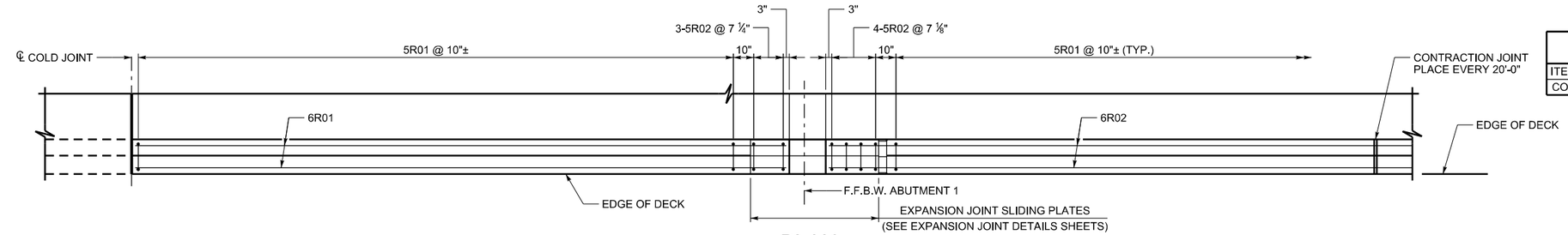
90% PRELIMINARY PLANS

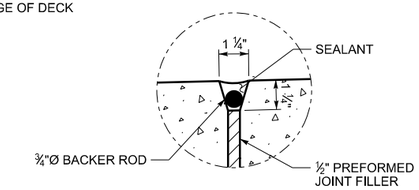
ALL INFORMATION CONTAINED WITHIN IS TO BE CONSIDERED PRELIMINARY

NOT FOR CONSTRUCTION



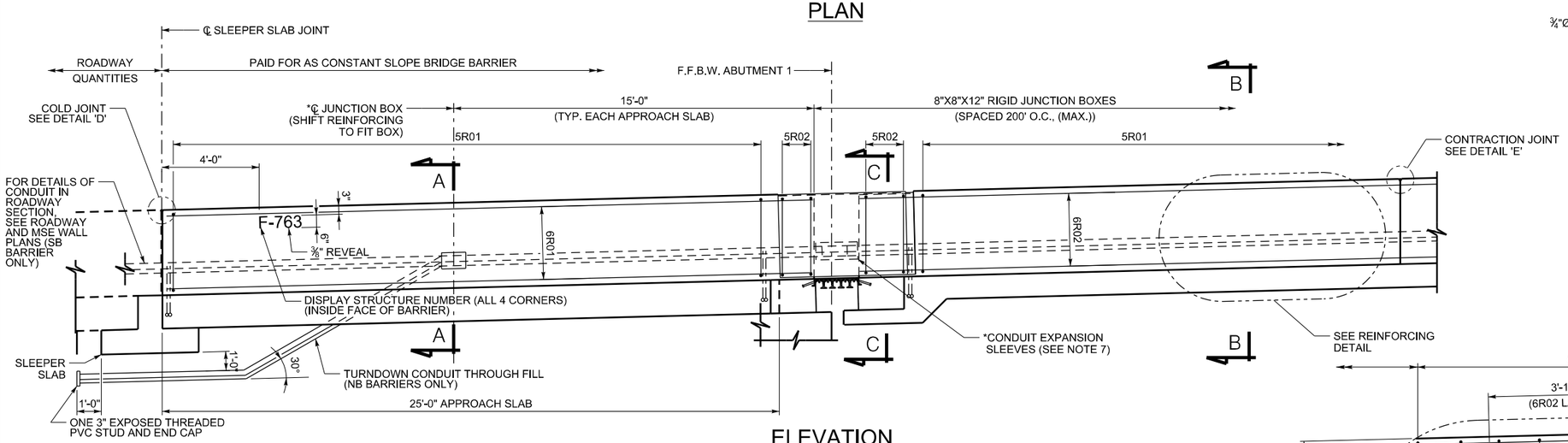
PLAN

ESTIMATED QUANTITIES - NB AND SB BRIDGE TOTAL		
ITEM DESCRIPTION:	UNIT	QUANTITY
CONSTANT SLOPE BRIDGE BARRIER	LF	4308



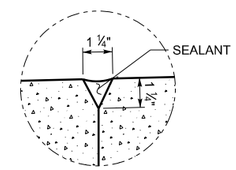
DETAIL 'D'

(PLACED AT SLEEPER SLAB JOINTS)

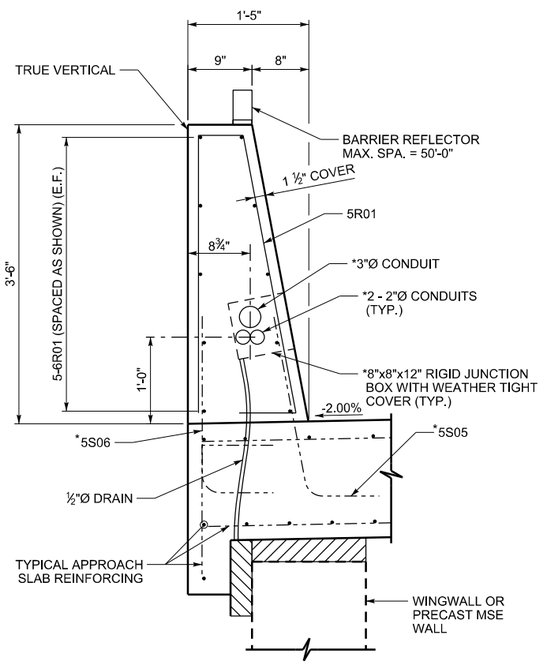


ELEVATION

(ABUT. 1 SHOWN, ABUTMENT 4 OPPOSITE HAND)
(EXTERIOR BARRIER SHOWN, INTERIOR BARRIER
DOES NOT CONTAIN CONDUIT.

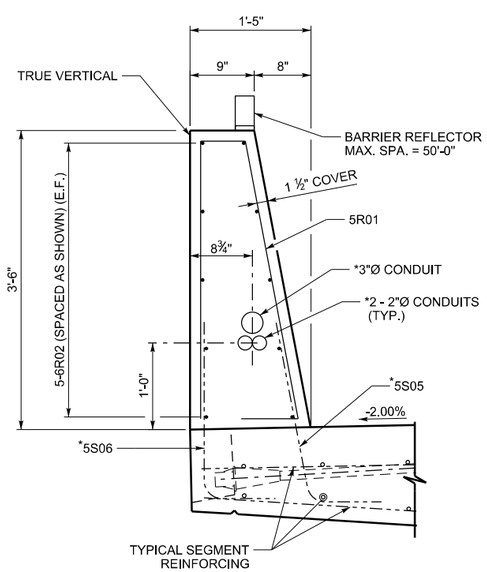


DETAIL 'E'



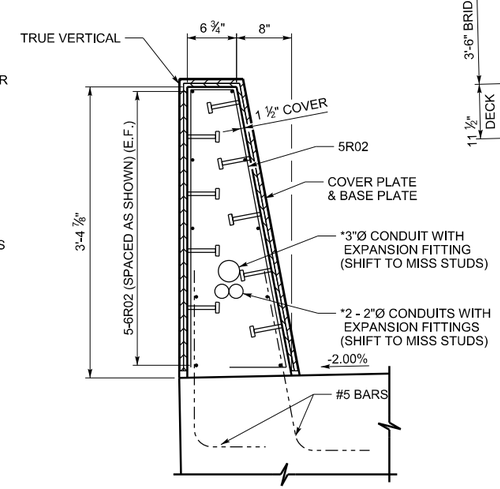
SECTION A-A

(APPROACH SLAB)



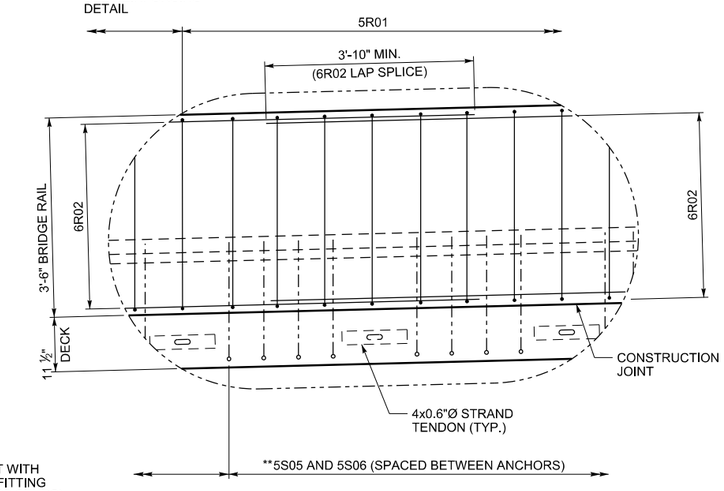
SECTION B-B

(TYPICAL)



SECTION C-C

(SLIDING PLATES)



REINFORCING DETAIL

(TYPICAL REINFORCING SHOWN)

NOTES:

1. ALTERNATE ALL REINFORCING STEEL SPLICES.
2. PROVIDE 1½" MIN. COVER TO REINFORCING STEEL UNLESS OTHERWISE NOTED.
3. PLACE CONTRACTION JOINT ON SIDES AND TOP OF PARAPET.
4. EXTEND SEALANT AND FOAM BACKER ROD FROM DECK TO TOP OF PARAPET ON THE INSIDE PARAPET FACE AND ACROSS TOP OF PARAPET.
5. BRIDGE RAIL CONCRETE IS STRUCTURAL CONCRETE (AA)(B4)(AE), 4000 PSI.
6. ALL REINFORCING IS EPOXY COATED.
7. SIZE EXPANSION SLEEVES TO ACCOMMODATE MOVEMENTS LISTED ON THE EXPANSION JOINT DETAILS SHEETS.

** 8. FOR PLACEMENT OF 5S05 AND 5S06 BARS SEE SEGMENT AND CIP CONSTR. REINFORCING SHEETS.

9. 2" AND 3" CONDUIT ARE SCHEDULE 40 PVC PIPE. CONDUIT TO TERMINATE IN JUNCTION BOXES IN EACH APPROACH SLAB BARRIER WITH DOUBLE LOCK NUTS.

* 10. PLACE CONDUIT AND JUNCTION BOXES IN EXTERIOR BARRIERS ONLY. ALL CONDUIT AND JUNCTION BOXES IN BRIDGE RAIL IS INCIDENTAL TO CONSTANT SLOPE BRIDGE RAIL.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08	CHECK CCB 08/08	APPROVAL RECOMM.	DATE	SENIOR DESIGN ENGR.
DRAWN RJA 04/08	CHECK BTL 04/08	APPROVED FOR USE BY UDOT	DATE	UDOT BRIDGE ENGR.
QUANT BTL 04/08	CHECK KRM 08/08			

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CONSTANT SLOPE BARRIER DET.

PROJECT NUMBER BRF-0191(58)129

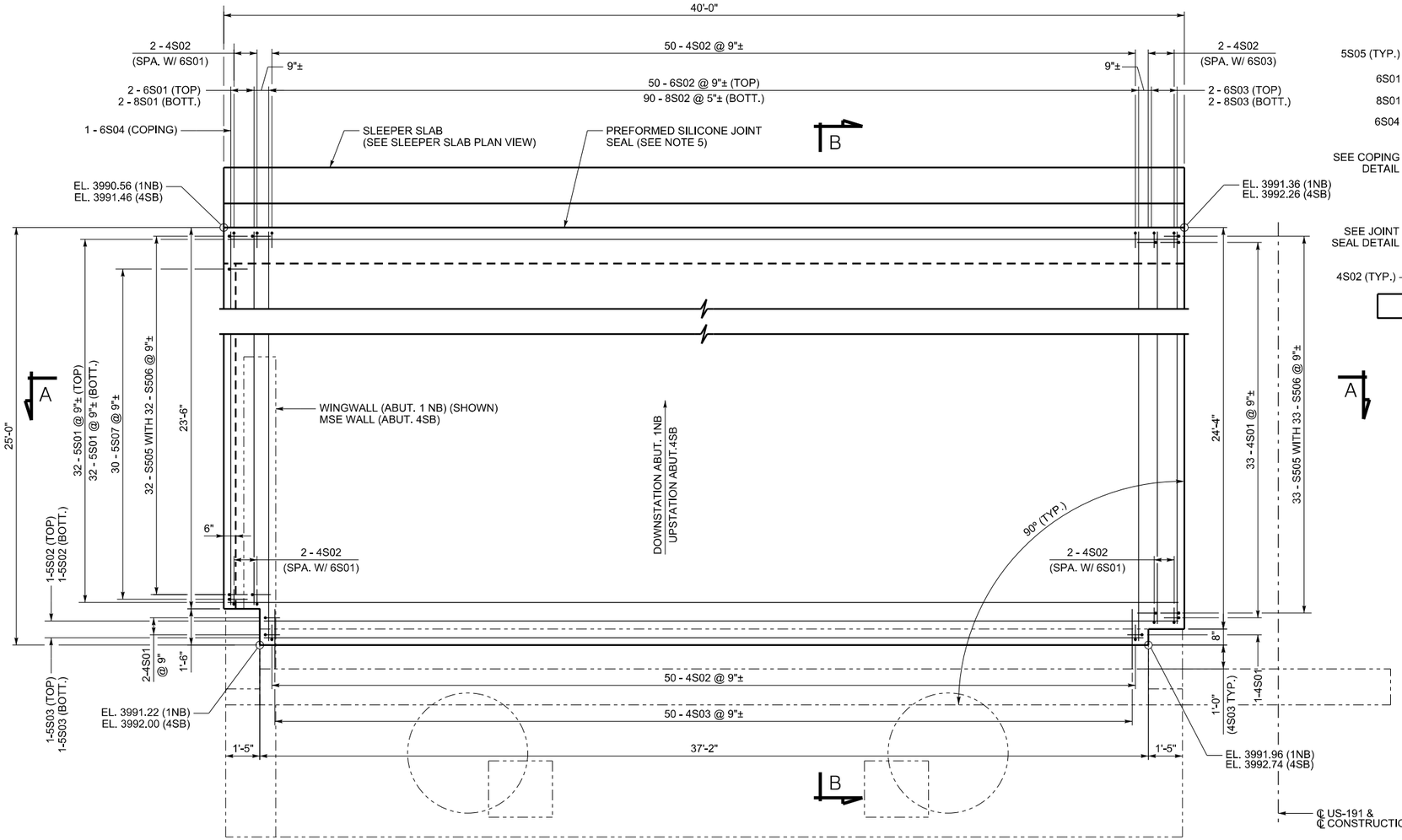
GRAND
COUNTY

F-763
DRG. NO.

SHT. 90 OF 190

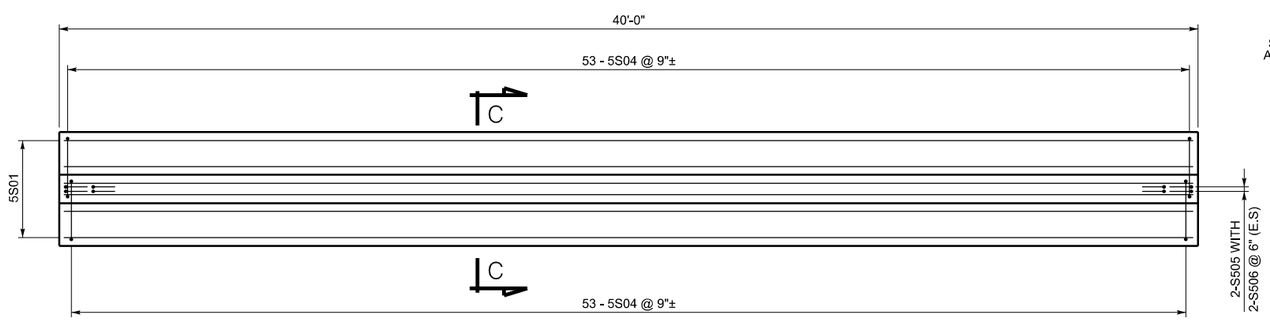
G:\Projects\Moab\5365_08\Sheet_Files\Structures\5365_F-763_090_CS_BARRIER_Detail.dgn

9/6/2008

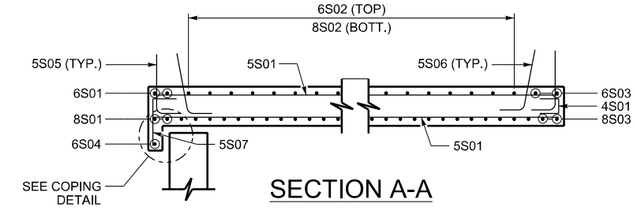


PLAN VIEW - APPROACH SLAB

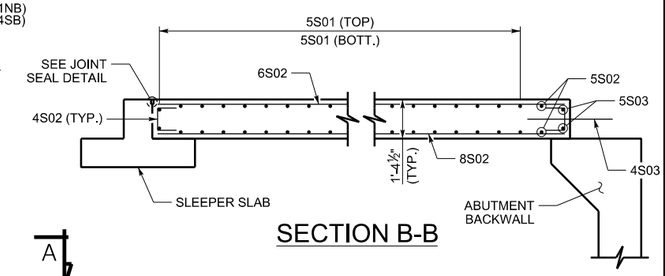
(ABUTMENT 1NB SHOWN, ABUTMENT 4SB SIMILAR)



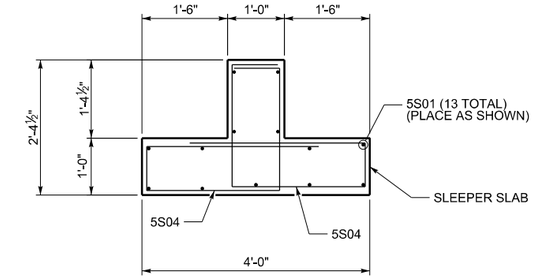
PLAN VIEW - SLEEPER SLAB



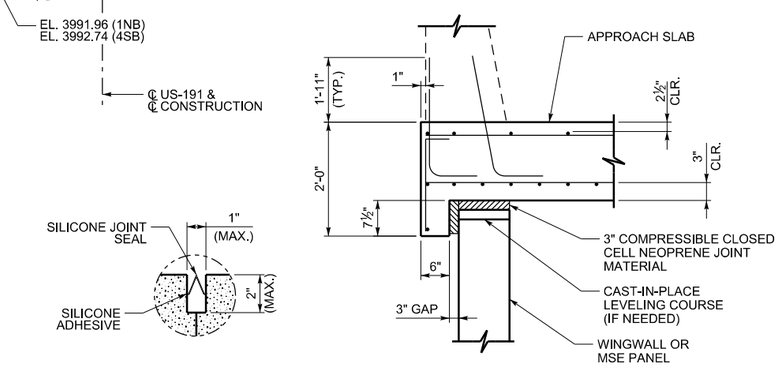
SECTION A-A



SECTION B-B



SECTION C-C



COPING DETAIL

JOINT SEAL DETAIL

(SEE NOTE 5)

NOTES:

1. THIS DRAWING IS VALID FOR APPROACH SLABS AT ABUTMENT 1NB AND ABUTMENT 4SB.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. APPROACH SLAB CONCRETE IS STRUCTURAL CONCRETE AA(B4)(AE), 4000 PSI.
4. CONCRETE COVER:
   2½" - TOP SURFACE
   3" - BOTTOM SURFACE
   2" - ALL OTHER SURFACES
5. PROVIDE PREFORMED SILICONE JOINT SEAL SHOP DRAWINGS, FOR ACCEPTANCE BY THE ENGINEER. SILICONE MATERIAL IS 55 DUROMETER (SHORE A) AND BONDED DIRECTLY TO THE CONCRETE WITH A SILICONE BONDING ADHESIVE. SILICONE JOINT SEAL IS INCIDENTAL TO THE COST OF STRUCTURAL CONCRETE AA(B4)(AE).

NO.	DATE	BY	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN CCB 04/08 CHECK RDA 08/08
DRAWN RJA 04/08 CHECK CCB 04/08
QUANT. CCB 04/08 CHECK BTL 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
APPROACH SLAB DETAILS I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 91 OF 190

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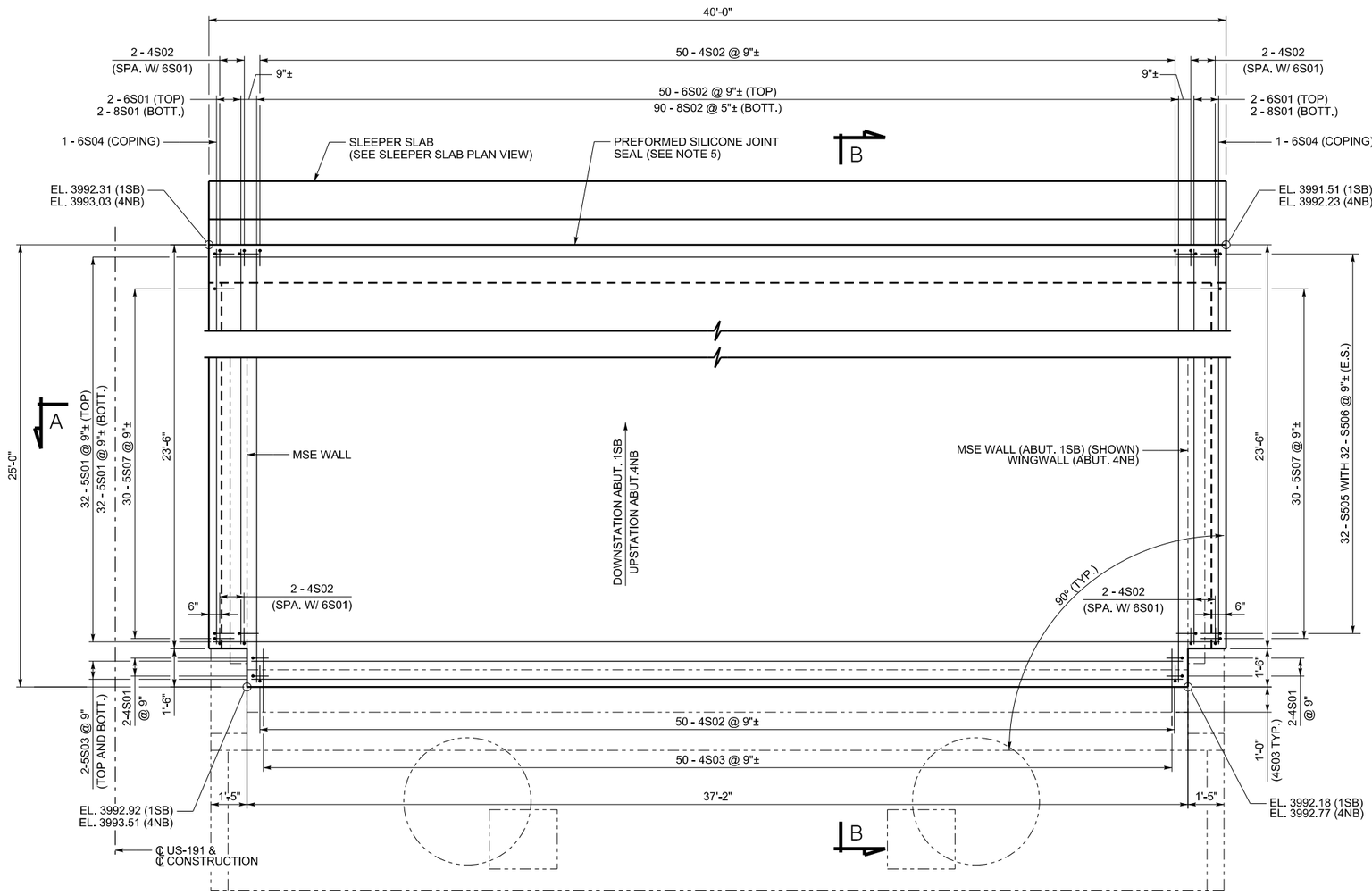
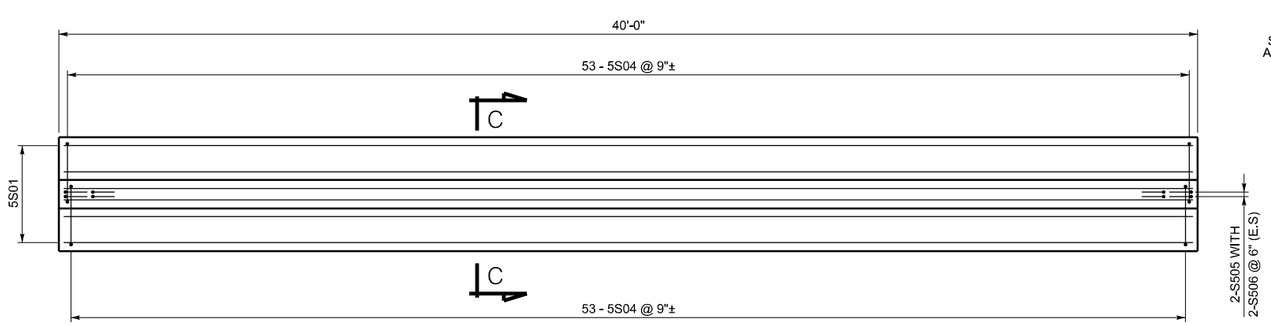
8/6/2008

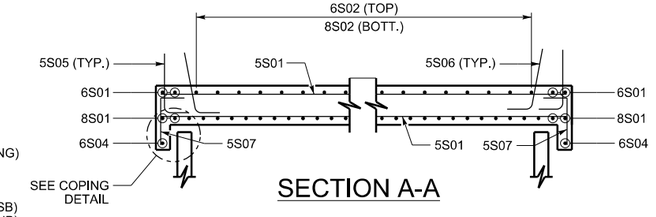


PLAN VIEW - APPROACH SLAB

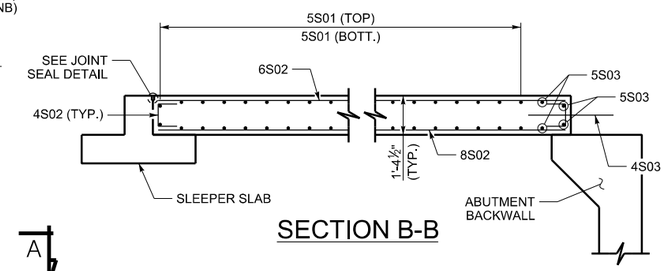
(ABUTMENT 1SB SHOWN, ABUTMENT 4NB SIMILAR)



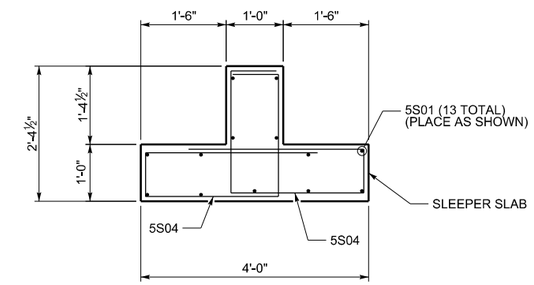
PLAN VIEW - SLEEPER SLAB



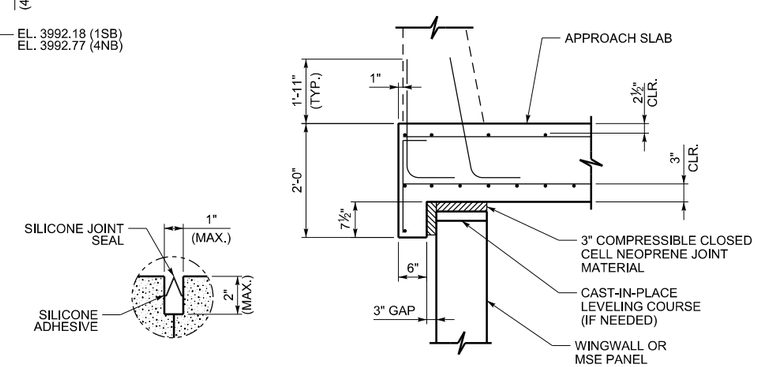
SECTION A-A



SECTION B-B



SECTION C-C



COPING DETAIL

JOINT SEAL DETAIL

(SEE NOTE 5)

NOTES:

1. THIS DRAWING IS VALID FOR APPROACH SLABS AT ABUTMENT 1SB AND ABUTMENT 4NB.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. APPROACH SLAB CONCRETE IS STRUCTURAL CONCRETE AA(B4)(AE), 4000 PSI.
4. CONCRETE COVER:
   2½" - TOP SURFACE
   3" - BOTTOM SURFACE
   2" - ALL OTHER SURFACES
5. PROVIDE PREFORMED SILICONE JOINT SEAL SHOP DRAWINGS, FOR ACCEPTANCE BY THE ENGINEER. SILICONE MATERIAL IS 55 DUROMETER (SHORE A) AND BONDED DIRECTLY TO THE CONCRETE WITH A SILICONE BONDING ADHESIVE. SILICONE JOINT SEAL IS INCIDENTAL TO THE COST OF STRUCTURAL CONCRETE AA(B4)(AE).

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	CCB 04/08	CHECK	RDA 08/08
DRAWN	RJA 04/08	CHECK	CCB 04/08
QUANT.	CCB 04/08	CHECK	BTL 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
APPROACH SLAB DETAILS II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 92 OF 190

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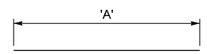
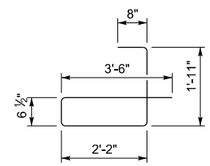
8/6/2008

APPROACH SLAB 1NB & 4SB BAR BENDING SCHEDULE - ONE APPROACH SLAB

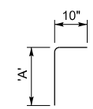
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S03	SECONDARY POUR	4	50	2'-6"	125'-0"	2'-6"
5S01	TOP & BOTTOM MAT	5	77	39'-8"	3054'-4"	39'-8"
5S02	TOP & BOTTOM MAT	5	2	38'-3"	76'-6"	38'-3"
5S03	TOP & BOTTOM MAT	5	2	36'-10"	73'-8"	36'-10"
6S01	TOP MAT	6	2	23'-2"	46'-4"	23'-2"
6S02	TOP MAT	6	50	24'-8"	1233'-4"	24'-8"
6S03	TOP MAT	6	2	24'-0"	48'-0"	24'-0"
6S04	COPING	6	1	21'-8"	21'-8"	21'-8"
8S01	BOTTOM MAT	8	2	23'-2"	46'-4"	23'-2"
8S02	BOTTOM MAT	8	90	24'-8"	2220'-0"	24'-8"
8S03	BOTTOM MAT	8	2	24'-0"	48'-0"	24'-0"



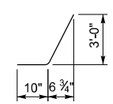
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S04	SLEEPER SLAB	5	106	8'-9 1/2"	931'-11"



MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S05	APPROACH SLAB/BARRIER	5	69	3'-10"	264'-6"	3'-0"
5S07	COPING	5	30	2'-3 3/4"	69'-4 1/2"	1'-5 3/4"



MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S06	APPROACH SLAB/BARRIER	5	69	3'-10 5/8"	268'-1 1/8"

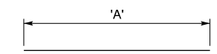


MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	FACE	4	36	2'-1 1/4"	75'-9"	0'-9 1/4"
4S02	FACE	4	108	2'-3"	243'-0"	0'-11"

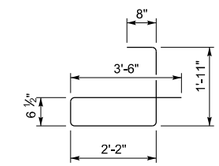
ESTIMATED QUANTITIES - ONE APPROACH SLAB 1NB OR 4SB		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	13362
STRUCTURAL CONCRETE AA(B4)(AE) (FOR INFORMATION ONLY)	CY	59.0

APPROACH SLAB 1SB & 4NB BAR BENDING SCHEDULE - ONE APPROACH SLAB

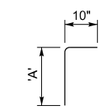
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S03	SECONDARY POUR	4	50	2'-6"	125'-0"	2'-6"
5S01	TOP & BOTTOM MAT	5	77	39'-8"	3054'-4"	39'-8"
5S03	TOP & BOTTOM MAT	5	4	36'-10"	147'-4"	36'-10"
6S01	TOP MAT	6	4	23'-2"	92'-8"	23'-2"
6S02	TOP MAT	6	50	24'-8"	1233'-4"	24'-8"
6S04	COPING	6	2	21'-8"	43'-4"	21'-8"
8S01	BOTTOM MAT	8	4	23'-2"	92'-8"	23'-2"
8S02	BOTTOM MAT	8	90	24'-8"	2220'-0"	24'-8"



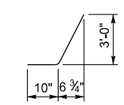
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S04	SLEEPER SLAB	5	106	8'-9 1/2"	931'-11"



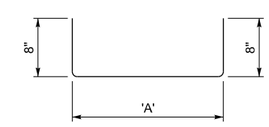
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S05	APPROACH SLAB/BARRIER	5	68	3'-10"	260'-8"	3'-0"
5S07	COPING	5	60	2'-3 3/4"	138'-9"	1'-5 3/4"



MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S06	APPROACH SLAB/BARRIER	5	68	3'-10 5/8"	264'-2 1/2'"



MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	FACE	4	4	2'-1 1/4"	8'-5"	0'-9 1/4"
4S02	FACE	4	108	2'-3"	243'-0"	0'-11"



ESTIMATED QUANTITIES - ONE APPROACH SLAB 1SB OR 4NB		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	13403
STRUCTURAL CONCRETE AA(B4)(AE) (FOR INFORMATION ONLY)	CY	59.5

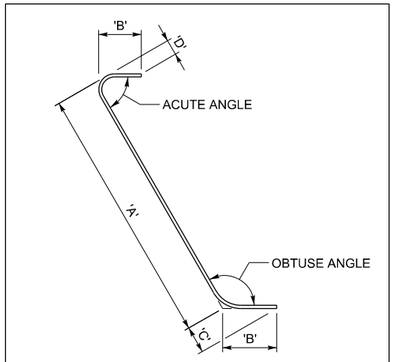
LEGEND

6 S 01

- 01 — BAR NUMBER
- S — S - SLAB
- 6 — BAR SIZE

NOTES:

1. ALL REINFORCING STEEL IS EPOXY COATED.
2. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION.
3. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.



REINFORCING BAR DETAILING

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN CCB 04/08	CHECK RDA 08/08		
DRAWN RJA 04/08	CHECK CCB 04/08		
QUANT CCB 04/08	CHECK BTL 08/08		

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
APPROACH SLAB DETAILS III

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 93 OF 190

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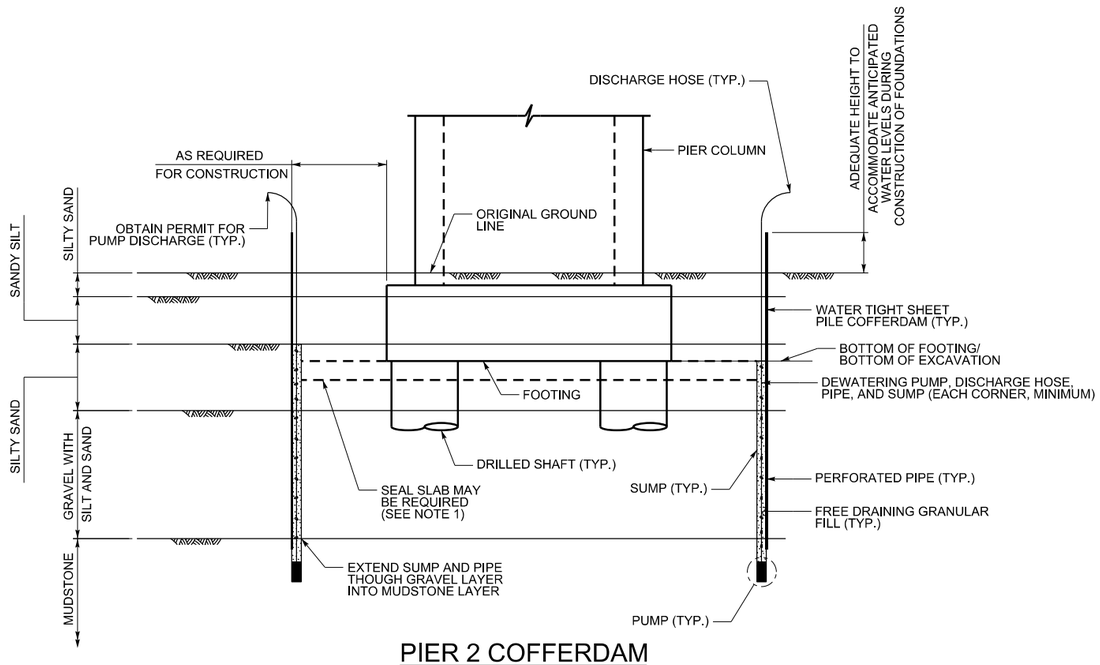
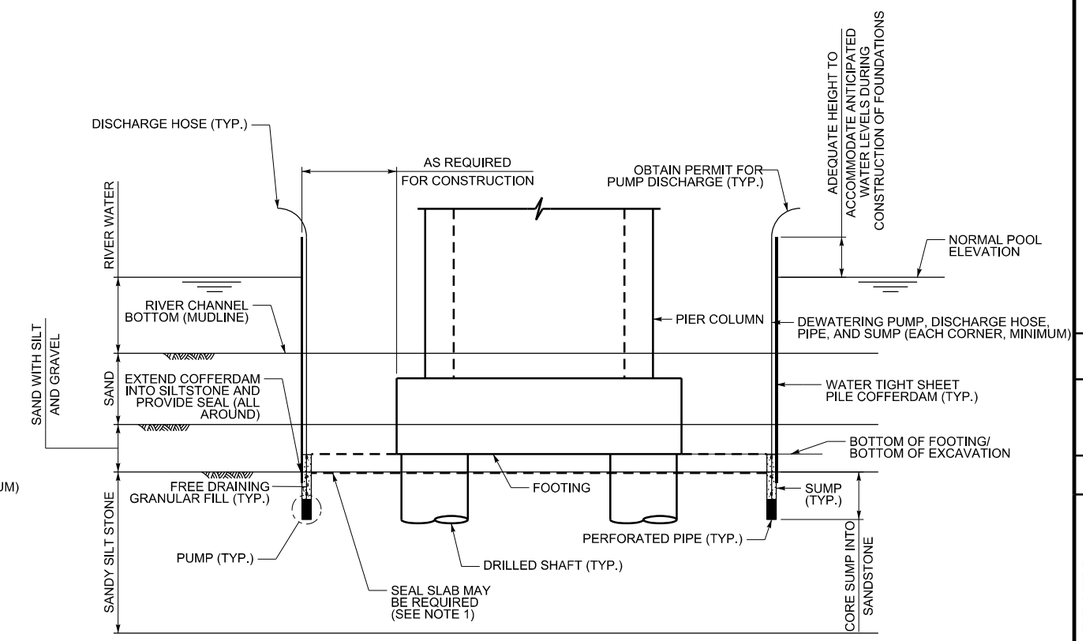
8/6/2008



PIER 2 COFFERDAM

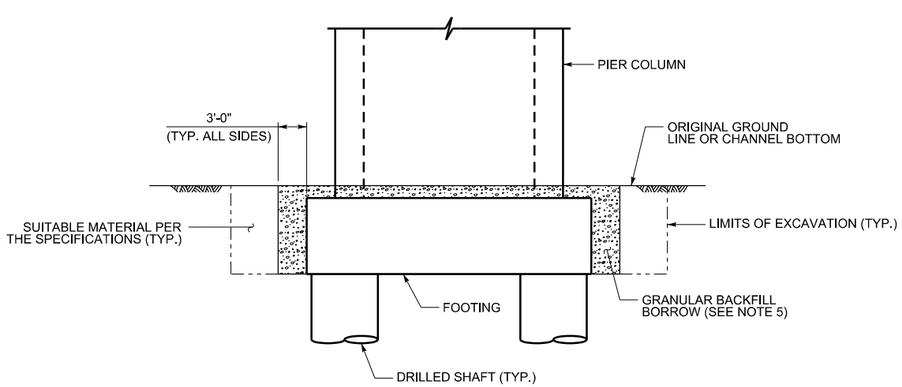
(SCHEMATIC ONLY)
(SEE NOTE 1)



PIER 3 COFFEDAM

(SCHEMATIC ONLY)
(SEE NOTE 1)

ESTIMATED QUANTITIES					
ITEM DESCRIPTION:	UNIT	PIER 2NB	PIER 2SB	PIER 3NB	PIER 3SB
GRANULAR BACKFILL BORROW (PLAN QUANTITY)	CY	179.8	179.8	179.8	179.8



BACKFILL

(PIER 2 AND PIER 3)

NOTES:

1. THIS DRAWING IS SCHEMATIC ONLY AND ILLUSTRATES ONE POSSIBLE MEANS FOR FOOTING CONSTRUCTION. ACTUAL DETAILS, MEANS, AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SHORING AND DEWATERING OF THE EXCAVATION TO CONSTRUCT FOOTINGS AS ILLUSTRATED CAN BE CONSIDERED. SEAL POURS MAY ALSO BE CONSIDERED WITH APPROVAL BY THE ENGINEER
2. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR DEWATERING OPERATIONS.
3. THE DEWATERING SYSTEM SHOWN INCLUDING PUMPS, SUMP DEPTHS, PIPES, AND OTHER DETAILS ARE FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN, INSTALLATION, AND SUCCESSFUL OPERATION OF THE DEWATERING SYSTEM.
4. THE COST OF COFFERDAMS INCLUDING ALL MATERIALS, LABOR, DEWATERING, PERMITTING, EXCAVATION, AND ALL OTHER ITEMS NECESSARY FOR SUCCESSFUL COMPLETION OF THE WORK IS NOT PAID FOR SEPARATELY BUT INCLUDED IN MOBILIZATION. GRANULAR BACKFILL BORROW FOR BACKFILL AND FOOTINGS IS PAID AS SHOWN ON THIS SHEET.
5. PLACE GRANULAR BACKFILL BORROW IN LIFTS AND COMPACT IN ACCORDANCE WITH THE SPECIFICATION (02056).
6. SEE SOIL DATA SHEETS AND GEOTECHNICAL REPORT FOR SUBSURFACE STRATA INFORMATION.
7. IT IS ANTICIPATED THAT IF DEWATERING IS USED, IT WILL REQUIRE A CONFINED OPERATION TO KEEP EXCAVATION DRY FOR FOOTING CONSTRUCTION.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN CCB 04/08 CHECK BTL 08/08
DRAWN RJA 04/08 CHECK CCB 04/08
QUANT CCB 04/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
COFFERDAM SCHEMATICS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 94 OF 190

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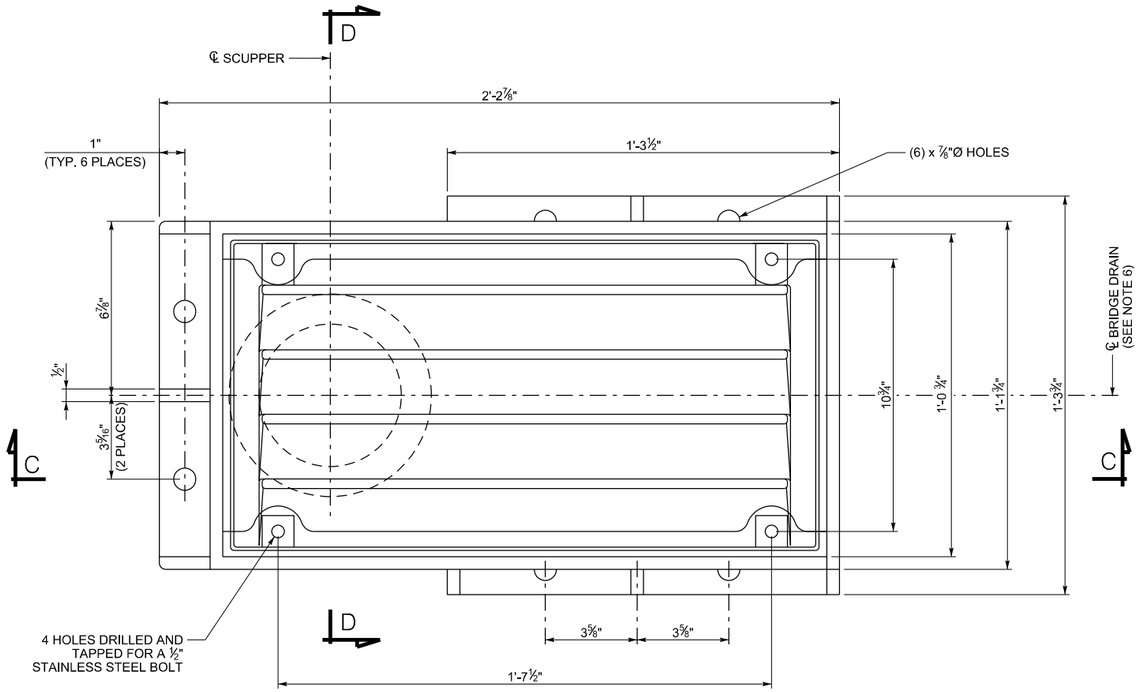
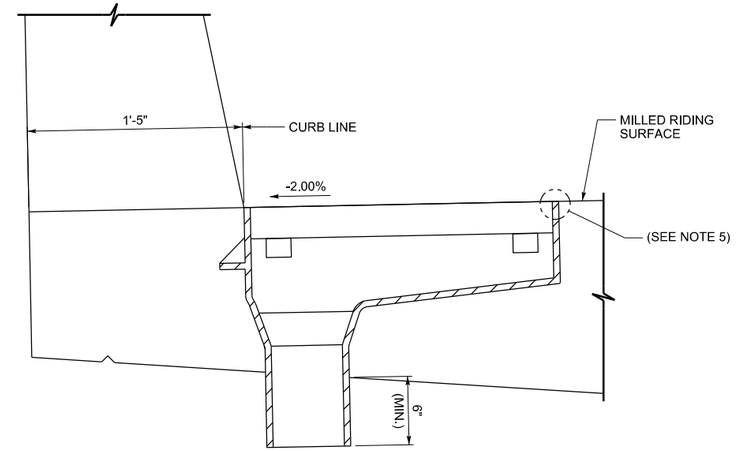
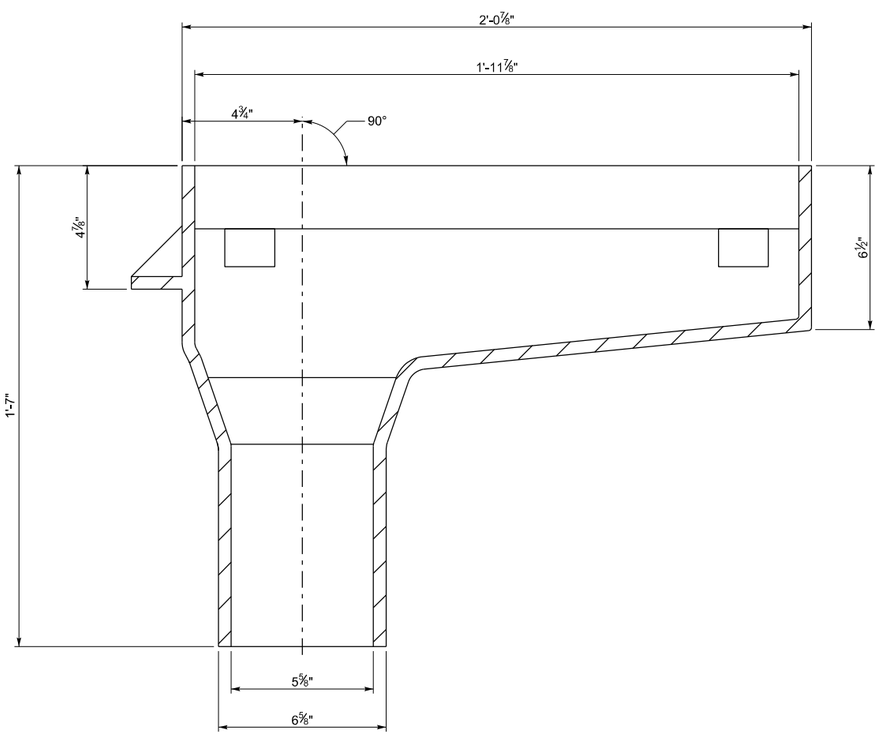
8/6/2008



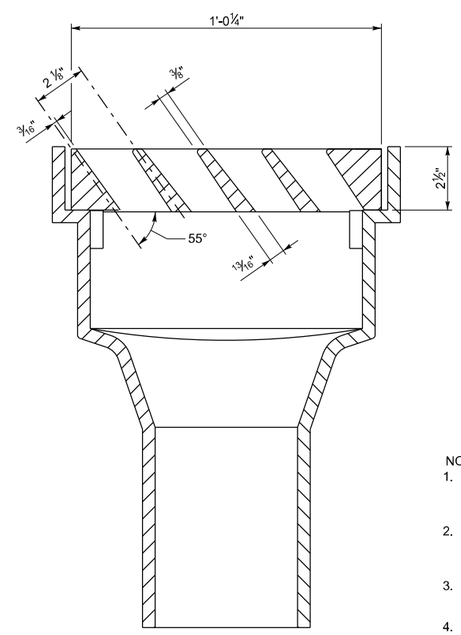
SCUPPER PLAN
(NEENAH 3922)



WING DETAIL
(TYP. ALL BRIDGE DRAINS)



SECTION C-C



SECTION D-D

ESTIMATED QUANTITIES - NB AND SB BRIDGE TOTAL		
ITEM DESCRIPTION:	UNIT	QUANTITY
BRIDGE DRAIN	EA	12

NOTES:
1. THIS DRAWING SHOWS A SCHEMATIC OF THE DRAINAGE DETAILS. PRIOR TO FABRICATION AND INSTALLATION, WORKING DRAWINGS, WHICH COMPLY WITH THE REQUIREMENTS OF SECTION 727M OF THE SPECIFICATIONS, SHALL BE SUBMITTED.
2. PROVIDE BRIDGE DRAINS OF THE TYPE AND SIZE SHOWN AND COMPRISING OF DUCTILE IRON CONFORMING TO ASTM A536-80, GRADE 65-45-12. BOLTS FOR THE ATTACHMENT OF THE GRATING ARE STAINLESS STEEL. GRATING HAVE FULL AND EVEN SEATING.
3. BRIDGE DRAINS ARE PLACED AND SECURED AT THE POSITIONS SHOWN ON THE PLANS PRIOR TO PLACEMENT OF CONCRETE.
4. A MAXIMUM OF 2 TOP LONGITUDINAL BARS MAY BE CUT TO WITHIN 2" OF DRAINS. SPACE ALL OTHER LONGITUDINAL BARS TO AVOID DRAINS.
5. CONSIDERATION SHOULD BE GIVEN TO SETTING THE BRIDGE DRAIN ½" BELOW FINISHED GRADE SO THAT THE DRAIN DOES NOT PROTRUDE FROM THE DECK AFTER THE MAX. ALLOWED ½" MILLING TO OBTAIN RIDING SURFACE.
6. FOR LOCATIONS OF BRIDGE DRAINS, SEE CIP CONSTR. DIMS & PT DETAILS SHEETS.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	CJB 08/08
DRAWN	RJA 04/08	CHECK	BTL 04/08
QUANT	BTL 04/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
BRIDGE DRAINAGE DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

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DRG. NO.

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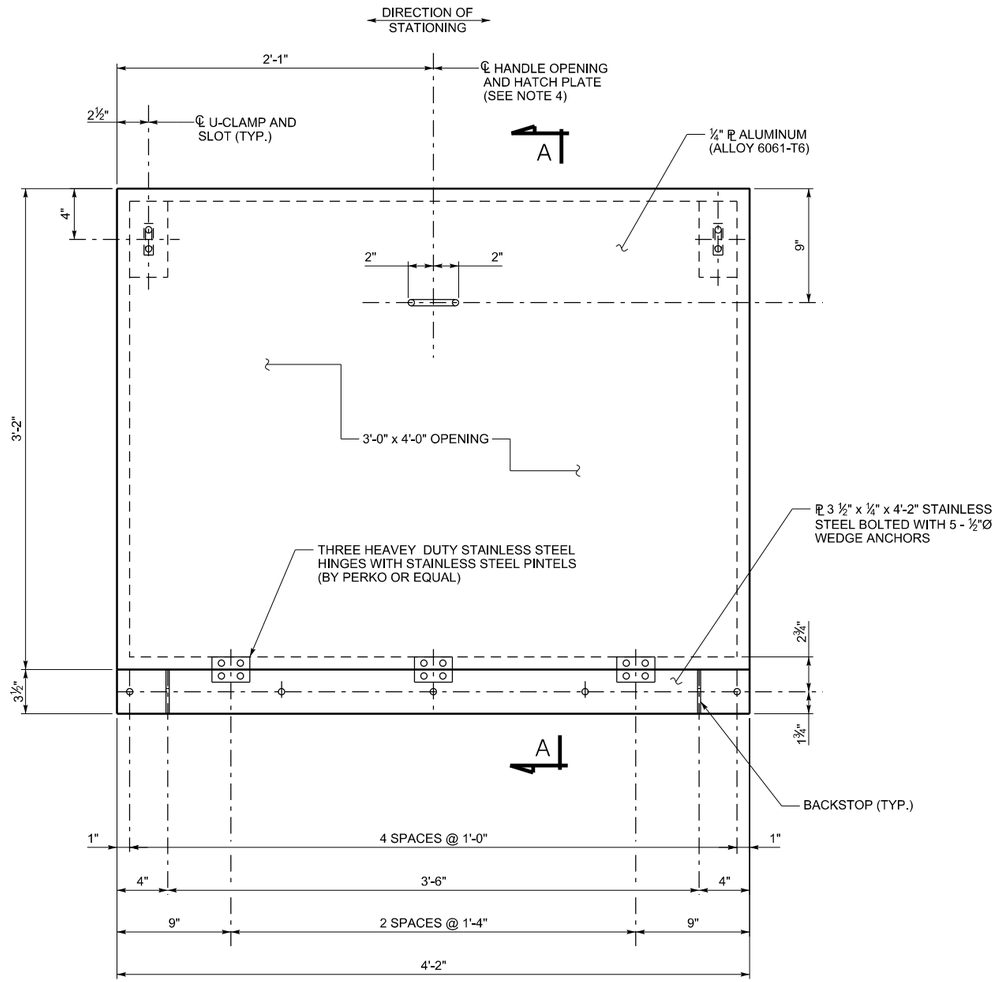
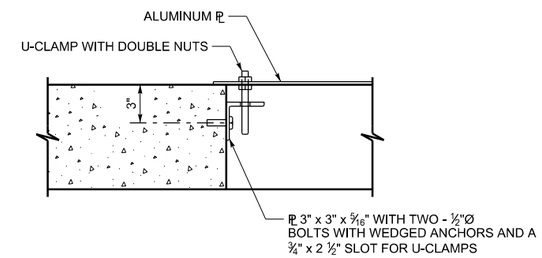
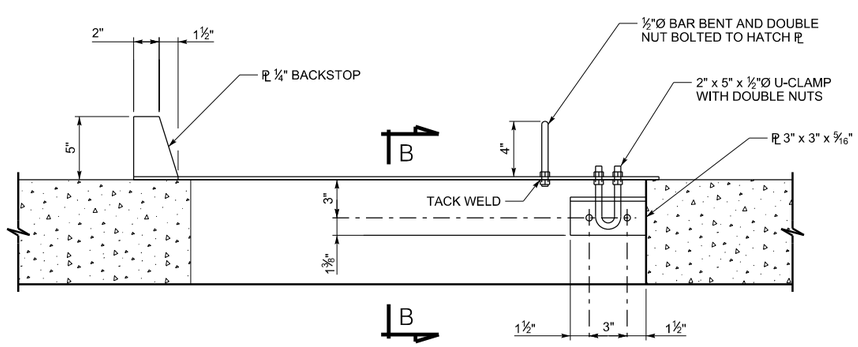
8/6/2008



PLAN - ACCESS HOLE HATCH DOOR



SECTION B-B
(PADLOCK MECHANISM)



SECTION A-A

NOTES:

1. ALL HATCHES TO BE SECURED THROUGH U-CLAMP BY HEAVY DUTY CORROSION RESISTANT PADLOCK. LOCKS AND KEYS TO BE FURNISHED TO ENGINEER UPON ACCEPTANCE OF THE PROJECT.
2. ALL ITEMS, INCLUDING MATERIAL AND LABOR ASSOCIATED WITH SEGMENT ACCESS DETAILS, ARE INCIDENTAL TO THE COST OF SUPERSTRUCTURE CONCRETE AA(B6)(AE).
3. ALL ACCESS HATCH COMPONENTS ARE STAINLESS STEEL OR GALVANIZED, UNLESS OTHERWISE NOTED.
4. FOR LOCATIONS OF ACCESS HATCHES, SEE CIP CONSTR. DIMS & PT DETAILS SHEETS.
5. THE ACCESS HATCHES ARE HOT-DIPPED GALVANIZED PRIOR TO FABRICATION. APPLY TWO COATS OF A ZINC RICH ORGANIC PAINT TO ALL EXTERNAL SURFACES BEFORE INSTALLATION. CHOOSE A COLOR CONFORMING TO GENERAL STANDARD 595B THAT MATCHES THE COLOR OF THE CONCRETE COATING. SUBMIT A MOCK-UP PANEL OF THE PROPOSED COLOR TO THE ENGINEER FOR APPROVAL PRIOR TO PAINTING THE ACCESS HATCHES.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK CJB 08/08
DRAWN RJA 04/08 CHECK BTL 04/08
QUANT BTL 04/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
ACCESS HATCH DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 96 OF 190

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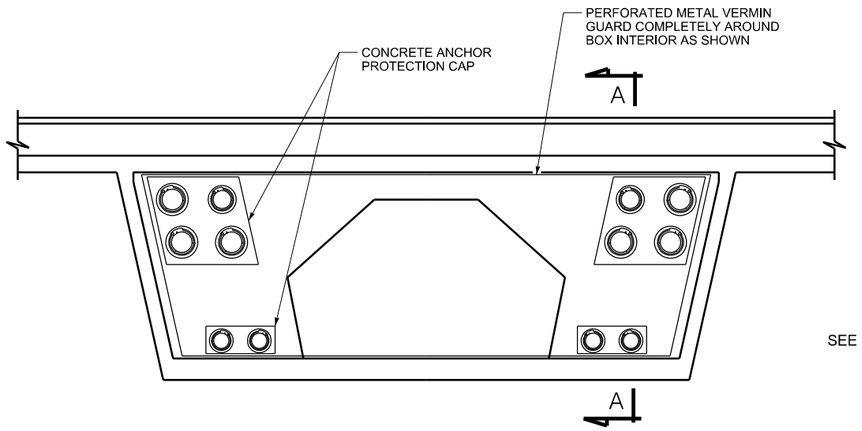
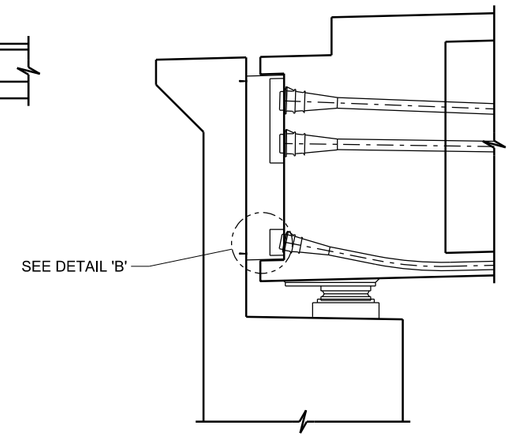
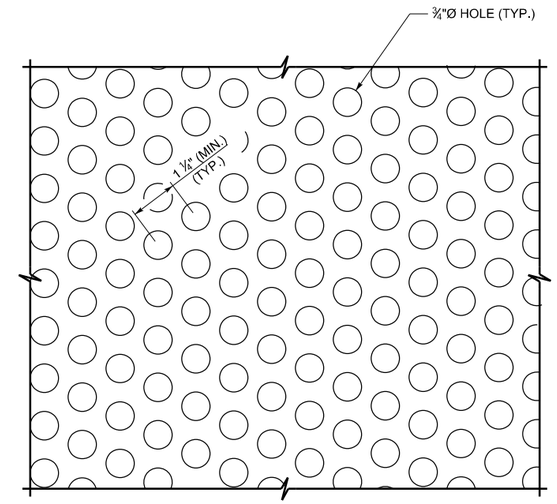
8/6/2008



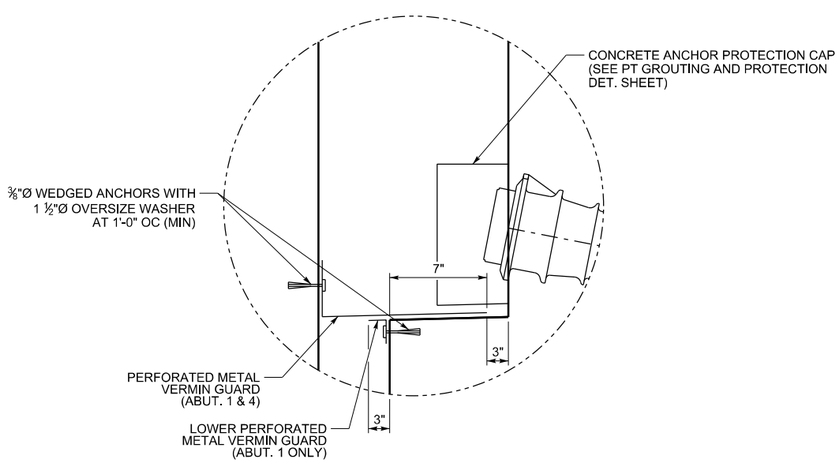
END VIEW
(BOX GIRDER AT ABUTMENTS)



SECTION A-A



PERFORATED PLATE DETAIL



DETAIL 'B'

NOTES:
1. THIS DRAWING SHOWS VERMIN GUARD DETAILS TO BE INSTALLED IN BOTH BOX GIRDER BRIDGES AT BOTH ABUTMENTS.
2. PERFORATED PLATES ARE MANUFACTURED FROM 11 GAUGE MINIMUM THICKNESS PLATE. GRIND ALL SHARP EDGES AND BURRS SMOOTH. GALVANIZE PLATES AFTER FABRICATION. GRIND FIELD CUTS SMOOTH & TOUCH UP WITH GALVANIZING PAINT.
3. PROVIDE STAINLESS STEEL WEDGED ANCHORS AND WASHERS.
4. COST FOR INSTALLED VERMIN GUARD DETAILS IS INCIDENTAL TO THE COST OF THE STRUCTURAL CONCRETE AA(B6)(AE).

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	CJB 08/08
DRAWN	RJA 04/08	CHECK	BTL 04/08
QUANT	BTL 04/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
VERMIN GUARD DETAILS
PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 97 OF 190

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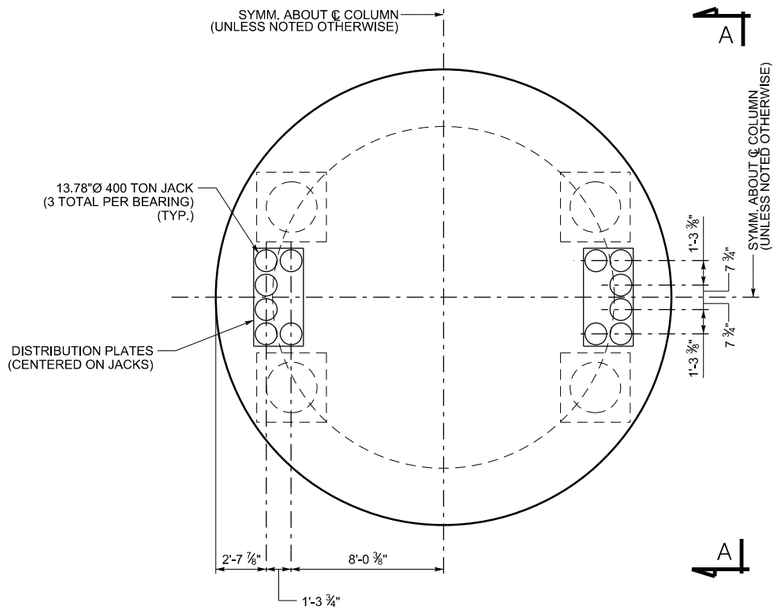
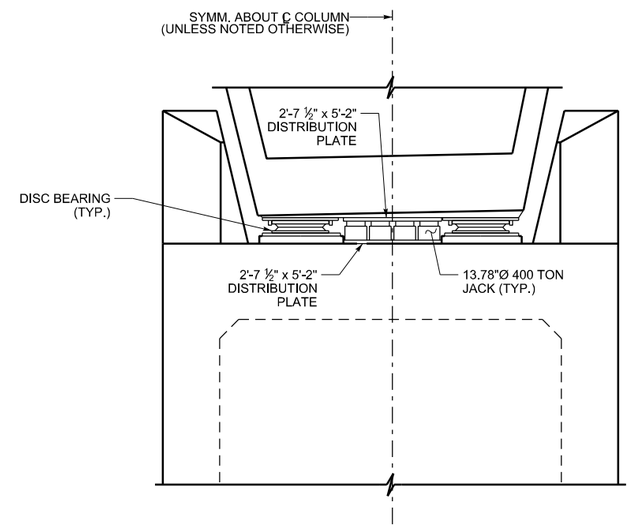
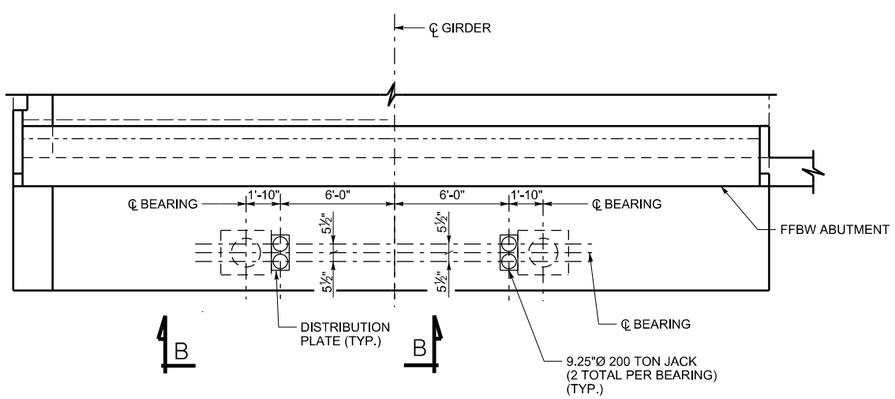
8/6/2008



PIER PLAN

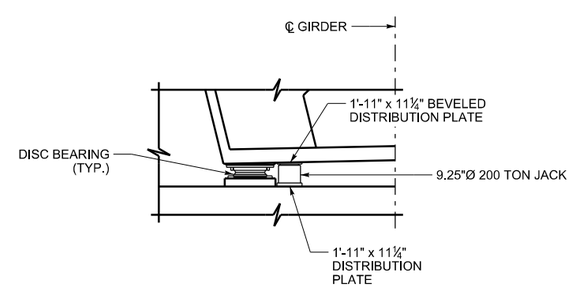


VIEW A-A



ABUTMENT PLAN

(ABUT 1 NB SHOWN, OTHERS SIMILAR)



VIEW B-B

NOTES:

1. CLOSE BRIDGE TO TRAFFIC DURING BEARING REPLACEMENT OPERATIONS.
2. REPLACE THE TOP PLATE AND DISC BEARING ELEMENT BY VERTICALLY JACKING THE BRIDGE A MAXIMUM OF ⅜". BOTH SIDES ARE JACKED SIMULTANEOUSLY WITH A MAXIMUM TRANSVERSE DIFFERENTIAL DISPLACEMENT OF ⅛" AT CENTERLINE BEARING. SPECIAL CONSIDERATION MAY BE REQUIRED FOR THE EXPANSION JOINTS TO ALLOW FOR LIFTING OF THE BRIDGE WITHOUT DAMAGING THE JOINTS.
3. THE ABUTMENTS ARE LOCKED TO THE SUPERSTRUCTURE TO PREVENT TRANSVERSE MOVEMENTS DURING BEARING REPLACEMENT OPERATIONS. IT MAY BE NECESSARY TO ALLOW THE SUPERSTRUCTURE TO EXPAND AND CONTRACT DUE TO TEMPERATURE CHANGES WHILE THE TEMPORARY JACKS SUPPORT THE STRUCTURE.
4. THE DISTRIBUTION PLATES HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. A ⅛" THICK PIECE OF NEOPRENE IS PLACED BETWEEN THE DISTRIBUTION PLATE AND THE CONCRETE SURFACE. THE NEOPRENE IS THE SAME SIZE AS THE DISTRIBUTION PLATE. CONSIDER BEVELING THE PLATES TO ENSURE EVEN BEARING WITH THE SLOPED BEARING SEAT AND PIER CAP.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN CCB 05/08	CHECK BTL 08/08	APPROVAL RECOMM.	DATE
DRAWN RJA 05/08	CHECK CCB 08/08	SENIOR DESIGN ENGR.	
QUANT CCB 05/08	CHECK KRM 08/08	APPROVED FOR USE BY UDOT	DATE
		UDOT BRIDGE ENGR.	

