



Ministry of Public Works

Request for Proposals

To Design, Supply and Install Cathodic Protection at Heritage Wharf

Royal Naval Dockyard (Sandys Parish), Bermuda

Request for Proposals Project No.: **61-52-78**

Issued: **January 8, 2018**

Submission Deadline: **February 8, 2018, 3:00 PM, AST**

TABLE OF CONTENTS

PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS	3
1.1 Invitation to Proponents.....	3
1.2 RFP Contact.....	3
1.3 Type of Contract for Deliverables	3
1.4 RFP Timetable.....	4
1.5 Submission of Proposals	5
PART 2 – EVALUATION AND AWARD	7
2.1 Stages of Evaluation.....	7
2.2 Stage I – Mandatory Submission Requirements	7
2.3 Stage II – Evaluation.....	7
2.4 Stage III – Pricing	7
2.5 Selection of Top-Ranked Proponent.....	7
2.6 Notice to Proponent and Execution of Agreement	8
2.7 Failure to Enter into Agreement.....	8
PART 3 – TERMS AND CONDITIONS OF THE RFP PROCESS	9
3.1 General Information and Instructions	9
3.2 Communication after Issuance of RFP	10
3.3 Notification and Debriefing.....	11
3.4 Conflict of Interest and Prohibited Conduct.....	11
3.5 Confidential Information.....	13
3.6 Reserved Rights and Limitation of Liability	13
3.7 Governing Law and Interpretation.....	15
APPENDIX A – FORM OF AGREEMENT	16
APPENDIX B – SUBMISSION FORM	17
APPENDIX C – PRICING	20
APPENDIX D – RFP PARTICULARS	24
A. THE DELIVERABLES	24
B. MATERIAL DISCLOSURES.....	24
C. MANDATORY SUBMISSION REQUIREMENTS	24
D. MANDATORY TECHNICAL REQUIREMENTS.....	25
E. PRE-CONDITIONS OF AWARD	25
F. RATED CRITERIA	25
APPENDIX E – CERTIFICATE OF CONFIRMATION OF NON-COLLUSION	28
APPENDIX F - LOCAL BENEFITS	29
ANNEX A SCOPE OF WORK	30
ANNEX B DRAWINGS AND REFERENCE MATERIALS	32
ANNEX C SPECIFICATIONS	33

PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

1.1 Invitation to Proponents

This Request for Proposals (the “RFP”) is an invitation by the Government of Bermuda (the “Government”) to prospective proponents to submit proposals for the **Design, Supply and Installation of Cathodic Protection at Heritage Wharf, Royal Naval Dockyard, Sandys Parish, Bermuda** as further described in Section A of the RFP Particulars (Appendix D) (the “Deliverables”).

The wharf structure and associated bridge and walkway structures were completed in 2010, without cathodic protection. Thus, protection will be designed and installed on piles which have already undergone a degree of corrosion. Details of the extent of corrosion are given in Annex D. The wharf is in constant use throughout the year, in particular between April and October. Proponents should be aware of this and make allowances accordingly.

1.2 RFP Contact

For the purposes of this procurement process, the “RFP Contact” will be: **Mr. Jeremy Burnham** at jpburnham@gov.bm

Proponents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of the Government, other than the RFP Contact, concerning matters regarding this RFP. Failure to adhere to this rule may result in the disqualification of the proponent and the rejection of the proponent’s proposal.

Proponents downloading this file and responding are required to register with RFP Contact by emailing their company name and contact information to jpburnham@gov.bm. Amendment/addenda (if any) will be posted at <https://www.gov.bm/procurement-notices>. Proponents should visit the Government Portal website on a regular basis during the procurement process.

1.3 Type of Contract for Deliverables

The selected proponent will be required to enter into an agreement with the Government for the provision of the Deliverables in the form attached as Appendix A to the RFP (the “Agreement”). It is the Government’s intention to enter into the Agreement with only one (1) legal entity.

Joint submissions are acceptable however if a joint submission is made, the submission must clearly indicate which party will act as the prime contractor.

1.4 RFP Timetable

Issue Date of RFP	January 8, 2018
Deadline for Questions	January 31, 2018, 4:00 PM Atlantic Standard Time "AST"
Deadline for Issuing Addenda	February 4, 2018, 4:00 PM AST
Submission Deadline	February 7, 2018, 3:00 PM AST
Public Opening	February 7, 2018, 4:00 PM AST
Irrevocability Period	One Hundred and Twenty (120) calendar days
Anticipated Execution of Agreement	March 16, 2018

The RFP timetable is tentative only, and may be changed by the Government at any time. Proponents are requested to submit a Registration of Interest prior to the deadline noted in the timetable above with the RFP contact.

1.4.1 Public Opening

1. The Government will examine the proposals to determine whether they are complete, documents have been properly signed and the response is generally in order. Proposals for which an acceptable notice of withdrawal has been submitted pursuant to Clause 1.5.5 shall not be opened.
2. The Public Opening will be held in public.
3. The Public Opening will be recorded with the proponents' names and prices.

1.4.2 Site Inspections

1. Prior to the submission deadline it is strongly suggested that the proponent visit and inspect the site and surrounding areas where the works is to be performed.
2. The Proponent shall be deemed to have satisfied themselves as to the form and nature of the site, the quantities and nature of the works and materials necessary for the completion of the works, and in general to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or affect his proposal.
3. Proponents will be granted permission by the Government, upon application, to enter upon the site of the works for the purpose of inspection but only upon the express condition that such person will release and indemnify the Government from and against all liability in respect of personal injury, loss of or damage to property and any other loss.
4. Proponents shall make their own assessment of existing facilities, conditions and difficulties which will attend the execution of the works called for by the proposed contract; including local conditions, constraints due to maintenance of traffic, labour conditions, uncertainty of weather, difficulties with access, and all other reasonable contingencies. Proponents shall satisfy themselves by personal examination of the site of the proposed Works and by such other means as they choose as to actual conditions and requirements, and as to the quantities required.

5. The Proponent shall make and will be deemed to have made the fullest inquiries in Bermuda as to the availability of skilled and unskilled labour which he may require in the execution of the Contract and shall employ, to the extent practicable and reasonable, staff and labour from sources within Bermuda.
6. No subsequent claim will be allowed or considered for any work that may be required for the proper execution and completion of the Works, due to failure by the Proponent to examine the site and make proper allowances for the conditions to be encountered.

1.5 Submission of Proposals

1.5.1 Proposals to be Submitted at Prescribed Location

Proposals must be submitted to the Tender Box located at:

Ministry of Public Works
Department of Works and Engineering
3rd Floor, Post Office Building
56 Church Street
Hamilton HM 12, Bermuda

The following information shall be written on the outside of the sealed package:

Proposal Submission
Do Not Open Before 3:00 PM AST, February 7th, 2018
Heritage Wharf – Design, Supply and Installation of Cathodic Protection
Attention: Mr. Jeremy Burnham

1.5.2 Proposals to be Submitted on Time

Proposals must be submitted at the location set out above on or before the Submission Deadline. Proposals submitted after the Submission Deadline will be rejected. Onus and responsibility rest solely with the proponent to deliver its proposal to the exact location (including floor, if applicable) indicated in the RFP on or before the Submission Deadline. The Government does not accept any responsibility for submissions delivered to any other location by the proponent or its delivery agents. Proponents are advised to make submissions well before the deadline. Proponents making submissions near the deadline do so at their own risk.

1.5.3 Proposals to be Submitted in Prescribed Format

Proponents shall submit **three (3) original signed hard copies of their proposal in a sealed package or one (1) electronic copy, in Microsoft Word or Adobe PDF format.** If both a hard copy and electronic copy of the proposal are submitted and there is a conflict or inconsistency between the hard copy and the electronic copy of the proposal, the hard copy of the proposal will prevail. Proposals should be prominently marked with the RFP title and number (see RFP cover), with the full legal name and return address of the proponent as noted in 1.5.1.

1.5.4 Amendment of Proposals

Proponents may amend their proposals prior to the Submission Deadline by submitting the amendment in a sealed package prominently marked with the RFP title and number and the full

legal name and return address of the proponent to the location set out above. Any amendment should clearly indicate which part of the proposal the amendment is intended to amend or replace.

1.5.5 Withdrawal of Proposals

Proponents may withdraw their proposals prior to the Submission Deadline. To withdraw a proposal, a notice of withdrawal must be sent to the RFP Contact prior to the Submission Deadline and must be signed by an authorized representative of the proponent. The Government is under no obligation to return withdrawn proposals.

1.5.6 Proposals Irrevocable after Submission Deadline

Proposals shall be irrevocable for a period of **one hundred and twenty (120) calendar days** running from the moment that the Submission Deadline passes.

[End of Part 1]

PART 2 – EVALUATION AND AWARD

2.1 Stages of Evaluation

The Government will conduct the evaluation of proposals in the following stages:

2.2 Stage I – Mandatory Submission Requirements

Stage I will consist of a review to determine which proposals comply with all of the mandatory submission requirements. Proposals that do not comply with all of the mandatory submission requirements as of the Submission Deadline will, subject to the express and implied rights of the Government, be rejected. The mandatory submission requirements are listed in Section C of the RFP Particulars (Appendix D).

2.2.1 No Amendment to Forms

Other than inserting the information requested on the mandatory submission forms set out in the RFP, a proponent may not make any changes to any of the forms. Any proposal containing any such changes, whether on the face of the form or elsewhere in the proposal, may be disqualified.

2.3 Stage II – Evaluation

Stage II will consist of the following two sub-stages:

2.3.1 Mandatory Technical Requirements

The Government will review the proposals to determine whether the mandatory technical requirements as set out in Section D of the RFP Particulars (Appendix D) have been met. Proposals that do not comply with all of the mandatory technical requirements will, subject to the express and implied rights of the Government, be disqualified and not evaluated further.

2.3.2 Rated Criteria

The Government will evaluate each qualified proposal on the basis of the non-price rated criteria as set out in Section F of the RFP Particulars (Appendix D).

2.4 Stage III – Pricing

Stage III will consist of a scoring of the submitted pricing of each qualified proposal in accordance with the price evaluation method set out in Pricing (Appendix C). The evaluation of price will be undertaken after the evaluation of mandatory requirements and rated criteria has been completed.

2.5 Selection of Top-Ranked Proponent

After the completion of Stage III, all scores from Stage II and Stage III will be added together and proponents will be ranked based on their total scores. Subject to the reserved rights of the Government, the top-ranked proponent will be selected to enter into the Agreement in accordance with the following section. In the event of a tie, the selected proponent will be the proponent selected by way of lowest price.

2.6 Notice to Proponent and Execution of Agreement

Notice of selection by the Government to the selected proponent shall be given in writing. The selected proponent shall execute the Agreement in the form attached as Appendix A to this RFP and satisfy any other applicable conditions of this RFP, including the pre-conditions of award listed in Section E of the RFP Particulars (Appendix D), within fifteen (15) days of notice of selection. This provision is solely for the benefit of the Government and may be waived by the Government.

2.7 Failure to Enter into Agreement

In addition to all of the Government's other remedies, if a selected proponent fails to execute the Agreement or satisfy any applicable conditions within fifteen (15) days of notice of selection, the Government may, without incurring any liability, withdraw the selection of that proponent and proceed with the selection of another proponent.

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE RFP PROCESS

3.1 General Information and Instructions

3.1.1 Proponents to Follow Instructions

Proponents should structure their proposals in accordance with the instructions in this RFP. Where information is requested in this RFP, any response made in a proposal should reference the applicable section numbers of this RFP.

3.1.2 Proposals in English

All proposals must be written in the English language only.

3.1.3 No Incorporation by Reference

The entire content of the proponent's proposal should be submitted in a fixed form, and the content of websites or other external documents referred to in the proponent's proposal but not attached will not be considered to form part of its proposal.

3.1.4 References and Past Performance

In the evaluation process, The Government may include information provided by the proponent's references and may also consider the proponent's past performance or conduct on previous contracts with the Government or other institutions.

3.1.5 Information in RFP Only an Estimate

The Government and its advisers make no representation, warranty or guarantee as to the accuracy of the information and empirical data contained in this RFP or issued by way of addenda. Any quantities shown or data contained in this RFP or provided by way of addenda are estimates only, and are for the sole purpose of indicating to proponents the general scale and scope of the Deliverables. It is the proponent's responsibility to obtain all the information necessary to prepare a proposal in response to this RFP.

3.1.6 Proponents to Bear Their Own Costs

The proponent will bear all costs associated with or incurred in the preparation and presentation of its proposal, including, if applicable, costs incurred for interviews, travel or demonstrations.

3.1.7 Proposal to be Retained by The Government

The Government will not return the proposal or any accompanying documentation submitted by a proponent.

3.1.8 No Guarantee of Volume of Work or Exclusivity of Contract

The Government makes no guarantee of the value or volume of work to be assigned to the successful proponent. The Agreement will not be an exclusive contract for the provision of the described Deliverables. The Government may contract with others for goods and services the same as or similar to the Deliverables or may obtain such goods and services internally.

3.1.9 Equivalency

When proprietary names, brands, catalogues or reference numbers are specified in the Deliverables, they are intended to set a minimum standard, and preference for any particular material or equipment is not intended. The proponent may offer material or equipment of similar characteristics, type, quality, appearance, finish, method of construction and performance and if doing so must disclose any difference in the characteristics, type, quality, appearance, finish, method of construction or performance of the material or equipment.

3.2 Communication after Issuance of RFP

3.2.1 Proponents to Review RFP

Proponents shall promptly examine all of the documents comprising this RFP, and

- (a) shall report any errors, omissions or ambiguities; and
- (b) may direct questions or seek additional information

in writing by email to the RFP Contact on or before the Deadline for Questions. All questions or comments submitted by proponents by email to the RFP Contact shall be deemed to be received once the email has entered into the RFP Contact's email inbox. No such communications are to be directed to anyone other than the RFP Contact. The Government is under no obligation to provide additional information, and the Government shall not be responsible for any information provided by or obtained from any source other than the RFP Contact. It is the responsibility of the proponent to seek clarification from the RFP Contact on any matter it considers to be unclear. The Government shall not be responsible for any misunderstanding on the part of the proponent concerning this RFP or its process.

3.2.2 All New Information to Proponents by Way of Addenda

This RFP may be amended only by addendum in accordance with this section. If the Government, for any reason, determines that it is necessary to provide additional information relating to this RFP, such information will be communicated to all proponents by addendum. All addenda will be published online at <https://www.gov.bm/procurement-notices>. Each addendum forms an integral part of this RFP and may contain important information, including significant changes to this RFP. Proponents are responsible for obtaining all addenda issued by the Government. In the Submission Form (Appendix B), proponents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

3.2.3 Post-Deadline Addenda and Extension of Submission Deadline

If the Government determines that it is necessary to issue an addendum after the Deadline for Issuing Addenda, the Government may extend the Submission Deadline.

3.2.4 Verify and Clarify

When evaluating proposals, the Government may request further information from the proponent or third parties in order to verify or clarify the information provided in the proponent's proposal. The information may include, without limitation, clarification with respect to whether a response meets the mandatory technical requirements set out in Section D of the RFP

Particulars (Appendix D). The response received by the Government shall, if accepted by the Government, form an integral part of the proponent's proposal.

3.3 Notification and Debriefing

3.3.1 Notification to Other Proponents

Once the Agreement is executed by the Government and a proponent, the other proponents may be notified directly in writing of the outcome of the procurement process.

3.3.2 Debriefing

Proponents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be in writing to the RFP Contact and must be made within sixty (60) days of such notification.

3.3.3 Procurement Protest Procedure

If a proponent wishes to challenge the RFP process, it should provide written notice to the RFP Contact in accordance with the Government's Procurement Protest procedures. The notice must provide detailed explanation of the proponent's concern with the procurement process or its outcome.

3.4 Conflict of Interest and Prohibited Conduct

3.4.1 Conflict of Interest

For the purposes of this RFP, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFP process, the proponent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the Government in the preparation of its proposal that is not available to other proponents, (ii) communicating with any person with a view to influencing preferred treatment in the RFP process (including but not limited to the lobbying of decision makers involved in the RFP process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFP process or render that process non-competitive or unfair; or
- (b) in relation to the performance of its contractual obligations contemplated under a contract for the Deliverables, the proponent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.

3.4.2 Disqualification for Conflict of Interest

The Government may disqualify a proponent for any conduct, situation or circumstances, determined by the Government, in its sole and absolute discretion, to constitute a Conflict of Interest as defined above.

3.4.3 Disqualification for Prohibited Conduct

The Government may disqualify a proponent, rescind a notice of selection or terminate a contract subsequently entered into if the Government determines that the proponent has engaged in any conduct prohibited by this RFP.

3.4.4 Prohibited Proponent Communications

Proponents must not engage in any communications that could constitute a Conflict of Interest and should take note of the Conflict of Interest declaration set out in the Submission Form (Appendix B).

3.4.5 Proponent Not to Communicate with Media

Proponents must not at any time directly or indirectly communicate with the media in relation to this RFP or any agreement entered into pursuant to this RFP without first obtaining the written permission of the RFP Contact.

3.4.6 No Lobbying

Proponents shall not in relation to this RFP or the evaluation and selection process, engage directly or indirectly in any form of political action or other activity whatsoever to influence or attempt to influence Parliament, the Government, or to influence or attempt to influence any legislative or regulatory action, in the selection or evaluation of any proponent.

3.4.7 Illegal or Unethical Conduct

Proponents must not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Proponents must not engage in any unethical conduct, including lobbying, as described above, or other inappropriate communications; offering gifts to any employees, officers, agents, elected or appointed officials or other representatives of the Government; deceitfulness; submitting proposals containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFP.

3.4.8 Past Performance or Past Conduct

The Government may prohibit a supplier from participating in a procurement process based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

- (a) illegal or unethical conduct as described above;
- (b) the refusal of the supplier to honour its submitted pricing or other commitments; or

- (c) any conduct, situation or circumstance determined by the Government, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest.

3.4.9 No Collusion

Proponents must not engage in any collusion and must sign the certificate as set out in the Certificate of Confirmation of Non-Collusion (Appendix E).

3.5 Confidential Information

3.5.1 Confidential Information of The Government

All information provided by or obtained from the Government in any form in connection with this RFP either before or after the issuance of this RFP

- (a) is the sole property of the Government and must be treated as confidential;
- (b) is not to be used for any purpose other than replying to this RFP and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from the Government; and
- (d) must be returned by the proponent to the Government immediately upon the request of the Government.

3.5.2 Confidential Information of Proponent

A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the Government. The confidentiality of such information will be maintained by the Government, except as otherwise required by the Public Access to Information Act 2010 or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed on a confidential basis to advisers retained by the Government to advise or assist with the RFP process, including the evaluation of proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the RFP Contact.

3.6 Reserved Rights and Limitation of Liability

3.6.1 Reserved Rights of The Government

The Government reserves the right to

- (a) make public the names of any or all proponents;
- (b) make changes, including substantial changes, to this RFP provided that those changes are issued by way of addendum in the manner set out in this RFP;
- (c) request written clarification or the submission of supplementary written information in relation to the clarification request from any proponent and incorporate a proponent's response to that request for clarification into the proponent's proposal;

- (d) assess a proponent's proposal on the basis of: (i) a financial analysis determining the actual cost of the proposal when considering factors including quality, service, price and transition costs arising from the replacement of existing goods, services, practices, methodologies and infrastructure (howsoever originally established); and (ii) in addition to any other evaluation criteria or considerations set out in this RFP, consider any other relevant information that arises during this RFP process;
- (e) waive formalities and accept proposals that substantially comply with the requirements of this RFP;
- (f) verify with any proponent or with a third party any information set out in a proposal;
- (g) check references other than those provided by any proponent;
- (h) disqualify a proponent, rescind a notice of selection or terminate a contract subsequently entered into if the proponent has engaged in any conduct that breaches the process rules or otherwise compromises or may be seen to compromise the competitive process;
- (i) select a proponent other than the proponent whose proposal reflects the lowest cost to the Government;
- (j) cancel this RFP process at any stage;
- (k) cancel this RFP process at any stage and issue a new RFP for the same or similar deliverables;
- (l) accept any proposal in whole or in part; or
- (m) reject any or all proposals;

and these reserved rights are in addition to any other express rights or any other rights that may be implied in the circumstances.

