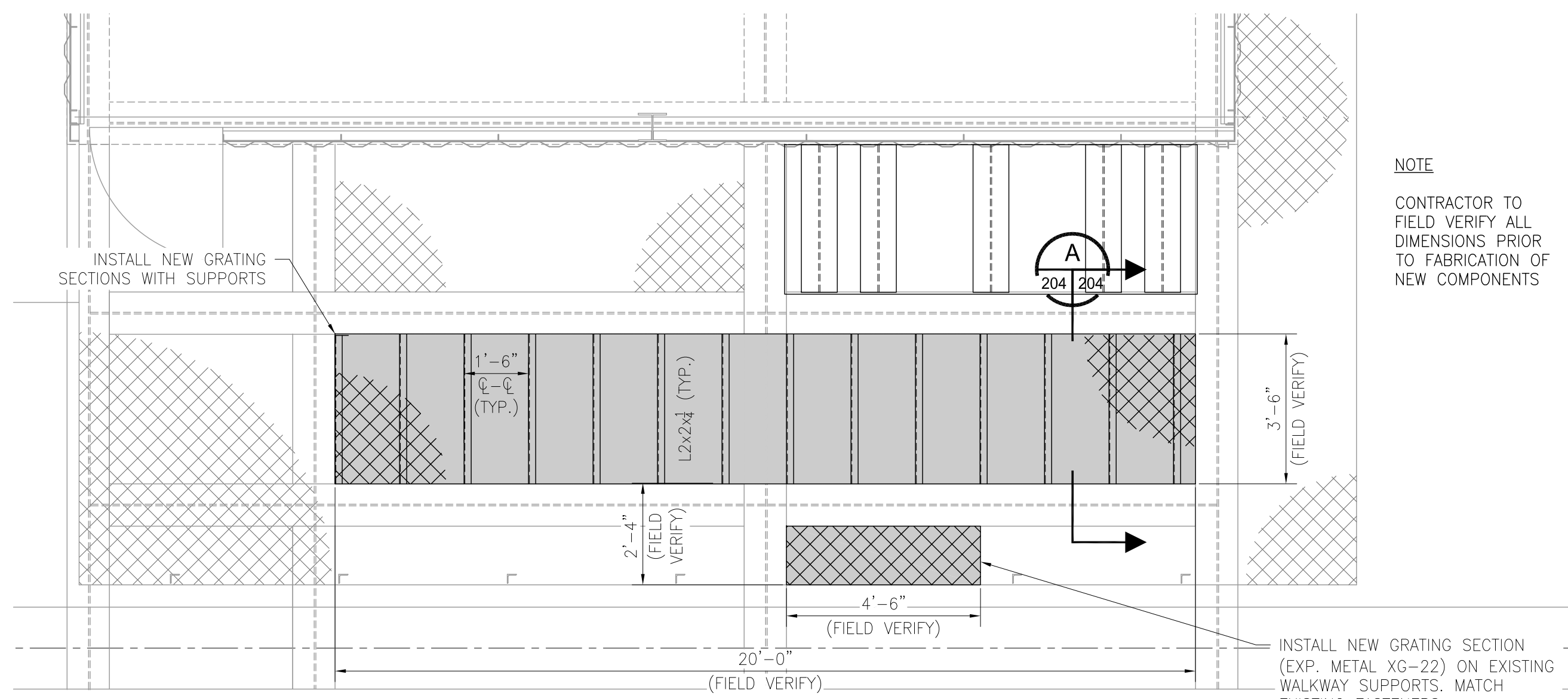
ISSUED FOR BID
NOT FOR CONSTRUCTION



REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

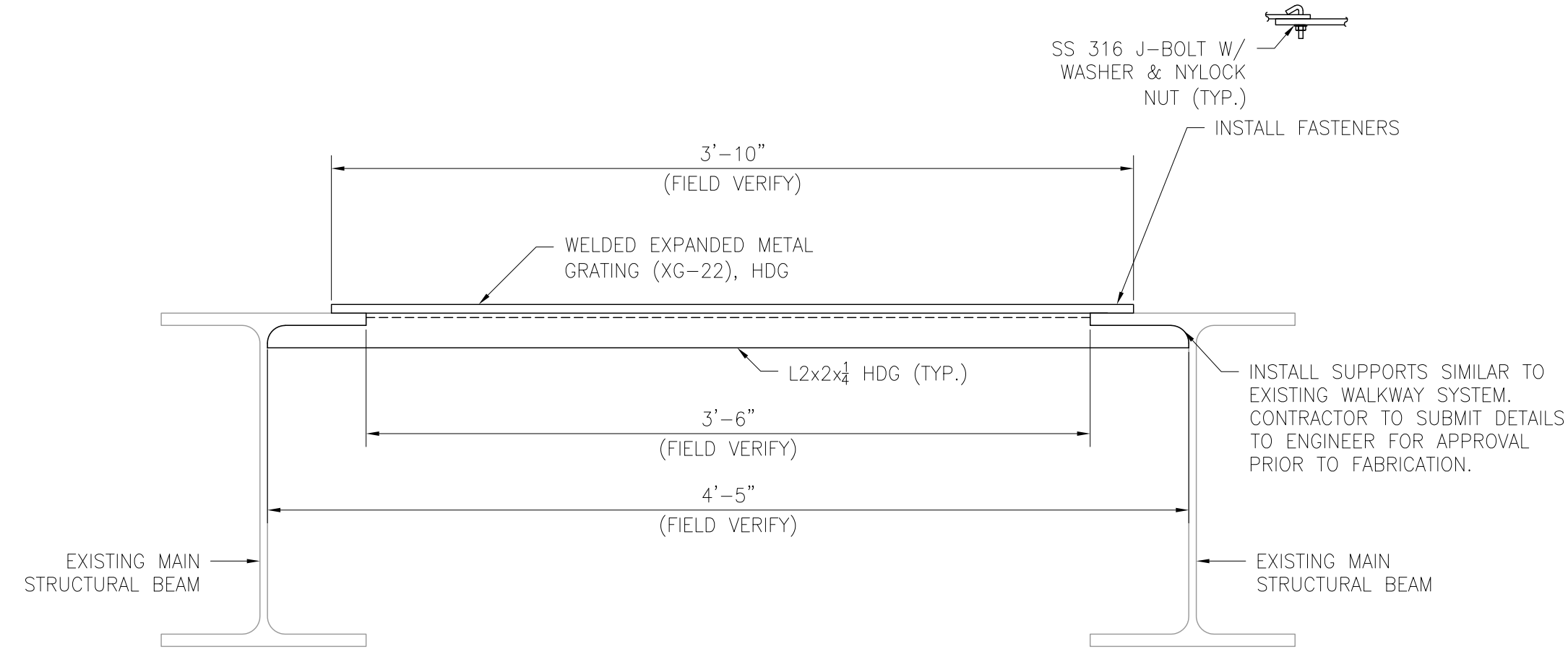
		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEM F			
DRAWN	A.M.G.	DATE	07/18/2020
APPROVED	M.J.B.	DATE	07/18/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.		0034.0004.10-203	
REV		A	

Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0 CAD\1 DWG\6 ISSUED FOR BID 2022-09-16\0031.0004.10-204 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 1:40:22 PM, Adobe PDF

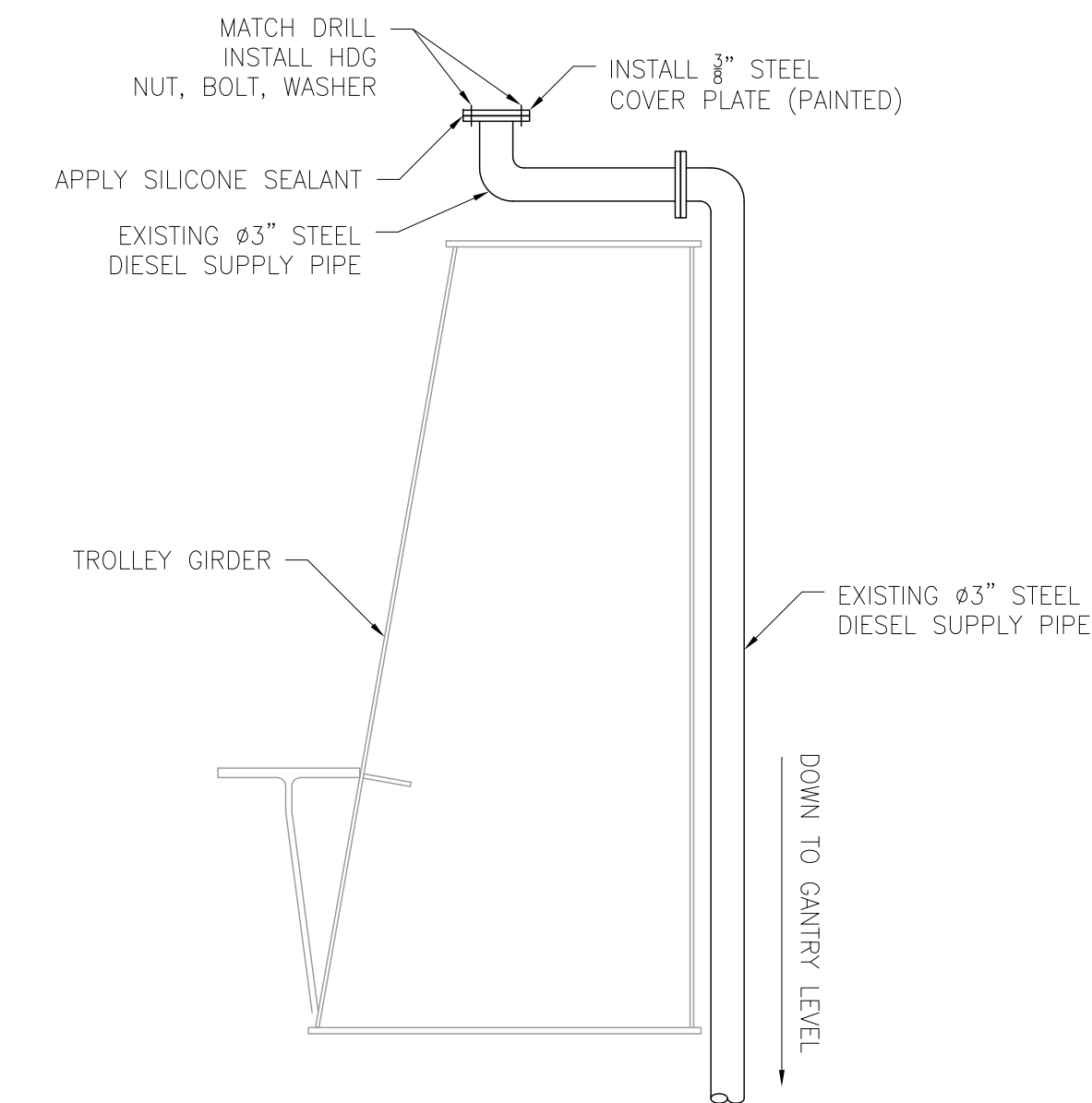


ITEM "G" - INSTALL NEW GRATING OVER DIESEL TANK SUPPORT & SUPPLY PIPE PENETRATION
3/8"=1'-0"

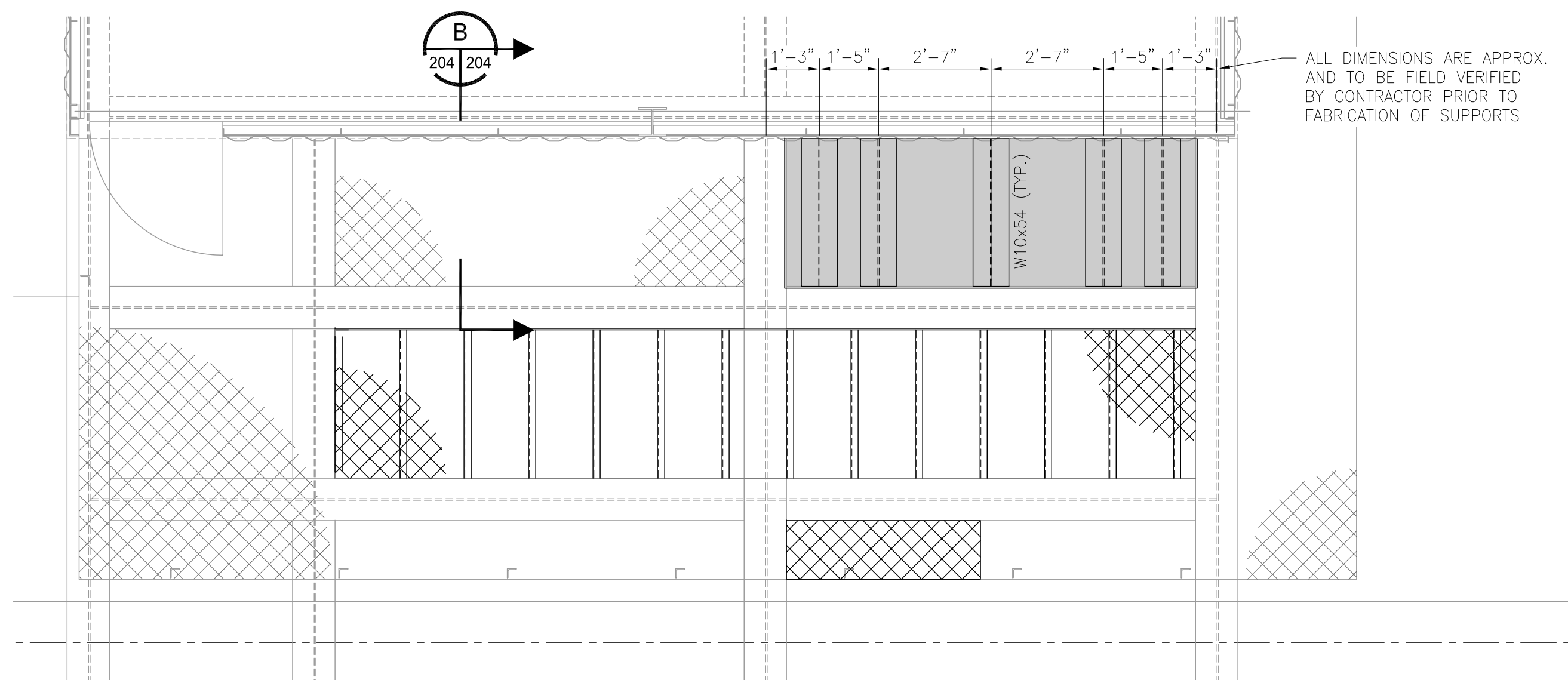
NOTE
CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF NEW COMPONENTS



SECTION A
1-1/2"=1'-0" 204 204

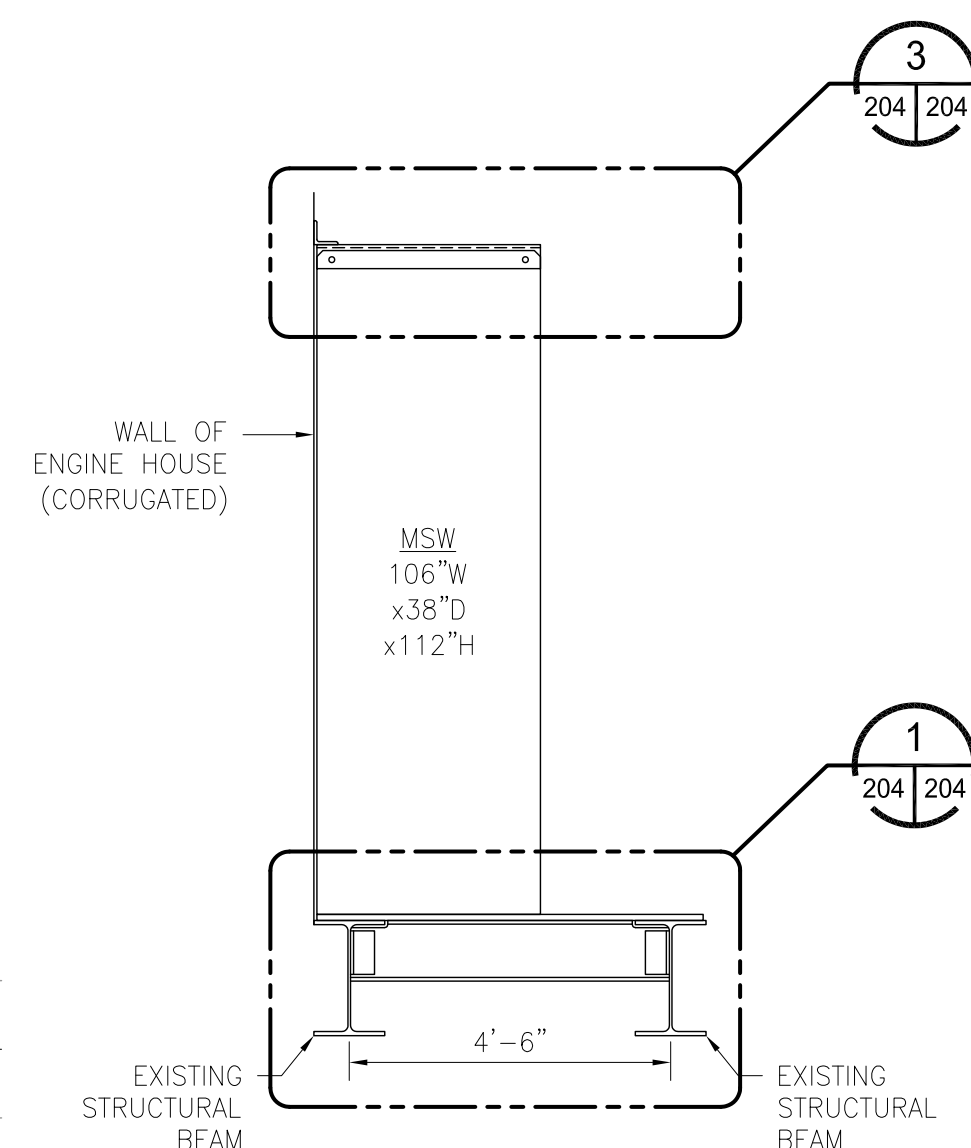


ITEM "I" - CAP ABANDONED DIESEL SUPPLY LINE
3/16"=1'-0"

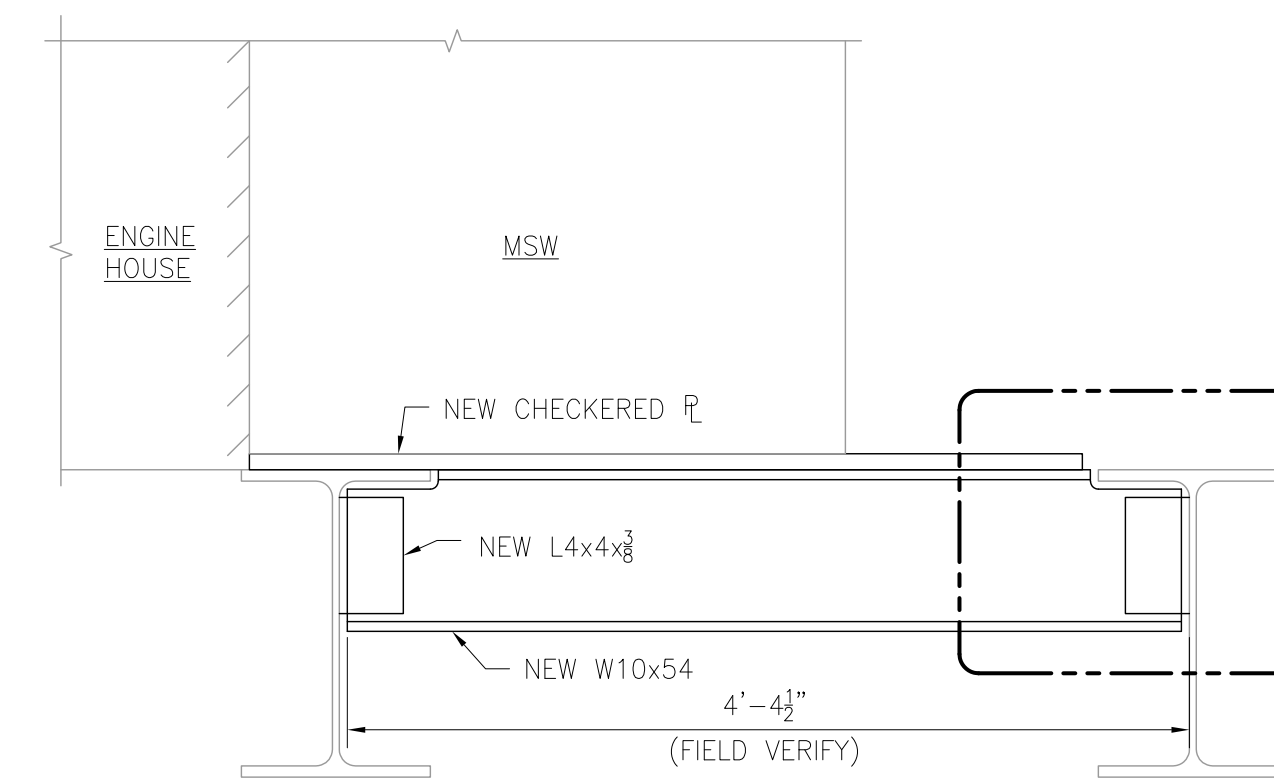


ITEM "H" - INSTALL MAIN SWITCHGEAR SUPPORT FRAME
3/8"=1'-0"

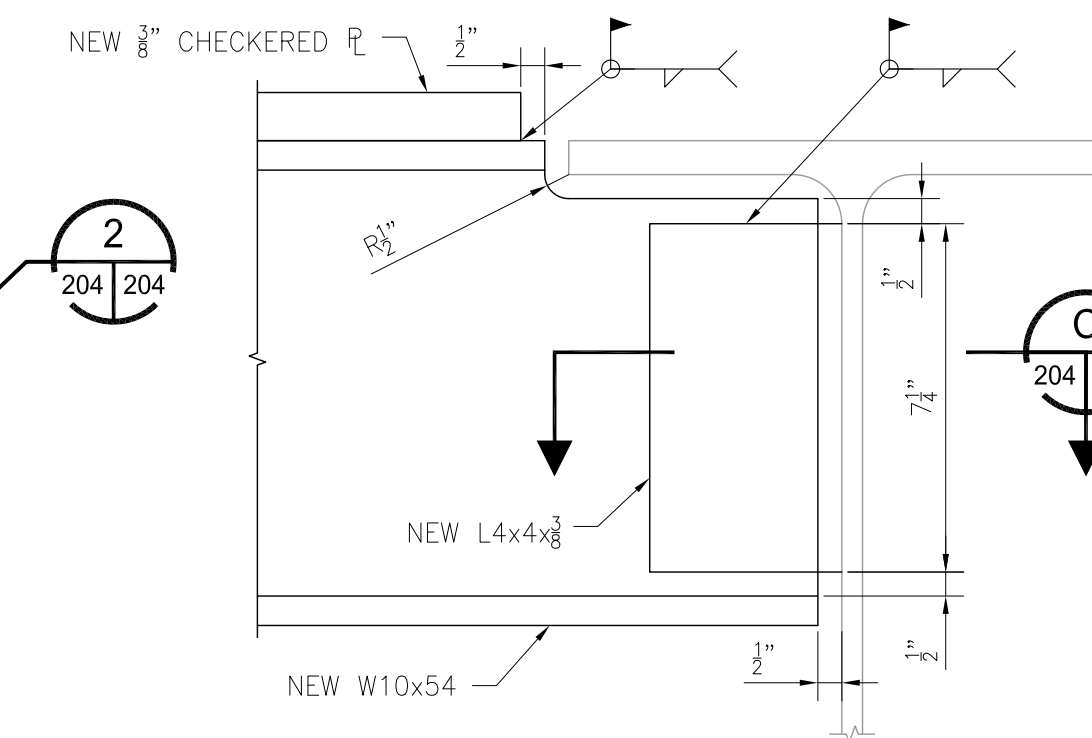
ALL DIMENSIONS ARE APPROX. AND TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO FABRICATION OF SUPPORTS



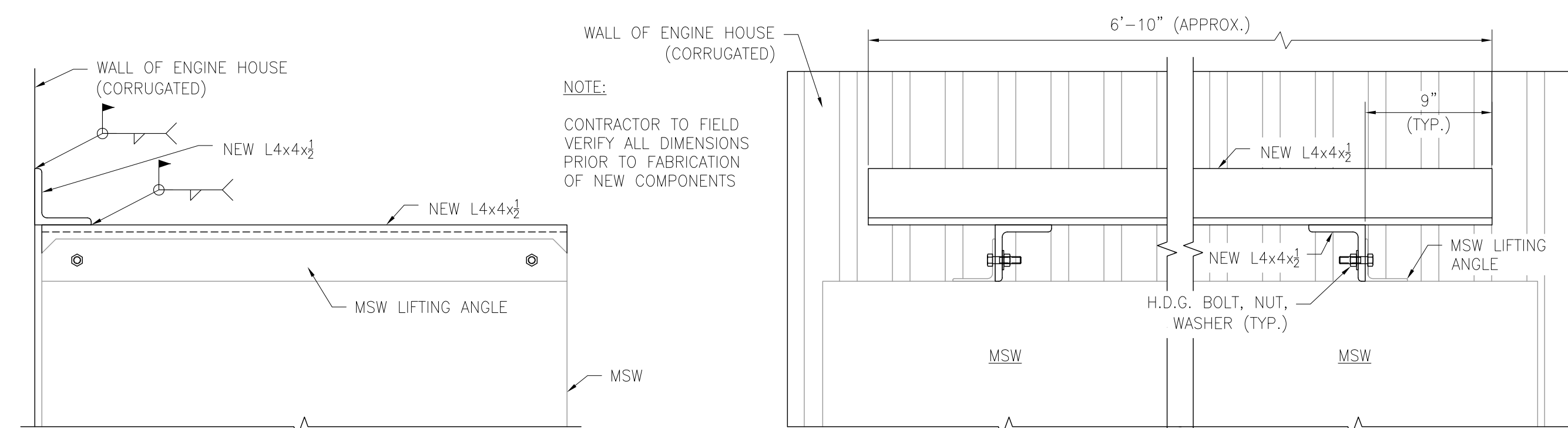
SECTION B
3/8"=1'-0" 204 204



DETAIL 1
1"=1'-0" 204 204

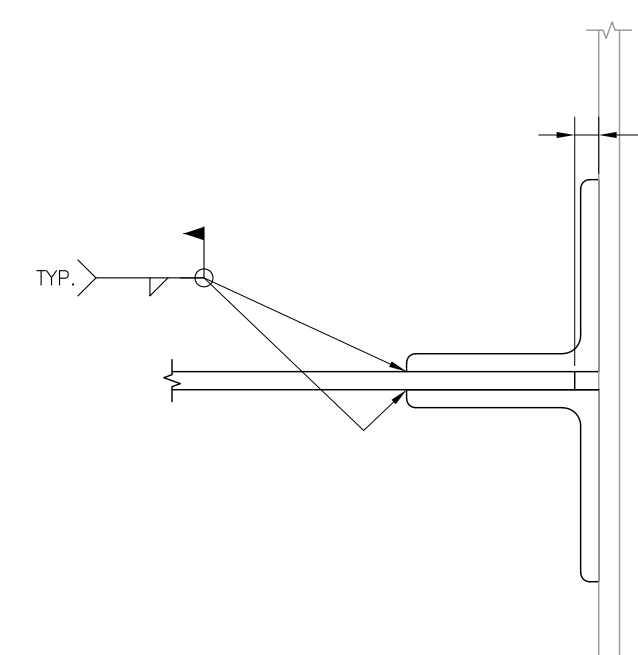


DETAIL 2
3"=1'-0" 204 204

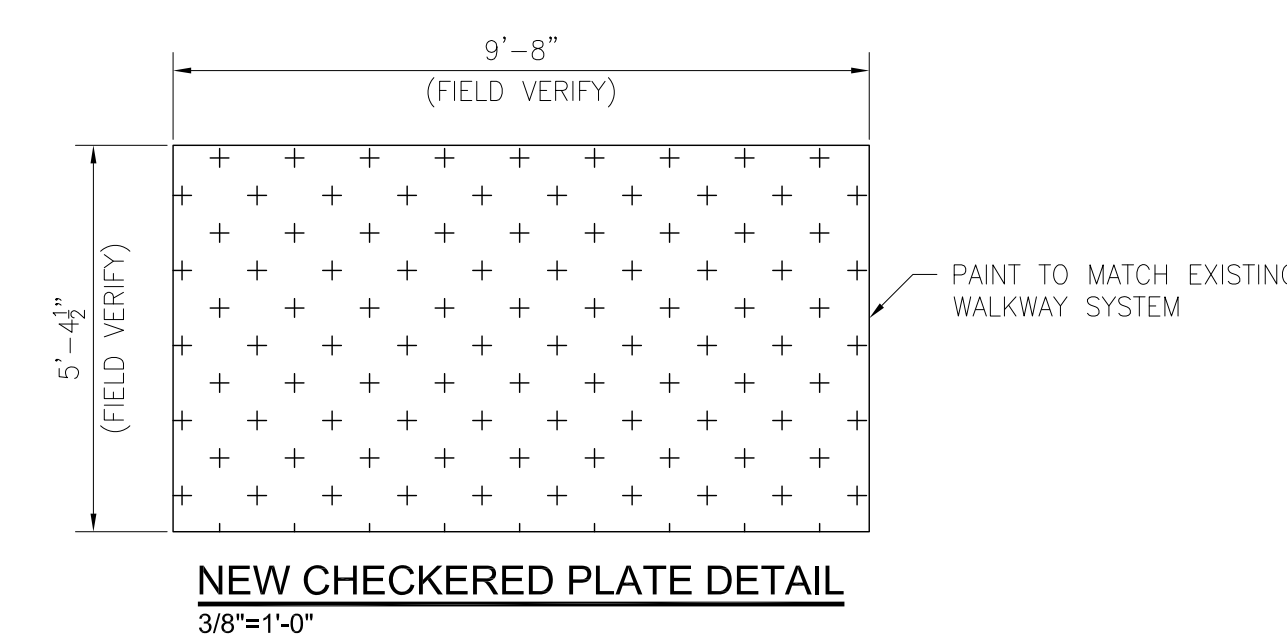


DETAIL 3
1-1/2"=1'-0" 204 204

NOTE:
CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF NEW COMPONENTS

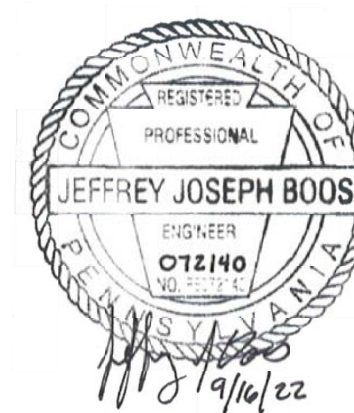


SECTION C
3"=1'-0" 204 204



NEW CHECKERED PLATE DETAIL
3/8"=1'-0"

- NOTES:**
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

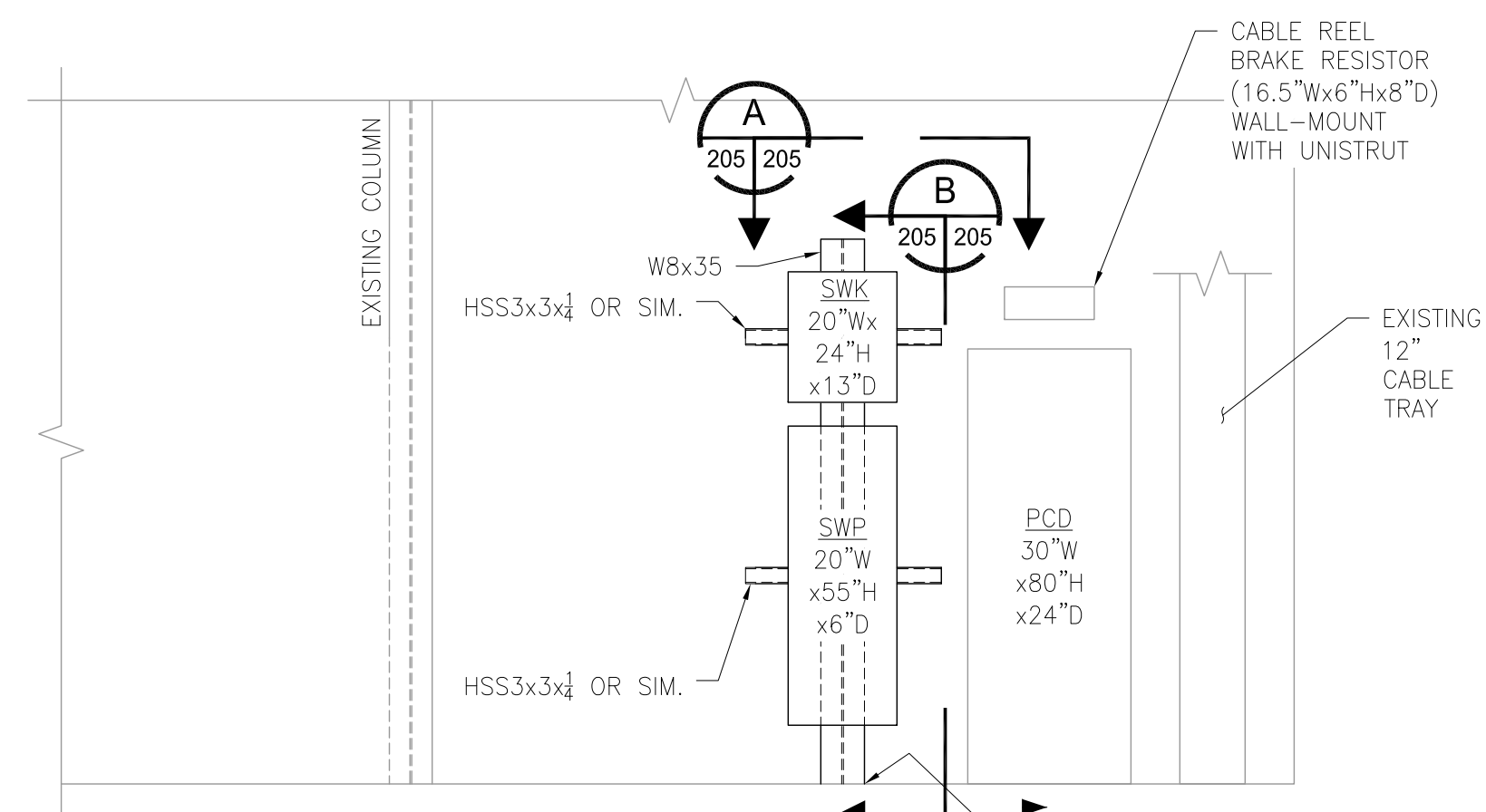


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

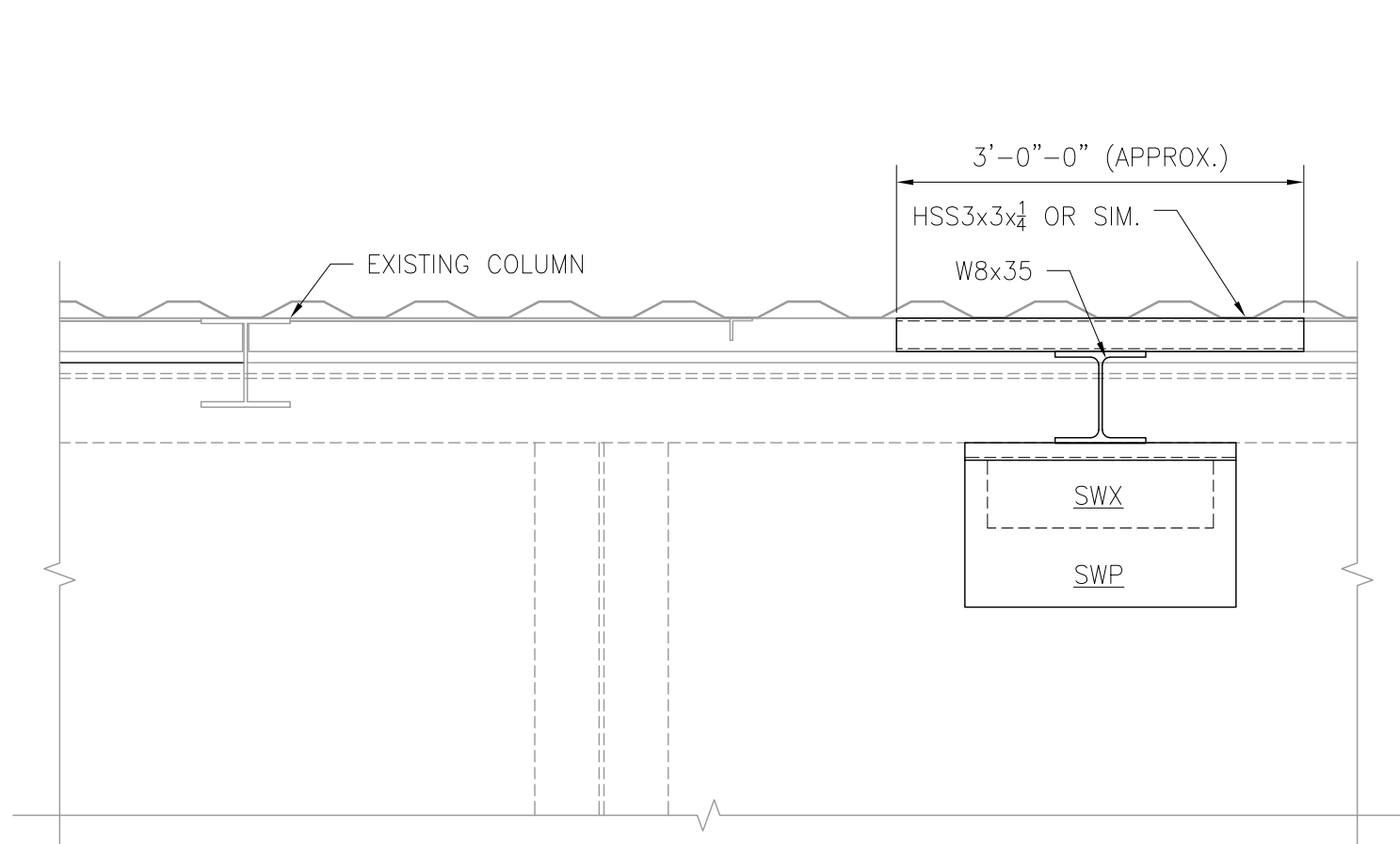
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE Consulting Engineers		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com
CLIENT	PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA	
PROJECT	H-6 & H-7 CRANE ELECTRIFICATION	
DWG TITLE	ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS G, H, I	
DRAWN	A.M.G.	DATE 07/18/2020
APPROVED	M.J.B.	DATE 07/18/2020
CLIENT NO.	0034	PROJECT NO. 0004.10
SCALE	NOTED	SIZE 24"x36"
DWG. NO.	0034.0004.10-204	
REV	A	

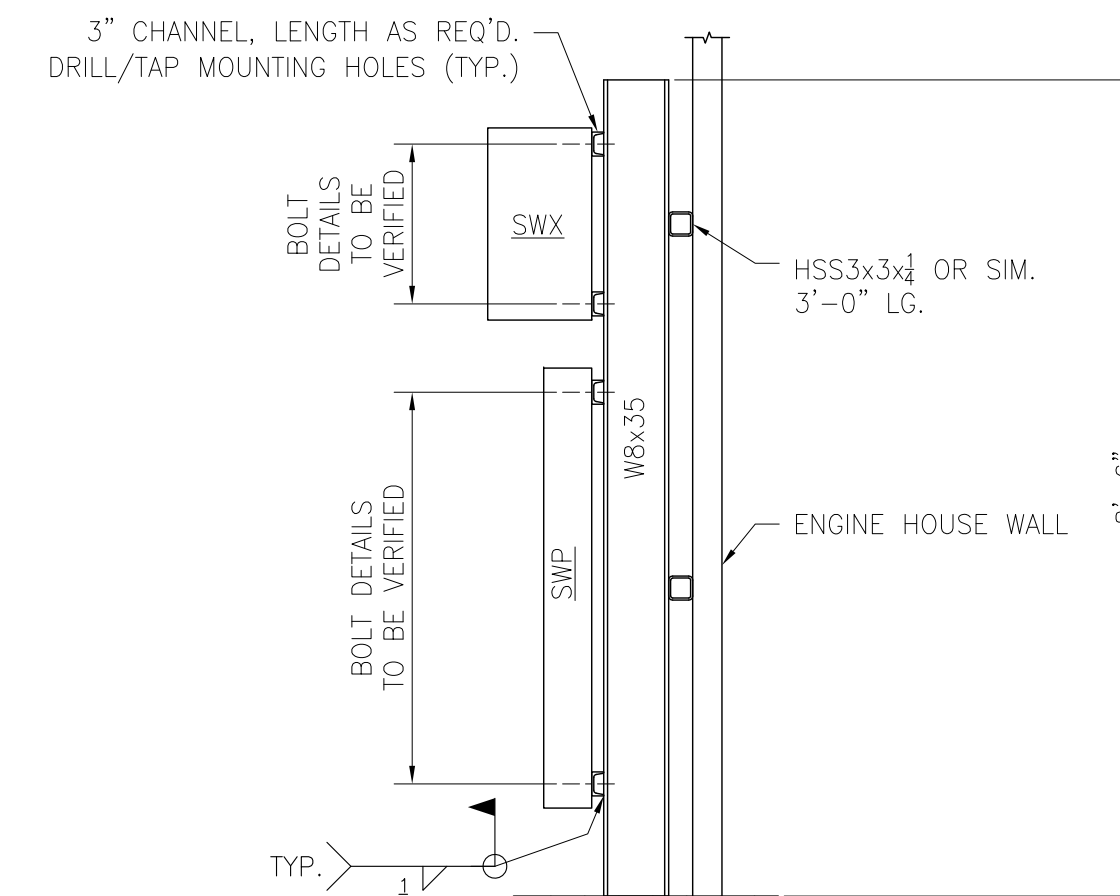
Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-205 RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 10:33:52 AM, Adobe PDF



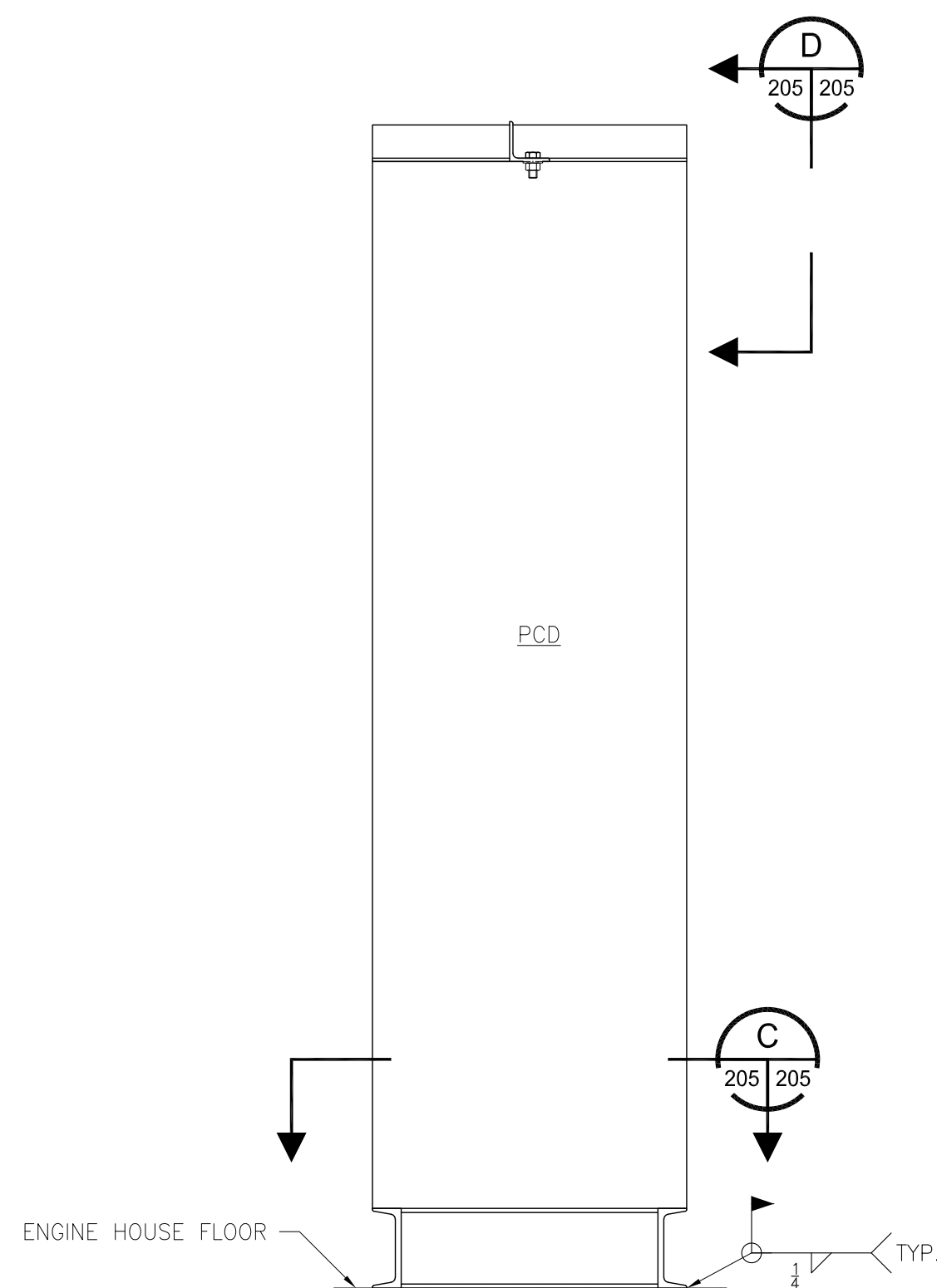
ITEM "J" - INSTALL SWX/SWP SUPPORTS
3/16"=1'-0"