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
BEARING REPLACEMENT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

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DRG. NO.

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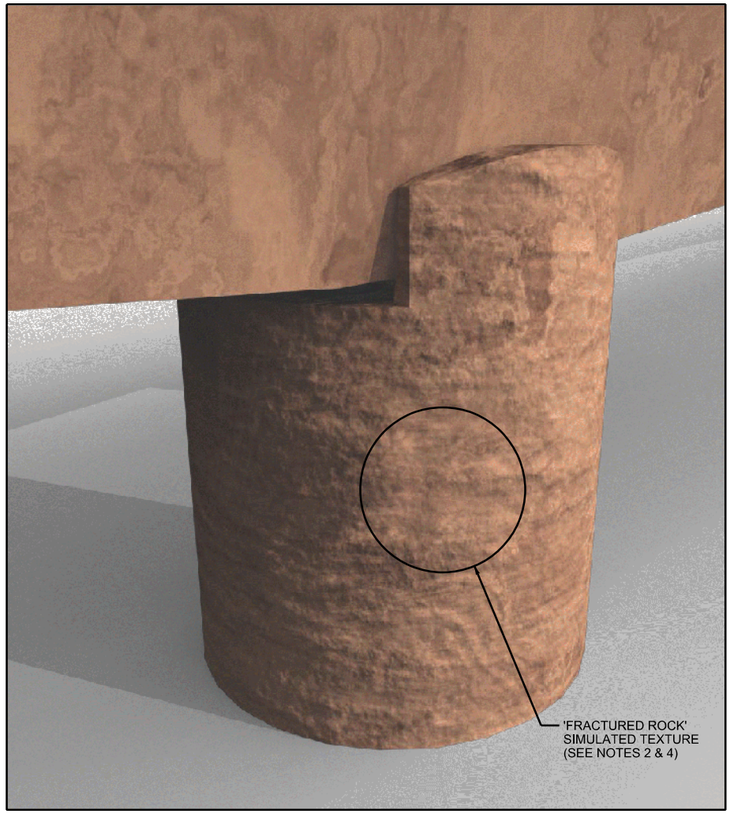
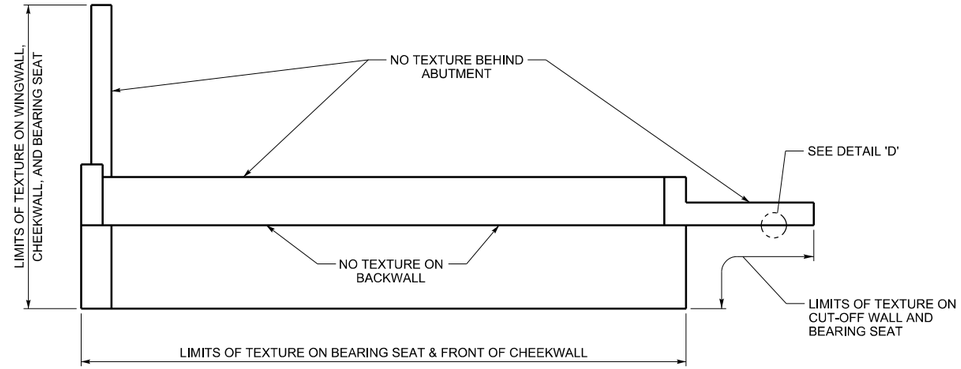
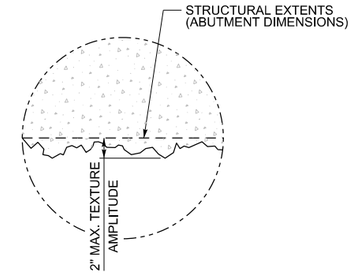
8/6/2008



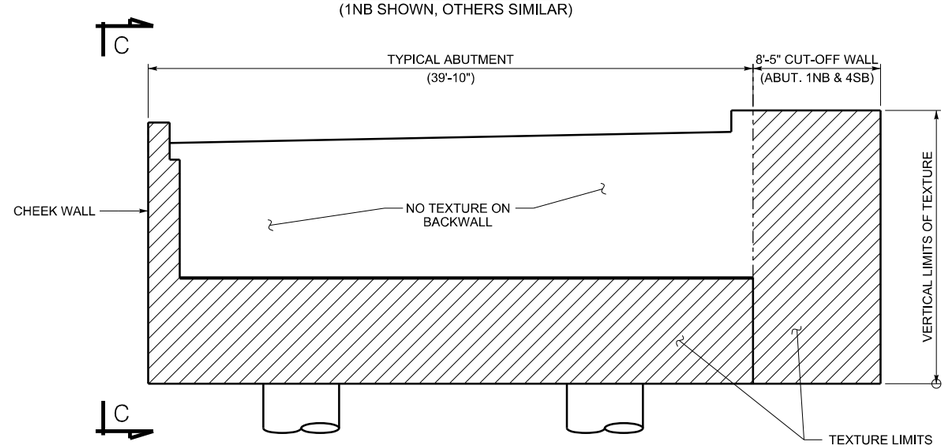
PERSPECTIVE VIEW



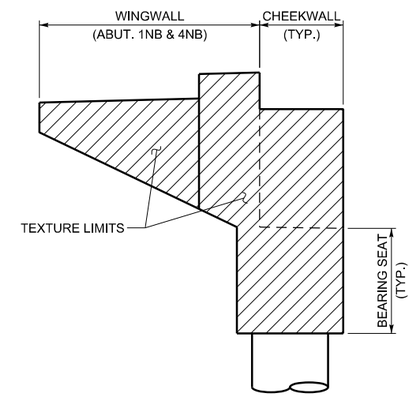
PLAN - ABUTMENT
(1NB SHOWN, OTHERS SIMILAR)



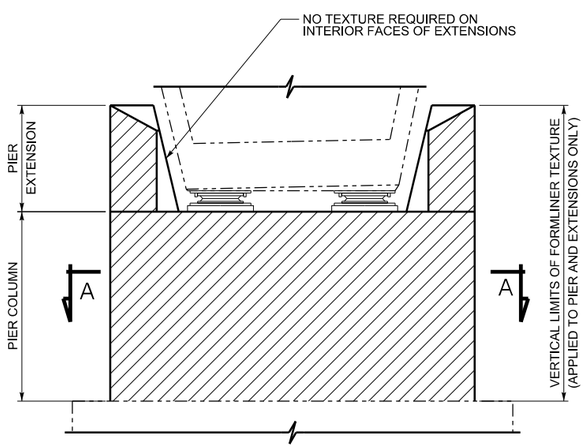
DETAIL 'D'



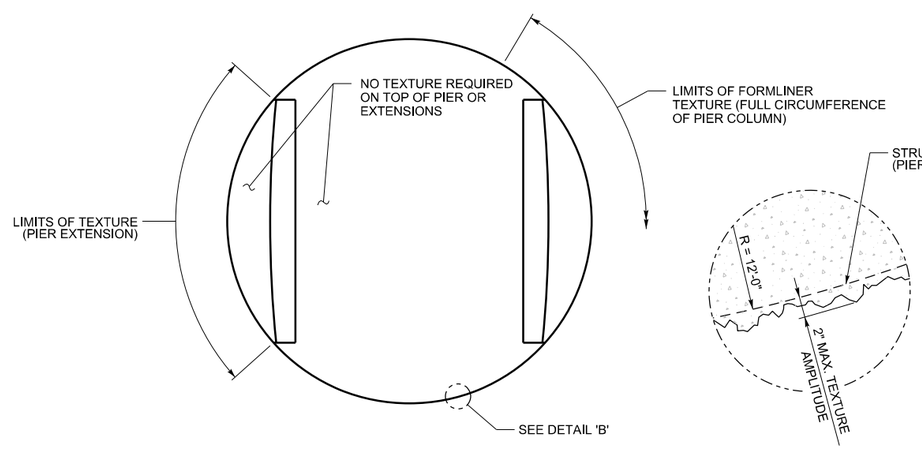
ELEVATION
(1NB SHOWN, OTHERS SIMILAR)



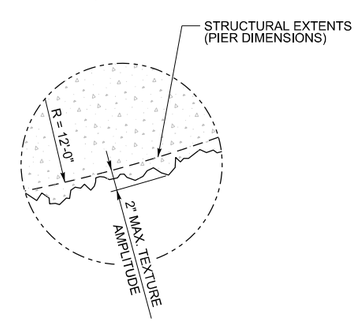
VIEW C-C



ELEVATION
(PIER 2 SHOWN, PIER 3 SIMILAR)



SECTION A-A



DETAIL 'B'

NOTES:

1. THIS DRAWING DEPICTS THE APPEARANCE AND LIMITS OF THE 'FRACTURED ROCK' TEXTURE TO BE APPLIED TO THE EXTERIOR OF THE PIER COLUMNS, ABUTMENTS, AND MSE WALLS. TEXTURE IS CAST INTEGRALLY USING A FORM LINER.
2. 'FRACTURED ROCK' TEXTURE SHOULD ACCURATELY REPRESENT THE APPEARANCE OF THE ROCK WALLS ADJACENT TO THE BRIDGE AND AS SHOWN IN THE RENDERING ON THIS SHEET WHILE LIMITING THE AMPLITUDE OF THE TEXTURE TO A MAXIMUM OF 2" DEPTH. SUBMIT DETAILS OF THE FORM LINER PATTERN TO THE ENGINEER FOR REVIEW AND ACCEPTANCE.
3. FORM LINER PANELS WITH A LEAST DIMENSION OF 48" (MIN.) AND A ROCK PATTERN THAT IS DOUBLY SYMMETRIC SHOULD BE USED SO THAT THE REPEATING PATTERN IS NOT DISCERNABLE FROM A DISTANCE.
4. THE INTENT OF THE FORM LINER IS TO REPLICATE THE APPEARANCE OF THE ADJACENT ROCK WALLS AS VIEWED FROM THE RIVER, TAKING INTO ACCOUNT THAT THE ROCK WALL IS A GREATER DISTANCE FROM THE OBSERVER THAN THE BRIDGE. THE SCALE OF THE 'FRACTURED ROCK' FEATURES USED IN THE FORM LINER WILL BE MUCH SMALLER THAN THAT OF AN IMPRINT OF THE ROCK WALL SO THAT THE BRIDGE TEXTURE AND ROCK WALL APPEAR TO BE OF SIMILAR SCALE IF VIEWED FROM THE RIVER.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 07/08	CHECK	SEF 08/08
DRAWN	RJA 07/08	CHECK	BTL 07/08
QUANT	BTL 07/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
AESTHETIC FORM LINER DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

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DRG. NO.

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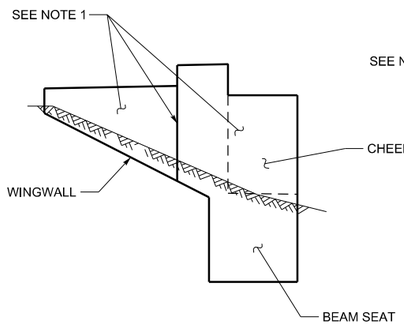
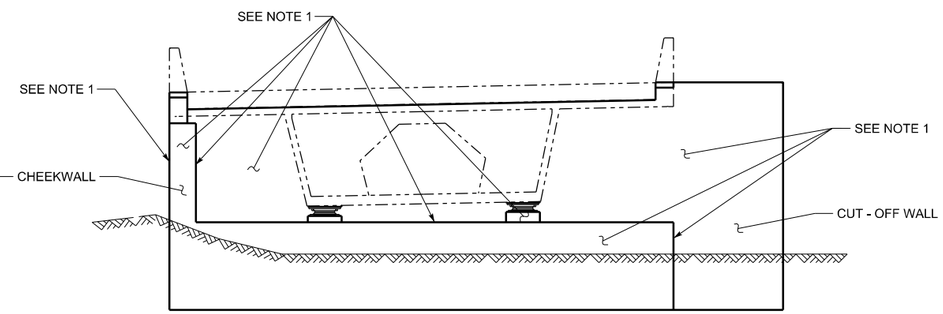
$$File$$
$$date$$

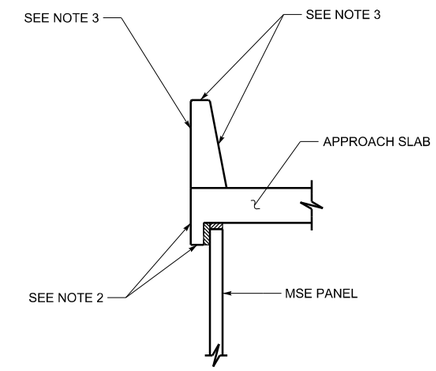


SIDE VIEW

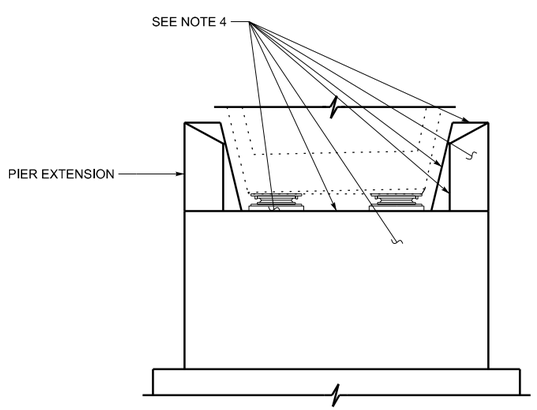


ELEVATION

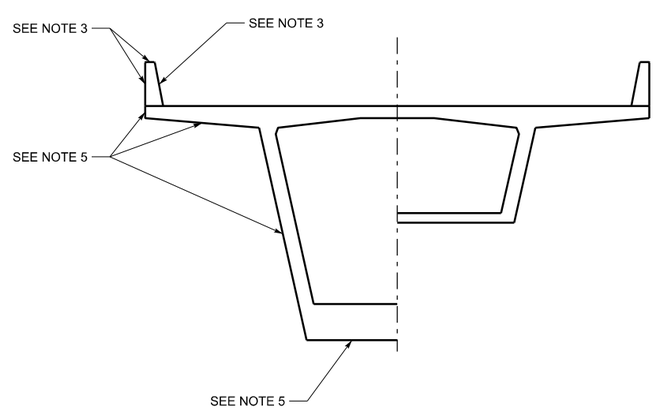
ABUTMENTS AND WINGWALLS



APPROACH SLAB



PIERS



SUPERSTRUCTURE CONCRETE BOX

ESTIMATED QUANTITIES - NB & SB BRIDGE TOTAL		
ITEM DESCRIPTION:	UNIT	QUANTITY
CONCRETE COATING	SF	175,464

ESTIMATED QUANTITIES - FOR INFORMATION ONLY		
ITEM DESCRIPTION:	UNIT	QUANTITY
COATING - SUBSTRUCTURE	SF	14,319
COATING - SUPERSTRUCTURE	SF	127,666
COATING - BARRIERS	SF	33,479

NOTES:

1. ABUTMENTS AND WINGWALLS: COAT ALL EXPOSED SURFACES INCLUDING SIDES OF PEDESTALS, INSIDE FACES OF CHEEKWALLS AND BACKWALL, AND ABUTMENT SEAT. DO NOT COAT BACKWALL BEHIND SUPERSTRUCTURE. APPLY COATING TO 2' BELOW FINISHED GRADE, TOP OF FOOTING, OR BOTTOM OF CONCRETE, WHICHEVER IS HIGHER.
2. APPROACH SLAB: APPLY COATING TO SIDES AND BOTTOM OF APPROACH SLAB OVERHANG.
3. BARRIERS: APPLY COATING TO ALL EXPOSED SURFACES. THE QUANTITY OF BARRIER COATING LISTED ON THIS SHEET IS FROM END OF APPROACH SLAB TO END OF APPROACH SLAB. SEE ROADWAY PLANS FOR ADDITIONAL BARRIER COATING REQUIRED BEYOND THE APPROACH SLABS.
4. PIERS: COAT ALL EXPOSED SURFACES INCLUDING TOP OF PIER, SIDES OF PEDESTALS, AND ALL SURFACES OF PIER EXTENSIONS. APPLY COATING TO 2' BELOW FINISHED GRADE OR TOP OF FOOTING, WHICHEVER IS HIGHER.
5. SUPERSTRUCTURE CONCRETE BOX: APPLY COATING TO ALL EXPOSED EXTERIOR SURFACES EXCEPT ROADWAY SURFACE.
6. AREAS NOT INTENDED TO RECEIVE COATING SHALL BE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.
7. FOR UNITS AND QUANTITIES OF COATING APPLIED TO MSE WALL PANELS AND MOMENT SLAB COPING, SEE WALL PLANS.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MSK 07/08 CHECK BTL 08/08
DRAWN RJA 07/08 CHECK MSK 07/08
QUANT MSK 07/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CONCRETE COATING DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 100 OF 190

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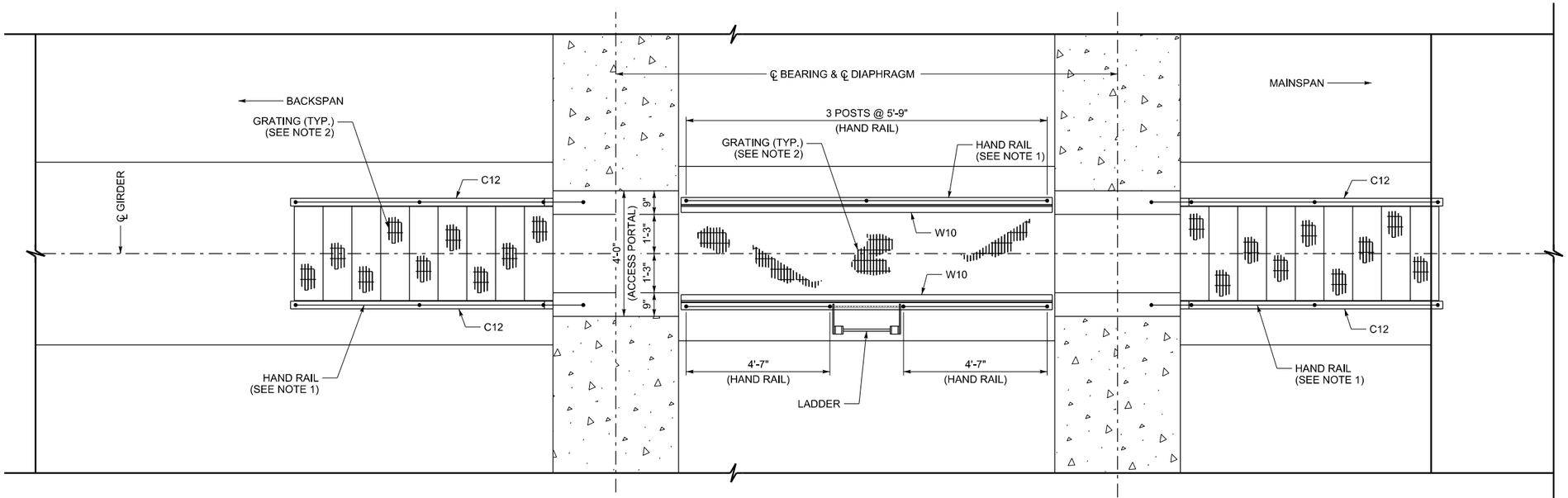
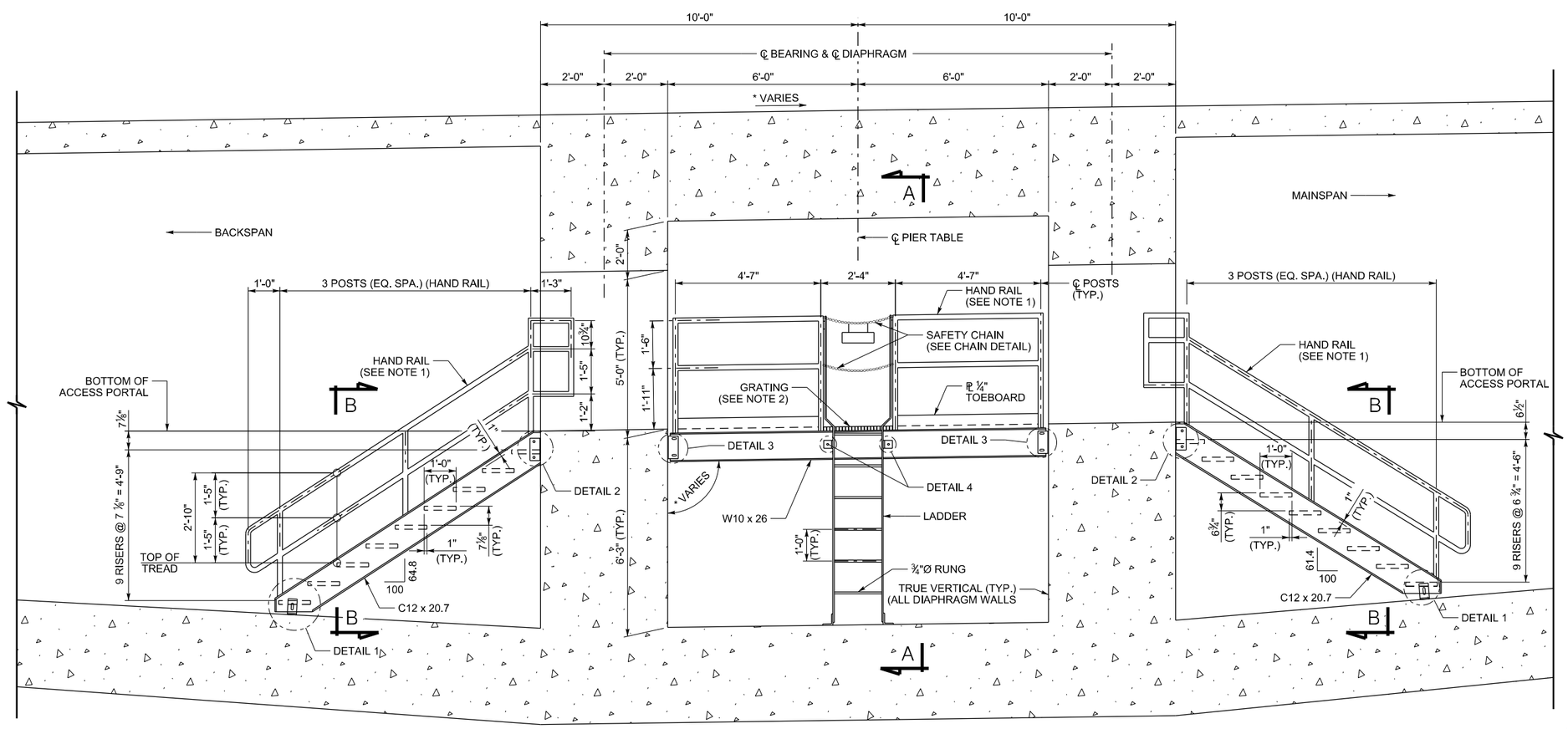


PLAN - PIER TABLE ACCESS PLATFORM

(PIER TABLE 2SB SHOWN, OTHERS SIMILAR)



ELEVATION - PIER TABLE ACCESS PLATFORM

(PIER TABLE 2SB SHOWN, OTHERS SIMILAR)

NOTES:

1. PROVIDE PRE-FABRICATED 1 ½"Ø SCHEDULE 40 PIPE, FULLY WELDED STEEL HANDRAIL CONFORMING TO OSHA STANDARD 1910.23 (E). HOT-DIP GALVANIZE HANDRAIL AFTER FABRICATION.
2. PROVIDE BANDED, WELDED STEEL GRATING FOR PLATFORMS AND STAIR TREADS WITH 1 ½" X ⅛" RECTANGULAR BEARING BARS, 1 3/16" ON CENTER, AND CROSS BARS AT 4" ON CENTER.
3. ATTACH GRATING TO SUPPORTING STEEL WITH CLIPS OR BY WELDING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
4. INCLUDE NON-SLIP NOSING ON ALL STAIR TREADS.
5. GALVANIZE IN ACCORDANCE WITH ASTM A123 AND ASTM A153. REPAIR FIELD DRILLED, FIELD CUT, FIELD WELDED, OR OTHERWISE DAMAGED AREAS WITH TWO LAYERS OF ZINC-RICH INORGANIC PAINT. ENSURE ADHESION OF PAINT BY PROPER SELECTION OF MATERIALS, SURFACE PREPARATION, AND PROCEDURES.
6. WELD IN ACCORDANCE WITH AASHTO/AWS D1.5.
7. PROVIDE HOT-DIP GALVANIZED STRUCTURAL STEEL BOLTS CONFORMING TO ASTM A325, WASHERS CONFORMING TO ASTM F436, AND NUTS CONFORMING TO ASTM A563 OF APPROPRIATE GRADE AND FINISH TO MATCH BOLTS. SEE NOTE 8.
8. ALL STRUCTURAL CONNECTIONS ARE AISC SLIP CRITICAL WITH CLASS A FAYING SURFACE. USE COMPRESSIBLE WASHER TYPE DIRECT TENSION INDICATORS CONFORMING TO ASTM F959 TO CONFIRM REQUIRED BOLT PRE-TENSION.
9. CONCRETE ANCHORS ARE EITHER ⅝" OR ¾" DIAMETER AS SHOWN IN DRAWINGS WITH 5" MINIMUM EMBEDMENT DEPTH. SET ANCHOR LOCATIONS PRIOR TO PLACEMENT OF DIAPHRAGM CONCRETE. DRILLING IS NOT PERMITTED.
10. SUBMIT SHOP DRAWINGS OF ALL DETAILS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
11. ONCE THE SUPERSTRUCTURE IS COMPLETE, LIMITED ACCESS IS AVAILABLE FOR INSTALLATION OF MATERIALS AND ERECTION OF THE ACCESS PLATFORM. PLAN AND STAGE WORK ACCORDINGLY.

*12. PIER TABLE GRADES VARY PER LOCATION. CONSEQUENTLY, PLATFORM AND STAIR SLOPES WILL VARY AS WELL. SEE PIER TABLE DIMS & P.T. DETAILS SHEETS FOR VARIABLE GRADES.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	KCC 07/08	CHECK	SEF 08/08
DRAWN	RJA 08/08	CHECK	BTL 08/08
QUANT	KCC 07/08	CHECK	BTL 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
ACCESS PLATFORM DETAILS I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 101 OF 190

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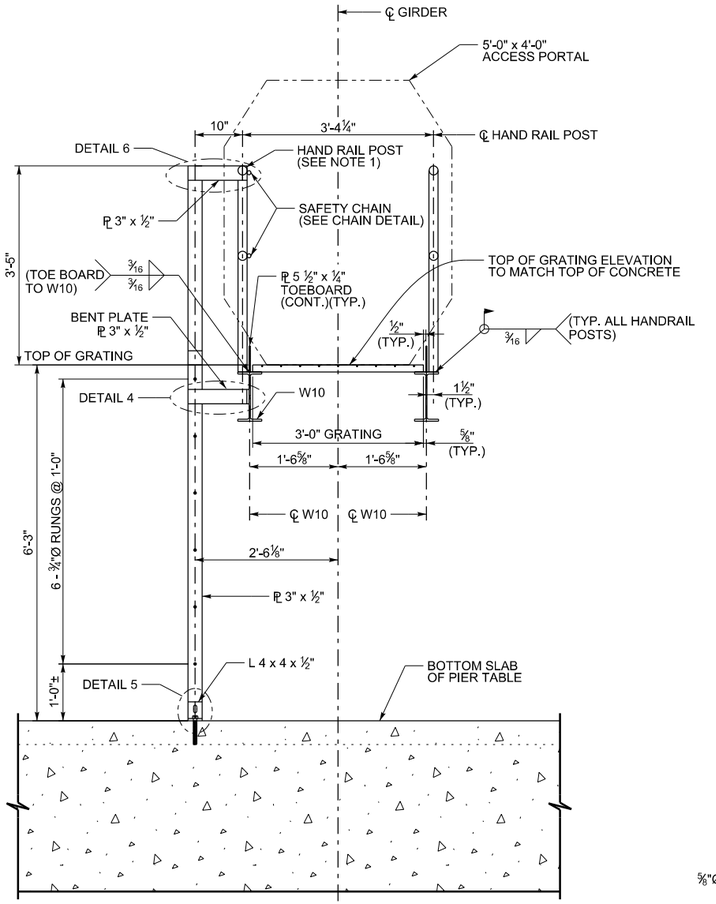
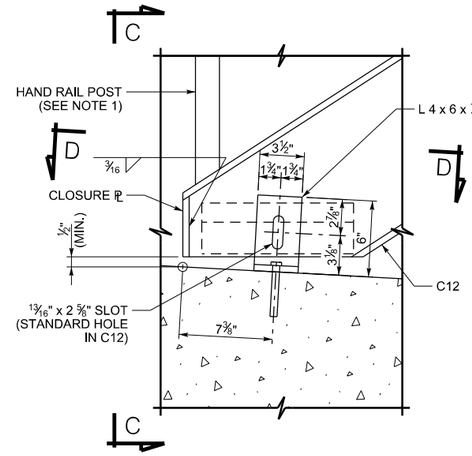
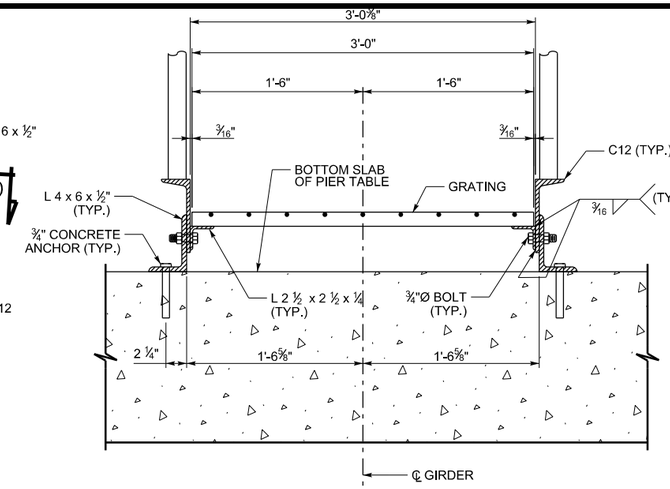
8/6/2008



SECTION A-A



DETAIL 1



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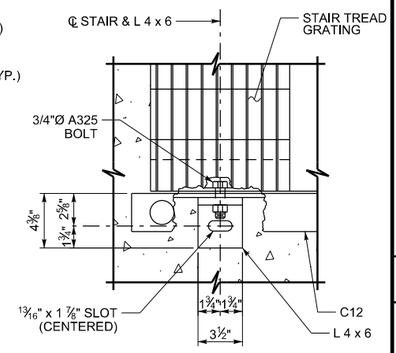

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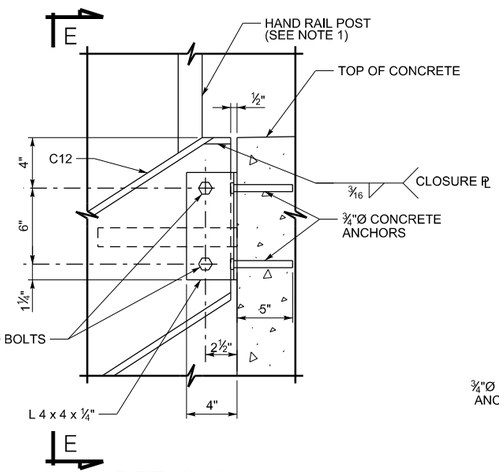

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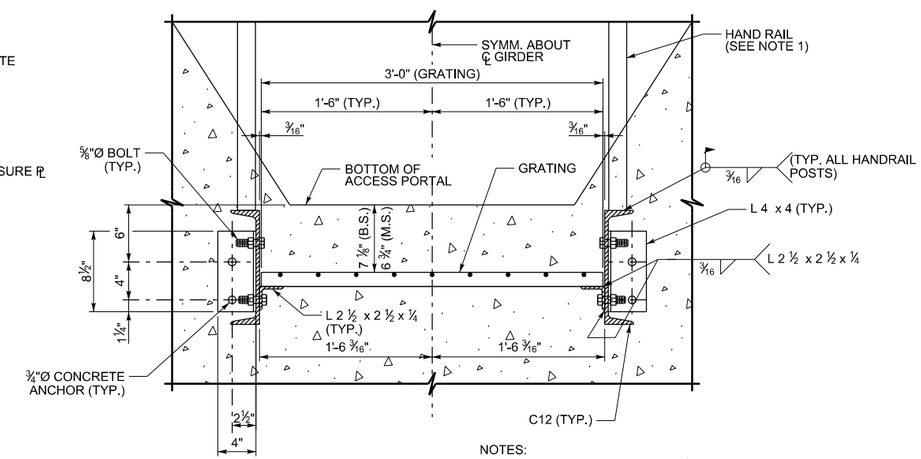
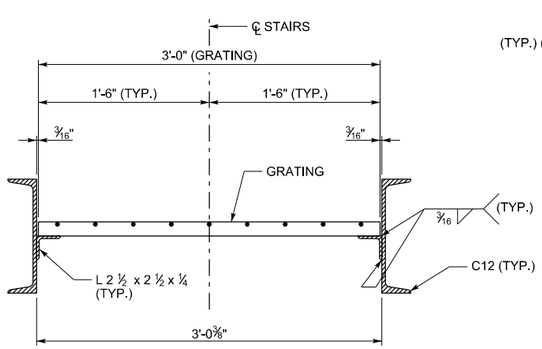
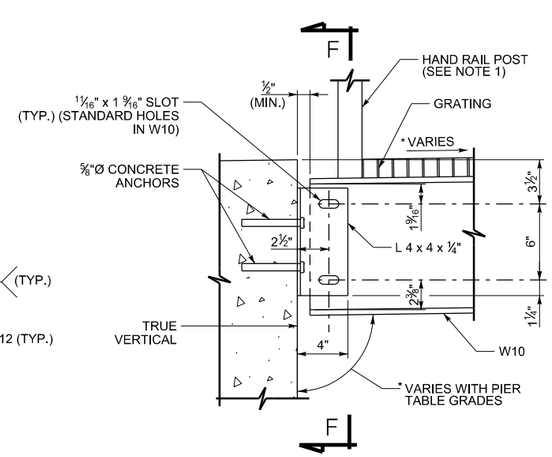


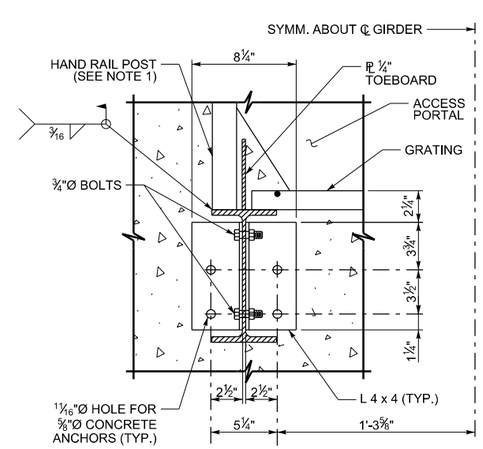
VIEW E-E



SECTION B-B
(TYPICAL STAIR CONNECTION)



DETAIL 3



VIEW F-F

NOTES:

1. PROVIDE PRE-FABRICATED 1 ½"Ø SCHEDULE 40 PIPE, FULLY WELDED STEEL HANDRAIL CONFORMING TO OSHA STANDARD 1910.23 (E). HOT-DIP GALVANIZE HANDRAIL AFTER FABRICATION.
2. PROVIDE BANDED, WELDED STEEL GRATING FOR PLATFORMS AND STAIR TREADS WITH 1 ½" X ⅛" RECTANGULAR BEARING BARS, 1 ³⁄₁₆" ON CENTER, AND CROSS BARS AT 4" ON CENTER.
3. ATTACH GRATING TO SUPPORTING STEEL WITH CLIPS OR BY WELDING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
4. INCLUDE NON-SLIP NOSING ON ALL STAIR TREADS.
5. GALVANIZE IN ACCORDANCE WITH ASTM A123 AND ASTM A153. REPAIR FIELD DRILLED, FIELD CUT, FIELD WELDED, OR OTHERWISE DAMAGED AREAS WITH TWO LAYERS OF ZINC-RICH INORGANIC PAINT. ENSURE ADHESION OF PAINT BY PROPER SELECTION OF MATERIALS, SURFACE PREPARATION, AND PROCEDURES.
6. WELD IN ACCORDANCE WITH AASHTO/AWS D1.5.
7. PROVIDE HOT-DIP GALVANIZED STRUCTURAL STEEL BOLTS CONFORMING TO ASTM A325, WASHERS CONFORMING TO ASTM F436, AND NUTS CONFORMING TO ASTM A563 OF APPROPRIATE GRADE AND FINISH TO MATCH BOLTS. SEE NOTE 8.
8. ALL STRUCTURAL CONNECTIONS ARE AISC SLIP CRITICAL WITH CLASS A FAYING SURFACE. USE COMPRESSIBLE WASHER TYPE DIRECT TENSION INDICATORS CONFORMING TO ASTM F959 TO CONFIRM REQUIRED BOLT PRE-TENSION.
9. CONCRETE ANCHORS ARE EITHER ⅝" OR ¾" DIAMETER AS SHOWN IN DRAWINGS WITH 5" MINIMUM EMBEDMENT DEPTH. SET ANCHOR LOCATIONS PRIOR TO PLACEMENT OF DIAPHRAGM CONCRETE. DRILLING IS NOT PERMITTED.
10. SUBMIT SHOP DRAWINGS OF ALL DETAILS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
11. ONCE THE SUPERSTRUCTURE IS COMPLETE, LIMITED ACCESS IS AVAILABLE FOR INSTALLATION OF MATERIALS AND ERECTION OF THE ACCESS PLATFORM. PLAN AND STAGE WORK ACCORDINGLY.

*12. PIER TABLE GRADES VARY PER LOCATION. CONSEQUENTLY, PLATFORM AND STAIR SLOPES WILL VARY AS WELL. SEE PIER TABLE DIMS & P.T. DETAILS SHEETS FOR VARIABLE GRADES.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN KCC 07/08	CHECK SEF 08/08		
DRAWN RJA 08/08	CHECK BTL 08/08		
QUANT. KCC 08/08	CHECK BTL 08/08		

APPROVAL RECOMM. — DATE — SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT — DATE — UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
ACCESS PLATFORM DETAILS II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 102 OF 190

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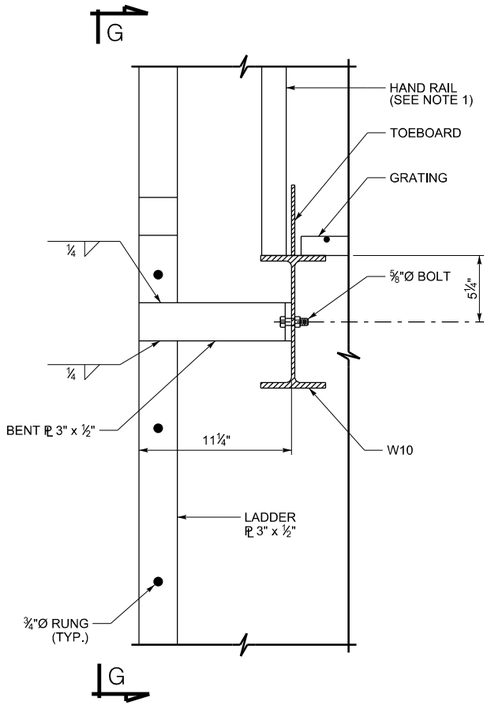

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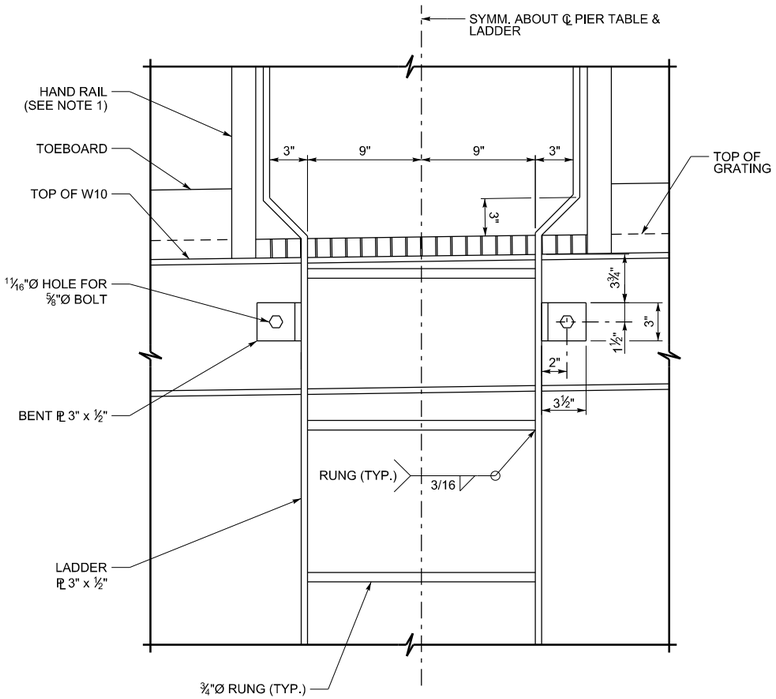

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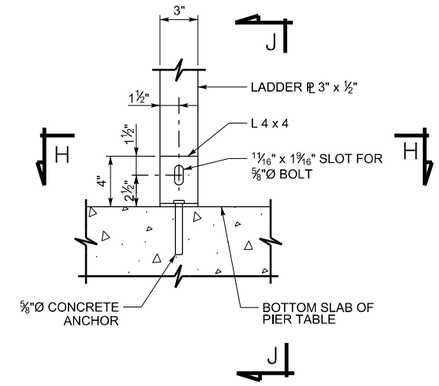
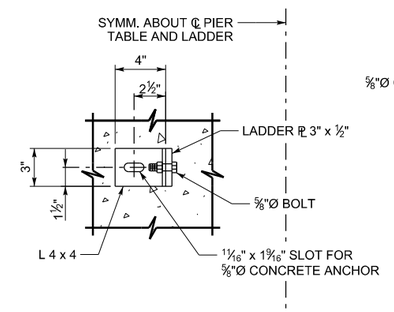


DETAIL 5



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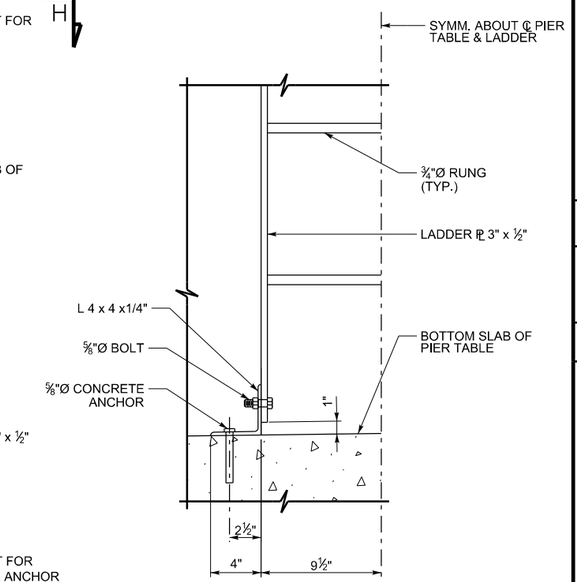
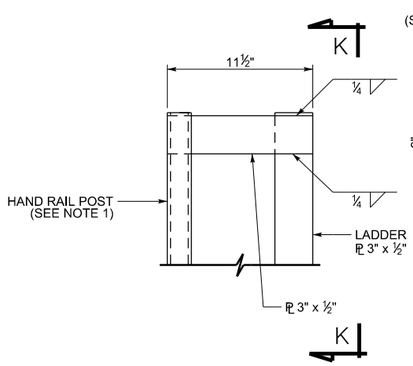
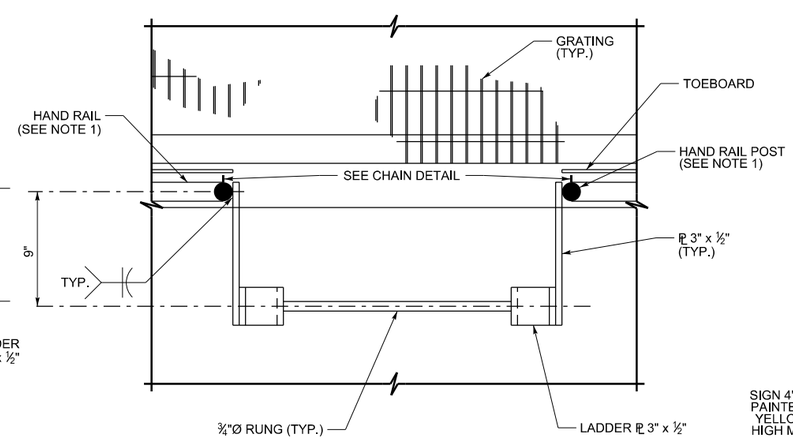


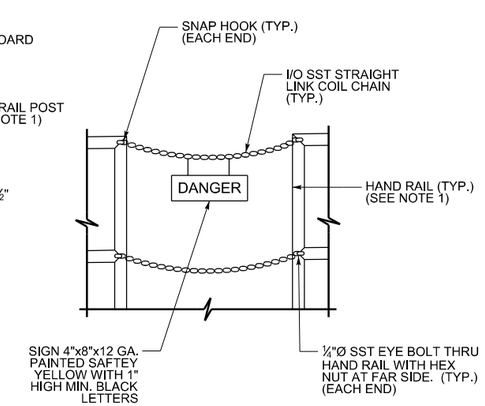
VIEW J-J



DETAIL 6



VIEW K-K



CHAIN DETAIL

ESTIMATED QUANTITIES - ONE ACCESS PLATFORM		
ITEM DESCRIPTION:	UNIT	QUANTITY
STRUCTURAL STEEL	LB	3,152

NOTES:

1. PROVIDE PRE-FABRICATED 1 ½"Ø SCHEDULE 40 PIPE, FULLY WELDED STEEL HANDRAIL CONFORMING TO OSHA STANDARD 1910.23 (E). HOT-DIP GALVANIZE HANDRAIL AFTER FABRICATION.
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5. GALVANIZE IN ACCORDANCE WITH ASTM A123 AND ASTM A153. REPAIR FIELD DRILLED, FIELD CUT, FIELD WELDED, OR OTHERWISE DAMAGED AREAS WITH TWO LAYERS OF ZINC-RICH INORGANIC PAINT. ENSURE ADHESION OF PAINT BY PROPER SELECTION OF MATERIALS, SURFACE PREPARATION, AND PROCEDURES.
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7. PROVIDE HOT-DIP GALVANIZED STRUCTURAL STEEL BOLTS CONFORMING TO ASTM A325, WASHERS CONFORMING TO ASTM F436, AND NUTS CONFORMING TO ASTM A563 OF APPROPRIATE GRADE AND FINISH TO MATCH BOLTS. SEE NOTE 8.
8. ALL STRUCTURAL CONNECTIONS ARE AISC SLIP CRITICAL WITH CLASS A FAYING SURFACE. USE COMPRESSIBLE WASHER TYPE DIRECT TENSION INDICATORS CONFORMING TO ASTM F959 TO CONFIRM REQUIRED BOLT PRE-TENSION.
9. CONCRETE ANCHORS ARE EITHER ⅝" OR ¾" DIAMETER AS SHOWN IN DRAWINGS WITH 5" MINIMUM EMBEDMENT DEPTH. SET ANCHOR LOCATIONS PRIOR TO PLACEMENT OF DIAPHRAGM CONCRETE. DRILLING IS NOT PERMITTED.
10. SUBMIT SHOP DRAWINGS OF ALL DETAILS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
11. ONCE THE SUPERSTRUCTURE IS COMPLETE, LIMITED ACCESS IS AVAILABLE FOR INSTALLATION OF MATERIALS AND ERECTION OF THE ACCESS PLATFORM. PLAN AND STAGE WORK ACCORDINGLY.
12. QUANTITY AND PAYMENT FOR STRUCTURAL STEEL (LB) SHOWN INCLUDES ALL ITEMS REQUIRED FOR THE COMPLETE INSTALLED ACCESS PLATFORM, INCLUDING ALL STEEL, HARDWARE, CONCRETE ANCHORS, GRATING, HANDRAIL, GALVANIZING, AND ALL OTHER ITEMS NECESSARY FOR THE WORK.

REVISIONS

NO.	DATE	BY	REMARKS
	MM/DD/YY		

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	KCC 07/08	CHECK	SEF 08/08
DRAWN	RJA 08/08	CHECK	BTL 08/08
QUANT	KCC 008/08	CHECK	BTL 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
ACCESS PLATFORM DETAILS III

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 103 OF 190

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8/6/2008

NOTES:

1. THE NOTES ON THIS DRAWING ARE APPLICABLE TO THE CONSTRUCTION SCHEMATIC II & III DRAWINGS THAT FOLLOW.

2. THE INFORMATION SHOWN ON CONSTRUCTION SCHEMATIC DRAWINGS I THROUGH III ILLUSTRATE THE ASSUMPTIONS MADE BY THE ENGINEER OF RECORD DURING DESIGN OF THE STRUCTURE. INFORMATION IS FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE MEANS AND METHODS OF CONSTRUCTION AND SUBMITTING DETAILS OF THESE MEANS AND METHODS TO THE ENGINEER FOR REVIEW AND ACCEPTANCE. INCLUDE DETAILS OF THE CONSTRUCTION SEQUENCE AS WELL AS SUPPORTING CALCULATIONS SHOWING THE INFLUENCE OF THE SELECTED SEQUENCE, LOADS AND DETAILS ON THE STRUCTURE, IN ACCORDANCE WITH THE CONTRACT PLANS AND PROJECT SPECIFICATIONS.

3. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION WITH DUE CONSIDERATION OF THE CONSTRUCTION SEQUENCE ASSUMED IN DESIGN AND HIS SELECTED MEANS AND METHODS.

4. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK, FORMWORK, WORK PLATFORMS AND OTHER TEMPORARY WORKS IN CONFORMANCE WITH AASHTO AND THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.

5. THE BRIDGE PIERS, FOOTINGS AND DRILLED SHAFT FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE OUT-OF-BALANCE LOADS DURING CANTILEVER CONSTRUCTION AS DEFINED BY THE AASHTO LRFD DESIGN SPECIFICATIONS. IT WAS THE INTENT OF THE DESIGNER AND THE ASSUMED ERECTION SCHEME TO ALLOW CANTILEVER CONSTRUCTION FROM THE PIERS WITH NO REQUIREMENT FOR TEMPORARY SUPPORTS. GIVEN THE ASSUMED CONSTRUCTION SCHEME SHOWN IN THE CONSTRUCTION SCHEMATIC DRAWINGS, THE AASHTO SPECIFIED MINIMUM FACTOR OF SAFETY OF 1.5 FOR OVERTURNING HAS BEEN SATISFIED FOR ALL ANTICIPATED LOADS DURING CONSTRUCTION WITHOUT TEMPORARY WORKS. HOWEVER, TEMPORARY POST-TENSIONING BAR TIE-DOWNS ARE REQUIRED BETWEEN THE SUPERSTRUCTURE AND PIERS AS SHOWN ON THE PIER CONNECTION DETAILS SHEET AND THE CONSTRUCTION SEQUENCE SHEETS TO SATISFY GLOBAL STABILITY FOR THE AASHTO LRFD SEGMENT CONCRETE DROP CASE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DESIGN OF THE PIERS, FOOTINGS AND DRILLED SHAFT FOUNDATIONS AND THE GLOBAL STABILITY OF THE SUPERSTRUCTURE FOR HIS SELECTED MEANS AND METHODS.

6. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE AND PROVIDING ANY ADDITIONAL REINFORCING AND/OR OTHER MODIFICATIONS NEEDED TO RESIST THE CONSTRUCTION LOADS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ADDITIONAL REINFORCING AND/OR OTHER MODIFICATIONS TO THE STRUCTURE. INCLUDE THE COST OF ANY ADDITIONAL REINFORCING AND/OR OTHER MODIFICATIONS TO THE STRUCTURE TO ACCOMMODATE THE CONTRACTORS SELECTED MEANS AND METHODS IN THE CONTRACT BID PRICE.

7. THE ASSUMED CONSTRUCTION SEQUENCE SHOWN ON THE CONSTRUCTION SCHEMATIC DRAWINGS SHOWS THE CONSTRUCTION OF THE CANTILEVERS PROGRESSING IN A LINEAR FASHION SO THAT A SINGLE PAIR OF FORM-TRAVELERS MAY BE USED. FALSEWORK SECTION MAY BE CONSTRUCTED SIMULTANEOUSLY. IF THE CONTRACTOR CHOOSES TO USE TWO PAIRS OF FORM TRAVELERS, CONSTRUCTION OF CANTILEVERS 2 AND 3 MAY PROGRESS SIMULTANEOUSLY, EXCEPT THAT END SPAN AND MAIN SPAN CLOSURE SEGMENTS MUST STILL BE PLACED IN THE FOLLOWING ORDER: SPAN 1, SPAN 3, THEN SPAN 2.

8. STRESS POST-TENSIONING TENDONS IN THE SEQUENCE AND CONSTRUCTION STEP SHOWN IN THE CONSTRUCTION SCHEMATIC DRAWINGS.

9. MAINTAIN THE MINIMUM NAVIGATIONAL CLEARANCE ENVELOPE SHOWN ON CONSTRUCTION SCHEMATIC III DRAWING, BETWEEN THE MONTHS OF MARCH AND OCTOBER, FROM 5:30 PM TO 10:30 PM, TO ALLOW BOAT ACCESS UPSTREAM FOR "CANYONLANDS BY DAY & NIGHT" BOAT TOURS. PROVIDE LIGHTING ON ANY TEMPORARY WORKS ADJACENT TO THE WATERWAY, INCLUDING BUT NOT LIMITED TO WORK PLATFORMS AND FORM TRAVELERS, SO THAT THEY CAN BE CLEARLY SEEN AT NIGHT FROM THE WATERWAY.

10. PERMITTED CONSTRUCTION ACCESS EASEMENTS AND METHODS, REQUIREMENTS ON PUBLIC ACCESS THROUGH THE CONSTRUCTION LIMITS, AND CONSTRAINTS ON CONSTRUCTION OPERATIONS AT NIGHT AND CERTAIN WEEKENDS ARE OUTLINED IN THE PROJECT SPECIAL PROVISIONS 00555M. FOR LIMITS OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

11. UTILITIES SHOWN ON THE CONSTRUCTION SCHEMATIC DRAWINGS ARE NOT INTENDED TO BE ALL INCLUSIVE OF UTILITIES WITHIN THE PROJECT LIMITS. SEE UTILITIES PLANS FOR MORE INFORMATION.

12. IN THE FINAL CONFIGURATION, BEARINGS AT BENT 2 ALLOW LONGITUDINAL TRANSLATION OF THE SUPERSTRUCTURE. THEREFORE, DURING CONSTRUCTION, THESE BEARINGS MUST BE TEMPORARILY FIXED TO PREVENT TRANSLATION DURING CANTILEVER CONSTRUCTION AND CAN BE RELEASED AFTER MAKING MAIN SPAN CLOSURE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHOD BY WHICH THE BEARINGS WILL BE TEMPORARILY FIXED, AND SUBMITTING DETAILS TO THE ENGINEER FOR REVIEW AND APPROVAL.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN RJA 04/08 CHECK BTL 04/08
QUANT BTL 04/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CONSTRUCTION SCHEMATIC I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 104 OF 190

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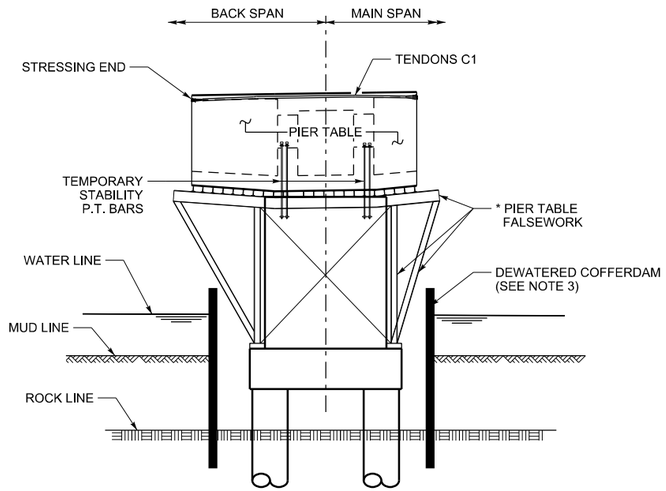


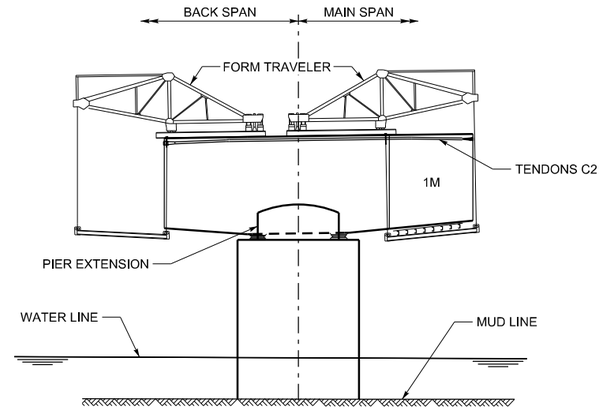
STEP 1

a. CAST-IN-PLACE PIER TABLE ON FALSEWORK SUPPORTED FROM PIER FOOTING AFTER PIER IS CONSTRUCTED AND BEARING PEDESTAL CONCRETE REACHES 4000 PSI.

** b. STRESS TRANSVERSE PIER TABLE TENDONS FOLLOWED BY CANTILEVER TENDONS C1.

c. LOWER PIER TABLE FALSEWORK SO PIER TABLE IS SUPPORTED BY BEARINGS. BEARINGS SHALL BE TEMPORARY FIXED TO PREVENT LONGITUDINAL TRANSLATION (PIER 2 ONLY).

d. STRESS PERMANENT VERTICAL P.T. BARS IN PIER TABLE DIAPHRAGM THEN STRESS THE TEMPORARY STABILITY P.T. BARS. SEE PIER CONNECTION DETAILS SHEET FOR DETAILS OF TEMPORARY P.T. BARS.



STEP 2

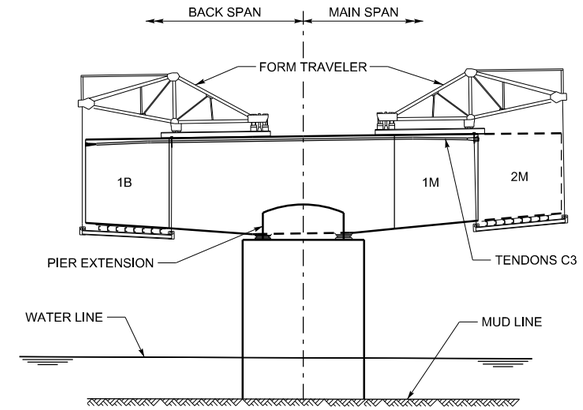
a. CAST PIER EXTENSIONS. (PIER EXTENSIONS CAN BE CAST ANYTIME AFTER COMPLETING THE PIER TABLE)

b. ERECT FORM TRAVELERS.

c. CAST SEGMENT 1M.

** d. STRESS TRANSVERSE TENDONS IN SEGMENT 1M FOLLOWED BY CANTILEVER TENDONS C2.

e. ADVANCE FORM TRAVELER INTO 2M POSITION.

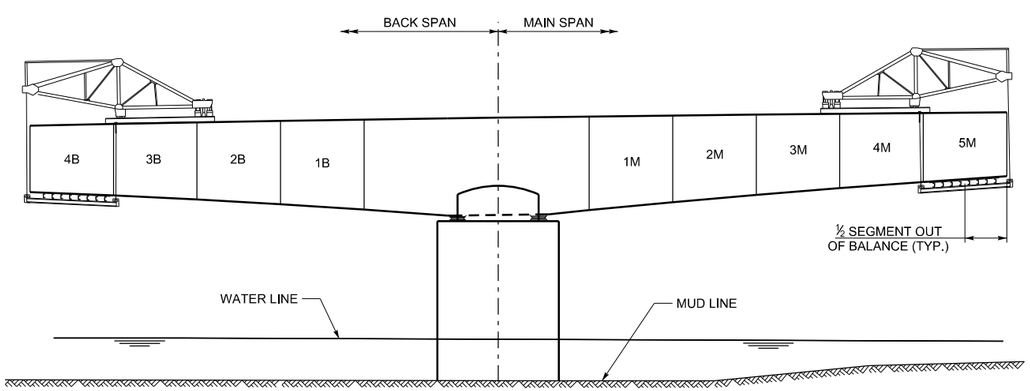


STEP 3

a. CAST SEGMENT 1B.

** b. STRESS TRANSVERSE TENDONS IN SEGMENT 1B FOLLOWED BY CANTILEVER TENDON C3.

c. ADVANCE FORM TRAVELER INTO 2B POSITION.



STEP 4

** a. CONTINUE CASTING SEGMENT PAIRS, ALWAYS CASTING SEGMENT TYPE M FIRST, SUCH THAT CANTILEVER IS NEVER MORE THAN ONE HALF OF A SEGMENT WEIGHT OUT OF BALANCE. CANTILEVER TENDONS ARE STRESSED IN SEQUENCE AS CASTING PROGRESSES.

NOTES:

1. THIS DRAWING IS A SCHEMATIC OF THE CAST-IN-PLACE SEGMENTAL CONSTRUCTION OF EACH CANTILEVER. SEE CONSTRUCTION SCHEMATIC III SHEET FOR MORE INFORMATION.

** 2. UNLESS NOTED OTHERWISE, ENSURE CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI PRIOR TO STRESSING ANY POST-TENSIONING STRAND OR BARS ANCHORING IN THAT SEGMENT OR ELEMENT. STRESS THE TRANSVERSE TENDONS FIRST, FOLLOWED BY CANTILEVER TENDONS. ALL TENDONS ANCHORING IN AN ELEMENT OR SEGMENT ARE STRESSED PRIOR TO LOWERING THE FORMS AND ADVANCING THE FORM TRAVELER.

3. DRY COFFERDAMS ARE ANTICIPATED FOR THE CONSTRUCTION OF THE FOOTINGS AND PIERS AT BENT 3, AND MAY BE REQUIRED AT BENT 2 DEPENDING ON THE ANTICIPATED WATER LEVEL DURING FOOTING AND PIER CONSTRUCTION. THE COFFERDAMS MAY BE FLOODED AFTER BACKFILLING THE FOOTING AND PIER EXCAVATIONS AND AFTER THE PIER SHELL HAS BEEN FILLED WITH FLOWABLE FILL CONCRETE AS SHOWN ON THE PIER 2&3 DETAILS SHEET. COFFERDAMS AND PIER TABLE FALSEWORK MAY BE REMOVED AFTER THE PIER TABLE IS CAST AND ALL PIER TABLE POST-TENSIONING IS STRESSED. SEE COFFERDAM SCHEMATICS SHEET.