3.6.2 Limitation of Liability

By submitting a proposal, each proponent agrees that

- (a) neither the Government nor any of its employees, officers, agents, elected or appointed officials, advisors or representatives will be liable, under any circumstances, for any claim arising out of this proposal process including but not limited to costs of preparation of the proposal, loss of profits, loss of opportunity or for any other claim; and
- (b) the proponent waives any claim for any compensation of any kind whatsoever, including claims for costs of preparation of the proposal, loss of profit or loss of opportunity by reason of the Government's decision to not accept the proposal submitted by the proponent, to enter into an agreement with any other proponent or to cancel this proposal process, and the proponent shall be deemed to have agreed to waive such right or claim.

3.7 Governing Law and Interpretation

These Terms and Conditions of the RFP Process (Part 3)

- (a) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (b) are non-exhaustive and shall not be construed as intending to limit the pre-existing rights of the Government; and
- (c) are to be governed by and construed in accordance with the laws of Bermuda applicable therein.

[End of Part 3]

APPENDIX A – FORM OF AGREEMENT



61-52-78-04A Annex
E2 - Short Form of Cc

(Copy of sample short form of contract is attached – click on the document to open it.)

Acknowledgement:

(TO BE COMPLETED BY THE PROPONENT)

This is to certify that I, _____ hereby acknowledge that I am aware of the terms and conditions of the attached “**Conditions of Contract for the Short Form of Contract, First Edition 1999**”, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC)” and as modified by the **Particular Conditions**.

I acknowledge that the following documents have been provided in the proposal package and at the date of this submission I have no issues with the terms and conditions of this agreement.

Conditions of Contract for the Short Form of Contract, First Edition 1999, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC).

Conditions of Contract for the Short Form of Contract, First Edition 1999, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC) as modified by the **Particular Conditions**.

Dated this _____ day of _____ 2018.

SIGNED:

(Signature) _____ in the capacity of _____

(Block letters) _____

Duly authorized to sign proposals for and on behalf of:

(Firm) _____ (Address) _____

APPENDIX B – SUBMISSION FORM

1. Proponent Information

Please fill out the following form, naming one person to be the proponent's contact for the RFP process and for any clarifications or communication that might be necessary.	
Full Legal Name of Proponent or Personal/Given Name:	
Representative Name (Person with Signing Authority) / Title:	
Full Legal Name of Proponent:	
Any Other Relevant Name under which Proponent Carries on Business:	
Street Address:	
City, Province/State:	
Country:	
Postal Code:	
Phone Number:	
Proponent's Social Insurance Number issued by the Government of Bermuda:	
Proponent's Payroll Tax Number issued by the Government of Bermuda:	
Company Website (if any):	
Proponent Contact Name and Title:	
Proponent Contact Phone:	
Proponent Contact Fax:	
Proponent Contact Email:	

2. Offer

The proponent has carefully examined the RFP documents and has a clear and comprehensive knowledge of the Deliverables required under the RFP. By submitting a proposal, the proponent agrees and consents to the terms, conditions and provisions of the RFP, including the Form of Agreement, and offers to provide the Deliverables in accordance therewith at the rates set out in its proposal.

3. Rates

The proponent has submitted its rates in accordance with the instructions in the RFP and in Pricing (Appendix C) in particular. The proponent confirms that it has factored all of the provisions of Appendix A, including insurance and indemnity requirements, into its pricing assumptions and calculations.

4. Addenda

The proponent is requested to confirm that it has received all addenda by listing the addenda numbers; _____ to _____ (if applicable) issued by the Government, or if no addenda were issued by the Government write the word "None". The onus is on proponents to make any necessary amendments to their proposals based on the addenda. The proponent confirms it has read, received and complied with these addenda. Proponents who fail to complete this section will be deemed to have received all posted addenda.

5. No Prohibited Conduct

The proponent declares that it has not engaged in any conduct prohibited by this RFP.

6. Conflict of Interest

Proponents must declare all potential Conflicts of Interest, as defined in section 3.4.1 of the RFP. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the proposal; **AND** (b) were employees of the Government within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the proponent will be deemed to declare that (a) there was no Conflict of Interest in preparing its proposal; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFP.

Otherwise, if the statement below applies, check the box.

- The proponent declares that there is an actual or potential Conflict of Interest relating to the preparation of its proposal, and/or the proponent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFP.

If the proponent declares an actual or potential Conflict of Interest by marking the box above, the proponent must set out below details of the actual or potential Conflict of Interest:

7. Proposal Irrevocable

The proponent agrees that its proposal shall be irrevocable for a period of **one hundred and twenty (120)** calendar days following the Submission Deadline.

8. Disclosure of Information

Any information collected or used by or on behalf of the Government under this solicitation document is subject to the Public Access to Information Act 2010 (“Act”). The information belongs to a class of information that might be made available to the general public unless it is contained in a record that is exempt from disclosure under the Act. Any questions regarding the collection, use, or disclosure of the information should be directed to the public authority that issued this solicitation document.

9. Execution of Agreement

The proponent agrees that in the event its proposal is selected by the Government, in whole or in part, it will finalize and execute the Agreement in the form set out in Appendix A to this RFP in accordance with the terms of this RFP.

Signature of Witness

Signature of Proponent Representative

Name of Witness

Name of Proponent Representative

Title of Proponent Representative

Date

I have the authority to bind the proponent.

APPENDIX C – PRICING

1. Instructions on How to Provide Pricing

- (a) Proponents should provide the information requested under section 3 below (“Required Pricing Information”) by reproducing and completing the table below in their proposals, or, if there is no table below, by completing the attached form and including it in their proposals.
- (b) Pricing must be provided in Bermuda funds, inclusive of all applicable duties and taxes, which should be itemized separately.
- (c) Pricing quoted by the proponent must be all-inclusive and must include all labour and material costs, all travel and carriage costs, all insurance costs, all costs of delivery, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law.

2. Evaluation of Pricing

Pricing is worth **30 points** of the total score.

Pricing will be scored based on a relative pricing formula using the rates set out in the pricing form. Each proponent will receive a percentage of the total possible points allocated to price for the particular category it has bid on, which will be calculated in accordance with the following formula:

$$\text{lowest price} \div \text{proponent's price} \times \text{weighting} = \text{proponent's pricing points}$$

In addition to any rights to verify, clarify and supplement,

- (a) The Government will examine the responses to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the bids are generally in order.
- (b) Arithmetical errors will be rectified on the following basis:
 - (i) Where there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the Bidder does not accept the correction of errors, its Bid will be rejected. If there is a discrepancy between words and figures the amount in words will prevail;
 - (ii) Where there is a discrepancy between the amounts in figures and in words, the amounts in words will govern; and
 - (iii) Where there is a discrepancy between the individual lump sums and the total amounts derived for the sum of the individual lump sum, the individual lump sum as quoted will govern, and the total amount will be corrected.

3. Required Pricing Information

FIXED PRICE SCHEDULE CONTRACT PRICE BREAKDOWN

(TO BE COMPLETED BY THE PROPONENT)

All prices (in Bermuda dollars) are to be all inclusive of all other associated works as shown on the Contract Documents, materials, related accessories, storage, transport, assembly, placement, overhead and profit. These rates may be used for determining additions and deletions from the contract sum and for interim payment valuation.

Item	Description	Quantity	Sum(s) in (Figure(s and Word(s)
1	Design	1	
2	Supply of Cathodic Protection material	1	
3	Installation of Cathodic Protection	1	
	Total		

NOTE:

All work detailed on the Contract Documents shall be covered completely by the Total Lump Sum. Individual lump sum items are all-inclusive. If a specific task is not identified separately in the above list, the Contractor shall assume that it is included as part of another related listed item or items, and shall base his lump sum amounts on this assumption.

We, the undersigned, offer to execute and complete the whole of the said works and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Drawings, and Addenda for the lump sum of

_____ (words)

_____ (figures)

Contract Period:calendar weeks
Proposed Start Date: 2018
Proposed Completion Date:2018

Dated this ____ day of ____ 2018.

SIGNED:

(Signature) _____ in the capacity of _____

(Block letters) _____

Duly authorized to sign proposals for and on behalf of:

(Firm) _____

(Address) _____

UNIT RATE SCHEDULE
(TO BE COMPLETED BY THE PROPONENT)

All prices (in Bermuda dollars) in the schedule are to be **inclusive of materials and related accessories, storage, transport, plant and equipment assembly, placement, access, overhead and profit.** These rates may be used for determining additions to, and deletions from, the contract sum.

Unit Rate Schedule

ITEM	DESCRIPTION	UNIT	RATE
1.	Site Supervisor	per hour	
2. r	Skilled Labour	per hour	
3.	Unskilled Labour per hour	per hour	
4.	Diver	per hour	
5.	Welder	per hour	
6.	#2/0 Insulated Stranded Copper Cable (Black)	per foot	
7.	#2/0 Un-insulated Stranded Copper Cablet	per foot	

All unit rates above shall be considered fully inclusive of delivery, preparation, placing and finishing. For variations to the contract not covered in the preceding price break down rates or the above schedule of unit rates, the price may be determined on the basis of the base material and installation cost plus _____%for overhead and _____% for profit and applied separately to the base cost.

Dated this _____ day of _____ 2018.

SIGNED:

(Signature) _____ in the capacity of _____

(Block letters) _____

Duly authorized to sign proposals for and on behalf of:

(Firm) _____ (Address) _____

APPENDIX D – RFP PARTICULARS

A. THE DELIVERABLES

To Design, Supply and Install of Cathodic Protection at Heritage Wharf, Royal Naval Dockyard, Sandys Parish, Bermuda in accordance with the following:

Annex A	Scope of Work
Annex B	Drawings (supersedes Table 1.1)
Annex C	Specifications
Annex D	Reference Materials

B. MATERIAL DISCLOSURES

Safety and Health All works must be carried out in strict accordance with the Bermuda Occupational Safety and Health Act, 1982 and the Occupational Safety and Health Regulations of 2009.

Alcohol, Smoke and Drug-Free Policy All Government buildings and work sites are designated as alcohol, smoke and drug-free.

Work Area. Heritage Wharf and it's environs are in constant use throughout the year, in particular between April and October. Proponents should be aware of this and make allowances accordingly.

Existing Structure. The wharf structure and associated bridge and walkway structures were completed in 2010, without cathodic protection. Thus, protection will be designed and installed on piles which have already undergone a degree of corrosion. Details of the extent of corrosion are given in Annex D.

C. MANDATORY SUBMISSION REQUIREMENTS

1. Submission Form (Appendix B)

Each proposal must include a Submission Form (Appendix B) completed and signed by an authorized representative of the proponent.

2. Pricing (Appendix C)

Each proposal must include pricing information that complies with the instructions contained in Pricing (Appendix C).

3. Other Mandatory Submission Requirements

- a) Completed and duly signed **Certificate of Confirmation of Non Collusion (Appendix E)**
- b) Completed and duly signed **Local Benefits (Appendix F)**

c) **References:** Three (3) previous projects and One (1) bank or financial institution references.

d) All corporate proponent, a copy of the company's **Certificate of Incorporation** as evidence of the fact that the company is an existing registered company at the date of proposal. Failure to provide the certificate of incorporation will render the proposal void.

e) Proposal submitted by a **joint venture** of two or more firms as partners shall comply with the following requirements: The proposal and in the case of a successful proponent, the Form of Agreement shall be signed so as to be legally binding on all partners; One of the partners shall be nominated as being in charge; and this authorisation shall be evidenced by submitting a power of attorney signed by legally authorised signatories of all the partners;

The partner in charge shall be authorised to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture, and the entire execution of the Contract including payment shall be done exclusively with the partner in charge; All partners of the joint venture shall be liable, jointly and severally, for the execution of the Contract in accordance with the Contract terms and a relevant statement to this effect shall be included in the authorisation mentioned above as well as in the Submission Form and the Form of Agreement (in the case of a successful proponent); and A copy of the Agreement entered into, by the joint venture partners, shall be submitted with the Proposal.)

f) Acknowledgment Form

N/A

D. MANDATORY TECHNICAL REQUIREMENTS

N/A

E. PRE-CONDITIONS OF AWARD

References

Before awarding any contract, the Government reserves the right to require the proponent to submit such evidence of qualifications as it may deem appropriate. This evidence may be concerning financial, technical and other qualifications as well as the relevant experience and skills of the Bidder. At least three written references from product or services end users may be required prior to the offer being made.

Insurance

The Proponent shall submit evidence with its proposal, such as a copy of a certificate or a letter from its insurers, confirming Third Party Insurance has been retained for the amount shown in the **Appendix to the Agreement** and for the duration of the Works.

F. RATED CRITERIA

The following sets out the categories, weightings and descriptions of the rated criteria of the RFP. Proponents who do not meet a minimum threshold score for a category will not proceed to the next stage of the evaluation process.

Rated Criteria Category	Weighting (Points)	Minimum Threshold
Mandatory Requirements		
Submission Form (Appendix B)	Pass/Fail	N/A
Certificate of Confirmation of Non Collusion (Appendix E)	Pass/Fail	N/A
Rated Criteria Category	Weighting (Points)	Minimum Threshold
i. Experience and Qualifications	30 points	N/A
ii. Relevance of completed projects, experience and references	20 points	N/A
iii. Demonstrated understanding of the project	10 points	N/A
Local Benefits (Appendix F)	10 points	N/A
Pricing (See Appendix C for details)	30 points	N/A
Total Points	100 points	N/A

i. Experience and Qualifications

Each proponent should provide the following in its proposal:

(c) a brief description of the proponent;

(d) a description of its knowledge, skills, experience and list of plant and equipment relevant to the Deliverables; and

(e) the roles and responsibilities of the proponent and any of its agents, employees and sub-contractors who will be involved in providing the Deliverables, together with the identity of those who will be performing those roles and their relevant respective expertise.

ii. Relevance of completed projects and references

Each proponent is requested to provide three (3) references from clients who have obtained goods or services similar to those requested in this RFP from the proponent in the last three (3) years. Submitted reference supporting proponent performance to time and budget constraints of previous projects.

One (1) Bank or other financial institution reference: The proponent provided a reference for a bank or other financial institution confirming the proponent's capacity to provide the necessary financial resources to complete the work in accordance with the contract and schedule.

iii. Demonstrated Understanding of the Project

The proposal will be evaluated on the following:

Proponent thoroughness of proposal and ability to meet requirements

Ability to meet deadlines

Well-articulated and comprehensive description of offer

Proposals are to be concise, one PDF file of no more than twenty (20) pages

iv. Local Benefits (Appendix F)

The proposal shall be evaluated on their:

Engagement of Bermudian workforce during the project

Use of Local Businesses in the proponent's supply chain

Use of Local Sub-contractors (if applicable)

Submit Safety and Health record for three years of reporting

Environmental Considerations and Policy (Proponent to provide copy)

APPENDIX E – CERTIFICATE OF CONFIRMATION OF NON-COLLUSION

Notes for the Proponent

The essence of Open Tendering is that the Government of Bermuda shall receive bona fide competitive proposals from all persons tendering. In recognition of this principle, each company that submits a proposal will be required, by way of the signature of a duly authorized representative of the company, to confirm that the proposal has been submitted without any form of collusion.

All bidders must complete and sign a Certificate of Confirmation of Non-Collusion. Any proposals submitted which do not include a signed copy of the Certificate will be wholly rejected and will not be included in the evaluation process.

If it is later found that the undertakings made below have been breached at any stage of the procurement process, then the bidder will be expelled from the process immediately. In the event that this is discovered after a contract award, legal action may be taken against the bidder and/or any party involved in the matter.

Any bidder that submits false information in response to a proposal, and any other person or company involved in collusion, may be excluded from tendering for future contracts tendered by the Government of Bermuda.

Confirmation of non-collusion

I/We certify that this is a bona fide proposal, intended to be competitive and that I/We have not fixed or adjusted the amount of the proposal or the rates and prices quoted by or under or in accordance with any agreement or arrangement with any other person.

I/We confirm that we have not received any information, other than that contained within the proposal pack, or supplementary information provided to all bidders.

I/We also certify that I/We have not done and undertake that I/We will not do at any time any of the following acts:

(a) communicating to a person other than the RFP Contact the amount or approximate amount of my/our proposed response (other than in confidence in order to obtain quotations necessary for the preparation of the proposal for insurance) or

(b) entering into any agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any proposal to be submitted; or

(c) offering or agreeing to pay or give or paying any sum of money, inducement, gift /hospitality or valuable consideration directly or indirectly to any person in relation to this proposal.

Signed

(1) _____ Title _____ Date _____

(2) _____ Title _____ Date _____

for and on behalf of _____

**APPENDIX F - LOCAL BENEFITS
(SOCIAL, ECONOMIC AND ENVIRONMENTAL)**

Apprenticeships/training positions

Please indicate whether the company has previously or is willing to provide apprenticeships/training positions. If no apprenticeship or training positions exist, indicate.

<u>Nr</u>	<u>Name</u>	<u>Bermudian</u>	<u>Non Bermudian</u>	<u>Apprenticeship or training provided by your company (month/year)</u>

Whether the company provides training to current employees. (Add more lines as needed)

Number of employees

Please indicate the total number of employees working at the company and the number and percentage of Bermudian employees.

NUMBER NON BERMUDIANS:	
NUMBER BERMUDIANS:	
NUMBER STAFF:	

Use of Local Businesses in the Proponent's supply chain Yes No.

If yes, please provide explanation_____

Use of Local Sub-contractors (if applicable) Yes No.

If yes, please provide explanation_____

Safety and Health and Environmental

Please indicate whether the company has a Safety and Health, sustainable goods and/or services environmental policy and, if so, please provide a copy.

Copy attached Yes_____ No_____

ANNEX A SCOPE OF WORK

Heritage Wharf – Design, Supply and Installation of Cathodic Protection

Bermuda

Date: January 8, 2018

Project No. 61-52-78

Part 1 General

1.1 Scope of Work

- .1 The Works consists of:
 - .1 The design of a new Cathodic Protection system to existing steel piles and to all rebar within the bridge, main deck, and dolphins.
 - .2 The supply and installation of the new system, including the cleaning of piles where necessary, and the exposure of rebar cages to facilitate installation.
 - .3 Making good of all concrete removed during the above process.