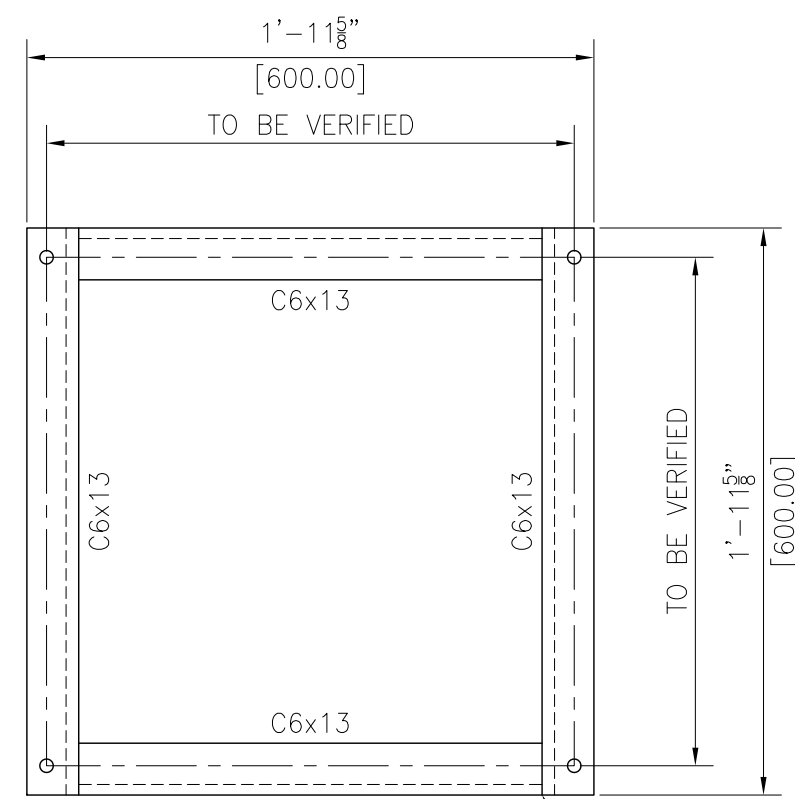
SECTION A
3/4"=1'-0"



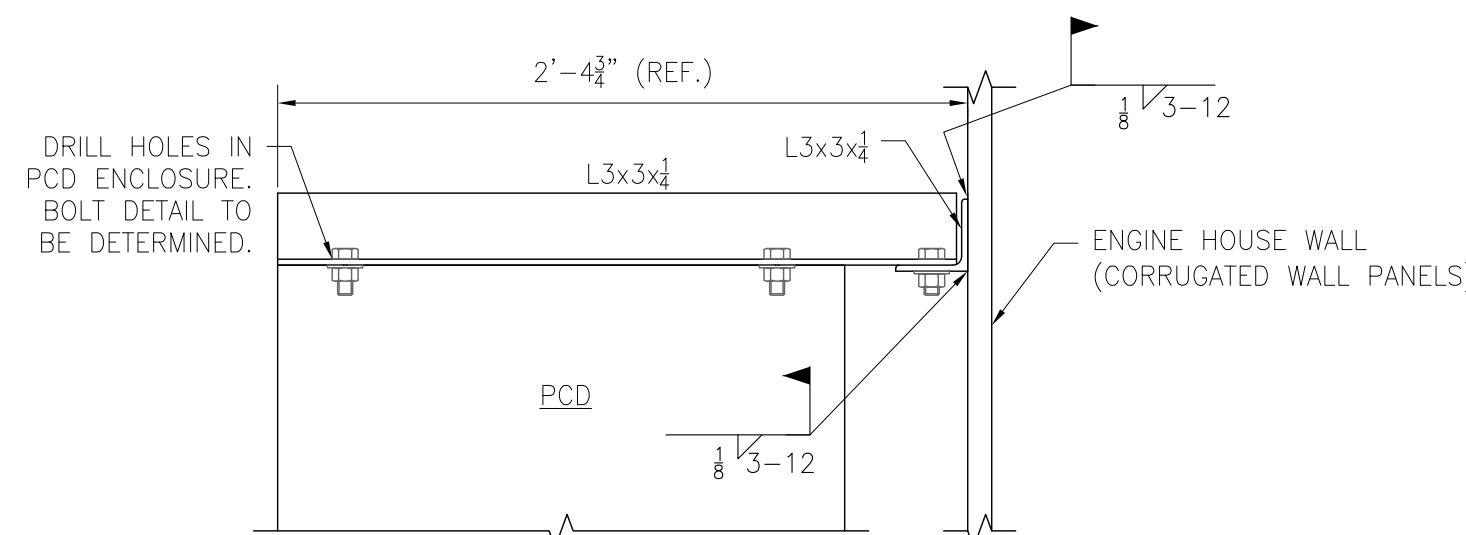
SECTION B
1/2"=1'-0"



ITEM "K" - INSTALL PCD SUPPORTS
3/16"=1'-0"



SECTION C
1-1/2"=1'-0"

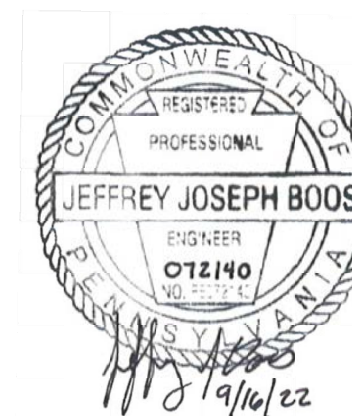


SECTION D
1-1/2"=1'-0"

ITEM "L" - INSTALL PCD RESTRAINT

NOTES:

- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
- ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
- CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
- CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
- CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

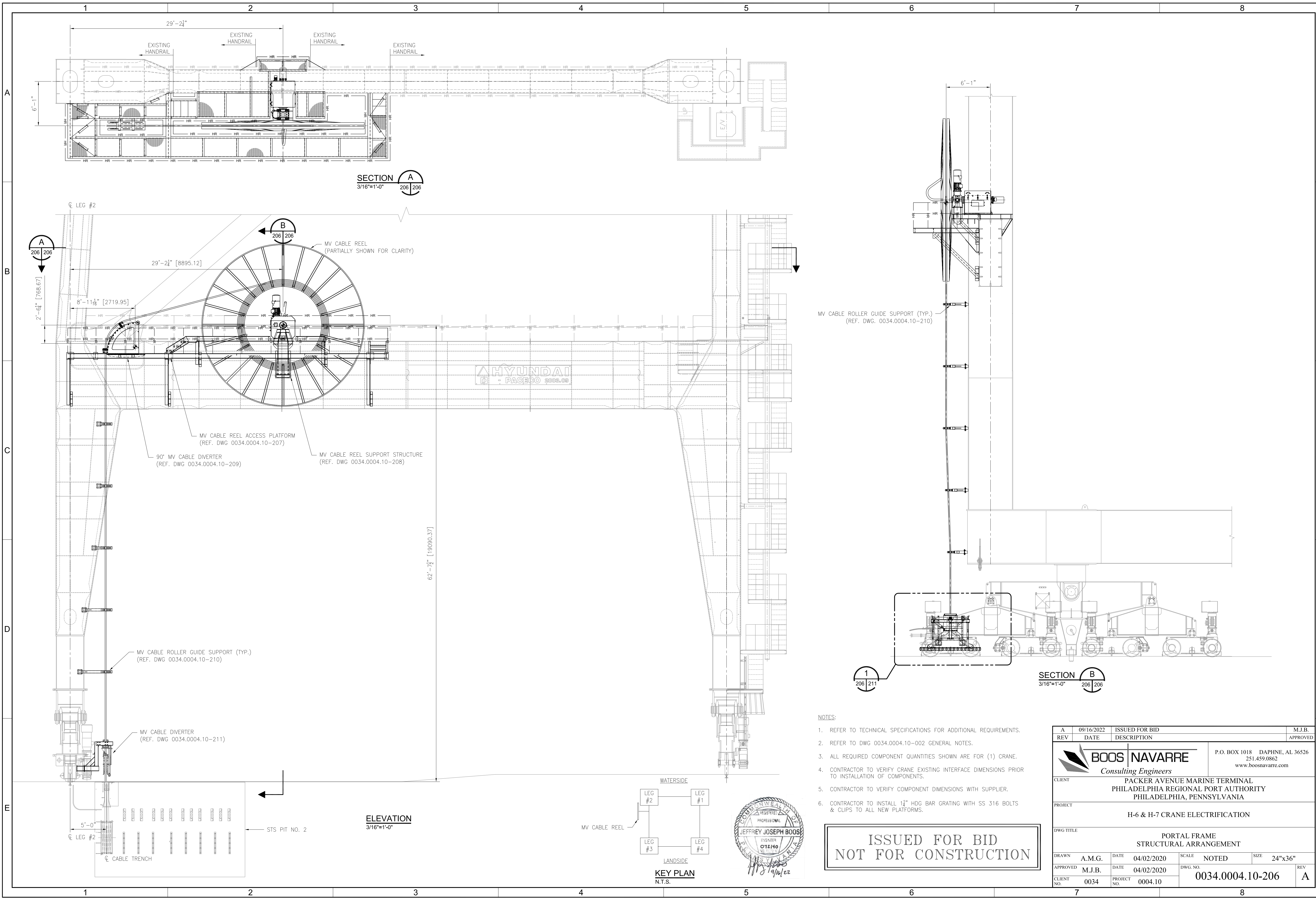


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: ENGINE HOUSE STRUCTURAL MODIFICATIONS ITEMS J, K, L			
DRAWN	A.M.G.	DATE	07/18/2020
APPROVED	M.J.B.	DATE	07/18/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.		0034.0004.10-205	
			REV A

Z:\Projects\0034-Philadelphia\004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-206 RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 8:27:59 AM, Addba PDF



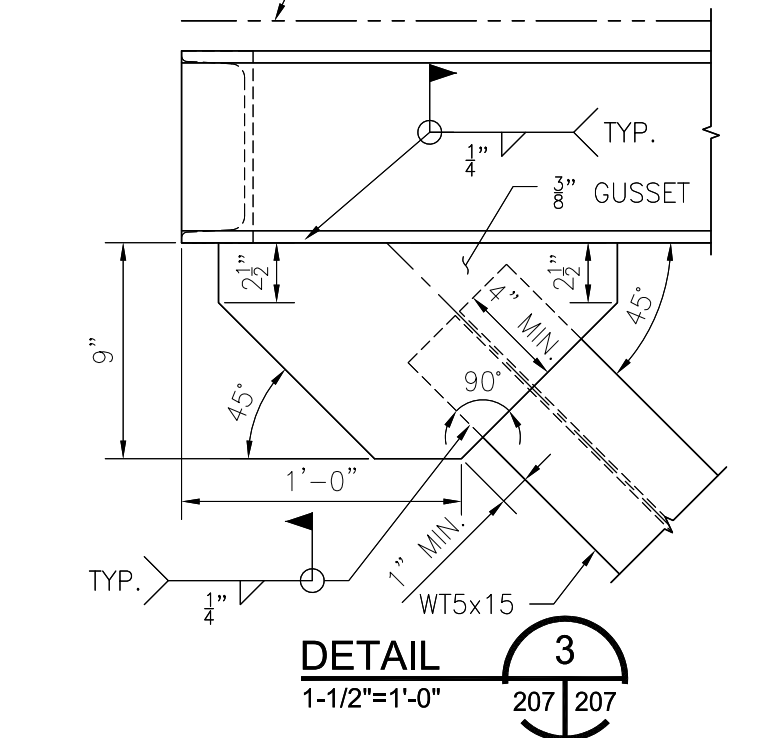
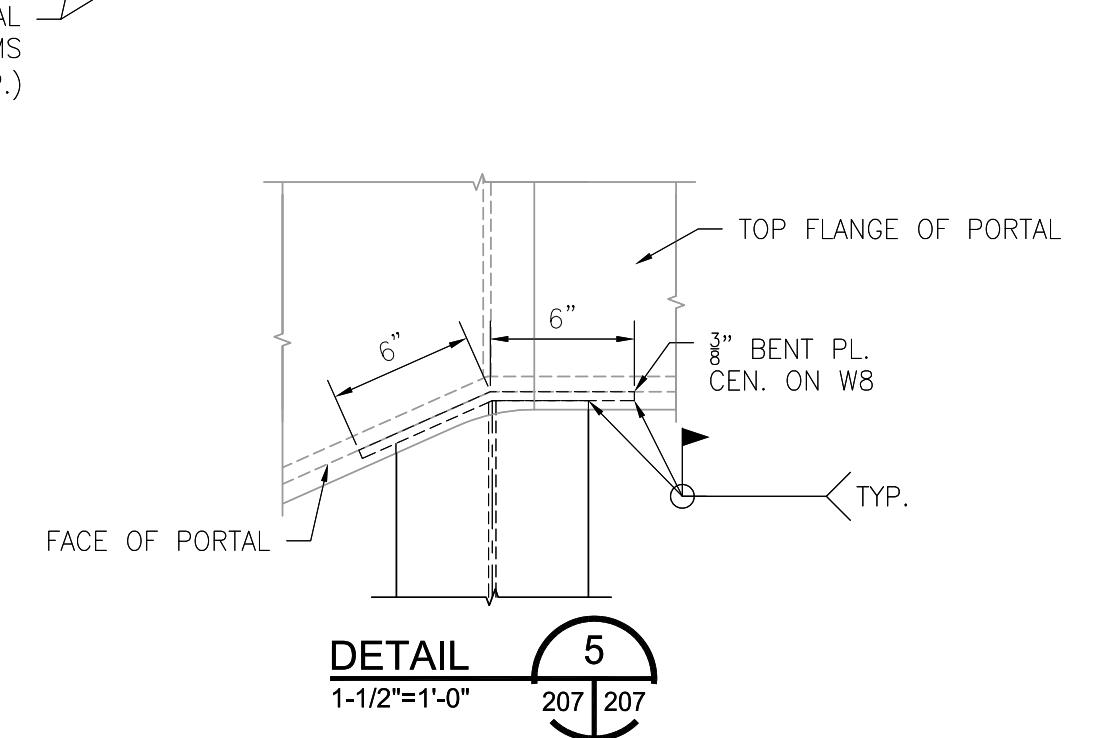
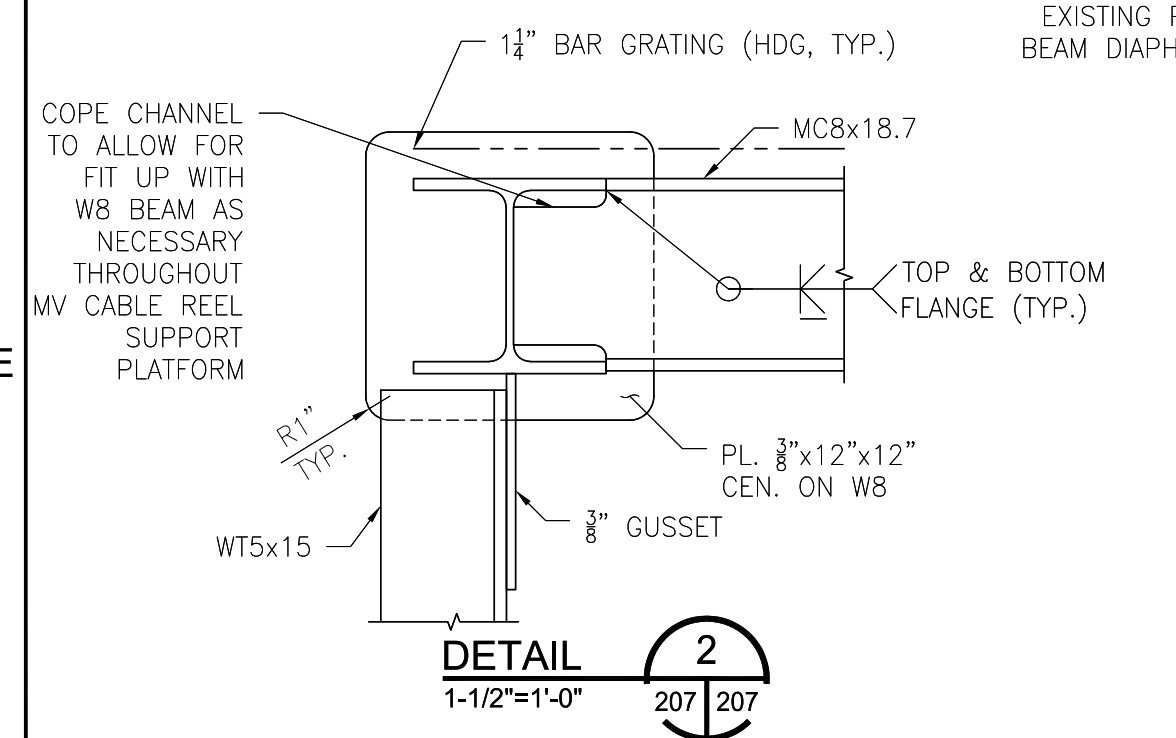
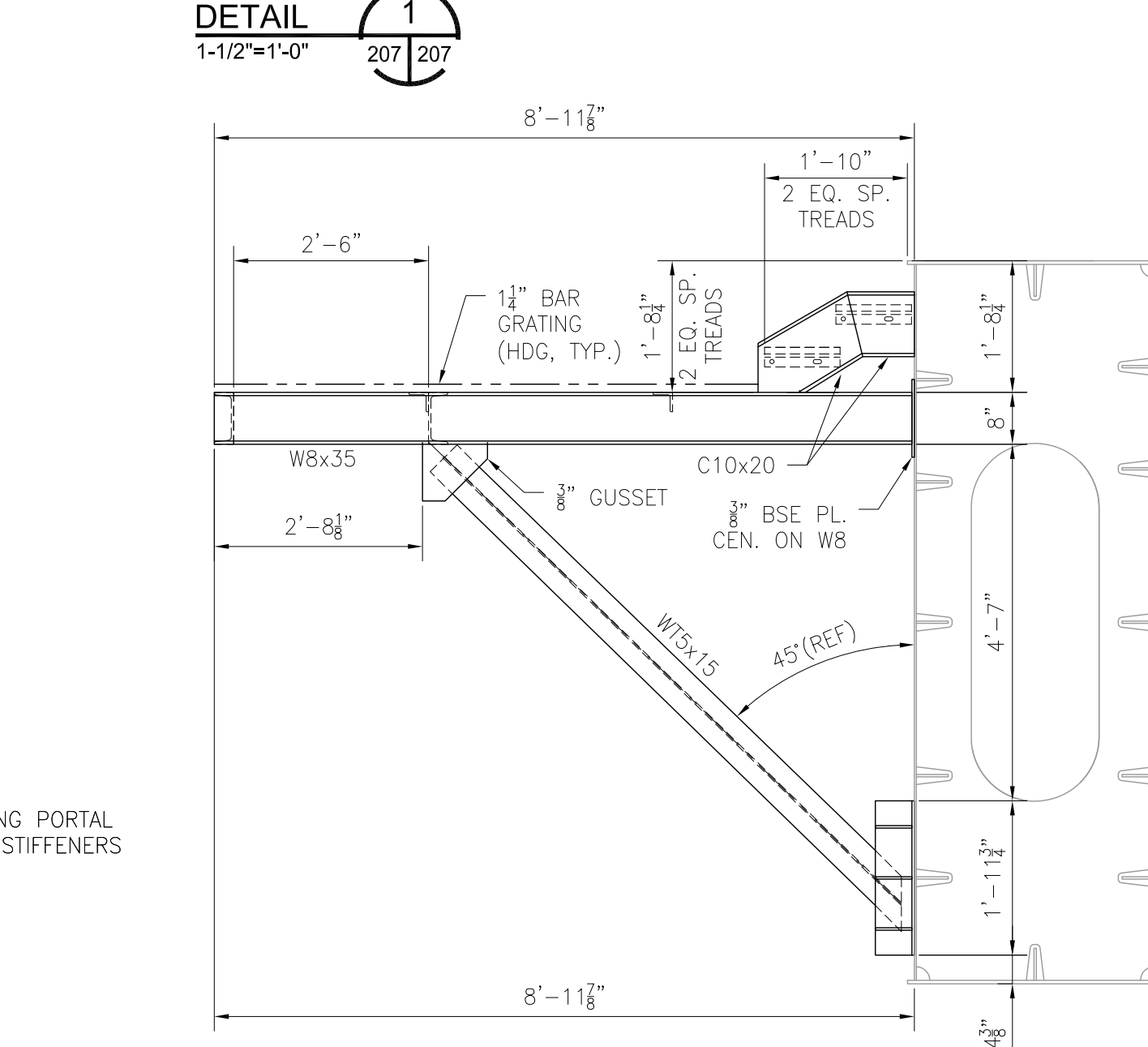
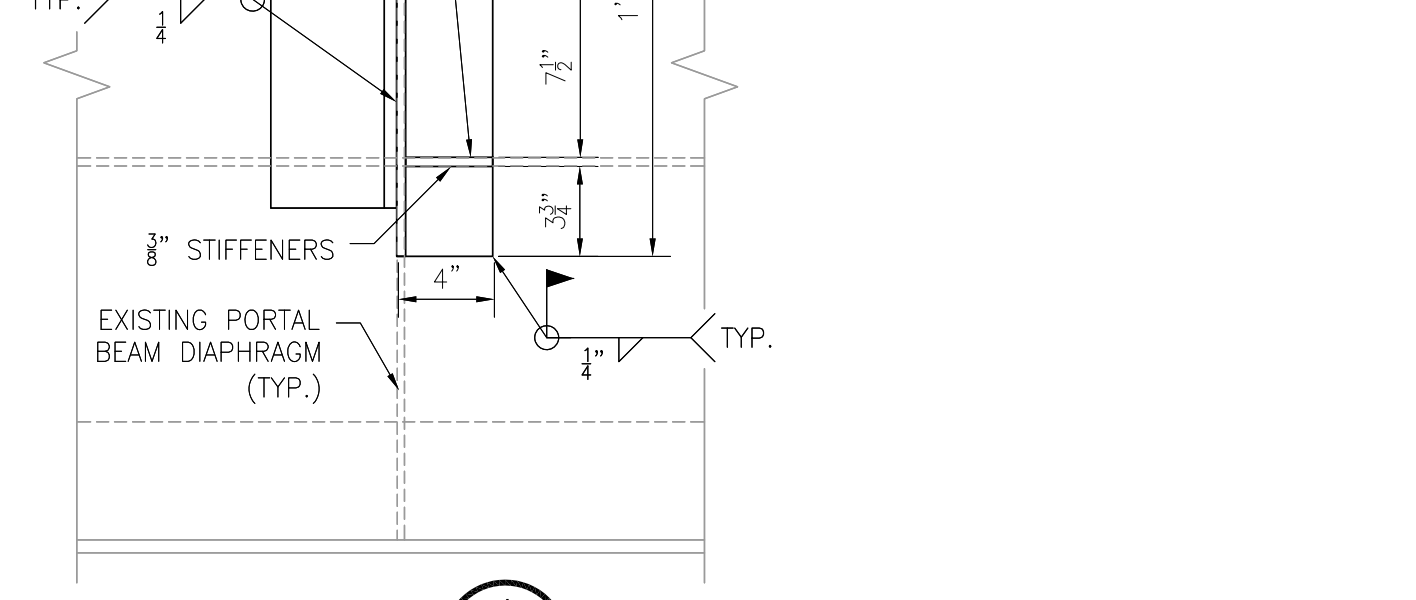
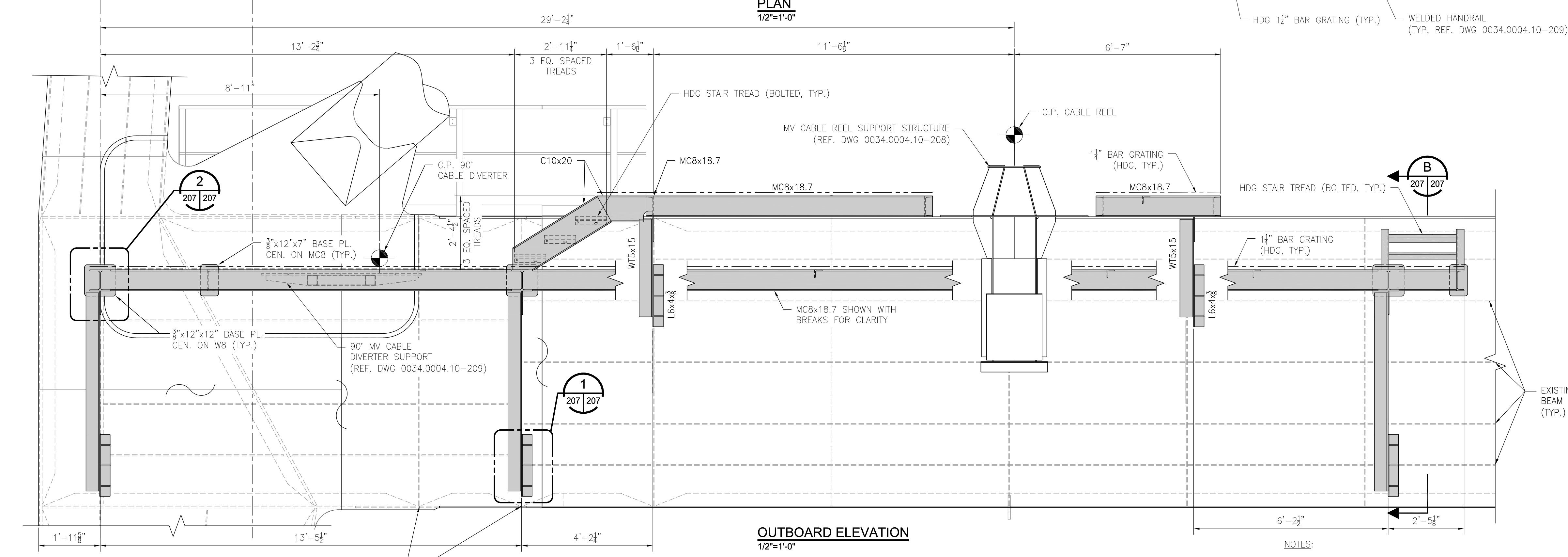
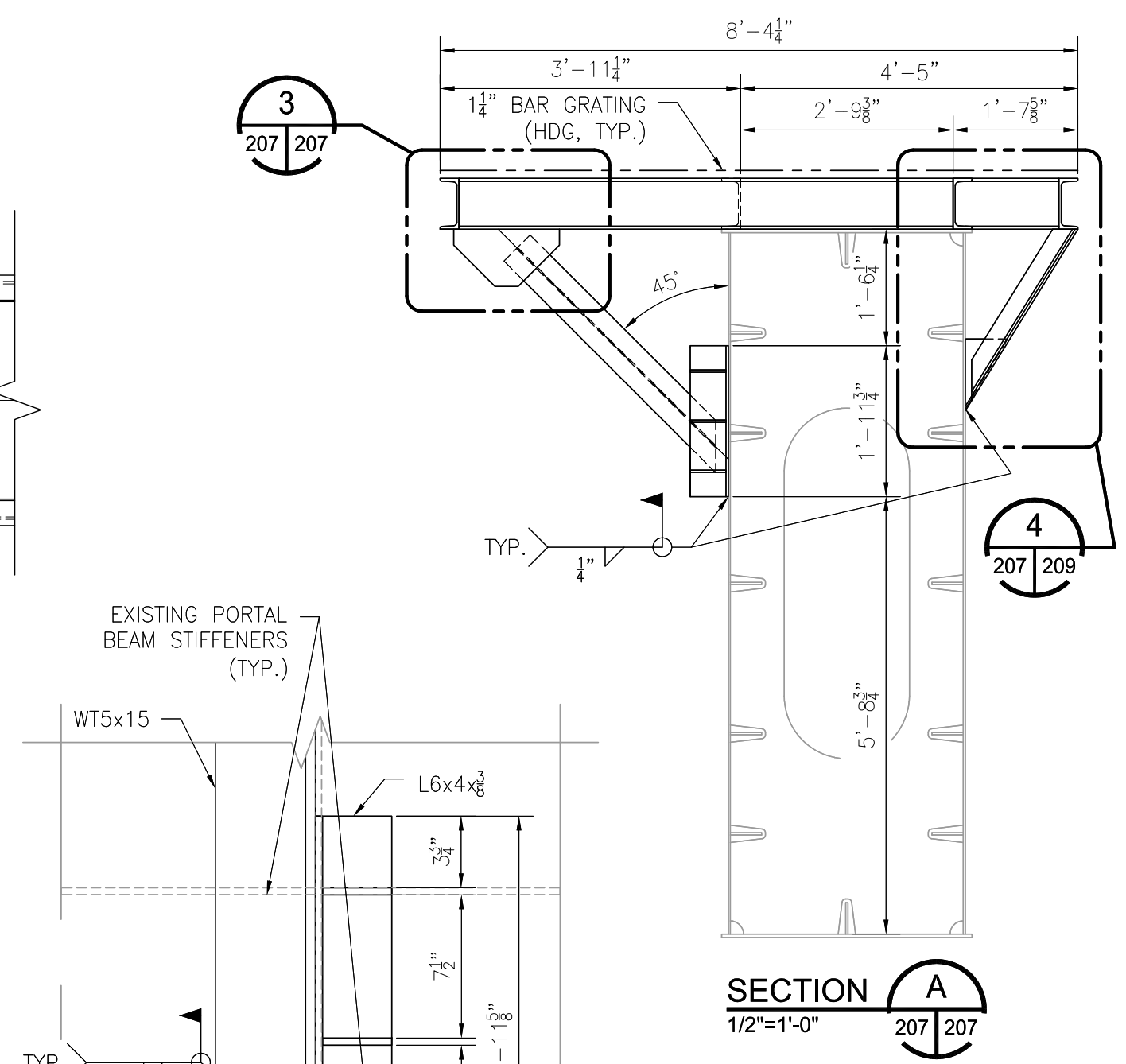
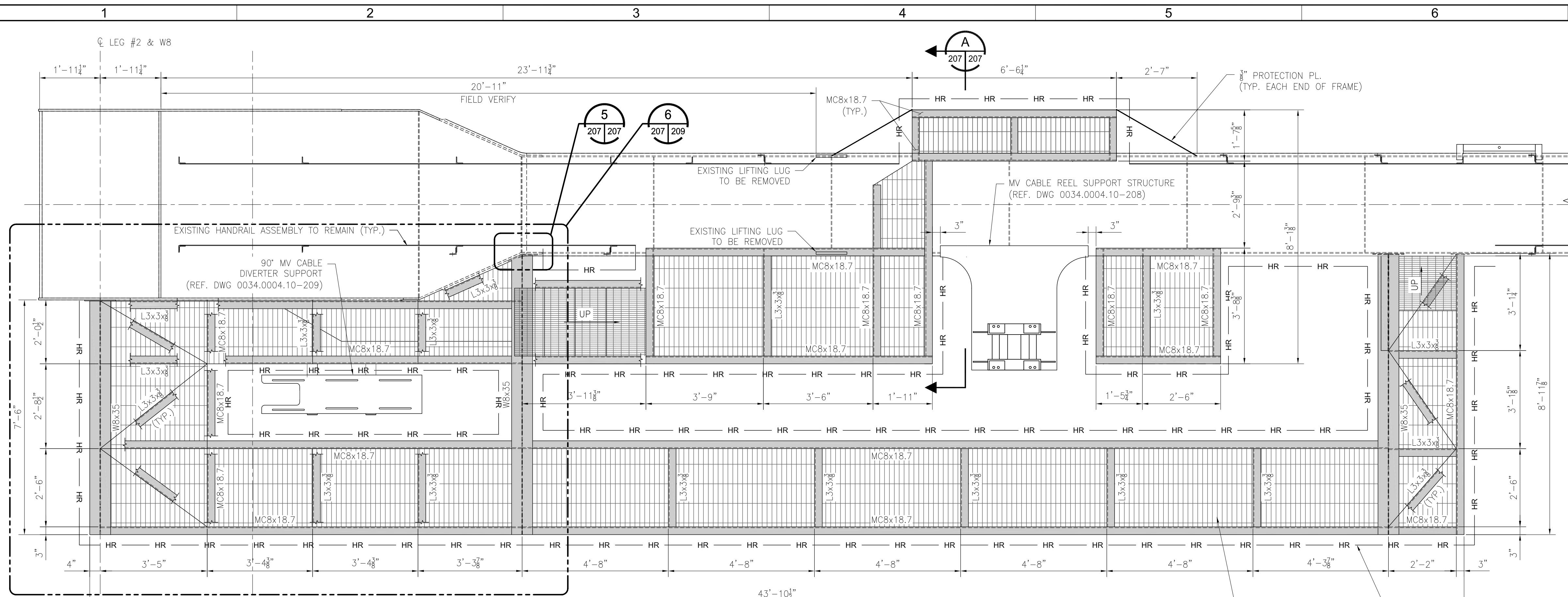
- NOTES:
1. REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 2. REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 3. ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 4. CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 5. CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 6. CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

ISSUED FOR BID
NOT FOR CONSTRUCTION

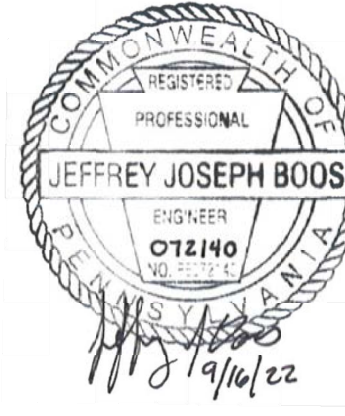
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: PORTAL FRAME STRUCTURAL ARRANGEMENT			
DRAWN	A.M.G.	DATE	04/02/2020
APPROVED	M.J.B.	DATE	04/02/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-206		REV
			A

Z:\Projects\0034-Philadelphia-Port\004-HH1B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-207 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 8:29:25 AM, Adobe PDF



- NOTES:**
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.



**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	ISSUED FOR BID	M.J.B.
A	09/16/2022		ISSUED FOR BID	M.J.B.
REV	DATE	DESCRIPTION		APPROVED

BOOS NAVARRE
Consulting Engineers
P.O. BOX 1018 DAPHNE, AL 36526
251.459.0862
www.boosnavarre.com

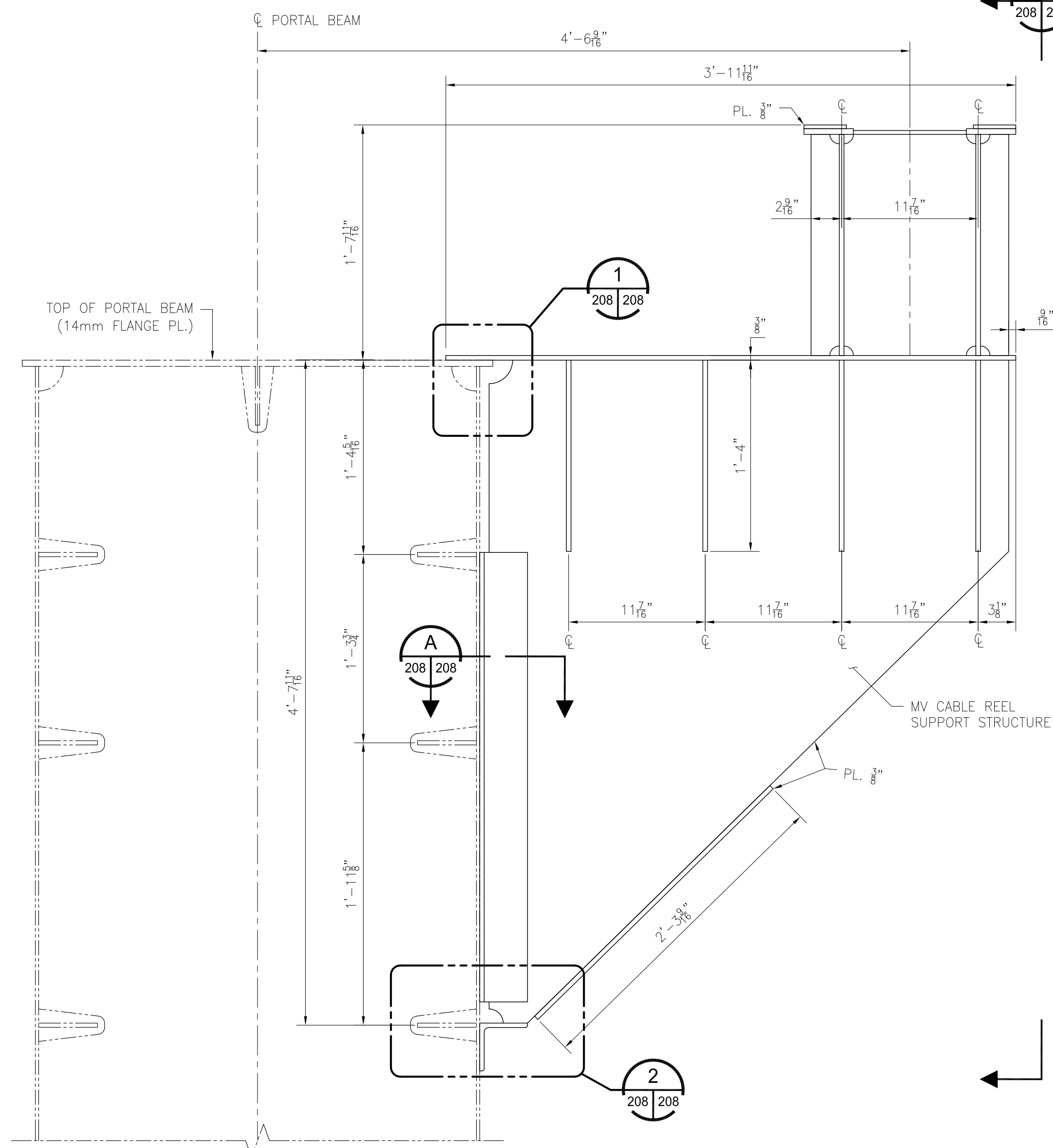
CLIENT: **PACKER AVENUE MARINE TERMINAL
PHILADELPHIA REGIONAL PORT AUTHORITY
PHILADELPHIA, PENNSYLVANIA**

PROJECT: **H-6 & H-7 CRANE ELECTRIFICATION**

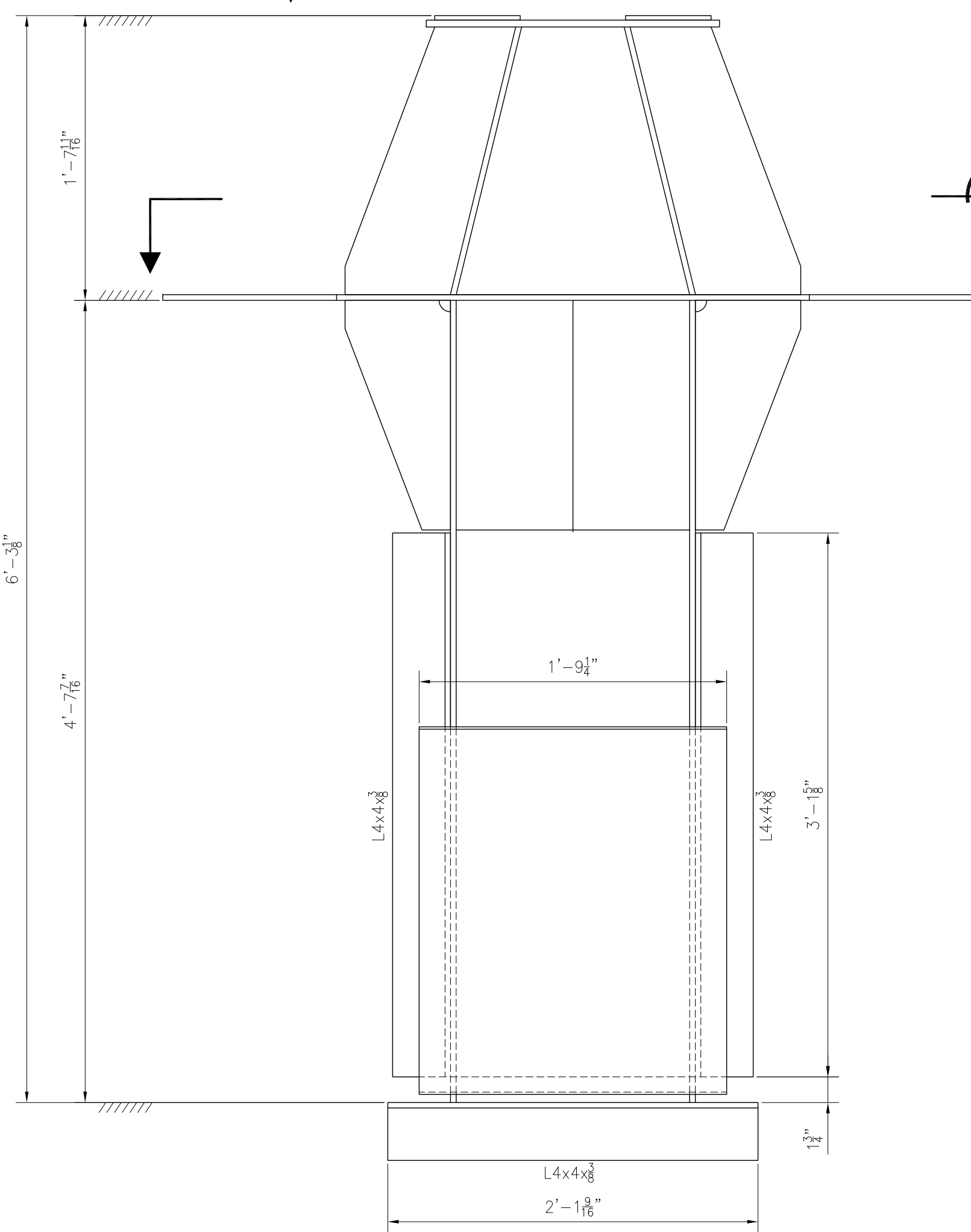
DWG TITLE: **MV CABLE REEL SUPPORT &
ACCESS PLATFORM**

DRAWN	A.M.G.	DATE	04/01/2020	SCALE	NOTED	SIZE	24"x36"
APPROVED	M.J.B.	DATE	04/01/2020	DWG. NO.			
CLIENT NO.	0034	PROJECT NO.	0004.10		0034.0004.10-207		REV
							A

