FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.				

20' Roadway ⊗

REINFORCING STEEL

BAR No. 1 - 5/8" ϕ TOT. LGTH 21'-0" STRAIGHT

BAR No. 3 - 3/4" ϕ
BAR No. 4 - 1/2" ϕ

BAR No. 5 - 3/16" ϕ (AT ABUTMENT ENDS)
BAR No. 5P - 3/16" ϕ (AT PIER ENDS)

STRAIGHT

76'-0"	38'-9"
SPAN	BAR LENGTH
29'	28'-6"
34'	33'-6"
39'	38'-6"
44'	43'-6"
49'	25'-3"
54'	27'-9"
59'	30'-3"
64'	32'-9"
69'	35'-3"
74'	37'-9"
79'	40'-3"
84'	42'-9"
89'	30'-10"
94'	32'-6"
99'	34'-2"

For Bar No. 5

SPAN	A	TOT. LTH
29'	1'-9"	4'-6"
34'	2'-0"	5'-2"
39'	2'-0"	5'-2"
44'	2'-3"	5'-8"
49'	2'-3"	5'-8"
54'	2'-6"	6'-2"
59'	2'-9"	6'-8"
64'	2'-9"	6'-8"
69'	3'-0"	7'-2"
74'	3'-0"	7'-2"
79 & 79	2'-9"	6'-8"
84'	3'-0"	7'-2"
89'	3'-0"	7'-2"
94'	3'-0"	7'-2"
99'	3'-0"	7'-2"

