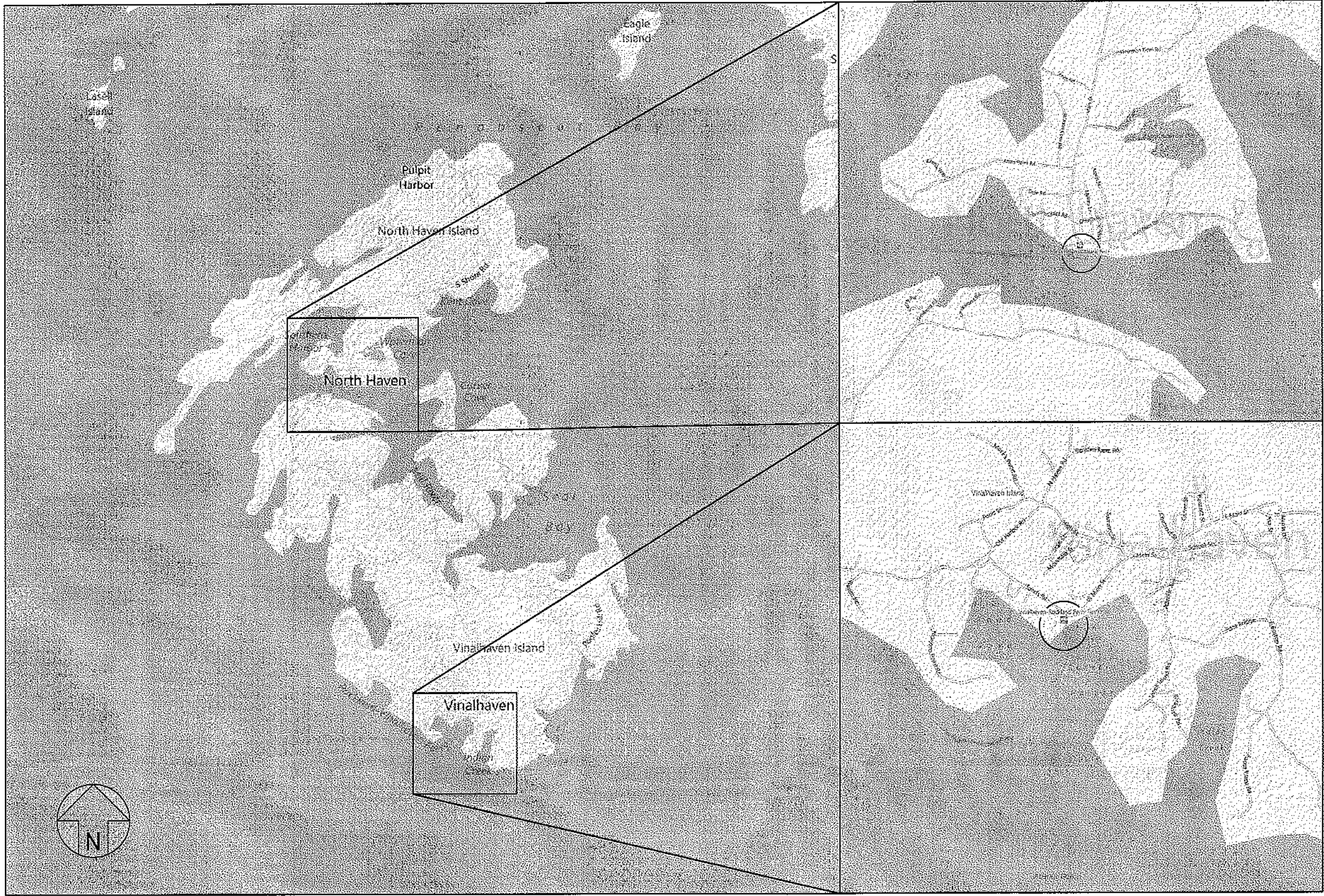


STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
VINALHAVEN and NORTH HAVEN  
FERRY TERMINALS  
PROJECT NO: PIN 018109.00

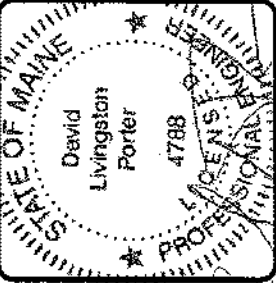


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|                                                |                 |
|------------------------------------------------|-----------------|
| STATE OF MAINE<br>DEPARTMENT OF TRANSPORTATION | DATE<br>10-2-11 |
| APPROVED<br>[Signature]                        |                 |
| Comptroller<br>[Signature]                     |                 |
| Chief Engineer<br>[Signature]                  |                 |

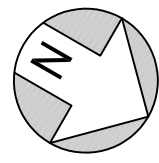
|                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHILDS ENGINEERING CORPORATION<br>800 333 MEEFIELD, MASSACHUSETTS 02032 U.S.A.<br>Phone: (508) 359-8845 Fax: (508) 359-2751<br>E-mail: mfield@childse.com |
| CHILDS ENGINEERING CORPORATION                                                                                                                            |



|             |         |
|-------------|---------|
| Date        | 9/30/11 |
| Designed by | DLP     |
| Drawn by    | TEC     |
| Checked by  | DLP     |
| Reviewed by | DLP     |
| Scale       | NONE    |

|                                                                                            |             |
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| MAINE DEPARTMENT OF TRANSPORTATION<br>VINALHAVEN AND NORTH HAVEN<br>FERRY TERMINAL REPAIRS | TITLE SHEET |
|--------------------------------------------------------------------------------------------|-------------|

|                                                   |
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| Sheet reference number:<br>X-001<br>Sheet 1 of 12 |
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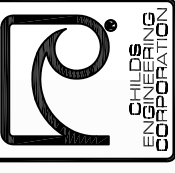


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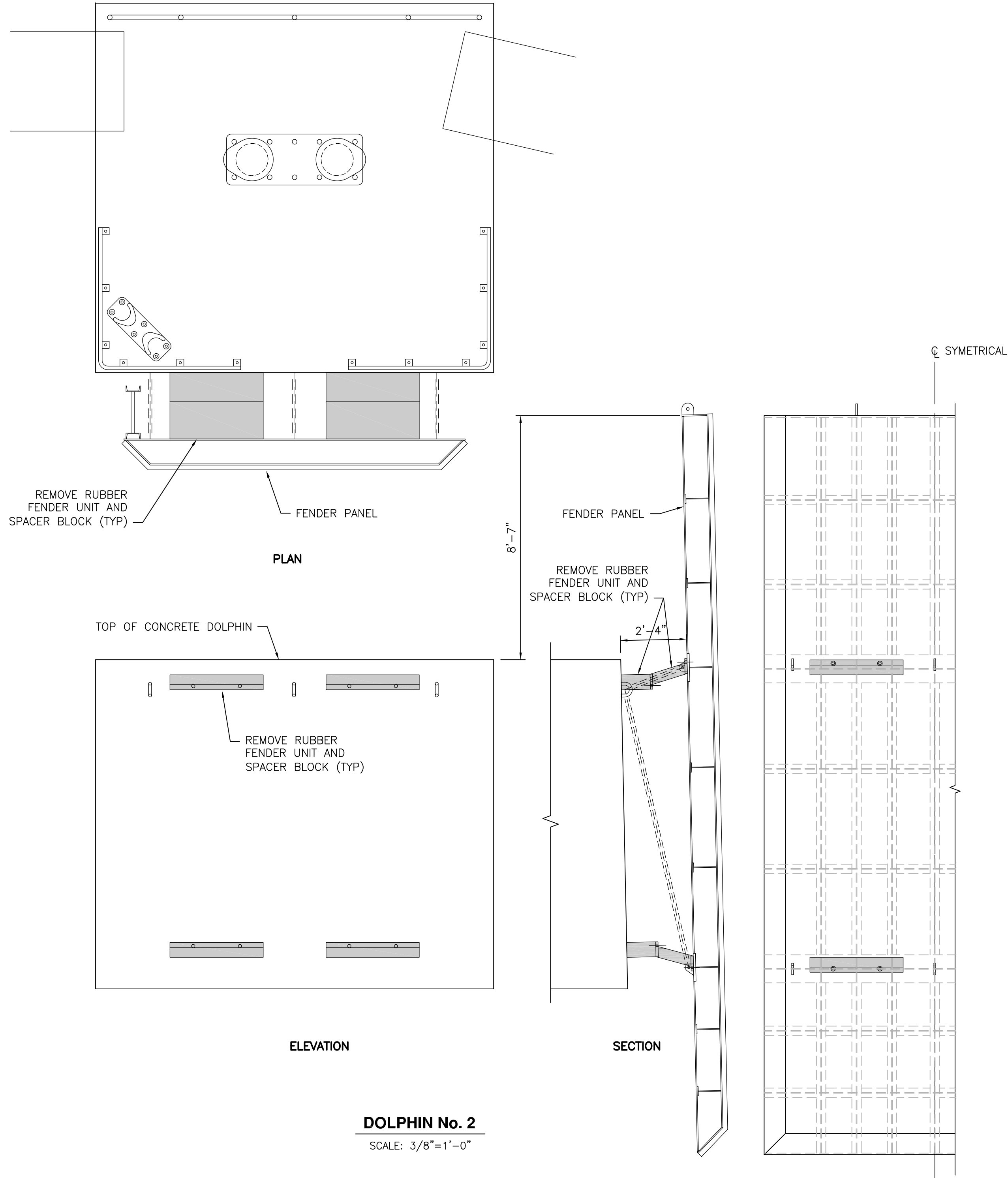
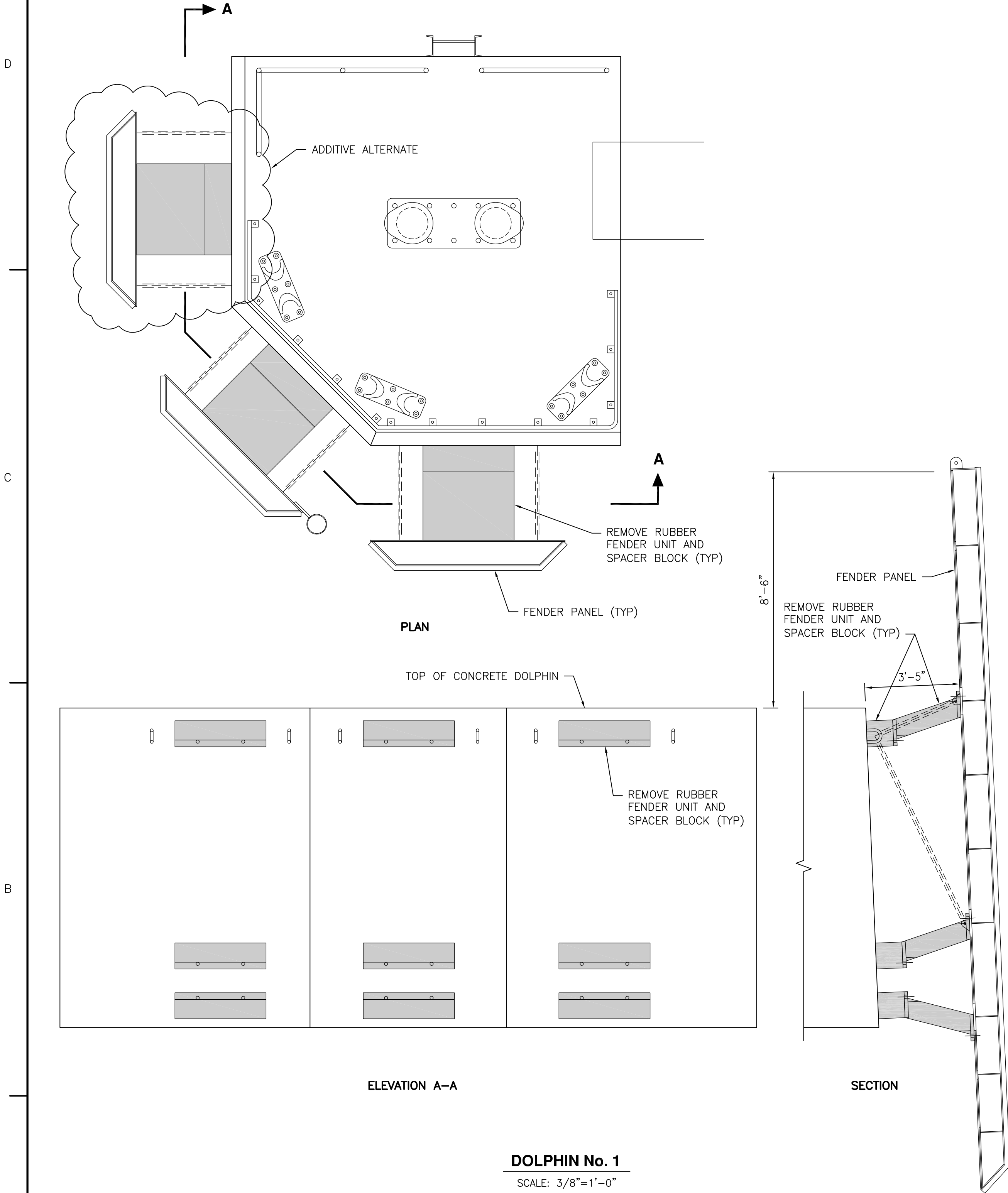
DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS

Sheet  
reference  
number:  
**X-101**  
Sheet 2 of 2

|              |     |                 |            |
|--------------|-----|-----------------|------------|
| Designed by: | DLP | Date:           | 9/30/11    |
| Drawn by:    | TEQ | Design file no. | 228311-101 |
| Reviewed by: | DLP | Scale:          |            |

[illegible]

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BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (508) 359-8945 Fax: (508) 359-2751  
E-mail: [mail@childseng.com](mailto:mail@childseng.com)

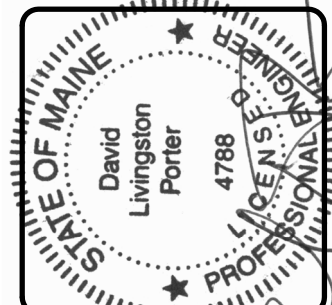


MAINE DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS

DOLPHIN No. 1 & 2  
EXISTING CONDITIONS

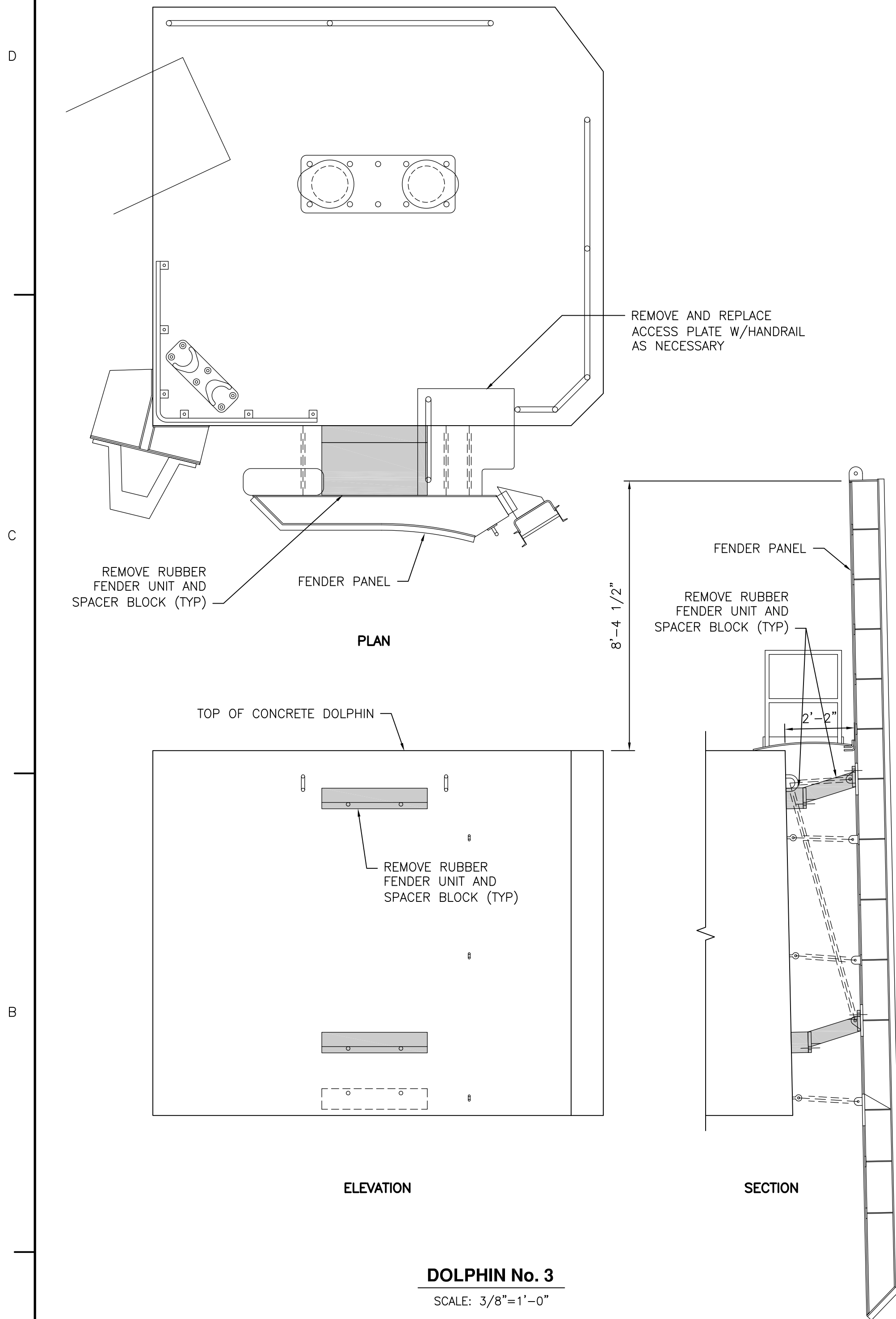
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reference  
number:  
**X-102**  
Sheet 3 of 21