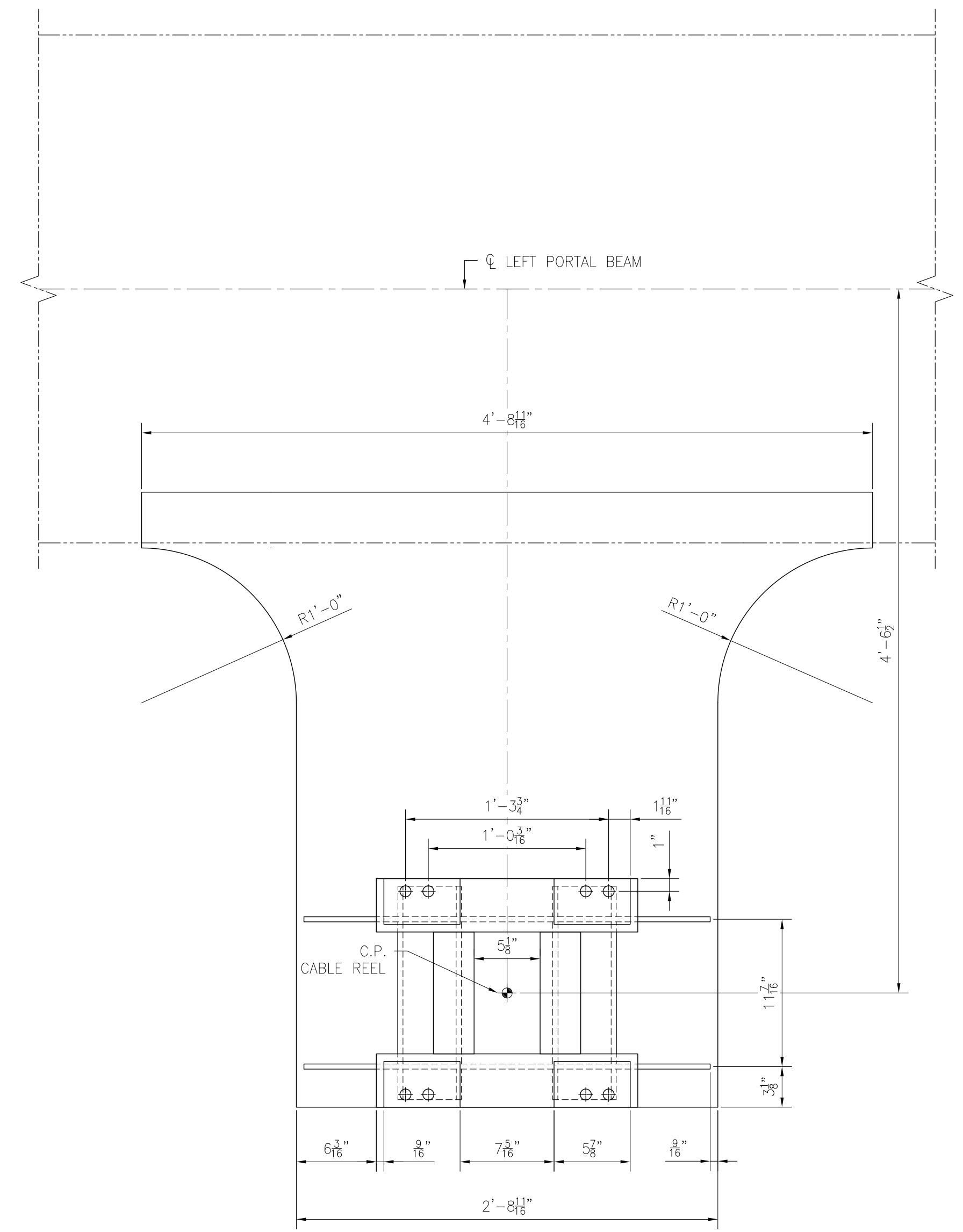
Z:\Projects\0034-Philadelphia\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-208 RevA.2022-09-16.dwg, BN 24x36, 9/16/2022 8:27:11 AM, Addba PDF



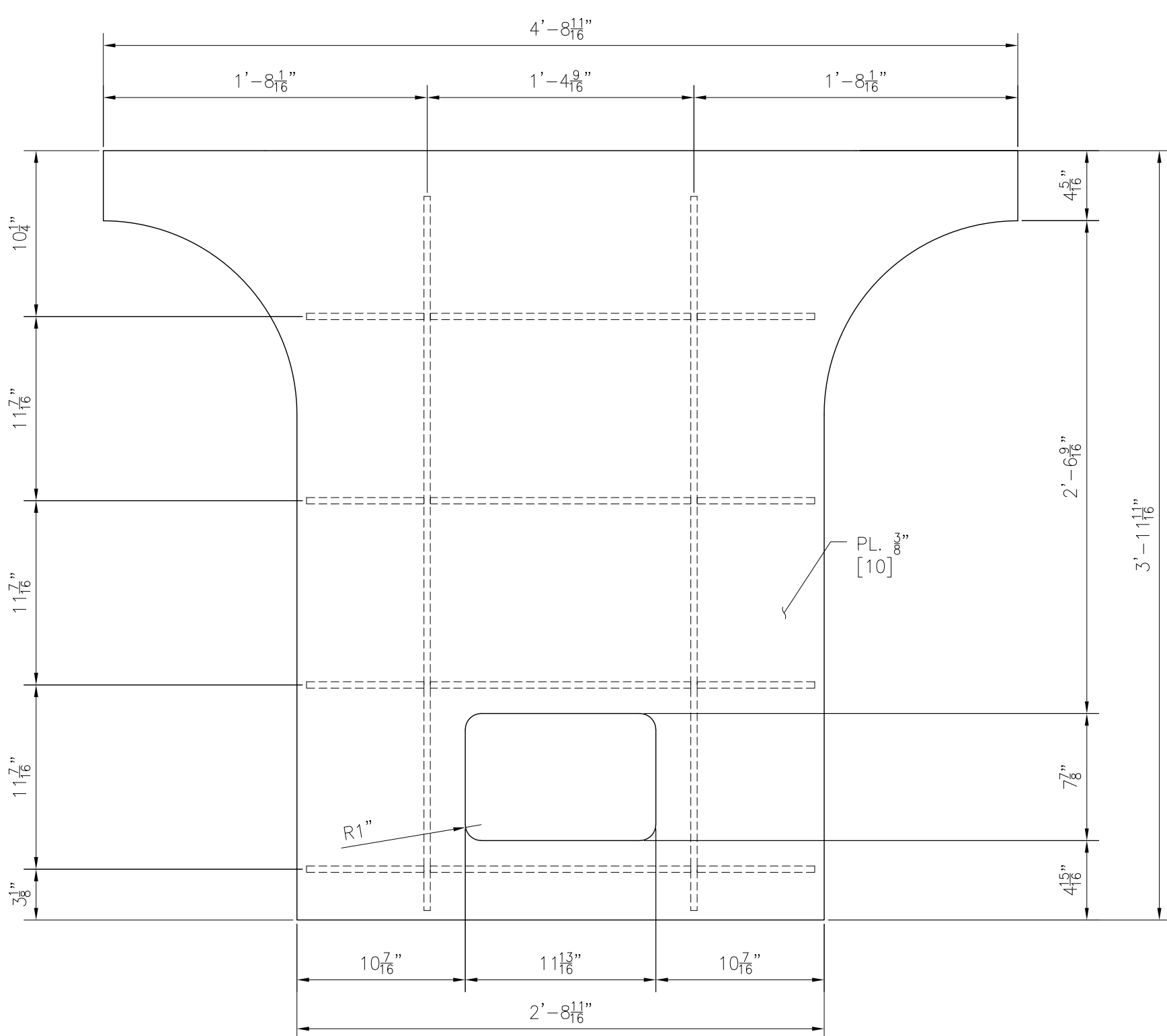
ELEVATION
1-1/2"=1'-0"



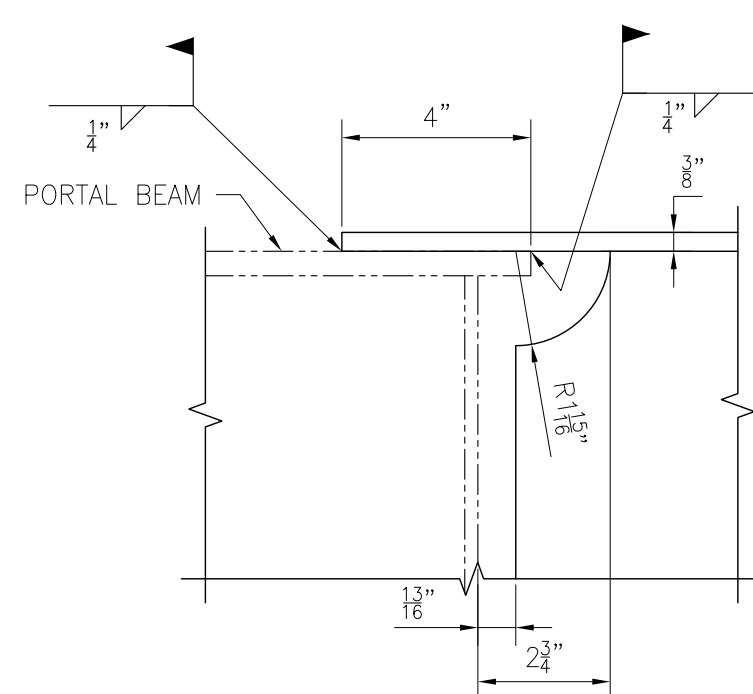
SECTION B
1-1/2"=1'-0"



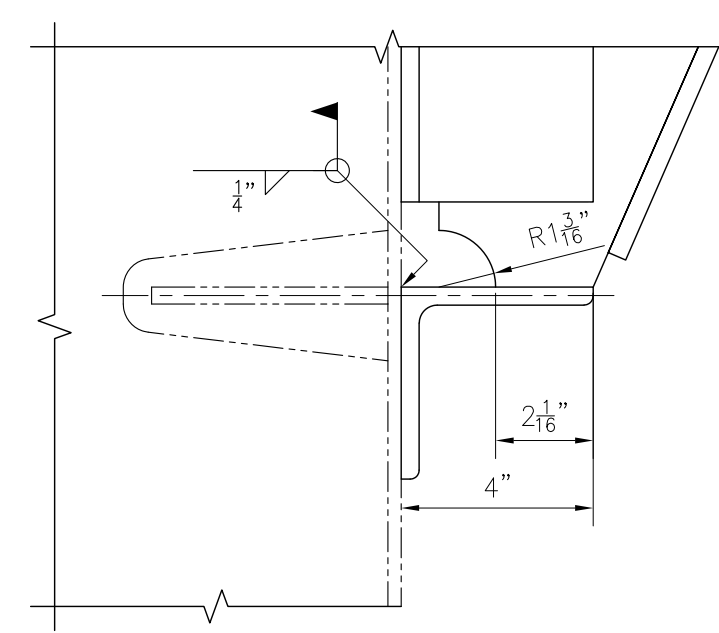
SECTION C
1-1/2"=1'-0"



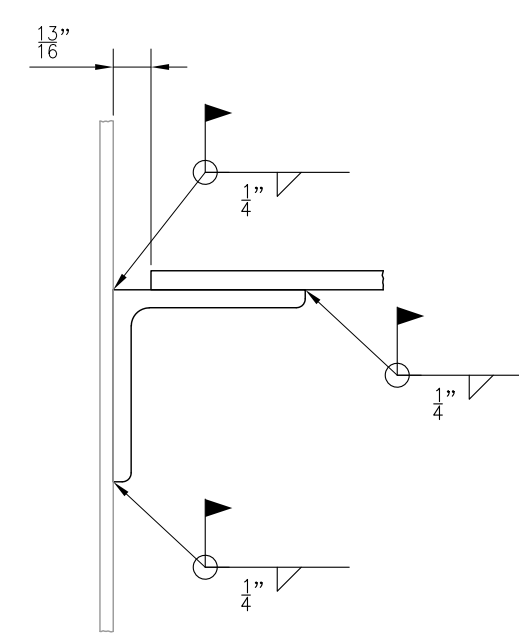
SECTION D
1-1/2"=1'-0"



DETAIL 1
3"=1'-0"



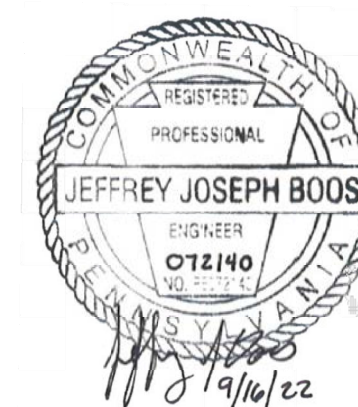
DETAIL 2
3"=1'-0"



SECTION A
3"=1'-0"

NOTES:

1. REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
3. ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
4. CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
5. CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
6. CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

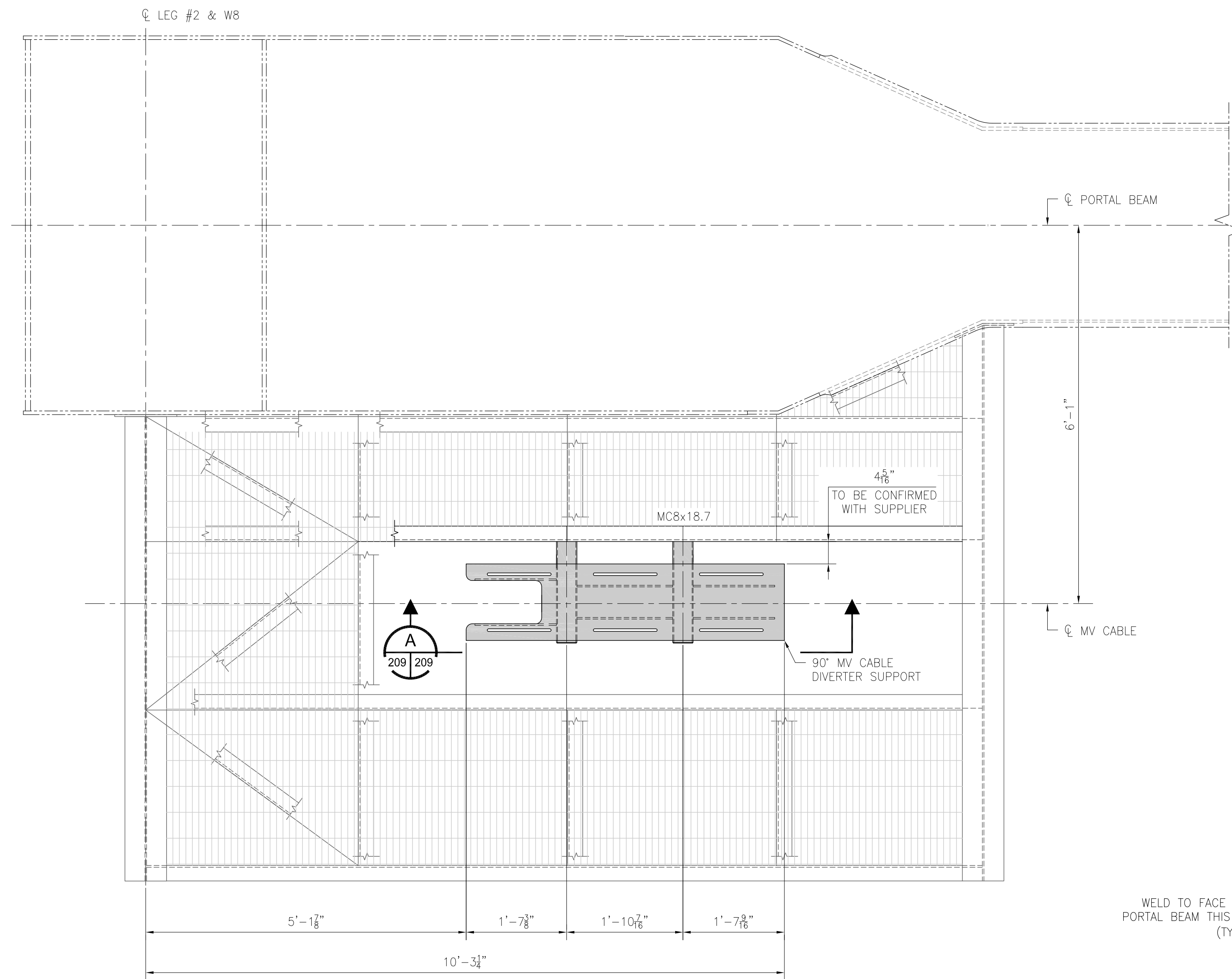


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

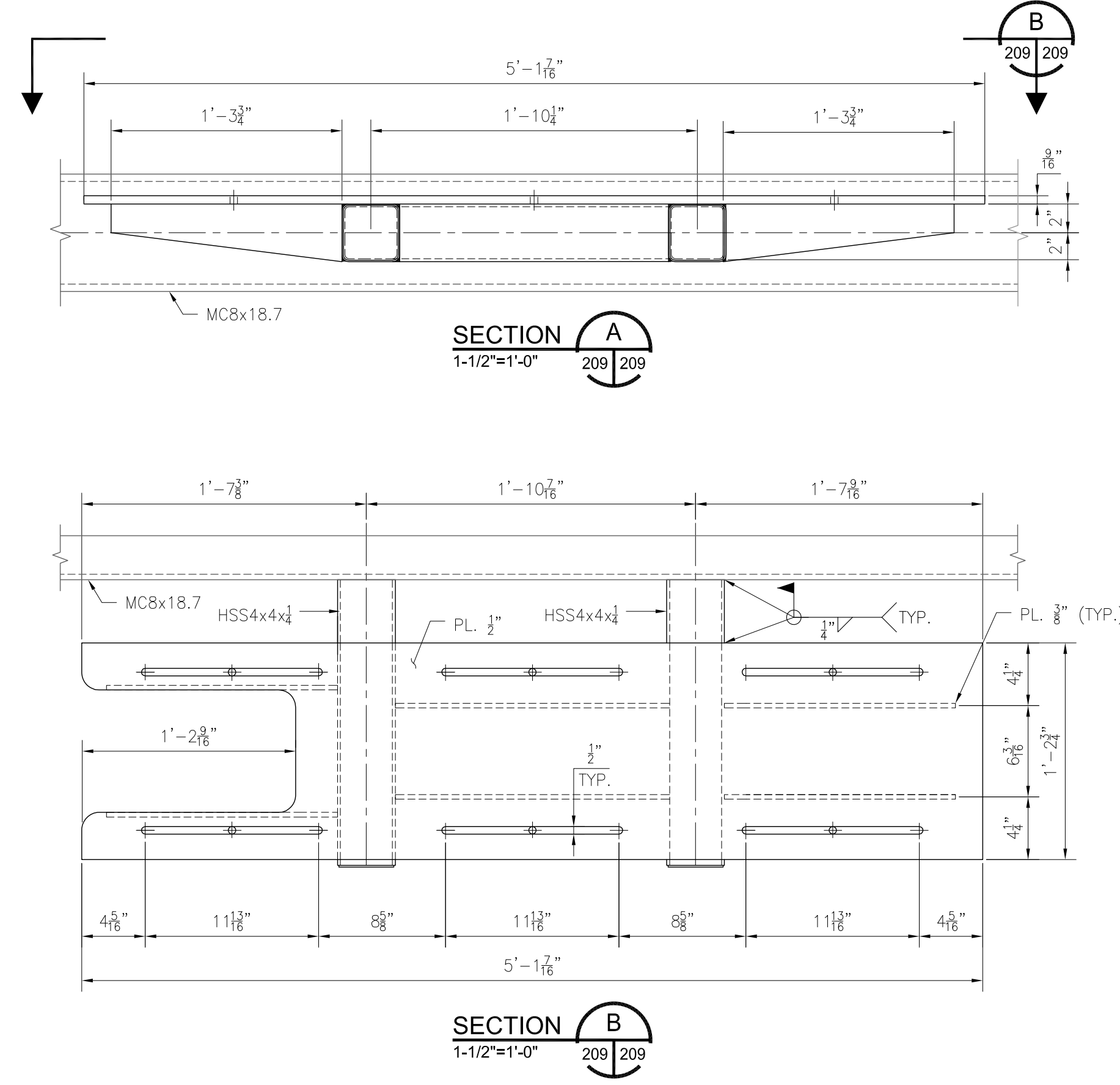
		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: MV CABLE REEL SUPPORT STRUCTURE			
DRAWN	A.M.G.	DATE	07/23/2020
APPROVED	M.J.B.	DATE	07/23/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-208		REV
			A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-209 RevA.2022-09-16.dwg, BN 24x36, 9/16/2022 9:04:17 AM, Addba PDF



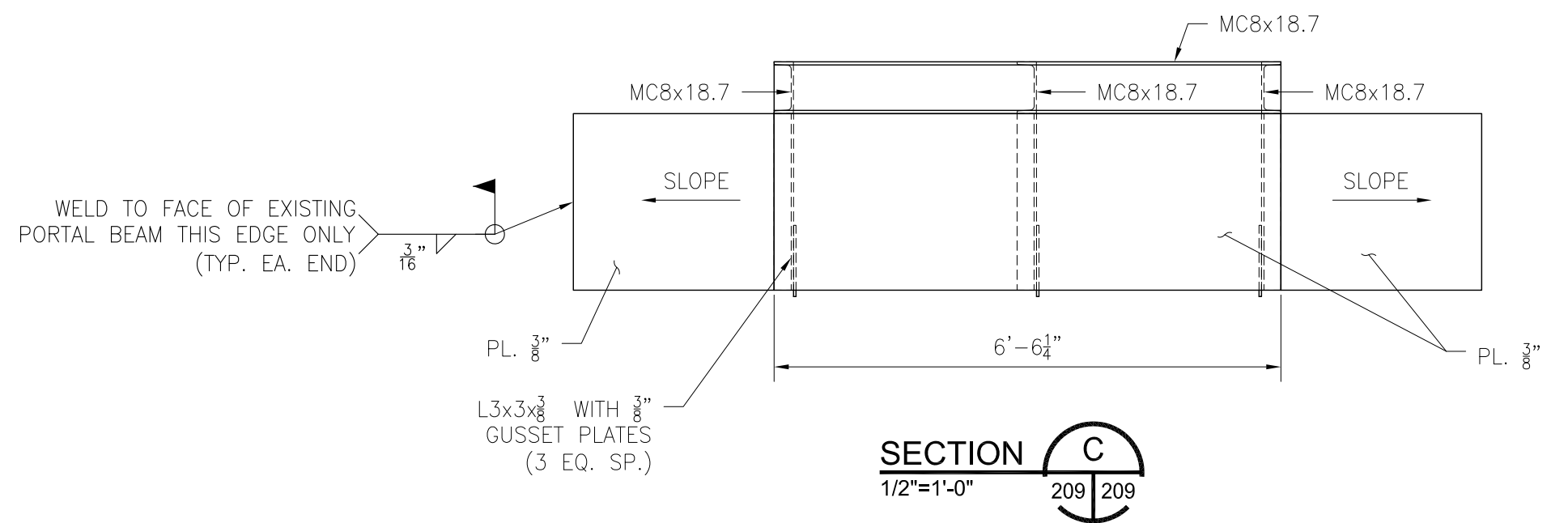
A
209 209

DETAIL 6
3/4"=1'-0" 209 209

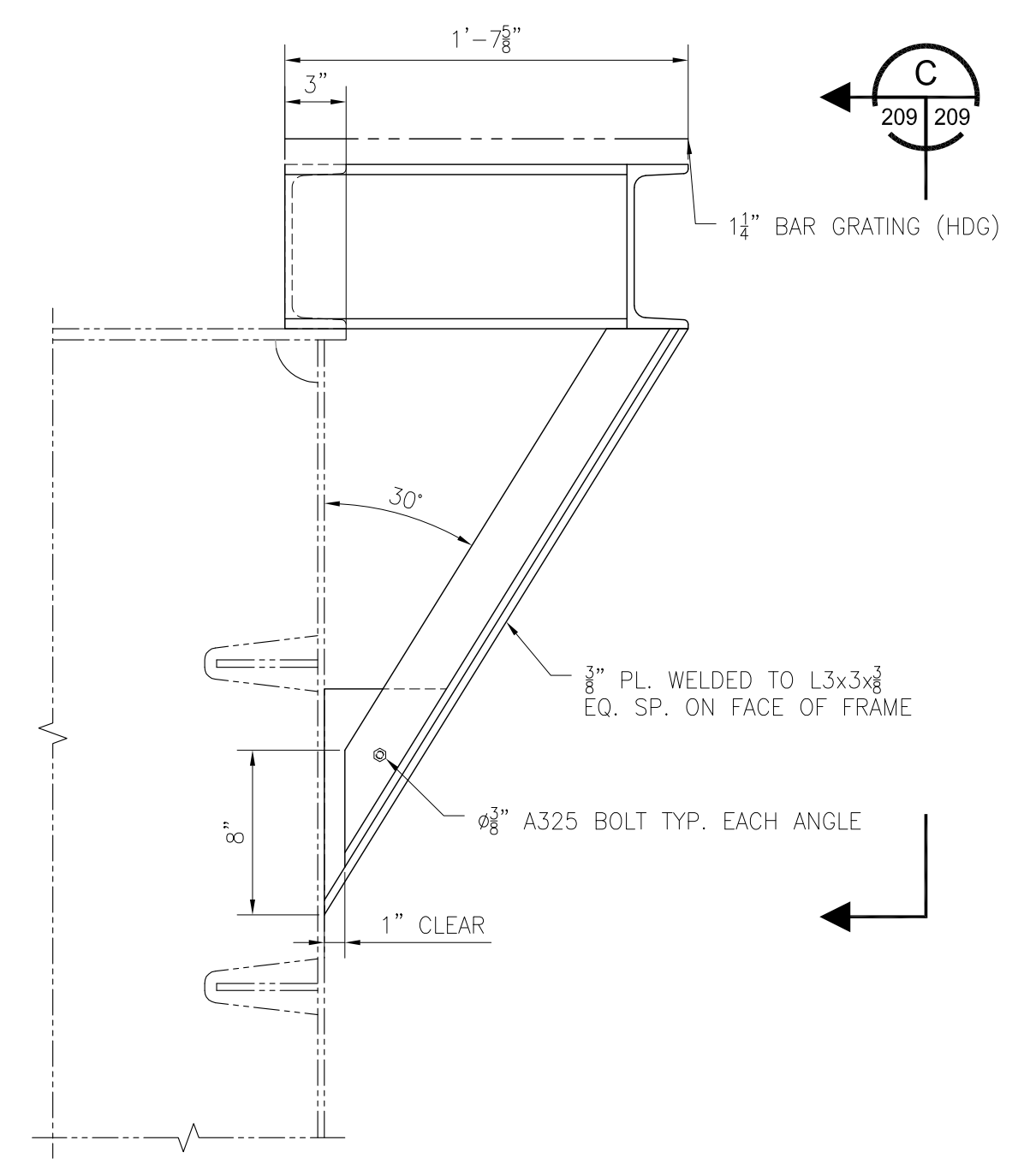


SECTION A
1-1/2"=1'-0" 209 209

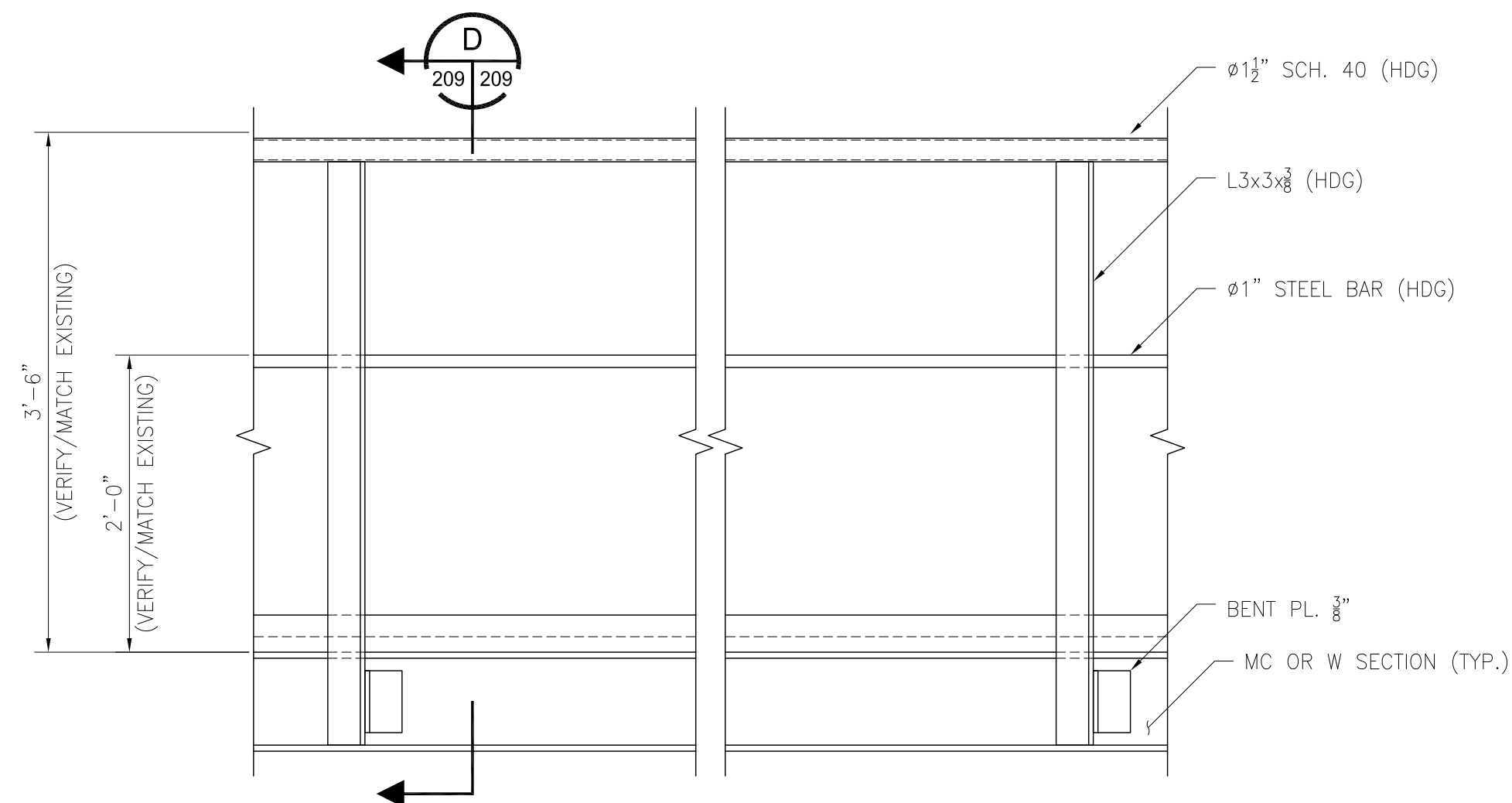
SECTION B
1-1/2"=1'-0" 209 209



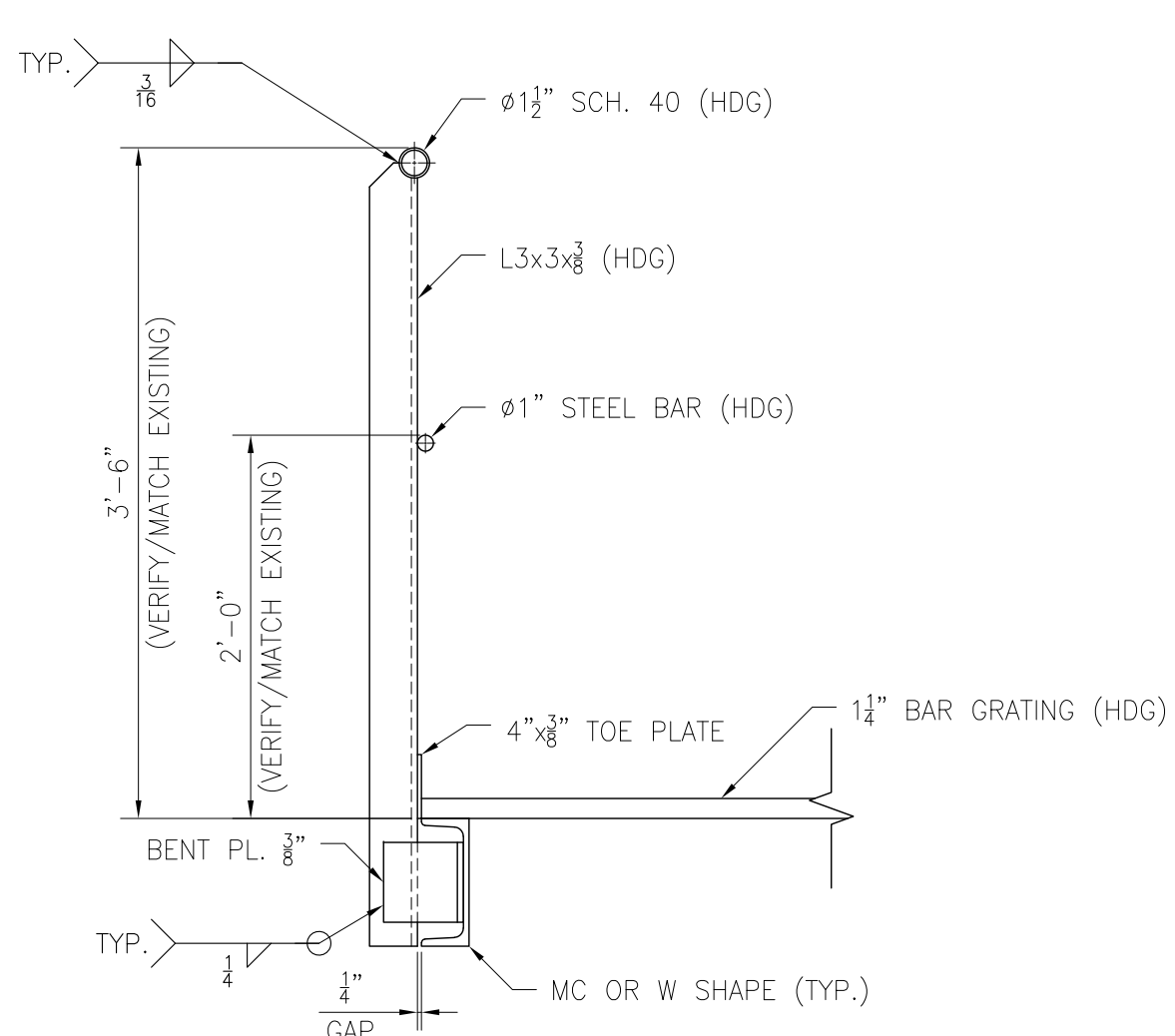
SECTION C
1/2"=1'-0" 209 209



DETAIL 4
1-1/2"=1'-0" 209 209



TYPICAL WELDED HANDRAIL DETAIL
1"=1'-0"



SECTION D
1"=1'-0" 209 209

- NOTES:**
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.

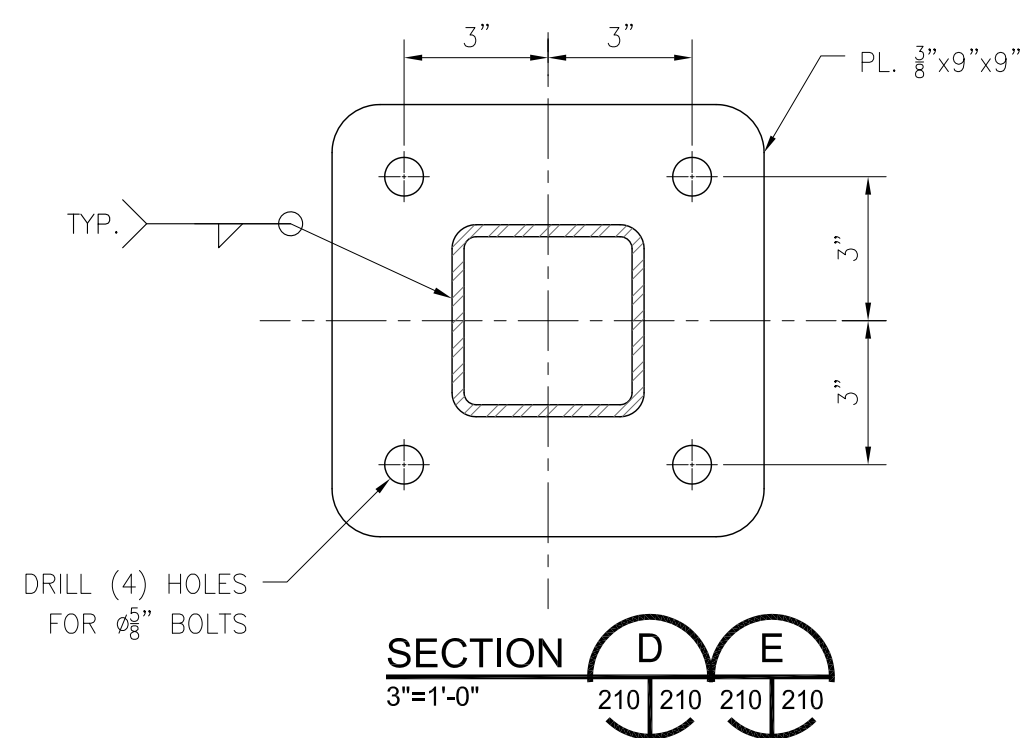
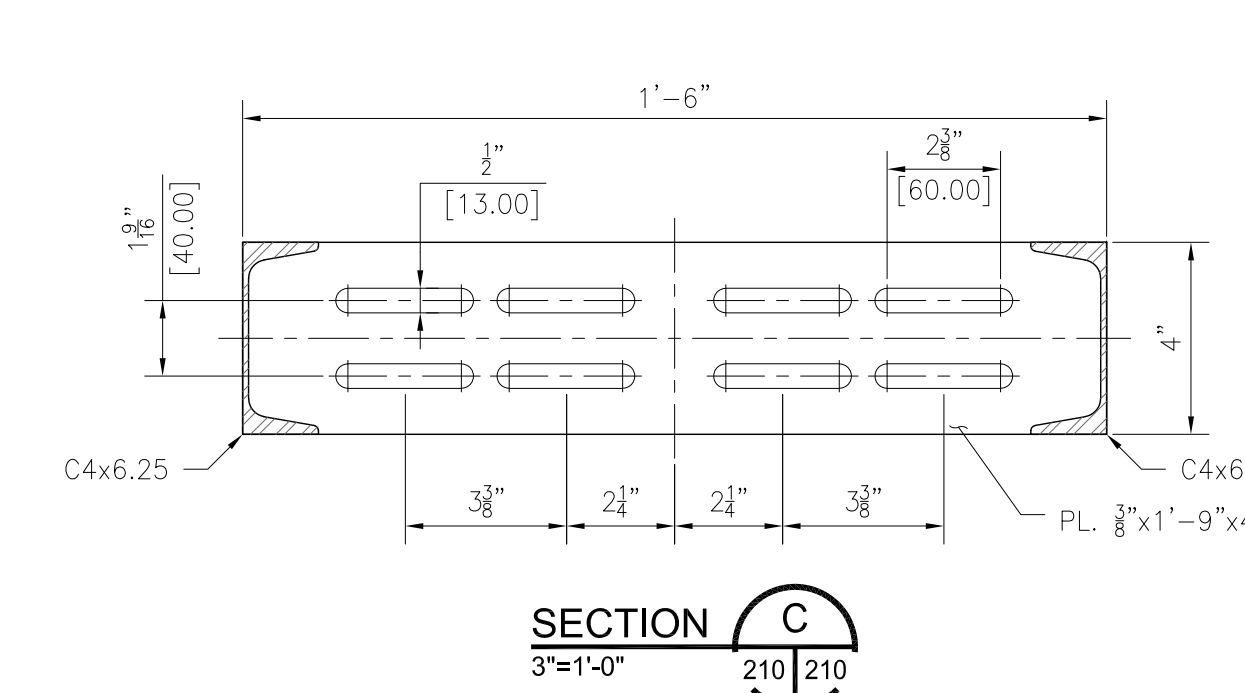
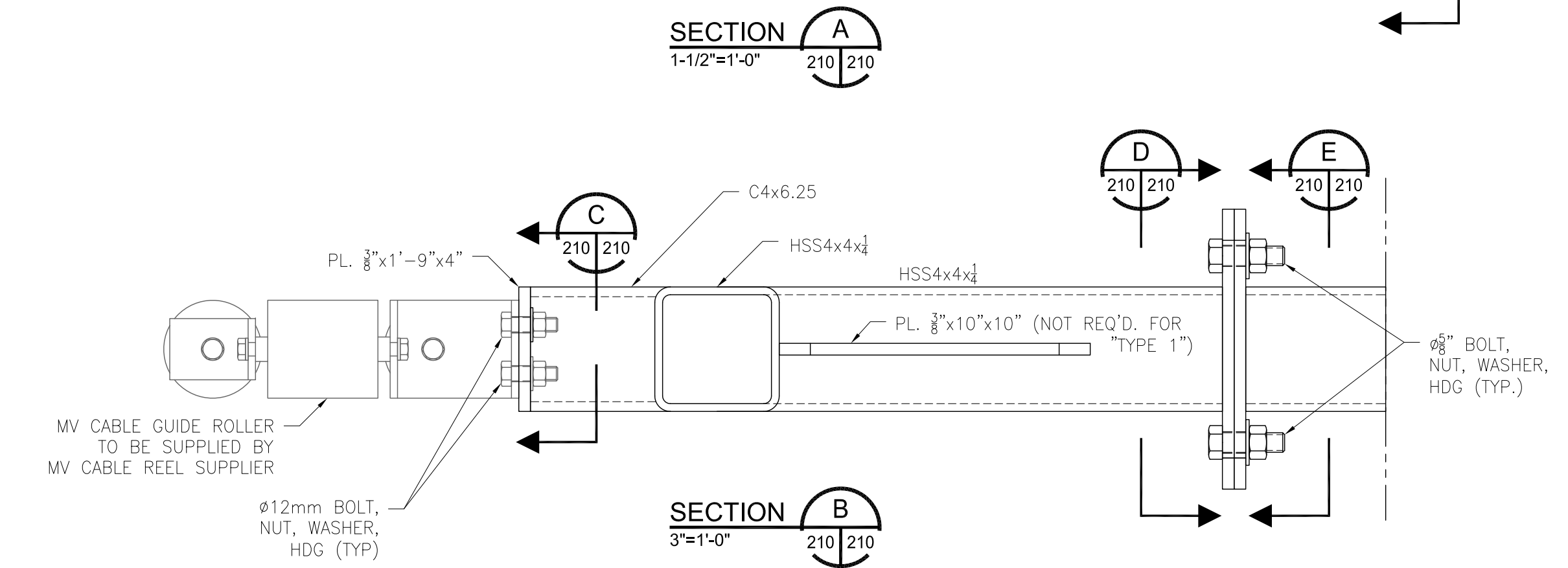
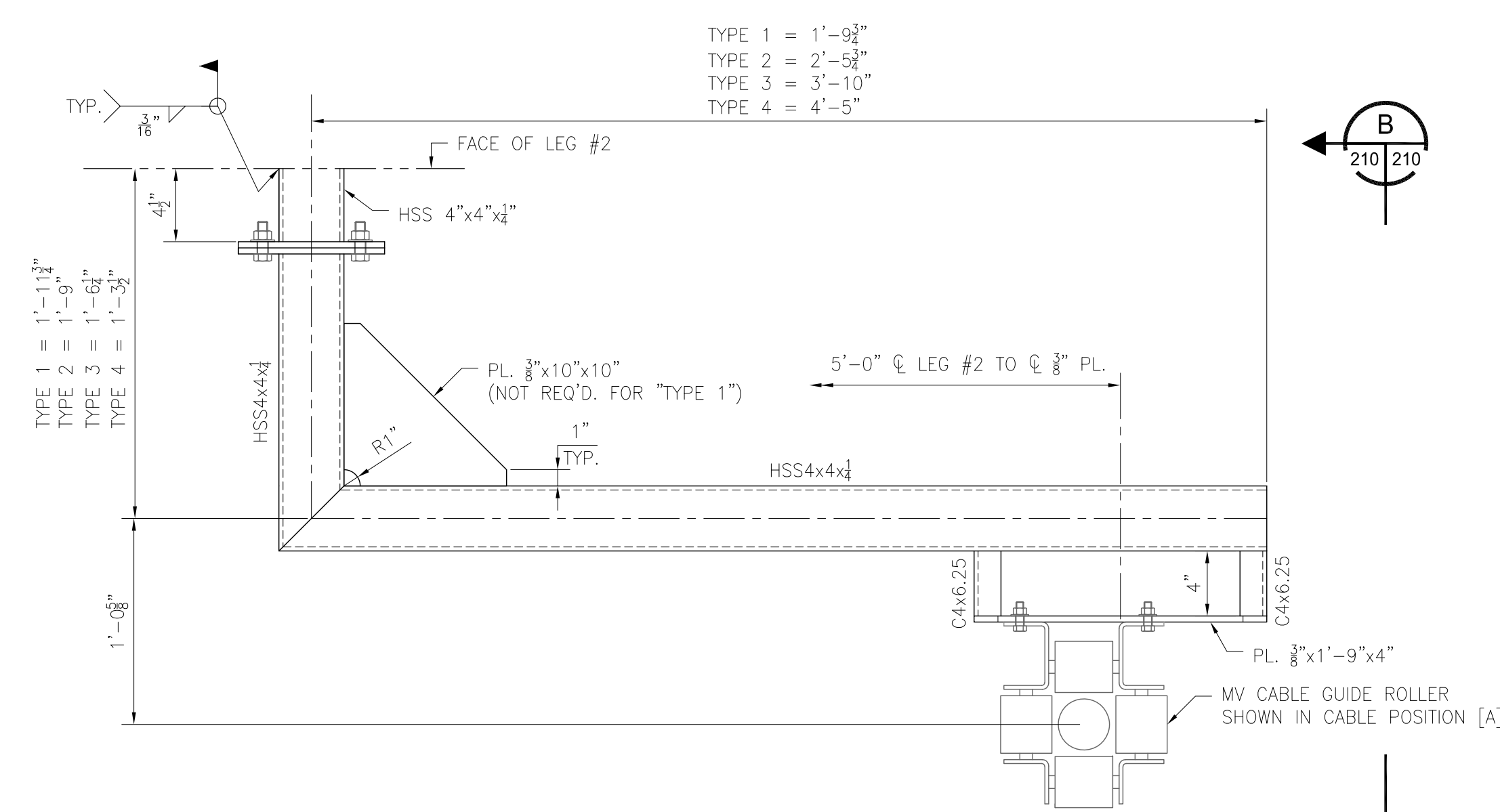
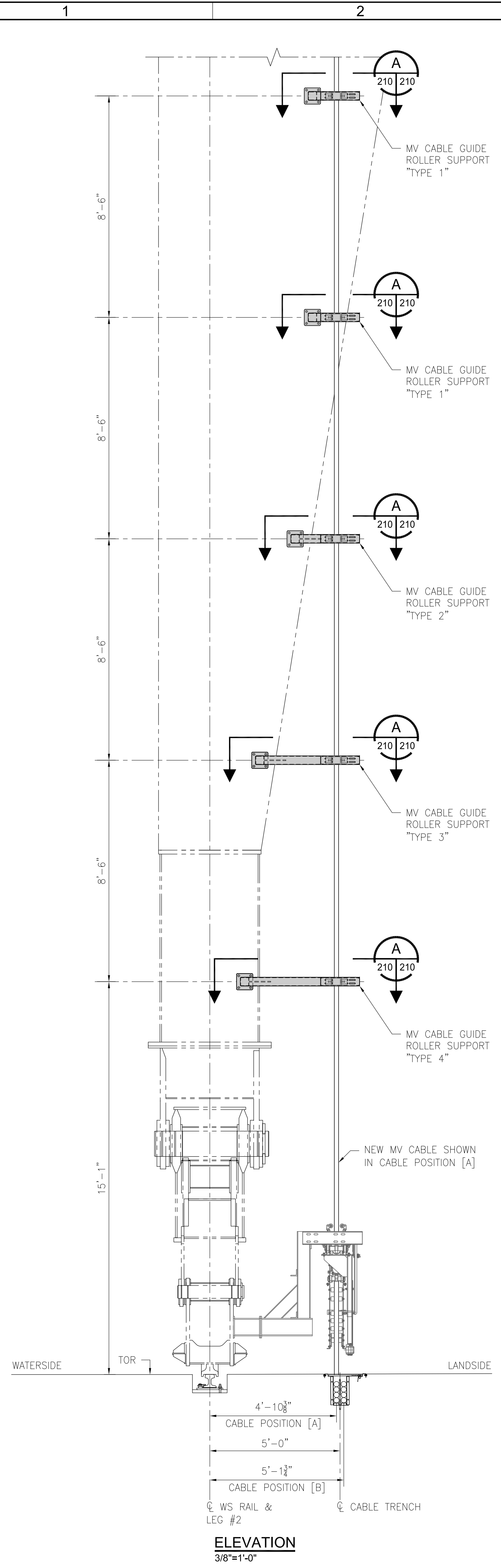


**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com		
CLIENT	PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT	H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE	90° MV CABLE DIVERTER SUPPORT			
DRAWN	A.M.G.	DATE	07/24/2020	
APPROVED	M.J.B.	DATE	07/24/2020	
CLIENT NO.	0034	PROJECT NO.	0004.10	
SCALE	NOTED	SIZE	24"x36"	
DWG. NO.	0034.0004.10-209		REV	A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0034.0004.10-210 RevA 2022-09-16.dwg, BN 24x36, 9/16/2022 9:19:33 AM, Addba PDF



TYPE 1 = 1'-9 1/4"
 TYPE 2 = 2'-5 1/4"
 TYPE 3 = 3'-10"
 TYPE 4 = 4'-5"

- NOTES:
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - CONTRACTOR TO INSTALL 1 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.
 - TRAILING CABLE POSITION TO BE COORDINATED WITH OWNER/TENANT.