1.2 Locations and Number of Piles (supersedes the bullet points in Section 2.1 and bullet point 3 in Section 2.5). All piles are 24” diameter

- Bridge (54 total)
- Main Deck (164 total)
- 4 x mooring dolphins each with 10 piles (40 total)
- 2 x breasting dolphins, each with 8 piles (16 total)
- 5 x catwalk supports, each with 3 piles (15 total)
- Total Number of Piles 289

1.3 Reference Documents

- .1 Cathodic Protection Performance Specification March 2013 Revision A. Be aware that this document was produced to be used as part of the Heritage Wharf Improvement Works project in 2013/14.
- .2 Drawings (supersedes Table 1.1 in Annex B)
 - S-5 Pier General Plan and Sections

- S-7 Mooring Dolphin
 - S-8 Breasting Dolphin
 - S-9 Catwalk Plan and Sections
- .3 Onsite Engineering Services Limited – Heritage Wharf Pile Inspection Report 30 August 2017
- .4 Onsite Engineering Services Limited – Heritage Wharf Pile Thickness Report 11 September 2017

END OF ANNEX A - SCOPE OF WORK

ANNEX B DRAWINGS AND REFERENCE MATERIALS

(Note that the drawings supercede Table 1.1 of the Cathodic Protection Performance Specification)



Heritage Wharf & Kings Wharf: Cruise Ship Docking Facilities Improvements

Cathodic Protection Performance Specification

March 2013

Ministry of Public Works



Heritage Wharf & Kings Wharf: Cruise Ship Docking Facilities Improvements

Cathodic Protection Performance Specification

March 2013

Ministry of Public Works

Government of Bermuda
Ministry of Public Works
Dept of Works & Engineering
General PO Building
3rd Flr, 56 Church St
Hamilton HM12
Bermuda

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description	Standard
A	March 2013	R Merola	A Foster	C Atkins	1 st Issue	



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Contents

Chapter	Title	Page
1	Introduction	1
1.1	Background _____	1
1.2	General _____	1
1.3	Extent of the Works _____	1
2	Cathodic Protection System	3
2.1	Work, Scope and Function _____	3
2.2	Contractor's Specialist _____	4
2.3	Design Standards _____	4
2.4	Pre-design Information _____	5
2.5	Design Requirements and Criteria _____	5
2.6	Materials and Structural Form _____	6
2.7	Design Documents _____	7
2.8	Installation and Commissioning _____	8
2.9	Operation and Maintenance Manual _____	9
2.10	Inspection and Monitoring _____	9

1 Introduction

1.1 Background

Mott MacDonald has been appointed by the Department of Works and Engineering of the Government of Bermuda’s Ministry of Public Works (GBMPW), to undertake consultancy services for upgrading the docking facilities for their cruise terminal at the Royal Naval Dockyard in Bermuda.

1.2 General

This Part of the Specification describes the cathodic protection requirements to be adopted on the project, and shall be read in conjunction with all other contract and relevant documents and standards specified.

1.3 Extent of the Works

The overall extent of Works is defined on the Drawings, which are listed in Table 1.1.

Table 1.1: Drawings

Title	Drawing Number
Site Plan and Drawing List	MMD-311437-C-DR-00-XX-0001
General Arrangement	MMD-311437-C-DR-00-XX-0010
Berthing Dolphin H-BD3&4 General Arrangement	MMD-311437-C-DR-00-XX-0011
Mooring Dolphin H-MD5 General Arrangement	MMD-311437-C-DR-00-XX-0012
Mooring Dolphin H-MD6 General Arrangement	MMD-311437-C-DR-00-XX-0013
Walkway H-MD6 and Walkway Support General Arrangement	MMD-311437-C-DR-00-XX-0014
Walkways Details: H-MD5, H-BD3 and H-BD4	MMD-311437-C-DR-00-XX-0015
Deck Furniture Sheet 1 of 2	MMD-311437-C-DR-00-XX-0016
Deck Furniture Sheet 2 of 2	MMD-311437-C-DR-00-XX-0017
Mooring Dolphin H-MD6 Reinforcement Details Sheet 1 of 2	MMD-311437-C-DR-00-XX-0020
Berthing Dolphins H-BD3 and H-BD4 Reinforcement Details Sheet 1 of 2	MMD-311437-C-DR-00-XX-0021
Mooring Dolphin H-MD6 Pile Plug Reinforcement Details	MMD-311437-C-DR-00-XX-0022
Berthing Dolphin Pile Plug Reinforcement Details	MMD-311437-C-DR-00-XX-0023

Title	Drawing Number
Walkway Support and Walkway Pile Plug Reinforcement	MMD-311437-C-DR-00-XX-0024
Mooring Dolphin H-MD5 Reinforcement Details	MMD-311437-C-DR-00-XX-0025
Mooring Dolphin H-MD5 Pile Plug, Reinforcement Details	MMD-311437-C-DR-00-XX-0026
Mooring Dolphin H-MD6 Reinforcement Details Sheet 2 of 2	MMD-311437-C-DR-00-XX-0027
Berthing Dolphins H-BD3 and H-BD4 Reinforcement Details Sheet 2 of 2	MMD-311437-C-DR-00-XX-0028
Mooring Dolphin H-MD5 Reinforcement Details Intermediate Pour	MMD-311437-C-DR-00-XX-0029
Berthing and Mooring Dolphins, Electrical Continuity	MMD-311437-C-DR-00-XX-0030
Mooring Dolphin H-MD6 Reinforcement Details Intermediate Pour	MMD-311437-C-DR-00-XX-0031
Berthing Dolphins H-BD3 and H-BD4 Reinforcement Details Intermediate Pour	MMD-311437-C-DR-00-XX-0032

2 Cathodic Protection System

2.1 Work, Scope and Function

A cathodic protection (CP) system shall be designed, supplied, installed, constructed, tested and commissioned by the Contractor to prevent corrosion of the following structures of Heritage Wharf at the Royal Naval Dockyard in Bermuda:

- Berthing Dolphin H-BD3;
- Berthing Dolphin H-BD4;
- Southern Mooring Dolphin H-MD5;
- Northern Mooring Dolphin H-MD6; and
- Intermediate Walkaway Support for the H-MD4 / H-MD6 walkaway.

Drawings of the structures to be protected are listed in Table 1.1.

The CP system shall be designed in accordance with the requirements set out in this Specification Document.

The CP system shall arrest all accelerated low water corrosion (ALWC) and/or microbiologically induced corrosion (MIC) from the date of commissioning and shall totally protect the steel piles from corrosion below the mid tidal zone (Mean Sea Level).

The CP system shall be a Galvanic (Sacrificial) Anode system.

The tide levels in Bermuda, according to Admiralty Chart No. 332 (Grassy Bay and Great Sound / Ireland Island), are listed in Table 2.1.

Table 2.1: Bermuda tide levels

Tide	Level mCD	Level ft CD
MHWS	+1.2	+3' 11.25" (+3.94)
MHWN	+0.9	+2' 11.4" (+2.95)
MLWN	+0.4	+1' 3.75" (+1.31)
MLWS	+0.2	+0' 7.9" (+0.66)

Source: Admiralty Chart 332

The required design waves and currents are provided in Table 2.2.

Table 2.2: Design wave and current parameters

Wave condition	Significant Wave Height (H_s) (m)	Average Wave Period (T_z) (seconds)	Current Velocity (knots)
Normal conditions	1.2	3.95	1
Storm conditions	3.5	9.3	1

Source: Bermuda Coastal Erosion Vulnerability Assessment, Smith Warner International, November 2004

2.2 Contractor's Specialist

The Contractor or his specialist Sub-Contractor employed to provide the detailed design and to install the CP System shall demonstrate competence in the design and installation of CP systems used in similar applications.

All work relating to the design, installation, testing, commissioning and operation of the CP System shall be supervised and signed off by a cathodic protection specialist employed by the Contractor or specialist Sub-Contractor certificated to Level 3 Marine Sector in accordance with BS EN 15257. Where the designer is not certified to this level, evidence shall be provided to the Employer of equivalent competence and experience.

2.3 Design Standards

The Contractor is required to produce a design for the CP system in accordance with the latest revision of the following standards:

Table 2.3: Design standards

BS EN 12473	General Principles of Cathodic Protection in Sea Water
BS EN 13174	Cathodic Protection for Harbour Installations
BS EN 13509	Cathodic Protection Measurement Techniques
BS EN 15257	Cathodic Protection Competence Levels and Certification of Cathodic Protection Personnel

Where there is conflict between the above Codes and Standards, the highest standard and most onerous requirement shall take precedence.

2.4 Pre-design Information

Prior to carrying out the detailed design for the CP system the Contractor is required to carry out a pre-design survey of the site to determine the following information required for detailed design and confirm any assumptions made in Section 2.5 of this Specification Document:

- The diameter and extent of piles exposed to seawater;
- The condition of any protective coatings to the steel piles;
- The average resistivity and temperature of the surrounding waters;
- The existence or otherwise of high seawater velocities in proximity to the structures to be protected;
- The possibility of reduced salinity due to fresh water run off in proximity to the structures to be protected;
- Any other piece of metal that could affect the CP system, and
- Any other information required to produce the final design for the CP system.

The Contractor shall submit the proposed number and distribution of test locations and full details of test procedures and evaluation methods to the Employer for approval prior to undertaking the pre-design site survey. The information from these surveys shall be included in the Contractor's design process and document submission.

2.5 Design Requirements and Criteria

The CP system shall be designed in accordance with the design standards outlined in Section 2.3.

The designed system shall be capable of providing adequate cathodic protection for a period of at least 50 years and shall use a galvanic anode system. The galvanic system shall not require replacement in 10 years of installation.

The system shall be designed to provide minimum in-service inspection, operation and maintenance throughout the design life.

The protection is considered to be achieved by potentials more negative than -900mV relative to the Ag/AgCl/seawater reference electrode.

The construction information available for the dolphins' steel piles is shown on the drawings listed in Table 1.1.

For the purposes of tendering the Contractor shall assume the following, to be confirmed by the Contractor on award during the pre-design site survey.

- Initial coating breakdown factor of 5% for immersed areas and 50% for buried areas, and a depletion rate of 2% per year;
- The resistivity of the seawater is assumed to be 20 ohm cm;
- There are 61 Nr piles to be protected in total with pile diameters of 0.762m and 0.914m;
- The sea bed is between 11.5m and 12.50m below LAT, and the piles extend up to a further ~30m below sea bed level, see Construction Drawings listed in Table 1.1; and
- The maintenance design current density is assumed to be 100mA/m² to sea bed level and 20mA/m² below this level.

2.6 Materials and Structural Form

The CP system design shall take account of the following.

- Connections to the steel piles shall be in accordance with the anode manufacturer's recommendations.
- Anodes shall be readily accessible for inspection and the pile attachment details shall be such that anodes can be easily replaced in the future without damaging the steel piles and the fixing bracket assemblies.
- Brackets for fixing anodes shall be suitably robust to satisfy the design life requirements for the CP system.
- The Contractor shall verify that the anode support brackets and anodes are of sufficient strength to withstand wave action, propeller/thruster wash and extreme weather events, including the design conditions referenced in Table 2.1 and Table 2.2.
- Anode fixings shall permit anode installation to the brackets without underwater welding (except to achieve electrical continuity) and shall readily facilitate replacement at the end of the anode design life.
- Anodes shall be attached to the piles such that they are permanently submerged.
- The system shall not interfere with any other port operation and shall not be a threat to shipping.

- Anode to bracket electrical continuity shall be achieved by tack welding.
- Anode cores and fixing brackets shall be fabricated from non-rimming, weldable, mild steel to BS EN 10025 grade S235 or S275.
- Each installed anode assembly shall be marked (indented) with a unique reference number for inspection and future reference purposes.
- Each anode casting shall be die-stamped on the top casting face with a unique furnace heat or batch number from which it has been cast.
- The fixing system for all anodes shall incorporate the absolute minimum number of bolted connections consistent with a reliable, durable and efficient fixing system.

2.7 Design Documents

The Contractor is required to submit an outline design with their preliminary submission showing as a minimum the number, size and type of anodes required. The outline design shall also illustrate the proposed method of attachment of the anodes to the steel piles.

Prior to the supply / installation of any equipment the Contractor shall provide a detailed design document for review and acceptance by the Employer. This document shall contain design criteria, assumptions, calculations, layout and fixing drawings. The following information shall be included as a minimum:

- The size, number and individual mass (net weight of alloy and gross weight of anode plus insert) of each anode;
- Details of the connection between the anodes and steel piles (including amount of offset) including detailed drawings of the anode fixing bracket and the structural calculations demonstrating its adequacy;
- Details for the provision of continuity bonds;
- Limits (levels) of the CP system;
- Calculated lengths, surface areas and current demand of each of the pile types in seawater and below the sea bed;
- The design sea water resistivity;

- Calculated individual anode current outputs at the Initial, Maintenance and Final Repolarisation anode dimensions; and
- The system of testing and commissioning.

The Contractor shall also submit with their detailed design document, full documentation on the anode properties and long-term performance, information shall include:

- Alloy chemical composition;
- Electrochemical properties as per manufacturer's standard properties;
- Electrochemical properties as determined by an independent test laboratory or by certified field measurements;
- Test results for potential, electrochemical capacity and passivity; and
- Detailed design drawings of the anodes including details of the anode inserts and their fixing brackets.

The Contractor shall also provide details of the anode manufacturer's BS EN ISO 9001:2008, third party Quality Management certification and DNV type approval certificates for the anode alloy material proposed and for the anode manufacturer's production facility for the approval of the Employer.

The Contractor shall allow a minimum of one week within his programme for this review.

2.8 Installation and Commissioning

The Contractor shall maintain detailed records throughout the system installation, including reports of all tests performed in accordance with the approved quality plan, method statements, inspection and test procedures.

The Contractor shall submit a method statement for pre-commissioning checks and commissioning including, but not limited to, the programme and acceptance criteria. Pre-commissioning and commissioning shall be undertaken by an approved, qualified and experienced representative of the Contractor.

The Contractor shall provide a full report detailing all records of installation and commissioning.

2.9 Operation and Maintenance Manual

The Contractor is required to submit to the Employer an Operation and Maintenance Manual for the system installed within 28 days of the completion of the works. The Operation and Maintenance Manual shall be a complete and comprehensive reference manual with all the information necessary within one volume for the Employer to operate the system. It shall include and describe in detail with diagrams, drawings, manufacturers, data-sheets, pro-form results sheets, procedures etc. at least the following:

(i) Operation

- A narrative description of the system, what it does, how it works and when it was installed.
- Details of the anode outputs etc.
- Monitoring – step-by-step guide on how to carry out measurements with details of equipment necessary, location and recognition of connections, how to judge significance of results obtained etc.
- System monitoring – recommended testing programme and how to complete standard pro-forma test result sheets, what records to keep.

(ii) Maintenance

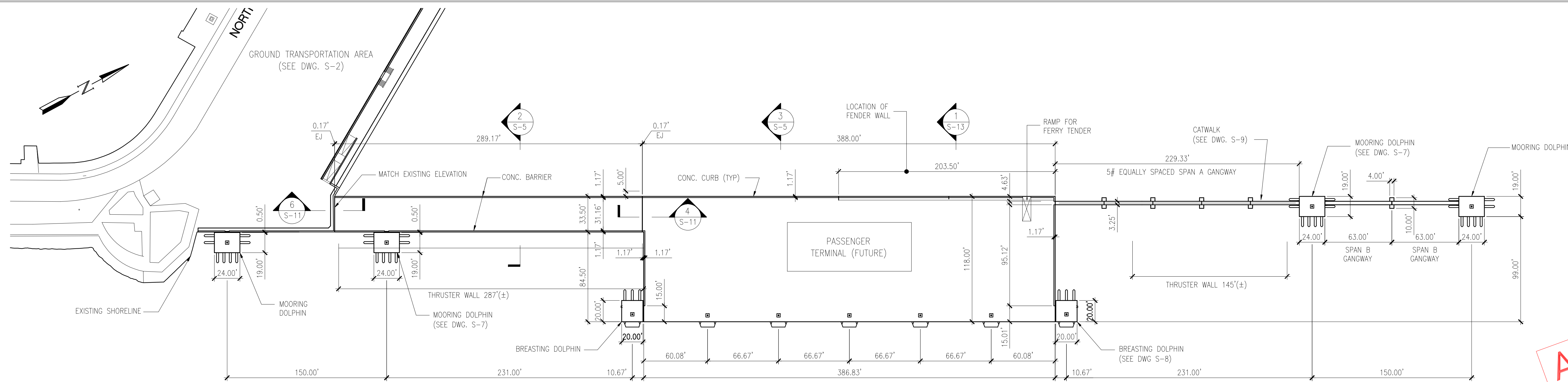
- Technical details of all equipment installed.
- Guide to routine maintenance operations including step-by-step fault finding, diagnosis, rectification guide and schematic diagrams.
- Manufacturer's details and spares stock list.
- Anode maintenance requirements, guide to localised repair and renovation procedures with details of materials and their stock lists.

2.10 Inspection and Monitoring

The Contractor is required to monitor the system for a period of 12 months after installation and confirm protection is being achieved. This will involve undertaking a half cell potential survey of the structure at 3, 6, 9 and 12 months after completion of the installation at each pile.

Half-cell readings will be gathered using calibrated silver / silver chloride seawater reference electrodes at 1m centres vertically down each pile from MSL level to the sea bed. The readings are to be taken within 2 hours before high tide and 2 hours after high tide.

Where protection has not been achieved within 9 months the Contractor is required to carry out, at his own time and expense, remedial measures to ensure protection is achieved at 12 months.



1 GENERAL PLAN
S-5 SCALE: 1"=50'-0"

NOTE:
1. REFER TO DWG. S-6 FOR DECK DETAILS AND PILE LAYOUT
2. REFER TO DWG. S-2 GROUND TRANSPORTATION AREA.
3. REFER TO DWG. S-9 FOR CATWALK DETAILS.

AS BUILT

GENERAL NOTES
1. REFER TO DWG. S-0 FOR GENERAL NOTES AND SPECIFICATIONS.
2. REFER TO ARCHITECTURAL DWGS FOR DETAILS OF RAMP, GUARD RAILS, TERMINAL BUILDING, LIGHTINGS, ETC.

