FORM 100-A '65

Fed. Proj. No.

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

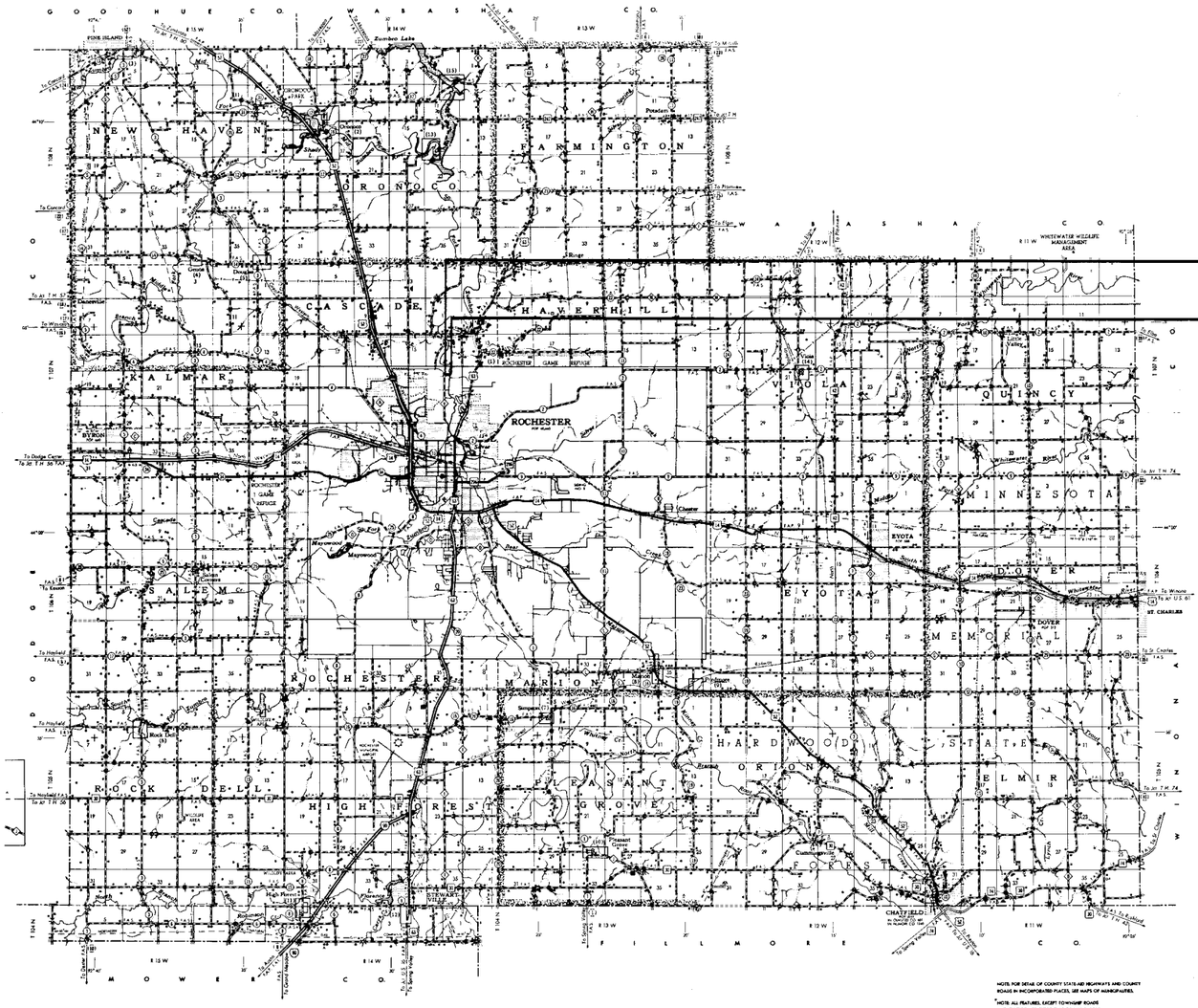
CONSTRUCTION PLAN FOR BRIDGE NO. 55519

COUNTY STATE AID HIGHWAY NO. 22

OVER THE ZUMBRO RIVER 1.25 MILES NORTH OF ROCHESTER

OLMSTED COUNTY, MINNESOTA

GROSS LENGTH	264.68	FEET	.0501 MILES
BRIDGES-LENGTH	264.68	FEET	.0501 MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	264.68	FEET	.0501 MILES



BRIDGE NO. 55519

BEGIN PROJECT STA. 57+82.66

END PROJECT STA. 60+47.34

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
(TIMBER)
CATCH BASIN C.B.
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE

— SPECIFICATIONS —

STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1968 SHALL GOVERN.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

RECOMMENDED FOR APPROVAL

COUNTY ENGINEER DATE 12-16-68

Olmsted COUNTY REG. NO. 8284

RECOMMENDED FOR APPROVAL Karl H. Peterson 12/10 1968
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL R. E. Swenson 1/3/ 1969
BRIDGE DESIGN & PLANNING ENGINEER

APPROVED 1/3 1969 M. Hoy
STATE AID ENGINEER

S.A.P. 55-622-01

Minn. Project No. State Project No.

Olmsted County, Minnesota. County Proj. No. Plan No. Sheet 1 of 18 Sheets

ALBINSON, INC.
MINNEAPOLIS, MINN. 55415

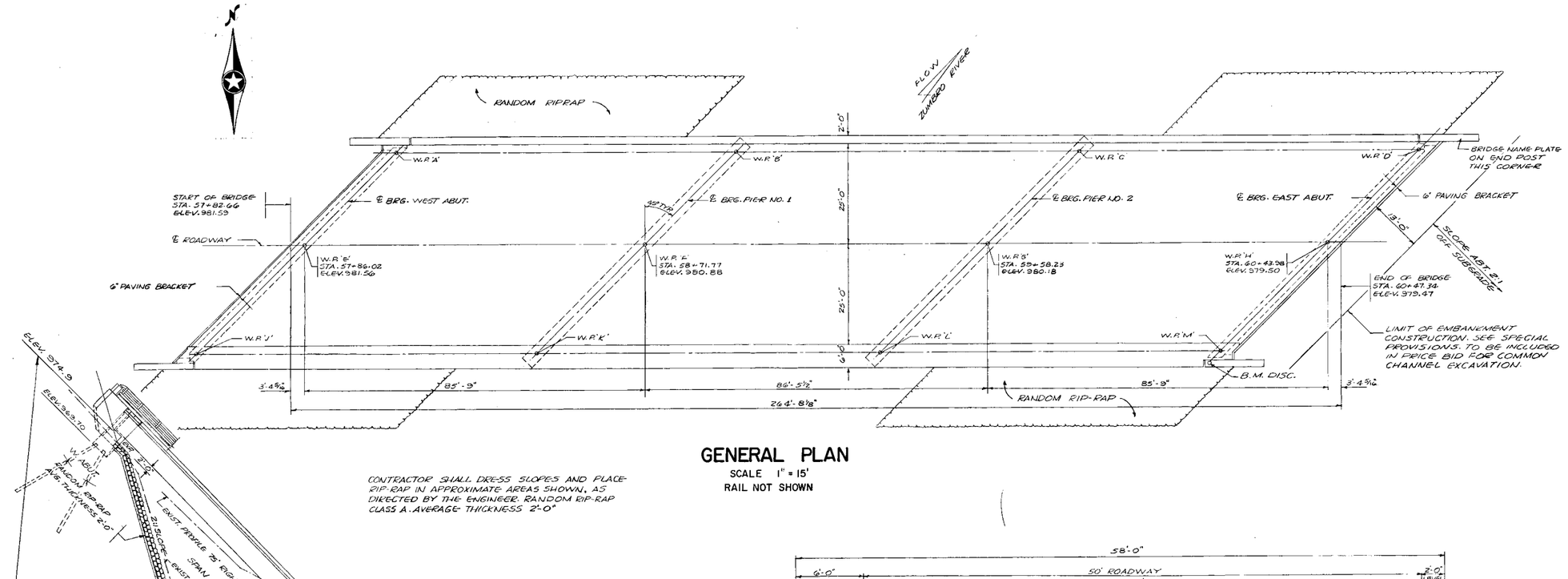
Fed. Proj. No.