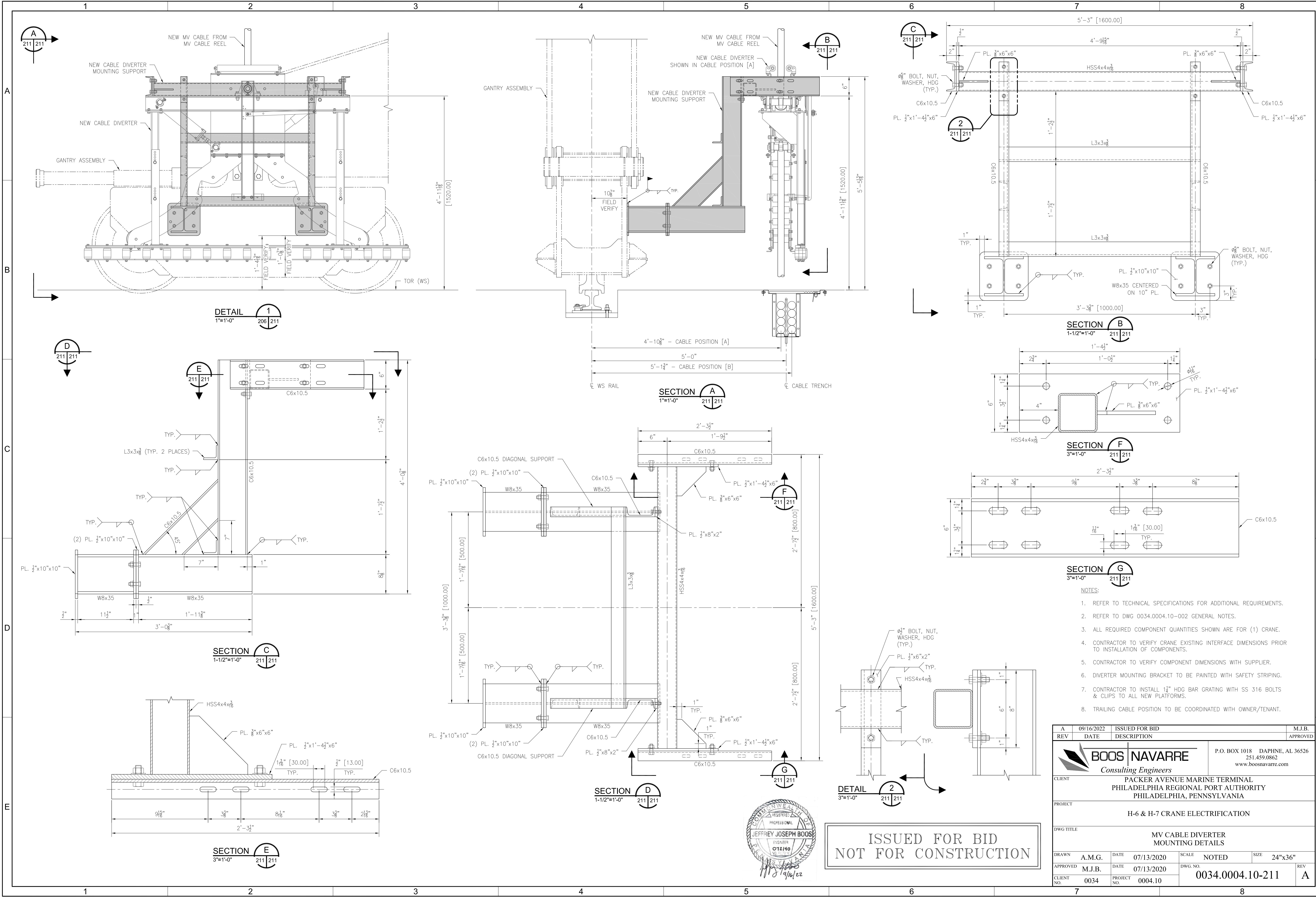


ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: MV CABLE GUIDE ROLLER SUPPORT DETAILS			
DRAWN	A.M.G.	DATE	07/15/2020
APPROVED	M.J.B.	DATE	07/15/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.		0034.0004.10-210	
			REV A

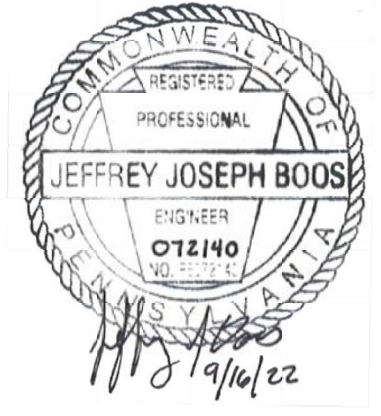
Z:\Projects\0034-Philadelphia-Port\004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-211_RevA_2022-09-16.dwg, BN 24x36, 9/16/2022 9:25:03 AM, Adobe PDF



- NOTES:**
- REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - REFER TO DWG 0034.0004.10-002 GENERAL NOTES.
 - ALL REQUIRED COMPONENT QUANTITIES SHOWN ARE FOR (1) CRANE.
 - CONTRACTOR TO VERIFY CRANE EXISTING INTERFACE DIMENSIONS PRIOR TO INSTALLATION OF COMPONENTS.
 - CONTRACTOR TO VERIFY COMPONENT DIMENSIONS WITH SUPPLIER.
 - DIVERTER MOUNTING BRACKET TO BE PAINTED WITH SAFETY STRIPING.
 - CONTRACTOR TO INSTALL 1/2" HDG BAR GRATING WITH SS 316 BOLTS & CLIPS TO ALL NEW PLATFORMS.
 - TRAILING CABLE POSITION TO BE COORDINATED WITH OWNER/TENANT.

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: MV CABLE DIVERTER MOUNTING DETAILS			
DRAWN	A.M.G.	DATE	07/13/2020
APPROVED	M.J.B.	DATE	07/13/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
0034.0004.10-211		REV A	

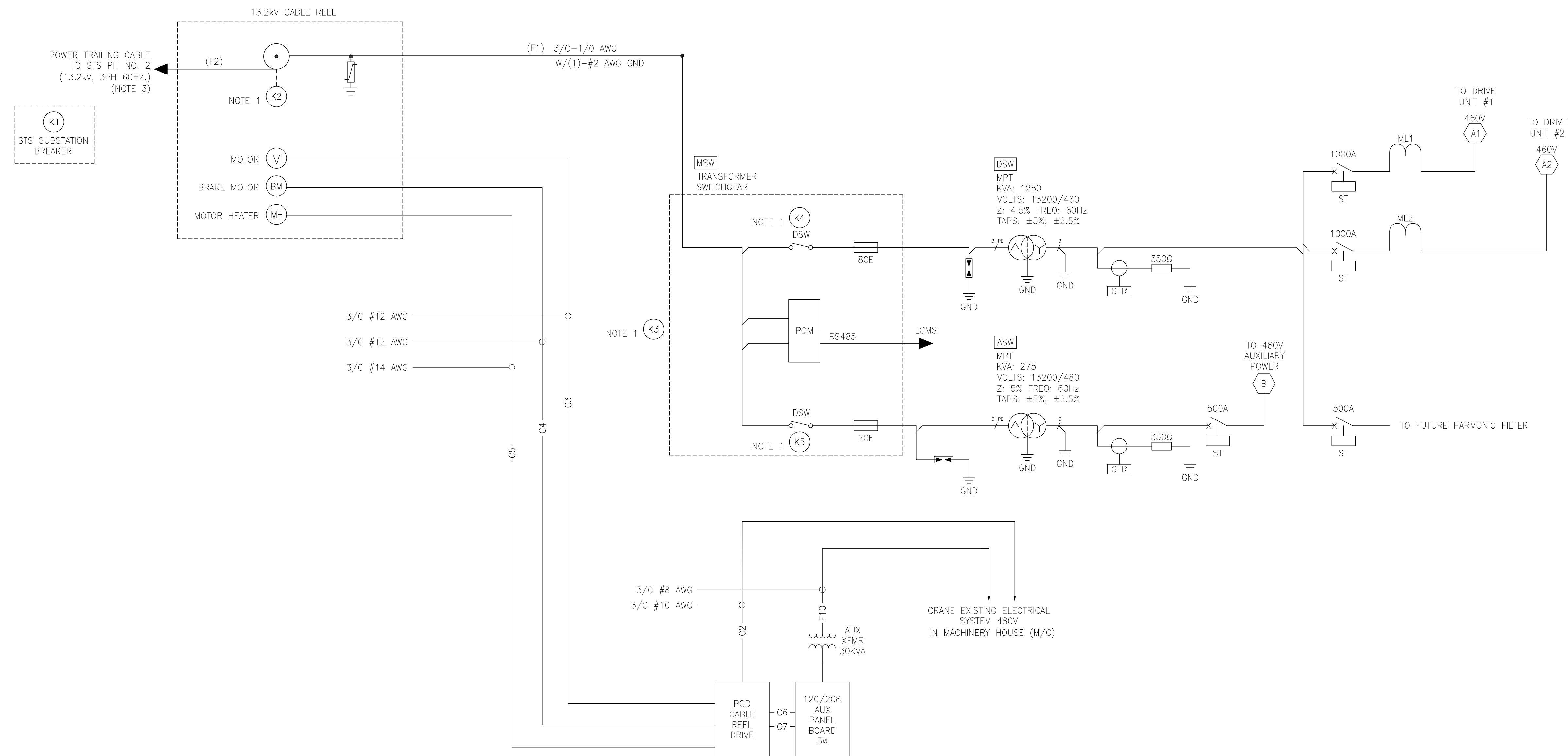


ISSUED FOR BID
 NOT FOR CONSTRUCTION

Z:\Projects\0034-Philadelphia-Port\0004-HH 6 & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-300 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 2:54:26 PM, Adobe PDF

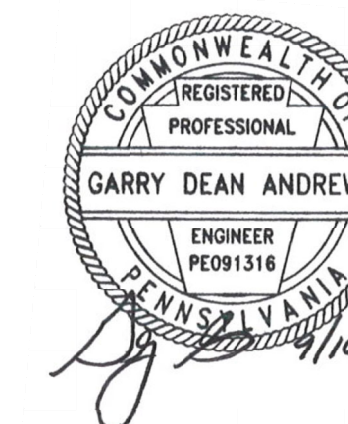
NOTES:

1. KIRK KEY ASSEMBLIES SHALL BE SUPPLIED BY THIS CONTRACTOR PER TECHNICAL SPECIFICATION.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO INSTALLATION.
3. THIS CONTRACTOR IS REQUIRED TO SUPPLY AND INSTALL THE TRAILING CABLE IN AN EXISTING CABLE TRENCH AND PULL INTO THE DESIGNATED CABLE PIT. THE TRAILING CABLE IN THE CABLE PIT SHALL BE PROPERLY ROUTED AND SECURED USING THE TECHNIQUES ALREADY ESTABLISHED IN THE PITS. THE CONTRACTOR SHALL INSTALL A 200A LOAD BREAK CONNECTOR ON THE TRAILING CABLE AND ROUTE THE FIBER OPTICS TO THE DESIGNATED EXISTING FIBER OPTIC PATCH PANEL AND TERMINATE.
4. REFER TO DWG 0034.0004.10-302 FOR CABLE SCHEDULE.



SINGLE LINE DIAGRAM

SYMBOLS	
	CIRCUIT BREAKER
	SURGE ARRESTOR
	CURRENT TRANSFORMER
	CABLE REEL
	VOLTAGE TRANSFORMER
	KIRK KEY ASSEMBLY
	MOTOR
	LOAD BREAK SWITCH

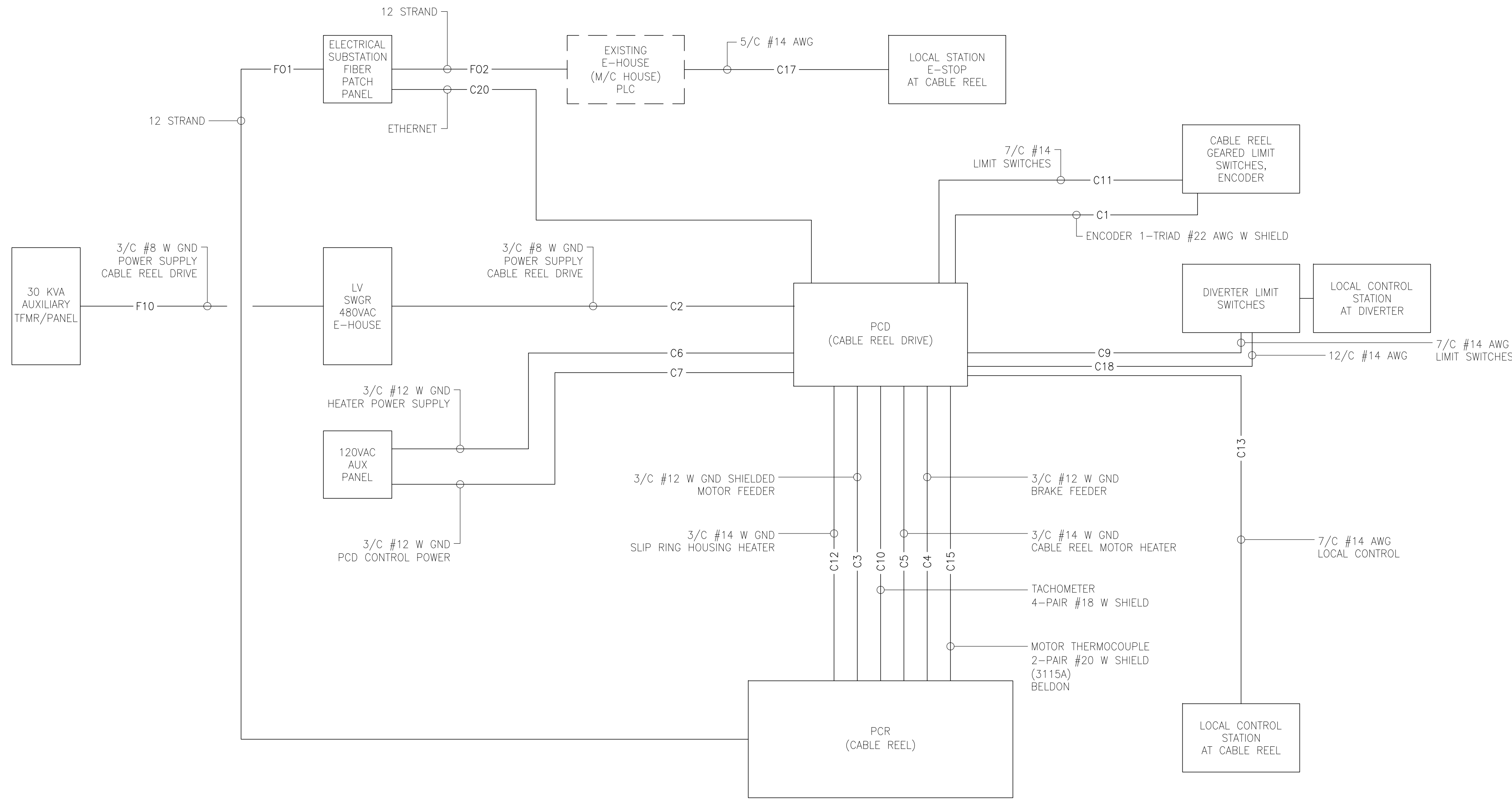


ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: CRANE ELECTRICAL SINGLE LINE			
DRAWN	A.M.G.	DATE	03/31/2020
APPROVED	G.D.A.	DATE	03/31/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE		NONE	SIZE
DWG. NO.		0034.0004.10-300	
			REV
			A

NOTES:
 1. REFER TO DWG 0034.0004.10-302 FOR CABLE SCHEDULE.



ISSUED FOR BID
 NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE MV CABLE REEL INTERCONNECT & WIRING DIAGRAM			
DRAWN	A.M.G.	DATE	04/08/2020
APPROVED	G.D.A.	DATE	04/08/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE		NONE	SIZE 24"x36"
DWG. NO.		0034.0004.10-301	
			REV A

Z:\Projects\0034-Philadelphia\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0034.10-301 RevA.2022-09-16.dwg, BN 24x36, 9/15/2022 5:31:49 PM, Addba PDF

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID_2022-09-16\0034.0004.10-302 RevA 2022-09-16.dwg, BN 24x36, 9/16/2022 10:39:49 AM, Adobe PDF

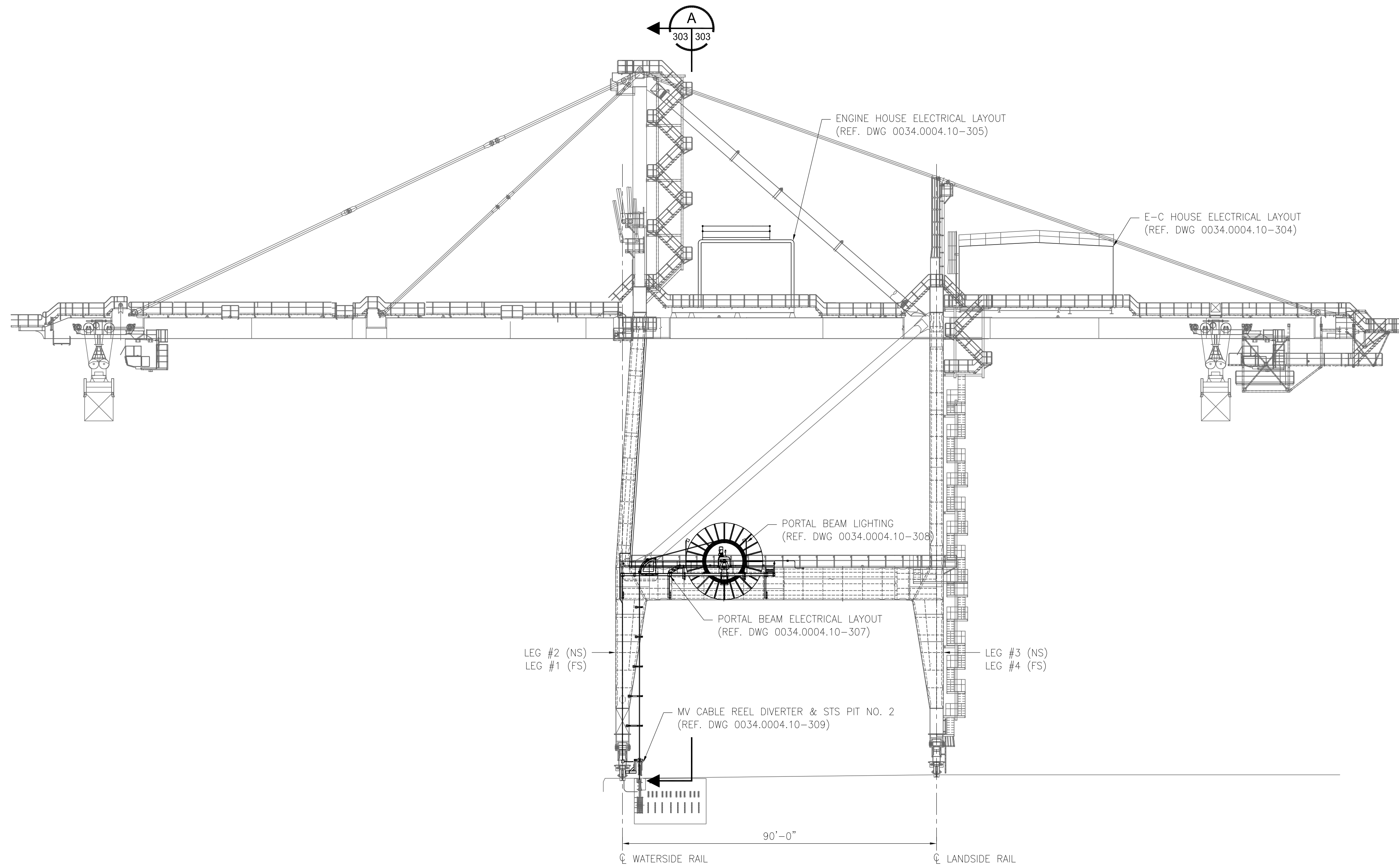
CABLE SCHEDULE						
CABLE NO.	CABLE SIZE	FROM	TO	ROUTING	SPECIFICATION	CABLE OD (INCHES)
F1	3/C #1/0 AWG 15KV EPR 133% INSULATION, W(1)#2 AWG GND	CABLE REEL SLIP RING	UNIT SUBSTATION M.V. SWITCH - ENGINE HOUSE	NEW TRAY 1	OKONITE OKOGUARD 115-23-3804	2.17
F2	PROTOLON 3 - # 2 AWG; 1 # 4 AWG GND; 1 # 8 AWG GC; 12 FIBER	CABLE PIT	CABLE REEL SLIP RING	EXISTING	PROTOLON (SM-R)	1.93
F3	(1) - 1/C # 1/0 AWG PER PHASE W/1 - # 2 AWG GND	MV SWITCHGEAR MSW	MAIN DRIVE TRANSFORMER DSW	NEW TRAY 2	OKONITE OKOGUARD 115-23-3230	1.1
F4	(1) - 1/C # 1/0 AWG PER PHASE W/1 - # 2 AWG GND	MV SWITCHGEAR MSW	AUX POWER TRANSFORMER ASW	NEW TRAY 2	OKONITE OKOGUARD 115-23-3230	1.1
F5	3/C # 12 AWG WITH GND	MV SWITCHGEAR MSW	MAIN DRIVE TRANSFORMER CONTROL POWER	NEW TRAY 3	SOUTHWIRE 45109	0.445
F6	3/C # 12 AWG WITH GND	MV SWITCHGEAR MSW	MAIN DRIVE TRANSFORMER HEATER POWER	NEW TRAY 3	SOUTHWIRE 45109	0.445
F7	3/C # 12 AWG WITH GND	MV SWITCHGEAR MSW	AUX POWER TRANSFORMER CONTROL POWER	NEW TRAY 3	SOUTHWIRE 45109	0.445
F8	3/C # 12 AWG WITH GND	MV SWITCHGEAR MSW	AUX POWER TRANSFORMER HEATER POWER	NEW TRAY 3	SOUTHWIRE 45109	0.445
F9	3/C # 12 AWG WITH GND	120/208V PANEL SWP	ENGINE HOUSE VENTILLATION FAN	NEW 3/4" CONDUIT	SOUTHWIRE 45109	0.445
F10	3/C # 8 AWG WITH GND	480V POWER PNL IN E-ROOM	30 KVA AUX POWER TFMR/PANEL ENGINE HOUSE	EXISTING TRAY	SOUTHWIRE 45251	0.542
F01	FIBER OPTIC 6 2 .5 / 125 μ (12 FIBER ASSEMBLY)	CABLE REEL SLIP RING	FIBER OPTIC PATCH PANEL - ENGINE HOUSE	NEW TRAY 1	BELDON B96575	0.28
F02	FIBER OPTIC 6 2 .5 / 125 μ (12 FIBER ASSEMBLY)	FIBER OPTIC PATCH PANEL	ELECTRICAL HOUSE FIBER - M/C HOUSE	EXISTING TRAY	BELDON B96575	0.28
C1	1-TRIAD # 22 AWG WITH SHIELD	CABLE REEL DRIVE	CABLE REEL ENCODER	NEW TRAY 1	BELDON 9363	0.208
C2	3/C # 8 AWG WITH GND	480V POWER PNL IN E-ROOM	CABLE REEL DRIVE	EXISTING TRAY	SOUTHWIRE 45251	0.542
C3	3/C # 8 AWG WITH GND AND WITH OVERALL SHIELD	CABLE REEL DRIVE	CABLE REEL MOTOR	NEW TRAY 1	SOUTHWIRE 45440	0.87
C4	3/C # 12 AWG WITH GND	CABLE REEL DRIVE	CABLE REEL BRAKE MOTOR	NEW TRAY 1	SOUTHWIRE 45109	0.445
C5	3/C # 14 AWG WITH GND	CABLE REEL DRIVE	CABLE REEL MOTOR HEATER	NEW TRAY 1	SOUTHWIRE 45109	0.445
C6	3/C # 12 AWG WITH GND	CABLE REEL DRIVE	120/208V PANEL IN UNIT SUBSTATION	NEW 1 1/2" CONDUIT	SOUTHWIRE 45109	0.445
C7	3/C # 12 AWG WITH GND	CABLE REEL DRIVE	120/208V PANEL IN UNIT SUBSTATION	COMBINE WITH C6	SOUTHWIRE 45109	0.445
C8	3/C # 8 AWG WITH GND AND OVERALL SHIELD	CABLE REEL DRIVE	CABLE REEL BRAKE RESISTOR	NEW TRAY 1	SOUTHWIRE 45440	0.87
C9	7/C # 14 AWG WITH OVERALL SHIELD	CABLE REEL DRIVE	CABLE DIVERTER GUIDE	NEW TRAY 1	SOUTHWIRE 45158	0.438
C10	4 SHIELDED PAIR # 18 WITH OVERALL SHIELD	CABLE REEL DRIVE	CABLE REEL ANALOG PROX SWITCH	NEW TRAY 1	BELDON 1476A	0.594
C11	7/C # 14 AWG WITH OVERALL SHIELD	CABLE REEL DRIVE	CABLE REEL CAM LIMIT SWITCH	NEW TRAY 1	SOUTHWIRE 45158	0.438
C12	3/C # 14 AWG WITH GND	CABLE REEL DRIVE	SLIP RING HOUSING HEATER	NEW TRAY 1	SOUTHWIRE 45109	0.445
C13	7/C # 14 AWG WITH OVERALL SHIELD	CABLE REEL DRIVE	LOCAL CONTROL STATION AT CABLE REEL	NEW TRAY 1	SOUTHWIRE 45158	0.438
C15	2 SHIELDED PAIR # 20 THERMOCOUPLE CABLE	CABLE REEL DRIVE	CABLE REEL MOTOR THERMOCOUPLE	NEW TRAY 1	BELDON 3115A	0.332
C16	12/C # 14 AWG WITH OVERALL SHIELD	MAIN DRIVE TRANSFORMER DSW	MASTER PLC - M/C HOUSE	EXISTING TRAY	SOUTHWIRE 45158	0.593
C17	5/C # 14 AWG WITH OVERALL SHIELD	CABLE REEL	MASTER PLC - M/C HOUSE	NT1, 2, EXISTING TRAY	SOUTHWIRE 45158	0.404
C18	12/C # 14 AWG WITH OVERALL SHIELD	CABLE REEL DRIVE	LOCAL CONTROL STATION AT CABLE DIVERTER GUIDE	NEW TRAY 1	SOUTHWIRE 45158	0.593
C19	3/C # 12 AWG WITH GND	MACHINE HOUSE MH PANEL	PORTAL BEAM LIGHTING	EXISTING TRAY	SOUTHWIRE 45109	0.445
C20	CAT 6 4 PAIR # 23 AWG SHIELDED	CABLE REEL DRIVE	SUBSTATION FIBER PATCH	CONDUIT 3/4"	ETHERNET - BELDON 7953A	0.34
C21	CAT 6 4 PAIR # 23 AWG SHIELDED	MV SWITCHGEAR MSW	SUBSTATION FIBER PATCH	CONDUIT 3/4"	ETHERNET - BELDON 7953A	0.34
C22	12/C # 14 AWG WITH OVERALL SHIELD	AUX POWER TRANSFORMER ASW	MASTER PLC - M/C HOUSE	NEW TRAY 3	SOUTHWIRE 45158	0.593
C23	12/C # 14 AWG WITH OVERALL SHIELD	MV SWITCHGEAR MSW	MAIN POWER TRANSFORMER DSW	NEW TRAY 3	SOUTHWIRE 45158	0.593
C24	12/C # 14 AWG WITH OVERALL SHIELD	MV SWITCHGEAR MSW	AUX POWER TRANSFORMER ASW	NEW TRAY 3	SOUTHWIRE 45158	0.593
C25	12/C # 14 AWG WITH OVERALL SHIELD	MV SWITCHGEAR MSW	LOCAL CONTROL STATION ENGINE HOUSE	NEW TRAY 3	SOUTHWIRE 45158	0.593

ISSUED FOR BID
NOT FOR CONSTRUCTION

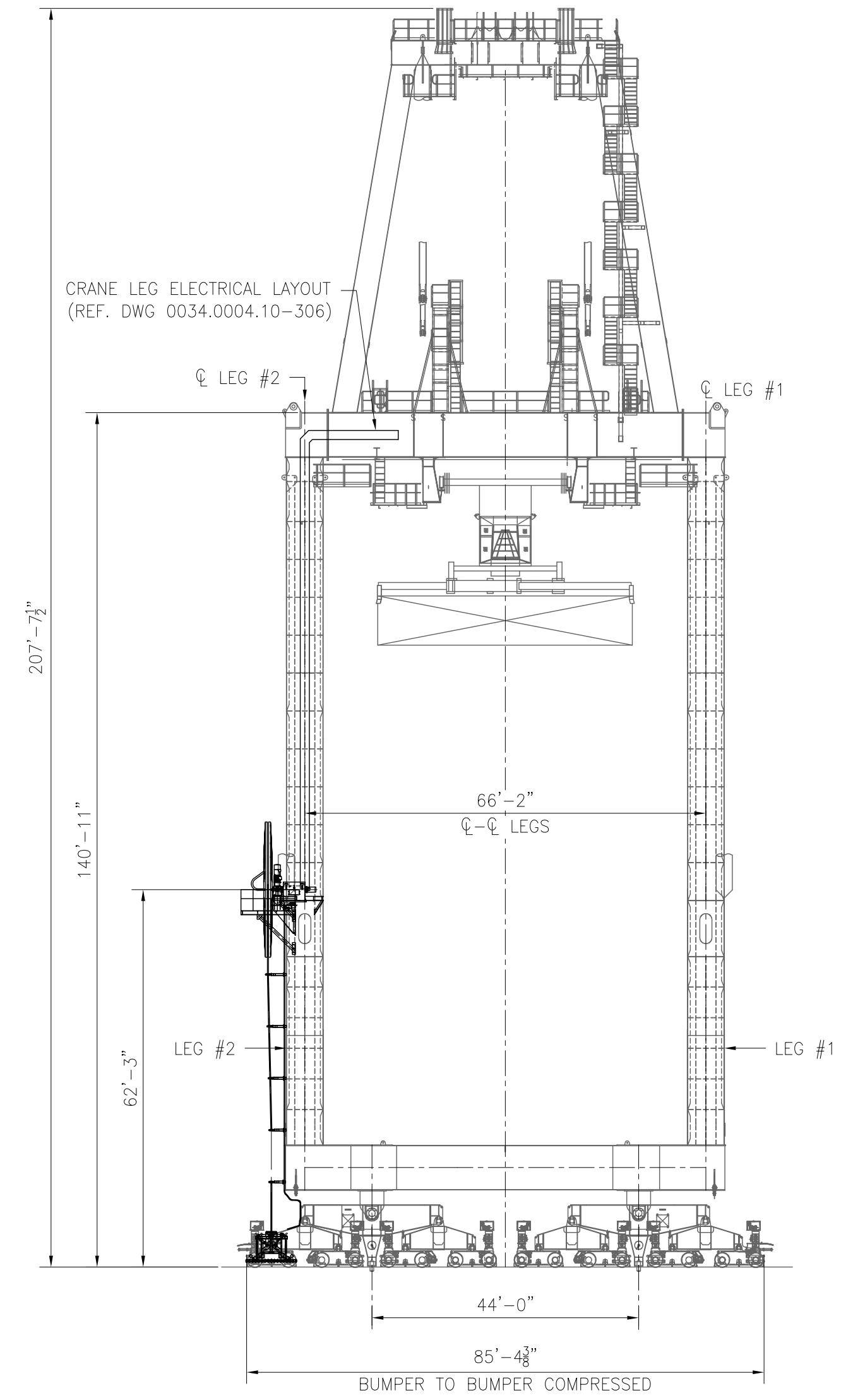


REV	DATE	DESCRIPTION	M.J.B. APPROVED
A	09/16/2022	ISSUED FOR BID	
		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE ELECTRICAL CABLE SCHEDULE			
DRAWN	A.M.G.	DATE	07/20/2020
APPROVED	G.D.A.	DATE	07/20/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE		NONE	SIZE 24"x36"
DWG. NO.		0034.0004.10-302	
			REV A

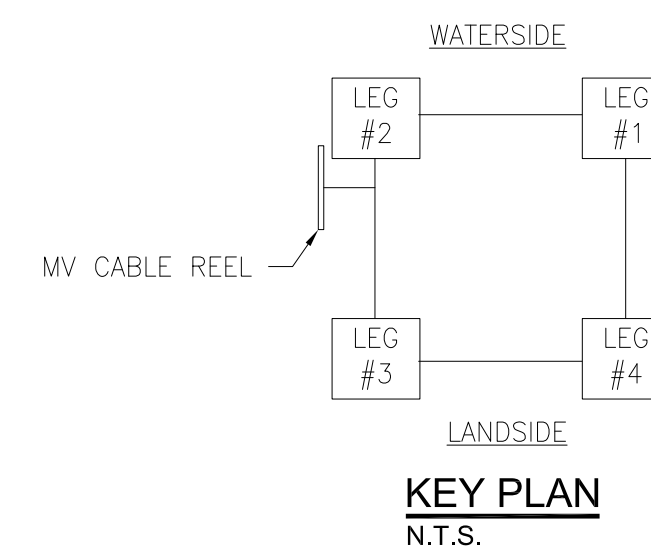
Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-303_RevA.2022-09-16.dwg, BN 24x36, 9/15/2022 5:44:46 PM, Adobe PDF



ELEVATION
1"=20'-0"



SECTION A
1"=20'-0"

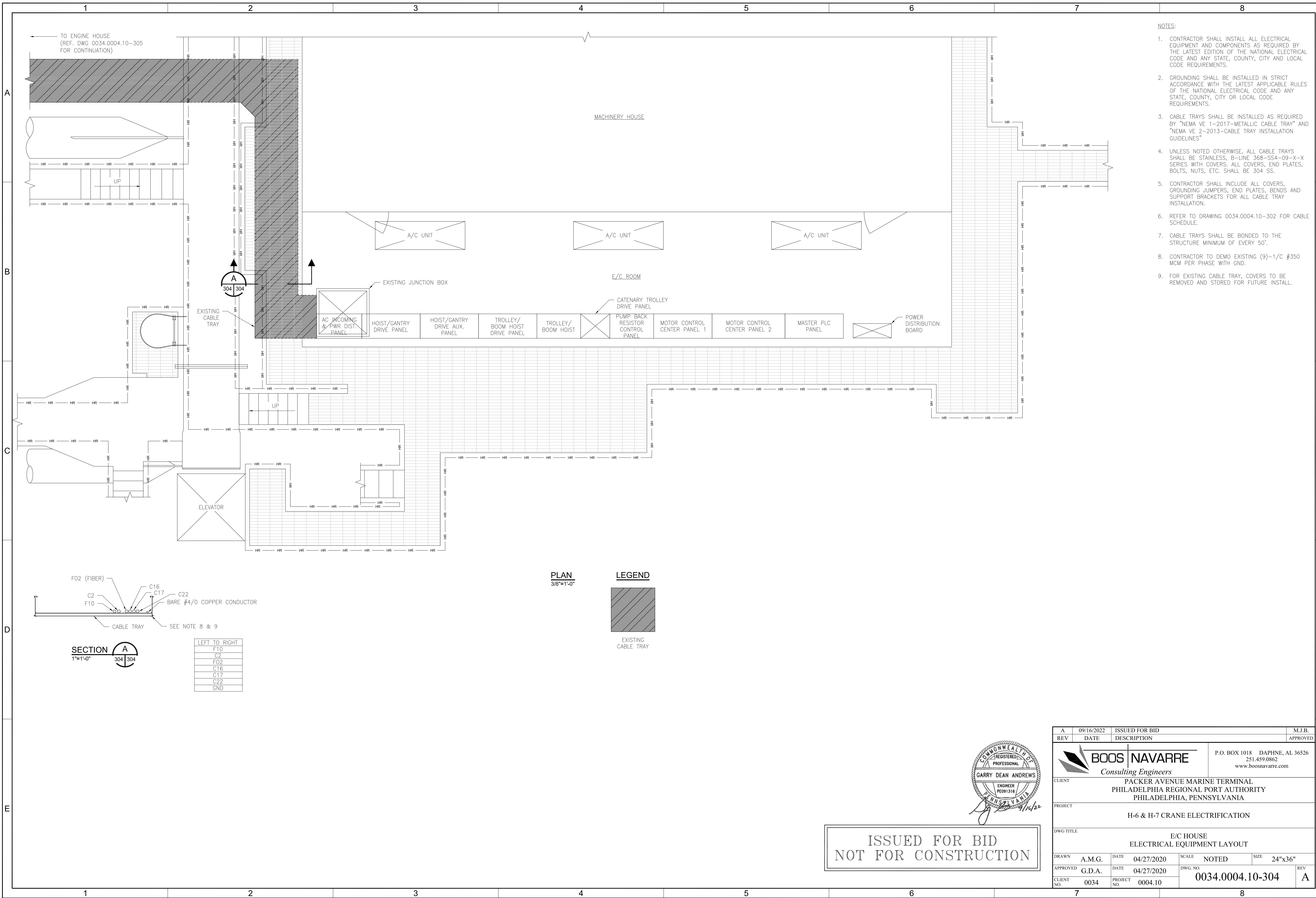


ISSUED FOR BID
NOT FOR CONSTRUCTION

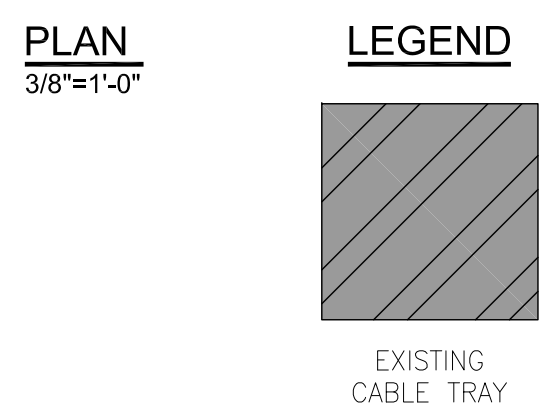
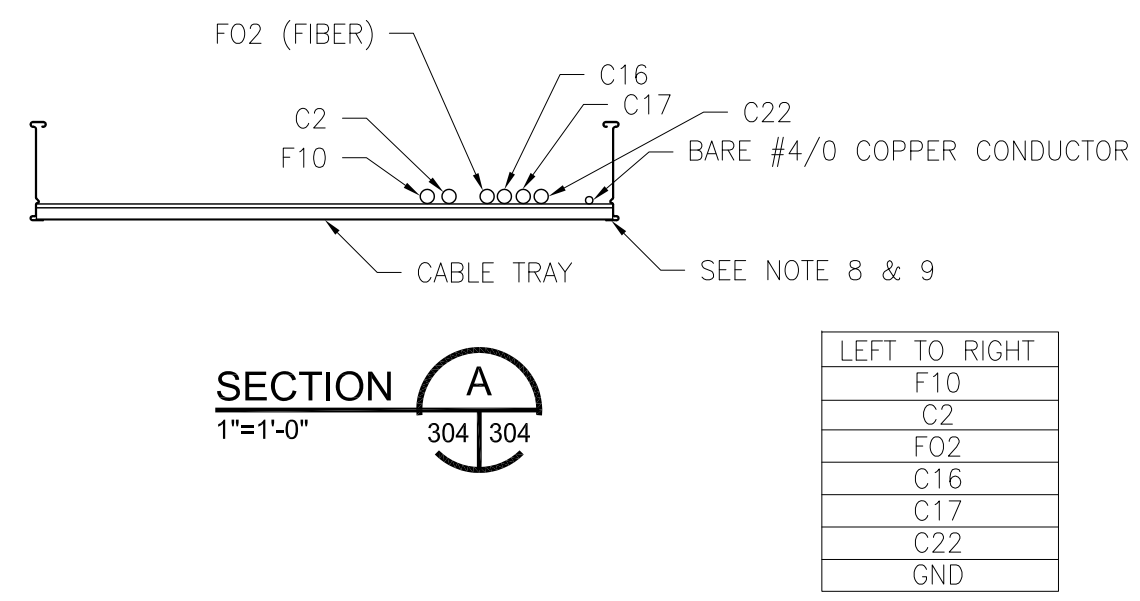
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE ELECTRICAL ARRANGEMENT			
DRAWN	A.M.G.	DATE	07/29/2020
APPROVED	G.D.A.	DATE	07/29/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-303		REV
			A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0031.0004.10-304_RevA.2022-09-16.dwg, BN 24x36, 9/19/2022 1:56:31 PM, Adobe PDF



- NOTES:
1. CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT AND COMPONENTS AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY AND LOCAL CODE REQUIREMENTS.
 2. GROUNDING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST APPLICABLE RULES OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY OR LOCAL CODE REQUIREMENTS.
 3. CABLE TRAYS SHALL BE INSTALLED AS REQUIRED BY "NEMA VE 1-2017-METALLIC CABLE TRAY" AND "NEMA VE 2-2013-CABLE TRAY INSTALLATION GUIDELINES"
 4. UNLESS NOTED OTHERWISE, ALL CABLE TRAYS SHALL BE STAINLESS, B-LINE 368-SS4-09-X-X SERIES WITH COVERS, ALL COVERS, END PLATES, BOLTS, NUTS, ETC. SHALL BE 304 SS.
 5. CONTRACTOR SHALL INCLUDE ALL COVERS, GROUNDING JUMPERS, END PLATES, BENDS AND SUPPORT BRACKETS FOR ALL CABLE TRAY INSTALLATION.
 6. REFER TO DRAWING 0034.0004.10-302 FOR CABLE SCHEDULE.
 7. CABLE TRAYS SHALL BE BONDED TO THE STRUCTURE MINIMUM OF EVERY 50'.
 8. CONTRACTOR TO DEMO EXISTING (9)-1/C #350 MCM PER PHASE WITH GND.
 9. FOR EXISTING CABLE TRAY, COVERS TO BE REMOVED AND STORED FOR FUTURE INSTALL.



