

# PORT OF PORT ARTHUR NAVIGATION DISTRICT OF JEFFERSON COUNTY, TEXAS

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS  
FOR THE CONSTRUCTION OF

## **IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4**

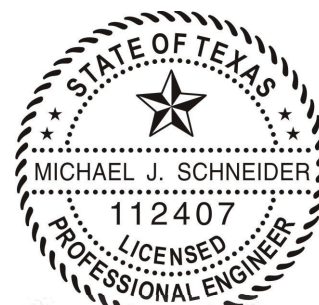
POPA File: 8.329

June 2020

Commissioners:

Norris Simon, Jr., President  
John Comeaux, Vice President  
Randy T. Martin, Secretary/Treasurer  
Raymond Johnson  
Linda Turner Spears

Larry A. Kelley, Jr., Executive Port Director / CEO



*Michael J. Schneider*

05/30/2020

TX-FIRM F-9791



PORT OF PORT ARTHUR  
NAVIGATION DISTRICT OF JEFFERSON COUNTY, TEXAS

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TECHNICAL SPECIFICATIONS:

ITEM NO. 02001 – GENERAL

SOIL SIDE IMPRESSED CURRENT CATHODIC PROTECTOIN SYSTEM

WATERSIDE IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM

PORT OF PORT ARTHUR NAVIGATION DISTRICT OF JEFFERSON COUNTY, TEXAS  
NOTICE TO BIDDERS OF MANDATORY PRE-BID CONFERENCE CALL

NOTICE IS HEREBY GIVEN THAT A MANDATORY PRE-BID CONFERENCE CALL will be held on Wednesday, June 17, 2020, at 9:00 a.m. on a conference call with the Port of Port Arthur Navigation District of Jefferson County, Texas ("Port of Port Arthur") to discuss the Port of Port Arthur Construction of Improvements to Cathodic Protection System for Bulkhead at Berths 3 & 4 (the "Project"). The call-in number is (719) 457-0816, with participant code 328412#. A sign in roll call will be made at the beginning of the meeting and confirmed again at the conclusion of the meeting. Thereafter, sealed bids addressed to the Port of Port Arthur for the Improvements to Cathodic Protection System for Bulkhead at Berths 3 & 4 Project will be received at the office of the Port Director, Larry Kelley, until 9:00 a.m. local time on June 24, 2020, and all bids received will immediately thereafter be opened and read on June 24, 2020 at 221 Houston Avenue, Port Arthur, Texas. The bid shall be on a unit pricing basis. Any bid received after closing time will be returned unopened.

A performance bond and payment bond, each in the amount of one hundred percent (100%) of the contract price, will be required in accordance with State Law for any contract in excess of Twenty-Five Thousand (\$25,000) Dollars. A Bid Bond in the amount of 5% of the total bid must also be submitted with the Bid documents.

Each bidder will be required to hold insurance naming the Port of Port Arthur as an additional insured and certificate holder under the policy(ies), with minimum coverages as set forth in the Insurance Requirements section of the Port of Port Arthur as detailed at its website, [www.portpa.com](http://www.portpa.com). Additionally, plans, specifications and/or drawings for the Improvements to Cathodic Protection System for Bulkhead at Berths 3 & 4 Project may also be found on the Port of Port Arthur's website.

Attention is called to the fact that this is a contract for construction of public works and that there must be paid on same not less than the prevailing wage rates which have been established by all applicable statutes and the terms of this contract pursuant to State Law and which are set out in detail in the contract documents. The Contractor shall forfeit as a penalty to the Port of Port Arthur Ten (\$10.00) Dollars for each laborer, workman or mechanic employed, for each calendar day, or portion thereof, if such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under this contract, by him, or by any subcontractor under him. A copy of such current wage schedule is included in the contract documents and any Equal Employment Opportunity requirements must be met.

The Port of Port Arthur is an organization which qualifies for exemptions pursuant to the Texas Tax Code, Chapter 151, Limited Sales, Excise and Use Tax Act. No Texas sales tax shall be included on the prices bid for tangible personal property which is to be incorporated into and/or consumed in the performance of this Project. The contractor performing this Project may purchase materials, supplies, and/or equipment incorporated into and/or consumed in the performance of this Project by providing to its suppliers an exemption certificate issued in accordance with Texas law.

For inspection of the existing facilities or technical information, contact Michael Schneider, P.E., Collins Engineers, Inc. at: (409) 351-3270. The Port of Port Arthur reserves the right to reject any, and all bids and waive any formalities.

PORT OF PORT ARTHUR NAVIGATION  
DISTRICT OF JEFFERSON COUNTY, TEXAS

## INFORMATION TO BIDDERS

The following instructions are applicable to the Contract in addition to the requirements set forth in the ADVERTISEMENT FOR BIDS.

### 1. Bid Procedure.

Bids must be submitted in DUPLICATE upon the prescribed forms, or copies thereof, in sealed envelopes plainly marked CONSTRUCTION OF IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4, FILE NO. 8.329. Bids shall be prepared in compliance with the requirements of the NOTICE TO BIDDERS OF MANDATORY PRE-BID CONFERENCE (Advertisement for Bids); these instructions and the instructions printed on the prescribed forms. All blank places on the Proposal form must be filled in as noted, in ink, in both words and figures, with amounts extended and totaled, and no changes shall be made in the phraseology of the forms or of the terms mentioned therein. In case of any discrepancy between the written amounts and the figures, the written amounts shall govern. If the Bidder does not bid on optional items (if shown in the Proposal form), "No Bid" shall be entered in the blank spaces therefor. Any bid may be deemed irregular which contains any omission, erasure, alteration, addition, or irregularity of any kind or item not called for, or which does not contain prices set opposite to each of the several items in the Proposal form, or in which any of the prices are obviously unbalanced, or which shall in any manner fail to conform to the conditions of the published ADVERTISEMENT FOR BID. The Bidder shall sign his Proposal in the blank area provided therefor. If the bid is made by a partnership or corporation, the name and address of the partnership or corporation shall be shown, together with the name and address of the partners or officers. If the bid is made by a partnership, it must be acknowledged by one of the partners; if made by a corporation, by one of the officers thereof accompanied by Corporate seal. In order to ensure consideration, the Proposal must be enclosed in a sealed envelope plainly identified by the name of the project and the Contract number and addressed to the Owner as prescribed in the Invitation to Bidders.

### 2. Bid Security and Liquidated Damages.

Bids shall be accompanied by a bid guarantee of not less than five percent (5%) of the amount of the total bid which shall be a Certified Check or Cashier's Check payable without recourse to the Port of Port Arthur, or a bid bond with corporate surety authorized to conduct business in Texas. Said security shall be submitted with the understanding that it shall guarantee that the Bidder will not withdraw his bid within sixty (60) days after the date of the opening of bids; that if a bid is accepted, the Bidder will enter into a formal contract with the Owner, furnish bonds and insurance as may be required and commence work at the specified time, and that in the event of the withdrawal of said bid within said period, or the failure to enter into said Contract, furnish said bonds and insurance and commence work within the time specified, the Bidder shall be liable to the Owner for the

difference between the amount specified in the bid and the amount for which the Owner may otherwise procure the required work.

Checks of all except the three lowest responsible Bidders will be returned when award is made; when the Contract is executed, the checks of the two remaining unsuccessful Bidders will be returned; that of the successful Bidder will be returned when formal Contract, bonds, and insurance are approved, and work has commenced within the time specified.

The Bidder to whom the award is made shall execute and return the formal Contract with the Owner and furnish Performance and Payment Bonds and required insurance documents within ten (10) days after the prescribed forms are presented to him for signature. Said period will be extended only upon written presentation to the Owner, within said period, of reasons which, in the sole discretion of the Owner, justify an extension. If said Contract, bonds, and insurance documents are not received by the Owner within said period or if work has not been commenced within the time specified, the Owner may proceed to have the work required by the Plans and Specifications performed by any means at its command, and the Bidder shall be liable to the Port for any excess cost to the Owner over his bid amount. Further, the bid guarantee shall be forfeited to the Port as liquidated damages and Bidder shall be liable to the Port for an additional amount of five percent (5%) of the bid amount as liquidated damages without limitation.

The Owner, within ten (10) days of receipt of acceptable Performance and Payment Bonds, insurance documents and Contract signed by Bidder to whom Contract was awarded, shall sign and return executed duplicate of the Contract to said party. Should Owner not execute the Contract within such period, the Bidder may, by written Notice to Owner, withdraw his signed Agreement.

### 3. Bonds.

If the Contract exceeds Twenty-five Thousand Dollars (\$25,000.00), Performance and Payment Bonds shall be furnished on prescribed forms in the amount of one hundred percent (100%) of the Contract price with corporate surety duly authorized to do business in the State of Texas. Attorneys-in-fact who sign Bonds must file with each Bond a certified and effective dated copy of their Power of Attorney.

### 4. Notice to Proceed.

Notice to Proceed shall be issued within ten (10) days of the execution of the Contract by Owner. Should there be any reason why Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between Owner and the Contractor. If Notice to Proceed has not been issued within the ten (10) day period or a period mutually agreed upon, Contractor may terminate the Contract without liability on the part of either party.

## 5. Insurance

### **Port of Port Arthur Navigation District CONTRACTOR INSURANCE REQUIREMENTS**

#### **A. In General**

The Contractor shall purchase and continuously maintain in full force and effect for the policy periods specified below the insurance policies specified in this Section. The Contractor shall forward updated certificates of insurance and endorsement(s) when policies are renewed or changed.

The insurance required hereunder shall not be interpreted to relieve the Contractor of any obligations under the Contract. The Contractor shall remain fully liable for all deductibles and amounts in excess for the coverage actually realized.

#### **1. Commercial General Liability Insurance**

The Contractor shall provide and maintain Commercial General Liability Insurance insuring against claims for bodily injury, property damage, personal injury and advertising injury that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (ISO) form for Commercial General Liability (CG 00-01-10-01). By its terms or appropriate endorsements such insurance shall include the following coverage, to wit: Bodily Injury, Property Damage, Fire Legal Liability (not less than the replacement value of the portion of the premises occupied), Personal Injury, Blanket Contractual, Independent Contractors, Premises Operations, Products and Completed Operations (for a minimum of two (2) years following Final Completion of the Project). The policy cannot be endorsed to exclude the perils of explosion (x), collapse (c) and underground (u) exposures without the specific written approval of the Owner.

If Commercial General Liability Insurance of other form with a general aggregate limit and products and completed operations aggregate limit is used, then the aggregate limits shall apply separately to the project, or the Contractor may obtain separate insurance to provide the required limit which shall not be subject to depletion because of claims arising out of any other project or activity of the Contractor. Any such excess insurance shall be at least as broad as the Contractor's primary insurance. The coverage shall be primary and non-contributory. General Aggregate limit applies per Project for construction projects.

The Port of Port Arthur Navigation District shall be named as an Additional Insurance under the Commercial General Liability policy of insurance per standard ISO endorsement forms 2010 (07/04) for ongoing operations and 3027 (07/040) for products/completed operations, or their equivalent.

The Contractor shall have his insuring company waive all rights of subrogation against Port of Port Arthur per standard ISO form CG 2404 or equivalent.

Scope of Coverage:	Non-Project Specific
Type of Coverage:	Occurrence Basis
Amount of Coverage:	\$1,000,000 per occurrence \$2,000,000 aggregate
Policy Period:	Annual Policy
Name of Insured:	Contractor
Additional Insured Parties:	Port of Port Arthur Navigation District Aggregate per Project Endorsement

## **2. Owner's & Contractors Protective Liability**

The contractor shall purchase and maintain at their own expense, Owner's & Contractors Protective Liability coverage naming the Port, its officers, agents and employees as insured in the same amount and coverage as provided for in the contractors Commercial General Liability Policy.

## **3. Automobile Liability Insurance**

The Contractor shall provide Comprehensive Automobile Liability Insurance insuring against claims for bodily injury and property damage and covering the ownership, maintenance or use of any auto or all owned/leased and non-owned and hired vehicles (Symbols 1 or 2, 8 and 9) used in the performance of the Work, both on and off the Project Site, including loading and unloading. The coverage be provided by Insurance Services Office form for Commercial Auto Coverage (CA-00-01-10-01) or equivalent.

Scope of Coverage:	Non-Project Specific
Type of Coverage:	Occurrence Basis
Amount of Coverage:	\$1,000,000 per occurrence
Policy Period:	Annual Policy
Name Insured:	Contractor

- a) Contractor shall have his insuring company provide a Waiver of Subrogation in favor of Port of Port Arthur per standard ISO form or the equivalent.

## **4. Workers' Compensation and Employer's Liability Insurance**

The Contractor shall provide Worker's Compensation Insurance sufficient to meet its statutory obligation to provide benefits for employees with claims of bodily injury or occupational disease (including resulting death).

Policy Period: Annual Policy  
Name Insured: Contractor

- a) The Contractor shall provide Employer Liability Insurance covering its legal obligation to pay damages because of bodily injury or occupational disease (including resulting death) sustained by an employee.

Scope of Coverage: Non-Profit Specific  
Type of Coverage: Occurrence Basis  
Amount of Coverage: \$1,000,000 bodily injury by accident  
\$1,000,000 bodily injury by disease  
\$1,000,000 policy limit  
Policy Period: Annual Policy  
Named Insured: Contractor

- b) The Contractor shall provide Longshore & Harbor Workers coverage if any employees are determined to be eligible benefits.
- c) The Contractor shall have his insuring company waive all right of subrogation against Port of Port Arthur per standard form WC 420304 A or equivalent.

## **5. Marine Operations**

If any operations involves the use of any form of watercraft, additional coverage may be required of Contractors as follows:

- a) In the even the User is required to provide coverage pursuant to this section such insurance on waterborne vessels shall comply with the following requirements.
- 1) If the User uses a chartered waterborne vessel in the operations hereunder, the User shall provide Certificates of Insurance evidencing that the User has procured Charter's Legal Liability Insurance, including full Maritime Employers Liability and Collision and Tower's Liability, covering bodily injury and property damage with a combined single limit of at least \$1,000,000 or the value of the vessel, whichever is greater;
  - 2) If the User uses an owned waterborne vessel in the operations hereunder, the User shall provide Certificates of Insurance evidencing that the User has procured Hull and Machinery Insurance, including full Collision and Tower's Liability and protection and Indemnity Insurance (including crew) covering bodily injury and property damage, each with a combined single limit of at least \$1,000,000 or

the value of the vessel, whichever is greater.

- 3) Port of Port Arthur will be named additional insured and right of subrogation will be waived in favor of Port of Port Arthur by endorsement acceptable to the Port risk manager.

## **6. Umbrella/Excess Liability**

The Contractor shall provide Umbrella/Excess Liability insurance limits as follows:

For contract amount under \$5,000,000; At least \$5,000,000 limit

For contract amount from \$5,000,000 to \$25,000,000; At least \$10,000,000 limit

For contract amount from over \$25,000,000 to \$50,000,000; At least \$50,000,000 limit

For contract amount over \$50,000,000; At least \$50,000,000 limit

- a) Port of Port Arthur shall be named as additional insured and the insuring carrier shall waive their rights of subrogation in favor of Port of Port Arthur.

## **7. Port of Port Arthur Navigation District-Owned Property:**

Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain property insurance (Builder's Risk) upon the work at the site to the full insurable value. The insurance shall include the interests of the Owner, Owner's Designated Representative, Contractor, and Subcontractors of any tier. Coverage shall be written on forms to include fire, extended coverage and special form including theft. Contractor is responsible for the deductible for any claim made against the policy. A separate certificate of insurance evidencing the coverage required herein shall be provided to the Owner.

## **8. Installation Floater Insurance**

The Contractor shall provide and maintain Installation Floater Insurance insuring against damage or destruction of the materials or equipment in transit to, or stored on or off the Project Site which is to be used in the Work. A separate certificate of insurance evidencing the coverage required herein shall be provided to the Owner.

Scope of Coverage:	Non-Project Specific
Type of Coverage:	Occurrence Basis
Amount of Coverage:	TBD
Policy Period:	Effective until final completion of the Project
Named Insured:	Contractor
Additional Insured Parties:	Port of Port Arthur

**9. Pollution Liability Insurance**

The Contractor shall provide and maintain first party cleanup and third party liability for all pollutants involved in their operations. Limits will be specified by Port risk management based on scope of the project. Port of Port Arthur is to be named additional named insured to this coverage.

**10. Professional Liability Insurance**

The Contractor shall provide and maintain professional liability insurance for any services that are deemed professional in nature. Limits will be specified by Port risk management based on scope of the project. Port of Port Arthur is to be named additional named insured to this coverage.

**B. Acceptable Insurance Company**

The insurance company providing any of the insurance coverage required herein shall have a Best Key Rating of A, with a Financial Strength of VII or higher, (i.e., A VII, A VIII, A IX, A X, etc.) and shall be subject to approval by the Owner. Each insurance company's rating as shown in the latest Best's Key Rating Guide shall be fully disclosed and entered on the required certificate of insurance.

**C. Premiums, Deductibles and Self-Insured Retentions**

The Contractor shall be responsible for payment of premiums for all of the insurance coverages required. The Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, the Contractor shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over \$25,000 in the Contractor insurance must be declared and approved in writing by Port of Port Arthur risk management.

**D. Certificate of Insurance**

The Contractor will deliver to the Port of Port Arthur Navigation District. The required certificates must be signed by the authorized representative of the insurance company shown on the certificate with proof that such person is an authorized representative thereof, and is authorized to bind the named underwriter(s) and their company to the coverage, limits and termination provisions shown thereon. All endorsement shall be attached to the certificates of insurance when submitted to the Port of Port Arthur.

**E. Renewal Policies**

The Contractor shall promptly deliver to the Pot of Port Arthur Navigation District a certificate of insurance with respect to each renewal policy, as necessary to demonstrate the maintenance of the required insurance coverage for the terms specified herein. Such certificate shall be

delivered to the Owner not less than 30 days prior to the expiration date of any policy and bear a notation evidencing payment of the premium thereof.

**F. Cancellation and Modification of Insurance Coverages**

The Contractor shall be responsible to immediately notify the Owner in writing of any changes or cancellations of its insurance, or may be found in breach of the contract and the contract could be terminated. This notice requirement does not waive the insurance requirements contained herein.

**G. No Recourse**

There shall be no recourse against Port of Port Arthur Navigation District for the payment of premiums or other amounts with respect to the insurance required from the Contractor.

**H. Endorsements and Waivers**

All insurance policies required hereunder shall contain or be endorsed to contain the following provisions:

- 1) For claims covered by the insurance specified herein, said insurance coverage shall be primary insurance with respect to the insured, additional insured parties, and their respective members, directors, officers, employees and agents and shall specify that coverage continues notwithstanding the fact that the Contractor has left the Project site. Any insurance or self-insurance beyond that specified in this Contract that is maintained by an insured, additional insured, or their members, directors, officers, employees and agents should be primary and non-contributory.
- 2) The insurance shall apply separately to each insured and additional insured party against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

**I. Failure to Provide or Maintain Insurance Coverages**

The Contractor's failure to provide or maintain any of the insurance coverage required herein shall constitute a breach of the Contract. The Owner may take whatever action is necessary to maintain the current policies in effect (including the payment of any premiums that may be due and owing by the Contractor) or procure substitute insurance. The Contractor is responsible for any costs incurred by the Owner in maintaining the current insurance coverage in effect, or providing substitute insurance, and such costs may be deducted from any sums due and owing the Contractor.

## 6. Job Examination.

Bidders should carefully examine the plans, specifications, and other documents, visit the site of the work, and fully inform themselves as to all conditions and matters which can in any way affect the work or the cost thereof. Should a Bidder find discrepancies in, or omissions from, the Plans, Specifications or other documents, or should a Bidder be in doubt as to their meaning, the Bidder should at once notify the Owner's Engineer and obtain clarification prior to submitting any bid. All Bidders are required to visit the job site before submitting their Proposal and to have read and be thoroughly familiar with the Plans and other Contract documents. Failure to do so will not relieve a successful Bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the Contract documents and to complete the contemplated work for the considerations set forth in the bid. Any information shown in the specifications or on the plans in regard to subsurface data, test borings, and similar conditions is to be considered approximate and does not relieve the Bidder of the responsibility for its verification. In conformity with applicable statutes, the Owner has adopted a labor classification and a minimum wage scale, which is included in the following specifications.

## 7. Sales Tax.

This Contract is issued by an organization which qualifies for exemption pursuant to the provisions of Section 151.209 of the Texas Limited Sales, Excise and Use Tax Act as codified in Chapter 151 of the Texas Tax Code.

The Contractor's attention is directed to the State of Texas Comptroller of Public Accounts Limited Sales, Excise and Use Tax rules and regulations, Rulings regarding Repairmen and Contractors - Reference: Section 151.056 Texas Tax Code which, upon compliance with certain conditions, provides for exemption from this tax of non-consumable materials and equipment permanently incorporated into work done for an exempt organization, and to House Bill 11 amendments to Section 151.311 of the Tax Code (Vernon Supp. 1992) as they relate to separated contracts/bids in order for non-consumable materials and equipment to qualify for resale to the Port and be exempt from sales tax.

Any Bidder may elect to exclude this sales tax from his bid. The bid and contract, however, must separately identify the charges for (1) non-consumable materials and equipment that are permanently incorporated into the project and (2) charges for skill, labor and consumable materials, tools and equipment which are not permanently incorporated into the project. This statement shall be included in and made part of the Contract. Contractors are required to have a sales tax permit issued by the Comptroller of the State of Texas in order to qualify under the exemption provisions and the separated Contract procedure.

The Port will issue a specific exemption certificate for a separated Contract to the Contractor in order that he does not have to pay taxes on qualifying materials and equipment purchased for and permanently incorporated in the Port project. The

Contractor performing this Contract must issue to his suppliers an exemption certificate in lieu of the tax, said exemption certificate complying with all applicable State Comptroller's rulings, along with a copy of the certificate issued to him by the Port.

The Owner will make no further allowance for and will make no price adjustment above or below the originally bid unit prices on account of this tax. It shall be the Contractor's sole responsibility, if Contractor has elected to exclude the sales tax from the bid, to comply with the aforementioned Rulings and with any other applicable rules, regulations or laws pertaining to the Texas Limited Sales, Excise and Use Tax which may now or at any time during the performance of this Contract be in effect, and the Owner shall have no responsibility for any sales or use tax which the Contractor may be required to pay as a result of Contractor's failure or the Owner's failure to comply with said rules, regulations or laws, or as the result of the performance of the Contract or any part thereon by the Contractor.

Bidders are cautioned that materials which are not permanently incorporated into the work (Example: Fuel, lubricants, tools, forming materials, etc.) are not eligible for exemption and are not to be included in the statement as "Non-Consumable Materials and Equipment".

8. Financial Statement and Experience Record.

The Bidder will, upon request by the Owner, furnish such information and data as Owner may request to determine ability of the Bidder to perform the work, including, without limitation, a list of all jobs completed in the last 24 months giving name of Owner, amount of Contract, description of the job, and name of Owner's representative who is familiar with the work performed by the Contractor.

9. Interpretation of Plans and Specifications.

Bidder desiring further information, or further interpretation of the Plans and Specifications must make request for such information in writing to the Engineer, prior to 72 hours before the bid opening. Answers to all such requests will be given in writing to all Bidders, in Addendum form, and all addenda will be bound and made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding. Should a Bidder find discrepancies in, or omissions from, the plans or other contract documents, or should he be in doubt as to their meaning, he should at once notify the Engineer in order that a written Addendum may be sent to all Bidders.

10. Award of Contract.

Unless it elects to reject all bids, the Owner will award the Contract as promptly as possible consistent with the time required for a thorough analysis of bid submitted. Award will be made on the basis of the greatest advantage to the Owner, considering all elements of the bid. The right is reserved to reject any or all Proposals and to waive technical defects, as the interest of the Owner may require.

A Bidder may withdraw his Proposal before the expiration of the time during which a Proposal may be submitted, without prejudice to himself, by submitting a written request for its withdrawal to the officer who holds it.

11. Time of Completion.

Attention is directed to the requirement that each Bidder specify in his Proposal the time in which he will agree to complete the work. The time required for completion of the work will be a consideration in the determination of the successful bidder.

12. Substitutions.

Where materials or equipment are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality or performance, and to establish an equal basis for the evaluation of bids.

13. Laws.

All applicable laws, ordinances and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

14. Equal Opportunity.

Bidder agrees to abide by the requirement under Executive Order No. 11246, as amended.

15. Material Suppliers and Subcontractors.

Low Bidder shall supply the names and addresses of major material suppliers and subcontractors when requested to do so by Owner.

16. Retainage.

Ten percent (10%) of the amount of each periodic progress payment shall be retained, by Owner, until final completion and acceptance of all work under the Contract.

17. Unit Prices.

If the Contract is let on a unit price basis, the specifications furnished to Bidders shall contain approximate quantities estimated upon the best available information, but the compensation to be paid to the Contractor shall be based upon the actual quantities constructed or supplied.

18. Pre-Bid Conference.

**A Mandatory Pre-Bid Conference Call will be held between the Engineer, Representatives of the Port of Port Arthur, and prospective bidders via conference call at 9:00 AM on Wednesday, June 17, 2020.** The purpose of the Pre-Bid Conference is to make certain that the scope of work is fully understood, to answer any questions, to clarify the intent of the contract documents, and to resolve any problems that may affect the project construction. No addendum will be issued at this meeting, but subsequent thereto, the Engineer, if necessary, will issue an addendum to clarify the intent of the contract documents. Prospective bidders shall be required to participate in the Mandatory Pre-Bid Conference Call. Bids received from firms or individuals not listed on the roll of attendees of the Mandatory Pre-Bid Conference Call will be rejected and returned unopened to the Bidder. Bidders are requested to fully review the material prior to the Mandatory Pre-Bid Conference Call.

