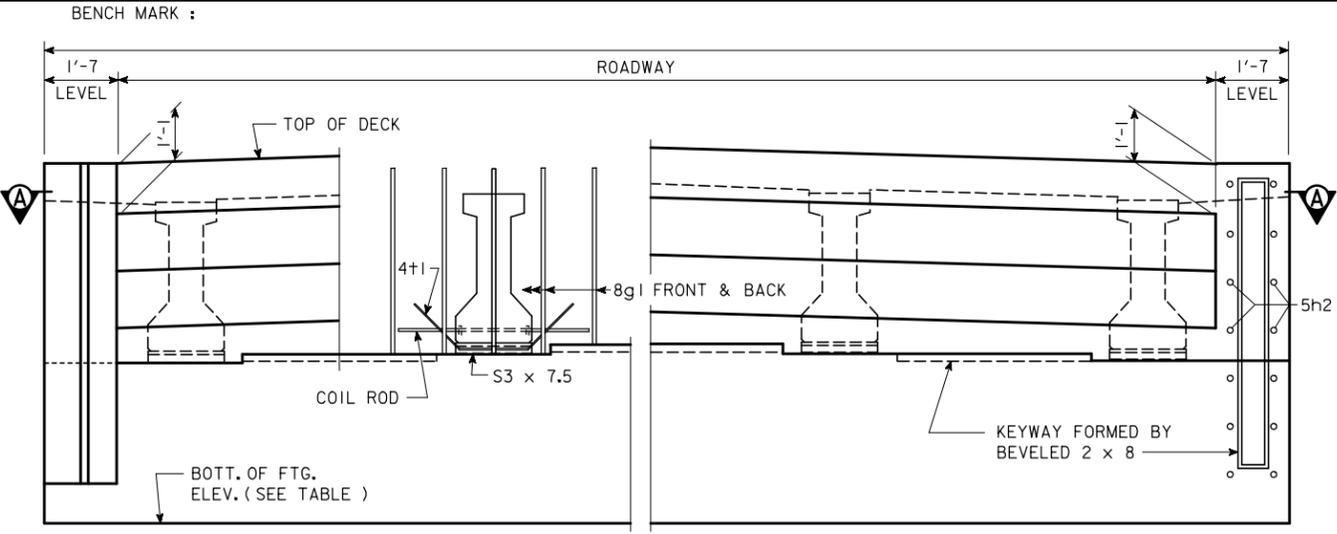
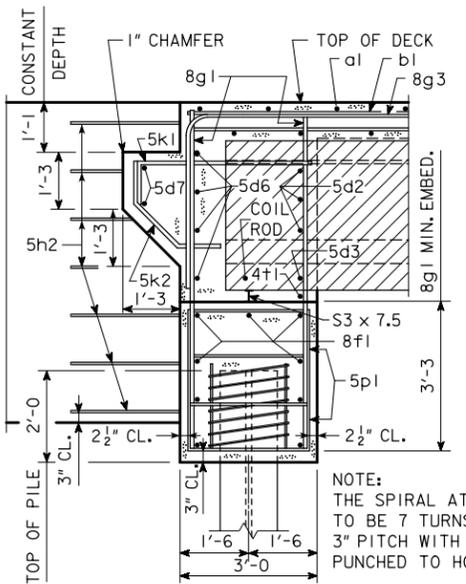




CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2078 - THIS SHEET REDRAWN 9-8-88



PART REAR ELEVATION AT ABUTMENT



PART SECTION B-B

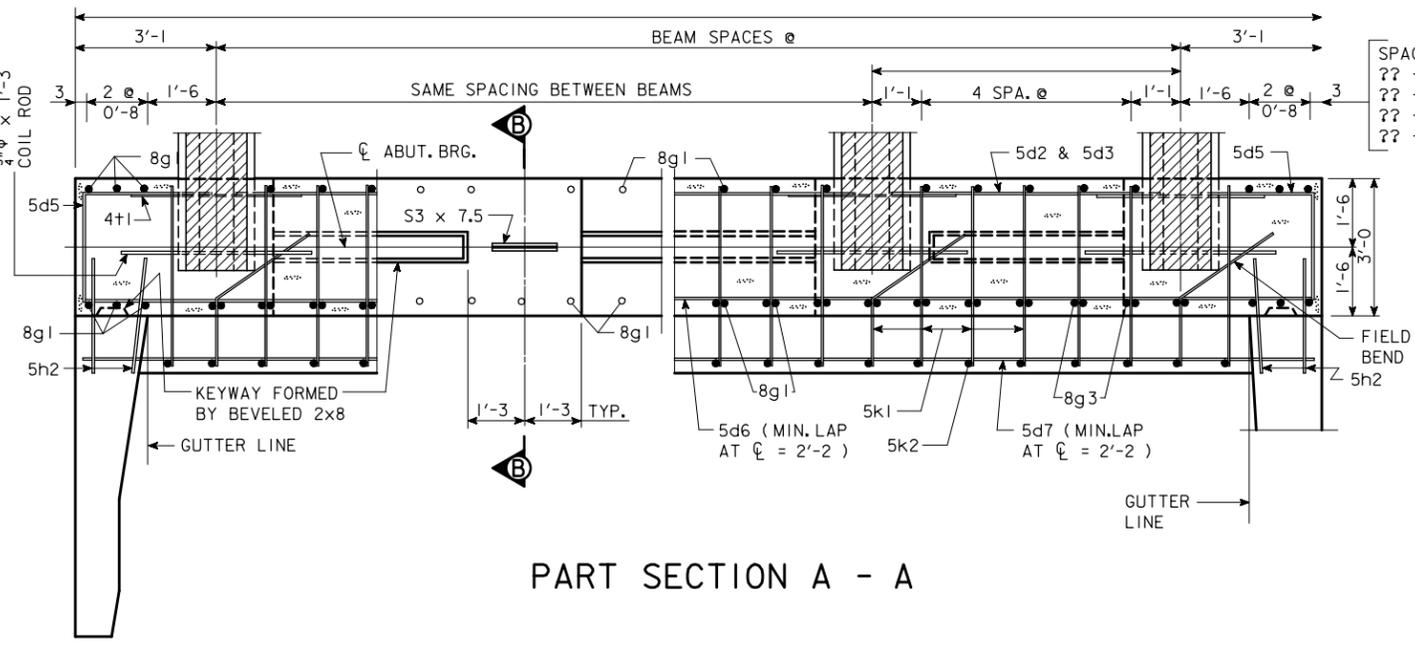


ABUTMENT STEP DIAGRAM

(REAR ELEVATION)

POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

STEP	ABUT.	ABUT.
a		



PART SECTION A - A

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE

NOTE: PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE (BOTH SIDES TYPICAL).

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

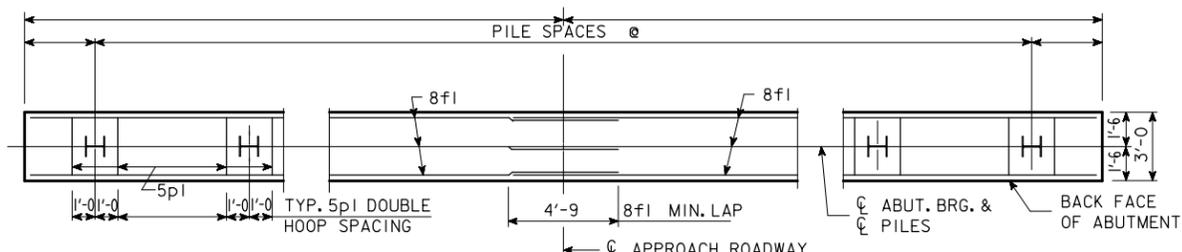
NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.  
 IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

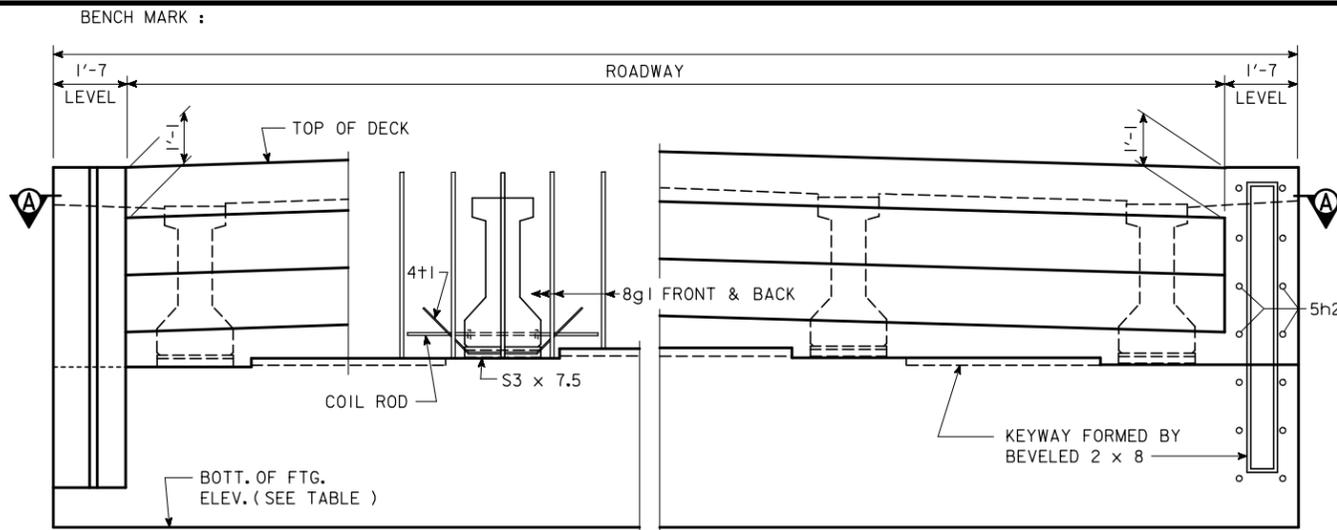


ABUTMENT PILE PLAN

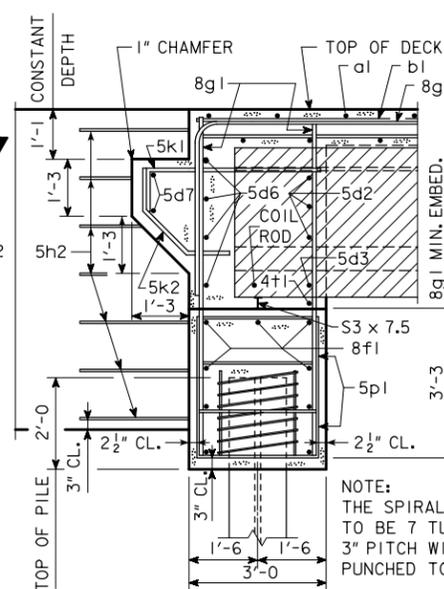
**ABUTMENT FOOTING DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_ OF \_\_\_\_ FILE NO. \_\_\_\_ DESIGN NO. \_\_\_\_

CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2079 - THIS SHEET REDRAWN 9-8-88



PART REAR ELEVATION AT ABUTMENT



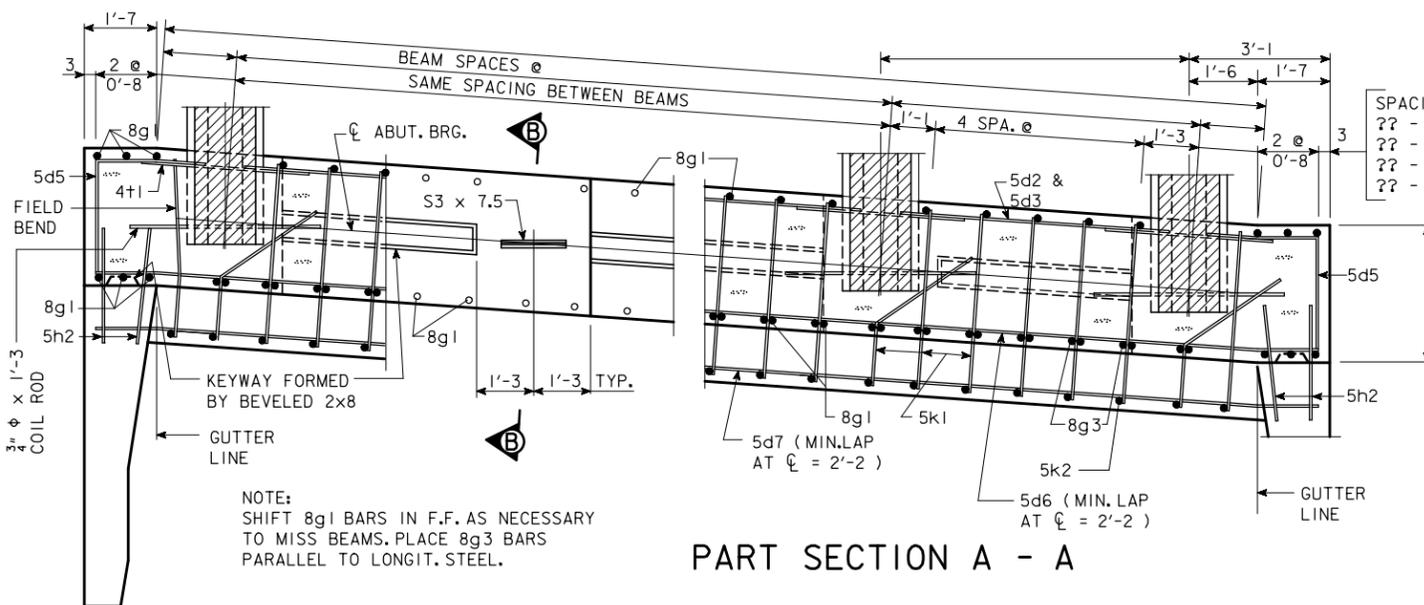
PART SECTION B-B



ABUTMENT STEP DIAGRAM  
(REAR ELEVATION)

POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

STEP	ABUT.	ABUT.
a		

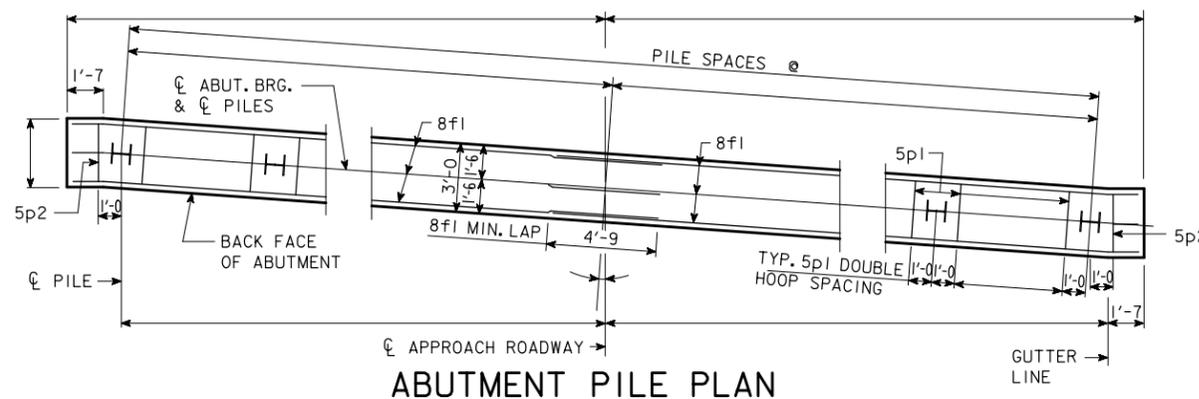


PART SECTION A - A

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE

NOTE: PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE (BOTH SIDES TYPICAL).

NOTE: SHIFT 8g1 BARS IN F.F. AS NECESSARY TO MISS BEAMS. PLACE 8g3 BARS PARALLEL TO LONGIT. STEEL.



ABUTMENT PILE PLAN

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

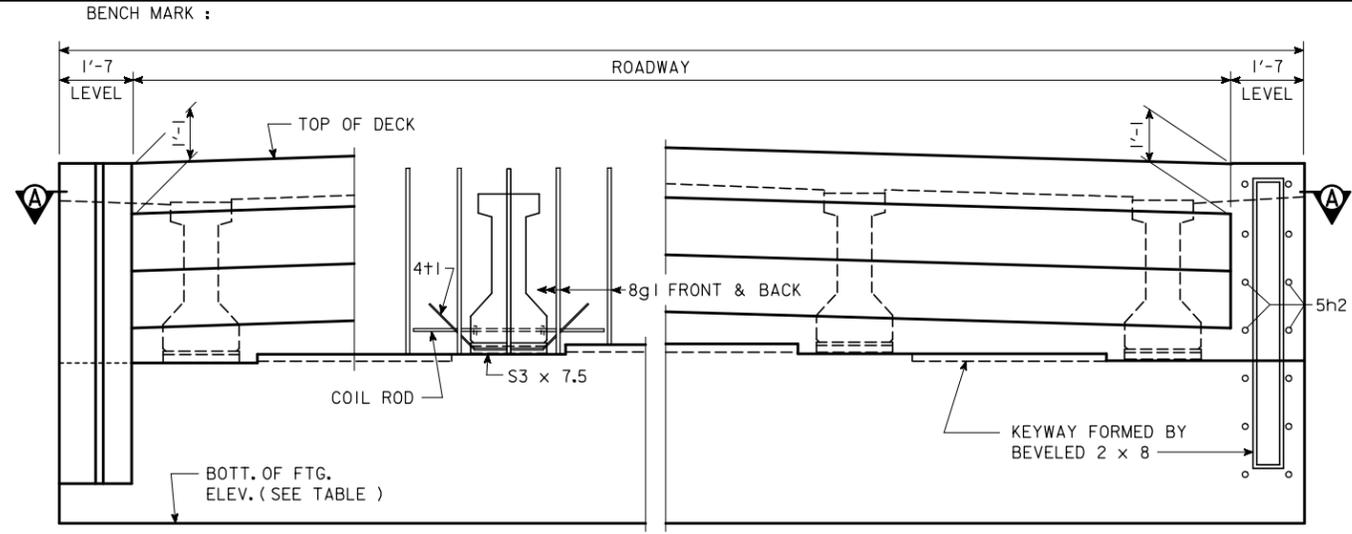
NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION		
DESIGN SHEET NO. _____	OF _____	FILE NO. _____
DESIGN NO. _____		

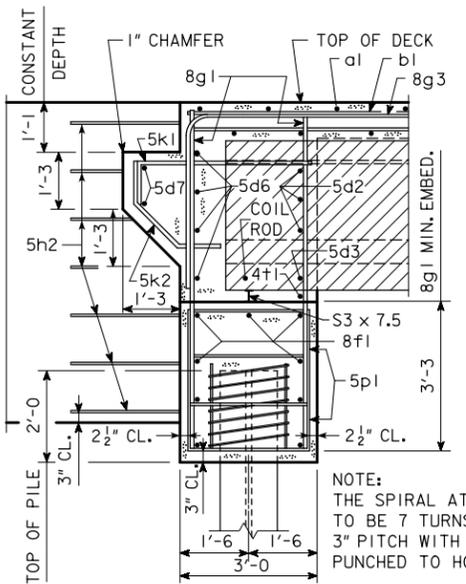
**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2080 - THIS SHEET REDRAWN 9-8-88



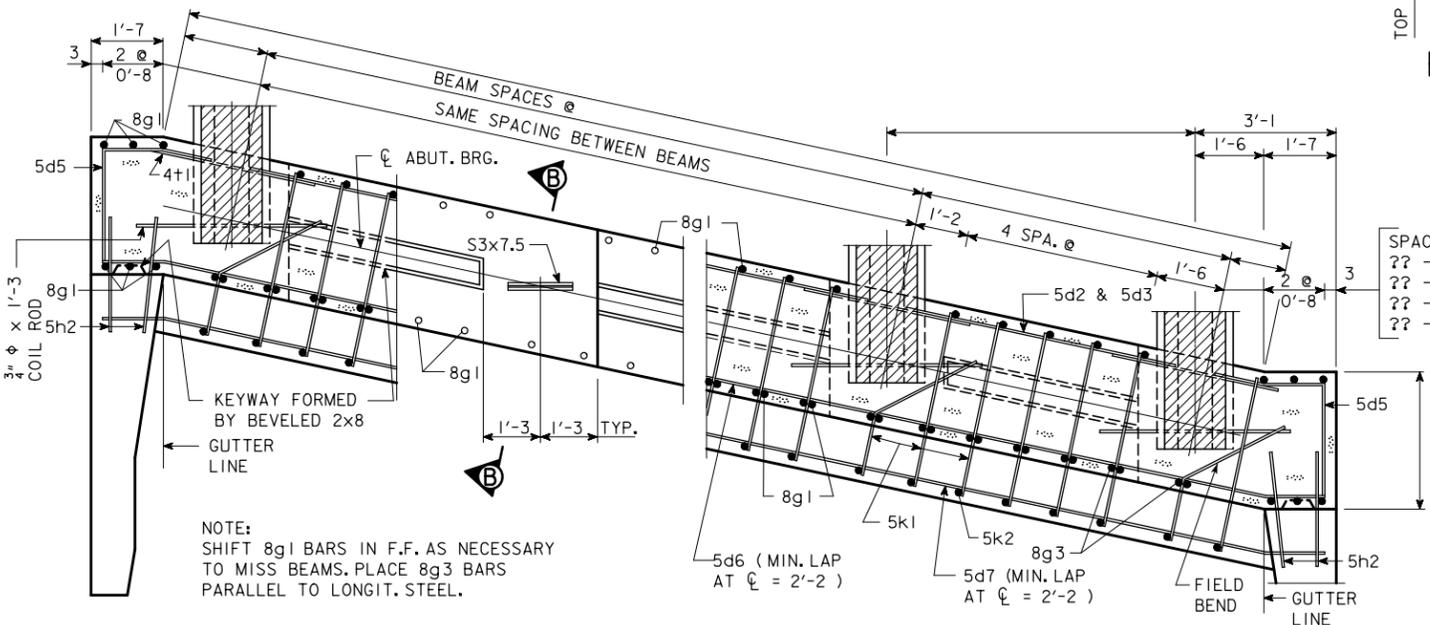
PART REAR ELEVATION AT ABUTMENT



PART SECTION B-B



POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

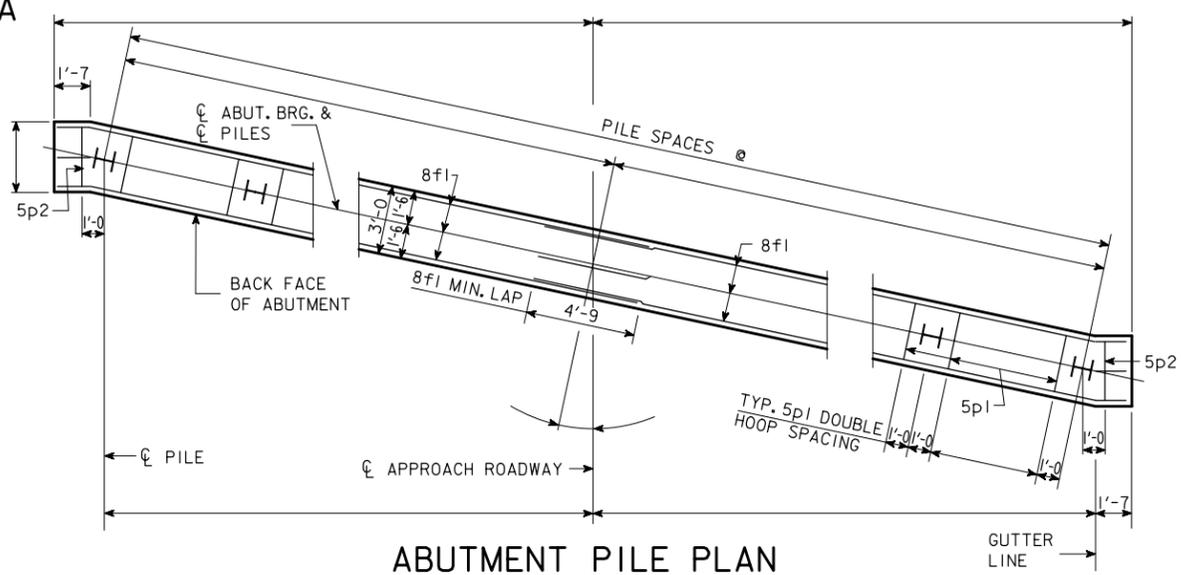


PART SECTION A - A

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE

NOTE: PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE (BOTH SIDES TYPICAL).

NOTE: SHIFT 8g1 BARS IN F.F. AS NECESSARY TO MISS BEAMS. PLACE 8g3 BARS PARALLEL TO LONGIT. STEEL.



