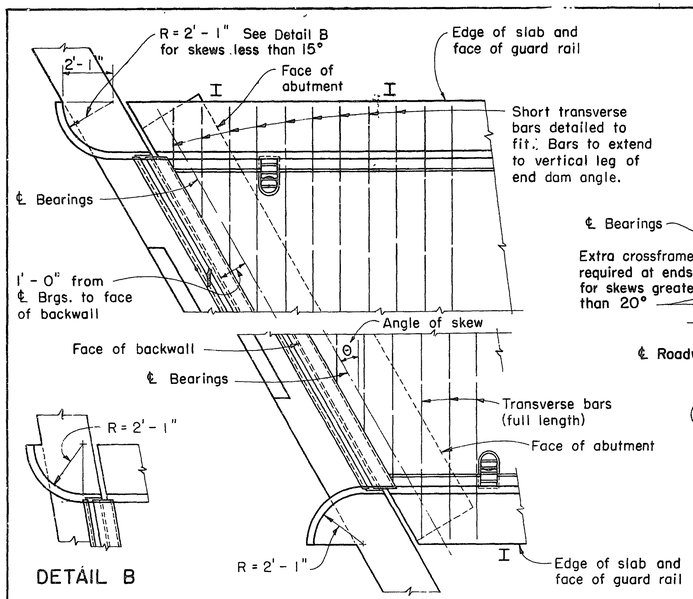
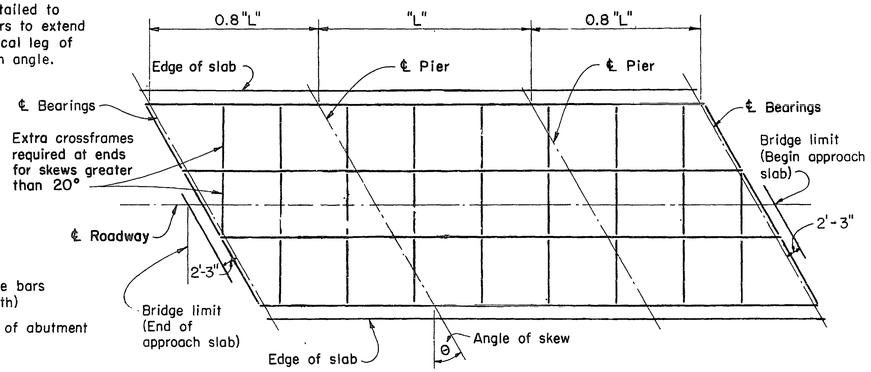


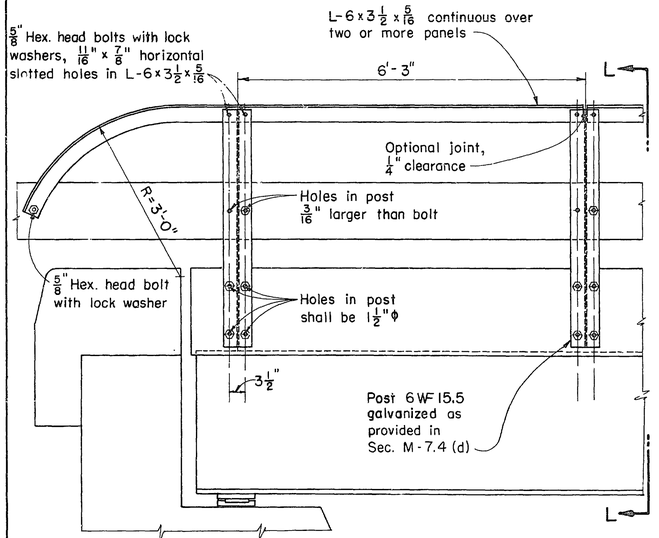
DETAIL B

PART PLAN OF SKEWED BRIDGE

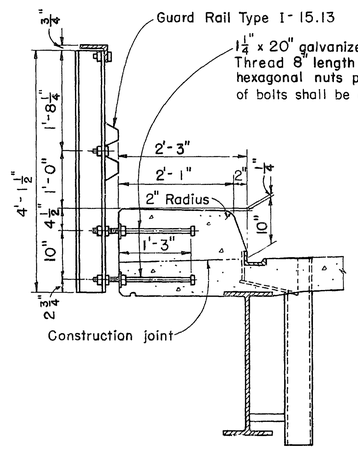


OUTLINE OF SKEWED STEEL FRAMING

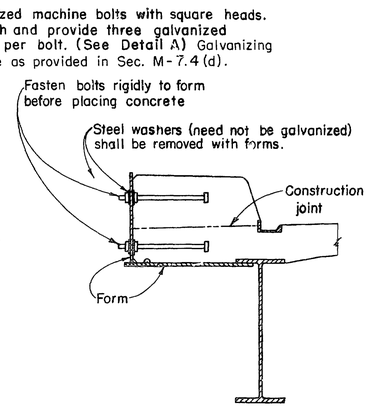
Bars shall be placed as shown in case of skew greater than 15°. Bars shall be placed parallel to abutments if skew is 15° or less.



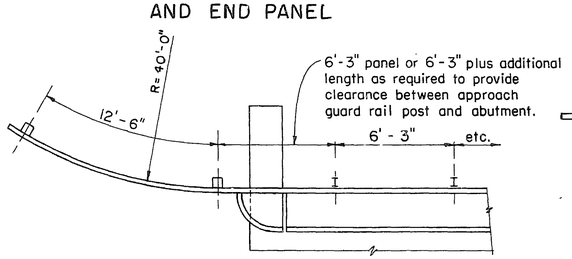
ELEVATION OF RAILING POSTS AND END PANEL



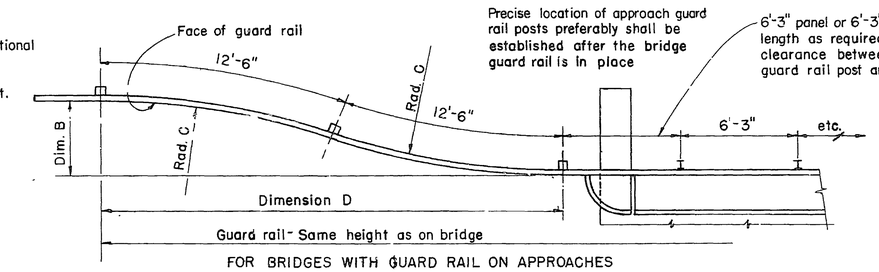
SECTION L-L



DETAIL A



FOR BRIDGES WITHOUT GUARD RAIL ON APPROACHES



FOR BRIDGES WITH GUARD RAIL ON APPROACHES

GUARD RAIL TREATMENT

Dimension B	Radius C	Dimension D
1'-9"	89.50'	24.92'
3'-9"	41.32'	24.62'
4'-9"	32.50'	24.38'
5'-9"	26.69'	24.10'

GENERAL: This set of drawings (sheets No. 1 through 6) provides design and construction details. The project plans for each structure will indicate span lengths, roadway width, load frequency, skew, curve and superelevation (if any), elevations, wearing surface, substructure details, estimated quantities, reinforcing steel list, and other necessary information including special notes and details.

REFERENCE will be made on the project plans to sheets 1, 2 and 3 of this set of drawings and to that one of sheets 4 through 6 which applies for the specified roadway width. Reference also will be made to Standard Drawing RB-1-55 if rockers and bolsters are to be provided.

DESIGN SPECIFICATIONS: This set of standard drawings conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

ADDITIONAL INTERIOR SPANS, similar to the middle span, may be incorporated in the structure without change in size of beams. In case of added spans, the project plans will show revised details and estimated quantities, and will describe the beam splice welding procedure.

SKEW: These drawings may be used for skewed bridges with the following modifications:

A special list of reinforcing bars will be provided.

Additional intermediate crossframes will be provided if the skew exceeds 20°.

Tabulated quantities will be increased approximately as follows:

Structural steel: Add 5600 lbs. x (sec θ-1) for 24' roadway
Add 7200 lbs. x (sec θ-1) for 28' roadway
Add 7600 lbs. x (sec θ-1) for 30' roadway
Railings: Add 2.25' x 4 x (sec θ-1) to total linear feet.
Class "C" concrete: No adjustment required.

MONOLITHIC WEARING SURFACE shall be 1/2" for a Load Frequency of CF = 30, 3/4" for CF = 130, and 1" for CF = 400 and CF = 2000. The concrete quantities have been computed on this basis.

BEAM SPLICE WELDING PROCEDURE: (For 3 spans)

1. Raise the abutment ends of the beams the tabulated amount (R).
2. Butt-weld the beam flanges and web, using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.
3. Weld the bottom and top moment plates.
4. Lower the beam ends to final position.

DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade

BEARING DEVICES: Plate bearings, as shown on sheet 3, shall be provided if the sum of the spans does not exceed 200 feet. Bolster and rocker bearings, as shown on Standard Drawing RB-1-55, shall be provided if the sum of the spans exceeds 200 feet. For a structure with plate bearings, on a gradient of 1 per cent or more, the plate at the fixed bearings and the upper plate of the expansion bearings shall be beveled to provide horizontal bearings. The tabulated quantity of structural steel for three-span bridges includes the number of pounds of steel rockers and bolsters and of bearing pads for 64'-80'-64' 68'-85'-68', & 72'-90'-72' bridges, and the number of pounds of steel and cast leaded bronze plates and of bearing pads for the shorter bridges.

WELDING shall be Class "A", except as shown. Any welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B>

CAMBER: Beams shall be pre-cambered an amount equal to the sum of the tabulated dead load deflection plus or minus any curvature due to road grade. Where this sum is 3/4" to 1" the required camber shall be 1", and if greater than 1", the required camber shall be same as the sum. No camber will be required if the sum is 3/4" or less.

CONCRETE shall be Class "C".

DECK PLACING PROCEDURE: In placing the deck concrete, construction joints will be permitted, parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of previously-placed deck concrete, the sequence of pours shall be upgrade, starting at the lowest end (or ends) on an inclined grade or vertical curve (or at an intermediate low point for a sagged vertical curve).

RAILING: The transition between the guard rail height on the bridge and on the approaches shall be made in a distance of 100 feet from the end of each curved panel.

The guard rail and hand rail shall be painted white in accordance with Section 1-15.07 of the Construction and Material Specifications. The galvanized posts and anchor bolts shall not be painted.

The tabulated railing quantity is for the length of railing between the bridge limits. The price per linear foot of railing includes payment for guard rail, hand rail, posts, anchors, connections, galvanizing and painting, and it also includes payment for those curved portions of the hand rail which project beyond the above stated limits.

BAR SIZE for reinforcing steel is indicated in the bar mark. The first digit indicates the bar size number. For example, S601 is a No. 6 size bar.