SHORTEN "A" DIMENSION 9" FOR No. 5P BARS AT PIERS

BAR No. 6 - 5/8" ϕ STRAIGHT - LENGTH 22'-0" FOR SQUARE BR

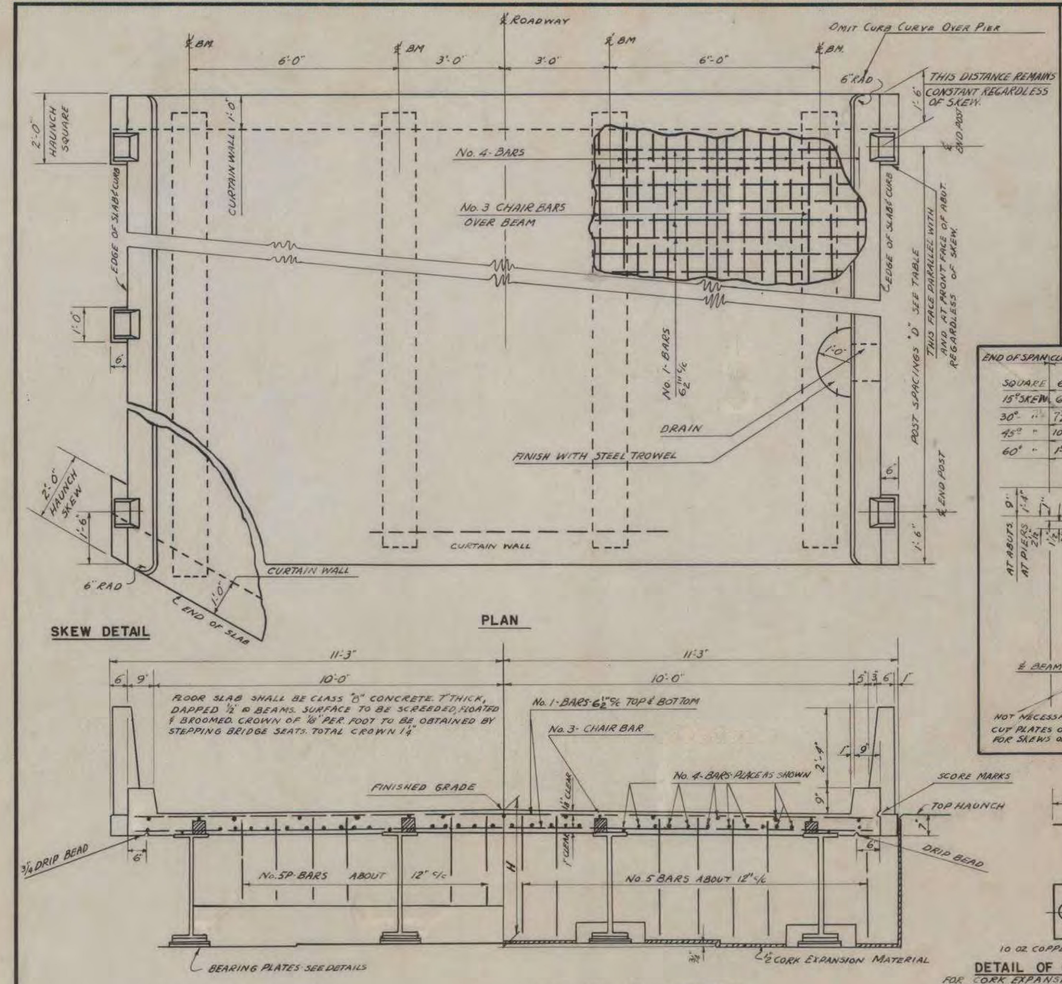
INCREASE LENGTH FOR SKEW BRIDGE

BAR No. 7 - 3/4" ϕ
TOTAL LENGTH 4'-2"

BAR No. 8 - 5/8" ϕ DOWELS - STRAIGHT - LENGTH 1'-0"

BAR No. 9 - 1/2" ϕ
TOTAL LENGTH 3'-0"

⊗ For 18' Roadway change 18" [@ 42.7# 5'-8½" to 5'-4½" & 21'-0" to 19'-0"

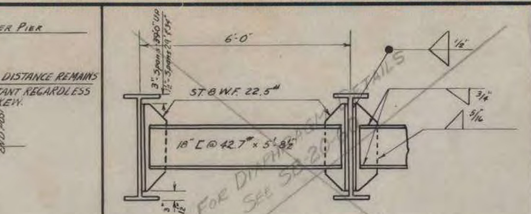


SKEW DETAIL

PLAN

HALF SEC. AT PIERS

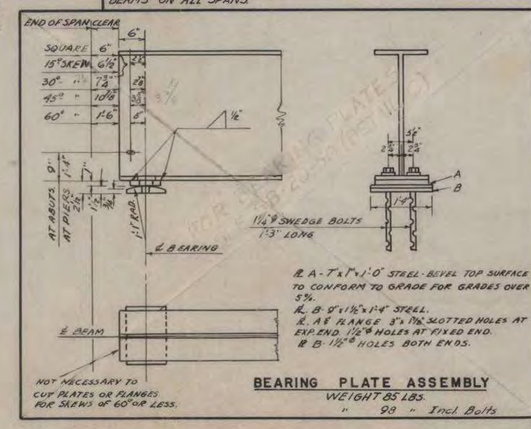
HALF SEC. AT ABUTMENTS



TYPICAL DETAILS OF DIAPHRAGM ASSEMBLY

SPANS 29'-0" THROUGH 44'-0" REQUIRE 1 SET OF DIAPHRAGMS.
SPANS 49'-0" THROUGH 64'-0" REQUIRE 2 SET OF DIAPHRAGMS.
" 69'-0" " 89'-0" " 3 " " "
" 94'-0" " 99'-0" " 4 " " "

