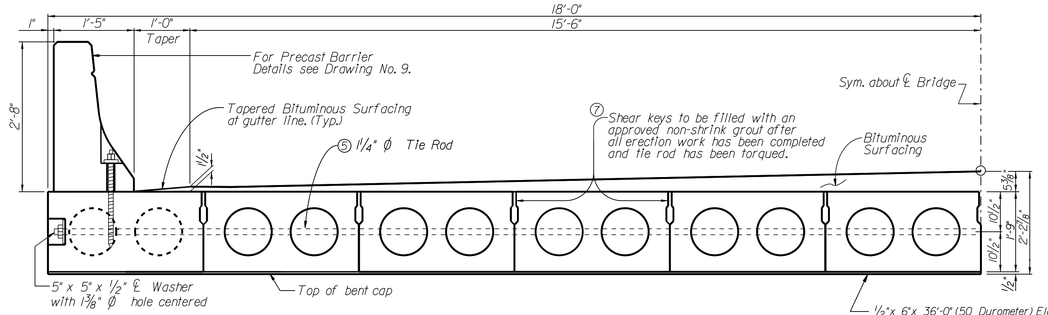


TYPICAL HALF SECTION THRU SPAN

⑤ Tie rod assemblies include a 1¼" Ø rod with 2 Hex nuts, 2 lockwashers and 2 - 5"x 5" x½" plate washers. Tie rods shall be threaded 8" on each end. Tie rods and plate washers to be AASHTO M 270 Grade 36 steel. All nuts shall meet the requirements of ASTM A 563 Grade A. All hardware and tie rods shall be galvanized in accordance with ASTM A123 or ASTM A153 as applicable. Tie Rods may be spliced by using a sleeve coupling or a full penetration butt weld. Couplers used to splice tie bars shall be capable of developing in tension at least 125% of the yield strength of the tie bars. Tie rod to be put in during fit up of span in casting yard. The quantities shown are for the twenty and thirty foot spans. If the forty, fifty or sixty foot spans are used, then the quantities are doubled.

⑦ Either an approved pre-packaged mix or a mixture consisting of the following components may be used for the non-shrink grout specified: 1 part high early strength cement, 2 parts fine aggregate (FA-10 as per SCDOT specs.), 1 part course aggregate (# 789 as per SCDOT specs.), 2 grams aluminum dust per 94 lb.bag of cement. Provide only enough water to yield a workable slump.

NOTE:
The Quantities Associated With Class 5000 Concrete, Class 6000 Concrete, Class 7000 Concrete, Grout and Reinforcing Steel Are For Twelve Cored Slabs.

SHEET NO.	TOTAL SHEETS
1	9

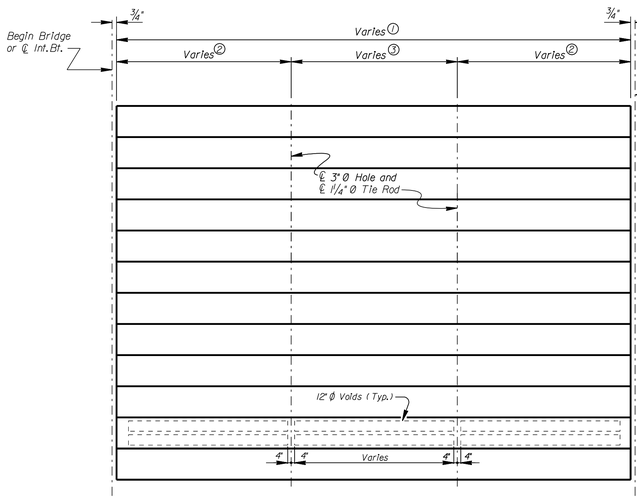
	20 FT. SLAB	30 FT. SLAB	40 FT. SLAB	50 FT. SLAB	60 FT. SLAB
①	19' - 10½"	29' - 10½"	39' - 10½"	49' - 10½"	59' - 10½"
②	———	———	11' - 10¼"	14' - 11¼"	19' - 11¼"
③	———	———	16' - 2"	20' - 0"	20' - 0"
④	9' - 11¼"	14' - 11¼"	———	———	———
½" Ø L R Strands	7 Strands	9 Strands	14 Strands	20 Strands	24 Strands
Concrete Strength p.s.i.	5,000	5,000	5,000	6,000	7,000
Conc.Strength @ Rel. p.s.i.	4,000	4,000	4,000	4,800	5,000
Concrete yd^3	35.2	51.1	68.5	85.5	101.5
Grout yd^3	0.43	0.64	0.85	1.07	1.28
Reinforcing Steel (Gr.60)	3012	4032	5064	6096	7116
Length of Voids - Int.Slab	7'-0¼"	12'-0¼"	11'-1½"	14'-5½"	17'-9½"
Length of Voids - Ext.Slab	See Plan Two	See Plan Two	See Plan Two	See Plan Two	See Plan Two

HARDWARE
ZERO DEGREE SKEW

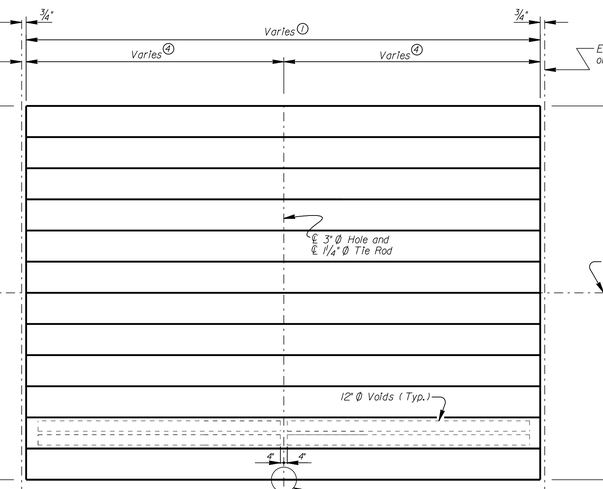
	ITEM	NO.
⑤	1¼"ϕ X 35'-10" TIE ROD	1
	1¼" HEX NUT	2
	5" X 5" X ½" PL WASHER	2
	1¼" ϕ LOCK WASHER	2

HARDWARE
SIXTEEN DEGREE SKEW

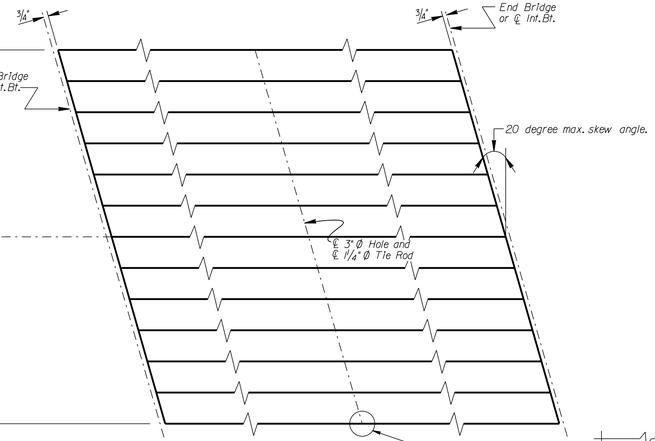
	ITEM	NO.
⑤	1¼"ϕ X 38'-2" TIE ROD	1
	1¼" HEX NUT	2
	5" X 5" X ½" PL WASHER	2
	1¼" ϕ LOCK WASHER	2



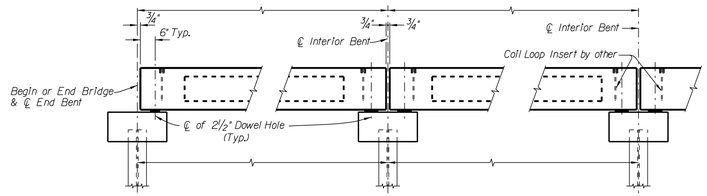
PLAN
40', 50' and 60' foot spans



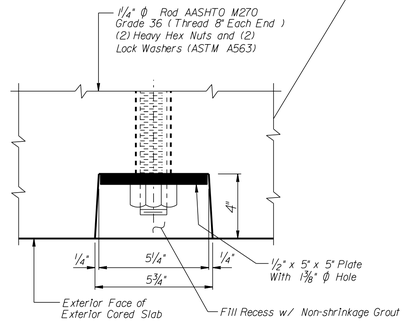
PLAN
20' and 30' foot spans



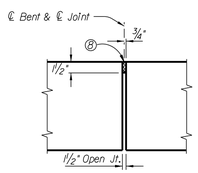
PLAN



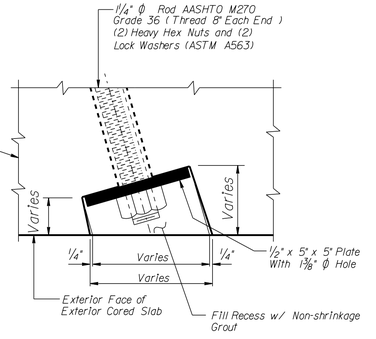
SIDE ELEVATION



TIE BAR RECESS DETAIL



SECTION THRU JOINT



Note:
Maximun skew angle shall limit up to 20 degree.