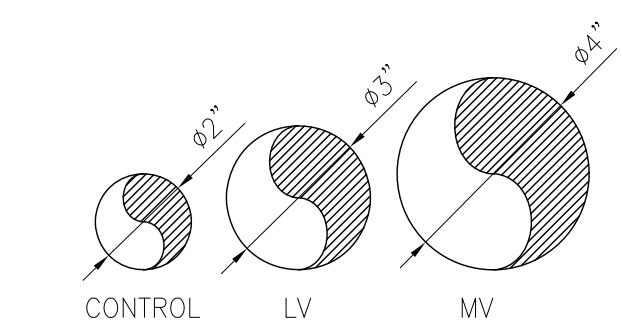
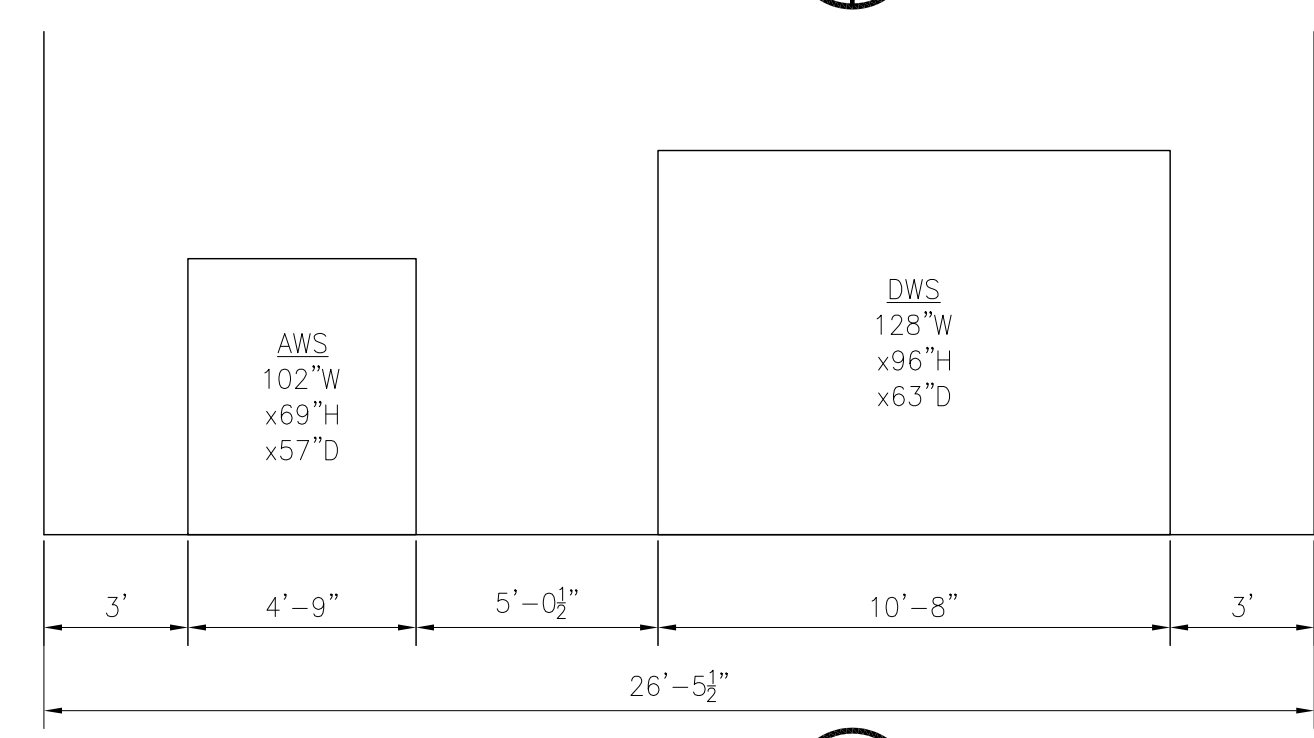
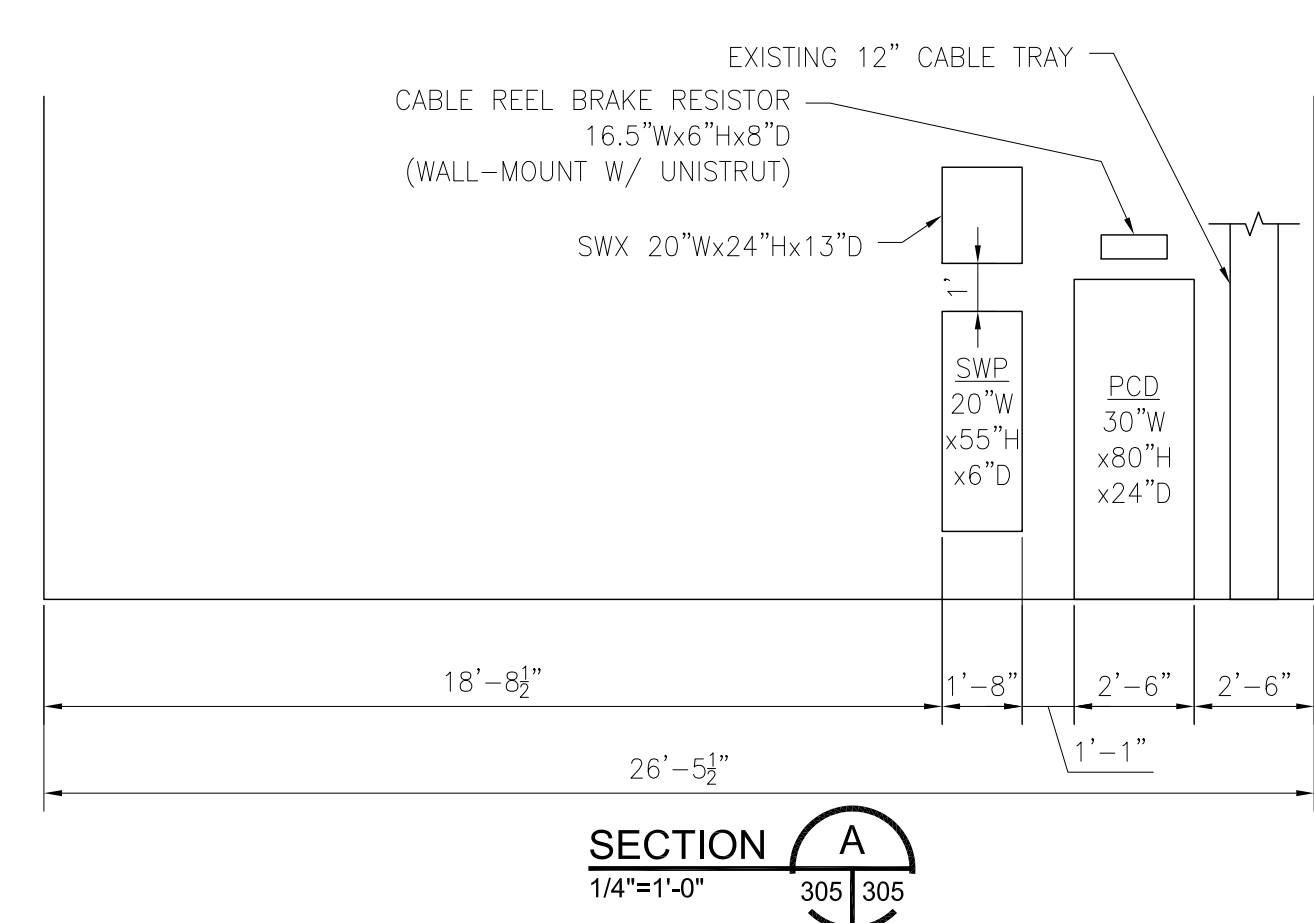
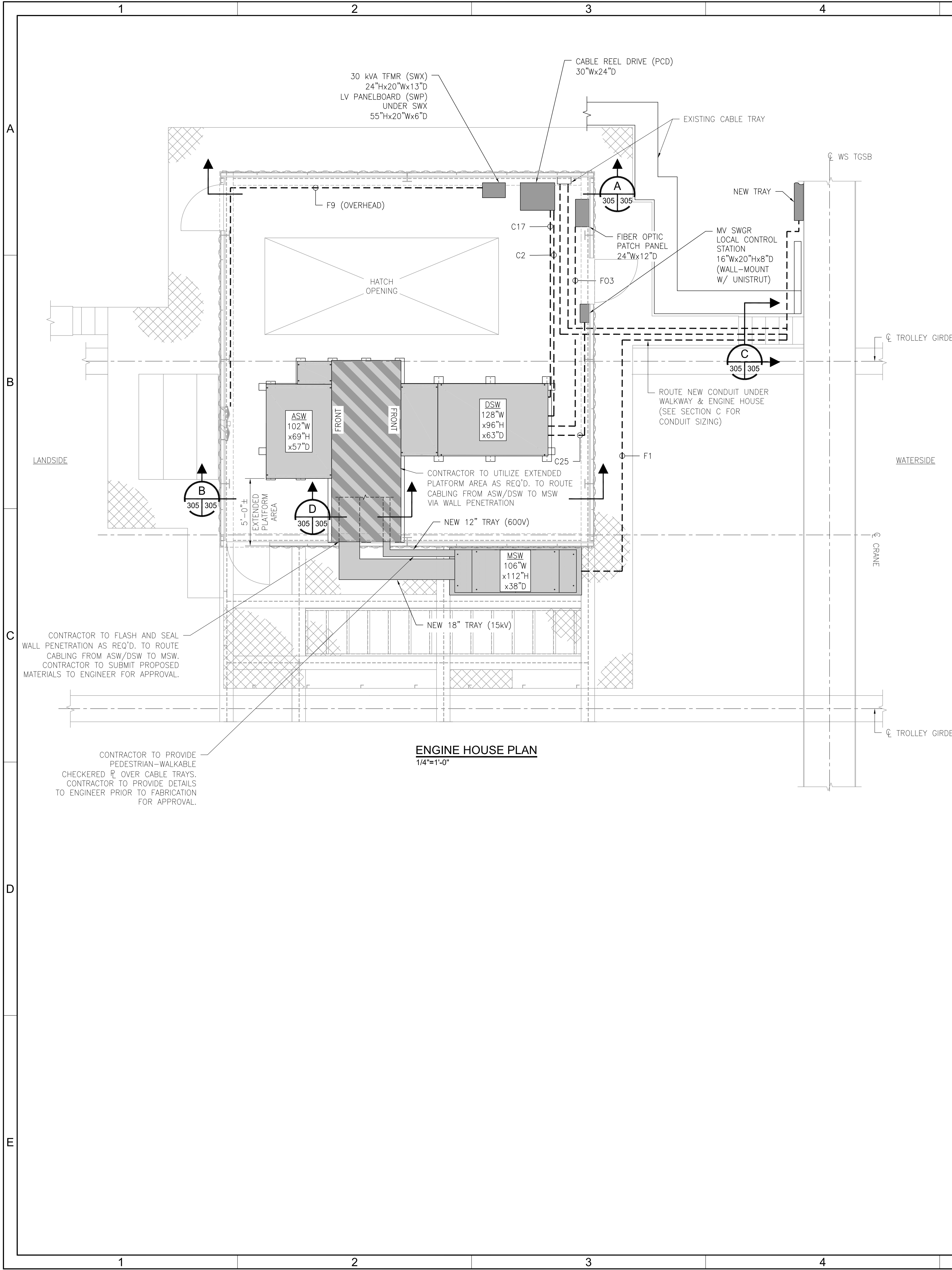
ISSUED FOR BID
NOT FOR CONSTRUCTION



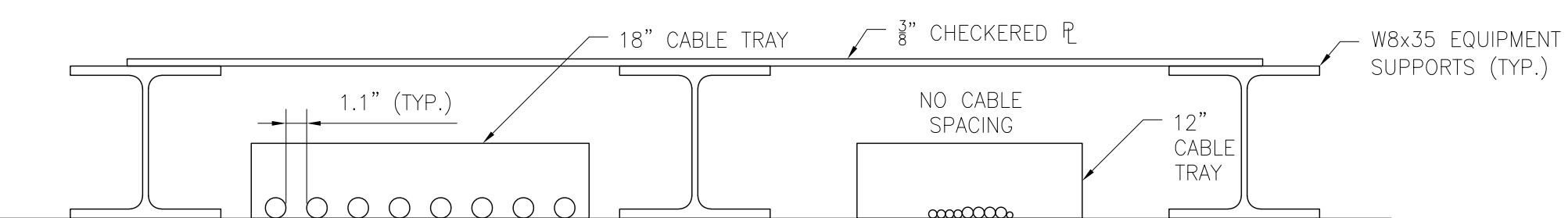
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE E/C HOUSE ELECTRICAL EQUIPMENT LAYOUT			
DRAWN	A.M.G.	DATE	04/27/2020
APPROVED	G.D.A.	DATE	04/27/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE		NOTED	SIZE
0034.0004.10-304			24"x36"
			REV
			A

Z:\Projects\0034-Philadelphia-Port\004-HH1B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID_2022-09-16\0031.0004.10-305_RevA_2022-09-16.dwg, BN 24x36, 9/19/2022 1:44:45 PM, Addba PDF



MV CONDUIT	F1
LV CONDUIT	C3, C4, C5, C11, C12, C13, C9, C18
CONTROL CONDUIT	F01, C1, C10, C15



LEFT TO RIGHT	
F3 (4)	\emptyset 1.1"
F4 (4)	\emptyset 1.1"
F5	\emptyset .445"
F6	\emptyset .445"
F7	\emptyset .445"
F8	\emptyset .445"
C23	\emptyset .593"
C24	\emptyset .593"
C25	\emptyset .593"
C22	\emptyset .593"
C21	\emptyset .340"

- NOTES:**
- ENSURE CONDUIT IS INSTALLED OUTSIDE OF HATCH OPENING.
 - CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT AND COMPONENTS AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY AND LOCAL CODE REQUIREMENTS.
 - GROUNDING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST APPLICABLE RULES OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY OR LOCAL CODE REQUIREMENTS.
 - CABLE TRAYS SHALL BE INSTALLED AS REQUIRED BY "NEMA VE 1-2017-METALLIC CABLE TRAY" AND "NEMA VE 2-2013-CABLE TRAY INSTALLATION GUIDELINES"
 - UNLESS NOTED OTHERWISE, ALL CABLE TRAYS SHALL BE STAINLESS, B-LINE 368-SS6-09-X-X SERIES WITH COVERS. ALL COVERS, END PLATES, BOLTS, NUTS, ETC. SHALL BE 316 SS.
 - CONTRACTOR SHALL INCLUDE ALL COVERS, GROUNDING JUMPERS, END PLATES, BENDS AND SUPPORT BRACKETS FOR ALL CABLE TRAY INSTALLATION.
 - REFER TO DRAWING 0034.0004.10-302 FOR CABLE SCHEDULE.
 - CABLE TRAYS SHALL BE BONDED TO THE STRUCTURE MINIMUM OF EVERY 50'.
 - INSTALL FIBER OPTIC PATCH PANEL VIA GALVANIZED UNISTRUT.



**ISSUED FOR BID
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE
Consulting Engineers
P.O. BOX 1018 DAPHNE, AL 36526
251.459.0862
www.boosnavarre.com

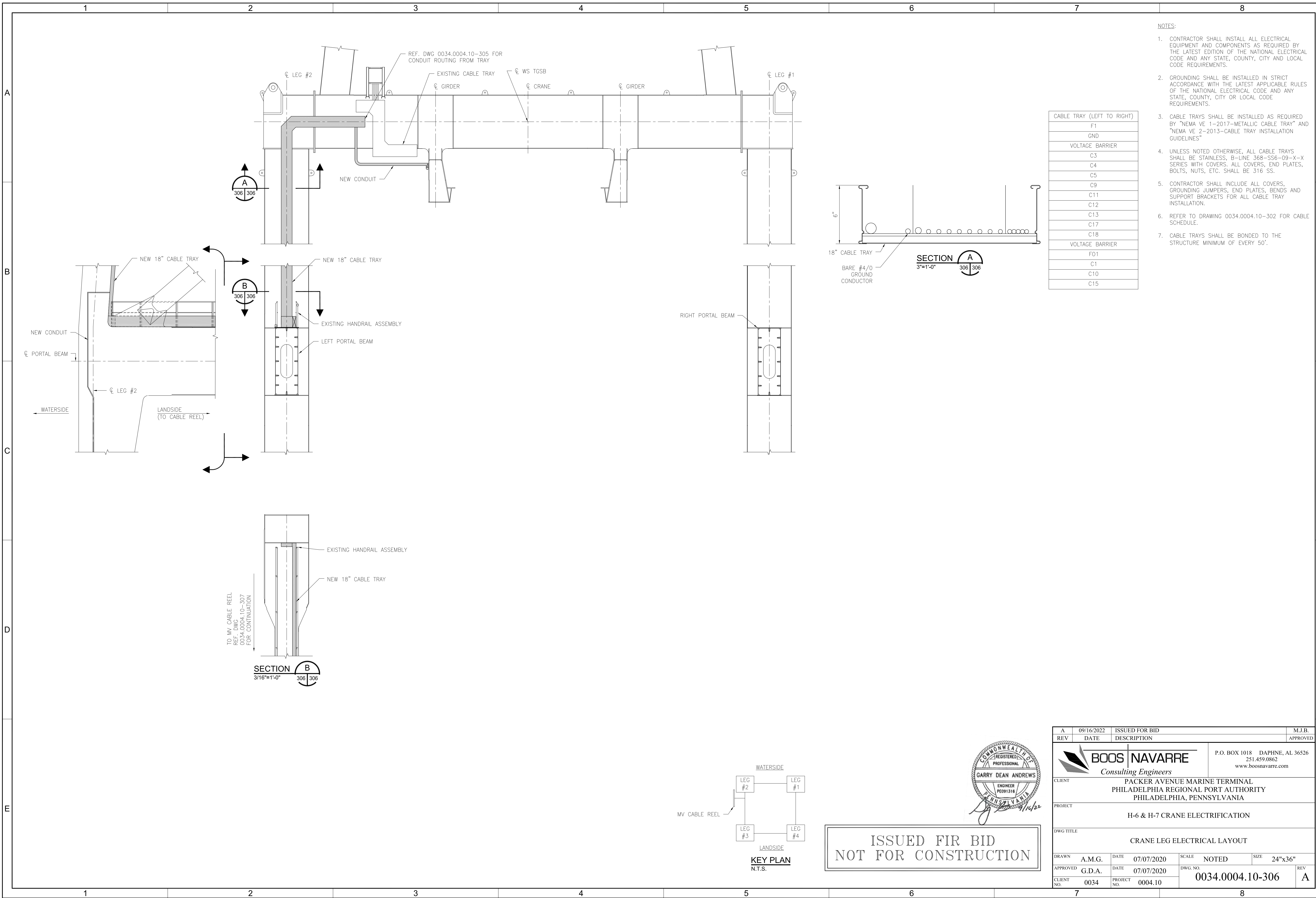
CLIENT: PACKER AVENUE MARINE TERMINAL
PHILADELPHIA REGIONAL PORT AUTHORITY
PHILADELPHIA, PENNSYLVANIA

PROJECT: H-6 & H-7 CRANE ELECTRIFICATION

DWG TITLE: ENGINE HOUSE ELECTRICAL LAYOUT

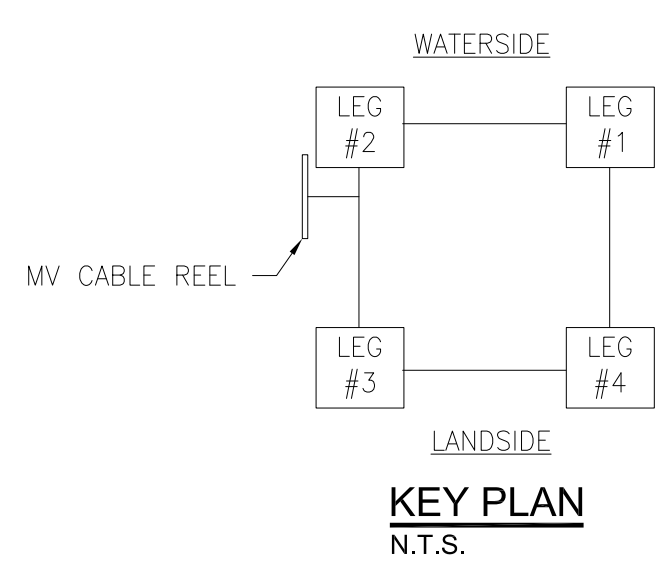
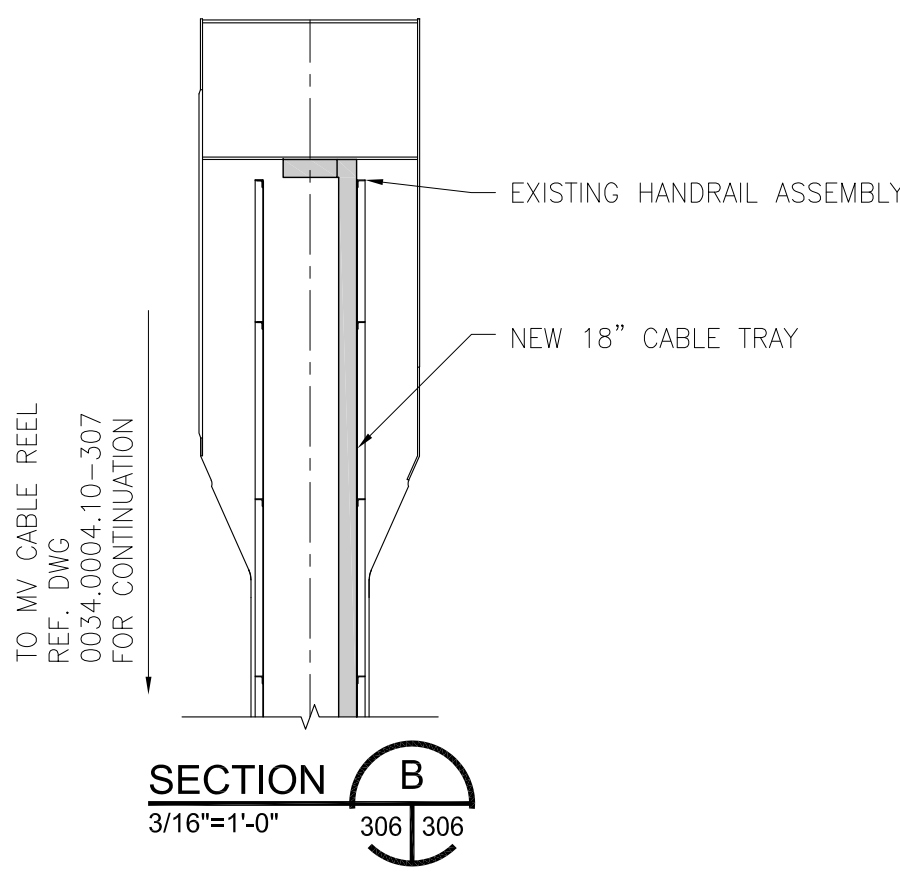
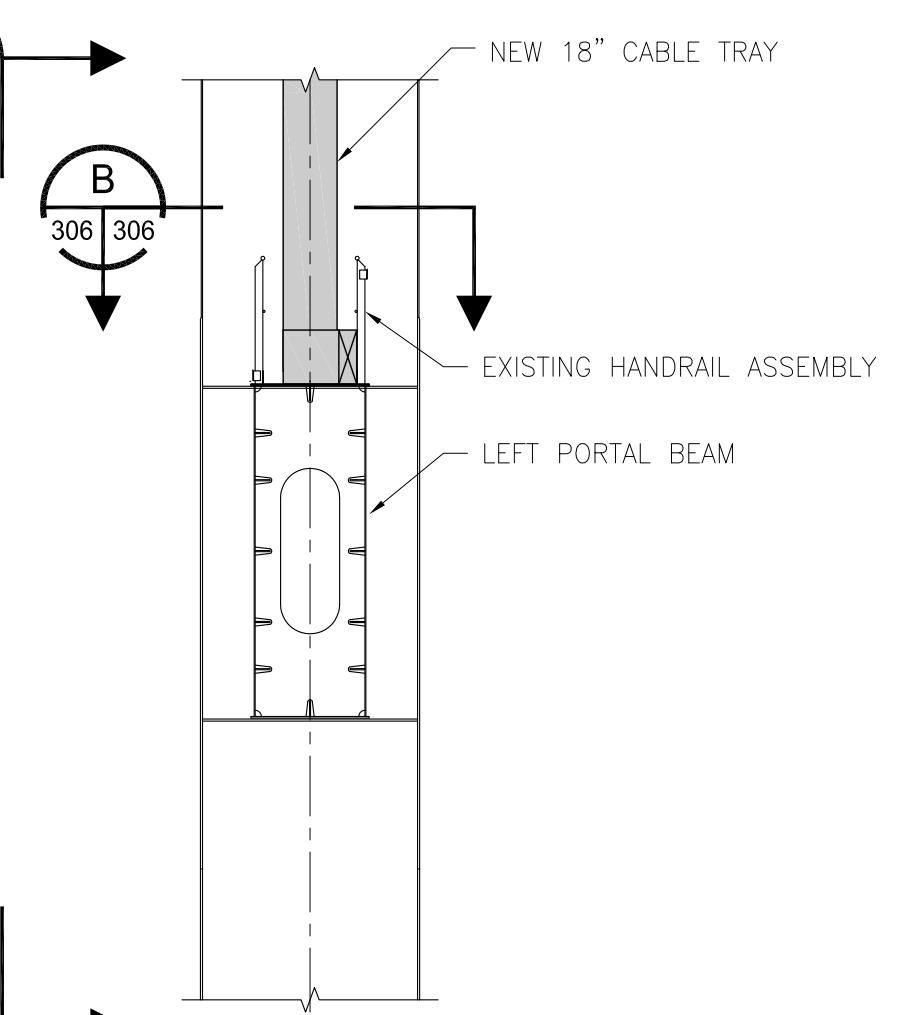
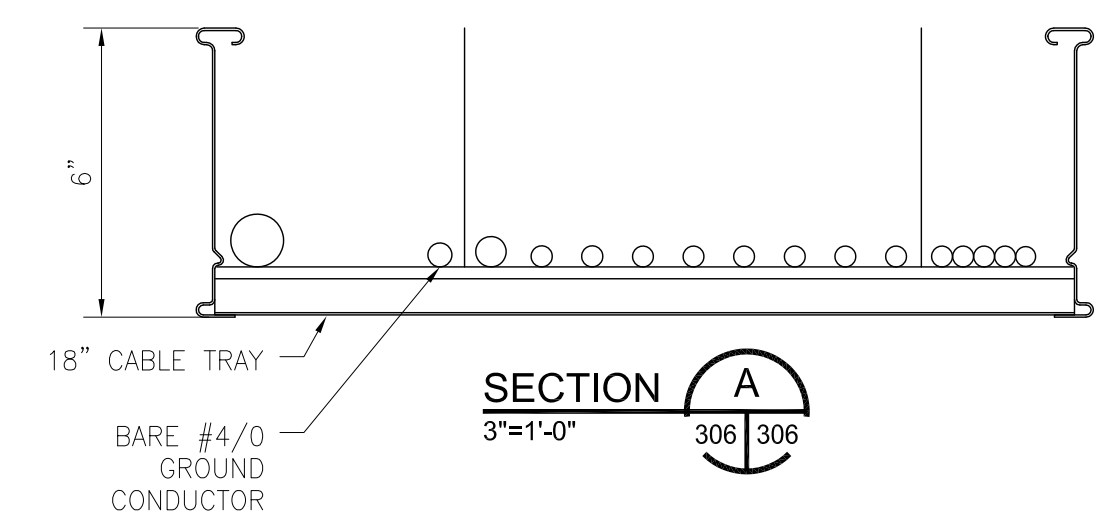
DRAWN	A.M.G.	DATE	07/07/2020	SCALE	NOTED	SIZE	24"x36"
APPROVED	G.D.A.	DATE	07/07/2020	DWG. NO.	0034.0004.10-305		
CLIENT NO.	0034	PROJECT NO.	0004.10	REV	A		

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1. DWG\6. ISSUED FOR BID 2022-09-16\0034.10-306 RevA.2022-09-16.dwg, BN 24x36, 9/15/2022 6:15:11 PM, Addba PDF



- NOTES:
- CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT AND COMPONENTS AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY AND LOCAL CODE REQUIREMENTS.
 - GROUNDING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST APPLICABLE RULES OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY OR LOCAL CODE REQUIREMENTS.
 - CABLE TRAYS SHALL BE INSTALLED AS REQUIRED BY "NEMA VE 1-2017-METALLIC CABLE TRAY" AND "NEMA VE 2-2013-CABLE TRAY INSTALLATION GUIDELINES"
 - UNLESS NOTED OTHERWISE, ALL CABLE TRAYS SHALL BE STAINLESS, B-LINE 368-SS6-09-X-X SERIES WITH COVERS, ALL COVERS, END PLATES, BOLTS, NUTS, ETC. SHALL BE 316 SS.
 - CONTRACTOR SHALL INCLUDE ALL COVERS, GROUNDING JUMPERS, END PLATES, BENDS AND SUPPORT BRACKETS FOR ALL CABLE TRAY INSTALLATION.
 - REFER TO DRAWING 0034.0004.10-302 FOR CABLE SCHEDULE.
 - CABLE TRAYS SHALL BE BONDED TO THE STRUCTURE MINIMUM OF EVERY 50'.

CABLE TRAY (LEFT TO RIGHT)	
F1	
GND	
VOLTAGE BARRIER	
C3	
C4	
C5	
C9	
C11	
C12	
C13	
C17	
C18	
VOLTAGE BARRIER	
F01	
C1	
C10	
C15	



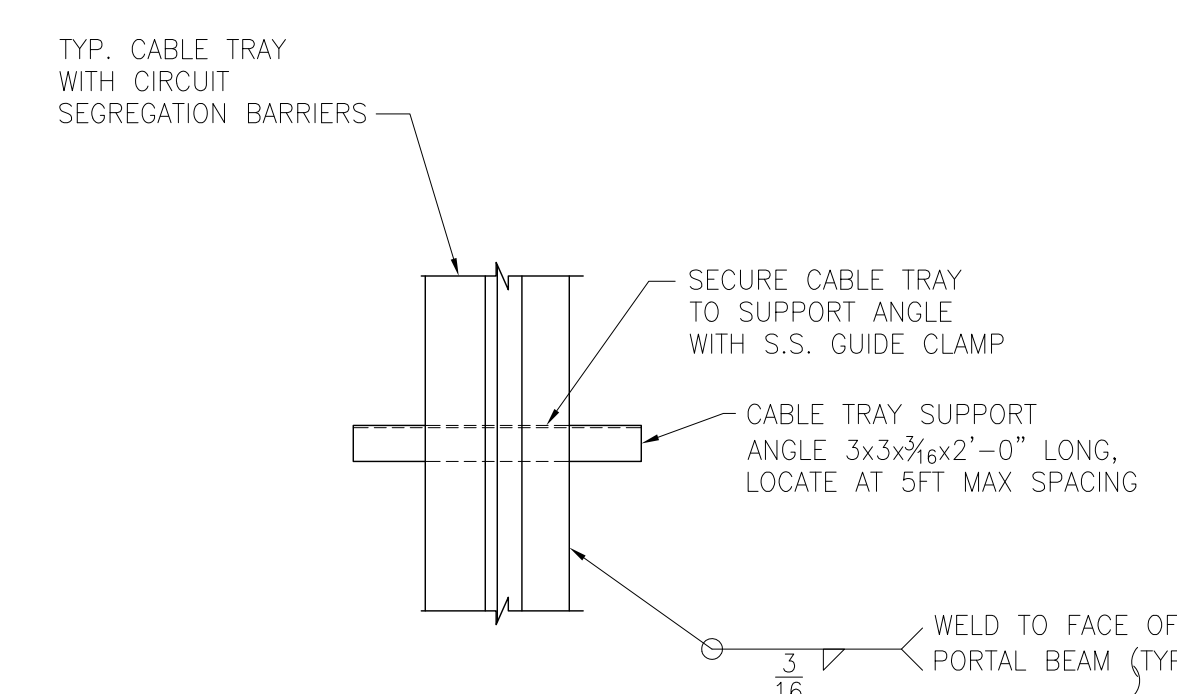
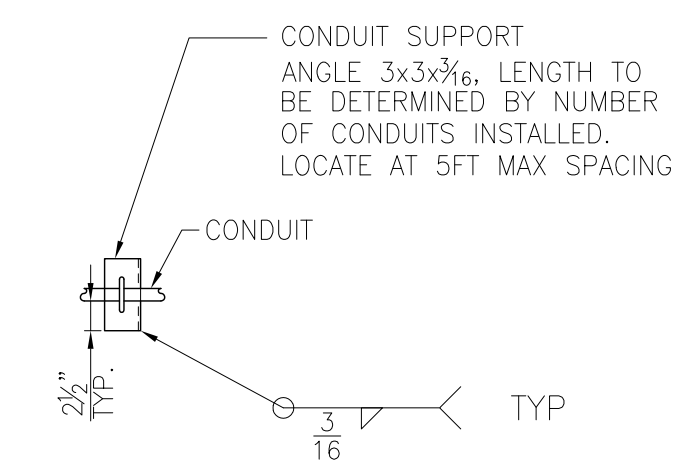
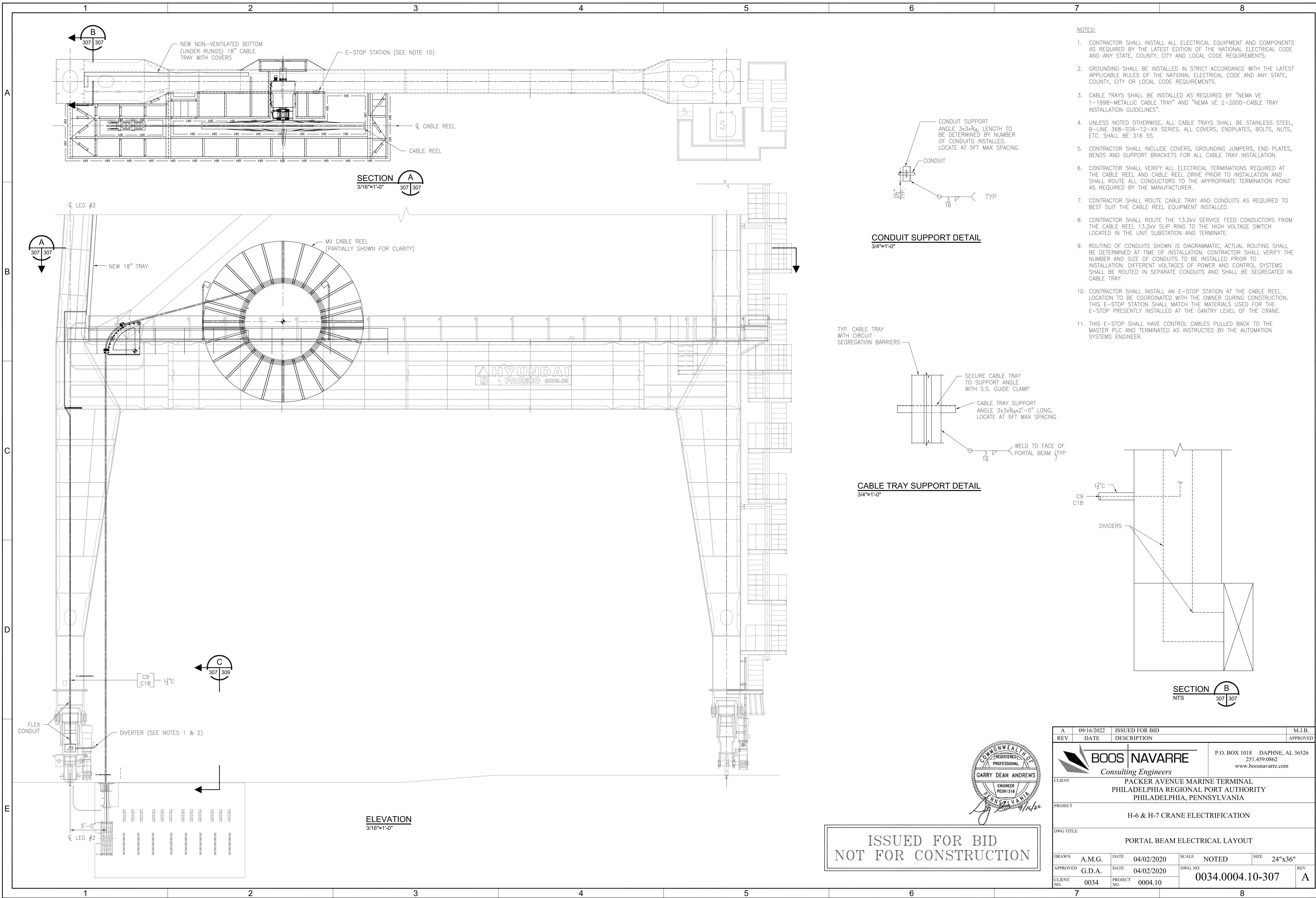
**ISSUED FOR BID
NOT FOR CONSTRUCTION**



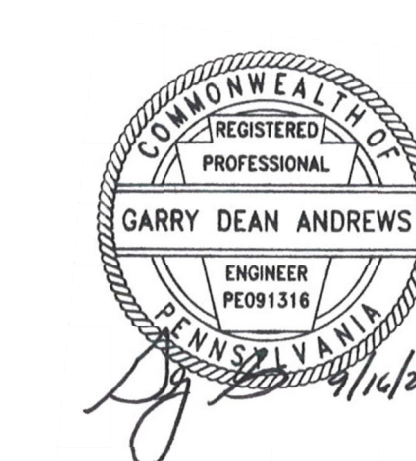
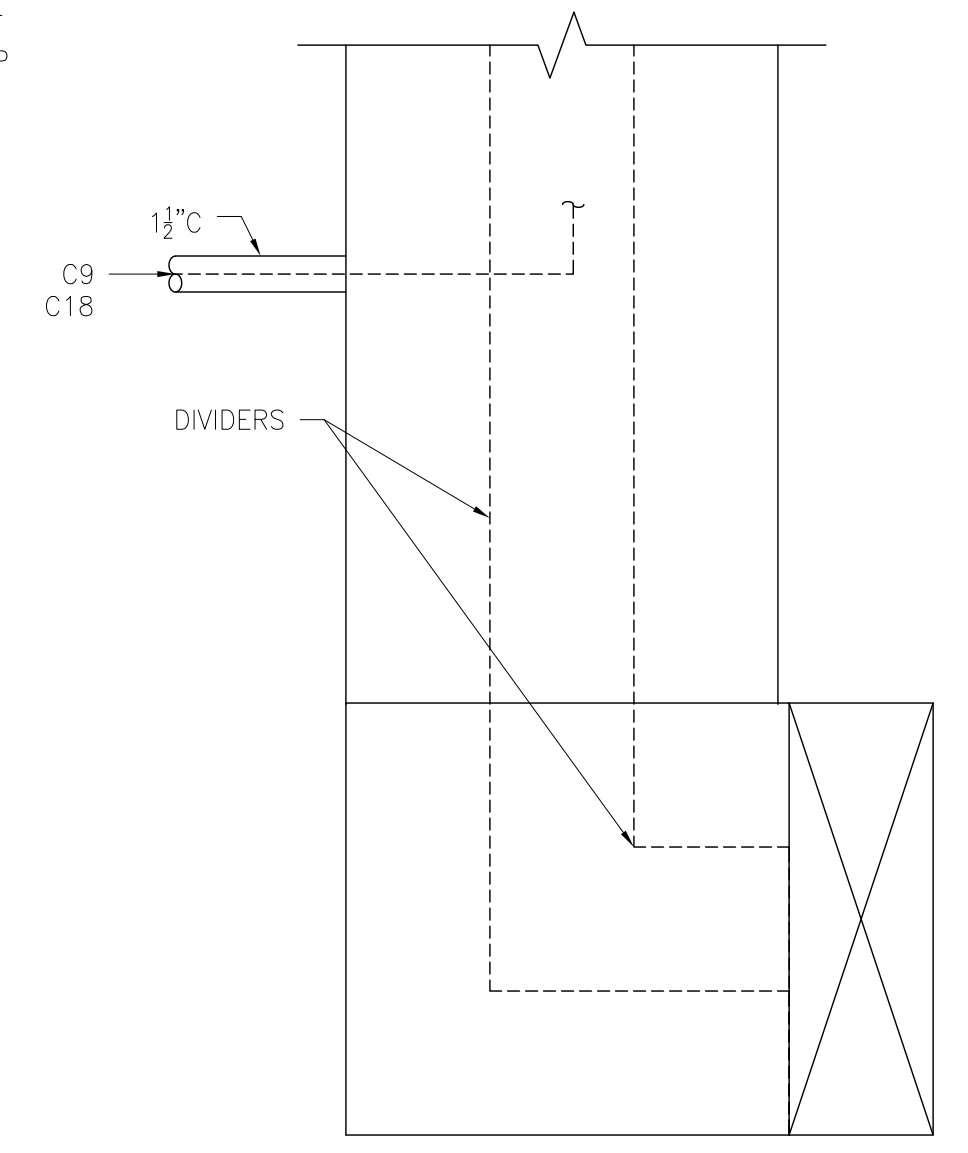
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT: PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT: H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE: CRANE LEG ELECTRICAL LAYOUT			
DRAWN	A.M.G.	DATE	07/07/2020
APPROVED	G.D.A.	DATE	07/07/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE		NOTED	SIZE 24"x36"
DWG. NO.		0034.0004.10-306	
			REV A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031.0004.10-307 RevA.2022-09-16.dwg, BN 24x36, 9/15/2022 6:24:08 PM, Addba PDF



- NOTES:**
- CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT AND COMPONENTS AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY AND LOCAL CODE REQUIREMENTS.
 - GROUNDING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST APPLICABLE RULES OF THE NATIONAL ELECTRICAL CODE AND ANY STATE, COUNTY, CITY OR LOCAL CODE REQUIREMENTS.
 - CABLE TRAYS SHALL BE INSTALLED AS REQUIRED BY "NEMA VE 1-1998-METALLIC CABLE TRAY" AND "NEMA VE 2-2000-CABLE TRAY INSTALLATION GUIDELINES".
 - UNLESS NOTED OTHERWISE, ALL CABLE TRAYS SHALL BE STAINLESS STEEL, B-LINE 368-SS6-12-XX SERIES. ALL COVERS, ENDPLATES, BOLTS, NUTS, ETC. SHALL BE 316 SS.
 - CONTRACTOR SHALL INCLUDE COVERS, GROUNDING JUMPERS, END PLATES, BENDS AND SUPPORT BRACKETS FOR ALL CABLE TRAY INSTALLATION.
 - CONTRACTOR SHALL VERIFY ALL ELECTRICAL TERMINATIONS REQUIRED AT THE CABLE REEL AND CABLE REEL DRIVE PRIOR TO INSTALLATION AND SHALL ROUTE ALL CONDUCTORS TO THE APPROPRIATE TERMINATION POINT AS REQUIRED BY THE MANUFACTURER.
 - CONTRACTOR SHALL ROUTE CABLE TRAY AND CONDUITS AS REQUIRED TO BEST SUIT THE CABLE REEL EQUIPMENT INSTALLED.
 - CONTRACTOR SHALL ROUTE THE 13.2kV SERVICE FEED CONDUCTORS FROM THE CABLE REEL 13.2kV SLIP RING TO THE HIGH VOLTAGE SWITCH LOCATED IN THE UNIT SUBSTATION AND TERMINATE.
 - ROUTING OF CONDUITS SHOWN IS DIAGRAMMATIC, ACTUAL ROUTING SHALL BE DETERMINED AT TIME OF INSTALLATION. CONTRACTOR SHALL VERIFY THE NUMBER AND SIZE OF CONDUITS TO BE INSTALLED PRIOR TO INSTALLATION. DIFFERENT VOLTAGES OF POWER AND CONTROL SYSTEMS SHALL BE ROUTED IN SEPARATE CONDUITS AND SHALL BE SEGREGATED IN CABLE TRAY.
 - CONTRACTOR SHALL INSTALL AN E-STOP STATION AT THE CABLE REEL. LOCATION TO BE COORDINATED WITH THE OWNER DURING CONSTRUCTION. THIS E-STOP STATION SHALL MATCH THE MATERIALS USED FOR THE E-STOP PRESENTLY INSTALLED AT THE GANTRY LEVEL OF THE CRANE.
 - THIS E-STOP SHALL HAVE CONTROL CABLES PULLED BACK TO THE MASTER PLC AND TERMINATED AS INSTRUCTED BY THE AUTOMATION SYSTEMS ENGINEER.