DESIGN DATA

1965 A.A.S.H.O. DESIGN SPECIFICATIONS
DESIGN LOADING HS20
MAXIMUM ALLOWABLE DESIGN STRESSES
Fc=1600 p.s.i. n=8
Fs=20 000 p.s.i. REINFORCEMENT
Fs=20 000 p.s.i. STRUCTURAL STEEL M.H.D. 3306
DECK AREA = 15351 SQ. FT.

LIST OF SHEETS

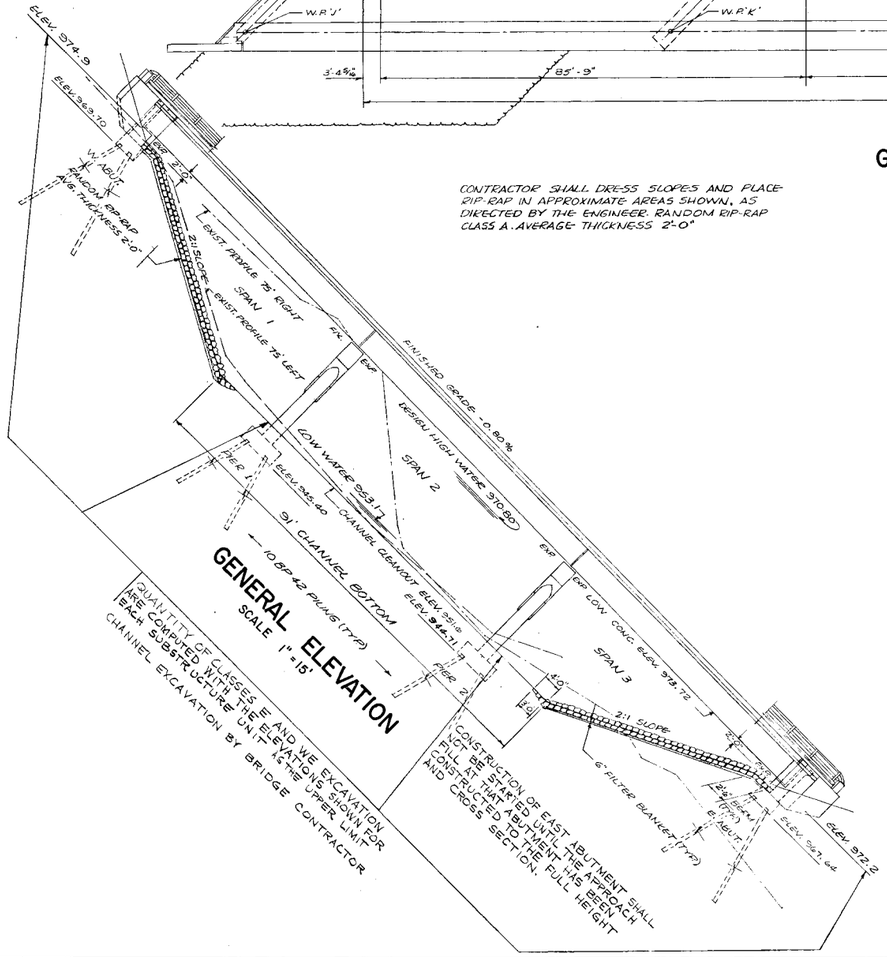
NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN AND ELEVATION
3	BRIDGE LAYOUT
4	ABUTMENT PLAN AND ELEVATION
5	ABUTMENT REINFORCEMENT
6	PIERS, PLAN ELEVATION AND REINFORCEMENT
7	SUPERSTRUCTURE SECTIONS
8	SUPERSTRUCTURE DETAILS
9	54" PRESTRESSED CONC GIRDERS
10	TYPE W RAILING
11	RAILING AND ABUTMENT DETAILS
12	DETAILS
13	DETAILS
14	DETAILS
15	DETAILS
16	BRIDGE SURVEY
17	BRIDGE SURVEY
18	CROSS SECTIONS

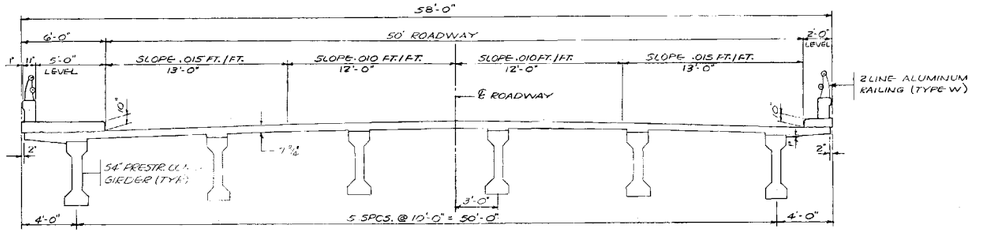


GENERAL PLAN

SCALE 1" = 15'
RAIL NOT SHOWN

CONTRACTOR SHALL DRESS SLOPES AND PLACE RIP-RAP IN APPROXIMATE AREAS SHOWN, AS DIRECTED BY THE ENGINEER. RANDOM RIP-RAP CLASS A: AVERAGE THICKNESS 2'-0"





SECTION THRU SPANS

SCALE 3/16" = 1'-0"
LOOKING WEST

CONSTRUCTION NOTES

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1968 SHALL APPLY.

THE FIRST NUMBER OR THE FIRST TWO NUMBERS OF EACH BAR MARK INDICATE BAR SIZE.

REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE 40

CONCRETE JOINT SEALER OTHER THAN PREFORMED TYPE SHALL COMPLY WITH MHD 3723 OR 3725

B.M. ELEV. 972.70 (M.S.L. 1929 ADJ.)
SPIKE IN 24" ELM STA. 61+43 70' RIGHT

2402.583	2452.520	2452.520
ORNAMENTAL METAL RAILING	STEEL H-TEST PILES 45 FT LONG	STEEL H-TEST PILES 55 FT LONG
LIN FT	PILE	PILE
568	2	2

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2401.501	2401.501	2401.501	2401.521	2401.521	2401.539	2401.540	2402.521	2402.546	2402.593	2402.594	2402.594	2405.501	2105.511	2452.510	2452.511	2452.520	2452.520	2511.501	2511.304	2402.546
ITEM	CONCRETE, MIX NO. 1A43	CONCRETE, MIX NO. 3Y43	CONCRETE, MIX NO. 3Y46A	STRUCTURE EXCAVATION CLASS E	STRUCTURE EXCAVATION CLASS WE	REINFORCEMENT BARS DELIVERED	REINFORCEMENT BARS PLACED	STRUCTURAL STEEL, (3306)	FLOOR DRAINS TYPE 1	FIXED BEARING ASSEMBLIES TYPE 1	EXPANSION BEARING ASSEMBLIES TYPE 1	EXPANSION BEARING ASSEMBLIES TYPE 2	PRESTRESSED CONC. GIRDERS, TYPE 54-86	COMMON CHANNEL EXCAVATION	STEEL H-PILING DRIVEN	STEEL H-PILING DELIVERED	STEEL H-TEST PILES 25 FT. LONG	STEEL H-TEST PILES 30 FT. LONG	RANDOM RIPRAP, CLASS A	FILTER BLANKET, TYPE 1	FLOOR DRAINS TYPE 2
UNIT	CU. YD.	CU. YD.	CU. YD	CU. YD	CU. YD	LB	LB.	LB.	UNIT	UNIT	UNIT	UNIT	GIRDERS	CU. YD.	LIN. FT	LIN. FT	PILE	PILE	CU. YD.	CU. YD.	UNIT
QUANTITY	206	950	91	280	299	188250	188250	1100	3	4	12	20	18	11400	2262	2340	2	2	875	220	3

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED Lester Baker
LESTER BAKER
DATE 12-14-1968 REG. NO. 8191

AGNEBERG SANKSTONE & ASSOC, INC.
REGISTERED ENGINEERS
MINNEAPOLIS, MINNESOTA

OLMSTED COUNTY
DEPARTMENT OF HIGHWAYS

Bridge No. 55519

C.S.A.H. 22 OVER THE ZUMBRO RIVER
1.25 MILES NORTH OF ROCHESTER
86'-86'-86' PRESTR CONC. GDR. SPANS
50' ROADWAY - 45° SKEW RIGHT

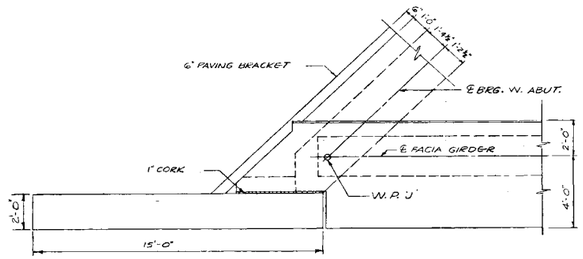
GENERAL PLAN AND ELEVATION

SEC. 23 T. 107 N R. 14 W
CASCADE TOWNSHIP OLMSTED COUNTY
APPROVED: 1-3-69
BRIDGE DESIGN & PLANNING ENGINEER

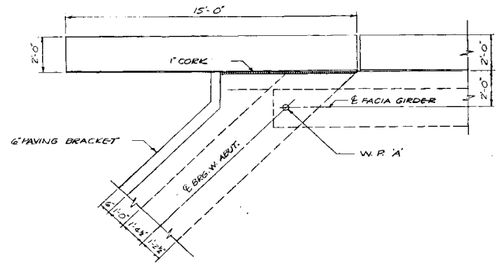
DES. L.S.B. DR. D.T.
CHK. CHK. 55519

Area No. **Job No.** Design Squad ..... S.P. 55-622-01 **Sheet No. 2 of 18 Sheets**

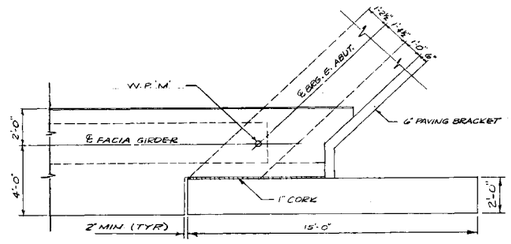
NORSTAR #15



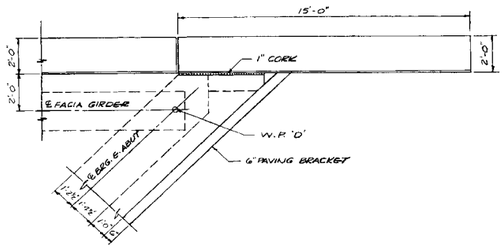
SOUTHWEST CORNER
SCALE 1/4"=1'-0"



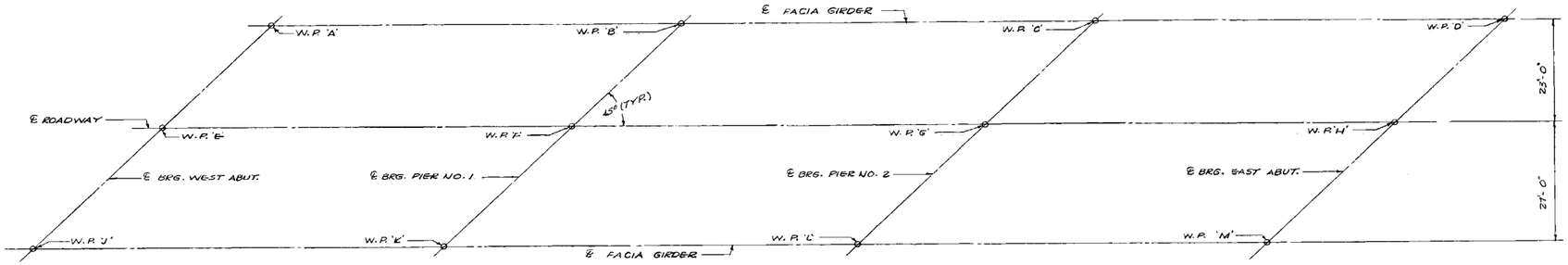
NORTHWEST CORNER
SCALE 1/4"=1'-0"



SOUTHEAST CORNER
SCALE 1/4"=1'-0"



NORTHEAST CORNER
SCALE 1/4"=1'-0"



LAYOUT SHOWING WORKING POINTS
SCALE 1"=15'

THE ENGINEER WILL SET STAKES FOR CONTROL POINTS AND THE ABUTMENT WORKING POINTS SHOWN ON THIS SHEET, AND WILL RESET THESE POINTS AS HE DEEMS NECESSARY FOR PROPER PERFORMANCE OF THE WORK. HE WILL ALSO SET ONE OR MORE BENCH MARKS IN THE VICINITY OF EACH SUBSTRUCTURE UNIT FOR THE CONTRACTOR'S REFERENCE WHEN EXCAVATING FOR THESE UNITS, AND WILL SET GRADE POINTS FOR SUBSTRUCTURE AND SUPERSTRUCTURE FORMS AND FURNISH BEAM STOOL HEIGHTS AS HE DEEMS NECESSARY FOR PROPER PERFORMANCE OF THE WORK. THE HIGHWAY DEPARTMENT WILL BE RESPONSIBLE FOR THE ACCURACY OF THE POINTS SET BY ITS PERSONEL AS DEFINED ABOVE.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH MEASUREMENTS FROM POINTS SET BY THE ENGINEER AS MAY BE NECESSAEY FOR LAYOUT OF THE FORMS AND STRUCTURAL MEMBERS, AND TO PRESERVE THE STAKES AND POINTS SET BY ENGINEER AS SET FORTH IN 1508.