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| Reviewed by: | DLP | Scale:          | 3/8"=1'-0" |

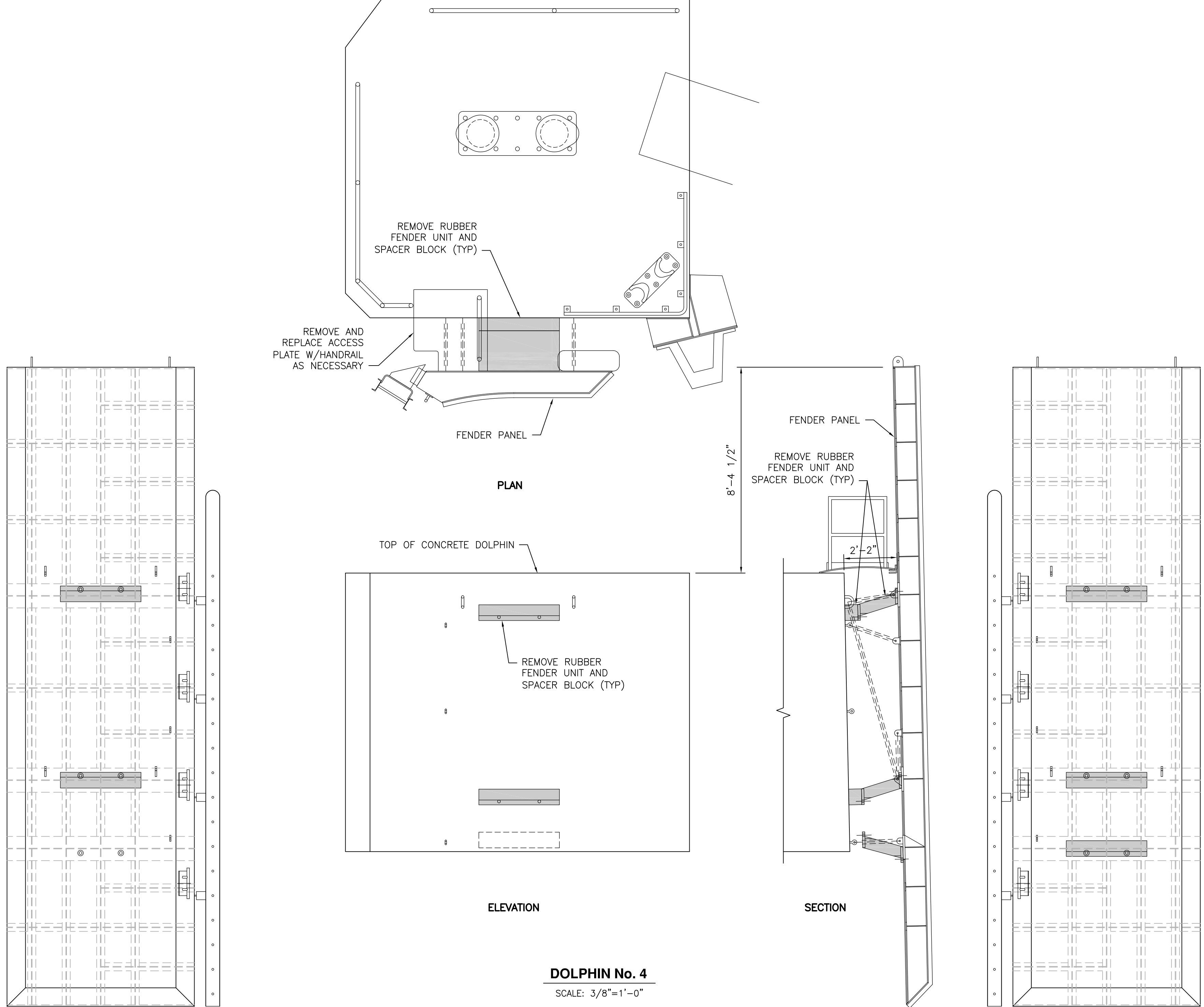
[illegible]

**CHILDS ENGINEERING CORPORATION**  
BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (508) 359-8945 Fax: (508) 359-2751  
E-mail: [mail@childseng.com](mailto:mail@childseng.com)

TOM QUINN K:\2283-11.00 VINALHAVEN-NORTH HAVEN FENDER SYSTEM, MDOIT\CADD\CURRENT WORKING DWGS\228311-103 EXIST VH DOLPH-3.4.DWG Oct 07, 2011 - 10:54am

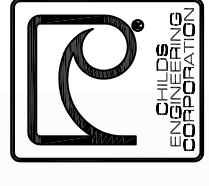


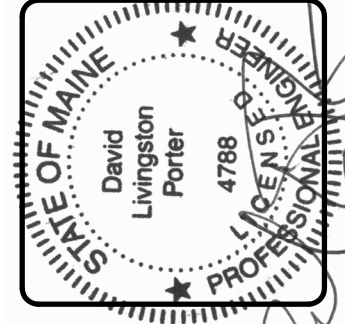
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SCALE: 3/8"=1'-0"



**DOLPHIN No. 4**  
SCALE: 3/8"=1'-0"

CHILD'S ENGINEERING CORPORATION  
BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (608) 359-8945 Fax: (608) 359-2751  
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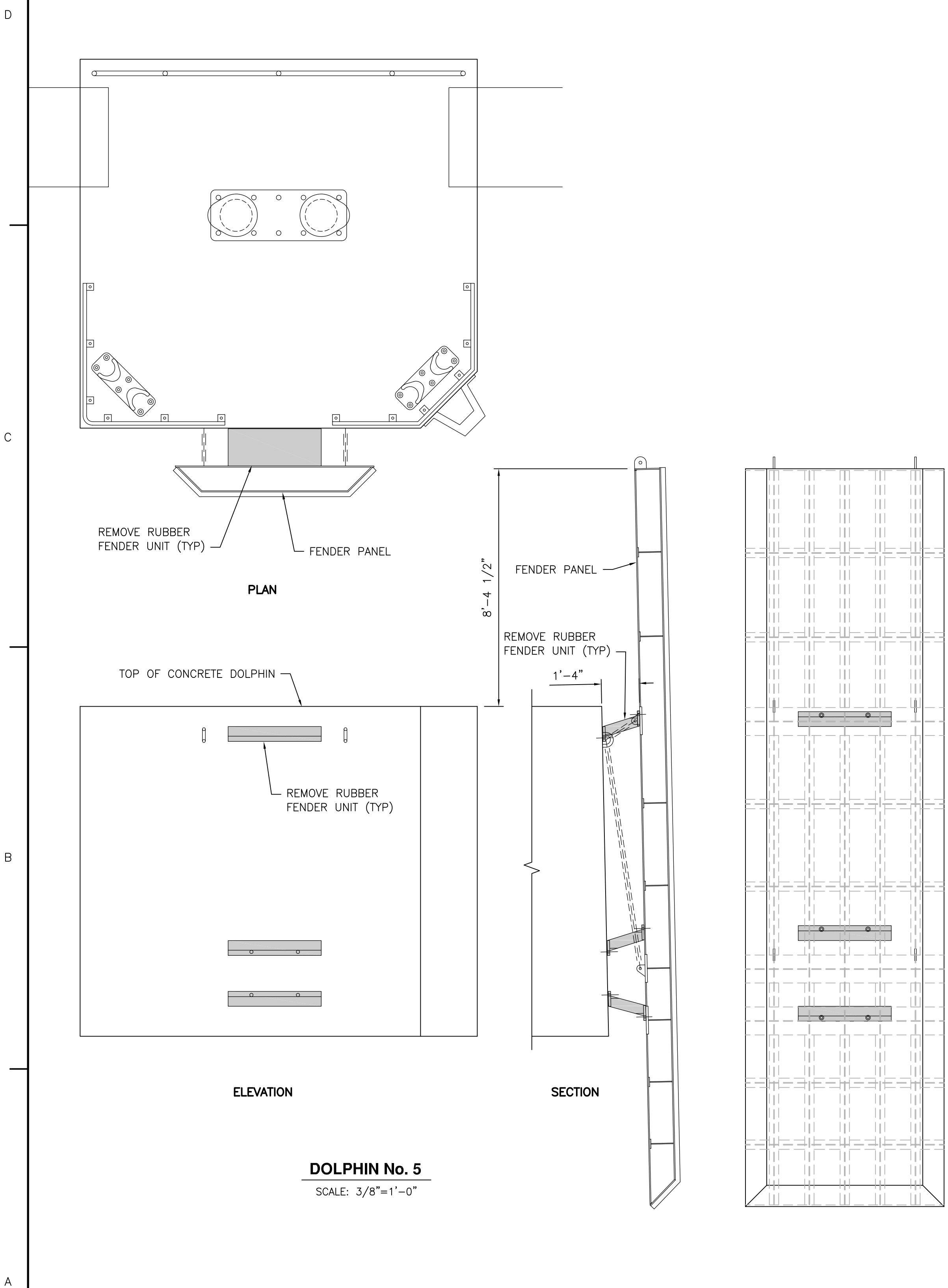




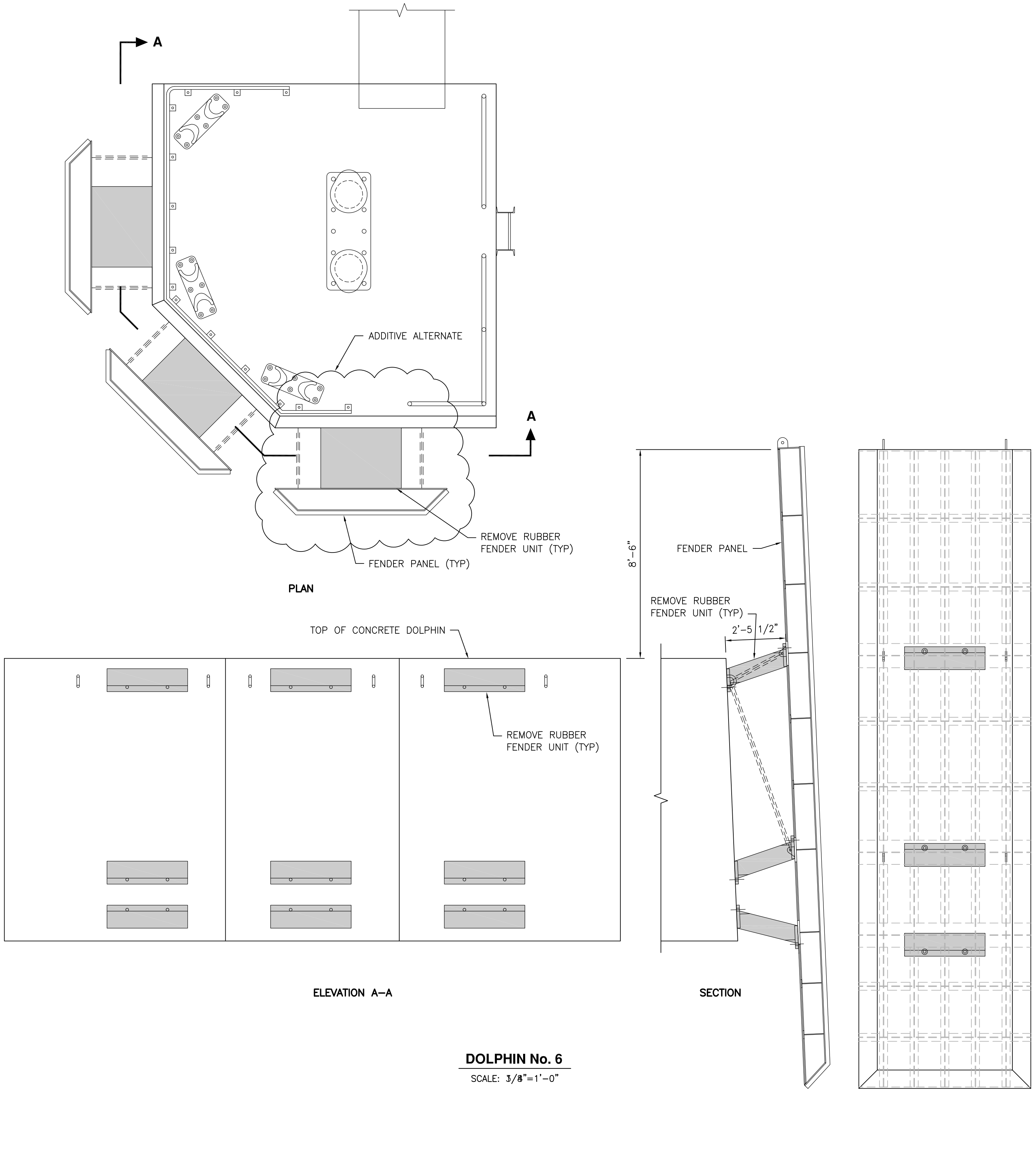
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MAINE DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS  
DOLPHIN No. 3 & 4  
EXISTING CONDITIONS

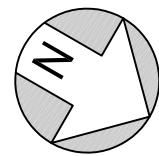
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Sheet 4 of 21



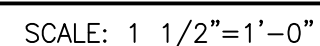
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SCALE: 3/8"=1'-0"

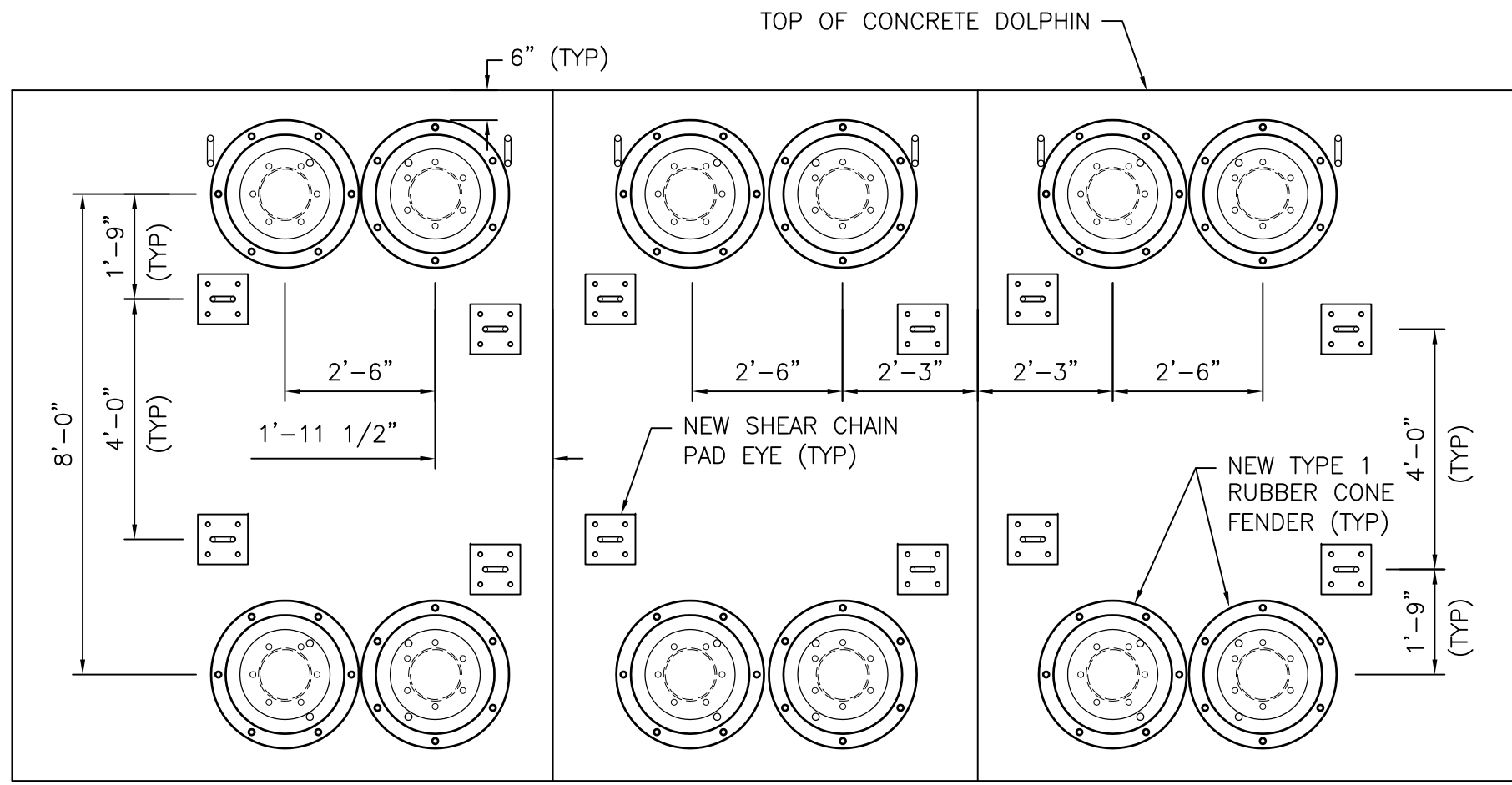
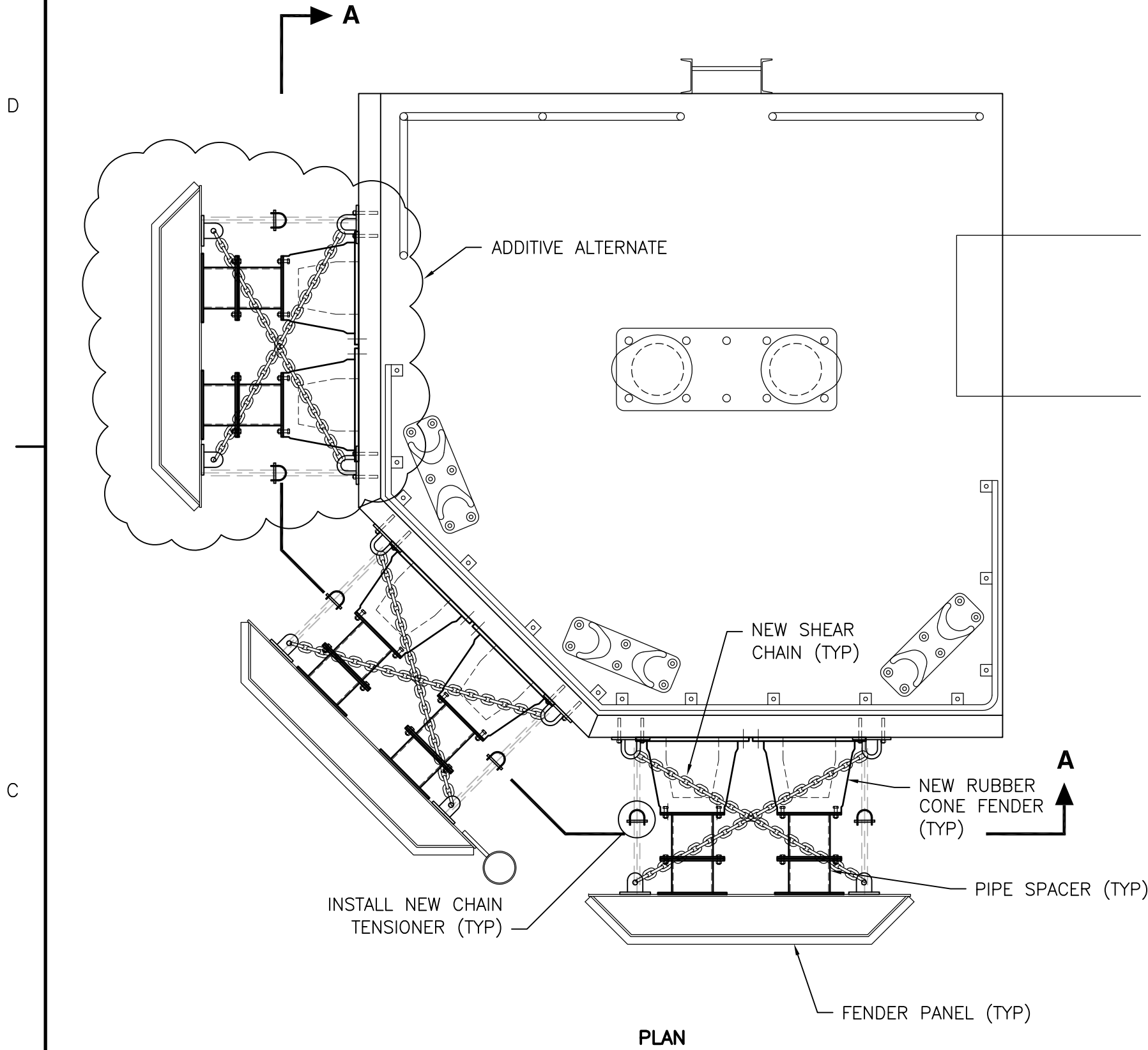