* 4. FOR ADDITIONAL INFORMATION, SEE CONSTRUCTION SCHEMATIC I SHEET.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN RJA 04/08 CHECK BTL 04/08
QUANT. BTL 04/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CONSTRUCTION SCHEMATIC II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 105 OF 190

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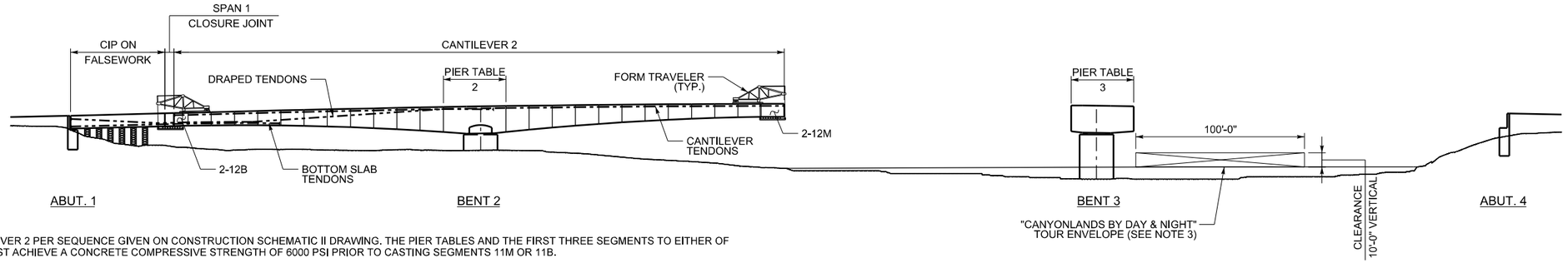
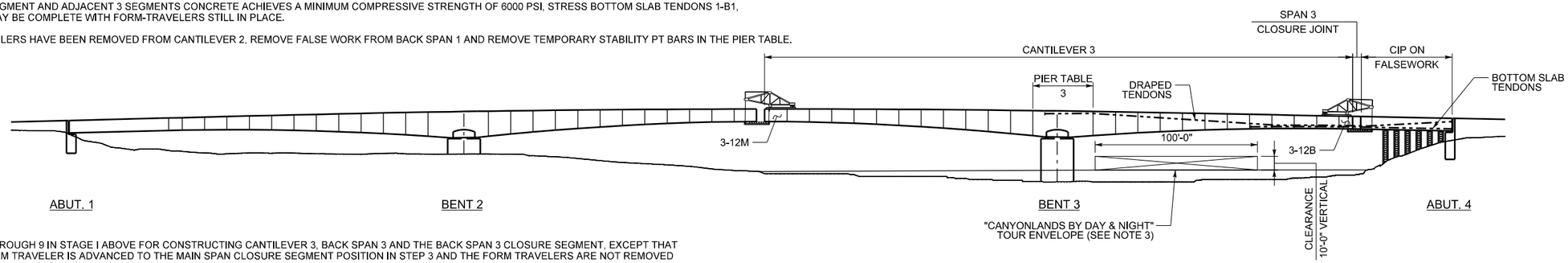
8/6/2008



STAGE 1

1. CONSTRUCT CANTILEVER 2 PER SEQUENCE GIVEN ON CONSTRUCTION SCHEMATIC II DRAWING. THE PIER TABLES AND THE FIRST THREE SEGMENTS TO EITHER OF THE CANTILEVER MUST ACHIEVE A CONCRETE COMPRESSIVE STRENGTH OF 6000 PSI PRIOR TO CASTING SEGMENTS 11M OR 11B.
2. CONSTRUCT CIP PORTION OF BACK SPAN 1 ON FALSEWORK AFTER ABUTMENT 1 IS CONSTRUCTED. STRESS TRANSVERSE TENDONS IN CIP PORTION OF BACKSPAN 1 AFTER CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
3. AFTER CASTING SEGMENT 12M DO NOT LAUNCH THE MAIN SPAN FORM TRAVELER TO THE NEXT POSITION BUT LEAVE IN PLACE UNTIL STEP 7 BELOW.
4. AFTER CASTING SEGMENT 12B AND STRESSING TENDONS C25, THE BACK SPAN FORM TRAVELER IS LAUNCHED AND USED TO ALIGN THE CANTILEVER TIPS AND CAST THE BACK SPAN 1 CLOSURE SEGMENT. APPLY THE ALIGNMENT FORCE (IF REQUIRED) ACTING DOWN ON THE CIP ON FALSEWORK CONSTRUCTION SO THAT LOAD IS NOT ADDED TO THE CANTILEVER TIP. THE MAGNITUDE OF FORCE REQUIRED TO ALIGN THE TIPS IS DEPENDENT ON THE DEGREE OF MISALIGNMENT AND REQUIRES APPROVAL BY THE ENGINEER PRIOR TO ALIGNING THE CANTILEVER TIPS.
5. AFTER CLOSURE SEGMENTS ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI AND NOT MORE THAN 8 HOURS AFTER POURING CLOSURE, STRESS DRAPED TENDON 1-D3.
6. AFTER CLOSURE SEGMENT ACHIEVES A CONCRETE MINIMUM COMPRESSIVE STRESS OF 2500 PSI, STRESS REMAINING DRAPED TENDONS 1-D1 AND 1-D2. FORM TRAVELER ALIGNMENT FORCE MAY NOW BE REMOVED.
7. AFTER CLOSURE SEGMENT CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, STRESS TRANSVERSE TENDONS IN CLOSURE SEGMENT. BEGIN REMOVAL OF BOTH FORM TRAVELERS FROM CANTILEVER 2 AND MOVE TO CANTILEVER 3.
8. AFTER CLOSURE SEGMENT AND ADJACENT 3 SEGMENTS CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI, STRESS BOTTOM SLAB TENDONS 1-B1, 1-B2 & 1-B3. THIS MAY BE COMPLETE WITH FORM-TRAVELERS STILL IN PLACE.
9. AFTER FORM-TRAVELERS HAVE BEEN REMOVED FROM CANTILEVER 2, REMOVE FALSE WORK FROM BACK SPAN 1 AND REMOVE TEMPORARY STABILITY PT BARS IN THE PIER TABLE.

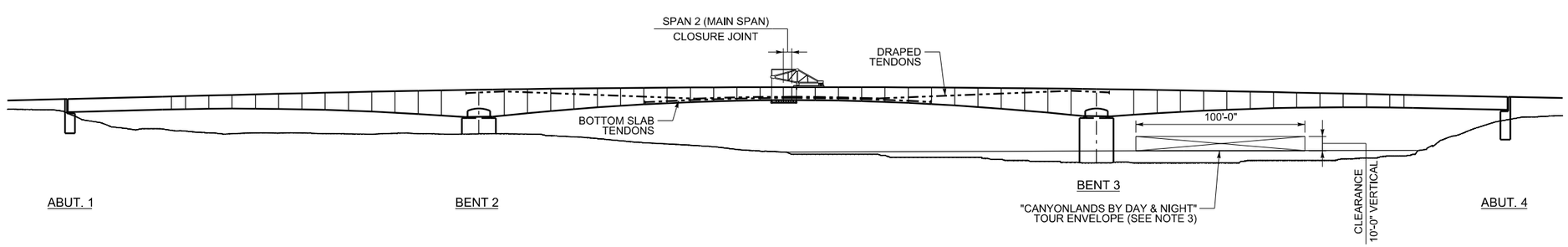
STAGE 1



STAGE 2

1. REPEAT STEPS 1 THROUGH 9 IN STAGE I ABOVE FOR CONSTRUCTING CANTILEVER 3, BACK SPAN 3 AND THE BACK SPAN 3 CLOSURE SEGMENT, EXCEPT THAT THE MAIN SPAN FORM TRAVELER IS ADVANCED TO THE MAIN SPAN CLOSURE SEGMENT POSITION IN STEP 3 AND THE FORM TRAVELERS ARE NOT REMOVED IN STEP 7, BUT SHALL REMAIN IN PLACE THROUGH STAGE 3 BELOW.

STAGE 2



STAGE 3

1. THE MAIN SPAN FORM TRAVELER USED TO ALIGN THE CANTILEVER TIPS AND CAST THE MAIN SPAN 2 CLOSURE SEGMENT. APPLY THE ALIGNMENT FORCE (IF REQUIRED) ACTING DOWN ON CANTILEVER 2 SO THAT LOAD IS NOT ADDED TO THE CANTILEVER 3 TIP. THE MAGNITUDE OF FORCE REQUIRED TO ALIGN THE TIPS IS DEPENDENT ON THE DEGREE OF MISALIGNMENT AND REQUIRES APPROVAL BY THE ENGINEER PRIOR TO ALIGNING THE CANTILEVER TIPS.
2. AFTER CLOSURE SEGMENTS ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI AND NOT MORE THAN 8 HOURS AFTER POURING CLOSURE, STRESS DRAPED TENDON 2-D1. RELEASE TEMPORARY LONGITUDINAL RESTRAINT AT PIER 2.
3. AFTER CLOSURE SEGMENT ACHIEVES A CONCRETE MINIMUM COMPRESSIVE STRESS OF 3000 PSI, STRESS REMAINING DRAPED TENDONS 2-D2 AND 2-D3. FORM TRAVELER ALIGNMENT FORCE MAY NOW BE REMOVED.
4. AFTER CLOSURE SEGMENT CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, STRESS TRANSVERSE TENDONS IN CLOSURE SEGMENT. BOTH FORM TRAVELERS MAY BE REMOVED FROM CANTILEVER 3.
5. AFTER CLOSURE SEGMENT AND ADJACENT 3 SEGMENTS CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI, STRESS BOTTOM SLAB TENDONS 2-B1, 2-B2, 2-B3 & 2-B4.
6. AFTER CLOSURE SEGMENT AND ADJACENT 3 SEGMENTS CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI, STRESS BOTTOM SLAB TENDONS 2-B5, 2-B6 & 2-B7.
7. CAST BARRIERS, MILL INTEGRAL WEARING SURFACE TO ACHIEVE RIDING SURFACE AS SPECIFIED IN THE PROJECT SPECIFICATIONS THEN PLACE EXPANSION JOINTS. EXPANSION JOINTS SHALL NOT BE PLACED UNTIL MILLING OPERATION IS COMPLETE TO ENSURE JOINTS ARE SET AT THE PROPER ELEVATION.

NOTES:

1. THE ASSUMED CONSTRUCTION SEQUENCE SHOWN ON THE CONSTRUCTION SCHEMATIC DRAWINGS SHOWS THE CONSTRUCTION OF THE CANTILEVERS PROGRESSING IN A LINEAR FASHION SO THAT A SINGLE PAIR OF FORM-TRAVELERS MAY BE USED. FALSEWORK SECTION MAY BE CONSTRUCTED SIMULTANEOUSLY. IF THE CONTRACTOR CHOOSES TO USE TWO PAIRS OF FORM TRAVELERS, CONSTRUCTION OF CANTILEVERS 2 AND 3 MAY PROGRESS SIMULTANEOUSLY, EXCEPT THAT END SPAN AND MAIN SPAN CLOSURE SEGMENTS MUST STILL BE PLACED IN THE FOLLOWING ORDER: SPAN 1, SPAN 3, THEN SPAN 2.
2. UNLESS NOTED OTHERWISE, ENSURE CONCRETE ACHIEVES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI PRIOR TO STRESSING ANY POST-TENSIONING STRAND OR BARS ANCHORING IN THAT SEGMENT OR ELEMENT. THE TRANSVERSE TENDONS ARE STRESSED FIRST, FOLLOWED BY CANTILEVER TENDONS. ALL TENDONS ANCHORING IN AN ELEMENT OR SEGMENT ARE STRESSED PRIOR TO LOWERING THE FORMS AND ADVANCING THE FORM TRAVELER.
3. MAINTAIN THE MINIMUM NAVIGATIONAL CLEARANCE ENVELOPE IN THE RIVER BETWEEN THE MONTHS OF MARCH AND OCTOBER , FROM 5:30 PM TO 10:30 PM, TO ALLOW BOAT ACCESS UPSTREAM FOR "CANYONLANDS BY DAY & NIGHT" TOURS. PROVIDE LIGHTING ON ANY TEMPORARY WORKS ADJACENT TO THE WATERWAY, INCLUDING BUT NOT LIMITED TO WORK PLATFORMS AND FORM TRAVELERS, SO THAT THEY CAN BE CLEARLY SEEN AT NIGHT FROM THE WATERWAY.
4. FOR ADDITIONAL INFORMATION, SEE CONSTRUCTION SCHEMATIC I SHEET.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN RJA 04/08 CHECK BTL 04/08
QUANT BTL 04/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CONSRTUCTION SCHEMATIC III

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 106 OF 190

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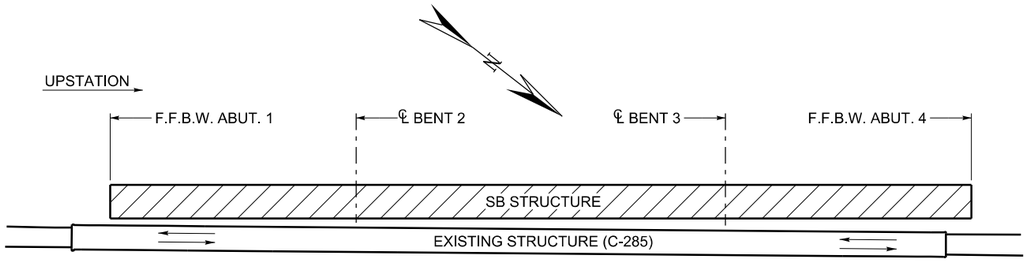
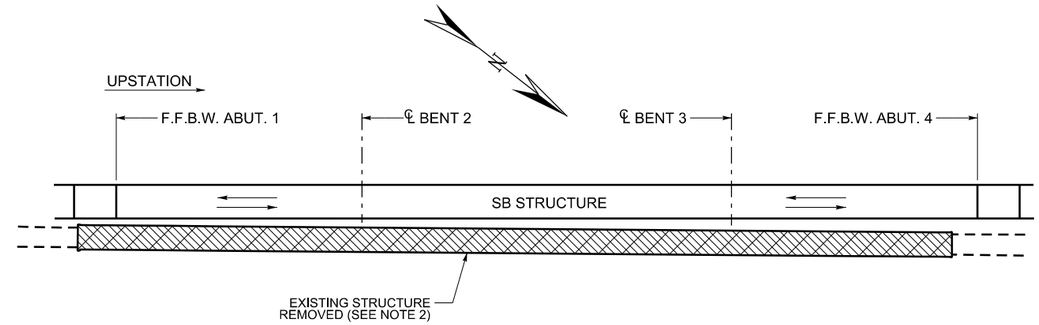
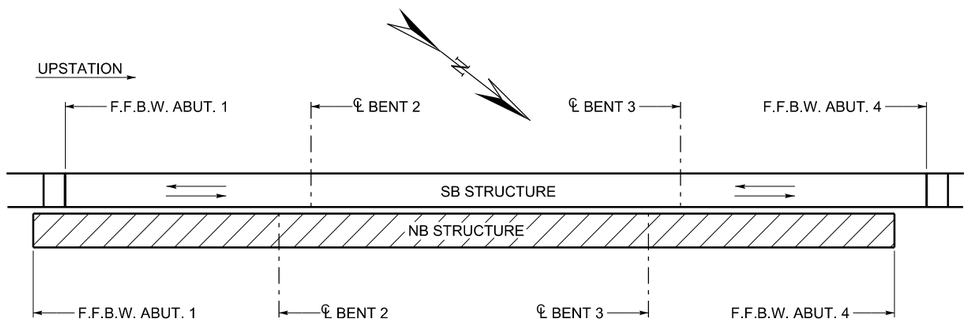
9/6/2008



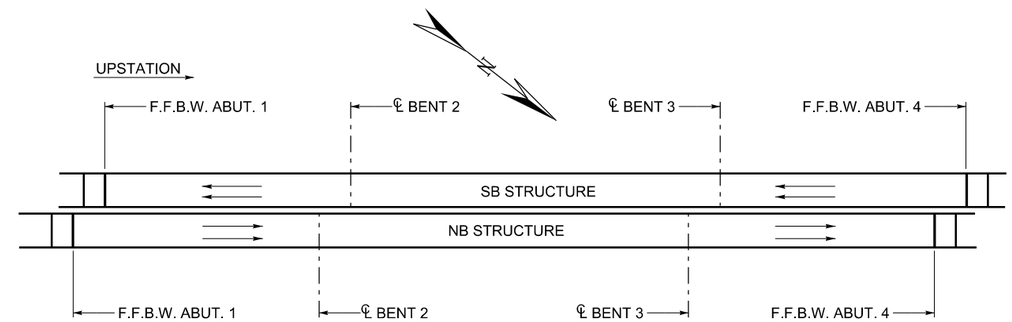
PHASE 1
(CONSTRUCT SB STRUCTURE AND APPROACH ROADWAY)



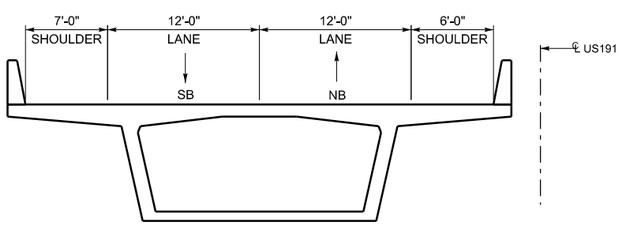
PHASE 2
(TRANSFER TRAFFIC TO NEW SB STRUCTURE AND REMOVE EXISTING STRUCTURE C-285)



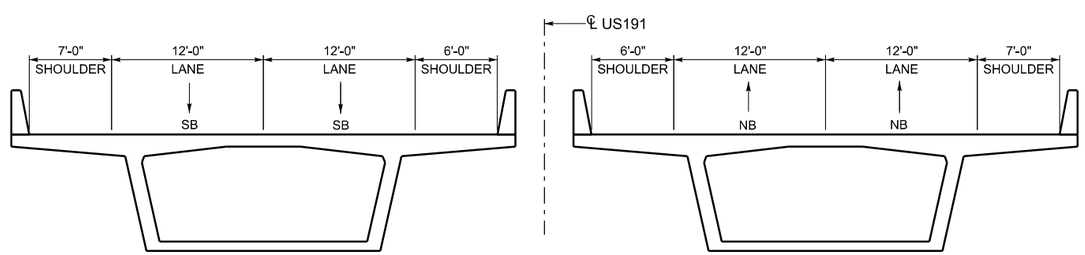
PHASE 3
(CONSTRUCT NB STRUCTURE AND APPROACH ROADWAY)



PHASE 4
(FINAL CONFIGURATION)



TEMPORARY SB SECTION
(PHASES 1-3)
(LOOKING UPSTATION)



FINAL CONFIGURATION
(PHASE 4)
(LOOKING UPSTATION)

LEGEND

- COMPLETED CONSTRUCTION
- NEW CONSTRUCTION
- STRUCTURE REMOVAL

NOTES:
1. THIS DRAWING SHOWS BRIDGE CONSTRUCTION PHASING TO ACCOMMODATE TRAFFIC PHASING ON THE BRIDGE STRUCTURES IN ACCORDANCE WITH THE OVERALL TRAFFIC CONTROL PLAN. SEE CONSTRUCTION SCHEMATIC II & III DRAWINGS FOR CONSTRUCTION SEQUENCE.
2. FOR LIMITS AND DETAILS OF REMOVALS OF THE EXISTING STRUCTURE NO. C-285, SEE BRIDGE REMOVAL I & II DRAWINGS.
3. FOR TEMPORARY STRIPING ON SOUTHBOUND STRUCTURE AND DETAILS OF TRAFFIC PHASING ON THE BRIDGE APPROACHES SEE CONSTRUCTION PHASING AND TRAFFIC CONTROL PLANS.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	CJB 08/08
DRAWN	RJA 04/08	CHECK	BTL 04/08
QUANT	BTL 04/08	CHECK	KRM 08/08

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APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
BRIDGE CONSTRUCTION STAGING

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 107 OF 190

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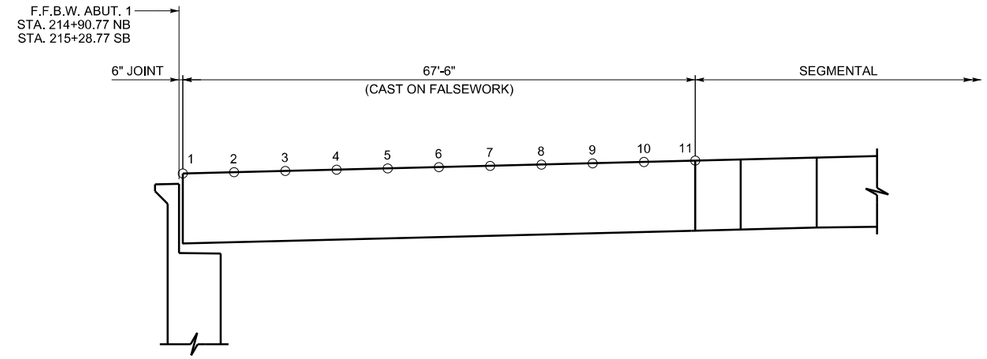
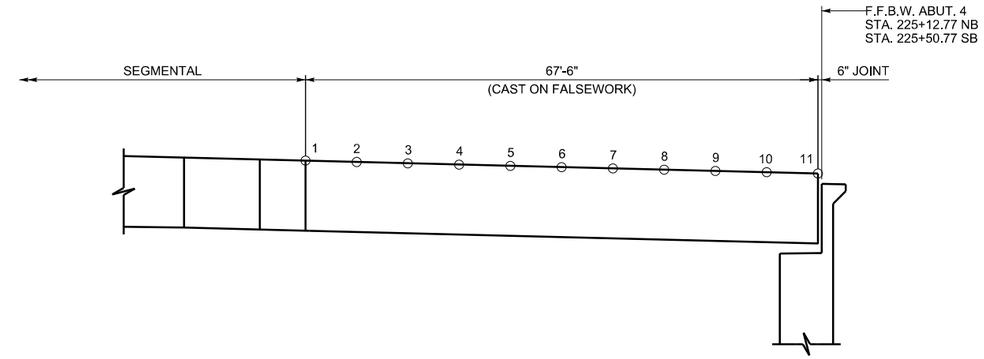
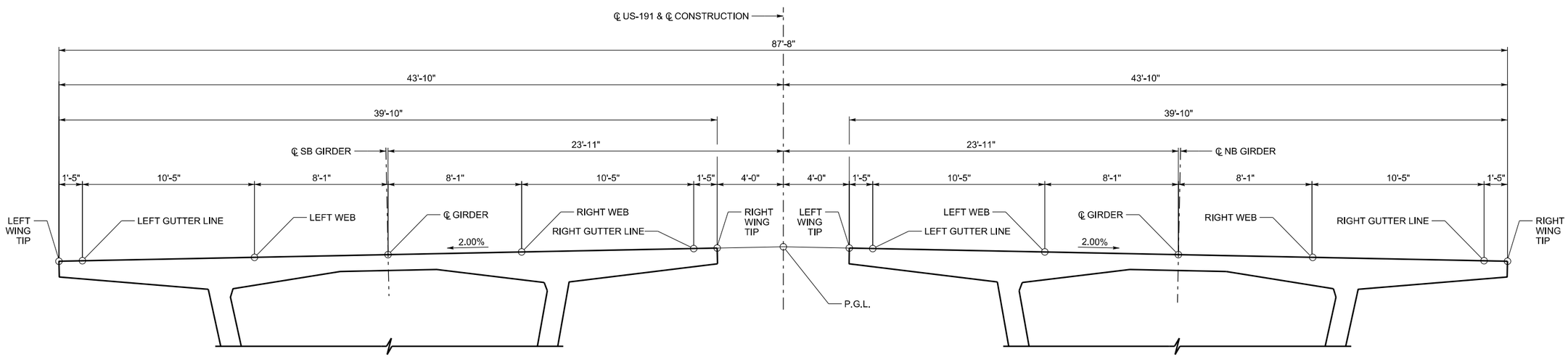
8/6/2008



SPAN 1



SPAN 3



LOOKING UPSTATION

SOUTH BOUND 10TH POINT DECK ELEVATIONS									
	POINT	STATION	LEFT WING	LEFT GUTTER	LEFT WEB	℄ GIRDER	RIGHT WEB	RIGHT GUTTER	RIGHT WING
SPAN 1	1	215+29.270	3992.217	3992.245	3992.453	3992.615	3992.777	3992.985	3993.013
	2	215+36.020	3992.386	3992.415	3992.623	3992.785	3992.946	3993.155	3993.183
	3	215+42.770	3992.556	3992.584	3992.793	3992.954	3993.116	3993.324	3993.353
	4	215+49.520	3992.726	3992.754	3992.962	3993.124	3993.286	3993.494	3993.522
	5	215+56.270	3992.895	3992.924	3993.132	3993.294	3993.455	3993.664	3993.692
	6	215+63.020	3993.065	3993.093	3993.302	3993.463	3993.625	3993.833	3993.862
	7	215+69.770	3993.235	3993.263	3993.472	3993.633	3993.795	3994.003	3994.032
	8	215+76.520	3993.405	3993.433	3993.641	3993.803	3993.965	3994.173	3994.201
	9	215+83.270	3993.574	3993.603	3993.811	3993.973	3994.134	3994.343	3994.371
	10	215+90.020	3993.744	3993.772	3993.981	3994.142	3994.304	3994.512	3994.541
	11	215+96.770	3993.914	3993.942	3994.150	3994.312	3994.474	3994.682	3994.710
SPAN 3	1	224+82.770	3993.395	3993.424	3993.632	3993.794	3993.955	3994.164	3994.192
	2	224+89.520	3993.259	3993.287	3993.495	3993.657	3993.819	3994.027	3994.055
	3	224+96.270	3993.122	3993.150	3993.358	3993.520	3993.682	3993.890	3993.918
	4	225+03.020	3992.985	3993.013	3993.221	3993.383	3993.545	3993.753	3993.781
	5	225+09.770	3992.848	3992.876	3993.085	3993.246	3993.408	3993.616	3993.645
	6	225+16.520	3992.711	3992.739	3992.948	3993.109	3993.271	3993.479	3993.508
	7	225+23.270	3992.574	3992.602	3992.811	3992.972	3993.134	3993.342	3993.371
	8	225+30.020	3992.437	3992.466	3992.674	3992.836	3992.997	3993.206	3993.234
	9	225+36.770	3992.300	3992.329	3992.537	3992.699	3992.860	3993.069	3993.097
	10	225+43.520	3992.163	3992.192	3992.400	3992.562	3992.723	3992.932	3992.960
	11	225+50.270	3992.027	3992.055	3992.263	3992.425	3992.587	3992.795	3992.823

NORTH BOUND 10TH POINT DECK ELEVATIONS									
	POINT	STATION	LEFT WING	LEFT GUTTER	LEFT WEB	℄ GIRDER	RIGHT WEB	RIGHT GUTTER	RIGHT WING
SPAN 1	1	214+91.270	3992.058	3992.030	3991.821	3991.660	3991.498	3991.290	3991.261
	2	214+98.020	3992.228	3992.199	3991.991	3991.829	3991.668	3991.459	3991.431
	3	215+04.770	3992.397	3992.369	3992.161	3991.999	3991.837	3991.629	3991.601
	4	215+11.520	3992.567	3992.539	3992.330	3992.169	3992.007	3991.799	3991.770
	5	215+18.270	3992.737	3992.708	3992.500	3992.338	3992.177	3991.968	3991.940
	6	215+25.020	3992.907	3992.878	3992.670	3992.508	3992.347	3992.138	3992.110
	7	215+31.770	3993.076	3993.048	3992.840	3992.678	3992.516	3992.308	3992.280
	8	215+38.520	3993.246	3993.218	3993.009	3992.848	3992.686	3992.478	3992.449
	9	215+45.270	3993.416	3993.387	3993.179	3993.017	3992.856	3992.647	3992.619
	10	215+52.020	3993.585	3993.557	3993.349	3993.187	3993.025	3992.817	3992.789
	11	215+58.770	3993.755	3993.727	3993.518	3993.357	3993.195	3992.987	3992.958
SPAN 3	1	224+44.770	3994.963	3994.934	3994.726	3994.564	3994.403	3994.194	3994.166
	2	224+51.520	3994.826	3994.798	3994.589	3994.428	3994.266	3994.058	3994.029
	3	224+58.270	3994.689	3994.661	3994.452	3994.291	3994.129	3993.921	3993.892
	4	224+65.020	3994.552	3994.524	3994.315	3994.154	3993.992	3993.784	3993.755
	5	224+71.770	3994.415	3994.387	3994.179	3994.017	3993.855	3993.647	3993.619
	6	224+78.520	3994.278	3994.250	3994.042	3993.880	3993.718	3993.510	3993.482
	7	224+85.270	3994.141	3994.113	3993.905	3993.743	3993.581	3993.373	3993.345
	8	224+92.020	3994.005	3993.976	3993.768	3993.606	3993.445	3993.236	3993.208
	9	224+98.770	3993.868	3993.839	3993.631	3993.469	3993.308	3993.099	3993.071
	10	225+05.520	3993.731	3993.702	3993.494	3993.332	3993.171	3992.962	3992.934
	11	225+12.270	3993.594	3993.566	3993.357	3993.196	3993.034	3992.826	3992.797

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN MSK 05/08 CHECK RKM 05/08
DRAWN RJA 05/08 CHECK MSK 05/08
QUANT MSK 05/08 CHECK KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
CIP ON FALSEWORK DECK ELEV.

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 108 OF 190

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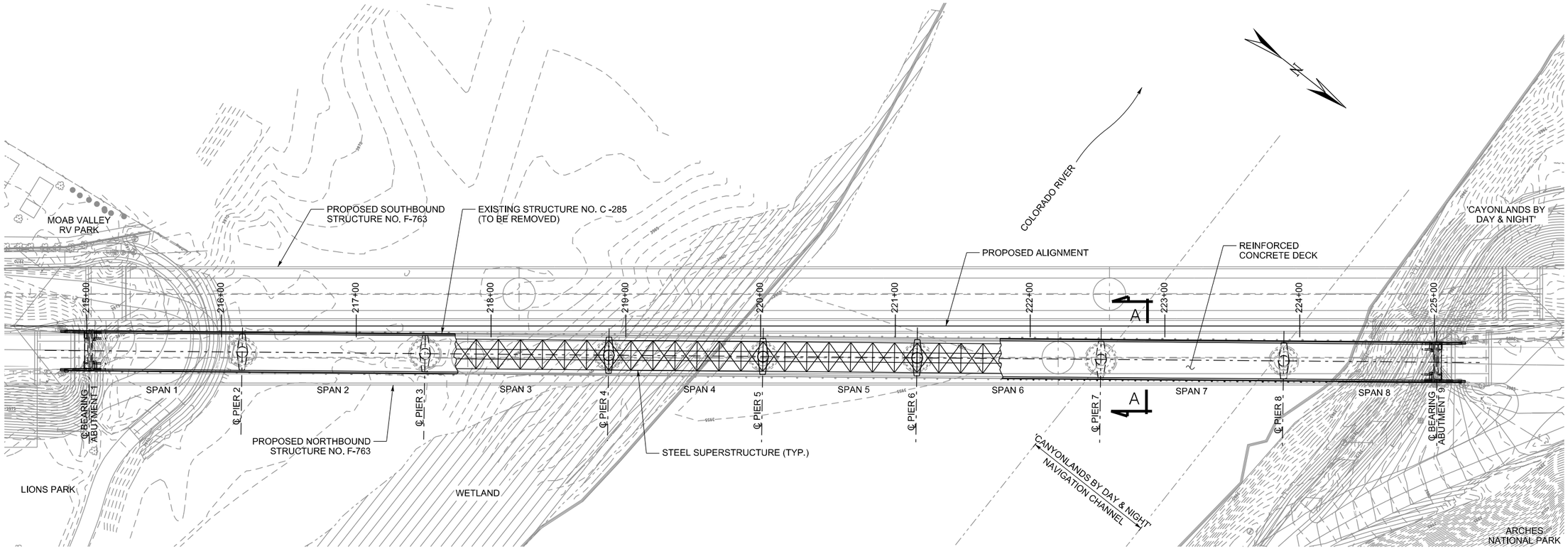
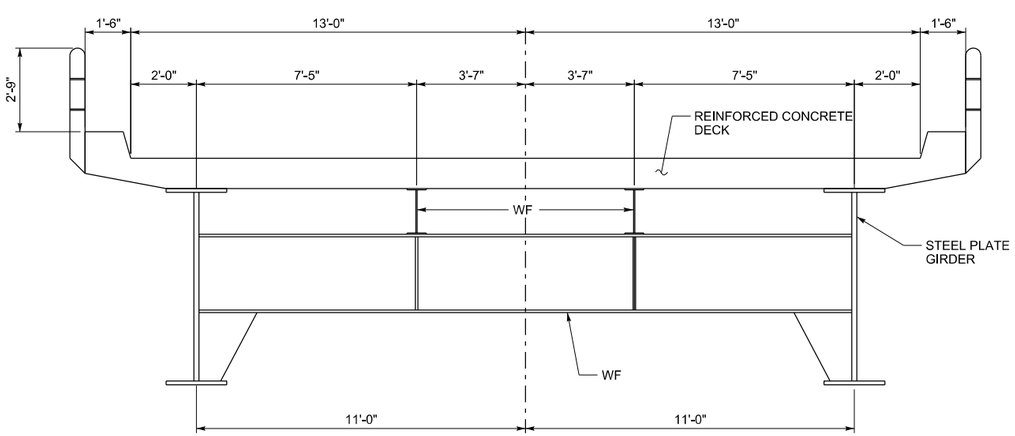
8/6/2008

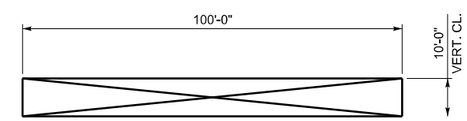


EXISTING BRIDGE FRAMING PLAN



SECTION A-A

(SUPERSTRUCTURE CROSS SECTION SCHEMATIC)



'CANYONLANDS BY DAY & NIGHT' NAVIGATIONAL CLEARANCE DETAIL

(SEE NOTE 10)

NOTES:

1. SEE EXISTING BRIDGE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL BRIDGE REMOVAL REQUIREMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR STABILITY OF THE EXISTING STRUCTURE FOR THE DURATION OF DEMOLITION AND BRIDGE REMOVAL.
4. DIMENSIONS SHOWN ARE PER ORIGINAL BRIDGE PLANS AND ARE NOT INTENDED TO DEPICT AS-BUILT CONDITIONS.
5. BRIDGE DEMOLITION INCLUDES REMOVAL OF THE ENTIRE STRUCTURE INCLUDING THE SUPERSTRUCTURE, APPROACH STRUCTURES, SUBSTRUCTURE, AND ABUTMENTS. SUBSTRUCTURE REMOVAL IS TO THE LIMITS SHOWN ON THE BRIDGE REMOVAL II SHEET.
6. COORDINATE DEMOLITION AND BRIDGE REMOVAL WITH OVERALL PROJECT PLANING.
7. SUBMIT A DEMOLITION PLAN TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO BEGINNING ANY WORK.
8. PERFORM DEMOLITION AND REMOVAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, PERMITS, AND APPLICABLE CODES.
9. SEE RIGHT-OF-WAY PLANS FOR LOCATION OF TEMPORARY CONSTRUCTION EASEMENTS.
10. MAINTAIN NAVIGATIONAL CLEARANCE FOR 'CANYONLANDS BY DAY & NIGHT' TOURS TO ONE SIDE OF PIER 3 DURING THE OPERATIONAL MONTHS OF MARCH THOUGH OCTOBER, BETWEEN 5:30 PM AND 10:30 PM.
11. EXISTING BRIDGE LIKELY CONTAINS LEAD PAINT. SEE PROJECT SPECIAL PROVISIONS SECTION 002221M FOR TREATMENT AND DISPOSAL OF LEAD PAINT DURING BRIDGE REMOVAL.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	CCB 05/08	CHECK	BTL 08/08
DRAWN	RJA 05/08	CHECK	CCB 05/08
QUANT	CCB 05/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.

APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
BRIDGE REMOVAL I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 109 OF 190

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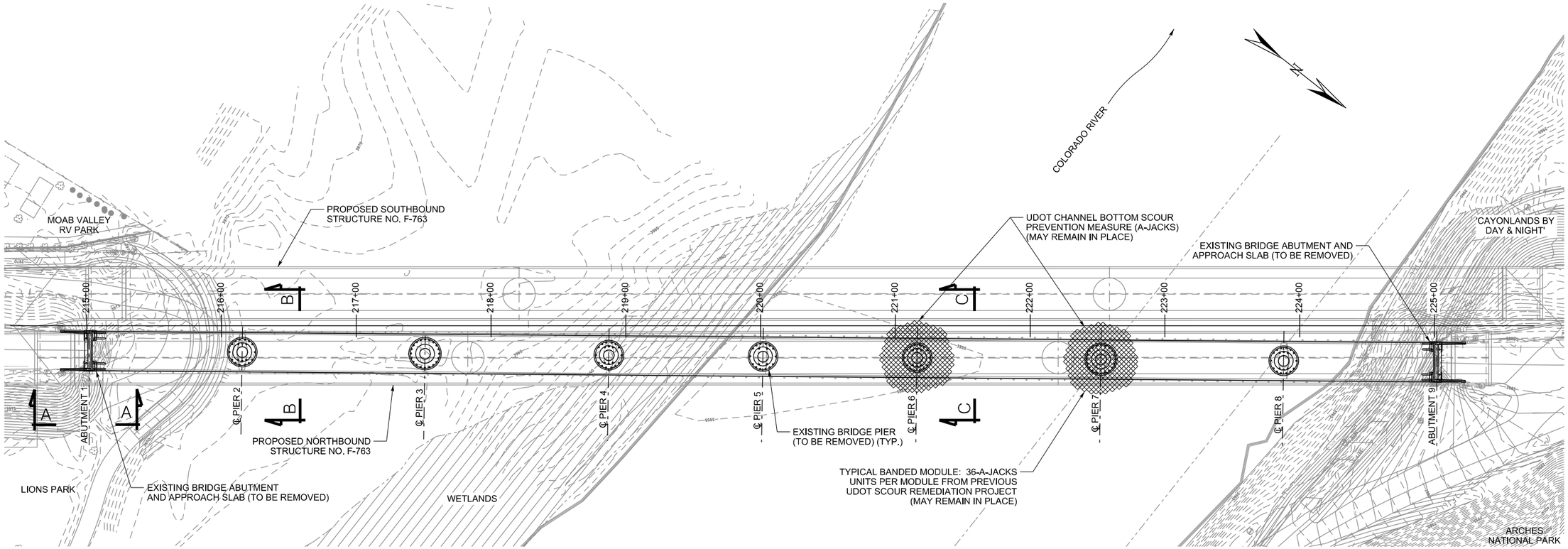
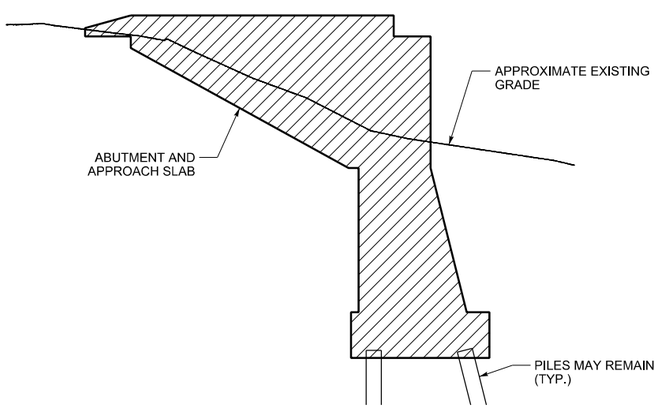
9/6/2008

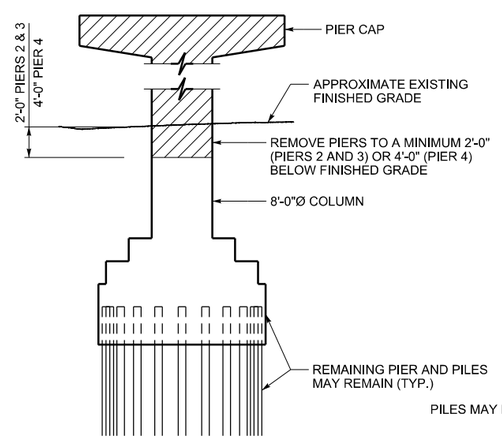


EXISTING BRIDGE FOUNDATION PLAN



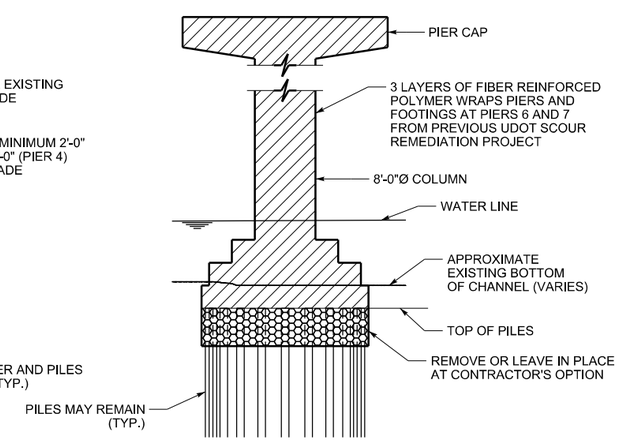
SECTION A-A

(ABUTMENT 1 SHOWN, ABUTMENT 4 SIMILAR)



SECTION B-B

(VALID FOR PIERS 2, 3, & 4)



SECTION C-C

(VALID FOR PIERS 5, 6, 7, & 8)

LEGEND

- LIMITS OF STRUCTURE REMOVAL
- REMOVE OR TO REMAIN AT CONTRACTOR'S OPTION

ESTIMATED QUANTITIES		
DESCRIPTION	UNIT	TOTAL
REMOVE BRIDGE	EA	1

NOTES:

1. EXCAVATION REMAINING AFTER PIER AND ABUTMENT FOOTING REMOVAL SHALL BE BACK FILLED WITH EMBANKMENT OR SUITABLE MATERIAL PER THE CONTRACT DOCUMENTS AS APPLICABLE.
2. REMOVAL WORK IS SUBJECT TO OPERATIONS LIMITATIONS AS INDICATED IN THE PROJECT SPECIFICATIONS.
3. SEE EXISTING BRIDGE PLANS FOR ADDITIONAL INFORMATION.
4. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL BRIDGE REMOVAL REQUIREMENTS.
5. A-JACKS MATS AND FIBER WRAPPING AT PIERS 6 AND 7 ARE ADDED IN A PREVIOUS UDOT SCOUR REMEDIATION PROJECT. SEE ATTACHED REFERENCE PLANS FOR MORE INFORMATION.
6. REMOVE ABUTMENTS AND APPROACH SLAB STRUCTURES TO AT THE LEAST THE MINIMUM LIMITS SHOWN TO CONSTRUCT PROPOSED BRIDGE, APPROACH STRUCTURES, AND ROADWAY ELEMENTS.
7. PAYMENT FOR REMOVE BRIDGE INCLUDES ALL WORK NECESSARY FOR THE COMPLETE REMOVAL AND DISPOSAL OF THE STRUCTURE PER THE CONTRACT PLANS AND SPECIFICATIONS.
8. TEMPORARY SHORING AND/OR COFFERDAMS MAY BE NECESSARY FOR SUBSTRUCTURE REMOVAL TO THE LIMITS SHOWN.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	CCB 05/08	CHECK	BTL 08/08
DRAWN	RJA 05/08	CHECK	CCB 05/08
QUANT	CCB 05/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
BRIDGE REMOVAL II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 110 OF 190

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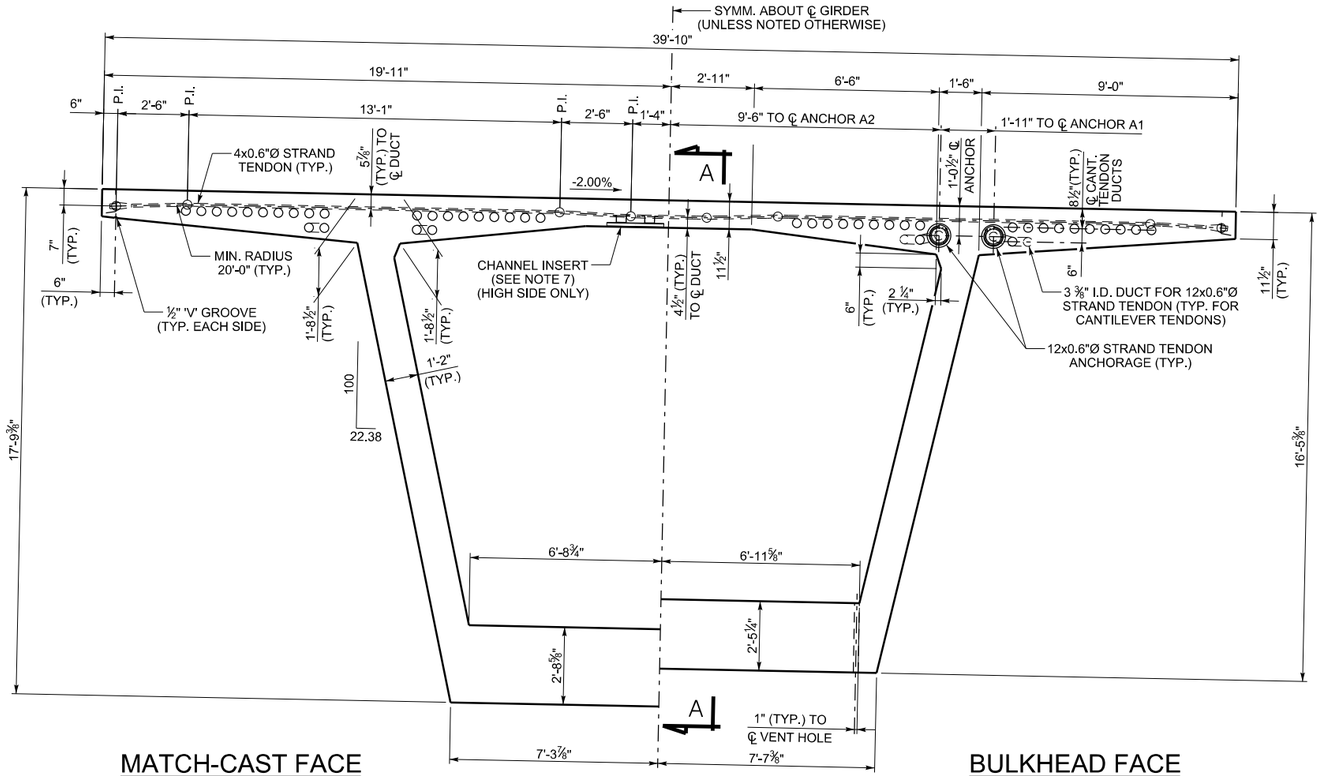
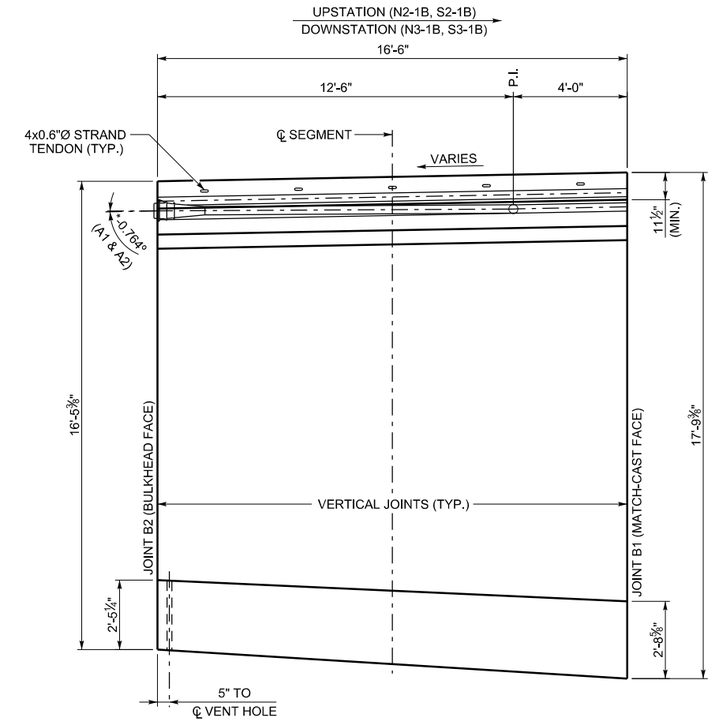
9/6/2008



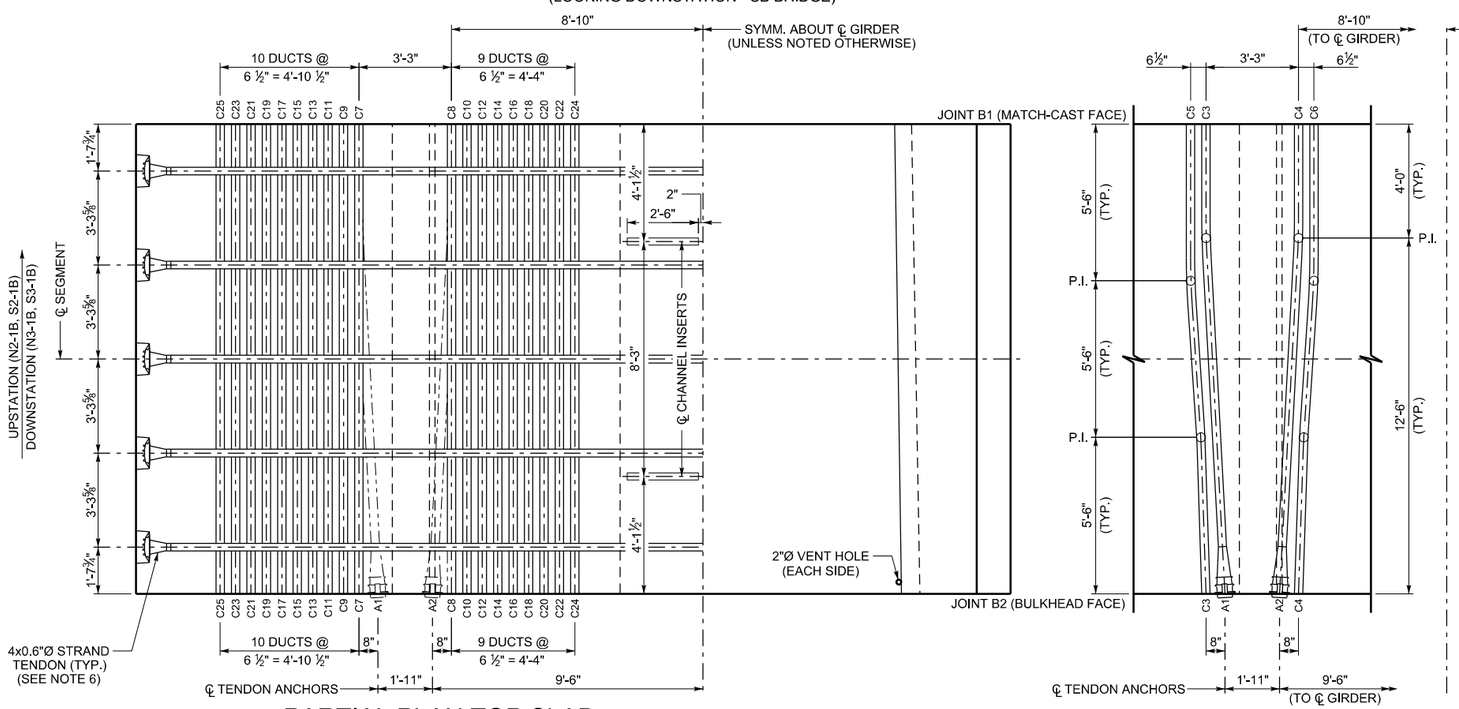
MATCH-CAST FACE
(JOINT B1)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B2)



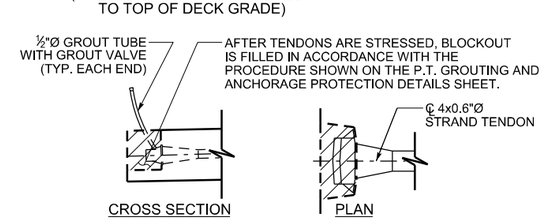
SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB
(ONLY UPPER CANTILEVER DUCTS SHOWN FOR CLARITY)
(SEE LOWER DUCT DETAIL FOR LOWER DUCT POSITIONS)

PARTIAL PLAN BOTTOM SLAB

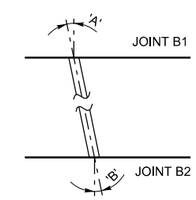
LOWER DUCT DETAIL



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B1 DUCT POSITION	'A'	JOINT B2 DUCT POSITION	'B'
C3	0°	A1	3.054°
C4	0°	A2	3.054°
C5	0°	C3	1.880°
C6	0°	C4	1.880°
C7-C25	0°	C7-C25	0°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-1B, S2-1B, N3-1B AND S3-1B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL	04/08	CHECK DSL 08/08
DRAWN	KJM	04/08	CHECK BTL 04/08
QUANT	BTL	08/08	CHECK KRM 08/08

APPROVAL RECOMM. — DATE — SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT — DATE — UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 1B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 111 OF 190

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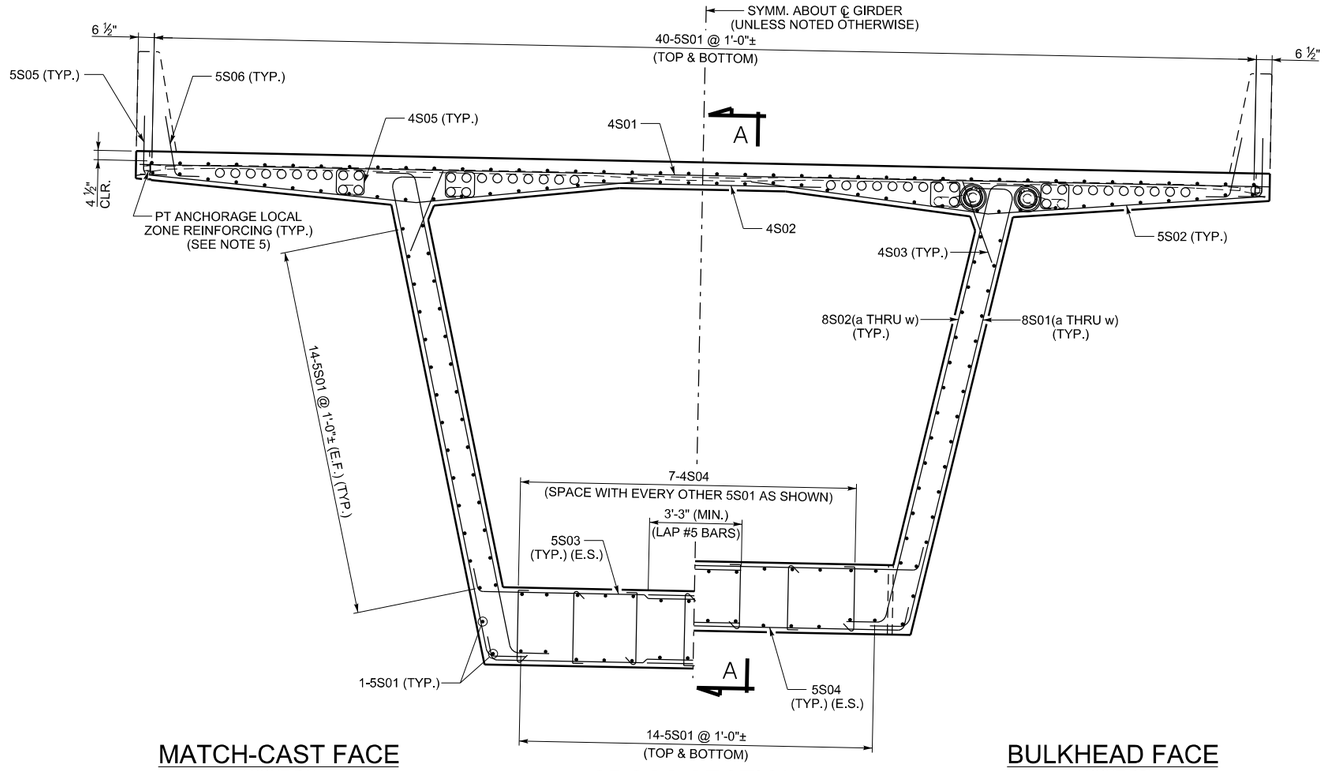
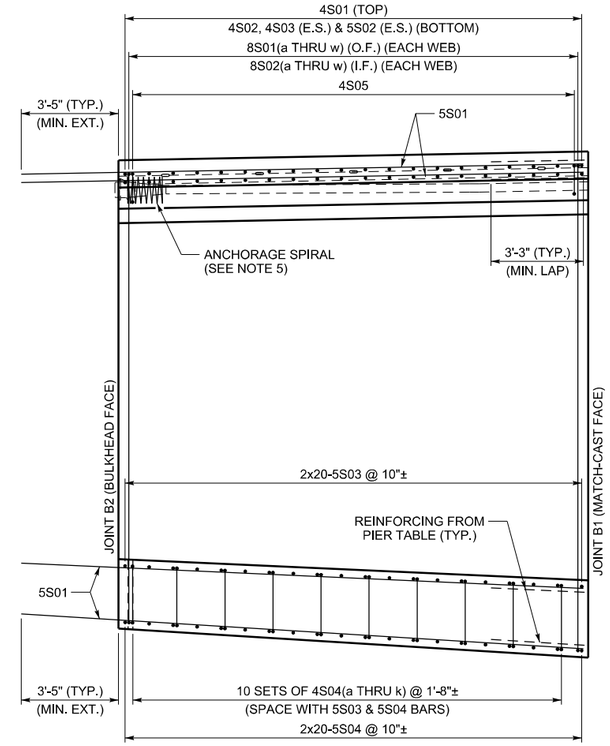
8/6/2008



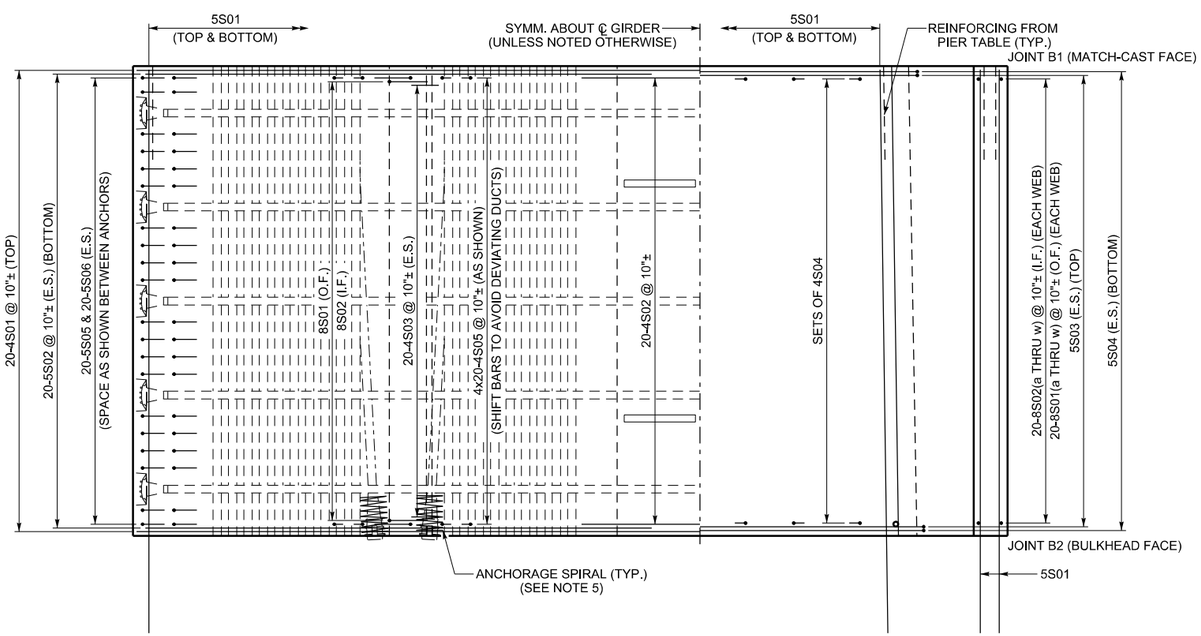
MATCH-CAST FACE
(JOINT B1)

CROSS SECTION

BULKHEAD FACE
(JOINT B2)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-1B, S2-1B, N3-1B AND S3-1B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.
7. ALTERNATE TAILS OF 4S04 BARS LONGITUDINALLY AND TRANSVERSELY AS SHOWN.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 1B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

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DRG. NO.

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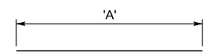
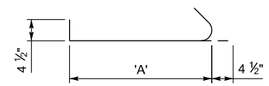
8/6/2008

SEGMENT TYPE 1B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-1B, S2-1B, N3-1B AND S3-1B.