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	A	B	C	D	E	F	G	H	J	K	L	M	POINT
A	58+03.02		85.75	172.21		32.53	66.83	150.97		70.71	61.47	152.04		A
B	58+94.77			86.46	172.21	111.16	32.53	67.56	150.97	144.67	70.71	61.88	132.04	B
C	59+81.23				85.75	196.56	111.88	32.53	66.83	227.76	145.33	70.71	61.47	C
D	60+66.98						136.56	111.16	32.53		227.76	144.67	70.71	D
E	57+86.02						85.75	172.21		38.18	64.66	147.70		E
F	58+71.77							86.46	172.21	115.34	38.18	65.80	147.70	F
G	59+58.23								85.75	201.03	116.63	38.18	64.46	G
H	60+43.98										201.03	115.94	38.18	H
J	57+53.02										85.75	172.21		J
K	58+44.77											86.46	172.21	K
L	59+31.23												85.75	L
M	60+16.98													M

ELEVATIONS

POINT	SLAB ELEV.	SLAB TO SEAT	SEAT ELEV.	POINT
A	981.09	5.55	975.54	A
B	980.41	5.56	974.85	B
C	979.72	5.56	974.16	C
D	979.03	5.55	973.48	D
E	981.56			E
F	980.88			F
G	980.18			G
H	979.50			H
J	981.46	5.55	975.91	J
K	980.78	5.56	975.22	K
L	980.09	5.56	974.53	L
M	979.40	5.55	973.85	M

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55519

BRIDGE LAYOUT

APPROVED: 1-3-69

DES. L.S.B.	DR. D.T.	55519
CHK.	CHK.	

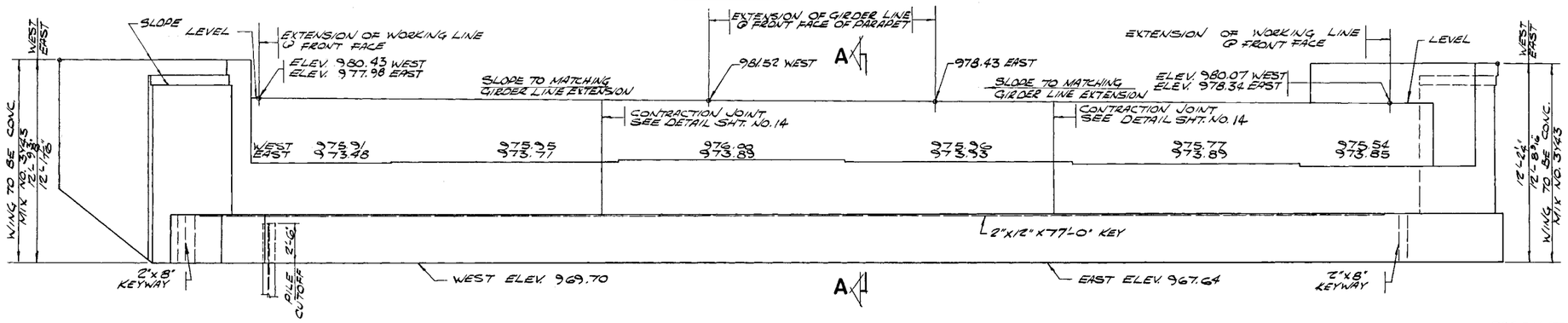
Sheet No. 3 of 18 Sheets

SUMMARY OF QUANTITIES FOR TWO ABUTMENTS

	STRUCTURE EXCAVATION (CLASS E)	280 CU. YDS.
	CONCRETE MIX NO. 1A43	96 CU. YDS.
	CONCRETE MIX NO. 3Y43	134 CU. YDS.
	REINFORCEMENT BARS	13510 LB.
(1)	BENCH MARK DISK	ONE
(2)	ANCHOR BOLTS	24 BOLTS
	2-STEEL TEST PILES IN PLACE	45 FT. LONG
	2-STEEL TEST PILES IN PLACE	55 FT. LONG
(3)	STEEL PILING, DELIVERED	1170 LIN. FT.

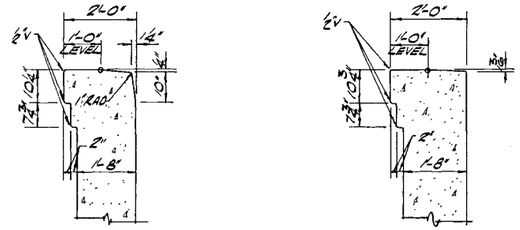
(1) COUNTY WILL FURNISH DISC. PAYMENT FOR PLACING, TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE MN/D STD. PLT. NO. 9301 FOR PLACING.
(2) INCLUDED WITH BEARING ASSEMBLIES.
(3) DOES NOT INCLUDE TEST PILES.

COMPUTED PILE LOADS	TONS/PILE
DEAD LOAD & EARTH PRESSURE	42.0
LIVE LOAD	7.9
TOTAL	49.9



FRONT ELEVATION

SCALE: 4"=1'-0"



WING SECTION ON NORTH SIDE OF BRIDGE (N.E. & N.W. CORNERS)

WING SECTION ON SOUTH SIDE OF BRIDGE (S.E. & S.W. CORNERS)

PILE NOTES

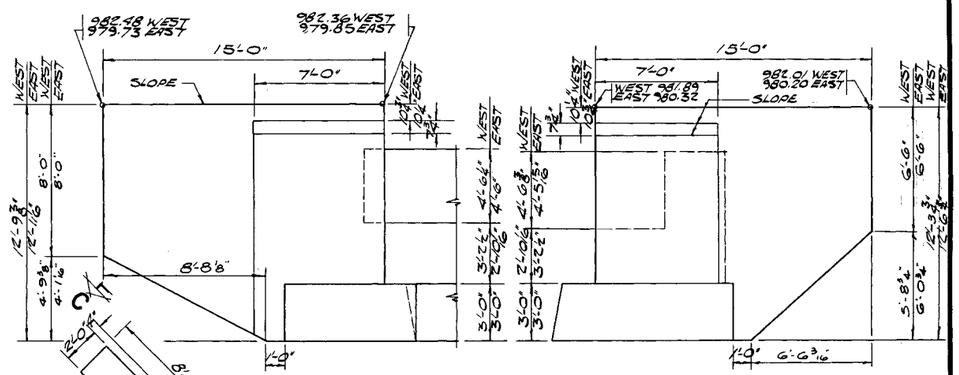
2-STEEL TEST PILES 45 FT. LONG.
13-STEEL PILES ESTIMATED LENGTH 40 FEET.
15-STEEL PILES REQ'D. FOR WEST ABUTMENT.

2-STEEL TEST PILES 55 FT. LONG.
13-STEEL PILES ESTIMATED LENGTH 50 FEET.
15-STEEL PILES REQ'D. FOR EAST ABUTMENT.

ALL PILES TO BE 10 BP 42
ESTIMATED PENETRATION 1 FT. LESS THAN LENGTH GIVEN.