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SCALE: 1"=10'-0"





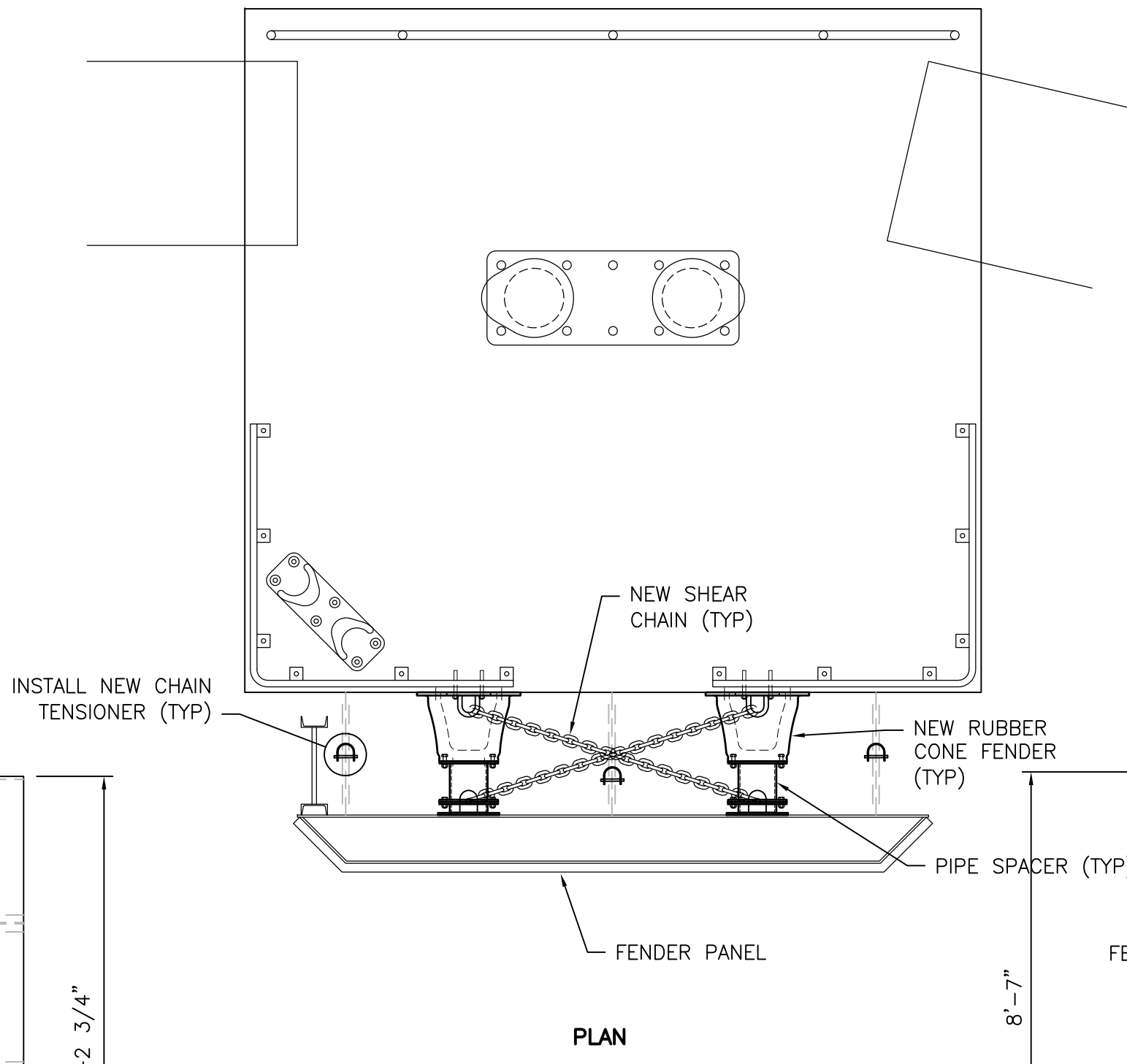
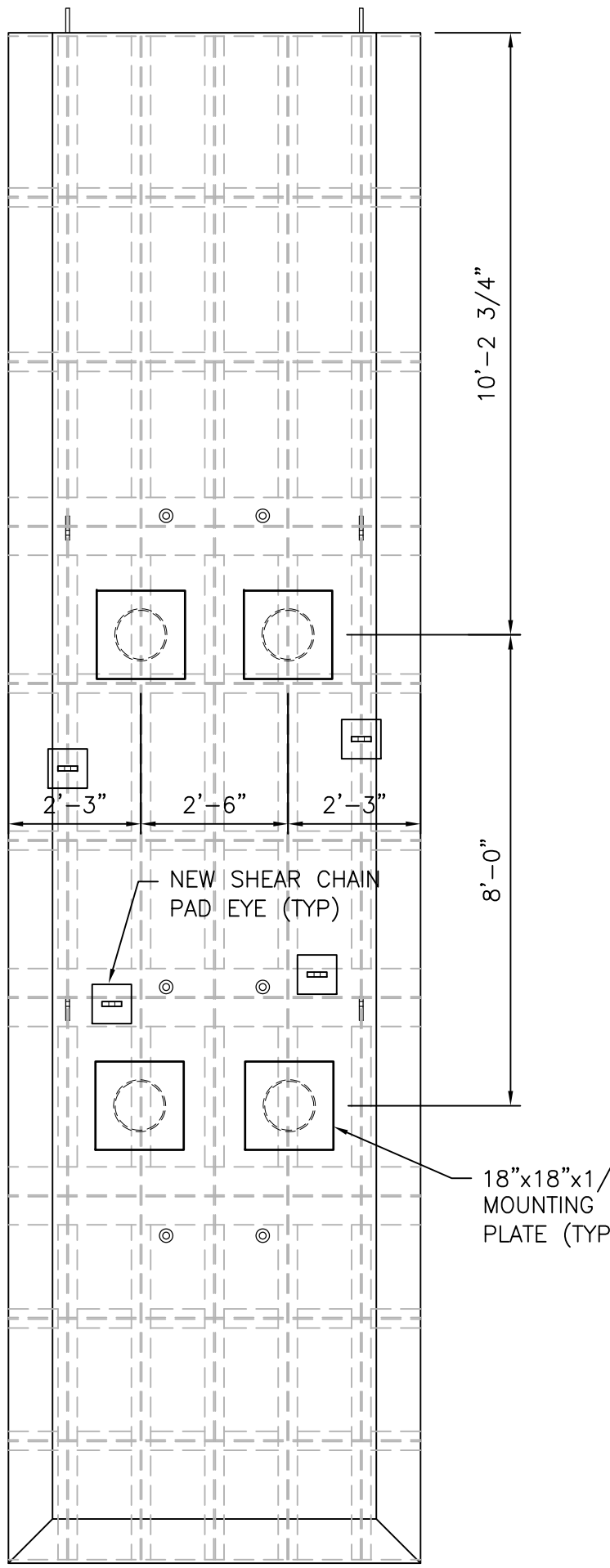
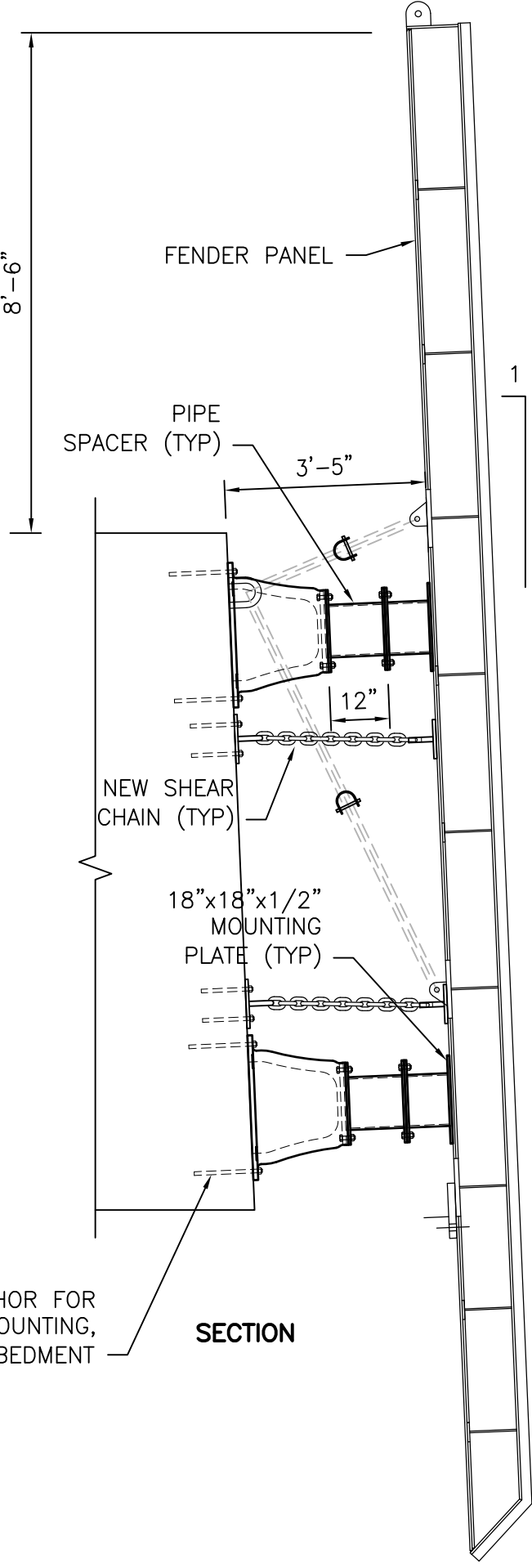
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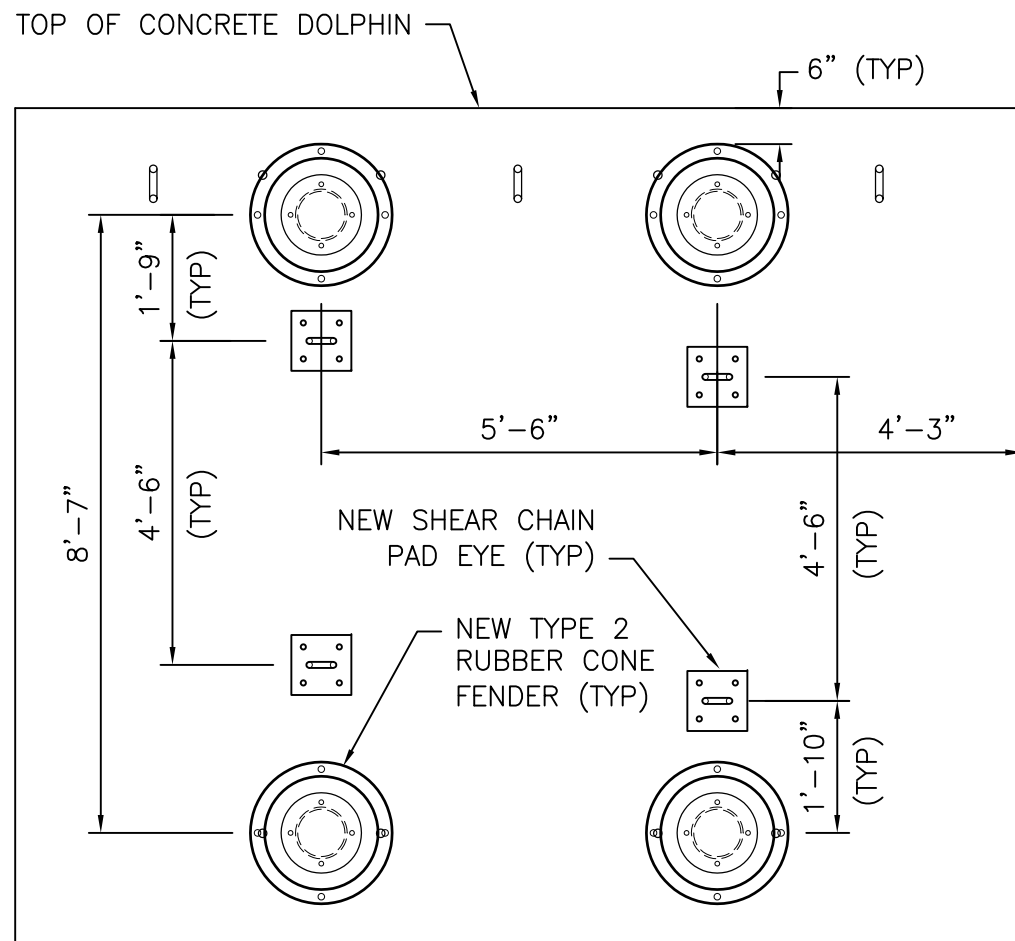
CONTRACTOR SHALL ADJUST FENDER  
DIMENSIONS TO RESULT IN FENDER  
PANEL SLOPE OF 1:24 AS SHOWN.

DOLPHIN No.