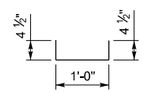
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	168	19'-9 1/2"	3325'-0"	19'-9 1/2"



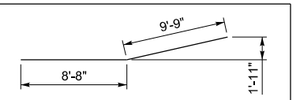
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	7	3'-2 1/2"	22'-5 1/4"	2'-5 1/2"
4S04b	BOTTOM SLAB	4	7	3'-2 1/8"	22'-3"	2'-5 1/8"
4S04c	BOTTOM SLAB	4	7	3'-1 3/4"	22'-0 5/8"	2'-4 3/4"
4S04d	BOTTOM SLAB	4	7	3'-1 1/2"	21'-10 1/4"	2'-4 1/2"
4S04e	BOTTOM SLAB	4	7	3'-1 1/8"	21'-7 7/8"	2'-4 1/8"
4S04f	BOTTOM SLAB	4	7	3'-0 3/4"	21'-5 1/2"	2'-3 3/4"
4S04g	BOTTOM SLAB	4	7	3'-0 1/2"	21'-3 1/4"	2'-3 1/2"
4S04h	BOTTOM SLAB	4	7	3'-0 1/8"	21'-0 7/8"	2'-3 1/8"
4S04j	BOTTOM SLAB	4	7	2'-11 3/4"	20'-10 1/2"	2'-2 3/4"
4S04k	BOTTOM SLAB	4	7	2'-11 1/2"	20'-8 1/8"	2'-2 1/2"



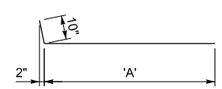
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	160	1'-9"	280'-0"



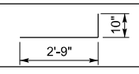
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



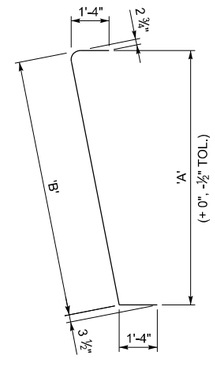
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-5 5/8"	418'-9"	9'-7 5/8"
5S04	BOTTOM SLAB	5	40	9'-11 3/4"	399'-2"	9'-1 3/4"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



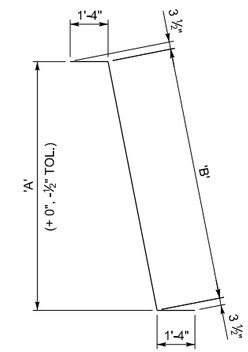
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	20'-2 1/2"	40'-4 7/8"	17'-2 3/8"	17'-6 1/2"
8S01b	2	WEBS	8	2	20'-1 5/8"	40'-3 1/4"	17'-1 1/2"	17'-5 5/8"
8S01c	3	WEBS	8	2	20'-0 7/8"	40'-1 5/8"	17'-0 3/4"	17'-4 7/8"
8S01d	4	WEBS	8	2	20'-0"	40'-0"	17'-0"	17'-4"
8S01e	5	WEBS	8	2	19'-11 1/8"	39'-10 3/8"	16'-11 1/8"	17'-3 1/4"
8S01f	6	WEBS	8	2	19'-10 3/8"	39'-8 3/4"	16'-10 3/8"	17'-2 3/8"
8S01g	7	WEBS	8	2	19'-9 1/2"	39'-7 1/8"	16'-9 1/2"	17'-1 1/2"
8S01h	8	WEBS	8	2	19'-8 3/4"	39'-5 1/2"	16'-8 3/4"	17'-0 3/4"
8S01j	9	WEBS	8	2	19'-7 7/8"	39'-3 7/8"	16'-8"	17'-0"
8S01k	10	WEBS	8	2	19'-7 1/8"	39'-2 1/8"	16'-7 1/8"	16'-11 1/8"
8S01m	11	WEBS	8	2	19'-6 1/4"	39'-0 1/2"	16'-6 3/8"	16'-10 1/4"
8S01n	12	WEBS	8	2	19'-5 1/2"	38'-10 7/8"	16'-5 1/2"	16'-9 1/2"
8S01p	13	WEBS	8	2	19'-4 5/8"	38'-9 1/4"	16'-4 3/4"	16'-8 5/8"
8S01q	14	WEBS	8	2	19'-3 7/8"	38'-7 5/8"	16'-4"	16'-7 7/8"
8S01r	15	WEBS	8	2	19'-3"	38'-6"	16'-3 1/8"	16'-7"
8S01s	16	WEBS	8	2	19'-2 1/8"	38'-4 3/8"	16'-2 3/8"	16'-6 1/4"
8S01t	17	WEBS	8	2	19'-1 3/8"	38'-2 3/4"	16'-1 5/8"	16'-5 3/8"
8S01w	18	WEBS	8	2	19'-0 1/2"	38'-1 1/8"	16'-0 3/4"	16'-4 1/2"
8S01v	19	WEBS	8	2	18'-11 3/4"	37'-11 1/2"	16'-0"	16'-3 3/4"
8S01w	20	WEBS	8	2	18'-10 7/8"	37'-9 7/8"	15'-11 1/8"	16'-2 7/8"



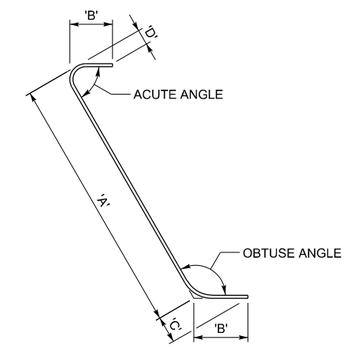
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	20'-3 1/4"	40'-6 1/2"	17'-2 3/8"	17'-7 1/4"
8S02b	2	WEBS	8	2	20'-2 3/8"	40'-4 7/8"	17'-1 1/2"	17'-6 3/8"
8S02c	3	WEBS	8	2	20'-1 5/8"	40'-3 1/4"	17'-0 3/4"	17'-5 5/8"
8S02d	4	WEBS	8	2	20'-0 3/4"	40'-1 5/8"	17'-0"	17'-4 3/4"
8S02e	5	WEBS	8	2	20'-0"	40'-0"	16'-11 1/8"	17'-4"
8S02f	6	WEBS	8	2	19'-11 1/8"	39'-10 1/4"	16'-10 3/8"	17'-3 1/8"
8S02g	7	WEBS	8	2	19'-10 3/8"	39'-8 5/8"	16'-9 1/2"	17'-2 3/8"
8S02h	8	WEBS	8	2	19'-9 1/2"	39'-7"	16'-8 3/4"	17'-1 1/2"
8S02j	9	WEBS	8	2	19'-8 3/4"	39'-5 3/8"	16'-8"	17'-0 3/4"
8S02k	10	WEBS	8	2	19'-7 7/8"	39'-3 3/4"	16'-7 1/8"	17'-0"
8S02m	11	WEBS	8	2	19'-7 1/8"	39'-2 1/8"	16'-6 3/8"	16'-11 1/8"
8S02n	12	WEBS	8	2	19'-6 1/4"	39'-0 1/2"	16'-5 1/2"	16'-10 1/4"
8S02p	13	WEBS	8	2	19'-5 3/8"	38'-10 7/8"	16'-4 3/4"	16'-9 1/2"
8S02q	14	WEBS	8	2	19'-4 5/8"	38'-9 1/4"	16'-4"	16'-8 5/8"
8S02r	15	WEBS	8	2	19'-3 3/4"	38'-7 5/8"	16'-3 1/8"	16'-7 3/4"
8S02s	16	WEBS	8	2	19'-3"	38'-6"	16'-2 3/8"	16'-7"
8S02t	17	WEBS	8	2	19'-2 1/8"	38'-4 3/8"	16'-1 5/8"	16'-6 1/8"
8S02w	18	WEBS	8	2	19'-1 3/8"	38'-2 5/8"	16'-0 3/4"	16'-5 3/8"
8S02v	19	WEBS	8	2	19'-0 1/2"	38'-1"	16'-0"	16'-4 1/2"
8S02w	20	WEBS	8	2	18'-11 3/4"	37'-11 3/8"	15'-11 1/8"	16'-3 3/4"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 1B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	10,419
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	75.4
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-1B, S2-1B, N3-1B AND S3-1B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 1B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 113 OF 190

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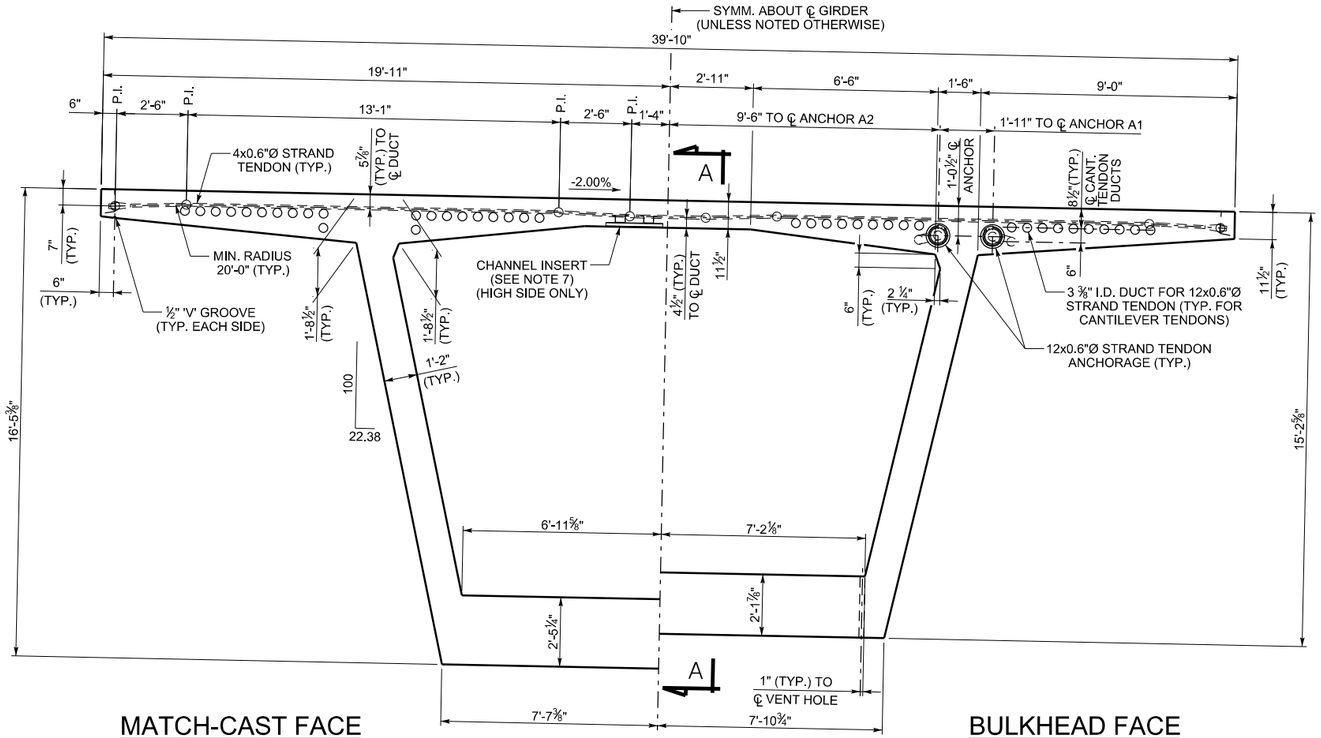
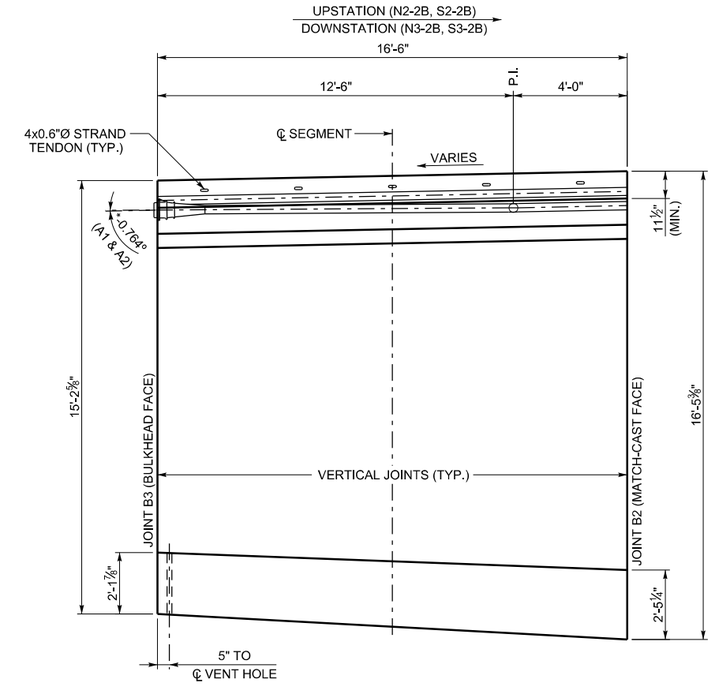
8/6/2008



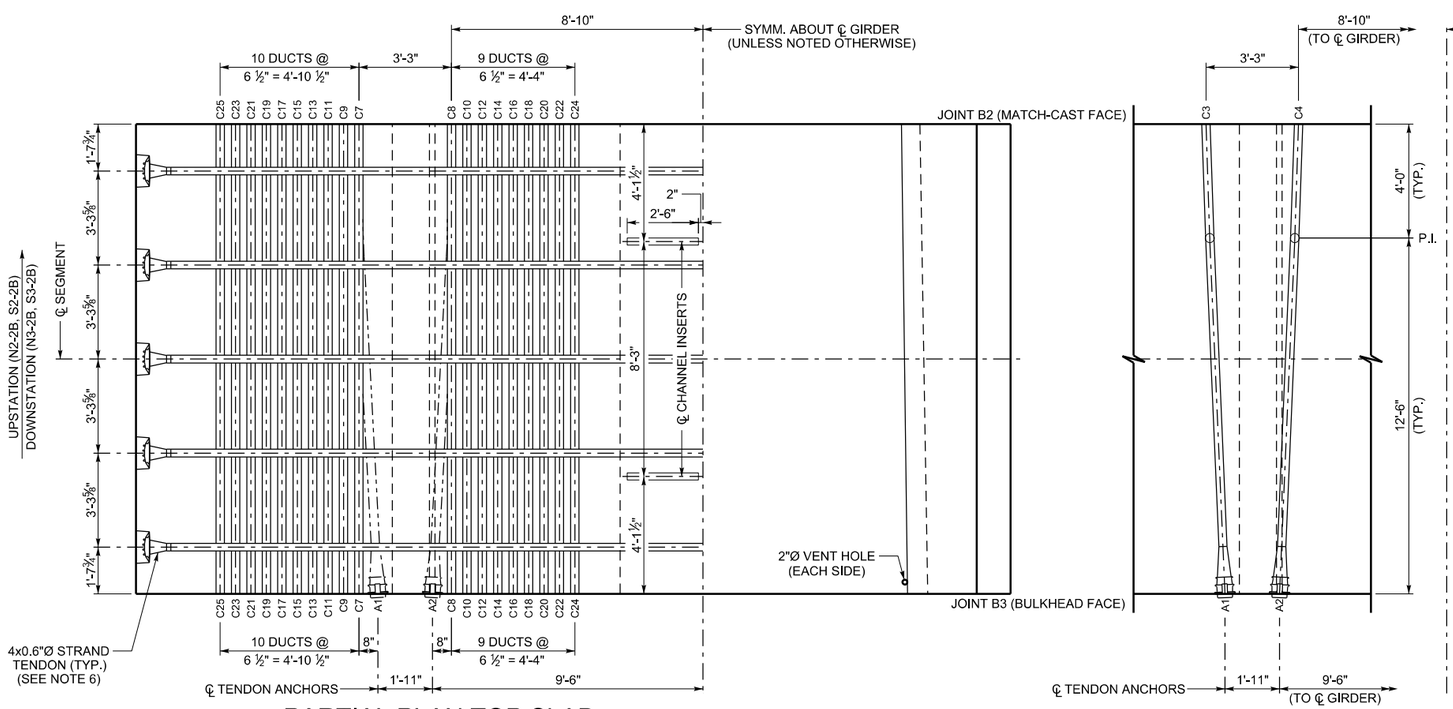
MATCH-CAST FACE
(JOINT B2)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B3)



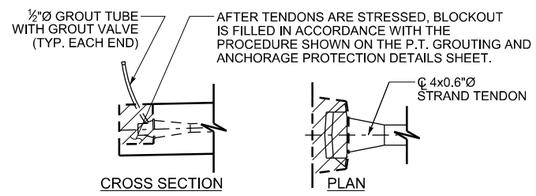
SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB
(ONLY UPPER CANTILEVER DUCTS SHOWN FOR CLARITY)
(SEE LOWER DUCT DETAIL FOR LOWER DUCT POSITIONS)

PARTIAL PLAN BOTTOM SLAB

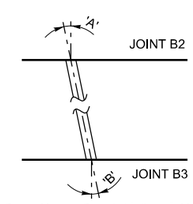
LOWER DUCT DETAIL



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B2 DUCT POSITION	'A'	JOINT B3 DUCT POSITION	'B'
C3	1.880°	A1	2.454°
C4	1.880°	A2	2.454°
C7-C25	0°	C7-C25	0°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-2B, S2-2B, N3-2B AND S3-2B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 2B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 114 OF 190

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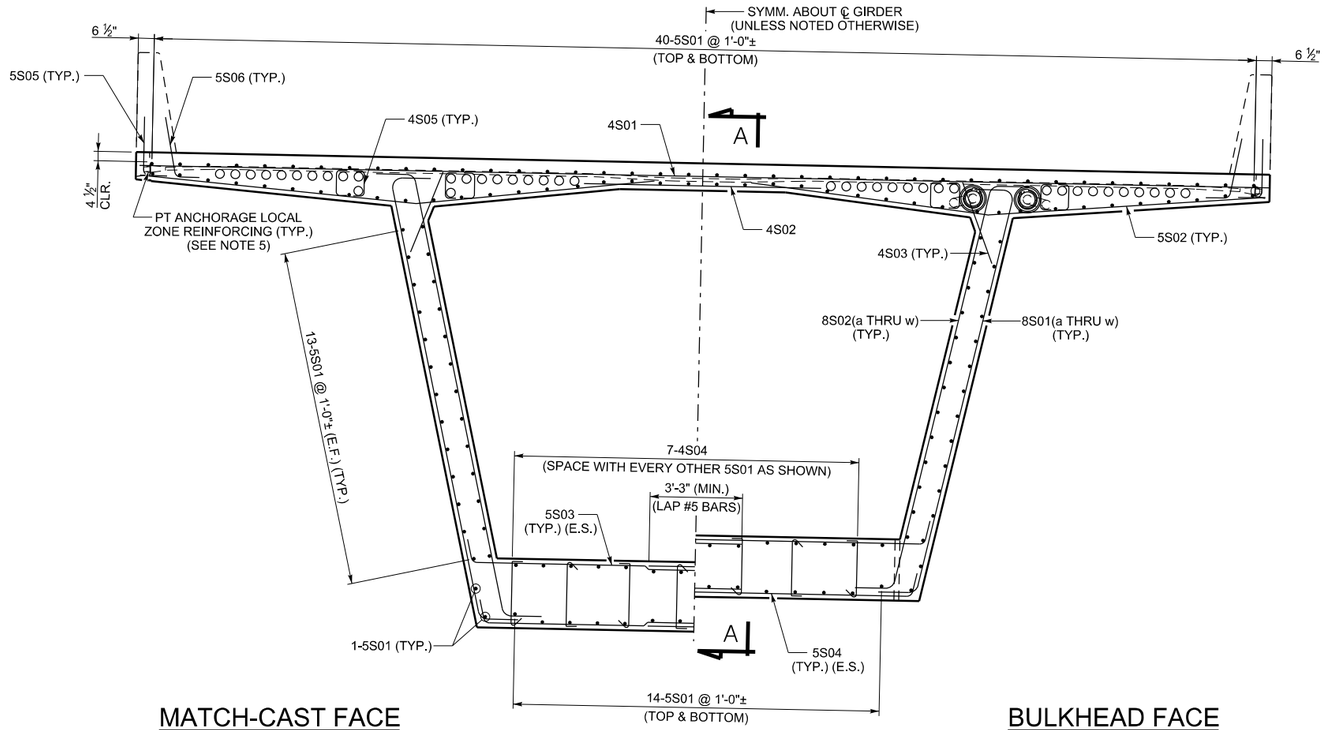
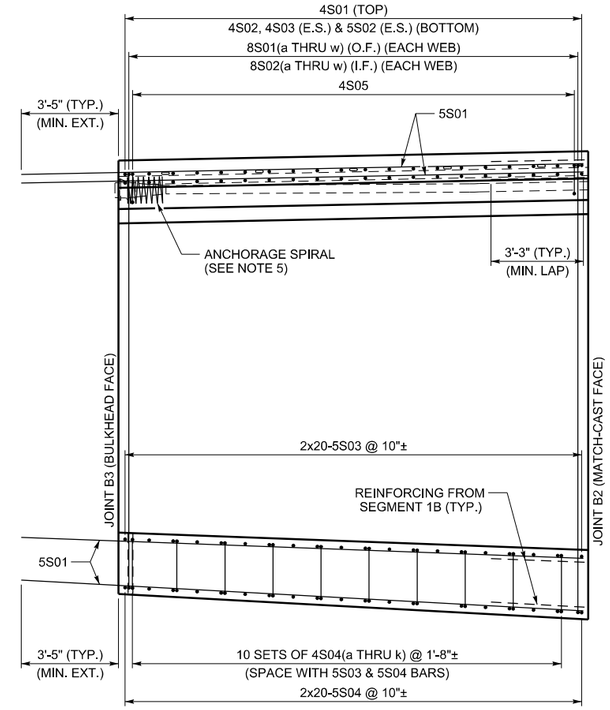
8/6/2008



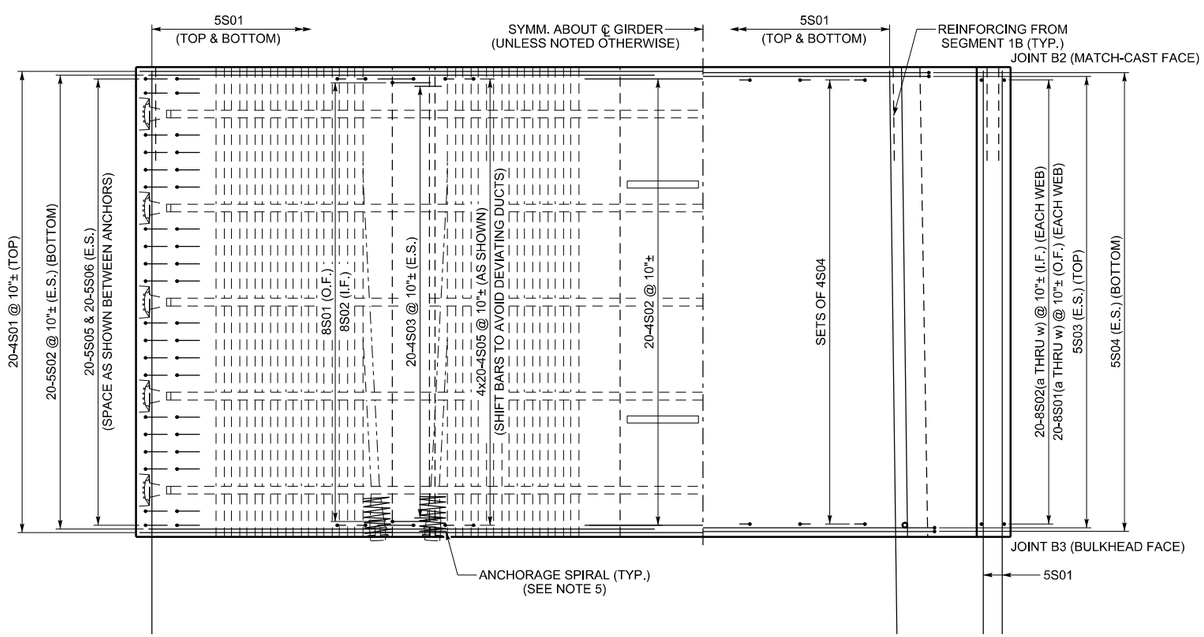
MATCH-CAST FACE
(JOINT B2)

CROSS SECTION

BULKHEAD FACE
(JOINT B3)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-2B, S2-2B, N3-2B AND S3-2B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.
7. ALTERNATE TAILS OF 4S04 BARS LONGITUDINALLY AND TRANSVERSELY AS SHOWN.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 2B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 115 OF 190

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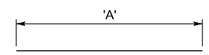
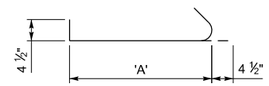
8/6/2008

SEGMENT TYPE 2B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-2B, S2-2B, N3-2B AND S3-2B.

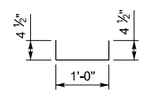
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	164	19'-9 1/2"	3245'-10"	19'-9 1/2"



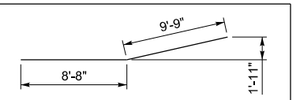
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	7	2'-11 1/8"	20'-5 3/4"	2'-2 1/8"
4S04b	BOTTOM SLAB	4	7	2'-10 3/4"	20'-3 3/8"	2'-1 3/4"
4S04c	BOTTOM SLAB	4	7	2'-10 1/2"	20'-1 1/8"	2'-1 1/2"
4S04d	BOTTOM SLAB	4	7	2'-10 1/8"	19'-10 3/4"	2'-1 1/8"
4S04e	BOTTOM SLAB	4	7	2'-9 3/4"	19'-8 3/8"	2'-0 3/4"
4S04f	BOTTOM SLAB	4	7	2'-9 3/8"	19'-6"	2'-0 3/8"
4S04g	BOTTOM SLAB	4	7	2'-9 1/8"	19'-3 5/8"	2'-0 1/8"
4S04h	BOTTOM SLAB	4	7	2'-8 3/4"	19'-1 3/8"	1'-11 3/4"
4S04j	BOTTOM SLAB	4	7	2'-8 3/8"	18'-11"	1'-11 3/8"
4S04k	BOTTOM SLAB	4	7	2'-8 1/8"	18'-8 5/8"	1'-11 1/8"



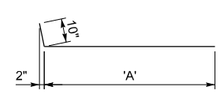
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	160	1'-9"	280'-0"



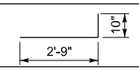
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



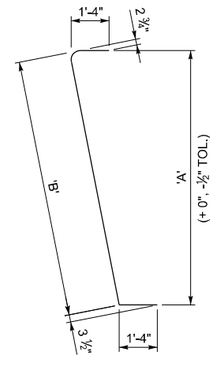
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-8 1/8"	427'-1"	9'-10 1/8"
5S04	BOTTOM SLAB	5	40	10'-3"	410'-0"	9'-5"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



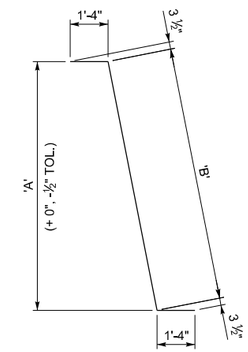
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	18'-10 1/8"	37'-8 1/4"	15'-10 3/8"	16'-2 1/8"
8S01b	2	WEBS	8	2	18'-9 3/8"	37'-6 3/4"	15'-9 5/8"	16'-1 3/8"
8S01c	3	WEBS	8	2	18'-8 5/8"	37'-5 1/4"	15'-8 7/8"	16'-0 5/8"
8S01d	4	WEBS	8	2	18'-7 7/8"	37'-3 3/4"	15'-8 1/4"	15'-11 7/8"
8S01e	5	WEBS	8	2	18'-7 1/8"	37'-2 1/4"	15'-7 1/2"	15'-11 1/8"
8S01f	6	WEBS	8	2	18'-6 3/8"	37'-0 3/4"	15'-6 3/4"	15'-10 3/8"
8S01g	7	WEBS	8	2	18'-5 5/8"	36'-11 1/8"	15'-6"	15'-9 5/8"
8S01h	8	WEBS	8	2	18'-4 7/8"	36'-9 5/8"	15'-5 1/4"	15'-8 7/8"
8S01j	9	WEBS	8	2	18'-4 1/8"	36'-8 1/8"	15'-4 1/2"	15'-8 1/8"
8S01k	10	WEBS	8	2	18'-3 3/8"	36'-6 5/8"	15'-3 3/4"	15'-7 3/8"
8S01m	11	WEBS	8	2	18'-2 5/8"	36'-5 1/8"	15'-3"	15'-6 5/8"
8S01n	12	WEBS	8	2	18'-1 3/4"	36'-3 5/8"	15'-2 1/4"	15'-5 7/8"
8S01p	13	WEBS	8	2	18'-1"	36'-2 1/8"	15'-1 1/2"	15'-5"
8S01q	14	WEBS	8	2	18'-0 1/4"	36'-0 5/8"	15'-0 3/4"	15'-4 1/4"
8S01r	15	WEBS	8	2	17'-11 1/2"	35'-11 1/8"	15'-0 1/8"	15'-3 1/2"
8S01s	16	WEBS	8	2	17'-10 3/4"	35'-9 5/8"	14'-11 3/8"	15'-2 3/4"
8S01t	17	WEBS	8	2	17'-10"	35'-8"	14'-10 5/8"	15'-2"
8S01w	18	WEBS	8	2	17'-9 1/4"	35'-6 1/2"	14'-9 7/8"	15'-1 1/4"
8S01v	19	WEBS	8	2	17'-8 1/2"	35'-5"	14'-9 1/8"	15'-0 1/2"
8S01w	20	WEBS	8	2	17'-7 3/4"	35'-3 1/2"	14'-8 3/8"	14'-11 3/4"



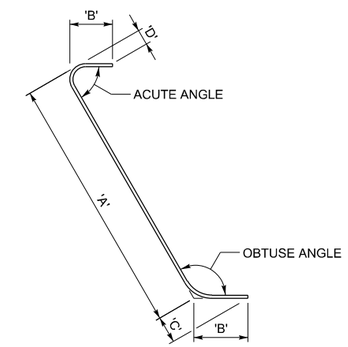
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	18'-10 7/8"	37'-9 7/8"	15'-10 3/8"	16'-2 7/8"
8S02b	2	WEBS	8	2	18'-10 1/8"	37'-8 3/8"	15'-9 5/8"	16'-2 1/8"
8S02c	3	WEBS	8	2	18'-9 3/8"	37'-6 7/8"	15'-8 7/8"	16'-1 3/8"
8S02d	4	WEBS	8	2	18'-8 5/8"	37'-5 1/4"	15'-8 1/4"	16'-0 5/8"
8S02e	5	WEBS	8	2	18'-7 7/8"	37'-3 3/4"	15'-7 1/2"	16'-0"
8S02f	6	WEBS	8	2	18'-7 1/8"	37'-2 1/4"	15'-6 3/4"	15'-11 1/8"
8S02g	7	WEBS	8	2	18'-6 3/8"	37'-0 3/4"	15'-6"	15'-10 3/8"
8S02h	8	WEBS	8	2	18'-5 5/8"	36'-11 1/4"	15'-5 1/4"	15'-9 5/8"
8S02j	9	WEBS	8	2	18'-4 7/8"	36'-9 3/4"	15'-4 1/2"	15'-8 7/8"
8S02k	10	WEBS	8	2	18'-4 1/8"	36'-8 1/4"	15'-3 3/4"	15'-8 1/8"
8S02m	11	WEBS	8	2	18'-3 3/8"	36'-6 3/4"	15'-3"	15'-7 3/8"
8S02n	12	WEBS	8	2	18'-2 5/8"	36'-5 1/4"	15'-2 1/4"	15'-6 5/8"
8S02p	13	WEBS	8	2	18'-1 7/8"	36'-3 3/4"	15'-1 1/2"	15'-5 7/8"
8S02q	14	WEBS	8	2	18'-1 1/8"	36'-2 1/8"	15'-0 3/4"	15'-5 1/8"
8S02r	15	WEBS	8	2	18'-0 3/8"	36'-0 5/8"	15'-0 1/8"	15'-4 3/8"
8S02s	16	WEBS	8	2	17'-11 5/8"	35'-11 1/8"	14'-11 3/8"	15'-3 5/8"
8S02t	17	WEBS	8	2	17'-10 7/8"	35'-9 5/8"	14'-10 5/8"	15'-2 7/8"
8S02w	18	WEBS	8	2	17'-10 1/8"	35'-8 1/8"	14'-9 7/8"	15'-2 1/8"
8S02v	19	WEBS	8	2	17'-9 1/4"	35'-6 5/8"	14'-9 1/8"	15'-1 3/8"
8S02w	20	WEBS	8	2	17'-8 1/2"	35'-5 1/8"	14'-8 3/8"	15'-0 1/2"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 2B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	10,266
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	72.0
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-2B, S2-2B, N3-2B AND S3-2B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 2B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 116 OF 190

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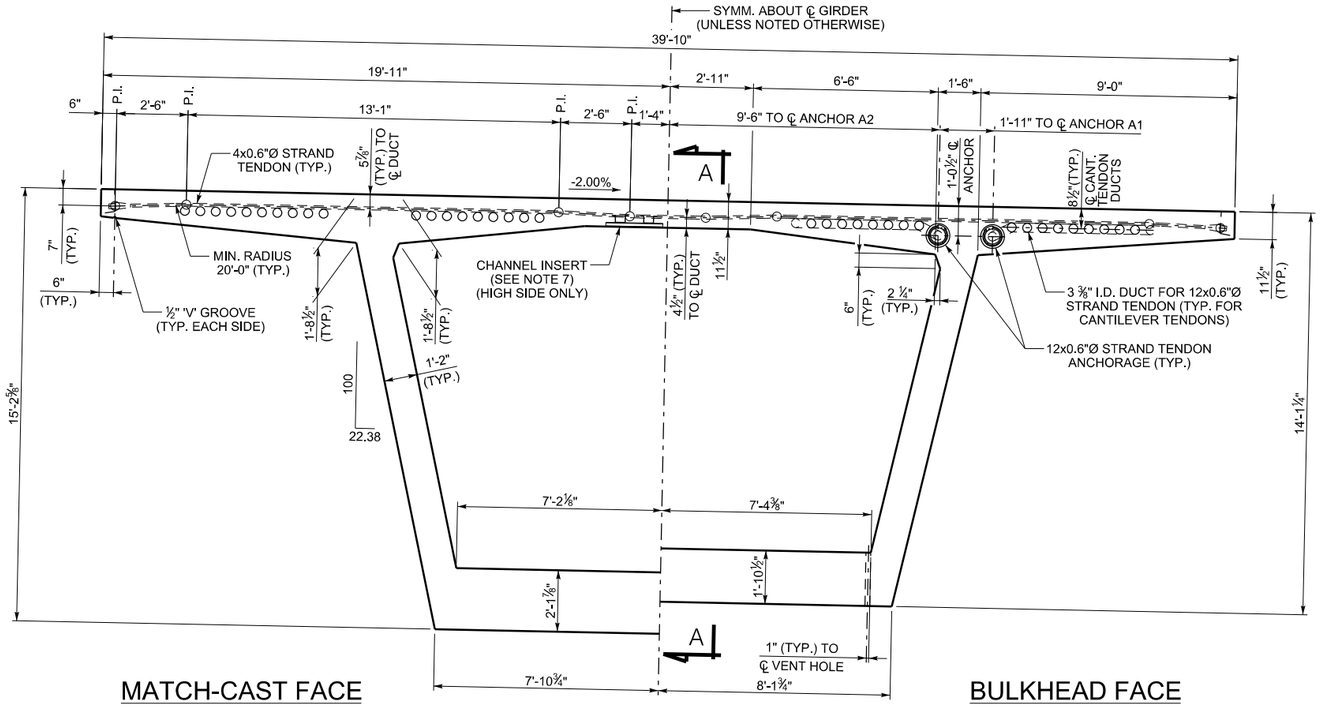
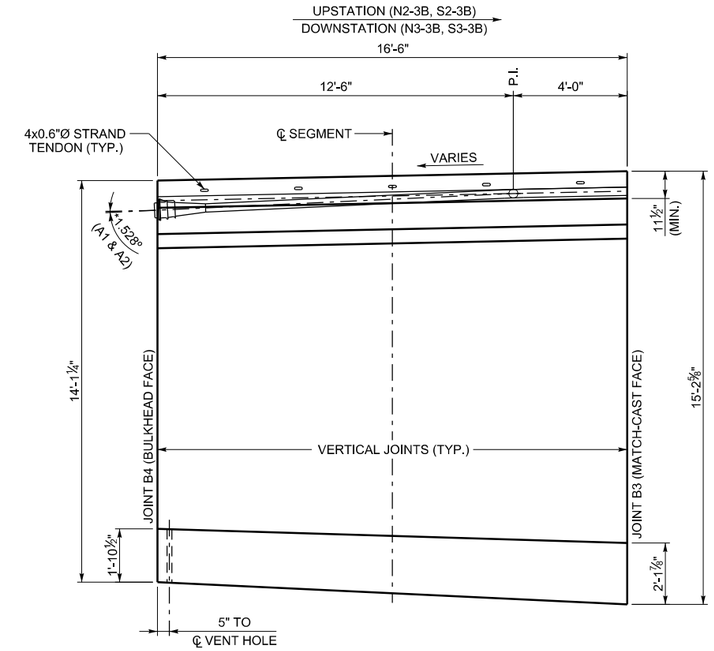
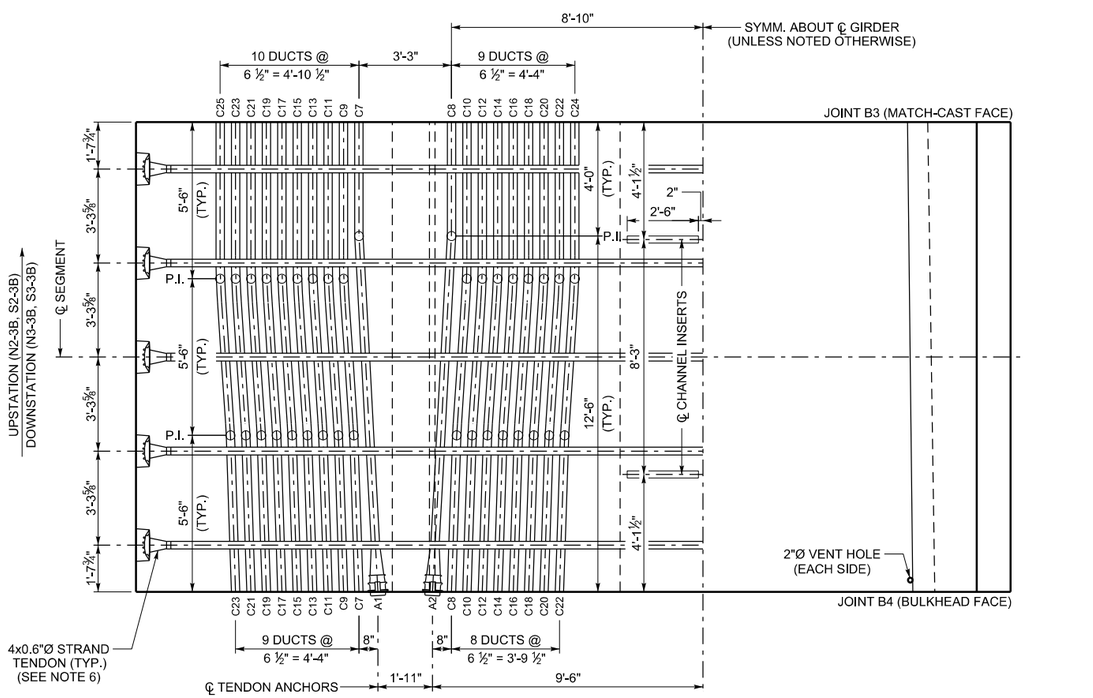
8/6/2008



CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

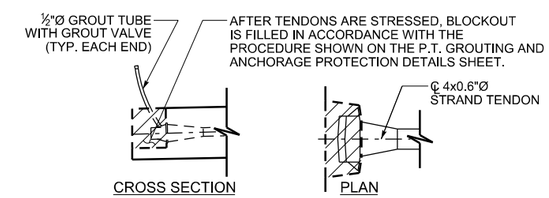


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

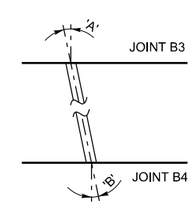
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B3 DUCT POSITION	'A'	JOINT B4 DUCT POSITION	'B'
C7	0°	A1	3.054°
C8	0°	A2	3.054°
C9-C25	0°	C7-C23	1.880°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-3B, S2-3B, N3-3B AND S3-3B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL	04/08	CHECK DSL 08/08
DRAWN	KJM	04/08	CHECK BTL 04/08
QUANT.	BTL	08/08	CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER
RIVER BRIDGE - MOAB UTAH
SEGMENT 3B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 117 OF 190

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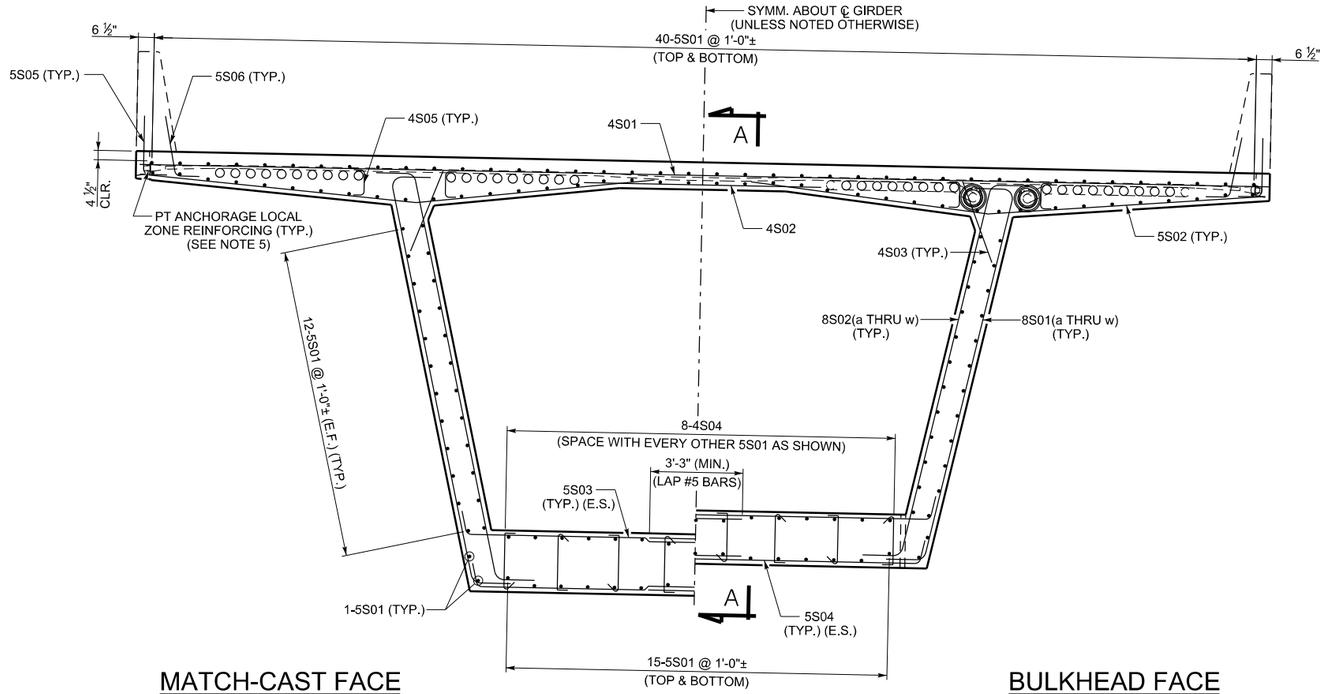
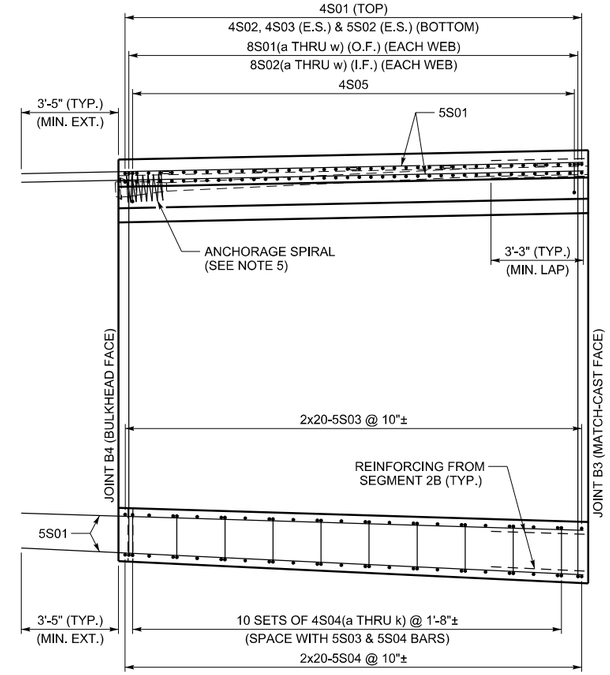
8/6/2008



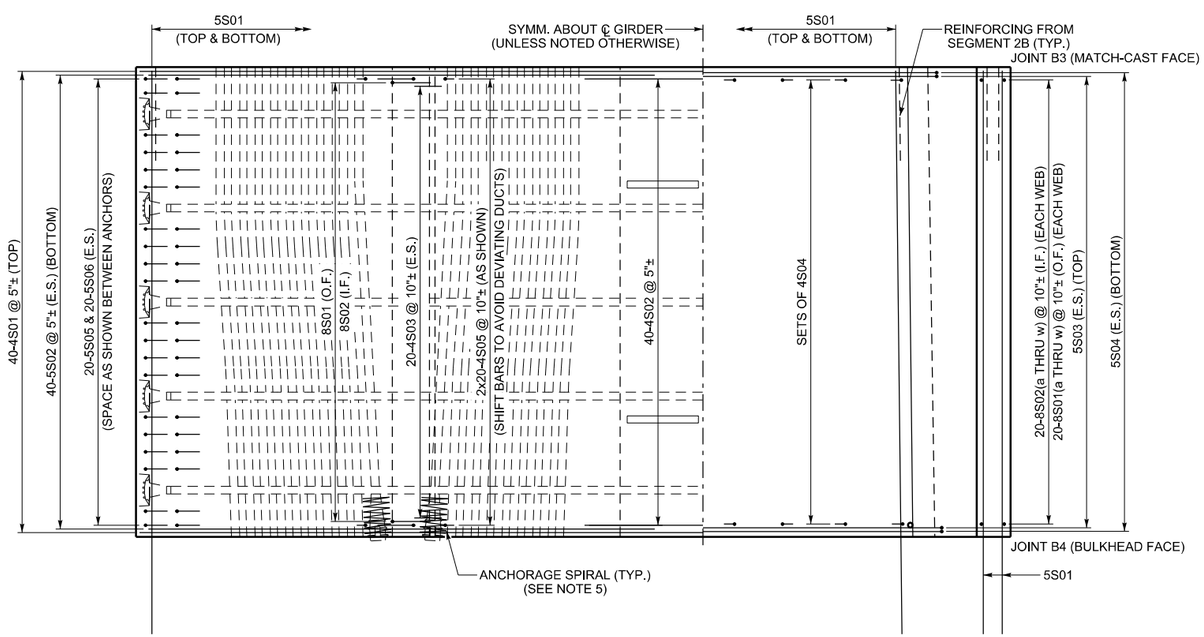
MATCH-CAST FACE
(JOINT B3)

CROSS SECTION

BULKHEAD FACE
(JOINT B4)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-3B, S2-3B, N3-3B AND S3-3B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.
7. ALTERNATE TAILS OF 4S04 BARS LONGITUDINALLY AND TRANSVERSELY AS SHOWN.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 3B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 118 OF 190

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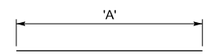
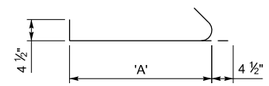
8/6/2008

SEGMENT TYPE 3B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-3B, S2-3B, N3-3B AND S3-3B.

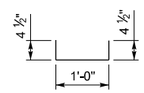
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	40	39'-7"	1583'-4"	39'-7"
4S02	TOP SLAB	4	40	8'-8"	346'-8"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	162	19'-9 1/2"	3206'-3"	19'-9 1/2"



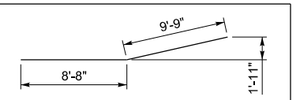
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	8	2'-7 3/4"	21'-2"	1'-10 3/4"
4S04b	BOTTOM SLAB	4	8	2'-7 3/8"	20'-11 1/4"	1'-10 3/8"
4S04c	BOTTOM SLAB	4	8	2'-7 1/8"	20'-8 1/2"	1'-10 1/8"
4S04d	BOTTOM SLAB	4	8	2'-6 3/4"	20'-5 3/4"	1'-9 3/4"
4S04e	BOTTOM SLAB	4	8	2'-6 3/8"	20'-3"	1'-9 3/8"
4S04f	BOTTOM SLAB	4	8	2'-6"	20'-0 1/4"	1'-9"
4S04g	BOTTOM SLAB	4	8	2'-5 3/4"	19'-9 5/8"	1'-8 3/4"
4S04h	BOTTOM SLAB	4	8	2'-5 3/8"	19'-6 7/8"	1'-8 3/8"
4S04j	BOTTOM SLAB	4	8	2'-5"	19'-4 1/8"	1'-8"
4S04k	BOTTOM SLAB	4	8	2'-4 5/8"	19'-1 3/8"	1'-7 5/8"



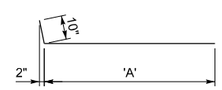
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



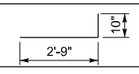
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	80	18'-5"	1473'-4"



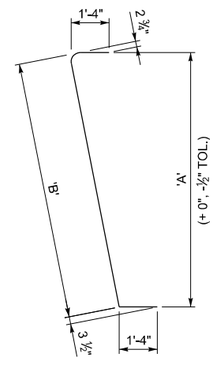
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-10 3/8"	434'-7"	10'-0 3/8"
5S04	BOTTOM SLAB	5	40	10'-6"	420'-0"	9'-8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



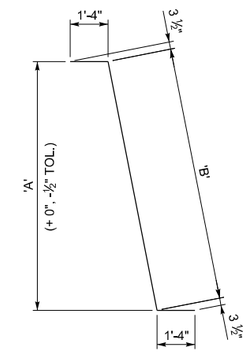
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	17'-7"	35'-2 1/8"	14'-7 5/8"	14'-11"
8S01b	2	WEBS	8	2	17'-6 3/8"	35'-0 3/4"	14'-7"	14'-10 3/8"
8S01c	3	WEBS	8	2	17'-5 5/8"	34'-11 3/8"	14'-6 3/8"	14'-9 5/8"
8S01d	4	WEBS	8	2	17'-5"	34'-10"	14'-5 5/8"	14'-9"
8S01e	5	WEBS	8	2	17'-4 1/4"	34'-8 5/8"	14'-5"	14'-8 1/4"
8S01f	6	WEBS	8	2	17'-3 5/8"	34'-7 1/8"	14'-4 3/8"	14'-7 5/8"
8S01g	7	WEBS	8	2	17'-2 7/8"	34'-5 3/4"	14'-3 5/8"	14'-6 7/8"
8S01h	8	WEBS	8	2	17'-2 1/4"	34'-4 3/8"	14'-3"	14'-6 1/4"
8S01j	9	WEBS	8	2	17'-1 1/2"	34'-3"	14'-2 1/4"	14'-5 1/2"
8S01k	10	WEBS	8	2	17'-0 7/8"	34'-1 5/8"	14'-1 5/8"	14'-4 7/8"
8S01m	11	WEBS	8	2	17'-0 1/8"	34'-0 1/4"	14'-1"	14'-4 1/8"
8S01n	12	WEBS	8	2	16'-11 1/2"	33'-10 7/8"	14'-0 1/4"	14'-3 1/2"
8S01p	13	WEBS	8	2	16'-10 3/4"	33'-9 1/2"	13'-11 5/8"	14'-2 3/4"
8S01q	14	WEBS	8	2	16'-10 1/8"	33'-8 1/8"	13'-11"	14'-2 1/8"
8S01r	15	WEBS	8	2	16'-9 3/8"	33'-6 3/4"	13'-10 1/4"	14'-1 3/8"
8S01s	16	WEBS	8	2	16'-8 3/4"	33'-5 3/8"	13'-9 5/8"	14'-0 3/4"
8S01t	17	WEBS	8	2	16'-8"	33'-4"	13'-8 7/8"	14'-0"
8S01w	18	WEBS	8	2	16'-7 3/8"	33'-2 5/8"	13'-8 1/4"	13'-11 3/8"
8S01v	19	WEBS	8	2	16'-6 5/8"	33'-1 1/4"	13'-7 5/8"	13'-10 5/8"
8S01w	20	WEBS	8	2	16'-6"	33'-0"	13'-6 7/8"	13'-10"



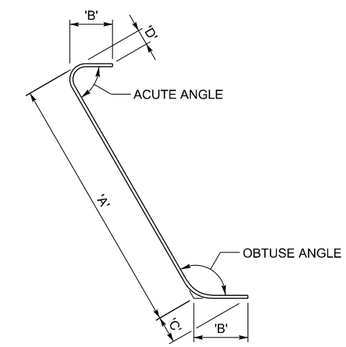
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	17'-7 7/8"	35'-3 5/8"	14'-7 5/8"	14'-11 7/8"
8S02b	2	WEBS	8	2	17'-7 1/8"	35'-2 1/4"	14'-7"	14'-11 1/8"
8S02c	3	WEBS	8	2	17'-6 1/2"	35'-0 7/8"	14'-6 3/8"	14'-10 1/2"
8S02d	4	WEBS	8	2	17'-5 3/4"	34'-11 1/2"	14'-5 5/8"	14'-9 3/4"
8S02e	5	WEBS	8	2	17'-5 1/8"	34'-10 1/8"	14'-5"	14'-9 1/8"
8S02f	6	WEBS	8	2	17'-4 3/8"	34'-8 3/4"	14'-4 3/8"	14'-8 3/8"
8S02g	7	WEBS	8	2	17'-3 3/4"	34'-7 3/8"	14'-3 5/8"	14'-7 3/4"
8S02h	8	WEBS	8	2	17'-3"	34'-6"	14'-3"	14'-7"
8S02j	9	WEBS	8	2	17'-2 3/8"	34'-4 5/8"	14'-2 1/4"	14'-6 3/8"
8S02k	10	WEBS	8	2	17'-1 5/8"	34'-3 1/4"	14'-1 5/8"	14'-5 5/8"
8S02m	11	WEBS	8	2	17'-1"	34'-1 7/8"	14'-1"	14'-5"
8S02n	12	WEBS	8	2	17'-0 1/4"	34'-0 1/2"	14'-0 1/4"	14'-4 1/4"
8S02p	13	WEBS	8	2	16'-11 5/8"	33'-11 1/8"	13'-11 5/8"	14'-3 5/8"
8S02q	14	WEBS	8	2	16'-10 7/8"	33'-9 3/4"	13'-11"	14'-2 7/8"
8S02r	15	WEBS	8	2	16'-10 1/4"	33'-8 3/8"	13'-10 1/4"	14'-2 1/4"
8S02s	16	WEBS	8	2	16'-9 1/2"	33'-7"	13'-9 5/8"	14'-1 1/2"
8S02t	17	WEBS	8	2	16'-8 3/4"	33'-5 5/8"	13'-8 7/8"	14'-0 7/8"
8S02w	18	WEBS	8	2	16'-8 1/8"	33'-4 1/4"	13'-8 1/4"	14'-0 1/8"
8S02v	19	WEBS	8	2	16'-7 3/8"	33'-2 7/8"	13'-7 5/8"	13'-11 1/2"
8S02w	20	WEBS	8	2	16'-6 3/4"	33'-1 1/2"	13'-6 7/8"	13'-10 3/4"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 3B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	11,309
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	68.2
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-3B, S2-3B, N3-3B AND S3-3B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 3B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 119 OF 190

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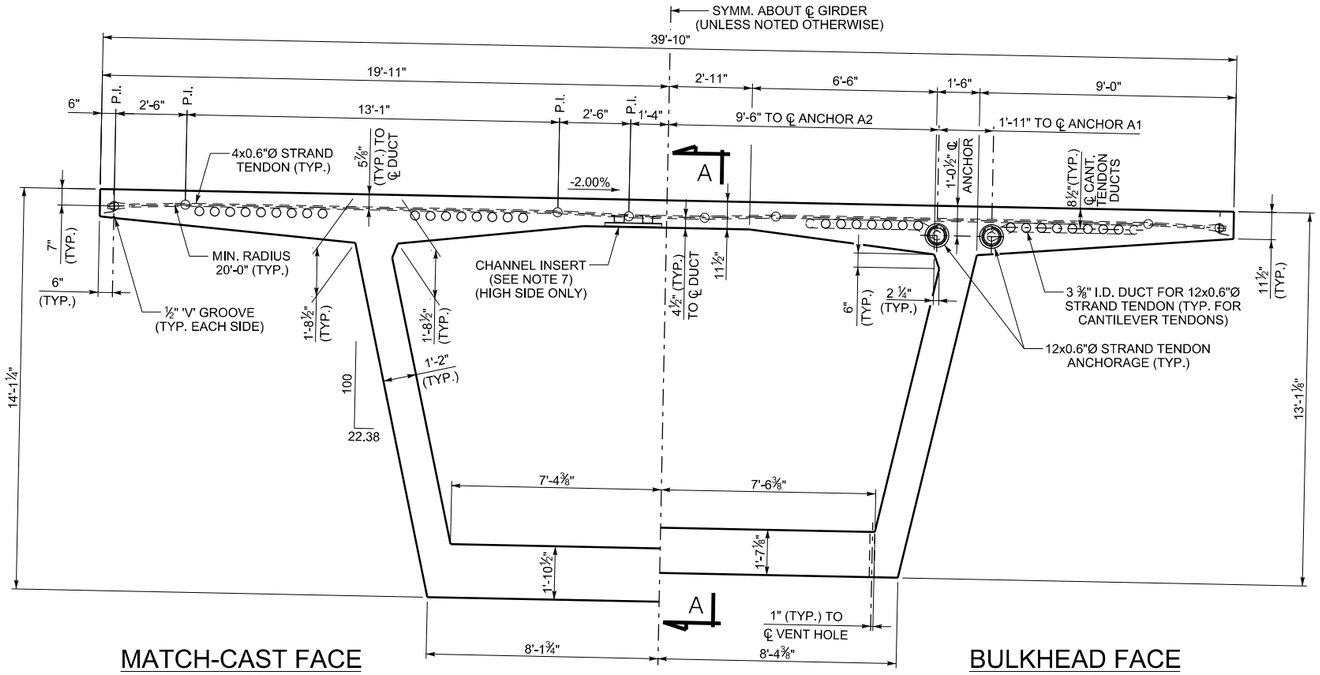
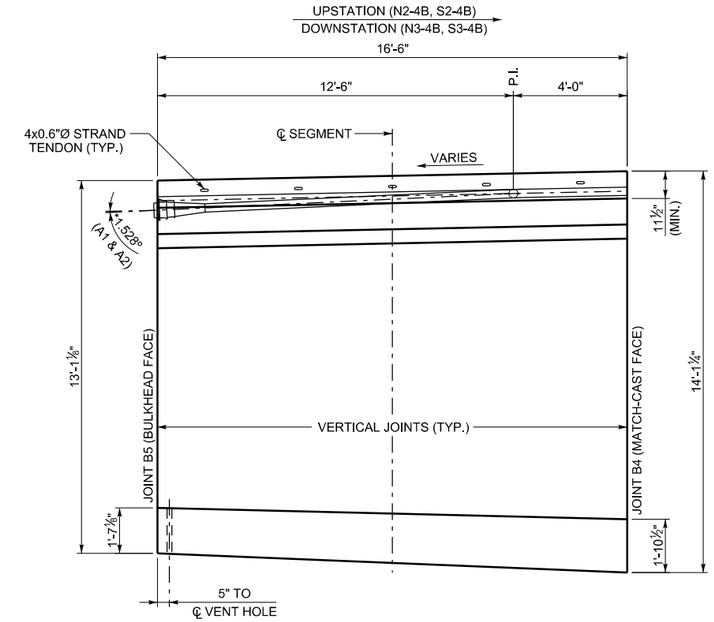
8/6/2008



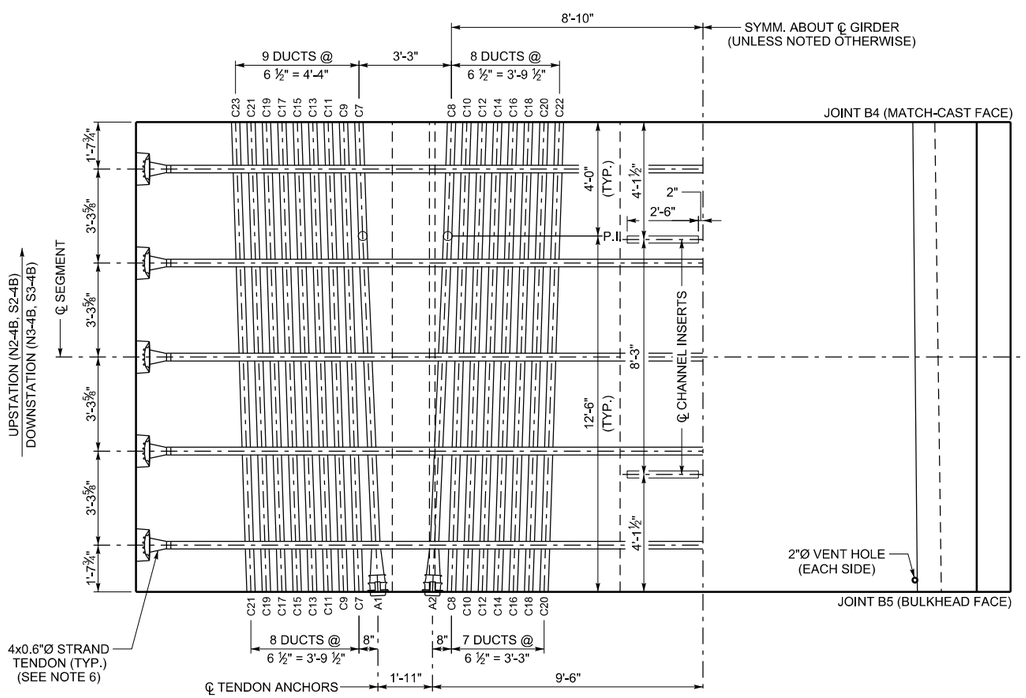
MATCH-CAST FACE
(JOINT B4)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B5)

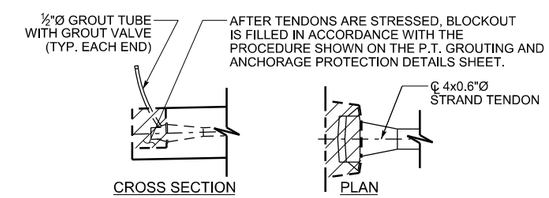


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

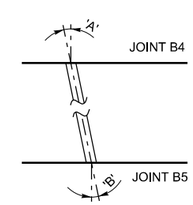
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B4 DUCT POSITION	'A'	JOINT B5 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C23	1.880°	C7-C21	1.880°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-4B, S2-4B, N3-4B AND S3-4B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 4B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 120 OF 190

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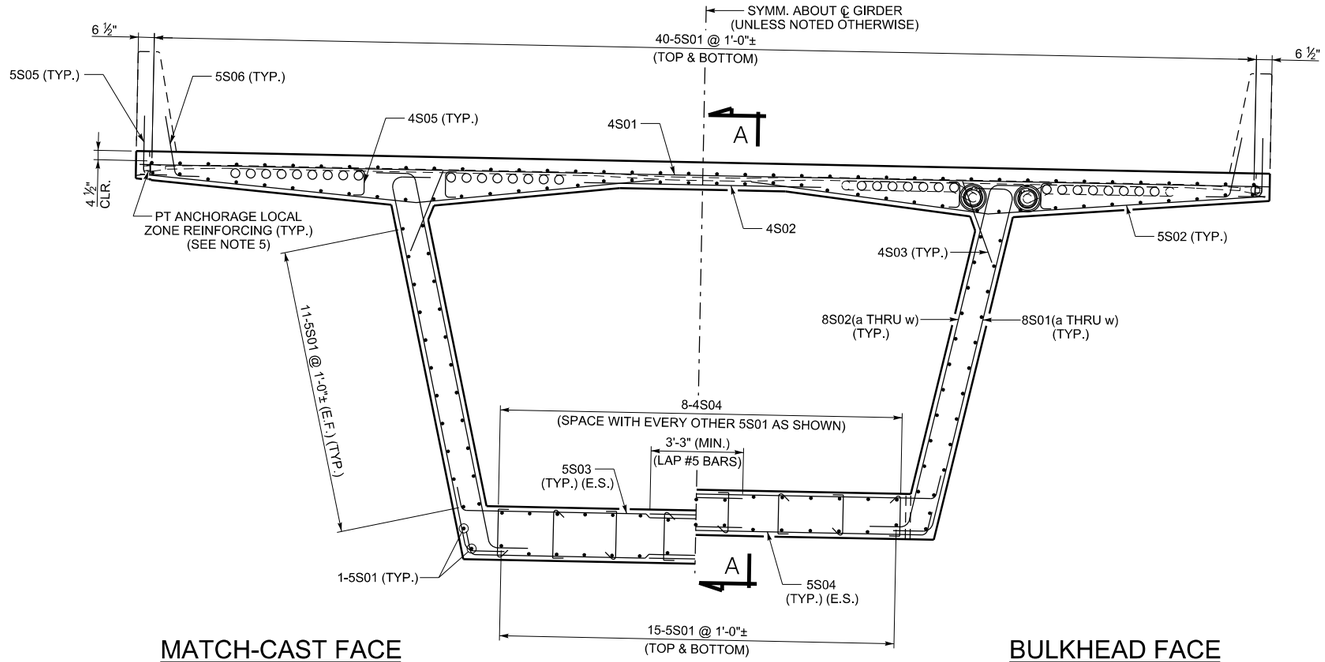
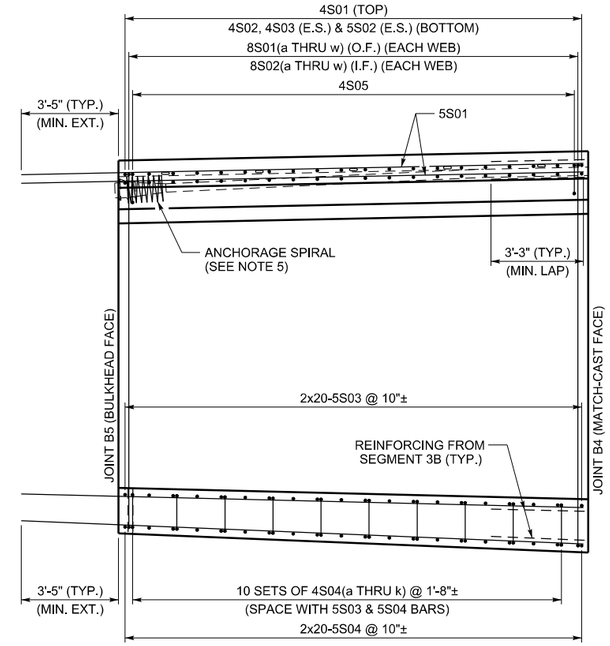
8/6/2008



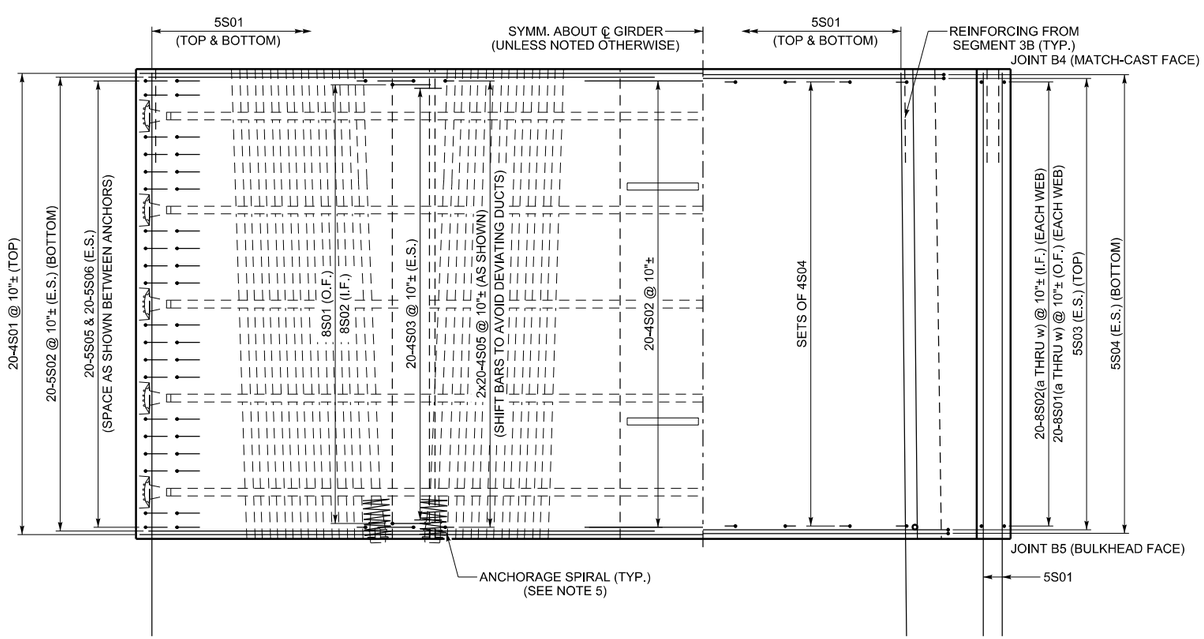
MATCH-CAST FACE
(JOINT B4)

CROSS SECTION

BULKHEAD FACE
(JOINT B5)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-4B, S2-4B, N3-4B AND S3-4B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.
7. ALTERNATE TAILS OF 4S04 BARS LONGITUDINALLY AND TRANSVERSELY AS SHOWN.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 4B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 121 OF 190

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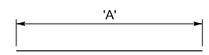
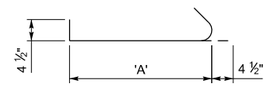
8/6/2008

SEGMENT TYPE 4B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-4B, S2-4B, N3-4B AND S3-4B.