ABUTMENT PILE PLAN

**ABUTMENT NOTES:**  
 MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.  
 IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

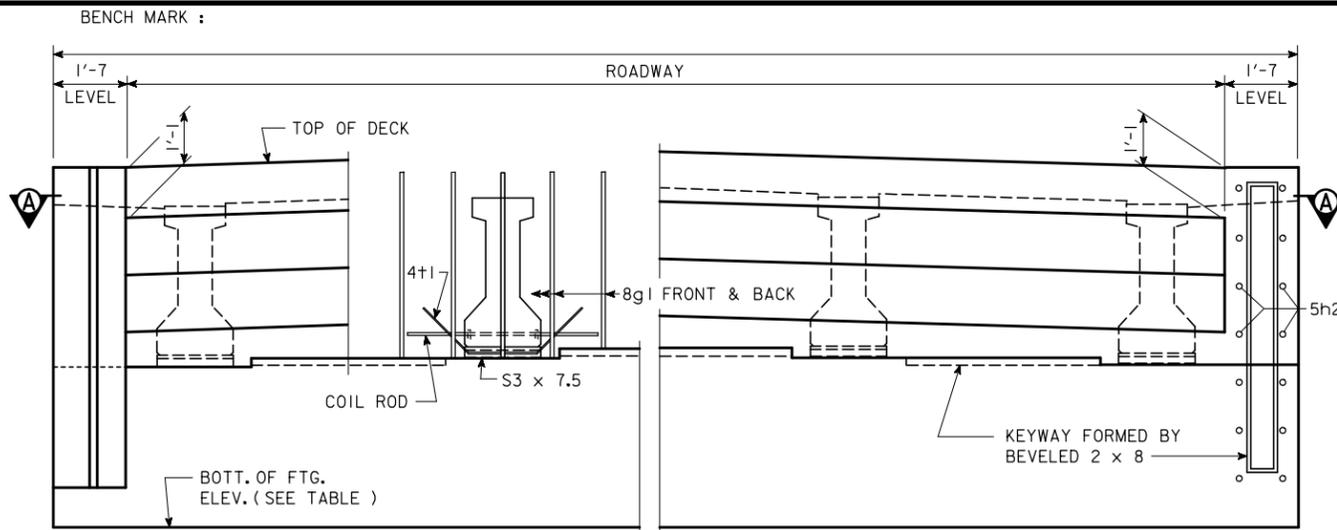
NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

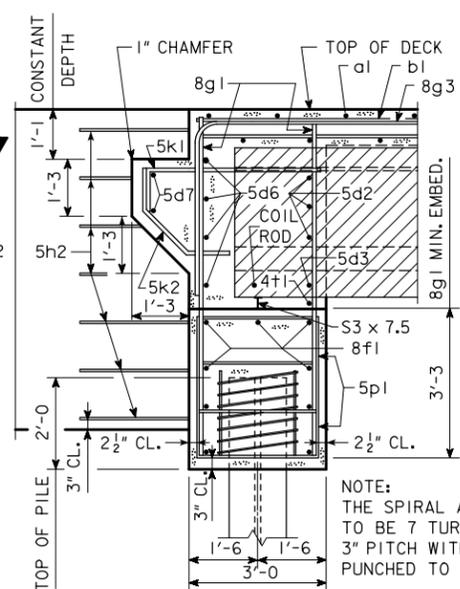
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION		
DESIGN SHEET NO. _____	OF _____	FILE NO. _____
DESIGN NO. _____		



CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2080 - THIS SHEET REDRAWN 9-8-88



PART REAR ELEVATION AT ABUTMENT



PART SECTION B-B

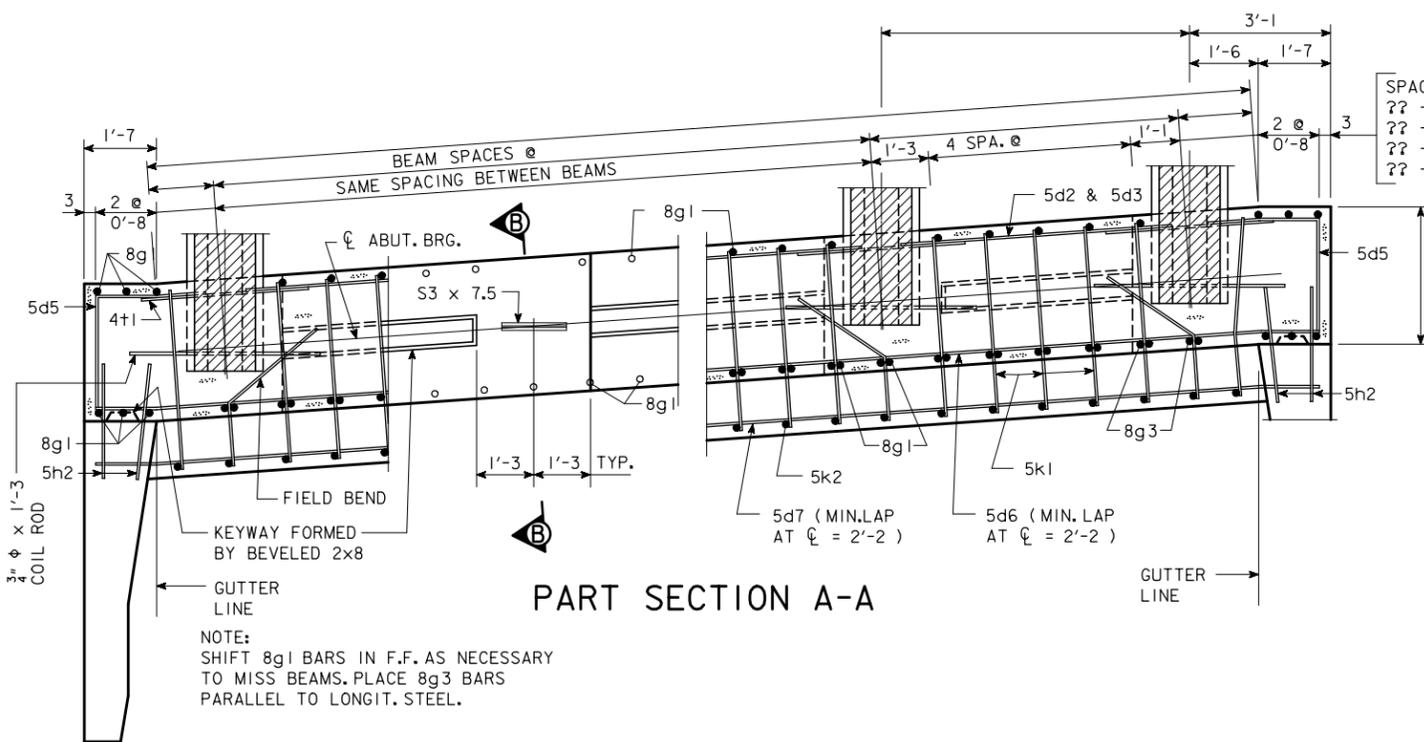


POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

STEP	ABUT.	ABUT.
a		

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE

NOTE: PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE (BOTH SIDES TYPICAL).



PART SECTION A-A

NOTE:  
 SHIFT 8g1 BARS IN F.F. AS NECESSARY TO MISS BEAMS. PLACE 8g3 BARS PARALLEL TO LONGIT. STEEL.

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

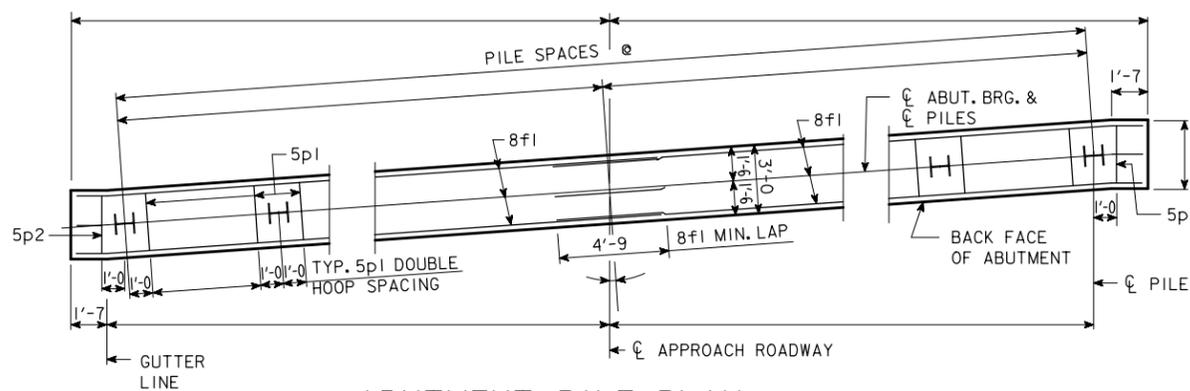
NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE:  
 ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

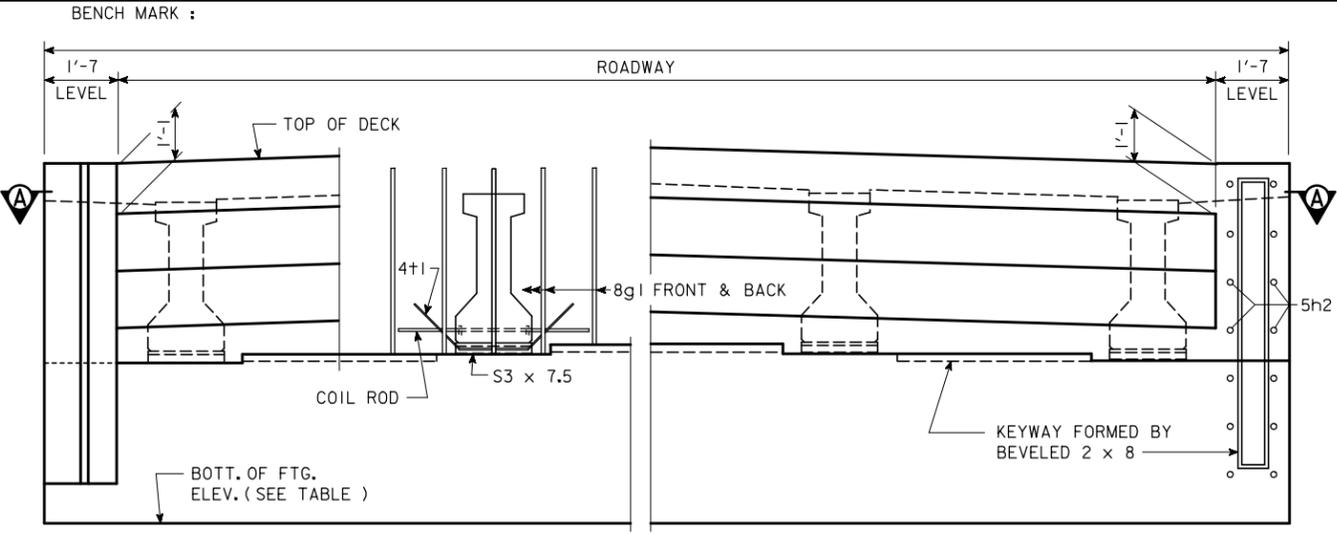


ABUTMENT PILE PLAN

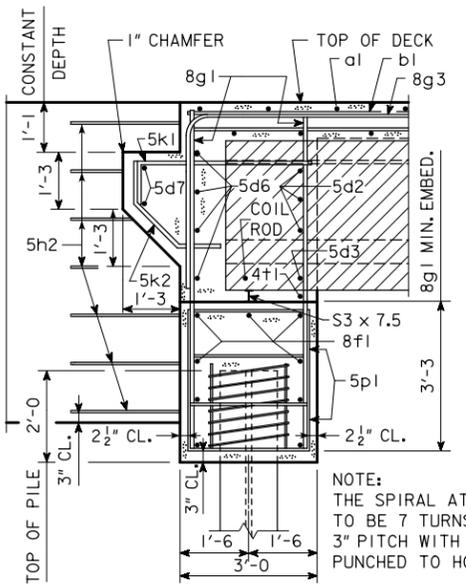
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. _____ OF _____	FILE NO. _____ DESIGN NO. _____



CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2084 - THIS SHEET REDRAWN 9-8-88



PART REAR ELEVATION AT ABUTMENT



PART SECTION B-B



ABUTMENT STEP DIAGRAM

(REAR ELEVATION)

POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

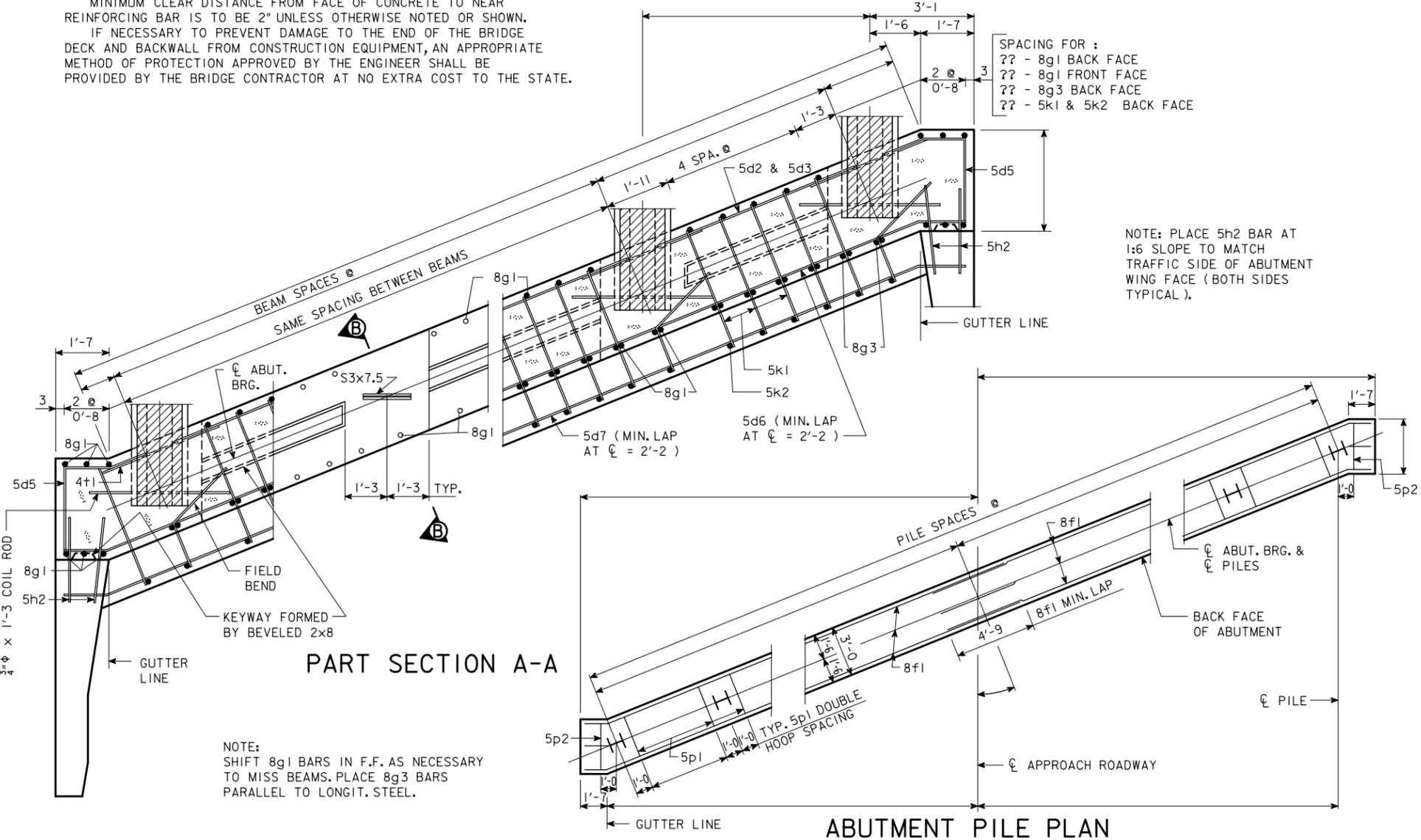
**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

- SPACING FOR :
- ?? - 8g1 BACK FACE
  - ?? - 8g1 FRONT FACE
  - ?? - 8g3 BACK FACE
  - ?? - 5k1 & 5k2 BACK FACE

NOTE: PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE (BOTH SIDES TYPICAL).

STEP	ABUT.	ABUT.
a		



PART SECTION A-A

ABUTMENT PILE PLAN

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

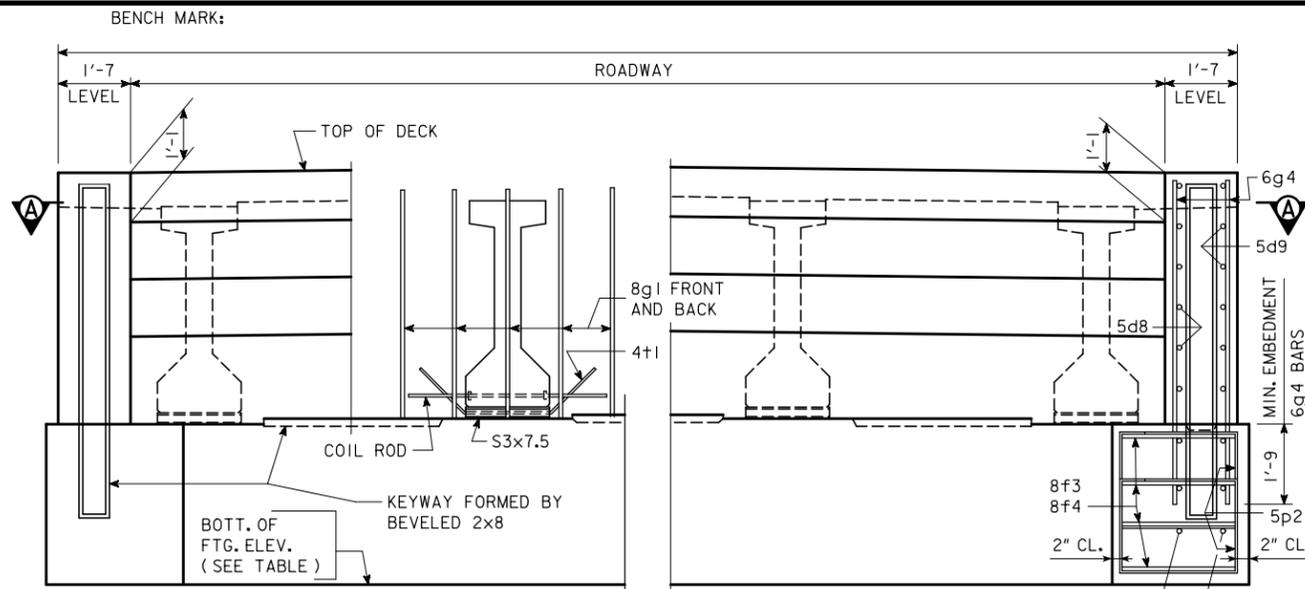
NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

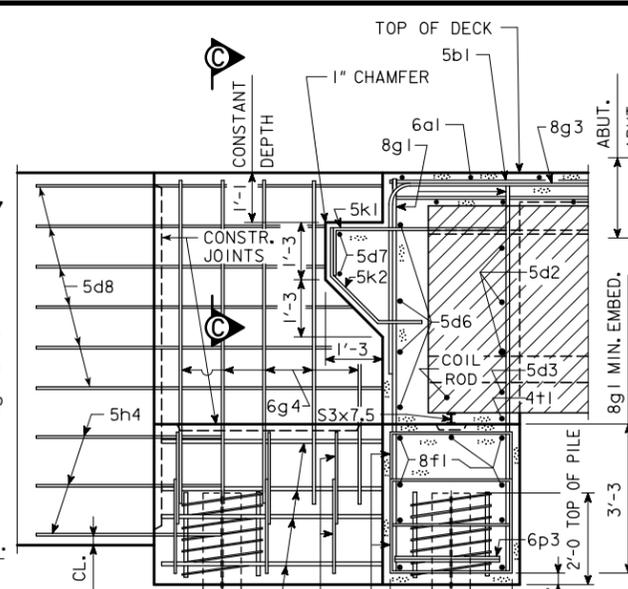
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DESIGN SHEET NO. _____	OF _____	FILE NO. _____
DESIGN NO. _____		DESIGN NO. _____



CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2086 - THIS SHEET REDRAWN 9-8-88



**PART REAR ELEVATION AT ABUTMENT**  
(WINGS NOT SHOWN)



**PART SECTION B-B**  
( 'D' BEAM SHOWN )

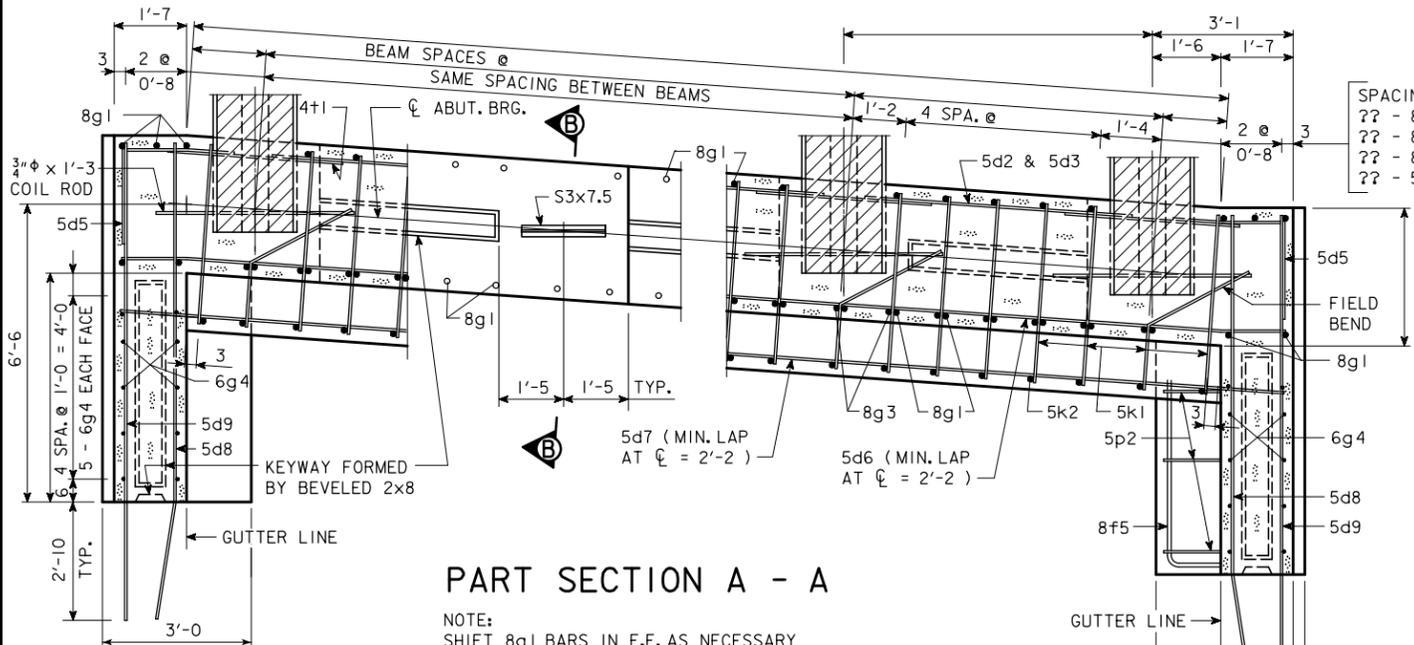


**ABUTMENT STEP DIAGRAM**  
(REAR ELEVATION)

STEP	ABUT.	ABUT.
a		

POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

NOTE:  
THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF No. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - L<sub>7</sub> x  $\frac{7}{8}$  x  $\frac{5}{8}$  SPACERS PUNCHED TO HOLD SPIRAL.

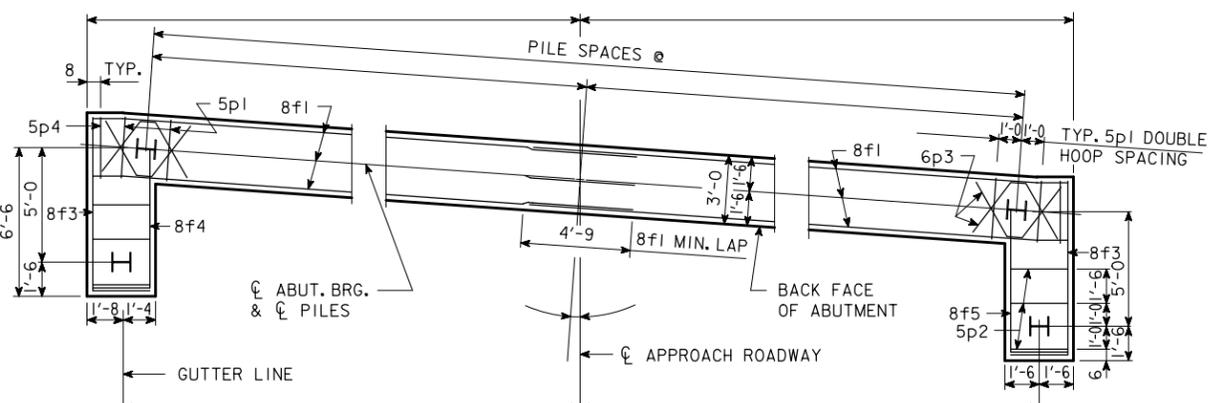


**PART SECTION A - A**

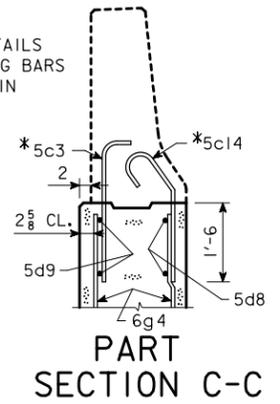
NOTE:  
SHIFT 8g1 BARS IN F.F. AS NECESSARY TO MISS BEAMS. PLACE 8g3 BARS PARALLEL TO LONGIT. STEEL.

\* NOTE:  
SEE DESIGN SHEET ?? FOR DETAILS OF BARRIER RAIL. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.