Ⓑ Cold applied bridge joint filler material for use in bridge joints shall meet or exceed the requirements of ASTM C 920 for a multiple component self-leveling material. Only material from sources appearing on the Dept's approved list entitled approved cold applied sealants for bridge joints shall be used.

The backer rod shall be of circular cross-section & consist of closed cell polyethylene foam. It will be ⅛" greater dia. than the bridge jt. width.

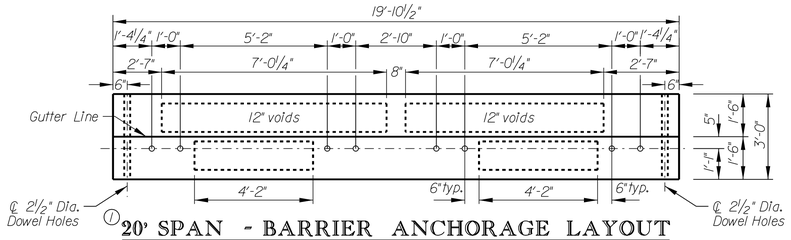
REV.			
REV.			
REV.	BC		04-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

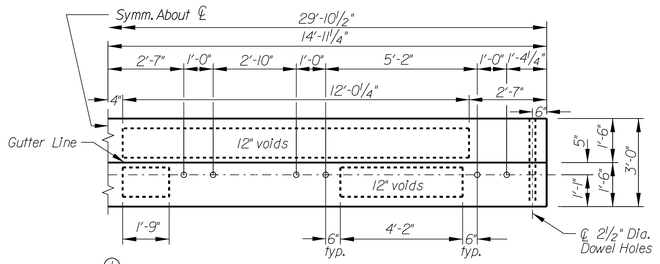
PLAN OF
20' - 60' SPAN

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			ONE

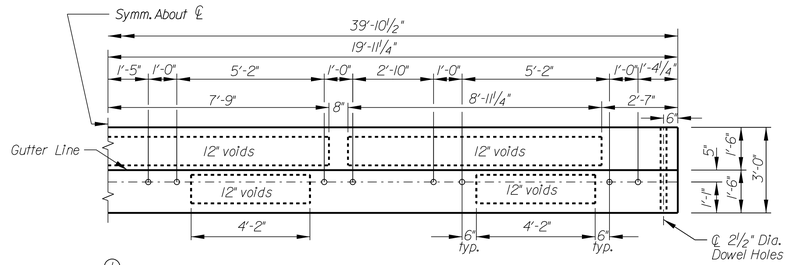
SHEET NO.	TOTAL SHEETS
2	9



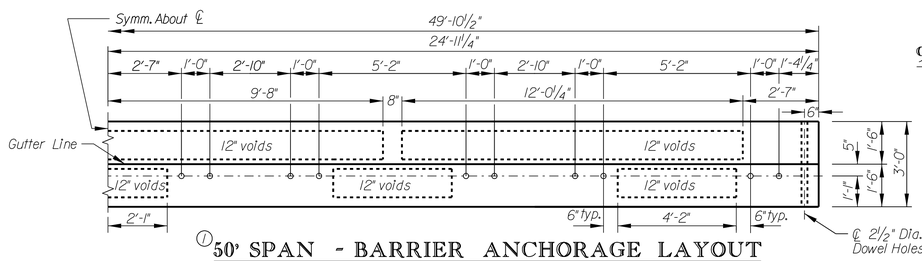
① 20' SPAN - BARRIER ANCHORAGE LAYOUT



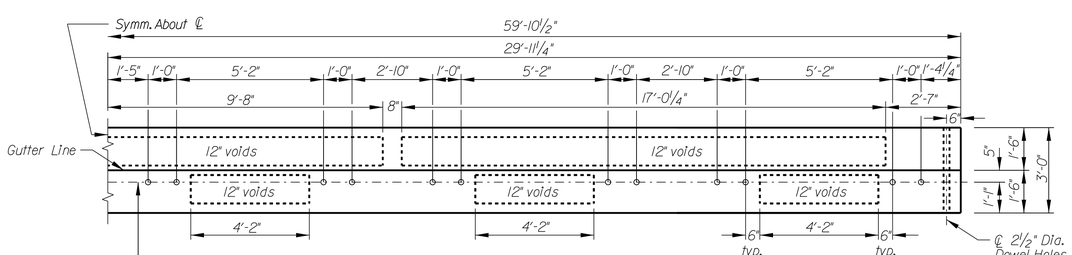
① 30' SPAN - BARRIER ANCHORAGE LAYOUT



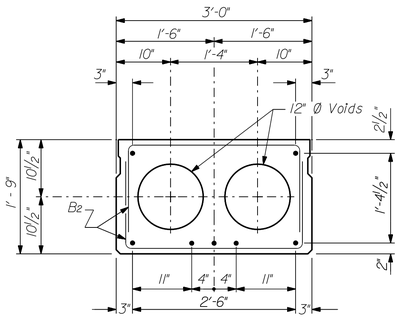
① 40' SPAN - BARRIER ANCHORAGE LAYOUT



① 50' SPAN - BARRIER ANCHORAGE LAYOUT

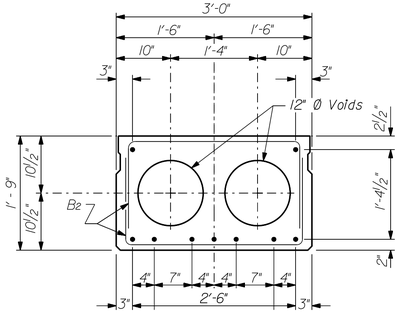


① 60' SPAN - BARRIER ANCHORAGE LAYOUT



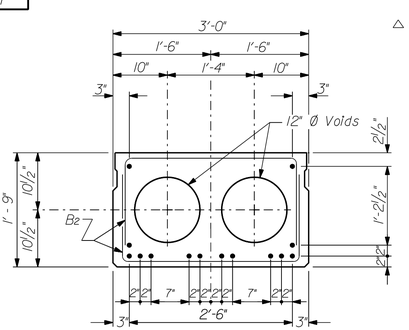
20' CORED SLAB SECTION
7 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 5000 psi
f'ci = 4000 psi



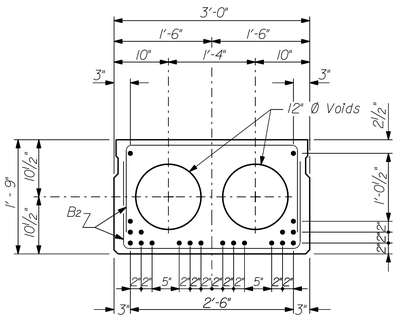
30' CORED SLAB SECTION
9 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 5000 psi
f'ci = 4000 psi



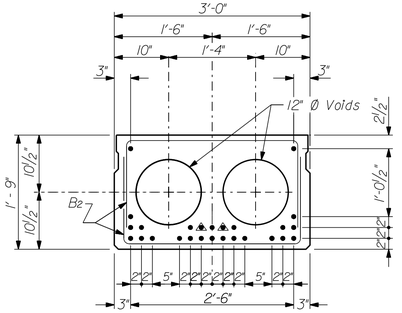
40' CORED SLAB SECTION
14 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 5000 psi
f'ci = 4000 psi



50' CORED SLAB SECTION
20 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 6000 psi
f'ci = 4800 psi



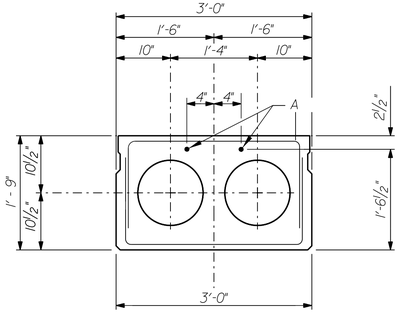
60' CORED SLAB SECTION
26 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 7000 psi
f'ci = 5400 psi

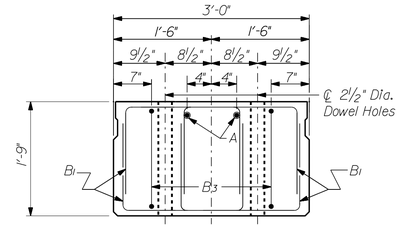
△ denotes debonding 6'-0" @ each end

Bl bars are not shown. For locations and quantities of Bl and B2, see "Interior Cored Slab" sheet.