REVISIONS
3-1-58
2-2-59

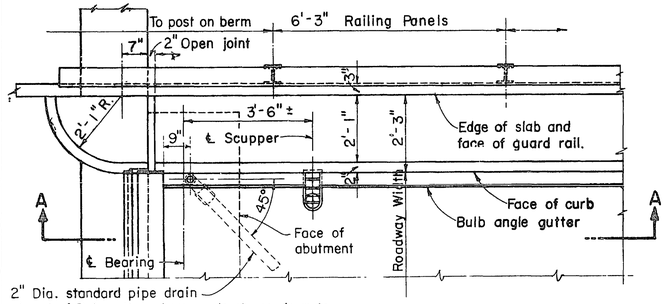
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2'-3" SAFETY CURBS
MIDDLE SPAN 30 FEET TO 90 FEET
LOAD FREQUENCY:
CF = 30, CF = 130, CF = 400, CF = 2000

APPROVED: [signature] ENGINEER OF BRIDGES
DATE: 12-3-56

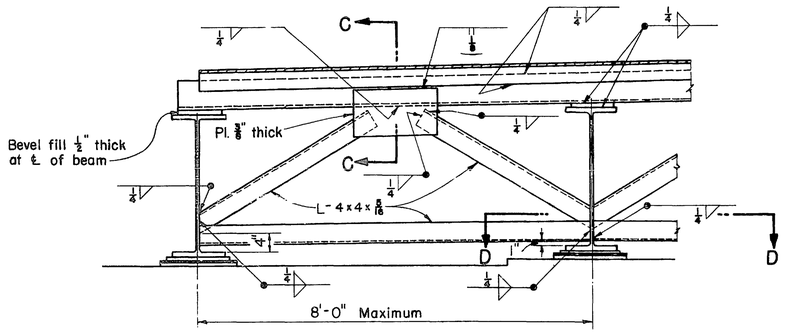
DRAWING NUMBER CSB-2-56

PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO 1 OF 6 SHEETS
AJC RG CFB KED WHR	JDJ JVP	GEM	CSD BFG CHA AJF	



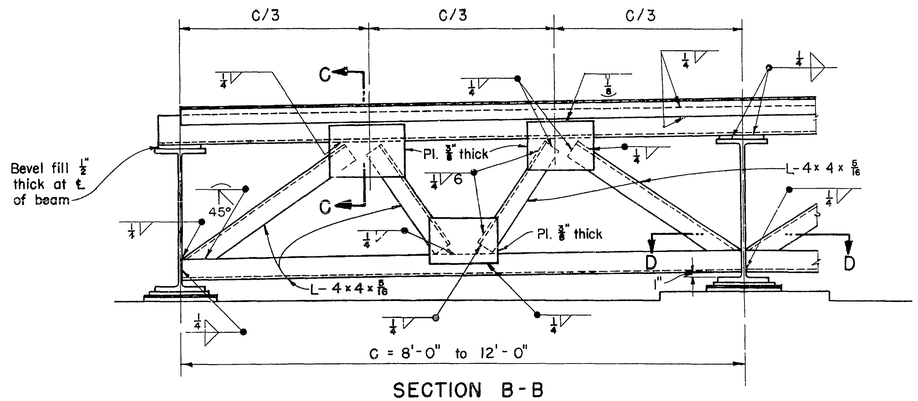
2" Dia. standard pipe drain at end of B.A. gutter where grade slopes down to end dam. Use standard elbow and coupling. A welded bend may be used where space does not permit use of standard elbow.

PART PLAN AT ABUTMENT



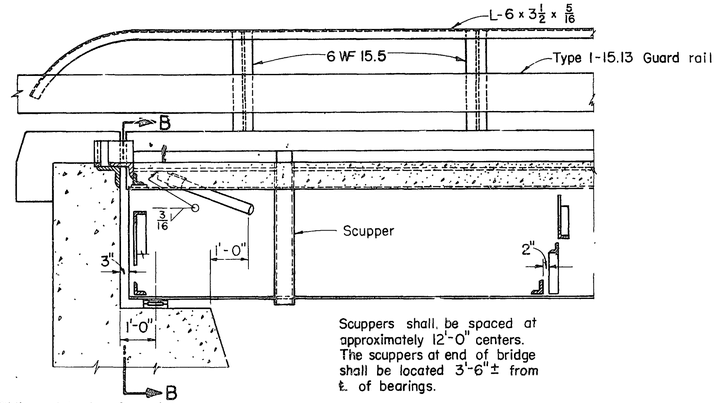
SECTION B-B

For beam spacing of 8'-0" or less, measured parallel to end dam.



SECTION B-B

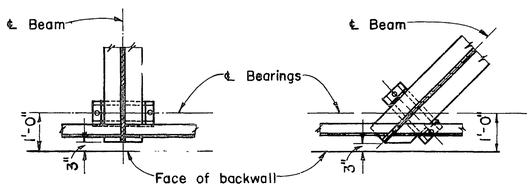
For beam spacing of 8'-0" to 12'-0", measured parallel to end dam.



Sliding plate bearings shown. Rockers required for superstructures having a total length of more than 200 feet.

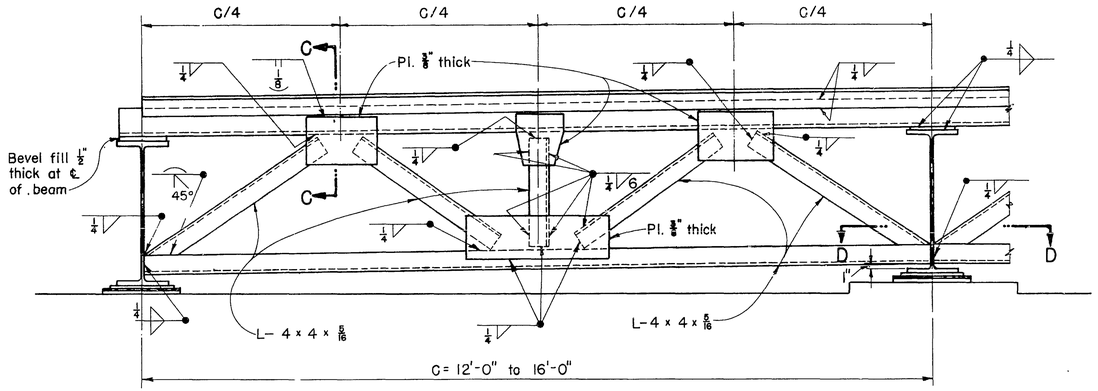
Scuppers shall be spaced at approximately 12'-0" centers. The scuppers at end of bridge shall be located 3'-6"± from ℄ of bearings.

SECTION A-A



FOR SQUARE BRIDGES FOR SKEWED BRIDGES

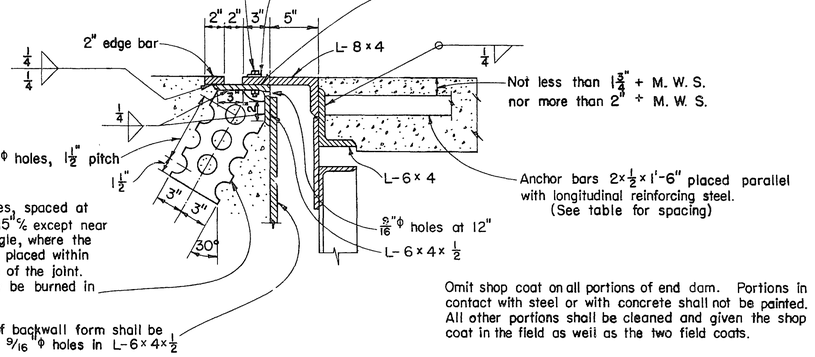
SECTION D-D



SECTION B-B

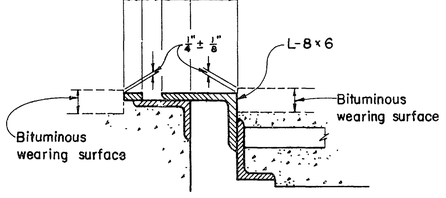
For beam spacing of 12'-0" to 16'-0", measured parallel to end dam.

A welded butt joint in the end dam, along the centerline of roadway, will be required for that portion of the end dam attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the joints at the apex of the crown. These shall be closely butted but shall not be welded.



SECTION C-C

SHOWING ROADWAY END DAM FOR MONOLITHIC WEARING SURFACE



SECTION C-C

SHOWING ROADWAY END DAM FOR BITUMINOUS WEARING SURFACE
Same as SECTION C-C for monolithic wearing surface except as shown.

ROADWAY END DAM DATA				
Member	Thickness or spacing of member for load frequency of:			
	CF = 30	CF=130	CF=400	CF=2000
Main angle: 8 x 4 or 8 x 6	5/8"	3/4"	7/8"	1"
2" edge bar				
2 x ½ x 1'-6" anchor bars - Spacing	18" Sp.	18" Sp.	15" Sp.	12" Sp.
Supporting angle: 6 x 4	3/8"	1/2"	5/8"	3/4"

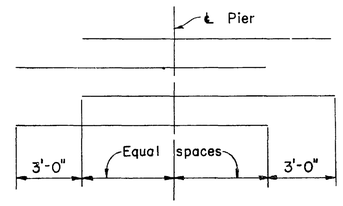
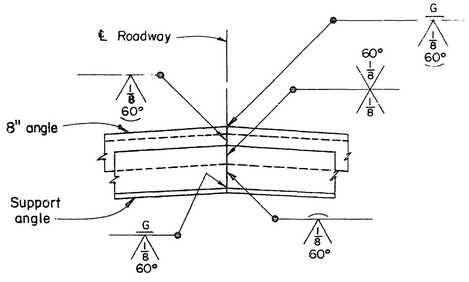
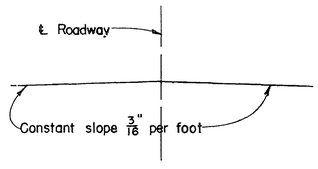


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS



WELDED BUTT JOINT IN SUPERSTRUCTURE END DAM ANGLES AT ℄ OF ROADWAY



BRIDGE ROADWAY CROWN

MICROFILMED
MAR 09 1979

REVISIONS
3-1-58
2-2-59

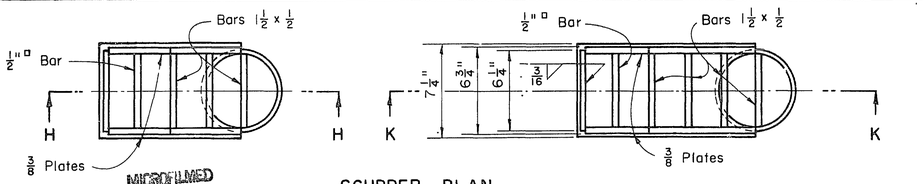
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2'-3" SAFETY CURBS
MIDDLE SPAN 30 FEET TO 90 FEET
LOAD FREQUENCY:
CF = 30, CF= 30, CF= 400, CF = 2000

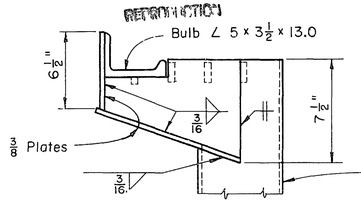
APPROVED:
DATE: 12-3-56 — ENGINEER OF BRIDGES

DRAWING NO. CSB-2-56

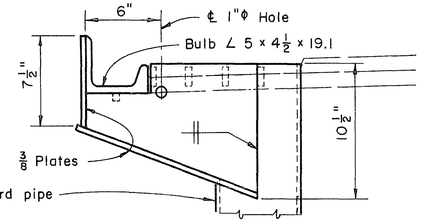
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO. 2 OF 6 SHEETS
GEM RG CFB KED WHB	JDJ JVP	AJC	CSD BFG CHA AJF	



SCUPPER PLAN

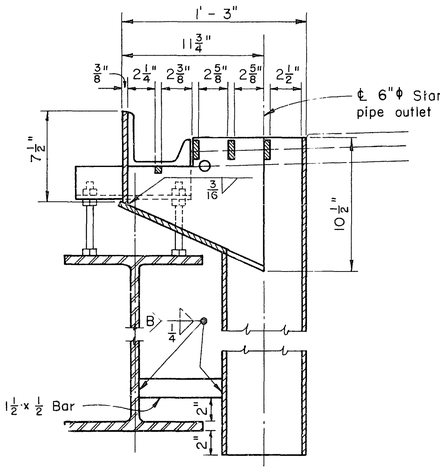


For monolithic wearing surface and beam flanges $12\frac{1}{8}$" or less.