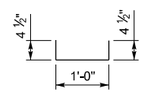
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	158	19'-9 1/2"	3127'-1"	19'-9 1/2"



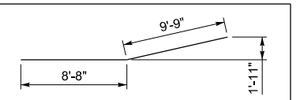
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	8	2'-4 3/8"	18'-10 5/8"	1'-7 3/8"
4S04b	BOTTOM SLAB	4	8	2'-4"	18'-8"	1'-7"
4S04c	BOTTOM SLAB	4	8	2'-3 5/8"	18'-5 1/4"	1'-6 5/8"
4S04d	BOTTOM SLAB	4	8	2'-3 3/8"	18'-2 1/2"	1'-6 3/8"
4S04e	BOTTOM SLAB	4	8	2'-3"	17'-11 7/8"	1'-6"
4S04f	BOTTOM SLAB	4	8	2'-2 5/8"	17'-9 1/8"	1'-5 5/8"
4S04g	BOTTOM SLAB	4	8	2'-2 1/4"	17'-6 1/2"	1'-5 1/4"
4S04h	BOTTOM SLAB	4	8	2'-2"	17'-3 3/4"	1'-5"
4S04j	BOTTOM SLAB	4	8	2'-1 5/8"	17'-1 1/8"	1'-4 5/8"
4S04k	BOTTOM SLAB	4	8	2'-1 1/4"	16'-10 3/8"	1'-4 1/4"



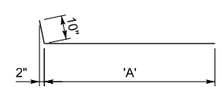
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



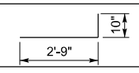
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



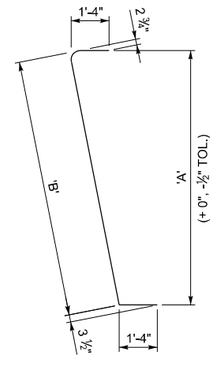
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-0 3/8"	441'-3"	10'-2 3/8"
5S04	BOTTOM SLAB	5	40	10'-8 3/4"	429'-2"	9'-10 3/4"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



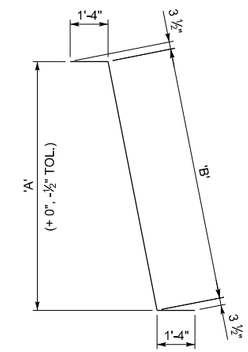
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	16'-5 1/4"	32'-10 5/8"	13'-6 1/4"	13'-9 1/4"
8S01b	2	WEBS	8	2	16'-4 5/8"	32'-9 3/8"	13'-5 5/8"	13'-8 5/8"
8S01c	3	WEBS	8	2	16'-4"	32'-8 1/8"	13'-5"	13'-8 1/8"
8S01d	4	WEBS	8	2	16'-3 3/8"	32'-6 7/8"	13'-4 1/2"	13'-7 1/2"
8S01e	5	WEBS	8	2	16'-2 7/8"	32'-5 5/8"	13'-3 7/8"	13'-6 7/8"
8S01f	6	WEBS	8	2	16'-2 1/4"	32'-4 3/8"	13'-3 1/4"	13'-6 1/4"
8S01g	7	WEBS	8	2	16'-1 5/8"	32'-3 1/8"	13'-2 5/8"	13'-5 5/8"
8S01h	8	WEBS	8	2	16'-1"	32'-1 7/8"	13'-2"	13'-5"
8S01j	9	WEBS	8	2	16'-0 3/8"	32'-0 5/8"	13'-1 3/8"	13'-4 3/8"
8S01k	10	WEBS	8	2	15'-11 3/4"	31'-11 3/8"	13'-0 7/8"	13'-3 3/4"
8S01m	11	WEBS	8	2	15'-11 1/8"	31'-10 1/8"	13'-0 1/4"	13'-3 1/8"
8S01n	12	WEBS	8	2	15'-10 1/2"	31'-8 7/8"	12'-11 5/8"	13'-2 1/2"
8S01p	13	WEBS	8	2	15'-9 7/8"	31'-7 3/4"	12'-11"	13'-1 7/8"
8S01q	14	WEBS	8	2	15'-9 1/4"	31'-6 1/2"	12'-10 3/8"	13'-1 1/4"
8S01r	15	WEBS	8	2	15'-8 5/8"	31'-5 1/4"	12'-9 3/4"	13'-0 5/8"
8S01s	16	WEBS	8	2	15'-8"	31'-4"	12'-9 1/8"	13'-0"
8S01t	17	WEBS	8	2	15'-7 3/8"	31'-2 3/4"	12'-8 5/8"	12'-11 3/8"
8S01w	18	WEBS	8	2	15'-6 3/4"	31'-1 1/2"	12'-8"	12'-10 3/4"
8S01v	19	WEBS	8	2	15'-6 1/8"	31'-0 1/4"	12'-7 3/8"	12'-10 1/8"
8S01w	20	WEBS	8	2	15'-5 1/2"	30'-11"	12'-6 3/4"	12'-9 1/2"



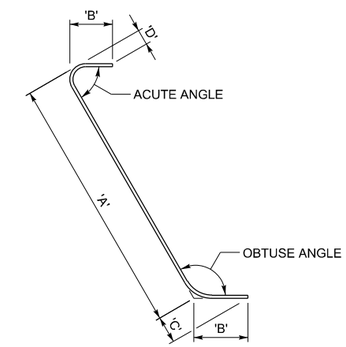
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	16'-6 1/8"	33'-0 1/8"	13'-6 1/4"	13'-10 1/8"
8S02b	2	WEBS	8	2	16'-5 1/2"	32'-10 7/8"	13'-5 5/8"	13'-9 1/2"
8S02c	3	WEBS	8	2	16'-4 7/8"	32'-9 3/4"	13'-5"	13'-8 7/8"
8S02d	4	WEBS	8	2	16'-4 1/4"	32'-8 1/2"	13'-4 1/2"	13'-8 1/4"
8S02e	5	WEBS	8	2	16'-3 5/8"	32'-7 1/4"	13'-3 7/8"	13'-7 5/8"
8S02f	6	WEBS	8	2	16'-3"	32'-6"	13'-3 1/4"	13'-7"
8S02g	7	WEBS	8	2	16'-2 3/8"	32'-4 3/4"	13'-2 5/8"	13'-6 3/8"
8S02h	8	WEBS	8	2	16'-1 3/4"	32'-3 1/2"	13'-2"	13'-5 3/4"
8S02j	9	WEBS	8	2	16'-1 1/8"	32'-2 1/4"	13'-1 3/8"	13'-5 1/8"
8S02k	10	WEBS	8	2	16'-0 1/2"	32'-1"	13'-0 7/8"	13'-4 1/2"
8S02m	11	WEBS	8	2	16'-0"	31'-11 3/4"	13'-0 1/4"	13'-3 7/8"
8S02n	12	WEBS	8	2	15'-11 1/4"	31'-10 1/2"	12'-11 5/8"	13'-3 1/4"
8S02p	13	WEBS	8	2	15'-10 5/8"	31'-9 1/4"	12'-11"	13'-2 5/8"
8S02q	14	WEBS	8	2	15'-10"	31'-8"	12'-10 3/8"	13'-2"
8S02r	15	WEBS	8	2	15'-9 3/8"	31'-6 3/4"	12'-9 3/4"	13'-1 3/8"
8S02s	16	WEBS	8	2	15'-8 3/4"	31'-5 1/2"	12'-9 1/8"	13'-0 3/4"
8S02t	17	WEBS	8	2	15'-8 1/8"	31'-4 1/4"	12'-8 5/8"	13'-0 1/8"
8S02w	18	WEBS	8	2	15'-7 1/2"	31'-3 1/8"	12'-8"	12'-11 1/2"
8S02v	19	WEBS	8	2	15'-6 7/8"	31'-1 7/8"	12'-7 3/8"	12'-10 7/8"
8S02w	20	WEBS	8	2	15'-6 1/4"	31'-0 5/8"	12'-6 3/4"	12'-10 1/4"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 4B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	9,582
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	64.6
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-4B, S2-4B, N3-4B AND S3-4B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 4B REINFORCING II
PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY
F-763 DRG. NO.
SHT. 122 OF 190

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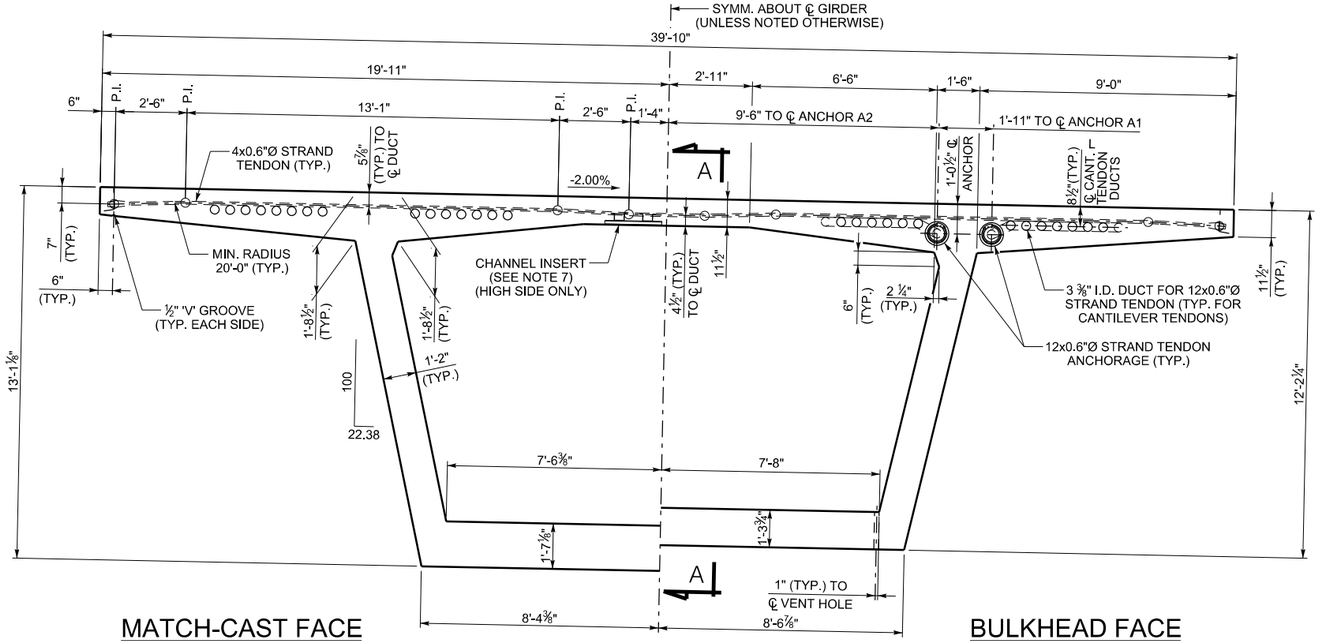
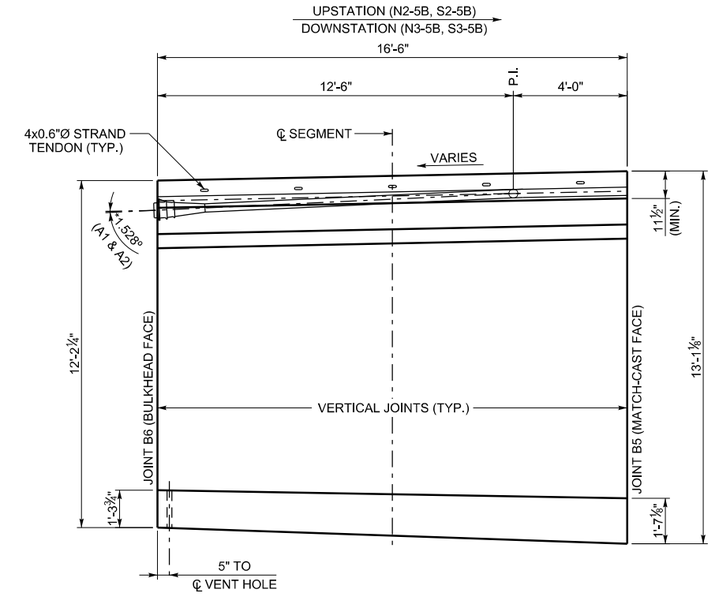
8/6/2008



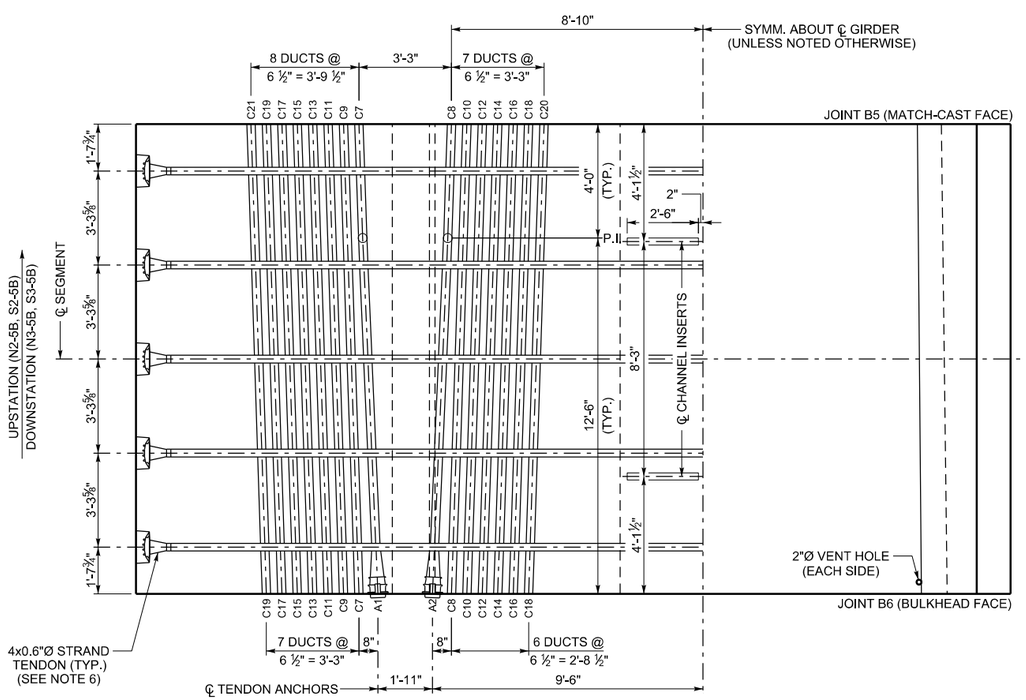
MATCH-CAST FACE
(JOINT B5)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B6)

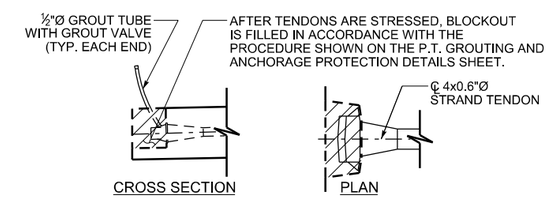


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

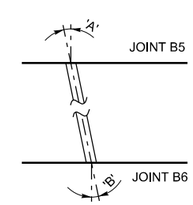
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B5 DUCT POSITION	'A'	JOINT B6 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C21	1.880°	C7-C19	1.880°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-5B, S2-5B, N3-5B AND S3-5B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 5B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 123 OF 190

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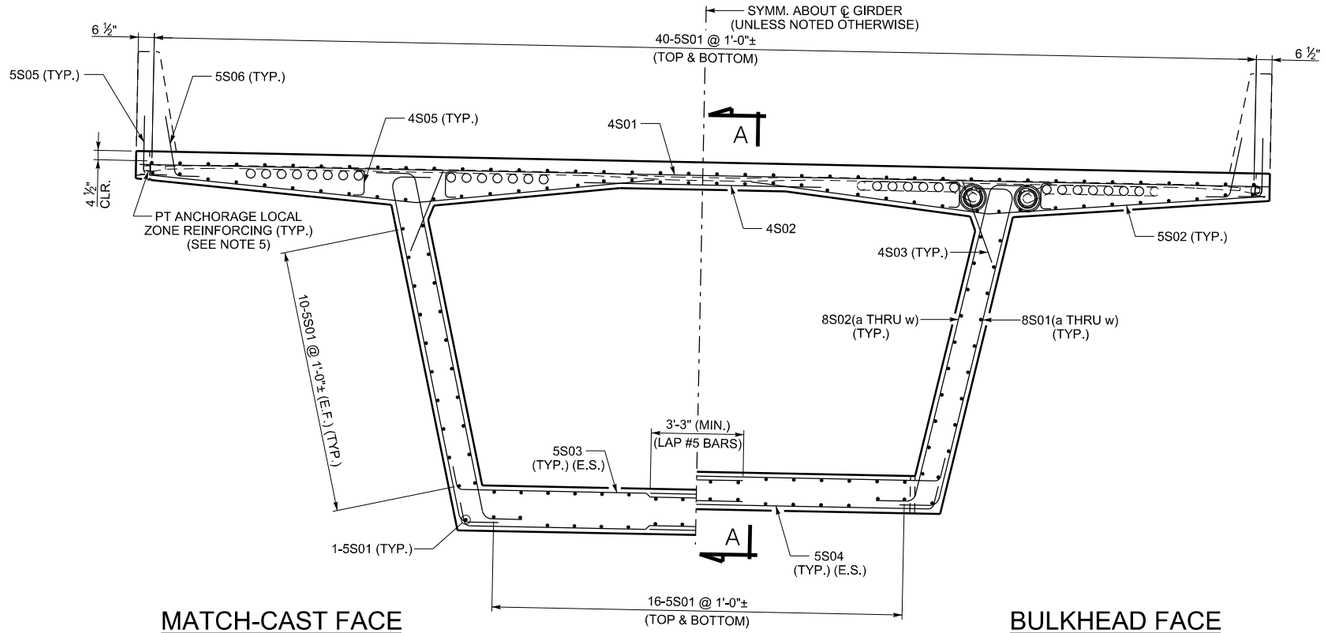
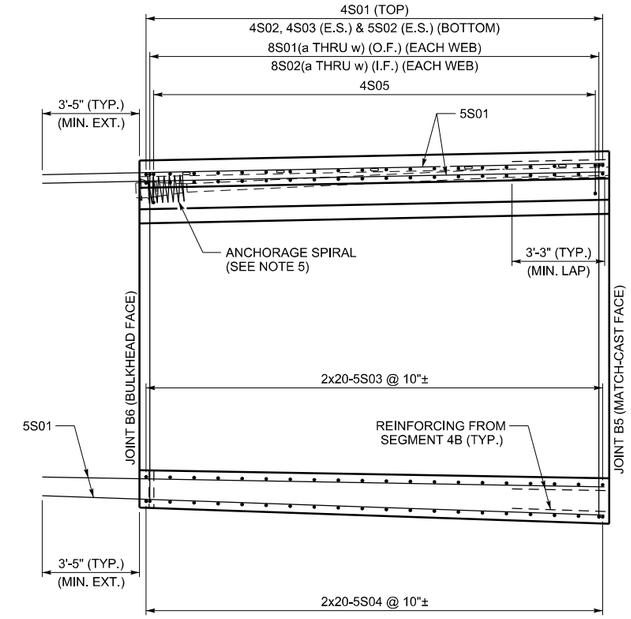
8/6/2008



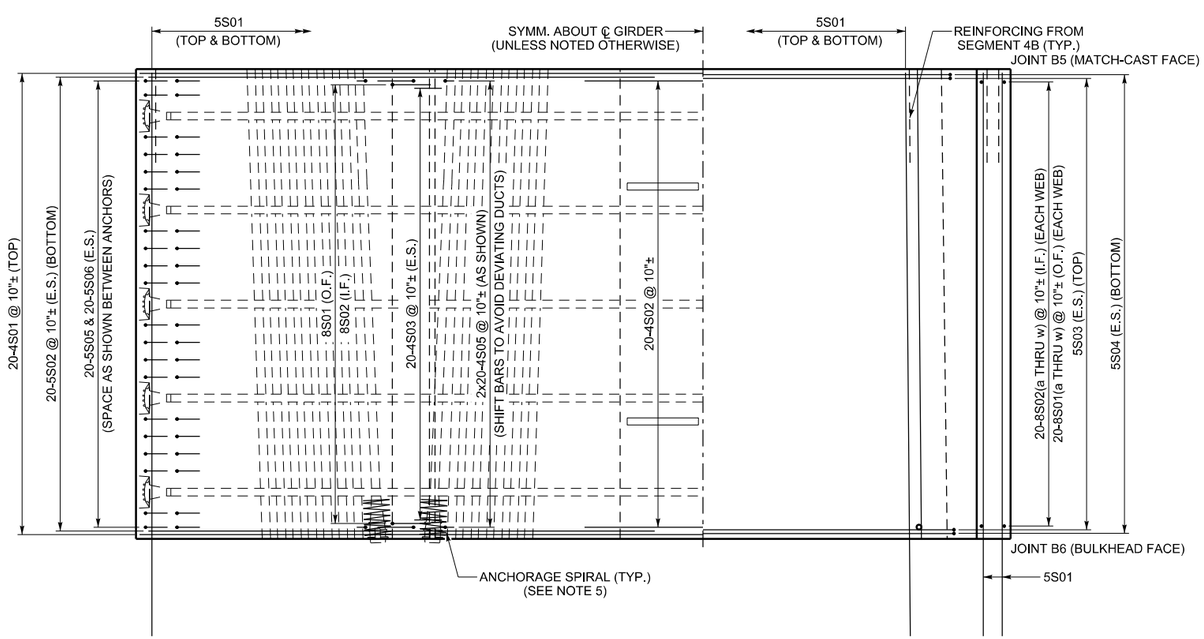
MATCH-CAST FACE
(JOINT B5)

CROSS SECTION

BULKHEAD FACE
(JOINT B6)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-5B, S2-5B, N3-5B AND S3-5B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL	04/08	CHECK DSL 08/08
DRAWN	KJM	04/08	CHECK BTL 04/08
QUANT.	BTL	08/08	CHECK KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 5B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 124 OF 190

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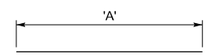
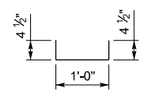
8/6/2008

SEGMENT TYPE 5B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-5B, S2-5B, N3-5B AND S3-5B.

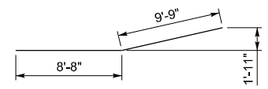
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	154	19'-9 1/2"	3047'-11"	19'-9 1/2"



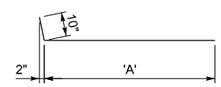
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



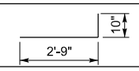
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



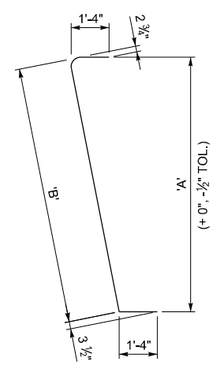
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-2"	446'-8"	10'-4"
5S04	BOTTOM SLAB	5	40	10'-11 1/8"	437'-1"	10'-1 1/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



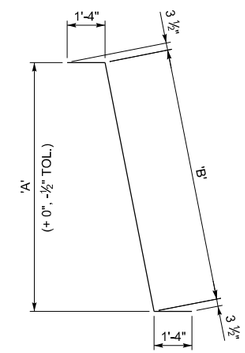
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	15'-4 7/8"	30'-9 7/8"	12'-6 1/8"	12'-8 7/8"
8S01b	2	WEBS	8	2	15'-4 3/8"	30'-8 3/4"	12'-5 5/8"	12'-8 3/8"
8S01c	3	WEBS	8	2	15'-3 3/4"	30'-7 5/8"	12'-5 1/8"	12'-7 3/4"
8S01d	4	WEBS	8	2	15'-3 1/4"	30'-6 1/2"	12'-4 1/2"	12'-7 1/4"
8S01e	5	WEBS	8	2	15'-2 5/8"	30'-5 3/8"	12'-4"	12'-6 5/8"
8S01f	6	WEBS	8	2	15'-2 1/8"	30'-4 1/4"	12'-3 1/2"	12'-6 1/8"
8S01g	7	WEBS	8	2	15'-1 1/2"	30'-3 1/8"	12'-2 7/8"	12'-5 1/2"
8S01h	8	WEBS	8	2	15'-1"	30'-2"	12'-2 3/8"	12'-5"
8S01j	9	WEBS	8	2	15'-0 3/8"	30'-0 7/8"	12'-1 7/8"	12'-4 1/2"
8S01k	10	WEBS	8	2	14'-11 7/8"	29'-11 3/4"	12'-1 1/4"	12'-3 7/8"
8S01m	11	WEBS	8	2	14'-11 3/8"	29'-10 5/8"	12'-0 3/4"	12'-3 3/8"
8S01n	12	WEBS	8	2	14'-10 3/4"	29'-9 1/2"	12'-0 1/8"	12'-2 3/4"
8S01p	13	WEBS	8	2	14'-10 1/4"	29'-8 3/8"	11'-11 5/8"	12'-2 1/4"
8S01q	14	WEBS	8	2	14'-9 5/8"	29'-7 1/4"	11'-11 1/8"	12'-1 5/8"
8S01r	15	WEBS	8	2	14'-9 1/8"	29'-6 1/8"	11'-10 1/2"	12'-1 1/8"
8S01s	16	WEBS	8	2	14'-8 1/2"	29'-5"	11'-10"	12'-0 1/2"
8S01t	17	WEBS	8	2	14'-8"	29'-3 7/8"	11'-9 1/2"	12'-0"
8S01w	18	WEBS	8	2	14'-7 3/8"	29'-2 3/4"	11'-8 7/8"	11'-11 3/8"
8S01v	19	WEBS	8	2	14'-6 7/8"	29'-1 5/8"	11'-8 3/8"	11'-10 7/8"
8S01w	20	WEBS	8	2	14'-6 1/4"	29'-0 1/2"	11'-7 3/4"	11'-10 1/4"



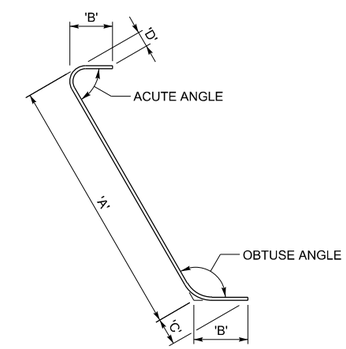
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	15'-5 3/4"	30'-11 3/8"	12'-6 1/8"	12'-9 3/4"
8S02b	2	WEBS	8	2	15'-5 1/8"	30'-10 1/4"	12'-5 5/8"	12'-9 1/8"
8S02c	3	WEBS	8	2	15'-4 5/8"	30'-9 1/8"	12'-5 1/8"	12'-8 5/8"
8S02d	4	WEBS	8	2	15'-4"	30'-8"	12'-4 1/2"	12'-8"
8S02e	5	WEBS	8	2	15'-3 1/2"	30'-6 7/8"	12'-4"	12'-7 1/2"
8S02f	6	WEBS	8	2	15'-2 7/8"	30'-5 3/4"	12'-3 1/2"	12'-6 7/8"
8S02g	7	WEBS	8	2	15'-2 3/8"	30'-4 5/8"	12'-2 7/8"	12'-6 3/8"
8S02h	8	WEBS	8	2	15'-1 3/4"	30'-3 5/8"	12'-2 3/8"	12'-5 3/4"
8S02j	9	WEBS	8	2	15'-1 1/4"	30'-2 1/2"	12'-1 7/8"	12'-5 1/4"
8S02k	10	WEBS	8	2	15'-0 5/8"	30'-1 3/8"	12'-1 1/4"	12'-4 5/8"
8S02m	11	WEBS	8	2	15'-0 1/8"	30'-0 1/4"	12'-0 3/4"	12'-4 1/8"
8S02n	12	WEBS	8	2	14'-11 1/2"	29'-11 1/8"	12'-0 1/8"	12'-3 1/2"
8S02p	13	WEBS	8	2	14'-11"	29'-10"	11'-11 5/8"	12'-3"
8S02q	14	WEBS	8	2	14'-10 3/8"	29'-8 7/8"	11'-11 1/8"	12'-2 3/8"
8S02r	15	WEBS	8	2	14'-9 7/8"	29'-7 3/4"	11'-10 1/2"	12'-1 7/8"
8S02s	16	WEBS	8	2	14'-9 1/4"	29'-6 5/8"	11'-10"	12'-1 3/8"
8S02t	17	WEBS	8	2	14'-8 3/4"	29'-5 1/2"	11'-9 1/2"	12'-0 3/4"
8S02w	18	WEBS	8	2	14'-8 1/4"	29'-4 3/8"	11'-8 7/8"	12'-0 1/4"
8S02v	19	WEBS	8	2	14'-7 5/8"	29'-3 1/4"	11'-8 3/8"	11'-11 5/8"
8S02w	20	WEBS	8	2	14'-7 1/8"	29'-2 1/8"	11'-7 3/4"	11'-11 1/8"



LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 5B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	9,184
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	61.1
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-5B, S2-5B, N3-5B AND S3-5B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH

SEGMENT 5B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 125 OF 190

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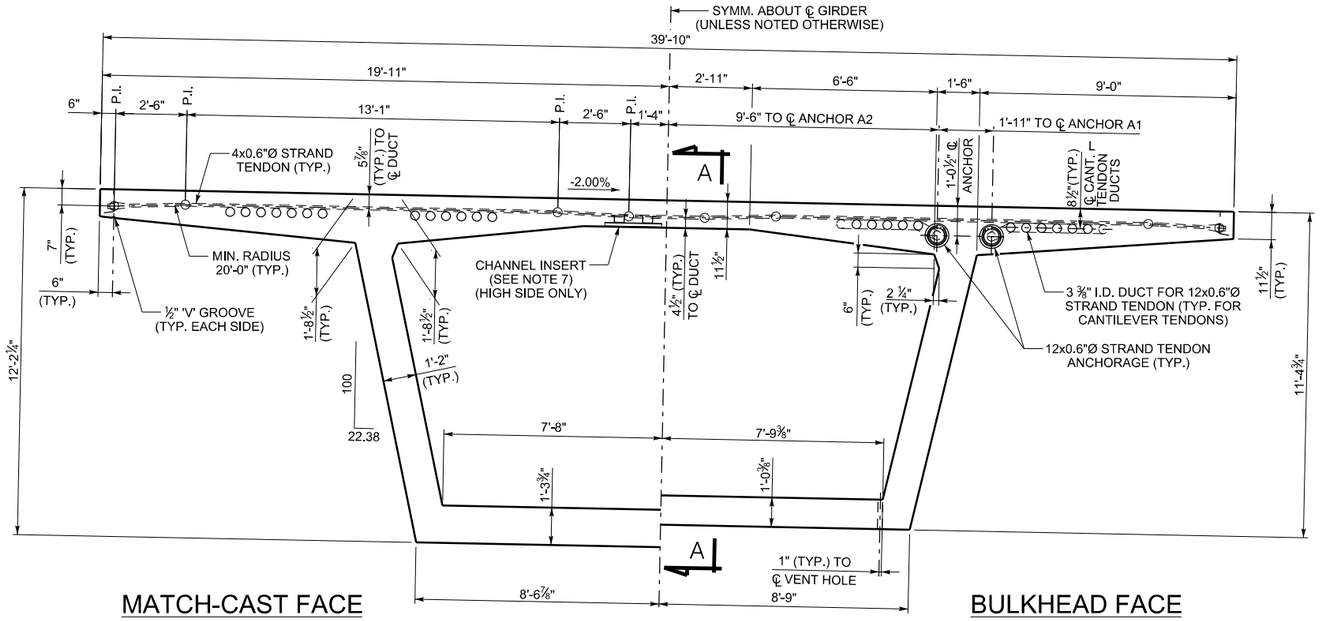
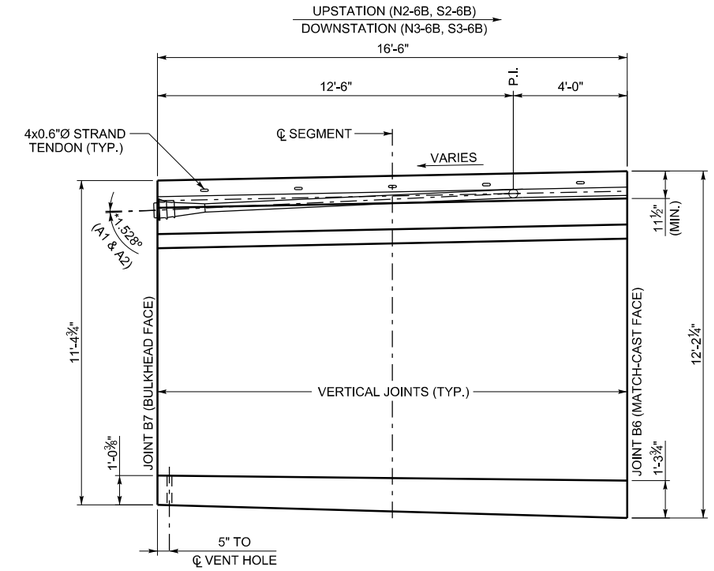
8/6/2008



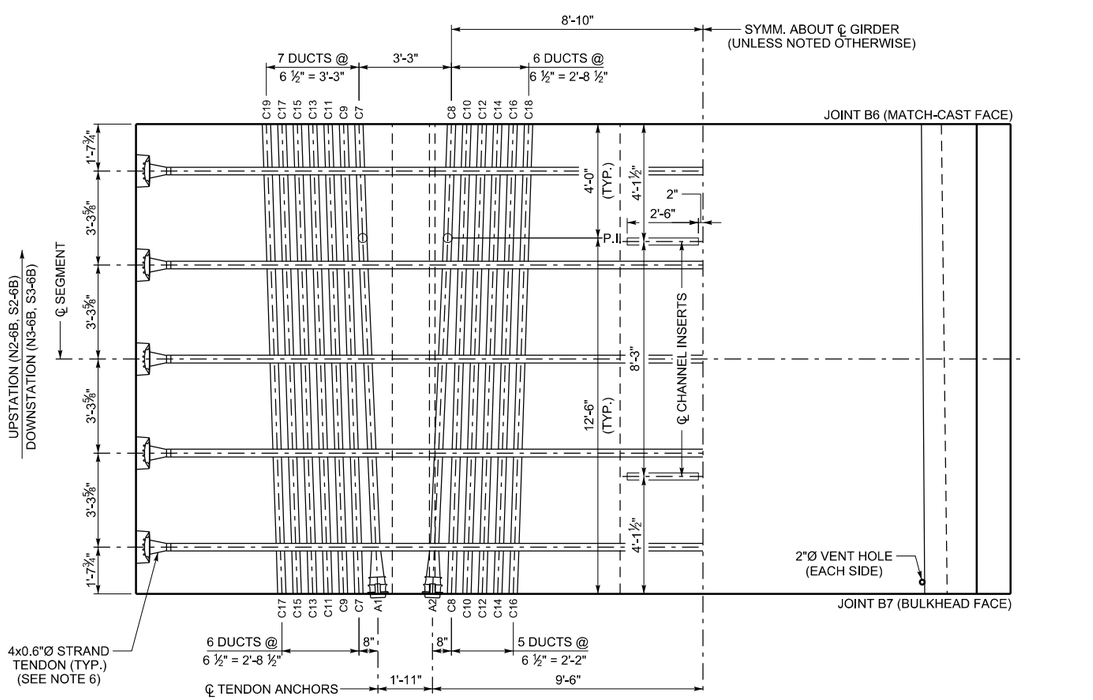
CROSS SECTION

(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)



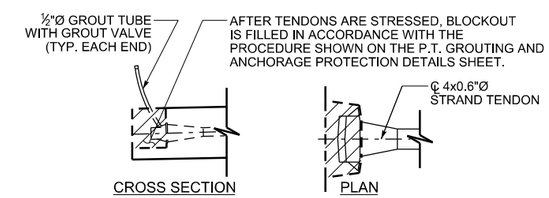
SECTION A-A

(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

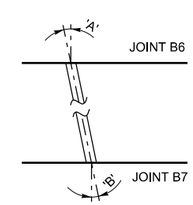
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC

(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B6 DUCT POSITION	'A'	JOINT B7 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C19	1.880°	C7-C17	1.880°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-6B, S2-6B, N3-6B AND S3-6B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 6B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 126 OF 190

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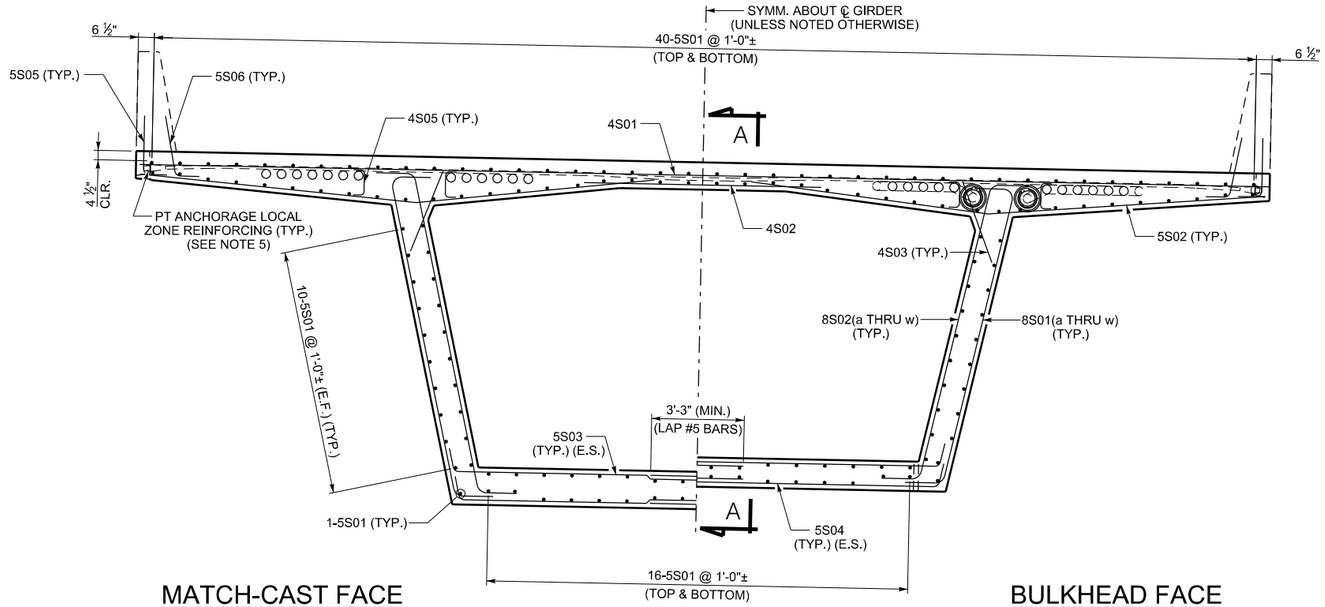
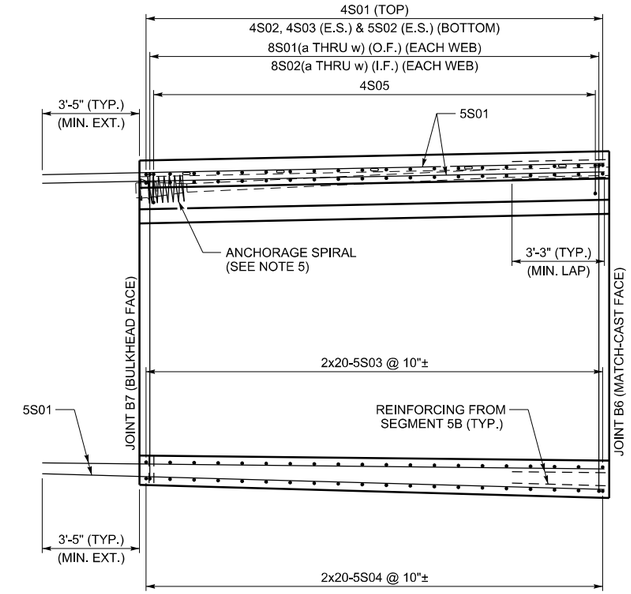
8/6/2008



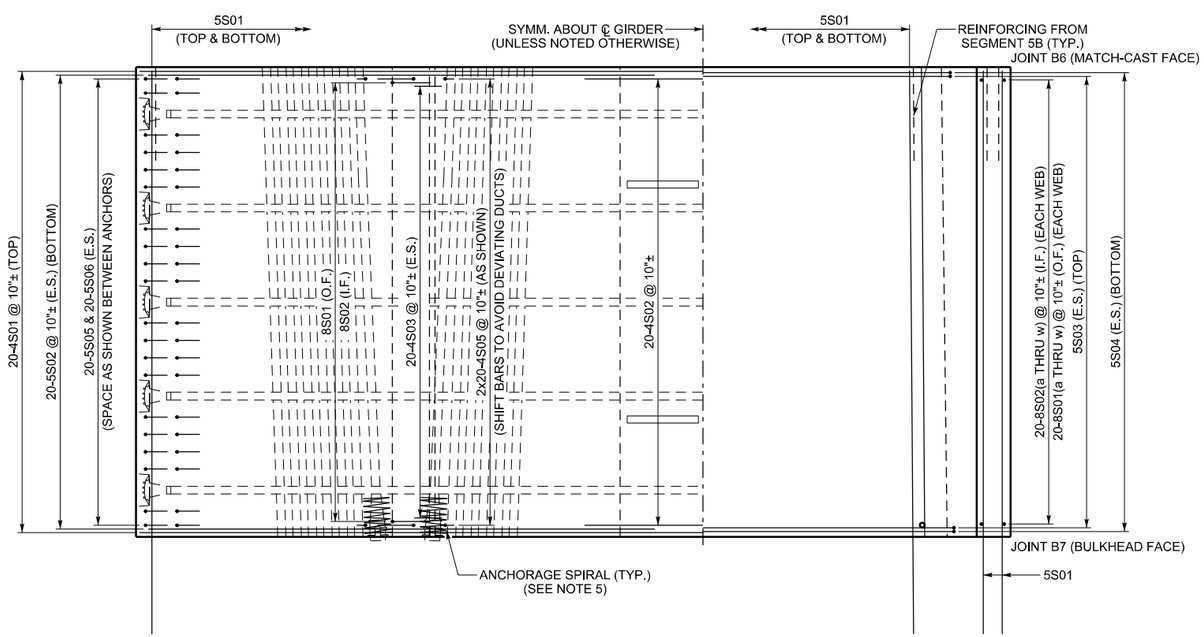
MATCH-CAST FACE
(JOINT B6)

CROSS SECTION

BULKHEAD FACE
(JOINT B7)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-6B, S2-6B, N3-6B AND S3-6B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BLT 04/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.

APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 6B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 127 OF 190

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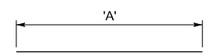
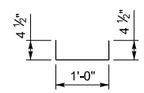
8/6/2008

SEGMENT TYPE 6B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-6B, S2-6B, N3-6B AND S3-6B.

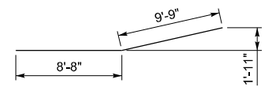
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	154	19'-9 1/2"	3047'-11"	19'-9 1/2"



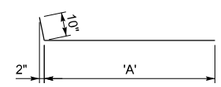
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



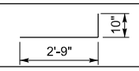
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



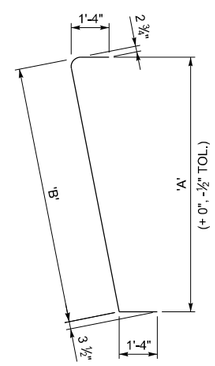
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-3 3/8"	451'-3"	10'-5 3/8"
5S04	BOTTOM SLAB	5	40	11'-1 1/4"	444'-2"	10'-3 1/4"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



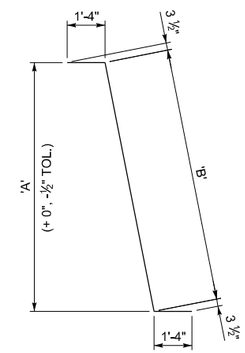
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	14'-5 3/4"	28'-11 1/2"	11'-7 1/4"	11'-9 3/4"
8S01b	2	WEBS	8	2	14'-5 1/4"	28'-10 1/2"	11'-6 7/8"	11'-9 1/4"
8S01c	3	WEBS	8	2	14'-4 3/4"	28'-9 5/8"	11'-6 3/8"	11'-8 3/4"
8S01d	4	WEBS	8	2	14'-4 1/4"	28'-8 5/8"	11'-5 7/8"	11'-8 1/4"
8S01e	5	WEBS	8	2	14'-3 3/4"	28'-7 5/8"	11'-5 3/8"	11'-7 7/8"
8S01f	6	WEBS	8	2	14'-3 3/8"	28'-6 5/8"	11'-4 7/8"	11'-7 3/8"
8S01g	7	WEBS	8	2	14'-2 7/8"	28'-5 5/8"	11'-4 1/2"	11'-6 7/8"
8S01h	8	WEBS	8	2	14'-2 3/8"	28'-4 3/4"	11'-4"	11'-6 3/8"
8S01j	9	WEBS	8	2	14'-1 7/8"	28'-3 3/4"	11'-3 1/2"	11'-5 7/8"
8S01k	10	WEBS	8	2	14'-1 3/8"	28'-2 3/4"	11'-3"	11'-5 3/8"
8S01m	11	WEBS	8	2	14'-0 7/8"	28'-1 3/4"	11'-2 1/2"	11'-4 7/8"
8S01n	12	WEBS	8	2	14'-0 3/8"	28'-0 7/8"	11'-2 1/8"	11'-4 3/8"
8S01p	13	WEBS	8	2	14'-0"	27'-11 7/8"	11'-1 5/8"	11'-3 7/8"
8S01q	14	WEBS	8	2	13'-11 1/2"	27'-10 7/8"	11'-1 1/8"	11'-3 1/2"
8S01r	15	WEBS	8	2	13'-11"	27'-9 7/8"	11'-0 5/8"	11'-3"
8S01s	16	WEBS	8	2	13'-10 1/2"	27'-8 7/8"	11'-0 1/4"	11'-2 1/2"
8S01t	17	WEBS	8	2	13'-10"	27'-8"	10'-11 3/4"	11'-2"
8S01w	18	WEBS	8	2	13'-9 1/2"	27'-7"	10'-11 1/4"	11'-1 1/2"
8S01v	19	WEBS	8	2	13'-9"	27'-6"	10'-10 3/4"	11'-1"
8S01w	20	WEBS	8	2	13'-8 1/2"	27'-5"	10'-10 1/4"	11'-0 1/2"



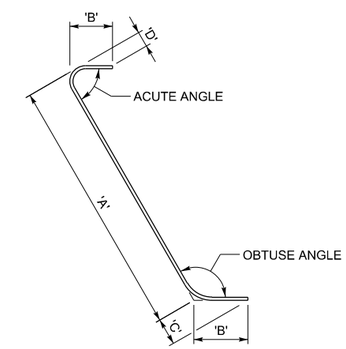
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	14'-6 1/2"	29'-1 1/8"	11'-7 1/4"	11'-10 1/2"
8S02b	2	WEBS	8	2	14'-6"	29'-0 1/8"	11'-6 7/8"	11'-10 1/8"
8S02c	3	WEBS	8	2	14'-5 5/8"	28'-11 1/8"	11'-6 3/8"	11'-9 5/8"
8S02d	4	WEBS	8	2	14'-5 1/8"	28'-10 1/8"	11'-5 7/8"	11'-9 1/8"
8S02e	5	WEBS	8	2	14'-4 5/8"	28'-9 1/4"	11'-5 3/8"	11'-8 5/8"
8S02f	6	WEBS	8	2	14'-4 1/8"	28'-8 1/4"	11'-4 7/8"	11'-8 1/8"
8S02g	7	WEBS	8	2	14'-3 5/8"	28'-7 1/4"	11'-4 1/2"	11'-7 5/8"
8S02h	8	WEBS	8	2	14'-3 1/8"	28'-6 1/4"	11'-4"	11'-7 1/8"
8S02j	9	WEBS	8	2	14'-2 5/8"	28'-5 3/8"	11'-3 1/2"	11'-6 5/8"
8S02k	10	WEBS	8	2	14'-2 1/8"	28'-4 3/8"	11'-3"	11'-6 1/8"
8S02m	11	WEBS	8	2	14'-1 3/4"	28'-3 3/8"	11'-2 1/2"	11'-5 3/4"
8S02n	12	WEBS	8	2	14'-1 1/4"	28'-2 3/8"	11'-2 1/8"	11'-5 1/4"
8S02p	13	WEBS	8	2	14'-0 3/4"	28'-1 3/8"	11'-1 5/8"	11'-4 3/4"
8S02q	14	WEBS	8	2	14'-0 1/4"	28'-0 1/2"	11'-1 1/8"	11'-4 1/4"
8S02r	15	WEBS	8	2	13'-11 3/4"	27'-11 1/2"	11'-0 5/8"	11'-3 3/4"
8S02s	16	WEBS	8	2	13'-11 1/4"	27'-10 1/2"	11'-0 1/4"	11'-3 1/4"
8S02t	17	WEBS	8	2	13'-10 3/4"	27'-9 1/2"	10'-11 3/4"	11'-2 3/4"
8S02w	18	WEBS	8	2	13'-10 1/4"	27'-8 5/8"	10'-11 1/4"	11'-2 1/4"
8S02v	19	WEBS	8	2	13'-9 3/4"	27'-7 5/8"	10'-10 3/4"	11'-1 3/4"
8S02w	20	WEBS	8	2	13'-9 3/8"	27'-6 5/8"	10'-10 1/4"	11'-1 3/8"



LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK / D - DEVIATOR / S - SEGMENT
- 5 — BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 6B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	9,010
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	57.5
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-6B, S2-6B, N3-6B AND S3-6B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 6B REINFORCING II

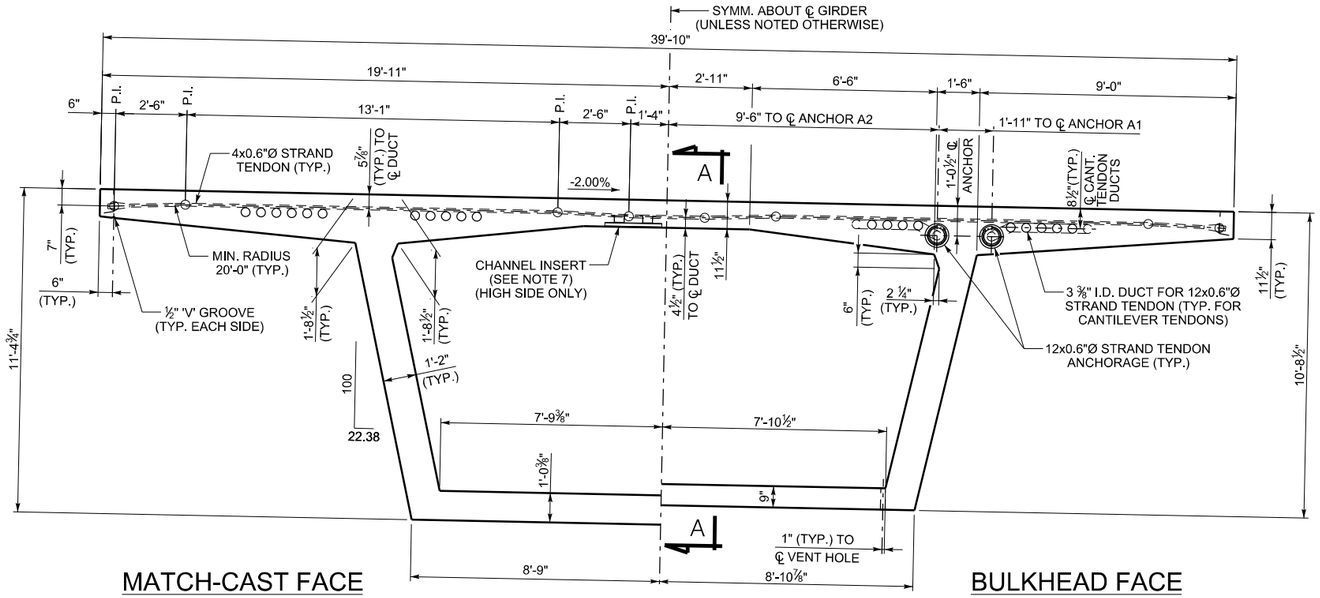
PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 128 OF 190

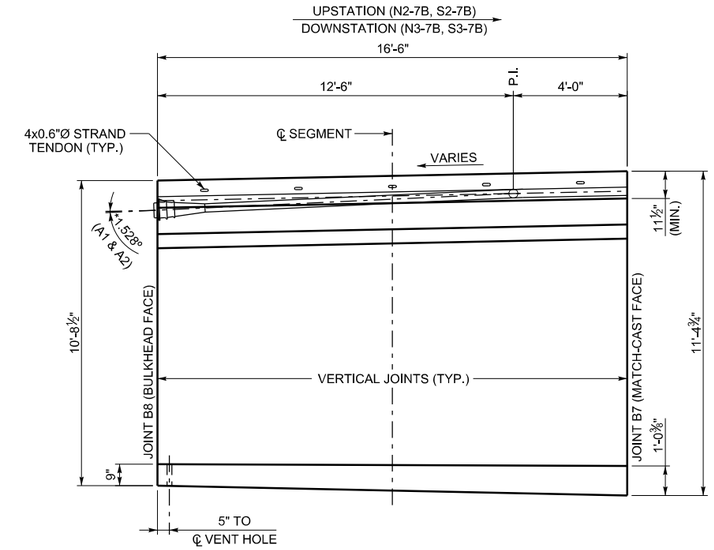
8/6/2008 G:\Projects\Moab\5985.08\Sheet Files\Structures\5985_F-763.128_Seg6B-R2.dgn



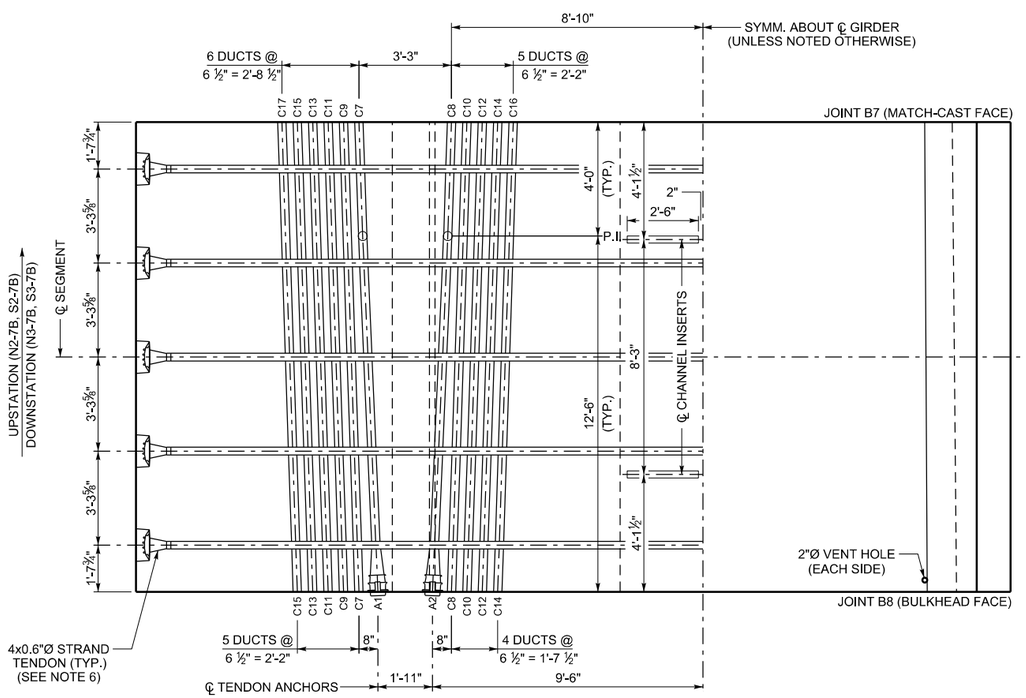
MATCH-CAST FACE
(JOINT B7)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B8)

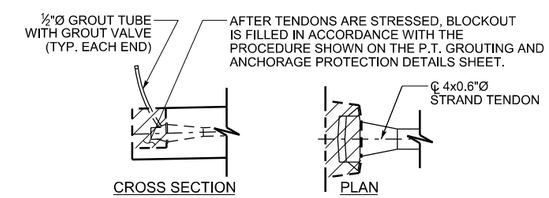


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

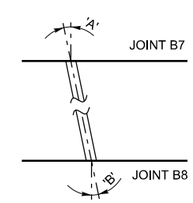
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B7 DUCT POSITION	'A'	JOINT B8 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C17	1.880°	C7-C15	1.880°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-7B, S2-7B, N3-7B AND S3-7B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08	CHECK DSL 08/08		
DRAWN KJM 04/08	CHECK BTL 04/08		
QUANT BLT 08/08	CHECK KRM 08/08		

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 7B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 129 OF 190

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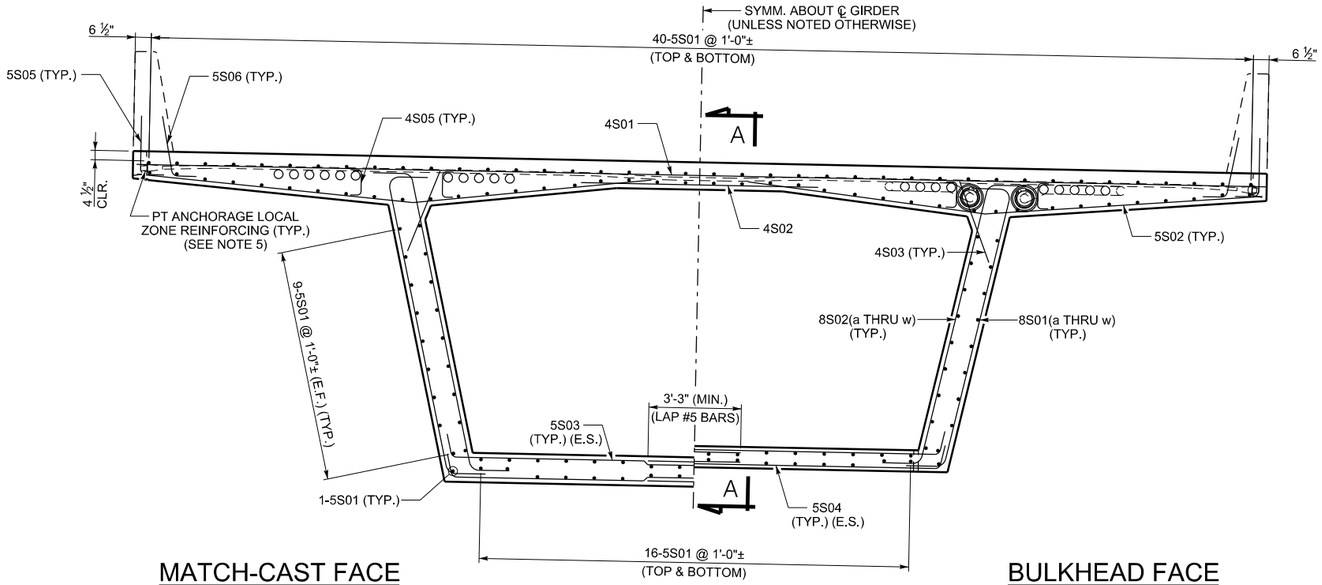
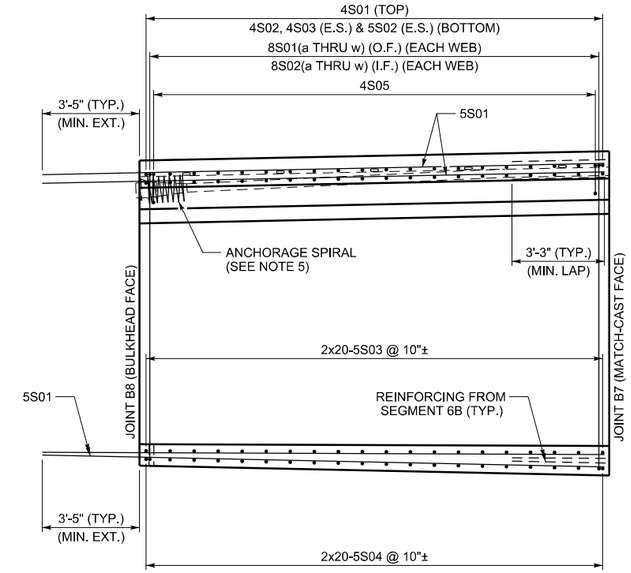
8/6/2008



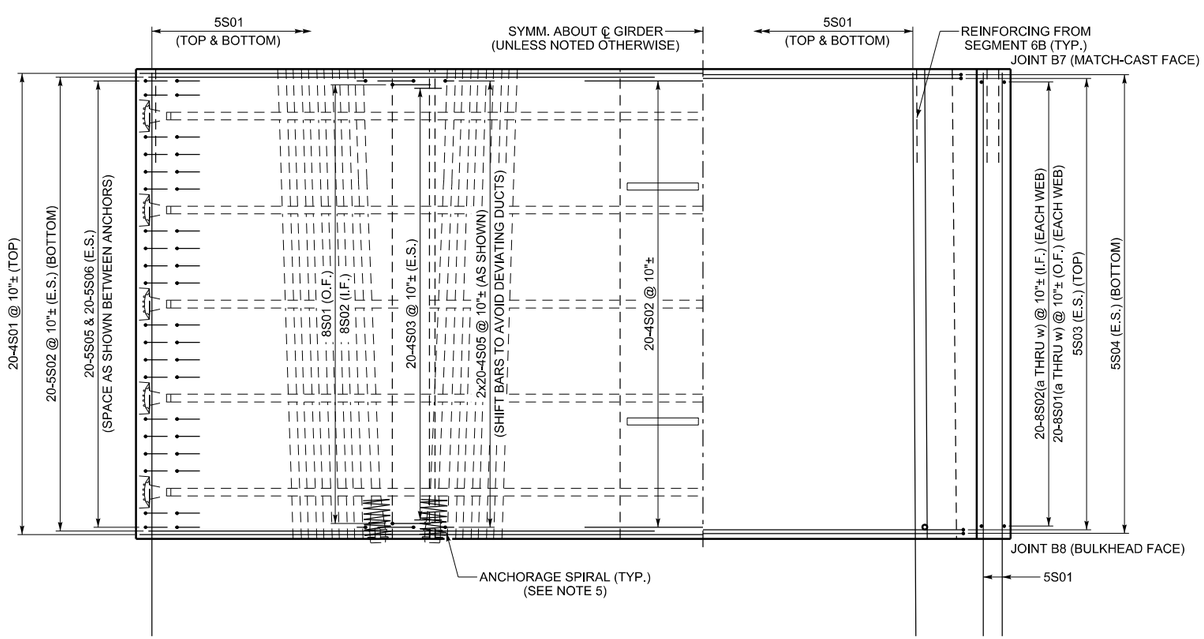
MATCH-CAST FACE
(JOINT B7)

CROSS SECTION

BULKHEAD FACE
(JOINT B8)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-7B, S2-7B, N3-7B AND S3-7B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 7B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 130 OF 190

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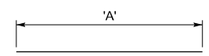
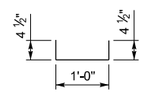
8/6/2008

SEGMENT TYPE 7B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-7B, S2-7B, N3-7B AND S3-7B.

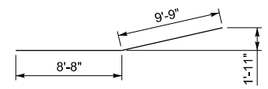
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	150	19'-9 1/2"	2968'-9"	19'-9 1/2"



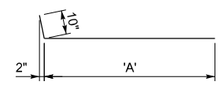
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



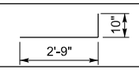
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



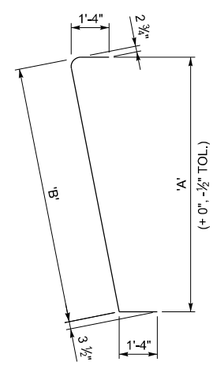
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-4 1/2"	455'-0"	10'-6 1/2"
5S04	BOTTOM SLAB	5	40	11'-3 1/8"	450'-5"	10'-5 1/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



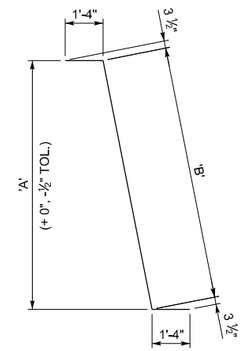
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	13'-8 1/8"	27'-4 1/8"	10'-9 7/8"	11'-0 1/8"
8S01b	2	WEBS	8	2	13'-7 5/8"	27'-3 1/4"	10'-9 1/2"	10'-11 5/8"
8S01c	3	WEBS	8	2	13'-7 1/4"	27'-2 1/2"	10'-9"	10'-11 1/4"
8S01d	4	WEBS	8	2	13'-6 7/8"	27'-1 5/8"	10'-8 5/8"	10'-10 7/8"
8S01e	5	WEBS	8	2	13'-6 3/8"	27'-0 3/4"	10'-8 1/4"	10'-10 3/8"
8S01f	6	WEBS	8	2	13'-6"	27'-0"	10'-7 3/4"	10'-10"
8S01g	7	WEBS	8	2	13'-5 5/8"	26'-11 1/8"	10'-7 3/8"	10'-9 5/8"
8S01h	8	WEBS	8	2	13'-5 1/8"	26'-10 1/4"	10'-7"	10'-9 1/8"
8S01j	9	WEBS	8	2	13'-4 3/4"	26'-9 1/2"	10'-6 5/8"	10'-8 3/4"
8S01k	10	WEBS	8	2	13'-4 1/4"	26'-8 5/8"	10'-6 1/8"	10'-8 3/8"
8S01m	11	WEBS	8	2	13'-3 7/8"	26'-7 3/4"	10'-5 3/4"	10'-7 7/8"
8S01n	12	WEBS	8	2	13'-3 1/2"	26'-7"	10'-5 3/8"	10'-7 1/2"
8S01p	13	WEBS	8	2	13'-3"	26'-6 1/8"	10'-5"	10'-7 1/8"
8S01q	14	WEBS	8	2	13'-2 5/8"	26'-5 1/4"	10'-4 1/2"	10'-6 5/8"
8S01r	15	WEBS	8	2	13'-2 1/4"	26'-4 1/2"	10'-4 1/8"	10'-6 1/4"
8S01s	16	WEBS	8	2	13'-1 3/4"	26'-3 5/8"	10'-3 3/4"	10'-5 3/4"
8S01t	17	WEBS	8	2	13'-1 3/8"	26'-2 3/4"	10'-3 3/8"	10'-5 3/8"
8S01w	18	WEBS	8	2	13'-1"	26'-1 7/8"	10'-2 7/8"	10'-5"
8S01v	19	WEBS	8	2	13'-0 1/2"	26'-1 1/8"	10'-2 1/2"	10'-4 1/2"
8S01w	20	WEBS	8	2	13'-0 1/8"	26'-0 1/4"	10'-2 1/8"	10'-4 1/8"



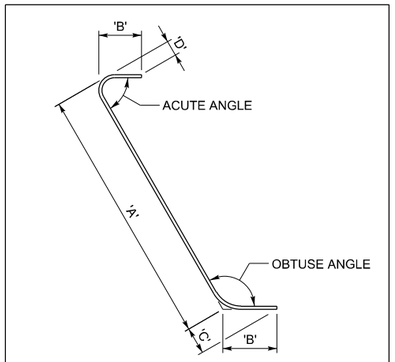
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	13'-8 7/8"	27'-5 3/4"	10'-9 7/8"	11'-0 7/8"
8S02b	2	WEBS	8	2	13'-8 1/2"	27'-4 7/8"	10'-9 1/2"	11'-0 1/2"
8S02c	3	WEBS	8	2	13'-8"	27'-4"	10'-9"	11'-0"
8S02d	4	WEBS	8	2	13'-7 5/8"	27'-3 1/4"	10'-8 5/8"	10'-11 5/8"
8S02e	5	WEBS	8	2	13'-7 1/4"	27'-2 3/8"	10'-8 1/4"	10'-11 1/4"
8S02f	6	WEBS	8	2	13'-6 3/4"	27'-1 1/2"	10'-7 3/4"	10'-10 3/4"
8S02g	7	WEBS	8	2	13'-6 3/8"	27'-0 3/4"	10'-7 3/8"	10'-10 3/8"
8S02h	8	WEBS	8	2	13'-6"	27'-0"	10'-7"	10'-10"
8S02j	9	WEBS	8	2	13'-5 1/2"	26'-11"	10'-6 5/8"	10'-9 1/2"
8S02k	10	WEBS	8	2	13'-5 1/8"	26'-10 1/4"	10'-6 1/8"	10'-9 1/8"
8S02m	11	WEBS	8	2	13'-4 5/8"	26'-9 3/8"	10'-5 3/4"	10'-8 3/4"
8S02n	12	WEBS	8	2	13'-4 1/4"	26'-8 1/2"	10'-5 3/8"	10'-8 1/4"
8S02p	13	WEBS	8	2	13'-3 7/8"	26'-7 3/4"	10'-5"	10'-7 7/8"
8S02q	14	WEBS	8	2	13'-3 3/8"	26'-6 7/8"	10'-4 1/2"	10'-7 1/2"
8S02r	15	WEBS	8	2	13'-3"	26'-6"	10'-4 1/8"	10'-7"
8S02s	16	WEBS	8	2	13'-2 5/8"	26'-5 1/4"	10'-3 3/4"	10'-6 5/8"
8S02t	17	WEBS	8	2	13'-2 1/8"	26'-4 3/8"	10'-3 3/8"	10'-6 1/8"
8S02w	18	WEBS	8	2	13'-1 3/4"	26'-3 1/2"	10'-2 7/8"	10'-5 3/4"
8S02v	19	WEBS	8	2	13'-1 3/8"	26'-2 5/8"	10'-2 1/2"	10'-5 3/8"
8S02w	20	WEBS	8	2	13'-0 7/8"	26'-1 7/8"	10'-2 1/8"	10'-4 7/8"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 7B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	8,776
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	54.0
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-7B, S2-7B, N3-7B AND S3-7B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 7B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 131 OF 190

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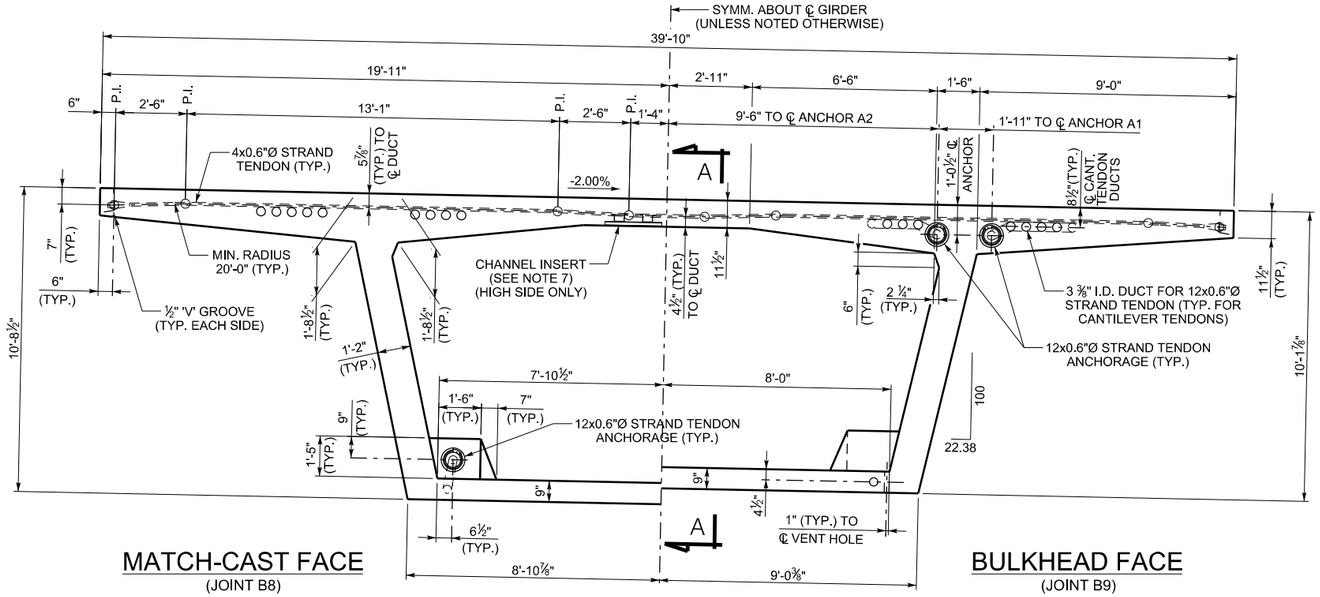
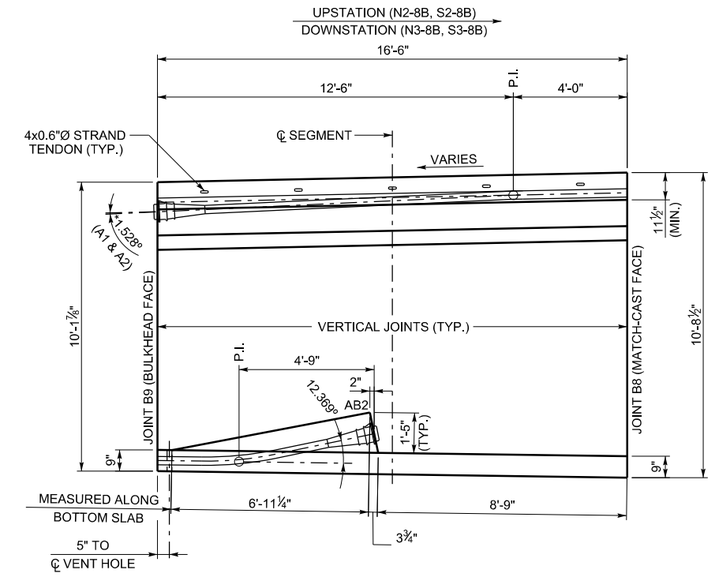
8/6/2008