SCALE: 3/8"=1'-0"



## PLAN



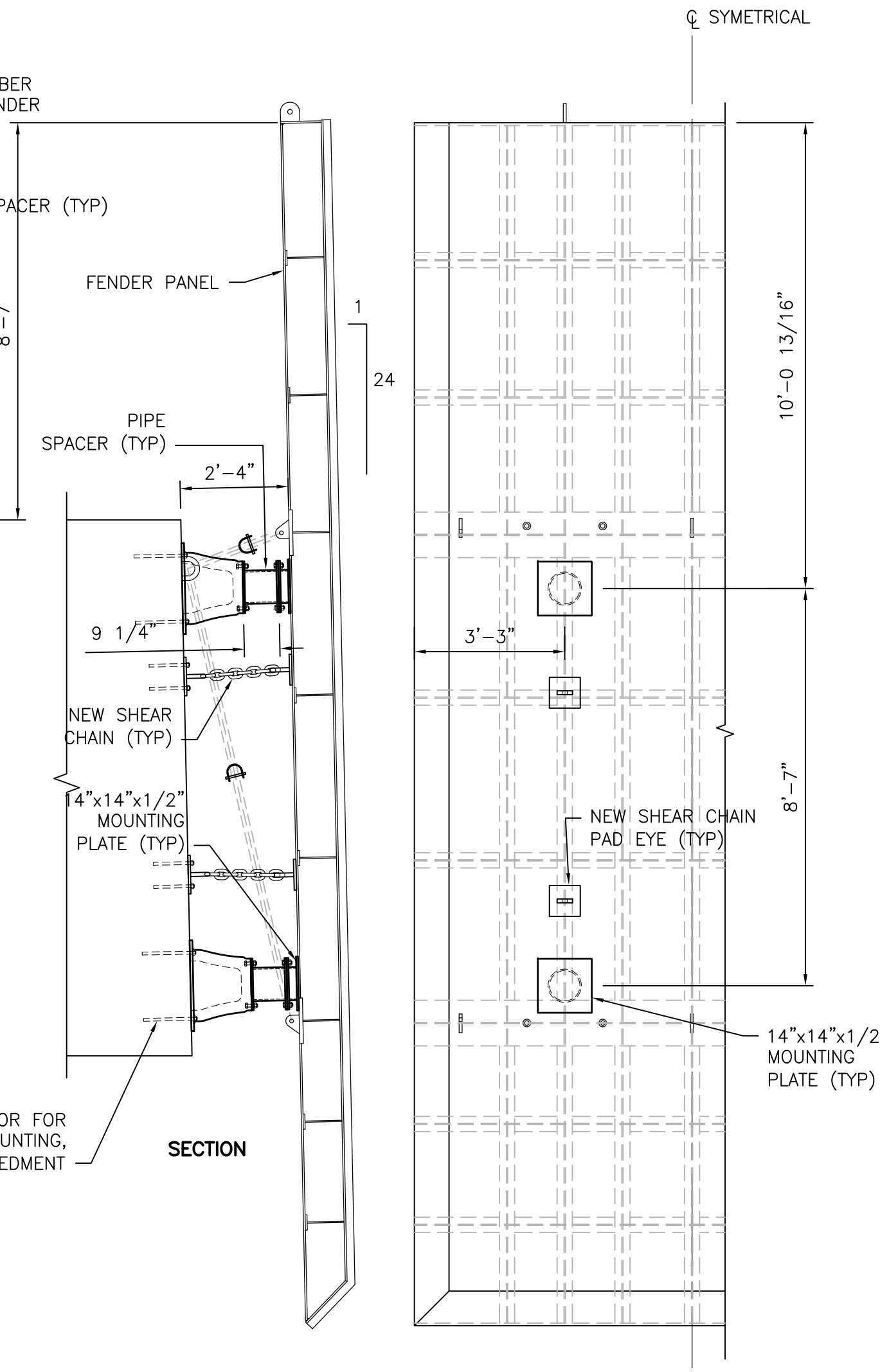
ELEVATION

NOTE WELL

CONTRACTOR SHALL ADJUST FENDER  
DIMENSIONS TO RESULT IN FENDER  
PANEL SLOPE OF 1:24 AS SHOWN.

DOLPHIN No. 2

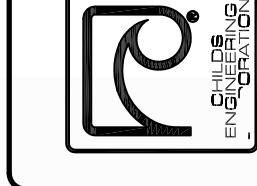
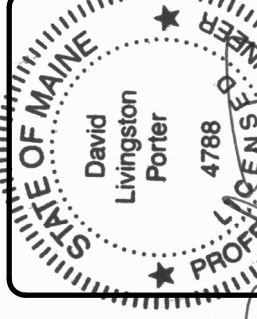
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MAINE DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS  
DOLPHIN No. 1 & 2  
PROPOSED DETAILS

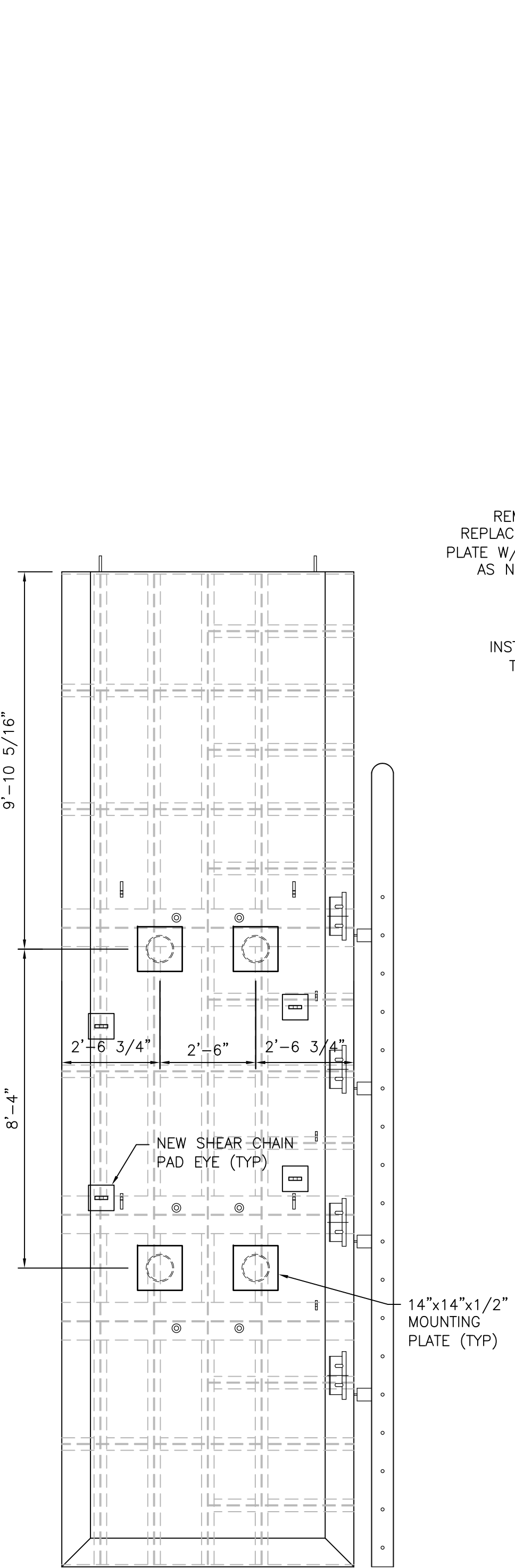
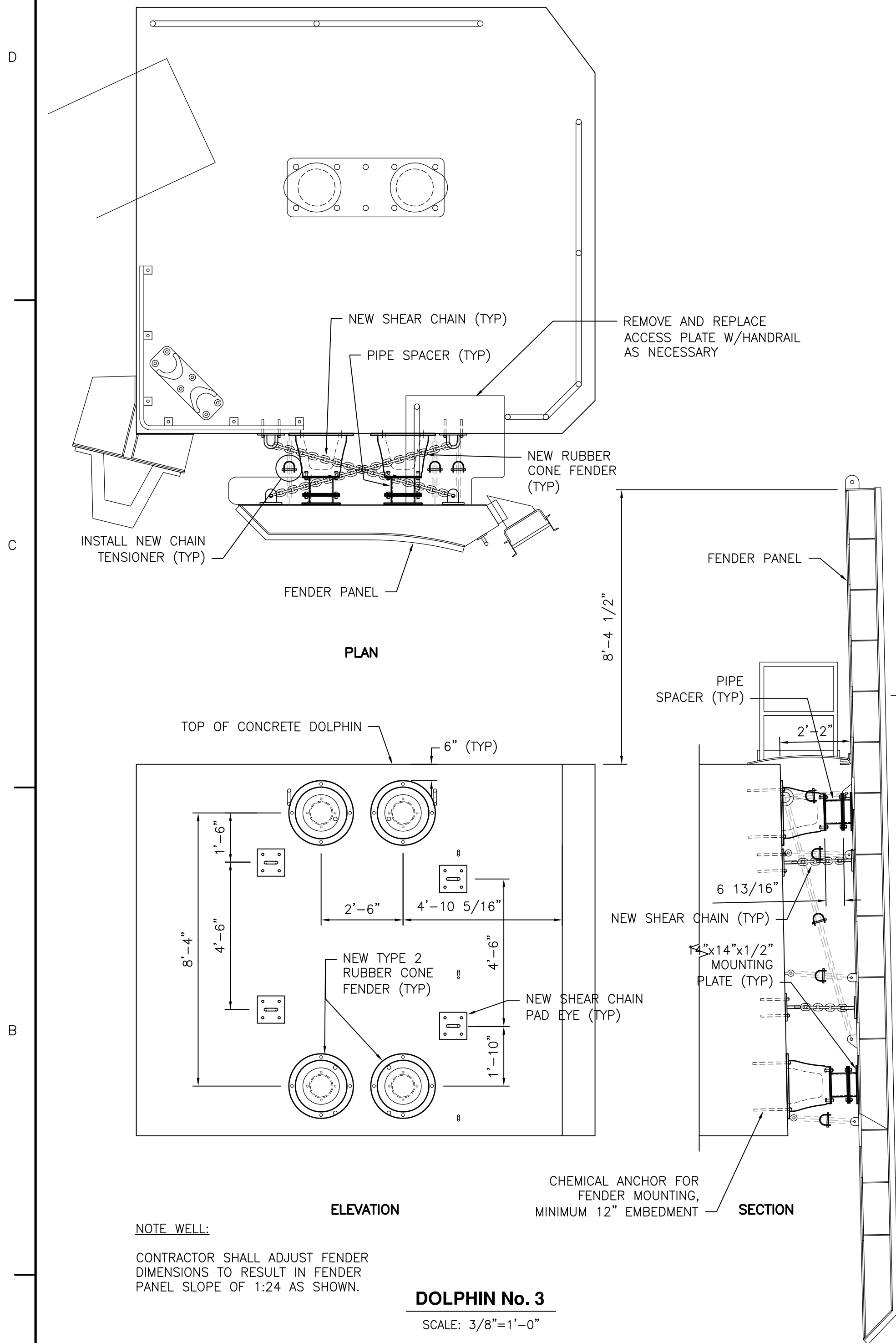
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reference  
number:  
  
X-106  
Sheet 7 of 2

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| Drawn by:    | TEQ | Design file no. | 228311-106 |
| Reviewed by: | DLP | Scale:          |            |

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BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (508) 359-8945 Fax: (508) 359-2751  
E-mail: [mail@childsend.com](mailto:mail@childsend.com)

TOM QUINN K:\2283-11.00 VINALHAVEN-NORTH HAVEN FENDER SYSTEM, MDOT\CADD\CURRENT WORKING DWGS\228311-107 PROP VH DOLPH-3.4.DWG Oct 07, 2011 - 1:00pm



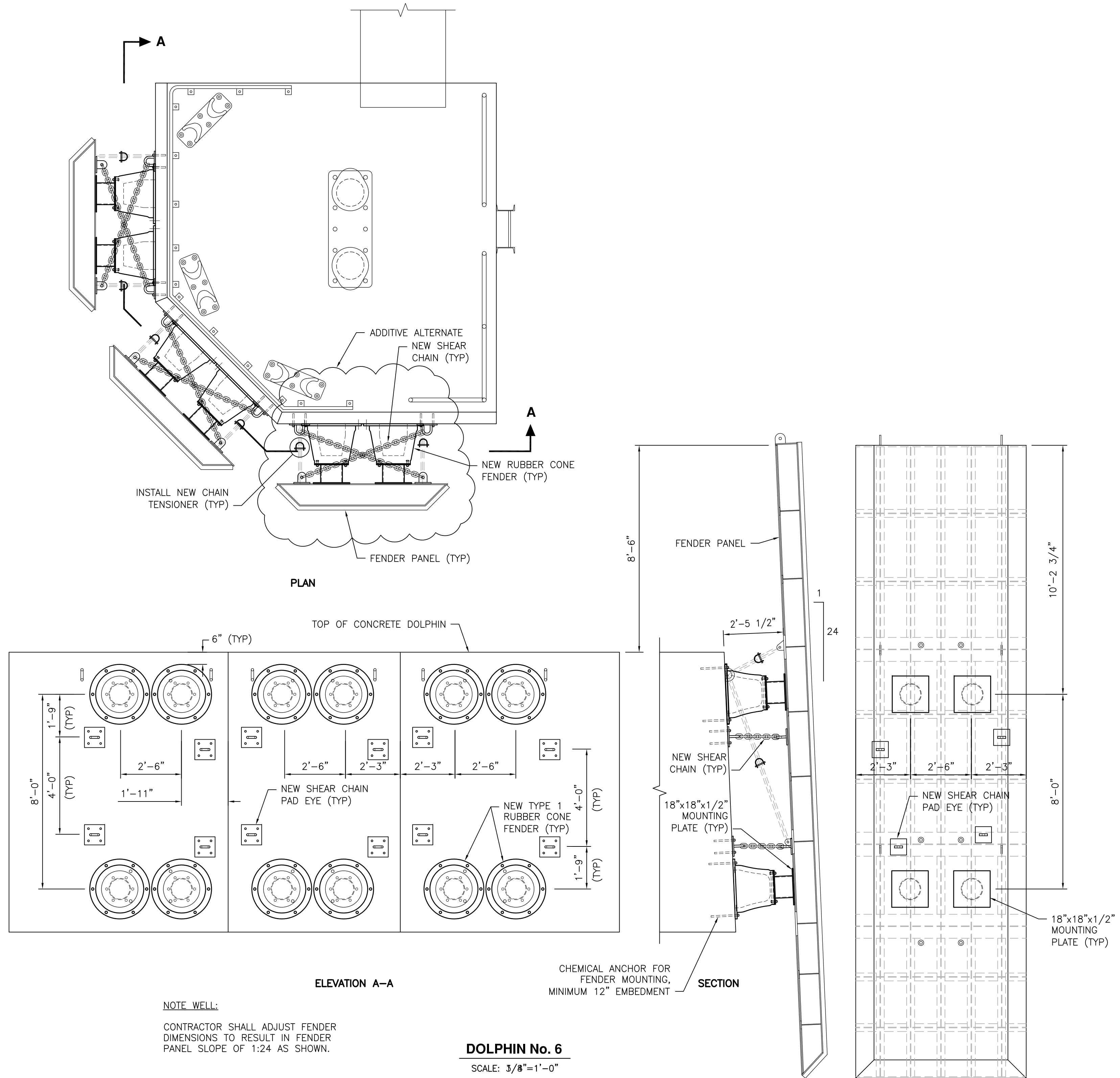
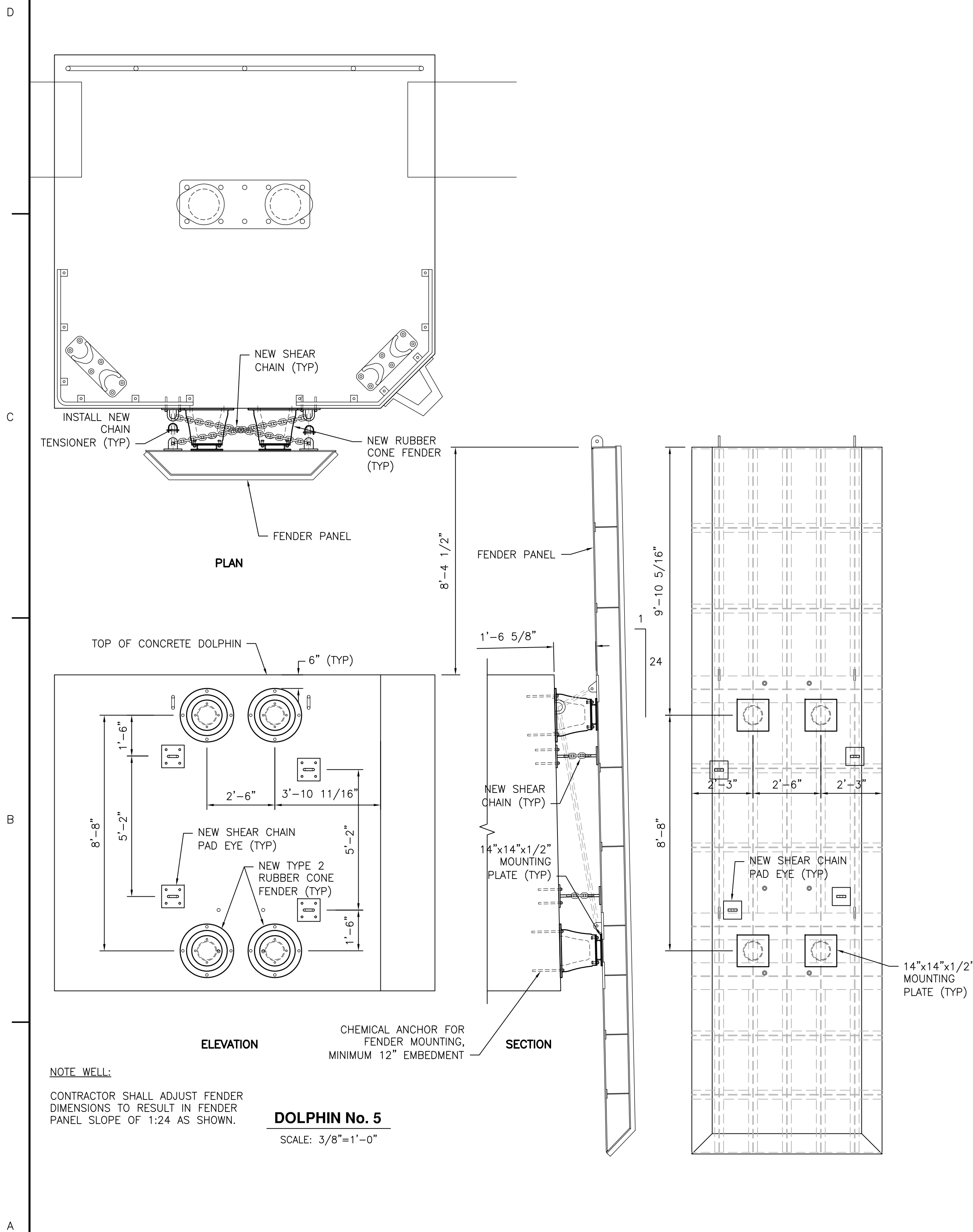
CHILD'S ENGINEERING CORPORATION  
BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (608) 359-8945 Fax: (608) 359-2751  
E-mail: [nc@childseng.com](mailto:nc@childseng.com)