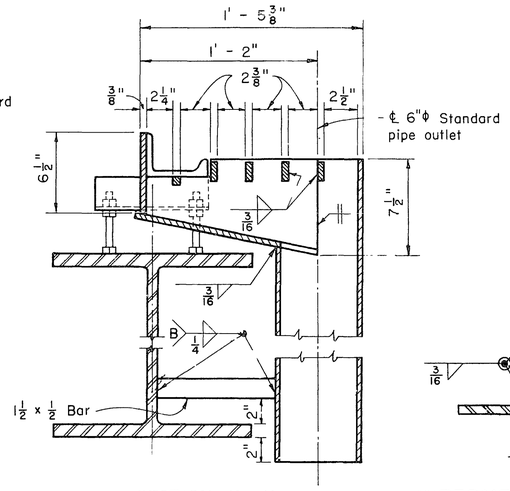
For bituminous wearing surface and beam flanges over $12\frac{1}{8}$".

SCUPPER ELEVATION



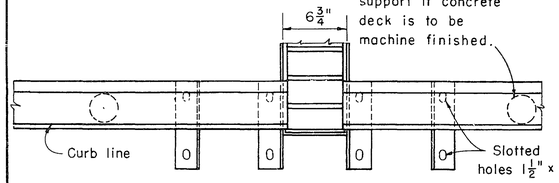
SECTION H - H

For bituminous wearing surface and beam flanges $12\frac{1}{8}$" or less.

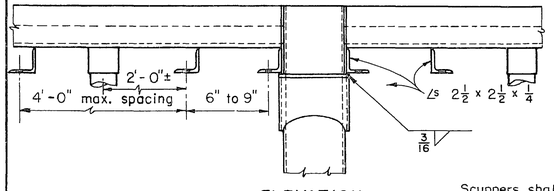


SECTION K - K

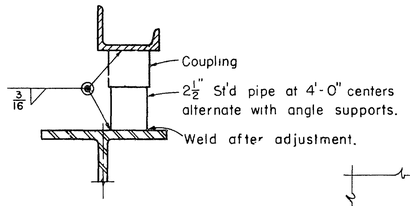
For monolithic wearing surface and beam flanges over $12\frac{1}{8}$".



PART PLAN

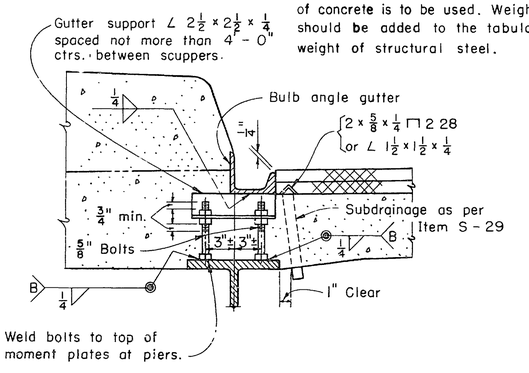


ELEVATION



INTERMEDIATE GUTTER SUPPORT

For decks on which machine finishing of concrete is to be used. Weight should be added to the tabulated weight of structural steel.

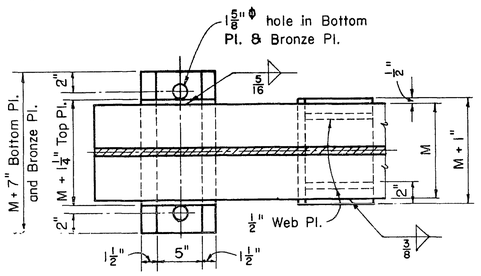


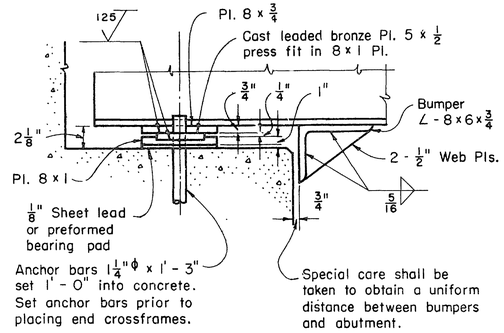
GUTTER SUPPORT

Scuppers shall be spaced at approximately 12' - 0" except as required to meet clearance requirements. Scupper must clear crossframes by at least 6" and piers by at least 5' - 0".

Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.

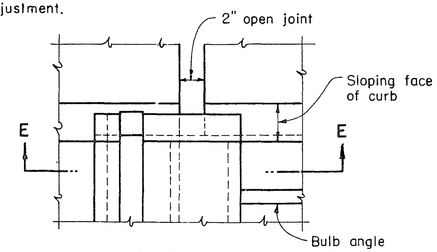
GUTTER AND SCUPPER DETAILS



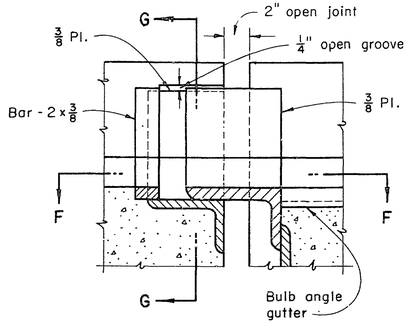


ABUTMENT BEARING PLATES

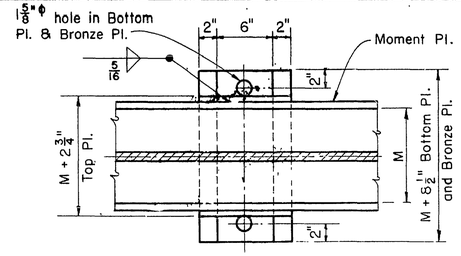
Bumper angles shall be used only if called for on project plans.

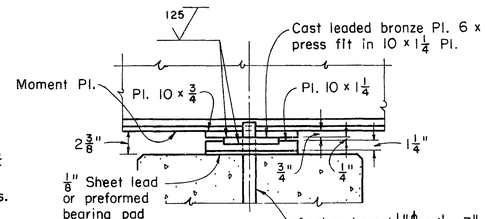


PART PLAN

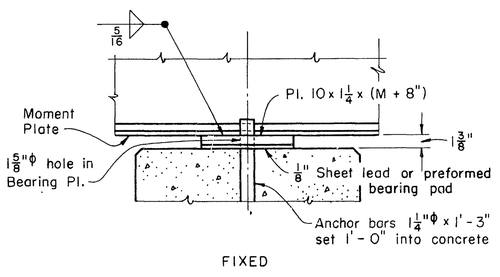


SECTION E - E



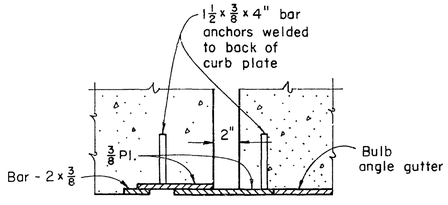


EXPANSION

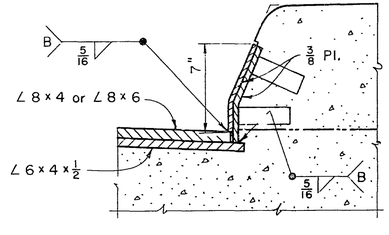


FIXED

PIER BEARING PLATES

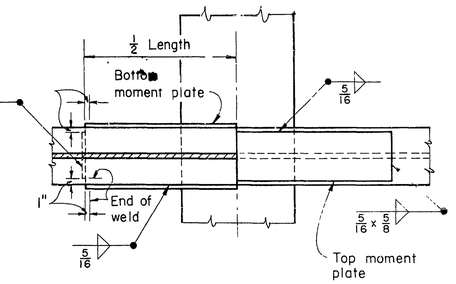


SECTION F - F

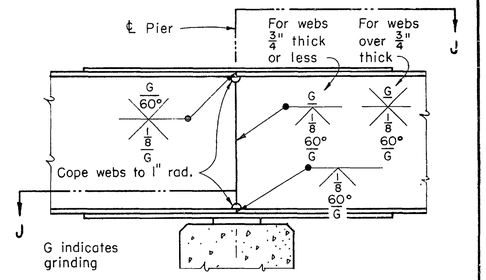


SECTION G - G

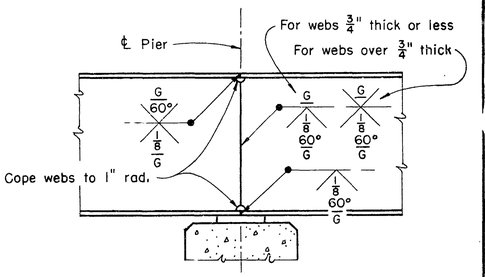
CURB PLATE DETAILS



SECTION J - J



WITH MOMENT PLATES



WITHOUT MOMENT PLATES

BEAM SPLICE DETAILS

REVISIONS
3-1-58
2-2-59

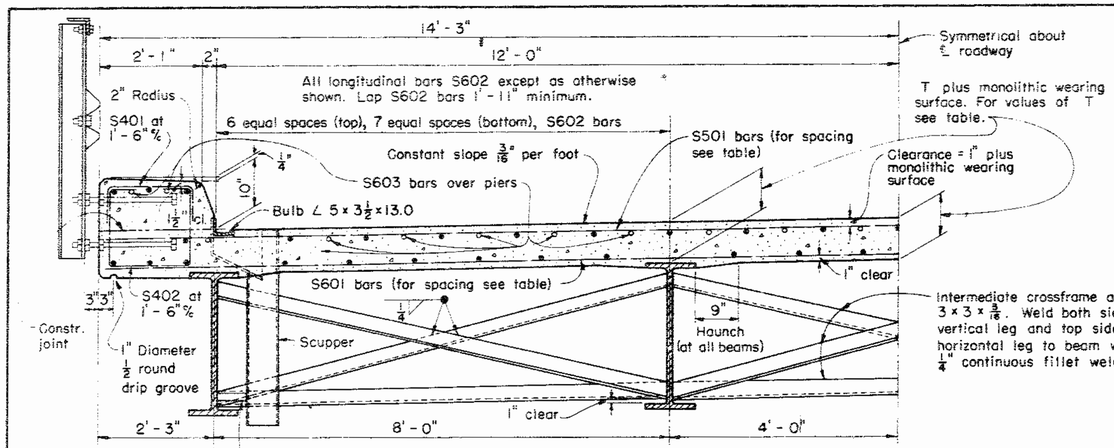
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2'-3" SAFETY CURBS
MIDDLE SPAN 30 FEET TO 90 FEET
LOAD FREQUENCY:
CF = 30, CF = 130, CF = 400, CF = 2000

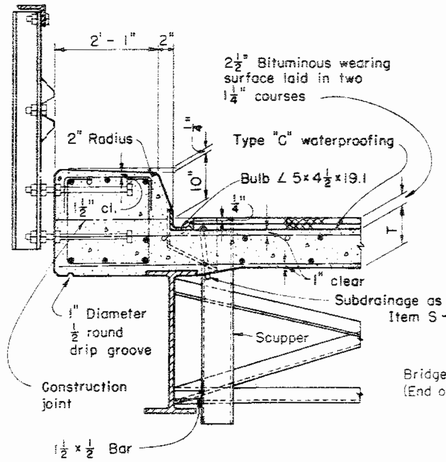
APPROVED:
DATE: 12-3-56 — L.M. Overman, ENGINEER OF BRIDGES