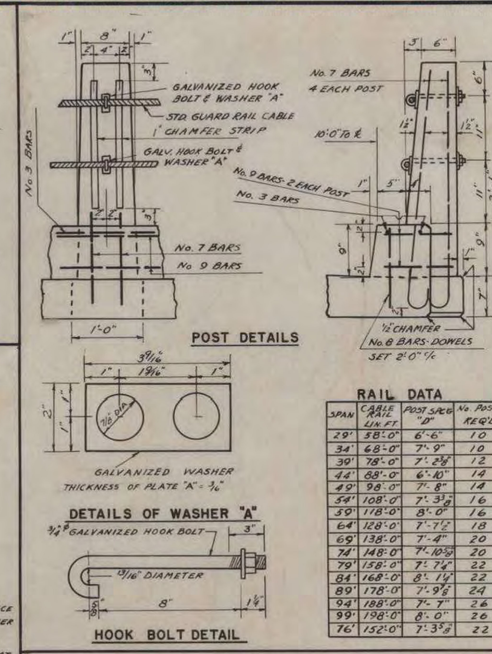
DIAPHRAGM SHALL BE DETAILED TO PASS THRU POINTS MIDWAY BETWEEN REFERENCE POINTS (⅛, ⅜, ¼ or ½ POINTS) OF ADJACENT BEAMS ON ALL SPANS.



℄ A - T × 1" × 1'-0" STEEL - BEVEL TOP SURFACE TO CONFORM TO GRADE FOR GRADES OVER 5%.
℄ B - 8" × 1½" × 1'-8" STEEL.
℄ A & FLANGE 3" × 1½" SLOTTED HOLES AT EXP. END. 1½" ϕ HOLES AT FIXED END.
℄ B - 1½" ϕ HOLES BOTH ENDS.

BEARING PLATE ASSEMBLY

WEIGHT 85 LBS.
" 98 " Incl. Bolts



POST DETAILS

RAIL DATA

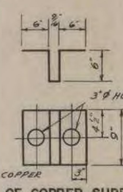
SPAN	CABLE RAIL WT. PER FT.	POST SPACING "D"	No. POSTS REQ'D.
29'	58'-0"	6'-6"	10
34'	68'-0"	7'-9"	10
39'	78'-0"	7'-2⅜"	12
44'	88'-0"	6'-10"	14
49'	98'-0"	7'-8"	14
54'	108'-0"	7'-3⅜"	16
59'	118'-0"	8'-0"	16
64'	128'-0"	7'-7½"	18
69'	138'-0"	7'-4"	20
74'	148'-0"	7'-10⅜"	20
79'	158'-0"	7'-7¾"	22
84'	168'-0"	8'-1½"	22
89'	178'-0"	7'-9⅞"	24
94'	188'-0"	7'-7"	24
99'	198'-0"	8'-0"	26
76'	152'-0"	7'-3⅜"	22

DETAILS OF WASHER "A"

HOOK BOLT DETAIL

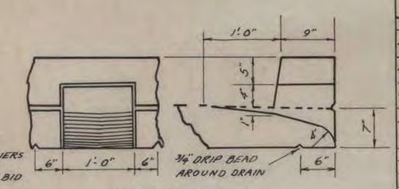
CONCRETE CHAIR DETAIL

SPACE 5'-0" ALONG EACH BEAM



DETAIL OF COPPER SUPPORT

FOR CORK EXPANSION MATERIAL AT PIERS SPACED ABOUT 2'-0" ⅊. PAYMENT FOR SAME TO BE INCLUDED IN UNIT PRICE BID FOR CONCRETE CLASS "D".