MAINE  
David Livingston Porter  
4788  
PROFESSIONAL  
REGISTERED  
10/07/11

| Date    | Design | Check | Draw | Revise |
|---------|--------|-------|------|--------|
| 9/30/11 | DLP    | TEC   | DLP  | DLP    |

MAINE DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS  
DOLPHIN No. 3 & 4  
PROPOSED DETAILS

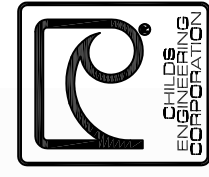
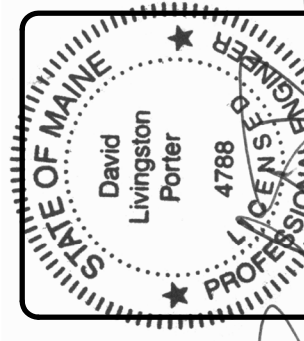
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**X-107**  
Sheet 8 of 21



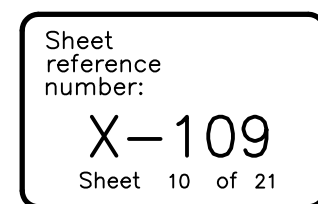
MAINE DEPARTMENT OF TRANSPORTATION  
VINALHAVEN TERMINAL  
FENDER SYSTEM REPAIRS

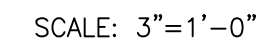
DOLPHIN No. 5 & 6  
PROPOSED DETAILS

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| Drawn by:    | TEQ | Old by: | Design file no.<br>228311-108 |            |
| Reviewed by: | DLP |         | Scale:                        | 3/8"=1'-0" |

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E-mail: [mail@childseeng.com](mailto:mail@childseeng.com)







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Scale: 1

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| 3 | 4 |

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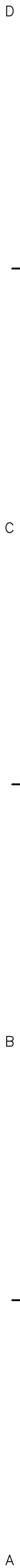
201

of 21

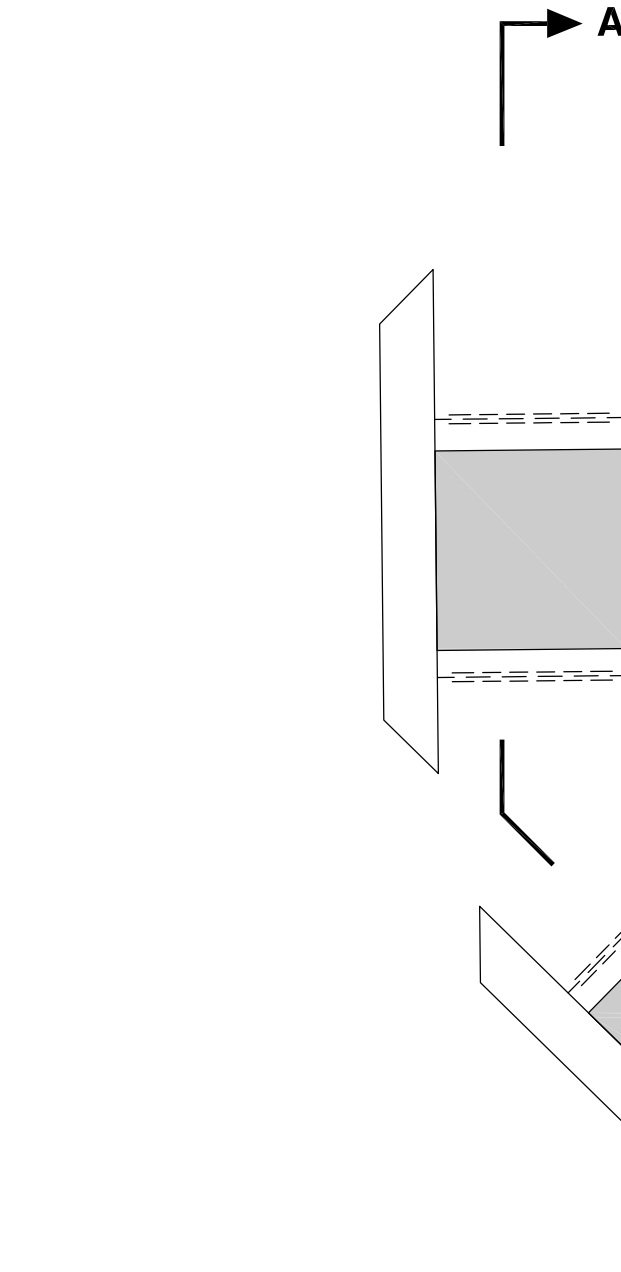
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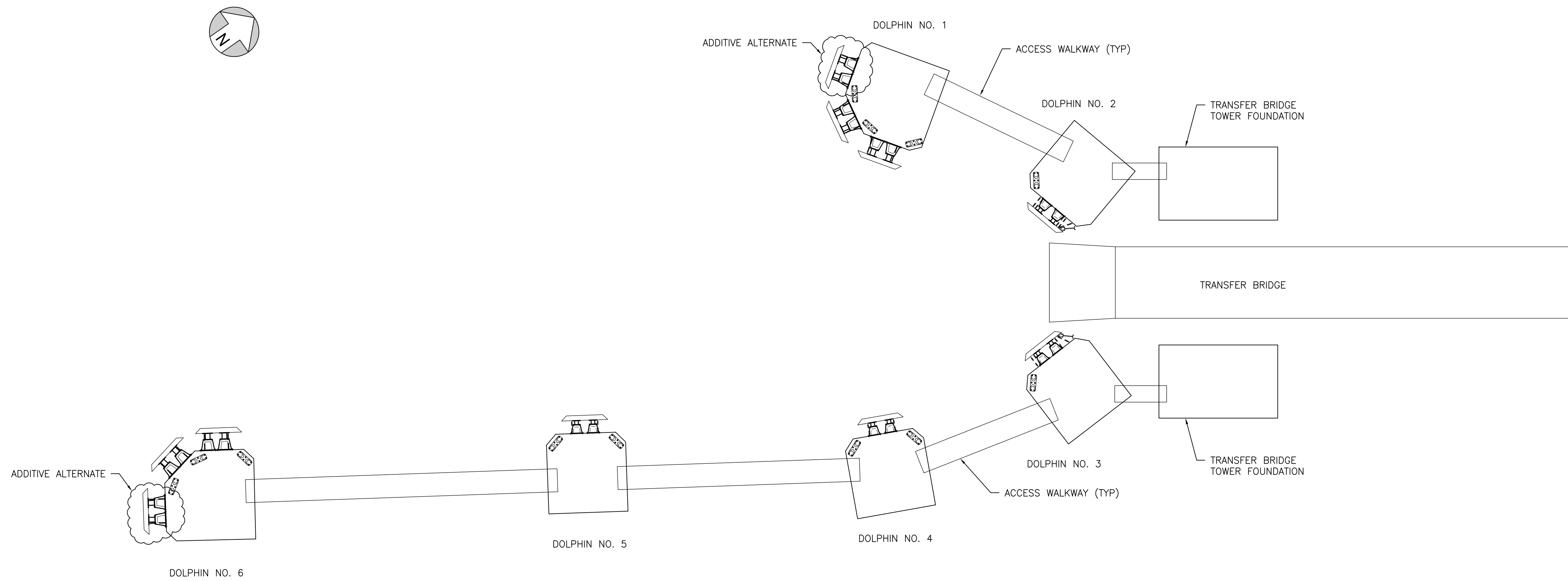


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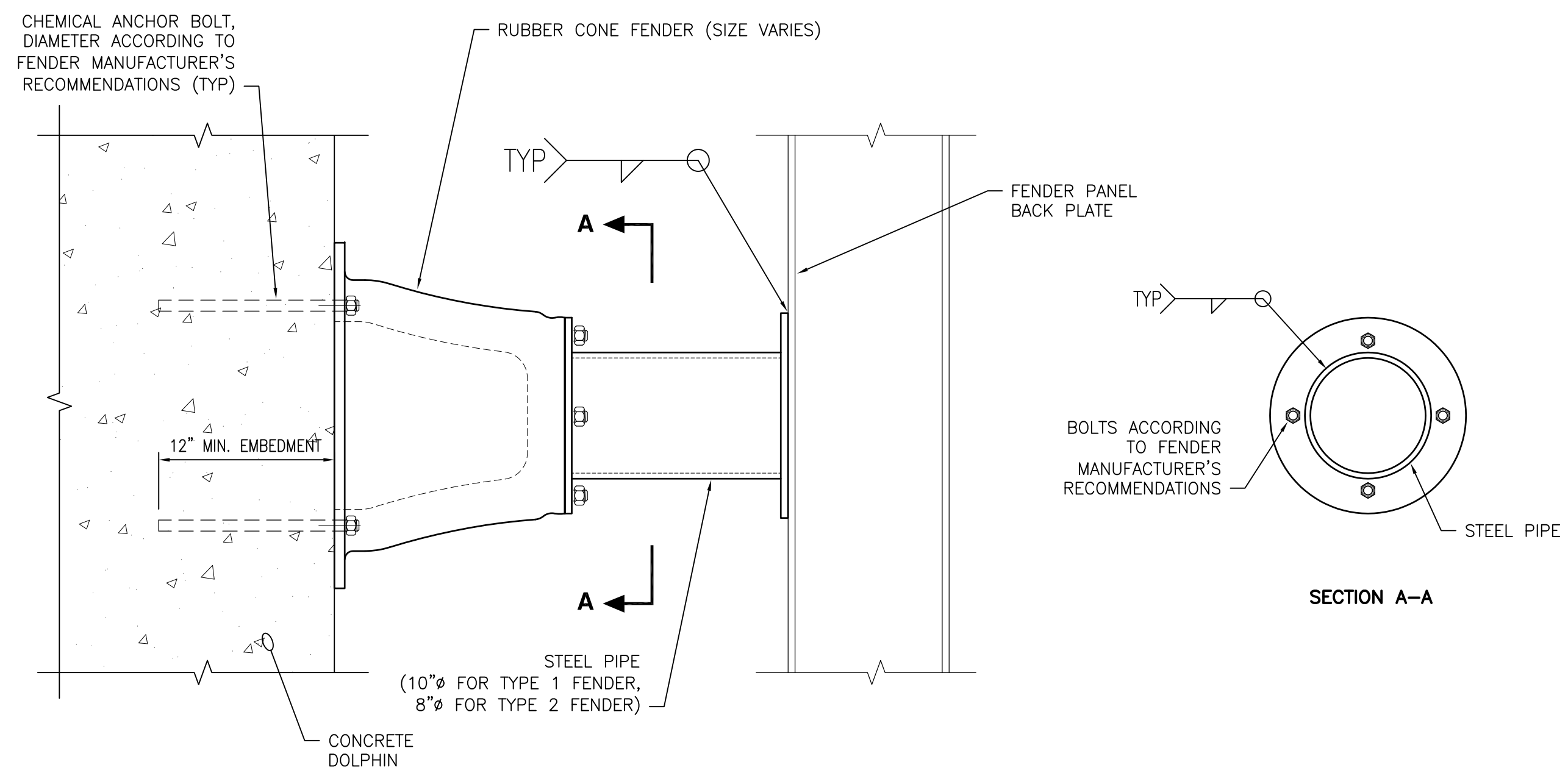
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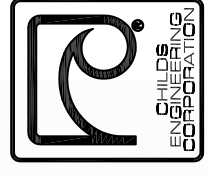
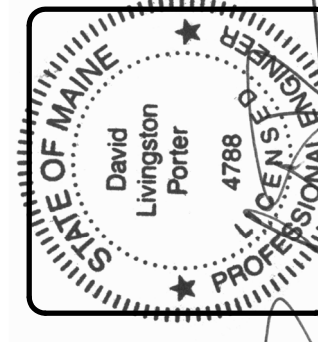
## PROPOSED NORTH HAVEN TERMINAL PLAN

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### TYPICAL FENDER ATTACHMENT DETAILS

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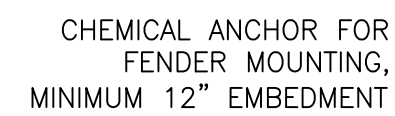
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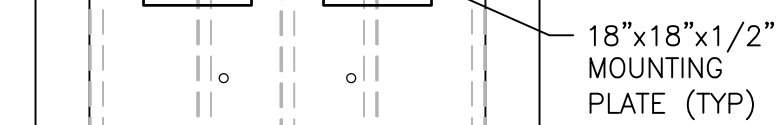
CONTRACTOR SHALL ADJUST FENDER  
DIMENSIONS TO RESULT IN FENDER  
PANEL SLOPE OF 1:24 AS SHOWN.

ELEVATION A-A

**DOLPHIN No. 1**  
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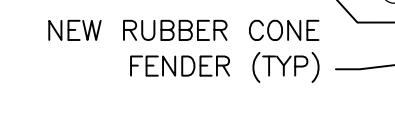
SECTION



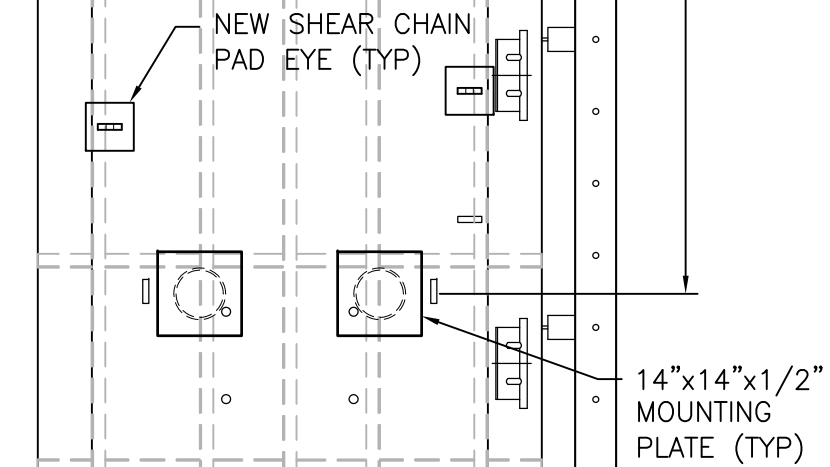
### ELEVATION

CONTRACTOR SHALL ADJUST FENDER  
DIMENSIONS TO RESULT IN FENDER  
PANEL SLOPE OF 1:24 AS SHOWN.

**DOLPHIN No. 2**  
SCALE: 3/8"=1'-0"



## SECTION

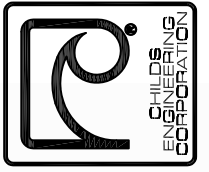
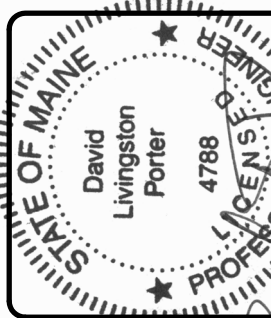