DRAWING NUMBER: CSB-2-56

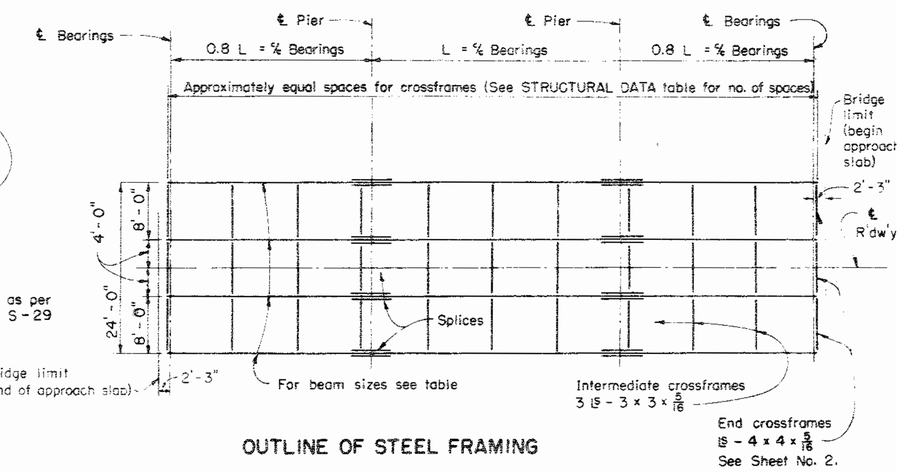
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO. 3 OF 6 SHEETS
GEM RG GFB KED JVP WHR	JVP	AJC NEY	GSD BFG CHA AJF	



HALF TRANSVERSE SECTION
WITH MONOLITHIC WEARING SURFACE



PART TRANSVERSE SECTION
WITH BITUMINOUS WEARING SURFACE



OUTLINE OF STEEL FRAMING

RECOMMENDED
MAR 06 1959
STANDARDIZATION

STRUCTURAL DATA — REINFORCING STEEL — ESTIMATED QUANTITIES (3 SPANS) — DESIGN DATA

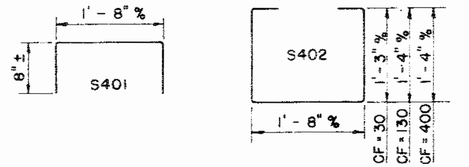
Load Frequency and Dim. T	Middle Span L Feet	End Span 0.8L Feet	Beam Size	Moment Plate Size: Top Plate	Moment Plate Size: Bottom Plate	No. of spaces for crossframes (3 spans)	No. of full Guard Rail panels each side	D. L. Deflect. (Inches)	Raise ends of beams R (Inches)	S501 Straight: No.	S601 Straight: No.	S602 Straight: No.	S602 Straight: Length	S603 Straight: No.	S603 Straight: Length	S401 Bent: No.	S402 Bent: No.	Reinforcing Steel (Lbs.)	Structural Steel (Lbs.): Monolithic Wear. Surf.	Structural Steel (Lbs.): Separate Wear. Surf.	Class "C" Concrete (Cu. Yd.): Monolithic Wear. Surf.	Class "C" Concrete (Cu. Yd.): Separate Wear. Surf.	Type "C" Water-proofing (Sq. Yd.)	Railing both sides (Lin. Ft.)	Bitum. Wearing Surface (Cu. Yd.)	Total Unmodified Superstructure Reactions for Designing Substructures (Lbs.): Abutment D. L.	Abutment L. L.	Abutment * Imp.	Pier D. L.	Pier L. L.	Pier * Imp.
CF = 30, T = 6 1/2"	30	24	18WF55	6 x 3/8 x 5'-9"	9 x 3/8 x 5'-9"	8	12	1/8	—	119	119	147	27' - 9"	12' - 0"	106	106		15981	30300	31500	60	59	208	165	14	38800	63400	19000	130700	88800	24800
	32.5	26	18WF60	6 x 3/8 x 6'-3"	9 x 3/8 x 6'-3"	8	13	1/8	—	129	129	147	29' - 9"	13' - 0"	116	116		17256	33700	35000	65	64	225	178	15	42200	65300	19600	142200	91600	24900
	35	28	21WF62	6 3/4 x 3/8 x 6'-6"	9 3/4 x 3/8 x 6'-6"	10	14	1/8	—	138	138	147	32' - 0"	14' - 0"	124	124		18503	37700	39000	70	69	242	191	17	45500	67700	20300	153500	94100	25000
	37.5	30	21WF68	6 3/4 x 3/8 x 7'-3"	9 3/4 x 3/8 x 7'-3"	10	15	1/8	—	148	148	147	34' - 3"	15' - 0"	132	132		19823	42000	43300	75	74	259	204	18	49000	70100	21000	165300	96000	24900
	40	32	24WF76	None	None	10	16	1/8	—	158	158	147	36' - 3"	16' - 0"	142	142		21099	46300	47800	80	79	276	217	19	52700	74700	19800	177600	97000	24600
	42.5	34	24WF84	None	None	12	17	1/4	3/8	168	168	147	38' - 6"	17' - 0"	150	150		22418	53400	54900	85	84	293	230	20	56400	75700	19600	190100	98800	24500
	45	36	24WF84	7 1/2 x 3/8 x 6'-9"	10 1/2 x 3/8 x 6'-9"	12	18	1/4	1/2	177	177	196	31' - 0"	18' - 0"	158	158		23795	57000	58500	90	89	310	243	21	59700	76800	19500	201300	101500	24600
	50	40	27WF94	8 1/2 x 3/8 x 7'-3"	11 1/2 x 7/16 x 7'-3"	12	20	1/4	1/2	197	197	196	34' - 3"	20' - 0"	176	176		26407	67500	69300	99	99	344	269	24	66900	79000	19300	225700	107900	25100
	55	44	27WF102	8 1/2 x 3/8 x 9'-6"	11 1/2 x 7/16 x 9'-6"	14	22	3/8	3/4	216	216	196	37' - 6"	22' - 0"	194	194		28950	79200	81100	109	109	378	295	26	74100	81200	19100	250000	116100	25900
	60	48	30WF108	9 x 3/8 x 11'-0"	12 x 7/16 x 11'-0"	14	24	3/8	1	236	236	245	33' - 0"	24' - 0"	210	210		31699	89300	91400	119	118	412	321	28	81300	83400	18900	274100	127700	27400
	65	52	30WF124	9 x 3/8 x 11'-3"	12 x 7/16 x 11'-3"	16	27	1/2	1 1/4	255	255	245	35' - 6"	26' - 0"	228	228		34203	107500	109800	130	129	447	347	31	89300	85600	18700	301200	138500	26600
	70	56	33WF130	10 x 7/16 x 12'-0"	13 x 1/2 x 12'-0"	16	29	1/2	1 3/8	275	275	245	38' - 3"	28' - 0"	246	246		36872	120000	122400	139	138	481	373	33	96700	87800	18500	326000	148400	29600
	75	60	33WF141	10 x 7/16 x 13'-3"	13 x 1/2 x 13'-3"	16	31	5/8	1 3/4	294	294	294	34' - 3"	30' - 0"	262	262		39494	136300	136900	149	148	515	399	35	104600	90000	18400	352600	157000	30200
	80	64	33WF152	10 x 9/16 x 14'-6"	13 x 1/2 x 14'-6"	16	33	3/4	2 1/4	314	314	294	36' - 6"	32' - 0"	280	280		42144	157200	160000	160	159	549	425	38	112600	92200	18200	379700	165800	30800
	85	68	36WF160	10 1/2 x 9/16 x 15'-3"	13 1/2 x 1/2 x 15'-3"	18	35	7/8	2 1/2	334	334	294	38' - 9"	34' - 0"	298	298		44794	174100	177000	169	168	583	451	40	120400	94400	18100	406100	175500	31600
	90	72	36WF182	10 1/2 x 3/16 x 15'-3"	13 1/2 x 1/2 x 15'-3"	18	37	7/8	3 1/8	353	353	343	35' - 3"	36' - 0"	316	316		47426	204400	207400	180	179	617	447	42	129900	96600	18000	438000	184600	32200
CF = 130, T = 7"	30	24	21WF62	6 3/4 x 3/8 x 5'-9"	9 3/4 x 3/8 x 5'-9"	8	12	1/8	—	136	136	147	27' - 9"	12' - 0"	106	106		17212	33200	34400	65	63	208	165	14	40600	63400	19000	136800	88800	24800
	32.5	26	21WF68	6 3/4 x 3/8 x 6'-9"	9 3/4 x 3/8 x 6'-9"	8	13	1/8	—	147	147	147	29' - 9"	13' - 0"	116	116		18560	37200	38500	71	68	225	178	15	44200	65300	19600	149000	91600	24900
	35	28	24WF76	None	None	10	14	1/8	—	158	158	147	32' - 0"	14' - 0"	124	124		19951	42500	43800	76	73	242	191	17	47900	67700	20300	161600	94100	25000
	37.5	30	24WF76	7 1/2 x 3/8 x 8'-9"	10 1/2 x 3/8 x 8'-9"	10	15	1/8	—	169	169	147	34' - 3"	15' - 0"	132	132		21344	46200	47600	81	79	259	204	18	51300	70100	21000	173100	96000	24900
	40	32	24WF94	None	None	10	16	1/8	—	180	180	147	36' - 3"	16' - 0"	142	142		22691	54400	55900	87	84	276	217	19	55600	74700	19800	187500	97000	24600
	42.5	34	27WF94	None	None	12	17	1/8	—	192	192	147	38' - 6"	17' - 0"	150	150		24157	58500	60100	92	89	293	230	20	59100	75700	19600	199300	98800	24500
	45	36	24WF100	10 1/2 x 7/16 x 8'-0"	13 1/2 x 1/2 x 8'-0"	12	18	1/4	3/8	203	203	196	31' - 0"	18' - 0"	158	158		25677	66500	68100	97	94	310	243	21	62900	76800	19500	212100	101500	24600
	50	40	30WF108	9 x 3/8 x 8'-6"	12 x 7/16 x 8'-6"	12	20	1/4	1/2	225	225	196	34' - 3"	20' - 0"	176	176		28435	75900	77700	108	105	344	269	24	70300	79000	19300	237200	107900	25100
	55	44	30WF116	9 x 3/8 x 10'-6"	12 x 7/16 x 10'-6"	14	22	1/4	5/8	247	247	196	37' - 6"	22' - 0"	194	194		31193	88300	90200	119	115	378	295	26	77900	81200	19100	262700	116100	25900
	60	48	30WF132	9 x 3/8 x 11'-9"	12 x 7/16 x 11'-9"	14	24	3/8	7/8	270	270	245	33' - 0"	24' - 0"	210	210		34161	105100	107300	130	126	412	321	28	86100	83400	18900	290500	127700	27400
	65	52	33WF141	10 x 7/16 x 12'-0"	13 x 1/2 x 12'-0"	16	27	5/8	1	292	292	245	35' - 6"	26' - 0"	228	228		36881	120900	123100	141	136	447	347	31	94000	85600	18700	317000	138500	28600
	70	56	33WF152	10 x 7/16 x 13'-6"	13 x 1/2 x 13'-6"	16	29	1/2	1 3/8	314	314	245	38' - 3"	28' - 0"	246	246		39695	137100	139600	152	147	481	373	33	102100	87800	18500	344500	148400	29600
	75	60	36WF160	10 1/2 x 7/16 x 14'-6"	13 1/2 x 1/2 x 14'-6"	16	31	1/2	1 1/2	336	336	294	34' - 3"	30' - 0"	262	262		42535	152500	155100	163	157	515	399	35	110200	90000	18400	371500	157000	30200
	80	64	36WF182	10 1/2 x 1/2 x 15'-0"	13 1/2 x 1/2 x 15'-0"	16	33	5/8	2	359	359	294	36' - 6"	32' - 0"	280	280		45402	184000	186800	174	168	549	425	38	119600	92200	18200	403300	165800	30800
	85	68	36WF194	10 1/2 x 5/8 x 16'-6"	13 1/2 x 1/2 x 16'-6"	18	35	3/4	2 1/2	382	382	294	38' - 9"	34' - 0"	298	298		48268	206900	209700	185	179	583	451	40	128300	94400	18100	432700	175500	31600
	90	72	36WF230	15 x 5/8 x 15'-0"	18 x 11/16 x 15'-0"	18	37	3/4	3	404	404	343	35' - 3"	36' - 0"	316	316		51118	255200	258500	196	189	617	477	42	139700	96600	18000	471000	184600	32200
CF = 400, T = 7 1/2"	30	24	21WF73	6 3/4 x 3/8 x 7'-0"	9 3/4 x 3/8 x 7'-0"	8	12	1/8	—	159	159	147	27' - 9"	12' - 0"	106	106		18861	37500	38600	71	67	208	165	14	43000	63400	19000	145100	88800	24800
	32.5	26	24WF76	7 1/2 x 3/8 x 7'-3"	10 1/2 x 3/8 x 7'-3"	8	13	1/8	—	172	172	147	29' - 9"	13' - 0"	116	116		20352	40800	42100	76	72	225	178	*15	46700	65300	19600	157500	91600	24900
	35	28	24WF84	7 1/2 x 3/8 x 8'-0"	10 1/2 x 3/8 x 8'-0"	10	14	1/8	—	185	185	147	32' - 0"	14' - 0"	124	124		21887	47400	48700	82	78	242	191	17	50600	67700	20300	170800	94100	25000
	37.5	30	24WF94	None	None	10	15	1/8	—	198	198	147	34' - 3"	15' - 0"	132	132		23422	52200	53700	88	83	259	204	18	54700	70100	21000	184500	96000	24900
	40	32	27WF102	None	None	10	16	1/8	—	211	211	147	36' - 3"	16' - 0"	142	142		24914	58400	59900	94	89	276	217	19	58700	74700	19800	198000	97000	24600
	42.5	34	24WF110	None	None	12	17	1/8	3/8	224	224	147	38' - 6"	17' - 0"	150	150		26451	66200	67800	100	94	293	230	20	62800	75700	19600	211800	98800	24500
	45	36	30WF108	None	None	12	18	1/8	3/8	237	237	196	31' - 0"	18' - 0"	158	158		28115	68400	70100	105	99	310	243	21	66400	76800	19500	223900	101500	24600
	50	40	30WF124	9 x 3/8 x 9'-6"	12 x 7/16 x 9'-6"	12	20	1/8	3/8	263	263	196	34' - 3"	20' - 0"	176	176		31158	85000	87000	117	111	344	269	24	74700	79000	19300	252000	107900	25100
	55	44	33WF130	10 x 7/16 x 10'-9"	13 x 1/2 x 10'-9"	14	22	1/4	1/2	289	289	196	37' - 6"	22' - 0"	194	194		34203	97900	99900	129	122	378	295	26	82600	81200	19100	278500	116100	25900
	60	48	33WF152	10 x 7/16 x 11'-6"	13 x 1/2 x 11'-6"	14	24	1/4	3/4	315	315	245	33' - 0"	24' - 0"	210	210		37386	119100	121300	141	133	412	321	28	91700	83400	18900	309100	127700	27400
	65	52	36WF160	10 1/2 x 7/16 x 12'-9"	13 1/2 x 1/2 x 12'-9"	16	27	5/8	7/8	341	341	245	35' - 6"	26' - 0"	228	228		40394	135000	137200	152	144	447	347	31	99900	85600	18700	337000	138500	28600
	70	56	36WF170	10 1/2 x 7/16 x 14'-6"	13 1/2 x 1/2 x 14'-6"	16	29	5/8	1 1/8	367	367	245	38' - 3"	28' - 0"	246	246		43494	151500	154100	164	155	481	373	33	108400	87800	18500	365700	148400	29600
	75	60	36WF194	10 1/2 x 1/2 x 15'-0"	13 1/2 x 1/2 x 15'-0"	16	31	1/2	1 1/2	393	393	294	34' - 3"	30' - 0"	262	262		46620	180200	182900	176	167	515	399	35	118300	90000	18400	399000	157000	30200
	80	64	33WF220	14 x 5/8 x 16'-0"	17 x 11/16 x 16'-0"	16	33	5/8	2 1/4	419	419	294	36' - 6"	32' - 0"	280	280		49702	221600	224500	188	178	549	425	38	128700	92200	18200	434000	165800	30800
	85	68	36WF230	15 x 5/8 x 16'-6"	18 x 11/16 x 16'-6"	18	35	5/8	2 3/8	445	445	294	38' - 9"	34' - 0"	298	298		52784	244600	247600	200	189	583	451	40	137700	94400	18100	464600	175500	31600
	90	72	36WF245	15 x 5/8 x 18'-0"	18 x 11/16 x 18'-0"	18	37	3/4	3	471	471	343	35' - 3"	36' - 0"	316	316		55920	272400	275600	212	200	617	477	42	147400	96600	18000	497200	184600	32200