DATE	No.	REVISION
15.SEP.'08	-	REVISED CATWALK SUPPORT
30.NOV.'07	-	ADDED FERRY RAMP
28.AUG.'07	-	ADJUSTED ELEVATIONS
22.AUG.'07	-	ADDED SECTION/DETAIL
26.JUL.'07	-	LOCATION OF FENDER WALL
12.JUL.'07	-	REVISED NEW DOCK
20.JUN.'07	-	REVISED - NEW DOCK, GRID DIM
05.MAY.'07	-	REVISED PRECAST DETAILS
01.MAY.'07	-	ISSUED FOR BUILDING PERMIT

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS ON THE JOB SITE.

designed by	DR	scale	AS SHOWN
drawn by	RP	job no.	E07017
checked by	DR	drawing no.	S-5
approved by	-	date	March 07

CLIENT
WEST END DEVELOPMENT CORPORATION

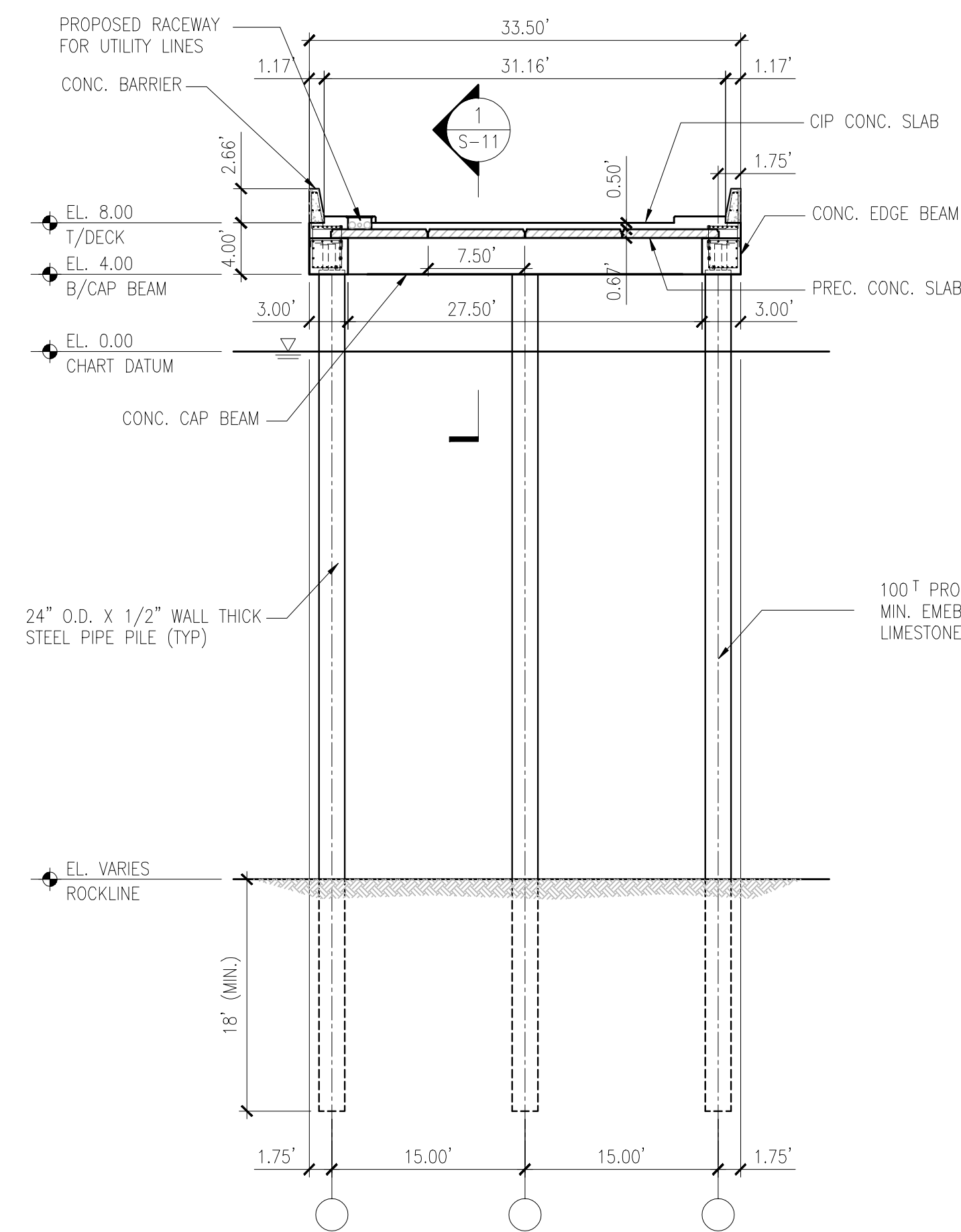
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PROPOSED ROYAL NAVAL DOCKYARD CRUISE IMPROV. DOCKYARD, BERMUDA

TITLE
PIER. GENERAL PLAN & SECTIONS

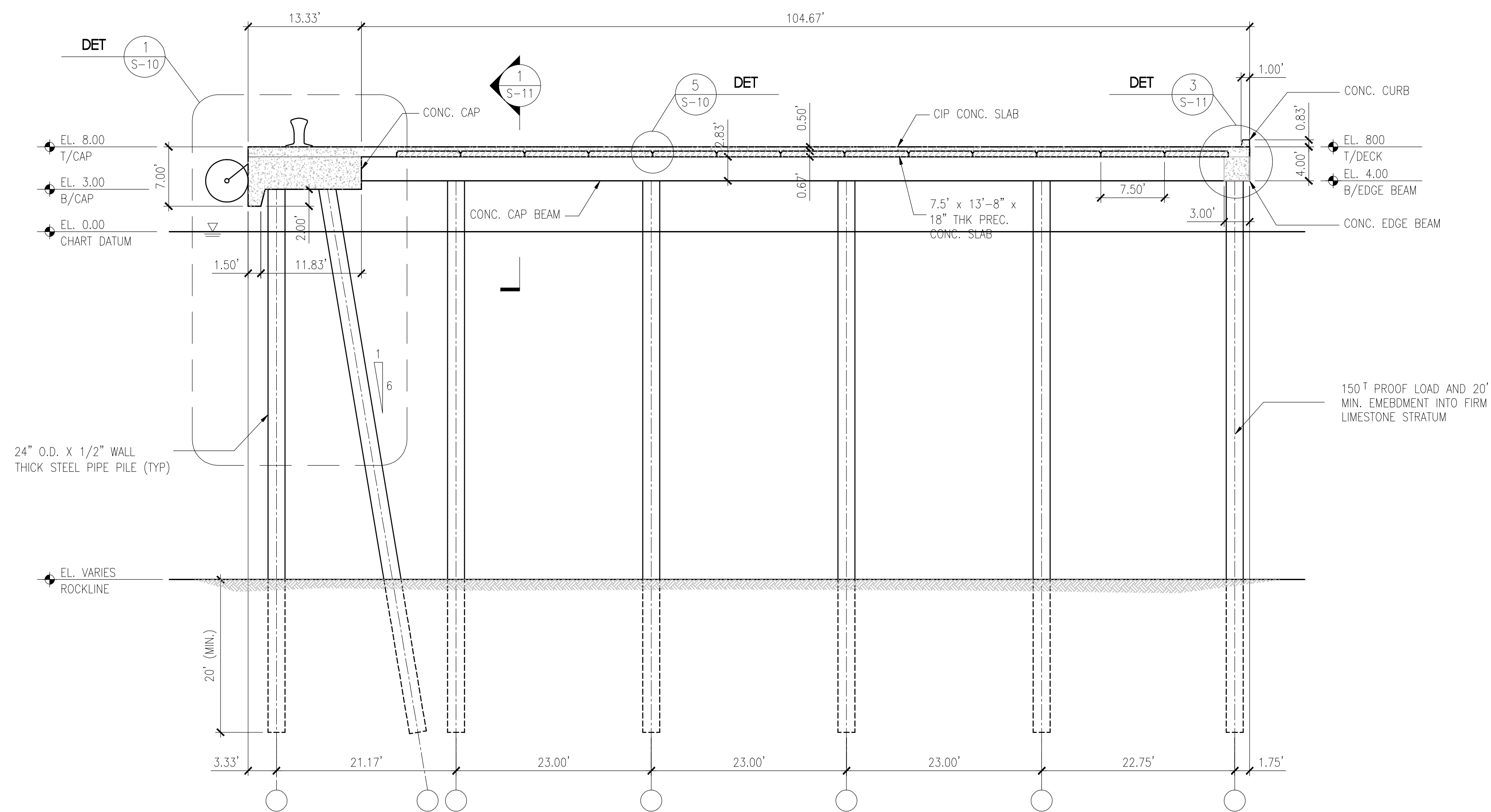


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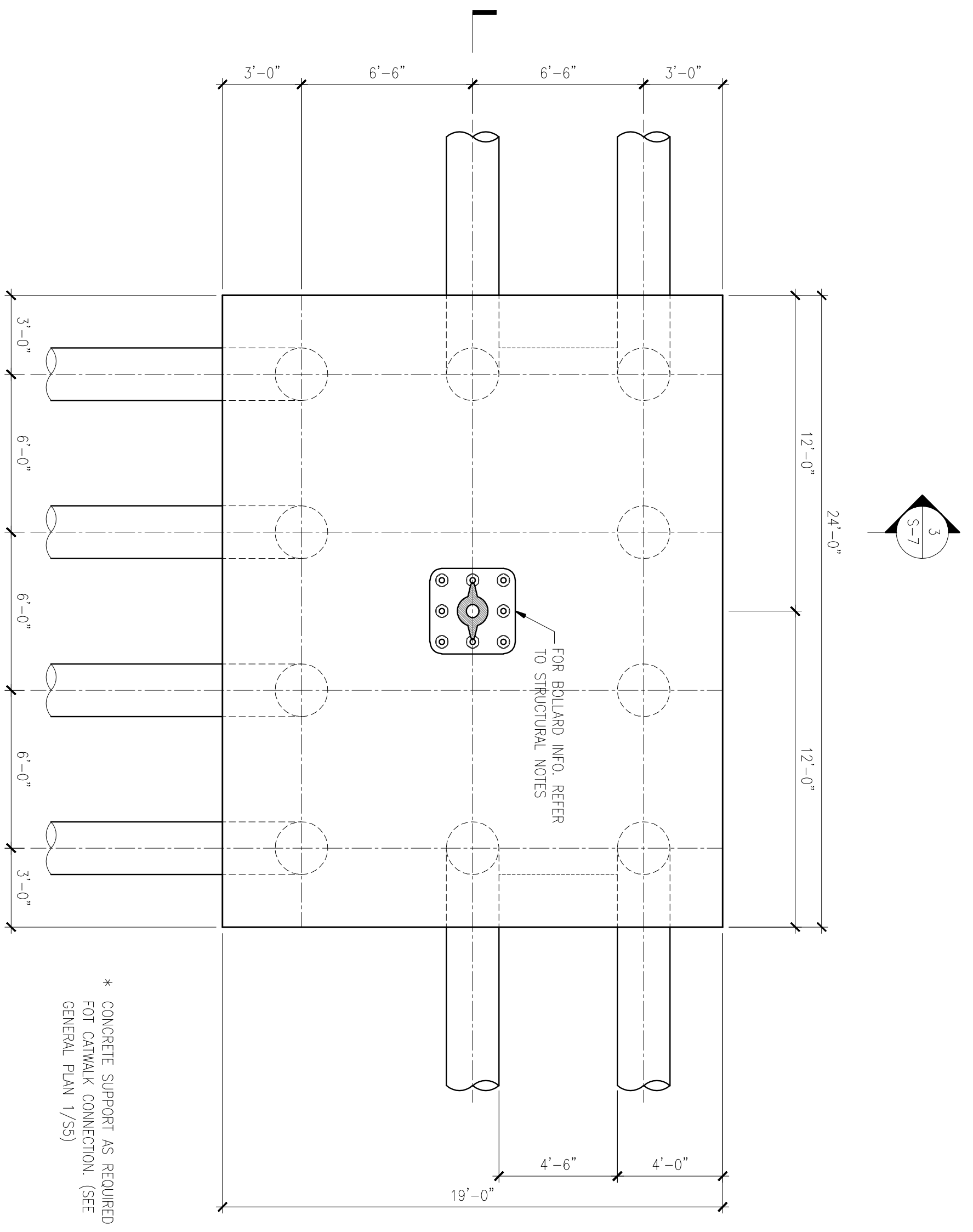
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S-5 NTS



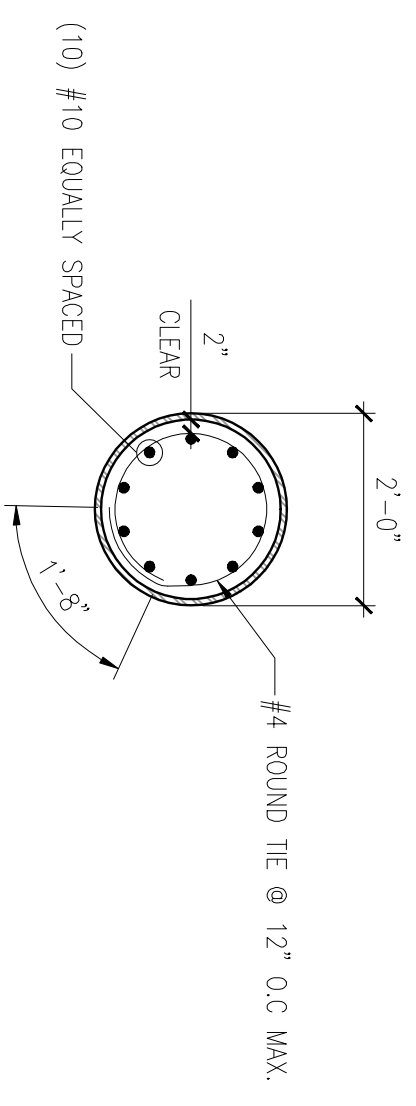
3 PIER SECTION (150T PILE)
S-5 NTS

GENERAL NOTES
1. REFER TO DWG. S-0 FOR GENERAL NOTES AND SPECIFICATIONS.

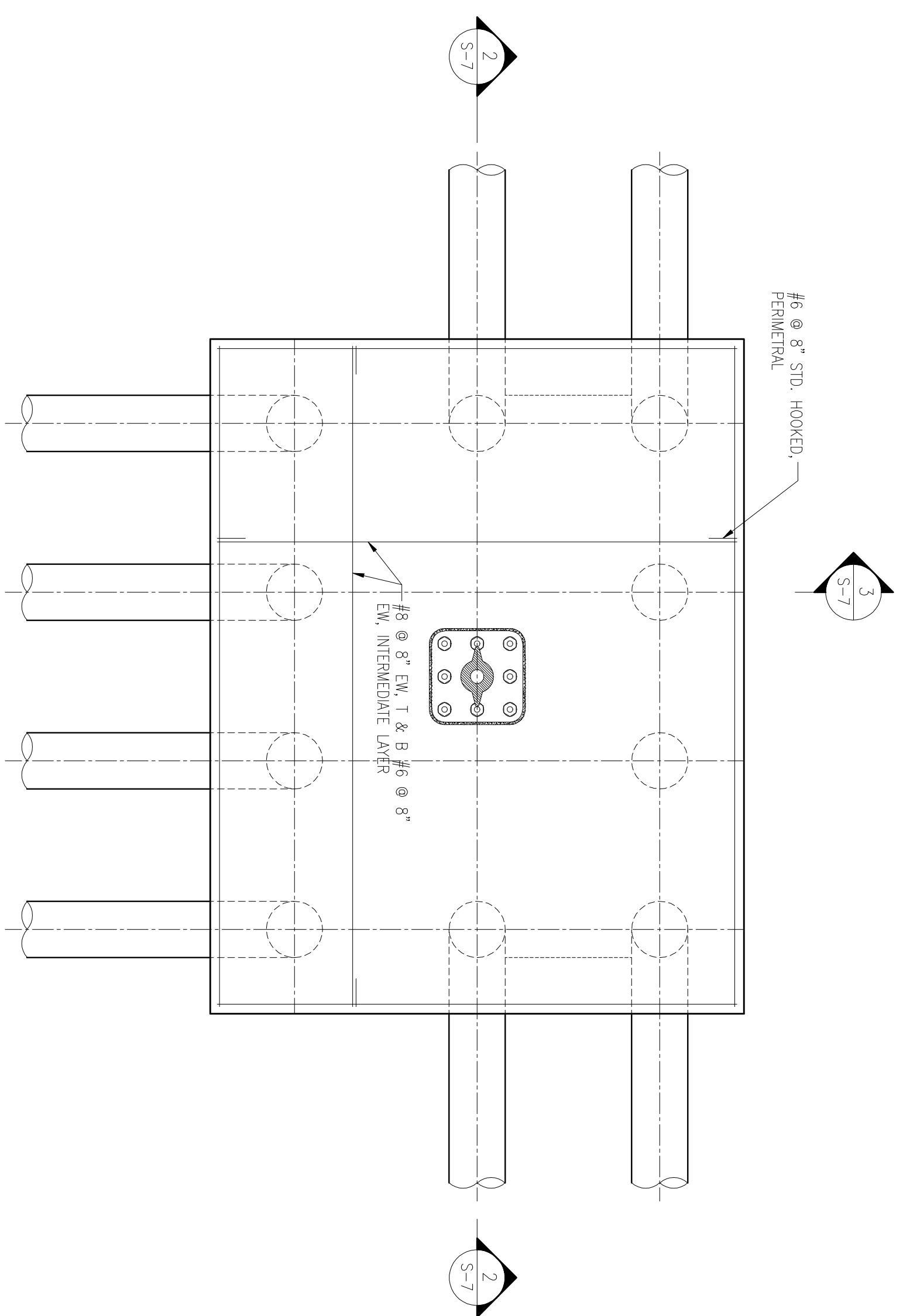
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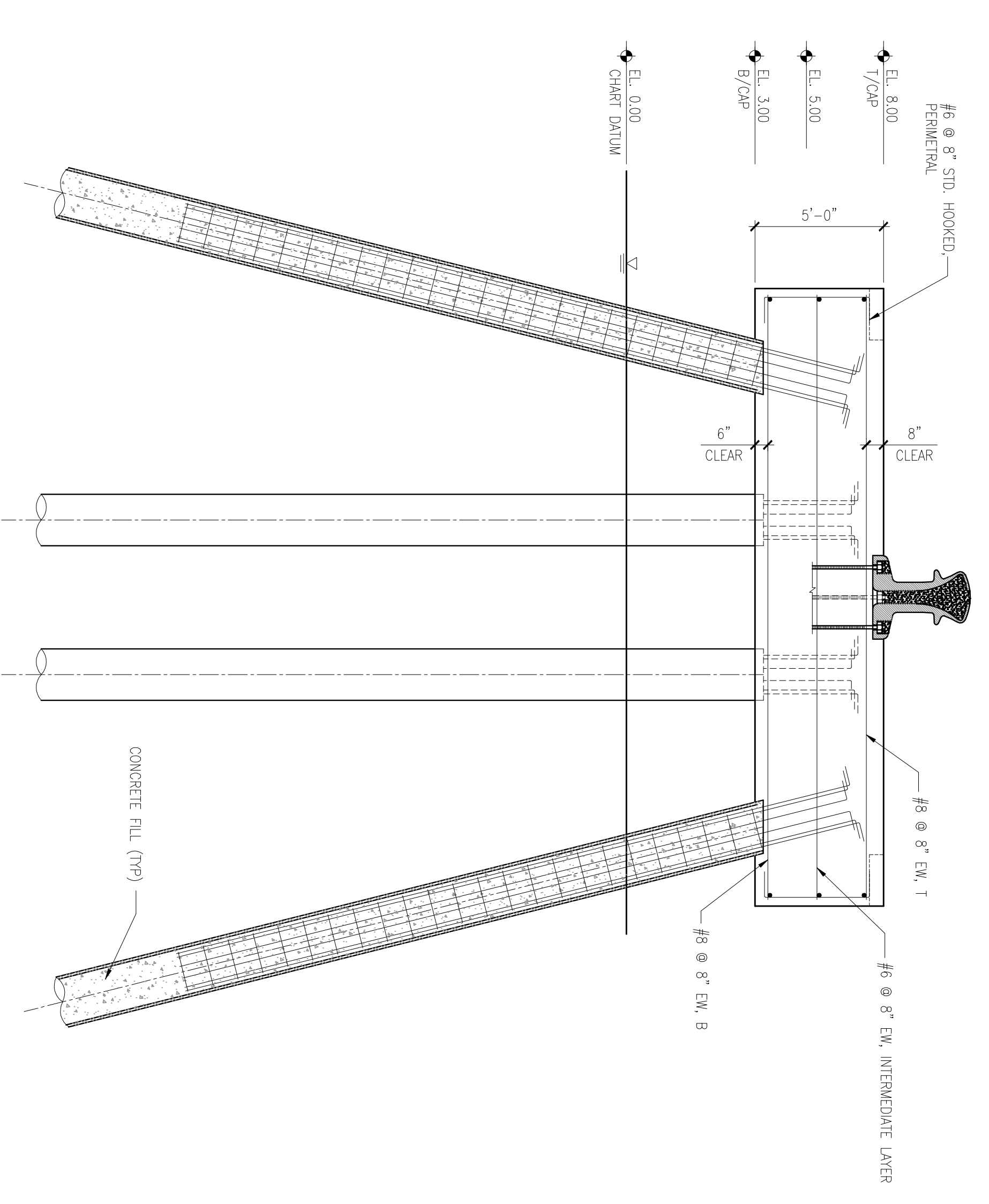
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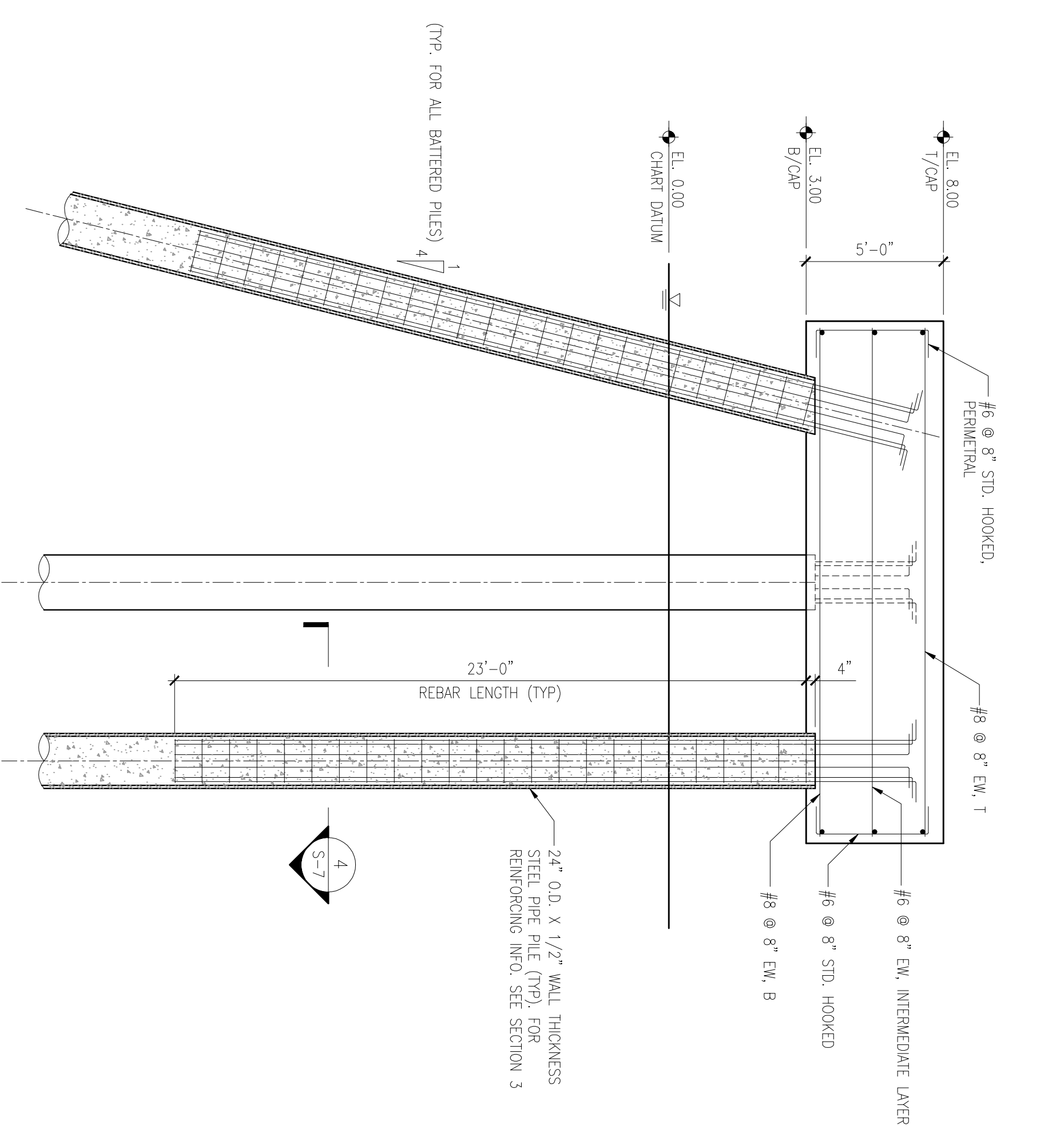
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5 REINFORCING PLAN
SCALE: 1/4"=1'-0"