SPACING FOR :  
?? - 8g1 BACK FACE  
?? - 8g1 FRONT FACE  
?? - 8g3 BACK FACE  
?? - 5k1 & 5k2 BACK FACE



**ABUTMENT PILE PLAN**



**PART SECTION C-C**

**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.  
IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

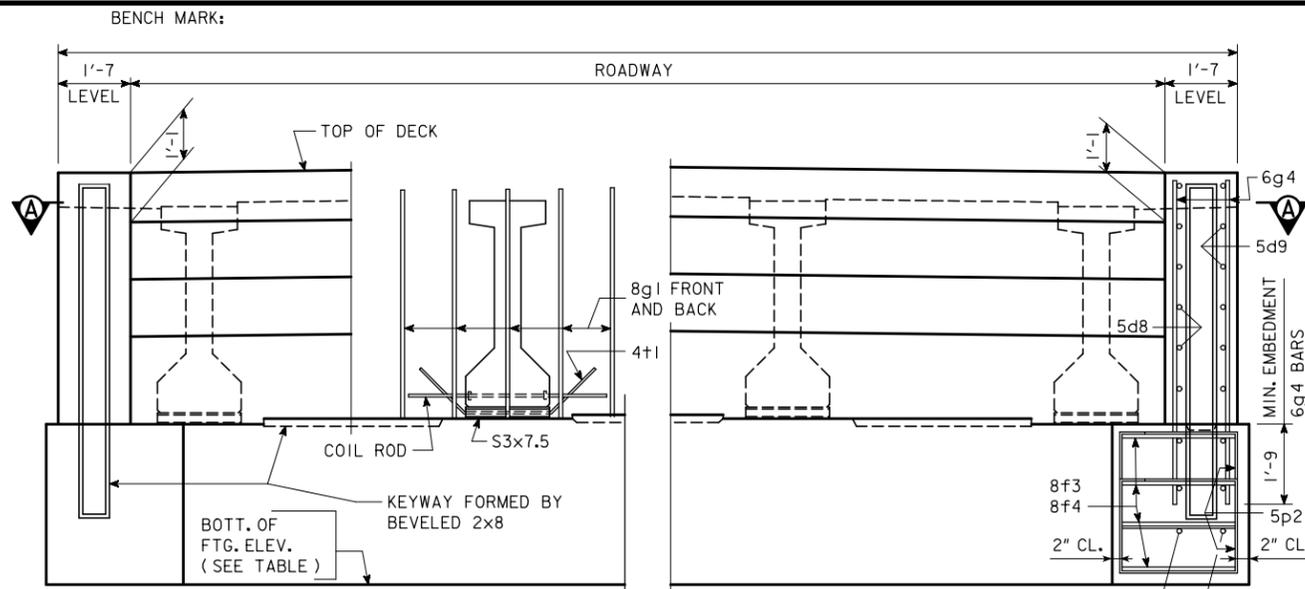
LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.  
NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.  
NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

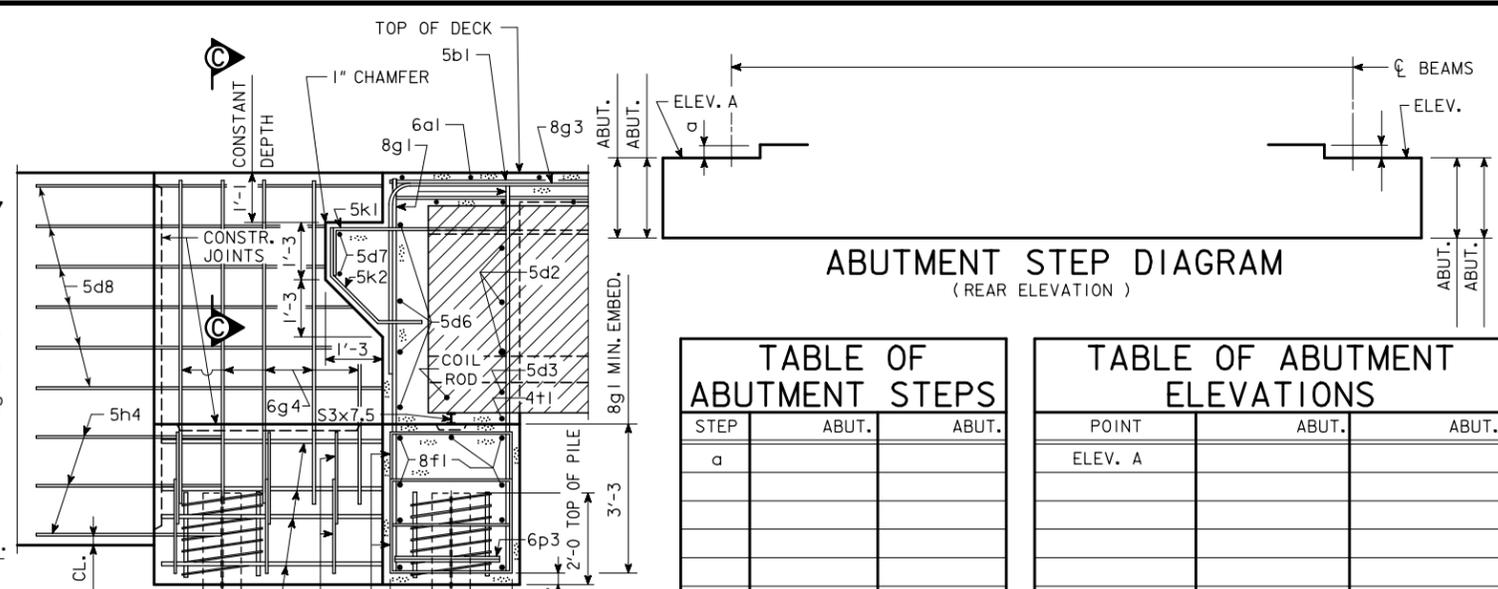
**ABUTMENT FOOTING DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2087 - THIS SHEET REDRAWN 9-8-88



**PART REAR ELEVATION AT ABUTMENT**  
(WINGS NOT SHOWN)



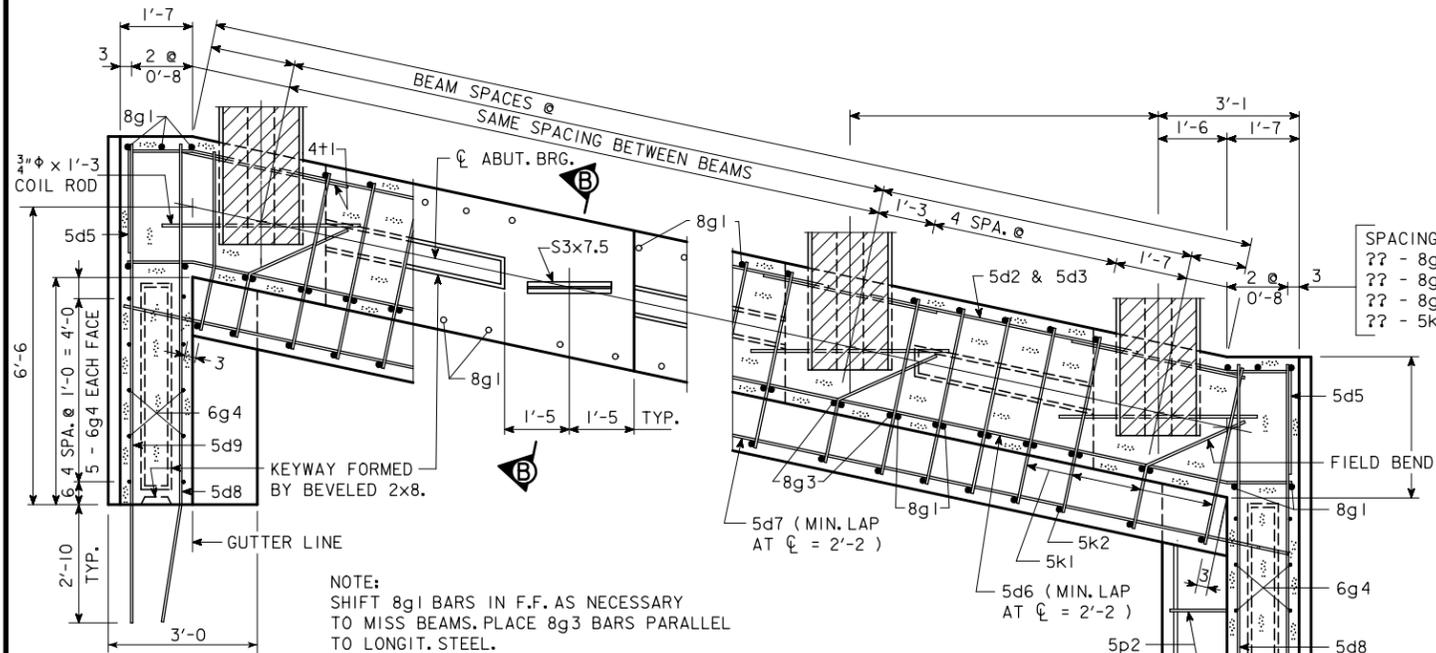
**PART SECTION B-B**  
( 'D' BEAM SHOWN )

**ABUTMENT STEP DIAGRAM**  
( REAR ELEVATION )

STEP	ABUT.	ABUT.
a		

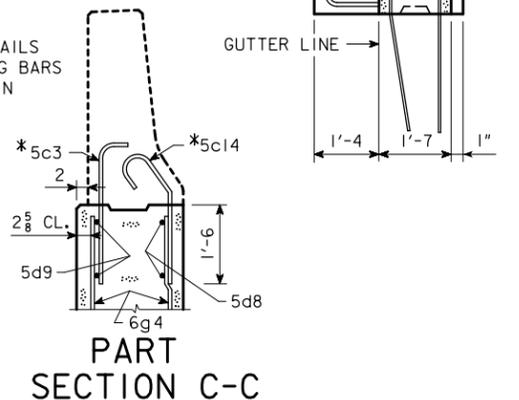
POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

NOTE:  
THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF No. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - L<sub>7</sub> × 7/8 × 7/8 SPACERS PUNCHED TO HOLD SPIRAL.

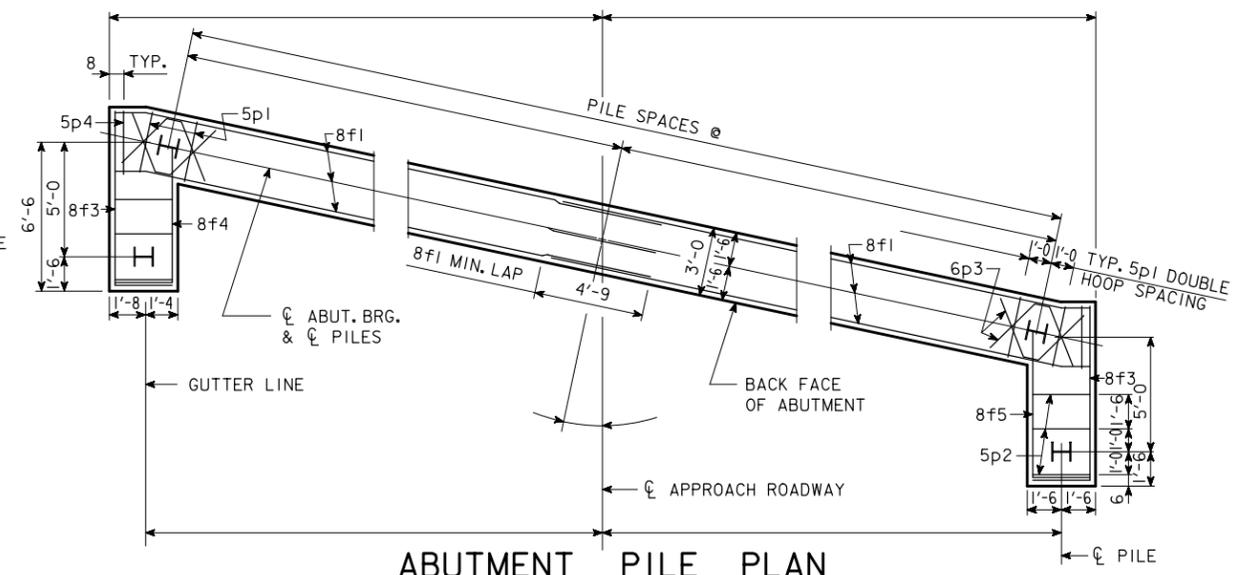


**PART SECTION A - A**

\* NOTE:  
SEE DESIGN SHEET ?? FOR DETAILS OF BARRIER RAIL. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.



**PART SECTION C-C**



**ABUTMENT PILE PLAN**

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE

**ABUTMENT NOTES:**

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

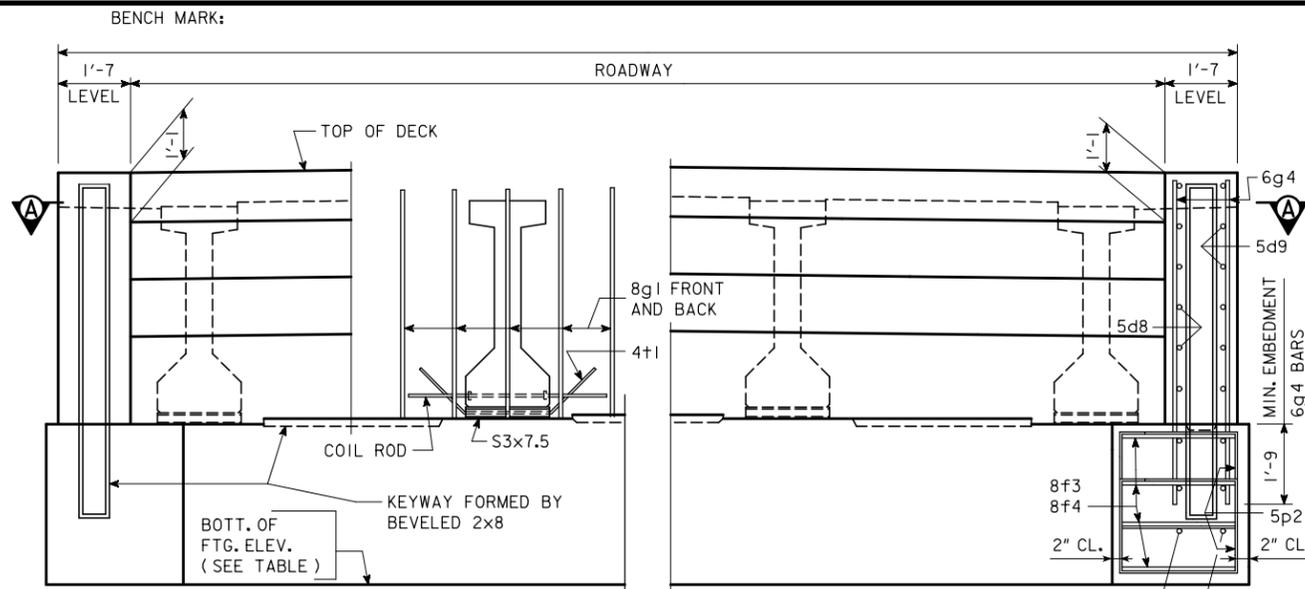
LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.  
 NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.  
 NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

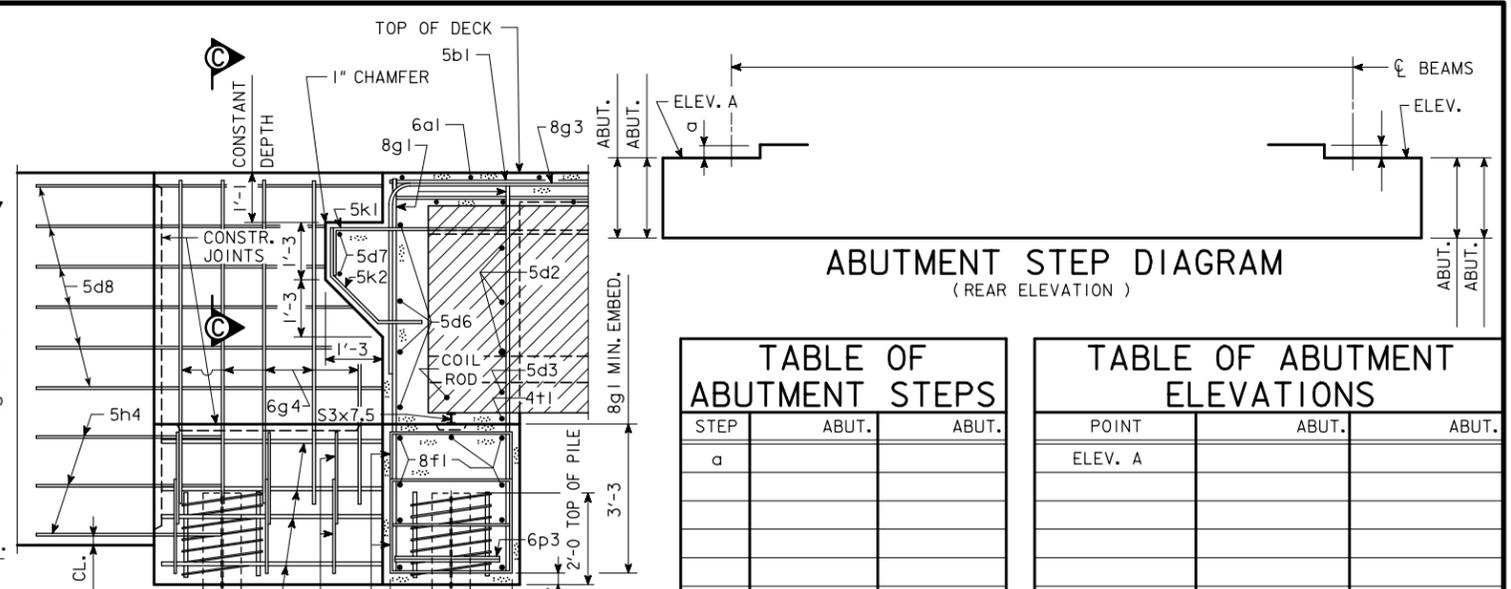
**ABUTMENT FOOTING DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

CORRECTION 04-14 - ADDED CONCRETE QUANTITY TABLE & REFERRAL NOTE TO SUMMARY QUANTITY SHEET. REMOVED DESIGN BEARING NOTE FOR ABUT. PILING FROM ABUTMENT NOTES. ENGLISHINTEGRALBRIDGES.DGN 2088 - THIS SHEET REDRAWN 9-8-88



**PART REAR ELEVATION AT ABUTMENT**  
(WINGS NOT SHOWN)



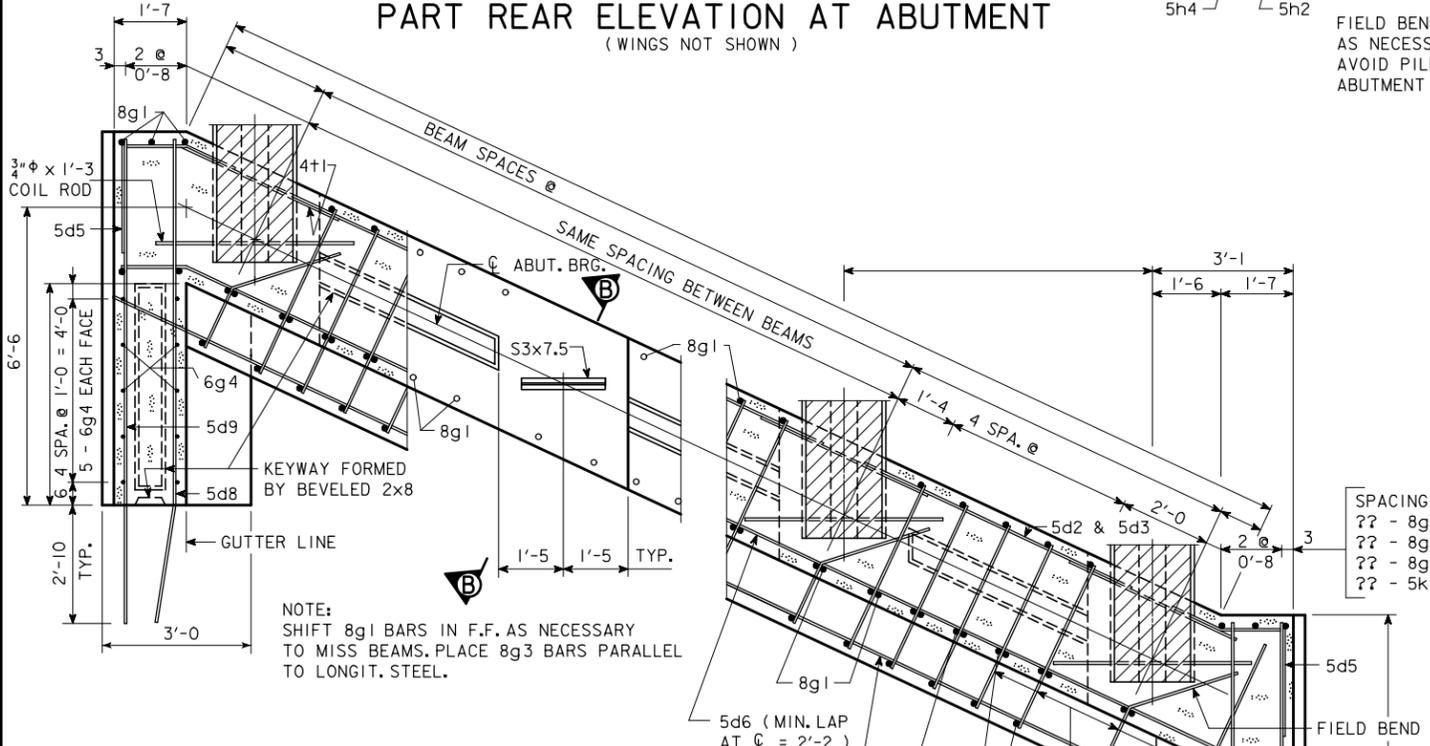
**PART SECTION B-B**  
( 'D' BEAM SHOWN )

**ABUTMENT STEP DIAGRAM**  
( REAR ELEVATION )

STEP	ABUT.	ABUT.
a		

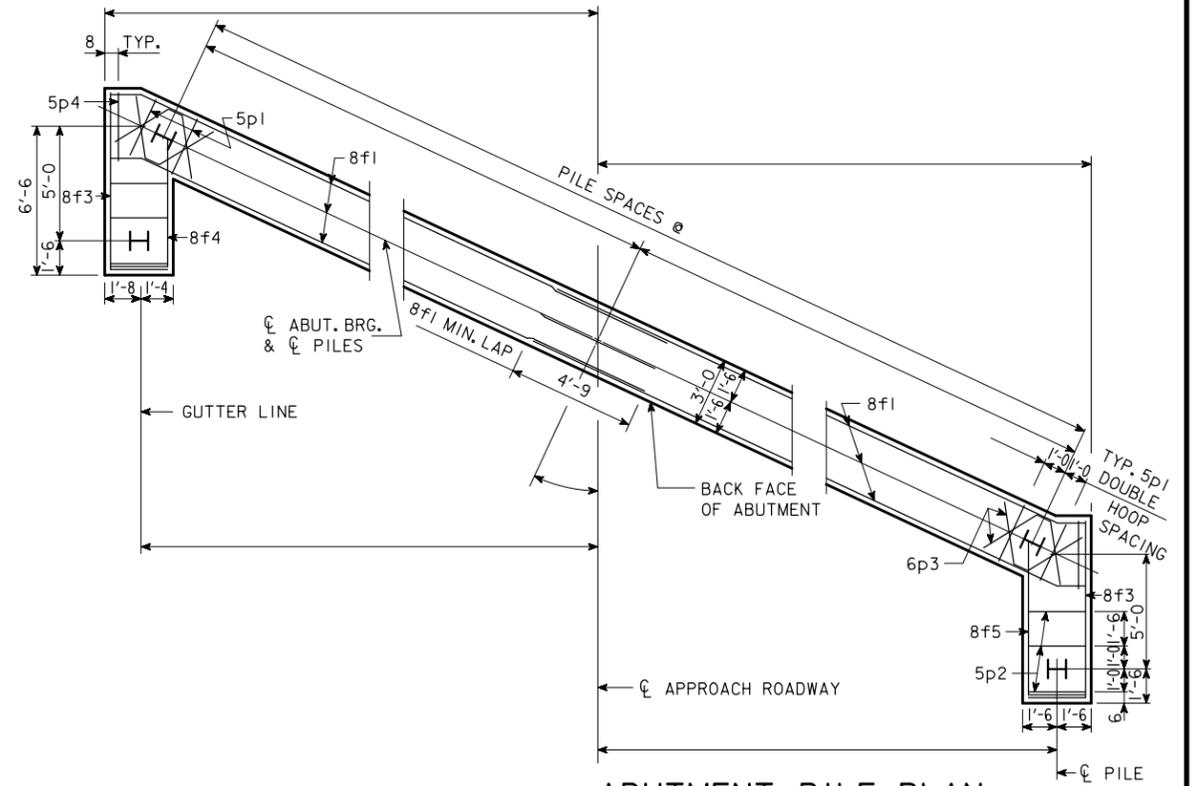
POINT	ABUT.	ABUT.
ELEV. A		
BOTT. FTG. ELEV.		

NOTE: THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF No. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - L 7/8 x 7/8 x 5/8 SPACERS PUNCHED TO HOLD SPIRAL.