## **WORKERS' COMPENSATION REQUIREMENTS**

### **I. MANDATORY LANGUAGE FROM TEXAS WORKERS' COMPENSATION COMMISSION REGULATIONS**

#### **28TAC 110.110**

#### **WORKER'S COMPENSATION – INSURANCE COVERAGE**

##### **A. Definitions:**

Certificate of coverage ("certificate") – A copy of a certificate of insurance, a Certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project – includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in 496.096) – includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- B. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

- C. The Contractor must provide a Certificate of coverage to the governmental entity prior to being awarded the contract.
- D. If the coverage period shown of the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new Certificate of coverage with the governmental entity showing that coverage has been extended.
- E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
  - (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
  - (2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- F. The contractor shall retain all required certificates of coverage for the duration of the project and one year thereafter.
- G. The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all person providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
  - (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas

Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

- (2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
  - (3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (4) obtain from each other person with whom it contracts, and provide to the contractor:
    - (a) a certificate of coverage, prior to the other person beginning work on the project; and
    - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (5) retain all certificates of coverage on file for the duration of the project and for one year thereafter;
  - (6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
  - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.
- J. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and

payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

- K. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

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## **II. OTHER EXCERPTS FROM 28 TAC 110.110**

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(d) A Contractor shall:

- (1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
- (2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;
- (3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;
- (4) obtain from each person providing services on a project, and provide to the governmental entity:
  - (A) A certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

- (B) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;
- (7) post a notice on each project site informing all persons providing services on the project that they are required to be covered and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population.

#### ***REQUIRED WORKERS' COMPENSATION COVERAGE***

*"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."*

*"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."*

and

- (8) contractually require each person with whom is contracts to provide services on a project, to:
  - (A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements

for all of its employees providing services on the project, for the duration of the project;

- (B) provide a certificate of coverage to the contractor prior to that person beginning work on the project;
- (C) include in all contracts to provide services on the project the language in subsection (e)(3) of this rule;
- (D) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (E) obtain from each other person with whom is contracts, and provide to the contractor;
  - (i) a certificate of coverage, prior to the other person beginning work on the project; and
  - (ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (F) retain all required certificates of coverage on file for duration of the project and for one year thereafter;
- (G) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
- (H) contractually require each other person with whom in contracts, to perform as required by paragraphs (A) – (H), with the certificate of coverage to be provided to the person for whom they are providing services.

(e) A person providing services on a project, other than a contractor, shall:

- (1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

- (2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;
- (3) have the following language in its contract to provide services on the project;

“By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers’ compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self insured, with the commission’s Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.”

- (4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project.
- (5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:
  - (A) a certificate of coverage, prior to the other person beginning work on the project; and
  - (B) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (7) notify the governmental entity by certified mail or personal delivery, of any change that materially affects provision of coverage of any

person providing services on the project and send the notice within 10 days after the person knew or should have known of the change; and

(8) contractually require each other person with whom it contracts to:

- (A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
- (B) provide a certificate of coverage to it prior to that other person beginning work on the project;
- (C) include in all contracts to provide services on the project the language in subsection (e)(3) of this rule:
- (D) provide, prior to the end of the coverage period, a new Certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (E) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract:
  - (i) a certificate of coverage, prior to the other person beginning work on the project; and
  - (ii) prior to the end of the coverage period, a new certificate of coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;
- (F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (G) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, or an change that materially affects the provision of coverage of any person providing services on the project; and
- (H) contractually require each person with whom it contracts, to perform as required by paragraphs (A) – (H), with the certificate of coverage to be provided to the person for whom they are providing services.

- (f) If any provision of this rule or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this rule that can be given effect without the invalid provision or application, and to this end the provisions of this rule are declared to be severable.
- (g) This rule is applicable for building or construction contracts advertised for bid by a governmental entity on or after September 1, 1994.

BID

TO: Port of Port Arthur  
221 Houston Avenue  
P. O. Box 1428  
Port Arthur, Texas 77641

Proposal of \_\_\_\_\_  
(hereinafter called "BIDDER"), organized and existing under the laws of the State of \_\_\_\_\_, doing business as a \* \_\_\_\_\_ and acting by and through \_\_\_\_\_. To the Port of Port Arthur Navigation District of Jefferson County, Texas (hereinafter called "OWNER").

In compliance with your Advertisement For Bids, BIDDER hereby proposes to perform all work for the construction of:

CONSTRUCTION OF  
IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR  
BULKHEAD AT BERTHS 3 AND 4  
FILE NO. 8.329

in accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below, and to enter into Contract for same within the time specified in CONTRACT DOCUMENTS.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID, each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

Bidder hereby agrees to commence WORK under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the PROJECT within \_\_\_\_\_ consecutive calendar days. BIDDER further agrees to pay as liquidated damages, the sum of \$500.00 for each consecutive calendar day thereafter as provided in Section 80-08 of the General Conditions.

Enclosed is Bid Security as required.

BIDDER acknowledges receipt of the following ADDENDUM:

\_\_\_\_\_  
\_\_\_\_\_

\* Insert "a corporation," "a partnership," or "an individual", as applicable.

## **BID SCHEDULE**

BIDDER agrees to perform all the work described in the Contract Documents for the following unit prices or lump sum:

ITEM NO.	APPROX. QTY.	UNIT	DESCRIPTION OF ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	TOTAL AMOUNT
1.	1	L.S.	Mobilization, Bonds and Insurance (Cannot Exceed 5% of "Total Amount Base Bid") complete in place.  @ _____  Per Lump Sum	\$ _____	\$ _____
2.	2	Each	All material labor and equipment necessary to furnish and install new rectifiers. Item includes associated wiring complete in place.  @ _____  Per Each	\$ _____	\$ _____
3.	6	Each	All material labor and equipment necessary to furnish and install new land side wells and anodes. Item includes associated wiring complete in place.  @ _____  Per Each	\$ _____	\$ _____

4.	142	Each	All material, labor and equipment necessary to furnish and install new waterside anodes complete in place. Item includes removal of old anodes and associated wiring no longer in use.
			@_____
			_____
			Per Each \$_____ \$_____
5.	1	L.S.	All material, labor and equipment necessary to energize, test and commission complete ICCP system.
			@_____
			_____
			Per Lump Sum \$_____ \$_____
6.	1	L.S.	All material, labor and equipment necessary for post installation final testing, tuning, and reporting.
			@_____
			_____
			Per Lump Sum \$_____ \$_____
7.	800	Ft.	All material, labor and equipment necessary for removal and replacement of anode header wire, complete in place, when ordered by engineer.
			@_____
			_____
			Per Foot \$_____ \$_____

TOTAL AMOUNT BASE BID . . . . . \$ \_\_\_\_\_

\_\_\_\_\_  
(TOTAL AMOUNT BASE BID WRITTEN IN WORDS)  
\_\_\_\_\_

BASE BID

Non-Consumable Material and Equipment . . . . . \$ \_\_\_\_\_

Skill, Labor and Consumable Material & Equipment . . . . . \$ \_\_\_\_\_

Total Amount Base Bid . . . . . \$ \_\_\_\_\_

The prices mentioned herein shall be full compensation for furnishing all materials, equipment, labor and all other expenses necessary to perform the work in accordance with these Specifications and Contract Documents.

Amounts are to be given in words and in numbers and the amount shown in words shall govern in the event a discrepancy occurs.

RESPECTFULLY SUBMITTED,

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
CITY, STATE & ZIP

\_\_\_\_\_  
LICENSE NUMBER (IF APPLICABLE)

(SEAL – if BID is by a Corporation)

ATTEST: \_\_\_\_\_

## BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_, as  
Principal, and \_\_\_\_\_, as Surety, are hereby held and firmly bound unto  
\_\_\_\_\_ as Owner in the penal sum of \_\_\_\_\_ for the payment of which, well and truly to be  
made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

The Condition of the above obligation is such that whereas the Principal has  
submitted to \_\_\_\_\_ a  
certain BID, attached hereto and hereby made a part hereof to enter into a  
contract in writing, for CONSTRUCTION OF IMPROVEMENTS TO CATHODIC  
PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4, FILE NO. 8.329.

NOW, THEREFORE,

(A) If said BID shall be rejected, or

(B) If said BID shall be accepted and the Principal shall execute and deliver  
a contract in the Form of Contract attached hereto (properly completed in  
accordance with said BID) and shall furnish a Bond for his faithful performance of  
said contract, and for the payment of all persons performing labor or furnishing  
materials in connection therewith, and shall in all other respects perform the  
agreement created by the acceptance of said Bid, then this obligation shall be  
void, otherwise the same shall remain in force and effect; it being expressly  
understood and agreed that the liability of the Surety for any and all claims  
hereunder shall, in no event, exceed the penal amount of this obligation as herein  
stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have unto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_(L.S.)  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

**IMPORTANT:** Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

AGREEMENT

between

PORT OF PORT ARTHUR NAVIGATION DISTRICT  
OF JEFFERSON COUNTY, TEXAS

("OWNER")

and

---

("CONTRACTOR")

**STANDARD FORM OF AGREEMENT  
BETWEEN OWNER AND CONTRACTOR  
ON THE BASIS OF A STIPULATED PRICE**

THIS AGREEMENT is dated as of the \_\_\_\_ day of \_\_\_\_\_, 2020 by and between the Port of Port Arthur Navigation District of Jefferson County, Texas (hereinafter called "OWNER") and \_\_\_\_\_ (hereinafter called "CONTRACTOR").

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**Article 1. WORK.**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

- 1.1 The Work of this project comprises the construction of the Port of Port Arthur Improvements to Cathodic Protection System for Bulkhead at Berths 3 & 4 Project consisting of the installation of new cathodic protection elements (the "Project"), as more particularly described in the attached Exhibits \_\_\_\_.

**Article 2. CONTRACT TIME.**

- 2.1 The field Work will be substantially completed within \_\_\_\_\_ consecutive calendar days from the date when the Contract Time commences to run as provided in paragraph 80-02 of the General Conditions. OWNER desires the Work to start as soon as practical with prior agreement from CONTRACTOR.

**Article 3. CONTRACT PRICE.**

- 3.1 CONTRACTOR and any Subcontractors shall pay prevailing wages according to the Davis Bacon Act.
- 3.2 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds as follows:

**Article 4. PAYMENT PROCEDURES.**

CONTRACTOR shall submit Applications for Payment in accordance with Section 90 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in General Conditions.

- 4.1 *Progress Payments.* OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or about seven (7) days following the third (3<sup>rd</sup>) Wednesday of each month during construction as provided below. All progress payments will be done on the basis of the progress of the Work in accordance with Section 90 of the General Conditions.
- 4.2 *Retainage.* OWNER shall retain 10% of all progress payments otherwise due and payable under the terms of this Agreement. Retainage shall be paid as a part of the Final Payment, as defined in these Contract Documents.
- 4.3 *Final Payment.* Upon final completion and acceptance of the Work in accordance with Section 90 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 90-09.
- 4.4 *Interest.* All monies not paid when due as provided in Section 90 of the General Conditions shall bear interest at the maximum rate allowed by law. Retainage shall not be considered due until Final Payment is due, and shall not bear interest until Final Payment is due.
- 4.5 *Affidavits Regarding Title.* OWNER may require CONTRACTOR to sign an affidavit attesting to CONTRACTOR'S title to work covered by each payment according to Section 90 of the General Conditions.

## **Article 5. INSURANCE.**

- 5.1 At all times during the performance of this Agreement, CONTRACTOR will, at its own expense, and CONTRACTOR'S subcontractors will, at their own or at CONTRACTOR'S expense, carry the insurance coverage as detailed on Exhibit 1, Port Insurance Requirements, which is attached hereto and incorporated by reference herein for all purposes. CONTRACTOR will, at its own expense, furnish to OWNER certificates attesting to the fact that such policies are in effect. All insurance shall be with an insurance company authorized to do business in the State of Texas. OWNER shall be additional insured on all policies, excluding Worker's Compensation/Employer's Liability. Insurance shall be made on an "occurrence form" rather than a "claims made form."
- 5.2 Insurance policies covering CONTRACTOR and naming OWNER as additional insured and evidencing the required coverages shall be delivered to OWNER prior to commencement of the Work under this Agreement. Such policies shall provide that any change restricting or reducing coverage or any cancellation shall not be valid as respects the OWNER'S interest therein until OWNER has received 30 days' notice in writing of such change or cancellation.

- 5.3 Any and all deductibles in the above described insurance policies shall be assumed by, for the account of and at CONTRACTOR'S sole risk.
- 5.4 Each policy shall be endorsed to provide waiver of subrogation rights in favor of OWNER, its subsidiaries and affiliates and all other parties owning an interest in the property on which Work covered by this Agreement is to be performed. CONTRACTOR agrees to waive and agrees to have its insurer waive any rights of subrogation as respects deductibles under such policies and as respects damages to equipment, including the loss of use thereof, whether insured or not.
- 5.5 Failure of CONTRACTOR to keep the required insurance policies in full force and effective hereunder shall constitute a breach of this Agreement and OWNER shall have the right, in addition to any other rights, to immediately cancel and terminate this Agreement.
- 5.6 Nothing contained in these provisions relating to coverage and amounts set out herein shall operate as a limitation of CONTRACTOR'S liability in tort or contracted for under the terms of this Agreement.
- 5.7 CONTRACTOR shall also file with the OWNER valid policies of Insurance on like form for all consultants or subcontractors. Similar insurance shall be provided by or on behalf of all consultants or subcontractors to cover their operations under the Agreement. In the event a consultant or subcontractor is unable to furnish insurance as required under the Contract, then the available insurance limits and coverages may be reviewed by the OWNER and insurance requirements may be amended. Such review and amendment will not be unreasonably withheld.
- 5.8 CONTRACTOR shall promptly report to OWNER all accidents occurring to CONTRACTOR employees or any other parties or property.

#### **Article 6. CONTRACTOR'S REPRESENTATIONS.**

In order to induce OWNER to enter into the Agreement CONTRACTOR makes the following representations:

- 6.1 CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance of furnishing of Work.
- 6.2 CONTRACTOR has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in these Contract Documents and the technical data contained in such reports and drawings, upon which CONTRACTOR is entitled to rely.

- 6.3 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with other terms and conditions of the Contract Documents.
- 6.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 6.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- 6.6 Any obstruction to pile driving, which is not shown on the above documents, shall be considered a changed condition and the CONTRACTOR shall seek guidance from the ENGINEER on how to proceed.

#### **Article 7. CONTRACT DOCUMENTS.**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 7.1 This Agreement (pages 1 to \_\_\_\_\_, inclusive).
- 7.2 Notice to Bidders of Mandatory Pre-bid Conference Call issued by OWNER.
- 7.3 The Contractor's accepted Bid and Bonds required by these Contract Documents, attached hereto as Exhibit \_\_\_\_\_.
- 7.4 Construction Specifications manual entitled Port of Port Arthur Construction of Improvements to Cathodic Protection System for Bulkhead at Berths 3 & 4 dated April, 2020.
- 7.5 Drawings bearing the following title: "Construction of Improvements to Cathodic Protection System for Bulkhead at Berth 3 and 4" and dated March 2020.
- 7.6 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other

documents amending, modifying, or supplementing the Contract Documents pursuant to the General Conditions.

- 7.7 The documents listed in Article 7 above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be amended, modified, or supplemented in a written instrument signed by both OWNER and CONTRACTOR.

#### **Article 8. Termination.**

The obligation to provide further services under this Agreement may be terminated:

- 8.1 *For cause*, by either party upon thirty days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. Notwithstanding the foregoing, this Agreement will not terminate as a result of such substantial failure if the party receiving such notice begins, within five days of receipt of such notice, to correct its failure to perform and proceeds diligently to cure such failure within no more than thirty days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such thirty day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided from herein shall extend up to, but in no case more than, sixty days after the date of receipt of the notice.
- 8.2 *For convenience*, by the Port effective upon the receipt of notice by Contractor.

#### **Article 9. Dispute Resolution**

- 9.1 The Port and Contractor agree to negotiate in good faith upon receipt of any notice of a dispute between them prior to exercising their rights under this Agreement or under applicable law.
- 9.2 The Port and Contractor agree that they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to this Agreement or the breach thereof ("disputes"), to mediation.
- 9.3 This Agreement is to be governed by the laws of the State of Texas. Venue of any action arising out of or in any manner connected with this Agreement shall be in Jefferson County, Texas.

#### **Article 10. MISCELLANEOUS.**

- 10.1 Terms used in this Agreement which are defined in Section 10 of the General Conditions will have the meanings indicated in the General Conditions.
- 10.2 No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 10.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representative in respect of all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on \_\_\_\_\_, 2020.

OWNER      Port of Port Arthur  
Navigation District of  
Jefferson County, Texas

CONTRACTOR \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Address for giving notices:

221 Houston Avenue  
PO Box 1428  
Port Arthur, TX 77641

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

License No. \_\_\_\_\_

## PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

---

NAME OF CONTRACTOR

---

ADDRESS OF CONTRACTOR

a \_\_\_\_\_, hereinafter called Principal, and  
CORPORATION, PARTNERSHIP, OR INDIVIDUAL

---

NAME OF SURETY

---

ADDRESS OF SURETY

hereinafter called Surety, are held firmly bound unto: The Port of Port Arthur Navigation District of Jefferson County, Texas, P. O. Box 1428, Port Arthur, Texas 77641 hereinafter called OWNER, in the penal sum of \_\_\_\_\_ (\$\_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of: IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4, FILE NO. 8.329.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one-year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect. Provided, that this bond is executed pursuant to Chapter 2253 of the Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions thereof to the same extent as if it were copied at length.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the

same shall be any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, of this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST:

\_\_\_\_\_  
PRINCIPAL

BY \_\_\_\_\_

\_\_\_\_\_  
(PRINCIPAL) SECRETARY

(SEAL)

\_\_\_\_\_  
WITNESS AS TO PRINCIPAL

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
SURETY

ATTEST:

\_\_\_\_\_  
(SURETY) SECRETARY

(SEAL)

\_\_\_\_\_  
WITNESS AS TO SURETY

BY \_\_\_\_\_  
ATTORNEY-IN-FACT

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

# PAYMENT BOND

STATE OF TEXAS )

) ss.

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF

)

THAT we \_\_\_\_\_, of the  
City of \_\_\_\_\_, County of \_\_\_\_\_, and State  
of \_\_\_\_\_, as principal, and \_\_\_\_\_,  
as surety, authorized under the laws of the State of Texas to act as surety on bonds  
for principals are held and firmly bound unto the Port of Port Arthur Navigation  
District of Jefferson County, Texas, and to all subcontractors, workmen, laborers,  
mechanics, and furnishers of material, and any other claimant, as their interest may  
appear, all of whom shall have the right to sue upon their bond, in the penal sum  
of: \_\_\_\_\_ (\$ \_\_\_\_\_), lawful currency of  
the United States of America, for the payment of which, well and truly to be made,  
we do hereby bind ourselves, our heirs, executors, administrators and successors,  
jointly and severally and firmly by these presents:

The condition of this Bond is such that, whereas, the above bounden Principal as prime contractor has on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, entered into a formal contract with the Port of Port Arthur, Texas for construction of: IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4, FILE NO. 8.329 which is hereby referred to and made part hereof as if fully written herein.

NOW, THEREFORE, if the above bounden Principal shall protect all claimants supplying labor and material as provided for in Chapter 2253 of the Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions thereof to the same extent as if it were copied at length. This bond being solely for the protection of all such claimants and being for the use of each such claimant, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

It is stipulated and agreed that no change, extension of time, addition to or modification of the Contract or work performed thereunder, shall in anywise affect the obligation of this bond, and surety expressly waives notice of any such change, extension of time, addition or modification.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed, and the said surety has caused these presents to be executed, each by its duly authorized agent and officer, and its corporate seal to be affixed at \_\_\_\_\_ on this the \_\_\_\_\_ day of \_\_\_\_\_, A.D., 20\_\_\_\_.

ATTEST:

\_\_\_\_\_

\_\_\_\_\_  
CONTRACTOR

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_  
SURETY

ATTEST:

\_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners shall execute Bond. Surety companies executing bonds must appear on Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in Texas.

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## GENERAL CONDITIONS

### SECTION 10

#### DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO - The American Association of State Highway and Transportation officials, the successor association to AASHO.

10-02 OMITTED

10-03 OMITTED

10-04 ADVERTISEMENT - A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-05 OMITTED

10-06 OMITTED

10-07 ASTM - The American Society for Testing and Materials.

10-08 AWARD - The acceptance, by the owner, of the successful bidder's proposal.

10-09 BIDDER - Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-10 OMITTED

10-11 CALENDAR DAY - Everyday shown on the calendar.

10-12 CHANGE ORDER - A written order to the contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-13 CONTRACT - The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; the Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The specifications; The Plans; and any addenda issued to bidders.

## DEFINITION OF TERMS

10-14 CONTRACT ITEM (PAY ITEM) - A specific unit of work for which a price is provided in the contract.

10-15 CONTRACT TIME - The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-16 CONTRACTOR - The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-17 DRAINAGE SYSTEM - The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the project area.

10-18 ENGINEER - The individual, partnership, firm, or corporation duly authorized by the owner (sponsor) to be responsible for engineering supervision of the contract work and acting directly or through an authorized representative.

10-19 EQUIPMENT - All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-20 EXTRA WORK - An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

10-21 OMITTED

10-22 FEDERAL SPECIFICATIONS - The Federal Specifications and Standards, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government. They may be obtained from the Specifications Activity, Printed Materials Supply Division, Building 197, Naval Weapons Plant, Washington, D. C. 20407.

10-23 RESIDENT PROJECT REPRESENTATIVE - An authorized representative of the engineer assigned to observe the work performed or being performed, or observe the tests of the materials furnished or being furnished by the contractor.

10-24 INTENTION OF TERMS - Whenever, in these specifications or on the plans, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", or words of the like import are used, it shall be understood that the direction, requirement,

## DEFINITION OF TERMS

permission, order, designation, or prescription of the engineer is intended; and similarly, the words "approved", "accepted", "satisfactory", or words of like import shall mean approved by, or acceptable to, or satisfactory to the engineer, subject in each case to the final determination of the owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item or cited standard that may be pertinent to such specific reference.

10-25 LABORATORY - The official testing laboratories of the owner or such other laboratories as may be designated by the engineer.

10-26 OMITTED

10-27 MAJOR AND MINOR CONTRACT ITEMS - A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 10 percent of the total amount of the awarded contract. All other items shall be considered minor contract items.

10-28 MATERIALS - Any substance specified for use in the construction of the contract work.

10-29 NOTICE TO PROCEED - A written notice to the contractor to begin the actual contract work on a previously agreed date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-30 OWNER (SPONSOR) - The term owner shall mean the party of the first part of the contracting agency signatory to the contract.

10-31 PAVEMENT - The combined surface course, base course, and sub-base course, if any, considered as a single unit.

10-32 PAYMENT BOND - The approved form of security furnished by the contractor and his surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-33 PERFORMANCE BOND - The approved form of security furnished by the contractor and his surety as a guaranty that the contractor will complete the work in accordance with the terms of the contract.

10-34 PLANS - The official drawings or exact reproductions, approved by the engineer, which show the location, character, dimensions and details of the project and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

## DEFINITION OF TERMS

10-35 PROJECT - The agreed scope of work for accomplishing specific improvements.

10-36 PROPOSAL - The written offer of the bidder (when submitted on the bid or proposal forms) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-37 PROPOSAL GUARANTY - The security furnished with a proposal to guarantee that the bidder will enter into a contract if his proposal is accepted by the owner.

10-38 OMITTED

10-39 SPECIFICATIONS - A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-40 STRUCTURES - Facilities such as bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, water lines, underdrains, electrical ducts, manholes, handholes, lighting fixtures and bases, transformers, flexible and rigid pavements, buildings, vaults, and, other man made features that may be encountered in the work and not otherwise classified herein.

10-41 SUBGRADE - The soil which forms the pavement foundation.

10-42 SUPERINTENDENT - The contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the engineer, and who shall supervise and direct the construction.

10-43 SUPPLEMENTAL AGREEMENT - A written agreement between the contractor and the owner covering: 1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract, or 2) work that is not within the scope of the originally awarded contract.

10-44 SURETY - The corporation, partnership, or individual, other than the contractor, executing payment or performance bonds which are furnished to the owner by the contractor.

10-45 OMITTED

10-46 WORK - The furnishing of all labor, materials, tools, equipment and incidentals necessary or convenient to the contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-47 WORKING DAY - A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the contractor may proceed with regular work for at least 6 hours toward completion of the contract. Unless work is suspended for causes beyond the contractor's control, Saturdays, Sundays and holidays on which the contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.

10-48 THD - Texas Department of Transportation.

## SECTION 20

### PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT FOR BIDS - The following instructions are applicable to the Contract in addition to the requirements set forth in the "NOTICE TO BIDDERS OF MANDATORY PRE-BID CONFERENCE" (Advertisement for Bids) and the "INFORMATION TO BIDDERS".

It is the intent that where publications are cited for reference within these specifications, the latest edition of said publications shall be used.

20-02 PRE-QUALIFICATION OF BIDDERS - Each bidder shall furnish the owner satisfactory evidence of his competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the owner satisfactory evidence of his financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year of the contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting each financial statements or reports, the bidder shall further certify whether his financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his (bidder's) true financial condition at the time such qualified statement or report is submitted to the owner.