BEARINGS

Load Frequency	L	0.8 L	Abut.	Pier	
CF = 30	80	64	R-75	R-150	B-150
	85	68	R-75	R-150	B-150
	90	72	R-75	R-175	B-175
CF = 130	80	64	R-75	R-175	B-175
	85	68	R-75	R-175	B-175
	90	72	R-100	R-200	B-200
CF = 400	80	64	R-100	R-200	B-200
	85	68	R-100	R-200	B-200
	90	72	R-100	R-225	B-225
CF = 30, CF = 130 & CF = 400	All Other Spans		Sliding Plates	Sliding Plates	Fixed Plates

For details of R-75, R-100, R-150, R-175, R-200, R-225, B-150, B-175, B-200 and B-225 see Standard Drawing RB-1-55.

* Impact values should be used only for such substructure elements as pile caps, pier caps and columns; not for such as pier and abutment walls, footings and piles.



Sheets 1, 2 and 3 of this standard drawing contain notes and details which supplement those appearing on this sheet.

REVISIONS
3 - 1 - 58
2 - 2 - 59

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

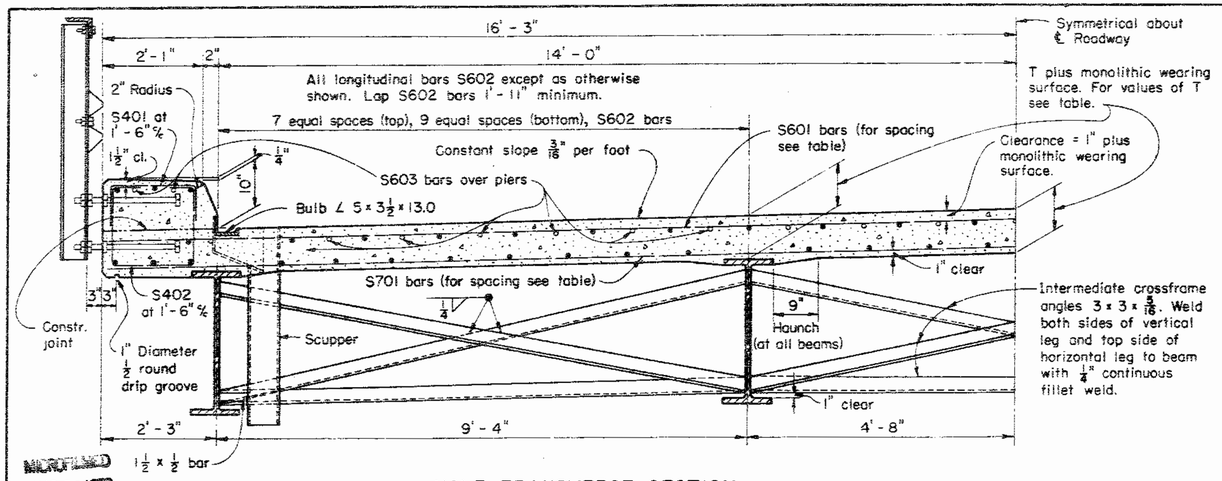
STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2' - 3" SAFETY CURBS
ROADWAY WIDTH 24 FEET
LOAD FREQUENCY: CF = 30, CF = 130, CF = 400