2 SECTION
SCALE: 1/2"=1'-0"



3 SECTION
SCALE: 1/2"=1'-0"

15 SEP '08	-	NEW INSTALLATION DETAILS
30 AUG '07	-	ADJUSTED ELEVATIONS
01 MAY '07	-	ISSUED FOR BUILDING PERMIT
DATE	NO.	REVISION

designed by	DR.	scale	AS SHOWN
drawn by	-	job no.	E07017
checked by	DR.	drawing no.	-
approved by	-	date	March 07

CLIENT
WEST END DEVELOPMENT CORPORATION

PROJECT
PROPOSED ROYAL NAVAL DOCKYARD CRUISE IMPROV. DOCKYARD, BERMUDA

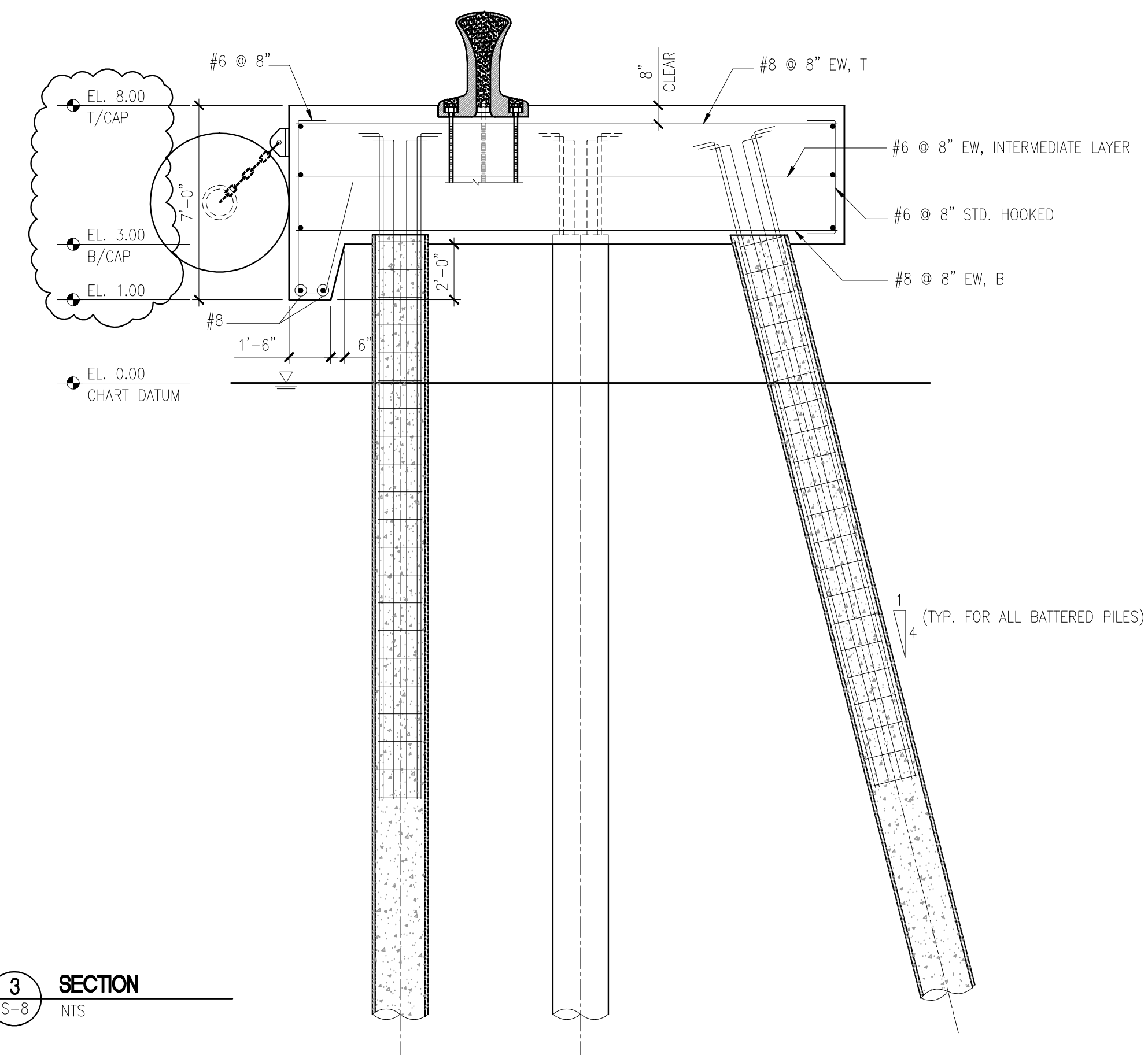
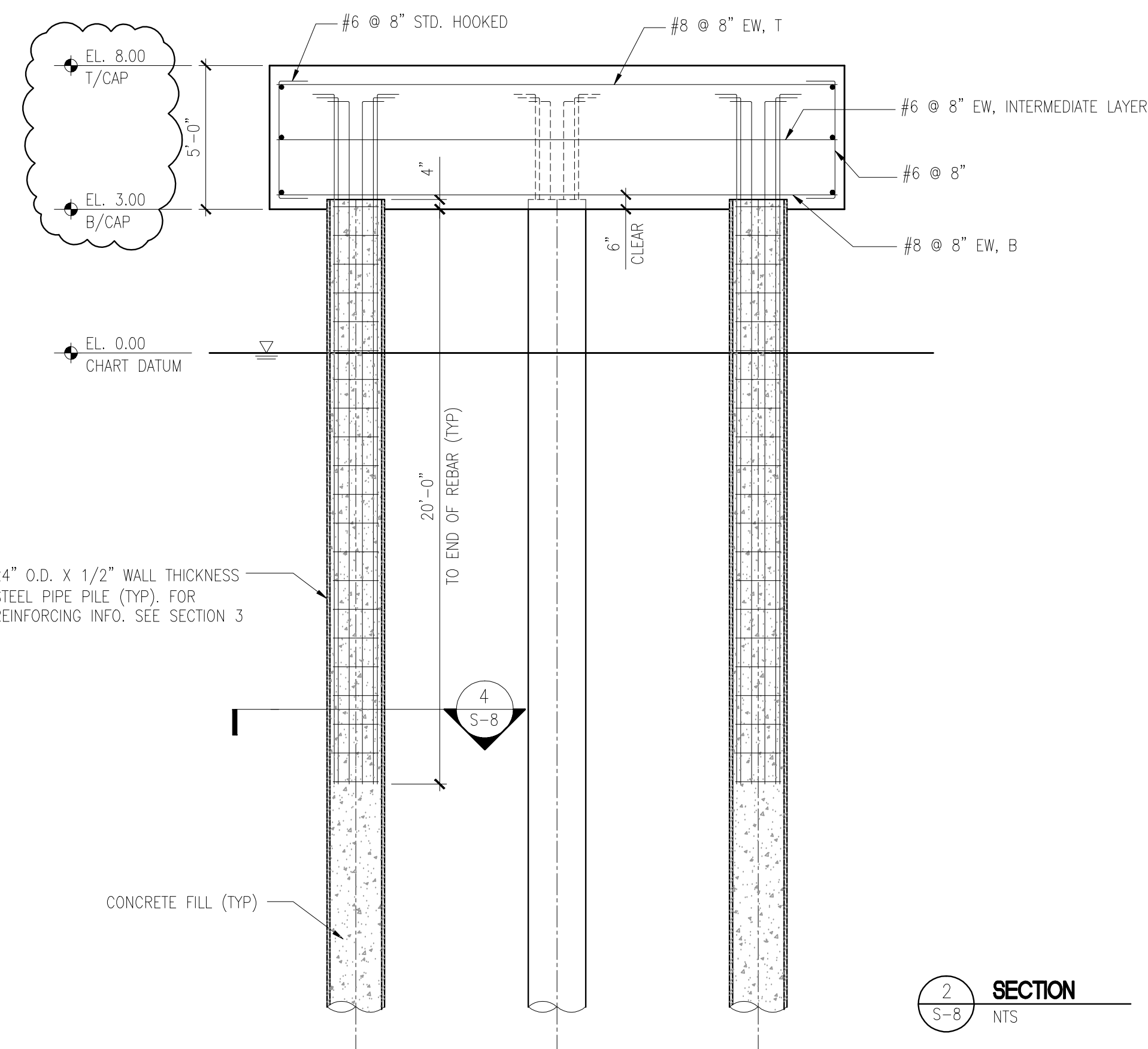
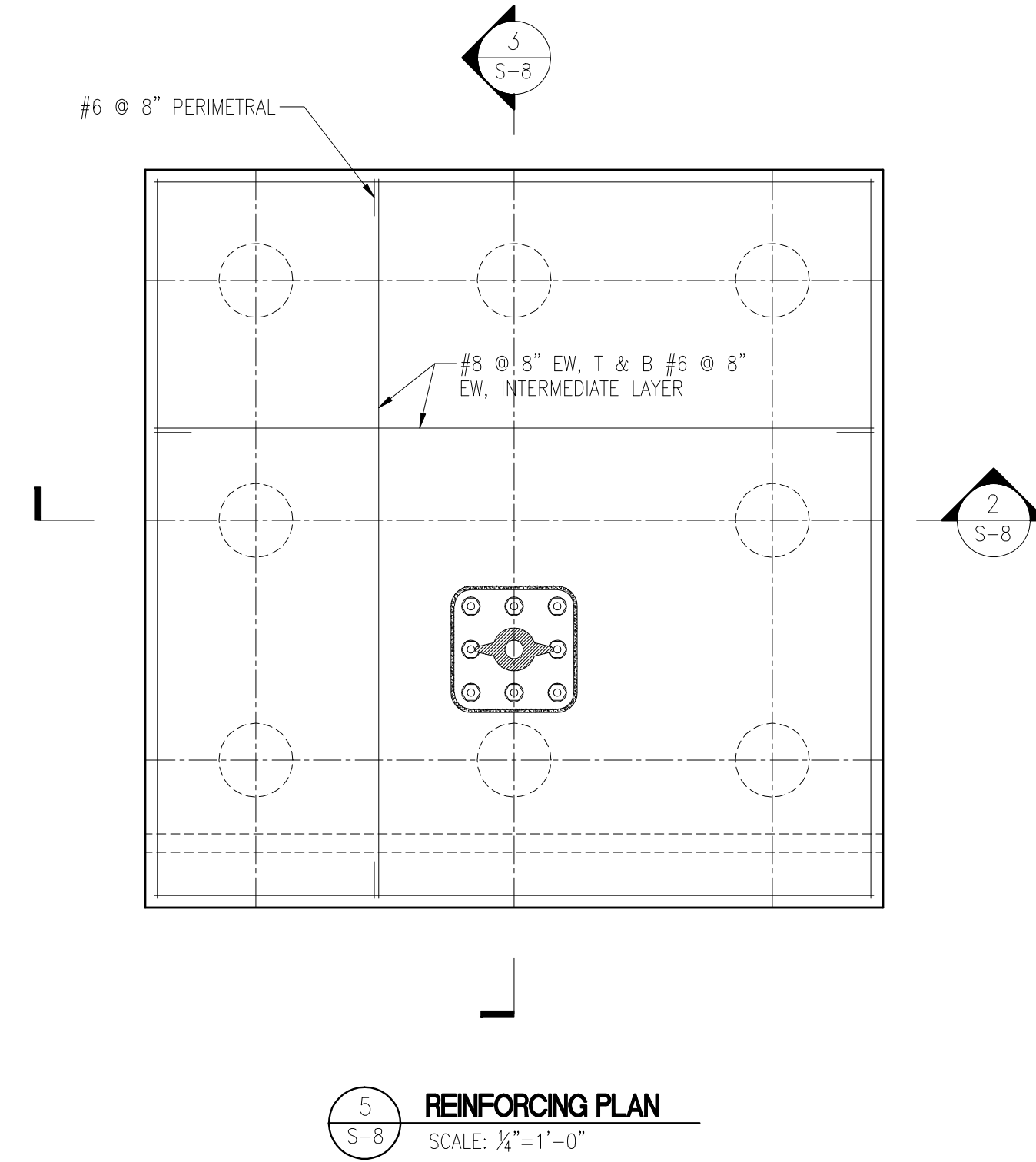
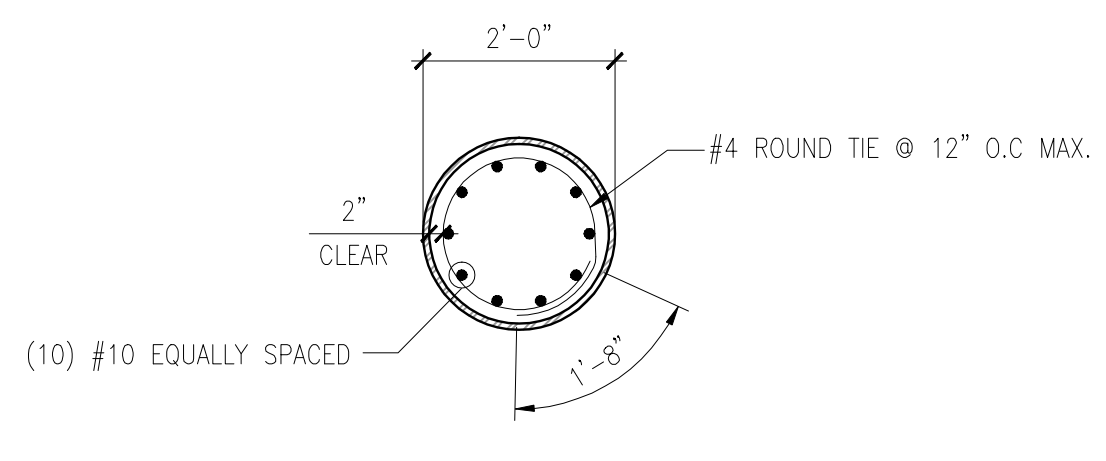
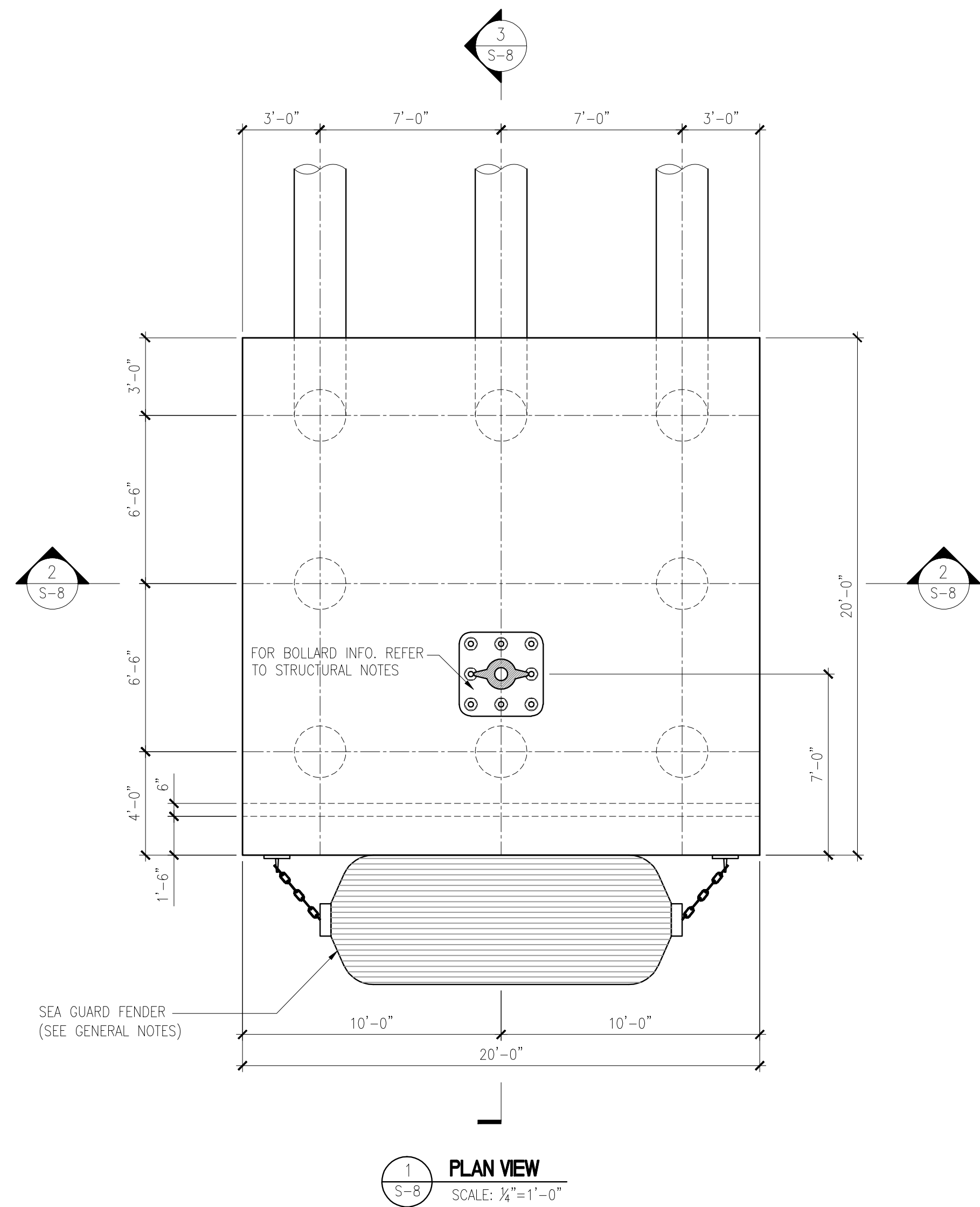
TITLE
MOORING DOLPHIN