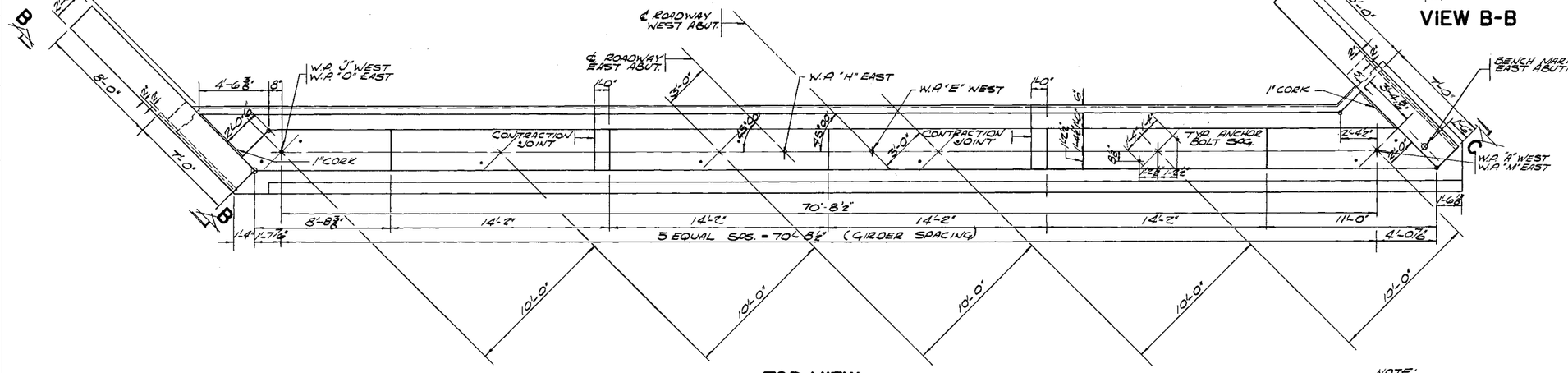
PILES MARKED THUS ⊢ TO BE BATTERED 3" PER FT. IN DIRECTION SHOWN.

FOR SPLICES & TIP REINFORCEMENT SEE DETAIL B221 SHEET NO. 13.



VIEW B-B

VIEW C-C

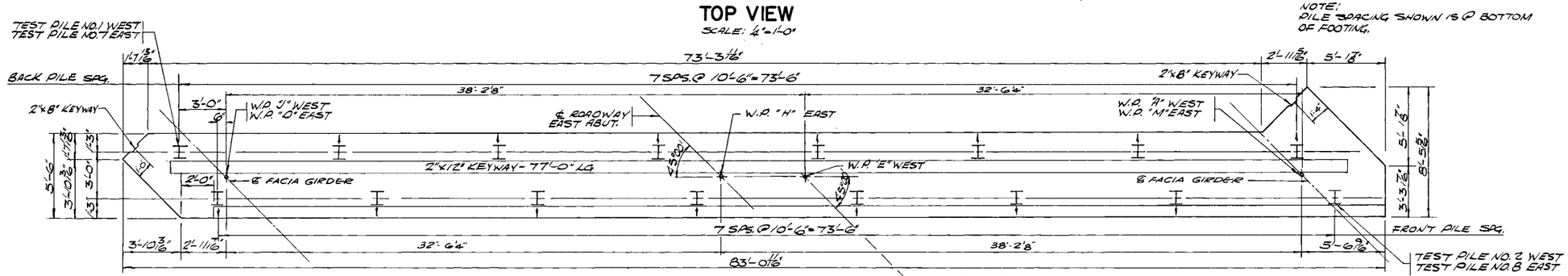


SECTION A-A

SCALE: 2"=1'-0"

TOP VIEW

SCALE: 4"=1'-0"



FOOTING PLAN

SCALE: 4"=1'-0"

NOTE:
PILE SPACING SHOWN IS @ BOTTOM OF FOOTING.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

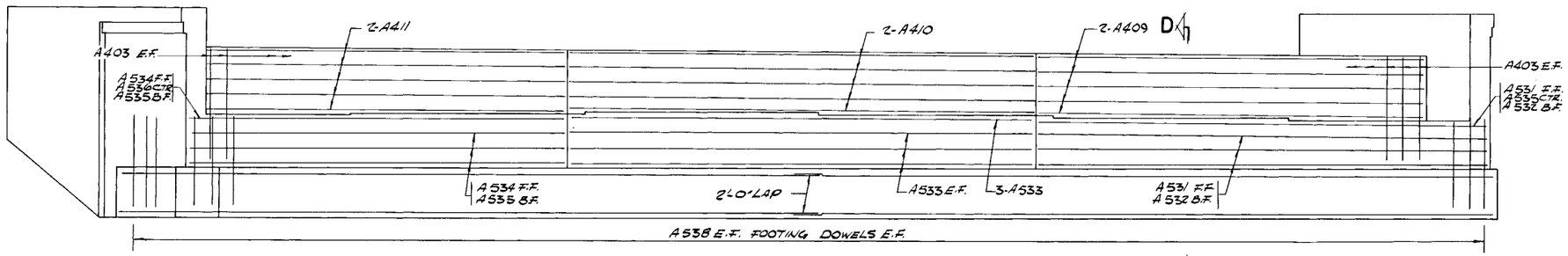
Bridge No. 55519

ABUTMENT PLAN & ELEVATION

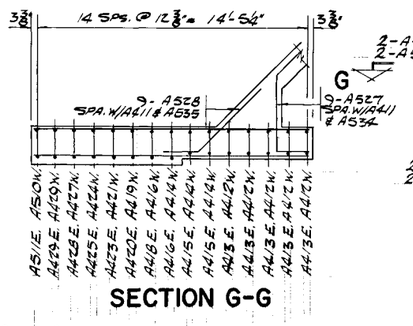
APPROVED: 1-3-69

DES. L.S.B.	DR. V.M.	55519
CHK.	CHK.	