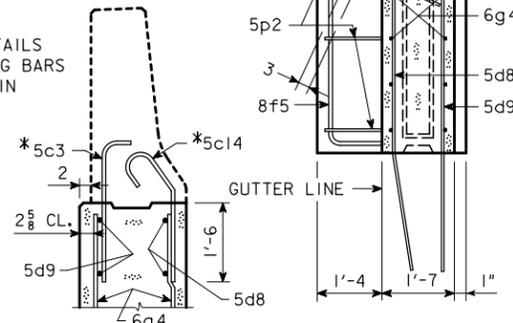
**PART SECTION A - A**

SPACING FOR :  
 ?? - 8g1 BACK FACE  
 ?? - 8g1 FRONT FACE  
 ?? - 8g3 BACK FACE  
 ?? - 5k1 & 5k2 BACK FACE



**ABUTMENT PILE PLAN**

\* NOTE: SEE DESIGN SHEET ?? FOR DETAILS OF BARRIER RAIL. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.



**PART SECTION C-C**

**ABUTMENT NOTES:**  
 MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.  
 IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK AND BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

LOCATION	QUANTITY
----- ABUTMENT FOOTING	
----- ABUTMENT FOOTING	
TOTAL (CU. YDS.)	

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.  
 NOTE: ?? - HP 10 x 57 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.  
 NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION		
DESIGN SHEET NO. _____	OF _____	FILE NO. _____
DESIGN NO. _____		SHEET NUMBER _____







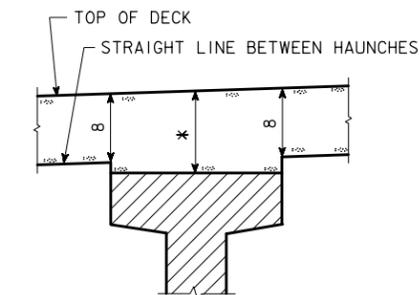
CORRECTION 04-14 - ADDED REFERRAL NOTE TO SUMMARY QUANTITIES SHEET FOR THE DRAIN WEIGHT. NOTE ABOUT CHOICE OF EPOXY OR STAINLESS STEEL DECK TO BARRIER RAIL BARS. ENGLISHINTEGRALBRIDGES.DGN 4380 - THIS SHEET ISSUED 11-06. LRFD DESIGNED DECK.

### TABLE OF SIZE OF 'b2' BAR

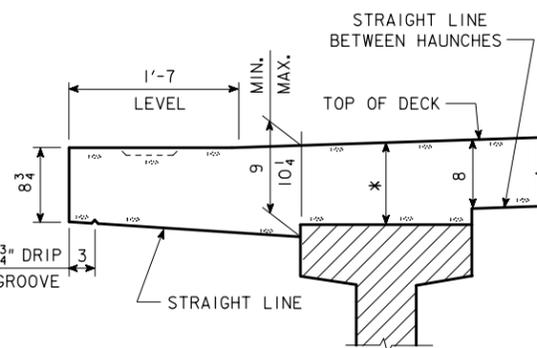
LONGEST ADJACENT SPAN BEAM		BAR SIZE
A, B & C	D	
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34'-2	35'-0	5
38'-4	40'-0	5
42'-6	45'-0	5
46'-8	50'-0	5
50'-10	55'-0	6
55'-0	60'-0	6
59'-2	65'-0	6
63'-4		7
67'-6		7
71'-8	70'-0	7
75'-10	75'-0	8
80'-0	80'-0	8
	85'-0	8
	90'-0	8
	95'-0	8
	100'-0	9
	105'-0	9
	110'-0	9

THE MIDPOINT OF THE 'b2' BAR IS TO BE PLACED AT THE  $\bar{C}$  OF PIER.

REDRAW FOR A & B BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 3'-2 BECOMES 3'-1.



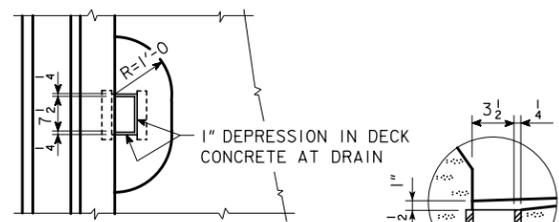
INTERIOR BEAMS



EXTERIOR BEAMS

### TYPICAL DECK AND HAUNCH DETAIL

\* FOR DECK THICKNESS OVER BEAMS SEE "DECK THICKNESS DETAILS" ON DESIGN SHEET NO. ....



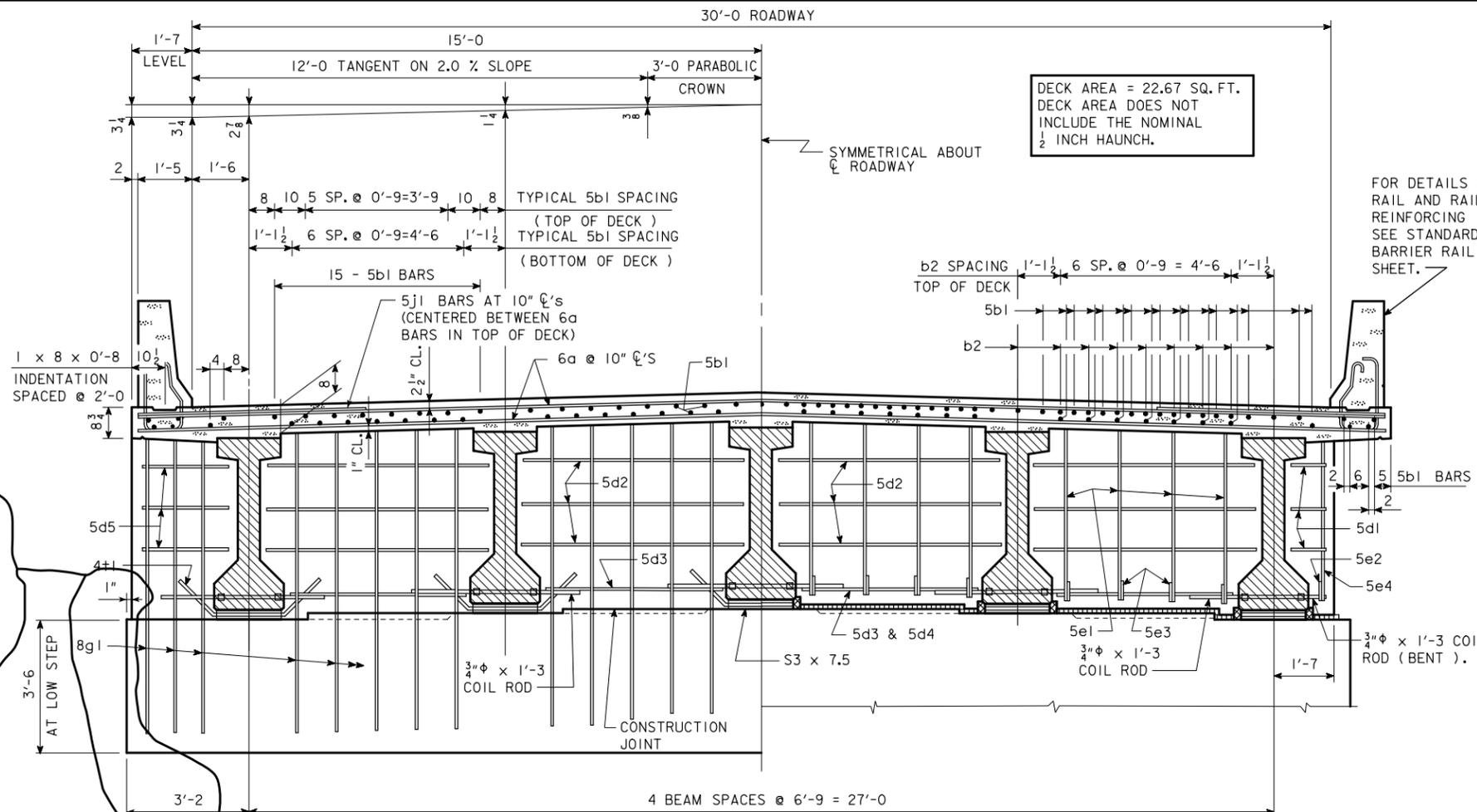
DRAIN DETAILS

NOTE: DRAINS ARE TO BE GALVANIZED. .... DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET .... FOR LOCATION. WEIGHT OF DRAIN IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". WEIGHT IS BASED ON ROLLED TUBE.

### DATA FOR ONE DRAIN

BEAM SIZE	A	B	C	D
WT. LBS.	85	96	106	120
LENGTH FT.	4'-4 3/4	4'-11 3/4	5'-5 3/4	6'-2 3/4

NOTE: DRAIN WEIGHTS ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.



HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR PIER

NOTE: FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

### LENGTH OF S3 x 7.5 (ABUTMENT BEAM SEAT)

BEAM BOTTOM FLANGE WIDTH	LENGTH OF S3 x 7.5
1'-5	1'-3 1/2
1'-8	1'-6 1/2
1'-10	1'-8 1/2

### SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES 1/2" INTEGRAL WEARING SURFACE.  
 THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.  
 COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".  
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NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

### BRIDGE DECK CROSS SECTION

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

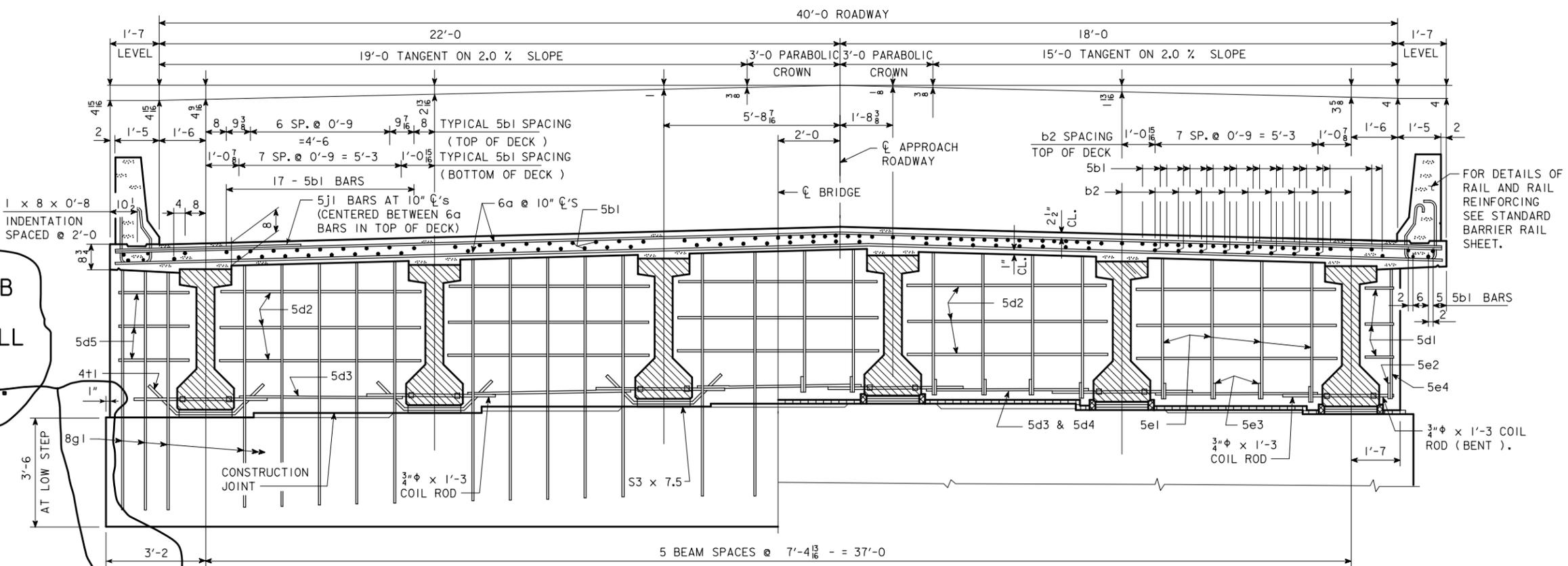
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### TABLE OF SIZE OF 'b2' BAR

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55'-0	60'-0	6
59'-2	65'-0	6
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67'-6		7
71'-8		8
75'-10		8
80'-0		8
85'-0		8
90'-0		8
95'-0		8
100'-0		8
105'-0		8
110'-0		9

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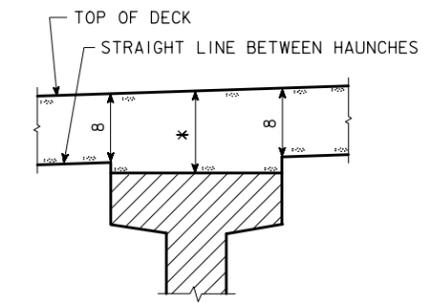
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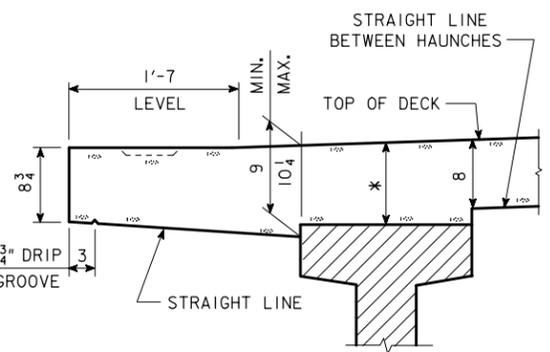
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HALF SECTION NEAR PIER

NOTE: FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.



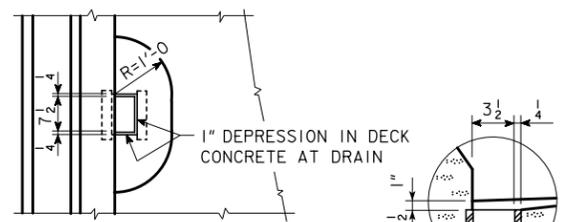
INTERIOR BEAMS



EXTERIOR BEAMS

### TYPICAL DECK AND HAUNCH DETAIL

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DRAIN DETAILS

NOTE: DRAINS ARE TO BE GALVANIZED. .... DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET .... FOR LOCATION. WEIGHT OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". WEIGHT IS BASED ON ROLLED TUBE.

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DECK AREA = 29.39 SQ. FT.  
 DECK AREA DOES NOT INCLUDE THE NOMINAL 1/2 INCH HAUNCH.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

### BRIDGE DECK CROSS SECTION

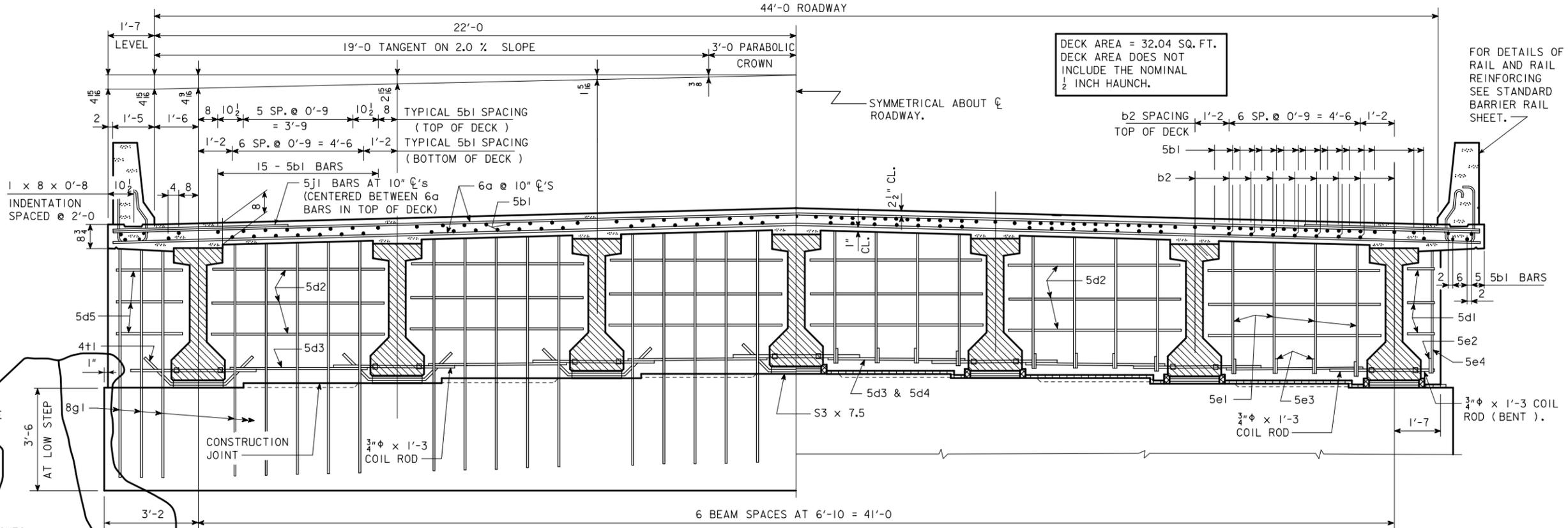
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

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**REDRAW FOR A & B BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 3'-2 BECOMES 3'-1.**



**HALF SECTION NEAR ABUTMENT**

**HALF SECTION NEAR PIER**

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

**LENGTH OF S3 x 7.5 (ABUTMENT BEAM SEAT)**

BEAM BOTTOM FLANGE WIDTH	LENGTH OF S3 x 7.5
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**SUPERSTRUCTURE NOTES:**

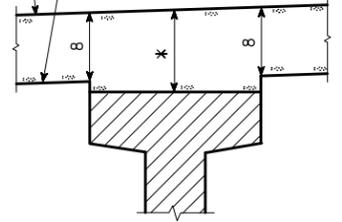
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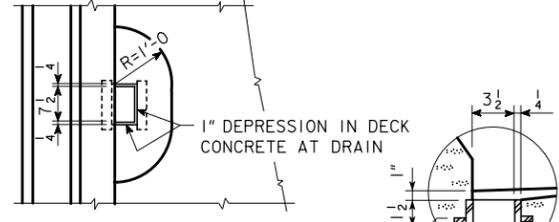
**BRIDGE DECK CROSS SECTION**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

STRAIGHT LINE BETWEEN HAUNCHES



**INTERIOR BEAMS**



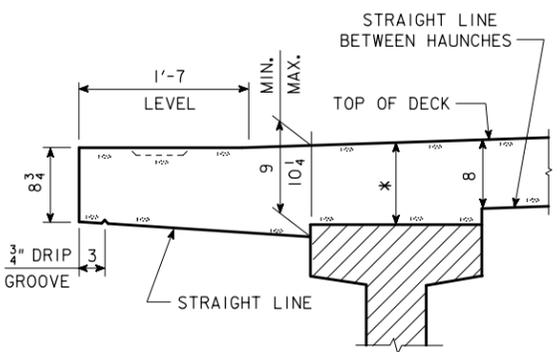
**DRAIN DETAILS**

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**EXTERIOR BEAMS**

**TYPICAL DECK AND HAUNCH DETAIL**

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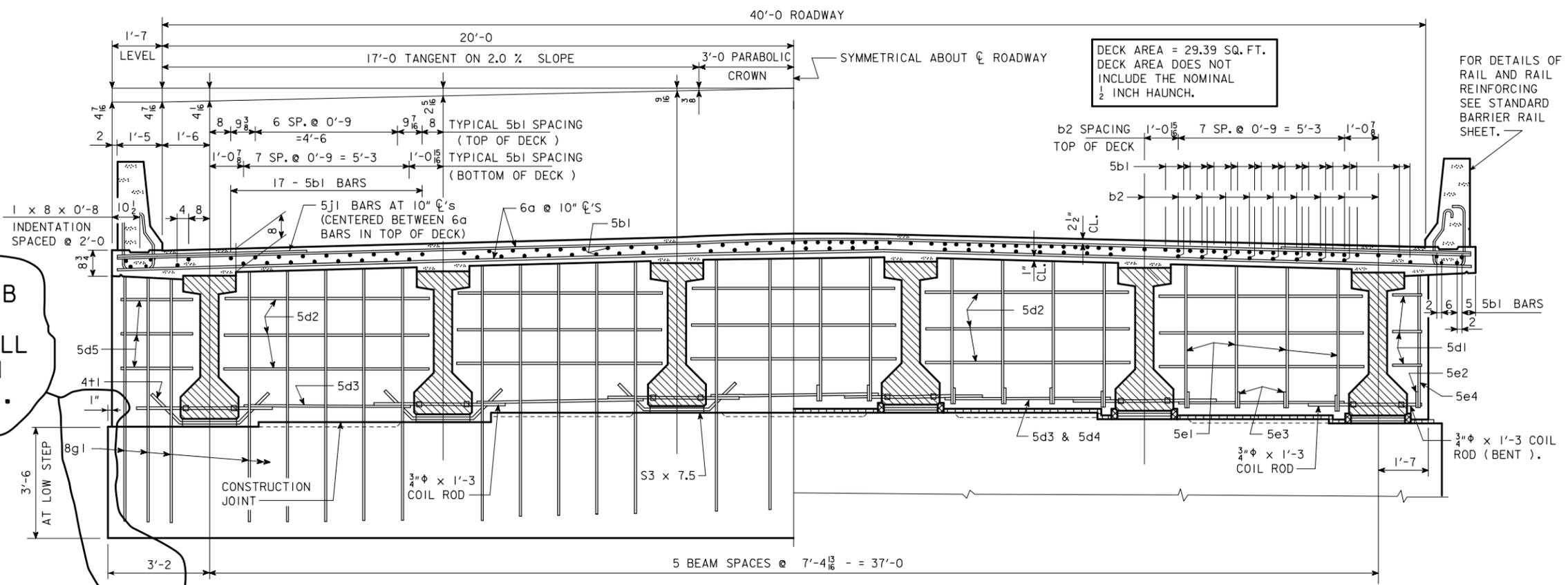
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**REDRAW FOR A & B BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 3'-2 BECOMES 3'-1.**

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**HALF SECTION NEAR ABUTMENT**

**HALF SECTION NEAR PIER**

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

**LENGTH OF S3 x 7.5 (ABUTMENT BEAM SEAT)**

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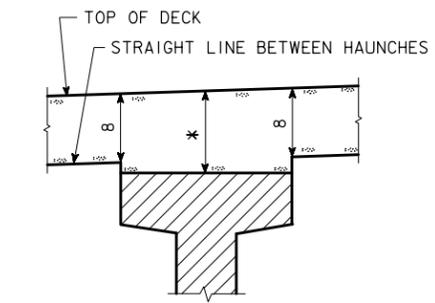
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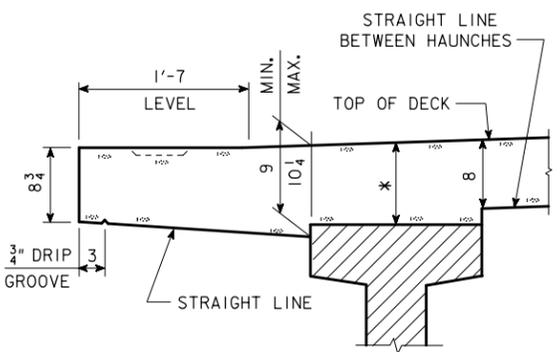
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**BRIDGE DECK CROSS SECTION**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



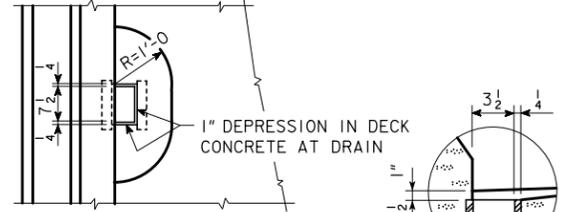
**INTERIOR BEAMS**



**EXTERIOR BEAMS**

**TYPICAL DECK AND HAUNCH DETAIL**

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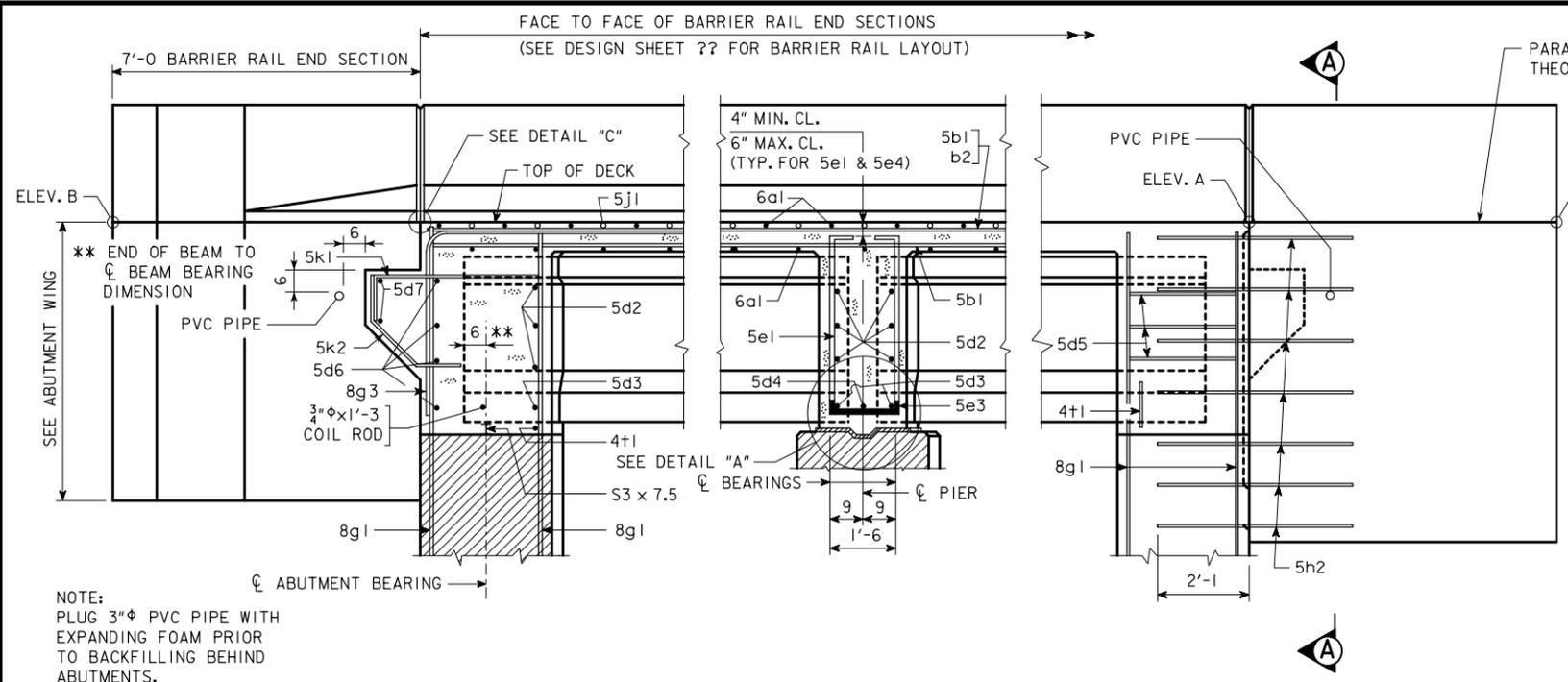
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NOTE:  
PLUG 3" PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