APPROVED:
DATE: 12-3-56 — H. Warman, ENGINEER OF BRIDGES

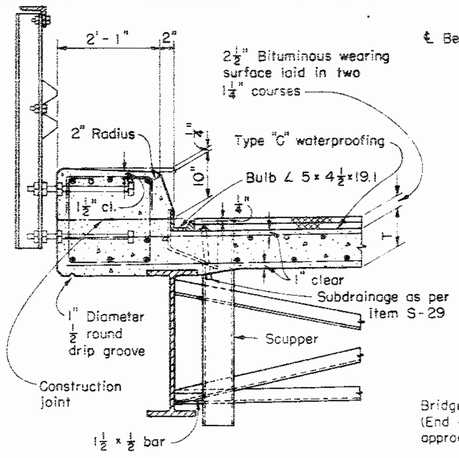
DRAWING NUMBER: CSB-2-56

PREPARED	TRACED	CHECKED	REVIEWED
AJC RG CFB KED WHR	JVP	CEM NEY	CSD BFS CHA AJF

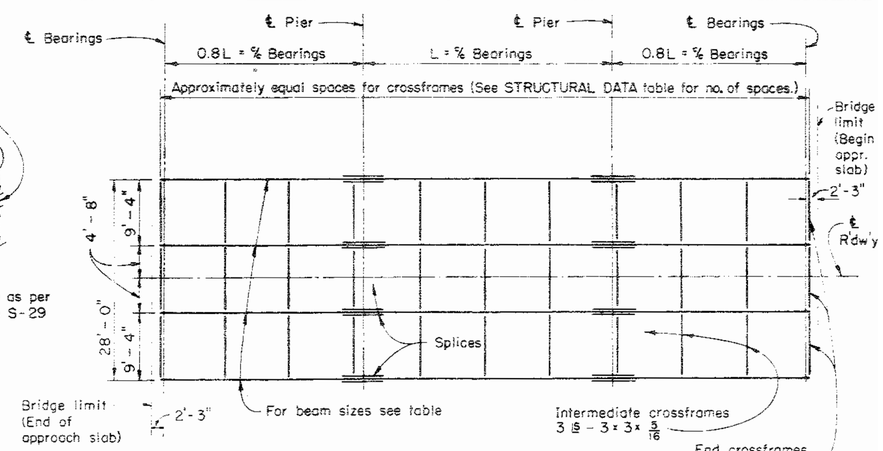
SHEET NO. 4 OF 6 SHEETS



HALF TRANSVERSE SECTION
WITH MONOLITHIC WEARING SURFACE



PART TRANSVERSE SECTION
WITH BITUMINOUS WEARING SURFACE



OUTLINE OF STEEL FRAMING

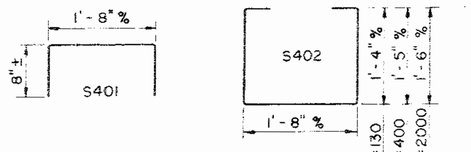
Load Frequency and Dim. T	Middle Span L (Feet)	End Span 0.8L (Feet)	Beam Size	Moment Plate Size: Top Plate	Moment Plate Size: Bottom Plate	No. of spaces for crossframes (3 spans)	No. of full Guard Rail panels each side	D.L. Deflect. (inches)	Raise ends of beams R (Inches)	S701 Straight: No.	S601 Straight: No.	S602 Straight: No.	S602 Straight: Length	S603 Straight: No.	S603 Straight: Length	S401 Bent: No.	S402 Bent: No.	Reinforcing Steel (Lbs.)	Structural Steel (Lbs.): Monolithic Wear. Surf.	Structural Steel (Lbs.): Separate Wear. Surf.	Class "C" Concrete (Cu. Yd.): Monolithic Wear. Surf.	Class "C" Concrete (Cu. Yd.): Separate Wear. Surf.	Railing both sides (Lin. Ft.)	Type "C" Water-proofing (Sq. Yd.)	Bitum. Wearing Surface (Cu. Yd.)	Total Unmodified Superstructure Reactions for Designing Substructures (Lbs.): Abutment D.L.	Abutment L.L.	Abutment * Imp.	Pier D.L.	Pier L.L.	Pier * Imp.
CF = 130 T = 7"	30	24	21 WF 68	6¾ x ⅜ x 6'-9"	9¾ x ⅜ x 6'-9"	8	12	⅛	—	106	106	174	27'-9"	12'-0"	106	106	106	20787	36800	38000	73	70	165	243	17	45200	63400	19000	152300	88800	24800
	32.5	26	24 WF 76	None	None	8	13	⅛	—	115	115	174	29'-9"	13'-0"	116	116	116	22462	40600	41900	79	76	178	263	18	49200	65300	19600	166000	91600	24900
	35	28	24 WF 84	None	None	10	14	⅛	—	123	123	174	32'-0"	14'-0"	124	124	124	24079	47100	48500	85	81	191	283	19	53300	67700	20300	179900	94100	25000
	37.5	30	24 WF 94	None	None	10	15	⅛	—	132	132	174	34'-3"	15'-0"	132	132	132	25811	53400	54900	91	87	204	303	21	57600	70100	21000	194300	96000	24900
	40	32	27 WF 94	None	None	10	16	⅛	—	141	141	174	36'-3"	16'-0"	142	142	142	27486	56300	57800	97	93	217	323	22	61400	74700	19800	207200	97000	24600
	42.5	34	27 WF 102	None	None	12	17	⅛	—	149	149	174	38'-6"	17'-0"	150	150	150	29104	64000	65500	103	99	230	343	23	65700	75700	19600	221500	98800	24500
	45	36	30 WF 108	None	None	12	18	⅛	—	158	158	232	31'-0"	18'-0"	158	158	158	30985	69800	71500	109	104	243	363	25	69900	76800	19500	235600	101500	24600
	50	40	30 WF 124	9 x ⅜ x 8'-0"	12 x 7/16 x 8'-0"	12	20	¼	⅜	175	175	232	34'-3"	20'-0"	176	176	176	34299	86100	88000	121	116	269	402	28	78600	79000	19300	265000	107900	25100
	55	44	33 WF 130	10 x 7/16 x 9'-9"	13 x ½ x 9'-9"	14	22	⅛	½	193	193	232	37'-6"	22'-0"	194	194	194	37728	99100	101100	133	128	295	442	30	86800	81200	19100	292800	116100	25900
	60	48	33 WF 141	10 x 7/16 x 11'-3"	13 x ½ x 11'-3"	14	24	¼	¾	210	210	290	33'-0"	24'-0"	210	210	210	41205	113700	115800	145	139	321	482	33	95500	83400	18900	322100	127700	27400
	65	52	36 WF 150	10½ x 7/16 x 12'-6"	13½ x ½ x 12'-6"	16	27	⅜	⅞	227	227	290	35'-6"	26'-0"	228	228	228	44477	129700	132100	157	151	347	522	36	104200	85600	18700	351300	138500	28600
	70	56	36 WF 170	10½ x 7/16 x 13'-3"	13½ x ½ x 13'-3"	16	29	⅜	1⅛	245	245	290	38'-3"	28'-0"	246	246	246	47970	152800	155400	170	163	373	562	38	113800	87800	18500	383900	148400	29600
	75	60	36 WF 194	10½ x 7/16 x 13'-9"	13½ x ½ x 13'-9"	16	31	½	1½	262	262	348	34'-3"	30'-0"	262	262	262	51381	181400	184000	182	175	399	602	41	124100	90000	18400	418600	157000	30200
	80	64	33 WF 220	14 x 5/8 x 14'-9"	17 x 11/16 x 14'-9"	16	33	⅝	2¼	279	279	348	36'-6"	32'-0"	280	280	280	54740	222600	225500	194	187	425	642	44	134900	92200	18200	454800	165800	30800
	85	68	36 WF 230	15 x 5/8 x 15'-0"	18 x 11/16 x 15'-0"	18	35	⅝	2½	297	297	348	38'-9"	34'-0"	298	298	298	58210	245600	248600	206	198	451	682	47	144300	94400	18100	486700	175500	31600
	90	72	36 WF 245	15 x 5/8 x 16'-9"	18 x 11/16 x 16'-9"	18	37	¾	3	315	315	406	35'-3"	36'-0"	316	316	316	61748	273500	276800	219	210	477	721	49	154400	96600	18000	521000	184600	32200
CF = 400 T = 7¾"	30	24	24 WF 76	7½ x ⅜ x 7'-0"	10½ x ⅜ x 7'-0"	8	12	⅛	—	112	112	174	27'-9"	12'-0"	106	106	106	21483	40200	41500	81	76	165	243	17	48800	63400	19000	164700	88800	24800
	32.5	26	24 WF 84	7½ x ⅜ x 8'-0"	10½ x ⅜ x 8'-0"	8	13	⅛	—	121	121	174	29'-9"	13'-0"	116	116	116	23160	45300	46700	87	82	178	263	18	53000	65300	19600	179400	91600	24900
	35	28	27 WF 94	None	None	10	14	⅛	—	130	130	174	32'-0"	14'-0"	124	124	124	24891	51600	53000	94	88	191	283	19	57700	67700	20300	194600	94100	25000
	37.5	30	24 WF 100	None	None	10	15	⅛	—	140	140	174	34'-3"	15'-0"	132	132	132	26738	56600	58100	101	95	204	303	21	62100	70100	21000	209400	96000	24900
	40	32	30 WF 108	None	None	10	16	⅛	—	149	149	174	36'-3"	16'-0"	142	142	142	28415	63000	64600	107	101	217	323	22	66600	74700	19800	224700	97000	24600
	42.5	34	30 WF 116	None	None	12	17	⅛	—	158	158	174	38'-6"	17'-0"	150	150	150	30146	70900	72700	114	107	230	343	23	71200	75700	19600	240100	98800	24500
	45	36	30 WF 124	None	None	12	18	⅛	—	167	167	232	31'-0"	18'-0"	158	158	158	32030	77900	79800	121	114	243	363	25	75800	76800	19500	255700	101500	24600
	50	40	33 WF 130	10 x 7/16 x 9'-6"	13 x ½ x 9'-6"	12	20	⅛	⅜	185	185	232	34'-3"	20'-0"	176	176	176	35460	91000	92900	134	126	269	402	28	84600	79000	19300	285300	107900	25100
	55	44	33 WF 152	10 x 7/16 x 10'-6"	13 x ½ x 10'-6"	14	22	¼	½	204	204	232	37'-6"	22'-0"	194	194	194	39004	112700	114700	148	139	295	442	30	94500	81200	19100	318600	116100	25900
	60	48	36 WF 160	10½ x 7/16 x 12'-0"	13½ x ½ x 12'-0"	14	24	¼	⅝	222	222	290	33'-0"	24'-0"	210	210	210	42597	126800	129000	161	151	321	482	33	103600	83400	18900	349500	127700	27400
	65	52	36 WF 182	10½ x 7/16 x 13'-0"	13½ x ½ x 13'-0"	16	27	⅜	⅞	240	240	290	35'-6"	26'-0"	228	228	228	45985	152400	154700	175	164	347	522	36	114000	85600	18700	384400	138500	28600
	70	56	33 WF 220	14 x 5/8 x 13'-0"	17 x 11/16 x 13'-0"	16	29	⅜	1¼	259	259	290	38'-3"	28'-0"	246	246	246	49594	193700	196300	189	177	373	562	38	125900	87800	18500	424600	148400	29600
	75	60	36 WF 230	15 x 5/8 x 13'-9"	18 x 11/16 x 13'-9"	16	31	½	1½	277	277	348	34'-3"	30'-0"	262	262	262	53121	214700	217500	202	190	399	602	41	135800	90000	18400	458000	157000	30200
	80	64	36 WF 230	15 x 5/8 x 16'-6"	18 x 11/16 x 16'-6"	16	33	⅝	1⅞	296	296	348	36'-6"	32'-0"	280	290	290	56710	233800	236800	215	202	425	642	44	144800	92200	18200	488500	165800	30800
	85	68	36 WF 260	15 x 5/8 x 17'-0"	18 x 11/16 x 17'-0"	18	35	⅝	2⅜	314	314	348	38'-9"	34'-0"	298	298	298	60182	275400	278500	229	216	451	682	47	156900	94400	18100	529300	175500	31600
	90	72	36 WF 280	15 x 5/8 x 18'-3"	18 x 11/16 x 18'-3"	18	37	¾	2⅞	333	333	406	35'-3"	36'-0"	316	316	316	63836	310500	313700	243	229	477	721	49	168300	96600	18000	567600	184600	32200
CF = 2000 T = 8½"	30	24	24 WF 84	7½ x ⅜ x 7'-0"	10½ x ⅜ x 7'-0"	8	12	⅛	—	119	119	174	27'-9"	12'-0"	106	106	106	22293	43300	44700	85	80	165	243	17	50900	63400	19000	171500	88800	24800
	32.5	26	24 WF 94	7½ x ⅜ x 7'-9"	10½ x ⅜ x 7'-9"	8	13	⅛	—	129	129	174	29'-9"	13'-0"	116	116	116	24086	49300	50700	92	87	178	263	18	55500	65300	19600	187100	91600	24900
	35	28	27 WF 94	8½ x ⅜ x 8'-9"	11½ x 7/16 x 8'-9"	10	14	⅛	—	138	138	174	32'-0"	14'-0"	124	124	124	25817	54100	55600	99	93	191	283	19	59700	67700	20300	201500	94100	25000
	37.5	30	27 WF 102	None	None	10	15	⅛	—	148	148	174	34'-3"	15'-0"	132	132	132	27666	58000	59500	106	100	204	303	21	64400	70100	21000	217100	96000	24900
	40	32	30 WF 116	None	None	10	16	⅛	—	158	158	174	36'-3"	16'-0"	142	142	142	29457	66900	68500	113	106	217	323	22	69300	74700	19800	233800	97000	24600
	42.5	34	30 WF 124	None	None	12	17	⅛	—	168	168	174	38'-6"	17'-0"	150	150	150	31304	75200	76900	120	113	230	343	23	74100	75700	19600	249800	98800	24500
	45	36	30 WF 132	None	None	12	18	⅛	—	177	177	232	31'-0"	18'-0"	158	158	158	33188	82400	84200	127	120	243	363	25	78800	76800	19500	265900	101500	24600
	50	40	33 WF 141	10 x 7/16 x 9'-3"	13 x ½ x 9'-3"	12	20	⅛	⅜	197	197	232	34'-3"	20'-0"	176	176	176	36848	97400	99300	141	133	269	402	28	88100	79000	19300	297300	107900	25100
	55	44	36 WF 150	10½ x 7/16 x 11'-0"	13½ x ½ x 11'-0"	14	22	¼	½	216	216	232	37'-6"	22'-0"	194	194	194	40394	112600	114700	155	146	295	442	30	97500	81200	19100	329000	116100	25900
	60	48	36 WF 170	10½ x 7/16 x 12'-0"	13½ x ½ x 12'-0"	14	24	¼	⅝	236	236	290	33'-0"	24'-0"	210	210	210	44217	133700	135900	169	160	321	482	33	107800	83400	18900	363700	127700	27400
	65	52	36 WF 194	10½ x 7/16 x 12'-9"	13½ x ½ x 12'-9"	16	27	⅜	⅞	255	255	290	35'-6"	26'-0"	228	228	228	47721	161000	163500	184	173	347	522	36	118700	85600	18700	400300	138500	28600
	70	56	33 WF 220	14 x 5/8 x 13'-9"	17 x 11/16 x 13'-9"	16	29	⅜	1¼	275	275	290	38'-3"	28'-0"	246	246	246	51447	194700	197300	198	186	373	562	38	130000	87800	18500	438300	148400	29600
	75	60	36 WF 230	15 x 5/8 x 14'-6"	18 x 11/16 x 14'-6"	16	31	½	1½	294	294	348	34'-3"	30'-0"	262	262	262	55090	215700	218500	212	200	399	602	41	140100	90000	18400	472700	157000	30200
	80	64	36 WF 245	15 x 5/8 x 16'-0"	18 x 11/16 x 16'-0"	16	33	½	1⅞	314	314	348	36'-6"	32'-0"	280	280	280	58794	247600	250500	226	213	425	642	44	150900	92200	18200	509000	165800	30800
	85	68	36 WF 260	15 x 5/8 x 17'-6"	18 x 11/16 x 17'-6"	18	35	⅝	2⅜	334	334	348	38'-9"	34'-0"	298	298	298	62496	276800	279900	240	227	451	682	47	161900	94400	18100	545900	175500	31600
	90	72	36 WF 280	15 x 11/16 x 18'-9"	18 x 11/16 x 18'-9"	18	37	¾	2⅞	353	353	406	35'-3"	36'-0"	316	316	316	66152	311900	315100	255	241	477	721	49	173500	96600	18000	585200	184600	32200