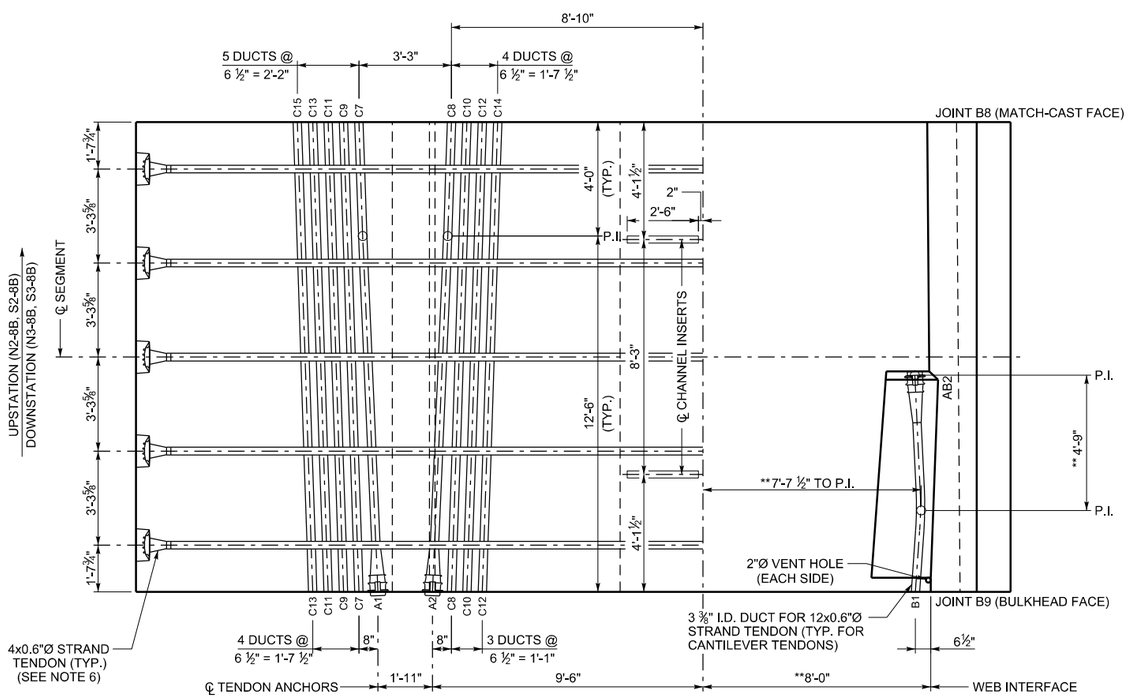
CROSS SECTION

(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)



SECTION A-A

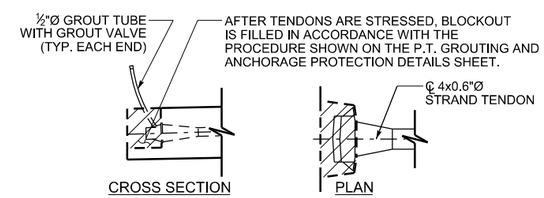
(TOP SLAB ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

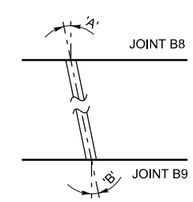
(** MEASURED ALONG BOTTOM SLAB)



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
  B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC

(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B8 DUCT POSITION	'A'	JOINT B9 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C15	1.880°	C7-C13	1.880°
AB2	2.695°	B1	3.289°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-8B, S2-8B, N3-8B AND S3-8B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08	CHECK DSL 08/08	APPROVAL RECOMM.	SENIOR DESIGN ENGR. DATE
DRAWN KJM 04/08	CHECK BTL 04/08	APPROVED FOR USE BY UDOT	UDOT BRIDGE ENGR. DATE
QUANT BTL 08/08	CHECK KRM 08/08		

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH

SEGMENT 8B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 132 OF 190

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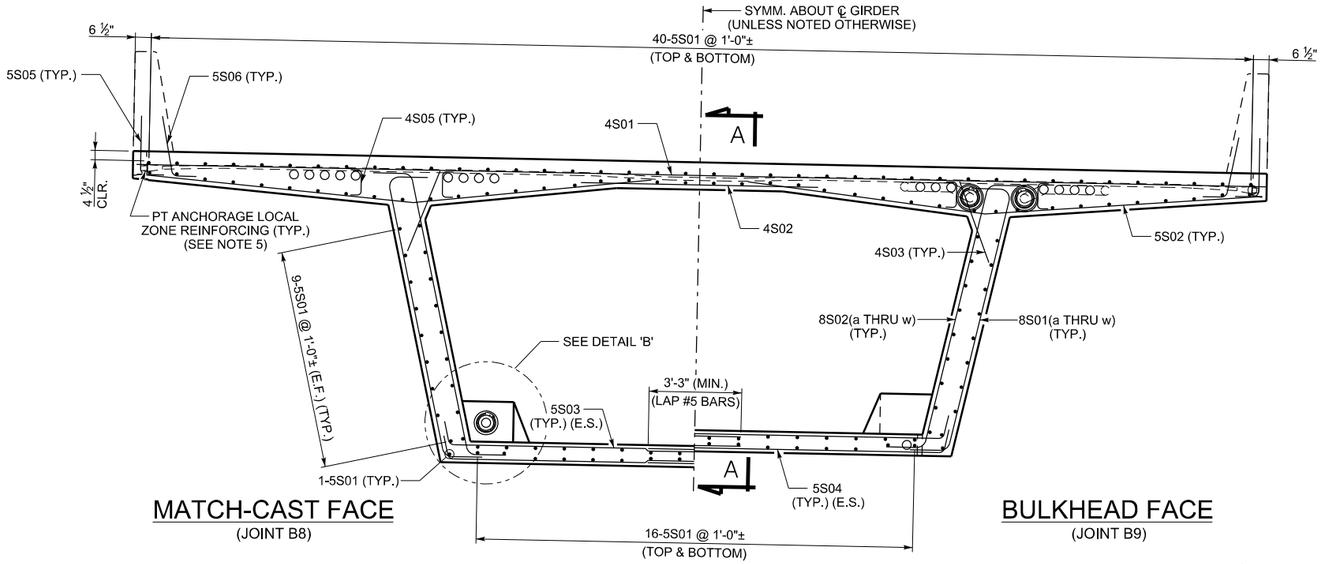
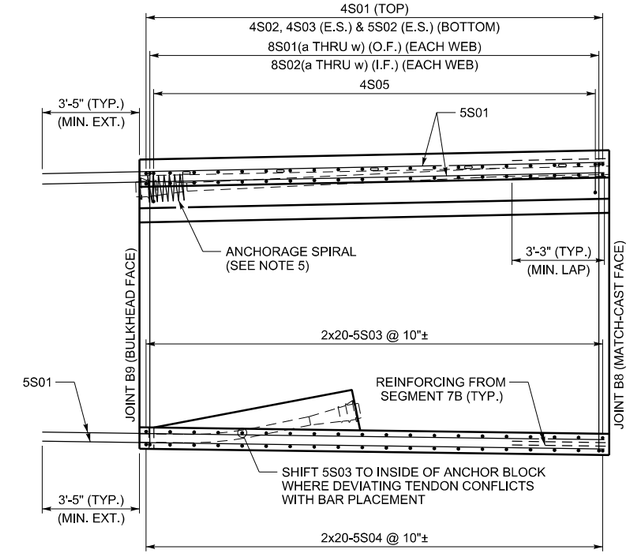
8/6/2008



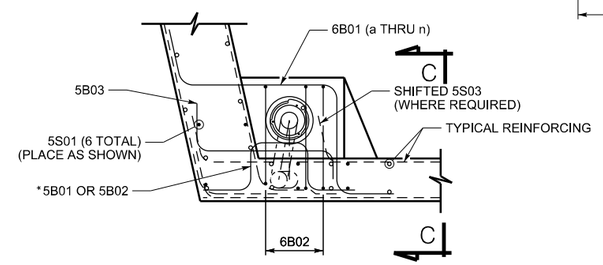
MATCH-CAST FACE
(JOINT B8)

BULKHEAD FACE
(JOINT B9)

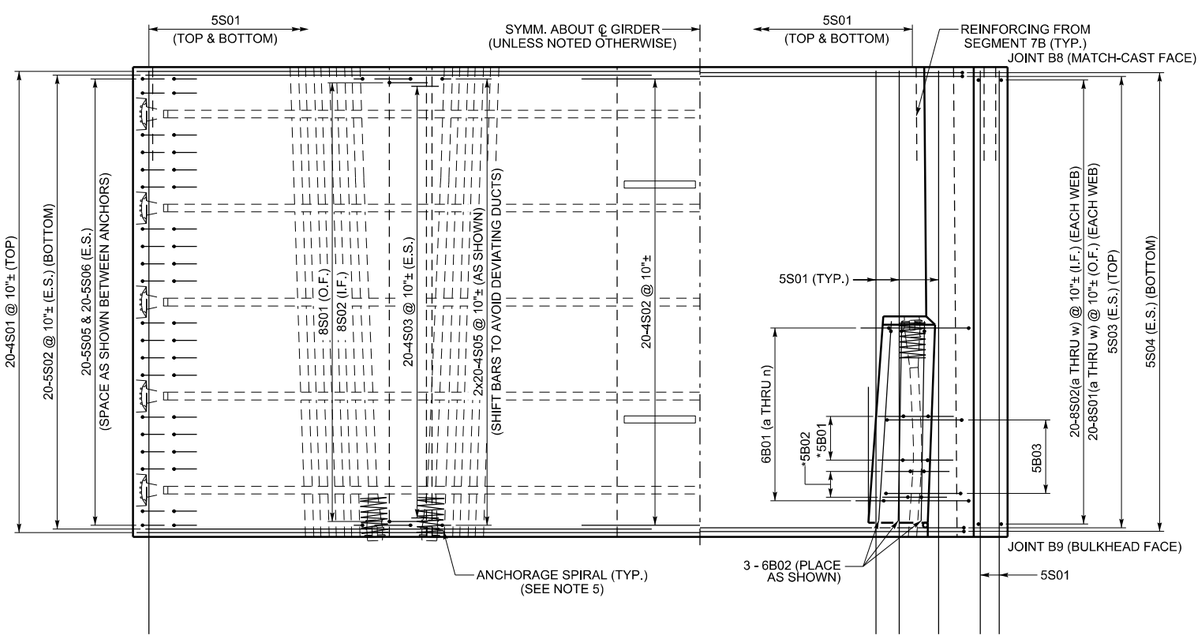
CROSS SECTION
(ANCHOR BLOCK REINFORCING
NOT SHOWN FOR CLARITY)



SECTION A-A
(ANCHOR BLOCK REINFORCING
NOT SHOWN FOR CLARITY)

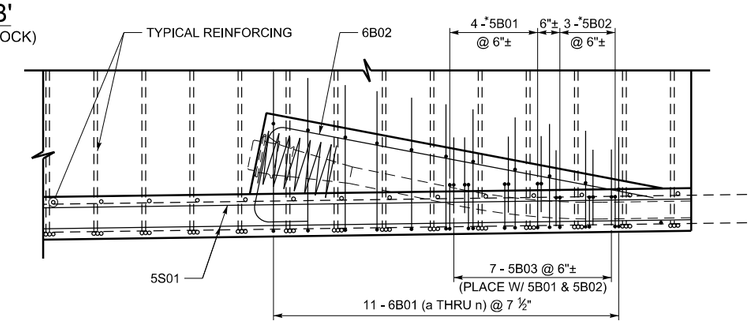


DETAIL 'B'
(TYPICAL EACH BLOCK)



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB



SECTION C-C
(TYPICAL EACH BLOCK)

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-8B, S2-8B, N3-8B AND S3-8B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

*7. PLACE 5B01 AND 5B02 AROUND CURVED PORTION OF DUCT FOR ANCHORING TENDON.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 8B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 133 OF 190

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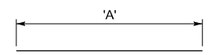
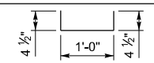
8/6/2008

SEGMENT TYPE 8B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-8B, S2-8B, N3-8B AND S3-8B.

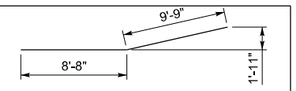
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	162	19'-9 1/2"	3206'-3"	19'-9 1/2"



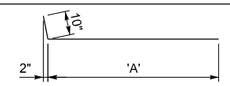
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



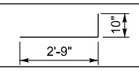
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



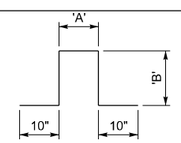
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-6"	460'-0"	10'-8"
5S04	BOTTOM SLAB	5	40	11'-4 5/8"	455'-5"	10'-6 5/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



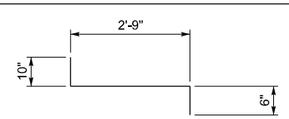
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



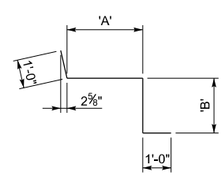
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
5B01	ANCHOR BLOCK	5	8	4'-4"	34'-8"	1'-0"	0'-10"
5B02	ANCHOR BLOCK	5	6	3'-5 ¼"	20'-7 ½"	0'-7 ¼"	0'-7"



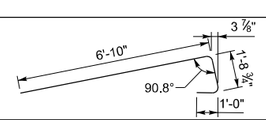
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5B03	ANCHOR BLOCK	5	14	4'-1"	57'-2"



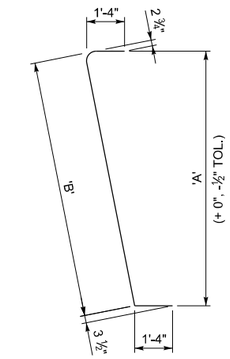
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
6B01a	ANCHOR BLOCK	6	2	6'-7 3/4"	13'-3 1/2"	2'-9 1/8"	1'-10 5/8"
6B01b	ANCHOR BLOCK	6	2	6'-6 1/2"	13'-1"	2'-9 3/8"	1'-9 1/8"
6B01c	ANCHOR BLOCK	6	2	6'-5 1/4"	12'-10 1/2"	2'-9 5/8"	1'-7 5/8"
6B01d	ANCHOR BLOCK	6	2	6'-4"	12'-8"	2'-9 7/8"	1'-6 1/8"
6B01e	ANCHOR BLOCK	6	2	6'-2 5/8"	12'-5 1/4"	2'-10 1/8"	1'-4 1/2"
6B01f	ANCHOR BLOCK	6	2	6'-1 3/8"	12'-2 3/4"	2'-10 3/8"	1'-3"
6B01g	ANCHOR BLOCK	6	2	6'-0 1/8"	12'-0 1/4"	2'-10 5/8"	1'-1 1/2"
6B01h	ANCHOR BLOCK	6	2	5'-11"	11'-10"	2'-11"	1'-0"
6B01k	ANCHOR BLOCK	6	2	5'-9 5/8"	11'-7 1/4"	2'-11 1/4"	0'-10 3/8"
6B01m	ANCHOR BLOCK	6	2	5'-8 3/8"	11'-4 3/4"	2'-11 1/2"	0'-8 7/8"
6B01n	ANCHOR BLOCK	6	2	5'-7 1/8"	11'-2 1/4"	2'-11 3/4"	0'-7 3/8"



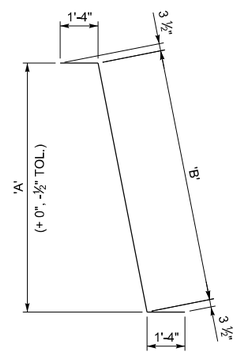
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
6B02	ANCHOR BLOCK	6	6	9'-6 3/4"	57'-4 1/2"

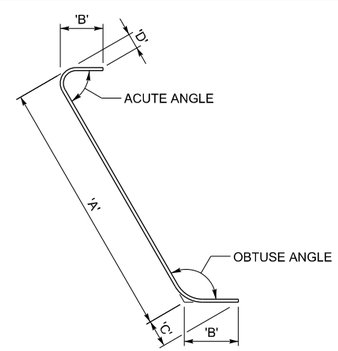


MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	12'-11 3/4"	25'-11 1/2"	10'-1 3/4"	10'-3 3/4"
8S01b	2	WEBS	8	2	12'-11 3/8"	25'-10 3/4"	10'-1 3/8"	10'-3 3/8"
8S01c	3	WEBS	8	2	12'-11"	25'-10 1/8"	10'-1"	10'-3 1/8"
8S01d	4	WEBS	8	2	12'-10 3/4"	25'-9 3/8"	10'-0 3/4"	10'-2 3/4"
8S01e	5	WEBS	8	2	12'-10 3/8"	25'-8 3/4"	10'-0 3/8"	10'-2 3/8"
8S01f	6	WEBS	8	2	12'-10"	25'-8"	10'-0"	10'-2"
8S01g	7	WEBS	8	2	12'-9 5/8"	25'-7 3/8"	9'-11 3/4"	10'-1 3/4"
8S01h	8	WEBS	8	2	12'-9 3/8"	25'-6 5/8"	9'-11 3/8"	10'-1 3/8"
8S01j	9	WEBS	8	2	12'-9"	25'-6"	9'-11"	10'-1"
8S01k	10	WEBS	8	2	12'-8 5/8"	25'-5 1/4"	9'-10 3/4"	10'-0 5/8"
8S01m	11	WEBS	8	2	12'-8 1/4"	25'-4 5/8"	9'-10 3/8"	10'-0 3/8"
8S01n	12	WEBS	8	2	12'-8"	25'-3 7/8"	9'-10"	10'-0"
8S01p	13	WEBS	8	2	12'-7 5/8"	25'-3 1/4"	9'-9 3/4"	9'-11 5/8"
8S01q	14	WEBS	8	2	12'-7 1/4"	25'-2 1/2"	9'-9 3/8"	9'-11 1/4"
8S01r	15	WEBS	8	2	12'-6 7/8"	25'-1 7/8"	9'-9"	9'-10 7/8"
8S01s	16	WEBS	8	2	12'-6 5/8"	25'-1 1/8"	9'-8 5/8"	9'-10 5/8"
8S01t	17	WEBS	8	2	12'-6 1/4"	25'-0 1/2"	9'-8 3/8"	9'-10 1/4"
8S01w	18	WEBS	8	2	12'-5 7/8"	24'-11 3/4"	9'-8"	9'-9 7/8"
8S01v	19	WEBS	8	2	12'-5 1/2"	24'-11 1/8"	9'-7 5/8"	9'-9 1/2"
8S01w	20	WEBS	8	2	12'-5 1/4"	24'-10 3/8"	9'-7 3/8"	9'-9 1/4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	13'-0 1/2"	26'-1 1/8"	10'-1 3/4"	10'-4 1/2"
8S02b	2	WEBS	8	2	13'-0 1/4"	26'-0 3/8"	10'-1 3/8"	10'-4 1/4"
8S02c	3	WEBS	8	2	12'-11 7/8"	25'-11 3/4"	10'-1"	10'-3 7/8"
8S02d	4	WEBS	8	2	12'-11 1/2"	25'-11"	10'-0 3/4"	10'-3 1/2"
8S02e	5	WEBS	8	2	12'-11 1/8"	25'-10 3/8"	10'-0 3/8"	10'-3 1/8"
8S02f	6	WEBS	8	2	12'-10 7/8"	25'-9 5/8"	10'-0"	10'-2 7/8"
8S02g	7	WEBS	8	2	12'-10 1/2"	25'-9"	9'-11 3/4"	10'-2 1/2"
8S02h	8	WEBS	8	2	12'-10 1/8"	25'-8 1/4"	9'-11 3/8"	10'-2 1/8"
8S02j	9	WEBS	8	2	12'-9 3/4"	25'-7 5/8"	9'-11"	10'-1 3/4"
8S02k	10	WEBS	8	2	12'-9 1/2"	25'-6 7/8"	9'-10 3/4"	10'-1 1/2"
8S02m	11	WEBS	8	2	12'-9 1/8"	25'-6 1/4"	9'-10 3/8"	10'-1 1/8"
8S02n	12	WEBS	8	2	12'-8 3/4"	25'-5 1/2"	9'-10"	10'-0 3/4"
8S02p	13	WEBS	8	2	12'-8 3/8"	25'-4 7/8"	9'-9 3/4"	10'-0 3/8"
8S02q	14	WEBS	8	2	12'-8 1/8"	25'-4 1/8"	9'-9 3/8"	10'-0 1/8"
8S02r	15	WEBS	8	2	12'-7 3/4"	25'-3 1/2"	9'-9"	9'-11 3/4"
8S02s	16	WEBS	8	2	12'-7 3/8"	25'-2 3/4"	9'-8 5/8"	9'-11 3/8"
8S02t	17	WEBS	8	2	12'-7"	25'-2 1/8"	9'-8 3/8"	9'-11"
8S02w	18	WEBS	8	2	12'-6 5/8"	25'-1 3/8"	9'-8"	9'-10 3/4"
8S02v	19	WEBS	8	2	12'-6 3/8"	25'-0 5/8"	9'-7 5/8"	9'-10 3/8"
8S02w	20	WEBS	8	2	12'-6"	25'-0"	9'-7 3/8"	9'-10"





REINFORCING BAR DETAILING

LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 8B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	9,218
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	52.5
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-8B, S2-8B, N3-8B AND S3-8B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER
RIVER BRIDGE - MOAB UTAH
SEGMENT 8B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 134 OF 190

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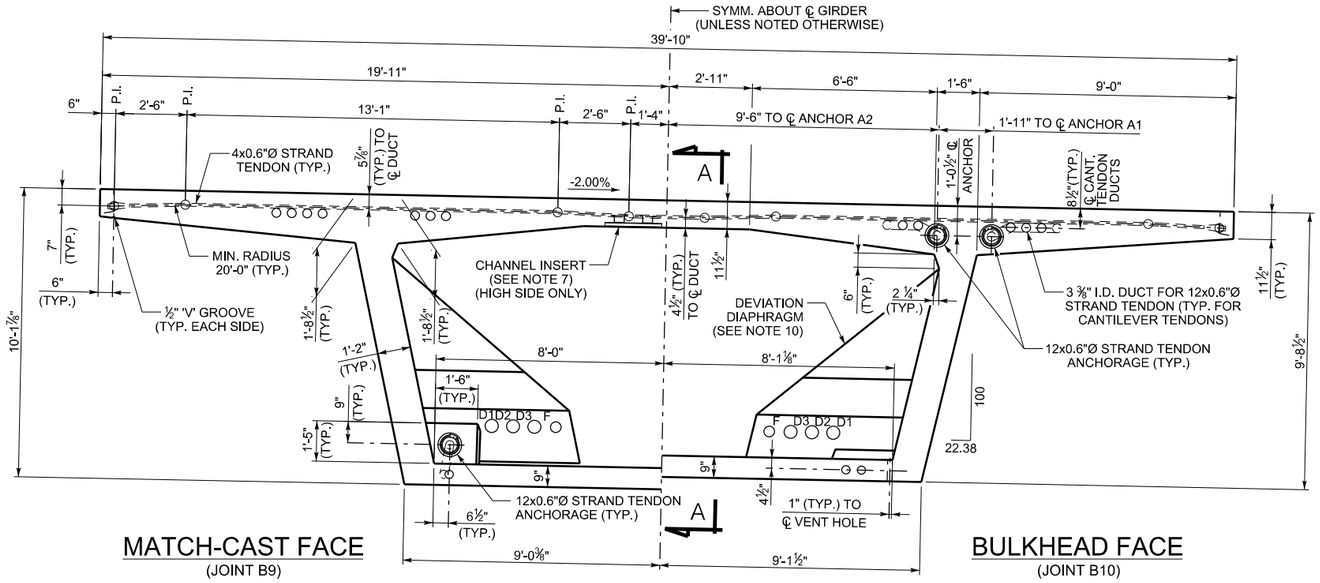
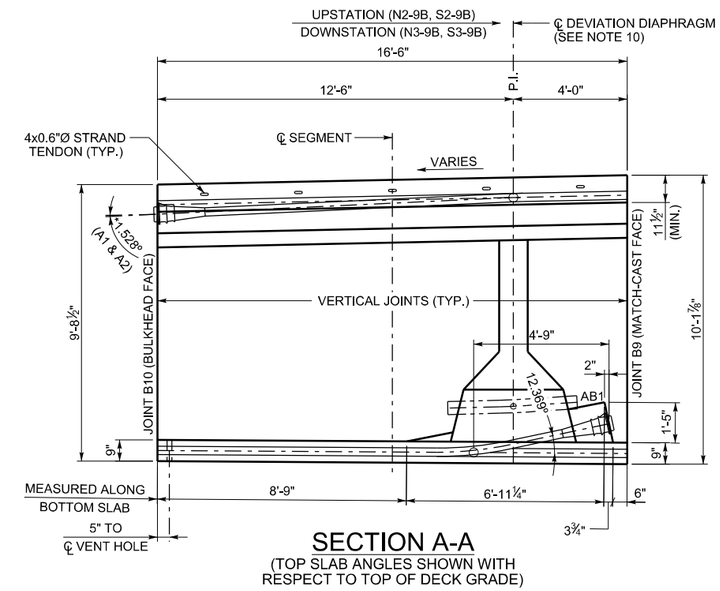
8/6/2008



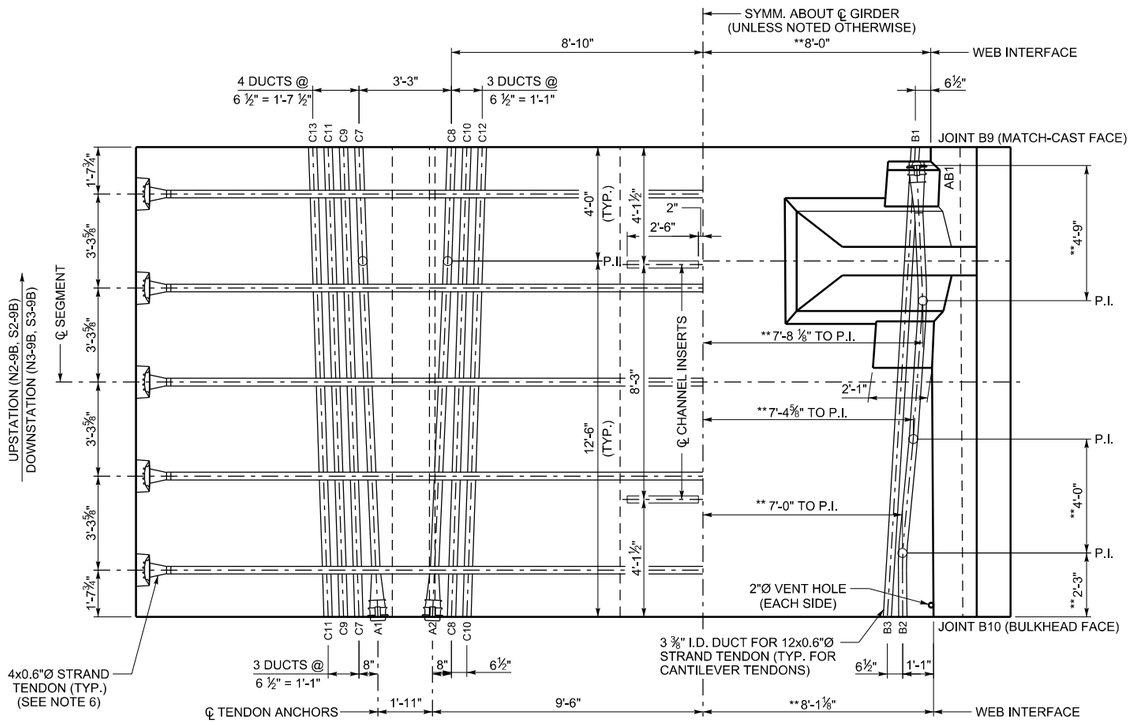
CROSS SECTION

(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)



SECTION A-A

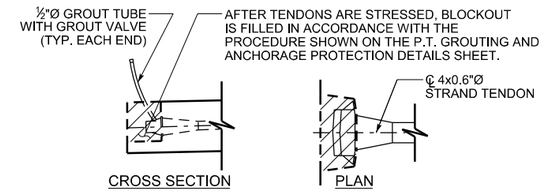
(TOP SLAB ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

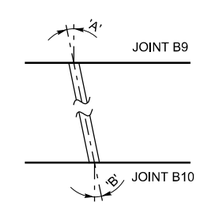
(** MEASURED ALONG BOTTOM SLAB)



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC

(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B9 DUCT POSITION	'A'	JOINT B10 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9-C13	1.880°	C7-C11	1.880°
AB1	2.604°	B2	0°
BI	3.413°	B3	3.413°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-9B, S2-9B, N3-9B AND S3-9B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.
10. FOR DEVIATION DIAPHRAGM DETAILS, SEE SEGMENT TYPE 9B REINFORCING II SHEET.
11. DRAPED TENDONS ARE 27X0.6"Ø STRAND TENDONS. FUTURE TENDONS ARE 19X0.6"Ø STRAND TENDONS

NO.	DATE	BY	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 9B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 135 OF 190

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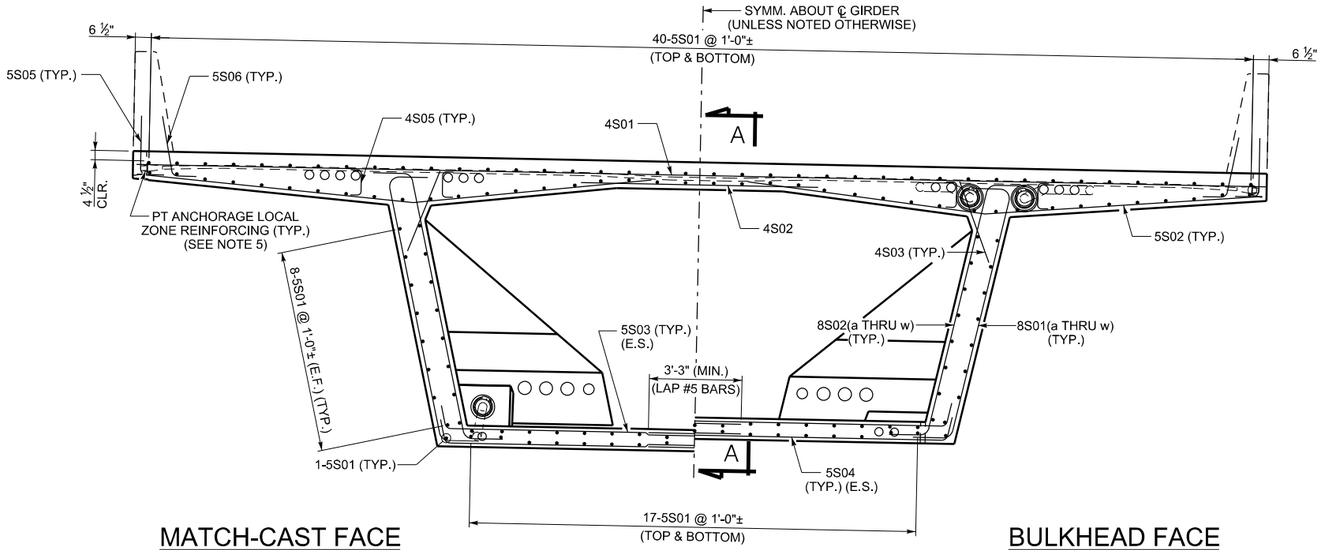
8/6/2008

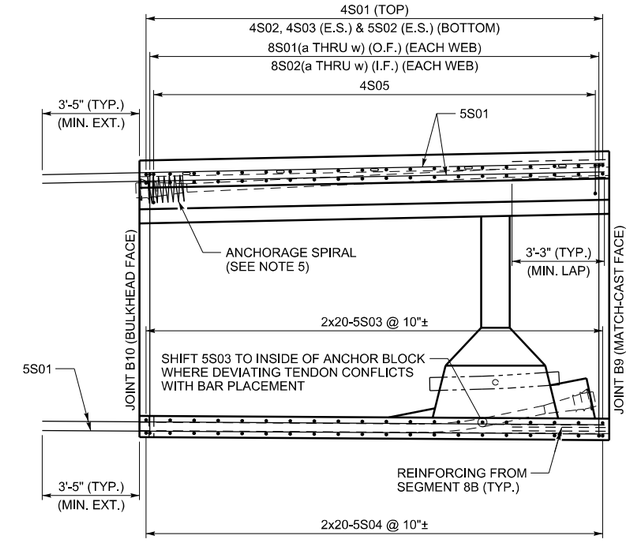


MATCH-CAST FACE
(JOINT B9)

BULKHEAD FACE
(JOINT B10)

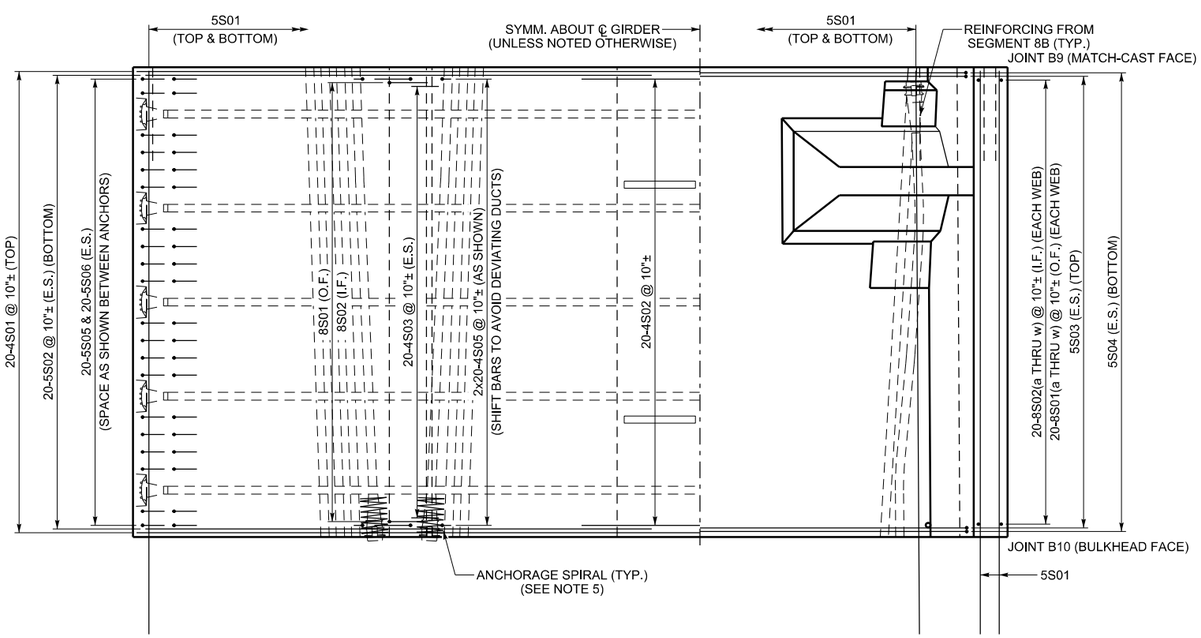
CROSS SECTION

(DEVIATION DIAPHRAGM REINFORCING NOT
SHOWN FOR CLARITY, SEE SEGMENT 9B
REINFORCING II SHEET FOR REINFORCING DETAILS)



SECTION A-A

(DEVIATION DIAPHRAGM REINFORCING NOT
SHOWN FOR CLARITY, SEE SEGMENT 9B
REINFORCING II SHEET FOR REINFORCING DETAILS)



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

(DEVIATION DIAPHRAGM REINFORCING NOT
SHOWN FOR CLARITY, SEE SEGMENT 9B
REINFORCING II SHEET FOR REINFORCING DETAILS)

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-9B, S2-9B, N3-9B AND S3-9B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08	CHECK DSL 08/08	APPROVAL RECOMM.	SENIOR DESIGN ENGR. DATE
DRAWN KJM 04/08	CHECK BTL 04/08	APPROVED FOR USE BY UDOT	UDOT BRIDGE ENGR. DATE
QUANT BTL 08/08	CHECK KRM 08/08		

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 9B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 136 OF 190

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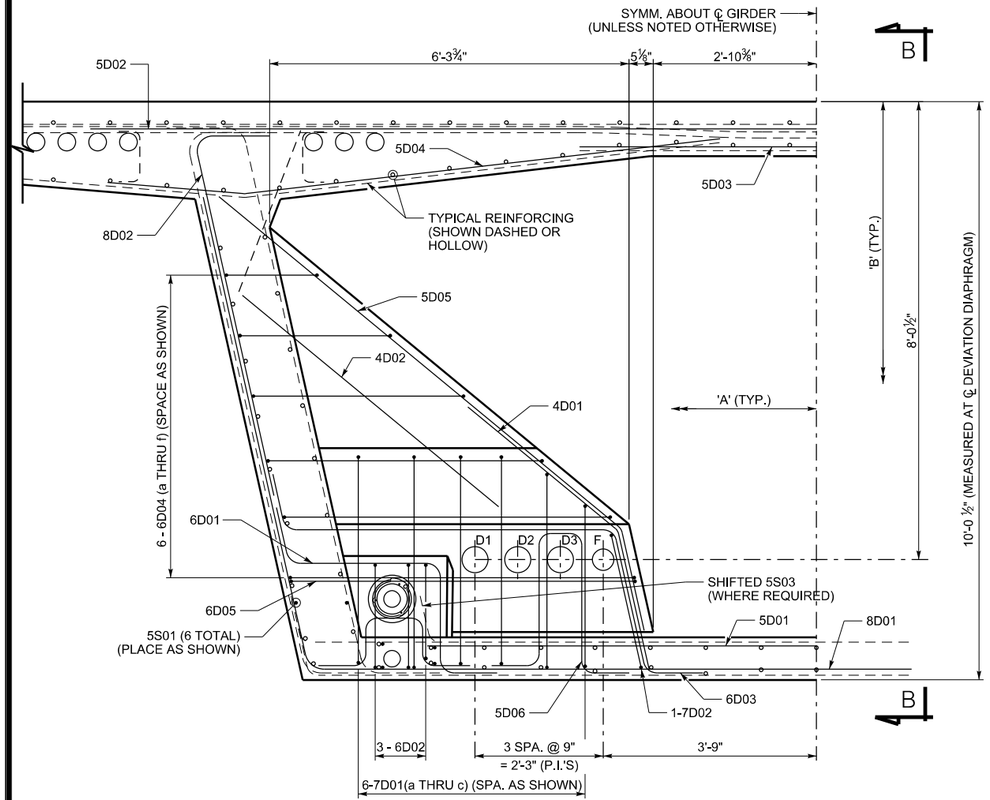
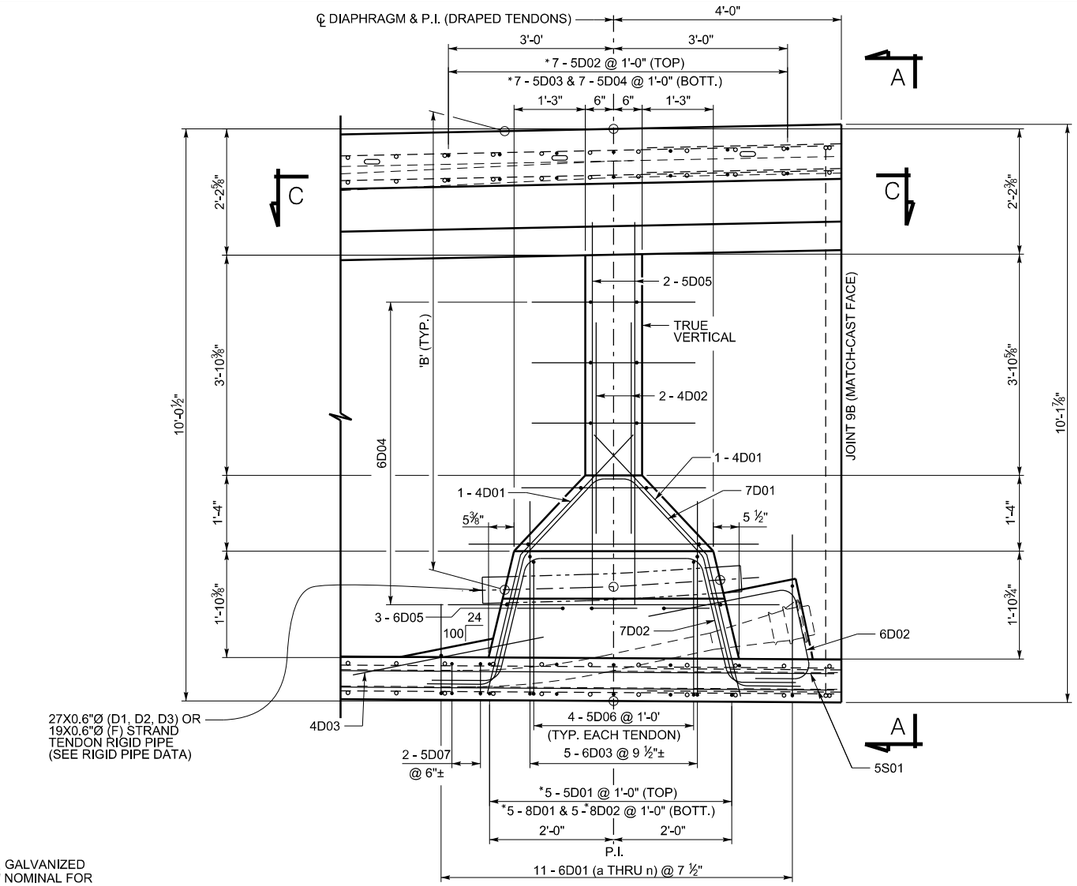
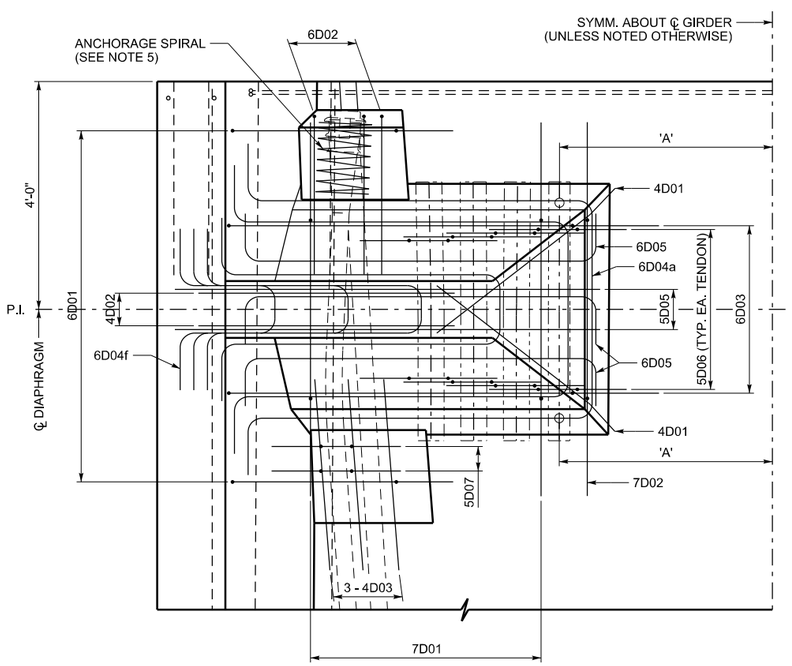


VIEW A-A

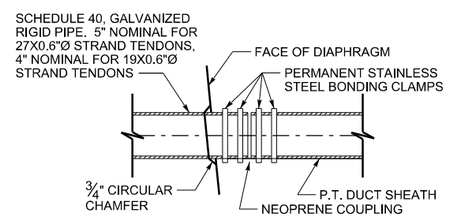


VIEW B-B



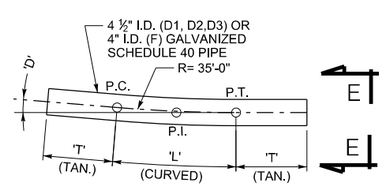
VIEW C-C

(5S05, 5D01, 8D01 & 8D02
NOT SHOWN FOR CLARITY)



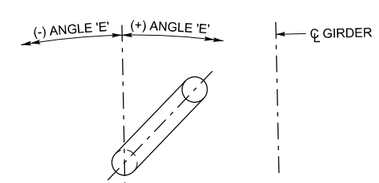
P.T. DUCT CONNECTION DETAIL

(EXTERNAL DRAPED TENDONS ONLY)



RIGID PIPE DATA

('D' MEASURED IN PLANE OF 3D CURVE)



VIEW E-E

(LOOKING TOWARDS PIER)
(ANGLE 'E' REFERENCE LINE IS PARALLEL
TO ℄ GIRDER WHICH IS SLOPED 2.0% TO
MATCH SUPERELEVATION)

DRAPED TENDON VARIABLE DIMENSIONS - SYMM. ABOUT ℄ GIRDER											
TENDON	EXIT POINT (ABUTMENT SIDE)		P.I.		EXIT POINT (SPAN SIDE)		RIGID PIPE LENGTHS (FT)			RIGID PIPE ANGLES (DEGREES)	
	'A'	'B'	'A'	'B'	'A'	'B'	'L'	'T'	TOTAL	'D'	'E'
D1	6.032	7.965	6.000	8.042	6.000	8.042	1.527	1.570	4.667	2.50	-23.5
D2	5.258	7.960	5.250	8.042	5.250	8.042	1.527	1.570	4.667	2.50	-5.8
D3	4.485	7.957	4.500	8.042	4.500	8.042	1.527	1.570	4.667	2.50	10.4
F	3.744	7.982	3.750	8.042	3.750	8.042	1.222	1.723	4.667	2.00	6.1

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-9B, S2-9B, N3-9B AND S3-9B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHEIVE EQUAL SPACING FROM FIRST TO LAST BAR.

*7. 5D01, 5D02, 5D03, 5D04, 8D01 & 8D02 BARS ARE IN ADDITION TO TYPICAL SECTION REINFORCING AND ARE SPACED BETWEEN TYPICAL REINFORCING SETS.

8. INSTALL RIGID PIPE FOR FUTURE 19X0.6"Ø STRAND TENDONS.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN RKM 05/08 CHECK KVH 08/08
DRAWN SJF 05/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 9B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 137 OF 190

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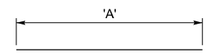
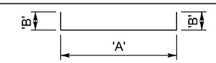
9/6/2008

SEGMENT TYPE 9B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-9B, S2-9B, N3-9B AND S3-9B.

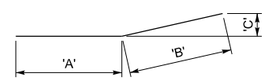
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	160	19'-9 1/2"	3166'-8"	19'-9 1/2"
4D02	DIAPHRAGM	4	4	5'-10"	23'-4"	5'-10"
4D03	DIAPHRAGM	4	6	3'-5"	20'-6"	3'-5"
5D01	BOTTOM SLAB	5	5	13'-8"	68'-4"	13'-8"
5D02	TOP SLAB	5	7	25'-6"	178'-6"	25'-6"
5D03	TOP SLAB	5	7	8'-4"	58'-4"	8'-4"



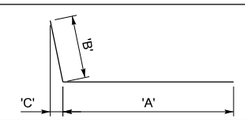
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
4S05	TOP SLAB	4	80	1'-9"	140'-0"	1'-0"	0'-4 1/2"
6D05	DIAPHRAGM	6	6	8'-0"	48'-0"	6'-0"	1'-0"



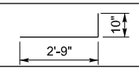
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'	'C'
5S02	TOP SLAB	5	40	18'-5"	736'-8"	8'-8"	9'-9"	1'-11"
4D01	DIAPHRAGM	4	4	5'-8"	22'-8"	3'-5"	2'-3"	1'-5"
5D04	TOP SLAB	5	14	10'-10"	151'-8"	8'-5"	2'-5"	0'-5 3/4"
5D05	DIAPHRAGM	5	4	11'-0"	44'-0"	9'-2"	1'-10"	1'-1 1/2"



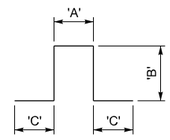
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'	'C'
5S03	BOTTOM SLAB	5	40	11'-7 1/8"	463'-9"	10'-9 1/8"	0'-10"	0'-2"
5S04	BOTTOM SLAB	5	40	11'-5 3/4"	459'-2"	10'-7 3/4"	0'-10"	0'-2"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"	0'-10"	0'-2"
8D01	BOTT. SLAB/WEB	8	10	19'-1"	190'-10"	10'-5"	8'-8"	1'-10 3/4"



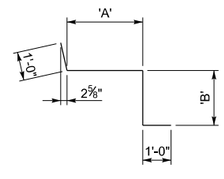
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



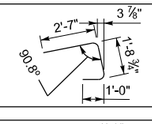
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'	'C'
5D06	DIAPHRAGM	5	32	7'-1"	226'-8	0'-9"	2'-4"	0'-10"
5D07	DIAPHRAGM	5	4	3'-5 1/4"	13-9"	0'-7 1/4"	0'-7"	0'-10"
6D04a	DIAPHRAGM	6	2	17'-8 1/2"	35'-5"	3'-8 1/2"	6'-0"	1'-0"
6D04b	DIAPHRAGM	6	2	16'-3 1/2"	32'-7"	2'-9 1/2"	5'-9"	1'-0"
6D04c	DIAPHRAGM	6	2	12'-8 1/2"	25'-5"	1'-0 1/2"	4'-10"	1'-0"
6D04d	DIAPHRAGM	6	2	10'-4"	20'-8"	0'-9"	3'-9 1/2"	1'-0"
6D04e	DIAPHRAGM	6	2	8'-3"	16'-6"	0'-9"	2'-9"	1'-0"
6D04f	DIAPHRAGM	6	2	6'-1"	12'-2"	0'-9"	1'-8"	1'-0"



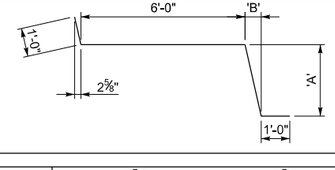
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
6D01a	DIAPHRAGM	6	2	6'-7 3/4"	13'-3 1/2"	2'-9 1/8"	1'-10 5/8"
6D01b	DIAPHRAGM	6	2	6'-6 1/2"	13'-1"	2'-9 3/8"	1'-9 1/8"
6D01c	DIAPHRAGM	6	2	6'-5 1/4"	12'-10 1/2"	2'-9 5/8"	1'-7 5/8"
6D01d	DIAPHRAGM	6	2	6'-4"	12'-8"	2'-9 7/8"	1'-6 1/8"
6D01e	DIAPHRAGM	6	2	6'-2 5/8"	12'-5 1/4"	2'-10 1/8"	1'-4 1/2"
6D01f	DIAPHRAGM	6	2	6'-1 3/8"	12'-2 3/4"	2'-10 3/8"	1'-3"
6D01g	DIAPHRAGM	6	2	6'-0 1/8"	12'-0 1/4"	2'-10 5/8"	1'-1 1/2"
6D01h	DIAPHRAGM	6	2	5'-11"	11'-10"	2'-11"	1'-0"
6D01k	DIAPHRAGM	6	2	5'-9 5/8"	11'-7 1/4"	2'-11 1/4"	0'-10 3/8"
6D01m	DIAPHRAGM	6	2	5'-8 3/8"	11'-4 3/4"	2'-11 1/2"	0'-8 7/8"
6D01n	DIAPHRAGM	6	2	5'-7 1/8"	11'-2 1/4"	2'-11 3/4"	0'-7 3/8"



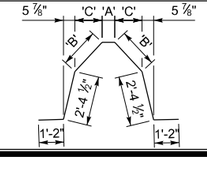
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
6D02	DIAPHRAGM	6	6	5'-3 3/4"	31'-10 1/2"



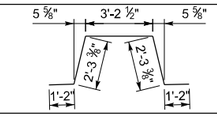
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
6D03	DIAPHRAGM	6	10	10'-4 1/2"	103'-9"	2'-4 1/2"	0'-5 5/8"



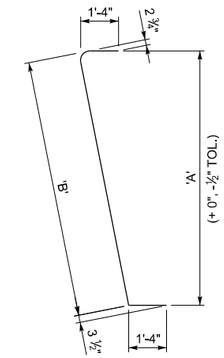
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'	'C'
7D01a	DIAPHRAGM	7	8	11'-4 1/2"	91'-0"	0'-8 5/8"	1'-9 3/8"	1'-2 5/8"
7D01b	DIAPHRAGM	7	2	11'-2 1/2"	22'-5"	1'-1 1/8"	1'-6 1/8"	1'-0 3/8"
7D01c	DIAPHRAGM	7	2	10'-8 1/8"	21'-4 1/4"	2'-3"	0'-8"	0'-5 1/2"



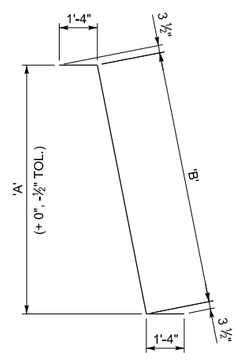
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
7D02	DIAPHRAGM	7	2	10'-1 1/4"	20'-2 1/2"



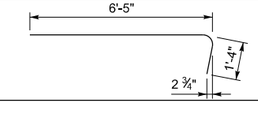
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	12'-4 5/8"	24'-9 1/4"	9'-6 3/4"	9'-8 5/8"
8S01b	1	WEBS	8	2	12'-4 5/8"	24'-9 1/4"	9'-6 3/4"	9'-8 5/8"
8S01c	2	WEBS	8	2	12'-4 1/8"	24'-8 1/8"	9'-6 1/4"	9'-8 1/8"
8S01d	2	WEBS	8	2	12'-4 1/8"	24'-8 1/8"	9'-6 1/4"	9'-8 1/8"
8S01e	3	WEBS	8	2	12'-3 1/2"	24'-7 1/8"	9'-5 3/4"	9'-7 1/2"
8S01f	3	WEBS	8	2	12'-3 1/2"	24'-7 1/8"	9'-5 3/4"	9'-7 1/2"
8S01g	4	WEBS	8	2	12'-3"	24'-6"	9'-5 1/4"	9'-7"
8S01h	4	WEBS	8	2	12'-3"	24'-6"	9'-5 1/4"	9'-7"
8S01j	5	WEBS	8	2	12'-2 1/2"	24'-4 7/8"	9'-4 5/8"	9'-6 1/2"
8S01k	5	WEBS	8	2	12'-2 1/2"	24'-4 7/8"	9'-4 5/8"	9'-6 1/2"
8S01m	6	WEBS	8	2	12'-1 7/8"	24'-3 7/8"	9'-4 1/8"	9'-6 7/8"
8S01n	6	WEBS	8	2	12'-1 7/8"	24'-3 7/8"	9'-4 1/8"	9'-5 7/8"
8S01p	7	WEBS	8	2	12'-1 3/8"	24'-2 3/4"	9'-3 5/8"	9'-5 3/8"
8S01q	7	WEBS	8	2	12'-1 3/8"	24'-2 3/4"	9'-3 5/8"	9'-5 3/8"
8S01r	8	WEBS	8	2	12'-0 7/8"	24'-1 5/8"	9'-3 1/8"	9'-4 7/8"
8S01s	8	WEBS	8	2	12'-0 7/8"	24'-1 5/8"	9'-3 1/8"	9'-4 7/8"
8S01t	9	WEBS	8	2	12'-0 1/4"	24'-0 5/8"	9'-2 1/2"	9'-4 5/8"
8S01w	9	WEBS	8	2	12'-0 1/4"	24'-0 5/8"	9'-2 1/2"	9'-4 5/8"
8S01v	10	WEBS	8	2	11'-11 3/4"	23'-11 1/2"	9'-2"	9'-3 3/4"
8S01w	10	WEBS	8	2	11'-11 3/4"	23'-11 1/2"	9'-2"	9'-3 3/4"

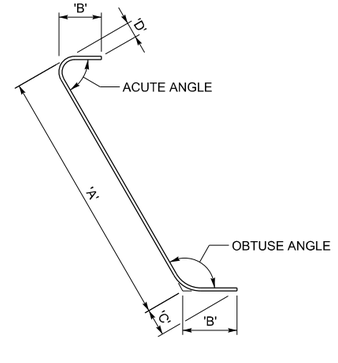


MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	12'-5 3/8"	24'-10 7/8"	9'-6 3/4"	9'-9 3/8"
8S02b	1	WEBS	8	2	12'-5 3/8"	24'-10 7/8"	9'-6 3/4"	9'-9 3/8"
8S02c	2	WEBS	8	2	12'-4 7/8"	24'-9 3/4"	9'-6 1/4"	9'-8 7/8"
8S02d	2	WEBS	8	2	12'-4 7/8"	24'-9 3/4"	9'-6 1/4"	9'-8 7/8"
8S02e	3	WEBS	8	2	12'-4 3/8"	24'-8 5/8"	9'-5 3/4"	9'-8 3/8"
8S02f	3	WEBS	8	2	12'-4 3/8"	24'-8 5/8"	9'-5 3/4"	9'-8 3/8"
8S02g	4	WEBS	8	2	12'-3 3/4"	24'-7 5/8"	9'-5 1/4"	9'-7 3/4"
8S02h	4	WEBS	8	2	12'-3 3/4"	24'-7 5/8"	9'-5 1/4"	9'-7 3/4"
8S02j	5	WEBS	8	2	12'-3 1/4"	24'-6 1/2"	9'-4 5/8"	9'-7 1/4"
8S02k	5	WEBS	8	2	12'-3 1/4"	24'-6 1/2"	9'-4 5/8"	9'-7 1/4"
8S02m	6	WEBS	8	2	12'-2 3/4"	24'-5 3/8"	9'-4 1/8"	9'-6 3/4"
8S02n	6	WEBS	8	2	12'-2 3/4"	24'-5 3/8"	9'-4 1/8"	9'-6 3/4"
8S02p	7	WEBS	8	2	12'-2 1/8"	24'-4 3/8"	9'-3 5/8"	9'-6 1/8"
8S02q	7	WEBS	8	2	12'-2 1/8"	24'-4 3/8"	9'-3 5/8"	9'-6 1/8"
8S02r	8	WEBS	8	2	12'-1 5/8"	24'-3 1/4"	9'-3 1/8"	9'-5 5/8"
8S02s	8	WEBS	8	2	12'-1 5/8"	24'-3 1/4"	9'-3 1/8"	9'-5 5/8"
8S02t	9	WEBS	8	2	12'-1 1/8"	24'-2 1/8"	9'-2 1/2"	9'-5 1/8"
8S02w	9	WEBS	8	2	12'-1 1/8"	24'-2 1/8"	9'-2 1/2"	9'-5 1/8"
8S02v	10	WEBS	8	2	12'-0 1/2"	24'-1 1/8"	9'-2"	9'-4 1/2"
8S02w	10	WEBS	8	2	12'-0 1/2"	24'-1 1/8"	9'-2"	9'-4 1/2"



MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
8D02	WEB	8	10	7'-9"	77'-6"





REINFORCING BAR DETAILING

LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 9B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	11,300
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	55.8
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-9B, S2-9B, N3-9B AND S3-9B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 9B REINFORCING III

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 138 OF 190

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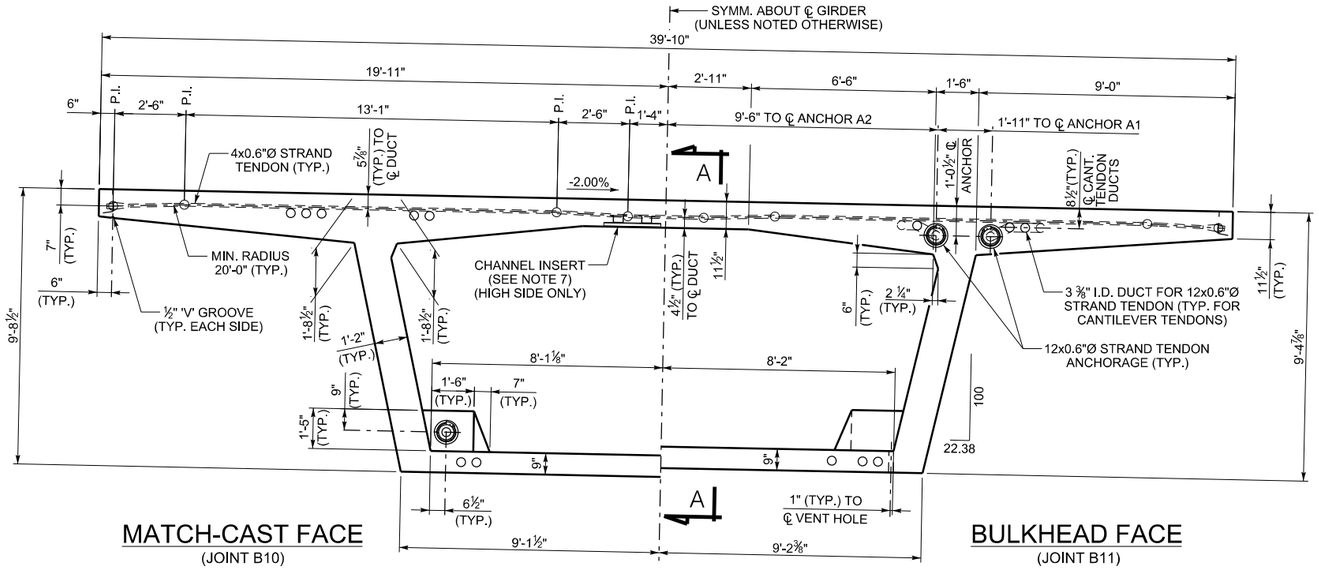
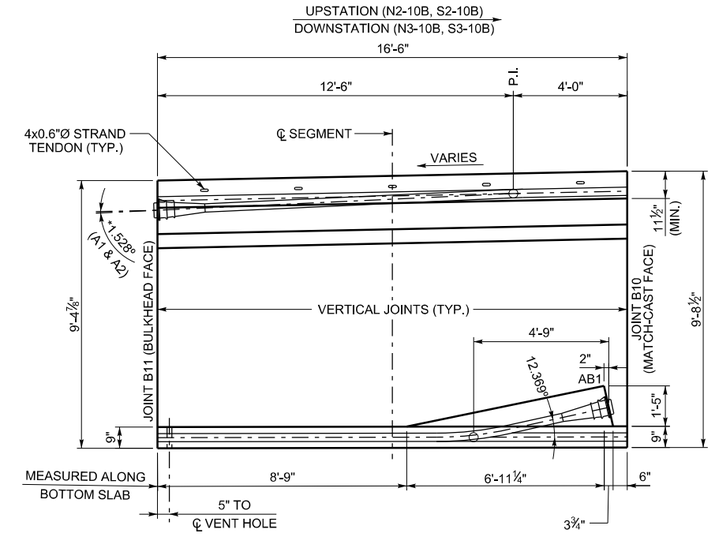
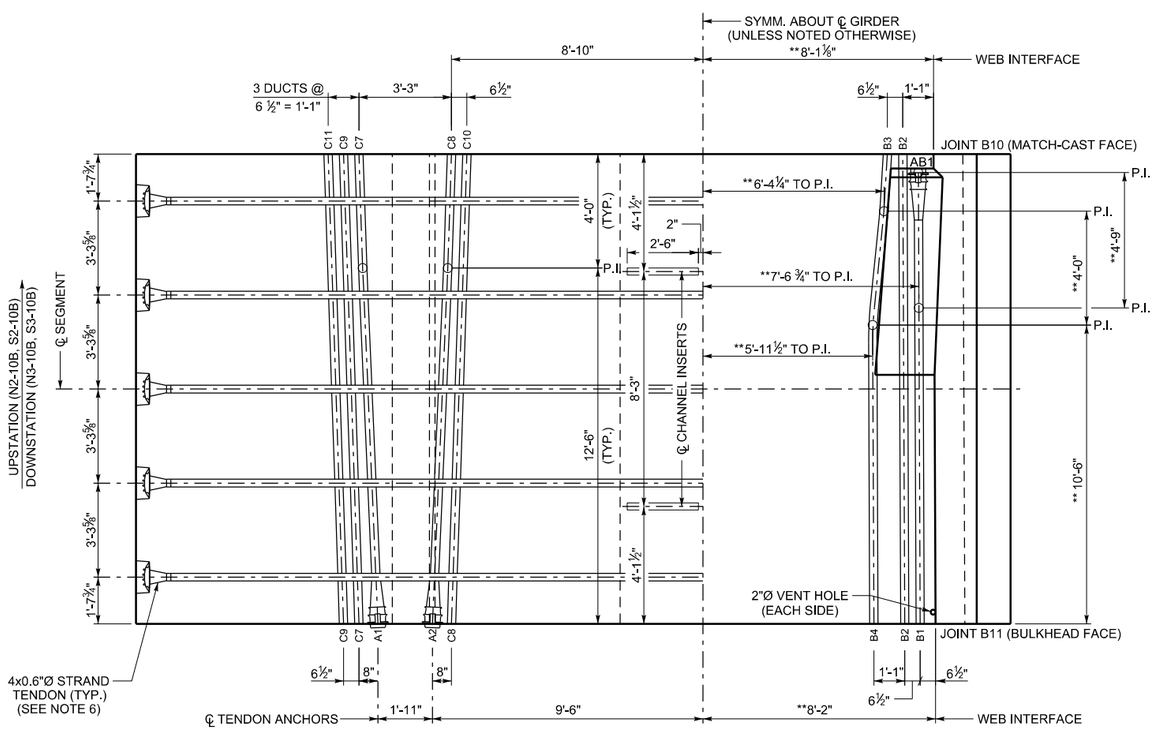
8/6/2008



CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

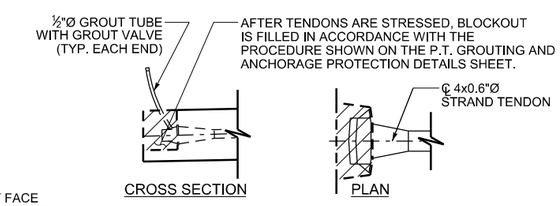


SECTION A-A
(TOP SLAB ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

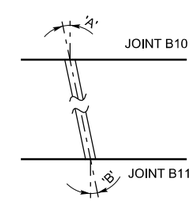
PARTIAL PLAN BOTTOM SLAB
(** MEASURED ALONG BOTTOM SLAB)



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B10 DUCT POSITION	'A'	JOINT B11 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454
C9-C11	1.880°	C7-C9	1.880°
AB1	0°	B1	0°
B2	0°	B2	0°
B3	3.413°	B4	0°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-10B, S2-10B, N3-10B AND S3-10B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 10B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 139 OF 190

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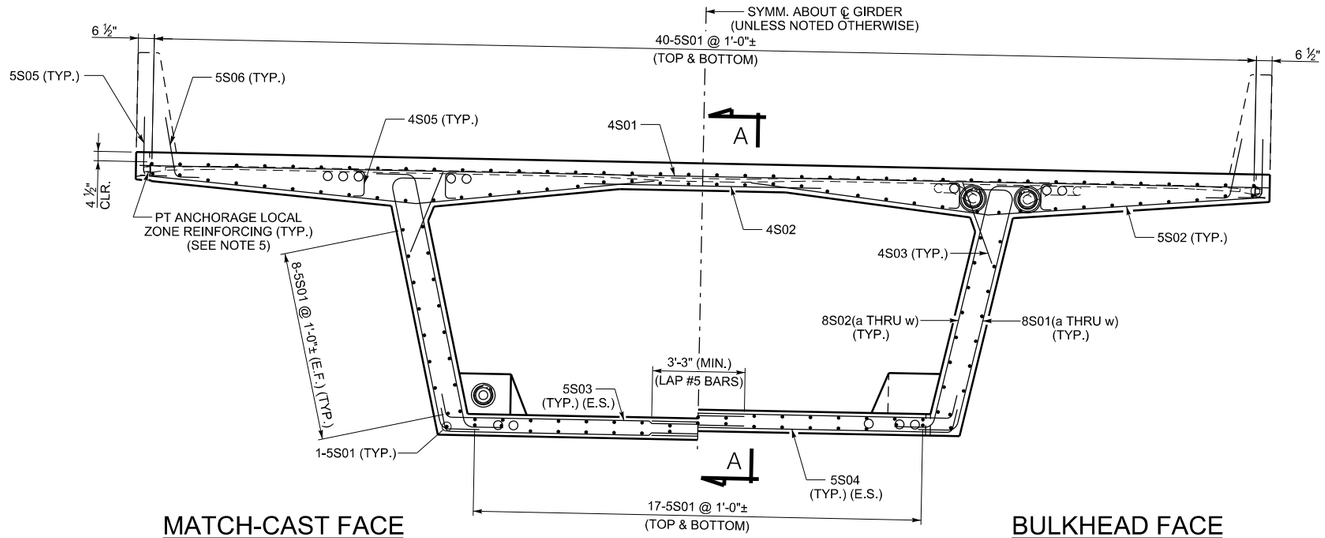
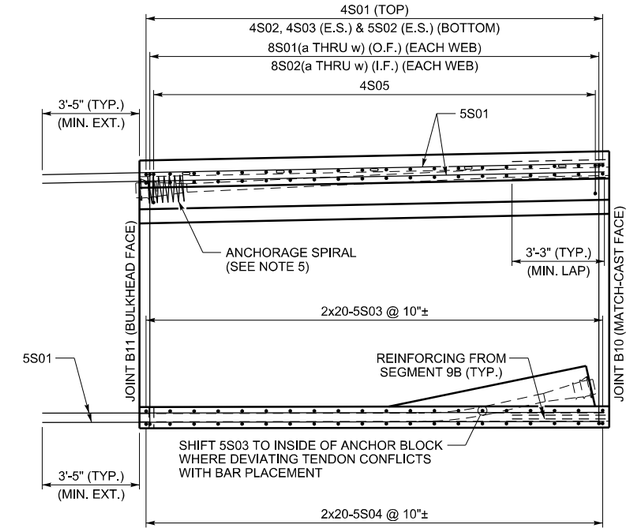
8/6/2008



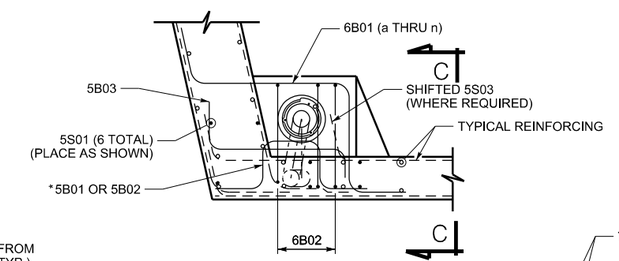
MATCH-CAST FACE
(JOINT B10)

CROSS SECTION
(ANCHOR BLOCK REINFORCING
NOT SHOWN FOR CLARITY)

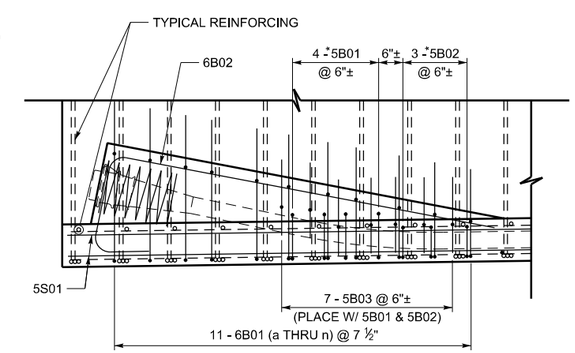
BULKHEAD FACE
(JOINT B11)



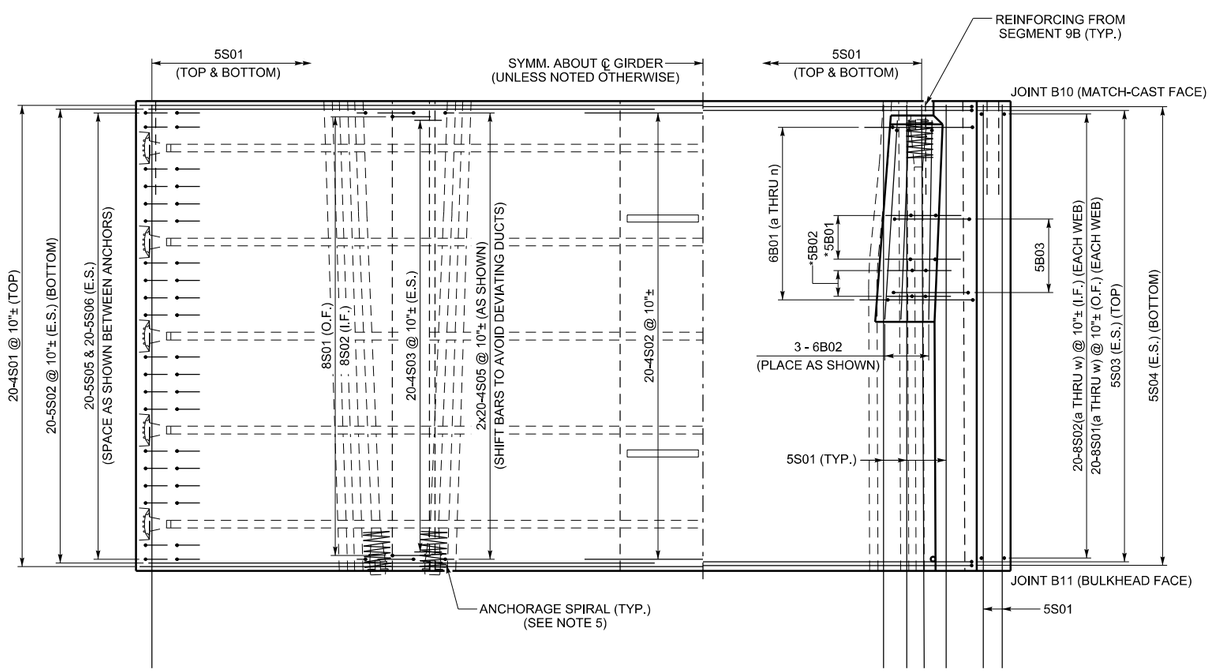
SECTION A-A
(ANCHOR BLOCK REINFORCING
NOT SHOWN FOR CLARITY)



DETAIL 'B'
(TYPICAL EACH BLOCK)



SECTION C-C
(TYPICAL EACH BLOCK)



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB
(ANCHOR BLOCK REINFORCING
NOT SHOWN FOR CLARITY)

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-10B, S2-10B, N3-10B AND S3-10B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

*7. PLACE 5B01 AND 5B02 AROUND CURVED PORTION OF DUCT FOR ANCHORING TENDON.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 10B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 140 OF 190

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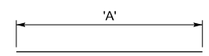
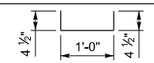
8/6/2008

SEGMENT TYPE 10B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-10B, S2-10B, N3-10B AND S3-10B.