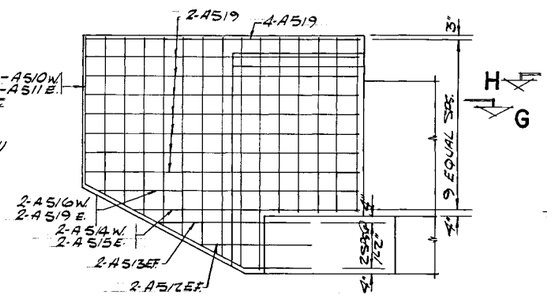
Sheet No. 4 of 18 Sheets



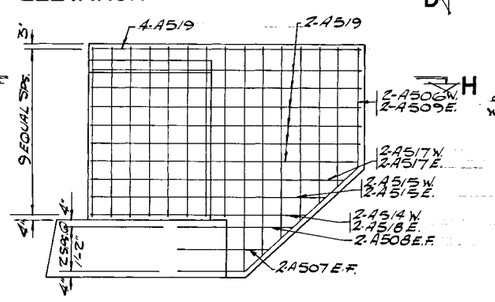
FRONT ELEVATION



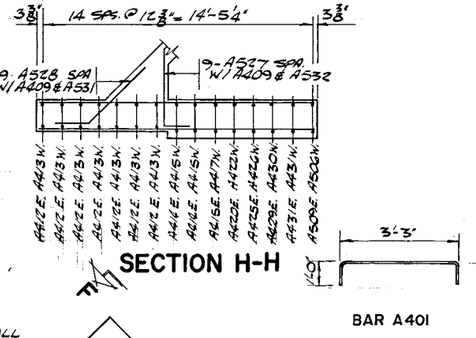
SECTION G-G



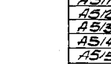
VIEW E-E



VIEW F-F



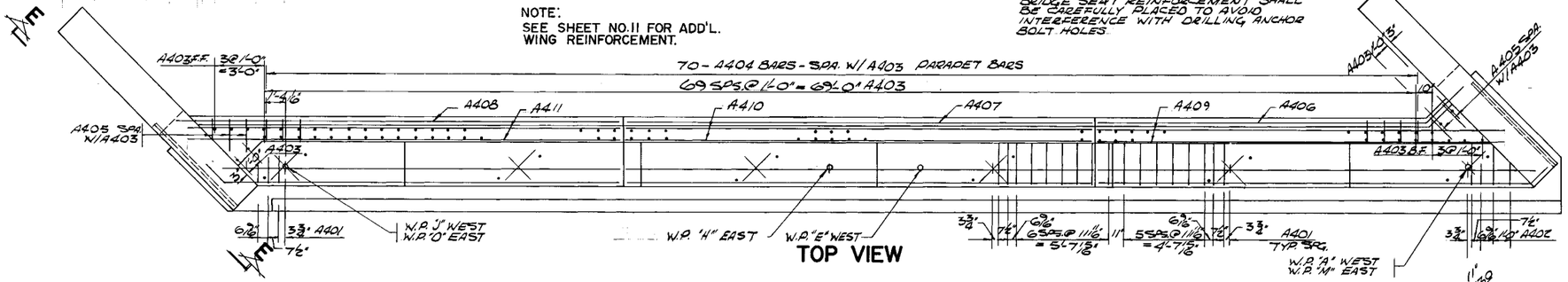
SECTION H-H



BAR A401

NOTE:
SEE SHEET NO.11 FOR ADD'L. WING REINFORCEMENT.

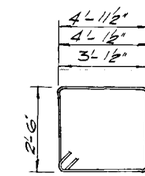
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING ANCHOR BOLT HOLES.



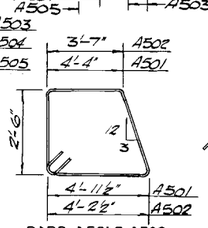
TOP VIEW

FOOTING PLAN

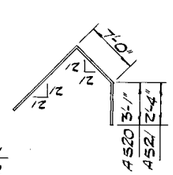
SECTION D-D



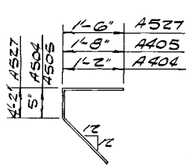
BARS A503, A504 & A505



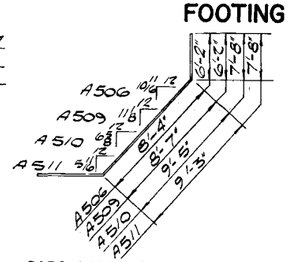
BARS A501 & A502



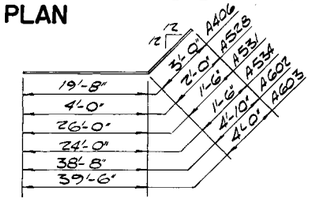
BARS A520 & A521



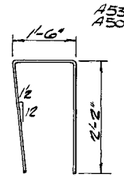
BARS A404, A405 & A527



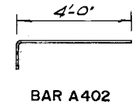
BARS A506, A509, A510 & A511



BARS A406, A528, A531, A534, A602 & A603



BAR A432



BAR A402

BILL OF REINFORCEMENT FOR TWO ABUTMENTS

	MARK	SIZE	NO	LENGTH	SHAPE	LOCATION
	A407	#4	176	5'-3"	BENT	BRIDGE SEAT
	A402	"	8	5'-0"	"	"
	A403	"	300	6'-5"	STR.	PARAPET VERTICAL
	A404	"	140	2'-11"	BENT	PAVING BRACKET
	A405	"	10	3'-5"	"	"
	A406	"	2	22'-8"	"	"
	A407	"	2	28'-2"	STR.	"
	A408	"	2	27'-0"	"	"
	A409	"	20	24'-6"	"	PARAPET HORIZONTAL
	A410	"	20	28'-2"	"	"
	A411	"	20	26'-0"	"	"
	A412	"	24	9'-5"	"	WINGWALL VERTICAL
	A413	"	24	8'-11"	"	"
	A414	"	10	12'-1"	"	"
	A415	"	10	11'-7"	"	"
	A416	"	4	11'-1"	"	"
	A417	"	2	10'-9"	"	"
	A418	"	2	10'-7"	"	"
	A419	"	2	10'-5"	"	"
	A420	"	4	10'-1"	"	"
	A421	"	2	9'-11"	"	"
	A422	"	2	9'-10"	"	"
	A423	"	2	9'-7"	"	"
	A424	"	2	9'-4"	"	"
	A425	"	4	9'-2"	"	"
	A426	"	2	8'-11"	"	"
	A427	"	2	8'-9"	"	"
	A428	"	2	8'-8"	"	"
	A429	"	6	8'-2"	"	"
	A430	"	2	8'-0"	"	"
	A431	"	4	7'-2"	"	"
①	A432	"	116	6'-0"	BENT	WINGWALL TIE
	A501	#5	128	15'-6"	BENT	FOOTING TIE
	A502	"	2	14'-0"	"	"
	A503	"	4	16'-2"	"	"
	A504	"	2	14'-6"	"	"
	A505	"	2	13'-6"	"	"
	A506	"	2	18'-6"	"	FOOTING DOWEL HORIZ.
	A507	"	4	6'-4"	STR.	"
	A508	"	4	7'-7"	"	"
	A509	"	2	18'-9"	BENT	"
	A510	"	2	21'-1"	"	"
	A511	"	2	20'-11"	"	"
	A512	"	4	7'-3"	STR.	"
	A513	"	4	9'-4"	"	"
	A514	"	4	11'-8"	"	WINGWALL HORIZONTAL
	A515	"	6	12'-8"	"	"
	A516	"	2	13'-6"	"	"
	A517	"	4	13'-9"	"	"
	A518	"	2	11'-6"	"	"
	A519	"	70	14'-7"	"	"
	A520	"	4	11'-6"	"	FOOTING HORIZONTAL
	A521	"	2	10'-1"	"	"
	A527	"	36	7'-6"	BENT	"
	A528	"	36	6'-0"	"	"
	A530	"	308	4'-10"	STR.	FOOTING DOWEL VERT.
	A531	"	8	27'-6"	BENT	BRIDGE SEAT
	A532	"	8	24'-6"	STR.	"
	A533	"	18	28'-2"	"	"
	A534	"	8	25'-6"	BENT	"
	A535	"	10	26'-0"	STR.	"
	A536	"	2	24'-6"	"	"
	A601	#6	12	42'-0"	STR.	FOOTING LONGITUDINAL
	A602	"	2	43'-6"	BENT	"
	A603	"	2	41'-11"	"	"
	A604	"	4	41'-0"	STR.	"
	A605	"	4	39'-3"	"	"

① SEE SHEET NO 11 FOR PLACEMENT.