**PART END VIEW AT ABUTMENT**

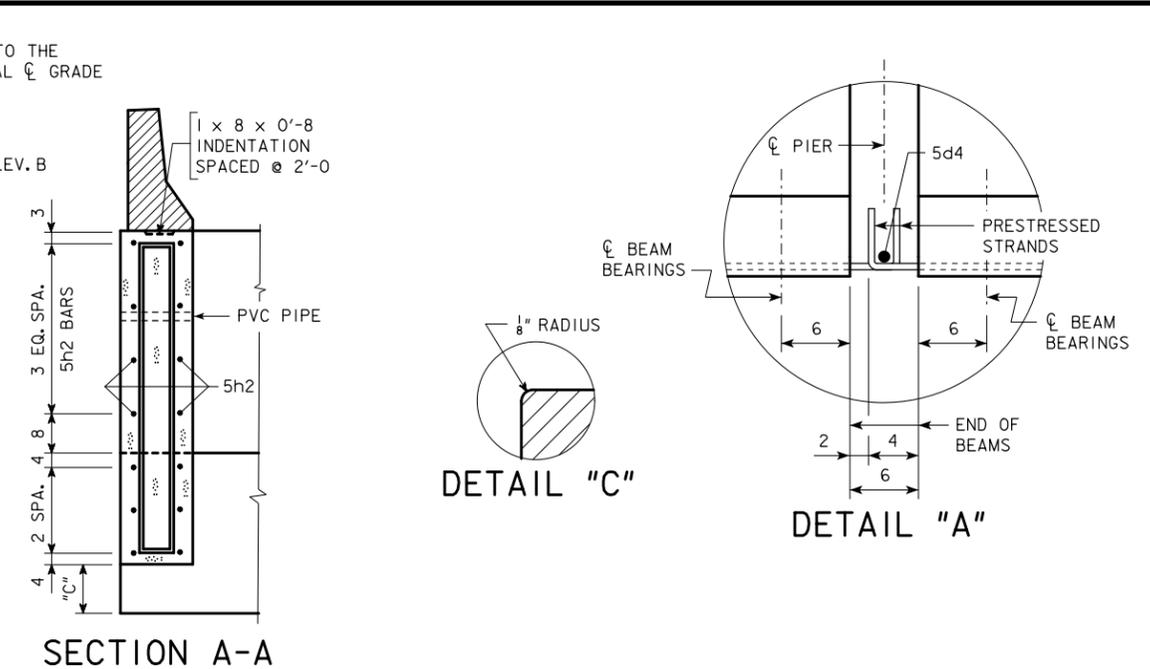
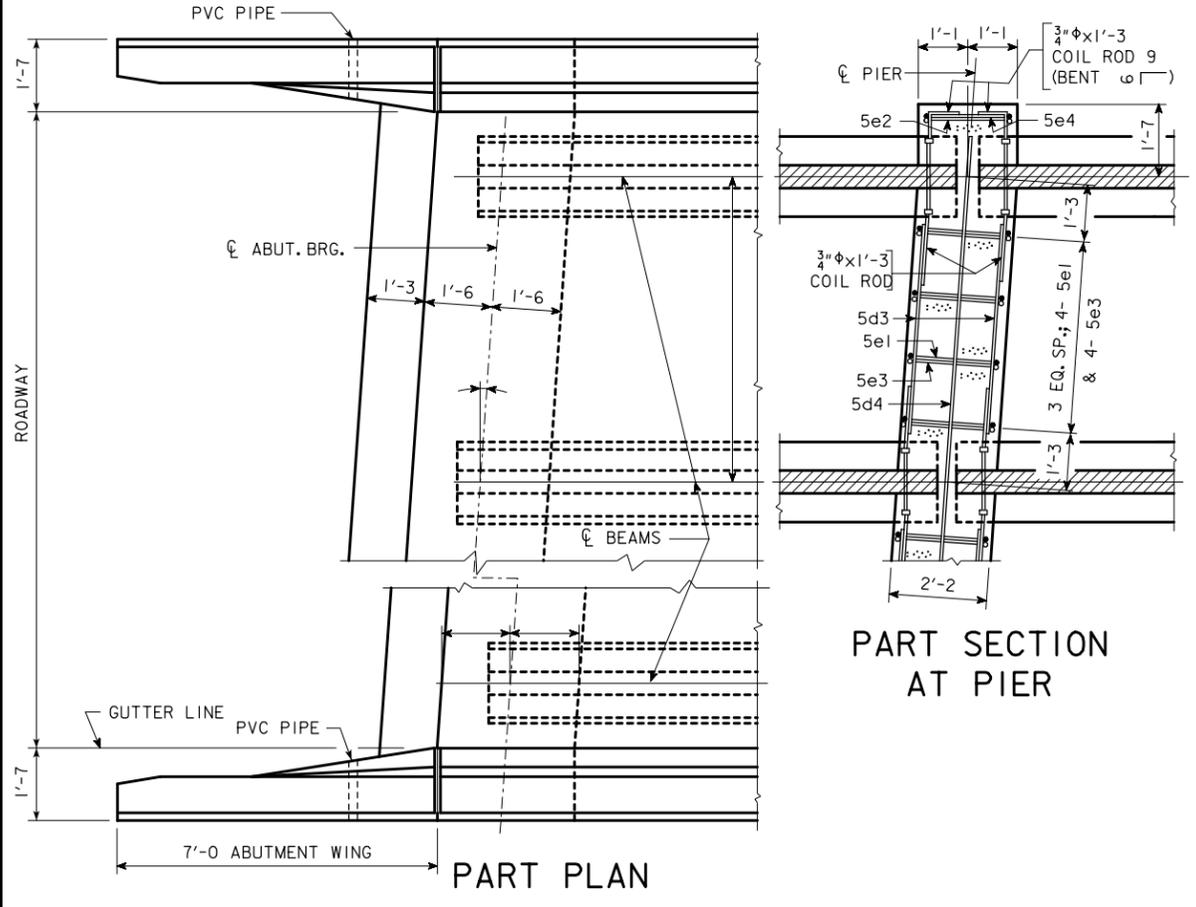
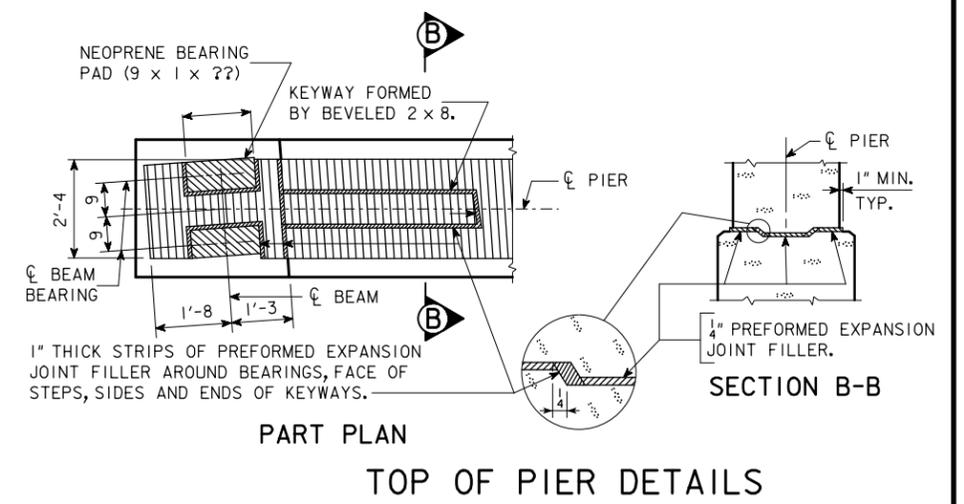


TABLE OF WING ELEVATIONS			
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**PART SECTION AT PIER**

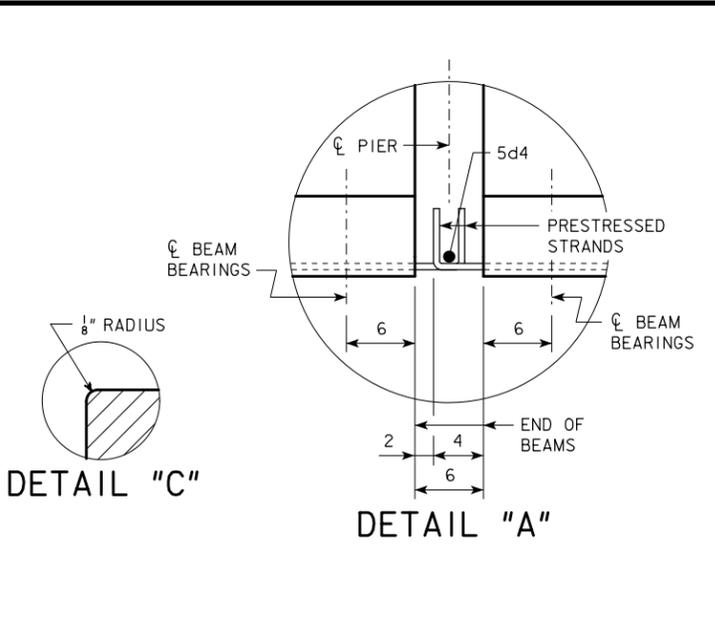
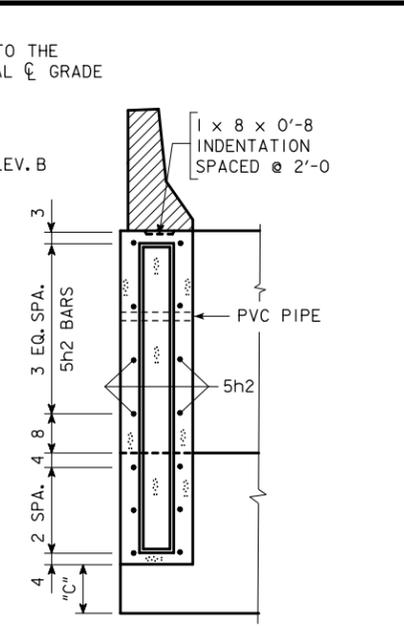
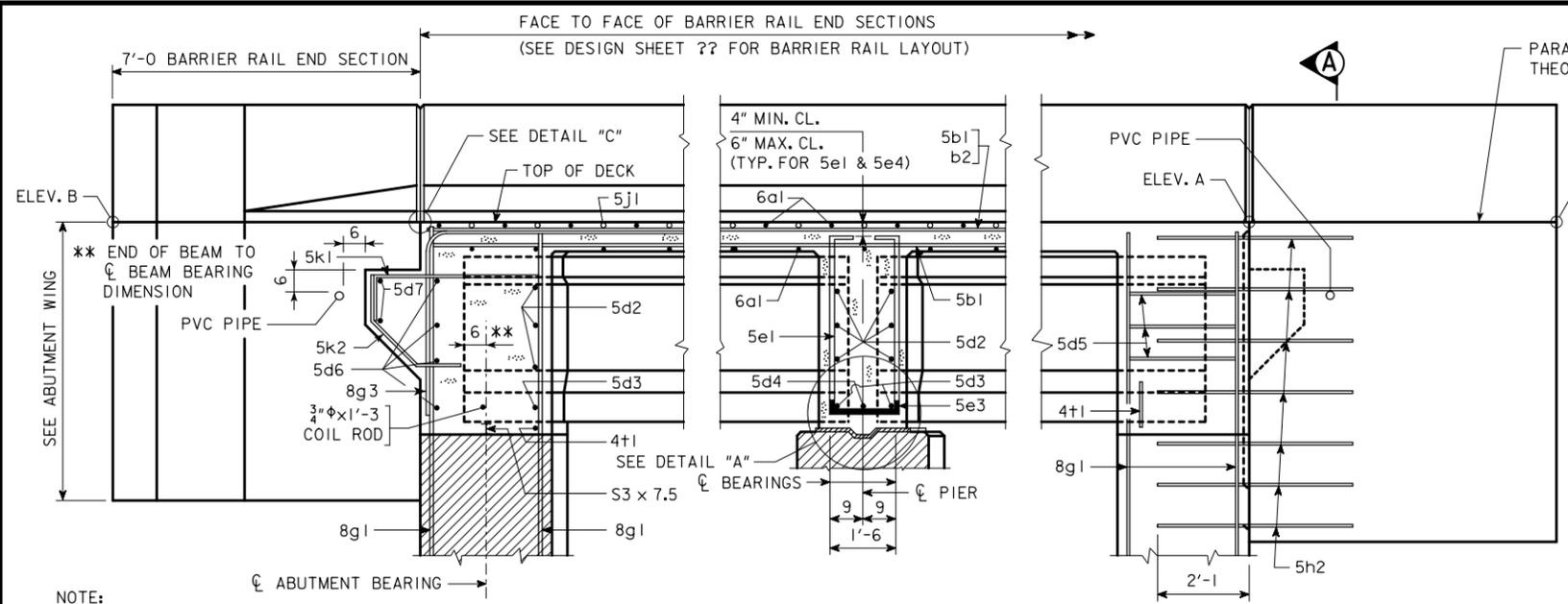


**PART PLAN**  
**TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISION 07-08 - DISTANCE FROM CL. BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4501 - THIS SHEET REDRAWN 9-8-88



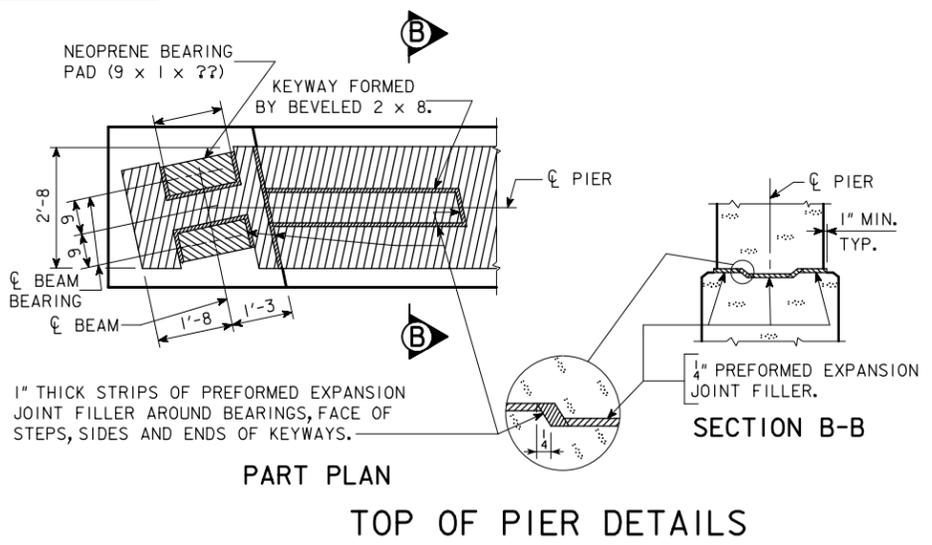
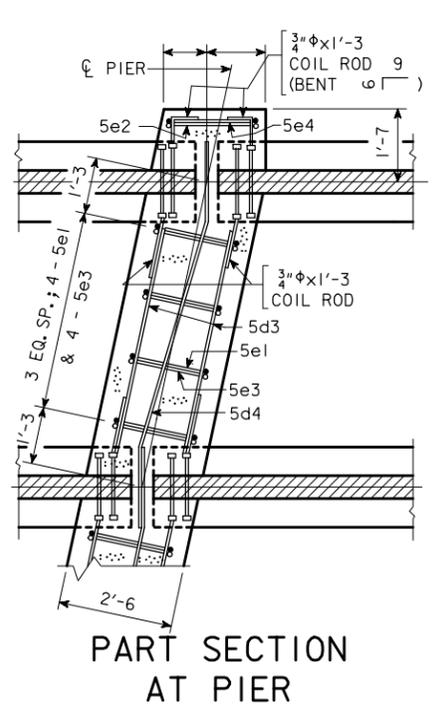
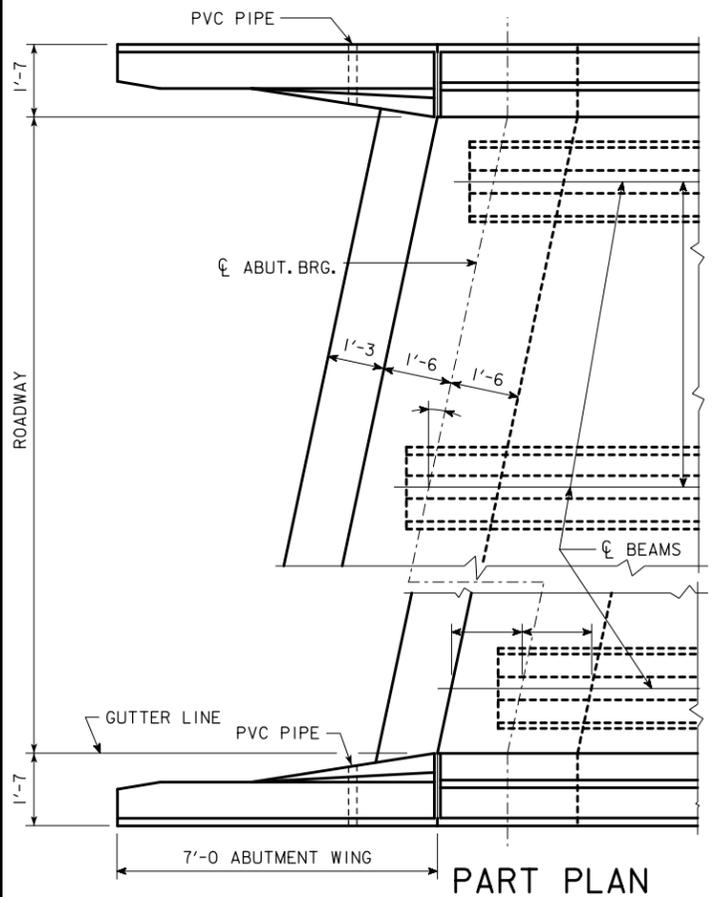
NOTE:  
PLUG 3" PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

**PART END VIEW AT ABUTMENT**

**TABLE OF WING ELEVATIONS**

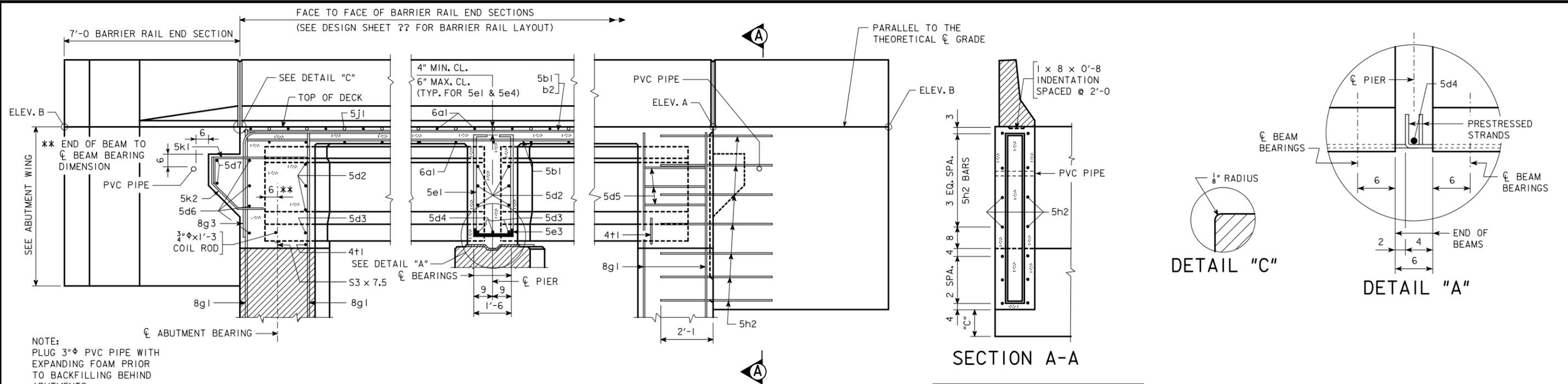
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISION 07-08 - DISTANCE FROM C BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4502 - THIS SHEET REDRAWN 9-8-88

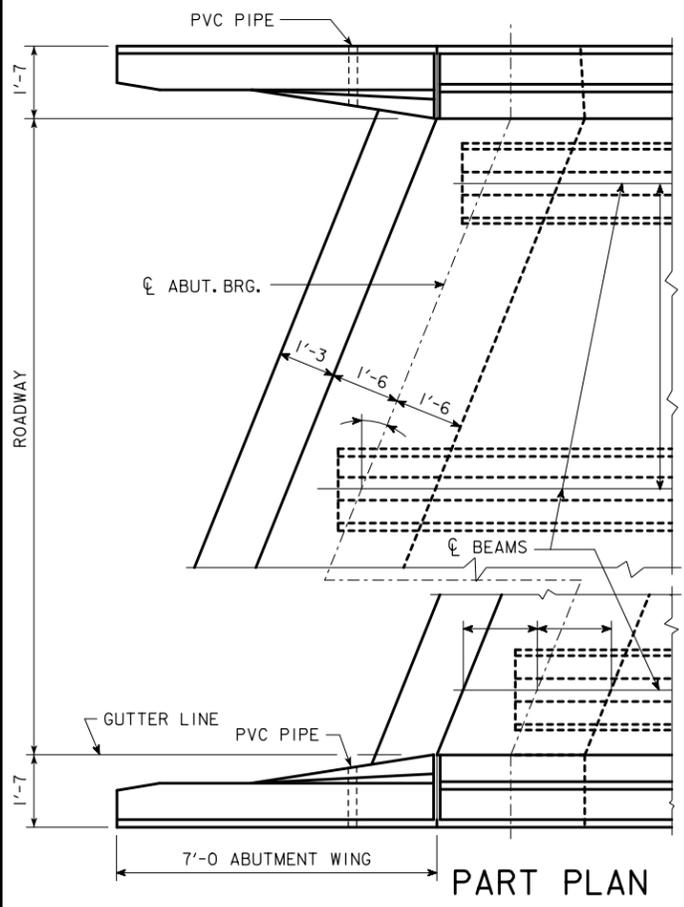


**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

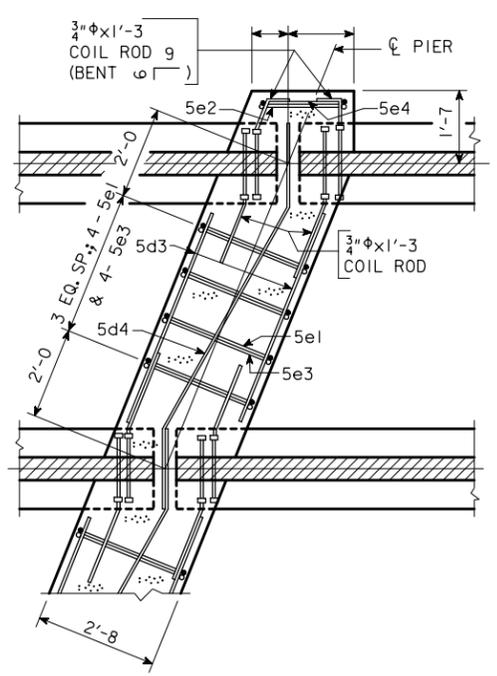
**PART END VIEW AT ABUTMENT**

**TABLE OF WING ELEVATIONS**

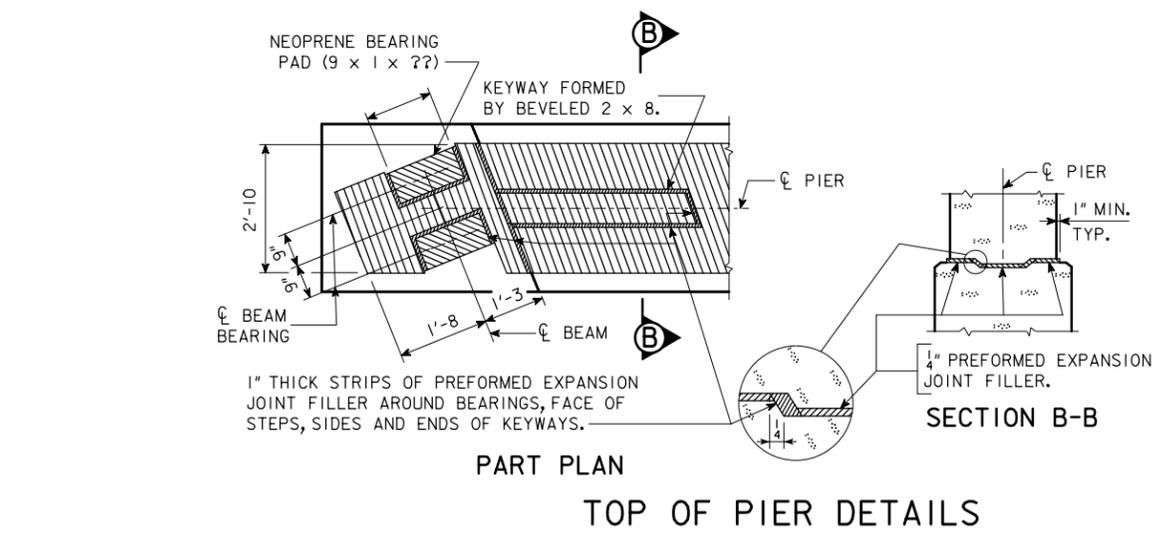
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**PART PLAN**