MAINE DEPARTMENT OF TRANSPORTATION  
NORTH HAVEN TERMINAL  
FENDER SYSTEM REPAIRS

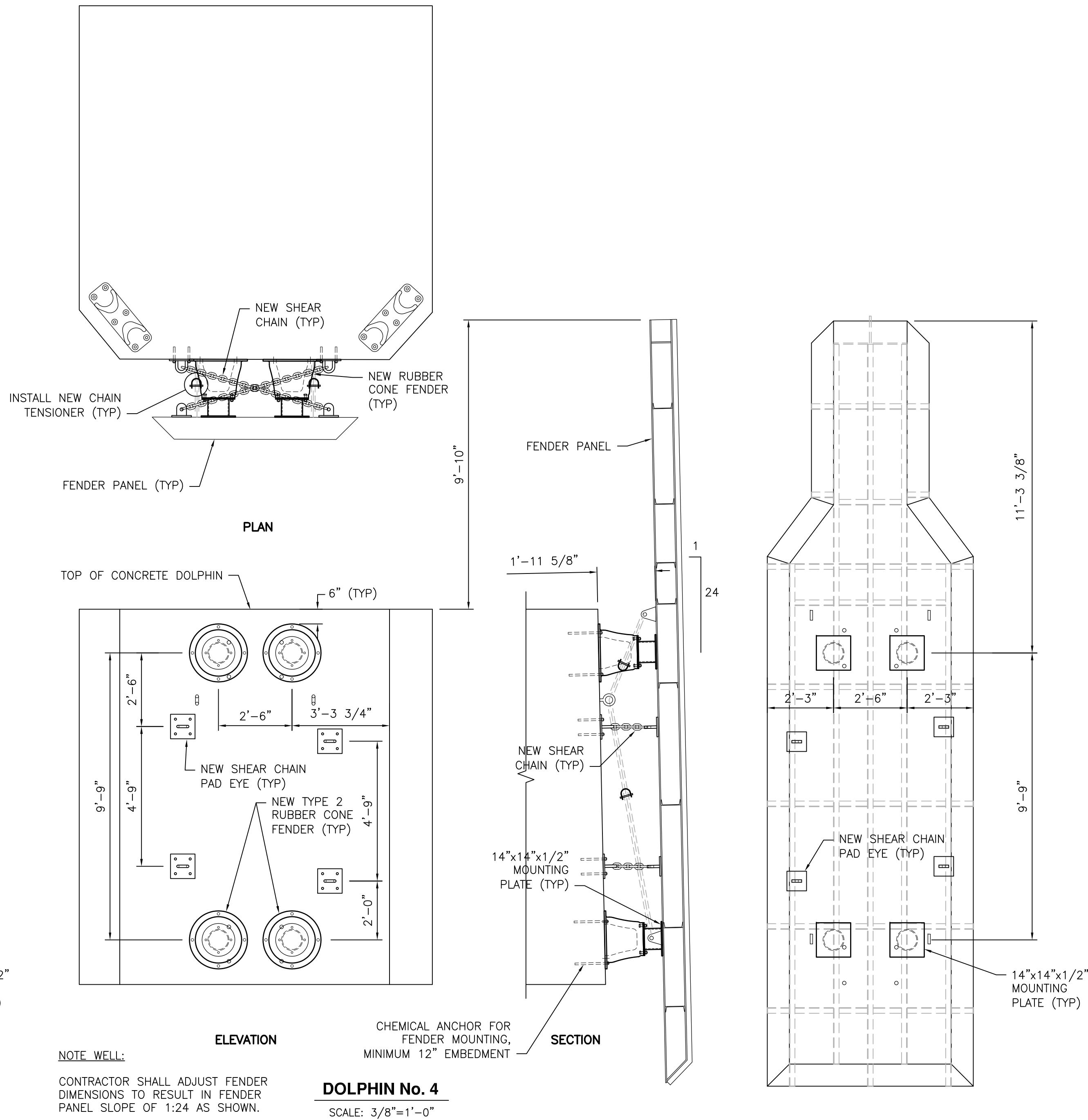
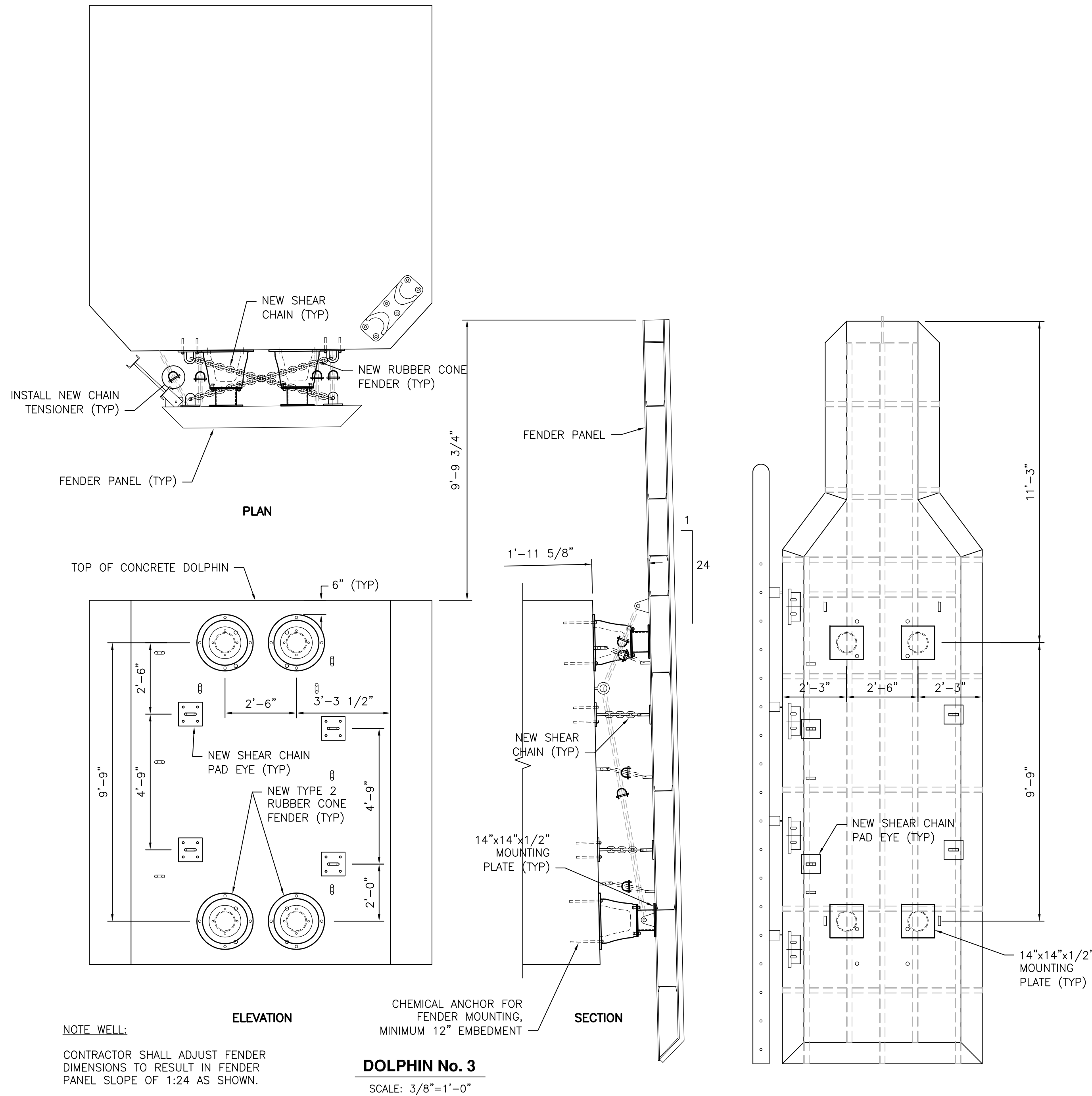
DOLPHIN No. 1 & 2  
PROPOSED DETAILS

Sheet  
reference  
number:  
**X-206**  
Sheet 17 of 21

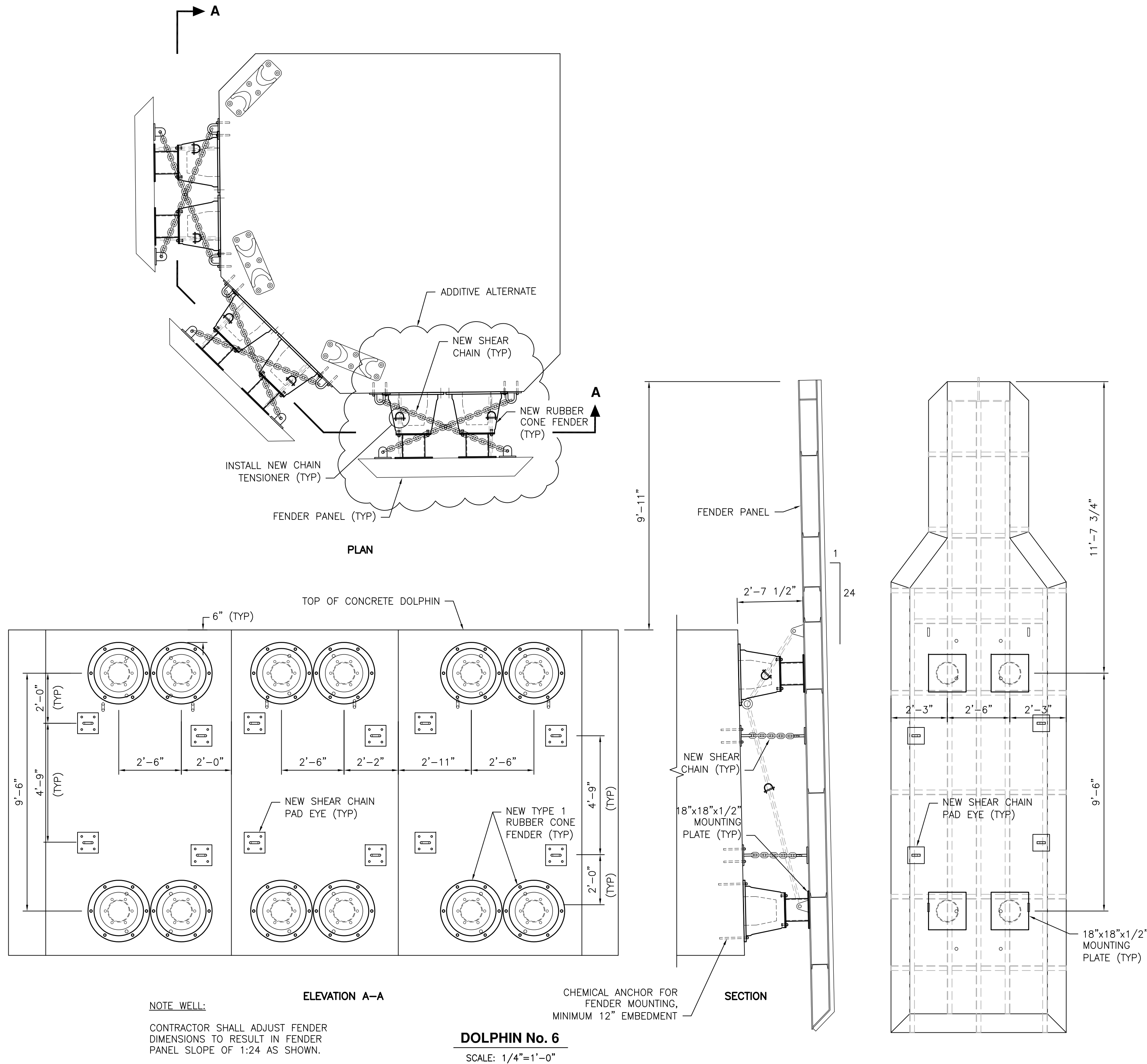
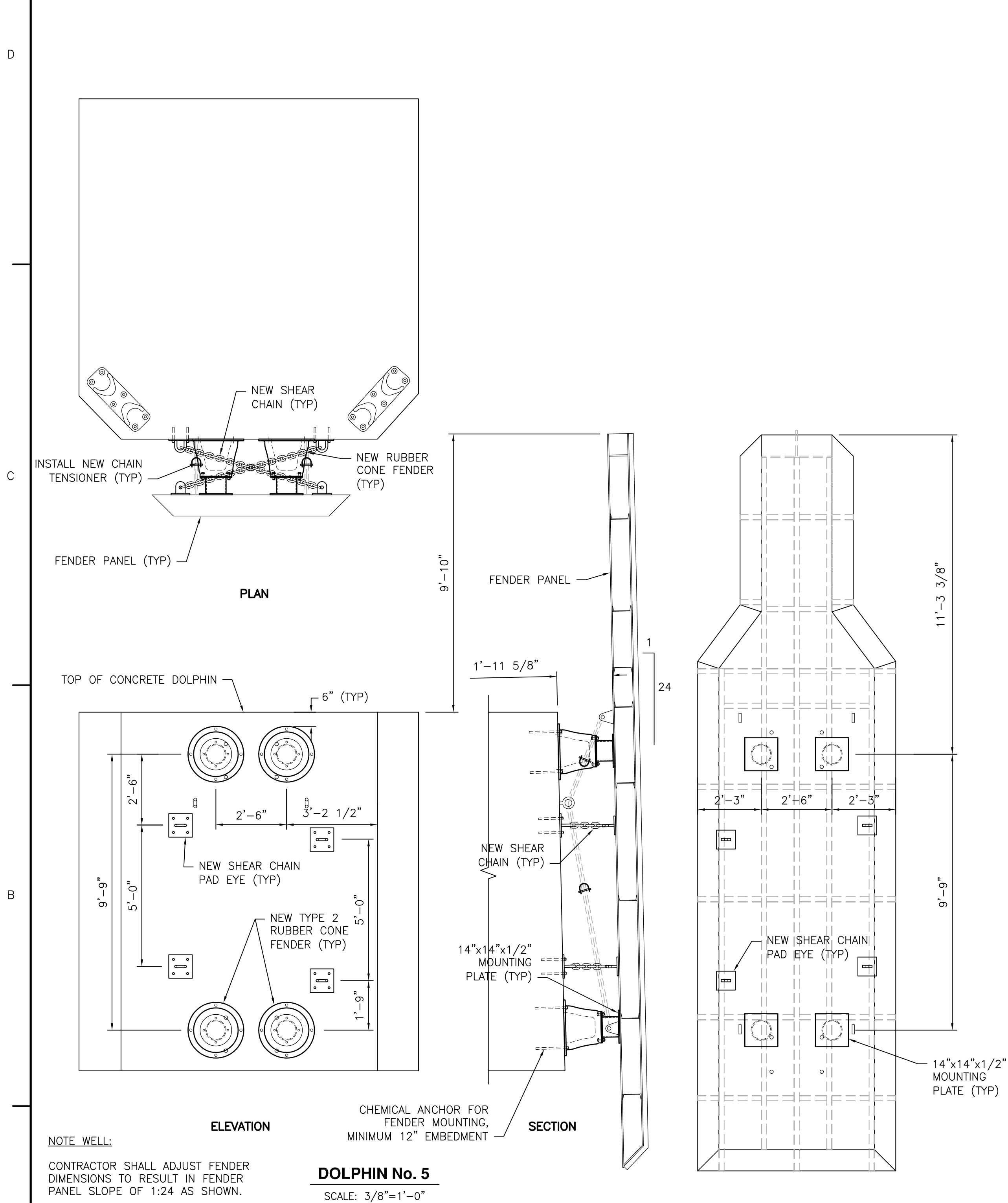
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| Reviewed by: | DLP | Scale:          | 3/8"=1'-0" |

[illegible]

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BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (508) 359-8945 Fax: (508) 359-2751  
E-mail: [mail@childseeng.com](mailto:mail@childseeng.com)



TOM QUINN K:\2283-11.00 VINAHAVEN-NORTH HAVEN FENDER SYSTEM, MDOIT\CADD\CURRENT WORKING DWGS\228311-208 PROP NH DOLPH-5.6.DWG Oct 07, 2011 - 3:17pm



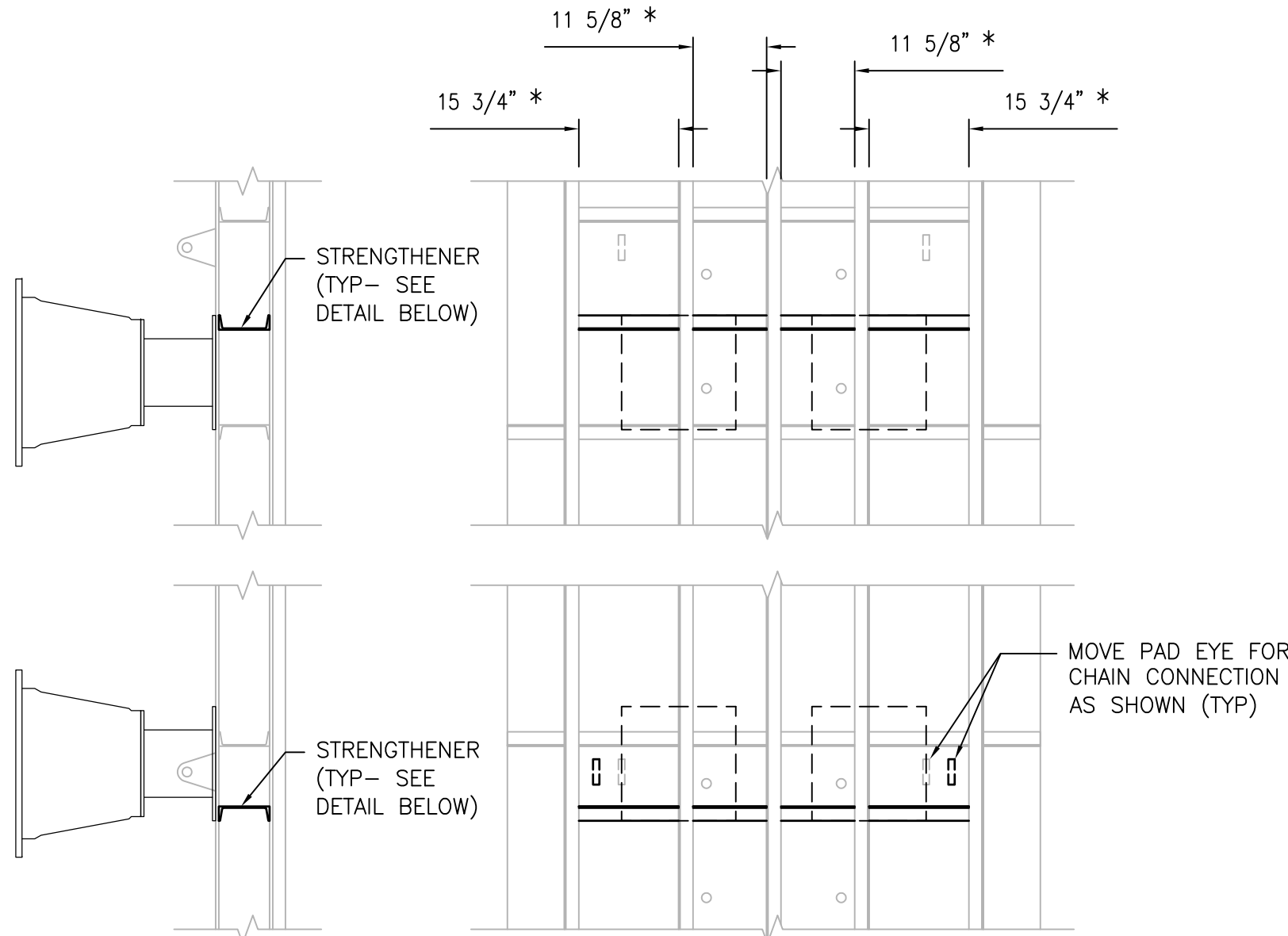
CHILDS ENGINEERING CORPORATION  
BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (608) 359-8945 Fax: (608) 359-2751  
E-mail: [net@childseng.com](mailto:net@childseng.com)

STATE OF MAINE  
David Livingston Porter  
4788  
10 OCT 15 2011  
PROFESSIONAL SEAL

| Date    | Design | Check | Draw | Rev | Scale      |
|---------|--------|-------|------|-----|------------|
| 9/30/11 | DLP    | TEC   | DLP  | DLP | 3/8"=1'-0" |