~~Unless otherwise specified, a bidder may submit evidence that he is pre-qualified with the State Highway Division and is on the current "bidder's list" of the State in which the proposed work is located. Such evidence of State Highway Division pre-qualification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified.~~

20-03 CONTENTS OF PROPOSAL FORMS - The owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans, specification, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

20-04 ISSUANCE OF PROPOSAL FORMS - The owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

- (a) Failure to comply with any pre-qualification regulations of the owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

## PROPOSAL REQUIREMENTS AND CONDITIONS

(b) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the owner) at the time the owner issues the proposal to a prospective bidder.

(c) Contractor default under previous contracts with the owner.

(d) Unsatisfactory work on previous contracts with the owner.

20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES - An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the contractors will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereafter provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE - The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

It is understood and agreed that any subsurface information, whether included in the Plans, Specifications, or otherwise made available to the Bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all Bidders. It is further understood and agreed that each Bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 PREPARATION OF PROPOSAL - The bidder shall submit his proposal on the forms furnished by the owner. All blank spaces in the proposal form must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

## PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder shall sign his proposal correctly and in ink. If the proposal is made by an individual, his name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the State under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his authority to do so and that the signature is binding upon the firm or corporation.

20-08 IRREGULAR PROPOSALS - Proposal shall be considered irregular for the following reasons:

(a) If the proposal is on a form other than that furnished by the owner, or if the owner's form is altered, or if any part of the proposal form is detached.

(b) If there are unauthorized additions, conditional or alternate pay items or irregularities of any kind which make the proposal incomplete, indefinite, or otherwise ambiguous.

(c) If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

(d) If the proposal contains unit prices that are obviously unbalanced.

(e) If the proposal is not accompanied by the proposal guaranty specified by the owner.

(f) If unit prices used in computing the base bid are not used in computing lump sum deductive or additive alternates.

The owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-09 PROPOSAL GUARANTY - Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the owner.

20-10 DELIVERY OF PROPOSAL - Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, name and location of the project and name and address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the

## PROPOSAL REQUIREMENTS AND CONDITIONS

advertisement before the time specified for opening of all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-11 WITHDRAWAL OR REVISION OF PROPOSAL - A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-12 PUBLIC OPENING OF PROPOSALS - Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend.

Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-13 DISQUALIFICATION OF BIDDERS - A bidder shall be considered disqualified for any of the following reasons:

a) Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b) Evidence of collusion among bidders. Bidder participating in such collusion shall be disqualified as bidders for any future work of the owner until such participating bidder has been reinstated by the owner as a qualified bidder.

c) If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

d) If the bidder failed to attend the compulsory Pre-Bid Conference or the bidder's company name does not appear on the role of attendees for the compulsory Pre-Bid Conference. Or, in the event of a pandemic, if the bidder failed to participate in the compulsory Pre-Bid Conference Call, or the bidder's company name does not appear on the role of participants for the compulsory Pre-Bid Conference Call.

## SECTION 30

### AWARD AND EXECUTION OF CONTRACT

30-01 CONSIDERATION OF PROPOSALS - After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the owner reserves the right to reject a bidder's proposal for any of the following reasons:

a) If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 20.

b) If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the owner reserves the right to reject any or all proposals; waive technicalities, if such waiver is in the best interest of the owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the owner's best interest.

30-02 AWARD OF CONTRACT - The award of a contract, if it is to be awarded, shall be made within 60 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the owner.

30-03 CANCELLATION OF AWARD - The owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.

30-04 RETURN OF PROPOSAL GUARANTY - All proposal guaranties, except those of the three lowest bidders, will be returned immediately after the owner has make a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the three lowest bidders will be retained by the owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the owner received the contract bonds as

## AWARD AND EXECUTION OF CONTRACT

specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS - At the time of the execution of the contract, the successful bidder shall furnish the owner a surety bond or bonds which have been fully executed by the bidder and his surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 EXECUTION OF CONTRACT - The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the owner, along with the fully executed surety bond or bonds specified in subsection titled REQUIREMENTS OF CONTRACT of this section, within 10 calendar days from the date mailed or otherwise delivered to the successful bidder. If the contract is mailed, special handling is recommended.

30-07 APPROVAL OF CONTRACT - Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the contractor. Delivery of the fully executed contract to the contractor shall constitute the owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT - Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the 10 calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the owner.

## SECTION 40

### SCOPE OF WORK

40-01 INTENT OF CONTRACT - The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 ALTERATION OF WORK AND QUANTITIES - The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent limitation shall not invalidate the contract nor release the surety, and the contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations which are for work within the general scope of the contract shall be covered by "Change Orders" issued by the engineer. Change Orders for altered work shall include extensions of contract time where, in the engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS - The engineer may, in the owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK - Should acceptable completion of the contract require the contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called Extra Work. Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such extra work shall contain agreed unit prices for performing the change order work in accordance

## SCOPE OF WORK

with the requirements specified in the order, and shall contain any adjustment to the contract time, in the engineer's opinion, is necessary for completion of such extra work.

When determined by the engineer to be in the owner's best interest, he may order the contractor to proceed with extra work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the owner.

40-05 MAINTENANCE OF TRAFFIC - When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The contractor shall furnish, erect, and maintain barricades, warning signs, flagmen, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the contractor will not be required to furnish snow removal for such existing road, street, or highway.

The contractor shall make his own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of vehicular traffic as specified in this subsection.

The cost of maintaining the vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

40-06 REMOVAL OF EXISTING STRUCTURES - All existing structures encountered within the established lines, grades, or grading sections shall be removed by the contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

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Should the contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be determined by the engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the owner when so utilized in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK - Should the contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his option either:

- a) Use such material in another contract item, providing such use is approved by the engineer and is in conformance with the contract specifications applicable to such use; or,
- b) Remove such material from the site, upon written approval of the engineer; or
- c) Use such material for his own temporary construction on site; or,
- d) Use such material as intended by the terms of the contract.

Should the contractor wish to exercise option a, b, or c he shall request the engineer's approval in advance of such use.

Should the engineer approve the contractor's request to exercise option a, b, or c, the contractor shall be paid for the excavation or removal of such material at the applicable contract price. The contractor shall replace, at his own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The contractor shall not be charged for his use of such material so used in the work or removed from the site.

Should the engineer approve the contractor's exercise of option a, the contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the contractor shall make no claims for delays by reason of his exercise of option a, b, or c.

## SCOPE OF WORK

The contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 FINAL CLEANING UP - Upon completion of the work and before acceptance and final payment will be made, the contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and ~~stumps or portions of trees. He shall cut all brush and woods within the limits indicated and~~ shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the contractor has obtained the written permission of such property owner.

## SECTION 50

### CONTROL OF WORK

50-01 AUTHORITY OF THE ENGINEER - The engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. He shall decide all questions which may arise as to the interpretation of the specifications or plans relating to the work, the fulfillment of the contract on the part of the contractor, and the rights of different Contractors on the project. The engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the contract.

50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS - All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the owner, he will advise the owner of his determination that the affected work be accepted and remain in place. In this event, the engineer will document his determination and recommend to the owner a basis of acceptance which will provide for an adjustment in the contract price for the affected portion of the work. The engineer's determination and recommended contract price adjustments will be based on good engineering judgement and such tests or re-tests of the affected work as are, in his opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the engineer finds the materials furnished, work performed, or the finished project are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the contractor in accordance with the engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the engineer's right to insist on strict compliance with the requirements of the contract, plans, and specifications during the contractor's prosecution of the work, when, in the engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

## CONTROL OF WORK

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the engineer with the authority to use good engineering judgement in his determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

50-03 COORDINATION OF CONTRACT, PLANS AND SPECIFICATIONS - The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, contract general provisions shall govern over plans, cited standards for materials or testing, plans shall govern over cited standards for materials or testing.

The contractor shall not take advantage of any apparent error or omission on the plans and specifications. In the event the contractor discovers any apparent error or discrepancy, he shall immediately call upon the engineer for his interpretation and decision, and such decision shall be final.

50-04 COOPERATION OF CONTRACTOR - The contractor will be supplied with two copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the contractor for the cost of reproduction.

The contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the engineer and his inspectors and with other contractors in every way possible. The engineer shall allocate the work and designate the sequence of construction in case of controversy between contractors. The contractor shall have a competent superintendent on the work at all time who is fully authorized as his agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the engineer or his authorized representative.

50-05 COOPERATION BETWEEN CONTRACTORS - The owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress of completion of the work being performed by other contractors. Contractors working on the same project shall cooperate with each other as directed.

## CONTROL OF WORK

Each contractor involved shall assume all liability, financial or otherwise, in connection with his contract and shall protect and save harmless the owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other contractors working within the limits of the same project.

The contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same project. He shall join his work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-06 CONSTRUCTION LAYOUT AND STAKES - The engineer will establish base lines and bench marks at the site of the work. From the base lines and bench marks established by the engineer, the contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the locations and limit marks prescribed in the specifications or on the contract drawings, subject to such modifications as the engineer may require to meet changed conditions or as a result of necessary modifications to the surveyor and such stakes, templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the base lines and bench marks established by the engineer. It shall be the responsibility of the contractor to maintain and preserve all stakes and other marks established by the engineer until authorized to remove them and if such marks are destroyed by the contractor or through negligence prior to their authorized removal, they may be replaced by the engineer, at his discretion, and the expense of replacement will be charged to the contractor. The engineer may require that work be suspended at any time when location and limit marks established by the contractor are not reasonably adequate to permit checking of the work.

### 50-07 OMITTED

50-08 AUTHORITY AND DUTIES OF RESIDENT PROJECT REPRESENTATIVE - Resident Project Representative employed by the Owner shall be authorized to observe all work done and materials furnished. Such observation may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Resident Project Representatives are not authorized to revoke, alter, or waive any provision of the Contract. Resident Project Representatives are not authorized to issue instructions contrary to the Plans and Specifications or to act as foreman for the Contractor.

Resident Project Representatives employed by the Owner are authorized to notify the Contractor or his representative of any failure of the work or materials to conform to the requirements of the Contract, Plans, or Specifications and to reject such non-conforming materials in question until such issues can be referred to the Engineer for his decision.

## CONTROL OF WORK

50-09 OBSERVATION OF THE WORK - All materials and each part or detail of the work shall be subject to observation by the engineer. The engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the contractor as is required to make a complete and detailed observation. Representatives and/or agents of the Port of Port Arthur will be afforded access to any and all portions of the work for purposes of observation of the work and/or materials employed.

If the engineer requests it, the contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, ore removing, and the replacing of the covering or making good of the parts removed will be at the contractor's expense.

Any work done or materials used without supervision or observation by an authorized representative of the owner may be ordered removed and replaced at the contractor's expense unless the owner's representative failed to examine said work after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) owner, authorized representatives of the owners of such facilities shall have the right to observe such work. Such observation shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK - All work which does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

No work shall be done without lines and grade having been given by the engineer. Work done contrary to the instructions of the engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the contractor's expense.

## CONTROL OF WORK

Upon failure on the part of the contractor to comply forthwith with any order of the engineer made under the provisions of this subsection, the engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the owner) from any monies due or to become due the contractor.

50-11 LOAD RESTRICTIONS - The contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the contractor of liability for damage which may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The contractor shall be responsible for all damage done by his hauling equipment and shall correct such damage at his own expense.

50-12 MAINTENANCE DURING CONSTRUCTION - The contractor shall maintain the work during construction and until the work is accepted. The maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit price bid on the various contract items, and the contractor will not be paid an additional amount for such work.

50-13 FAILURE TO MAINTAIN THE WORK - Should the contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the engineer shall immediately notify the contractor of such noncompliance. Such notification shall specify a reasonable time within which the contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the contractor fail to respond to the engineer's notification, the engineer may suspend any work necessary for the owner to correct such unsatisfactory maintenance condition, depending of the exigency that exists. Any maintenance cost incurred by the owner, shall be deducted from monies due or to become due the contractor.

50-14 PARTIAL ACCEPTANCE - If at any time during the prosecution of the project the contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the owner, he may request the engineer to make final inspection of that

## CONTROL OF WORK

unit. If the engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the owner shall not void or alter any provision of the contract.

50-15 FINAL ACCEPTANCE - Upon due notice from the contractor of presumptive completion of the entire project, the engineer and owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The engineer shall notify the contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the engineer will give the contractor the necessary instructions for correction of same, and the contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the engineer will make the final acceptance and notify the contractor in writing of this acceptance as of the date of final inspection.

50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES - If for any reason the contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the engineer in writing of his intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the engineer is not afforded proper opportunity by the contractor for keeping strict account of actual cost as required, then the contractor hereby agrees to waive any claim for such additional compensation. Such notice by the contractor and the fact that the engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the contractor shall, within 10 calendar days, submit his written claim to the engineer who will present it to the owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the contractor's right to dispute final payment based on differences in measurements or computations.

## SECTION 60

### CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS - The materials used on the work shall conform to the requirements of the contract, plans and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the contractor shall furnish complete statements to the engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the engineer's option, materials may be approved at the source of supply before delivery is started. If it is found after trial that sources of supply for previously approved materials do not produce specified projects, the contractor shall furnish materials from other sources.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS - All materials used in the work shall be inspected, tested, and approved by the engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the engineer shall be performed at the contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the engineer, shall be removed at the contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of AASHTO or ASTM which are current on the date of advertisement for bids will be made by and at the expense of the owner. Samples will be taken by a qualified representative of the owner. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the contractor's representative at his request.

60-03 CERTIFICATION OF COMPLIANCE - The engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the engineer.

## CONTROL OF MATERIALS

When a material or assembly is specified by "brand name or equal" and the contractor elects to furnish the specified "brand name", the contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a) Conformance to the specified performance, testing, quality or dimensional requirements; and

b) Suitability of the material or assembly for the use intended in the contract work.

Should the contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

**60-04 PLANT INSPECTION** - The engineer or his authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plans may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his acceptance of the material or assembly.

Should the engineer conduct plant inspections, the following conditions shall exist:

a) The engineer shall have the cooperation and assistance of the contractor and the producer with whom he has contracted for materials.

b) The engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c) If required by the engineer, the contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans or specifications.

**60-05 ENGINEER'S FIELD OFFICE AND LABORATORY** - When specified and provided for as a contract item, the contractor shall furnish a building for the exclusive use of the engineer as a field office and field testing laboratory. The building shall be furnished and

## CONTROL OF MATERIALS

maintained by the contractor as specified herein and shall become property of the contractor when the contract work is completed.

60-06 STORAGE OF MATERIALS - Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The contractor shall coordinate the storage of all materials with the engineer. Materials to be stored at the project site shall not interfere with the free and unobstructed movement of traffic. Unless otherwise shown on the plans, the storage of materials and the location of the contractor's plant and parked equipment or vehicles shall be as directed by the engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the contractor shall furnish the engineer a copy of the property owner's permission.

All storage sites on private property shall be restored to their original condition by the contractor at his entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS - Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the engineer.

No rejected material or assembly, the defects of which have been corrected by the contractor, shall be returned to the site of the work until such time as the engineer has approved its use in the work.

60-08 OWNER-FURNISHED MATERIALS - The contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the owner. Owner-furnished materials shall be made available to the contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing owner-furnished materials shall be included in the unit price bid for the contract item in which such owner-furnished material is used.

After any owner-furnished material has been delivered to the location specified, the contractor shall be responsible for any damage, loss, or other deficiencies which may occur during the contractor's handling, storage, or use of such owner-furnished material. The owner will deduct from any monies due or to become due the contractor any cost incurred by the owner in making good such loss due to the contractor's handling, storage, or use of owner-furnished materials.

## SECTION 70

### LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

70-01 LAWS TO BE OBSERVED - The contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the owner and all his officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees.

70-02 PERMITS, LICENSES, AND TAXES - The contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES - If the contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The contractor and the surety shall indemnify and save harmless the owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS - The owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the owner, such authorized work (by others) is indicated as follows:

<< NONE AT THIS TIME >>

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Except as listed above, the contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the engineer.

Should the owner of public or private utility service, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the engineer, the contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the contractor shall not be entitled to make any claim for damages due to such authorization work by others or for any delay to the work resulting from such authorized work.

### 70-05 OMITTED

70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS - The contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State and Local Board of Health, or of other bodies of tribunals having jurisdiction.

Attention is directed to Federal, State, and local laws, rules and regulations concerning construction safety and health standards. The contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous, or dangerous to his health or safety.

70-07 PUBLIC CONVENIENCE AND SAFETY - The contractor shall control his operations and those of his subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The contractor shall maintain the free and unobstructed movement of vehicular traffic with respect to his own operations and those of his subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS - The contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during period of darkness, such barricades, warning signs and hazard markings shall be suitably illuminated.

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

For vehicular and pedestrian traffic, the contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

The contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his parked construction equipment that may be hazardous.

The contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work which requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the engineer.

### 70-09 OMITTED

70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE - The contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property marks until the engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing

before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS - The contractor shall indemnify and save harmless the engineer and the owner and their officers, and employees from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said contractor; or because of any claims

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree.

Money due the contractor under and by virtue of his contract as may be considered necessary by the owner for such purpose may be retained for the use of the owner or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the owner, except that money due the contractor will not be withheld when the contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE - It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC - Should it be necessary for the contractor to complete portions of the contract work for the beneficial occupancy of the owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The contractor shall make his own estimate of the difficulties involved in arranging his work to permit such beneficial occupancy by the owner as described below:

This is an operating port. The contractor will coordinate his work with the Owner or Owners designated representative to avoid conflict with daily port operations.

Upon completion of any portion of the work listed above, such portion shall be accepted by the owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the contractor for public use until ordered by the engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent bases, such openings shall be made when, in the opinion of the engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the owner shall be repaired by the contractor at his expense.

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

The contractor shall make his own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK - Until the engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of governmental authorities.

If the work is suspended for any cause whatever, the contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his expense. During such period of suspension of work, the contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under his contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS - As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, the contractor shall cooperate with the owner of any public or private utility service or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the contractor shall control his operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services or utility services of another governmental agency are known to exist within the limits of the Contract Work, the approximate locations have been indicated on the plans and the Owners are indicated as follows:

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Utility Service or Facility	Person to Contact (Name, Title, Address, & Phone)	Owner's Emergency Contact (Phone)
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CONTACT PERSONNEL FOR PRIVATE UTILITIES AND PUBLIC AGENCIES  
ARE AS FOLLOWS:

A. PORT OF PORT ARTHUR

DIRECTOR OF SAFETY,  
SPECIAL PROJECTS AND  
EQUIPMENT

MR. MIKE YOUNG  
(409) 550-4335

DIRECTOR OF DOCK  
OPERATIONS

MR. RONNIE HICKS  
(409) 728-0623

24-HR COMAND CENTER

(409) 989-3300

B. DRAINAGE DISTRICT 7

MR. BRADY GIROUARD, RPLS  
(409) 985-4369

C. TEXAS GAS SERVICE

IF NO ANSWER:

MR. PATRICK SAM  
(409) 460-9236  
MR. MICHAEL PEAVEY  
(409) 460-0531

D. ENTERGY

MR. AL HARRINGTON  
(409) 785-2346

E. AT&T

MR. EDDIE COOK  
(409) 839-6950

F. CITY OF PORT ARTHUR  
WATER UTILITIES

MR. DONALD STANTON  
(409) 983-8556

G. CITY OF PORT ARTHUR  
ENGINEERING

MR. ALBERTO ELEFANO, PE  
(409) 983-8296

H. TEXAS ONE CALL SYSTEM

WWW.TEXAS811.ORG  
DIAL 811

I. COLONIAL TERMINAL (POPA)

MR. ANDY COLLINS  
(409) 293-3537

J. WOODVILLE PELLETS

BRYAN DAVIS  
(409) 200-4192

K. MANSON CONSTRUCTION

ILIAS SGOURIDES  
(409) 974-7702

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his plan of operations. Such notifications shall be in writing addressed to THE PERSON TO

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the contractor to keep such individual owners advised of changes in his plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the contractor shall again notify each such owner of his plan of operation. If, in the contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the contractor's commencement of operations in such general vicinity. The contractor shall furnish a written summary of the notification to the engineer.

The contractor's failure to give the two-day's notice hereinabove provided shall be cause for the engineer to suspend the contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the contractor shall be required to use excavation methods acceptable to the engineer within 3 feet of such outside limits at such points as may be required to insure protection from damage due to the contractor's operations.

Should the contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the engineer and shall take all reasonable measures to prevent further damage or interruption of service. The contractor, in such events, shall cooperate with the utility service of facility owner and the engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his operations whether or not due to negligence or accident. The contract owner reserves the right to deduct such costs from any monies due or which may become due the contractor, or his surety.

70-16 FURNISHING RIGHTS-OF-WAY - The owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the contractor's operations.

70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS - In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract,

## LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

there shall be no liability upon the engineer, his authorized representatives, or any official of the owner either personally or as an official of the owner. It is understood that in such matters they act solely as agents and representatives of the owner.

70-18 NO WAIVER OF LEGAL RIGHTS - Upon completion of the work, the owner will expeditiously make final inspection and notify the contractor of final acceptance. Such final acceptance, however, shall not preclude or estop the owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the owner be precluded or estopped from recovering from the contractor or his surety, or both, such overpayment as may be sustained, or by failure on the part of the contractor to fulfill his obligations under the contract. A waiver on the part of the owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The contractor, without prejudice to the terms of the contract, shall be liable to the owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

70-19 ENVIRONMENTAL PROTECTION - The contractor shall comply with all Federal, State, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS - Unless otherwise specified in this subsection, the contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the contractor encounter, during his operations, any building, part of a building, structure, or object which is incongruous with its surroundings, he shall immediately cease operations in that location and notify the engineer. The engineer will immediately investigate the contractor's finding and will direct the contractor to either resume his operations or to suspend operations as directed.

Should the engineer order suspension of the contractor's operations in order to protect an archaeological or historical finding, or order the contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

## SECTION 80

### PROSECUTION AND PROGRESS

80-01 SUBLETTING OF CONTRACT - The owner will not recognize any subcontractor on the work. The contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the engineer.

Should the contractor elect to assign his contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the owner, and shall be consummated only on the written approval of the owner. In case of approval, the contractor shall file copies of all subcontracts with the engineer.

80-02 NOTICE TO PROCEED - The notice to proceed shall state the date on which it is expected the contractor will begin the construction and from which date contract time will be charged. The contractor shall begin the work to be performed under the contract within 10 days of the date set by the engineer in the written notice to proceed, but in any event, the contractor shall notify the engineer at least 24 hours in advance of the time actual construction operations will begin.

80-03 PROSECUTION AND PROGRESS - Unless otherwise specified, the contractor shall submit his progress schedule for the engineer's approval within 10 days after the effective date of the notice to proceed. The contractor's progress schedule, when approved by the engineer, may be used to establish major construction operations and to check on the progress of the work. The contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the contractor falls significantly behind the submitted schedule, the contractor shall, upon the engineer's request, submit a revised schedule for completion of the work within the contract time and modify his operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the contractor shall notify the engineer at least 24 hours in advance of resuming operations.

The contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the owner.

#### 80-04 OMITTED

80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT - The contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient

## PROSECUTION AND PROGRESS

experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the contractor or by any subcontractor who, in the opinion of the engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the engineer, be removed forthwith by the contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the engineer.

Should the contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the engineer may suspend the work by written notice until compliance with such orders.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing facilities will result from its use.

When the methods and equipment to be used by the contractor in accomplishing the work are not prescribed in the contract, the contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the engineer. If the contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the engineer determines that the work produced does not meet contract requirements, the contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The contractor shall remove any deficient work and replace it with work of specified quality, or take such other correction action as the engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

80-06 TEMPORARY SUSPENSION OF THE WORK - The engineer shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the

## PROSECUTION AND PROGRESS

failure on the part of the contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the contractor is ordered by the engineer, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the contractor has no control, the contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the engineer's order to suspend work to the effective date of the engineer's order to resume the work. Claims for such compensation shall be filed with the engineer within the time period stated in the engineer's order to resume work. The contractor shall submit with his claim information substantiating the amount shown on the claim. The engineer will forward the contractor's claim to the owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the contractor to compensation for delays due to inclement weather, for suspensions made at the request of the contractor, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the project site.

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME - The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the contractor's control, it shall be adjusted as follows:

(a) CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the engineer. The engineer will furnish the contractor a copy of his weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).

The engineer shall base his weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift,

## PROSECUTION AND PROGRESS

18 hours shall apply. Conditions beyond the contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal items of work under construction or temporary suspension of the entire work which have been ordered by the engineer for reasons not the fault of the contractor, shall not be charged against the contract time.

(2) The engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The engineer will not make charges against the contract time after the date of final acceptance as defined in subsection titled FINAL ACCEPTANCE of Section 50.

(5) The contractor will be allowed one week in which to file a written protest setting forth his objections to the engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

(b) CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the engineer's orders to suspend and resume all work, due to causes not the fault of the contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either the cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

(c) When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

## PROSECUTION AND PROGRESS

If the contractor finds it impossible for reasons beyond his control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the engineer finds that the work was delayed because of conditions beyond the control and without the fault of the contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 FAILURE TO COMPLETE ON TIME - For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the contractor or his surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages that will be incurred by the owner should the contractor fail to complete the work in the time provided in his contract.