ALL BAR DIMENSIONS ARE OUT TO OUT.

ALL BAR DETAILS SHALL CONFORM TO A.C.I. 315 (LATEST EDITION).

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

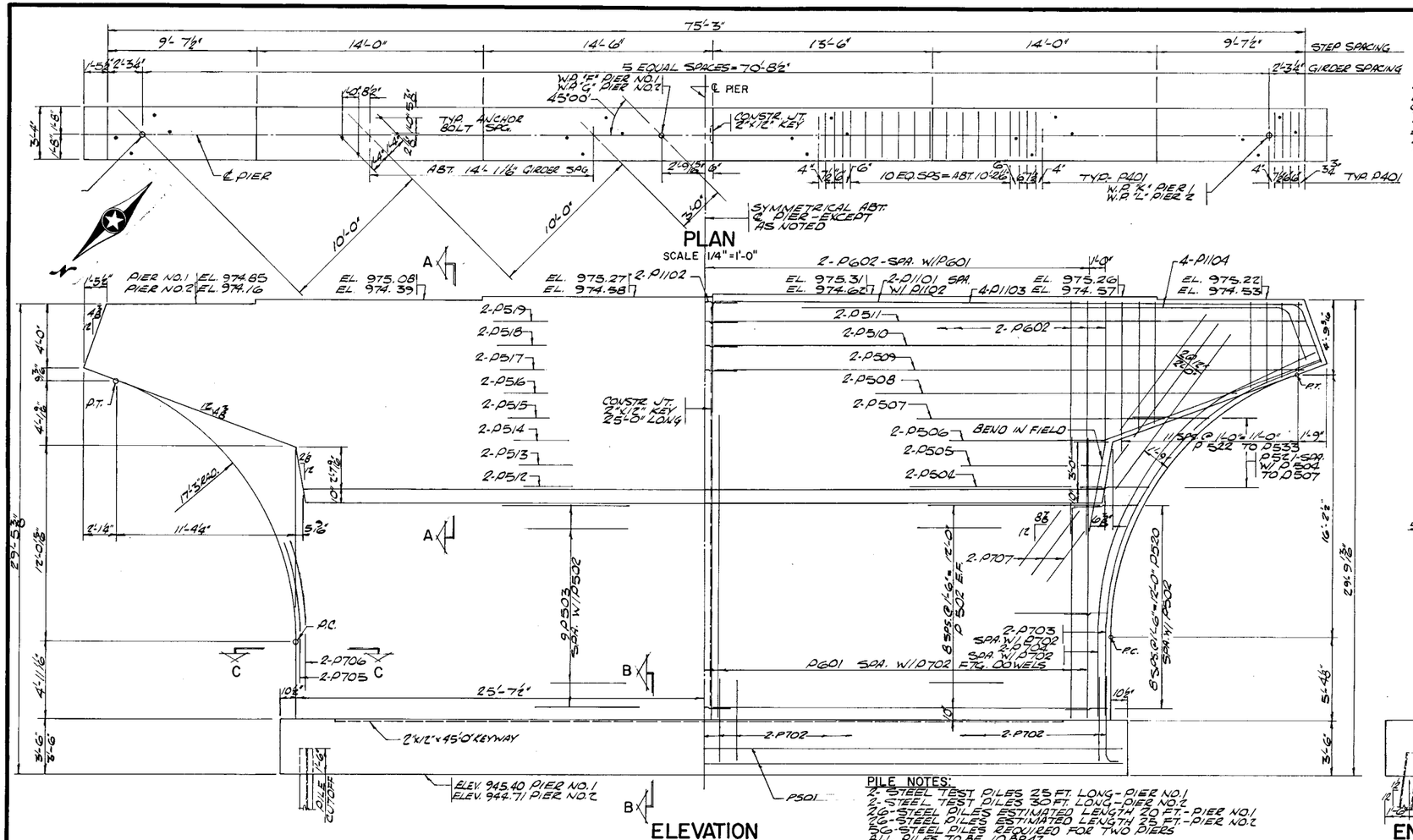
Bridge No. 55519

ABUTMENT REINFORCEMENT

APPROVED: 1-3-69

DES. L.S.B.	DR. V.M.	55519
CHK.	CHK.	

Sheet No. 5 of 18 Sheets



SUMMARY OF QUANTITIES FOR TWO PIERS

	CLASS 'WE' EXCAVATION	299 YDS.
	CONCRETE MIX NO. 1A43	110 YDS.
	CONCRETE MIX NO. 3Y43	338 YDS.
	REINFORCEMENT BARS	32390 LB.
	2-STEEL H-TEST PILES	25 FT. LONG
	2-STEEL H-TEST PILES	30 FT. LONG
①	STEEL PILING, DELIVERED	1170 LIN. FT.
②	ANCHOR BOLTS	

① DOES NOT INCLUDE TEST PILES.
② INCLUDED WITH BEARING ASSEMBLIES.

BILL OF REINFORCEMENT FOR TWO PIERS

MARK	SIZE	NO.	LENGTH	SHAPE	LOCATION
P401	#4	186	5'-6"	BENT	CAP TIES
P501	#5	40	27'-3"	STR.	FTG. LONGITUDINAL
P502	"	36	23'-10"	"	SHAFT HORIZONTAL
P503	"	36	26'-6"	"	" "
P504	"	4	24'-4"	"	" "
P505	"	4	23'-7"	"	" "
P506	"	4	38'-11"	BENT	" "
P507	"	4	28'-3"	STR.	" "
P508	"	4	32'-9"	"	" "
P509	"	4	36'-10"	"	" "
P510	"	4	37'-9"	"	" "
P511	"	4	37'-2"	"	" "
P512	"	4	27'-1"	"	" "
P513	"	4	27'-4"	"	" "
P514	"	4	41'-6"	BENT	" "
P515	"	4	32'-0"	STR.	" "
P516	"	4	36'-3"	"	" "
P517	"	4	40'-1"	"	" "
P518	"	4	40'-3"	"	" "
P519	"	4	39'-9"	"	" "
P520	"	36	9'-3"	BENT	SHAFT @ ENDS
P521	"	16	13'-3"	"	" "
P522	"	4	20'-10"	"	CAP STIRRUP
P523	"	4	20'-0"	"	" "
P524	"	4	19'-2"	"	" "
P525	"	4	18'-6"	"	" "
P526	"	4	17'-8"	"	" "
P527	"	4	16'-10"	"	" "
P528	"	4	16'-2"	"	" "
P529	"	4	15'-6"	"	" "
P530	"	4	14'-10"	"	" "
P531	"	4	14'-2"	"	" "
P532	"	4	13'-6"	"	" "
P533	"	4	12'-8"	"	" "
P601	#6	196	18'-0"	STR.	SHAFT VERTICAL
P602	"	204	15'-7"	BENT	" "
P701	#7	158	9'-2"	BENT	FOOTING TRANSVERSE
P702	"	212	7'-1"	"	FOOTING DOWELS
P703	"	4	27'-9"	"	SHAFT VERTICAL
P704	"	4	28'-0"	"	" "
P705	"	4	27'-5"	"	" "
P706	"	4	27'-8"	"	" "
P707	"	24	20'-0"	STR.	SHAFT DIAGONAL
P1101	#11	4	36'-10"	STR.	CAP LONGITUDINAL
P1102	"	4	41'-5"	"	" "
P1103	"	16	28'-6"	BENT	" "
P1104	"	16	34'-0"	"	" "

COMPUTED PILE LOADS

	TONS/PILE
DEAD LOAD	38.9
LIVE LOAD	4.4
OVERTURNING	23.5
TOTAL	66.8

66.8 / 1.25 = 53.4 - REDUCTION PER A.A.S.H.O. 1.2.22

55 - REQUIRED MINIMUM BEARING TONS PER PILE.