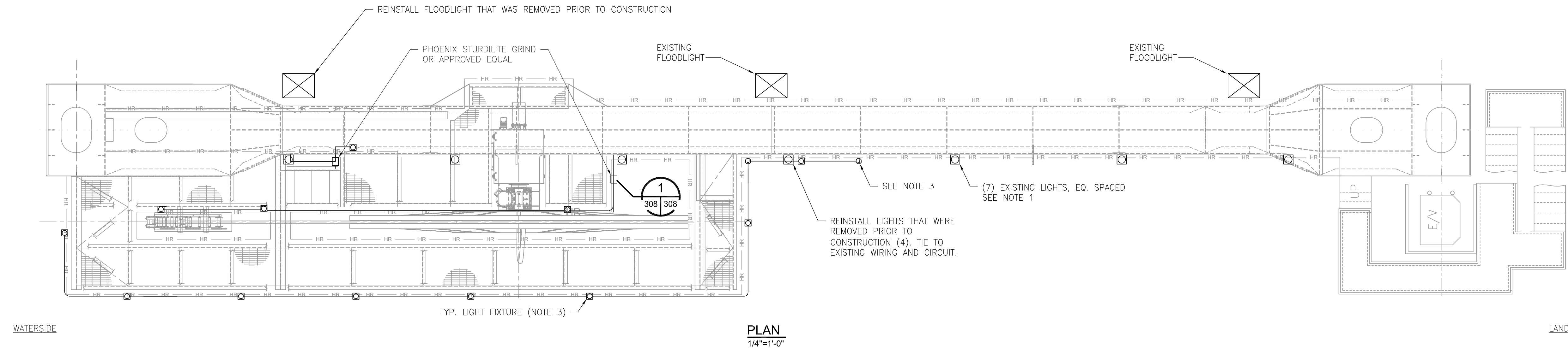


ISSUED FOR BID
NOT FOR CONSTRUCTION

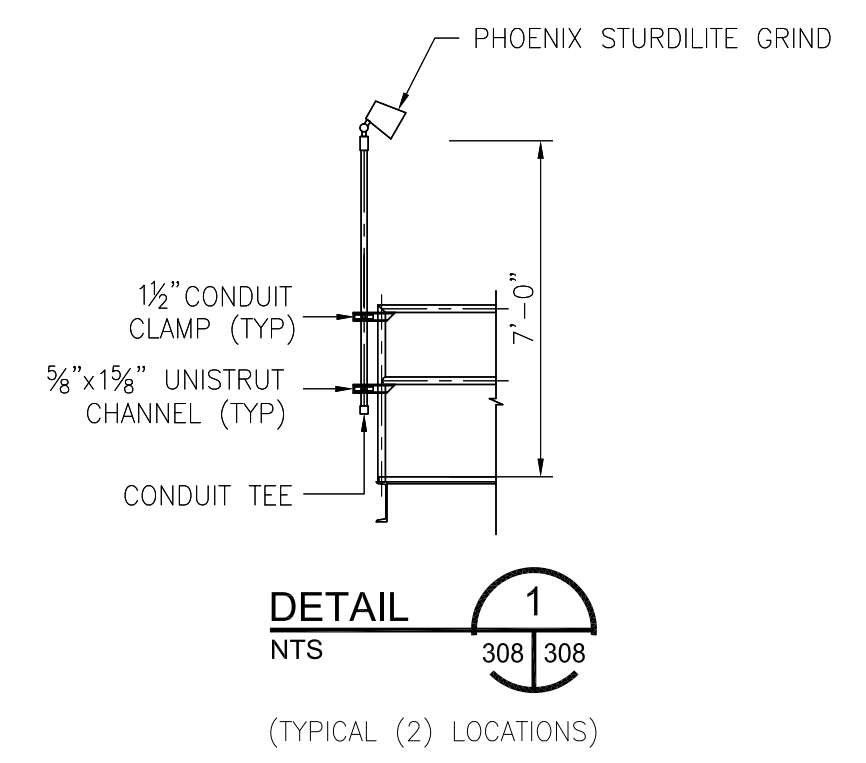
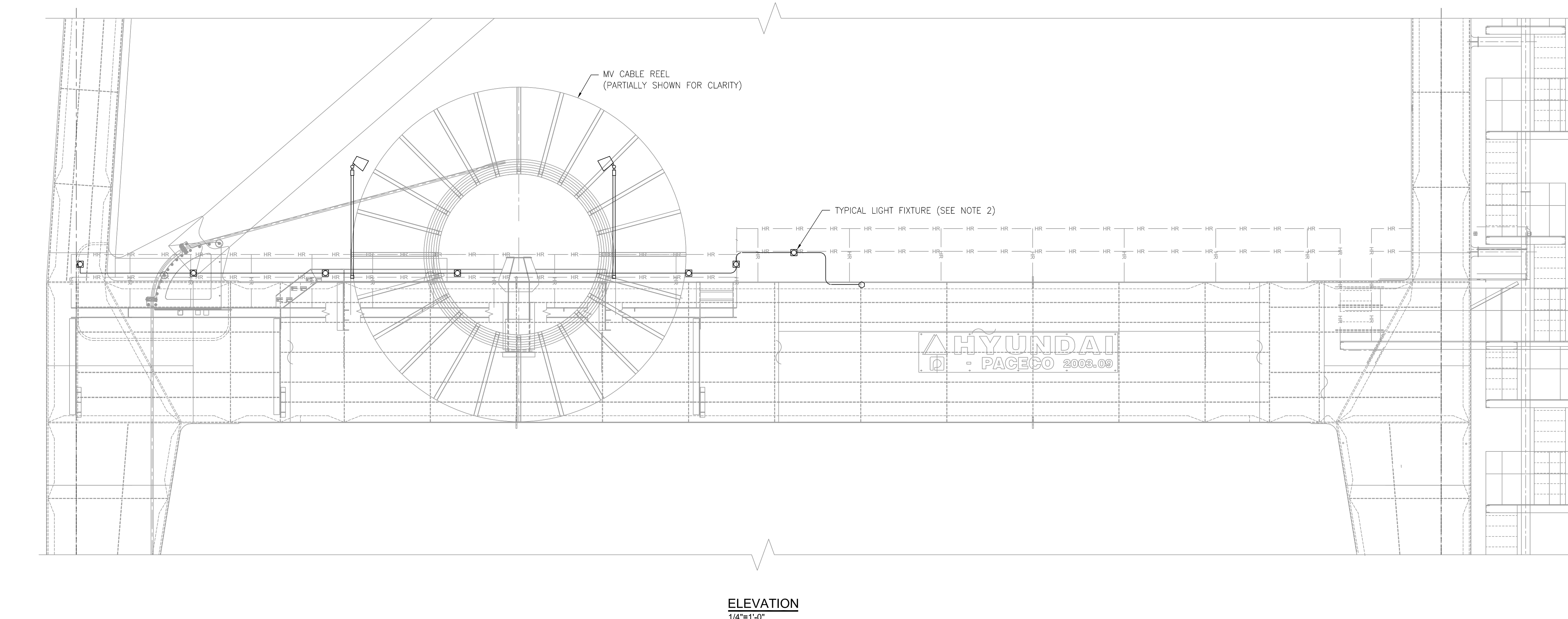
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

BOOS NAVARRE Consulting Engineers		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT	PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA		
PROJECT	H-6 & H-7 CRANE ELECTRIFICATION		
DWG TITLE	PORTAL BEAM ELECTRICAL LAYOUT		
DRAWN	A.M.G.	DATE	04/02/2020
APPROVED	G.D.A.	DATE	04/02/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-307		REV
			A

Z:\Projects\0034-Philadelphia-Port\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0034.10-308 RevA.2022-09-16.dwg, BN 24x36, 9/15/2022 6:39:31 PM, Adobe PDF



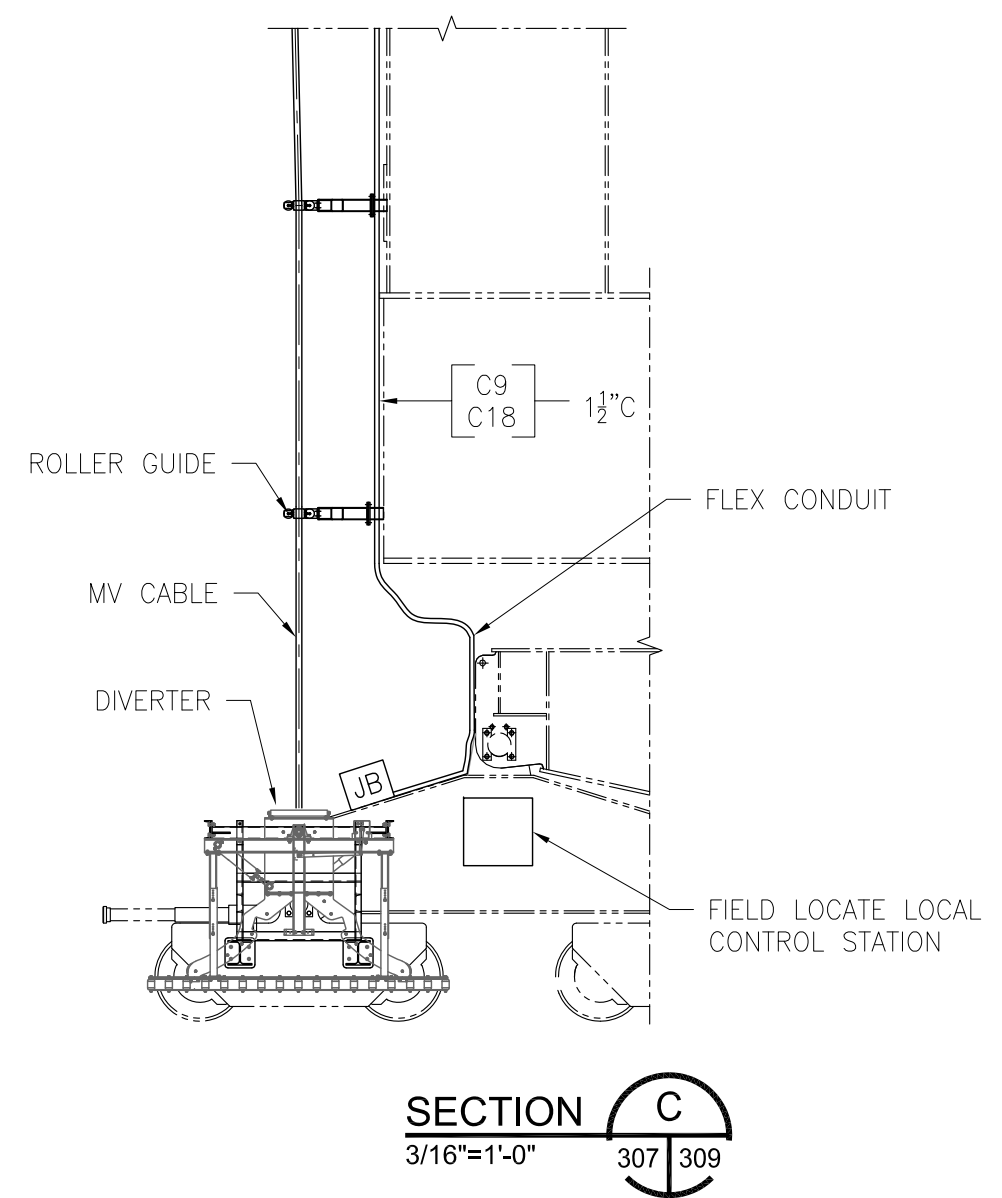
- NOTES:
1. PRIOR TO INSTALLATION OF THE CABLE REEL SYSTEM, REMOVE ALL HANDRAIL LIGHTING ON THE PORTAL BEAM PAST THIS LOCATION. STORE ALL LIGHTING FIXTURES FOR RE-USE. ALL FIXTURES SHOWN ON THIS DRAWING ARE TO BE CONSIDERED NEW INSTALLATION UNLESS NOTED OTHERWISE.
 2. LIGHT FIXTURES USED IN THIS AREA SHALL MATCH THE EXISTING FIXTURES USED ON THE CRANE WALKWAY LIGHTING SYSTEM. CONTRACTOR SHALL REUSE LIGHTS IF NOT DAMAGED AND SHALL PROVIDE NEW FIXTURES IF REQUIRED. PHOENIX METALLIC LED VP SERIES VA-C-17LED-CW-FGC
 3. TIE NEW LIGHT FIXTURES INTO NEW CIRCUIT THRU FL13C CONTACTOR MH-CIRCUIT #9. (IDE IDGB)



ISSUED FOR BID
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

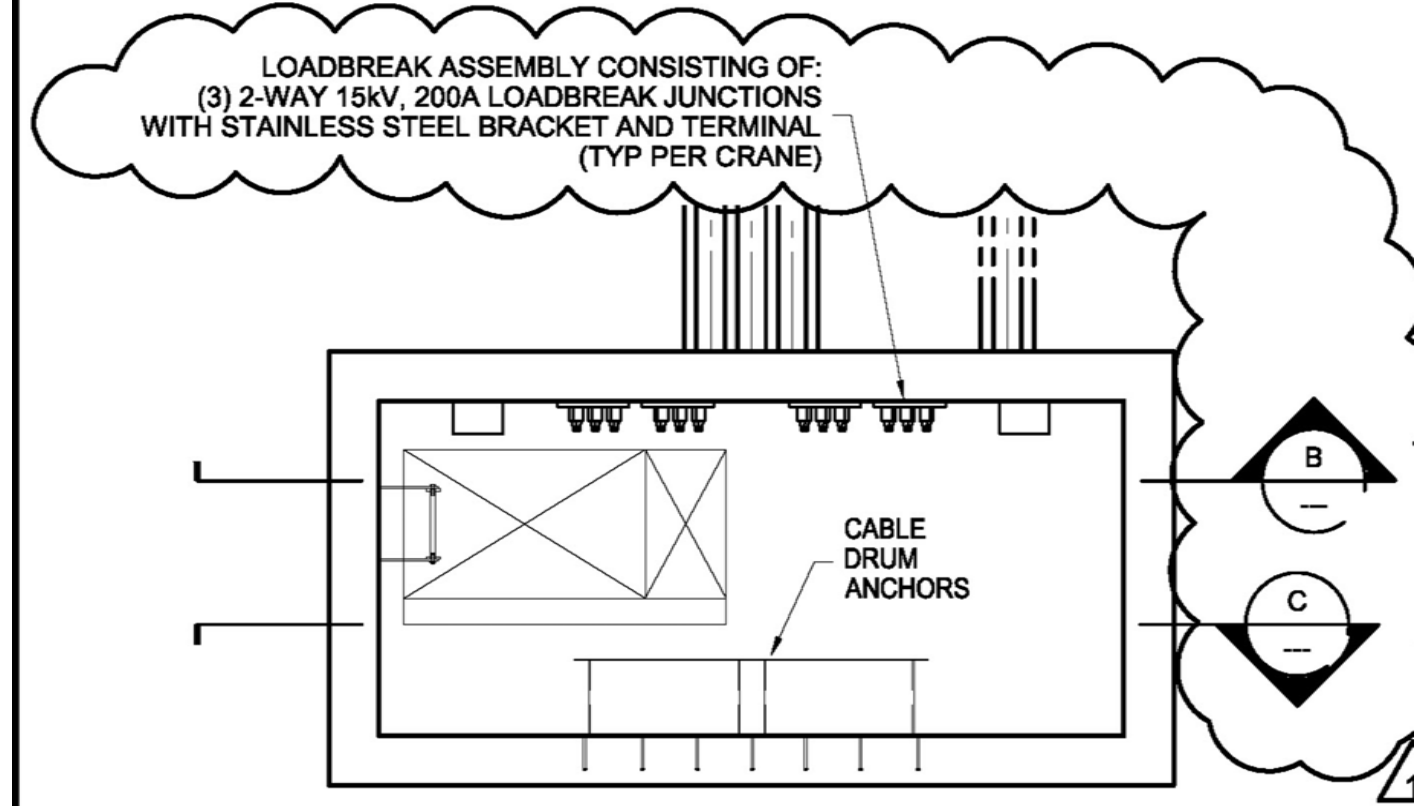
		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA			
PROJECT H-6 & H-7 CRANE ELECTRIFICATION			
DWG TITLE PORTAL BEAM LIGHTING			
DRAWN	A.M.G.	DATE	07/24/2020
APPROVED	G.D.A.	DATE	07/24/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-308		REV
			A



STS PIT NO. 2

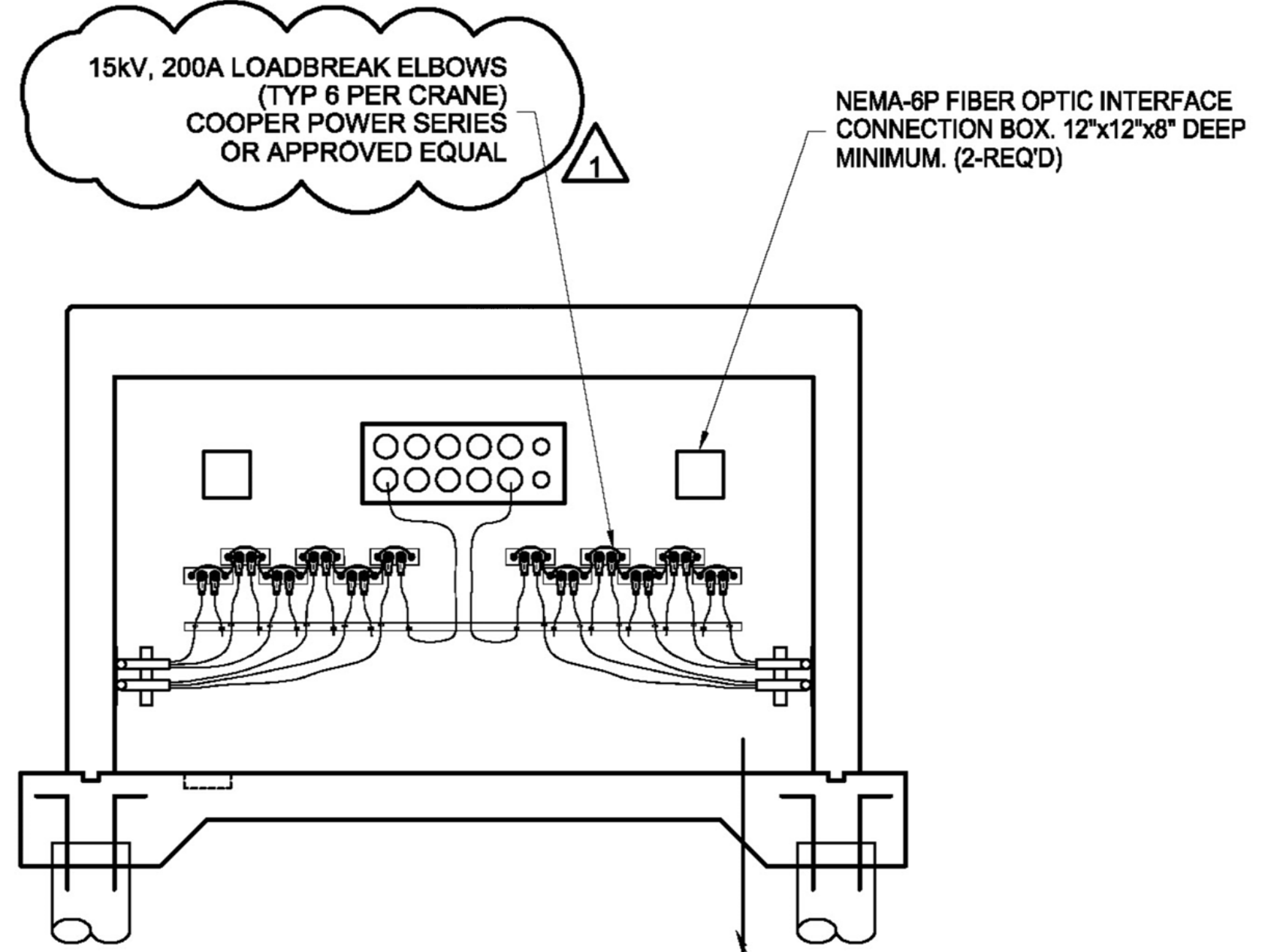


STS PIT NO. 2



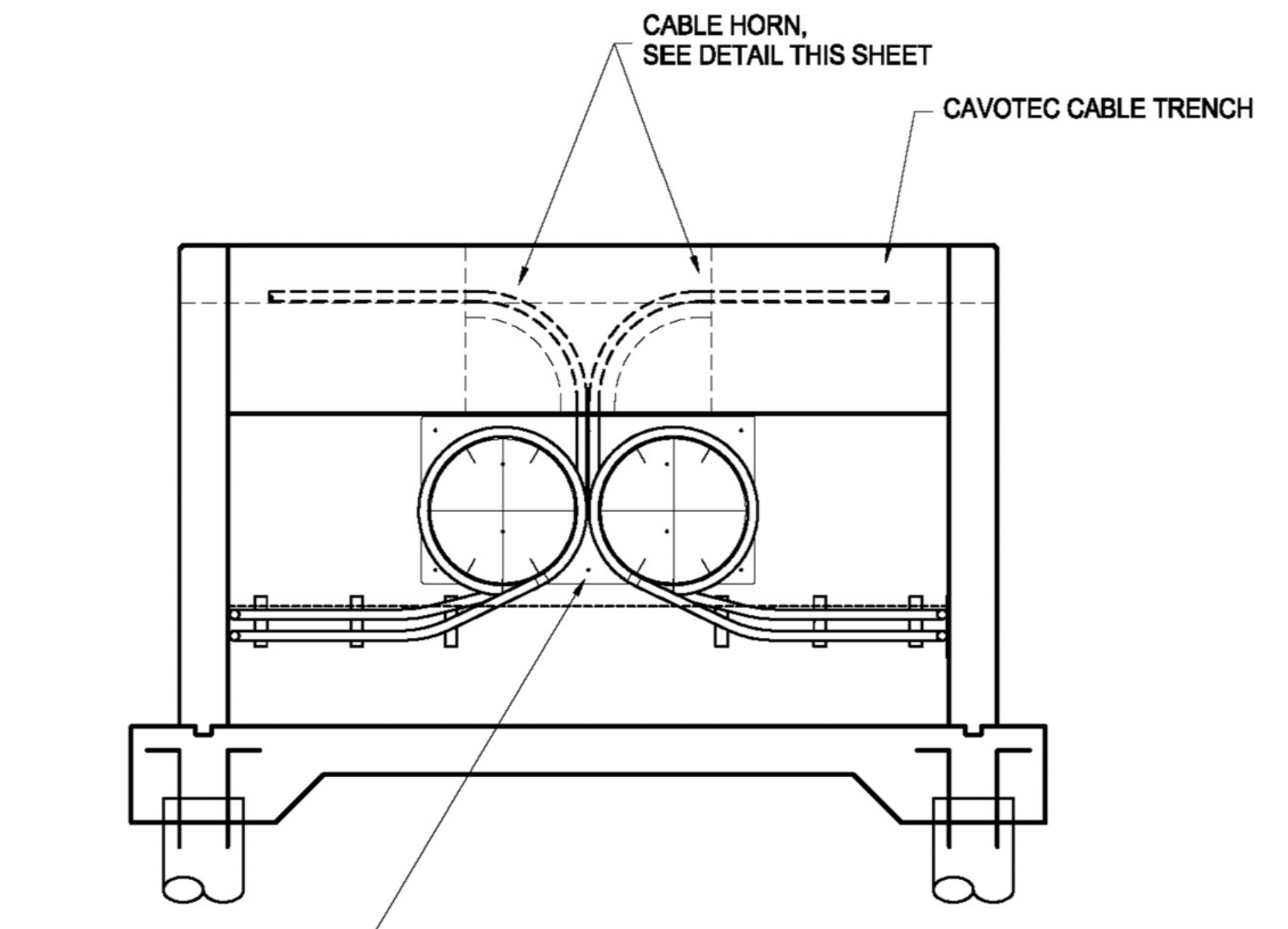
1 CRANE POWER INTERFACE PIT / MANHOLE DETAIL
1/4"=1'-0"

DOCK ELECTRIFICATION DETAIL "1" - FOR REFERENCE ONLY
IMAGE FOR REFERENCE ONLY
PHASE 2 PORT DEVELOPMENT IMPROVEMENTS AT THE PACKER AVENUE MARINE TERMINAL
CH2M DWG NO. 001-E-5003 SHEET 101 OF 153



B SECTION
1/4"=1'-0"

DOCK ELECTRIFICATION SECTION "B" - FOR REFERENCE ONLY
IMAGE FOR REFERENCE ONLY
PHASE 2 PORT DEVELOPMENT IMPROVEMENTS AT THE PACKER AVENUE MARINE TERMINAL
CH2M DWG NO. 001-E-5003 SHEET 101 OF 153



C SECTION
1/4"=1'-0"

DOCK ELECTRIFICATION SECTION "C" - FOR REFERENCE ONLY
IMAGE FOR REFERENCE ONLY
PHASE 2 PORT DEVELOPMENT IMPROVEMENTS AT THE PACKER AVENUE MARINE TERMINAL
CH2M DWG NO. 001-E-5003 SHEET 101 OF 153



ISSUED FOR BID
NOT FOR CONSTRUCTION

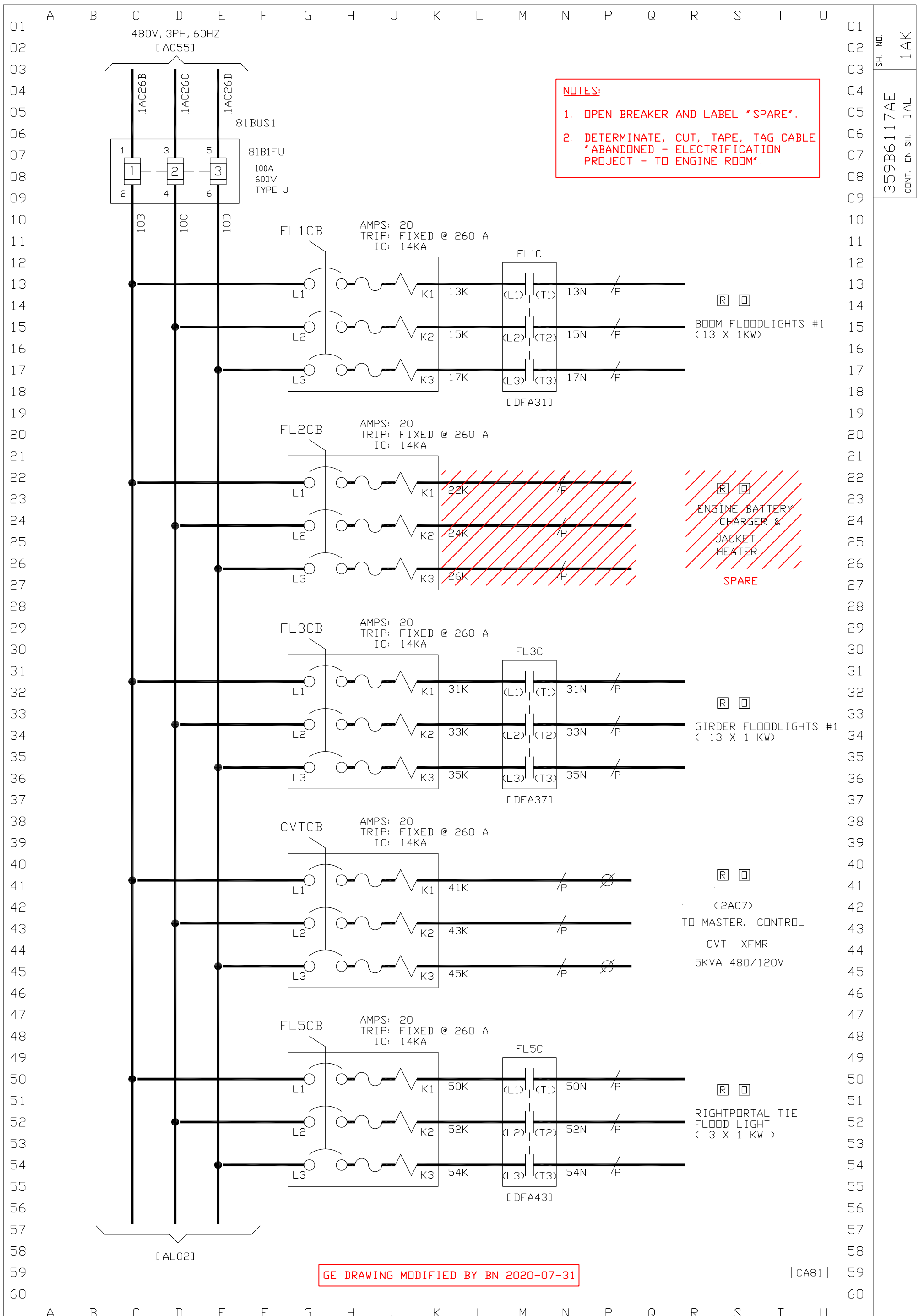
REV	DATE	DESCRIPTION	APPROVED
A	09/16/2022	ISSUED FOR BID	M.J.B.

		P.O. BOX 1018 DAPHNE, AL 36526 251.459.0862 www.boosnavarre.com	
CLIENT	PACKER AVENUE MARINE TERMINAL PHILADELPHIA REGIONAL PORT AUTHORITY PHILADELPHIA, PENNSYLVANIA		
PROJECT	H-6 & H-7 CRANE ELECTRIFICATION		
DWG TITLE	CABLE REEL DIVERTER & STS PIT NO. 2		
DRAWN	A.M.G.	DATE	07/29/2020
APPROVED	G.D.A.	DATE	07/29/2020
CLIENT NO.	0034	PROJECT NO.	0004.10
SCALE	NOTED	SIZE	24"x36"
DWG. NO.	0034.0004.10-309		REV
			A

Z:\Projects\0034-Philadelphia\0004-HH1 B & 7 Electrification\0_CAD\1_DWG\6_ISSUED FOR BID 2022-09-16\0031_0004_10-309 RevA 2022-09-16.dwg, BN 24x36, 9/19/2022 8:40:15 AM, Addba PDF

APPENDIX B - REFERENCE DOCUMENTS

Existing Crane Drawings



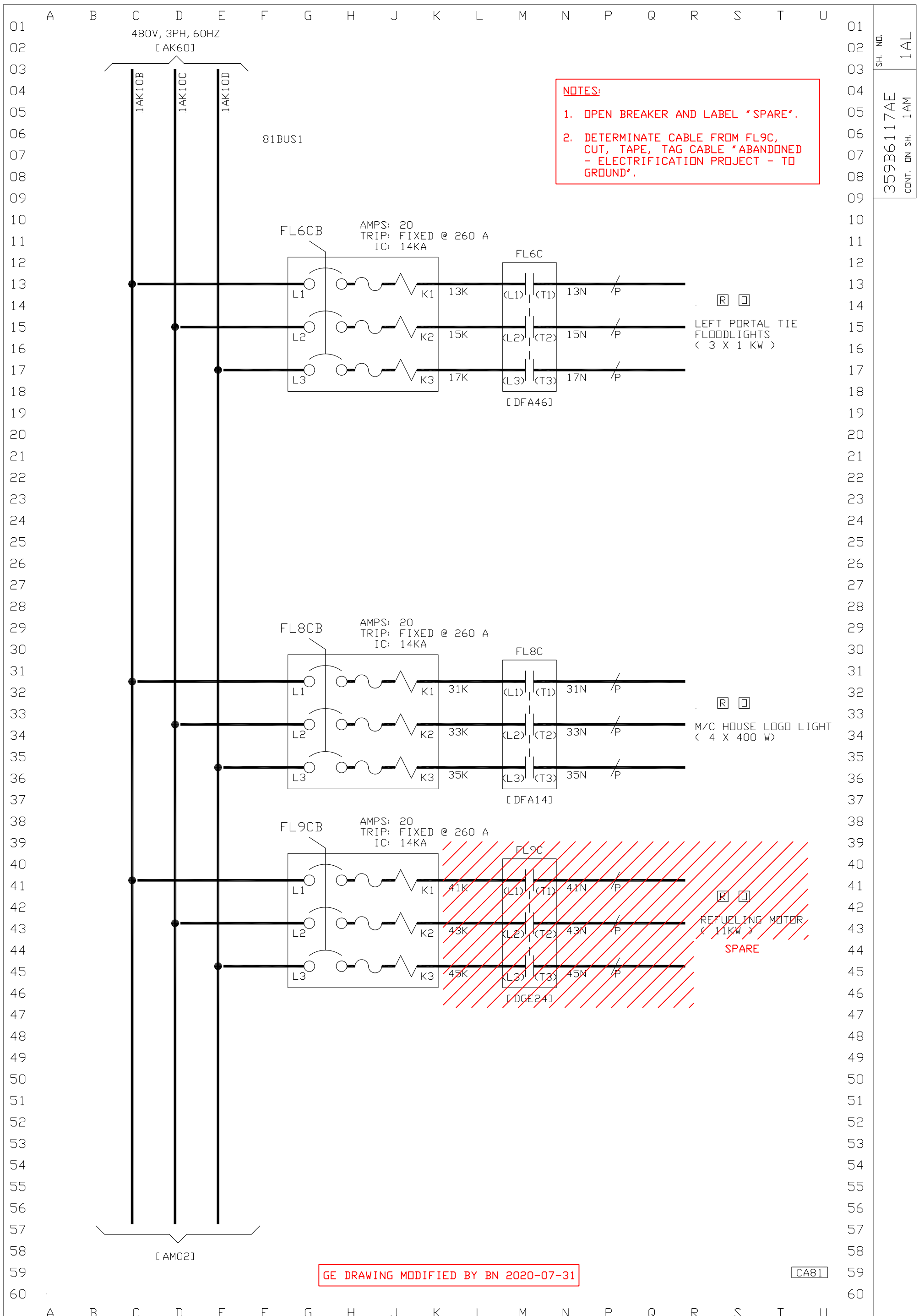
NOTES:

- OPEN BREAKER AND LABEL "SPARE".
- DETERMINE, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - TO ENGINE ROOM".

GE DRAWING MODIFIED BY BN 2020-07-31

SH. NO. 1AK
359B6117AE
CONT. ON SH. 1AL

REVISION NO. 0	ENGINEERING H. KHOSHNASAND	ISSUE DATE 11/18/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM	
REVISION DATE	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		AUXILIARY POWER	
REVISED BY	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		359B6117AE CONT. ON SH. 1AL	SH. NO. 1AK



NOTES:

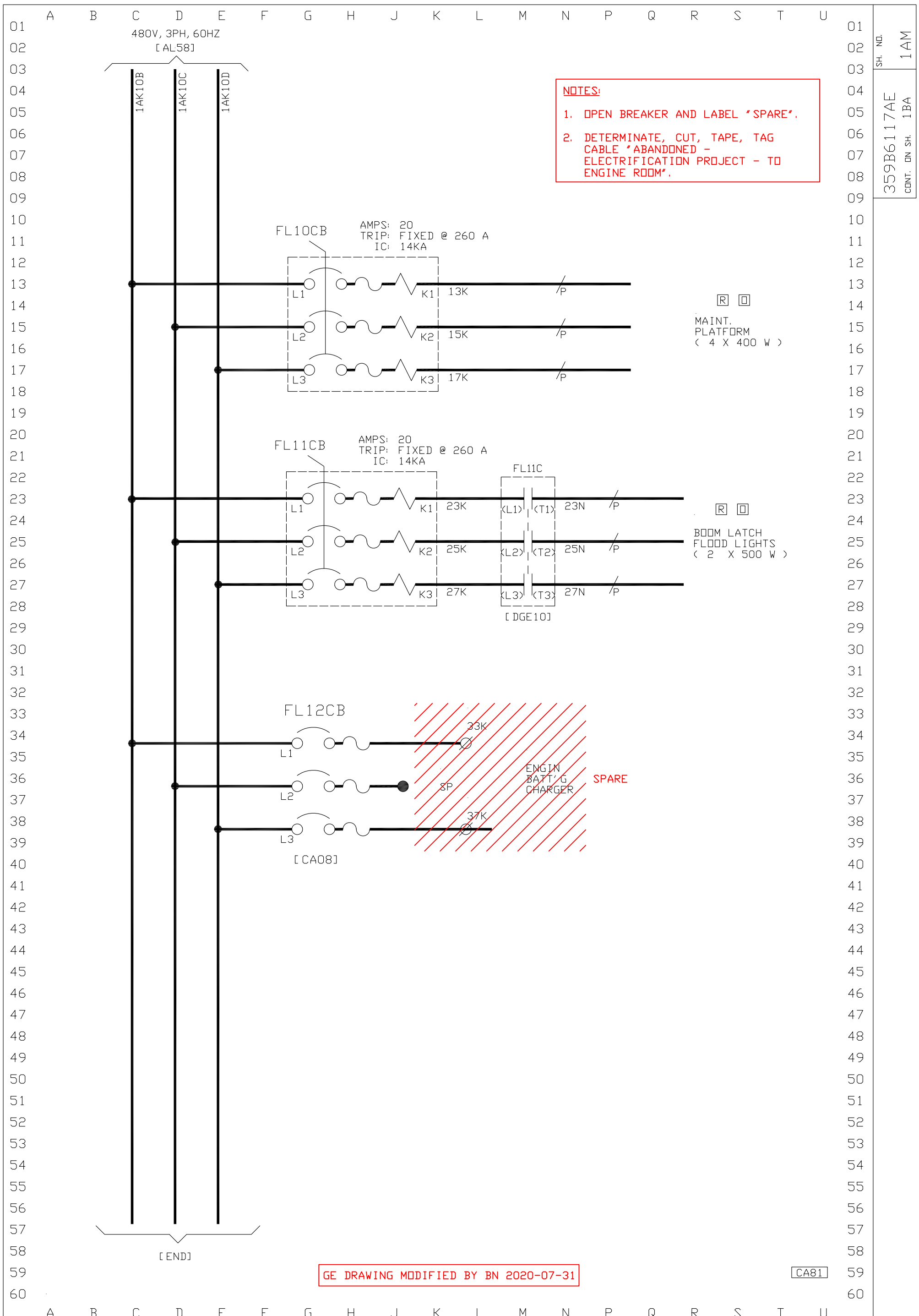
1. OPEN BREAKER AND LABEL "SPARE".
2. DETERMINATE CABLE FROM FL9C, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - TO GROUND".

SH. NO. 1AL
 359B6117AE
 CONT. ON SH. 1AM

GE DRAWING MODIFIED BY BN 2020-07-31

CA81

REVISION NO. 1	ENGINEERING H. KHOSHNASAND	ISSUE DATE 11/18/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM	
REVISION DATE 5/6/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		AUXILIARY POWER	
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		359B6117AE CONT. ON SH. 1AM	SH. NO. 1AL



NOTES:

1. OPEN BREAKER AND LABEL "SPARE".
2. DETERMINATE, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - TO ENGINE ROOM".