Permitting the contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT - The contractor shall be considered in default of his contract and such default will be considered as cause for the owner to terminate the contract for any of the following reasons if the contractor:

(a) fails to begin the work under the contract within the time specified in the "Notice to Proceed", or

(b) fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or

(c) performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

(d) discontinues the prosecution of the work, or

(e) fails to resume work which has been discontinued within a reasonable time after notice to do so, or

## PROSECUTION AND PROGRESS

(f) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

(g) allows any final judgement to stand against him unsatisfied for a period of 10 days, or

(h) makes an assignment for the benefit of creditors, or

(i) for any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the engineer consider the contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the contractor and the contractor's surety as to the reasons for considering the contractor in default and the owner's intentions to terminate the contract.

If the contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the owner will, upon written notification from the engineer of the facts of such delay, neglect, or default and the contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the contractor. The owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the contractor. If such expense exceeds the sum which would have been payable under the contract, then the contractor and the surety shall be liable and shall pay to the owner the amount of such excess.

**80-10 TERMINATION** - When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the contractor.

## PROSECUTION AND PROGRESS

Acceptable materials, obtained or ordered by the contractor for the work and that are not incorporated in the work shall, at the option of the contractor, be purchased from the contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the engineer.

Termination of the contract or a portion thereof shall neither relieve the contractor of his responsibilities for the completed work nor shall it relieve his surety of its obligation for and concerning any just claim arising out of the work performed.

## SECTION 90

### MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES - All work completed under the contract will be measured by the engineer, or his authorized representatives, using United States Customary Units of Measurement.

The methods of measurement and computations to be used in determination of quantities of material furnished and or work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation, the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2000 pounds avoirdupois. All materials which are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designated by the engineer. If material is shipped by rail, the car weight may be accepted that only the actual weight of material be paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity and all loads shall be leveled when the vehicles arrive at the point of delivery.

## MEASUREMENT AND PAYMENT

When requested by the contractor and approved by the engineer in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the engineer and shall be agreed to by the contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60 degrees F. or will be corrected to the volume at 60 degrees F. using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton or hundredweight.

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work.

Special equipment ordered by the engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

## MEASUREMENT AND PAYMENT

Scales for weight materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and inspector can safely and conveniently view them.

Scale installations shall have available, ten standard fifty-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate and all materials received subsequent to the last previous correct weighing-accuracy-test will be reduced by the percentage of error in excess of one-half of one percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight) they shall be adjusted and no additional payment to the contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract price for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 SCOPE OF PAYMENT - The contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense or whatever character arising out of the nature of the work or the

## MEASUREMENT AND PAYMENT

prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS in Section 70.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, the same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 COMPENSATION FOR ALTERED QUANTITIES - When the accepted quantities of work vary from the quantities in the proposal, the contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the contractor which results directly from such alterations or indirectly from his unbalanced allocation or overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS - As specified in the subsection titled OMITTED ITEMS of Section 40, the engineer shall have the right to omit from the work (order non-performance) any contract item, except major contract items, in the best interest of the owner.

Should the engineer omit or order non-performance of a contract item or portion of such item from the work, the contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the engineer's order to omit or non-perform such contract item.

Acceptable materials ordered by the contractor or delivered on the work prior to the date of the engineer's order will be paid for at the actual cost to the contractor and shall thereupon become the property of the owner.

In addition to the reimbursement hereinbefore provided, the contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the engineer's order. Such additional costs incurred by the contractor must be directly related to the deleted contract item and shall be supported by certified statements by the contractor as to the nature and amount of such costs.

90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK - Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order of supplemental agreement authorizing such extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for as follows:

## MEASUREMENT AND PAYMENT

(a) Labor - For all labor (skilled and unskilled) and foreman in direct charge of a specific force account item, the contractor shall receive the rate of wage (or scale) for every hour that such labor or foreman is actually engaged in the specified force account work. Such wage (or scale) shall be agreed upon in writing before beginning the work.

The contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

An amount equal to 15 percent of the sum of the above items will also be paid the contractor.

(b) Insurance and Taxes - For property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions, and social security taxes on the force account work the contractor shall receive the actual cost, to which cost (sum) 5 percent will be added. The contractor shall furnish satisfactory evidence of the rate or rates paid for such insurance and taxes.

(c) Materials - For materials accepted by the engineer and used, the contractor shall receive the actual cost of such materials delivered on the work, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), to which cost (sum) 15 percent will be added.

(d) Equipment - For any machinery or special equipment (other than small tools) including fuel and lubricants, plus transportation costs, the use of which has been authorized by the engineer, the contractor shall receive the rental rates agreed upon in writing before such work is begun for the actual time that such equipment is committed to the work, to which rental sum 15 percent will be added.

(e) Miscellaneous - No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(f) Comparison of Records - The contractor and the engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the contractor and engineer or their duly authorized representatives.

(g) Statements - No payment will be made for work performed on a force account basis until the contractor has furnished the engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

## MEASUREMENT AND PAYMENT

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

(3) Quantities of materials, prices, and extensions.

(4) Transportation of materials.

(5) Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the contractor's stock, then in lieu of the invoices the contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed, was actually used, and that the price and transportation claimed represent the actual cost to the contractor.

The additional payment, based on the percentages specified above, shall constitute full compensation for all items of expense not specifically provided for the force account work. The total payment made as provided above shall constitute full compensation for such work.

90-06 PARTIAL PAYMENTS - Partial payments will be made at least once each month as the work progresses. Said payments will be based upon estimates prepared by the engineer of the value of the work performed and materials completed in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section.

No partial payment will be made when the amount due the contractor since the last estimates amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, 10 percent of such total amount will be deducted and retained by the owner until the final payment is made except, as may be provided (at the contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (90 percent) of the amount payable, less all previous payments, shall be certified for payment. Should the contractor exercise his option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such 10 percent retainage shall be deducted.

## MEASUREMENT AND PAYMENT

When not less than 95% of the work has been completed the engineer may, at his discretion and with the consent of the surety, prepare an estimate from which will be retained an amount not less than twice the contract value or estimated cost, which ever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the contractor.

It is understood and agreed that the contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

90-07 PAYMENT FOR MATERIALS ON HAND - Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the project site or at other sites in the vicinity that are acceptable to the owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

(a) The material has been stored or stockpiled in a manner acceptable to the engineer at or on an approved site.

(b) The contractor has furnished the engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

(c) The contractor has furnished the engineer with satisfactory evidence that the material and transportation costs have been paid.

(d) The contractor has furnished the owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

(e) The contractor has furnished the owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the owner's payment for such stored or stockpiled materials shall in no way relieve the contractor of his responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans and specifications.

## MEASUREMENT AND PAYMENT

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

90-08 PAYMENT FOR WITHHELD FUNDS - At the contractor's option, he may request that the owner accept (in lieu of the 10 percent retainage on partial payments described in the subsection titled PARTIAL PAYMENTS of this section) the contractor's deposits in escrow under the following conditions:

(a) The contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the owner.

(b) The contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the owner and having a value not less than the 10 percent retainage that would otherwise be withheld from partial payment.

(c) The contractor shall enter into an escrow agreement satisfactory to the owner.

(d) The contractor shall obtain the written consent of the surety to such agreement.

90-09 ACCEPTANCE AND FINAL PAYMENT - When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the engineer will prepare the final estimate of the item of work actually performed. The contractor shall approve the engineer's final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The contractor and engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the contractor's receipt of the engineer's final estimate. If, after such 30 day period, a dispute still exists, the contract may approve the engineer's estimate under protest of the quantities in dispute and such disputed quantities shall be considered by the owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the contractor has approved, or approved under protest, the engineer's final estimate, final payment will be processed based on the entire sum or the undisputed sum in case of approval under protest, determined to be due the contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior

## MEASUREMENT AND PAYMENT

partial estimates and payments shall be subject to correction in the final estimate and payment.

If the contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the contractor will be paid pursuant to a supplemental, final, estimate.

90-10 GUARANTY OF WORK - Neither the final certificate of payment nor any provision in the contract documents nor partial or entire occupancy of the premises by the owner shall constitute an acceptance of work not done in accordance with the contract documents or relieve the contractor of liability in respect to any warranties or responsibility for faulty materials or workmanship. The contractor guarantees and warrants that all materials and equipment which are to become part of the work shall be new unless otherwise specified and that all work will be of good quality and free from faults or defects and in accordance with the contract documents and of any inspections, tests or approvals required by the contract documents, law, ordinance, rules, regulations or orders of any public authority having jurisdiction. The Owner will give notice of observed defects with reasonable promptness.

Neither observation by architect or engineer nor inspections, tests or approval by persons other than contractor shall relieve contractor from his obligations to perform the work in accordance with the requirements of the contract.

The provisions of this paragraph shall be cumulative of and not in limitation of the responsibility of contractor for defects in the work or materials or damages resulting therefrom as otherwise provided by the law of the State of Texas or this contract, including, without limitation, the implied warranty of fitness of the work and the implied obligation to perform the work in a good and workmanlike manner.

90-11 MAINTENANCE OF WORK - If, after approval of final payment and prior to expiration of one (1) year after date of substantial completion or such longer period as may be prescribed by law or by any applicable special guarantee required by the contract documents, any work is found to be defective, contractor shall promptly, without cost to owner and in accordance with owner's written instructions, correct such defective work. If contractor does not promptly comply with such instructions, owner may have such defective work corrected and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by contractor. The provisions of this paragraph shall not limit the obligation of contractor under paragraph 90-10 GUARANTY OF WORK in any respect whatsoever, including the time period of such

## MEASUREMENT AND PAYMENT

GUARANTY OF WORK provision in paragraph 90-10 as will arise under the laws of the State of Texas and such paragraph 90-10 and without regard to the provisions of this paragraph MAINTENANCE OF WORK, nor shall this paragraph, MAINTENANCE OF WORK, be construed to establish any period of limitation for any cause of action against contractor under the obligations of paragraph 90-10.

## CONTRACTOR'S PAYMENT OF PREVAILING WAGE RATE

### 1. Prevailing Wage Rate

Contractor agrees that it, and its subcontractors, will pay the prevailing wage rate which has been determined by the Owner. The prevailing wage rate which Contractor and its subcontractors are required to pay is set forth on page I-4 and following.

### 2. Penalty for Failure to Pay Prevailing Wage Rate

The Contractor will pay to the Owner, as penalty, \$60.00 each calendar day for each worker who is not paid the prevailing wage rate. The Owner shall use the money collected under this paragraph to offset the cost incurred in the administration of the prevailing wage rates.

### 3. Record Keeping

The Contractor must keep records of its employees to establish that it has paid the prevailing wage rate.

### 4. Contractor May Pay Higher Than Prevailing Wage Rate

The Contractor may pay its employees, and its subcontractors may pay their employees, a wage rate that is higher than the prevailing wage rate as established herein.

### 5. Recognizing Complaints of Contractor/Subcontractor Employees

The Owner Shall Recognize Complaints of the Contractor's employees, and the subcontractors' employees, about the Contractors and subcontractors failure to pay prevailing wage rate. The Owner shall withhold from final payment monies due the Contractor that should have been paid to the employees based on the prevailing wage rate as set forth herein, except that the Owner may not withhold money from any source other than the retainage without a determination by the Owner that there is good cause to believe the Contractor, or its subcontractors, have failed to pay the prevailing wage rate.

### 6. Initial Determination

On receipt of information, including a complaint by a worker, concerning the Contractor's, or its subcontractors', failure to pay the prevailing wage rate, the Owner shall make an initial determination as to whether good cause exist to believe that the violation occurred. The Owner must make its initial

determination as to whether good cause exists to believe that a violation occurred before the thirty-first (31st) day after the date the Owner receives information indicating a violation has occurred. The Owner shall notify the Contractor, or its subcontractor, and any affected worker of its initial determination.

7. Arbitration

If any dispute arises regarding the payment of prevailing wage rate, such dispute shall be determined by arbitration. If an employee of the Contractor, or its subcontractors, contends that they have not been paid the prevailing wage rate as required herein, and such matter cannot be resolved by agreement before the 15th day after the date the Owner makes its initial determination, then any issue related to the Contractor's, or subcontractors', failure to pay the prevailing wage rate, including the penalty owed to the Owner, shall be submitted to binding arbitration in accordance with the Texas General Arbitration Act. If the persons required to arbitrate do not agree on an arbitrator before the 11th day after the date arbitration is required herein, a district court shall appoint an arbitrator on the petition of any of the persons. The Owner is not a party to the arbitration. If the arbitrator determines that the Contractor, or its subcontractors, have failed to pay the prevailing wage rate, the arbitrator shall assess an award against the Contractor or subcontractor, penalties as provided herein, all amounts owed to the affected worker, and an arbitrator shall assess an award of reasonable costs, including the arbitrator's fee, against the party who does not prevail. Costs may be assessed against the worker only if the arbitrator finds that the claim is frivolous. If the arbitrator does not find that the claim is frivolous, and does not make an award to the worker, costs shall be shared equally by the parties. The decision and award of an arbitrator is final and binding on all parties and may be enforced in any court of competent jurisdiction. The requirements for arbitration set forth herein are for wage rate disputes only and do not apply to any other dispute arising out of, or related to, this contract.

8. Applicable Law

The prevailing wage rate requirements set forth herein are intended to follow Chapter 2258 et seq. of the Texas Government Code and, to the extent that the provisions herein contravene or do not follow Section 2258 et seq. of the Texas Government Code, the statute shall prevail.

9. Non-liability of Owner

The Owner, its officers, agents and employees are not liable in civil action for any act or omission in implementing or enforcing this Chapter unless the action was made in bad faith.

10. Reliance on Certificate of Subcontractor

Contractor is entitled to rely on a certificate by a subcontractor regarding the payment of all sums due those working for the subcontractor until the contrary has been determined.

11. Determination of Prevailing Wage Rate

Owner's determination of the prevailing wage rate is final.

General Decision Number: TX190038 01/04/2019 TX38

Superseded General Decision Number: TX20180056

State: Texas

Construction Type: Highway

Counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, San Jacinto and Waller Counties in Texas.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 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 calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts

subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number    Publication Date  
0                      01/04/2019

\* SUTX2011-013 08/10/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures).....	\$ 12.98	
ELECTRICIAN.....	\$ 27.11	
FORM BUILDER/FORM SETTER Paving & Curb.....	\$ 12.34	
Structures.....	\$ 12.23	
LABORER Asphalt Raker.....	\$ 12.36	
Flagger.....	\$ 10.33	
Laborer, Common.....	\$ 11.02	
Laborer, Utility.....	\$ 11.73	
Pipelayer.....	\$ 12.12	
Work Zone Barricade Servicer.....	\$ 11.67	
PAINTER (Structures).....	\$ 18.62	
POWER EQUIPMENT OPERATOR: Asphalt Distributor.....	\$ 14.06	
Asphalt Paving Machine.....	\$ 14.32	
Broom or Sweeper.....	\$ 12.68	
Concrete Pavement Finishing Machine.....	\$ 13.07	
Concrete Paving, Curing, Float, Texturing Machine....	\$ 11.71	
Concrete Saw.....	\$ 13.99	
Crane, Hydraulic 80 Tons		

or less.....	\$ 13.86
Crane, Lattice boom 80	
tons or less.....	\$ 14.97
Crane, Lattice boom over	
80 Tons.....	\$ 15.80
Crawler Tractor.....	\$ 13.68
Excavator, 50,000 pounds	
or less.....	\$ 12.71
Excavator, Over 50,000	
pounds.....	\$ 14.53
Foundation Drill, Crawler	
Mounted.....	\$ 17.43
Foundation Drill, Truck	
Mounted.....	\$ 15.89
Front End Loader 3 CY or	
Less.....	\$ 13.32
Front End Loader, Over 3 CY.	\$ 13.17
Loader/Backhoe.....	\$ 14.29
Mechanic.....	\$ 16.96
Milling Machine.....	\$ 13.53
Motor Grader, Fine Grade....	\$ 15.69
Motor Grader, Rough.....	\$ 14.23
Off Road Hauler.....	\$ 14.60
Pavement Marking Machine....	\$ 11.18
Piledriver.....	\$ 14.95
Roller, Asphalt.....	\$ 11.95
Roller, Other.....	\$ 11.57
Scraper.....	\$ 13.47
Spreader Box.....	\$ 13.58
 Servicer.....	 \$ 13.97
 Steel Worker	
Reinforcing Steel.....	\$ 15.15
Structural Steel Welder.....	\$ 12.85
Structural Steel.....	\$ 14.39
 TRUCK DRIVER	
Low Boy Float.....	\$ 16.03
Single Axle.....	\$ 11.46
Single or Tandem Axle Dump..	\$ 11.48
Tandem Axle Tractor w/Semi	
Trailer.....	\$ 12.27

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

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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 [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

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)).

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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.

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### 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 Regional Office for the area in which the survey was conducted because those Regional Offices have 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.

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END OF GENERAL DECISION

## ITEM NO. 02001 - GENERAL

### PART 1 – GENERAL

The following general items shall be considered a part of this contract.

### PART 2 – EXECUTION

#### 2.01 CLEARING

- A. Clearing shall consist of the removal and disposal of trees, stumps, brush, roots, vegetation, logs, rubbish and other objectionable matter within the project work area.
- B. All cleared material shall be disposed of in a manner satisfactory to the Engineer.

#### 2.02 UNDERGROUND PIPES, DUCTS AND UTILITIES

- A. It is the responsibility of the contractor to adhere to Public Law 102-508, Section 304, Subparagraph G which requires the contractor to use an available one-call notification system and to heed all markings established by an operator of a natural gas and pipeline facility.
- B. It is the intention of the Engineer to show on the plans the approximate location of all underground utility lines and structures except service connections to buildings. Where gas, water, and sewer lines exist in the vicinity, the Contractor should assume that service connections exist to each building.
- C. Where underground pipes, ducts, or other structures are encountered in the excavation, the Contractor shall, at his own expense take adequate measures to protect them from damage.
- D. Where shown on the plans that the construction will require the removal and replacement of culverts or other structures, or of excavation beneath such culverts or other structures, such removal and replacement or excavation shall be at the Contractor's expense.
- E. It shall be the responsibility of the Contractor to locate such underground installations sufficiently in advance of the trench excavation to preclude damage to same. It is the responsibility of the Contractor to provide and install all necessary bracing, shoring, and

sheeting necessary to support all sewer lines or other utilities crossing, projecting into or located near the excavation at his own expense. The Contractor shall inform utility owners sufficiently in advance of the Contractor's operations to enable such utility owners to reroute, provide temporary detours, or to make other adjustments to utility lines in order that the Contractor shall cooperate with all utility owners concerned in effecting any utility adjustments necessary and shall not hold the Owner liable for any expense due to delay or additional work because of conflicts. The Owner shall relocate water lines where required to avoid conflicts with the proposed construction.

2.03 BUILDINGS, POLES, PAVEMENT, TREES, ETC.

- A. Buildings or other structures along the location of the work shall be fully protected by the Contractor from damage which may result from slides or undermining by adequate underpinning, shoring or bracing as the circumstances may require.
- B. Fences located within the project area may only be temporarily removed with the permission of the owner. Any fences removed shall be replaced in their original condition and location by men experienced in erecting that type of fence. There is no additional payment for removing and replacing fences.
- C. Telephone poles, light and power and other poles of similar nature and privately owned signs and mail boxes and similar structures which are not located on private property will be protected and supported by their owners, except as otherwise provided. The Contractor shall not undermine or endanger such items until such owners have been notified and have taken necessary precautions to protect their interest. The Contractor shall make every effort to perform his work in a manner that will minimize such relocation.
- D. Any damage to sidewalks, street pavements, curb and gutter, driveways, drainage structures, street signs, traffic lights or signs or other public or privately owned property by the Contractor's construction operations will be repaired or replaced by the Contractor at his own expense. The Contractor will be held responsible for damage to the surface of streets resulting from the operation of trucks and other equipment in connection with the work.

#### 2.04 ORDER OF COMPLETION

- A. When any portion of the work has been started, the Contractor shall proceed vigorously with the work through its various phases, including laying of the pipeline, backfill, compaction and cleanup and no extended lapse of time between the completion of one operation and the beginning of the next will be permitted. The various operations shall be carried on simultaneously where possible.

#### 2.05 FINAL CLEANUP

- A. Upon completion of the work and before acceptance and final payment, the Contractor shall remove rubbish, unused materials and temporary structures from the limits of the project and restore, in a manner acceptable to the Engineer, all property both public and private that has been damaged during the prosecution of the work, and shall level and grade all portions of the work where the surface of the natural ground or street surface has been disturbed during construction and shall leave the site of the work in a neat and presentable condition, free from ruts or holes.

#### PART 3 - MEASUREMENT AND PAYMENT

No additional payment will be made for any other work described in this item, each item's cost being included in the unit price bid of which the work is a component, and shall be full compensation for furnishing all material, equipment and labor necessary to perform the work in accordance with these specifications.

END OF ITEM

SOIL SIDE IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM SPECIFICATIONS  
FOR  
PORT OF PORT ARTHUR – BERTH 3 & 4

**1. GENERAL**

**1.1. Related Documents**

- 1.1.1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.

**1.2. Scope**

- 1.2.1. The work consists of furnishing all labor, equipment and materials, and performing all operations necessary to complete the following:
- 1.2.1.1. Install six deep well linear anode cathodic protection systems to cathodically protect the steel bulkhead wall associated with Berth 3 and 4 at the Port of Port Arthur in Port Arthur, Texas.
  - 1.2.1.2. There are four existing air-cooled rectifiers. All rectifiers were checked on August 8, 2019 and they have been reported as serviceable.
    - 1.2.1.2.1. It is the contractor's responsibility to verify the rectifiers are serviceable and fix any identified issues.
  - 1.2.1.3. There are to be two new air-cooled rectifiers installed as part of this work.
  - 1.2.1.4. There is an existing active cathodic protection (CP) system along the soil-side of the bulkhead wall. The Contractor is responsible for removing any components of the old system as required to complete this work.
    - 1.2.1.4.1. This includes but is not limited to wire, anodes and other CP components.
  - 1.2.1.5. There is an existing negative header cable for each rectifier. The header cable runs from each rectifier to the bulkhead wall. This exists for all 4 rectifiers. It is the responsibility of the Contractor to inspect and verify header cable integrity.
    - 1.2.1.5.1. The Contractor shall submit a testing procedure to verify the adequacy of reusing the existing header wires, to be approved by the Engineer.
  - 1.2.1.6. The contractor may reuse other components of the existing CP if those parts are deemed to be serviceable and will last for at least another 15 years.
    - 1.2.1.6.1. The Contractor shall submit to the Owner a list of any parts to be reused along with a procedure to verify the adequacy of reusing the existing part.
  - 1.2.1.7. Energize, adjust, and inspect the cathodic protection system after installation.
  - 1.2.1.8. The cathodic protection systems shall be installed, energized and tested by a Contractor regularly engaged in the field of cathodic protection and have an accepted and successful documented history of system installations.
    - 1.2.1.8.1. The Contractor will provide all labor, materials, and supervision for the installation of the cathodic protection system.
    - 1.2.1.8.2. The Contractor must have at least five (5) years of verifiable experience in the installation of marine CP systems.
  - 1.2.1.9. The Contractor shall maintain at all times during construction work, a qualified Project Manager on-site to direct the construction activities, and to interface with the Owner and the Engineer, as required.
  - 1.2.1.10. Contractor to make themselves available for weekly meetings with the Port and the Port's representatives.
  - 1.2.1.11. The on-site Project Manager shall have at minimum the following credentials:
    - 1.2.1.11.1. National Association of Corrosion Engineer Cathodic Protection Technician
    - 1.2.1.11.2. The Project Manager must have five (5) years of experience in installing and servicing CP systems on marine structures.
  - 1.2.1.12. The contractor shall secure the services of a National Association of Corrosion Engineers (NACE) certified CP Specialist (CPS).

- 1.2.1.12.1. The CP Specialist shall be a subcontractor and be independent of and not otherwise affiliated with the Contractor, or the manufacturer or distributor of CP products or materials used in the project.
- 1.2.1.13. Contractor shall provide Quality Assurance for every phase of the CP installation. Submit QA/QC plan prior to commencing the CP work. Plan shall address all required tasks to be performed by the CPS as well as test methods and testing instrumentation to be used.
- 1.2.2. The owner shall be responsible for furnishing and/or installing the following:
  - 1.2.2.1. A storage area for materials.
- 1.2.3. Details of proposed departures due to actual field conditions and/or other causes shall be submitted to the Engineer for approval prior to any construction deviation being taken.