**PART SECTION AT PIER**

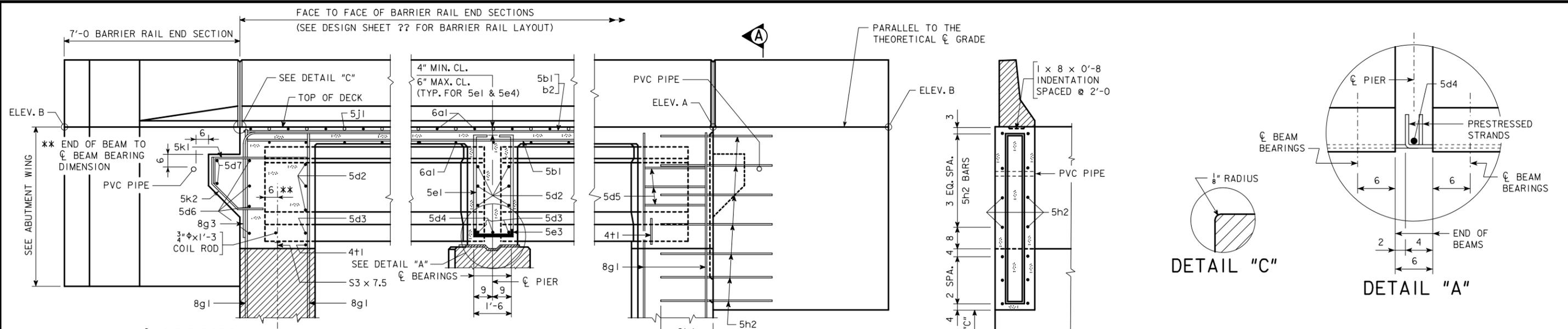


**PART PLAN TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISION 07-08 - DISTANCE FROM CL BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4503 - THIS SHEET REDRAWN 9-8-88

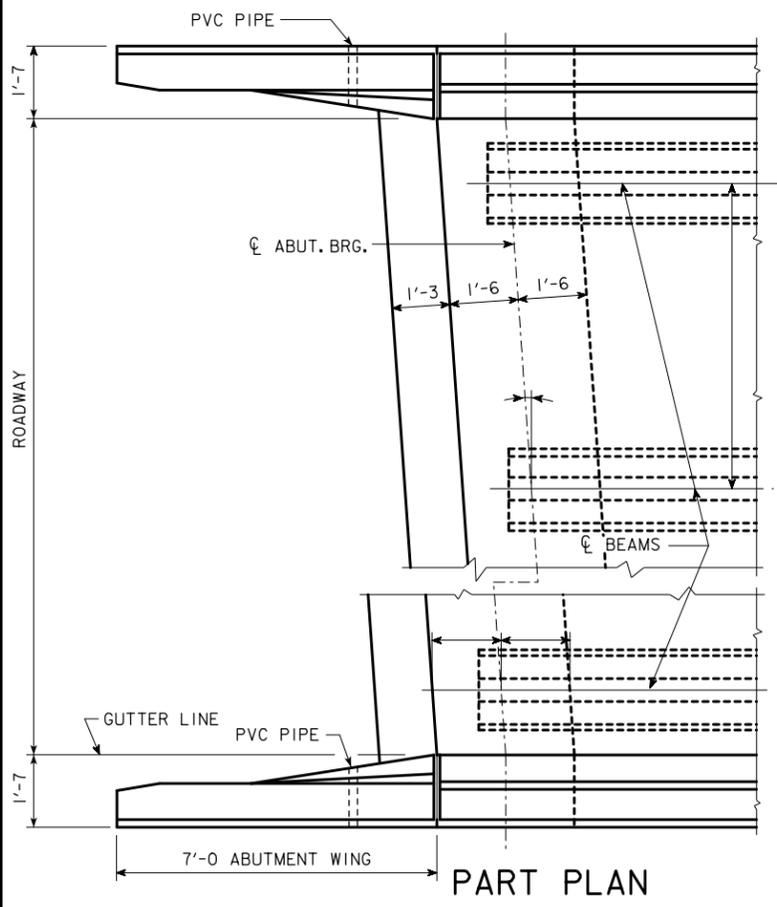


**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

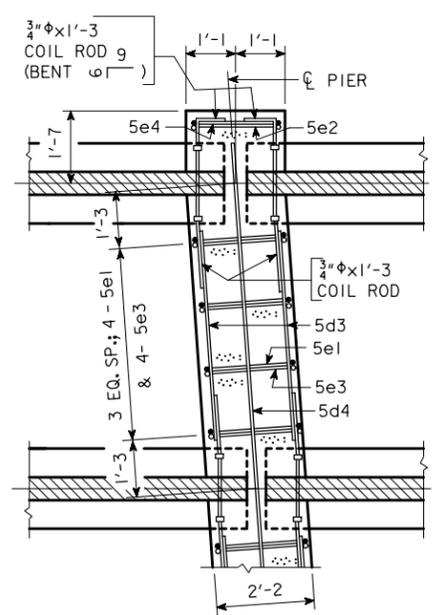
**PART END VIEW AT ABUTMENT**

**TABLE OF WING ELEVATIONS**

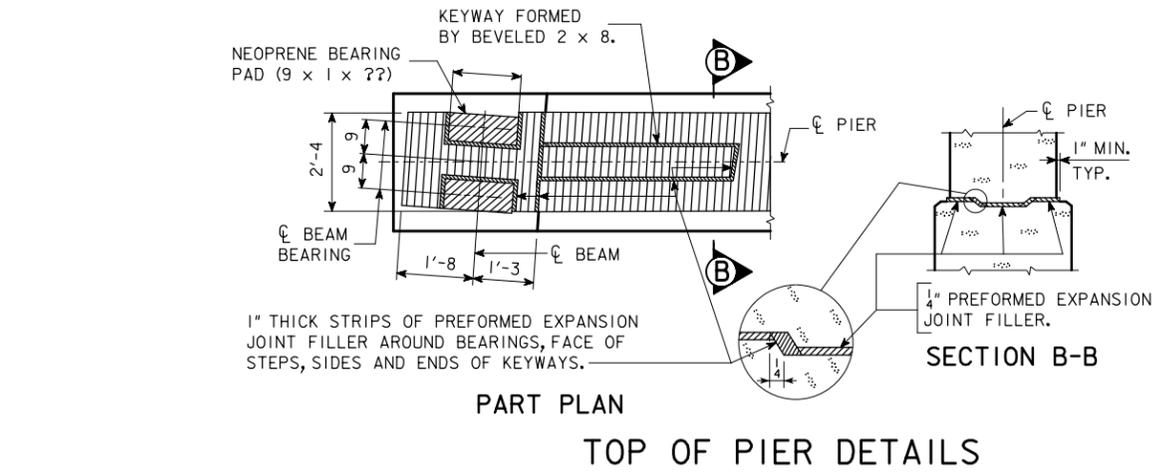
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**PART PLAN**



**PART SECTION AT PIER**

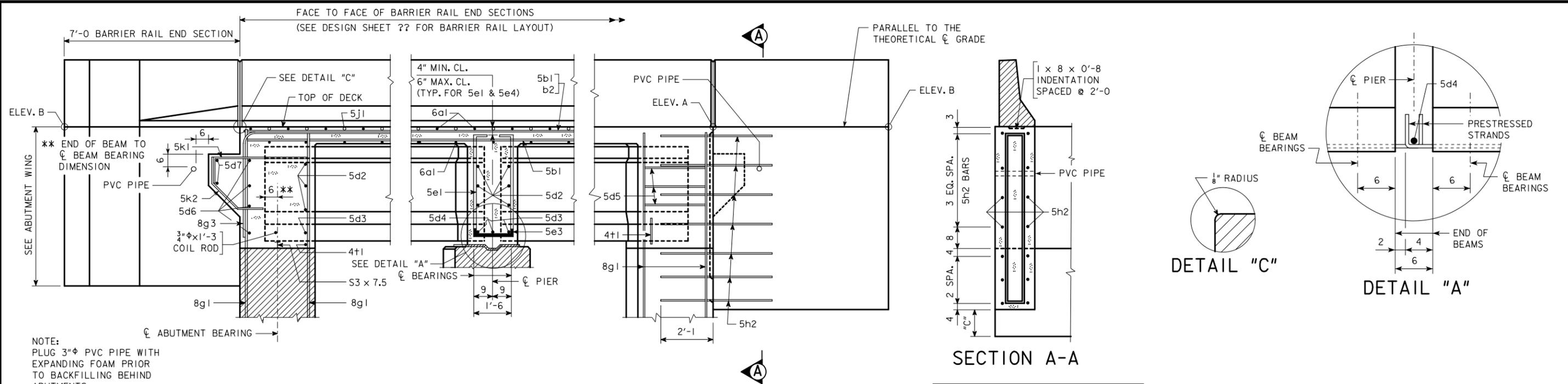


**PART PLAN TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISION 07-08 - DISTANCE FROM CL BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4504 - THIS SHEET REDRAWN 9-8-88



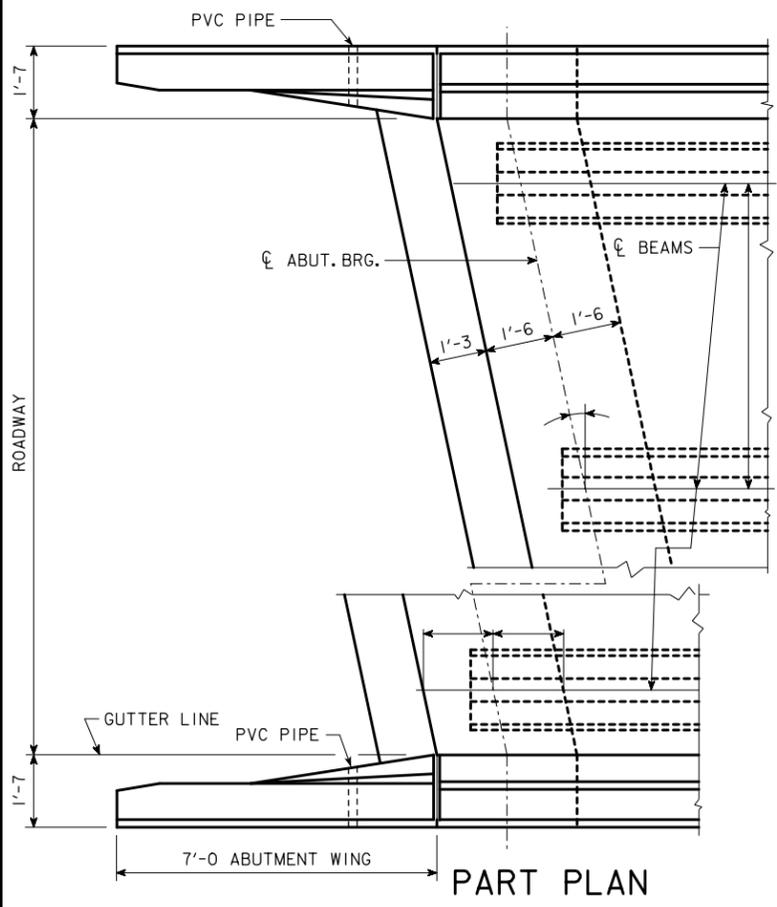
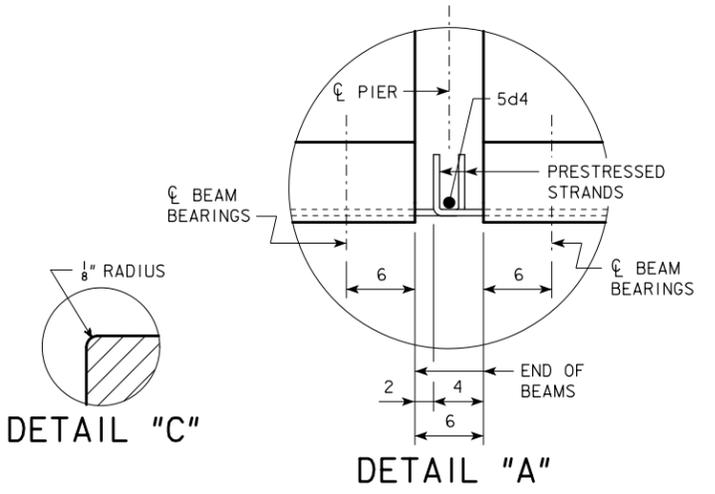
NOTE:  
 PLUG 3" PVC PIPE WITH  
 EXPANDING FOAM PRIOR  
 TO BACKFILLING BEHIND  
 ABUTMENTS.

**PART LONGITUDINAL SECTION NEAR GUTTER**  
 (FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

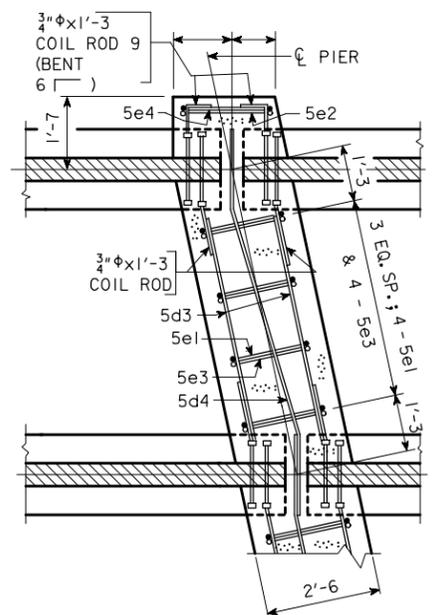
**PART END VIEW AT ABUTMENT**

**SECTION A-A**

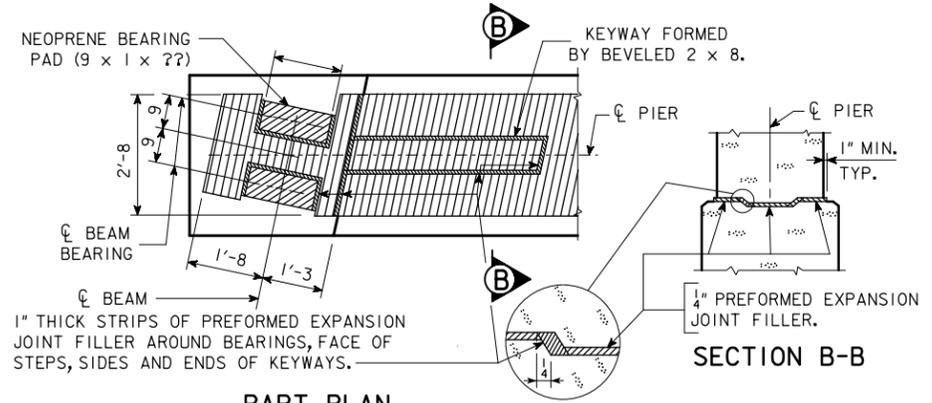
TABLE OF WING ELEVATIONS			
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**PART PLAN**



**PART SECTION AT PIER**

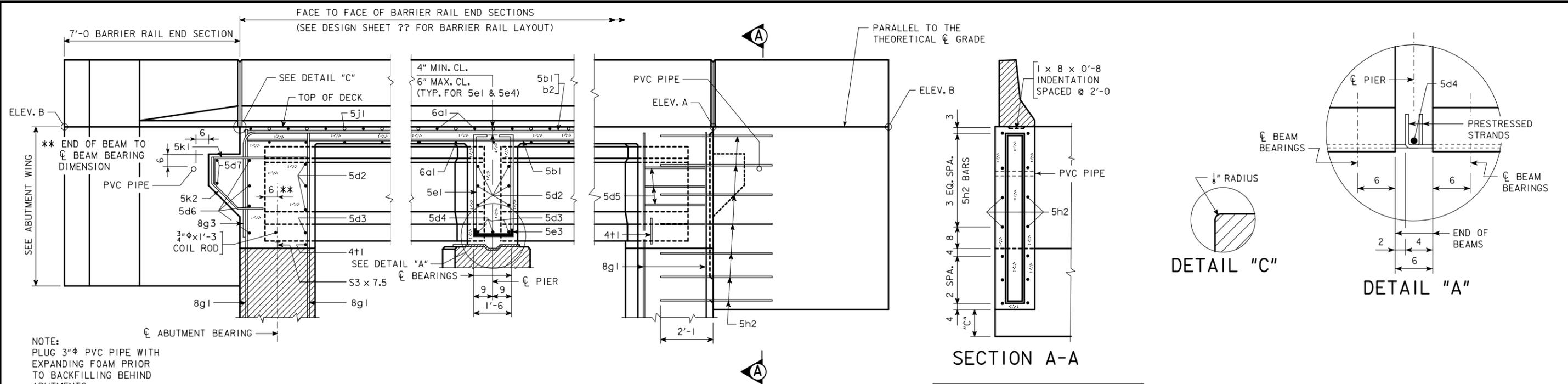


**PART PLAN TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISION 07-08 - DISTANCE FROM CL BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4505 - THIS SHEET REDRAWN 9-8-88

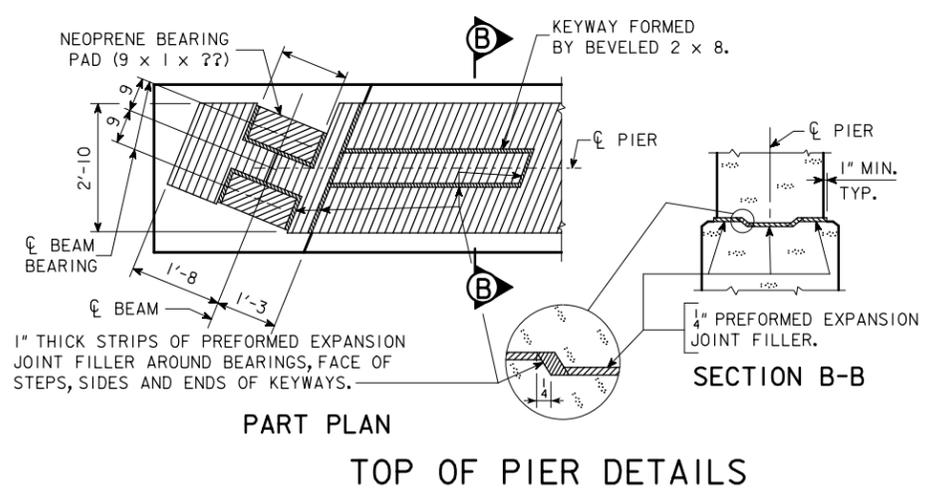
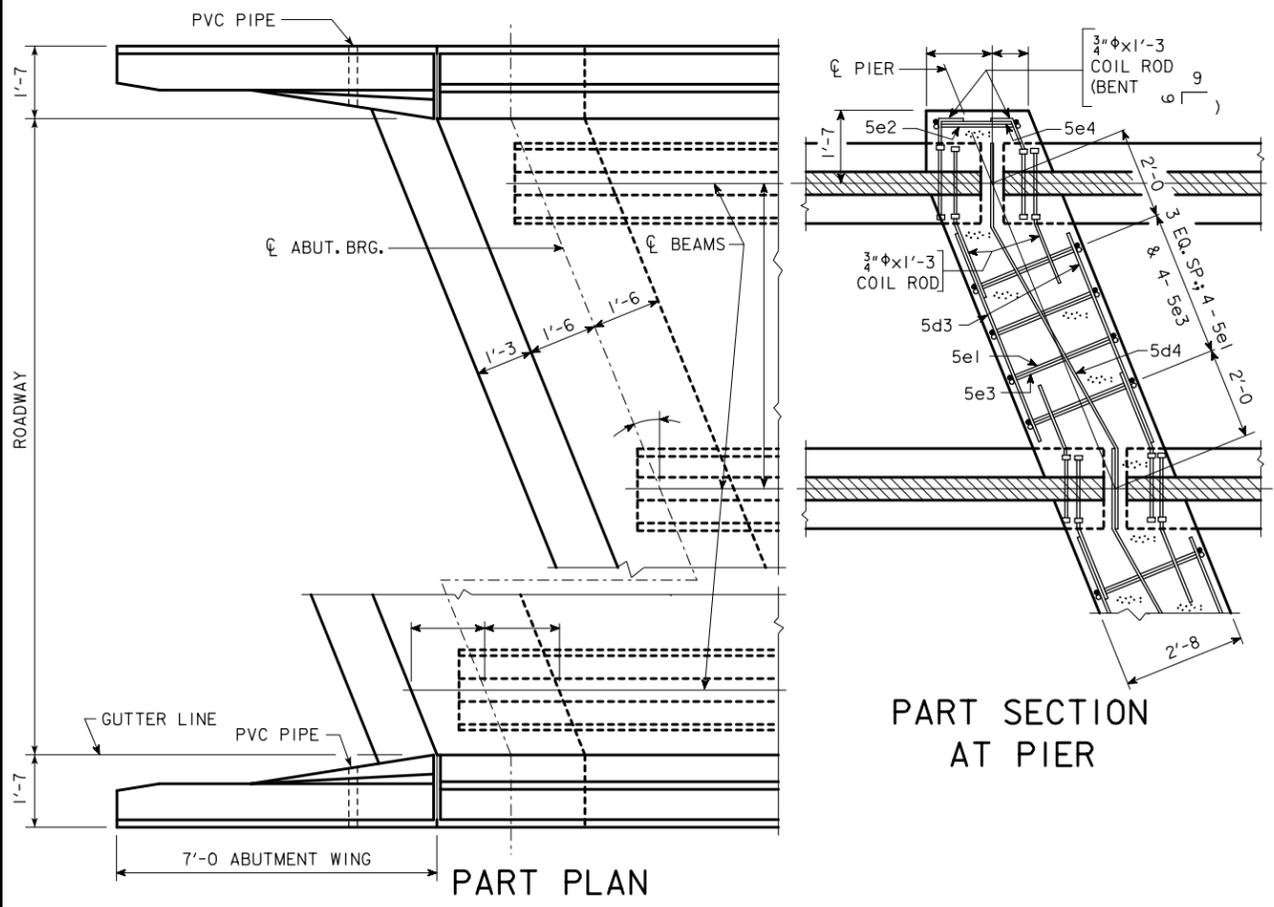


**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

**PART END VIEW AT ABUTMENT**

**TABLE OF WING ELEVATIONS**

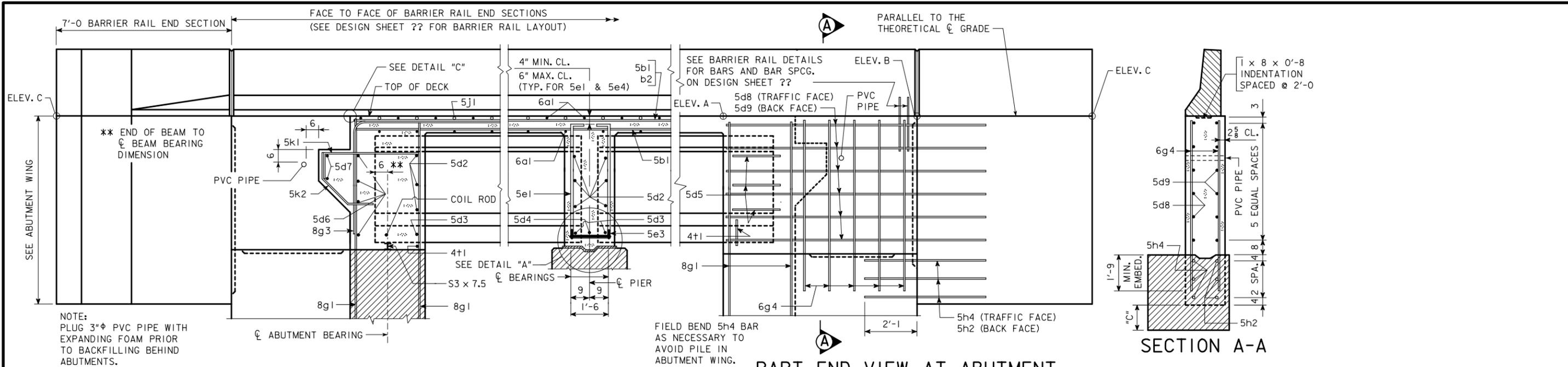
LOCATION	DIM "C"	ELEV. A	ELEV. B
S.W. CORNER			
N.W. CORNER			
S.E. CORNER			
N.E. CORNER			



**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_ OF \_\_\_\_ FILE NO. \_\_\_\_ DESIGN NO. \_\_\_\_

REVISION 07-08 - DISTANCE FROM  $\phi$  BEAM TO STEP CHANGED TO 1'-3. ENGLISHINTEGRALBRIDGES.DGN 4506 - THIS SHEET REDRAWN 9-8-88