① If the Contractor does not elect to use all 10' barrier sections for the 20' thru 60' spans, then the Contractor shall be responsible for adjusting the barrier anchorage layout. A distance of 6" from ℄ of screw anchor bolt to void shall be maintained. Also, the length of the voids may need adjustment.



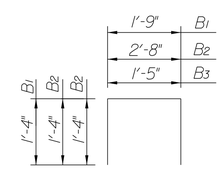
Location of A-bars



Location of Dowel Holes

Note: Dowel holes shall be grouted with Non-shrinkage concrete at fix end and dowel bar shall wrapped with felt paper at expansion joint.

BENDING DETAILS



Note :
Design Method: AASHTO Load & Resistance Factor Design.
Desin Live Load: AASHTO HL-93.

REV.			
REV.			
REV.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

EXTERIOR (20' - 60') CORED SLABS

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			TWO

CORED SLAB WEIGHTS (LBS)

	20 FT. SLAB	30 FT. SLAB	40 FT. SLAB	50 FT. SLAB	60 FT. SLAB
EXTERIOR	14,470	19,485	26,875	34,020	39,205
INTERIOR	13,445	18,880	24,475	29,910	35,350

REINF. STEEL SCHEDULE

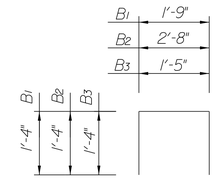
MARK	SIZE	D	20 FT. SLAB NO. REQ'D	20 FT. SLAB LENGTH	30 FT. SLAB NO. REQ'D	30 FT. SLAB LENGTH	MARK	SIZE	D	40 FT. SLAB NO. REQ'D	40 FT. SLAB LENGTH	50 FT. SLAB NO. REQ'D	50 FT. SLAB LENGTH	60 FT. SLAB NO. REQ'D	60 FT. SLAB LENGTH
A	4	S	2	19' - 6"	2	29' - 6"	A	4	S	2	39' - 6"	2	49' - 6"	2	59' - 6"
B1	4	B	8	4' - 5"	8	4' - 5"	B1	4	B	8	4' - 5"	8	4' - 5"	24	4' - 5"
B2	4	B	56	5' - 4"	74	5' - 4"	B2	4	B	92	5' - 4"	108	5' - 4"	124	5' - 4"
B3	4	B	4	4' - 1"	4	4' - 1"	B3	4	B	4	4' - 1"	4	4' - 1"	4	4' - 1"

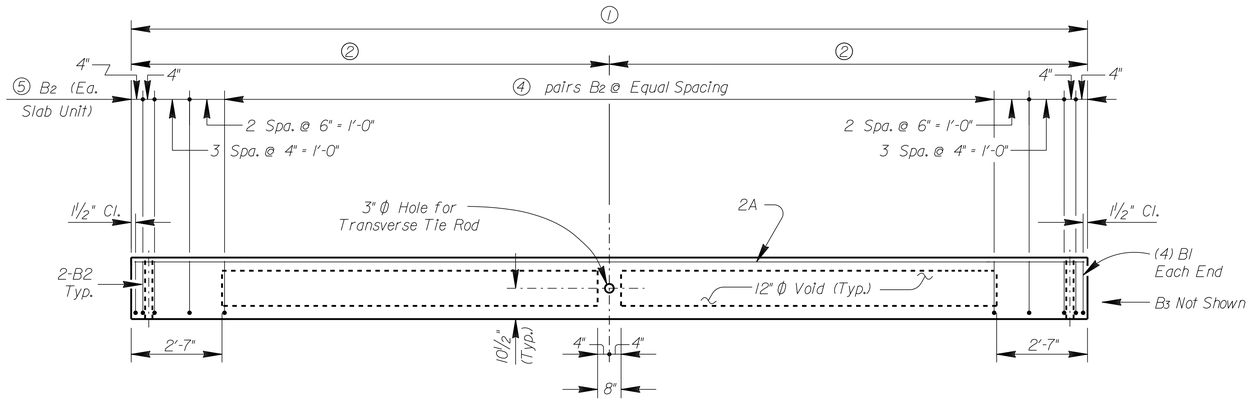
QUANTITIES - ONE CORED SLAB

ITEM	UNIT	20 FT. SLAB	30 FT. SLAB	40 FT. SLAB	50 FT. SLAB	60 FT. SLAB
Concrete, Ext. Slab	C.Y.	3.1	4.4	6.2	7.8	9.2
Concrete, Int. Slab	C.Y.	2.9	4.2	5.6	7.0	8.3
Reinforcing Steel (Gr. 60)	Lbs.	253	338	401	471	560

For Class of Concrete, See Sheet 1.

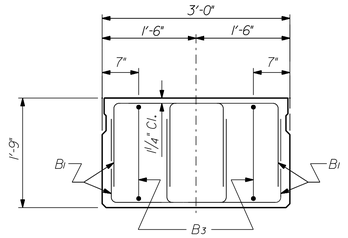
BENDING DETAILS



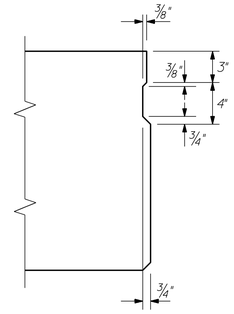


TYPICAL ELEVATION OF INTERIOR CORED SLAB UNIT

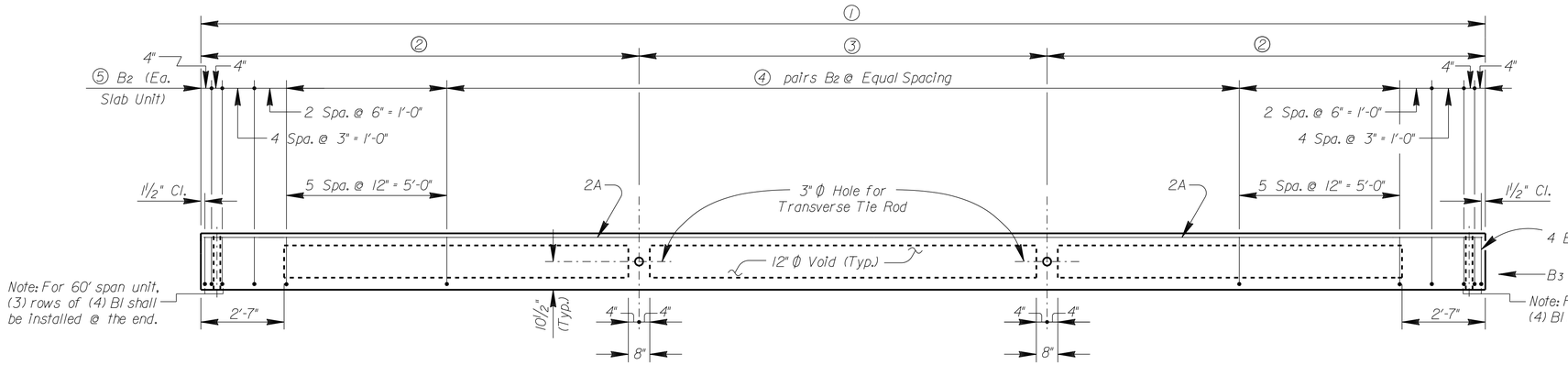
20' - 0" and 30' - 0" Spans



End Beam Reinforcement



Shear Key Detail



TYPICAL ELEVATION OF INTERIOR CORED SLAB UNIT

40' - 0", 50' - 0" and 60' - 0" Spans

	20 FT. SLAB	30 FT. SLAB	40 FT. SLAB	50 FT. SLAB	60 FT. SLAB
①	19' - 10½"	29' - 10½"	39' - 10½"	49' - 10½"	59' - 10½"
②	9' - 11¼"	14' - 11¼"	11' - 10¼"	14' - 11¼"	19' - 11¼"
③	———	———	16' - 2"	20' - 0"	20' - 0"
④	14	23	20	28	36
⑤	56	74	92	108	124

Note :

Shift B2 stirrups as necessary to clear Transverse Tie Rods.