## **2. REFERENCES**

### **2.1. American Society for Testing Materials (ASTM)**

- 2.1.1.D1248, Polyethylene Insulation

### **2.2. Institute of Electronic and Electrical Engineers (IEEE)**

- 2.2.1. Standards and Specifications

### **2.3. Underwriters Laboratories, Inc. (UL)**

- 2.3.1. UL-63, Thermoplastic Insulated Wires
- 2.3.2. UL-467 Bonding and Grounding Equipment
- 2.3.3. UL-486, Wire connectors and Solderless Lugs for Use with Copper Conductors
- 2.3.4. UL-510. Insulating Tape

### **2.4. NFPA 70 – National Electric Code**

### **2.5. National Electric Manufacturers' Association (NEMA)**

- 2.5.1. ICS, Enclosures for Industrial Controls and Systems
- 2.5.2. MR 20, Semiconductor Rectifier Cathodic Protection Units

### **2.6. NACE International**

- 2.6.1. SP0169, Recommended Practice "Control of External Corrosion on Underground or Submerged Metallic Piping Structures"
- 2.6.2. SP0572, Recommended Practice "Design, Installation, Operation and Maintenance of Impressed Current Deep Ground Beds"

### **2.7. State of Texas**

- 2.7.1. Administrative Code, Rule 3.99 Title 16, Part 1, Chapter 3 Cathodic Protection Well

### **3. Submittals**

- 3.1. The following submittals shall be submitted by the Contractor to the Engineer for review with the bid.
  - 3.1.1. Qualifications for;
    - 3.1.1.1. Contractor conducting the installation
      - 3.1.1.1.1. Contractor shall submit qualifications and job reference list and client contact information.
    - 3.1.1.2. Contractor's on-site Project Manager
      - 3.1.1.2.1. NACE certification and resume
    - 3.1.1.3. Corrosion Specialist
      - 3.1.1.3.1. NACE certification and resume
- 3.2. The following submittals shall be submitted by the Contractor to the Engineer for review and approval prior to commencing any work:
  - 3.2.1. Materials
    - 3.2.1.1. Submit manufacture's documentation regarding materials to be used on this project.
  - 3.2.2. Protocols for conducting
    - 3.2.2.1. Evaluation of existing CP components that are to be reused
    - 3.2.2.2. Bulkhead wall electrical continuity testing
    - 3.2.2.3. Potential survey
    - 3.2.2.4. Testing and energization
  - 3.2.3. After completion contractor shall submit
    - 3.2.3.1. As built plans, testing and adjustment reports.
      - 3.2.3.1.1. As built shall be maintained and on-site as construction progresses.

### **4. PERMITS**

- 4.1. Prior to the start of construction, the Contractor shall apply to the proper authorities for the Colonial Terminal Logistics (CTL) permit required for installation of the cathodic protection system.
- 4.2. The contractor shall dial 811 to contact either Texas811 or Lone Star 811 One-Call center in the state of Texas prior to construction to locate any existing utilities within the work area. Existing utilities include, but are not limited to, water lines, gas lines, telephone, street lights, sewer and storm drains and overhead and underground electric utilities.
  - 4.2.1. Contractor to note any identified utilities on the as-built plans

### **5. MATERIALS**

#### **5.1. Impressed current anodes**

- 5.1.1. Description: The anodes shall be a 200 ft continuous mixed metal oxide (MMO) coated titanium anode. The anode shall be capable of a minimum current output of 450 mA/linear ft for 20 years of service.
  - 5.1.1.1. Matcor's Durammo Deep Anode system or approved equal.

5.1.2.The primary anode will incorporate a continuous titanium substrate with a thermally applied inert dimensionally stable, catalyzed, electrically conductive iridium/tantalum composition mixed metal oxide coating.

5.1.3.Anode substrate: The substance shall be titanium, certified to conform to Grade 1 as defined within specification reference ASTM B-338, ASTM B-265, Din 3.7025,3.7035.

5.1.3.1.	Grade 1	(%)
5.1.3.1.1.	Nitrogen	max 0.03
5.1.3.1.2.	Carbon	max 0.08
5.1.3.1.3.	Hydrogen	max 0.015
5.1.3.1.4.	Iron	max 0.3
5.1.3.1.5.	Oxygen	max 0.18
5.1.3.1.6.	Residuals	max each 0.1
5.1.3.1.7.	Residuals	max total 0.4
5.1.3.1.8.	Titanium	balance

## 5.2. Backfill

5.2.1.SC 3 calcined petroleum coke, as manufactured by Loresco Inc., or approved equal, shall be used to backfill the impressed current anodes. Anode backfill shall conform to the following:

### 5.2.1.1. Typical Composition

Component	Percentage
Carbon	99.35
Ash	0.6
Volatiles	0
Moisture	0.05

## 5.3. Well Hardware

5.3.1.The deep well anode shall be equipped with a Schedule 40 PVC casing.

5.3.2.The casing shall be 8 inches diameter, and 10 feet long minimum.

5.3.3.Casing sealant shall be Bentonite Product NSF 61 approval.

5.3.4.The casing end shall be terminated with an 8" diameter, Schedule 40 PVC cap. B.

5.3.5.PVC vent pipe shall be used from the bottom of the linear anode to the surface for dissipating gases.

5.3.6.The plastic vent pipe shall be 1-inch diameter slotted piping.

5.3.7.The plastic vent pipe shall extend above the well cap and the vent outlet shall be screened and installed in an inverted manner.

## 5.4. Anode header wire

5.4.1.#2 HMWPE with red insulation

## 5.5. Negative header wire

5.5.1.#2 HMWPE with black insulation

## 5.6. Rectifiers

5.6.1.There are 4 existing air-cooled rectifiers

5.6.1.1. DC rated for 30 V and 150 Amps

5.6.1.2. AC input is 3 Phase

5.6.2.Contractors is required to install 2 new rectifiers as part of this work and any existing defective rectifiers

5.6.2.1. DC rated for 30 V and 150 Amps

5.6.2.2. AC input is 3 Phase

- 5.6.2.3. Voltage adjustment utilizing coarse and fine taps
- 5.6.2.4. AC circuit breaker to provide overload and short circuit protection.
- 5.6.2.5. Enclosure shall be galvanized steel per ASTM-123
- 5.6.2.6. Rectifier shall have analog ammeter and voltmeter
- 5.6.2.7. All rectifier units shall bear the manufacturers nameplate and not be re-branded

### **5.7. Conduits and fittings**

- 5.7.1. The minimum conduit size shall be 1 inch unless otherwise indicated. Refer to NFPA 70 (NEC) for additional conduit size requirements.
- 5.7.2. Conduit and fittings placed below grade shall be PVC, Schedule 40.
- 5.7.3. Conduit and fittings placed above grade shall be rigid steel. Rigid Steel conduit shall be galvanized conforming to UL 6.
- 5.7.4. For buried conduit a warning tape shall be buried above it. The warning and identification tape shall be an inert plastic film designed for prolonged underground use. The tape shall be a minimum of 3 inches wide and a minimum of 4 mils thick. The tape shall be continuously printed over the entire length with the wording "CAUTION: CATHODIC PROTECTION CABLE BURIED BELOW". The wording shall be printed using bold black letters. The color of the tape shall be red.

### **5.8. Exothermic welds**

- 5.8.1. Exothermic welds shall be in accordance with the manufacturer's recommendations.
- 5.8.2. Exothermic welds shall be Cadweld, as manufactured by Erico Products, Inc. or Thermoweld as manufactured by continental Industries, Inc. Or approved equivalent.

## **6. EXECUTION**

### **6.1. Construction Coordination Schedule Sequencing**

- 6.1.1. The Contractor shall coordinate his/her work to maintain an open and accessible trafficway for all Port roadways.
- 6.1.2. The Contractor shall not interfere with Owner's operations and schedule work around vessels at the berths.

### **6.2. Storage**

- 6.2.1. All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements.

### **6.3. Inspection**

- 6.3.1. Identify location of bulkhead wall tie backs and verify that well is centered between the tieback
  - 6.3.1.1. Tiebacks are at approximate 8 ft spacing

### **6.4. Electrical continuity verification**

- 6.4.1. Contractor shall verify all sheet piles in the bulkhead wall are electrically continuous.
  - 6.4.1.1. If sheet piles are found to be electrically isolated then continuity corrections are to be made by Contractor
  - 6.4.1.2. Contractor shall submit procedure for electrical continuity testing and continuity corrections to Engineer for approval
- 6.4.2. Contractor shall submit report detailing results of electrical continuity testing to Engineer.

### **6.5. Pre-installation structure-to-soil potential measurements of the bulkhead wall.**

- 6.5.1. The Contractor shall measure potentials along the bulkhead wall with an Owner in attendance.
- 6.5.2. The measurements shall be conducted every 50 feet along bulkhead wall length.
- 6.5.3. Measurements shall be conducted by placing the reference electrode connected to the negative terminal of the multi-meter on the surface of the concrete slab, while the lead from the positive terminal of the multi-meter is connected to the piling.
- 6.5.4. Contractor shall use a copper-copper sulfate reference electrode.
- 6.5.5. Contractor shall submit pre-installation potential measurement report to Engineer.

#### **6.6. Well Drilling**

- 6.6.1. The Contractor shall obtain and pay for all fees and permits required for well drilling (if any).
- 6.6.2. The Contractor shall protect the well bore from the intrusion of contaminants into the hole at all times.
- 6.6.3. The Contractor is responsible for the cost of all cleanup associated with contamination of the well and/or job site resulting from the Contractor's work.
- 6.6.4.3. Fresh water shall be circulated from the bottom of the hole to clear the well of drilling mud and cuttings after the well is drilled.
- 6.6.5.4. Loading of anodes and other equipment in the well shall be done in the presence of the CPS. Loading of the anodes into the well shall be a continuous operation from start of loading anode to completion of backfilling.
- 6.6.6.5. The well shall be covered with a steel trench plate whenever the well is left unattended.

#### **6.7. Well Casing**

- 6.7.1.1. The contractor shall install 8" diameter PVC Sch 40 casing with cap.

#### **6.8. Vent Pipe**

- 6.8.1.1. The bottom of the vent pipe shall be securely capped.
- 6.8.2.2. The top of the vent pipe shall be temporarily sealed during the coke breeze loading process. Any foreign material entering the vent pipe shall be removed.

#### **6.9. Loading the Anode**

- 6.9.1. The CPS shall visually inspect the anode lead for abrasion or other damage as the anode is lowered into place. A damaged anode is not acceptable and shall not be installed.

#### **6.10. Coke Breeze Backfill**

- 6.10.1. Coke backfill shall be placed using a slurry pump which pumps the coke into the bottom of the hole, filling the well from the bottom up.
- 6.10.2. Coke shall not be pumped through the vent pipe.
- 6.10.3. Coke breeze shall be mixed with water when introduced into the hole to prevent bridging or the creation of voids. At the time of introduction of the backfill, the hole shall contain sufficient water to minimize bridging and the rate of introduction of the backfill shall be controlled to minimize the possibility of bridging. In the event that voids or bridging does occur, the Contractor shall correct the deficiency to the satisfaction of the CPS.
- 6.10.4. Coke breeze shall be placed in the hole at a steady rate to ensure that the coke breeze does not bridge or block the hole. The hole shall be kept completely full of water during placement of backfill.
- 6.10.5. Coke shall be allowed 24 hours to settle. After 24 hours, the coke column shall be topped off as required to achieve the specified coke column length.
- 6.10.6. The contractor shall record the total weight of coke breeze placed in each anode well.

**6.11. Disposal of drilling fluids, cuttings and mud:**

- 6.11.1. Drilling mud and cuttings shall be disposed of by the Contractor at a suitable disposal site.

**6.12. Negative Structure Connection**

- 6.12.1. The four existing rectifiers have negative structure connections.
  - 6.12.1.1. The contractor is responsible for verifying these are electrically continuous with the structure and repair if necessary.
- 6.12.2. The two additional rectifiers to be installed will require an individual negative structure connection.
- 6.12.3. The structure leads are to be No. 2 AWG, stranded, copper, single conductor with high molecular weight polyethylene insulation (HMWPE).
- 6.12.4. The test leads are to be thermite welded to a 4" x 4" x 1/4" thick steel plate. Prior to the thermite welding process, the 4" square plate shall be cleaned to SP 10 near-white blast cleaning.
- 6.12.5. The bulkhead wall where the plate is to be welded shall be cleaned to SP 10 near-white blast cleaning.
- 6.12.6. The area on the bulkhead wall that is to be cleaned shall be an area that is a minimum of 12" square.
- 6.12.7. The 4" square plate is to be double pass welded a full 360 degrees around the plate to the bulkhead wall face. The plate is to be centered in the 12" square blasted area.
- 6.12.8. The entire area on the bulkhead wall cleaned and the welded steel plate are to be coated with Alocit 28.15 to a 24-mil thickness, or approved equal.
  - 6.12.8.1. The coating shall be applied by a factory certified applicator.

**6.13. Hot Work**

- 6.13.1. Hot work is defined as any work activity which could serve as an ignition source for any flammable material. Examples of hot work include, but are not limited to, welding, brazing, burning, grinding, saw cutting, sandblasting, chiseling concrete, or other impact cutting; pneumatic or electric powered drilling; open flames; use of explosive ramsets; use of non-explosion proof electrical equipment (heaters, electric tools, motors and lights) and operating motorized equipment.
- 6.13.2. The contractor Shall notify the Owner at least 24 hours in advance of the time that a hot work permit is needed for each work site.
- 6.13.3. It is a standard safety policy that no hot work will be allowed within 500 feet of any diesel ship during loading operations. This minimum distance may be increased by the Owner whenever a reasonable possibility exists that an external source of hydrocarbon, usually from upwind or from nearby diesel loading operations, could cause a change in conditions which could create an immediate hazard or unsafe condition.
- 6.13.4. The Contractor shall schedule all hot work around the diesel loading operations for which a daily ship schedule is available from the Owner. No hot work will be allowed in the area affected by the loading of petroleum ships.
- 6.13.5. In the event that the Contractor is working in an area which becomes hazardous or unsafe, they will immediately shut down all work when so directed by the Owner or its Engineer. The Contractor shall coordinate their work schedule closely with the Port's shipping schedule. Port operations take precedence over construction work.

**6.14. Rectifier**

- 6.14.1. Coordinate location and mounting of the two new rectifiers with Port
  - 6.14.1.1. Submit to Engineer shop drawing indicating rectifier mounting procedure

6.14.2. Contractor to provide 3 phase power to both of the new rectifiers.

6.14.2.1. Contractor's electrician shall coordinate power needs for new rectifiers with Owner

#### **6.15. Interference**

6.15.1. In case of interference with other work or incompatible locations with respect to equipment or structures, the Contractor shall furnish all labor and materials necessary to resolve the interference and complete the work in an acceptable manner. Contractor with support from CPS shall submit locations of interference and proposed resolution to Owner for review and approval prior to commencing deviation from contract documents

#### **6.16. Energizing and Testing**

6.16.1. Upon completion of the installation, the contractor shall provide testing of the completed system by the CPS to ensure conformance with the Contract Documents and NACE SP0169.

6.16.2. Measure and record the energized bulkhead to soil potentials at intervals of 50 feet along the wall.

6.16.3. Perform E log I testing of each rectifier

6.16.4. The Contractor shall provide a written report, prepared by the CPS, documenting the results of the testing and recommending corrective work, as required to comply with the Contract Documents. The contractor is responsible for any required corrective action. The CPS shall review and approve any corrective actions. The written report shall be submitted to the Owner for review and approval before acceptance of the CP system.

### **7. Final Testing**

7.1. Upon completion of the installation, the contractor shall provide testing of the completed system by the CPS to ensure conformance with the Contract Documents and NACE SP0169.

7.2. Measure and record the energized bulkhead to soil potentials at intervals of 50 feet along the wall.

7.3. Perform E log I testing of each rectifier

7.4. The Contractor shall provide a written report, prepared by the CPS, documenting the results of the testing and recommending corrective work, as required to comply with the Contract Documents. The contractor is responsible for any required corrective action. The CPS shall review and approve any corrective actions. The written report shall be submitted to the Owner for review and approval before acceptance of the CP system and contract time stops.

7.5. The CPS shall return to site to perform testing in accordance with NACE SP0169 to verify that the CP system is providing cathodic protection per the criteria identified in section 6 of NACE SP0169. Return visit should be at minimum 60 days after system activation but not more than 90 days. If the system is not meeting NACE criteria, CPS will determine why and make necessary adjustments with support from the contractor as needed.

### **8. Report**

8.1. The CP Specialist shall submit a Final Report showing all test data and energizing parameters, including but not limited to static and energized potentials using portable reference electrodes, anode to cathode resistance, depolarization test, and E log I curves.

8.2. In the final report, the CPS shall note any unapproved deviations from the Contract Documents that pertain to the CP system, along with the approved RFI's and submittals for the approved deviations. The CPS shall submit a notarized document and final report certifying the proper installation and operation of the CP system. The Project shall not be considered completed until such documentation is submitted and approved by the Engineer. The report and all data shall be in pdf format and be submitted to the Engineer

**9. METHOD OF MEASUREMNT**

9.1. The quantity of the CP system to be paid with a unit price contract

**10. BASIS OF PAYMENT**

10.1. Cost shall include all equipment, labor and materials to install the cathodic protection including continuity test and corrections, electrical work, and all other incidentals necessary to install and energize the cathodic protection system. Payment is full compensation for this operation including materials and/or incidentals related to this work.

END OF SECTION

WATERSIDE IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM SPECIFICATIONS  
FOR  
PORT OF PORT ARTHUR – BERTH 3 & 4

**1. GENERAL**

**1.1. Related Documents**

- 1.1.1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections as well as insurance required for waterborne activities, apply to this Section.

**1.2. Scope**

- 1.2.1. The work consists of furnishing all labor, equipment and materials, and performing all operations necessary to complete the following:

- 1.2.1.1. Install a waterside cathodic protection system to cathodically protect the steel AZ bulkhead wall associated with Berth 3 and 4 at the Port of Port Arthur (Port) in Port Arthur.

- 1.2.1.2. There are six existing air-cooled rectifiers for the water side anodes. All rectifiers were checked on August 8, 2019 and they have been reported as serviceable. The contractor is to service the rectifiers and use them to operate the newly installed anodes.

- 1.2.1.2.1. It is the contractor's responsibility to verify the rectifiers are serviceable and fix any identified issues.

- 1.2.1.2.2. Any identified issues be immediately brought to the Port Engineer's attention.

- 1.2.1.3. There is an existing active cathodic protection (CP) system along the water-side of the bulkhead wall. The Contractor is responsible for removing any components of the old system as required to complete this work.

- 1.2.1.3.1. This includes but is not limited to wire, anodes and other CP components.

- 1.2.1.4. There is an existing negative header cable for each rectifier. The header cable runs from each rectifier to the bulkhead wall. This negative header wire exists for all 6 rectifiers. It is the responsibility of the Contractor to inspect and verify header cable integrity.

- 1.2.1.4.1. The Contractor shall submit a testing procedure to verify the adequacy of reusing the existing header wires, to be approved by the Engineer.

- 1.2.1.4.2. Any identified issues be immediately brought to the Engineer's attention.

- 1.2.1.5. The contractor may reuse other components of the existing CP system if those parts are deemed to be serviceable and be certified to last for at least another 15 years.

- 1.2.1.5.1. The Contractor shall submit to the Owner a list of any parts to be reused along with a procedure to verify the adequacy of reusing the existing part.

- 1.2.1.6. Energize, adjust, and inspect the cathodic protection system after installation.

- 1.2.1.7. The cathodic protection systems shall be installed, energized and tested by a Contractor regularly engaged in the field of cathodic protection and have an accepted and successful documented history of system installations.

- 1.2.1.7.1. The Contractor will provide all labor, materials, and supervision for the installation of the cathodic protection system.

- 1.2.1.7.2. The Contractor must have at least five (5) years of verifiable experience in the installation of marine CP systems.

- 1.2.1.8. The Contractor shall maintain, at all times during construction work, a qualified Project Manager on-site to direct the construction activities, and to interface with the Owner and the Engineer, as required.
- 1.2.1.9. Contractor to make themselves available for weekly meetings with the Port and the Port's representatives.
- 1.2.1.10. The on-site Project Manager shall have at minimum the following credentials:
  - 1.2.1.10.1. National Association of Corrosion Engineer Cathodic Protection Technician
  - 1.2.1.10.2. The Project Manager must have five (5) years of experience in installing and servicing CP systems on marine structures.
- 1.2.1.11. The contractor shall secure the services of a National Association of Corrosion Engineers (NACE) certified CP Specialist (CPS).
  - 1.2.1.11.1. The CP Specialist shall be a subcontractor and be independent of and not otherwise affiliated with the Contractor, or the manufacturer or distributor of CP products or materials used in the project.
- 1.2.1.12. Contractor shall provide Quality Assurance for every phase of the CP installation. Submit QA/QC plan prior to commencing the CP work. Plan shall address all required tasks to be performed by the CPS as well as test methods and testing instrumentation to be used.
  - 1.2.1.12.1. The QA/QC plan must be reviewed and approved by the Port prior to commencing any work.
- 1.2.2. The owner shall be responsible for furnishing and/or installing the following:
  - 1.2.2.1. A storage area for materials.
- 1.2.3. Details of proposed departures due to actual field conditions and/or other causes shall be submitted to the Engineer for approval prior to any construction deviation being taken.

## **2. REFERENCES**

### **2.1. American Society for Testing Materials (ASTM)**

- 2.1.1. D1248, Polyethylene Insulation
- 2.1.2. A518, Standard Specification for Corrosion-Resistant High-Silicon Iron Castings (Grade 3)

### **2.2. Institute of Electronic and Electrical Engineers (IEEE)**

- 2.2.1. Standards and Specifications

### **2.3. Underwriters Laboratories, Inc. (UL)**

- 2.3.1. UL-63, Thermoplastic Insulated Wires
- 2.3.2. UL-467 Bonding and Grounding Equipment
- 2.3.3. UL-486, Wire connectors and Solderless Lugs for Use with Copper Conductors
- 2.3.4. UL-510. Insulating Tape

### **2.4. NFPA 70 – National Electric Code**

### **2.5. National Electric Manufacturers' Association (NEMA)**

- 2.5.1. ICS, Enclosures for Industrial Controls and Systems
- 2.5.2. MR 20, Semiconductor Rectifier Cathodic Protection Units

### **2.6. NACE International**

- 2.6.1. SP0169, Recommended Practice "Control of External Corrosion on Underground or Submerged Metallic Piping Structures"

2.6.2.SP0572, Recommended Practice “Design, Installation, Operation and Maintenance of Impressed Current Deep Ground Beds”

### **3. SUBMITTALS**

- 3.1. The following submittals shall be submitted by the Contractor to the Engineer for review with the bid.
  - 3.1.1. Qualifications for;
    - 3.1.1.1. Contractor conducting the installation
      - 3.1.1.1.1. Contractor shall submit qualifications and job reference list and client contact information.
    - 3.1.1.2. Contractor’s on-site Project Manager
      - 3.1.1.2.1. NACE certification and resume
    - 3.1.1.3. Corrosion Specialist
      - 3.1.1.3.1. NACE certification and resume
- 3.2. The following submittals shall be submitted by the Contractor to the Engineer for review and approval prior to commencing any work:
  - 3.2.1. Materials
    - 3.2.1.1. Submit manufacture’s documentation regarding materials to be used on this project.
  - 3.2.2. Protocols for conducting
    - 3.2.2.1. Evaluation of existing CP components that are to be reused
    - 3.2.2.2. Bulkhead wall electrical continuity testing
    - 3.2.2.3. Potential survey
    - 3.2.2.4. Testing and energization
  - 3.2.3. After completion contractor shall submit
    - 3.2.3.1. As built plans, testing and adjustment reports.
      - 3.2.3.1.1. As built shall be maintained and on-site as construction progresses.

### **4. PERMITS**

- 4.1. Prior to the start of construction, the Contractor shall apply to the proper authorities for permits required for installation of the cathodic protection system.
- 4.2. The contractor shall dial 811 to contact either Texas811 or Lone Star 811 One-Call center in the state of Texas prior to construction to locate any existing utilities within the work area. Existing utilities include, but are not limited to, water lines, gas lines, telephone, street lights, sewer and storm drains and overhead and underground electric utilities.
  - 4.2.1. Contractor to note any identified utilities on the as-built plans

### **5. MATERIALS**

#### **5.1. Impressed current anodes**

- 5.1.1. Description: The anodes shall be 110 lb solid High Silicon Cast Iron (HSCI) manufactured by Anotec or approved equal for hanging anodes under dock.

### 5.1.2. Anode composition

	Minimum (%)	Maximum (%)
Silicon	14.20	14.75
Chromium	3.25	5.00
Carbo	0.70	1.10
Manganese		1.50
Copper		0.50
Molybdenum		0.20

### 5.2. Anode header wire

5.2.1. The existing header wire needs to be removed and replaced

5.2.2. #2 HMWPE with red insulation

### 5.3. Conduits and fittings

5.3.1. The minimum conduit size shall be 1 inch unless otherwise indicated. Refer to NFPA 70 (NEC) for additional conduit size requirements.

5.3.2. Conduit and fittings placed below grade shall be PVC, Schedule 40.

5.3.3. Conduit and fittings placed above grade shall be rigid steel. Rigid Steel conduit shall be galvanized conforming to UL 6.

5.3.4. For buried conduit a warning tape shall be buried above it. The warning and identification tape shall be an inert plastic film designed for prolonged underground use. The tape shall be a minimum of 3 inches wide and a minimum of 4 mils thick. The tape shall be continuously printed over the entire length with the wording "CAUTION: CATHODIC PROTECTION CABLE BURIED BELOW".

### 5.4. Exothermic welds

5.4.1. Exothermic welds shall be in accordance with the manufacturer's recommendations.

5.4.2. Exothermic welds shall be Cadweld, as manufactured by Erico Products, Inc. or Thermoweld as manufactured by continental Industries, Inc. Or approved equivalent.

### 5.5. Rectifiers

5.5.1. There are 4 existing air-cooled rectifiers

5.5.1.1. DC rated for 30 V and 150 Amps

5.5.1.2. AC input is 3 Phase

## 6. EXECUTION

### 6.1. Construction Coordination Schedule Sequencing

6.1.1. The Contractor shall coordinate his/her work to maintain an open and accessible trafficway for all Port roadways.

6.1.2. The Contractor shall not interfere with Port operations and schedule work around vessels at the berths. Port operation supersede contractors operations.

### 6.2. Storage

6.2.1. All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements.

### **6.3. Existing Cathodic Protection System**

- 6.3.1. The contractor shall deenergize the active CP system and lockout the electrical components.
- 6.3.2. It is the Contractor's responsibility to ensure that the system is deenergized and safe to work.