Number of bars for 3 spans

Load Frequency	L	0.8 L	Abut.	Pier		
CF = 130	80	64	R - 100	R - 200	B - 200	
	85	68	R - 100	R - 200	B - 200	
	90	72	R - 100	R - 225	B - 225	
CF = 400	80	64	R - 100	R - 225	B - 225	
	85	68	R - 100	R - 250	B - 250	
	90	72	R - 125	R - 275	B - 275	
CF = 2000	80	64	R - 100	R - 250	B - 250	
	85	68	R - 125	R - 250	B - 250	
	90	72	R - 125	R - 275	B - 275	
CF = 130 CF = 400 & CF = 2000	All Other Spans		Sliding Plates	Sliding Plates	Fixed Plates	

For details of R-100, R-125, R-200, R-225, R-250, R-275, B-200, B-225, B-250 and B-275 see Standard Drawing RB-1-55.

* Impact values should be used only for such substructure elements as pile caps, pier caps, and columns; not for such as pier and abutment walls, footings and piles.



Sheets 1, 2 and 3 of this standard drawing contain notes and details which supplement those appearing on this sheet.

REVISIONS
3 - 1 - 58
2 - 2 - 59

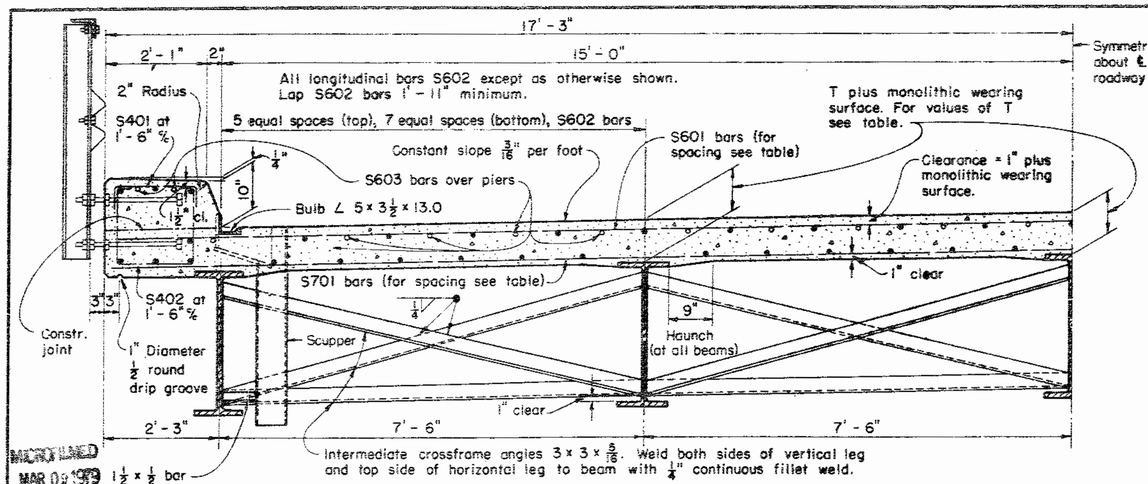
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2' - 3" SAFETY CURBS
ROADWAY WIDTH 28 FEET
LOAD FREQUENCY: CF = 130, CF = 400, CF = 2000

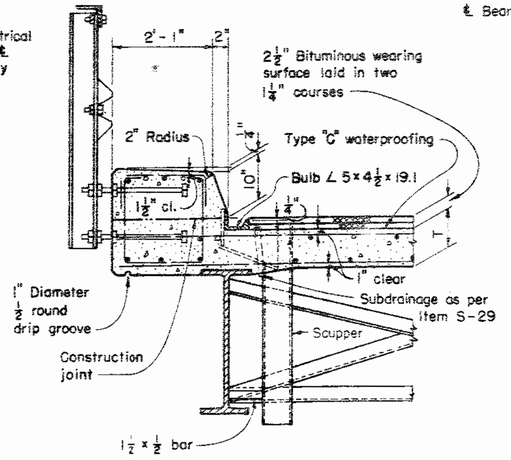
APPROVED:
DATE: 12-3-56 — ENGINEER OF BRIDGES

DRAWING NUMBER: CSB-2-56

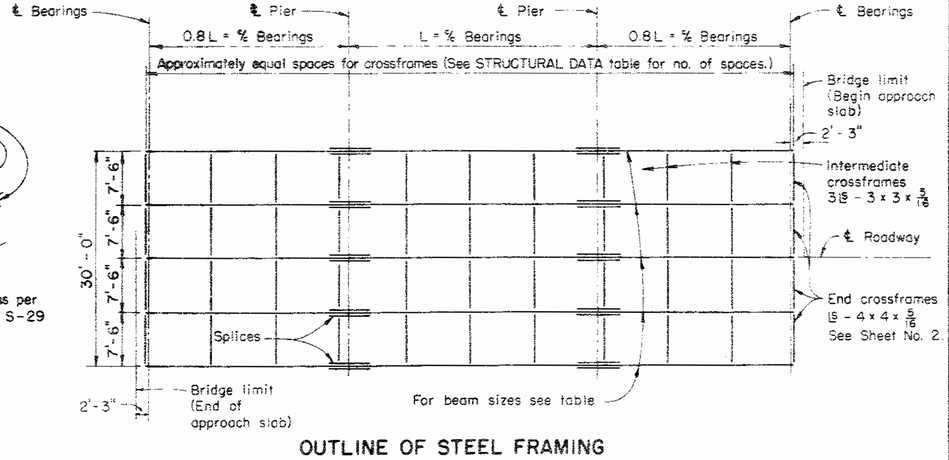
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO. 5 OF 6 SHEETS
CEM RG CFB KED WHR	JVP	AJC NEY	CSD BFS CHA AJF	