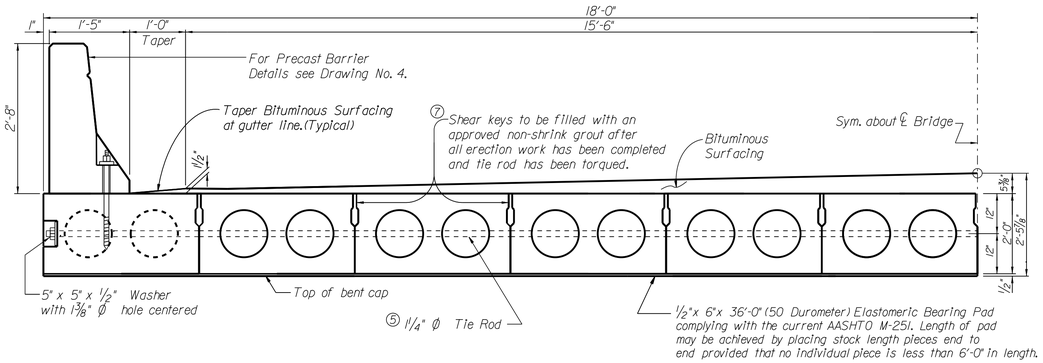
REV.				
REV.	BC		01-14	
REV.	BC		02-12	
REVIEWED				
QUAN.				
DR.	BDP		06-10	
DES.				
	BY	CHK.	DATE	

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

INTERIOR (20' - 60') CORED SLABS

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			THREE

SHEET NO.	TOTAL SHEETS
4	9



TYPICAL HALF SECTION THRU SPAN

⑦ Either an approved pre-packaged mix or a mixture consisting of the following components may be used for the non-shrink grout specified: 1 part high early strength cement, 2 parts fine aggregate (FA-10 as per SCDOT specs.), 1 part course aggregate (# 789 as per SCDOT specs.), 2 grams aluminum dust per 94 lb.bag of cement. Provide only enough water to yield a workable slump.

⑤ Tie rod assemblies include a 1¼" Ø rod with 2 hex nuts, 2 lockwashers and 2 - 5"x 5" x½" plate washers. Tie rods shall be threaded 8" on each end. Tie rods and plate washers to be ASTM A 709 Grade 36 steel. All nuts and washers shall meet the requirements of ASTM A 307. All hardware and tie rods shall be galvanized in accordance with ASTM A123 or ASTM A153 as applicable. Tie Rods may be spliced by using a sleeve coupling or a full penetration butt weld. Couplers used to splice tie bars shall be capable of developing in tension at least 125% of the yield strength of the tie bars. Tie rod to be put in during fit up of span in casting yard.

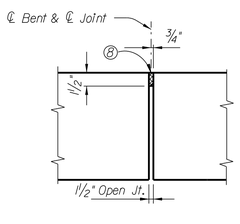
NOTE:
The Quantities Associated With Class 8000 Concrete, Grout and Reinforcing Steel Are For Twelve Cored Slabs.

		70 FT. SLAB
½" Ø L R Strands		34 Strands
Concrete Strength	p.s.i.	8,000
Conc.Strength @ Rel.	p.s.i.	6,400
Concrete	yd^3	141.4
Grout	yd^3	1.51
Reinforcing Steel (Gr.60)		8304

HARDWARE

ZERO DEGREE SKEW

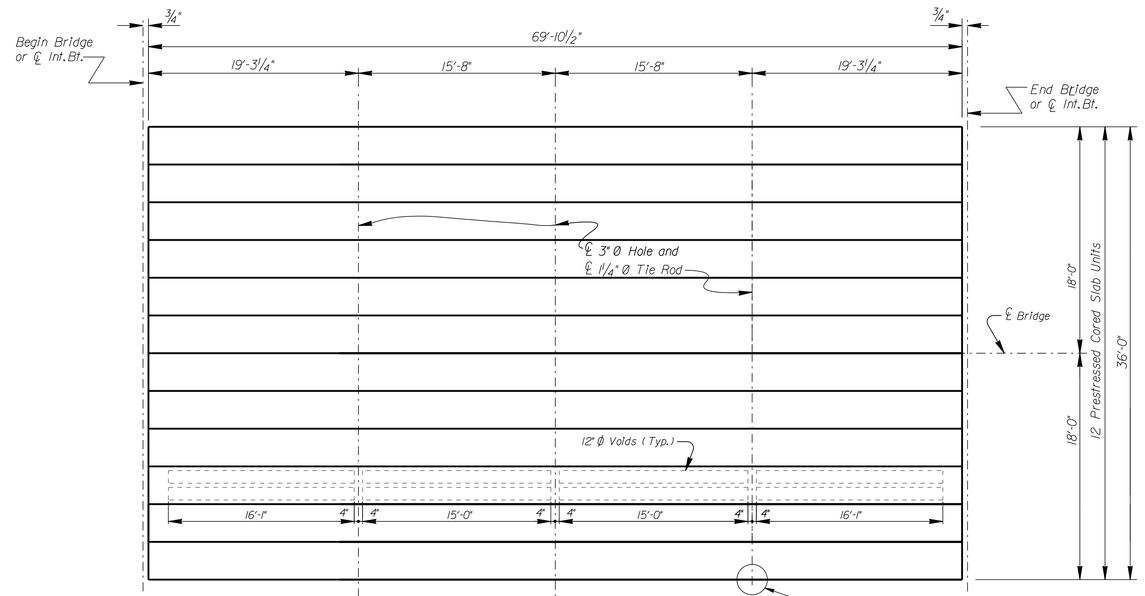
	ITEM	NO.
⑤	1¼"ϕ X 36'-0" TIE ROD	2
	1¼" HEX NUT	4
	5" X 5" X ½" PL WASHER	4
	1¼" ϕ LOCKWASHER	4



SECTION THRU JOINT

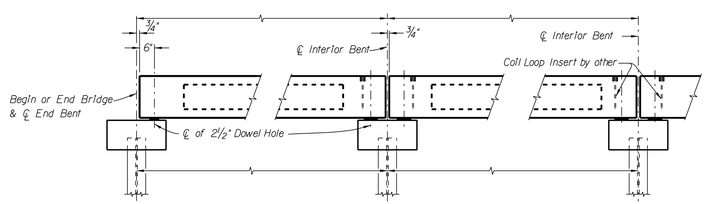
⑧ Cold applied bridge joint filler material for use in bridge joints shall meet or exceed the requirements of ASTM C 920 for a multiple component self-leveling material. Only material from sources appearing on the Dept's approved list entitled Approved Cold Applied Sealants For Bridge Joints shall be used.

The backer rod shall be of circular cross-Section & consist of closed cell polyethylene foam. Generally it will be ⅛" greater dia. than the bridge Jt. width.

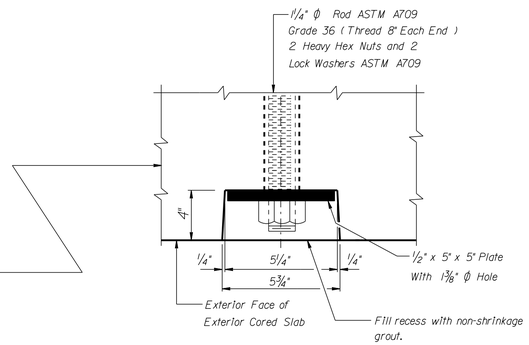


PLAN

70' foot span



SIDE ELEVATION



TIE BAR RECESS DETAIL

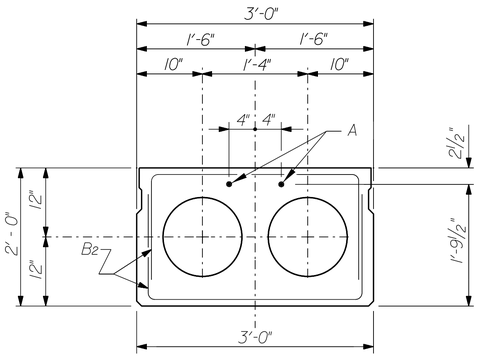
REV.			
REV.			
REV.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		01-09
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