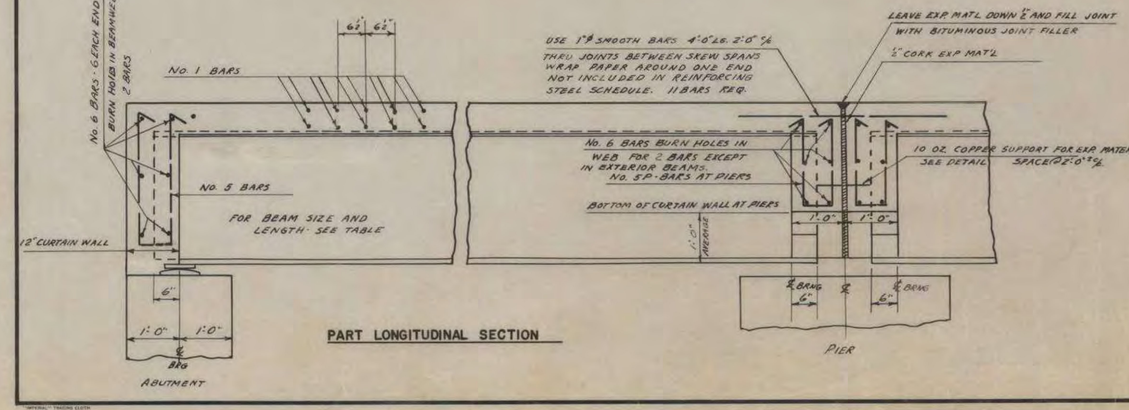
DRAIN DETAILS

PLACE DRAINS THROUGH EACH CURB. ONE EACH SIDE FOR SPANS 40' OR LESS; ABOUT 20' APART FOR SPANS OVER 40'.

TABLE OF QUANTITIES FOR SINGLE SPAN (SQUARE)

OVERALL SPAN	STRUCTURAL STEEL DATA: SIZE W.F. BEAM	BEAM LENGTH	COMPUTED D.L. DEFLECTION	SEC. MOD. REQ'D	DIM. "H"	TOTAL WEIGHT	REINFORCING STEEL SCHEDULE ⊗: BAR No. 1	3	4	5 & 5P	6	7	8	9	CONC. CLEAR	TOTAL WEIGHT	CONC. CL. "D"
29'-0"	21" @ 62#	28'-0"	⅛"	116	2.59	8,664	128	8	47	28	12	40	30	20	24	4248	18.6
34'-0"	21½" @ 73#	33'-0"	⅜"	151	2.62	11,358	128	8	47	28	12	40	34	20	28	4911	21.6
39'-0"	24⅛" @ 84#	38'-0"	½"	189	2.85	14,488	144	8	47	28	12	48	40	24	32	5547	24.3
44'-0"	26⅛" @ 94#	43'-0"	⅝"	229	3.08	17,920	164	8	47	28	12	56	44	28	36	6250	27.3
49'-0"	27⅛" @ 102#	48'-0"	¾"	274	3.10	22,308	184	16	94	28	12	56	50	28	40	7018	29.8
54'-0"	30" @ 116#	53'-0"	⅞"	322	3.34	27,381	200	16	94	28	12	64	54	32	44	7650	33.0
59'-0"	33¼" @ 130#	58'-0"	1"	376	3.59	33,016	220	16	94	28	12	64	60	32	48	8322	35.5
64'-0"	33¼" @ 141#	63'-0"	1⅛"	443	3.61	38,394	236	16	94	28	12	72	64	36	52	8949	38.1
69'-0"	36" @ 160#	68'-0"	1¼"	517	3.84	47,512	256	16	94	28	12	80	70	40	56	9672	41.7
74'-0"	36⅛" @ 182#	73'-0"	1½"	597	3.87	57,140	276	16	94	28	12	80	74	40	60	10335	44.3
79'-0"	33⅛" @ 220#	78'-0"	2"	688	3.61	72,539	292	16	94	28	12	88	80	44	64	10961	46.4
84'-0"	35⅛" @ 230#	83'-0"	2"	781	3.83	80,348	312	16	94	28	12	88	84	44	68	11624	49.5
89'-0"	36⅛" @ 260#	88'-0"	2⅛"	883	3.86	95,521	332	24	141	28	12	96	90	48	72	12431	52.1
94'-0"	36½" @ 280#	93'-0"	2⅜"	1002	3.88	109,243	348	24	141	28	12	104	94	52	76	13063	54.8
99'-0"	36¾" @ 300#	98'-0"	3¼"	1120	3.91	122,693	368	24	141	28	12	104	100	52	80	13726	57.3
76'-0"	33¼" @ 220#	75'-0"	2"	688	3.61	69,900	284	16	94	28	12	88	80	44	64	10657	44.5