Enitech LIMITED
ENGINEERING / PLANNING CONSULTANTS
P.O. BOX HM 2574 HAMILTON HMCKX BERMUDA
TEL. (441) 292-9192 FAX. (441) 292-9488 EMAIL. admin@enitech.lm

GENERAL NOTES

1. REFER TO DWG. S-0 FOR GENERAL NOTES AND SPECIFICATIONS.

AS BUILT



DATE	No.	REVISION
30.AUG.'07	-	ADJUSTED ELEVATIONS
01.MAY.'07	-	ISSUED FOR BUILDING PERMIT

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS ON THE JOB SITE.

designed by	DR	scale	AS SHOWN
drawn by	-	job no.	E07017
checked by	DR	drawing no.	S-8
approved by	-	date	March 07

CLIENT
WEST END DEVELOPMENT CORPORATION

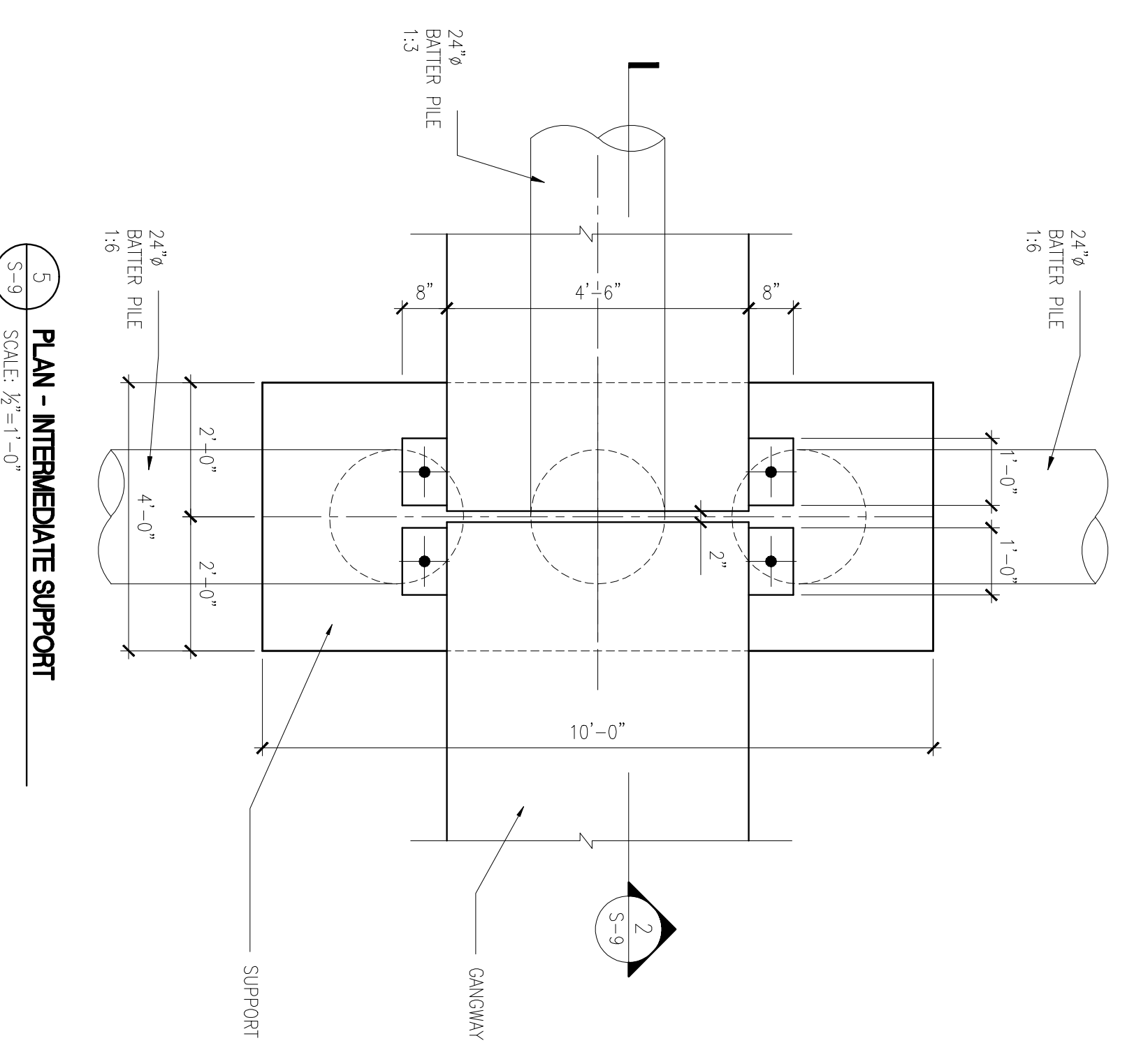
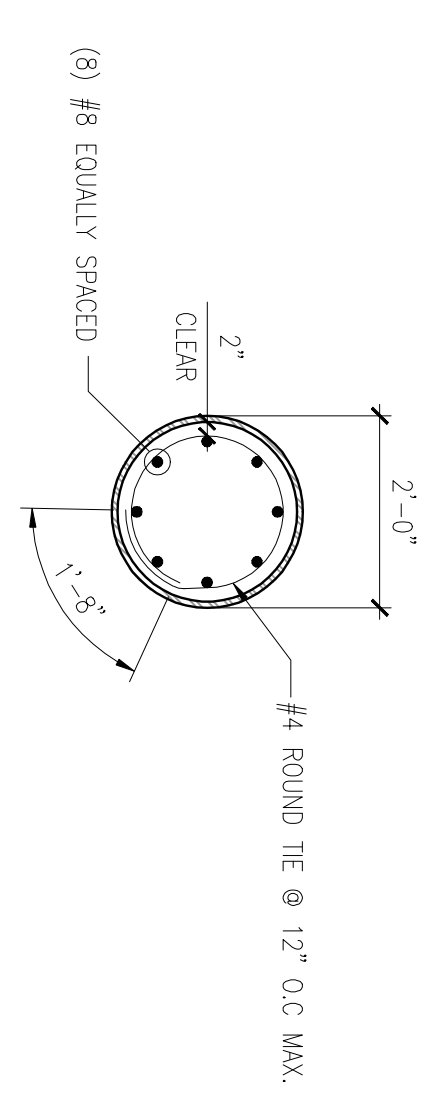
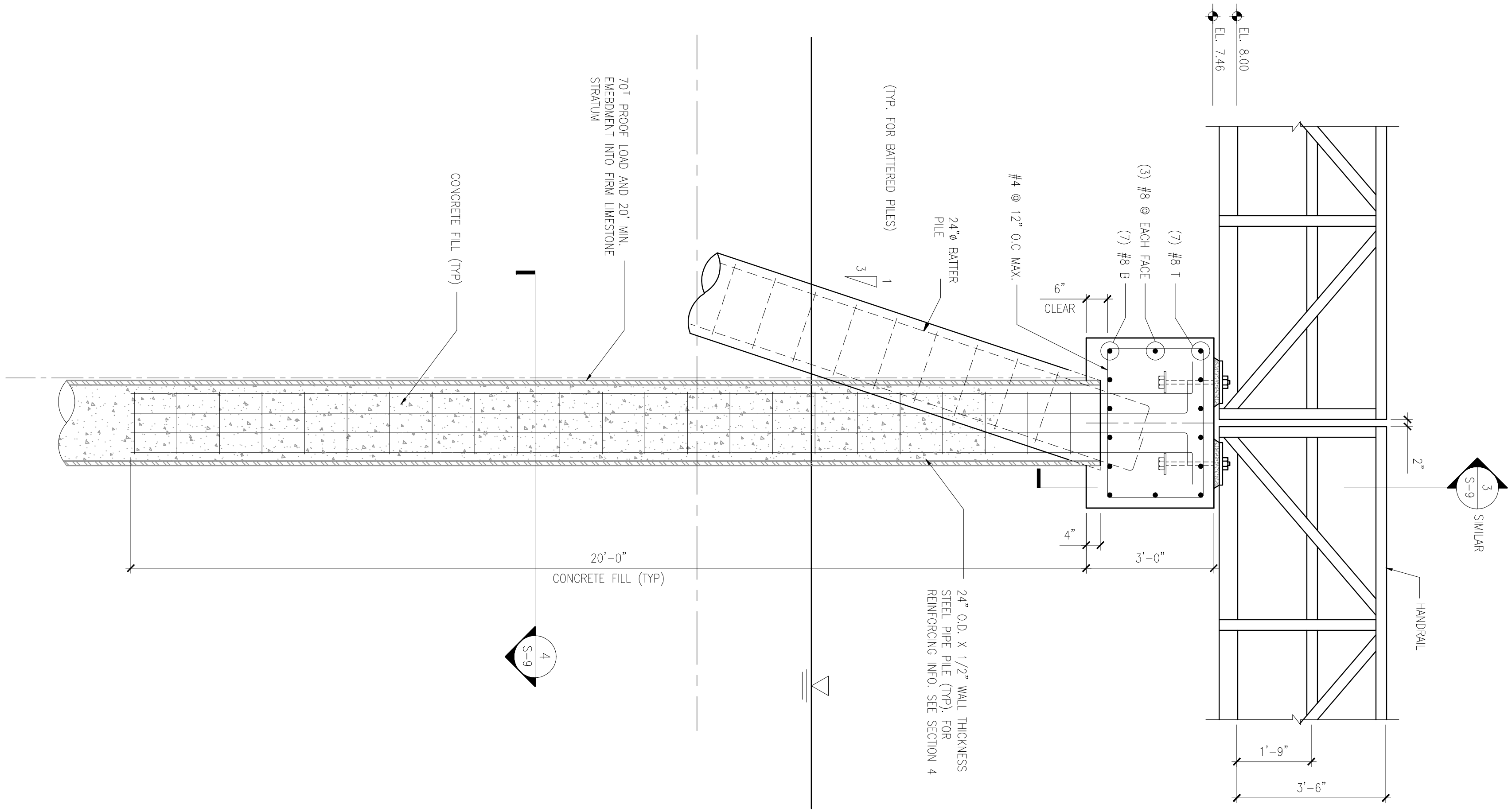
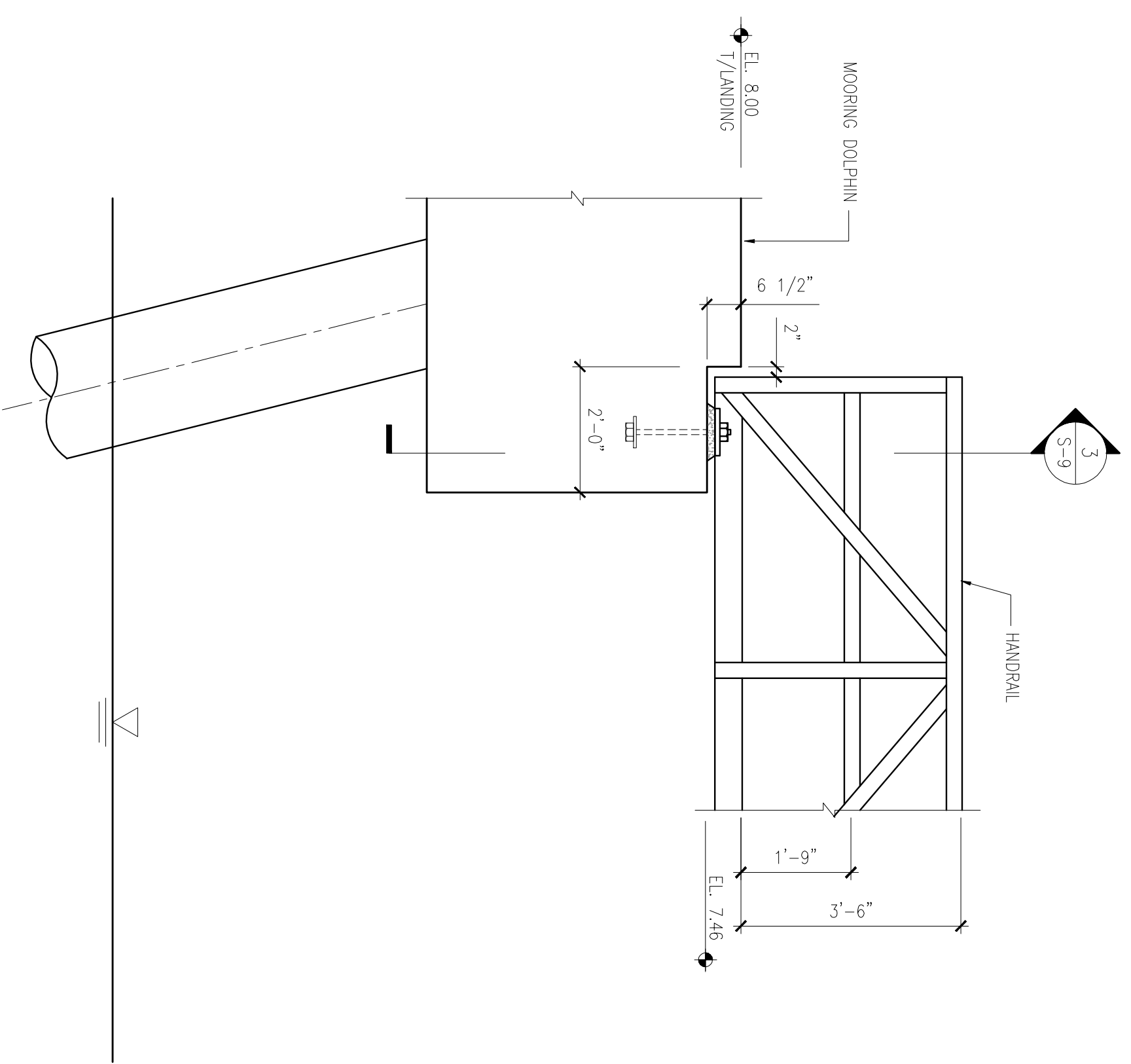
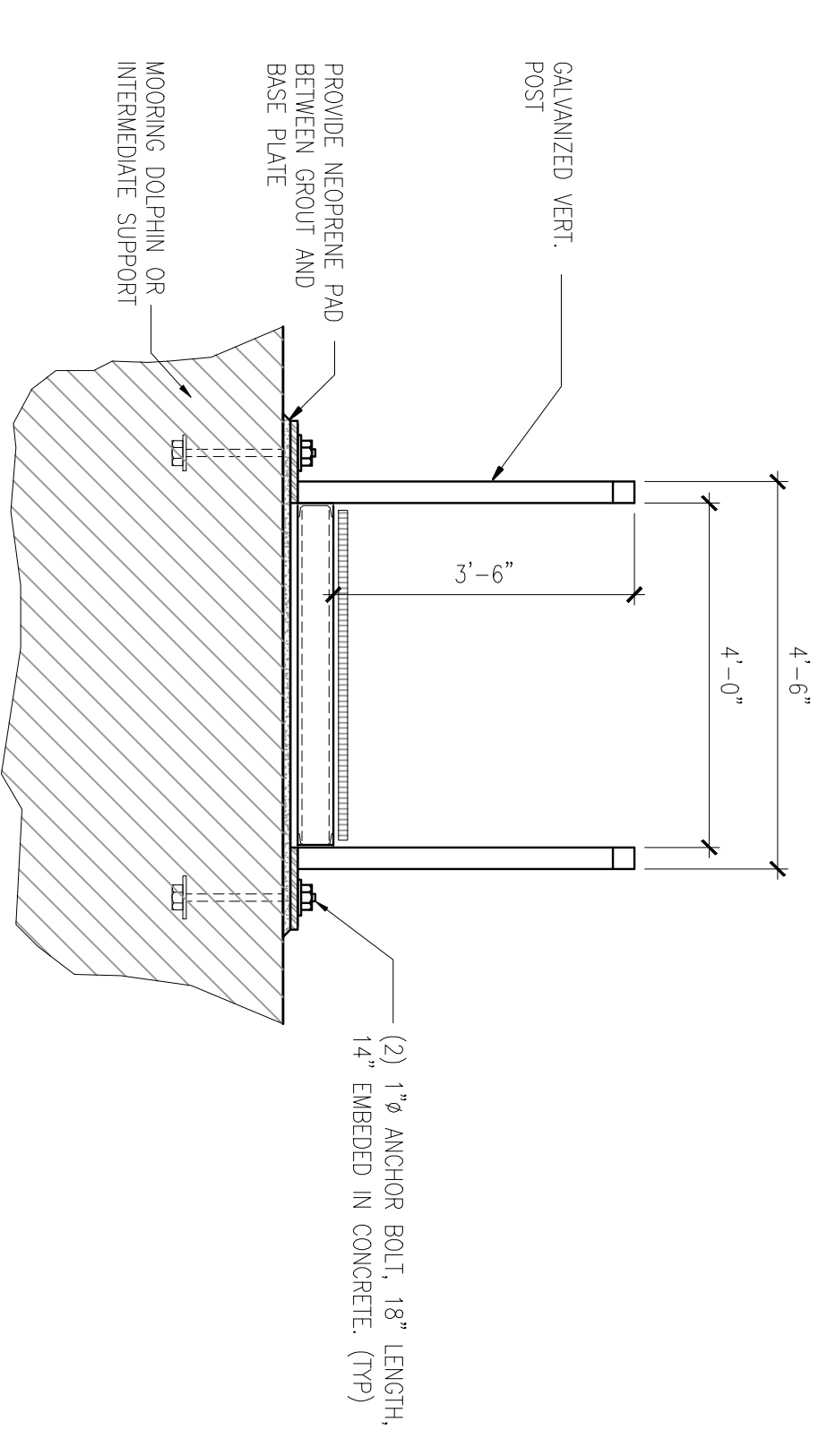
PROJECT
PROPOSED ROYAL NAVAL DOCKYARD CRUISE IMPROV. DOCKYARD, BERMUDA

TITLE
BREASTING DOLPHIN



P.O. BOX HM 2574 HAMILTON HM-KX BERMUDA
TEL. (441)-292-9192 FAX. (441)-292-9468 EMAIL. admin@entech.bm

GENERAL NOTES
1. REFER TO DWG. S-0 FOR GENERAL NOTES AND SPECIFICATIONS.



- NOTES:**
1. A MINIMUM PILE EMBEDMENT LENGTH OF 18 FT.
2. USE 1/4" FILET WELD.
3. REFER TO SHOP DWGS BY RAWENS MARINE FOR GANGWAY DETAILS.