### **6.4. Preinstallation Testing**

- 6.4.1. Measure and record native bulkhead wall to water potentials at intervals of 50 feet along the wall.
  - 6.4.1.1. Perform with an Owner representative in attendance.
- 6.4.2. Confirm electrical continuity of the bulkhead wall and make any corrections necessary.

### **6.5. Anode Installation**

- 6.5.1. Hang the anodes from the underside of pier
- 6.5.2. The CPS shall visually inspect the anode lead wire for abrasion or other damage to the insulation and wire. Anodes with damaged insulation or wire are not acceptable and shall not be installed. Splices are not allowed on the anode wire.
- 6.5.3. Remove the existing anode header wire and replace with new header wire.
- 6.5.4. Cadweld all hanging anodes to new header wire.

### **6.6. Negative Structure Connection**

- 6.6.1. The six existing rectifiers have negative structure connections.
  - 6.6.1.1. The contractor is responsible for verifying these are electrically continuous with the structure and repair if necessary.
- 6.6.2. If replacement negative structure connections are necessary:
  - 6.6.2.1. The structure leads are to be No. 2 AWG, stranded, copper, single conductor with high molecular weight polyethylene insulation (HMWPE).
  - 6.6.2.2. The test leads are to be thermite welded to a 4" x 4" x 1/4" thick steel plate. Prior to the thermite welding process, the 4" square plate shall be cleaned to SP 10 near-white blast cleaning.
  - 6.6.2.3. The bulkhead wall where the plate is to be welded shall be cleaned to SP 10 near-white blast cleaning.
  - 6.6.2.4. The area on the bulkhead wall that is to be cleaned shall be an area that is a minimum of 12" square.
  - 6.6.2.5. The 4" square plate is to be double pass welded a full 360 degrees around the plate to the bulkhead wall face. The plate is to be centered in the 12" square blasted area.
  - 6.6.2.6. The entire area on the bulkhead wall cleaned and the welded steel plate are to be coated with Alocit 28.15 to a 24-mil thickness, or approved equal.
    - 6.6.2.6.1. The coating shall be applied by a factory certified applicator.

### **6.7. Hot Work**

- 6.7.1. Hot work is defined as any work activity which could serve as an ignition source for any flammable material. Examples of hot work include, but are not limited to, welding, brazing, burning, grinding, saw cutting, sandblasting, chiseling concrete, or other impact cutting; pneumatic or electric powered drilling; open flames; use of explosive ramsets; use of non-explosion proof electrical equipment (heaters, electric tools, motors and lights) and operating motorized equipment.
- 6.7.2. The contractor Shall notify the Owner at least 24 hours in advance of the time that a hot work permit is needed for each work site.
- 6.7.3. It is a standard safety policy that no hot work will be allowed within 500 feet of any diesel ship during loading operations. This minimum distance may be increased by the Owner whenever a reasonable possibility exists that an external source of hydrocarbon, usually

from upwind or from nearby diesel loading operations, could cause a change in conditions which could create an immediate hazard or unsafe condition.

6.7.4. The Contractor shall schedule all hot work around the diesel loading operations for which a daily ship schedule is available from the Owner. No hot work will be allowed in the area affected by the loading of diesel ships.

6.7.5. In the event that the Contractor is working in an area which becomes hazardous or unsafe, they will immediately shut down all work when so directed by the Owner. The Contractor shall coordinate their work schedule closely with the Owner's shipping schedule.

#### **6.8. Interference**

6.8.1. In case of interference with other work or incompatible locations with respect to equipment or structures, the Contractor shall furnish all labor and materials necessary to resolve the interference and complete the work in an acceptable manner. Contractor with support from CPS shall submit locations of interference and proposed resolution to Owner for review and approval prior to commencing deviation from contract documents

#### **6.9. Exothermic Welds**

6.9.1. All anode wires shall be connected to the primary header wire through exothermic welding.

6.9.2. Coating materials shall be removed from the surface over an area of sufficient size to make the connection. The surface shall be cleaned to bare metal by grinding or filing prior to welding the conductor. Only enough insulation shall be removed such that the copper conductor can be placed in the welding mold.

6.9.3. The Contractor shall be responsible for testing all test lead and bond wire welds.

6.9.4. After the weld has cooled, all slag shall be removed and the metallurgical bond shall be tested for adherence by the Contractor. A 22-ounce hammer shall be used for adherence testing by striking a blow to the weld. Care shall be taken to avoid hitting the wires. All defective welds shall be removed and replaced at Contractor's expense.

6.9.5. All exposed surfaces of the copper and steel shall be covered with insulating materials.

#### **6.10. Final Testing**

6.10.1. Upon completion of the installation, the contractor shall provide testing of the completed system by the CPS to ensure conformance with the Contract Documents and NACE SP0169.

6.10.2. Measure and record the energized bulkhead to water potentials at intervals of 50 feet along the wall.

6.10.3. Perform E log I testing of each rectifier

6.10.4. The Contractor shall provide a written report, prepared by the CPS, documenting the results of the testing and recommending corrective work, as required to comply with the Contract Documents. The contractor is responsible for any required corrective action. The CPS shall review and approve any corrective actions. The written report shall be submitted to the Owner for review and approval before acceptance of the CP system and contract time stops.

6.10.5. The CPS shall return to site to perform testing in accordance with NACE SP0169 to verify that the CP system is providing cathodic protection per the criteria identified in section 6 of NACE SP0169. Return visit should be at minimum 60 days after system activation but not more than 90 days. If the system is not meeting NACE criteria, CPS will determine why and make necessary adjustments with support from the contractor as needed.

#### **6.11. Report**

6.11.1. The CP Specialist shall submit a Final Report showing all test data and energizing parameters, including but not limited to static and energized potentials using portable reference electrodes, anode to cathode resistance, depolarization test, and E log I curves.

6.11.2. In the final report, the CPS shall note any unapproved deviations from the Contract Documents that pertain to the CP system, along with the approved RFI's and submittals for the approved deviations. The CPS shall submit a notarized document and final report certifying the proper installation and operation of the CP system. The Project shall not be considered completed until such documentation is submitted and approved by the Engineer. The report and all data shall be in pdf format and be submitted to the Engineer

**7. METHOD OF MEASUREMNT**

7.1. The quantity of the CP system to be paid with a unit price contract

**8. BASIS OF PAYMENT**

8.1. Cost shall include all equipment, labor and materials to install the cathodic protection including continuity test and corrections, electrical work, and all other incidentals necessary to install and energize the cathodic protection system. Payment is full compensation for this operation including materials and/or incidentals related to this work.

END OF SECTION

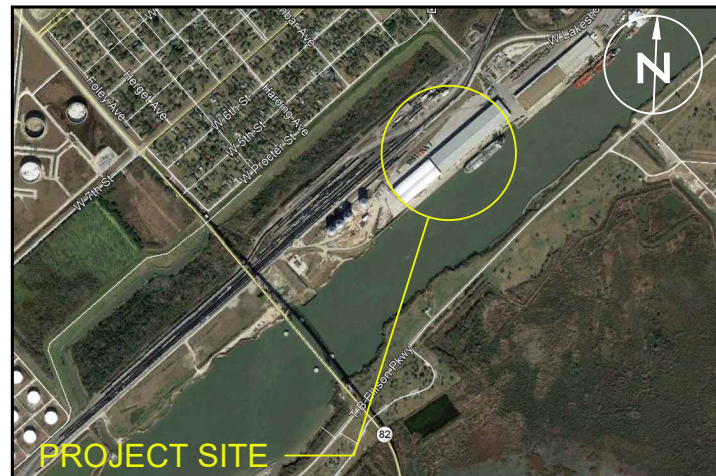
# PORT OF PORT ARTHUR CONSTRUCTION OF IMPROVEMENTS TO CATHODIC PROTECTION SYSTEM FOR BULKHEAD AT BERTHS 3 AND 4

PORT ARTHUR, TX

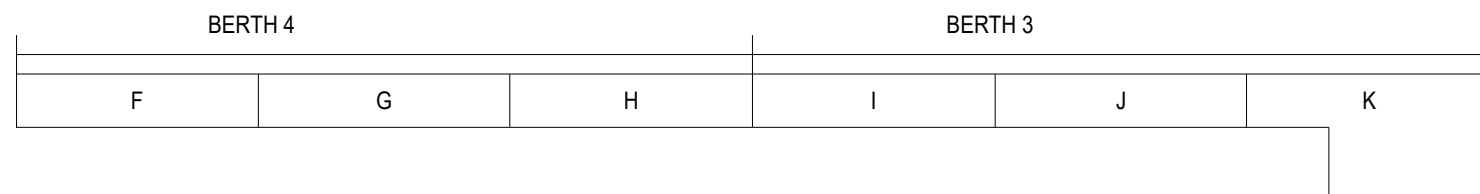
APRIL 2020



LOCATION MAP: PORT ARTHUR, TX

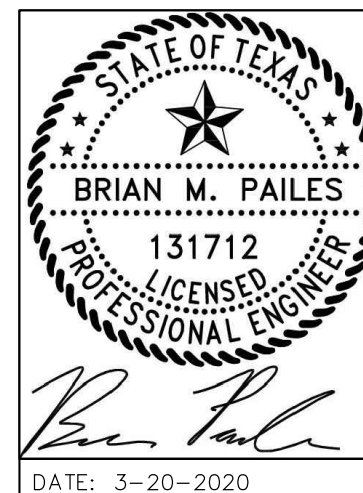


VICINITY MAP



KEY PLAN

INDEX TABLE	
SHEET NO.	SHEET TITLE
CP-1	COVER SHEET
CP-2	BERTHS 3 AND 4 ANODE LAYOUT OVERVIEW
CP-3	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (1 OF 6)
CP-4	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (2 OF 6)
CP-5	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (3 OF 6)
CP-6	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (4 OF 6)
CP-7	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (5 OF 6)
CP-8	BERTHS 3 AND 4 PLAN VIEW - ANODE LAYOUT (6 OF 6)
CP-9	BERTH 3 AND 4 TYPICAL ELEVATION VIEW
CP-10	TYPICAL ELEVATION OF RUBB
CP-11	TYPICAL ANODE WELL DETAIL
CP-12	TYPICAL ANODE CONNECTION DETAILS



DATE: 3-20-2020

**COLLINS  
ENGINEERS**  
TEXAS FIRM# 9791  
501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION  
PORT ARTHUR, TX 77640  
PORT OF PORT ARTHUR

DRAWN BY  
S.Y.  
CHECKED BY  
B.P.

DATE  
3-20-2020

PROJECT NO.  
F19037TX

FIRM NO.  
9791

FIGURE NO.  
N/A

DRAWING REVISIONS		
#	DATE	DESCRIPTION
0	12/10/19	S.Y. INITIAL DRAWINGS



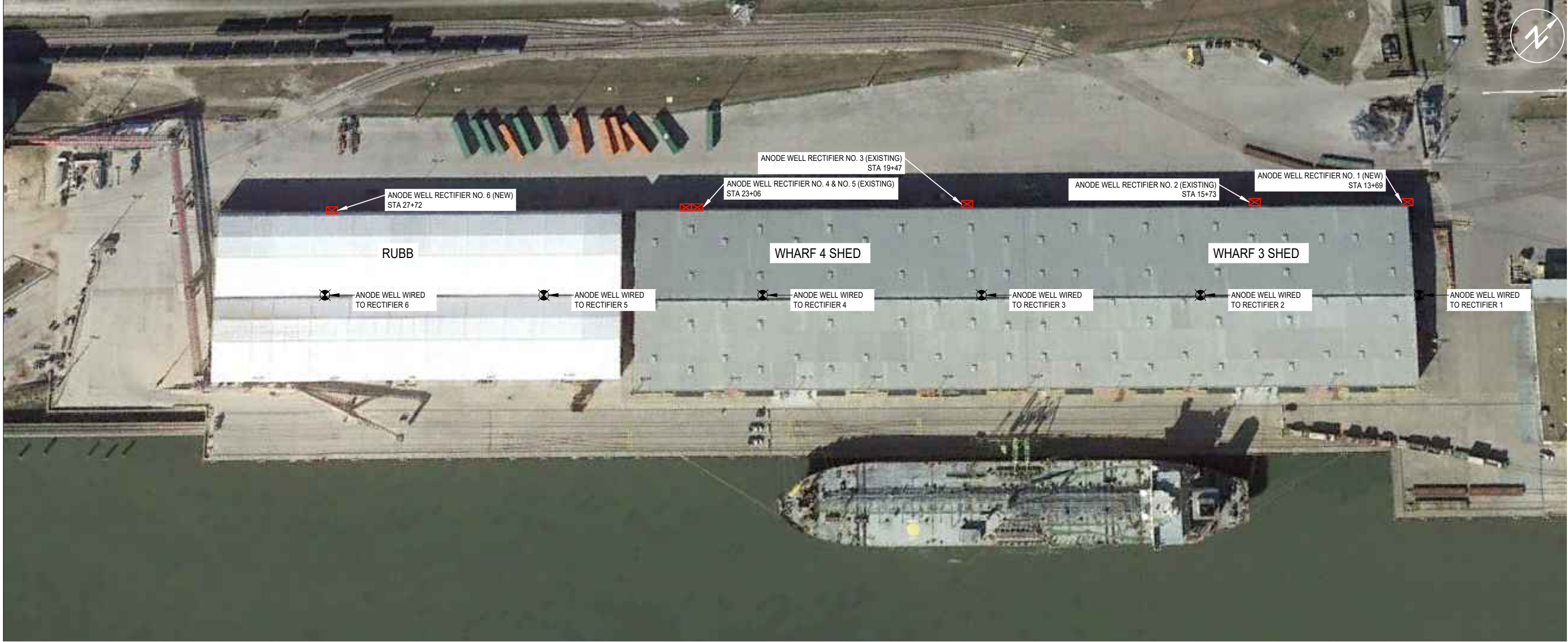
**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

COVER SHEET

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
WWW.VCSERVICES.COM  
FL CA # 30851

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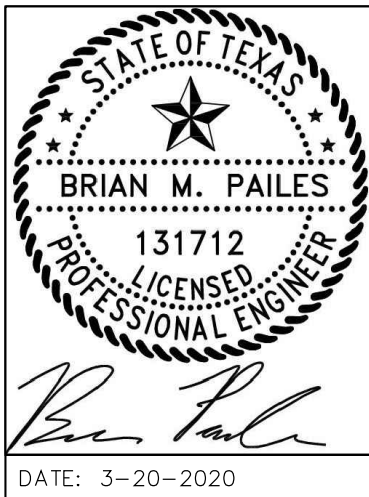
DRAWING NO.  
CP-1



**NOTE:**

- ALL ANODE WELL AND RECTIFIER LOCATIONS ARE AN APPROXIMATION, REFER TO SPECIFICATIONS FOR MORE INFORMATION. CONTRACTOR SHALL COORDINATE WITH COLLINS REPRESENTATIVE FOR EXACT LOCATIONS.
  - PROPOSED ANODE LOCATIONS MAY REQUIRE ADJUSTMENTS IN FIELD AS NECESSARY.
- ALL EXISTING RECTIFIERS ARE IN SERVICEABLE CONDITIONS BASED ON PREVIOUS PORT FINDINGS.
  - FOR WATER SIDE ANODES REFER TO SPECIFICATION SECTION 5.5
  - FOR SOIL SIDE ANODES REFER TO SPECIFICATION SECTION 5.6.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT OF STATIONING AND VERIFICATION OF LOCATION OF EXISTING EQUIPMENT.

1 OVERALL PLAN VIEW  
BERTHS 3 AND 4 SOIL DEEP WELL ANODE LAYOUT  
SCALE: N.T.S



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LOCATION  
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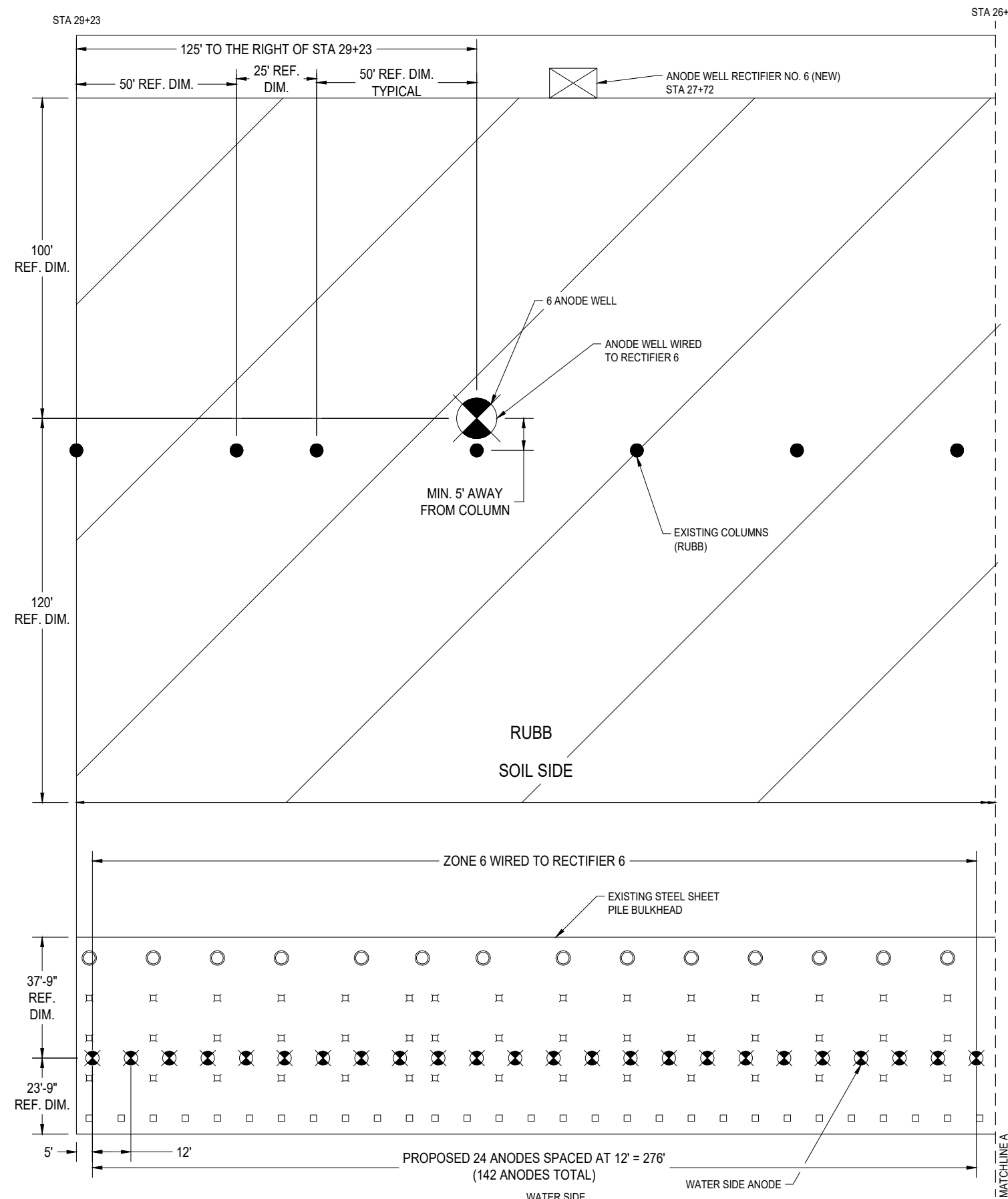
**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

**BERTHS 3 AND 4 ANODE  
LAYOUT OVERVIEW**

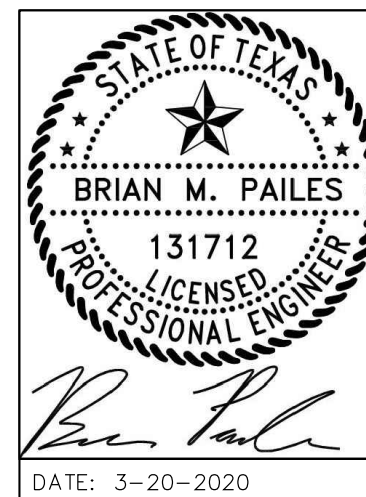
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DRAWING NO.  
CP-2



1 PLAN VIEW  
BERTHS 3 AND 4 SOIL SIDE AND WATER SIDE ANODE LAYOUT  
SCALE: N.T.S



**COLLINS ENGINEERS INC.**  
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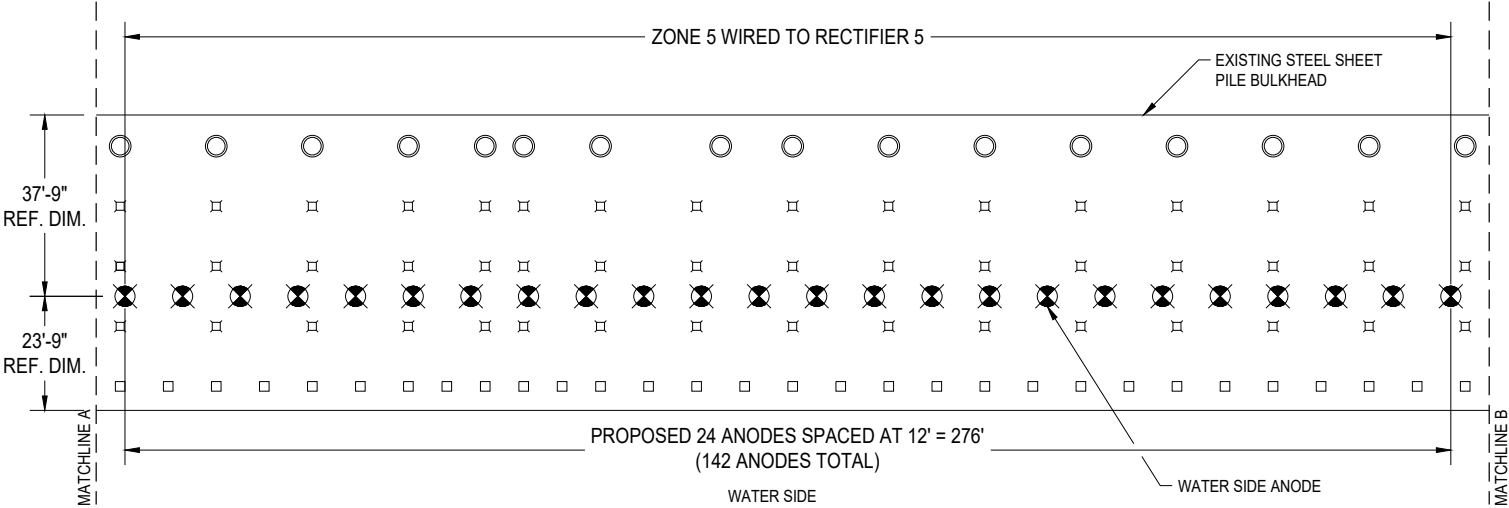
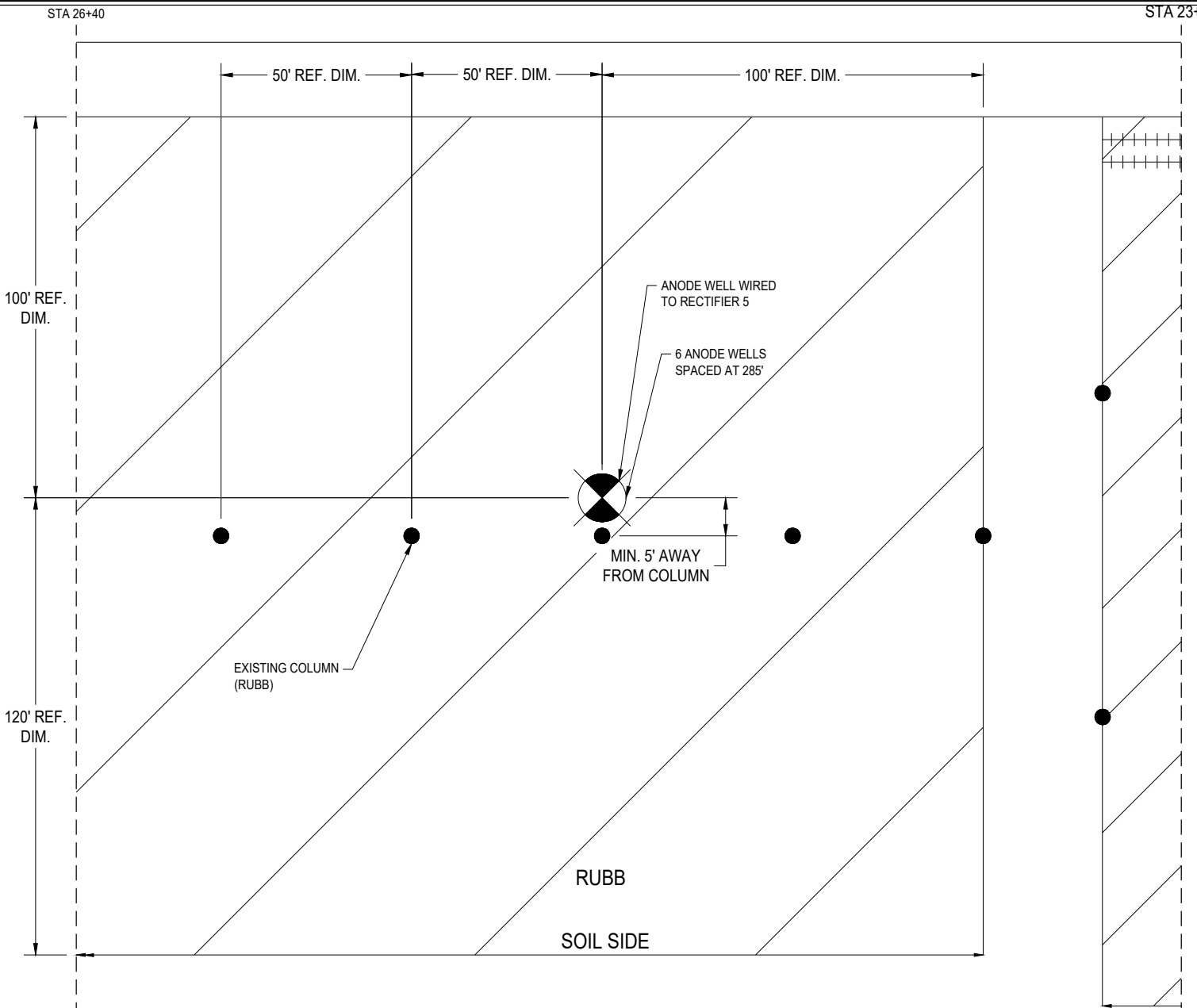
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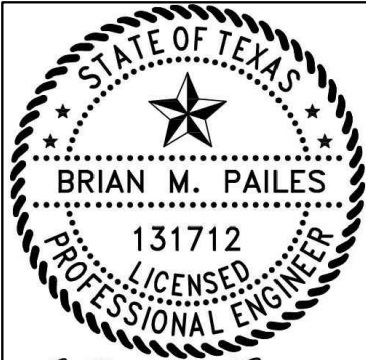
PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4  
PORT ARTHUR, TX