* ON SKEW SPANS BEAMS ARE SHORTER, SEE END CLEARANCES ON BEARING PLATE ASSEMBLY DETAIL.
⊗ ON MULTI SPAN SKEW BRIDGES, ADD FOR EACH PIER: 11 SMOOTH BAR 1" ϕ, 4'-0" LONG, ONE END WRAPPED IN PAPER. PLACE AS SPECIFIED ON "PART LONGITUDINAL SECTION" THIS SHEET. (WT. OF 11 BARS = 103#)



PART LONGITUDINAL SECTION

GENERAL NOTES:

STEEL SUPERSTRUCTURE: TO INCLUDE INDICATED W.F. BEAMS, BEARING DEVICES AND DIAPHRAGMS.

CAMBER: ALL STEEL BEAMS SHALL BE ROLLED TO A TRUE CIRCULAR CAMBER FOR THE FULL LENGTH OF THE BEAM. THE MIDDLE ORDINATE TO BE MINIMUM PERMANENT CAMBER, UNLESS OTHERWISE NOTED ON PLAN & PROFILE SHEET.

PAINT: ALL STRUCTURAL STEEL SHALL BE PAINTED AS SPECIFIED UNDER ITEM 404 (L) B OF STD SPECS FOR HIGHWAY & BRIDGE CONSTRUCTION, STATE OF VERMONT JAN. 1956. THE FINAL COAT OF FIELD PAINT SHALL BE BLACK UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

QUANTITIES: THIS SHEET INCLUDES QUANTITIES FOR RAILING, CURBS, AND POSTS.

REINFORCING: WHEN BRIDGE IS BUILT ON SKEW, TRANSVERSE BARS SHALL BE FURNISHED AS FOR SQUARE SPAN. BARS SHALL BE CUT IN FIELD TO FIT ONE SKEW END AND CUT OFF ENDS SHALL BE USED IN OPPOSITE SKEW END. IN SKEW SPANS THE NO. 6 BARS SHALL BE LENGTHENED AND THE NUMBER OF NO. 5 SERIES BARS SHALL BE INCREASED.

DESIGN: ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECS FOR HIGHWAY & BRIDGE CONSTRUCTION, STATE OF VERMONT 1956. DESIGNED FOR H-15 LIVE LOADING, 25#/□' PAVING ALLOWANCE, DEAD LOAD INCLUDES WEIGHT OF BEAMS, SLAB AND RAIL. DEAD & LIVE LOAD DISTRIBUTED EQUALLY TO ALL BEAMS. FOR LOCATION OF FIXED AND EXPANSION BEARINGS SEE PLAN & PROFILE SHEET.

REVISIONS

REVISED Oct. 9, 1940 Add'd of Diaphrams, Inc. St. Steel 63, 94, 99 Spans - W.H.D.
REVISED: 12-2-41 BEAM SIZES & WEIGHT FOR SPANS 79'-0" & 89'-0" W.H.D.
Revised: For Non Beam Std Sizes 15A 3-57
Revised: For 76 Span LMB. 4-47
General Revision May 22, 1958 M. Rehasco
Refraced 4/27/60 E.E.R.

STANDARD WF BEAM BRIDGE
REINFORCED CONCRETE DECK
FOR
STATE AID & TOWN HIGHWAYS
20 FT. ROADWAY
2-H15

Surveyed by
Designed by W.H. DAY
Drawn by N.H. DAY
Traced by
Checked by
Series 2-H15
October 19
Filed
Sheets

ORWELL
STP DECK(41)
BRIDGE NO. 4
SHEET 27 OF 27
FOR REFERENCE ONLY