AS BUILT

24 MAR '09	-	REVISED SUPPORTING DETAILS
15 SEP '08	-	CATWALK CONNECTION DETAILS
30 AUG '07	-	ADJUSTED ELEVATIONS
01 MAY '07	-	ISSUED FOR BUILDING PERMIT
DATE	No.	REVISION

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS ON THE JOB SITE.

designed by	DR	scale	AS SHOWN
drawn by	-	job no.	E07017
checked by	DR	drawing no.	-
approved by	-	date	March 07

S-9

CLIENT
WEST END DEVELOPMENT CORPORATION

PROJECT
PROPOSED ROYAL NAVAL DOCKYARD CRUISE IMPROV. DOCKYARD, BERMUDA

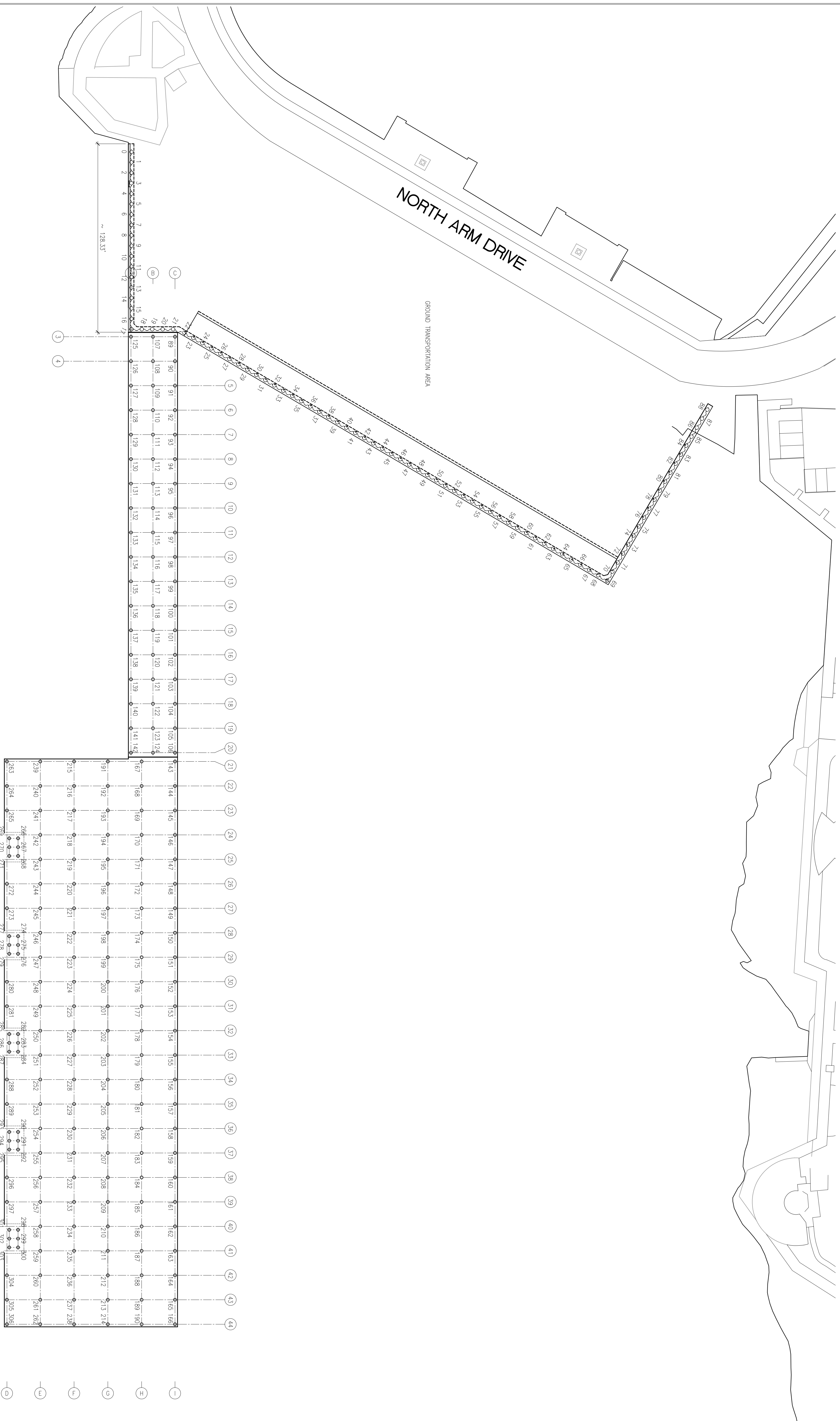
TITLE
CATWALK PLAN & SECTIONS

EnTech
LIMITED
ENGINEERING / PLANNING CONSULTANTS

P.O. BOX HM 2574
HAMILTON HMXX
BERMUDA

TEL. (441) 282-9182
FAX. (441) 282-9488
EMAIL. admin@entech.bm

GENERAL NOTES
 1. REFER TO DWG. S-0 FOR GENERAL NOTES AND SPECIFICATIONS.



1 PILE NUMBER LAYOUT
 S-22 SCALE: 1/8"=1'-0"

DATE	No.	REVISION
-	-	ISSUED FOR INFO

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS ON THE JOB SITE.

designed by	DR	scale	AS SHOWN
drawn by	RP	job no.	ED0717
checked by	JP	drawing no.	
approved by	-		
date	SEPT 07		

CLIENT
 WEST END DEVELOPMENT CORPORATION

PROJECT
 PROPOSED ROYAL NAVAL DOCKYARD CRUISE IMPROV. DOCKYARD, BERMUDA

TITLE
 PILE NUMBER LAYOUT

EnTech LIMITED
 ENGINEERING / PLANNING CONSULTANTS

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Underwater Infrastructure Survey

Issued: 30 August 2017

For: Bermuda Government
Attn: Mike Murphy

Heritage Wharf Inspection Report

Introduction

This inspection was conducted over multiple days from the 29th of July through the 8th of August by a three person team. Water depth under the wharf was 40 to 45 feet for the majority of the structure. Near the North Arm, depths shallowed to roughly 30 feet. 10% of the piles on the structure were given a level 2 Inspection in 3 locations; at the top, middle and bottom of the pile. As such, scuba equipment and various hand tools were used accordingly. The inspection began on northern end of the Main Wharf and progressed southward toward the North Arm. Upon completion, focus shifted to the Breasting and Mooring Dolphins, again starting on the northernmost dolphin progressing southbound. The inspection focused on the pile legs from below the pile cap down to the seabed level. Sketches of the structure and its defects were not made for this inspection. The number of piles was too great, and the defects too scattered and not distinct enough to warrant independent sketches of each pile. This report will present observations of the structure in the order it was surveyed. These observations will describe typical defects seen across the piles in general rather than focus on individual piles.

Structure Description

Heritage Wharf is a very large structure that is comprised of multiple dolphins, a Main Wharf and a Gangway connecting the wharf with the North Arm. The structure is made entirely of pile and cap construction. In total there are 331 piles; 218 on the Main Wharf and Gangway and 113 on the dolphins. The piles under the main dock were given a numbered identification system for the purpose of the inspection and this report.

Summary

The Level 1 inspection did not reveal any detrimental structural issues, overall the structure appeared to be in good condition. The underside of the concrete deck and the intersection between the pile and its cap appeared in good condition. The section of pile in the splash zone that remains above water is suffering from accelerated levels of corrosion (Fig. 1j, 1p, 1q). The protective rubber coating around the piles in most cases is compromised in this splash zone region of the piles (see Fig. 1t, 1u). Below the water's surface the piles were all in consistently fair condition. The protective coating had random small areas where it had blistered and ripped but was mostly intact and working effectively. Corrosion could be seen on these compromised areas but it was superficial at this stage. On one pile a small blister was cut away in order gain a visual comparison of the protected steel and the exposed steel. The steel behind the coating showed no signs of corrosion and still held a metallic grey colour (Fig. 2a), compared with the brown surface rust on the exposed steel (Fig. 3k, 3l). There were a number of piles that appeared to be suffering from localized ALWC, this was observed in random locations and depths. Some of these locations were probed to inspect the depth of corrosion, which varied from 1 to 3 mm at best estimate. These areas of ALWC are relatively small often less than 3 to 4 cm in diameter (Fig. 1i). At the base of the piles there was signs of scour but it was very limited and often less than 6" in depth.

Regarding the Breasting and Mooring Dolphins, there are Originals which were constructed at the same time as Heritage Wharf and four newer dolphins were constructed years later. The Original Dolphins were in more or less the same condition as the piles under the Main Wharf. The "New" dolphins were in very good condition and showed



almost no signs of corrosion at this stage (Fig. 3f, 3w). There are large anodes installed on these piles and it is evident they are working effectively by the white compound building on the anodes surface. The anodes all exhibited some level of corrosion, some were noticeably more corroded than others indicating a differential rate of electrolysis across the structure.

Observations

Observations from the site inspection are presented below by way of a tabulated notes. Each structural items condition was rated on a scale from 1 to 4 based on the urgency of repair:

1. Serious structural issue requiring immediate attention
2. Structural issue to be dealt with as soon as possible
3. A non-urgent issue or a routine maintenance issue.
4. No visual structural defects observed, continued monitoring suggested

Schedule of Observations				
Figure	Item	Location	Observation	Rating
1d-1w	Main Wharf	Pile #1 - #134	<ul style="list-style-type: none"> • Protective coating compromised in splash zone above water, very visible corrosion has set in • Protective coating intact on most piles • Localised and scattered areas where protective coating is damaged and steel is exposed • Localised and scattered locations of ALWC (not detrimental at this stage) 	3
2a-2j	Gangway	Pile #135 - #188	<ul style="list-style-type: none"> • Similar condition as Main Wharf • Protective coating compromised in splash zone above water, very visible corrosion has set in • Protective coating intact on most piles • Localised and scattered areas where protective coating is damaged and steel is exposed • Localised and scattered locations of ALWC (not detrimental at this stage) 	3
3j-3hh	Original Mooring Dolphins	H-MD1 to H-MD4	<ul style="list-style-type: none"> • Same condition as Main Wharf and Gangway, similar number and severity of defects observed 	3
3s & 3x	Original Breasting Dolphins	H-BD1 to H-BD2	<ul style="list-style-type: none"> • Same condition as Main Wharf and Gangway, similar number and severity of defects observed 	3
3a-3dd	New Mooring Dolphins	H-MD5 & H-MD6	<ul style="list-style-type: none"> • Very good condition overall, compared to original structure. • Very limited levels of corrosion observed on pile surface • Red surface coating on piles still in good condition 	3



			<ul style="list-style-type: none">• Cathodic protection appears to be working effectively	
3t-3w	New Breasting Dolphins	H-BD3 & H-BD4	<ul style="list-style-type: none">• Very good condition overall, compared to original structure.• Very limited levels of corrosion observed on pile surface• Red surface coating on piles still in good condition• Cathodic protection appears to be working effectively	3

*Note: This inspection is limited to visual observations only from the high watermark to the seabed level and comments cannot be made on the structures condition above or below these points.

Comments & Visual Representation

Please refer to the Appendix for sketches, field notes and relevant photographs of each structural item. All items of concern can be cross-referenced with the photographs attached.

Please continue to monitor the structure and any repair works for defects or future damage (particularly after large storm events), and do not hesitate to contact us if you have any questions regarding this report or if we can provide further assistance.

Sincerely,

Keith Hodgkins, P.Eng.
For Onsite Engineering Services Limited.