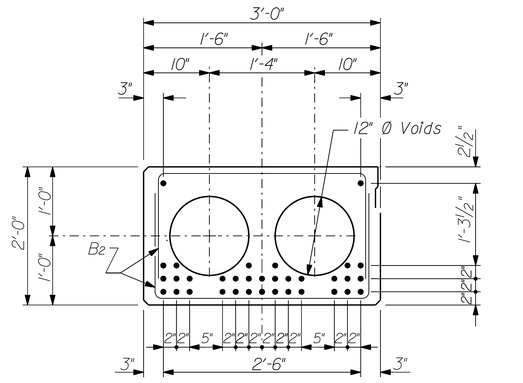
PLAN OF 70'-0" SPAN

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			FOUR

SHEET NO.	TOTAL SHEETS
5	9



Location of A-bars



70' EXTERIOR CORED SLAB SECTION
34 - 1/2" Ø LOW RELAXATION STRAND LAYOUT

f'c = 8000 psi
f'ci = 6400 psi

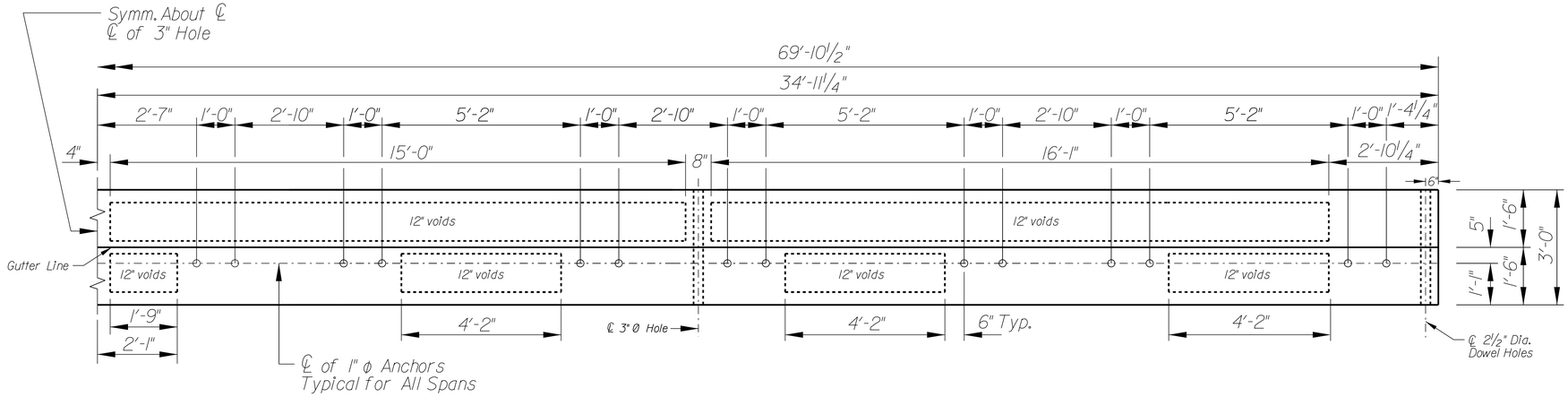
① If the Contractor does not elect to use all 10' barrier sections for the 70' span, then the Contractor shall be responsible for adjusting the barrier anchorage layout. A distance of 6" from ℄ of screw anchor bolt to void shall be maintained.

Also, the length of the voids may need adjustment.

Note :

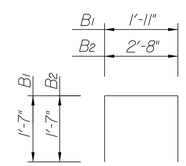
All prestressing strands shall be 1/2" Ø 270 ksi - LR AASHTO M203 (ASTM A416). Strands shall be cut 1/2" back into beam ends and the recesses filled with an approved non-shrinkage grout.

B1 bars are not shown. For locations and quantities of B1 and B2, see "Interior Cored Slab" sheet.



① 70' SPAN - BARRIER ANCHORAGE LAYOUT

BENDING DETAILS



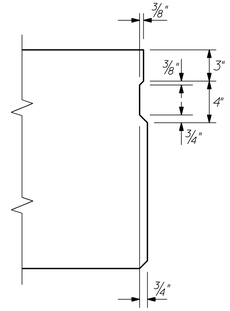
REV.			
REV.			
REV.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

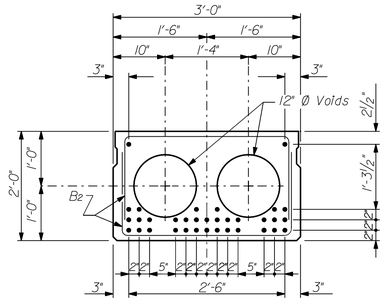
EXTERIOR 70'-0"
CORED SLAB

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			FIVE

SHEET NO.	TOTAL SHEETS
6	9

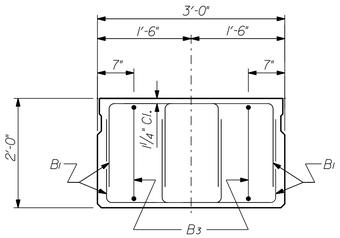


Shear Key Detail

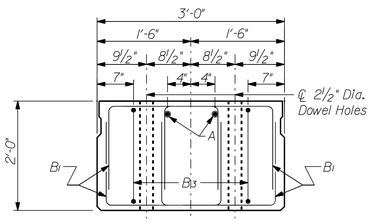


70' INTERIOR CORED SLAB SECTION
34 - ½" Ø LOW RELAXATION STRAND LAYOUT

f'c = 8000 psi
f'ci = 6400 psi



End Beam Reinforcement



Location of Dowel Holes

Note: Dowel holes shall be grouted with Non-shrinkage concrete at fix end and dowel bar shall wrapped with felt paper at expansion joint.

REINF. STEEL SCHEDULE

MARK	SIZE	D	70 FT. SLAB	
			NO. REQ'D	LENGTH
A	4	S	4	35'-10"
B1	4	B	24	5' - 1"
B2	4	B	144	5' - 10"
B3	4	B	4	4' - 10"

QUANTITIES

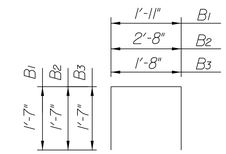
ITEM	UNIT	70 FT. SLAB
Concrete, Ext. Slab	C.Y.	12.7
Concrete, Int. Slab	C.Y.	11.6
Reinforcing Steel (Gr.60)	Lbs.	751

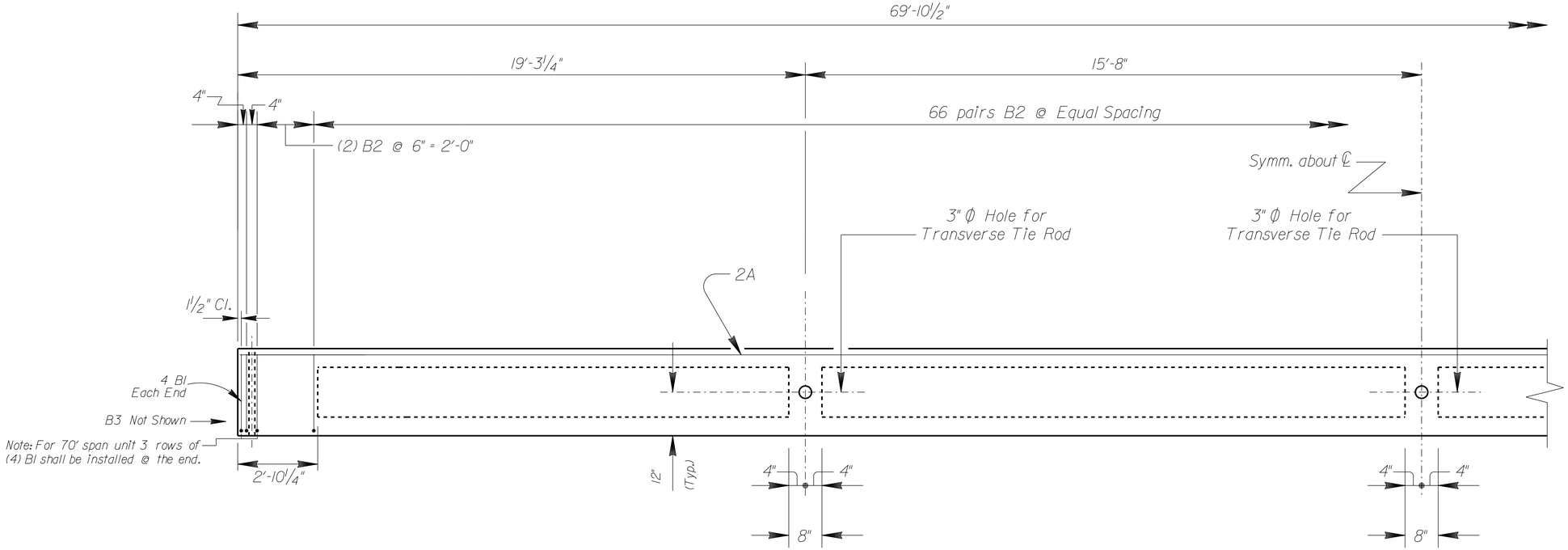
CORED SLAB WEIGHT (LBS)

70 FT. SLAB	
EXTERIOR	51,533
INTERIOR	46,900

These are quantities for ONE Cored Slab Unit.

BENDING DETAILS





Note :
Shift B2 stirrups as necessary to clear Transverse Tie Rods.

TYPICAL ELEVATION OF INTERIOR CORED SLAB UNIT

REV.			
REV.			
REV.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

INTERIOR 70'-0"
CORED SLAB

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			SIX

SHEET NO.	TOTAL SHEETS
9	9

Note:
Concrete strength requirements for the removal of barrier sections from the forms are waived. Barrier sections may be removed from the forms at the Fabricator's discretion. This waiver shall not relieve the Fabricator of his responsibility to furnish a damage free product.