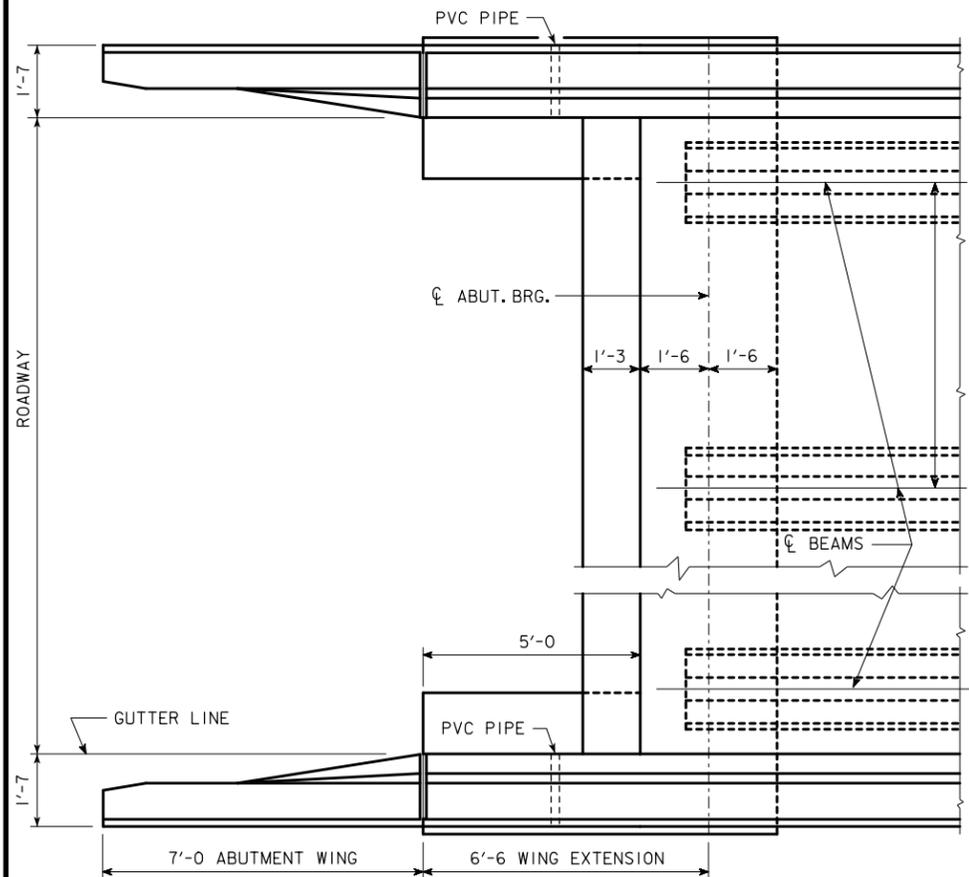


**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

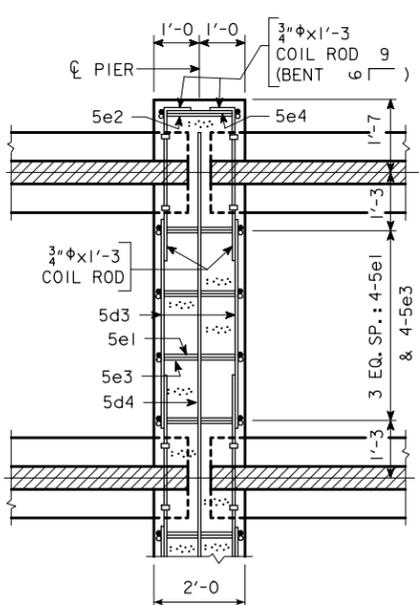
**PART END VIEW AT ABUTMENT**

**TABLE OF WINGWALL ELEVATIONS**

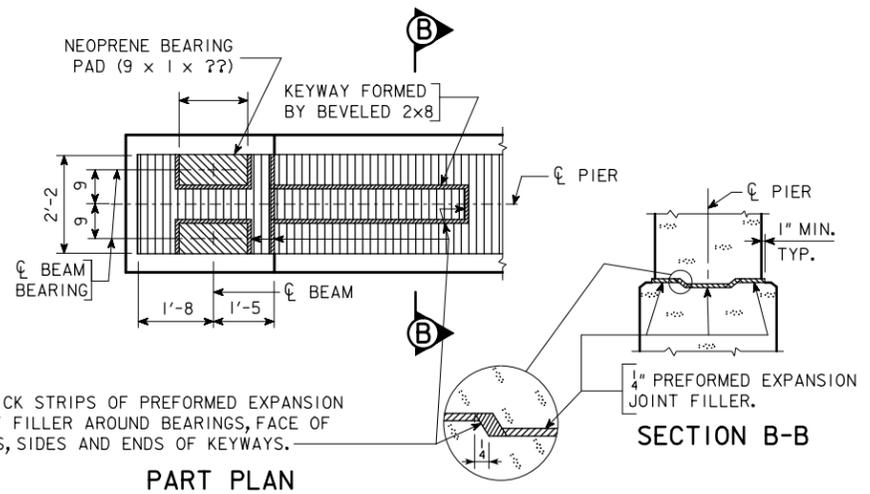
LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



**PART PLAN**

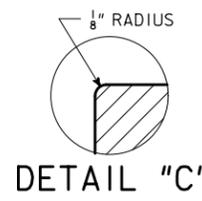


**PART SECTION AT PIER**

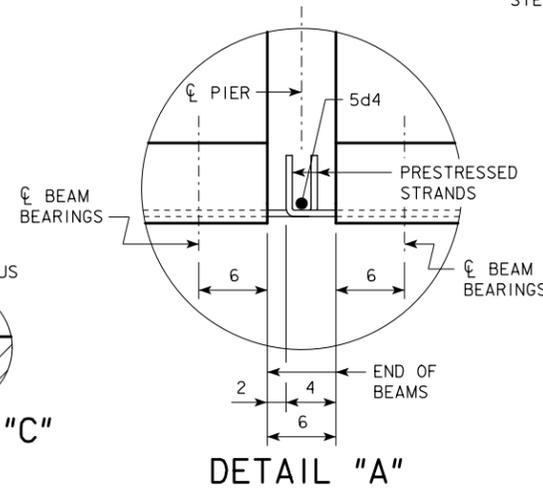


**PART PLAN**

**TOP OF PIER DETAILS**



**DETAIL "C"**

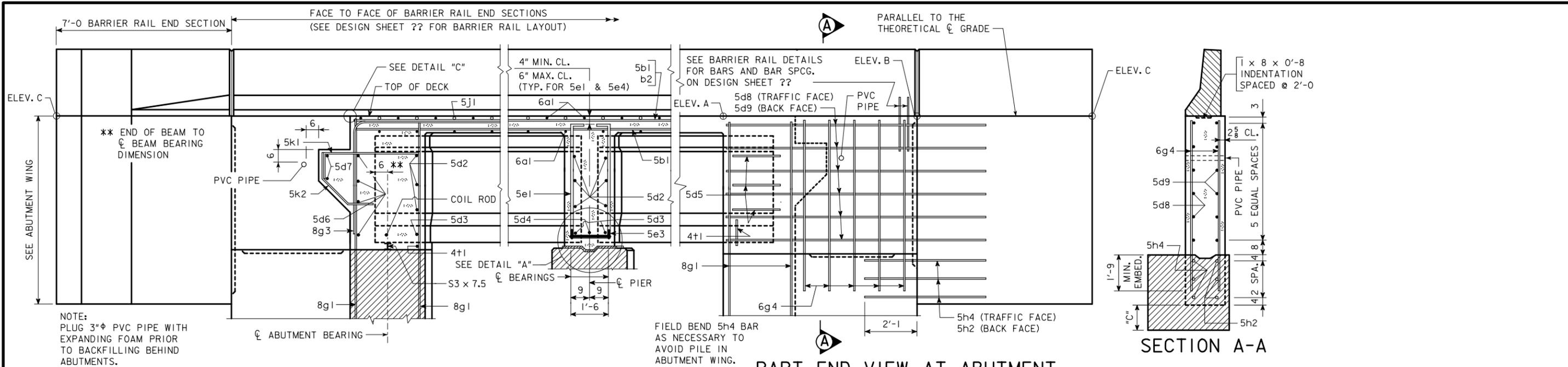


**DETAIL "A"**

**ABUT. & PIER DIAPHRAGM DETAILS**

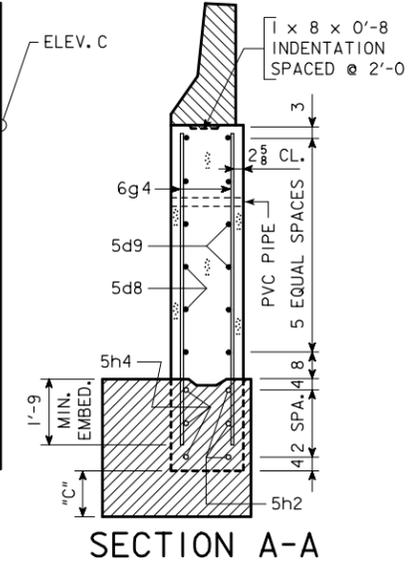
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE. ENGLISHINTEGRALBRIDGES.DGN 4507 - THIS SHEET REDRAWN 9-8-88



**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

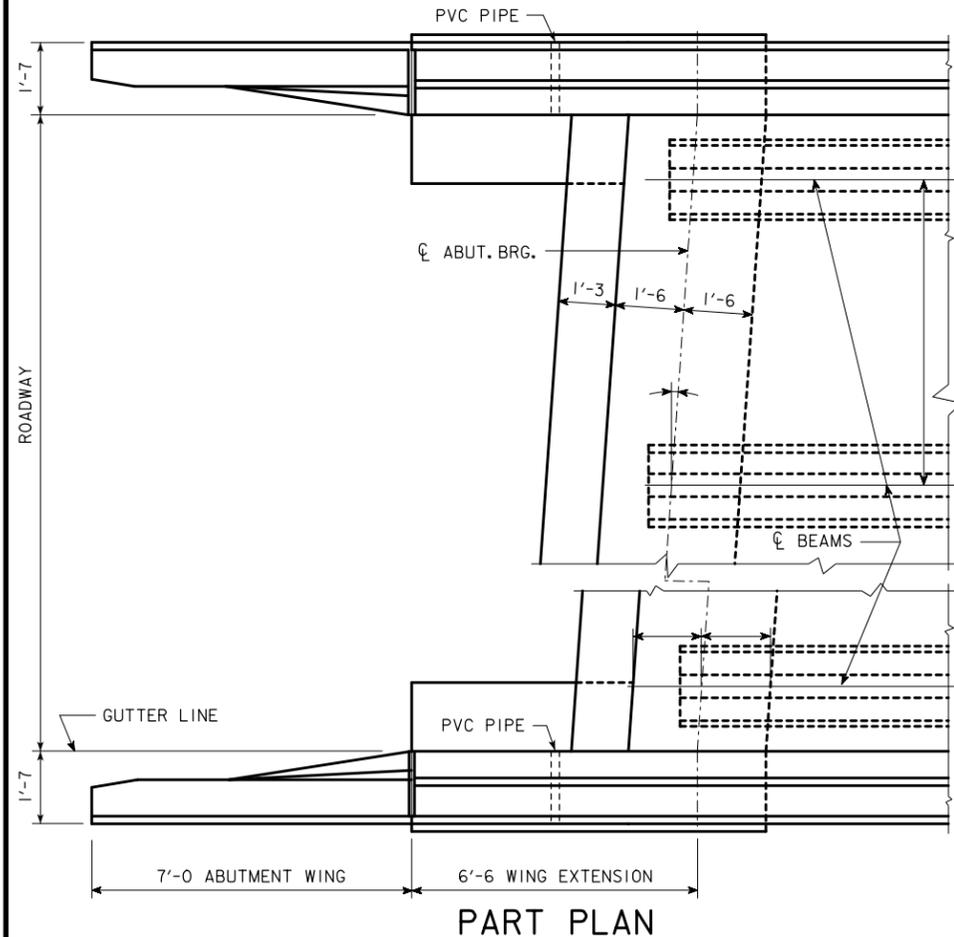
**PART END VIEW AT ABUTMENT**



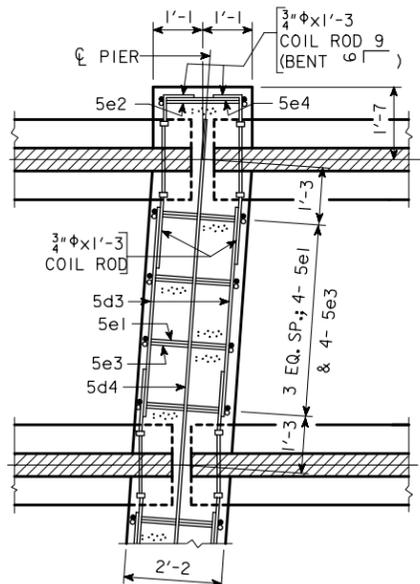
**SECTION A-A**

**TABLE OF WINGWALL ELEVATIONS**

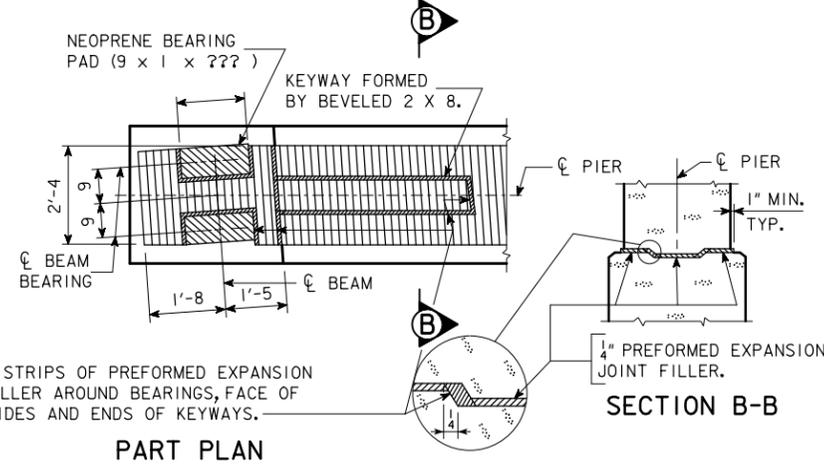
LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



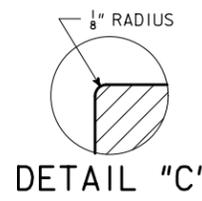
**PART PLAN**



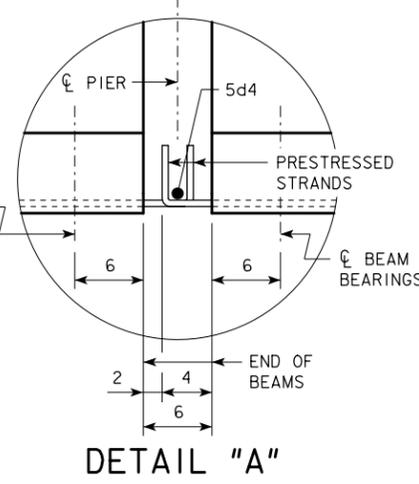
**PART SECTION AT PIER**



**TOP OF PIER DETAILS**



**DETAIL "C"**

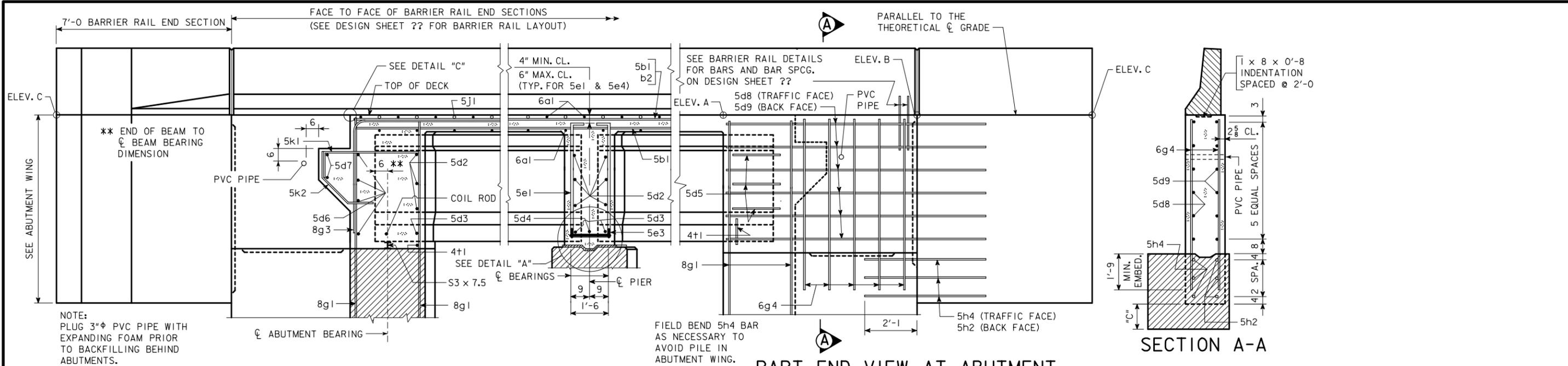


**DETAIL "A"**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE. ENGLISHINTEGRALBRIDGES.DGN 4508 - THIS SHEET REDRAWN 9-8-88

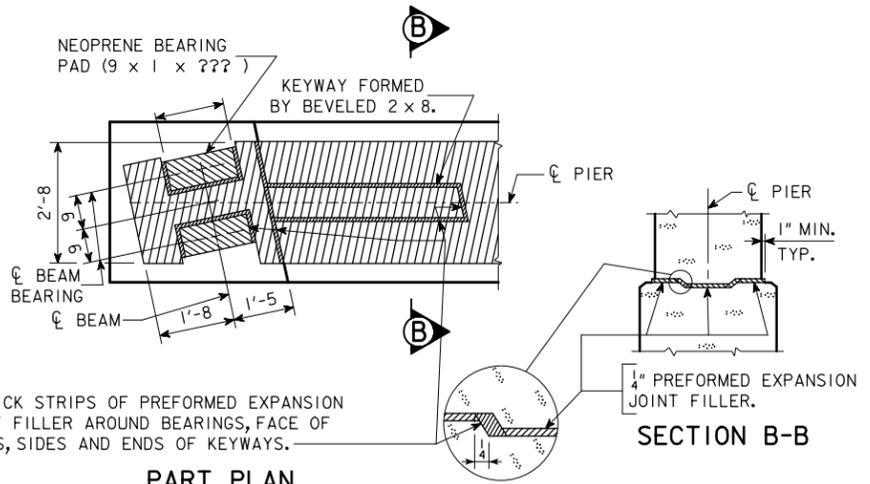
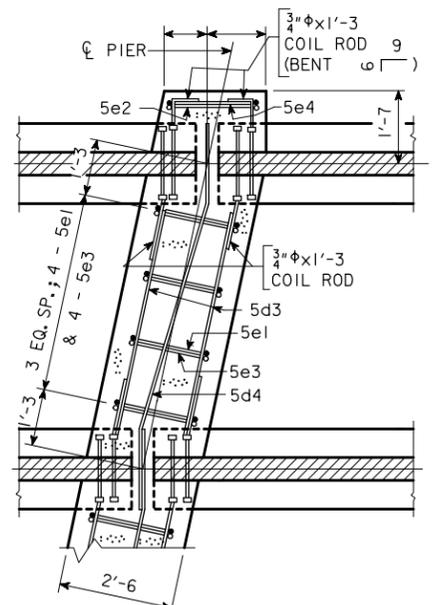
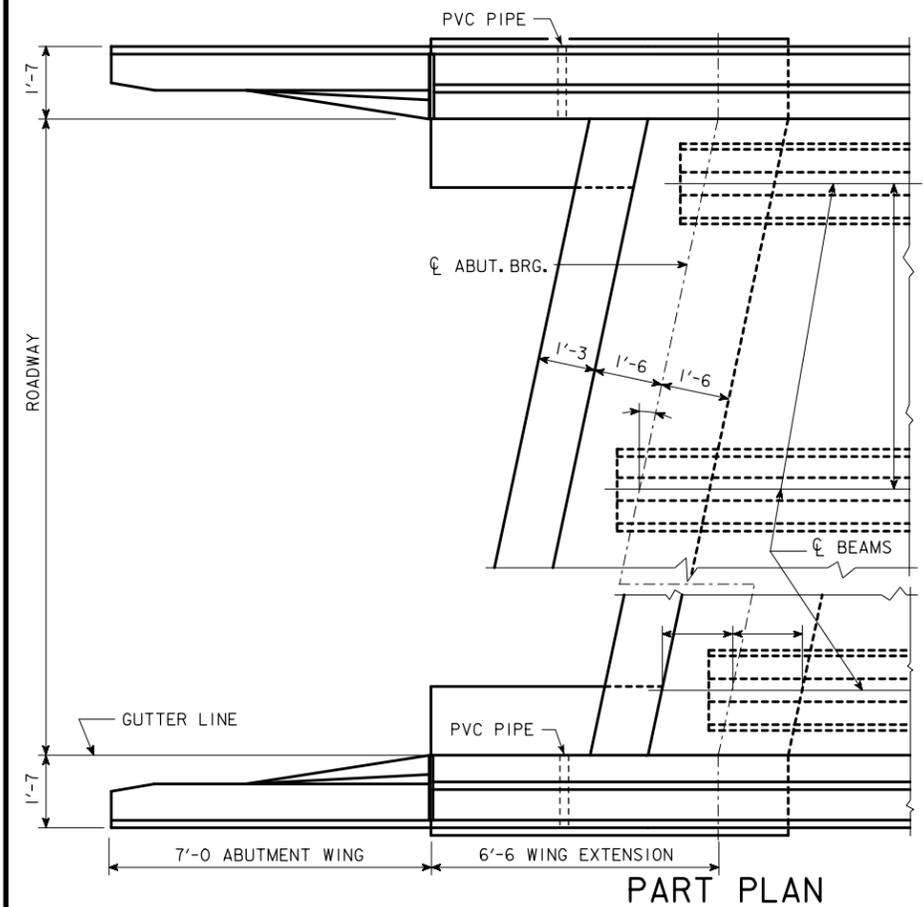


**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

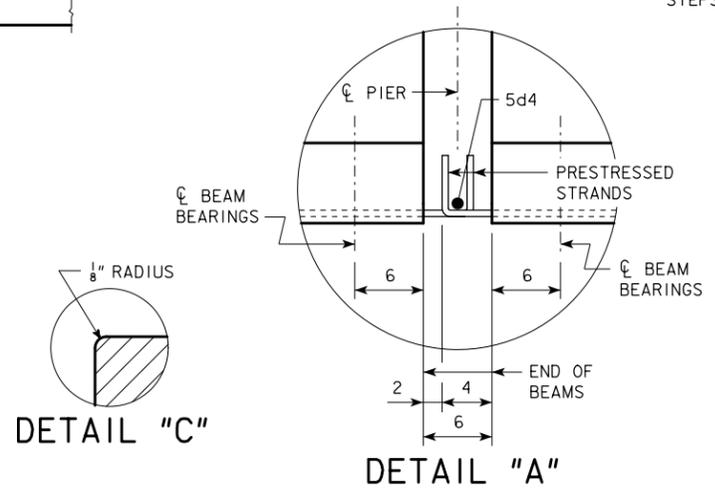
**PART END VIEW AT ABUTMENT**

**TABLE OF WINGWALL ELEVATIONS**

LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



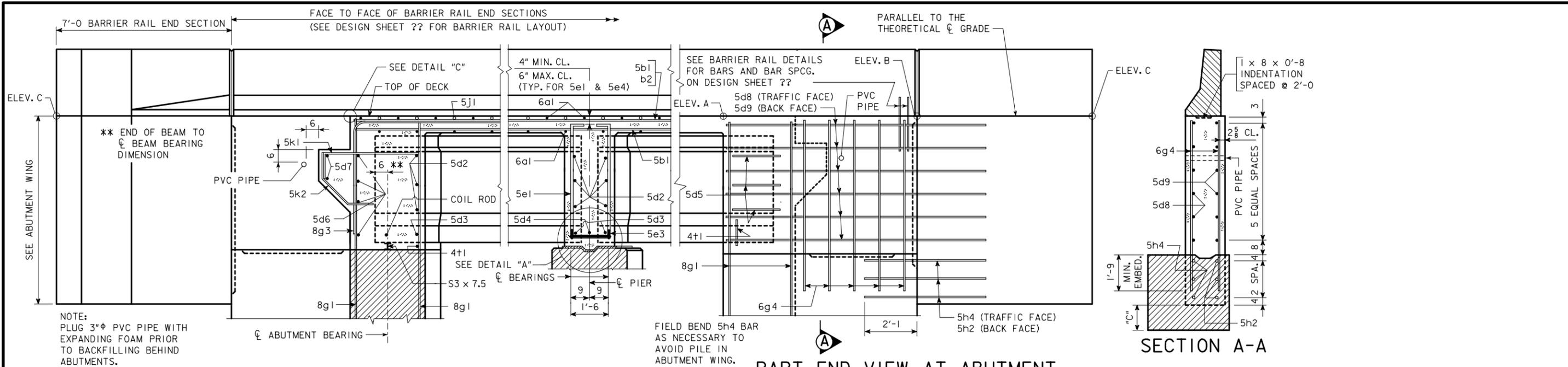
**TOP OF PIER DETAILS**



**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE. ENGLISHINTEGRALBRIDGES.DGN 4509 - THIS SHEET REDRAWN 9-8-88



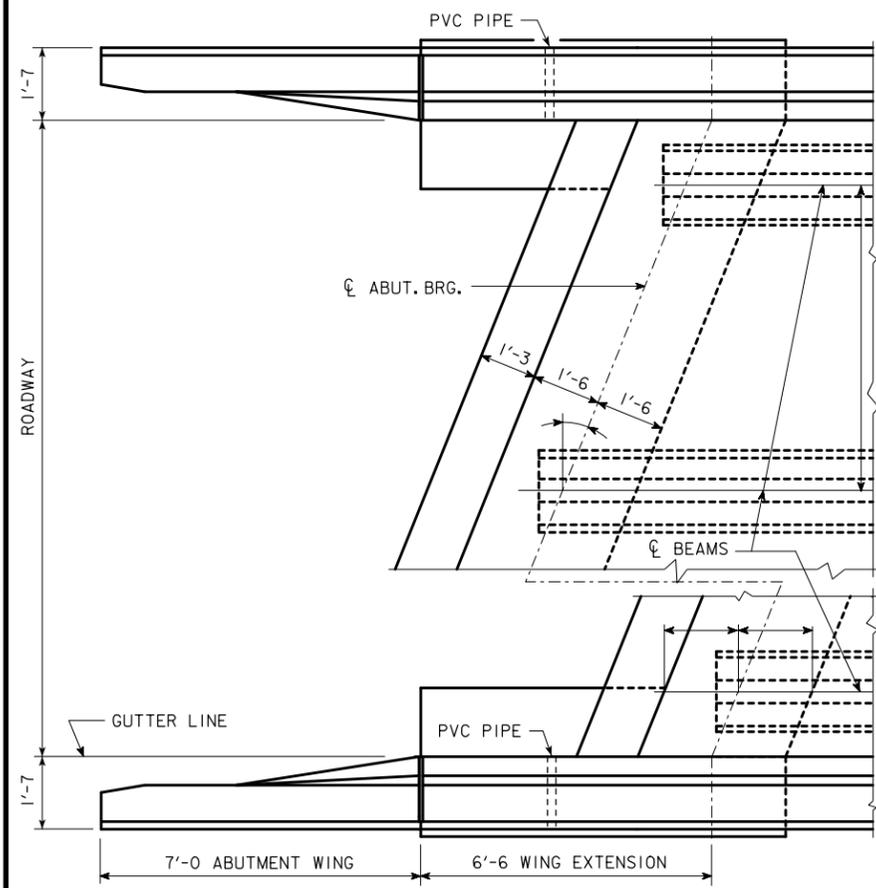
NOTE:  
 PLUG 3"  $\phi$  PVC PIPE WITH  
 EXPANDING FOAM PRIOR  
 TO BACKFILLING BEHIND  
 ABUTMENTS.