MAINT.
PLATFORM
(4 X 400 W)

BOOM LATCH
FLOOD LIGHTS
(2 X 500 W)

ENGINE
BATT'G
CHARGER
SPARE

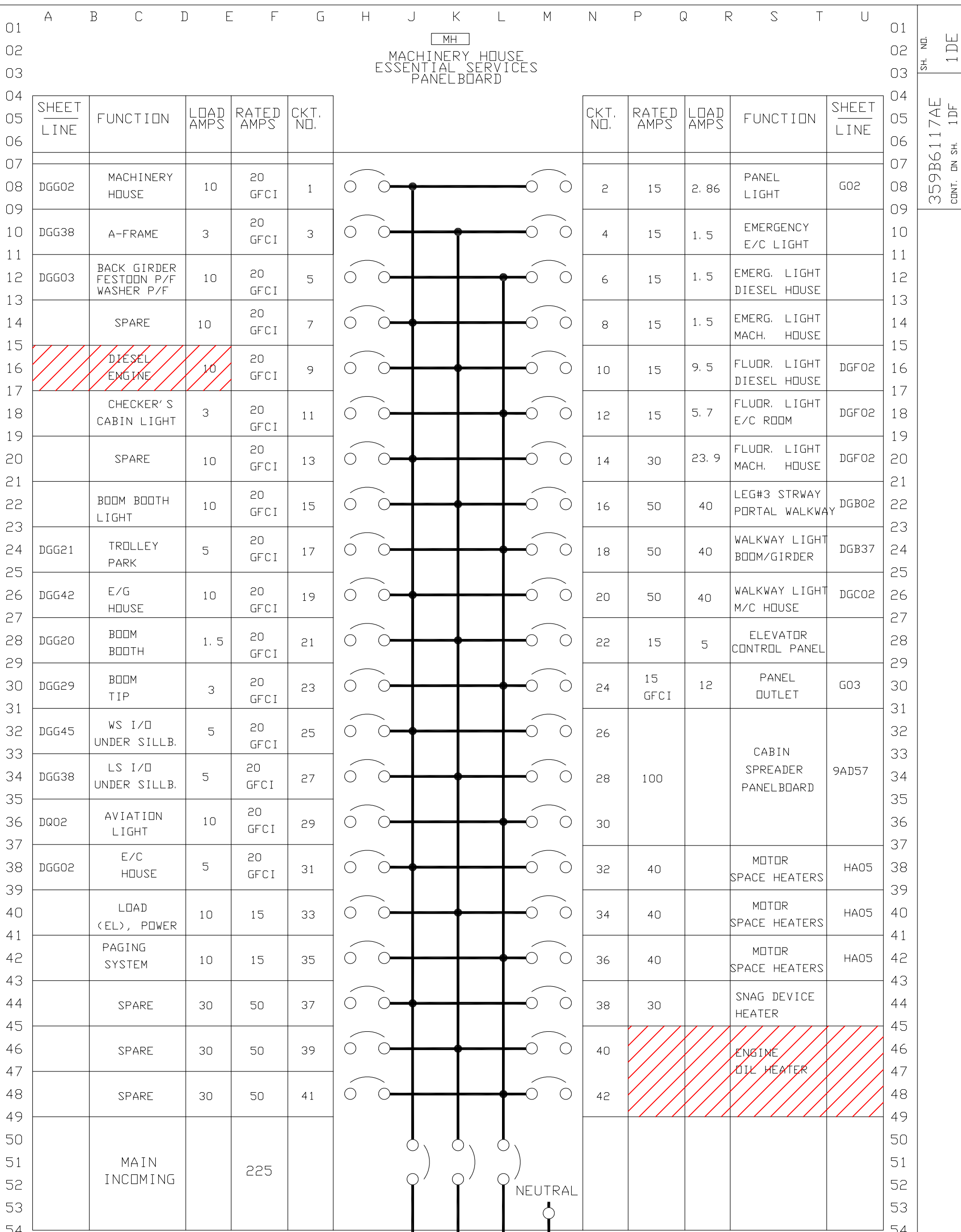
GE DRAWING MODIFIED BY BN 2020-07-31

CA81

REVISION NO. 0	ENGINEERING H. KHOSHNASAND	ISSUE DATE 11/18/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM	
REVISION DATE	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		AUXILIARY POWER	
REVISED BY	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		359B6117AE CONT. ON SH. 1BA	SH. NO. 1AM

SH. NO.
1AM
359B6117AE
CONT. ON SH. 1BA

MH
MACHINERY HOUSE
ESSENTIAL SERVICES
PANELBOARD



GE DRAWING MODIFIED BY BN 2020-07-31

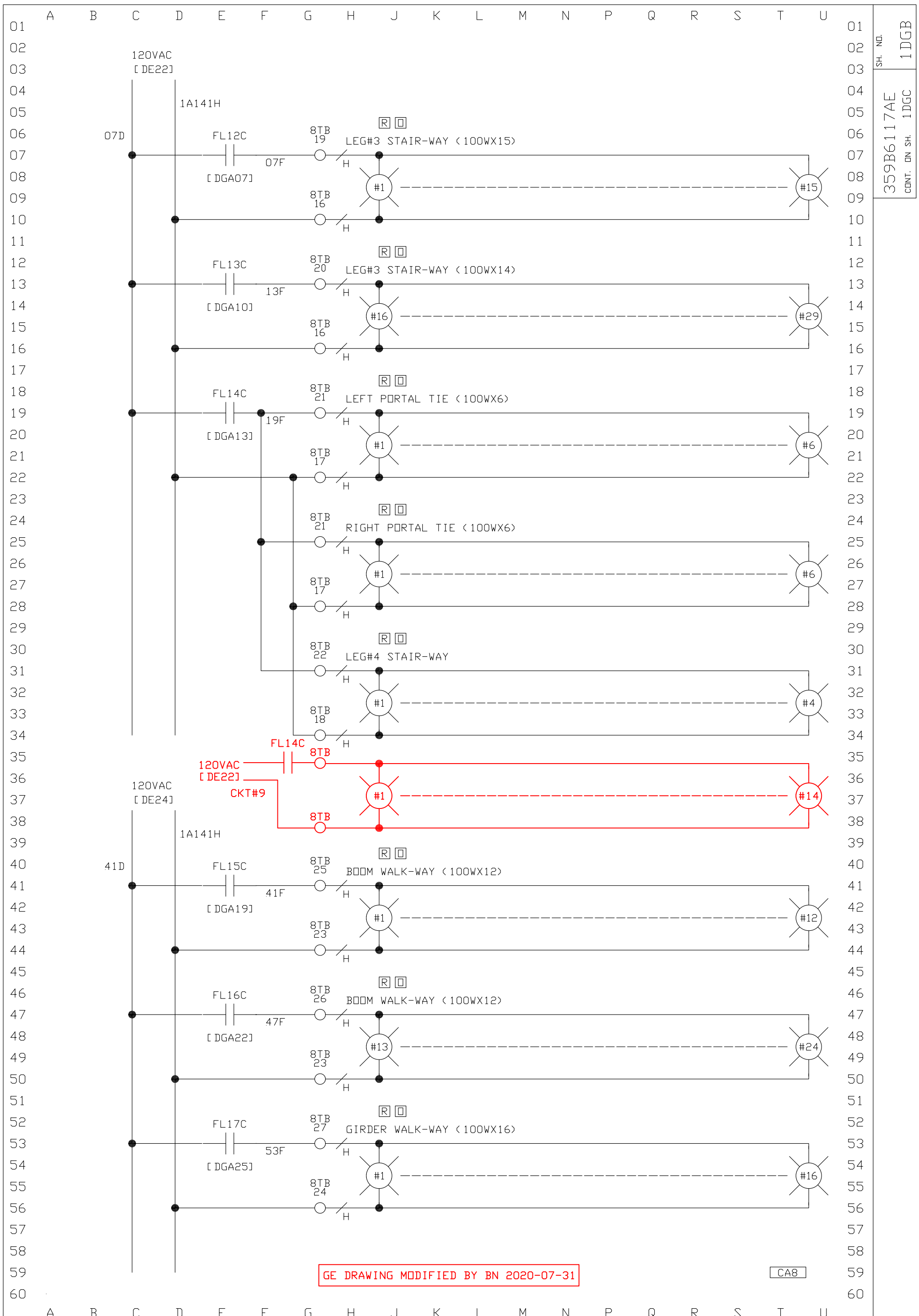
[A141]
208 VAC, 60 HZ

NOTES:

1. OPEN BREAKER AND LABEL "SPARE".
2. DETERMINE, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - TO ENGINE ROOM".

SH. NO. 1DE
359B6117AE
CONT. ON SH. 1DF

REVISION NO. 2	ENGINEERING H. KHOSHNASAB	ISSUE DATE 11/18/02	GE TOSHIBA	ELEMENTARY DIAGRAM
REVISION DATE 05/08/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295	Automation Systems	MACHINERY HOUSE
REVISED BY H. K.	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709	SALEM, VA. U. S. A.	PANELBOARD
				359B6117AE
				CONT. ON SH. 1DF
				SH. NO. 1DE

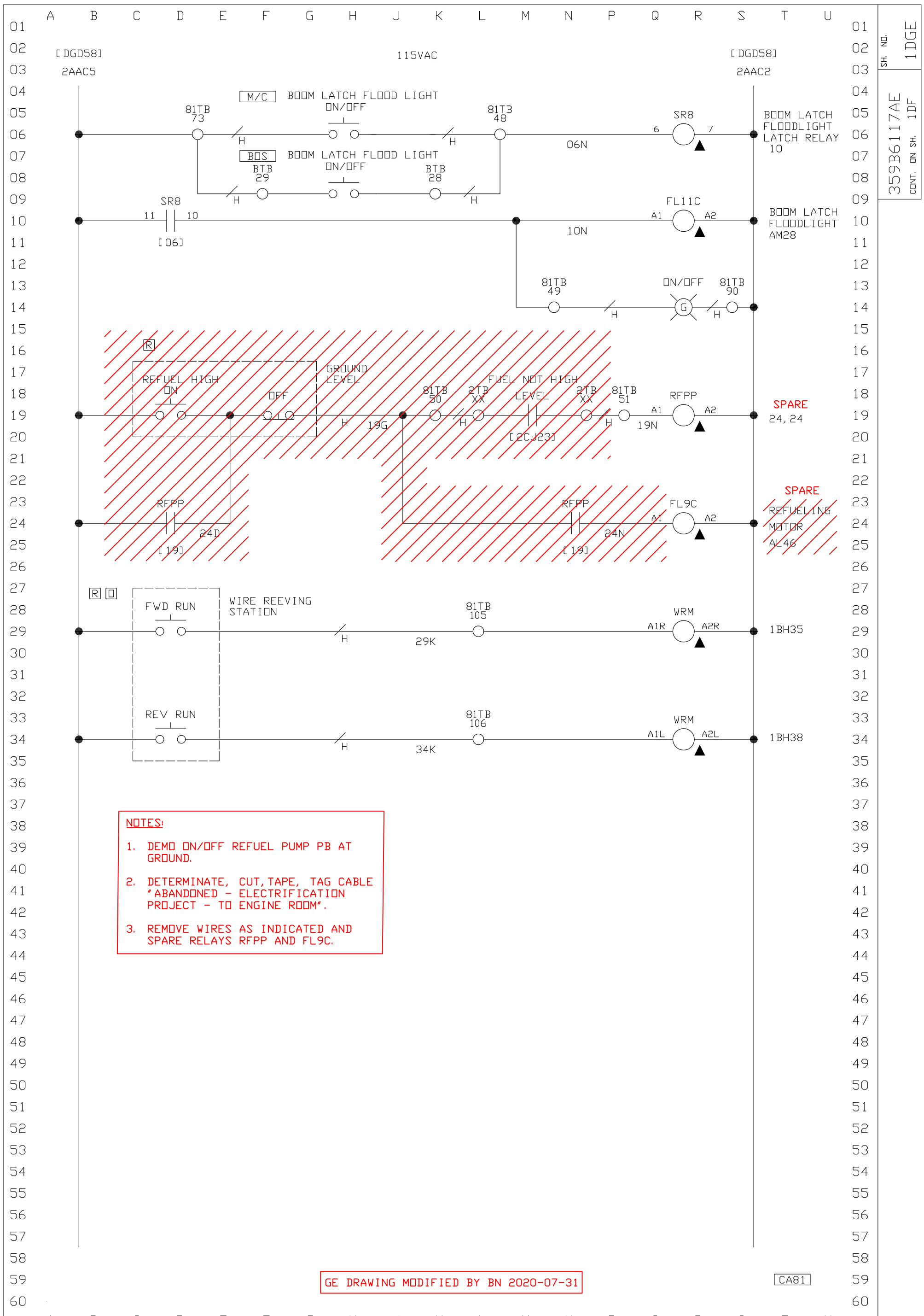


GE DRAWING MODIFIED BY BN 2020-07-31

CA8

REVISION NO. 1	ENGINEERING H. KHOSHNASAND	ISSUE DATE 01/08/03	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM VENTILATION CONTROL	
REVISION DATE 04/23/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE CONT. ON SH. 1DGC	SH. NO. 1DGB
REVISED BY JM DANIEL	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709			

SH. NO.
359B6117AE
CONT. ON SH. 1DGC
1DGB

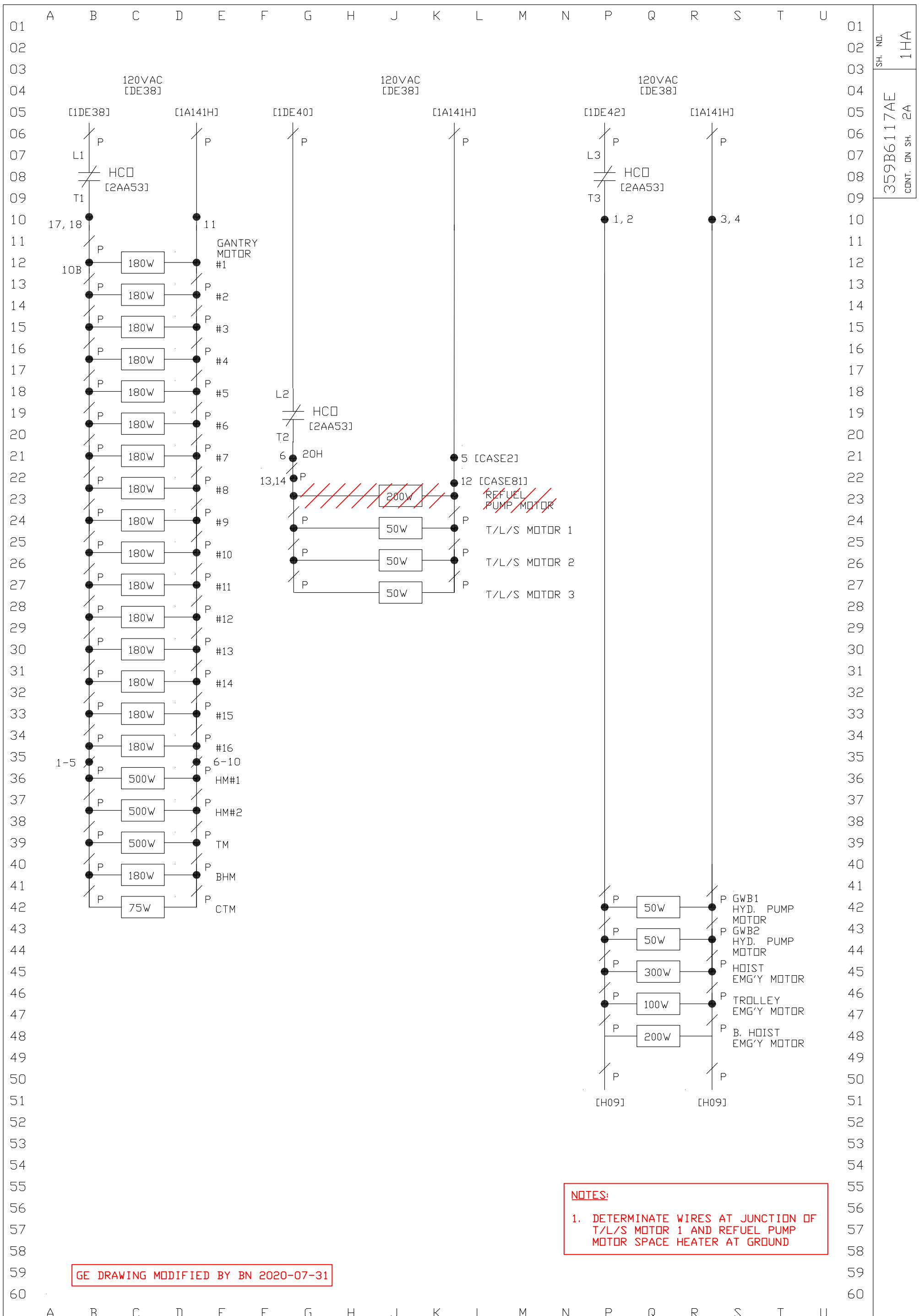


GE DRAWING MODIFIED BY BN 2020-07-31

CA81

REVISION NO. 5	ENGINEERING H. KHOSHNASAND	ISSUE DATE 01/08/03	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM FLOODLIGHTING CONTROL CIRCUITS	
REVISION DATE 5/7/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE	SH. NO.
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		CONT. ON SH. 1DGF	1DGE

SH. NO.
1DGE
359B6117AE
CONT. ON SH. 1DGF

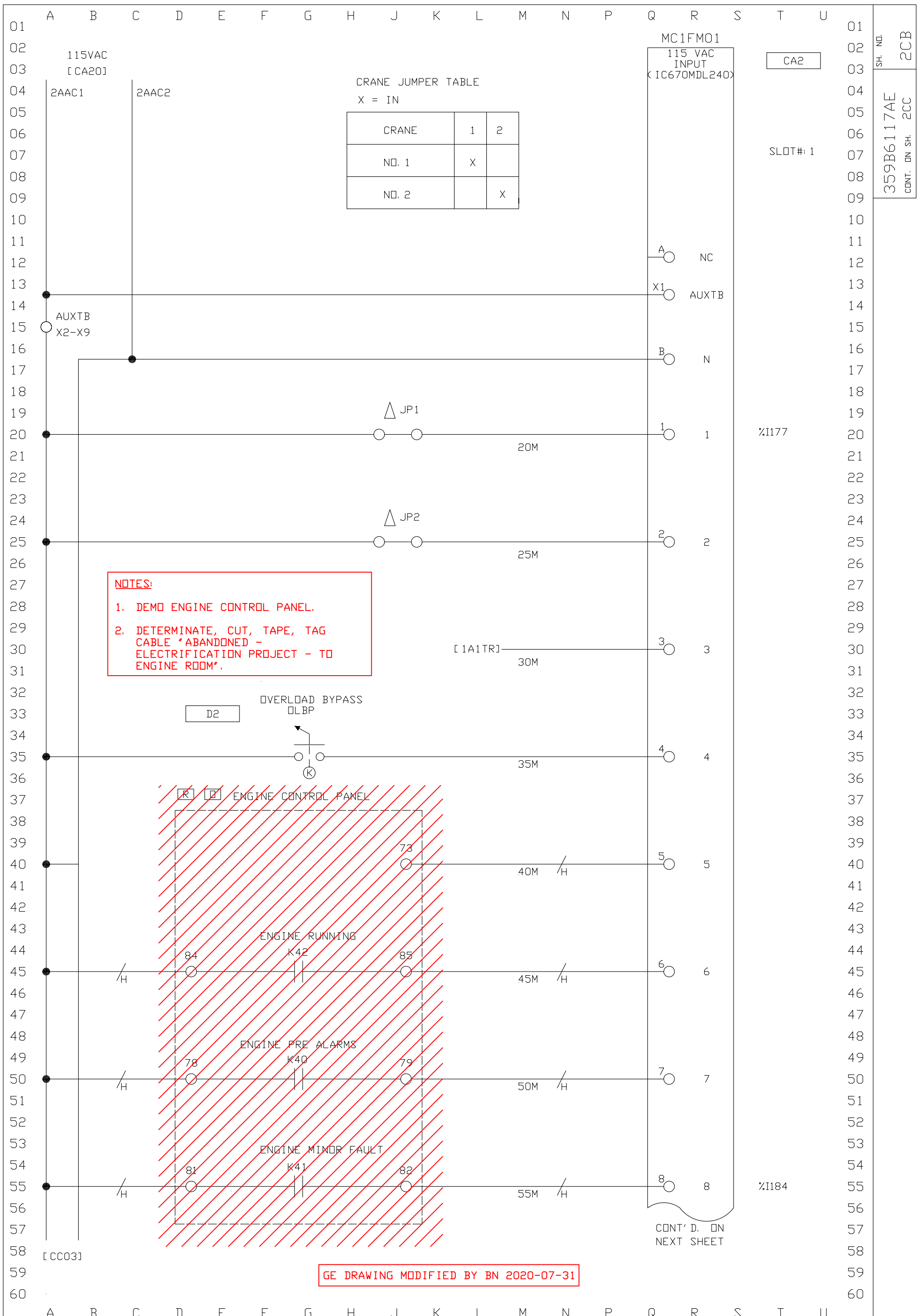


SH. NO. 1HA
 359B6117AE
 CONT. ON SH. 2A

NOTES:
 1. DETERMINATE WIRES AT JUNCTION OF T/L/S MOTOR 1 AND REFUEL PUMP MOTOR SPACE HEATER AT GROUND

GE DRAWING MODIFIED BY BN 2020-07-31

REVISION NO. 1	ENGINEERING JA CRANFORD	ISSUE DATE 01/08/03	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM SPACE HEATER CIRCUITS	
REVISION DATE 02/06/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE CONT. ON SH. 2A	SH. NO. 1HA
REVISED BY JM DANIEL	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709			



CRANE JUMPER TABLE

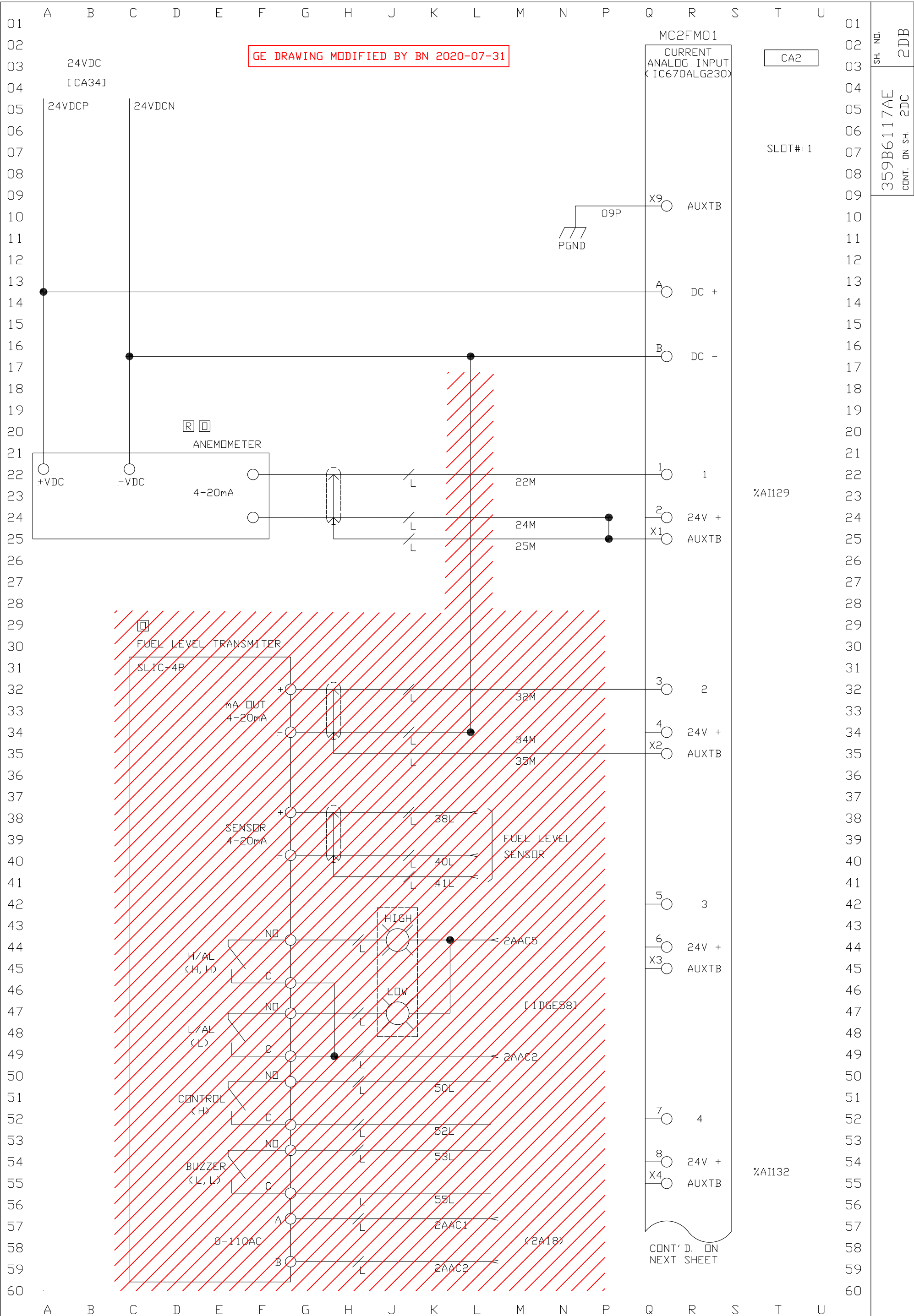
X = IN

CRANE	1	2
NO. 1	X	
NO. 2		X

NOTES:
 1. DEMO ENGINE CONTROL PANEL.
 2. DETERMINATE, CUT, TAPE, TAG CABLE 'ABANDONED - ELECTRIFICATION PROJECT - TO ENGINE ROOM'.

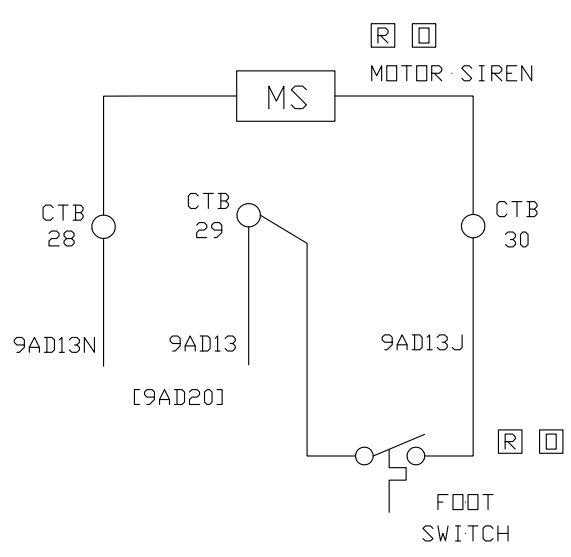
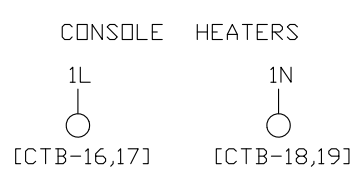
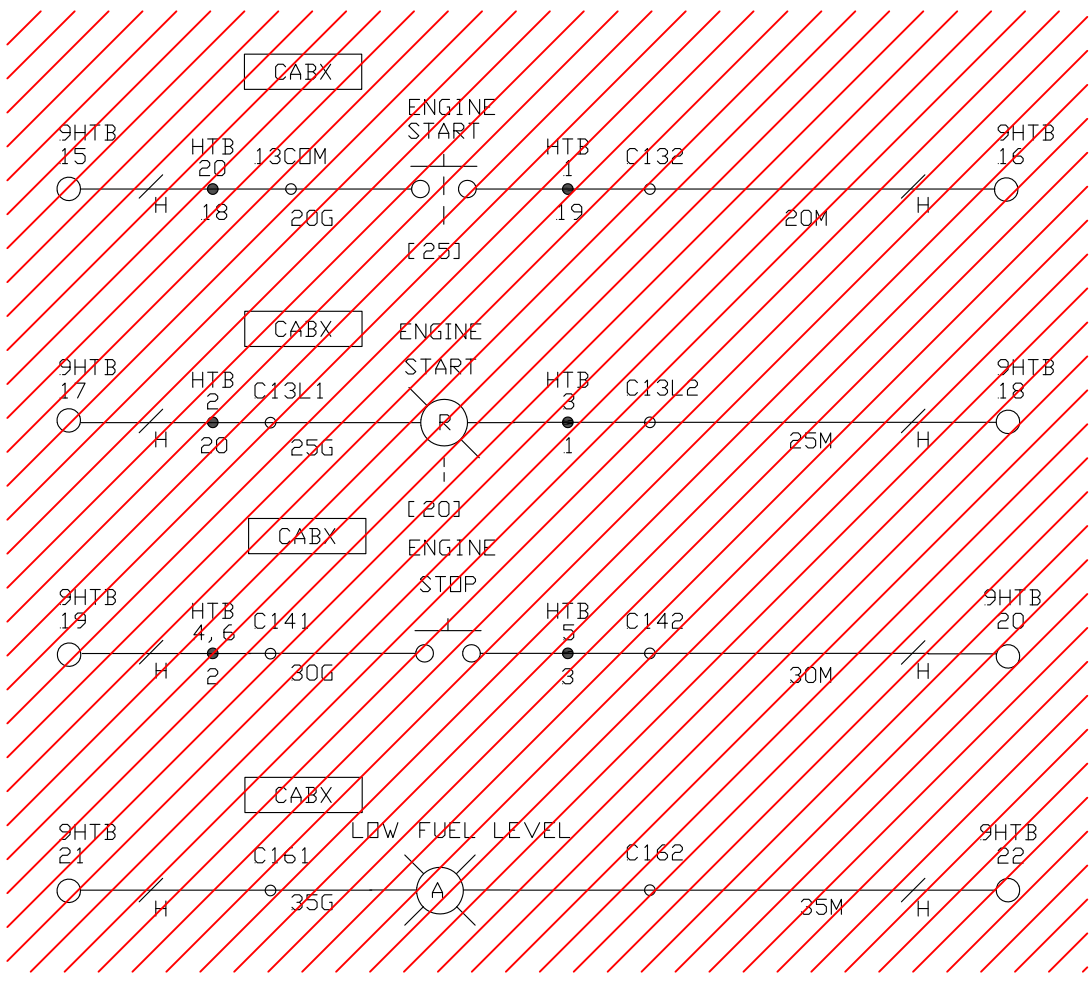
GE DRAWING MODIFIED BY BN 2020-07-31

REVISION NO. 5	ENGINEERING B. MUNGLER	ISSUE DATE 11/27/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM MASTER CONTROL 115VAC 16 INPUTS 359B6117AE CONT. ON SH. 2CC	SH. NO. 2CB
REVISION DATE 5/6/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295			
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709			



SH. NO. 2DB
359B6117AE
CONT. ON SH. 2DC

REVISION NO. 1	ENGINEERING B. MUNGLER	ISSUE DATE 11/27/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM MASTER CONTROL ANALOG 8 INPUT CURRENT	
REVISION DATE 5/7/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE	SH. NO.
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		CONT. ON SH. 2DC	2DB



- NOTES:**
1. DEMO PB'S, LIGHTS AND PLUG HOLES.
 2. DETERMINE, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - IN CAB".

GE DRAWING MODIFIED BY BN 2020-07-31

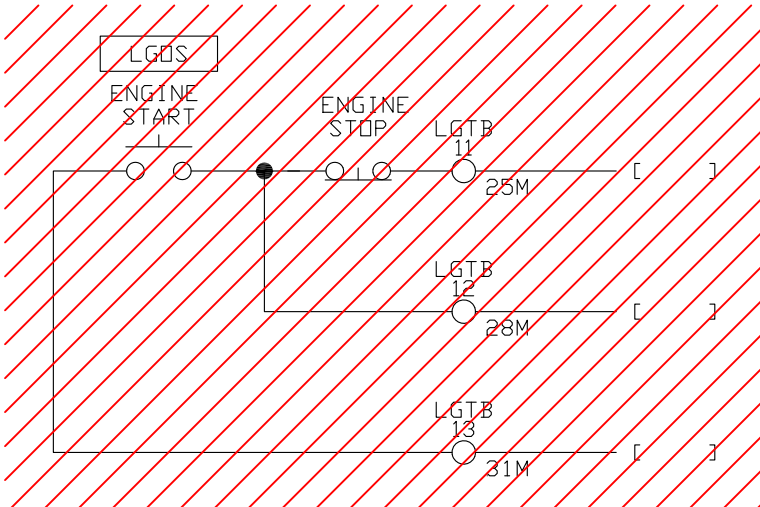
REVISION NO. 2	ENGINEERING H. KHOSHNASAND	ISSUE DATE 12/06/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM CAB SPREADER	
REVISION DATE 5/7/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE CONT. ON SH. 10AA	SH. NO. 9D
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709			

REVISION NO. 2	ENGINEERING JA CRANFORD	ISSUE DATE 12/11/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM LANDSIDE GANTRY	
REVISION DATE 5/7/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		359B6117AE CONT. ON SH. 13AA	SH. NO. 12AM
REVISED BY DS	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709			

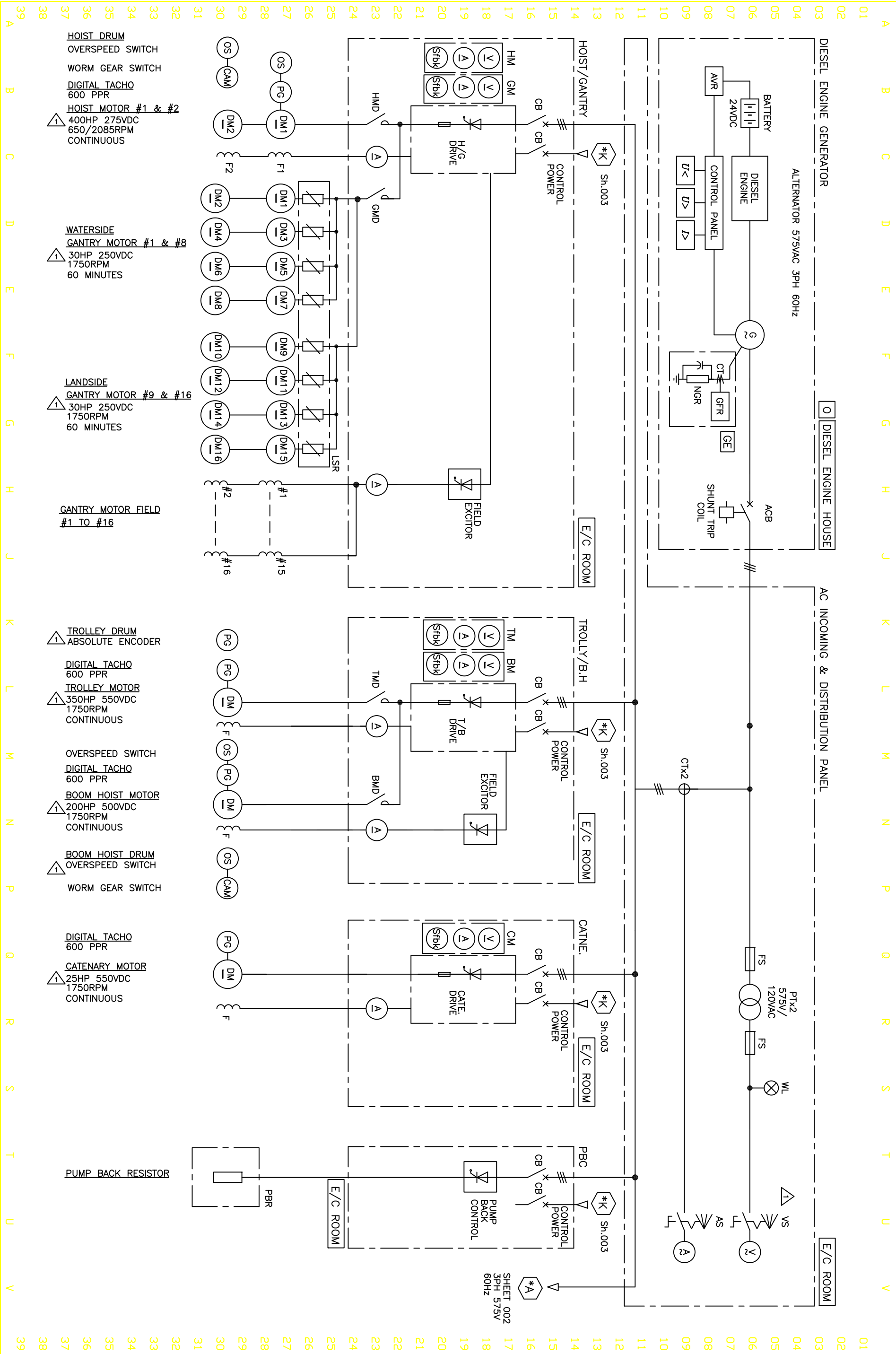
GE DRAWING MODIFIED BY BN 2020-07-31

NOTES:

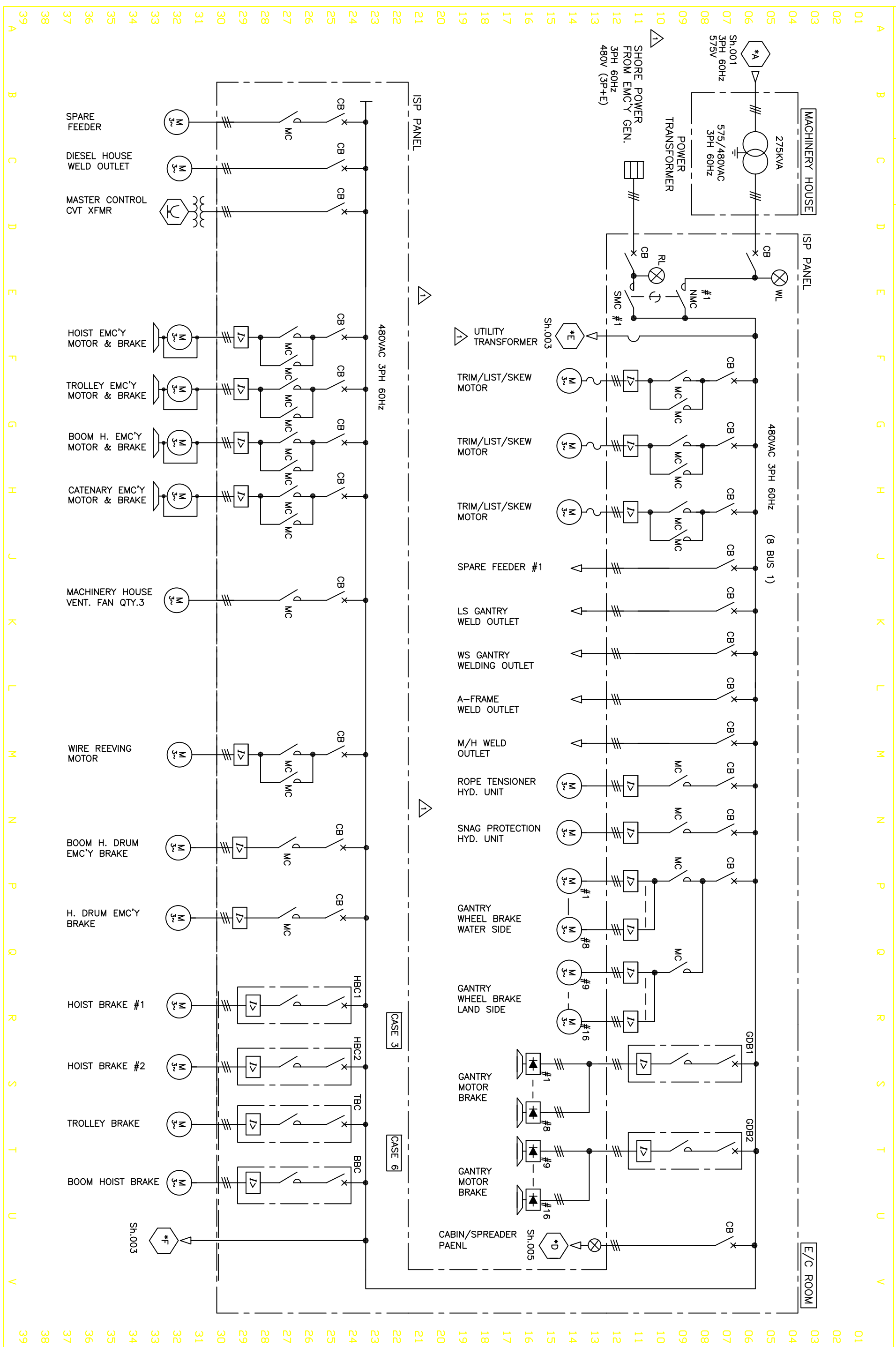
1. DEMO PB'S AND LIGHT.
2. DETERMINATE, CUT, TAPE, TAG CABLE "ABANDONED - ELECTRIFICATION PROJECT - AT LANDSIDE GANTRY CONTROL STATION".



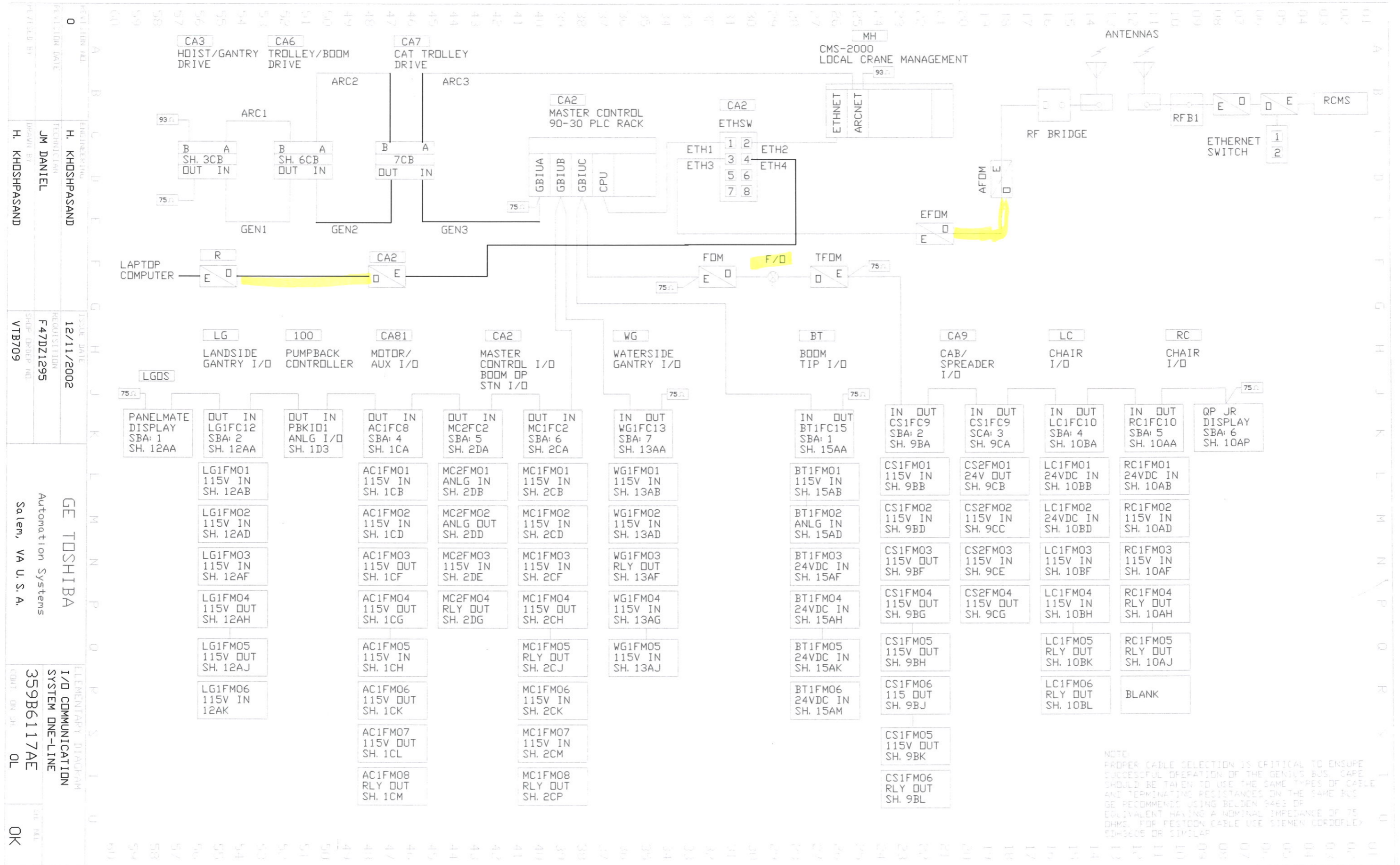
SH. NO.
359B6117AE
CONT. ON SH. 13AA
12AM



REVISION NO. 0	ENGINEERING JA CRANFORD	ISSUE DATE 10/28/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM	
REVISION DATE	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		SYSTEM ONE-LINE	
REVISED BY	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		359B6117AE	SH. NO. C1

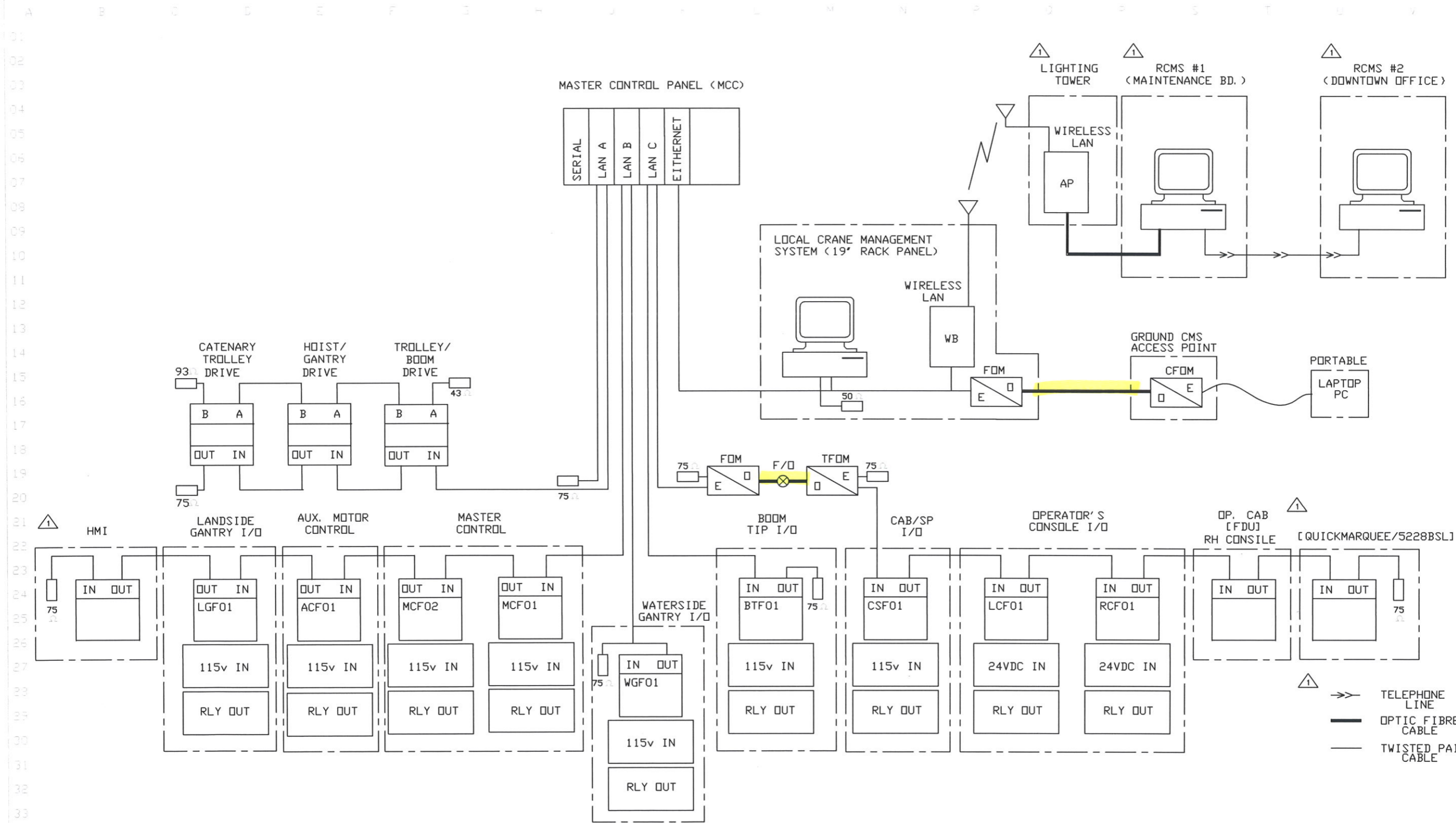


REVISION NO. 2	ENGINEERING JA CRANFORD	ISSUE DATE 10/28/02	GE TOSHIBA Automation Systems SALEM, VA, U. S. A.	ELEMENTARY DIAGRAM	
REVISION DATE 02/05/03	TECHNICIAN JM DANIEL	REQUISITION F47DZ1295		SYSTEM ONE-LINE	
REVISED BY JM DANIEL	DRAWN BY JM DANIEL	SHOP ORDER NO. VTB709		359B6117AE	SH. NO. C2



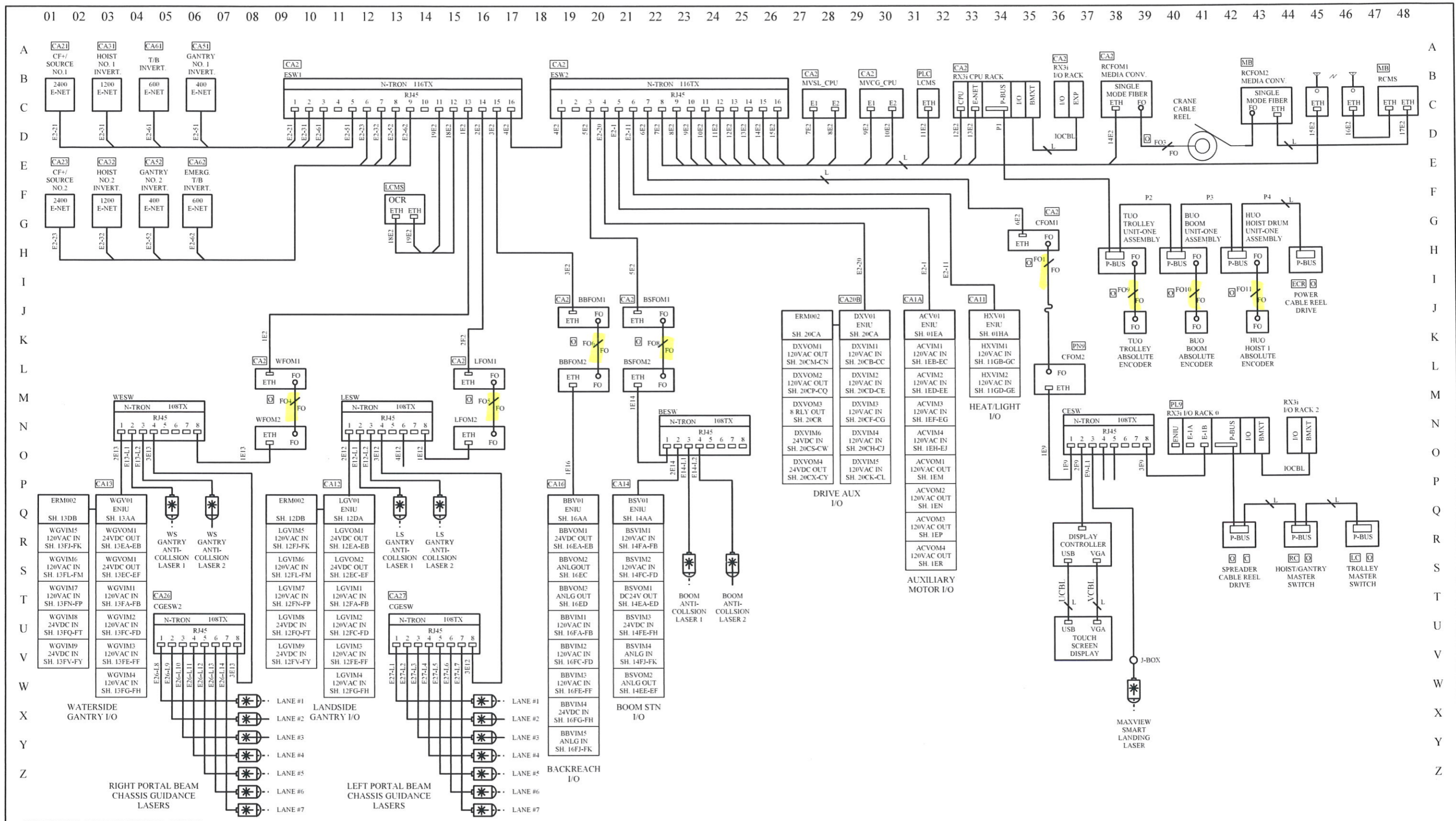
NOTE:
 PROPER CABLE SELECTION IS CRITICAL TO ENSURE
 SUCCESSFUL OPERATION OF THE GENIUS BUS. CARE
 SHOULD BE TAKEN TO USE THE SAME TYPES OF CABLE
 AND TERMINATING RESISTANCES ON THE SAME BUS
 GE RECOMMENDS USING BELDEN 9443 OR
 EQUIVALENT HAVING A NOMINAL IMPEDANCE OF 75
 OHMS. FOR FESTOON CABLE USE SIEMENS CORDOFLY
 EDH3605 OR SIMILAR

REVISION NO. 0
 ENGINEERING H. KHOSHNASAND
 TECHNICIAN JM DANIEL
 DRAWN BY H. KHOSHNASAND
 ISSUE DATE 12/11/2002
 REVISION F47DZ1295
 SHEET ORDER NO. VTB709
 GE TOSHIBA
 Automation Systems
 Salem, VA U.S.A.
 ELEMENTARY DIAGRAM
 I/O COMMUNICATION
 SYSTEM ONE-LINE
 359B6117AE
 CONT. ON SH. 0L
 OK



* Note : For detail design of I/O, please refer to specific I/O station in the Elementary.