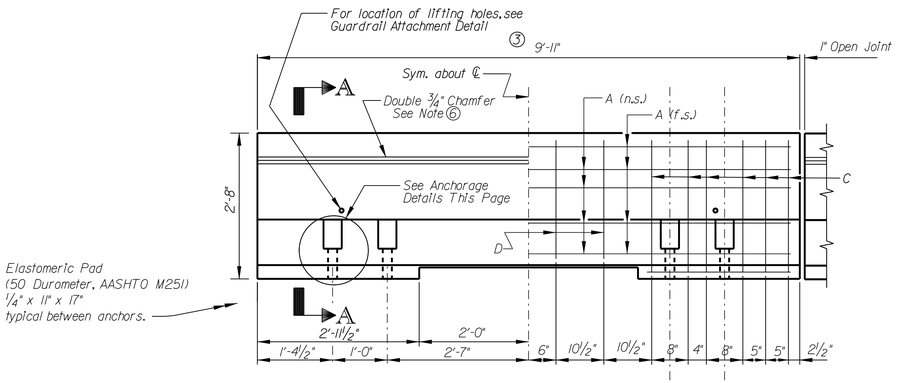
Notes:
The front, top, back, and end faces of the barrier sections shall receive a final surface finish in accordance with subsection 702.4.11.3 and 702.4.11.4 of the SCDOT Standard Specifications.
Specifications: AASHTO LRFD Bridge Design Specifications (2004) and 2007 SCDOT Standard Specifications.

1" ϕ threaded rods shall be AASHTO M270 Grade 36. Nuts and standard washers shall be in accordance with paragraph 709.2.4 of the Standard Specifications. Coil Thread Rods shall be B-12 with a safe working load of 50,000 lbs. and Coil Nut shall be B-13 with a safe working load of 24,000 lbs., both as manufactured by Dayton-Superior or an approved equal. Plate washers shall be ASTM AASHTO M270 Grade 36.

All bolts, nuts, washers, plate washers, inserts and rods shall be galvanized in accordance with ASTM A123 or ASTM A153 as applicable.

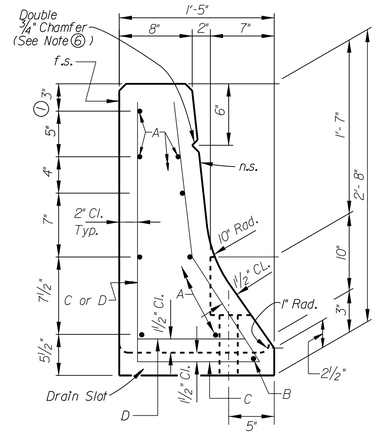
Drain slots shall be omitted from barrier sections that are to be placed on the end spans above the end fills.

All costs of materials (including hardware), equipment and labor necessary to manufacture and anchor the barrier sections shall be included in the price bid for the precast concrete barrier parapet.

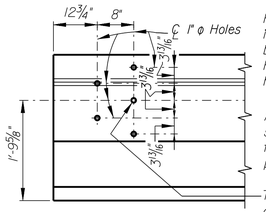


ELEVATION - 10' SECTION ③

① Vary this dimension to miss guardrail connection hole.
⑥ The double ¾" Chamfer may be eliminated at the fabricator's option.



SECTION A-A



Holes for guardrail attachment are required in barrier sections to be placed at the bridge ends on both sides of the roadway. Form 1" ϕ holes with plastic or PVC pipe having an inside diameter of 1" (+ ⅛").

As an alternate -- galvanized 1" I.D. std. wt. steel pipe may be substituted for the plastic or PVC pipe. Cut ends of steel pipe to be field galvanized.

This bolt hole shall be provided at both ends of all barrier sections to serve as a lifting hole.

GUARD RAIL ATTACHMENT DETAIL

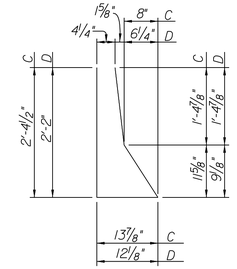
Note:
The manufacturer's identifying mark and the year cast shall be cast into the back or top face of each barrier section. Characters shall have a height of 3" to 4" and shall be imbedded ⅛" to ¼".

Holes for Guardrail Attachment are required in barrier sections to be placed at the bridge ends on both sides of the roadway. Form 1" o holes with plastic or PVC pipe having an inside diameter of 1" (+ ⅛").

REINF. STEEL SCHEDULE

MARK	SIZE	D	1 - 10' BARRIER SECT. NO. REQ'D	LENGTH
A	6	S	8	9' - 7"
B	5	S	2	2' - 7"
C	5	B	12	6' - 1"
D	5	B	4	5' - 6"

BENDING DETAILS



QUANTITIES - ONE 10' SECTION

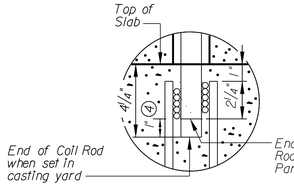
ITEM	UNIT	W/ DRAIN SLOT	W/O DRAIN SLOT
Concrete, Class 5000	C.Y.	0.9	0.9
Reinforcing Steel (GR.60)	Lbs.	220	220

Weight of one 10' Barrier Section with Drain Slots = 3560 Lbs.
Weight of one 10' Barrier Section without Drain Slots = 3730 Lbs.

HARDWARE PER 10' SECTION

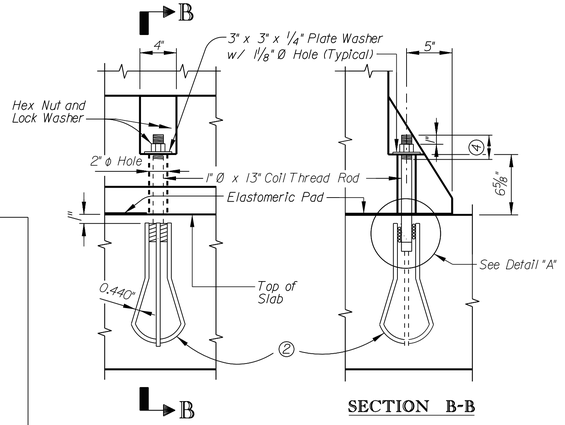
ITEM	10' SECTION NO.
B-33, 1" x 12½" Insert	4
1" ϕ Coil Hex Nut ⑤	4
1" ϕ Lock Washer	4
3" x 3" x ¼" Plate Washer	4
1" ϕ x 13" Coil Thread Rod	4
Elastomeric Pad (1/4 " x 11" x 17")	2

⑤ Provide one additional Hex Nut per span to be used as spare and for turning rods with a double nut



DETAIL "A"

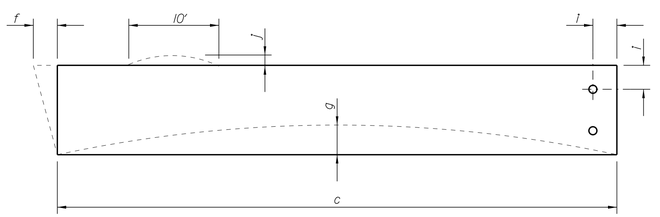
④ The coil rod for setting the insert in the casting yard shall be set 4¼" into the slab section. When setting the barrier parapet in the field the coil rod shall be set a minimum of 3¼" into slab section. This will allow adjustment in the length of rod projecting above the nut when placing barriers. The projection of the rod above the nut should be a minimum of 1". However, care should be taken to insure that the rod does not project beyond the plane of the barrier face.



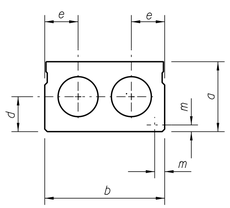
FOR 10' SECTION

② Dayton Superior B-33, 1" X 12½" Double Flared Coil Loop Insert or approved equal.

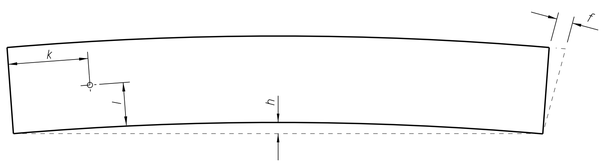
③ If the Contractor does not elect to use all 10' barrier sections for the 20' thru 60' spans, then the Contractor shall be responsible for adjusting the barrier anchorage layout. A distance of 6" from ℄ screw anchor bolt to void shall be maintained.