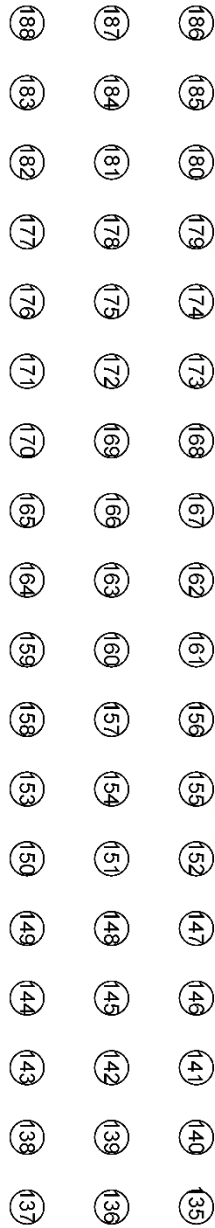


Fig. 1b - Heritage Wharf Gangway Pile Layout

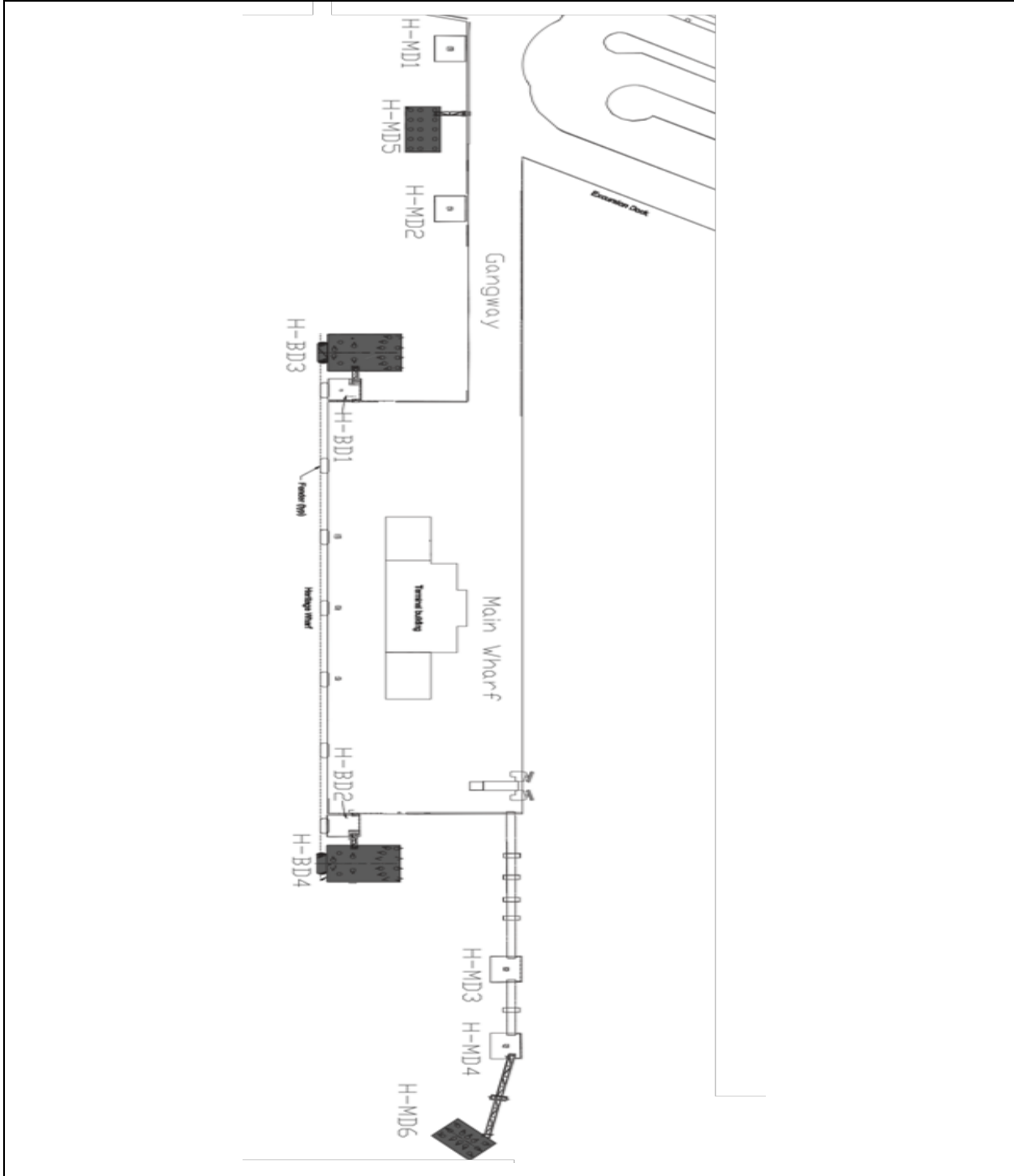


Fig. 1c - Heritage Wharf Locations of Breasting and Mooring Dolphins

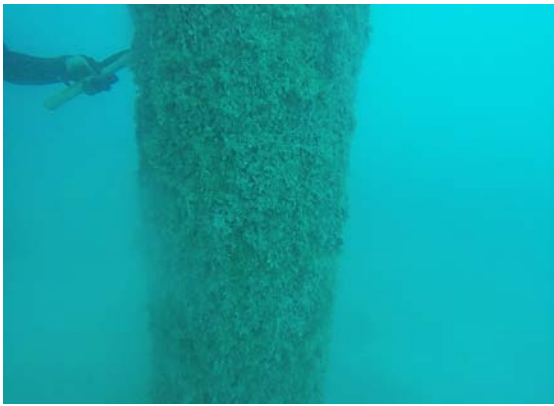


Fig. 1d - Typical marine vegetation growth on piles



Fig. 1e - 1st Level 2 inspection, Pile 1



Fig. 1f - 2nd Level 2 inspection, Pile 1



Fig. 1g - 3rd Level 2 inspection, Pile 1



Fig. 1h - ALWC near high water mark



Fig. 1i - Typical example of ALWC on pile surface



Fig. 1j – Compromised protective coating and corrosion in splash zone



Fig. 1k Cluster 1 composed of 6 piles



Fig. 1l 1st Level 2 inspection, Pile 45, protective coating intact



Fig. 1m 2nd Level 2 inspection, Pile 45, protective coating intact

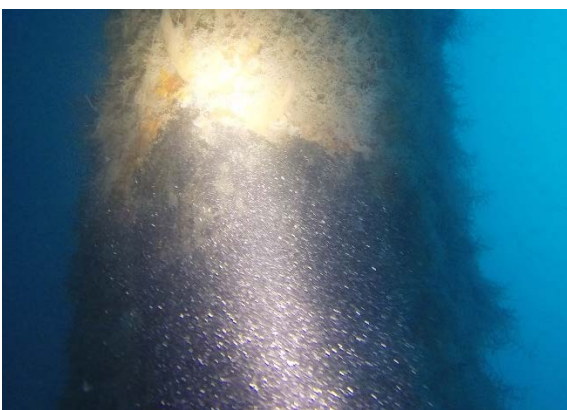


Fig. 1n 3rd Level 2 inspection, Pile 45, protective coating intact



Fig. 1o General view of three of the piles from Cluster 2



Fig. 1p Top of pile of Cluster 2



Fig. 1q Top of pile of Cluster 2



Fig. 1r – Blisters on protective coating in splash zone



Fig. 1s - Protective coating peeled away just below surface



Fig. 1t - Typical example of corrosion of exposed steel in splash zone



Fig. 1u Compromised protective coating and corrosion



Fig. 1v – Coating peeling away



Fig. 1w – Just below surface, Pile 66



Fig. 2a Protective layer peeled away to show steel underneath, Pile 158



Fig. 2b 1st Level 2 inspection, Pile 165



Fig. 2c 2nd Level 2 inspection, Pile 165



Fig. 2d 3rd Level 2 inspection, Pile 165, protective layer not present



Fig. 2e – General view of Gangway splash zone



Fig. 2f – Extreme example of corrosion in splash zone



Fig. 2g – Pile 187, connection with concrete cap

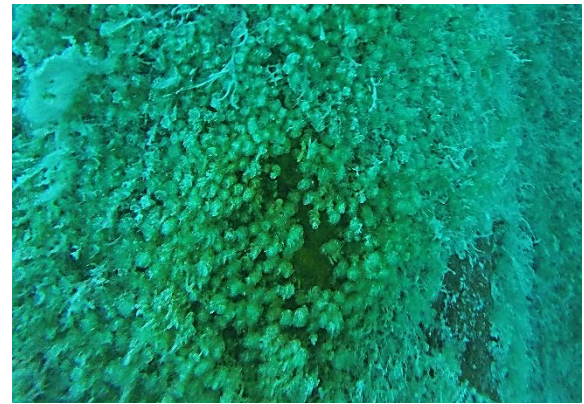


Fig. 2h - ALWC on metal sheet pile of North Arm



Fig. 2i - Level 2 inspection on sheet pile to probe ALWC depth

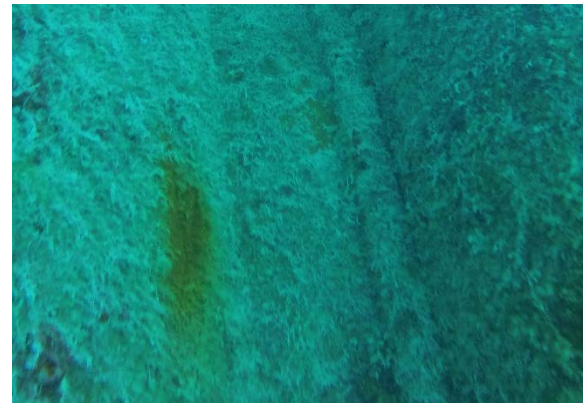


Fig. 2j - ALWC on metal sheet pile



Fig. 3a General view of the, H-MD6



Fig. 3b - Underside of H-MD6

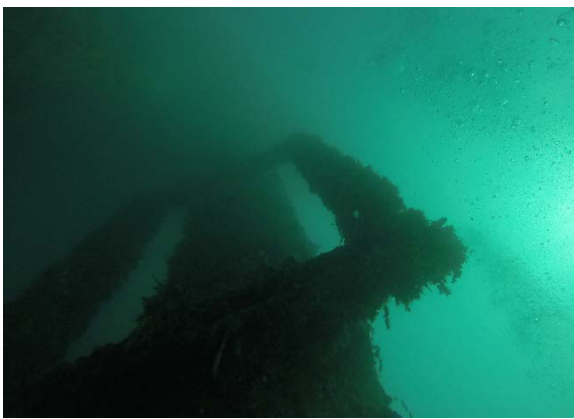


Fig. 3c - Anode on H-MD6



Fig. 3d - Level 2 inspection on anode, H-MD6



Fig. 3e - 1st Level 2 inspection, HMD6, very minor surface corrosion



Fig. 3f - 2nd Level 2 inspection, HMD6



Fig. 3g - One of the three piles on walkway dolphin



Fig. 3h - Anode on walkway dolphin



Fig. 3i - Anode of walkway dolphin, more corroded than others



Fig. 3j - Piles under H-MD4



Fig. 3k - Steel exposed under protective layer, H-MD4

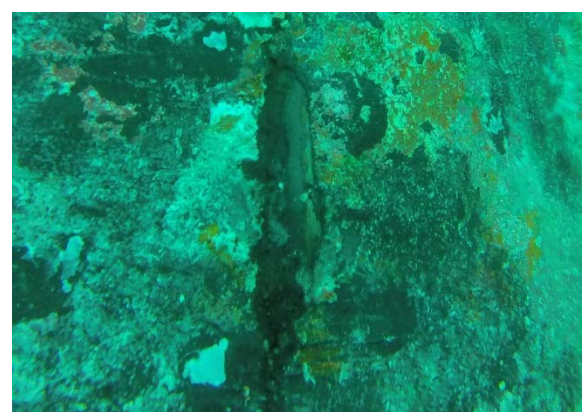


Fig. 3l - Steel exposed at base of pile under protective layer, H-MD4

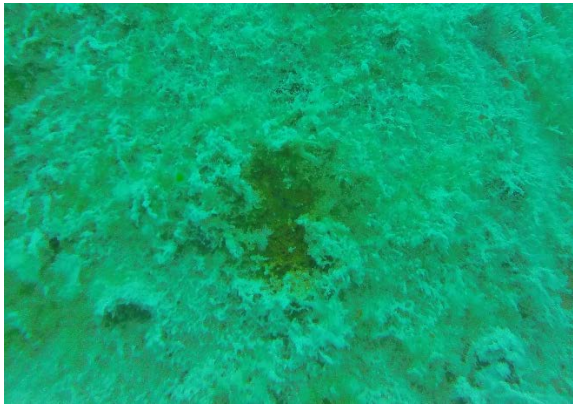


Fig. 3m - ALWC on H-MD3



Fig. 3n Piles driven into sandy bottom, H-MD3



Fig. 3o General view of walkway dolphin



Fig. 3p General underwater view of original walkway dolphin piles



Fig. 3q - 1st Level 2 inspection, walkway dolphin



Fig. 3r - 2nd Level 2 inspection, walkway dolphin



Fig. 3s - Protective coating peeling away on H-BD2, minimal corrosion



Fig. 3t – Anode and Level 2 inspection on H-BD3



Fig. 3u - Level 2 inspection, H-BD3



Fig. 3v - Level 2 inspection on anode, H-BD3



Fig. 3w - 2nd Level 2 inspection, H-BD3, minimal corrosion of pile



Fig. 3x - Level 2 inspection at base, H-BD1, no protective layer present



Fig. 3y - Level 2 inspection at middle of pile, H-MD2, protective coating intact



Fig. 3z - Level 2 inspection at base, H-MD2 – surface pitting and corrosion

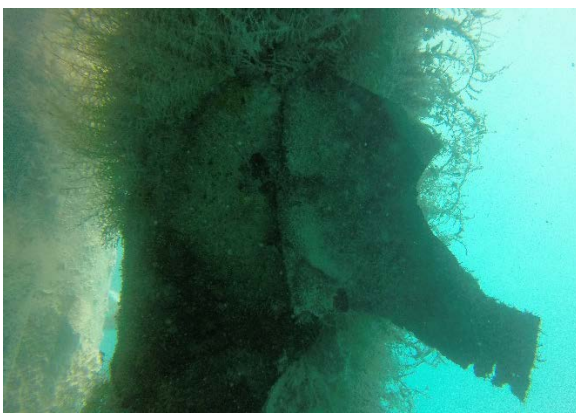


Fig. 3gg - Protective layer peeling away on H-MD2



Fig. 3hh - Band of extreme corrosion, H-MD2



Fig. 3cc - Extensive ALWC, H-MD2



Fig. 3dd - Above water view of H-MD5

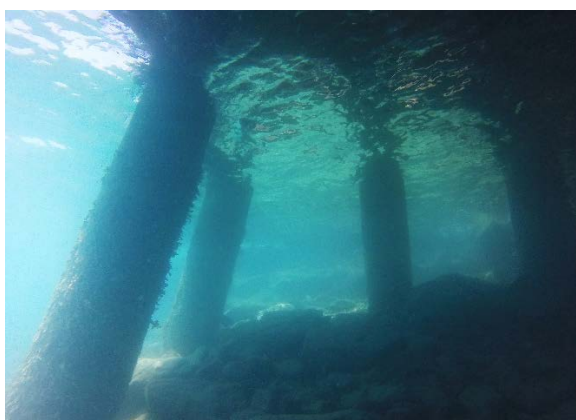


Fig. 3ee - Relatively short piles, H-MD1



Fig. 3ff - Level 2 inspection, H-MD1, protective coating still intact.



ONSITE ENGINEERING SERVICES LIMITED

Structural, Civil, Mechanical & Electrical Engineering Services

Underwater Infrastructure Survey

Issued: 11 September 2017

For: Bermuda Government
Attn: Mike Murphy

Heritage Wharf Pile Thickness Report

Introduction

This inspection was carried out on the 9th through the 12th of September by a three person dive team. The Thickness testing was carried out using scuba equipment, hand tools, and the Cygnus Dive Ultra Sonic Thickness Gauge. The inspection began on the northern end of the Main Wharf on Pile 1 and progressed southward. This report will present results from the thickness testing of the steel piles.

Summary

In total 10% (22) of the piles under the Main Wharf and Gangway were measured using the Thickness Gauge. The piles were tested in four equally spaced locations along the length of the pile. The gauge worked effectively during probing and even measured reliably through the protective coating on the pile. One of the newer "red" piles on one of the breasting dolphins was measured as a control, the original thickness of these piles was known and could be compared to the measured value. From the results a trend can be seen, the piles are corroding faster above the water surface in the splash zone compared with the submerged sections.

Plan View and Pile Numbering

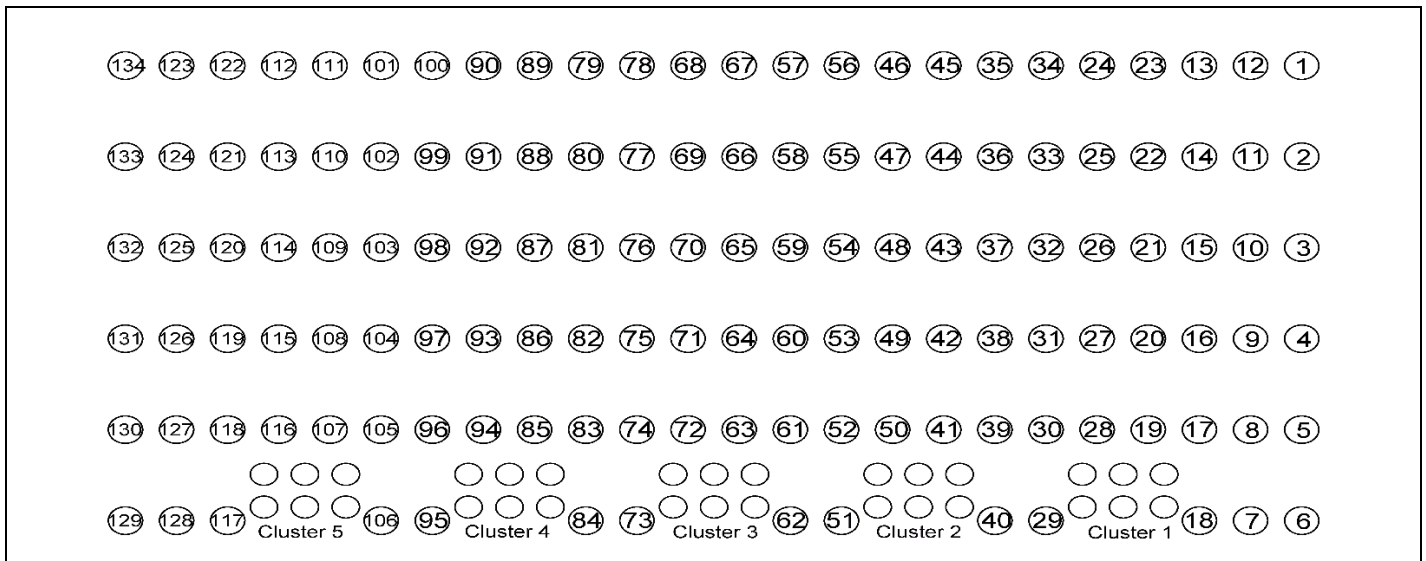


Fig. 1a – Pile Numbering Plan Under Main Wharf

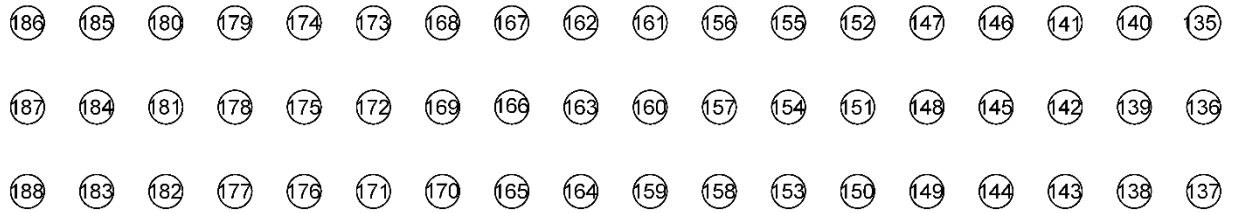


Fig. 1a – Pile Numbering Plan Under Gangway

Results

Results collected during the testing are presented below.

Pile #	Top (mm)	Middle Upper (mm)	Middle Lower (mm)	Bottom (mm)
1	12.05	12.00	12.10	12.20
11	12.15	12.50	12.70	12.66
15	11.80	12.15	12.20	12.10
27	11.00	12.15	12.20	12.10
39	11.80	12.10	12.15	12.10
51	11.50	12.15	11.75	12.00
63	11.25	12.10	12.10	12.15
75	12.30	12.15	12.05	12.10
87	11.50	12.10	12.25	12.10
99	12.20	12.05	12.10	12.10
111	12.35	12.31	12.30	12.20
121	12.20	12.25	12.25	12.25
132	12.20	12.35	11.90	12.05
136	12.20	12.10	11.80	11.35
141	11.80	12.10	12.15	12.10
148	12.00	12.10	12.10	11.15
153	12.05	12.05	12.10	11.80
160	12.15	12.15	12.25	12.25
167	11.75	12.15	12.20	11.95
172	12.05	12.10	12.00	12.00
177	12.05	12.05	12.00	11.70
184	12.05	12.00	12.55	12.35



*Note: This inspection is limited to observations only from the high watermark to the seabed level and comments cannot be made on the structures condition above or below these points.

Comments & Visual Representation

Please continue to monitor the structure and any repair works for defects or future damage (particularly after large storm events), and do not hesitate to contact us if you have any questions regarding this report or if we can provide further assistance.

Sincerely,

Keith Hodgkins, P.Eng.
For Onsite Engineering Services Limited.

ANNEX C SPECIFICATIONS

01010 Part 1 GENERAL REQUIREMENT

1.1 Work Covered By Contract Documents

.1 Project Identification:

This project consists of the design, supply and installation of a new cathodic protection system.

.2 Project Location:

Heritage Wharf, Royal Naval Dockyard, (Sandys Parish) Bermuda

.3 Project Owner:

Ministry of Public Works,
56 Church Street,
Hamilton, Bermuda, HM12.

.4 Project Engineer:

Ministry of Public Works,
Department of Works and Engineering
3rd Floor, 56 Church Street,
Hamilton, Bermuda, HM12.

1.2 Form of Contract

Project will be constructed under the FIDIC Short Form of Contract First Edition 1999

Work Sequence

.1 Contractor shall schedule the works coordinating all tasks and elements.

1.4 Contractor Use of Site

- .1 Ascertain boundaries of Site within which work must be confined.
- .2 Use of Site is to be coordinated through the Ministry of Public Works.

1.5 Drawings and Specifications Furnished

- .1 Owner Responsibilities:
 - .1 One electronic copy of drawings and specifications to Contractor.
- .2 Contractor Responsibilities:
 - .1 Pay for additional copies of drawings and specifications if required.
 - .2 Maintain at Site one complete set of up to date drawings and specifications. Make available to Engineer at any time.

1.6 Supplementary Drawings

.1 Engineer may furnish supplementary drawings to assist proper execution of work. Such drawings will be issued for clarification only and will have same meaning and intent as if included with plans referred to in Contract Documents.

END OF SECTION

01050 Part 1 GENERAL –WORK RESTRICTIONS

1.1 Utilities and Services

- .1 Existing Cables are known to exist within the site.
- .2 The Contractor is responsible for locating and protecting these and any possible other services within the works area.

1.2 Setting Out Stations

- .1 The Ministry of Public Works will establish sufficient survey stations for the Contractor to undertake the works.

1.3 Setting out and Dimensions

- .1 The Contractor shall be solely responsible for the accurate setting out of the works and shall employ a qualified surveyor whenever necessary. Any damages which may be incurred as a result of the incorrect setting out of the works shall be the responsibility of the Contractor.
- .2 The Contractor shall be responsible for the maintenance of all bench marks on the site.
- .3 The Contractor shall provide accurate locations for all rock anchors installed.

1.4 Use of Site

- .1 Limit use of site to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated. Confine construction and operations to within the boundary shown on drawings.
- .2 Keep driveways and entrances serving all adjacent premises and public property clear and available to the public, owners, owner's employees, guests, and both service and emergency vehicles at all times. These areas shall not be used for parking or storage of materials.

1.5 Working Hours

- .1 Normal working hours shall be Monday to Saturday 8.00am through to 6.00pm and Sunday working shall be permitted within the hours of 9.00am and 6.00pm.

END OF SECTION

01300 Part 1 GENERAL - SUBMITTALS

1.1 Required Submittals

.1 The Contractor shall submit the following documents to the Engineers Representative:

- .1 Design Notes
- .2 Stamped Drawings
- .3 Schedule of Work
- .4 Construction Method Statements
- .5 Construction Safety and Health Risk Assessments
- .6 Environmental Method Statements
- .7 Samples
- .8 Certificates

1.2 Administration

.1 Provide to the Engineer for review the submittals specified. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in the Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by the submittal until review is complete.

.3 Review submittals prior to submission to the Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and will be considered rejected.

.4 Verify that field measurements and affected adjacent Work are coordinated.

.5 Contractor's responsibility for errors and omission in submission is not relieved by Engineer review of submittals.

.6 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Engineer review.

.7 Keep one review copy of each submission on Site.

1.3 Schedule of Work

.1 Prepare schedule in the form of a linked bar chart. All events, activities and constraints shall be numbered and shall be given a title. Details to be given for each event, activity or constraint should include:

- .1 its title
- .2 its scheduled start and finish dates
- .3 its duration

- .4 any relevant “must” start or finish dates
- .2 Provide a separate bar for each event, activity, operation or constraint, show proposed progress of all activities. Where applicable, indicate labour, construction crews, plant and equipment to be employed.
- .3 The key milestones in the construction process shall also be identified. Schedule milestones will include but not be limited to the following:
 - .1 Start of construction
 - .2 Placement of orders for critical equipment items
 - .3 Delivery dates (to site) for critical equipment items
 - .4 Final handover (final completion)
- .4 Revise and resubmit schedule every two weeks to reflect actual progress of the Works.
- .5 With schedule updates, provide written explanations to Engineer as to why previously reviewed schedule is not being met (if applicable).
- .6 Show changes in operations proposed (if required), to complete construction works within Contract Time.
- .7 No progress payments will be approved until receipt of schedule updates acceptable to the Engineer.

1.4 Method Statements

- .1 Provide Method Statement for each key activity and additionally as requested by Engineer, to show construction methods, equipment and general methodology for carrying out the Work. Relate Method Statement to activities shown on Construction Schedule.
- .2 Method Statements shall identify, among other things:
 - .1 Sequencing of works
 - .2 Methods to ensure appropriate environmental protection
 - .3 Other key tasks as specified in the Contract Documents, and/or as requested by the Engineer.

1.5 Certificates

- .1 Submit certificates of insurances within 10 days after award of Contract and before any work begins at the Site.

END OF SECTION

01561 Part 1 GENERAL ENVIRONMENTAL PROTECTION

1.1 Environmental Measures

- .1 Meet or exceed the requirements of all Bermuda environmental legislation and regulations, including all amendments up to project date provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.

Part 2 EXECUTION

2.1 Fires

- .1 Fires and burning of rubbish on site will not be permitted.

2.2 Disposal of Rubbish and Waste Materials

- .1 Collect all rubbish and waste material and dispose of in accordance with the latest editions of the Ministry of Public Works Waste Management Plan.

2.3 Environmental Protection

- .1 When, in the opinion of Engineer, negligence of Contractor results in damage or destruction of local flora and or fauna, or other environmental or aesthetic features beyond work areas as shown on contract drawings, the Contractor shall be responsible, at his expense, for complete restoration including replacement to satisfaction of Engineer.

2.4 Pollution Control

- .4 Control emissions from equipment and plant to Bermuda authorities' emission requirements.
- .5 Prevent extraneous materials from contaminating air, land or water, by vacuum, temporary enclosures, screens, traps or other devices.
- .6 Spills of deleterious substances should be immediately contained and cleaned up in accordance with provincial regulatory requirements. Spills should be reported forthwith to the Engineer.

2.5 Storage And Handling Of Fuels And Dangerous Fluids

- .1 Locate fuel storage facility a minimum of 100 m from any water body in an area approved by the Engineer and construct impermeable dykes so that any spillage is contained.
- .2 Prevent spillage of gasoline, diesel fuel and other oil products into the water and on land. Clean up spills promptly at own cost in accordance with Bermuda regulatory requirements. Report any fuel spills immediately to Engineer.
- .3 Proper use of primers, grouts, bonding adhesives and other hazardous substances will be undertaken to prevent their entry into the water. Substances are to be stored and are to be stored and mixed on protected surfaces away from site to prevent their entry into waterways and contamination of soils.

- .4 Collect and dispose of used oil filter cartridges and other products of equipment maintenance at industrial waste facility to satisfaction of Engineer.

END OF SECTION

END OF ANNEX C SPECIFICATIONS