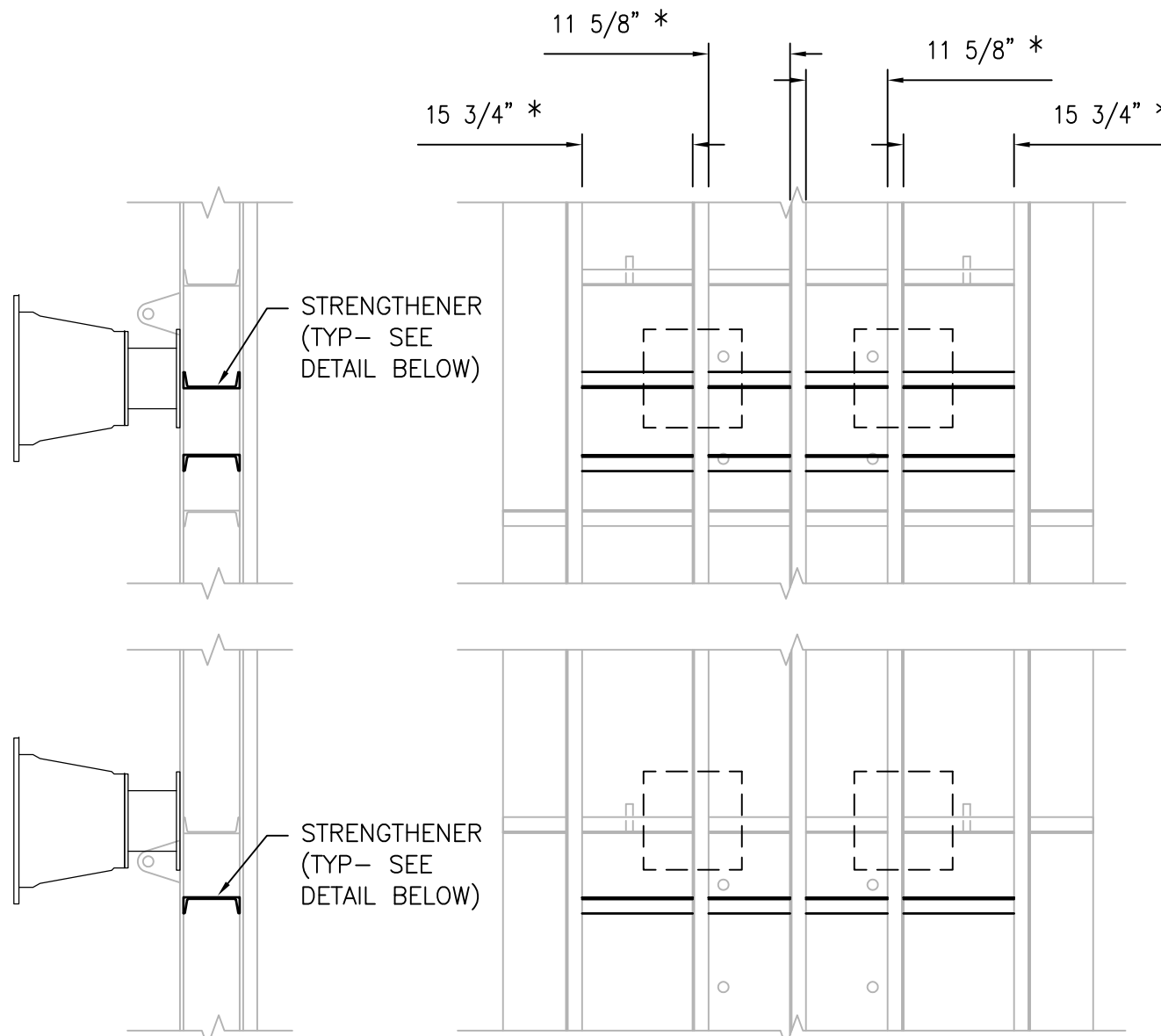
MAINE DEPARTMENT OF TRANSPORTATION  
NORTH HAVEN TERMINAL  
FENDER SYSTEM REPAIRS  
**DOLPHIN No. 5 & 6**  
PROPOSED DETAILS

Sheet reference number:  
**X-208**  
Sheet 19 of 21



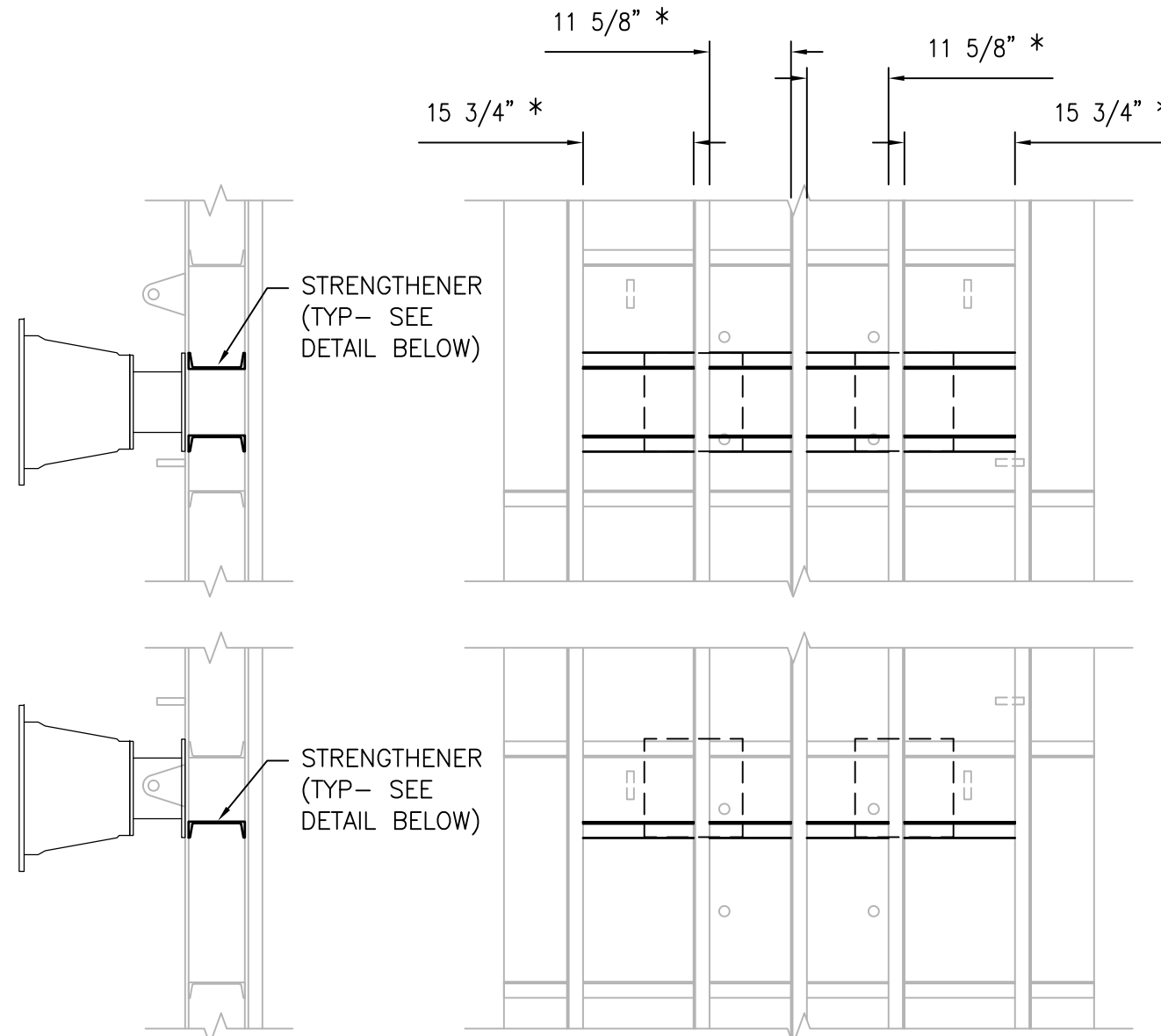
**DOLPHIN 1**  
**FENDER STRENGTHENING DETAIL**

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



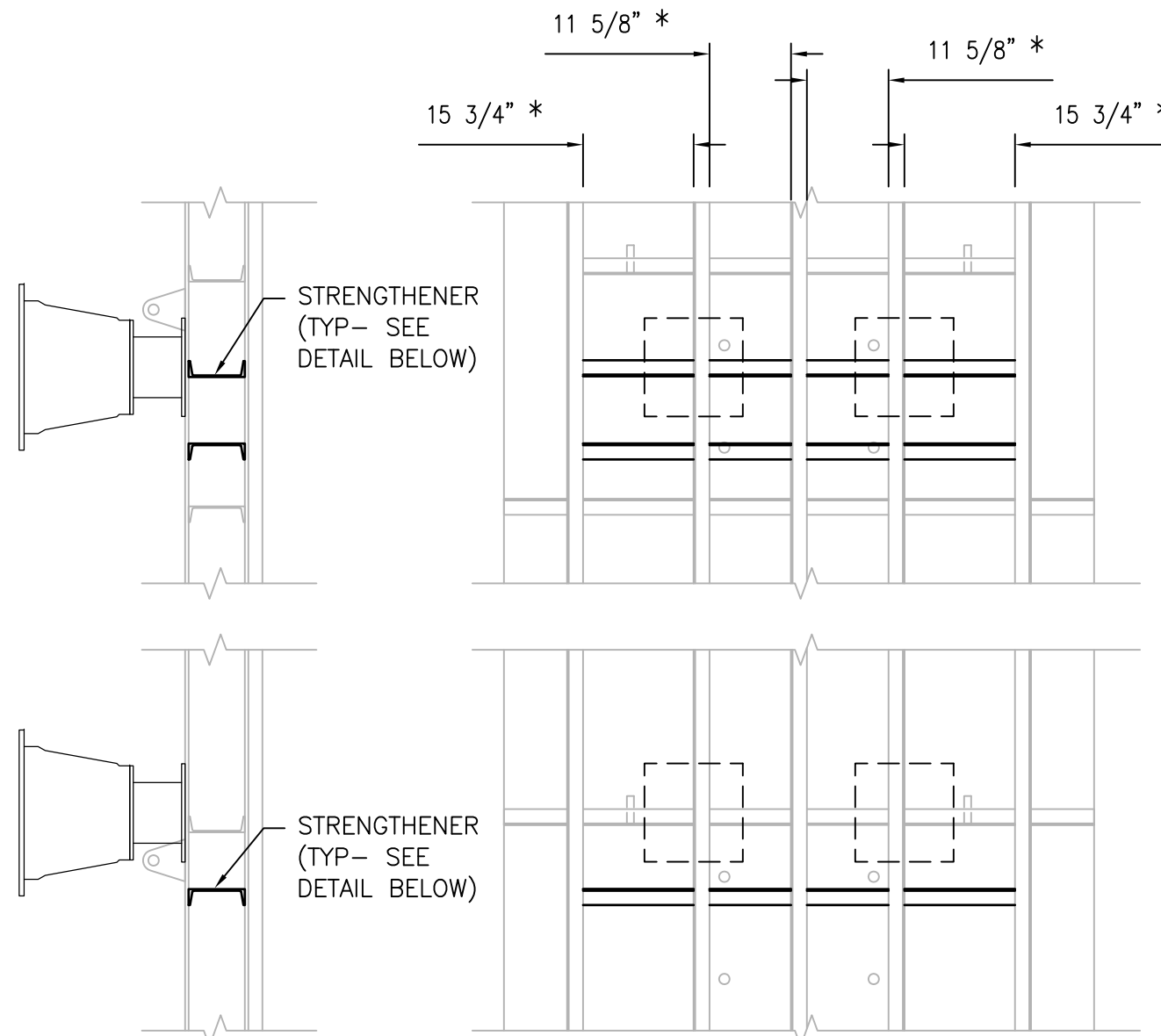
**DOLPHIN 4**  
**FENDER STRENGTHENING DETAIL**

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



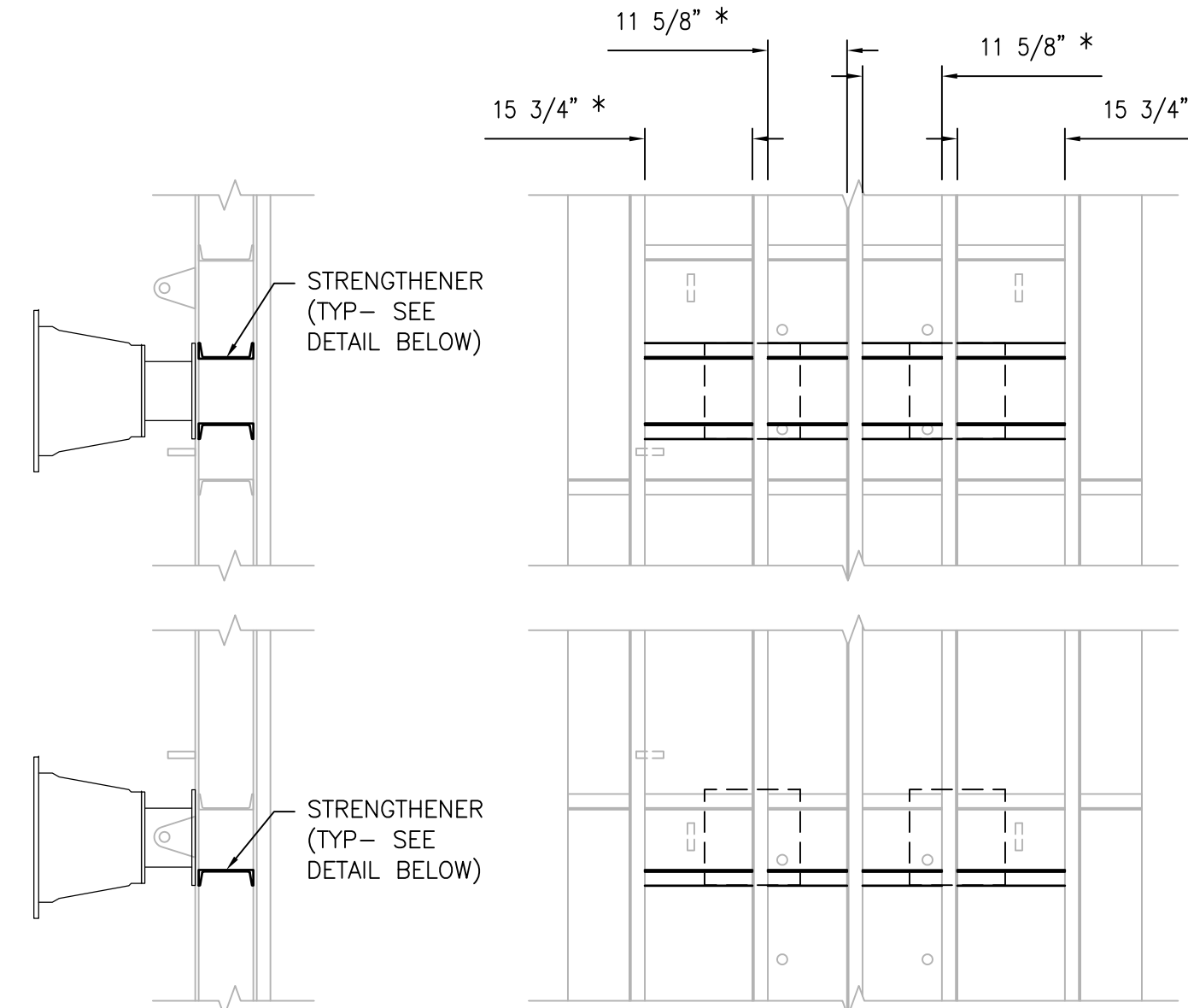
**DOLPHIN 2**  
**FENDER STRENGTHENING DETAIL**

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



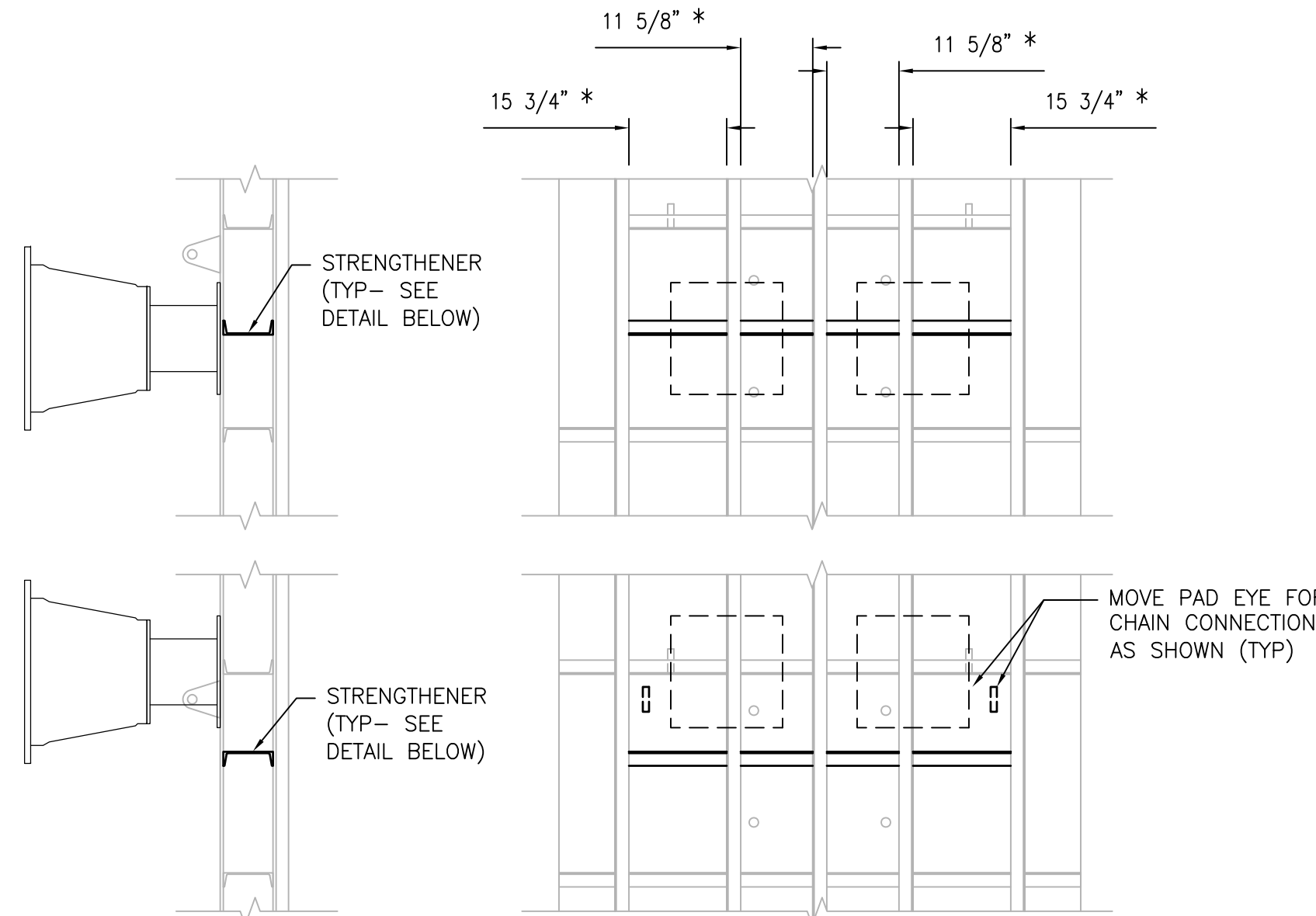
**DOLPHIN 5**  
**FENDER STRENGTHENING DETAIL**