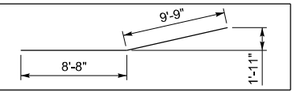
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	160	19'-9 1/2"	3166'-8"	19'-9 1/2"



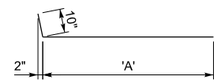
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



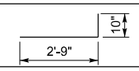
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



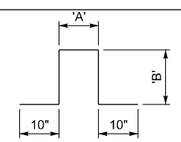
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-8"	466'-8"	10'-10"
5S04	BOTTOM SLAB	5	40	11'-6 5/8"	462'-1"	10'-8 5/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



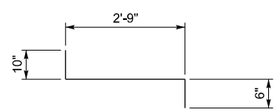
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



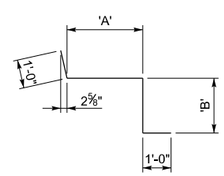
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
5B01	ANCHOR BLOCK	5	8	4'-4"	34'-8"	1'-0"	0'-10"
5B02	ANCHOR BLOCK	5	6	3'-5 1/4"	20'-7 1/2"	0'-7 1/4"	0'-7"



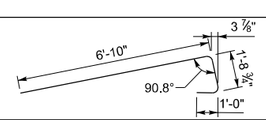
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5B03	ANCHOR BLOCK	5	14	4'-1"	57'-2"



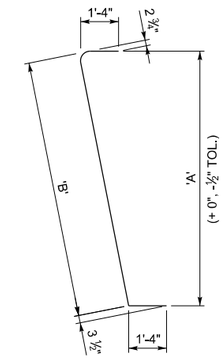
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
6B01a	ANCHOR BLOCK	6	2	6'-7 3/4"	13'-3 1/2"	2'-9 1/8"	1'-10 5/8"
6B01b	ANCHOR BLOCK	6	2	6'-6 1/2"	13'-1"	2'-9 3/8"	1'-9 1/8"
6B01c	ANCHOR BLOCK	6	2	6'-5 1/4"	12'-10 1/2"	2'-9 5/8"	1'-7 5/8"
6B01d	ANCHOR BLOCK	6	2	6'-4"	12'-8"	2'-9 7/8"	1'-6 1/8"
6B01e	ANCHOR BLOCK	6	2	6'-2 5/8"	12'-5 1/4"	2'-10 1/8"	1'-4 1/2"
6B01f	ANCHOR BLOCK	6	2	6'-1 3/8"	12'-2 3/4"	2'-10 3/8"	1'-3"
6B01g	ANCHOR BLOCK	6	2	6'-0 1/8"	12'-0 1/4"	2'-10 5/8"	1'-1 1/2"
6B01h	ANCHOR BLOCK	6	2	5'-11"	11'-10"	2'-11"	1'-0"
6B01k	ANCHOR BLOCK	6	2	5'-9 5/8"	11'-7 1/4"	2'-11 1/4"	0'-10 3/8"
6B01m	ANCHOR BLOCK	6	2	5'-8 3/8"	11'-4 3/4"	2'-11 1/2"	0'-8 7/8"
6B01n	ANCHOR BLOCK	6	2	5'-7 1/8"	11'-2 1/4"	2'-11 3/4"	0'-7 3/8"



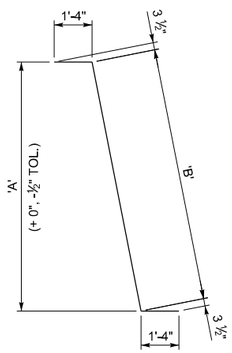
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
6B02	ANCHOR BLOCK	6	6	9'-6 3/4"	57'-4 1/2"

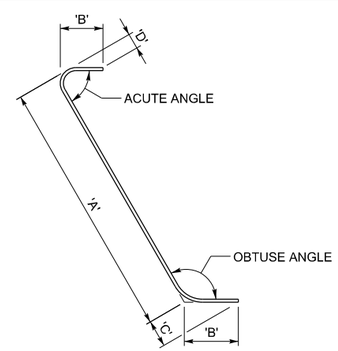


MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	11'-11 3/8"	23'-10 5/8"	9'-1 5/8"	9'-3 3/8"
8S01b	1	WEBS	8	2	11'-11 3/8"	23'-10 5/8"	9'-1 5/8"	9'-3 3/8"
8S01c	1	WEBS	8	2	11'-11 3/8"	23'-10 5/8"	9'-1 5/8"	9'-3 3/8"
8S01d	2	WEBS	8	2	11'-10 3/4"	23'-9 1/2"	9'-1"	9'-2 3/4"
8S01e	2	WEBS	8	2	11'-10 3/4"	23'-9 1/2"	9'-1"	9'-2 3/4"
8S01f	2	WEBS	8	2	11'-10 3/4"	23'-9 1/2"	9'-1"	9'-2 3/4"
8S01g	3	WEBS	8	2	11'-10 1/4"	23'-8 3/8"	9'-0 1/2"	9'-2 1/4"
8S01h	3	WEBS	8	2	11'-10 1/4"	23'-8 3/8"	9'-0 1/2"	9'-2 1/4"
8S01j	3	WEBS	8	2	11'-10 1/4"	23'-8 3/8"	9'-0 1/2"	9'-2 1/4"
8S01k	4	WEBS	8	2	11'-9 5/8"	23'-7 1/4"	9'-0"	9'-1 5/8"
8S01m	4	WEBS	8	2	11'-9 5/8"	23'-7 1/4"	9'-0"	9'-1 5/8"
8S01n	4	WEBS	8	2	11'-9 5/8"	23'-7 1/4"	9'-0"	9'-1 5/8"
8S01p	5	WEBS	8	2	11'-9"	23'-6 1/8"	8'-11 3/8"	9'-1"
8S01q	5	WEBS	8	2	11'-9"	23'-6 1/8"	8'-11 3/8"	9'-1"
8S01r	5	WEBS	8	2	11'-9"	23'-6 1/8"	8'-11 3/8"	9'-1"
8S01s	6	WEBS	8	2	11'-8 1/2"	23'-5"	8'-10 7/8"	9'-0 1/2"
8S01t	6	WEBS	8	2	11'-8 1/2"	23'-5"	8'-10 7/8"	9'-0 1/2"
8S01w	6	WEBS	8	2	11'-8 1/2"	23'-5"	8'-10 7/8"	9'-0 1/2"
8S01v	7	WEBS	8	2	11'-7 7/8"	23'-3 7/8"	8'-10 1/4"	9'-0"
8S01w	7	WEBS	8	2	11'-7 7/8"	23'-3 7/8"	8'-10 1/4"	9'-0"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	12'-0 1/8"	24'-0 1/4"	9'-1 5/8"	9'-4 1/8"
8S02b	1	WEBS	8	2	12'-0 1/8"	24'-0 1/4"	9'-1 5/8"	9'-4 1/8"
8S02c	1	WEBS	8	2	12'-0 1/8"	24'-0 1/4"	9'-1 5/8"	9'-4 1/8"
8S02d	2	WEBS	8	2	11'-11 1/2"	23'-11 1/8"	9'-1"	9'-3 5/8"
8S02e	2	WEBS	8	2	11'-11 1/2"	23'-11 1/8"	9'-1"	9'-3 5/8"
8S02f	2	WEBS	8	2	11'-11 1/2"	23'-11 1/8"	9'-1"	9'-3 5/8"
8S02g	3	WEBS	8	2	11'-11"	23'-10"	9'-0 1/2"	9'-3"
8S02h	3	WEBS	8	2	11'-11"	23'-10"	9'-0 1/2"	9'-3"
8S02j	3	WEBS	8	2	11'-11"	23'-10"	9'-0 1/2"	9'-3"
8S02k	4	WEBS	8	2	11'-10 3/8"	23'-8 7/8"	9'-0"	9'-2 3/8"
8S02m	4	WEBS	8	2	11'-10 3/8"	23'-8 7/8"	9'-0"	9'-2 3/8"
8S02n	4	WEBS	8	2	11'-10 3/8"	23'-8 7/8"	9'-0"	9'-2 3/8"
8S02p	5	WEBS	8	2	11'-9 7/8"	23'-7 5/8"	8'-11 3/8"	9'-1 7/8"
8S02q	5	WEBS	8	2	11'-9 7/8"	23'-7 5/8"	8'-11 3/8"	9'-1 7/8"
8S02r	5	WEBS	8	2	11'-9 7/8"	23'-7 5/8"	8'-11 3/8"	9'-1 7/8"
8S02s	6	WEBS	8	2	11'-9 1/4"	23'-6 1/2"	8'-10 7/8"	9'-1 1/4"
8S02t	6	WEBS	8	2	11'-9 1/4"	23'-6 1/2"	8'-10 7/8"	9'-1 1/4"
8S02w	6	WEBS	8	2	11'-9 1/4"	23'-6 1/2"	8'-10 7/8"	9'-1 1/4"
8S02v	7	WEBS	8	2	11'-8 3/4"	23'-5 3/8"	8'-10 1/4"	9'-0 3/4"
8S02w	7	WEBS	8	2	11'-8 3/4"	23'-5 3/8"	8'-10 1/4"	9'-0 3/4"





REINFORCING BAR DETAILING

LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 10B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	9,000
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	51.4
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-10B, S2-10B, N3-10B AND S3-10B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 10B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 141 OF 190

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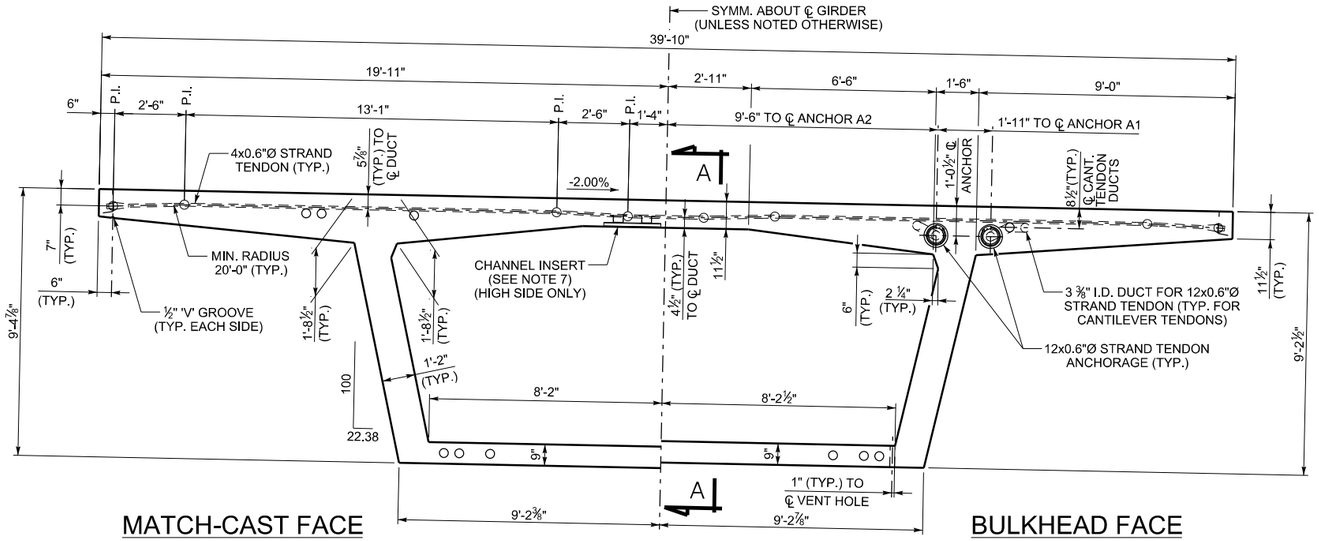
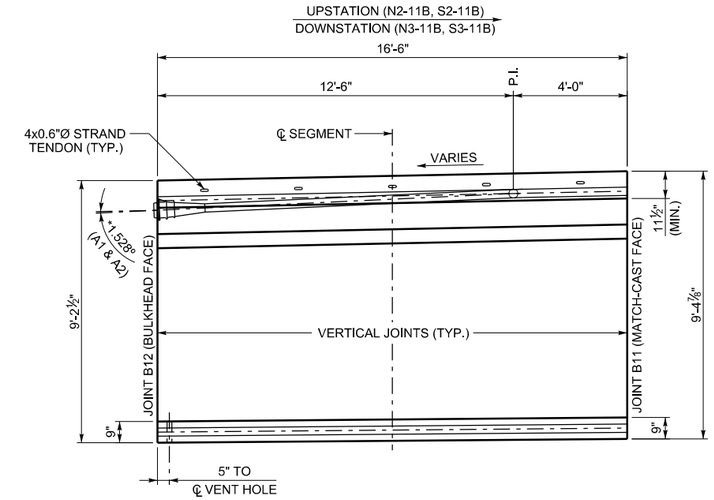
8/6/2008



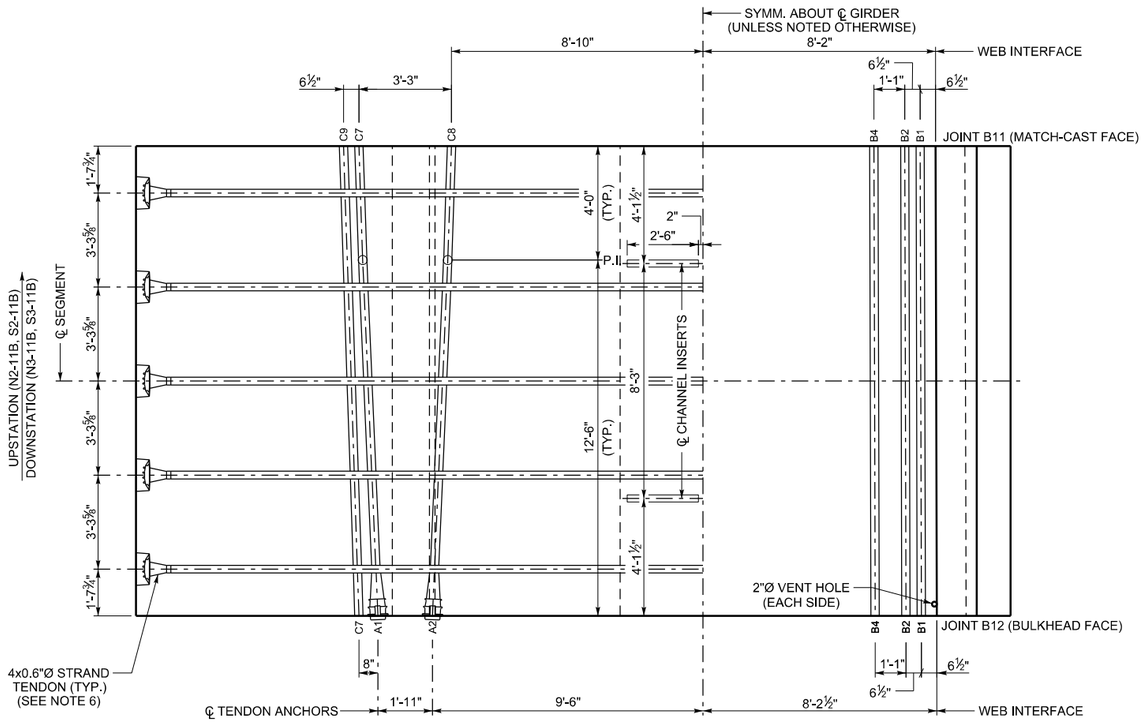
MATCH-CAST FACE
(JOINT B11)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

BULKHEAD FACE
(JOINT B12)

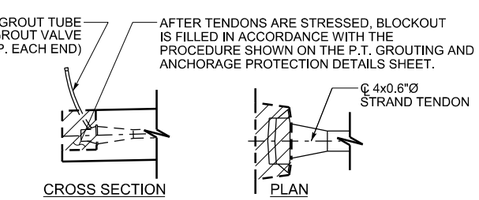


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

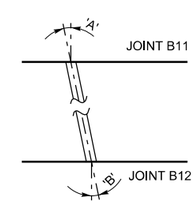
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
JOINT FACE DUCT POSITION
C - CANTILEVER DUCT
B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B11 DUCT POSITION	'A'	JOINT B12 DUCT POSITION	'B'
C7	1.880°	A1	2.454°
C8	1.880°	A2	2.454°
C9	1.880°	C7	1.880°
B1	0°	B1	0°
B2	0°	B2	0°
B4	0°	B4	0°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-11B, S2-11B, N3-11B AND S3-11B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER
RIVER BRIDGE - MOAB UTAH
SEGMENT 11B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 142 OF 190

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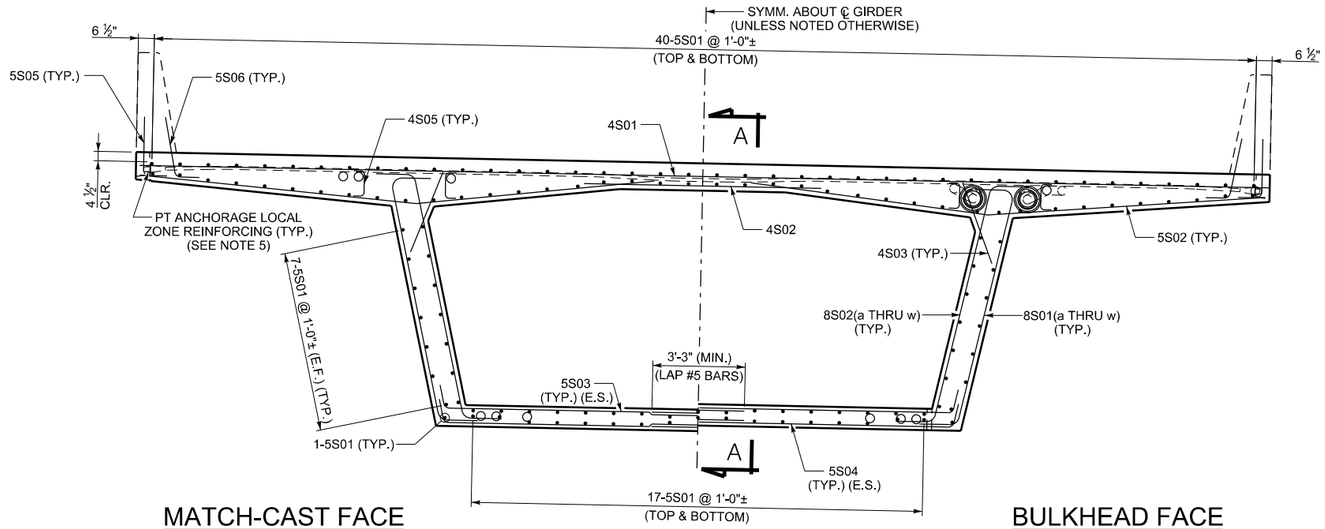
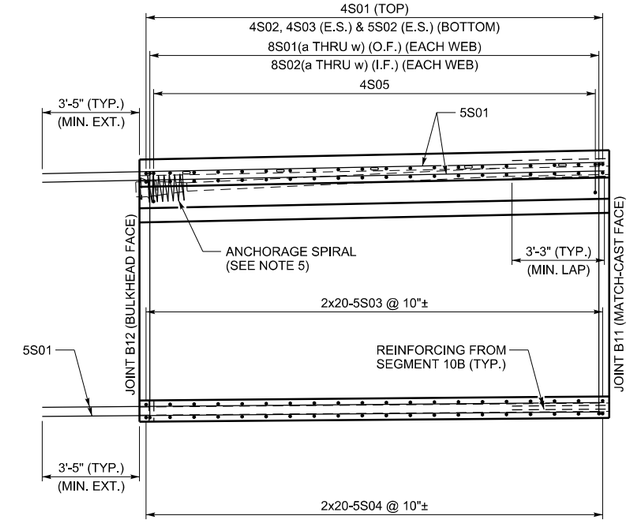
8/6/2008



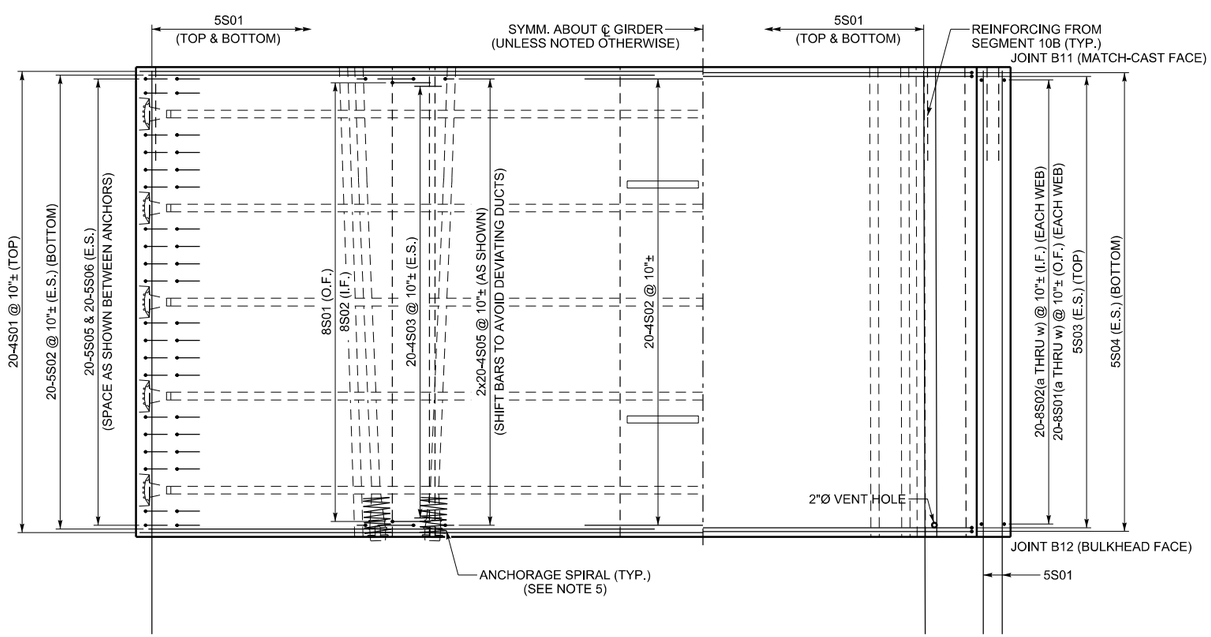
MATCH-CAST FACE
(JOINT B11)

CROSS SECTION

BULKHEAD FACE
(JOINT B12)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-11B, S2-11B, N3-11B AND S3-11B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 04/08	CHECK	DSL 08/08
DRAWN	KJM 04/08	CHECK	BTL 04/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 11B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 143 OF 190

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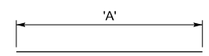
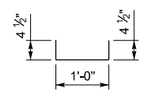
8/6/2008

SEGMENT TYPE 11B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-11B, S2-11B, N3-11B AND S3-11B.

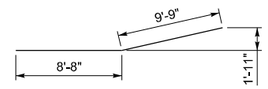
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	144	19'-9 1/2"	2850'-0"	19'-9 1/2"



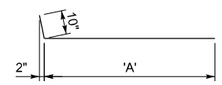
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



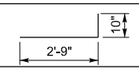
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



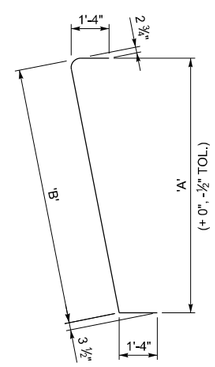
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	11'-8 1/2"	468'-4"	10'-10 1/2"
5S04	BOTTOM SLAB	5	40	11'-7 1/8"	463'-9"	10'-9 1/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



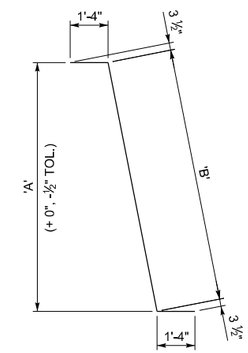
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	11'-7 1/2"	23'-3"	8'-9 7/8"	8'-11 1/2"
8S01b	1	WEBS	8	2	11'-7 1/2"	23'-3"	8'-9 7/8"	8'-11 1/2"
8S01c	1	WEBS	8	2	11'-7 1/2"	23'-3"	8'-9 7/8"	8'-11 1/2"
8S01d	1	WEBS	8	2	11'-7 1/2"	23'-3"	8'-9 7/8"	8'-11 1/2"
8S01e	2	WEBS	8	2	11'-7"	23'-2 1/8"	8'-9 3/8"	8'-11"
8S01f	2	WEBS	8	2	11'-7"	23'-2 1/8"	8'-9 3/8"	8'-11"
8S01g	2	WEBS	8	2	11'-7"	23'-2 1/8"	8'-9 3/8"	8'-11"
8S01h	2	WEBS	8	2	11'-7"	23'-2 1/8"	8'-9 3/8"	8'-11"
8S01j	3	WEBS	8	2	11'-6 5/8"	23'-1 1/8"	8'-9"	8'-10 5/8"
8S01k	3	WEBS	8	2	11'-6 5/8"	23'-1 1/8"	8'-9"	8'-10 5/8"
8S01m	3	WEBS	8	2	11'-6 5/8"	23'-1 1/8"	8'-9"	8'-10 5/8"
8S01n	3	WEBS	8	2	11'-6 5/8"	23'-1 1/8"	8'-9"	8'-10 5/8"
8S01p	4	WEBS	8	2	11'-6 1/8"	23'-0 1/4"	8'-8 1/2"	8'-10 1/8"
8S01q	4	WEBS	8	2	11'-6 1/8"	23'-0 1/4"	8'-8 1/2"	8'-10 1/8"
8S01r	4	WEBS	8	2	11'-6 1/8"	23'-0 1/4"	8'-8 1/2"	8'-10 1/8"
8S01s	4	WEBS	8	2	11'-6 1/8"	23'-0 1/4"	8'-8 1/2"	8'-10 1/8"
8S01t	5	WEBS	8	2	11'-5 5/8"	22'-11 1/4"	8'-8 1/8"	8'-9 5/8"
8S01w	5	WEBS	8	2	11'-5 5/8"	22'-11 1/4"	8'-8 1/8"	8'-9 5/8"
8S01v	5	WEBS	8	2	11'-5 5/8"	22'-11 1/4"	8'-8 1/8"	8'-9 5/8"
8S01w	5	WEBS	8	2	11'-5 5/8"	22'-11 1/4"	8'-8 1/8"	8'-9 5/8"



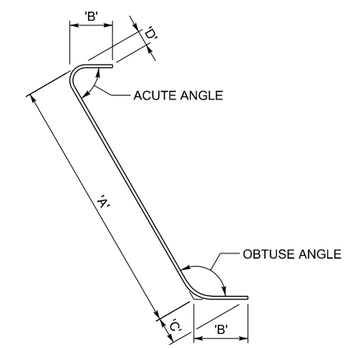
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	11'-8 1/4"	23'-4 5/8"	8'-9 7/8"	9'-0 3/8"
8S02b	1	WEBS	8	2	11'-8 1/4"	23'-4 5/8"	8'-9 7/8"	9'-0 3/8"
8S02c	1	WEBS	8	2	11'-8 1/4"	23'-4 5/8"	8'-9 7/8"	9'-0 3/8"
8S02d	1	WEBS	8	2	11'-8 1/4"	23'-4 5/8"	8'-9 7/8"	9'-0 3/8"
8S02e	2	WEBS	8	2	11'-7 7/8"	23'-3 3/4"	8'-9 3/8"	8'-11 7/8"
8S02f	2	WEBS	8	2	11'-7 7/8"	23'-3 3/4"	8'-9 3/8"	8'-11 7/8"
8S02g	2	WEBS	8	2	11'-7 7/8"	23'-3 3/4"	8'-9 3/8"	8'-11 7/8"
8S02h	2	WEBS	8	2	11'-7 7/8"	23'-3 3/4"	8'-9 3/8"	8'-11 7/8"
8S02j	3	WEBS	8	2	11'-7 3/8"	23'-2 3/4"	8'-9"	8'-11 3/8"
8S02k	3	WEBS	8	2	11'-7 3/8"	23'-2 3/4"	8'-9"	8'-11 3/8"
8S02m	3	WEBS	8	2	11'-7 3/8"	23'-2 3/4"	8'-9"	8'-11 3/8"
8S02n	3	WEBS	8	2	11'-7 3/8"	23'-2 3/4"	8'-9"	8'-11 3/8"
8S02p	4	WEBS	8	2	11'-6 7/8"	23'-1 7/8"	8'-8 1/2"	8'-10 7/8"
8S02q	4	WEBS	8	2	11'-6 7/8"	23'-1 7/8"	8'-8 1/2"	8'-10 7/8"
8S02r	4	WEBS	8	2	11'-6 7/8"	23'-1 7/8"	8'-8 1/2"	8'-10 7/8"
8S02s	4	WEBS	8	2	11'-6 7/8"	23'-1 7/8"	8'-8 1/2"	8'-10 7/8"
8S02t	5	WEBS	8	2	11'-6 1/2"	23'-0 7/8"	8'-8 1/8"	8'-10 1/2"
8S02w	5	WEBS	8	2	11'-6 1/2"	23'-0 7/8"	8'-8 1/8"	8'-10 1/2"
8S02v	5	WEBS	8	2	11'-6 1/2"	23'-0 7/8"	8'-8 1/8"	8'-10 1/2"
8S02w	5	WEBS	8	2	11'-6 1/2"	23'-0 7/8"	8'-8 1/8"	8'-10 1/2"



LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 11B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	8,299
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	50.4
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-11B, S2-11B, N3-11B AND S3-11B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 11B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY

F-763 DRG. NO.

SHT. 144 OF 190

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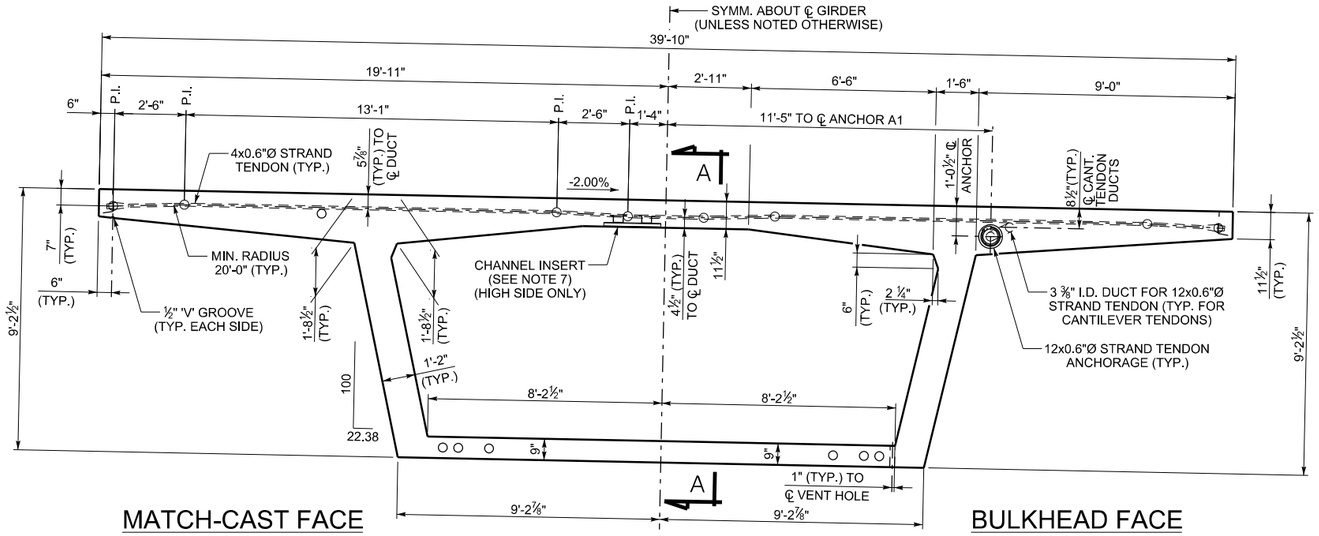
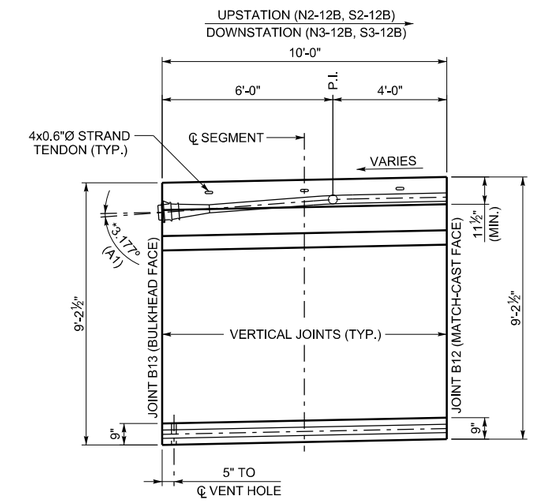
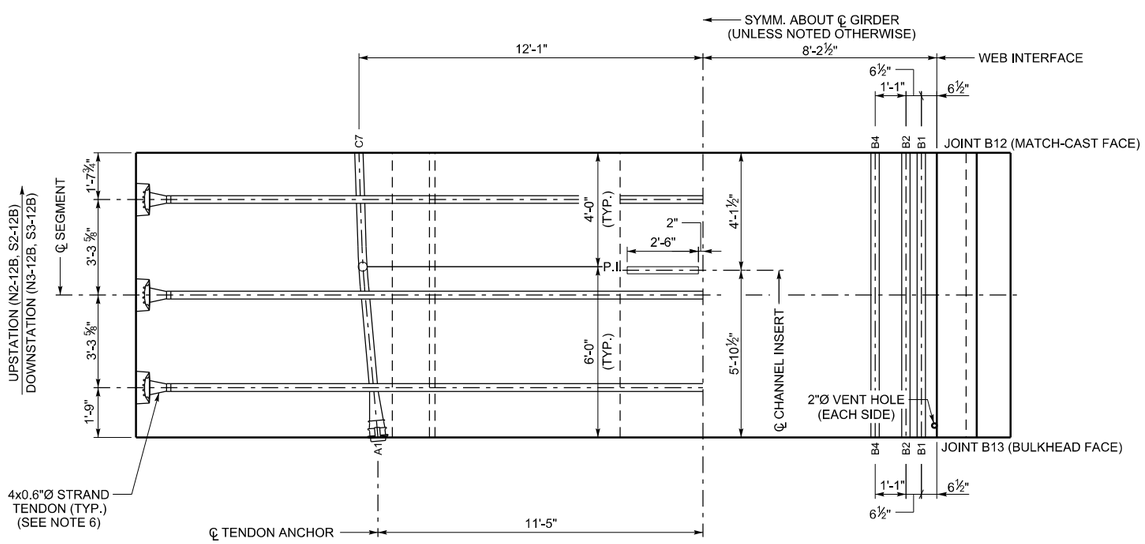
8/6/2008



CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION - SB BRIDGE)

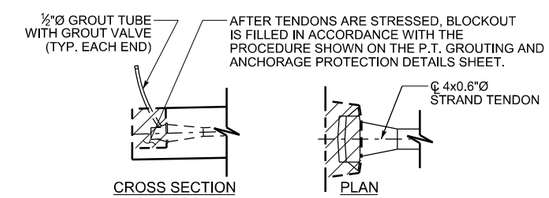


SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



PARTIAL PLAN TOP SLAB

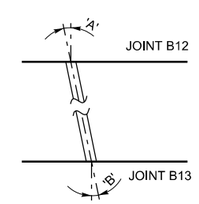
PARTIAL PLAN BOTTOM SLAB



TRANSVERSE TENDON BLOCKOUT DETAIL

C 23
- 23 — JOINT FACE DUCT POSITION
- C — C - CANTILEVER DUCT; B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT B12 DUCT POSITION	'A'	JOINT B13 DUCT POSITION	'B'
C7	1.880°	A1	5.102°
B1	0°	B1	0°
B2	0°	B2	0°
B4	0°	B4	0°

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-12B, S2-12B, N3-12B AND S3-12B.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.

*5. POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.

6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 12B DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 145 OF 190

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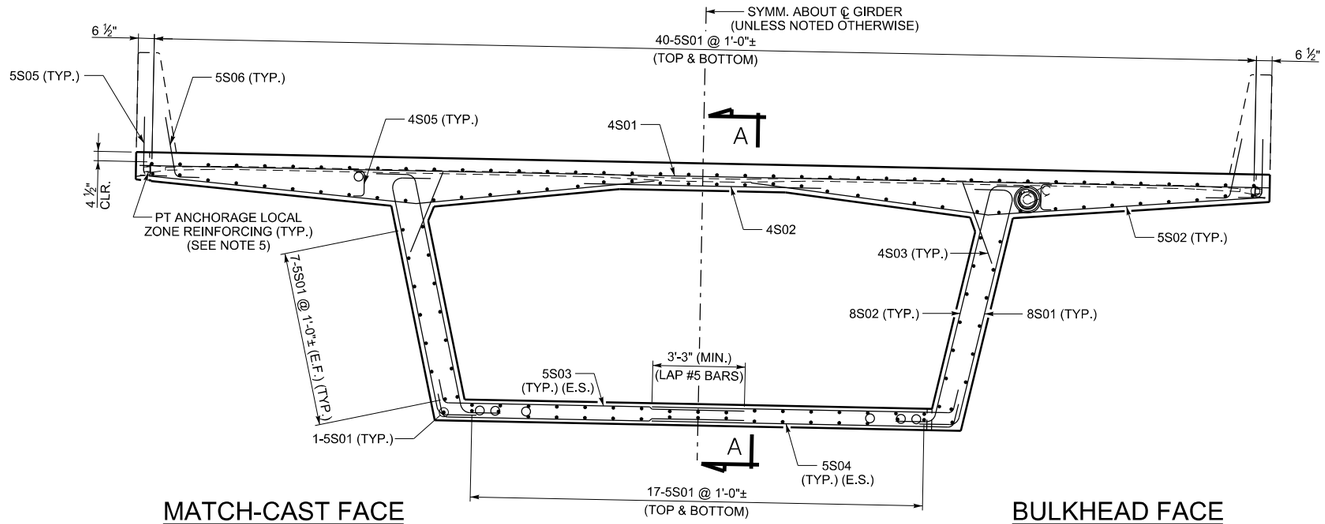
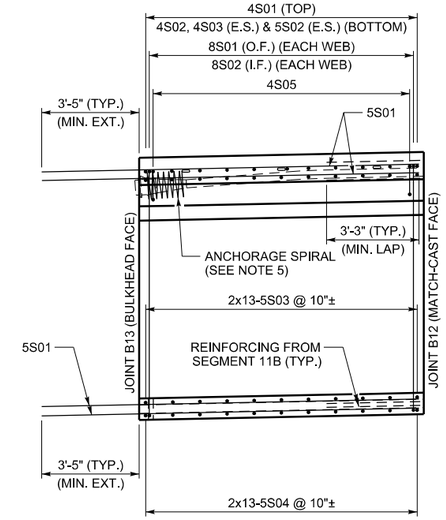
8/6/2008



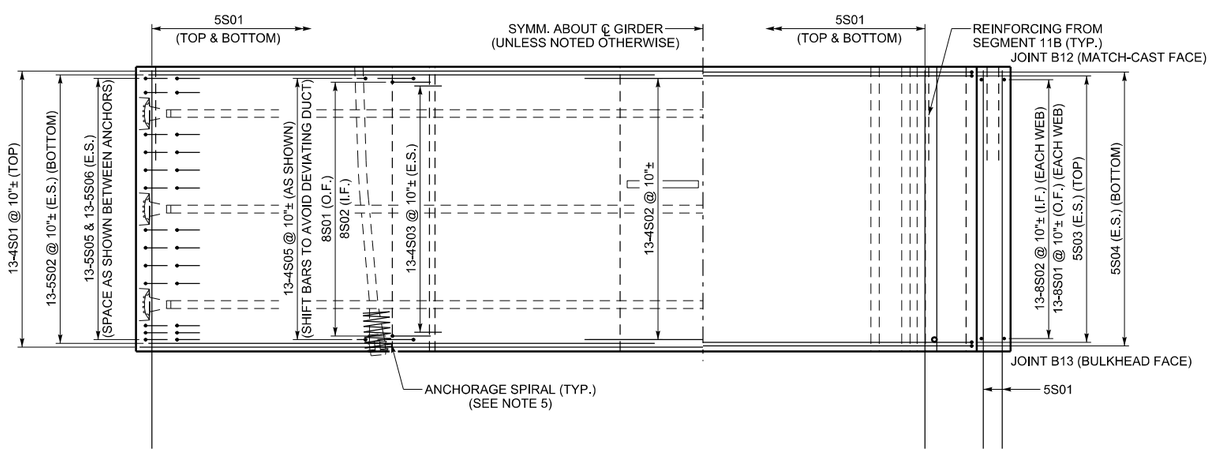
MATCH-CAST FACE
(JOINT B12)

CROSS SECTION

BULKHEAD FACE
(JOINT B13)



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-12B, S2-12B, N3-12B AND S3-12B.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 12B REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 146 OF 190

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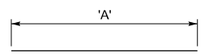
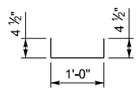
8/6/2008

SEGMENT TYPE 12B BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-12B, S2-12B, N3-12B AND S3-12B.

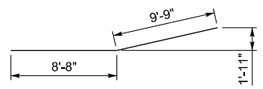
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	13	39'-7"	514'-7"	39'-7"
4S02	TOP SLAB	4	13	8'-8"	112'-8"	8'-8"
4S03	TOP SLAB	4	13	2'-9"	35'-9"	2'-9"
5S01	SEGMENT	5	144	13'-3 1/2"	1914'-0"	13'-3 1/2"



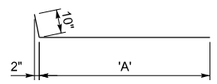
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	26	1'-9"	45'-6"



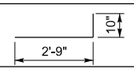
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	26	18'-5"	478'-10"



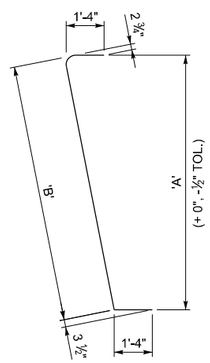
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	26	11'-8 1/2"	304'-5"	10'-10 1/2"
5S04	BOTTOM SLAB	5	26	11'-7 1/8"	301'-5 1/4"	10'-9 1/8"
5S06	TOP SLAB	5	26	3'-7"	93'-2"	2'-9"



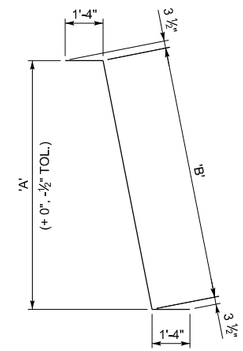
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	26	3'-7"	93'-2"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01	1	WEBS	8	26	11'-5 1/2"	297'-11"	8'-7 7/8"	8'-9 1/2"



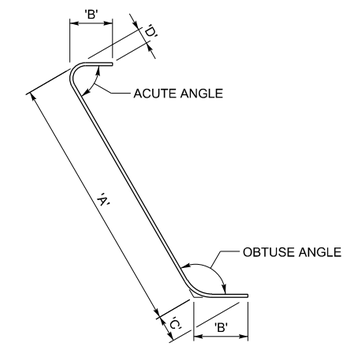
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02	1	WEBS	8	26	11'-6 1/4"	299'-6 1/2"	8'-7 7/8"	8'-10 1/4"



LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 12B		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	5,390
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	30.5
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	345

NOTES:

1. THIS DRAWING VALID FOR ALL SEGMENT TYPES N2-12B, S2-12B, N3-12B AND S3-12B.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 04/08 CHECK DSL 08/08
DRAWN KJM 04/08 CHECK BTL 04/08
QUANT. BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 12B REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 147 OF 190

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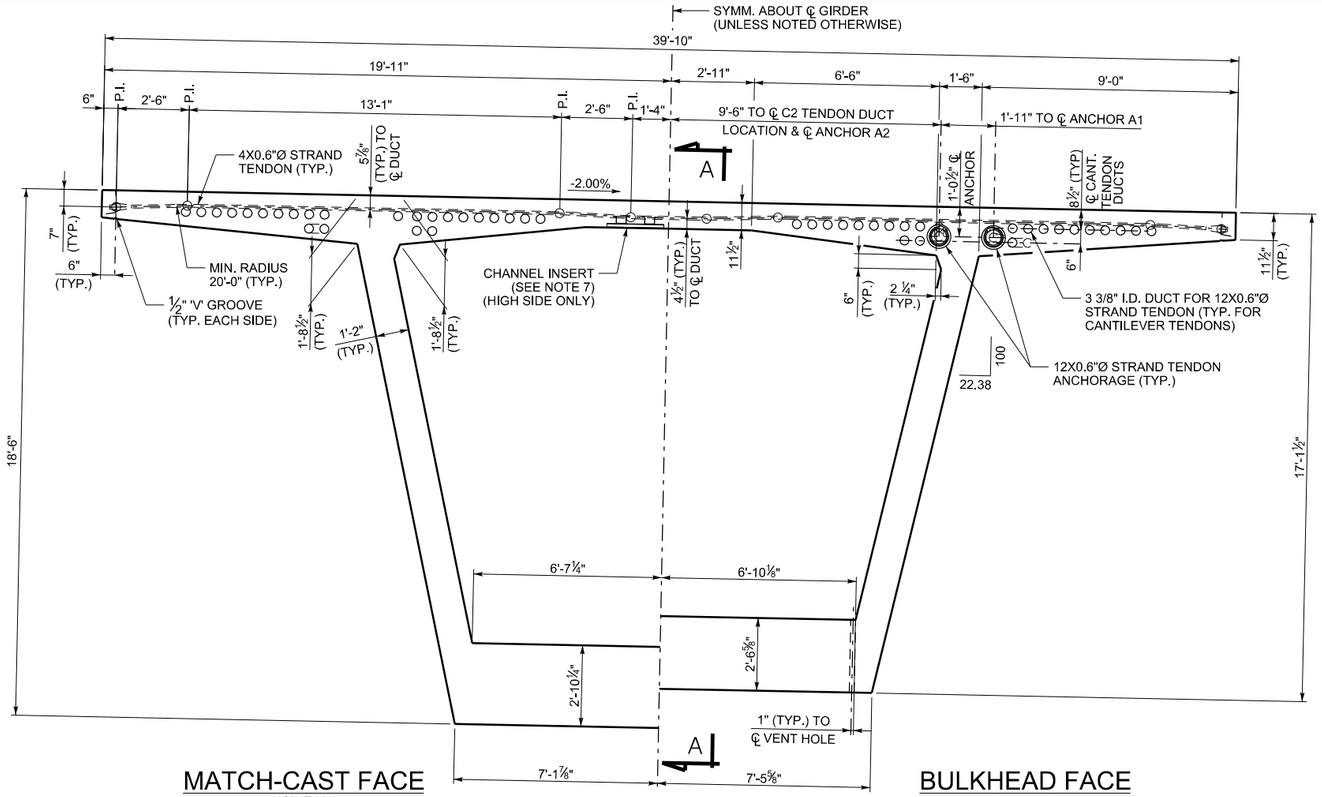
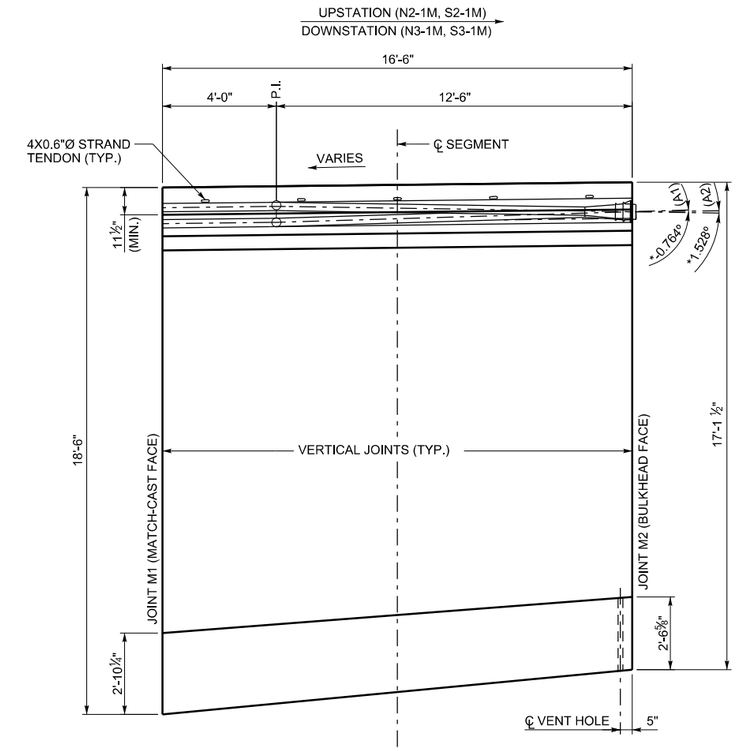
9/6/2008



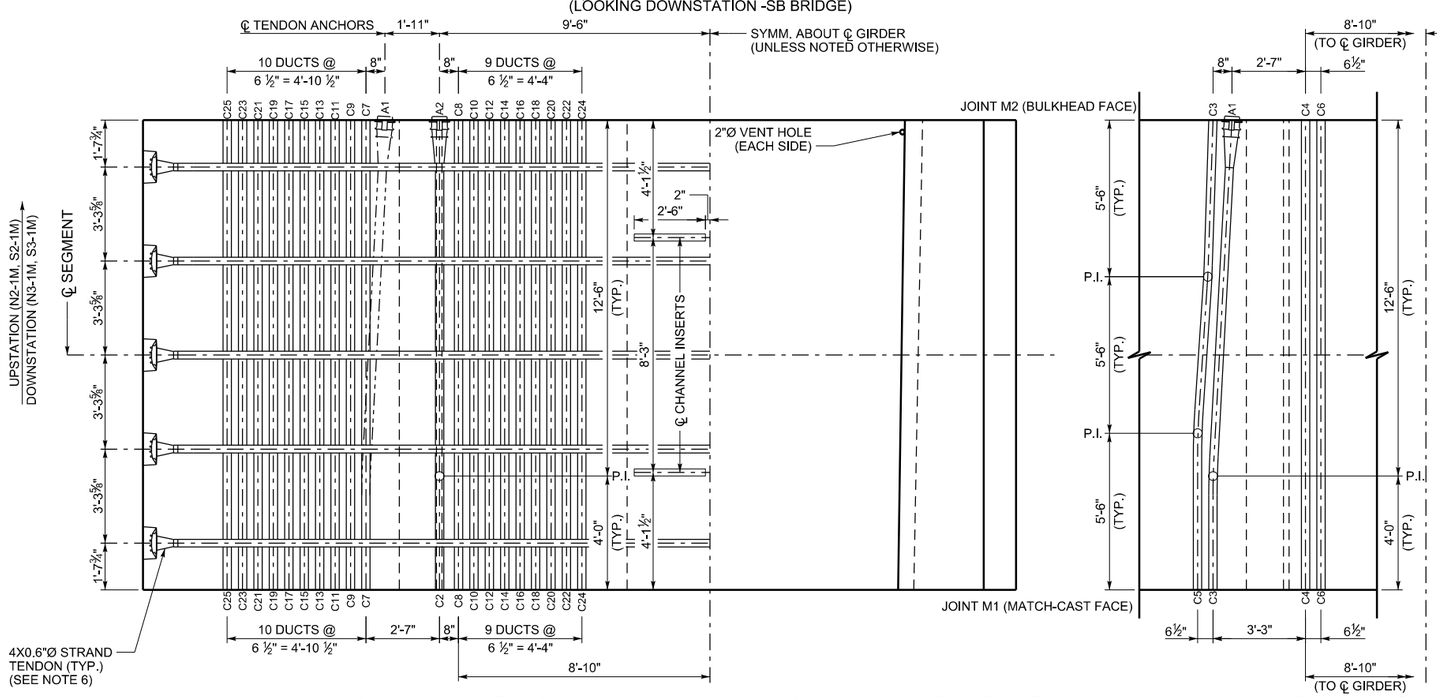
MATCH-CAST FACE
(JOINT M1)

BULKHEAD FACE
(JOINT M2)

CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION -SB BRIDGE)



SECTION A-A
(ANGLES SHOWN WITH RESPECT
TO TOP OF DECK GRADE)



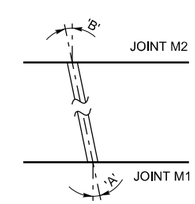
PARTIAL PLAN TOP SLAB
(ONLY UPPER CANTILEVER DUCTS SHOWN FOR CLARITY)
(SEE LOWER DUCT DETAIL FOR LOWER DUCT POSITIONS)

PARTIAL PLAN BOTTOM SLAB

LOWER DUCT DETAIL

C 23
- 23 — JOINT FACE DUCT POSITION
- C — C - CANTILEVER DUCT; B - BOTTOM SLAB DUCT

DUCT LEGEND

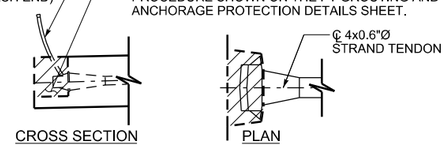


DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE
PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT M1 DUCT POSITION	'A'	JOINT M2 DUCT POSITION	'B'
C2	0°	A2	0°
C3	0°	A1	3.054°
C4	0°	C4	0°
C5	0°	C3	1.880°
C6	0°	C6	0°
C7	0°	C7	0°
C8	0°	C8	0°
C9	0°	C9	0°
C10	0°	C10	0°
C11-C25	0°	C11-C25	0°

½"Ø GROUT TUBE
WITH GROUT VALVE
(TYP. EACH END)

AFTER TENDONS ARE STRESSED, BLOCKOUT IS FILLED IN ACCORDANCE WITH THE PROCEDURE SHOWN ON THE PT GROUTING AND ANCHORAGE PROTECTION DETAILS SHEET.



TRANSVERSE TENDON BLOCKOUT DETAIL

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-1M, S2-1M, N3-1M AND S3-1M.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.
5. *POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.
6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 02/08	CHECK DSL 08/08		
DRAWN SJF 02/08	CHECK BTL 02/08		
QUANT. BTL 08/08	CHECK KRM 08/08		

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 1M DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 148 OF 190

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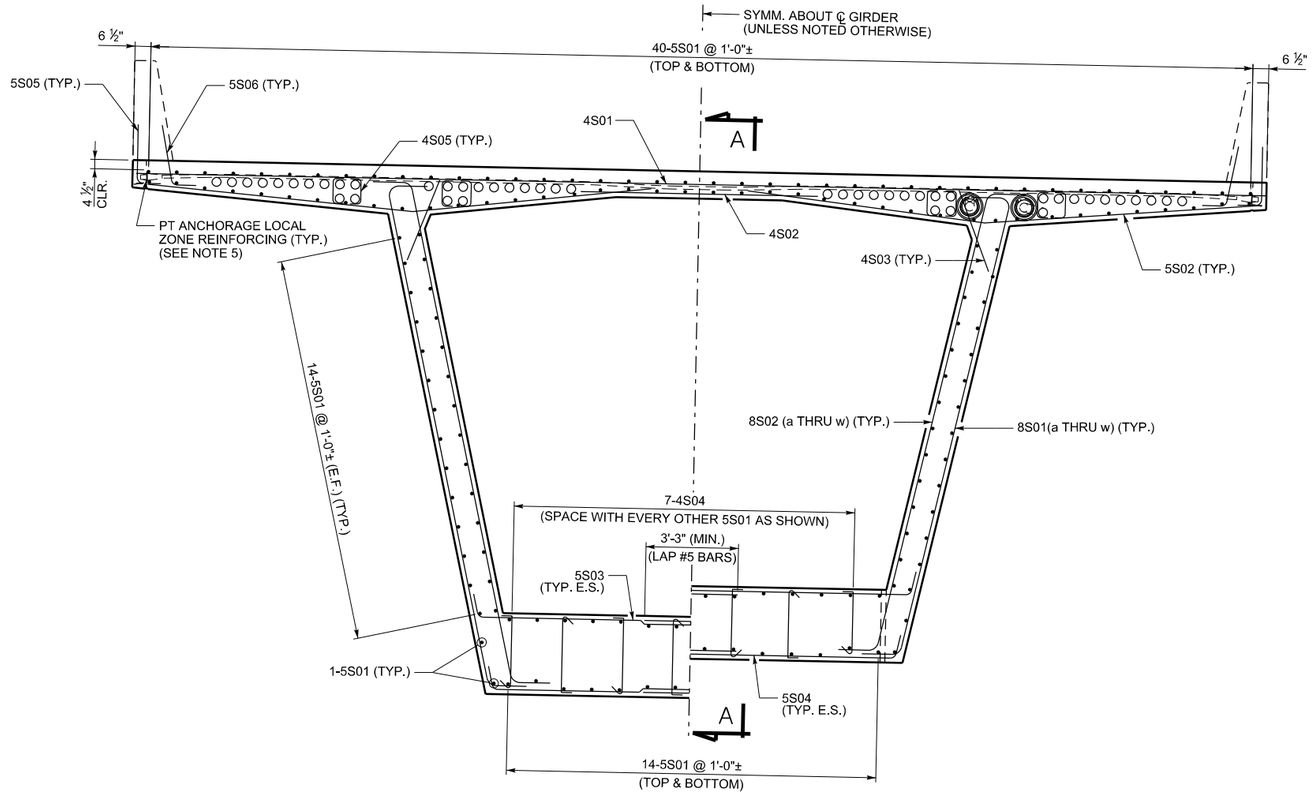
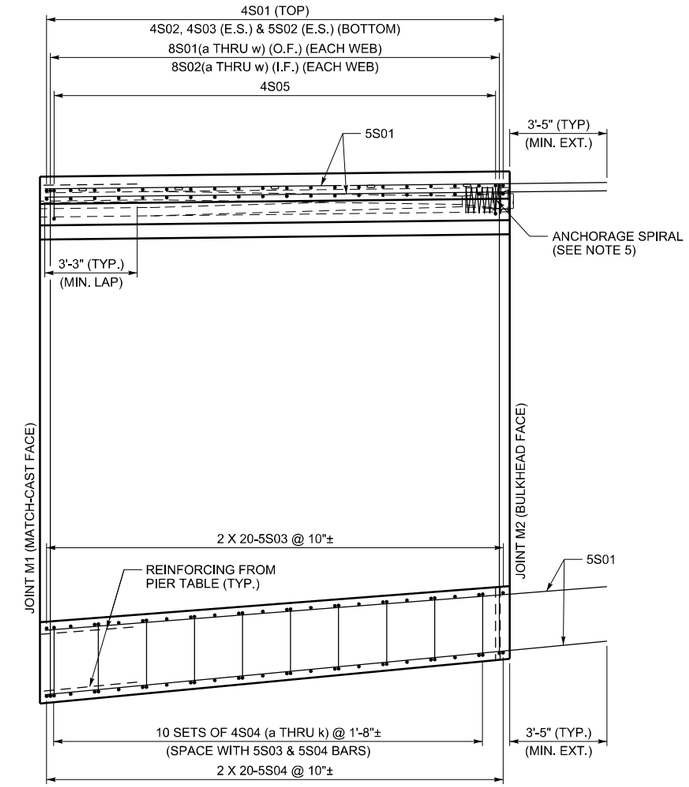
8/6/2008



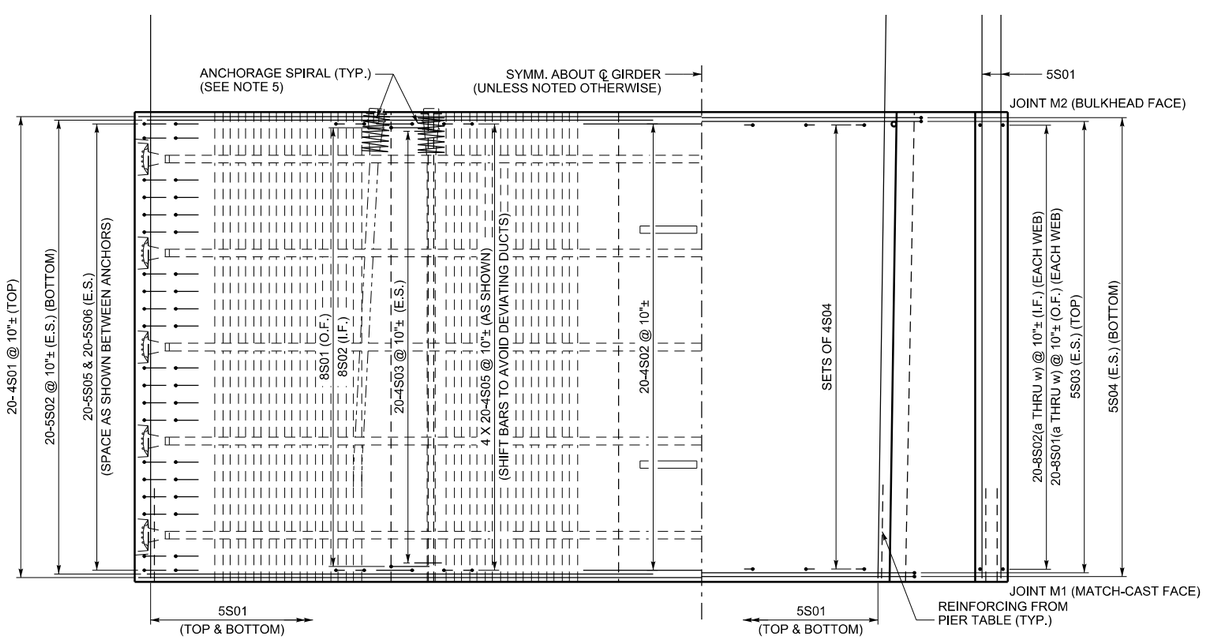
MATCH-CAST FACE
(JOINT M1)

BULKHEAD FACE
(JOINT M2)

CROSS SECTION



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-1M, S2-1M, N3-1M AND S3-1M.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 02/08	CHECK	DSL 08/08
DRAWN	SJF 02/08	CHECK	BTL 02/08
QUANT	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM: DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 1M REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 149 OF 190

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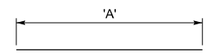
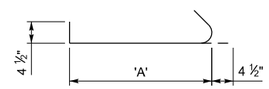
9/6/2008

SEGMENT TYPE 1M BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-1M, S2-1M, N3-1M AND S3-1M.