HALF TRANSVERSE SECTION
WITH MONOLITHIC WEARING SURFACE



PART TRANSVERSE SECTION
WITH BITUMINOUS WEARING SURFACE



OUTLINE OF STEEL FRAMING

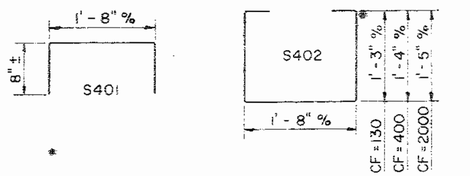
Load Frequency and Dim. T	Middle Span L (Feet)	End Span 0.8L (Feet)	Beam Size	Moment Plate Size: Top Plate	Moment Plate Size: Bottom Plate	No. of spaces for crossframe (3 spans)	No. of full Guard Rail panels each side	D. L. Deflect. (inches)	Raise ends of beams R (Inches)	S701 Straight: No.	S601 Straight: No.	S602 Straight: No.	S602 Straight: Length	S603 Straight: No.	S603 Straight: Length	S401 Bent: No.	S402 Bent: No.	Reinforcing Steel (Lbs.)	Structural Steel (Lbs.): Monolithic Wear. Surf.	Structural Steel (Lbs.): Separate Wear. Surf.	Class "C" Concrete (Cu. Yd.): Monolithic Wear. Surf.	Class "C" Concrete (Cu. Yd.): Separate Wear. Surf.	Type "C" Water-proofing (Sq. Yd.)	Railing both sides (Lin. Ft.)	Bitum. Wearing Surface (Cu. Yd.)	Total Unmodified Superstructure Reactions for Designing Substructures (Lbs.): Abutment D.L.	Abutment L.L.	Abutment * Imp.	Pier D.L.	Pier L.L.	Pier * Imp.
CF = 130 T = 6½	30	24	18 WF 64	7 1/4 x 3/8 x 6'-0"	10 1/4 x 3/8 x 6'-0"	8	12	1/8	—	96	96	171	27'-9"	12'-0"		106	106	20154	41600	42900	72	69	260	165	18	46700	63400	19000	157300	88800	24800
	32.5	26	21 WF 62	6 3/4 x 3/8 x 7'-3"	9 3/4 x 3/8 x 7'-3"	8	13	1/8	—	103	103	171	29'-9"	13'-0"		116	116	21638	43200	44500	78	75	282	178	19	50400	65300	19600	170100	91600	24900
	35	28	21 WF 73	6 3/4 x 3/8 x 7'-3"	9 3/4 x 3/8 x 7'-3"	10	14	1/8	—	111	111	171	32'-0"	14'-0"		124	124	23297	51900	53300	84	81	303	191	21	54900	67700	20300	185100	94100	25000
	37.5	30	24 WF 76	None	None	10	15	1/8	—	119	119	171	34'-3"	15'-0"		132	132	24957	54700	56200	90	86	325	204	22	59000	70100	21000	198900	96000	24900
	40	32	24 WF 84	None	None	10	16	1/8	—	127	127	171	36'-3"	16'-0"		142	142	26564	61600	63100	96	92	346	217	24	63400	74700	19800	213800	97000	24600
	42.5	34	24 WF 94	None	None	12	17	1/8	3/8	135	135	171	38'-6"	17'-0"		150	150	28222	7,600	73200	103	98	367	230	25	68000	75700	19600	229300	98800	24500
	45	36	27 WF 94	None	None	12	18	1/8	3/8	142	142	228	31'-0"	18'-0"		158	158	29909	75100	76800	108	103	389	243	27	72000	76800	19500	242800	101500	24600
	50	40	27 WF 102	8 1/2 x 3/8 x 9'-0"	11 1/2 x 7/16 x 9'-0"	12	20	1/4	1/2	158	158	228	34'-3"	20'-0"		176	176	33194	89300	91200	120	115	432	269	30	80600	79000	19300	271700	107900	25100
	55	44	30 WF 116	9 x 3/8 x 9'-6"	12 x 7/16 x 9'-6"	14	22	1/4	5/8	174	174	228	37'-6"	22'-0"		194	194	36482	108500	110500	132	127	474	295	33	89800	81200	19100	302800	116100	25900
	60	48	30 WF 124	9 x 3/8 x 11'-6"	12 x 7/16 x 11'-6"	14	24	3/8	7/8	189	189	285	33'-0"	24'-0"		210	210	39806	123300	125500	145	138	517	321	35	98600	83400	18900	332700	127700	27400
	65	52	33 WF 130	10 x 7/16 x 12'-6"	13 x 1/2 x 12'-6"	16	27	3/8	1	205	205	285	35'-6"	26'-0"		228	228	43049	140000	142200	156	149	560	347	38	107400	85600	18700	362400	138500	28600
	70	56	33 WF 141	10 x 7/16 x 13'-6"	13 x 1/2 x 13'-6"	16	29	1/2	1 3/8	220	220	285	38'-3"	28'-0"		246	246	46280	159300	161800	169	161	603	373	41	116900	87800	18500	394100	148400	29600
	75	60	36 WF 150	10 1/2 x 7/16 x 14'-6"	13 1/2 x 1/2 x 14'-6"	16	31	1/2	1 5/8	236	236	342	34'-3"	30'-0"		262	262	49662	178700	181400	180	172	645	399	44	126200	90000	18400	425700	157000	30200
	80	64	36 WF 170	10 1/2 x 7/16 x 15'-0"	13 1/2 x 1/2 x 15'-0"	16	33	5/8	2	252	252	342	36'-6"	32'-0"		280	280	52989	214900	217700	193	185	688	425	47	137000	92200	18200	462000	165800	30800
	85	68	36 WF 182	10 1/2 x 9/16 x 16'-6"	13 1/2 x 1/2 x 16'-6"	18	35	5/8	2 1/2	267	267	342	38'-9"	34'-0"		298	298	56197	242400	245400	205	196	731	451	50	147300	94400	18100	496000	175500	31600
	90	72	36 WF 230	15 x 5/8 x 13'-6"	18 x 11/16 x 13'-6"	18	37	3/4	3	283	283	399	35'-3"	36'-0"		316	316	59590	313900	317200	218	208	774	477	53	162100	96600	18000	546900	184600	32200
CF = 400 T = 7½	30	24	21 WF 68	6 3/4 x 3/8 x 6'-9"	9 3/4 x 3/8 x 6'-9"	8	12	1/8	—	106	106	171	27'-9"	12'-0"		106	106	21378	43800	45100	81	76	260	165	18	50400	63400	19000	170000	88800	24800
	32.5	26	24 WF 76	None	None	8	13	1/8	—	115	115	171	29'-9"	13'-0"		116	116	23105	48500	49900	88	82	282	178	19	55000	65300	19600	185400	91600	24900
	35	28	24 WF 84	None	None	10	14	1/8	—	123	123	171	32'-0"	14'-0"		124	124	24765	56300	57800	94	88	303	191	21	59600	67700	20300	201100	94100	25000
	37.5	30	24 WF 84	11 1/2 x 3/8 x 9'-6"	10 1/2 x 3/8 x 9'-6"	10	15	1/8	—	132	132	171	34'-3"	15'-0"		132	132	26546	61400	62900	101	94	325	204	22	63900	70100	21000	215500	96000	24900
	40	32	27 WF 94	None	None	10	16	1/8	—	141	141	171	36'-3"	16'-0"		142	142	28275	67600	69200	108	101	346	217	24	68700	74700	19800	231800	97000	24600
	42.5	34	27 WF 102	None	None	12	17	1/8	—	149	149	171	38'-6"	17'-0"		150	150	29936	76900	78600	114	107	367	230	25	73500	75700	19600	248000	98800	24500
	45	36	30 WF 108	None	None	12	18	1/8	—	158	158	228	31'-0"	18'-0"		158	158	31865	84200	85900	121	113	389	243	27	78300	76800	19500	264000	101500	24600
	50	40	30 WF 116	9 x 3/8 x 9'-6"	12 x 7/16 x 9'-6"	12	20	1/4	1/2	175	175	228	34'-3"	20'-0"		176	176	35274	99600	101600	134	126	432	269	30	87600	79000	19300	295300	107900	25100
	55	44	30 WF 132	9 x 3/8 x 10'-9"	12 x 7/16 x 10'-9"	14	22	1/4	5/8	193	193	228	37'-6"	22'-0"		194	194	38805	121000	123100	148	138	474	295	33	97600	81200	19100	329300	116100	25900
	60	48	33 WF 141	10 x 7/16 x 11'-9"	13 x 1/2 x 11'-9"	14	24	1/4	3/4	210	210	285	33'-0"	24'-0"		210	210	42375	138600	140800	161	151	517	321	35	107300	83400	18900	361900	127700	27400
	65	52	33 WF 152	10 x 7/16 x 12'-3"	13 x 1/2 x 12'-3"	16	27	3/8	1	227	227	285	35'-6"	26'-0"		228	228	45740	159300	161600	175	164	560	347	38	117300	85600	18700	395600	138500	28600
	70	56	36 WF 160	10 1/2 x 7/16 x 14'-6"	13 1/2 x 1/2 x 14'-6"	16	29	3/8	1 1/8	245	245	285	38'-3"	28'-0"		246	246	49336	178200	180700	188	176	603	373	41	127200	87800	18500	428900	148400	29600
	75	60	36 WF 182	10 1/2 x 7/16 x 15'-0"	13 1/2 x 1/2 x 15'-0"	16	31	1/2	1 1/2	262	262	342	34'-3"	30'-0"		262	262	52842	211000	2.3700	202	189	645	399	44	138700	90000	18400	467800	157000	30200
	80	64	33 WF 200	14 x 5/8 x 16'-6"	17 x 11/16 x 16'-6"	16	33	5/8	2 1/4	279	279	342	36'-6"	32'-0"		280	280	56293	254000	257000	215	201	688	425	47	150100	92200	18200	506200	165800	30800
	85	68	33 WF 220	14 x 5/8 x 17'-6"	17 x 11/16 x 17'-6"	18	35	3/4	2 3/4	297	297	342	38'-9"	34'-0"		298	298	59866	291800	294900	229	214	731	451	50	162000	94400	18100	546300	175500	31600
	90	72	36 WF 230	15 x 5/8 x 18'-0"	18 x 11/16 x 18'-0"	18	37	3/4	3	315	315	399	35'-3"	36'-0"		316	316	63502	319700	323000	243	227	774	477	53	172900	96600	18000	583000	184600	32200
CF = 2000 T = 7½	30	24	21 WF 73	6 3/4 x 3/8 x 7'-0"	9 3/4 x 3/8 x 7'-0"	8	12	1/8	—	119	119	171	27'-9"	12'-0"		106	106	22965	46600	47800	85	80	260	165	18	52500	63400	19000	177000	88800	24800
	32.5	26	24 WF 76	7 1/2 x 3/8 x 7'-6"	10 1/2 x 3/8 x 7'-6"	8	13	1/8	—	129	129	171	29'-9"	13'-0"		116	116	24814	50800	52200	92	86	282	178	19	57000	65300	19600	192300	91600	24900
	35	28	24 WF 84	7 1/2 x 3/8 x 8'-6"	10 1/2 x 3/8 x 8'-6"	10	14	1/8	—	138	138	171	32'-0"	14'-0"		124	124	26597	58900	60400	99	93	303	191	21	61800	67700	20300	208500	94100	25000
	37.5	30	24 WF 94	None	None	10	15	1/8	—	148	148	171	34'-3"	15'-0"		132	132	28499	64800	66400	106	100	325	204	22	66800	70100	21000	225200	96000	24900
	40	32	27 WF 102	None	None	10	16	1/8	—	158	158	171	36'-3"	16'-0"		142	142	30350	72500	74100	113	106	346	217	24	71700	74700	19800	241900	97000	24600
	42.5	34	30 WF 108	None	None	12	17	1/8	—	168	168	171	38'-6"	17'-0"		150	150	32254	81100	82900	120	113	367	230	25	76600	75700	19600	258300	98800	24500
	45	36	30 WF 108	None	None	12	18	1/8	—	177	177	228	31'-0"	18'-0"		158	158	34185	84700	86600	127	119	389	243	27	81100	76800	19500	273400	101500	24600
	50	40	30 WF 124	9 x 3/8 x 9'-6"	12 x 7/16 x 9'-6"	12	20	1/8	3/8	197	197	228	34'-3"	20'-0"		176	176	37960	105500	107500	142	133	432	269	30	91300	79000	19300	307800	107900	25100
	55	44	33 WF 130	10 x 7/16 x 10'-9"	13 x 1/2 x 10'-9"	14	22	1/4	1/2	216	216	228	37'-6"	22'-0"		194	194	41613	121200	123400	156	146	474	295	33	100900	81200	19100	340300	116100	25900
	60	48	33 WF 141	10 x 7/16 x 12'-9"	13 x 1/2 x 12'-9"	14	24	1/4	3/4	236	236	285	33'-0"	24'-0"		210	210	45548	139500	141800	170	159	517	321	35	111000	83400	18900	374500	127700	27400
	65	52	36 WF 150	10 1/2 x 7/16 x 13'-6"	13 1/2 x 1/2 x 13'-6"	16	27	3/8	7/8	255	255	285	35'-6"	26'-0"		228	228	49157	159100	161500	184	172	560	347	38	121200	85600	18700	408700	138500	28600
	70	56	36 WF 170	10 1/2 x 7/16 x 14'-3"	13 1/2 x 1/2 x 14'-3"	16	29	5/8	1 1/8	275	275	285	38'-3"	28'-0"		246	246	52998	187900	190500	198	186	603	373	41	132600	87800	18500	447100	148400	29600
	75	60	36 WF 182	10 1/2 x 1/2 x 16'-0"	13 1/2 x 1/2 x 16'-0"	16	31	1/2	1 1/2	294	294	342	34'-3"	30'-0"		262	262	56748	212400	215100	213	199	645	399	44	143400	90000	18400	483600	157000	30200
	80	64	33 WF 220	14 x 5/8 x 15'-3"	17 x 11/16 x 15'-3"	16	33	1/2	2 1/2	314	314	342	36'-6"	32'-0"		280	280	60564	274800	277800	227	213	688	425	47	157500	92200	18200	531000	165800	30800
	85	68	36 WF 230	15 x 5/8 x 15'-9"	18 x 11/16 x 15'-9"	18	35	5/8	2 3/8	334	334	342	38'-9"	34'-0"		298	298	64382	303300	306400	241	226	731	451	50	168600	94400	18100	568500	175500	31600
	90	72	36 WF 230	15 x 5/8 x 18'-6"	18 x 11/16 x 18'-6"	18	37	3/4	3	353	353	399	35'-3"	36'-0"		316	316	68141	321200	324500	255	239	774	477	53	178500	96600	18000	601900	184600	32200

Load Frequency	L	0.8 L	Abut.	Piers	
CF = 130	30	24	R - 75	R - 175	B - 175
	85	68	R - 75	R - 175	B - 175
	90	72	R - 75	R - 200	B - 200
CF = 400	80	64	R - 100	R - 200	B - 200
	85	68	R - 100	R - 200	B - 200
	90	72	R - 100	R - 200	B - 200
CF = 2000	80	64	R - 100	R - 200	B - 200
	85	68	R - 100	R - 200	B - 200
	90	72	R - 100	R - 225	B - 225
CF = 130 CF = 400 & CF = 2000	All Other Spans		Sliding Plates	Sliding Plates	Fixed Plates

BEARINGS

For details of R-75, R-100, R-175, R-200, R-225, B-175, B-200 and B-225 see Standard Drawing RB-1-55.

* Impact values should be used only for such substructure elements as pile caps, pier caps, and columns; not for such as pier and abutment walls, footings and piles.



Sheets 1, 2, and 3 of this standard drawing contain notes and details which supplement those appearing on this sheet.

REVISIONS
3 - 1 - 58
2 - 2 - 59

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD
CONTINUOUS STEEL BEAM BRIDGE
WITH 2' - 3" SAFETY CURBS
ROADWAY WIDTH 30 FEET
LOAD FREQUENCY: CF = 130, CF = 400, CF = 2000

APPROVED:
DATE: 12-3-56
O. H. Overman
ENGINEER OF BRIDGES

DRAWING NUMBER CSB-2-56

PREPARED	TRACED	CHECKED	REVIEWED
AJC RG CFB KED AHR	JVP	CEN MEY	CSD BFG CHA AJF

SHEET NO 6 OF 6 SHEETS