PLAN



SECTION



ELEVATION

TOLERANCES

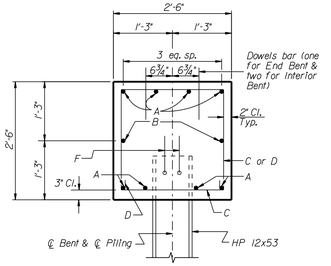
a = Depth	+⅜" TO -⅛"
b = Width	± ¼"
c = Length	± ⅛" per 10'
d = Position of Voids - Vertical	± ⅜"
e = Position of Voids - Horizontal	± ⅜"
Position of Void Ends - Longitudinal	± 1"
f = Square Ends - Deviation from square (horizontal or vertical) or designated skew	± ¼"
g = Horizontal Alignment - Deviation from a straight line parallel to the centerline of member	⅜"
h = Camber - Differential between adjacent units	¼" per 10', ¾" max.
h = Camber - Differential between high and low members of the same span	¾" max.
i = Position of Dowel Holes - Deviation from plan position	¼"
Width - Differential of adjacent spans in the same structure	¾"
Bearing Area- Deviation from plane surface	1/16"
j = Local Smoothness	¼" in 10'
k = Horizontal Position of holes for Transverse Strands	± ½"
l = Vertical Position of holes for Transverse Strands	± ⅜"
m = Position of Strands	± ¼"

● Length of adjacent cored slabs shall not differ by more than ¼".

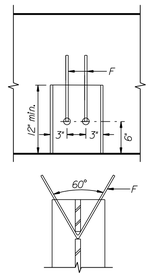
REV.				SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION	
REV.				BRIDGE MAINTENANCE	COLUMBIA, S.C.
REV.				PRECAST BARRIER DETAILS	
REVIEWED					
QUAN.					
DR.	BDP		06-10		
DES.					
	BY	CHK.	DATE		

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			NINE

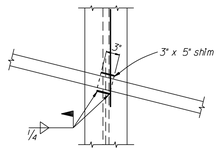
SHEET NO.	TOTAL SHEETS
7	9



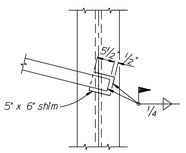
SECTION THRU CAP



PILE ANCHORAGE DETAIL



INTERIOR PILE



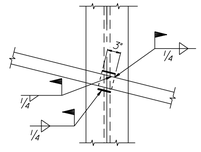
EXTERIOR PILE

DETAILS OF SHIM PLATE

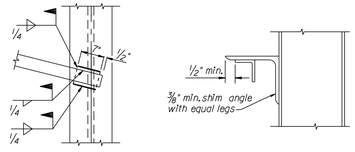
NOTE:

Shims plates are required if misalignment of piles is between $\frac{3}{8}$" and $\frac{7}{8}$"; Shim angles are required if misalignment is greater than $\frac{7}{8}$"; A $\frac{1}{2}$" Shim plate shall be used when misalignment is between $\frac{3}{8}$" and $\frac{5}{8}$"; A $\frac{3}{4}$" Shim plate shall be used when misalignment is between $\frac{5}{8}$" and $\frac{7}{8}$". Where misalignment is less than $\frac{3}{8}$", brace angles shall be hammered into approximate position and welded. All cost of adjustment due to misalignment of piles shall be at the contractor's expense. All welds on sway braces shall be ¼" continuous fillet weld.

All structural steel components shall conform to the latest ASTM Specifications AASHTO M270 Grade 36. All costs of material (shim plates, shim angles and angle iron), equipment, and labor necessary to install the pile sway bracing shall be included in the unit price bid for "Class 4000 Concrete".



INTERIOR PILE



EXTERIOR PILE

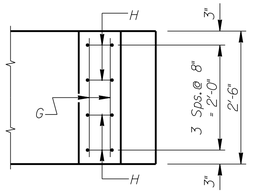
SIDE ELEVATION

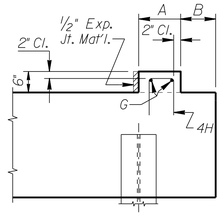
DETAILS OF SHIM ANGLE

(Non-destructive testing of welds not required, visual only.)

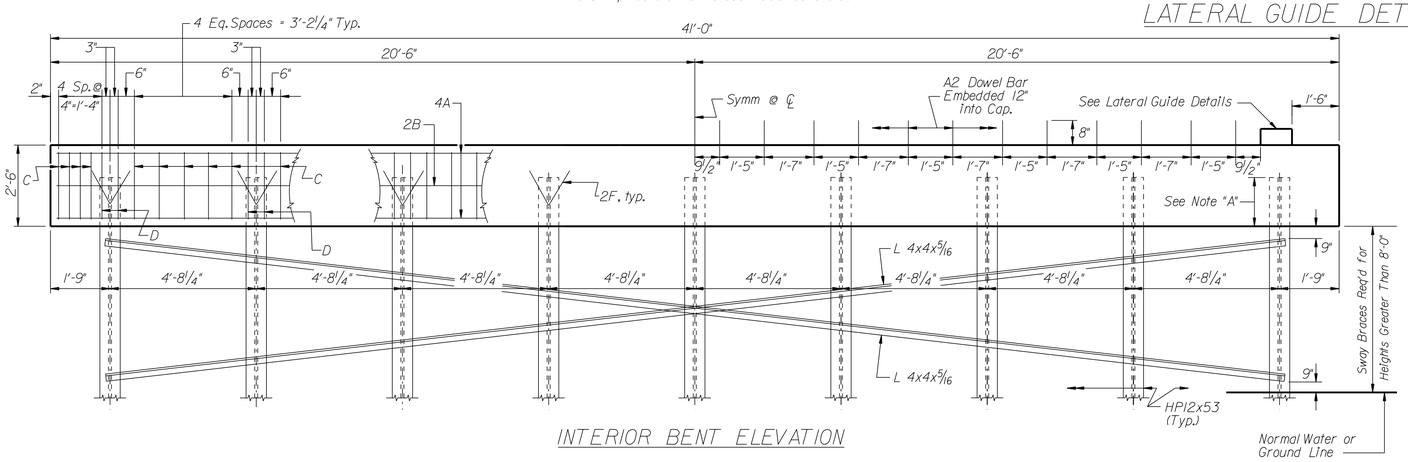
NOTES:
SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications and 2007 SCDOT Standard Specifications.

All exposed concrete edges shall be chamfered ¾" or edged with a properly made edging tool.

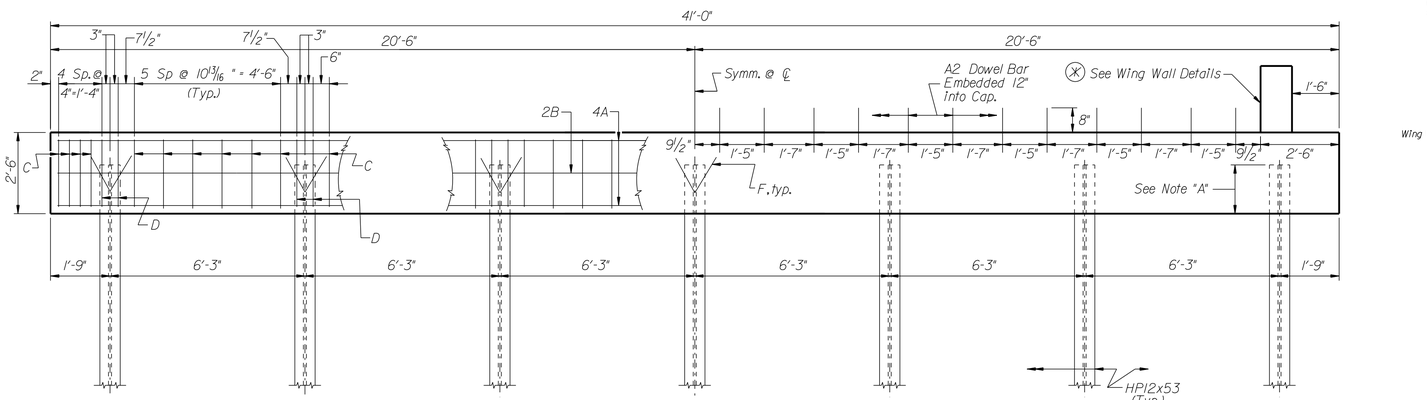




LATERAL GUIDE DETAILS



INTERIOR BENT ELEVATION



END BENT ELEVATION

Piles, sway braces, and structural steel shall receive two - 5 mil coats of aluminum epoxy mastic paint to extend from the top of piles to a minimum of 12" below ground or normal water lines. Paint before driving and touch up after driving piles.

Pile lengths shall be established by the contractor in accordance with section 711.2.4.2 of the SCDOT Standard Specifications.

PILE BEARING

(BEARING VALUES FOR DESIGN PURPOSES ONLY)

END BENT ONLY
(Required Ult. Bearing w/ 2.0 Safety Factor)

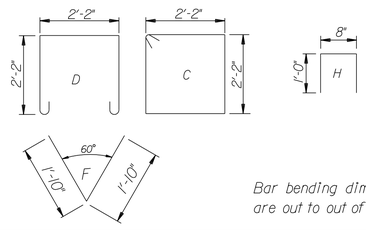
20' SPAN	86 TONS
30' SPAN	108 TONS
40' SPAN	126 TONS
50' SPAN	141 TONS
60' SPAN	159 TONS
70' SPAN	174 TONS

Note: Interior bent bearing value will be depending on the adjacent span length and the required ultimate bearing capacity will be provided when the condition is determined.