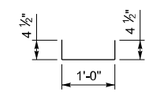
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	168	19'-9 1/2"	3325'-0"	19'-9 1/2"



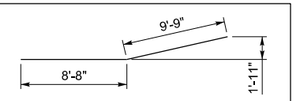
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	7	3'-4 1/8"	23'-4 1/2"	2'-7 1/8"
4S04b	BOTTOM SLAB	4	7	3'-3 3/4"	23'-2"	2'-6 3/4"
4S04c	BOTTOM SLAB	4	7	3'-3 3/8"	22'-11 3/8"	2'-6 3/8"
4S04d	BOTTOM SLAB	4	7	3'-3"	22'-8 7/8"	2'-6"
4S04e	BOTTOM SLAB	4	7	3'-2 5/8"	22'-6 3/8"	2'-5 5/8"
4S04f	BOTTOM SLAB	4	7	3'-2 1/4"	22'-3 7/8"	2'-5 1/4"
4S04g	BOTTOM SLAB	4	7	3'-1 7/8"	22'-1 3/8"	2'-4 7/8"
4S04h	BOTTOM SLAB	4	7	3'-1 1/2"	21'-10 7/8"	2'-4 1/2"
4S04j	BOTTOM SLAB	4	7	3'-1 1/4"	21'-8 3/8"	2'-4 1/4"
4S04k	BOTTOM SLAB	4	7	3'-0 7/8"	21'-5 3/4"	2'-3 7/8"



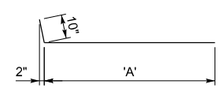
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	160	1'-9"	280'-0"



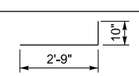
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



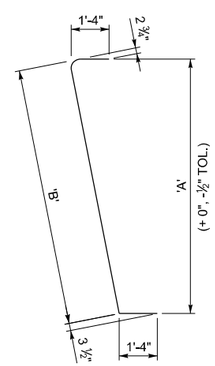
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-4 1/8"	413'-9"	9'-6 1/8"
5S04	BOTTOM SLAB	5	40	9'-9 7/8"	392'-11"	9'-0"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



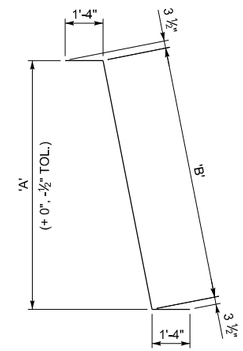
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	20'-11 1/4"	41'-10 5/8"	17'-11"	18'-3 1/4"
8S01b	2	WEBS	8	2	20'-10 1/2"	41'-8 7/8"	17'-10 1/8"	18'-2 1/2"
8S01c	3	WEBS	8	2	20'-9 5/8"	41'-7 1/4"	17'-9 1/4"	18'-1 5/8"
8S01d	4	WEBS	8	2	20'-8 3/4"	41'-5 1/2"	17'-8 1/2"	18'-0 3/4"
8S01e	5	WEBS	8	2	20'-7 7/8"	41'-3 3/4"	17'-7 5/8"	18'-0"
8S01f	6	WEBS	8	2	20'-7"	41'-2 1/8"	17'-6 7/8"	17'-11"
8S01g	7	WEBS	8	2	20'-6 1/4"	41'-0 3/8"	17'-6"	17'-10 1/4"
8S01h	8	WEBS	8	2	20'-5 3/8"	40'-10 3/4"	17'-5 1/8"	17'-9 3/8"
8S01j	9	WEBS	8	2	20'-4 1/2"	40'-9"	17'-4 3/8"	17'-8 1/2"
8S01k	10	WEBS	8	2	20'-3 5/8"	40'-7 1/4"	17'-3 1/2"	17'-7 5/8"
8S01m	11	WEBS	8	2	20'-2 3/4"	40'-5 5/8"	17'-2 5/8"	17'-6 7/8"
8S01n	12	WEBS	8	2	20'-2"	40'-3 7/8"	17'-1 7/8"	17'-6"
8S01p	13	WEBS	8	2	20'-1 1/8"	40'-2 1/4"	17'-1"	17'-5 1/8"
8S01q	14	WEBS	8	2	20'-0 1/4"	40'-0 1/2"	17'-0 1/4"	17'-4 1/4"
8S01r	15	WEBS	8	2	19'-11 3/8"	39'-10 7/8"	16'-11 3/8"	17'-3 3/8"
8S01s	16	WEBS	8	2	19'-10 5/8"	39'-9 1/8"	16'-10 1/2"	17'-2 5/8"
8S01t	17	WEBS	8	2	19'-9 3/4"	39'-7 3/8"	16'-9 3/4"	17'-1 3/4"
8S01u	18	WEBS	8	2	19'-8 7/8"	39'-5 3/4"	16'-8 7/8"	17'-0 7/8"
8S01v	19	WEBS	8	2	19'-8"	39'-4"	16'-8"	17'-0"
8S01w	20	WEBS	8	2	19'-7 1/8"	39'-2 3/8"	16'-7 1/4"	16'-11 1/8"



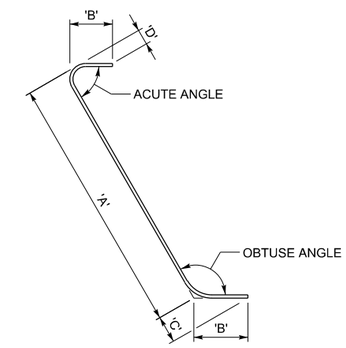
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	21'-0 1/8"	42'-0 1/8"	17'-11"	18'-4 1/8"
8S02b	2	WEBS	8	2	20'-11 1/4"	41'-10 1/2"	17'-10 1/8"	18'-3 1/4"
8S02c	3	WEBS	8	2	20'-10 3/8"	41'-8 3/4"	17'-9 1/4"	18'-2 3/8"
8S02d	4	WEBS	8	2	20'-9 1/2"	41'-7 1/8"	17'-8 1/2"	18'-1 1/2"
8S02e	5	WEBS	8	2	20'-8 3/4"	41'-5 3/8"	17'-7 5/8"	18'-0 3/4"
8S02f	6	WEBS	8	2	20'-7 7/8"	41'-3 5/8"	17'-6 7/8"	17'-11 7/8"
8S02g	7	WEBS	8	2	20'-7"	41'-2"	17'-6"	17'-11"
8S02h	8	WEBS	8	2	20'-6 1/8"	41'-0 1/4"	17'-5 1/8"	17'-10 1/8"
8S02j	9	WEBS	8	2	20'-5 1/4"	40'-10 5/8"	17'-4 3/8"	17'-9 1/4"
8S02k	10	WEBS	8	2	20'-4 1/2"	40'-8 7/8"	17'-3 1/2"	17'-8 1/2"
8S02m	11	WEBS	8	2	20'-3 5/8"	40'-7 1/4"	17'-2 5/8"	17'-7 5/8"
8S02n	12	WEBS	8	2	20'-2 3/4"	40'-5 1/2"	17'-1 7/8"	17'-6 3/4"
8S02p	13	WEBS	8	2	20'-1 7/8"	40'-3 3/4"	17'-1"	17'-5 7/8"
8S02q	14	WEBS	8	2	20'-1"	40'-2 1/8"	17'-0 1/4"	17'-5"
8S02r	15	WEBS	8	2	20'-0 1/4"	40'-0 3/8"	16'-11 3/8"	17'-4 1/4"
8S02s	16	WEBS	8	2	19'-11 3/8"	39'-10 3/4"	16'-10 1/2"	17'-3 3/8"
8S02t	17	WEBS	8	2	19'-10 1/2"	39'-9"	16'-9 3/4"	17'-2 1/2"
8S02u	18	WEBS	8	2	19'-9 5/8"	39'-7 3/8"	16'-8 7/8"	17'-1 5/8"
8S02v	19	WEBS	8	2	19'-8 3/4"	39'-5 5/8"	16'-8"	17'-0 7/8"
8S02w	20	WEBS	8	2	19'-8"	39'-3 7/8"	16'-7 1/4"	17'-0"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 1M		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	10,768
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	76.6
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-1M, S2-1M, N3-1M AND S3-1M.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 02/08 CHECK DSL 08/08
DRAWN SJF 02/08 CHECK BTL 02/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER
RIVER BRIDGE - MOAB UTAH
SEGMENT 1M REINFORCING II

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 150 OF 190

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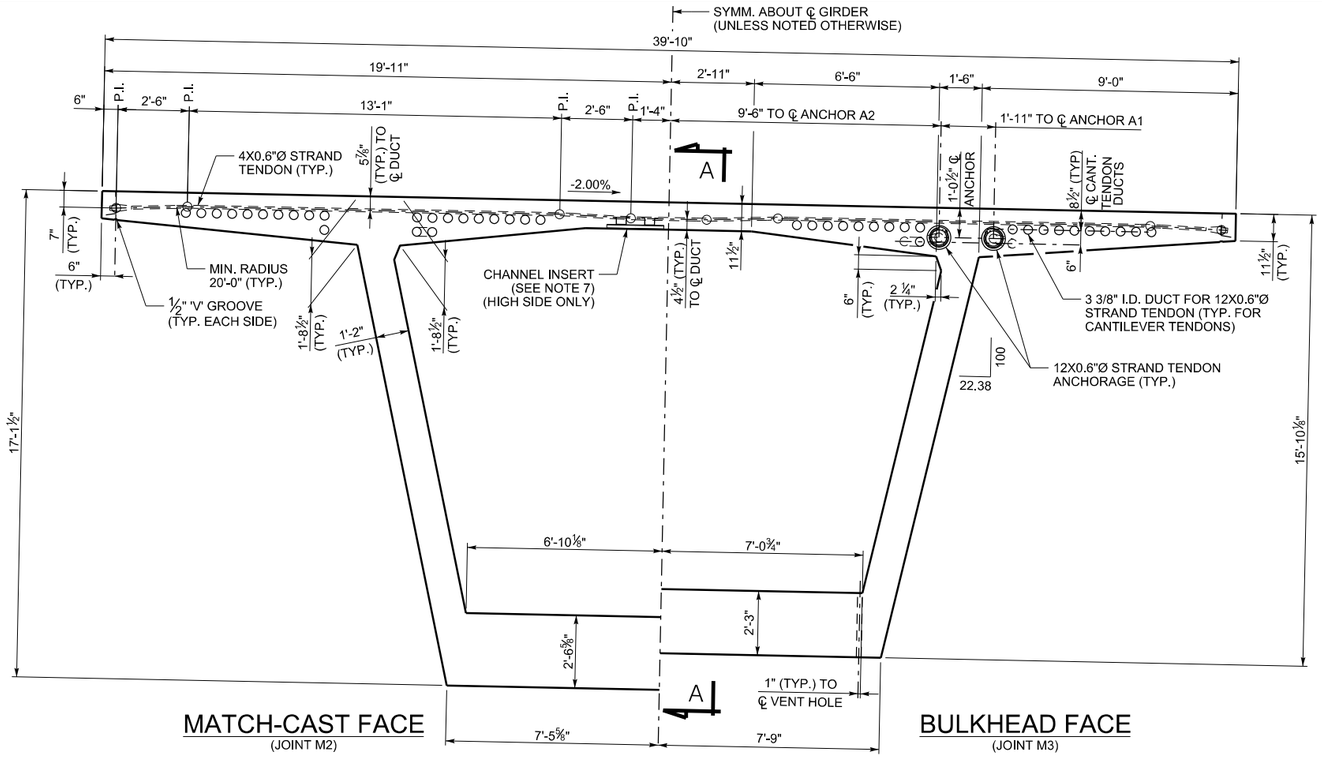
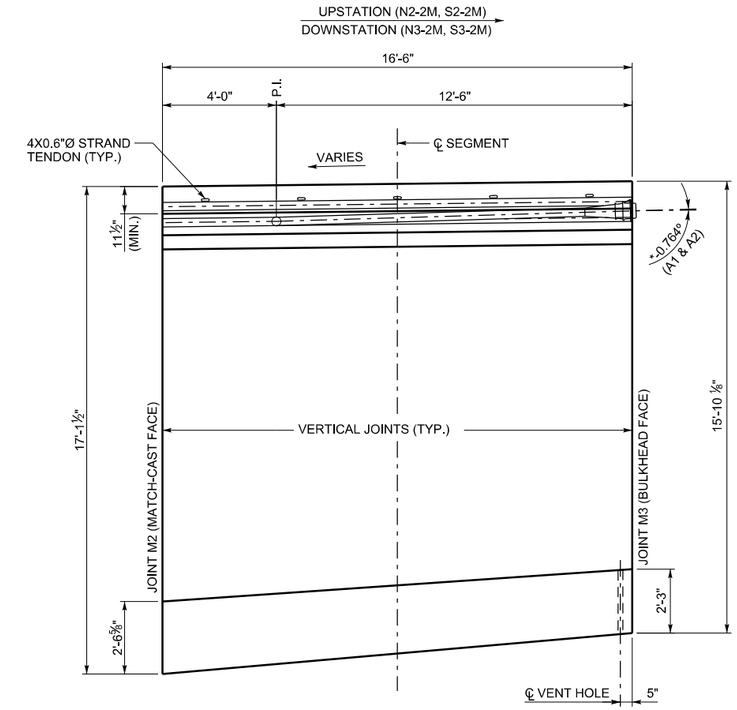
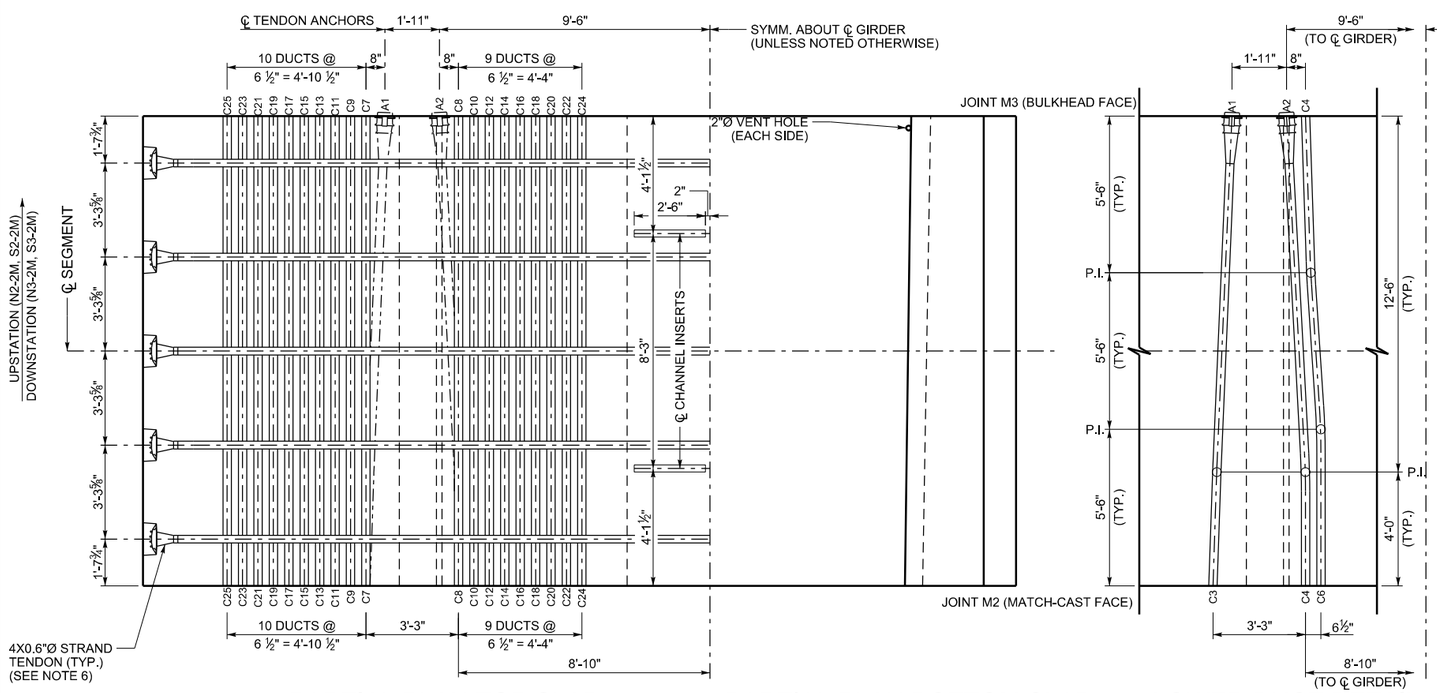
8/6/2008



CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION -SB BRIDGE)



SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)



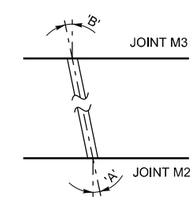
PARTIAL PLAN TOP SLAB
(ONLY UPPER CANTILEVER DUCTS SHOWN FOR CLARITY)
(SEE LOWER DUCT DETAIL FOR LOWER DUCT POSITIONS)

PARTIAL PLAN BOTTOM SLAB

LOWER DUCT DETAIL

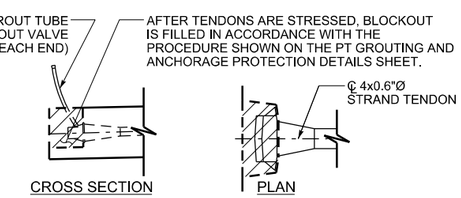
C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT M2 DUCT POSITION	'A'	JOINT M3 DUCT POSITION	'B'
C4	0°	A2	3.054°
C3	1.880°	A1	2.452°
C6	0°	C4	1.880°
C7-C25	0°	C7-C25	0°



TRANSVERSE TENDON BLOCKOUT DETAIL

NOTES:

1. THIS DRAWING VALID FOR SEGMENT N2-2M, S2-2M, N3-2M AND S3-2M.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.
5. *POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.
6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 02/08	CHECK	DSL 08/08
DRAWN	SJF 02/08	CHECK	BTL 02/08
QUANT	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 2M DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 151 OF 190

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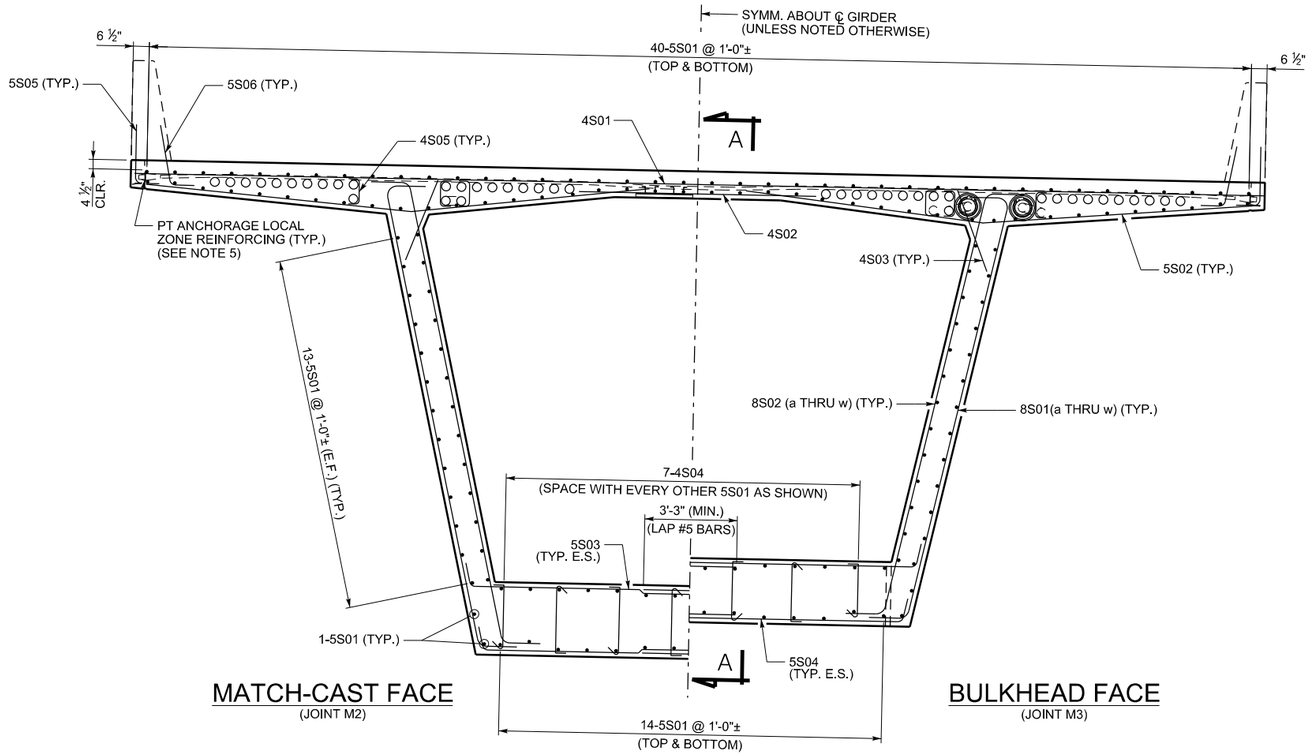
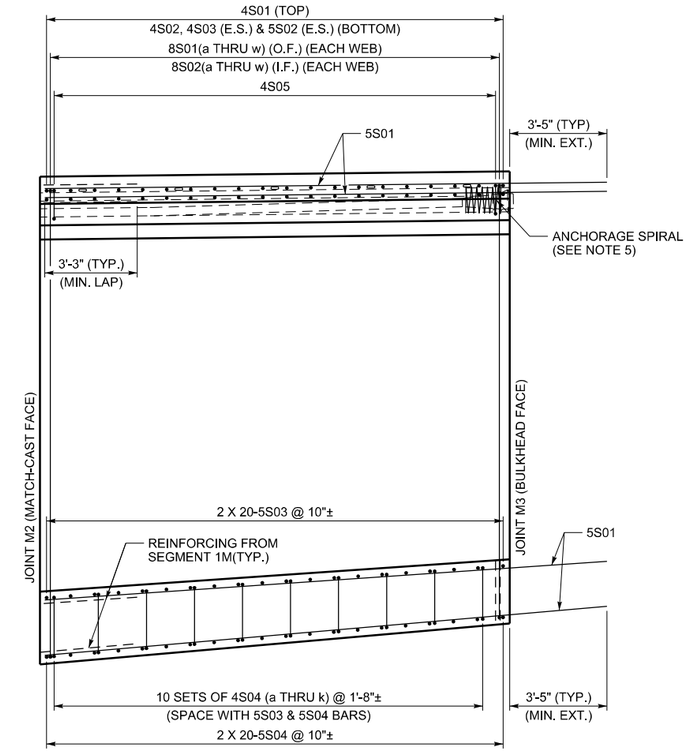
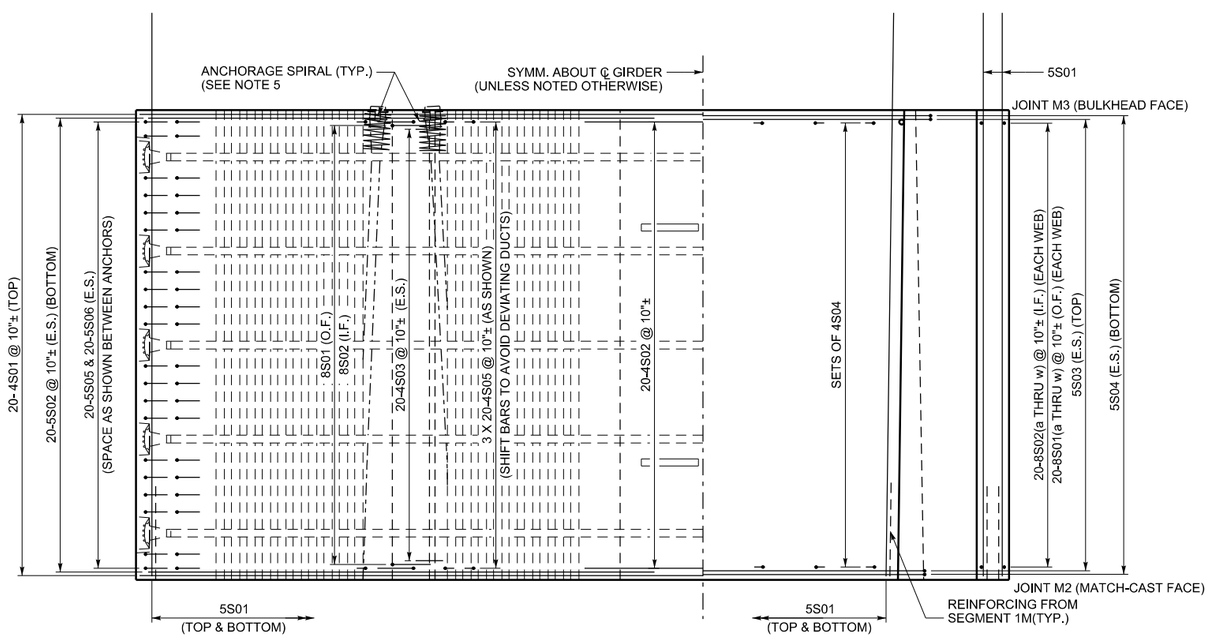
8/6/2008



CROSS SECTION



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-2M, S2-2M, N3-2M AND S3-2M.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 02/08	CHECK	DSL 08/08
DRAWN	SJF 02/08	CHECK	BTL 02/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. ____ DATE ____ SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT ____ DATE ____ UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 2M REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 152 OF 190

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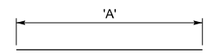
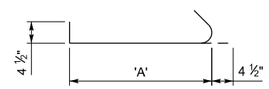
8/6/2008

SEGMENT TYPE 2M BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-2M, S2-2M, N3-2M AND S3-2M.

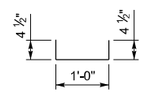
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	20	39'-7"	791'-8"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	164	19'-9 1/2"	3245'-10"	19'-9 1/2"



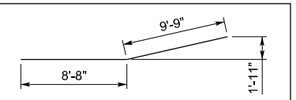
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	7	3'-0 1/2"	21'-3 1/4"	2'-3 1/2"
4S04b	BOTTOM SLAB	4	7	3'-0 1/8"	21'-0 3/4"	2'-3 1/8"
4S04c	BOTTOM SLAB	4	7	2'-11 3/4"	20'-10 1/4"	2'-2 3/4"
4S04d	BOTTOM SLAB	4	7	2'-11 3/8"	20'-7 5/8"	2'-2 3/8"
4S04e	BOTTOM SLAB	4	7	2'-11"	20'-5 1/8"	2'-2"
4S04f	BOTTOM SLAB	4	7	2'-10 5/8"	20'-2 5/8"	2'-1 5/8"
4S04g	BOTTOM SLAB	4	7	2'-10 1/4"	20'-0 1/8"	2'-1 1/4"
4S04h	BOTTOM SLAB	4	7	2'-10"	19'-9 5/8"	2'-1"
4S04j	BOTTOM SLAB	4	7	2'-9 5/8"	19'-7"	2'-0 5/8"
4S04k	BOTTOM SLAB	4	7	2'-9 1/4"	19'-4 1/2"	2'-0 1/4"



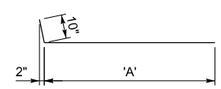
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	120	1'-9"	210'-0"



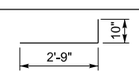
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	40	18'-5"	736'-8"



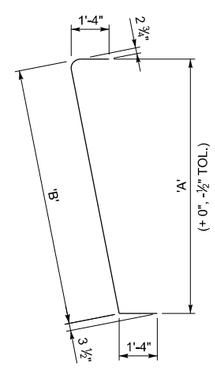
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-6 3/4"	422'-6"	9'-8 3/4"
5S04	BOTTOM SLAB	5	40	10'-1 3/8"	404'-7"	9'-3 3/8"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



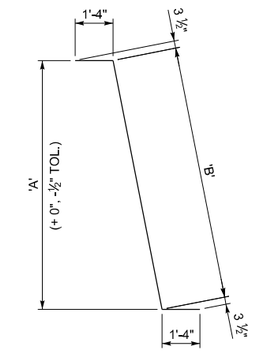
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	19'-6 3/8"	39'-0 3/4"	16'-6 3/8"	16'-10 3/8"
8S01b	2	WEBS	8	2	19'-5 5/8"	38'-11 1/8"	16'-5 5/8"	16'-9 5/8"
8S01c	3	WEBS	8	2	19'-4 3/4"	38'-9 1/2"	16'-4 7/8"	16'-8 3/4"
8S01d	4	WEBS	8	2	19'-4"	38'-8"	16'-4 1/8"	16'-8"
8S01e	5	WEBS	8	2	19'-3 1/4"	38'-6 3/8"	16'-3 3/8"	16'-7 1/4"
8S01f	6	WEBS	8	2	19'-2 3/8"	38'-4 7/8"	16'-2 5/8"	16'-6 3/8"
8S01g	7	WEBS	8	2	19'-1 5/8"	38'-3 1/4"	16'-1 7/8"	16'-5 5/8"
8S01h	8	WEBS	8	2	19'-0 7/8"	38'-1 5/8"	16'-1"	16'-4 7/8"
8S01j	9	WEBS	8	2	19'-0"	38'-0 1/8"	16'-0 1/4"	16'-4 1/8"
8S01k	10	WEBS	8	2	18'-11 1/4"	37'-10 1/2"	15'-11 1/2"	16'-3 1/4"
8S01m	11	WEBS	8	2	18'-10 1/2"	37'-9"	15'-10 3/4"	16'-2 1/2"
8S01n	12	WEBS	8	2	18'-9 3/4"	37'-7 3/8"	15'-10"	16'-1 3/4"
8S01p	13	WEBS	8	2	18'-8 7/8"	37'-5 7/8"	15'-9 1/4"	16'-0 7/8"
8S01q	14	WEBS	8	2	18'-8 1/8"	37'-4 1/4"	15'-8 1/2"	16'-0 1/8"
8S01r	15	WEBS	8	2	18'-7 3/8"	37'-2 5/8"	15'-7 5/8"	15'-11 3/8"
8S01s	16	WEBS	8	2	18'-6 1/2"	37'-1 1/8"	15'-6 7/8"	15'-10 1/2"
8S01t	17	WEBS	8	2	18'-5 3/4"	36'-11 1/2"	15'-6 1/8"	15'-9 3/4"
8S01u	18	WEBS	8	2	18'-5"	36'-10"	15'-5 3/8"	15'-9"
8S01v	19	WEBS	8	2	18'-4 1/8"	36'-8 3/8"	15'-4 5/8"	15'-8 1/4"
8S01w	20	WEBS	8	2	18'-3 3/8"	36'-6 3/4"	15'-3 7/8"	15'-7 3/8"



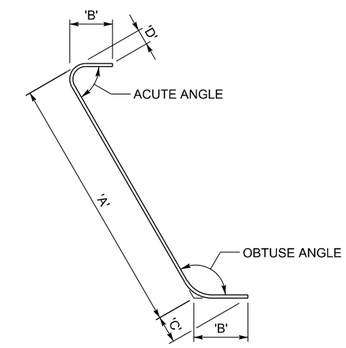
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	19'-7 1/8"	39'-2 1/4"	16'-6 3/8"	16'-11 1/8"
8S02b	2	WEBS	8	2	19'-6 3/8"	39'-0 3/4"	16'-5 5/8"	16'-10 3/8"
8S02c	3	WEBS	8	2	19'-5 5/8"	38'-11 1/8"	16'-4 7/8"	16'-9 5/8"
8S02d	4	WEBS	8	2	19'-4 3/4"	38'-9 5/8"	16'-4 1/8"	16'-8 3/4"
8S02e	5	WEBS	8	2	19'-4"	38'-8"	16'-3 3/8"	16'-8"
8S02f	6	WEBS	8	2	19'-3 1/4"	38'-6 3/8"	16'-2 5/8"	16'-7 1/4"
8S02g	7	WEBS	8	2	19'-2 3/8"	38'-4 7/8"	16'-1 7/8"	16'-6 3/8"
8S02h	8	WEBS	8	2	19'-1 5/8"	38'-3 1/4"	16'-1"	16'-5 5/8"
8S02j	9	WEBS	8	2	19'-0 7/8"	38'-1 3/4"	16'-0 1/4"	16'-4 7/8"
8S02k	10	WEBS	8	2	19'-0"	38'-0 1/8"	15'-11 1/2"	16'-4 1/8"
8S02m	11	WEBS	8	2	18'-11 1/4"	37'-10 1/2"	15'-10 3/4"	16'-3 1/4"
8S02n	12	WEBS	8	2	18'-10 1/2"	37'-9"	15'-10"	16'-2 1/2"
8S02p	13	WEBS	8	2	18'-9 3/4"	37'-7 3/8"	15'-9 1/4"	16'-1 3/4"
8S02q	14	WEBS	8	2	18'-8 7/8"	37'-5 7/8"	15'-8 1/2"	16'-0 7/8"
8S02r	15	WEBS	8	2	18'-8 1/8"	37'-4 1/4"	15'-7 5/8"	16'-0 1/8"
8S02s	16	WEBS	8	2	18'-7 3/8"	37'-2 5/8"	15'-6 7/8"	15'-11 3/8"
8S02t	17	WEBS	8	2	18'-6 1/2"	37'-1 1/8"	15'-6 1/8"	15'-10 1/2"
8S02u	18	WEBS	8	2	18'-5 3/4"	36'-11 1/2"	15'-5 3/8"	15'-9 3/4"
8S02v	19	WEBS	8	2	18'-5"	36'-10"	15'-4 5/8"	15'-9"
8S02w	20	WEBS	8	2	18'-4 1/4"	36'-8 3/8"	15'-3 7/8"	15'-8 1/4"



LEGEND

5 S 01

- BAR NUMBER
- B - ANCHOR BLOCK
  D - DEVIATOR
  S - SEGMENT
- BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 2M		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	10,355
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	73.1
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-2M, S2-2M, N3-2M AND S3-2M.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 02/08 CHECK DSL 08/08
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APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO RIVER BRIDGE - MOAB UTAH
SEGMENT 2M REINFORCING II
PROJECT NUMBER BRF-0191(58)129

GRAND COUNTY
F-763 DRG. NO.
SHT. 153 OF 190

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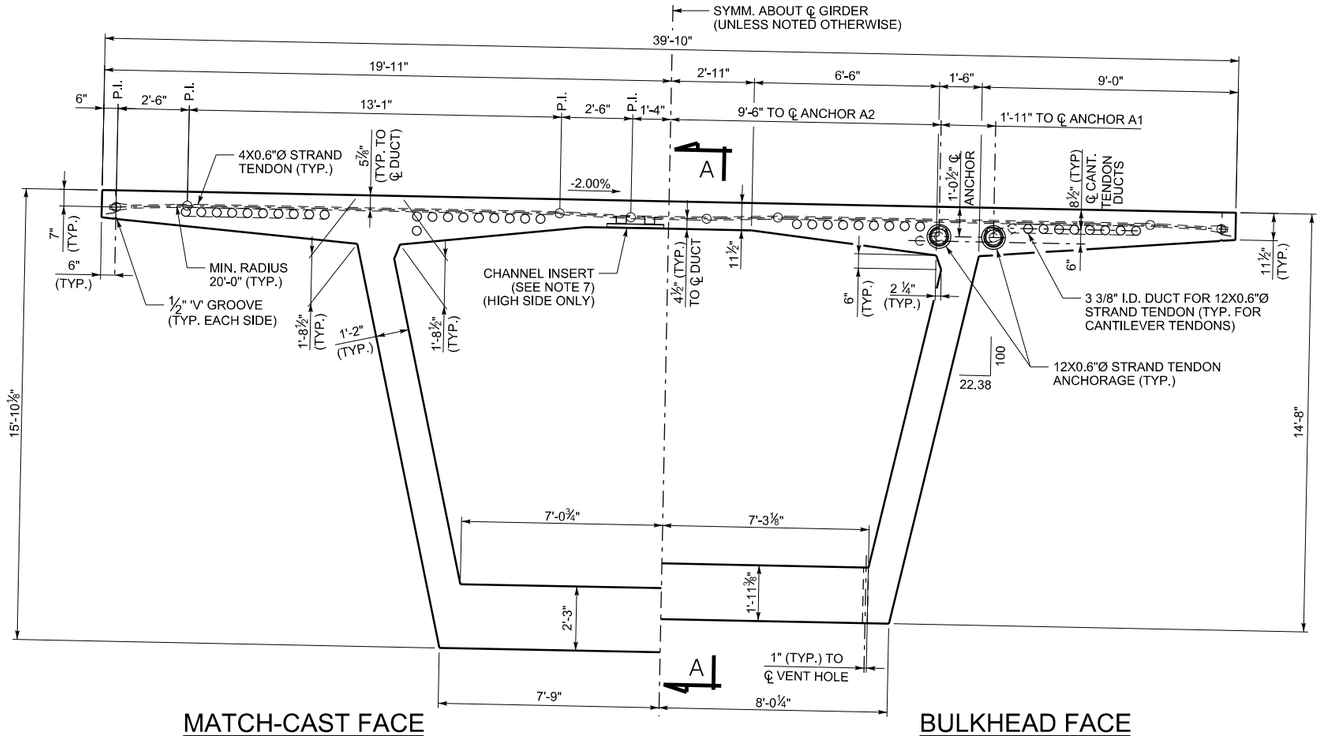
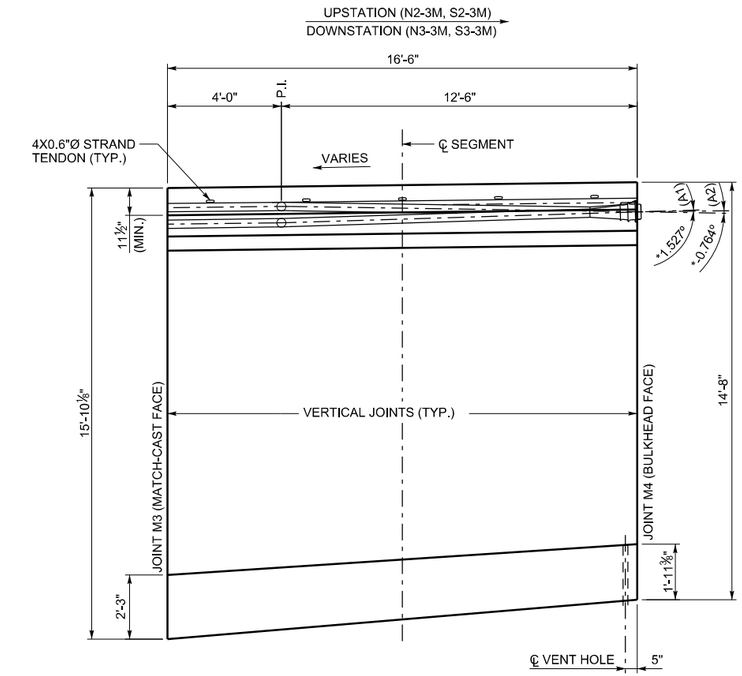
8/6/2008



MATCH-CAST FACE
(JOINT M3)

BULKHEAD FACE
(JOINT M4)

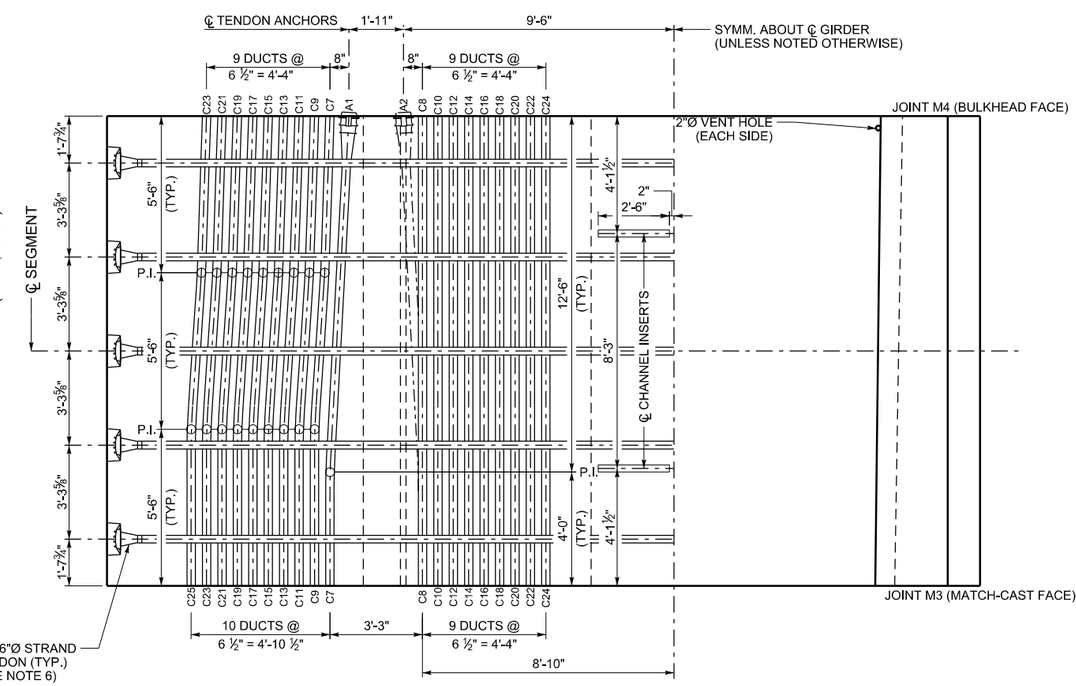
CROSS SECTION
(LOOKING UPSTATION - NB BRIDGE)
(LOOKING DOWNSTATION -SB BRIDGE)



SECTION A-A
(ANGLES SHOWN WITH RESPECT TO TOP OF DECK GRADE)

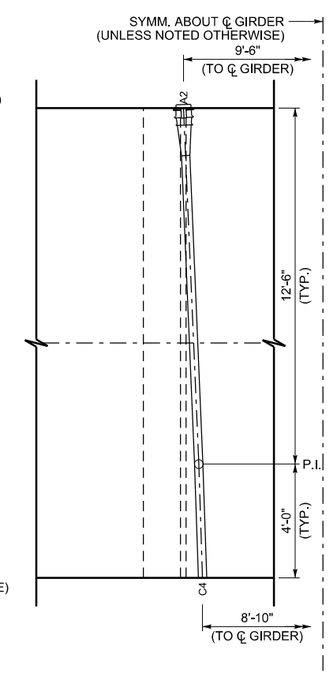
C 23
- JOINT FACE DUCT POSITION
- C - CANTILEVER DUCT
- B - BOTTOM SLAB DUCT

DUCT LEGEND

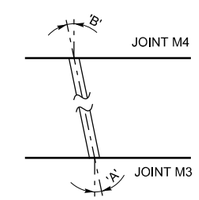


PARTIAL PLAN TOP SLAB
(ONLY UPPER CANTILEVER DUCTS SHOWN FOR CLARITY)
(SEE LOWER DUCT DETAIL FOR LOWER DUCT POSITIONS)

PARTIAL PLAN BOTTOM SLAB

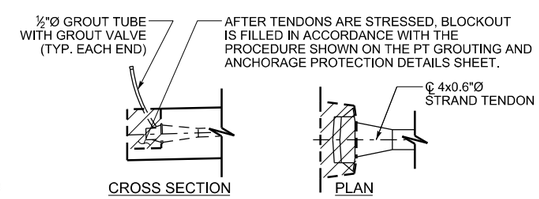


LOWER DUCT DETAIL



DUCT DEVIATION SCHEMATIC
(ANGLES SHOWN ARE IN PLANE PARALLEL TO TOP SLAB)

DUCT DEVIATIONS			
JOINT M3 DUCT POSITION	'A'	JOINT M4 DUCT POSITION	'B'
C4	1.880°	A2	2.452°
C7	0°	A1	3.053°
C8	0°	C8	0°
C9	0°	C7	1.880°
C10	0°	C10	0°
C11	0°	C9	1.880°
C12	0°	C12	0°
C13	0°	C11	1.880°
C14	0°	C14	0°
C15	0°	C13	1.880°
C16	0°	C16	0°
C17	0°	C15	1.880°
C18	0°	C18	0°
C19	0°	C17	1.880°
C20	0°	C20	0°
C21	0°	C19	1.880°
C22	0°	C22	0°
C23	0°	C21	1.880°
C24	0°	C24	0°
C25	0°	C23	1.880°



TRANSVERSE TENDON BLOCKOUT DETAIL

NOTES:

1. THIS DRAWING VALID FOR SEGMENT N2-3M, S2-3M, N3-3M AND S3-3M.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED ALONG SLOPE OF DECK.
3. FOR BULKHEAD DETAILS, SEE BULKHEAD DETAILS SHEET.
4. SEGMENT CONCRETE IS STRUCTURAL CONCRETE AA(B6)(AE), 6000 PSI.
5. *POSITIVE ANGLE DENOTES TENDON DEVIATING TO UPPER POSITION NEGATIVE ANGLE DENOTES TENDON DEVIATING TO LOWER POSITION.
6. AFTER THE CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI, AND PRIOR TO RELEASING FORMWORK OR ADVANCING FORM TRAVELER, STRESS TRANSVERSE 0.6"Ø STRANDS TO 44 KIPS EACH. THE TENDONS ARE SINGLE END STRESSED FROM ALTERNATING SIDES OF THE DECK.
7. PROVIDE GALVANIZED OR STAINLESS STEEL CHANNEL INSERTS WITH AN ALLOWABLE CAPACITY OF 1500 LBS/FT. CHANNEL INSERTS ARE INCIDENTAL TO STRUCTURAL CONCRETE AA(B6)(AE).
8. FOR LONGITUDINAL PT STRESSING AND GROUTING DETAILS, SEE LONGITUDINAL PT LAYOUT SHEETS, PT QUANT. & STRESSING SCHEDULE SHEET & PT GROUTING AND PROTECTION DET. SHEET.
9. ALL LONGITUDINAL TOP AND BOTTOM SLAB TENDONS ARE 12x0.6"Ø STRAND TENDONS. PROVIDE 12'-0" MINIMUM DUCT RADIUS IN THE TRUE 3D PLANE OF THE DUCT CURVE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 02/08	CHECK	DSL 08/08
DRAWN	SJF 02/08	CHECK	BTL 02/08
QUANT	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM: DATE SENIOR DESIGN ENGR.
APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 3M DIMS & PT DETAILS

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 154 OF 190

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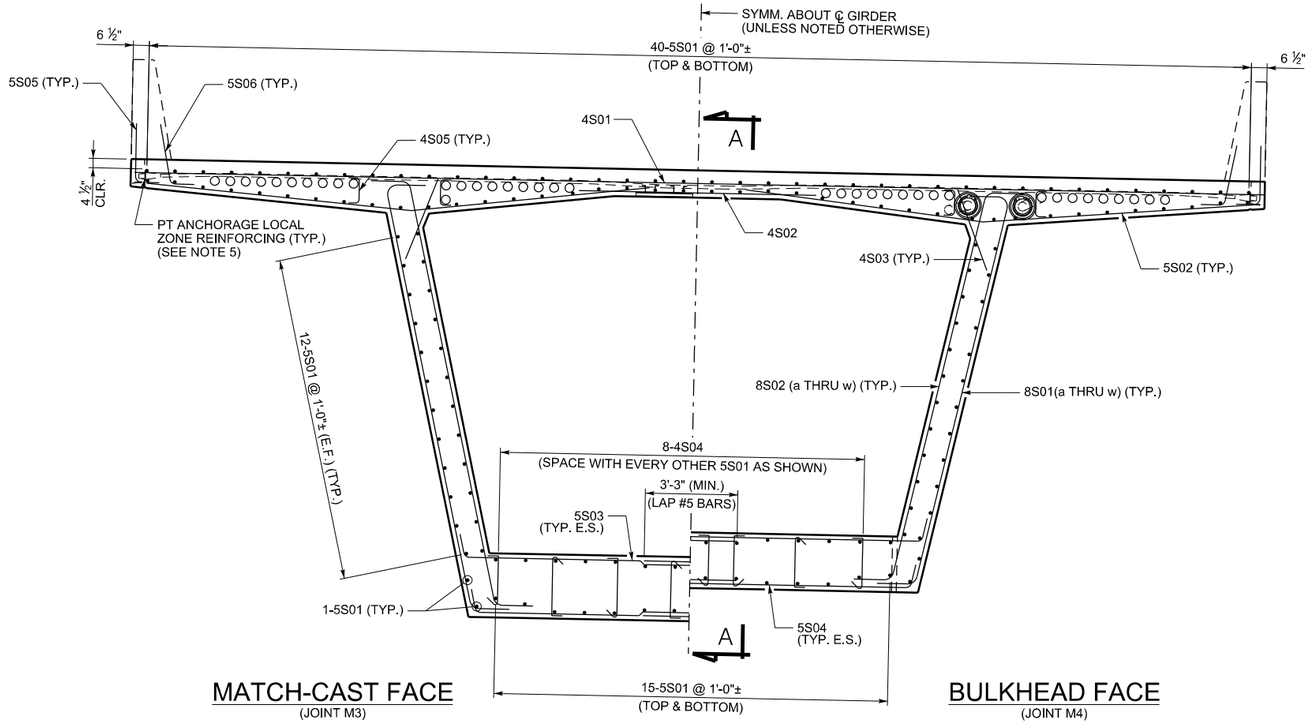
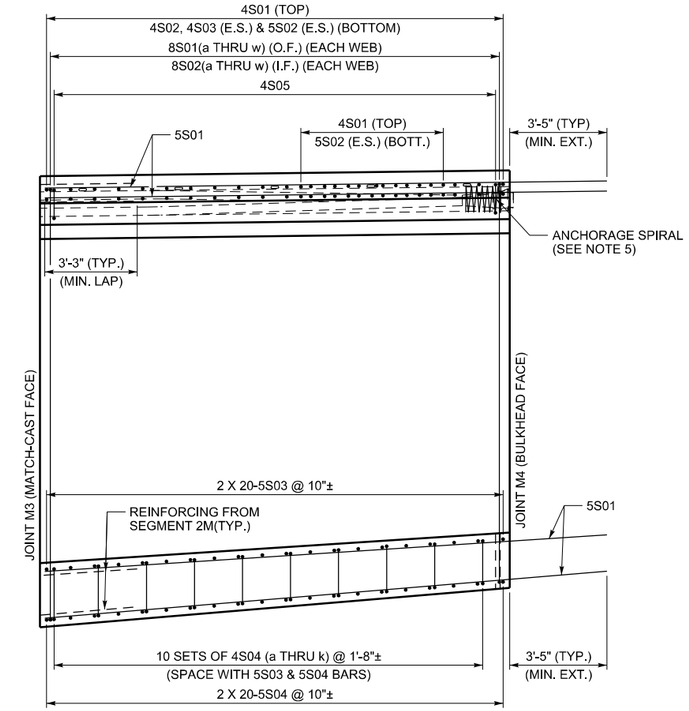
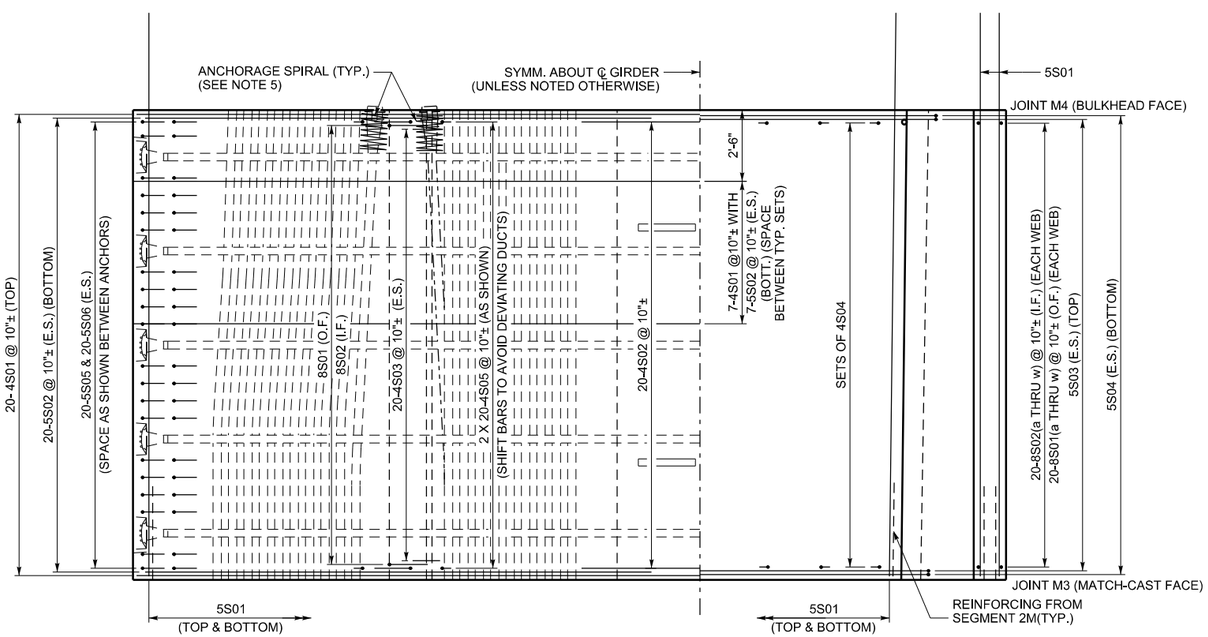
9/6/2008



CROSS SECTION



SECTION A-A



PARTIAL PLAN TOP SLAB

PARTIAL PLAN BOTTOM SLAB

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-3M, S2-3M, N3-3M AND S3-3M.
2. SPACE ALL REINFORCING BARS TO CLEAR POST-TENSIONING DUCTS.
3. CONCRETE COVER:
   4 ½" - TOP OF DECK
   1 ½" - ALL OTHER SURFACES
4. ALL REINFORCING STEEL IS EPOXY COATED.
5. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
6. THE SYMBOL ± DENOTES BARS THAT CAN BE SHIFTED ± 2" TO AVOID OTHER REINFORCING OR POST-TENSIONING HARDWARE, OR TO ACHIEVE EQUAL SPACING FROM FIRST TO LAST BAR.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN	BTL 02/08	CHECK	DSL 08/08
DRAWN	SJF 02/08	CHECK	BTL 02/08
QUANT.	BTL 08/08	CHECK	KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.

APPROVED FOR USE BY UDOT DATE UDOT BRIDGE ENGR.

US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 3M REINFORCING I

PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 155 OF 190

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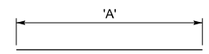
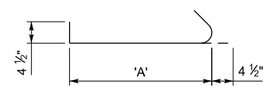
8/6/2008

SEGMENT TYPE 3M BAR BENDING SCHEDULE - VALID FOR SEGMENTS N2-3M, S2-3M, N3-3M AND S3-3M.

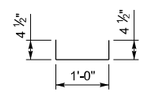
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S01	TOP SLAB	4	27	39'-7"	1068'-9"	39'-7"
4S02	TOP SLAB	4	20	8'-8"	173'-4"	8'-8"
4S03	TOP SLAB	4	40	2'-9"	110'-0"	2'-9"
5S01	SEGMENT	5	162	19'-9 1/2"	3206'-3"	19'-9 1/2"



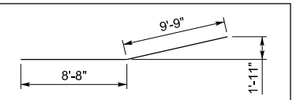
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
4S04a	BOTTOM SLAB	4	8	2'-8 7/8"	21'-10 7/8"	1'-11 7/8"
4S04b	BOTTOM SLAB	4	8	2'-8 1/2"	21'-8"	1'-11 1/2"
4S04c	BOTTOM SLAB	4	8	2'-8 1/8"	21'-5 1/8"	1'-11 1/8"
4S04d	BOTTOM SLAB	4	8	2'-7 3/4"	21'-2 1/8"	1'-10 3/4"
4S04e	BOTTOM SLAB	4	8	2'-7 3/8"	20'-11 1/4"	1'-10 3/8"
4S04f	BOTTOM SLAB	4	8	2'-7"	20'-8 3/8"	1'-10"
4S04g	BOTTOM SLAB	4	8	2'-6 3/4"	20'-5 1/2"	1'-9 3/4"
4S04h	BOTTOM SLAB	4	8	2'-6 3/8"	20'-2 3/8"	1'-9 3/8"
4S04j	BOTTOM SLAB	4	8	2'-6"	19'-11 3/4"	1'-9"
4S04k	BOTTOM SLAB	4	8	2'-5 5/8"	19 8 7/8"	1'-8 5/8"



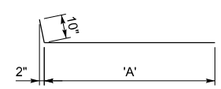
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
4S05	TOP SLAB	4	80	1'-9"	140'-0"



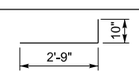
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S02	TOP SLAB	5	54	18'-5"	994'-6"



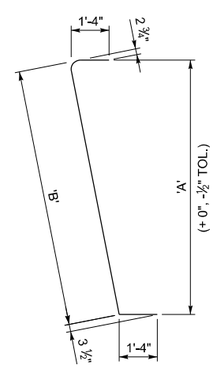
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'
5S03	BOTTOM SLAB	5	40	10'-9"	430'-0"	9'-11"
5S04	BOTTOM SLAB	5	40	10'-4 1/2"	415'-0"	9'-6 1/2"
5S06	TOP SLAB	5	40	3'-7"	143'-4"	2'-9"



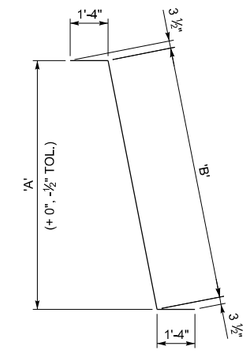
MARK	LOCATION	SIZE	NUM	LENGTH	TOTAL
5S05	TOP SLAB	5	40	3'-7"	143'-4"



MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S01a	1	WEBS	8	2	18'-2 5/8"	36'-5 1/4"	15'-3 1/8"	15'-6 5/8"
8S01b	2	WEBS	8	2	18'-1 7/8"	36'-3 7/8"	15'-2 3/8"	15'-5 7/8"
8S01c	3	WEBS	8	2	18'-1 1/4"	36'-2 3/8"	15'-1 3/4"	15'-5 1/4"
8S01d	4	WEBS	8	2	18'-0 1/2"	36'-1"	15'-1"	15'-4 1/2"
8S01e	5	WEBS	8	2	17'-11 3/4"	35'-11 1/2"	15'-0 1/4"	15'-3 3/4"
8S01f	6	WEBS	8	2	17'-11"	35'-10 1/8"	14'-11 5/8"	15'-3"
8S01g	7	WEBS	8	2	17'-10 3/8"	35'-8 5/8"	14'-10 7/8"	15'-2 3/8"
8S01h	8	WEBS	8	2	17'-9 5/8"	35'-7 1/4"	14'-10 1/4"	15'-1 5/8"
8S01j	9	WEBS	8	2	17'-8 7/8"	35'-5 3/4"	14'-9 1/2"	15'-0 7/8"
8S01k	10	WEBS	8	2	17'-8 1/8"	35'-4 3/8"	14'-8 3/4"	15'-0 1/8"
8S01m	11	WEBS	8	2	17'-7 1/2"	35'-2 7/8"	14'-8 1/8"	14'-11 1/2"
8S01n	12	WEBS	8	2	17'-6 3/4"	35'-1 1/2"	14'-7 3/8"	14'-10 3/4"
8S01p	13	WEBS	8	2	17'-6"	35'-0"	14'-6 5/8"	14'-10"
8S01q	14	WEBS	8	2	17'-5 1/4"	34'-10 5/8"	14'-6"	14'-9 1/4"
8S01r	15	WEBS	8	2	17'-4 5/8"	34'-9 1/8"	14'-5 1/4"	14'-8 5/8"
8S01s	16	WEBS	8	2	17'-3 7/8"	34'-7 3/4"	14'-4 5/8"	14'-7 7/8"
8S01t	17	WEBS	8	2	17'-3 1/8"	34'-6 1/4"	14'-3 7/8"	14'-7 1/8"
8S01u	18	WEBS	8	2	17'-2 3/8"	34'-4 7/8"	14'-3 1/8"	14'-6 3/8"
8S01v	19	WEBS	8	2	17'-1 3/4"	34'-3 3/8"	14'-2 1/2"	14'-5 3/4"
8S01w	20	WEBS	8	2	17'-1"	34'-2"	14'-1 3/4"	14'-5"



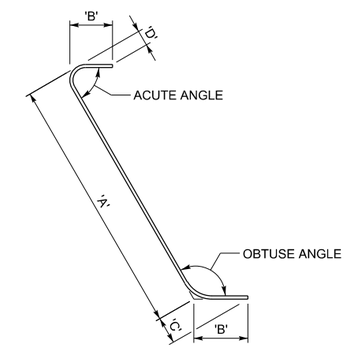
MARK	GROUP	LOCATION	SIZE	NUM	LENGTH	TOTAL	'A'	'B'
8S02a	1	WEBS	8	2	18'-3 3/8"	36'-6 7/8"	15'-3 1/8"	15'-7 1/2"
8S02b	2	WEBS	8	2	18'-2 3/4"	36'-5 3/8"	15'-2 3/8"	15'-6 3/4"
8S02c	3	WEBS	8	2	18'-2"	36'-4"	15'-1 3/4"	15'-6"
8S02d	4	WEBS	8	2	18'-1 1/4"	36'-2 1/2"	15'-1"	15'-5 1/4"
8S02e	5	WEBS	8	2	18'-0 1/2"	36'-1 1/8"	15'-0 1/4"	15'-4 5/8"
8S02f	6	WEBS	8	2	17'-11 7/8"	35'-11 5/8"	14'-11 5/8"	15'-3 7/8"
8S02g	7	WEBS	8	2	17'-11 1/8"	35'-10 1/4"	14'-10 7/8"	15'-3 1/8"
8S02h	8	WEBS	8	2	17'-10 3/8"	35'-8 3/4"	14'-10 1/4"	15'-2 3/8"
8S02j	9	WEBS	8	2	17'-9 5/8"	35'-7 3/8"	14'-9 1/2"	15'-1 3/4"
8S02k	10	WEBS	8	2	17'-9"	35'-5 7/8"	14'-8 3/4"	15'-1"
8S02m	11	WEBS	8	2	17'-8 1/4"	35'-4 1/2"	14'-8 1/8"	15'-0 1/4"
8S02n	12	WEBS	8	2	17'-7 1/2"	35'-3"	14'-7 3/8"	14'-11 1/2"
8S02p	13	WEBS	8	2	17'-6 3/4"	35'-1 5/8"	14'-6 5/8"	14'-10 7/8"
8S02q	14	WEBS	8	2	17'-6 1/8"	35'-0 1/8"	14'-6"	14'-10 1/8"
8S02r	15	WEBS	8	2	17'-5 3/8"	34'-10 3/4"	14'-5 1/4"	14'-9 3/8"
8S02s	16	WEBS	8	2	17'-4 5/8"	34'-9 1/4"	14'-4 5/8"	14'-8 5/8"
8S02t	17	WEBS	8	2	17'-3 7/8"	34'-7 7/8"	14'-3 7/8"	14'-7 7/8"
8S02u	18	WEBS	8	2	17'-3 1/4"	34'-6 3/8"	14'-3 1/8"	14'-7 1/4"
8S02v	19	WEBS	8	2	17'-2 1/2"	34'-5"	14'-2 1/2"	14'-6 1/2"
8S02w	20	WEBS	8	2	17'-1 3/4"	34'-3 1/2"	14'-1 3/4"	14'-5 3/4"



LEGEND

5 S 01

- 01 — BAR NUMBER
- S — B - ANCHOR BLOCK; D - DEVIATOR; S - SEGMENT
- 5 — BAR SIZE



REINFORCING BAR DETAILING

ESTIMATED QUANTITIES - ONE SEGMENT TYPE 3M		
ITEM DESCRIPTION:	UNIT	QUANTITY
REINFORCING STEEL - COATED (PLAN QUANTITY)	LB	10,475
STRUCTURAL CONCRETE AA(B6)(AE) (FOR INFORMATION ONLY)	CY	69.5
POST-TENSIONING STEEL STRAND (TRANSVERSE) (PLAN QUANTITY)	LB	575

NOTES:

1. THIS DRAWING VALID FOR SEGMENTS N2-3M, S2-3M, N3-3M AND S3-3M.
2. ALL REINFORCING STEEL IS EPOXY COATED.
3. PROVIDE BAR BENDS IN ACCORDANCE WITH CRSI. PROVIDE BEND TOLERANCES AS REQUIRED FOR CONSTRUCTION OR AS SHOWN ABOVE FOR BARS 8S01& 8S02.
4. FOR PT ANCHORAGE SPIRAL AND TRANSVERSE LOCAL ZONE REINFORCING, SEE PT QUANT. & STRESSING SCHEDULE SHEET.
5. STRUCTURAL CONCRETE VOLUME IS GIVEN AS INFORMATION ONLY. STRUCTURAL CONCRETE IS PAID LUMP SUM.

NO.	DATE	BY	REMARKS

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BTL 02/08 CHECK DSL 08/08
DRAWN SJF 02/08 CHECK BTL 02/08
QUANT BTL 08/08 CHECK KRM 08/08

APPROVAL RECOMM. DATE SENIOR DESIGN ENGR.
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US-191; OVER COLORADO
RIVER BRIDGE - MOAB UTAH
SEGMENT 3M REINFORCING II
PROJECT NUMBER BRF-0191(58)129

GRAND
COUNTY

F-763
DRG. NO.

SHT. 156 OF 190

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8/6/2008