ISSUE NO.	2	ENGINEERING	JA CRANFORD
REVISION DATE	02/06/03	TECHNICAL	JM DANIEL
ISSUE DATE	10/28/02	REQUISITION	F47DZ1295
SHIP ORDER NO.	VTB709		
ELEMENTARY UJIAUKAM			
SYSTEM ONE-LINE			
359B6117AE			
CONT. ON SH. 1A			
GE TOSHIBA			
Automation Systems			
SALEM, VA, U. S. A.			
C7			

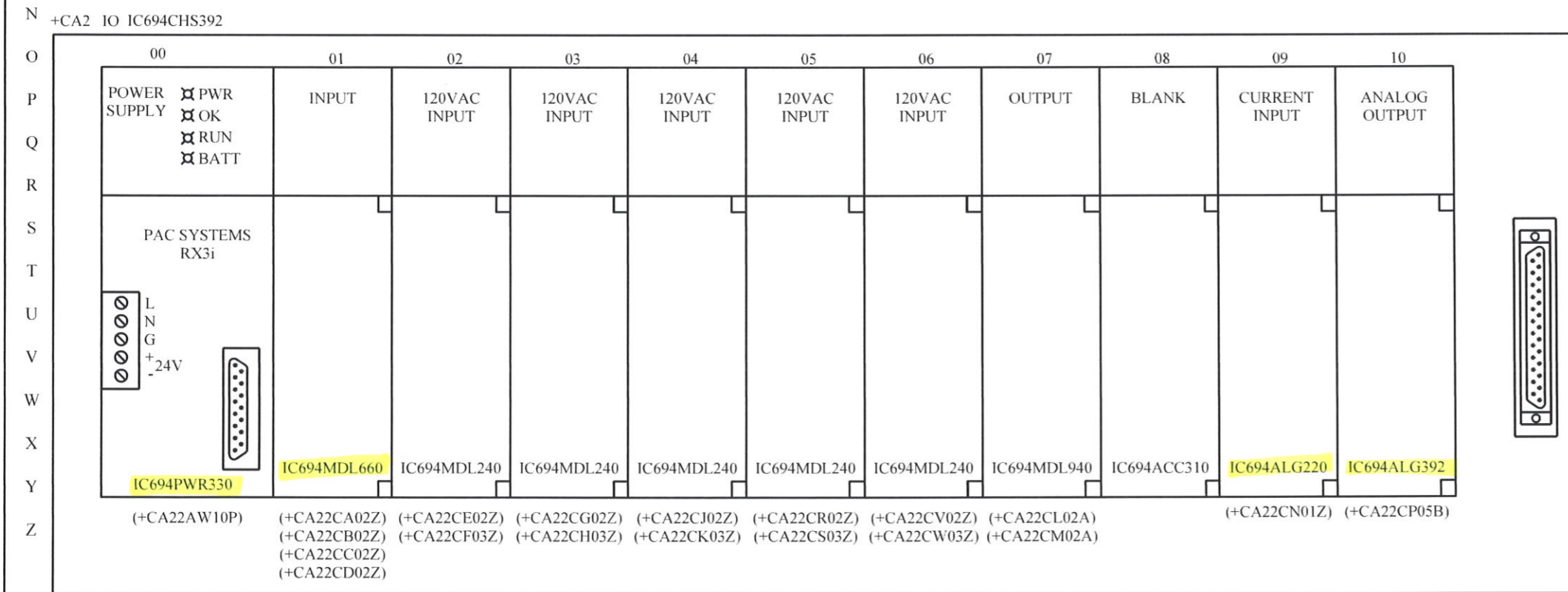
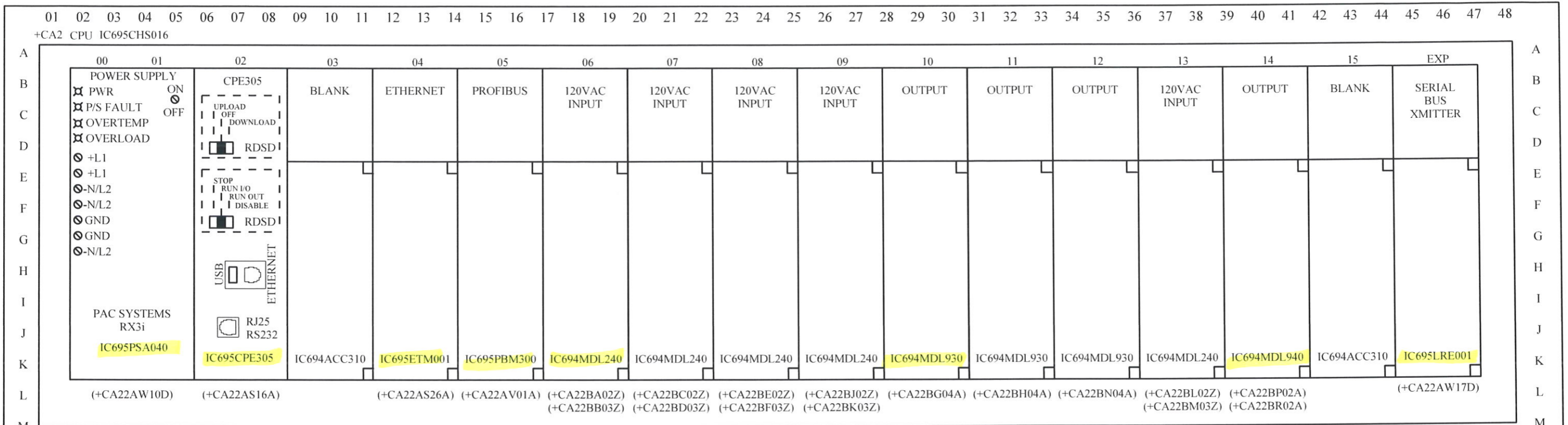


ETHERNET CABLE NAMING GUIDE

FORMAT: WEX-Y
 W = NUMBER GIVEN IF THERE ARE MULTIPLE ETHERNET CABLES THAT ARE ALL INTERNAL TO A CASE OR ALL GOING TO THE SAME EXTERNAL LOCATION
 E = ALWAYS MEANS ETHERNET
 X = CASE NUMBER WHERE THE ETHERNET CABLE IS OR WHERE IT COMES FROM (IF IT IS GOING TO AN EXTERNAL LOCATION)
 Y = NUMBER(S) OR LETTER(S) FOR WHERE THE ETHERNET CABLE IS GOING TO (ANOTHER CASE, LASER, CAMERA, ETC)

REFERENCE NOTES:
 1) ETHERNET COMMUNICATION LINK CABLE IS CAT-5 TYPE, SHIELDED, RJ45 WITH A NOMINAL IMPEDANCE OF 100 OHMS.
 2) CASE LOCATION ARE DEFINED AS: CA21, E-ROOM MASTER CONTROL CASE, CA9, CAB CONTROL CASE.
 3) [Symbol] NOT SUPPLIED BY TMEIC, SUPPLIED BY OTHERS.
 4) ALL COMMUNICATION CONTROL CABLES MUST BE INSTALLED AS OUTLINED IN TMEIC INSTALLATION DOCUMENT TM1000A.

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING	PROJECT	ZPMC/PAMT		OVERVIEW		ELEMENTARY DIAGRAM		REL-																							SH. NO.														
	REVISED BY	K SCHWENDIMAN	16726/16755	3 STS CRANES		CRANE COMMUNICATIONS		271B1279AE		SH. NO.																							OK														
		ISSUED	REQUISITION	PHILADELPHIA, PA		CONTROL ONE LINE		MTG. LOC.																																							
		14-FEB-2018	F47DZ16726/55	USA		We drive industry		OVRVW																																							
								NEXT SH.																																							
								0L																																							



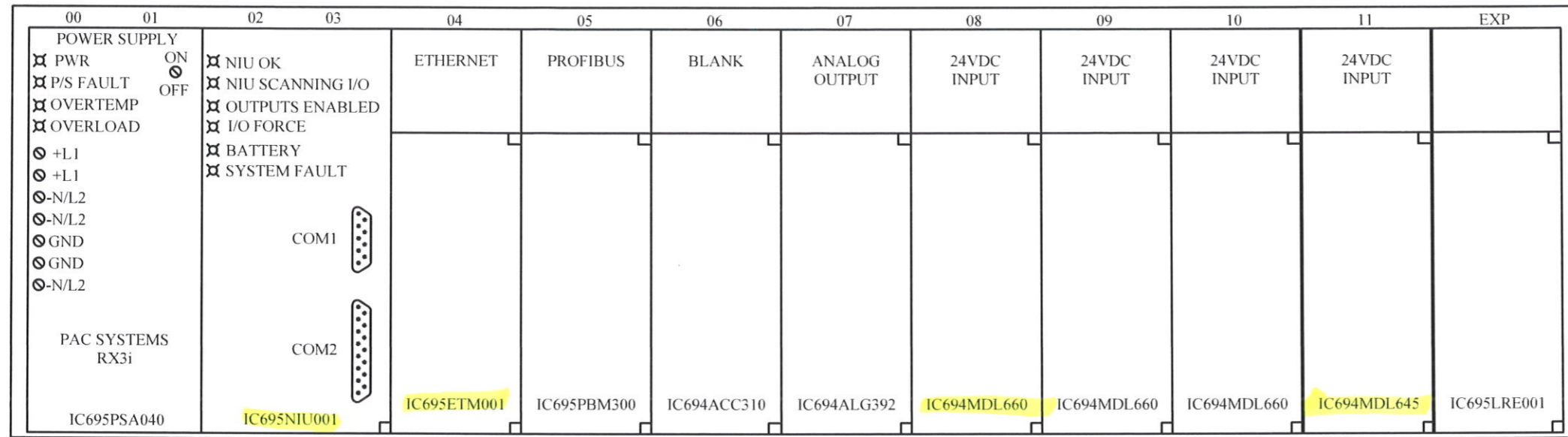
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES	TMEiC We drive industry		OVERVIEW MASTER CONTROL SERIES RX3i PLC, CPU AND IO RACK LAYOUTS												ELEMENTARY DIAGRAM 271B1279AE		REL-SH. NO. ON																										
	REVISIED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA													MTG. LOC. OVRVW	NEXT SH. OP																													

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

+PN9 CPU IC695CHS012



(+CA99CC10D)

(+CA99CF01A)

(+CA99DA05B)

(+CA99DB03Z)
 (+CA99DC03Z)
 (+CA99DD03Z)
 (+CA99DE03Z)

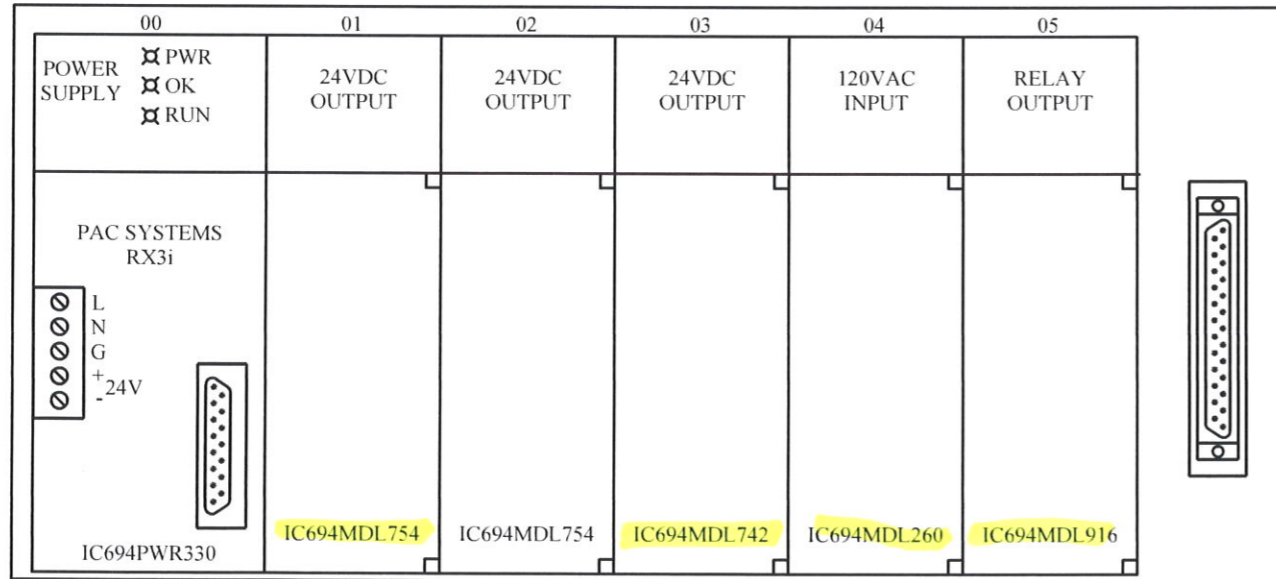
(+CA99DF03Z)
 (+CA99DG03Z)
 (+CA99DH03Z)
 (+CA99DJ03Z)

(+CA99DK03Z)
 (+CA99DL03Z)
 (+CA99DM03Z)
 (+CA99DN03Z)

(+CA99DP03Z)
 (+CA99DQ03Z)

(+CA99CC17D)

+PN9 IO IC694CHS398



(+CA99CC10P)

(+CA99EA03A)
 (+CA99EB03A)
 (+CA99EC03A)
 (+CA99ED03A)

(+CA99EE03A)
 (+CA99EF03A)
 (+CA99EG03A)
 (+CA99EH03A)

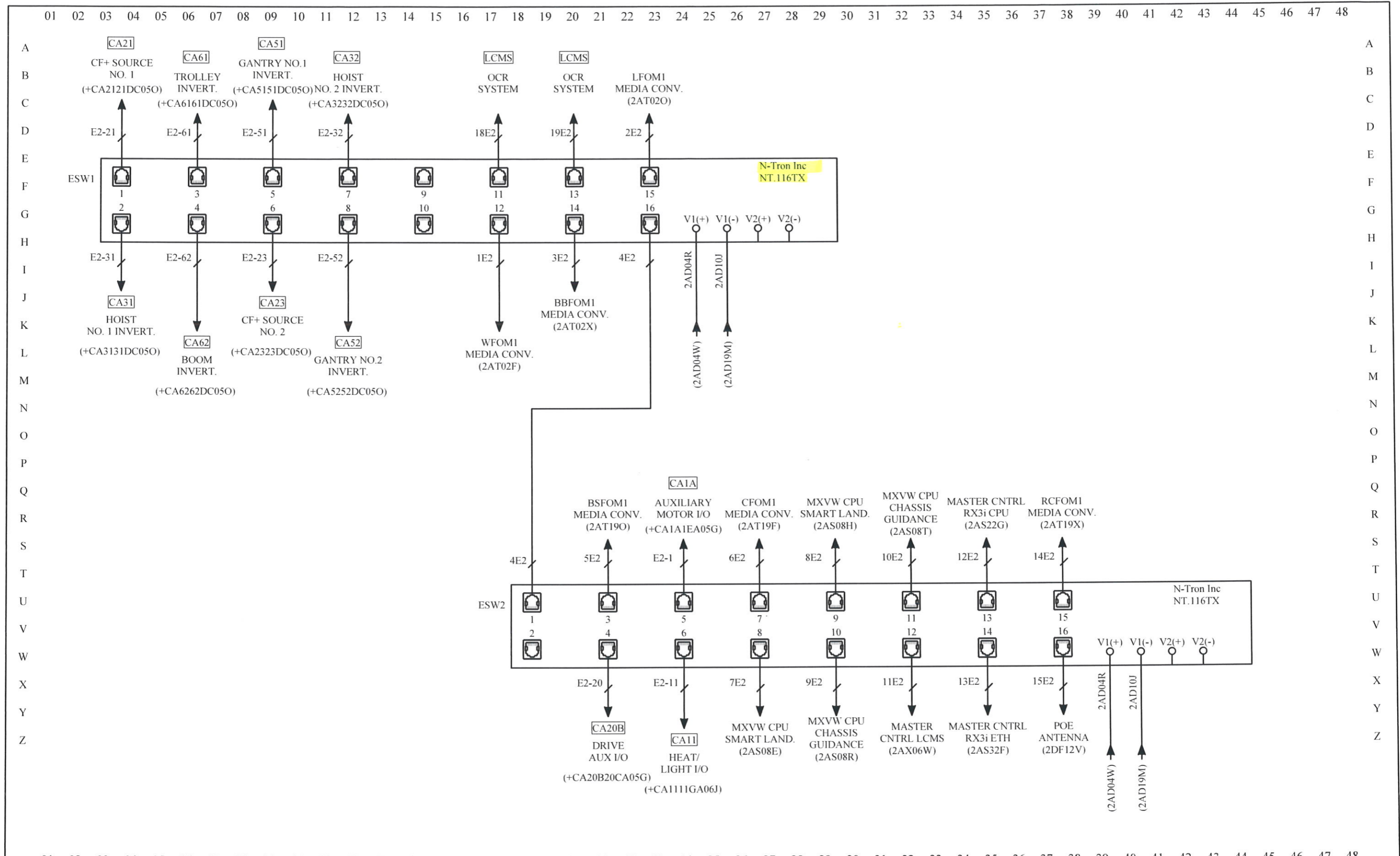
(+CA99EJ03A)
 (+CA99EK03A)

(+CA99EN03Z)
 (+CA99EP03Z)
 (+CA99EQ03Z)
 (+CA99ER03Z)

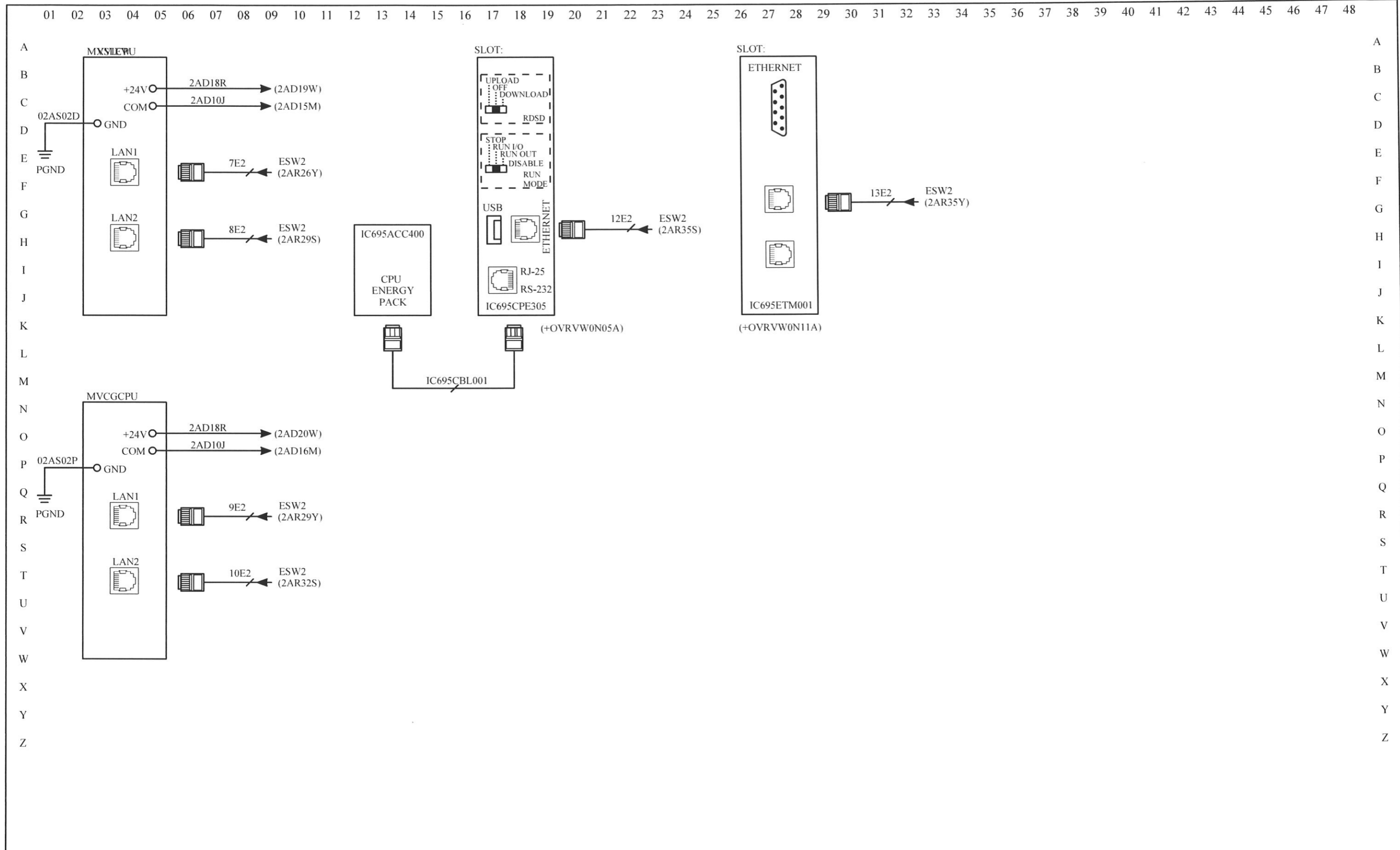
(+CA99ES03A)
 (+CA99ET03A)

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

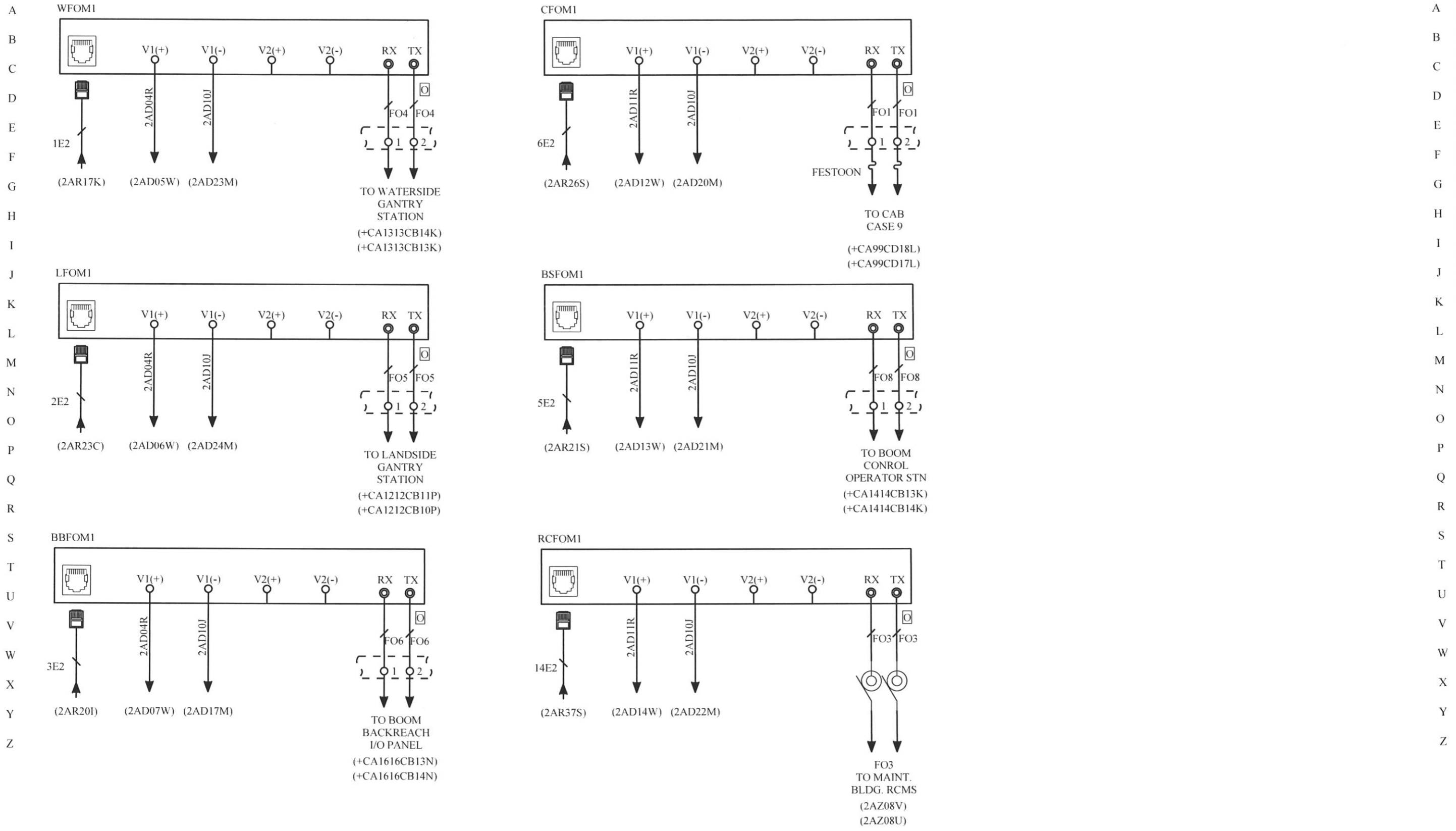
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES	 OVERVIEW CAB/SPREADER CONTROL RX3i PLC, CPU AND IO RACK LAYOUTS	ELEMENTARY DIAGRAM		REL- SH. NO. 0P
	REVISOR BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA		271B1279AE	MTG. LOC. OVRVW	



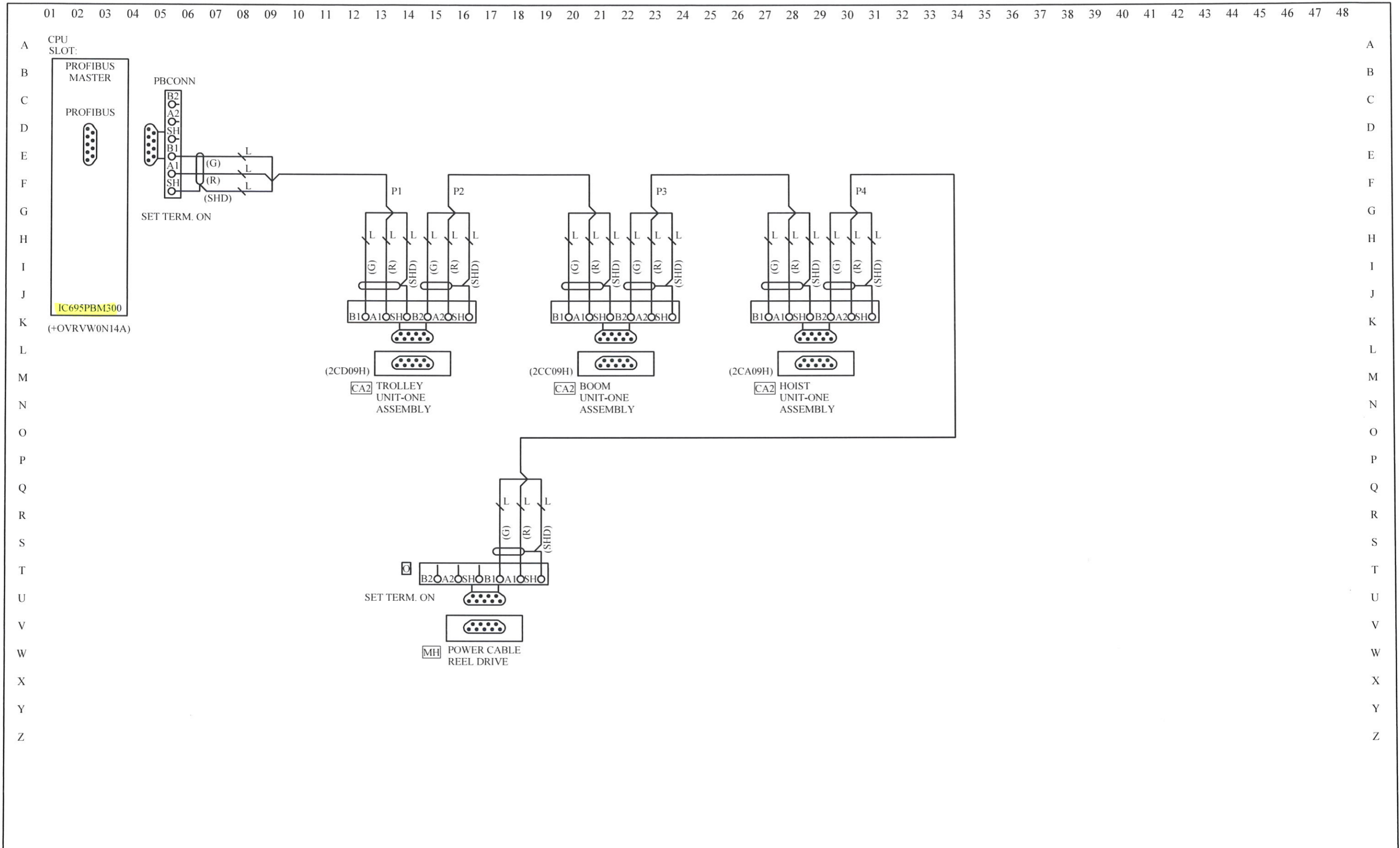
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES		TMEiC We drive industry		MASTER CONTROL PANEL												ELEMENTARY DIAGRAM				REL-																							
	REVISED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA				ETHERNET COMMUNICATION CIRCUITS												271B1279AE				SH. NO.																							
																				MTG. LOC. CA2	NEXT SH. 2AS	2AR																									



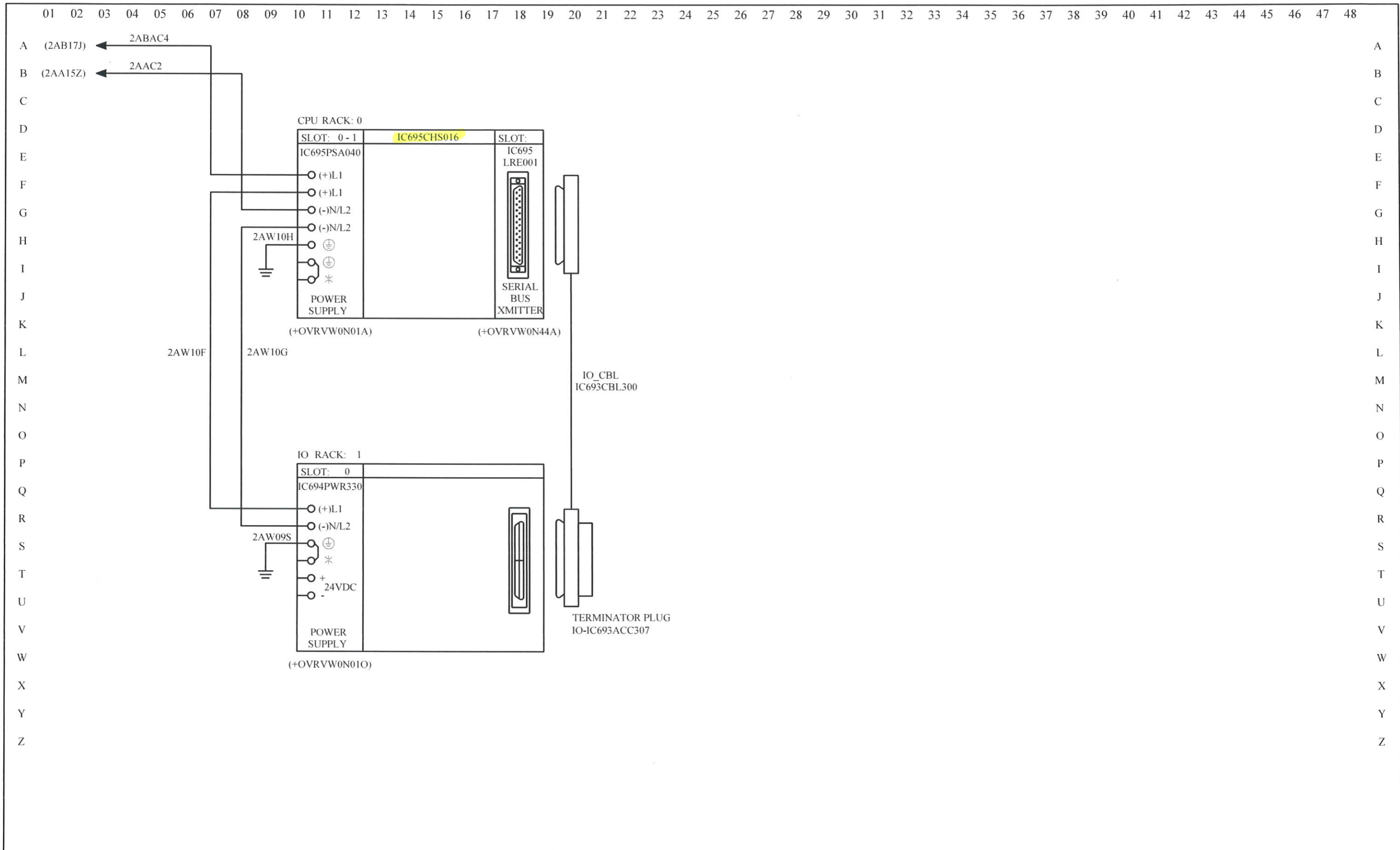
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES		TMEiC <i>We drive industry</i>		MASTER CONTROL PANEL												ELEMENTARY DIAGRAM												REL-															
	REVISIED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA				CPU RACK												271B1279AE												SH. NO.															
						COMMUNICATION MODULES MAXVIEW												MTG. LOC. CA2						NEXT SH. 2AT						2AS																	



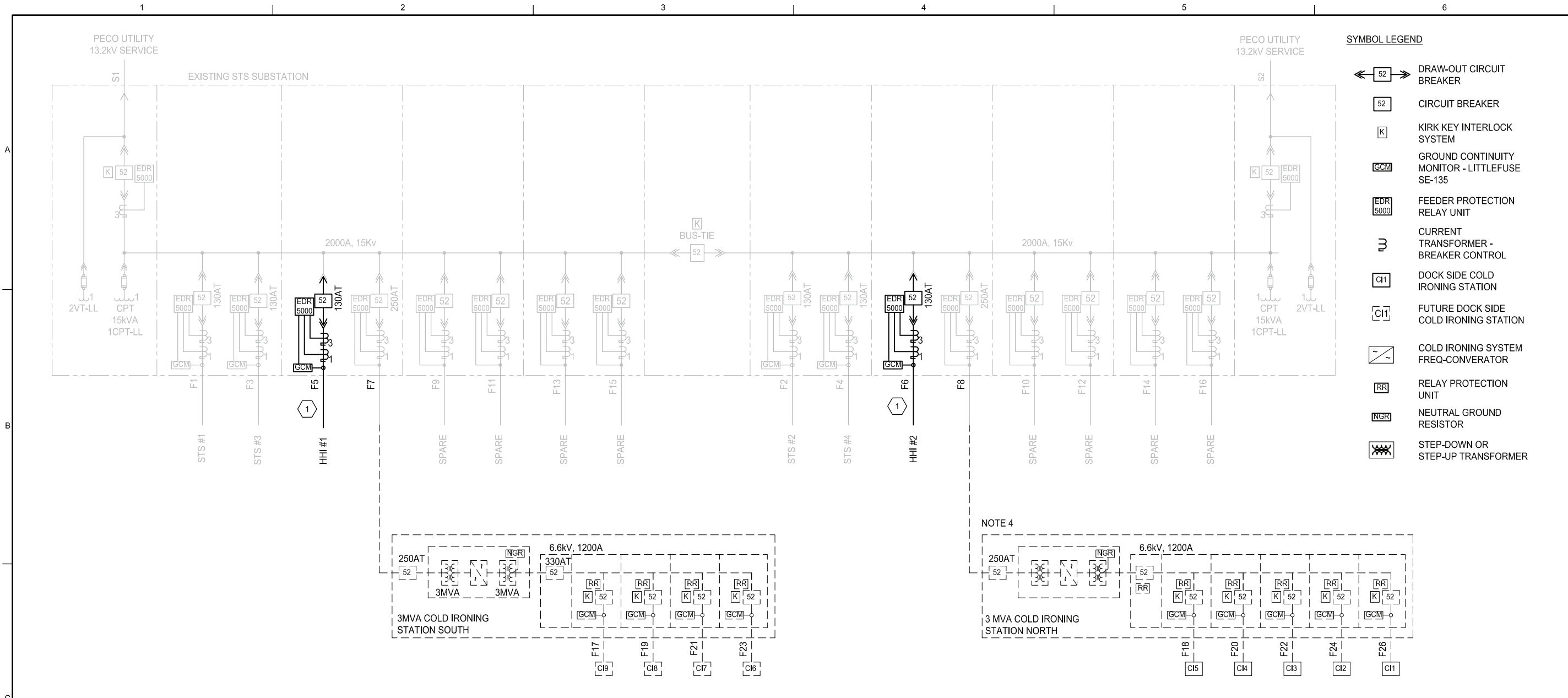
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES	TMEiC <i>We drive industry</i>	MASTER CONTROL PANEL	ELEMENTARY DIAGRAM		REL-
	REVISED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA		PLC FIBER - OPTIC COMMUNICATIONS	271B1279AE		SH. NO.
						MTG. LOC. CA2	NEXT SH. 2AV	2AT	



01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES				MASTER CONTROL PANEL												ELEMENTARY DIAGRAM				REL-																							
	REVISIED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA				PROFIBUS NETWORKS												271B1279AE		SH. NO.																									
								MTG. LOC. CA2				NEXT SH. 2AW				2AV																															

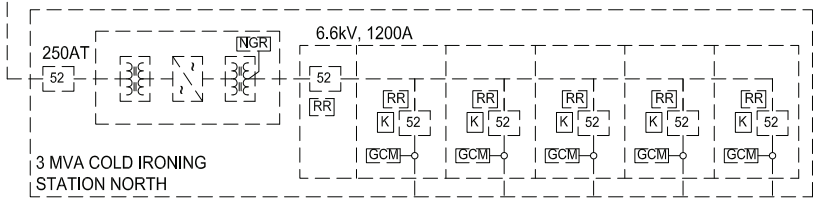
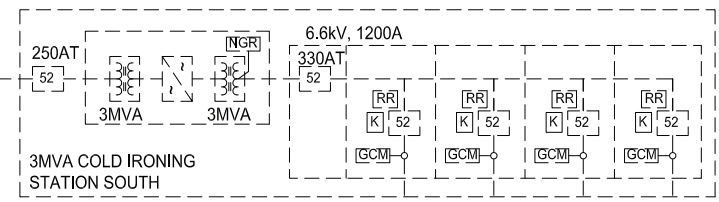


01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
REVISION	REVISION DATE	ENGINEERING K SCHWENDIMAN	PROJECT 16726/16755	ZPMC/PAMT 3 STS CRANES												MASTER CONTROL PANEL										ELEMENTARY DIAGRAM					REL-																
	REVISED BY	ISSUED 14-FEB-2018	REQUISITION F47DZ16726/55	PHILADELPHIA, PA USA												RX3i RACK CONNECTIONS										271B1279AE					SH. NO.																
																MTG. LOC. CA2		NEXT SH. 2AX			2AW																										



SYMBOL LEGEND

	DRAW-OUT CIRCUIT BREAKER
	CIRCUIT BREAKER
	KIRK KEY INTERLOCK SYSTEM
	GROUND CONTINUITY MONITOR - LITTLEFUSE SE-135
	FEEDER PROTECTION RELAY UNIT
	CURRENT TRANSFORMER - BREAKER CONTROL
	DOCK SIDE COLD IRONING STATION
	FUTURE DOCK SIDE COLD IRONING STATION
	COLD IRONING SYSTEM FREQ-CONVERTOR
	RELAY PROTECTION UNIT
	NEUTRAL GROUND RESISTOR
	STEP-DOWN OR STEP-UP TRANSFORMER



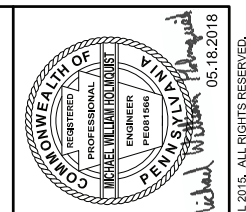
ELECTRICAL AC ONE-LINE RISER
N.T.S.

KEYED NOTES

- 1 6" C, (3) #2/0, #4 BARE GND, #6 INS GND

ELECTRICAL NOTES:

- ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.
- CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.
- UNDERGROUND DUCTBANKS SHALL BE REINFORCED CONCRETE ENCASED WITH GROUND. SEE DUCTBANK DETAILS.
- COLD IRONING SYSTEM IS FUTURE PENDING EQUIPMENT EVALUATION AND DETAILS. DUCTBANK SYSTEM FOR COLD IRONING STATIONS 1-5 TO BE EXTENDED UNDER THIS CONTRACT AS SHOWN ON PLANS.



NO.	0	DATE	2018-05-18	ISSUED FOR BID	Y
DSCR	P. DANIELL	DR	J. JONES	BY	APVD
REVISION	CHK	REVISION	CHK	BY	APVD

PhilaPort
THE PORT OF PHILADELPHIA
PHASE 2 PORT DEVELOPMENT IMPROVEMENTS
AT THE PACKER AVENUE MARINE TERMINAL
PHILADELPHIA PORT AUTHORITY
PHILADELPHIA, PENNSYLVANIA

ch2m:
ELECTRICAL
ONE-LINE DIAGRAM

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	2018-05-18
PROJ	693446
DWG	001-E-6001
SHEET	102 of 151

ISSUED FOR BID