REINFORCING STEEL SCHEDULE

MARK	SIZE	D	END BENT NO. REQ'D	END BENT LENGTH	INTERIOR BENT NO. REQ'D	INTERIOR BENT LENGTH
A	9	S	8	40'-8"	8	40'-8"
B	5	S	2	40'-8"	2	40'-8"
C	5	B	44	9'-8"	48	9'-8"
D	5	B	14	7'-10"	18	7'-10"
A2	7	S	24	1'-8"	48	1'-8"
F	6	B	14	3'-8"	18	3'-8"
G	5	S	N/A	N/A	4	2'-8"
G2	5	S	16	5'-2"	N/A	N/A
H	5	B	N/A	N/A	8	2'-8"
L	5	S	36	2'-8"	N/A	N/A
M	5	S	20	3'-10"	N/A	N/A

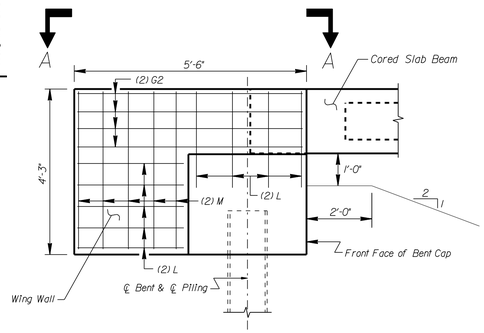
BENDING DETAILS



Bar bending dimensions are out to out of bars.

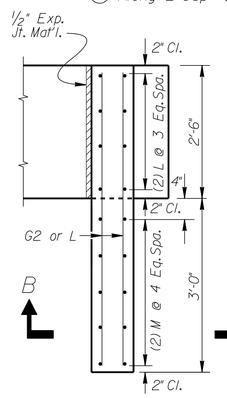
QUANTITIES - ONE BENT

ITEM	UNITS	END	INTERIOR
Concrete, Class 4000	C.Y.	10.7	9.5
Reinf. Steel (Grade 60)	LBS.	2112	1950

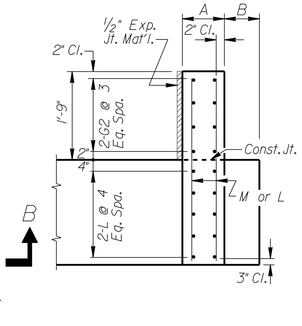


ELEVATION

⊛ Along ℄ Cap — If no skew, then A = 1'-0" and B = 1'-6". If skew, then dimensions vary.



SECTION A-A



SECTION B-B

WING WALL DETAIL

Note:
Either wing wall or lateral guide can be shifted to accommodate the ½" expansion joint material.

NOTE "A":

Piles shall be embedded a min. of 1'-0" and a max. of 1'-6" into the bent cap.

NOTE:

Prior approval is needed from the State Bridge Maintenance Engineer before using the 70' span slab unit.

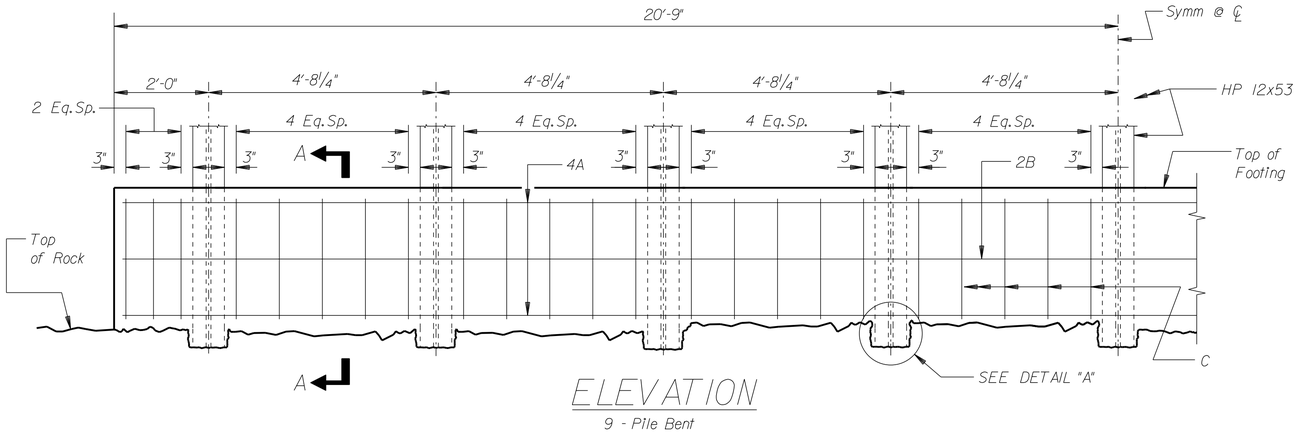
Rev.			
Rev.			
Rev.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

33' ROADWAY BENT DETAILS

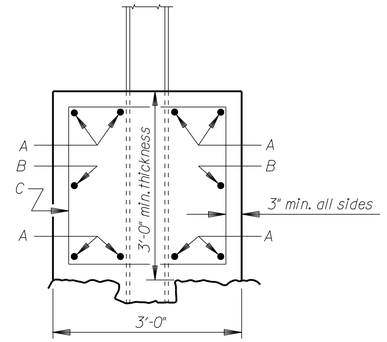
FILE NO.	ROUTE	COUNTY	DRAWING NO.
			SEVEN

SHEET NO.	TOTAL SHEETS
8	9



ELEVATION

9 - Pile Bent

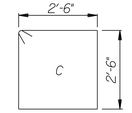


SECTION A-A

REINFORCING STEEL SCHEDULE

MARK	SIZE	D	END BENT		INTERIOR BENT	
			NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A	9	S	8	41'-2"	8	41'-2"
B	5	S	2	41'-2"	2	41'-2"
C	5	B	42	10'-9"	46	10'-9"

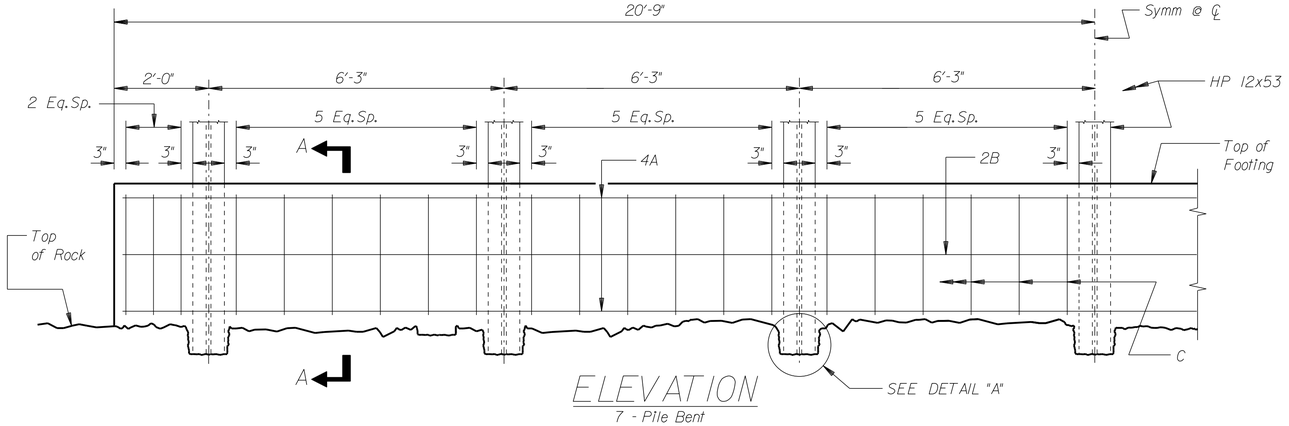
BENDING DETAILS



Bar bending dimensions are out to out of bars.

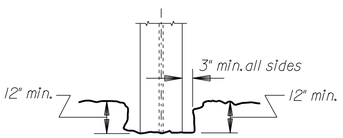
QUANTITIES - ONE FOOTING

ITEM	UNITS	END	INTERIOR
Concrete, Class 4000	C.Y.	13.8	13.8
Reinf. Steel (Grade 60)	LBS.	1677	1722



ELEVATION

7 - Pile Bent



DETAIL "A"

Rev.			
Rev.			
Rev.	BC		02-12
REVIEWED			
QUAN.			
DR.	BDP		06-10
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
BRIDGE MAINTENANCE COLUMBIA, S.C.

ROCK FOOTING DETAILS

FILE NO.	ROUTE	COUNTY	DRAWING NO.
			EIGHT