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



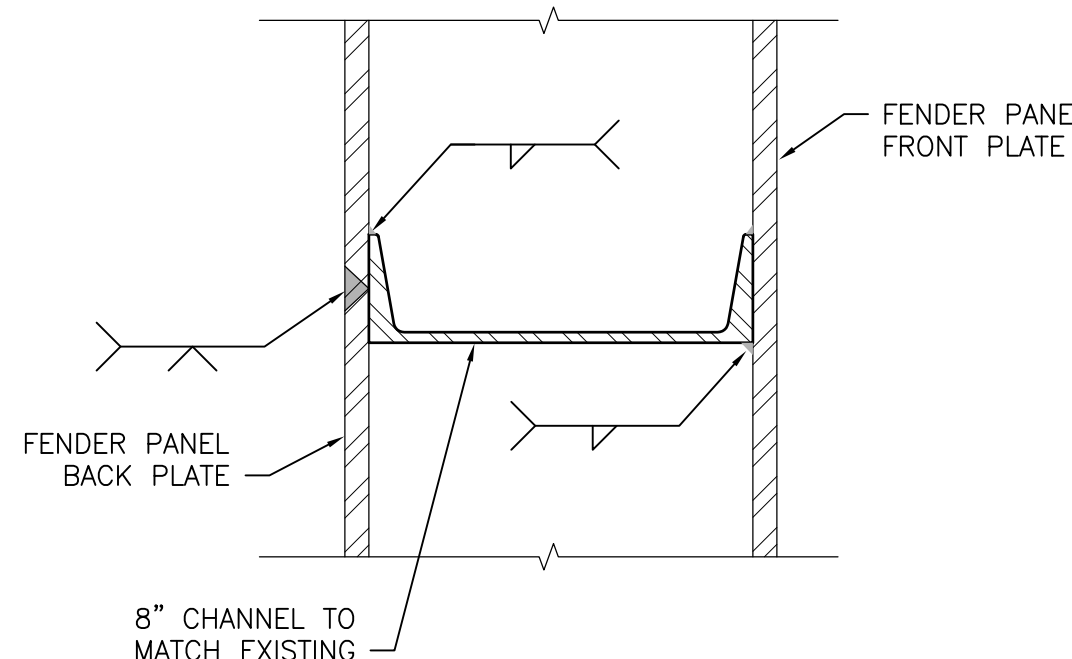
### DOLPHIN 3 FENDER STRENGTHENING DETAILS

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



**DOLPHIN 6**  
**FENDER STRENGTHENING DETAIL**

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



### FENDER PANEL STRENGTHENER DETAIL

SCALE: 3"=1'-0"

\* ESTIMATED LENGTH OF STRENGTHENING ELEMENTS

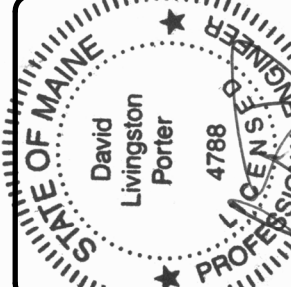
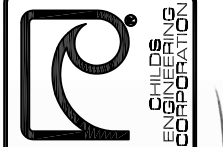
|              |     |                 |            |
|--------------|-----|-----------------|------------|
| Designed by: | DLP | Date:           | 9/30/11    |
| Drawn by:    | TEQ | Design file no. | 228311-209 |
| Reviewed by: | DLP | Scale:          | AS NOTED   |

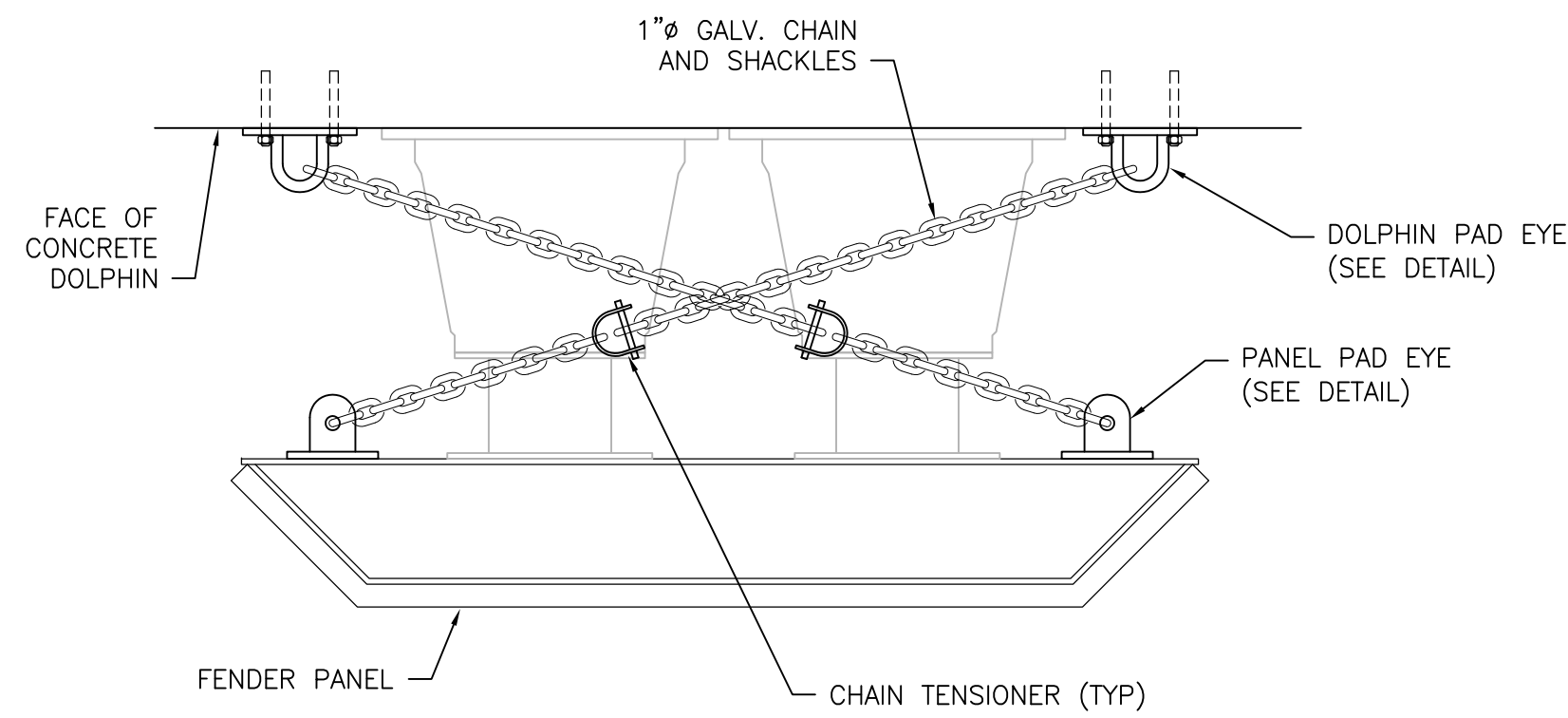
MAINE DEPARTMENT OF TRANSPORTATION  
NORTH HAVEN TERMINAL  
FENDER SYSTEM REPAIRS

PROPOSED FENDER  
PANEL STRENGTHENING DETAILS

Sheet  
reference  
number:  
**X-209**  
Sheet 20 of 21

**CHILDS ENGINEERING CORPORATION**  
BOX 333 MEDFIELD, MASSACHUSETTS 02052 U.S.A.  
Phone: (508) 359-8945 Fax: (508) 359-2751  
E-mail: [mail@childseng.com](mailto:mail@childseng.com)

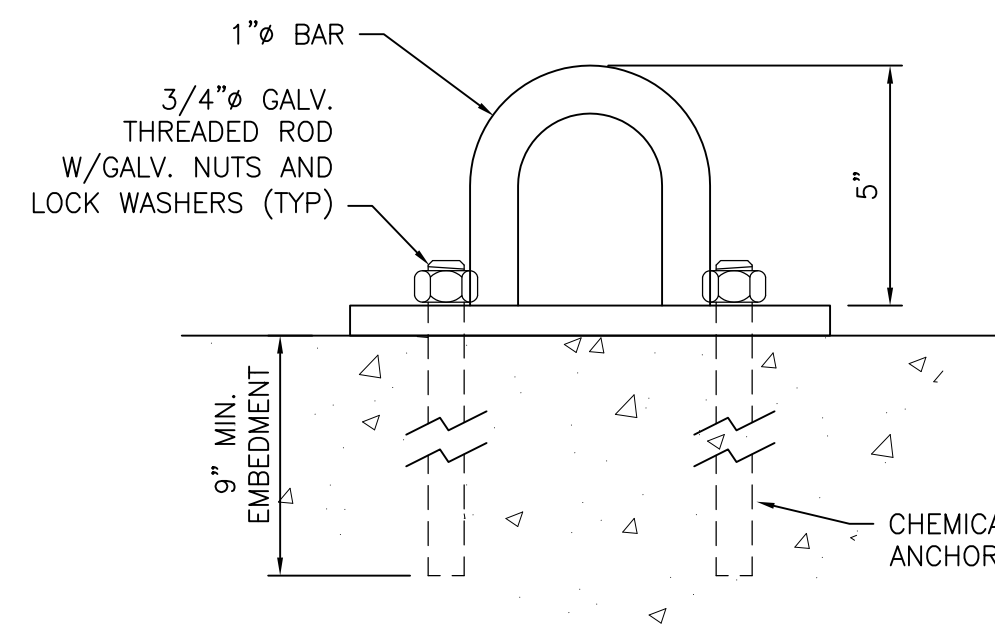
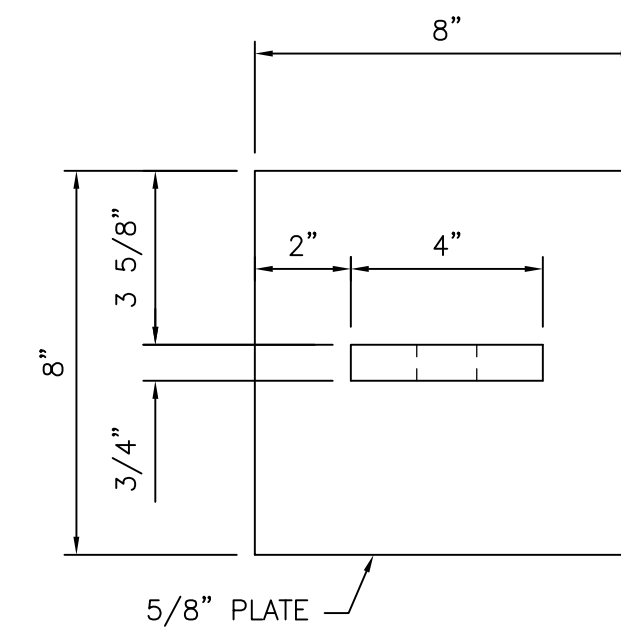
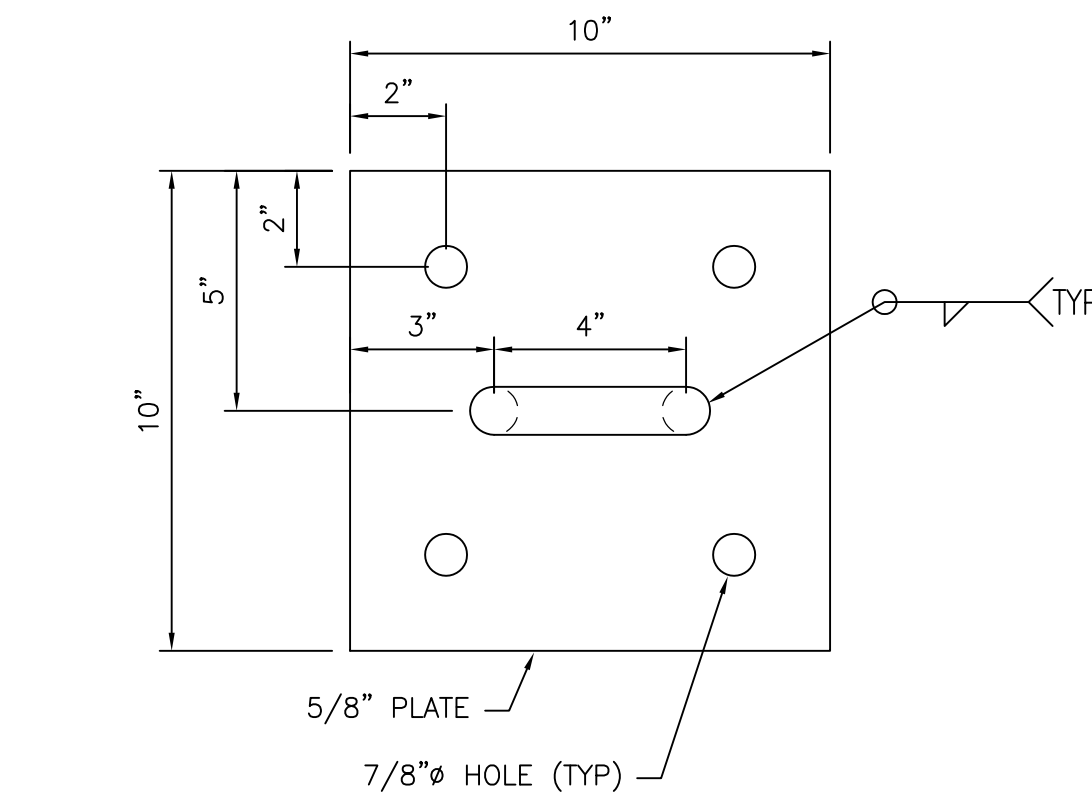




NOTE: TWO (2) LEVELS PER FENDER PANEL.

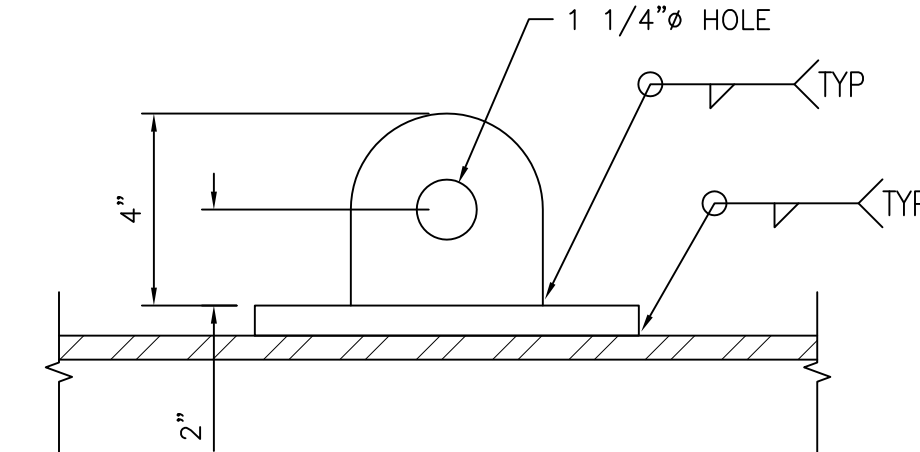
### SHEAR CHAIN CONFIGURATION

SCALE:  $3/4"=1'-0"$



### DOLPHIN PAD EYE DETAIL

SCALE: 3"=1'-0"



### PANEL PAD EYE DETAIL

SCALE: 3"=1'-0"

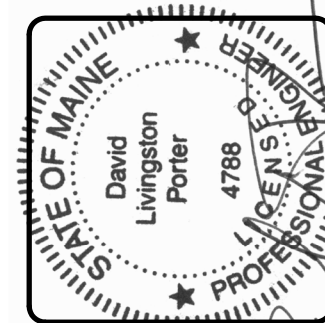
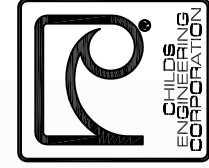
[illegible]

|              |     |                 |            |
|--------------|-----|-----------------|------------|
| Designed by: | DLP | Date:           | 9/30/11    |
| Dwn by:      | TEQ | Design file no. | 228311-210 |
| Reviewed by: | DLP | Scale:          | AS NOTED   |

MAINE DEPARTMENT OF TRANSPORTATION  
NORTH HAVEN TERMINAL  
FENDER SYSTEM REPAIRS

PROPOSED  
SHEAR CHAIN DETAILS

Sheet  
reference  
number:  
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