BERTHS 3 AND 4 PLAN VIEW -  
ANODE LAYOUT (1 OF 6)

VECTOR CORROSION SERVICES, INC. 8413 LAUREL FAIR CIRCLE SUITE 200B TAMPA, FL 33610 (813) 501-0050 WWW.VCSERVICES.COM FL CA # 30851	
PROJECT NO. F19037TX	
DRAWING NO. CP-3	



2 PLAN VIEW  
BERTHS 3 AND 4 SOIL SIDE AND WATER SIDE ANODE LAYOUT  
SCALE: N.T.S



*Brian Pailes*

DATE: 3-20-2020

**COLLINS ENGINEERS**

TEXAS FIRM# 9791  
501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION  
PORT ARTHUR, TX 77640  
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F19037TX

FIRM NO.  
9791

FIGURE NO.  
N/A

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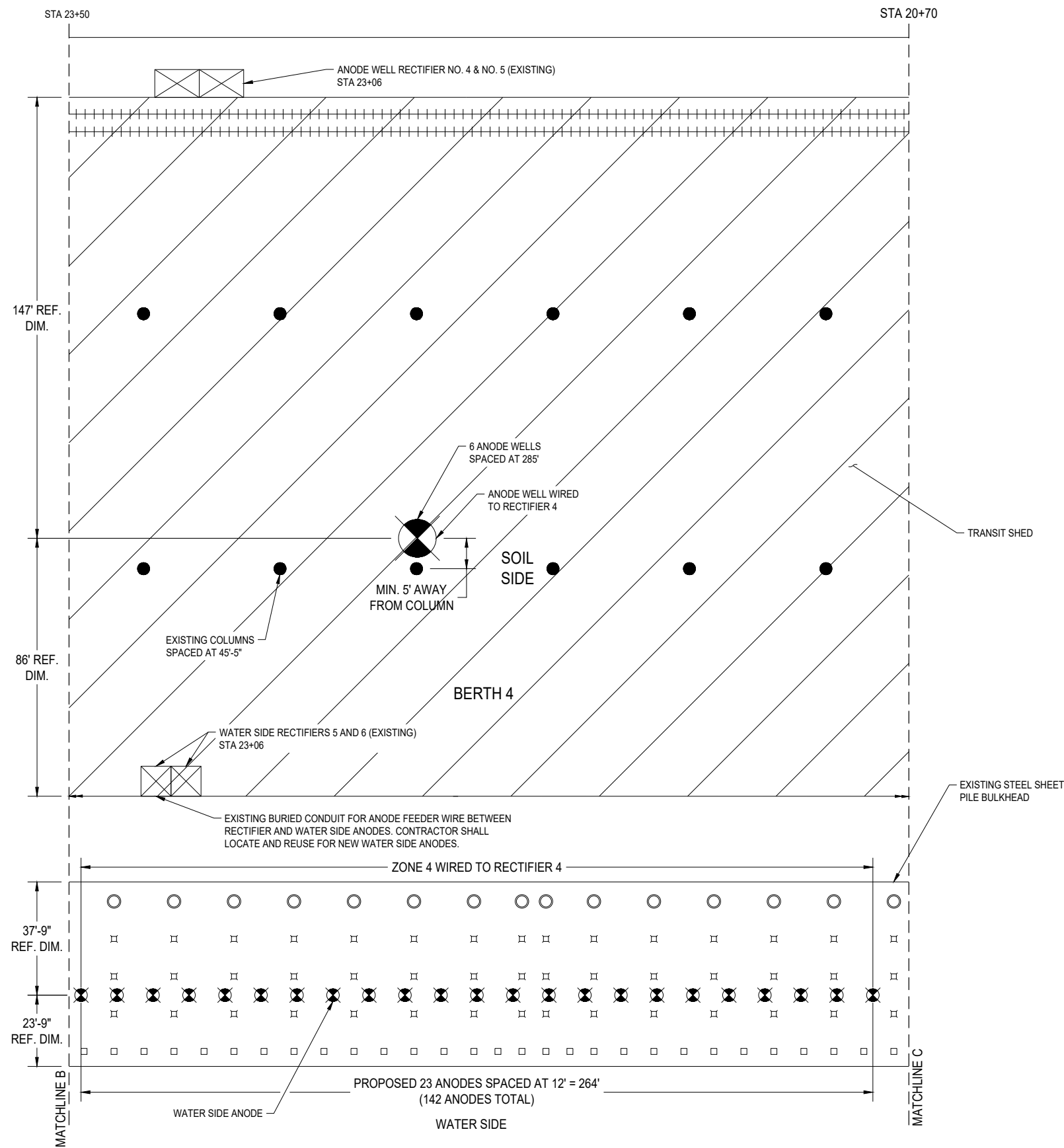
**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

BERTHS 3 AND 4 PLAN VIEW -  
ANODE LAYOUT (2 OF 6)

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
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CP-4



3 PLAN VIEW  
BERTHS 3 AND 4 SOIL SIDE AND WATER SIDE ANODE LAYOUT  
SCALE: N.T.S



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501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

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DATE 3-20-2020	PROJECT NO. F19037TX	FIRM NO. 9791	FIGURE NO. N/A

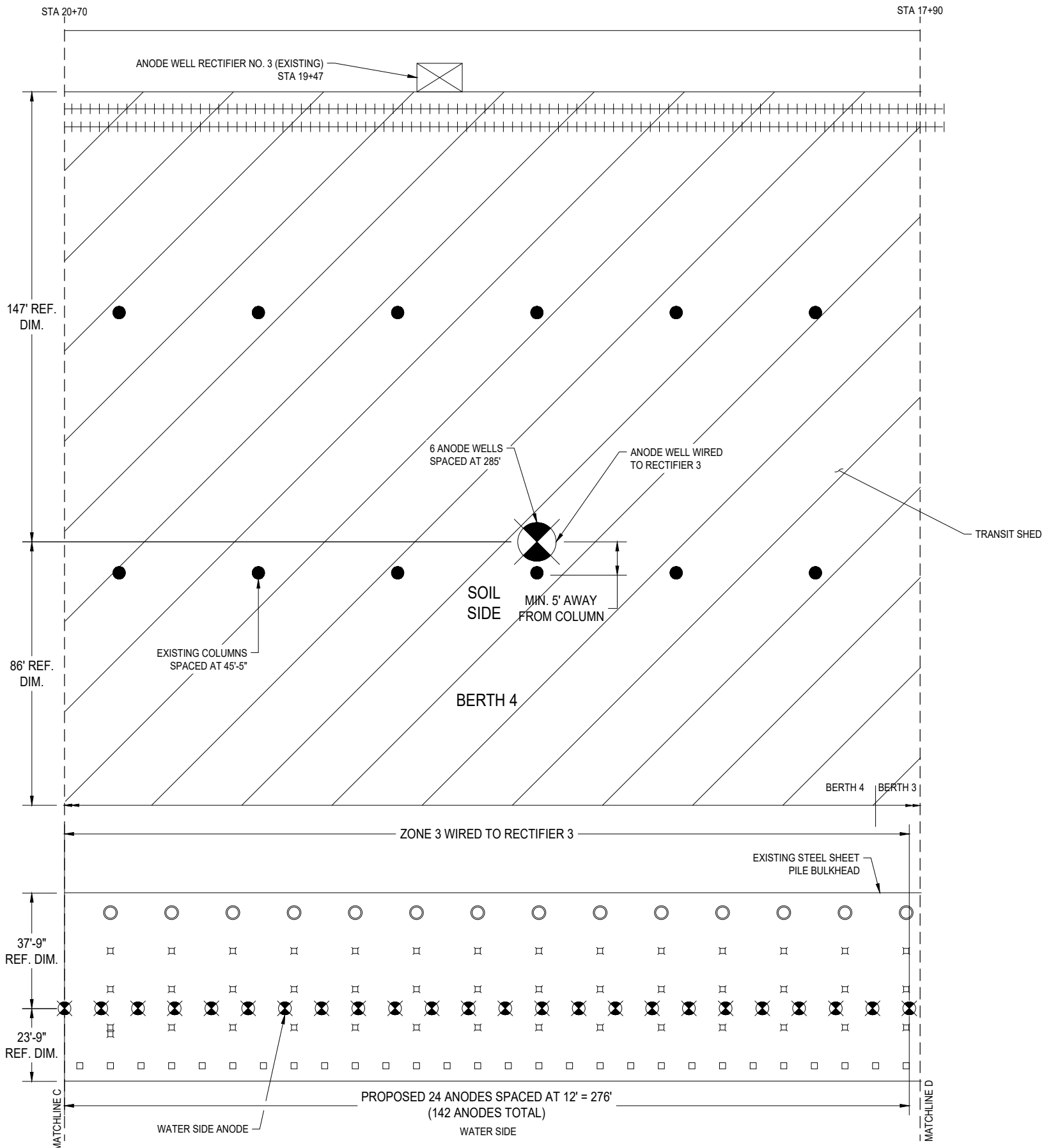
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**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

**BERTHS 3 AND 4 PLAN VIEW -  
ANODE LAYOUT (3 OF 6)**

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PROJECT NO.	F19037TX
DRAWING NO.	CP-5



4 PLAN VIEW  
BERTHS 3 AND 4 SOIL SIDE AND WATER SIDE ANODE LAYOUT  
SCALE: N.T.S

STATE OF TEXAS

BRIAN M. PAILES

131712

PROFESSIONAL ENGINEER

DATE: 3-20-2020

**COLLINS ENGINEERS**INC.

TEXAS FIRM# 9791

501 PROCTER ST., SUITE 321

PORT ARTHUR, TX 77640

(409) 895-2550

LOCATION

PORT ARTHUR, TX 77640

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PORT OF PORT ARTHUR

CATHODIC PROTECTION

OF BERTHS 3 AND 4

PORT ARTHUR, TX

BERTHS 3 AND 4 PLAN VIEW -

ANODE LAYOUT (4 OF 6)

VECTOR CORROSION SERVICES, INC.

8413 LAUREL FAIR CIRCLE

SUITE 200B

TAMPA, FL 33610

(813) 501-0050

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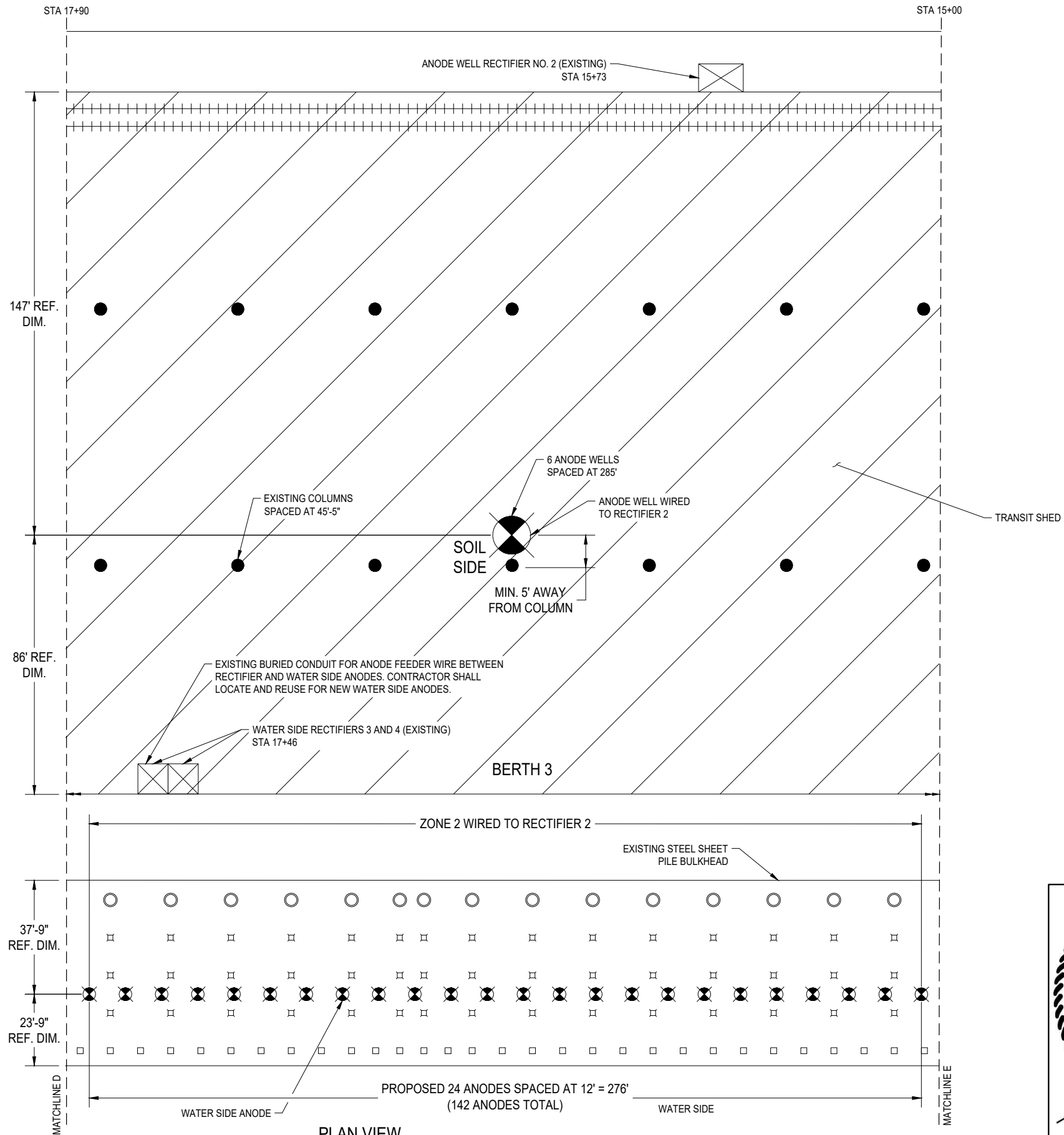
FL CA # 30851

PROJECT NO.

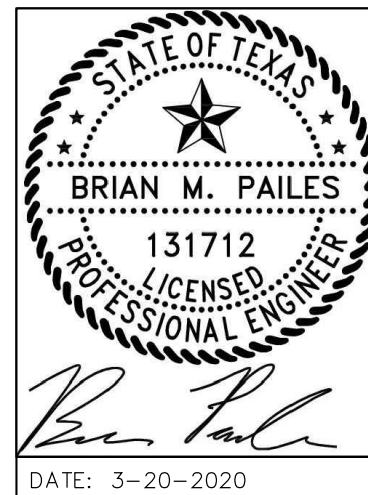
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CP-6



5  
PLAN VIEW  
BERTHS 3 AND 4 SOIL SIDE AND WATER SIDE ANODE LAYOUT  
SCALE: N.T.S



**COLLINS ENGINEERS<sup>INC.</sup>**  
TEXAS FIRM# 9791  
501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION PORT ARTHUR, TX 77640 PORT OF PORT ARTHUR		DRAWN BY S.Y.	
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DATE 3-20-2020	PROJECT NO. F19037TX	FIRM NO. 9791	FIGURE NO. N/A

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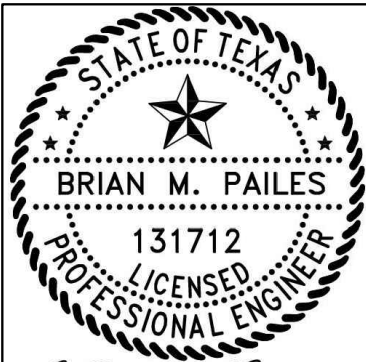
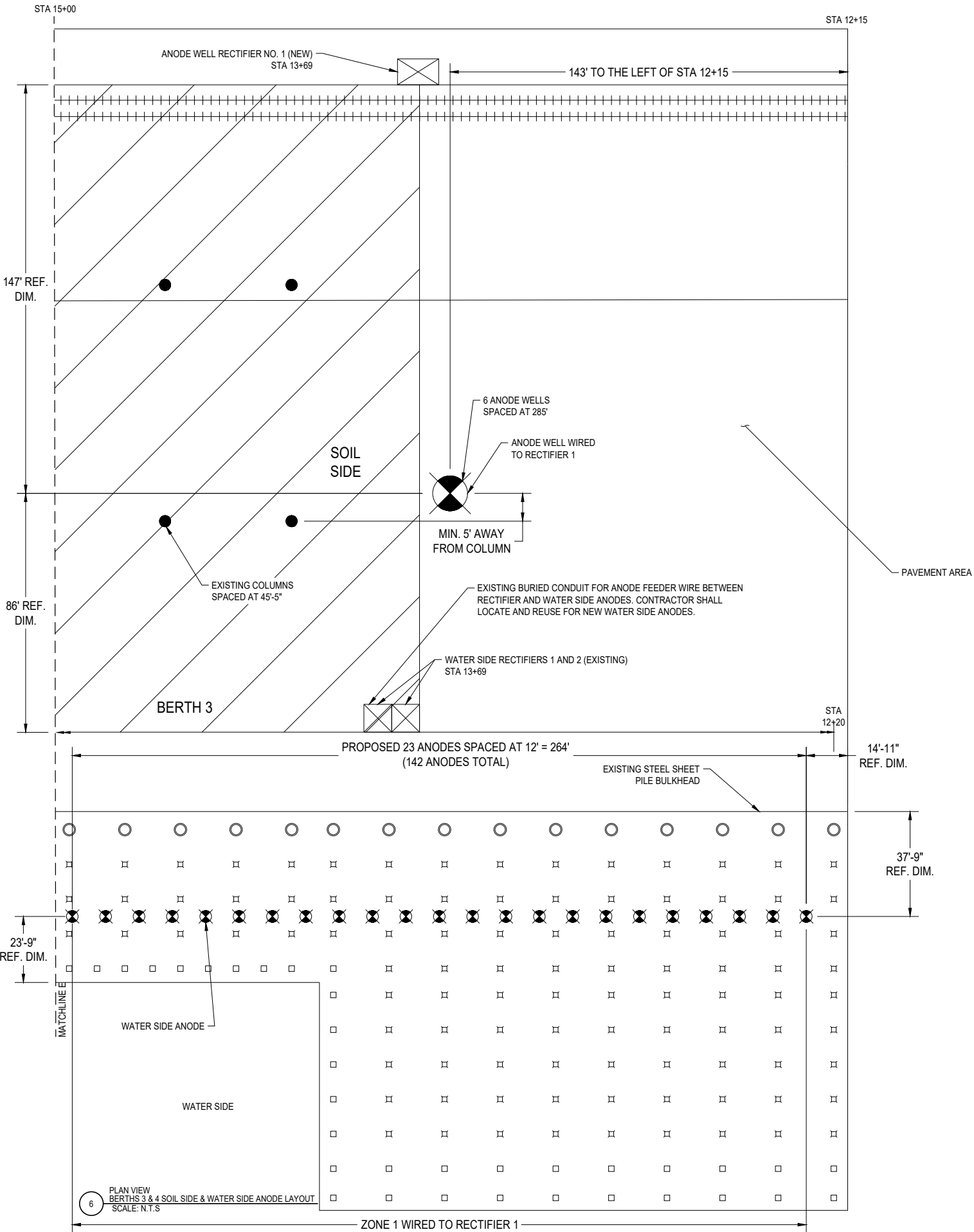
**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

**BERTHS 3 AND 4 PLAN VIEW -  
ANODE LAYOUT (5 OF 6)**

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
WWW.VCSERVICES.COM  
FL CA # 30851

PROJECT NO.  
**F19037TX**

DRAWING NO.  
**CP-7**



*Brian M. Pailes*

DATE: 3-20-2020

**COLLINS  
ENGINEERS<sup>INC.</sup>**

TEXAS FIRM# 9791  
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PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION  
PORT ARTHUR, TX 77640  
PORT OF PORT ARTHUR

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3-20-2020

PROJECT NO.  
F19037TX

FIRM NO.  
9791

FIGURE NO.  
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**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**

PORT ARTHUR, TX

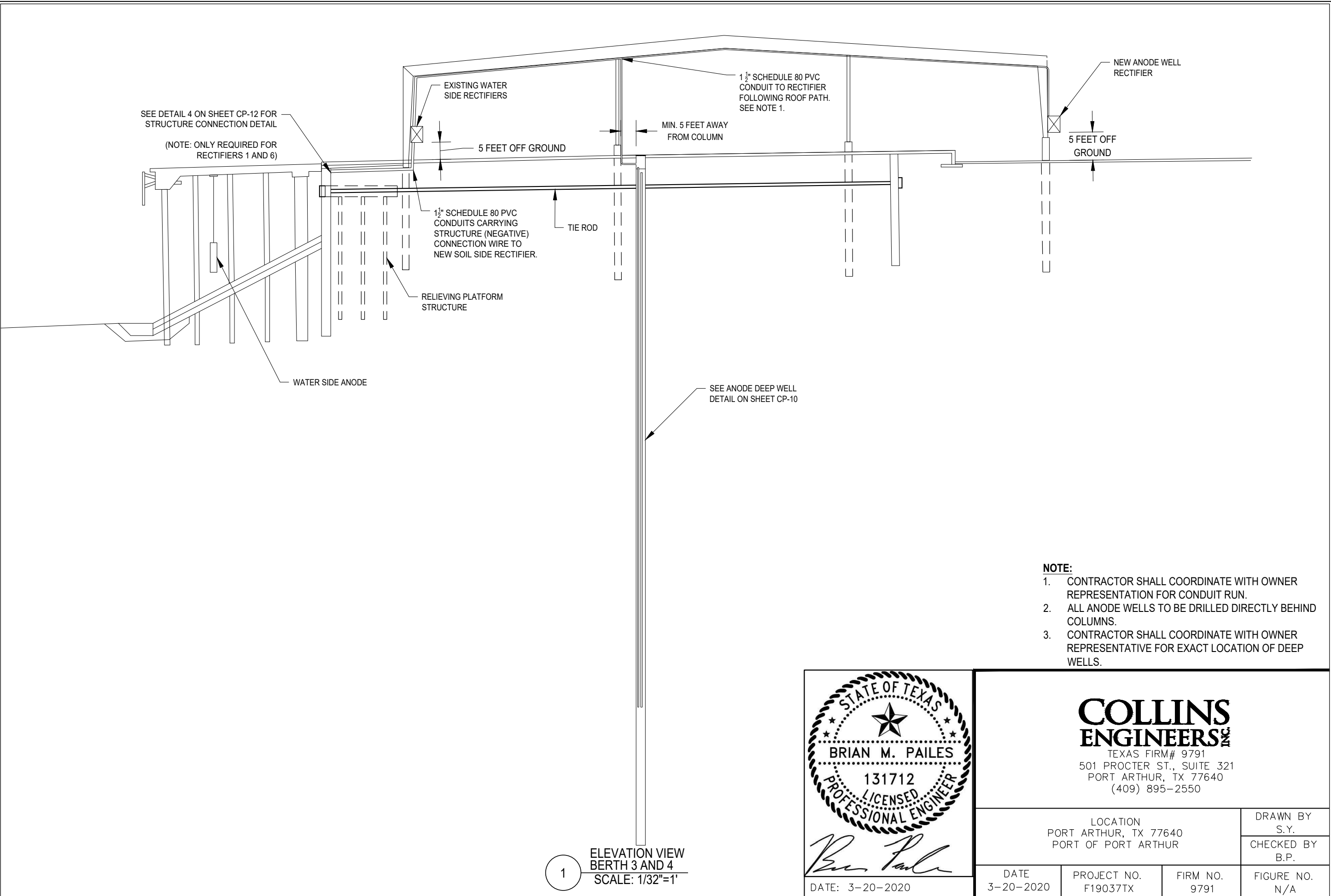
BERTHS 3 AND 4 PLAN VIEW -  
ANODE LAYOUT (6 OF 6)

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
WWW.VCSERVICES.COM  
FL CA # 30851

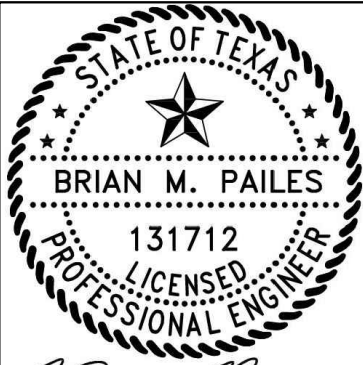
PROJECT NO.  
F19037TX

DRAWING NO.