**PART LONGITUDINAL SECTION NEAR GUTTER**  
 (FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

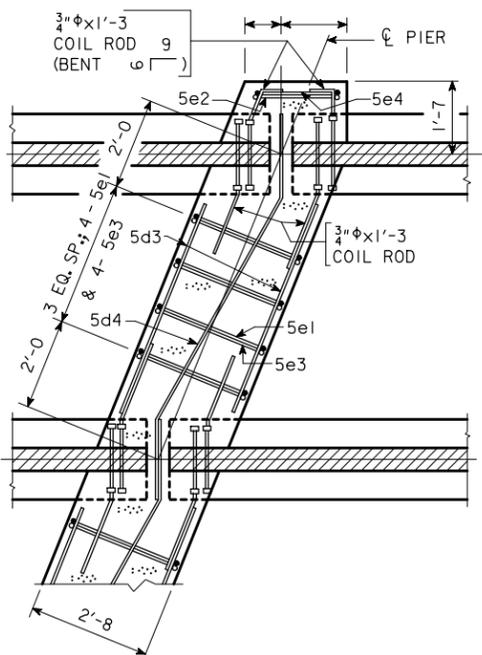
**PART END VIEW AT ABUTMENT**

**TABLE OF WINGWALL ELEVATIONS**

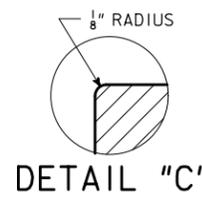
LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



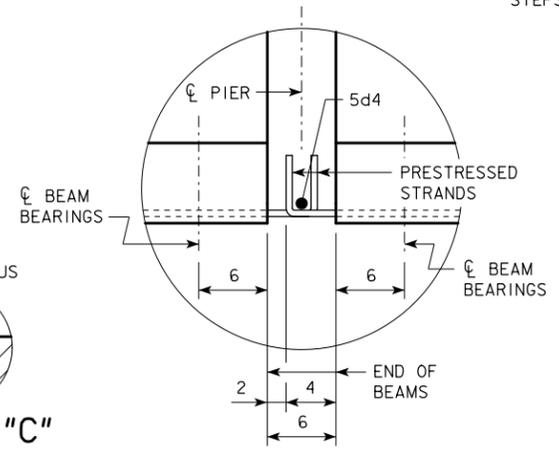
**PART PLAN**



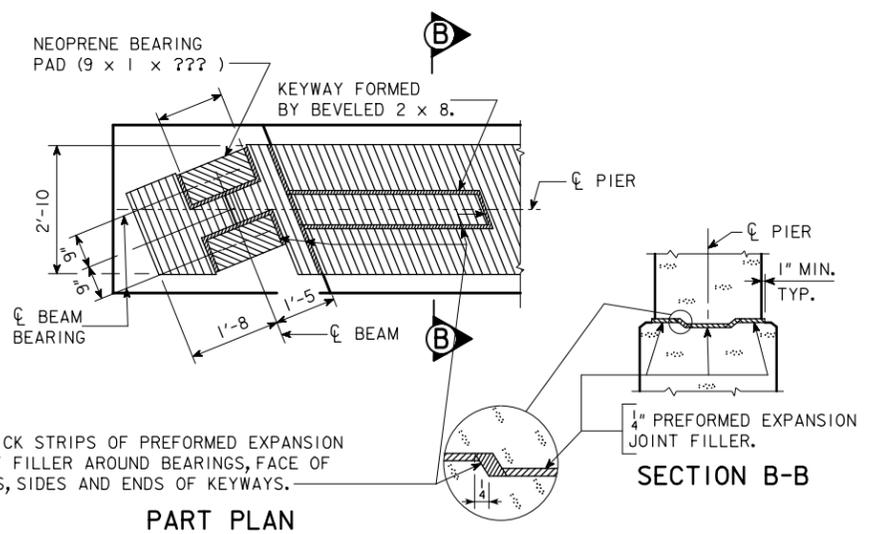
**PART SECTION AT PIER**



**DETAIL "C"**



**DETAIL "A"**



**PART PLAN**

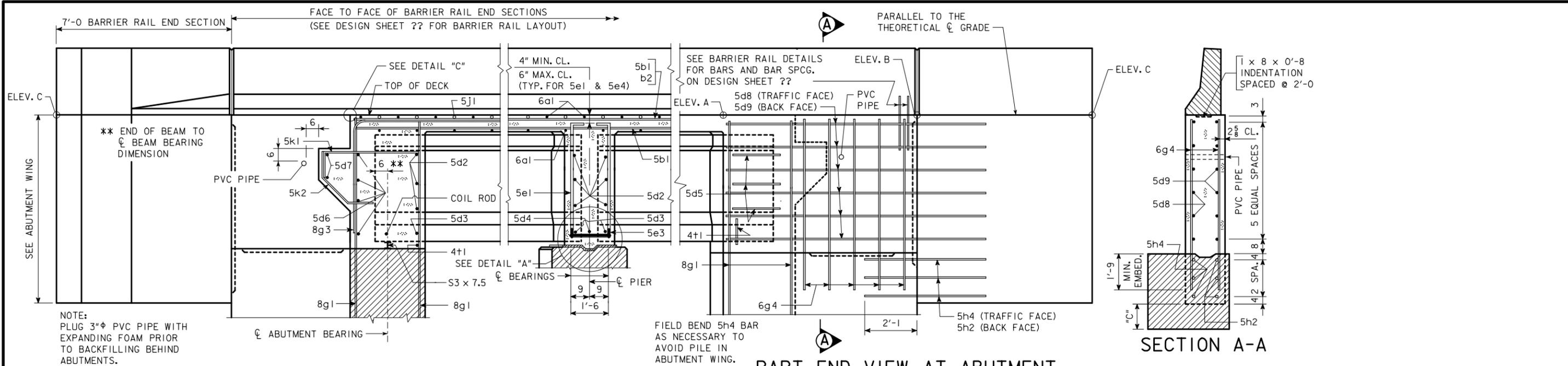
**TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

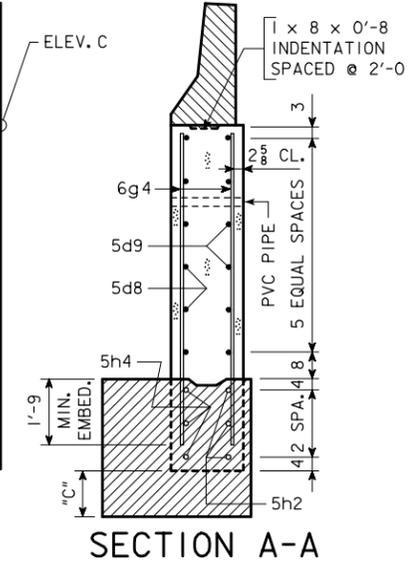
REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE.  
 ENGLISHINTEGRALBRIDGES.DGN 4510 - THIS SHEET REDRAWN 9-8-88





**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

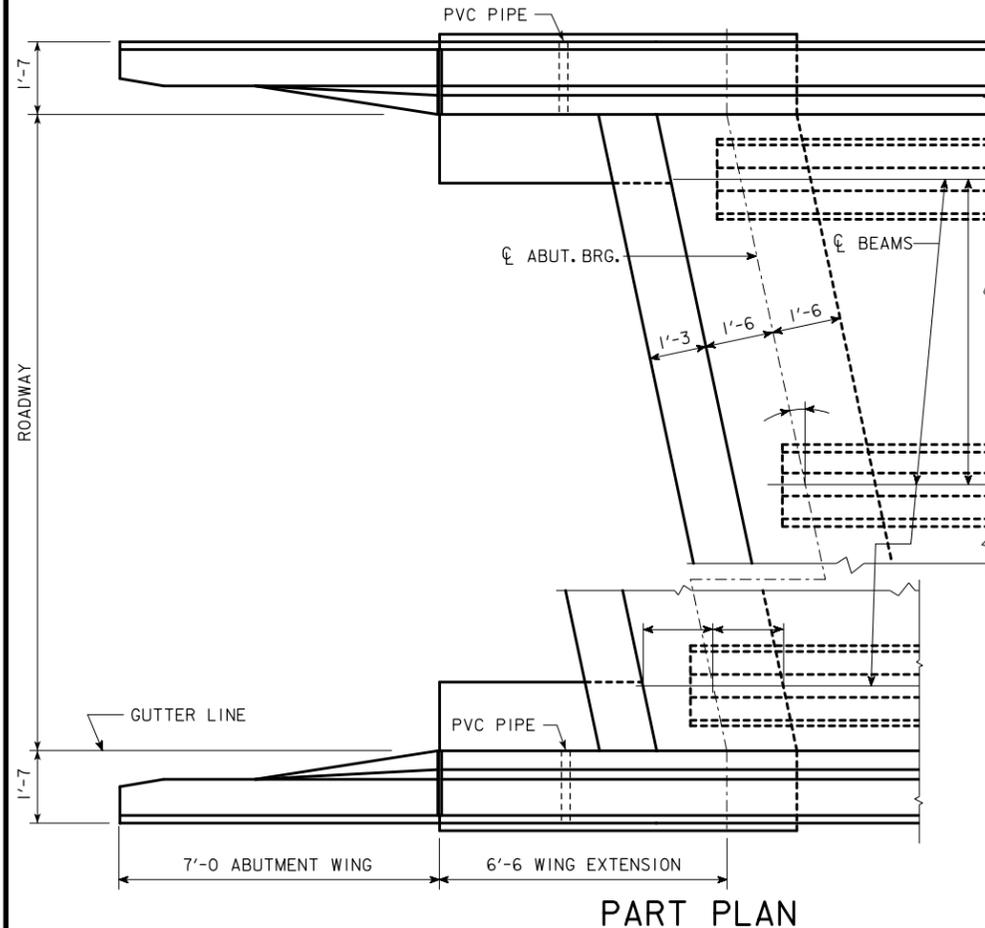
**PART END VIEW AT ABUTMENT**



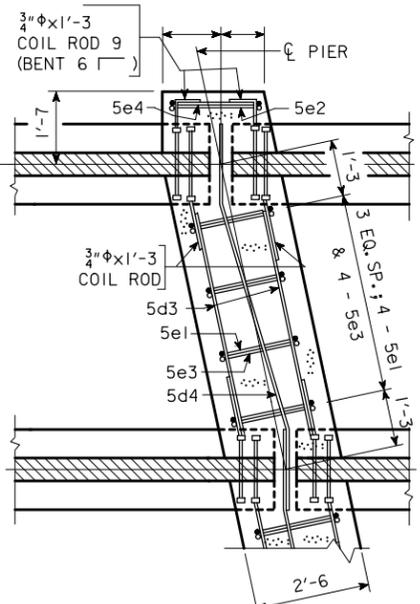
**SECTION A-A**

**TABLE OF WINGWALL ELEVATIONS**

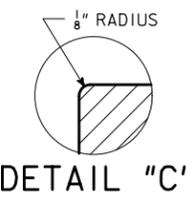
LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



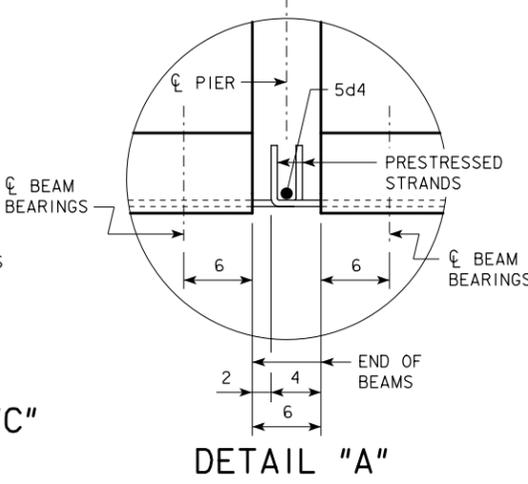
**PART PLAN**



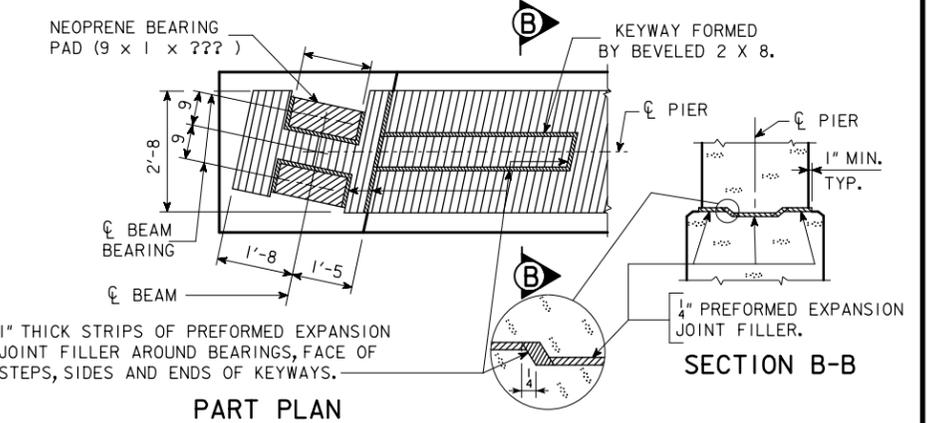
**PART SECTION AT PIER**



**DETAIL "C"**



**DETAIL "A"**



**PART PLAN**

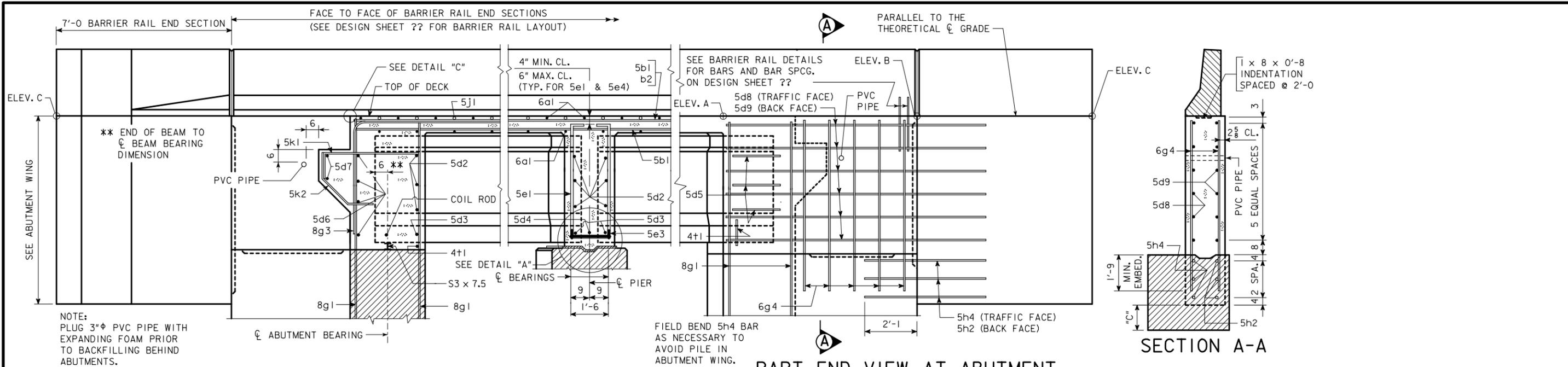
**TOP OF PIER DETAILS**

**SECTION B-B**

**ABUT. & PIER DIAPHRAGM DETAILS**

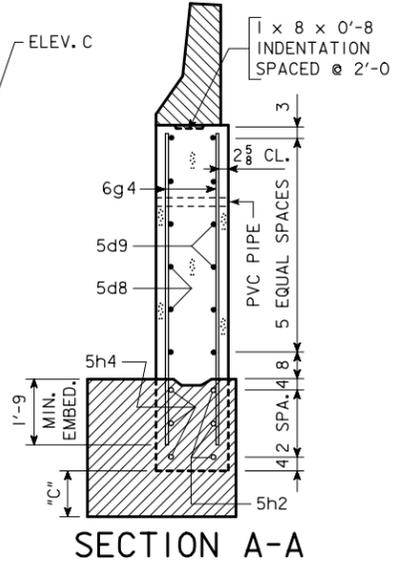
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE. ENGLISHINTEGRALBRIDGES.DGN 4512 - THIS SHEET REDRAWN 9-8-88



**PART LONGITUDINAL SECTION NEAR GUTTER**  
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??)

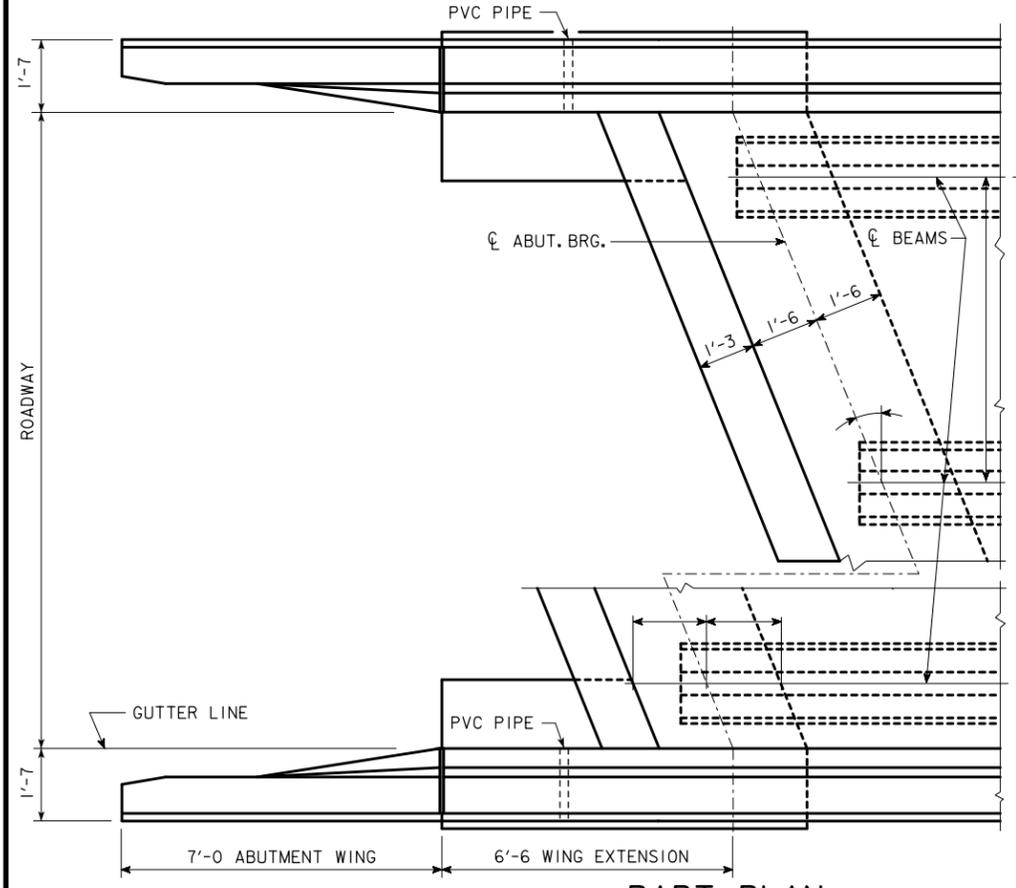
**PART END VIEW AT ABUTMENT**



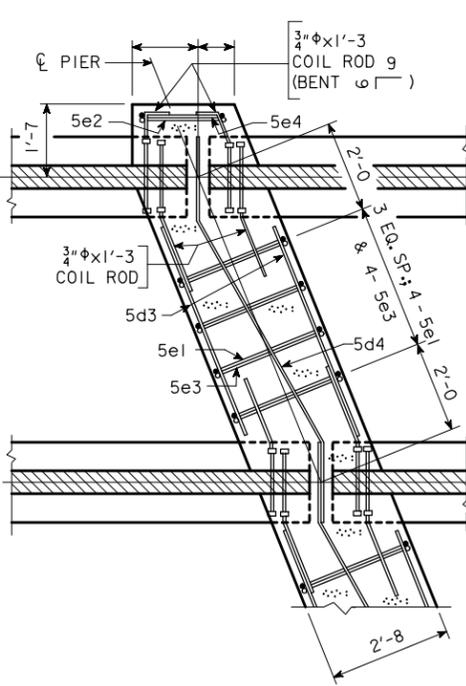
**SECTION A-A**

**TABLE OF WINGWALL ELEVATIONS**

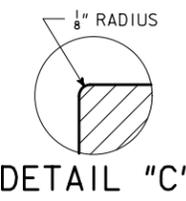
LOCATION	DIM "C"	ELEV. A	ELEV. B	ELEV. C
S.W. CORNER				
N.W. CORNER				
S.E. CORNER				
N.E. CORNER				



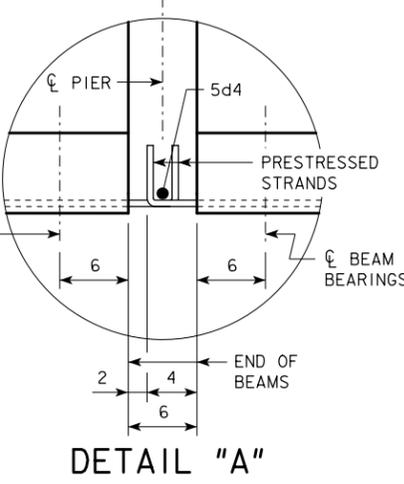
**PART PLAN**



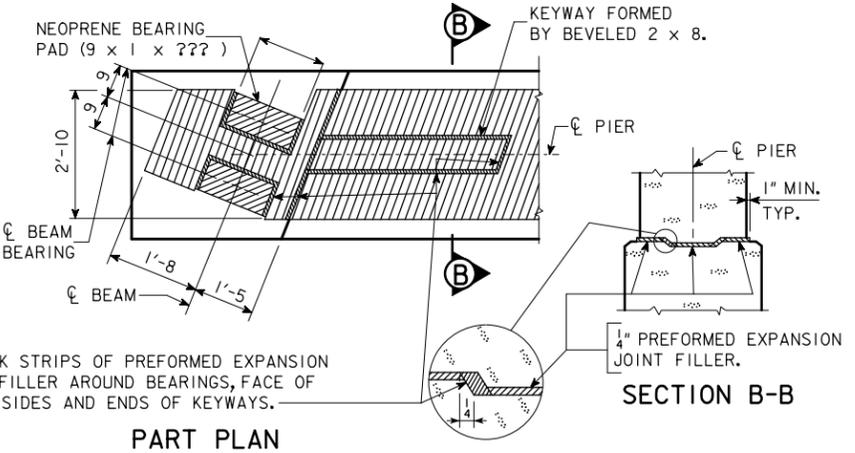
**PART SECTION AT PIER**



**DETAIL "C"**



**DETAIL "A"**



**TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

REVISED 01-12 - ADDED FIELD BEND 5h4 BAR TO AVOID PILE IN ABUTMENT WING NOTE. ENGLISHINTEGRALBRIDGES.DGN 4513 - THIS SHEET REDRAWN 9-8-88