CP-8



- NOTE:**
- 1. CONTRACTOR SHALL COORDINATE WITH OWNER REPRESENTATION FOR CONDUIT RUN.
  - 2. ALL ANODE WELLS TO BE DRILLED DIRECTLY BEHIND COLUMNS.
  - 3. CONTRACTOR SHALL COORDINATE WITH OWNER REPRESENTATIVE FOR EXACT LOCATION OF DEEP WELLS.



*Brian M. Pailes*

DATE: 3-20-2020

**COLLINS ENGINEERS**

TEXAS FIRM# 9791  
501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION  
PORT ARTHUR, TX 77640  
PORT OF PORT ARTHUR

DRAWN BY  
S.Y.

CHECKED BY  
B.P.

DATE  
3-20-2020

PROJECT NO.  
F19037TX

FIRM NO.  
9791

FIGURE NO.  
N/A

DRAWING REVISIONS			
#	DATE	BY	DESCRIPTION
0	12/10/19	S.Y.	INITIAL DRAWINGS



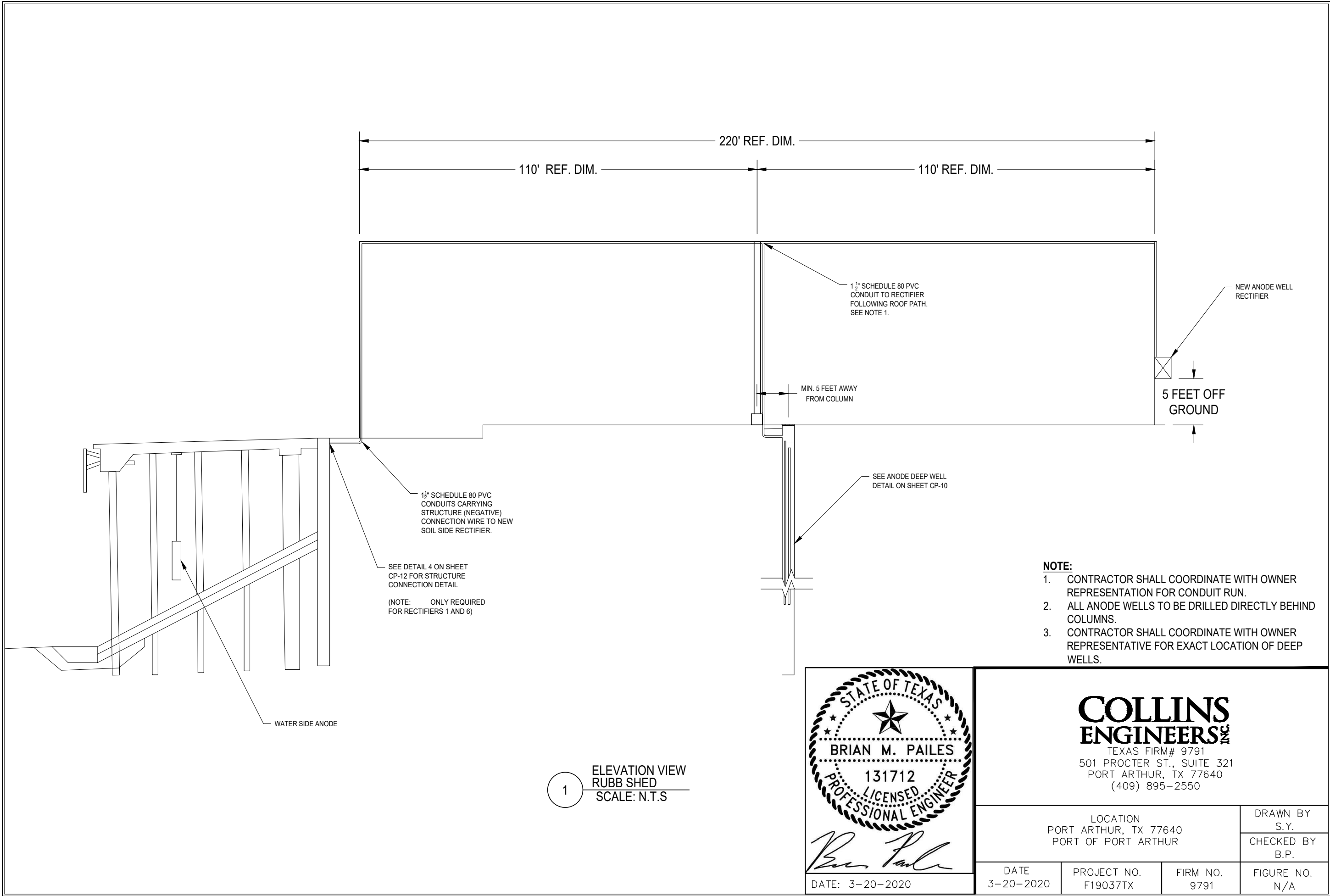
**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

**BERTH 3 AND 4 TYPICAL  
ELEVATION VIEW**

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
WWW.VCSERVICES.COM  
FL CA # 30851

PROJECT NO.  
F19037TX

DRAWING NO.  
CP-9



- NOTE:**
- 1. CONTRACTOR SHALL COORDINATE WITH OWNER REPRESENTATION FOR CONDUIT RUN.
  - 2. ALL ANODE WELLS TO BE DRILLED DIRECTLY BEHIND COLUMNS.
  - 3. CONTRACTOR SHALL COORDINATE WITH OWNER REPRESENTATIVE FOR EXACT LOCATION OF DEEP WELLS.

STATE OF TEXAS

BRIAN M. PAILES

131712

PROFESSIONAL ENGINEER

DATE: 3-20-2020

**COLLINS ENGINEERS**

TEXAS FIRM# 9791

501 PROCTER ST., SUITE 321

PORT ARTHUR, TX 77640

(409) 895-2550

LOCATION

PORT ARTHUR, TX 77640

PORT OF PORT ARTHUR

DRAWN BY

S.Y.

CHECKED BY

B.P.

DATE

3-20-2020

PROJECT NO.

F19037TX

FIRM NO.

9791

FIGURE NO.

N/A

DRAWING REVISIONS			
#	DATE	BY	DESCRIPTION
0	12/10/19	S.Y.	INITIAL DRAWINGS



**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

**TYPICAL ELEVATION OF RUBB**

VECTOR CORROSION SERVICES, INC.

8413 LAUREL FAIR CIRCLE

SUITE 200B

TAMPA, FL 33610

(813) 501-0050

WWW.VCSERVICES.COM

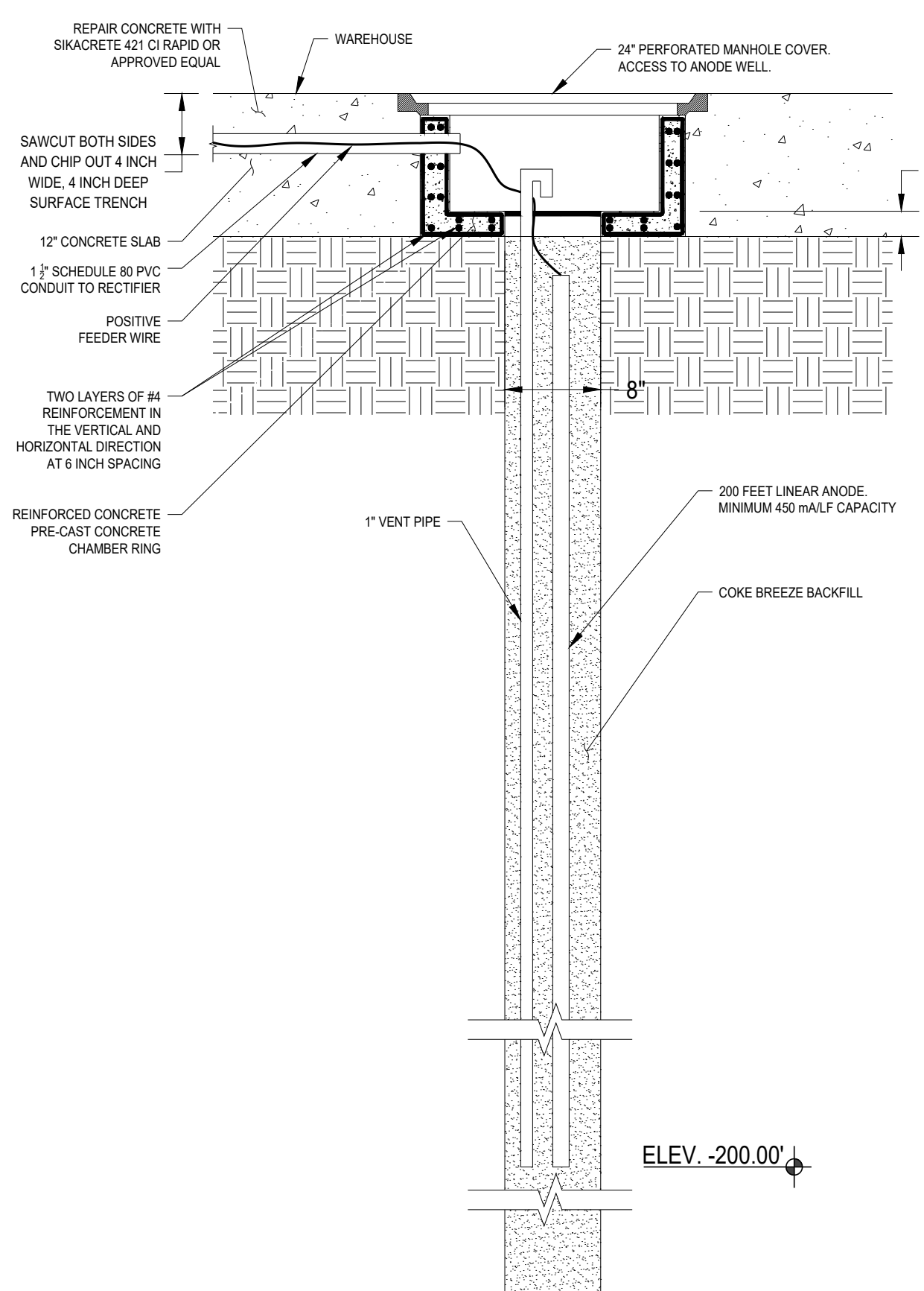
FL CA # 30851

PROJECT NO.

F19037TX

DRAWING NO.

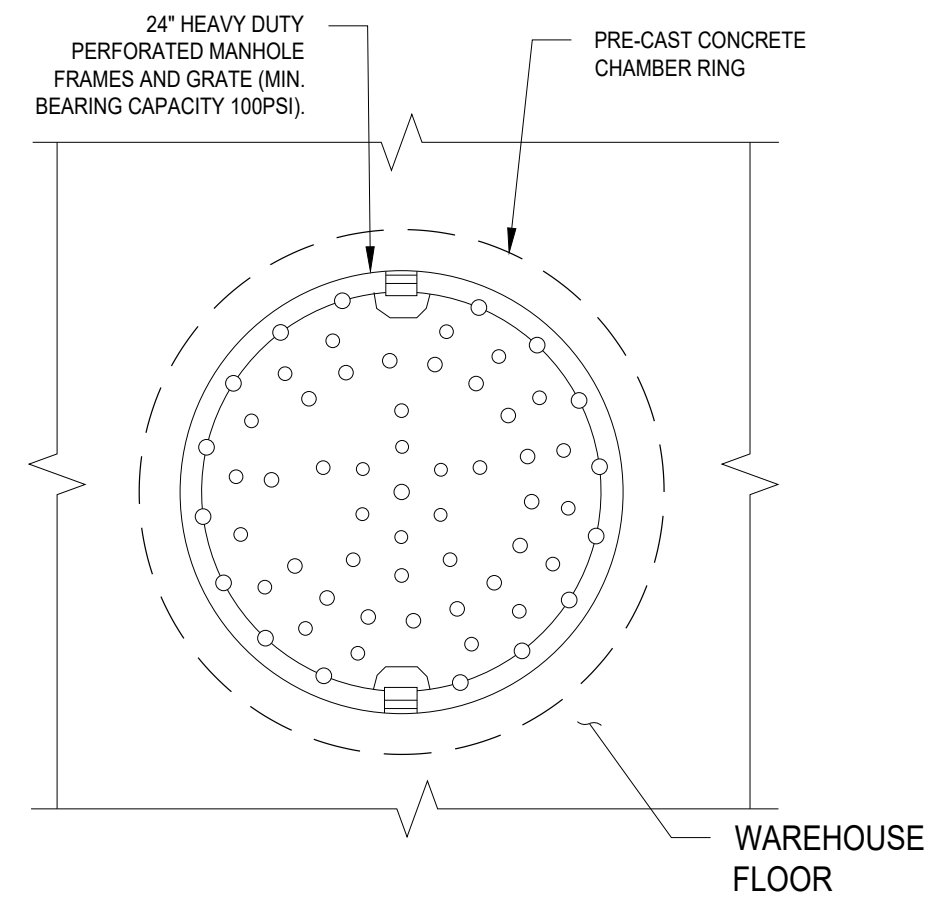
CP-10



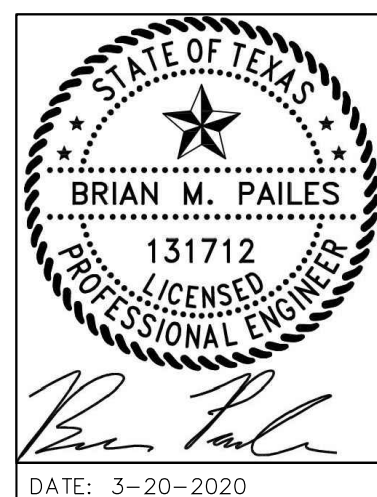
1  
ELEVATION VIEW  
TYPICAL ANODE WELL DETAIL  
SCALE: 1"=1'

ELEV. 15.25'  
\*FLUSH WITH  
SURFACE

ELEV. 14.00'



2  
PLAN VIEW  
TYPICAL PERFORATED MANHOLE DETAIL  
SCALE: N.T.S



**COLLINS ENGINEERS**  
TEXAS FIRM# 9791  
501 PROCTER ST., SUITE 321  
PORT ARTHUR, TX 77640  
(409) 895-2550

LOCATION PORT ARTHUR, TX 77640 PORT OF PORT ARTHUR			DRAWN BY S.Y.
			CHECKED BY B.P.
DATE 3-20-2020	PROJECT NO. F19037TX	FIRM NO. 9791	FIGURE NO. N/A

DRAWING REVISIONS			
#	DATE	BY	DESCRIPTION
0	12/10/19	S.Y.	INITIAL DRAWINGS

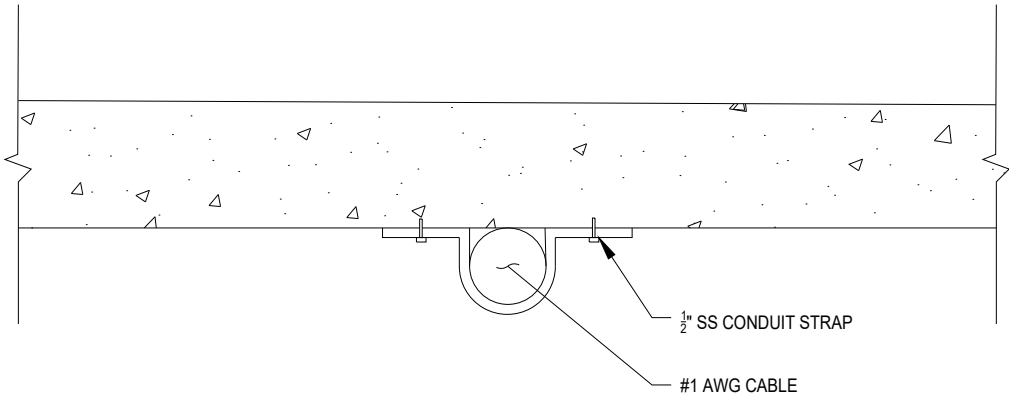


**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

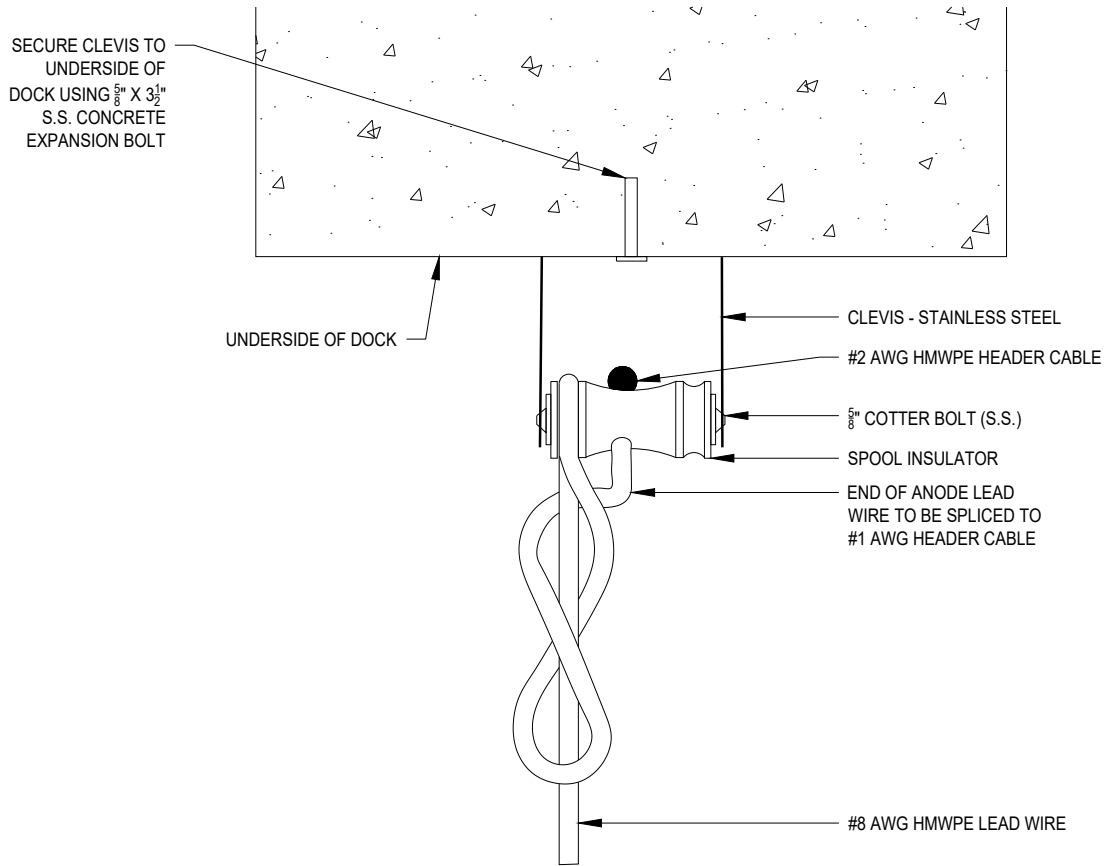
TYPICAL ANODE WELL DETAIL

VECTOR CORROSION  
SERVICES, INC.  
8413 LAUREL FAIR CIRCLE  
SUITE 200B  
TAMPA, FL 33610  
(813) 501-0050  
WWW.VCSERVICES.COM  
FL CA # 30851

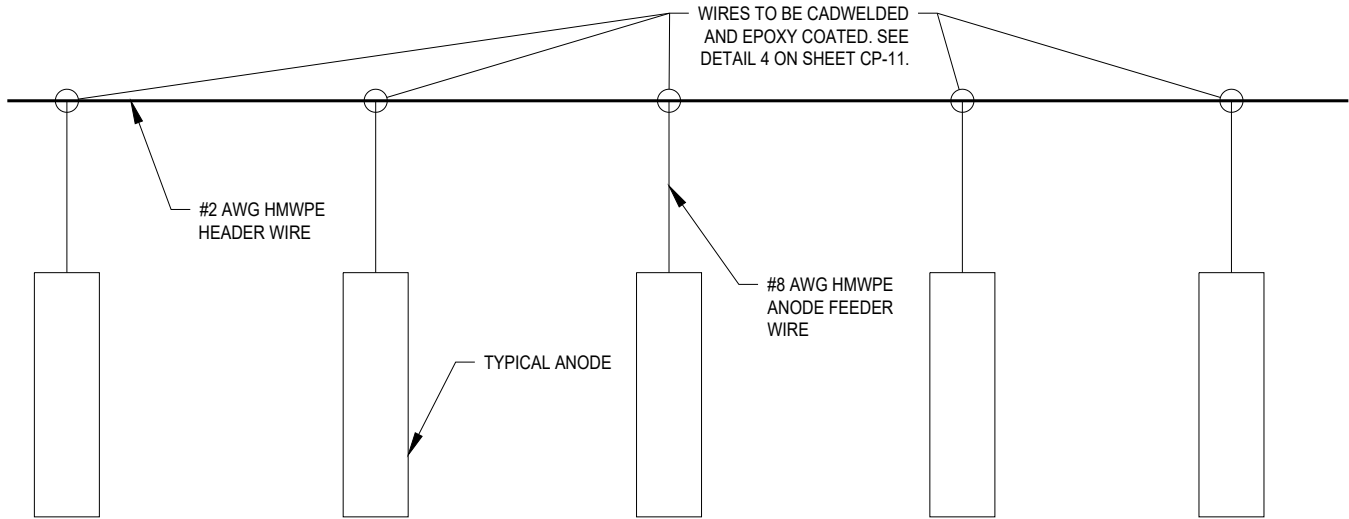
PROJECT NO.  
F19037TX  
DRAWING NO.  
CP-11



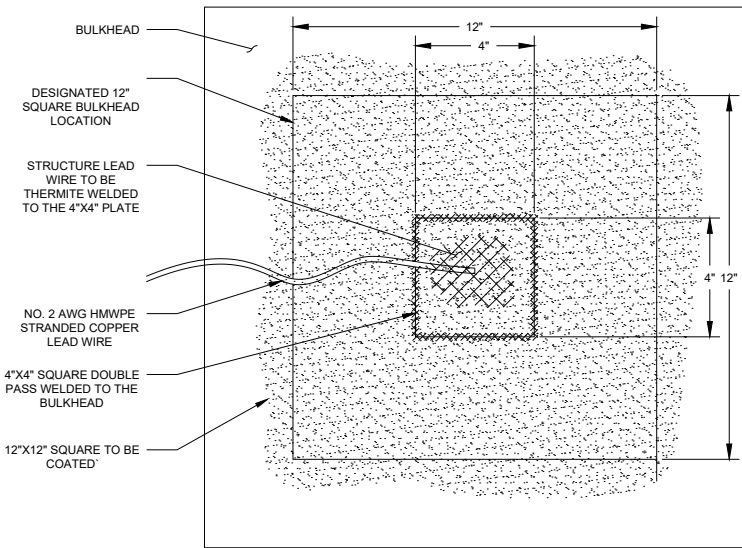
1 1/2" STAINLESS STEEL CONDUIT STRAP AND ANCHOR BOLTS DETAIL  
SCALE: N.T.S



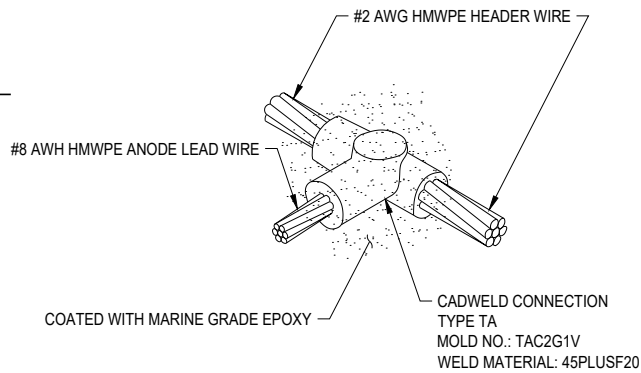
2 CONCRETE MOUNTED ANODE/HEADER CABLE SUPPORT FOR SUSPENDED ANODE (FRONT VIEW)  
SCALE: N.T.S



3 TYPICAL ANODE FEEDER WIRE TO ANODE HEADER WIRE CONNECTION DETAIL  
SCALE: N.T.S

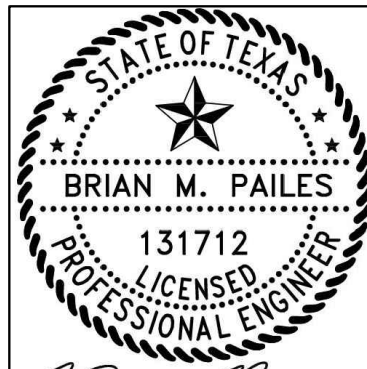


4 TYPICAL STRUCTURE CONNECTION DETAIL  
SCALE: N.T.S



5 UNBALANCED TYPE-T CADWELD CONNECTIONS  
SCALE: N.T.S

**NOTE:**  
1. ALL EXISTING ANODE HEADER WIRES SHALL BE REMOVED AND REPLACED.



DATE: 3-20-2020

**COLLINS ENGINEERS**  
TEXAS FIRM# 9791

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LOCATION  
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PORT OF PORT ARTHUR

DRAWN BY  
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DATE  
3-20-2020

PROJECT NO.  
F19037TX

FIRM NO.  
9791

FIGURE NO.  
N/A

#	DATE	BY	DESCRIPTION
0	12/10/19	S.Y.	INITIAL DRAWINGS



**PORT OF PORT ARTHUR  
CATHODIC PROTECTION  
OF BERTHS 3 AND 4**  
PORT ARTHUR, TX

TYPICAL ANODE CONNECTION  
DETAILS

VECTOR CORROSION  
SERVICES, INC.  
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FL CA # 30851

PROJECT NO.  
F19037TX

DRAWING NO.  
CP-12