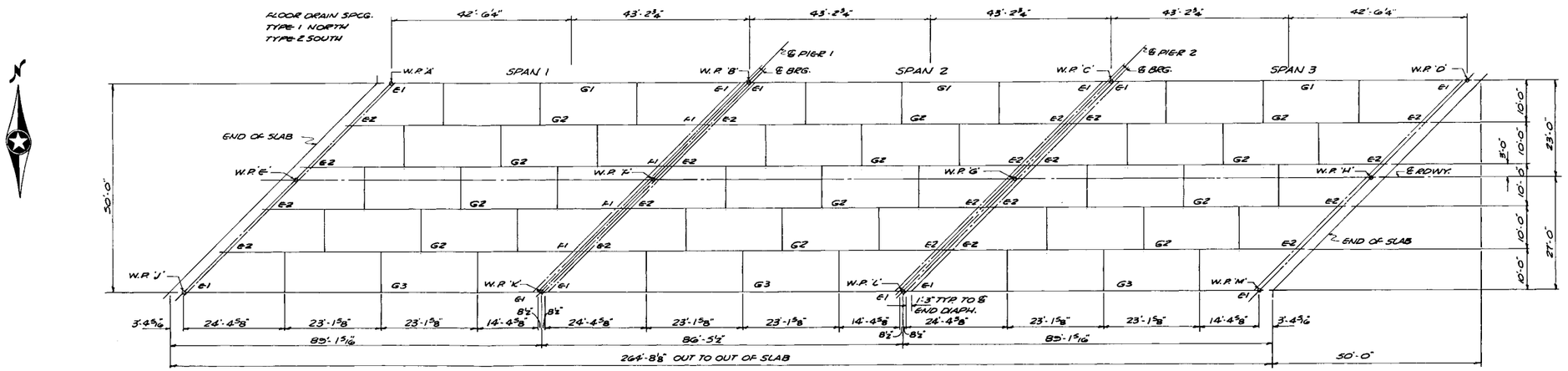
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55519

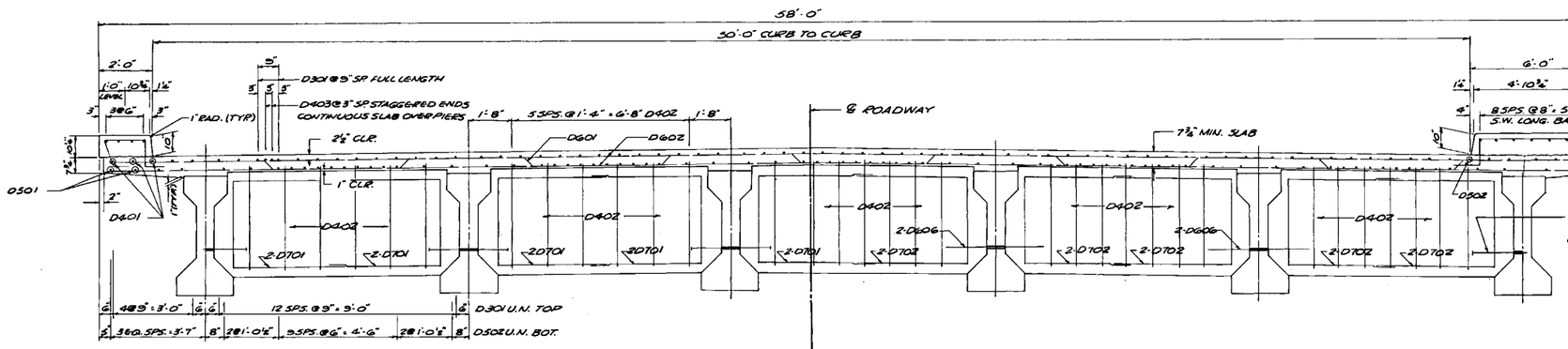
PIERS PLAN, ELEVATION & REINFORCEMENT

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CHK.	CHK.	

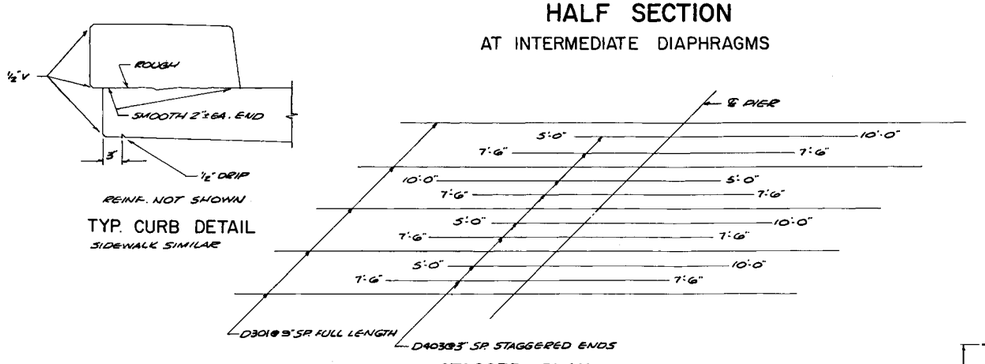
Sheet No. 6 of 18 Sheets



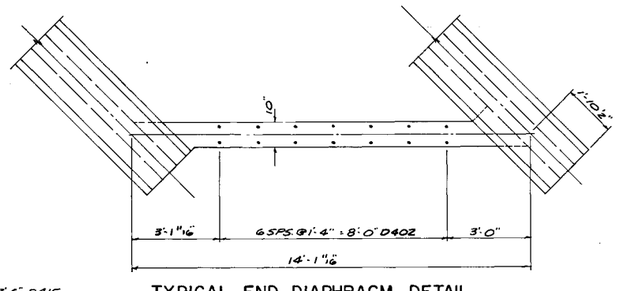
FRAMING PLAN

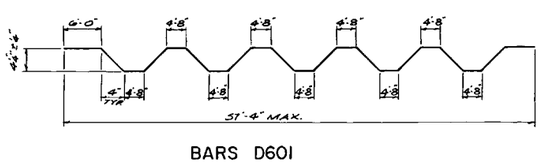


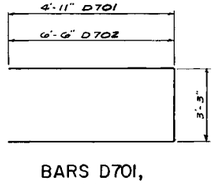
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

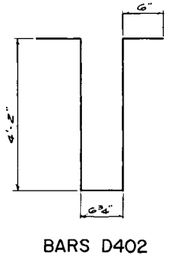


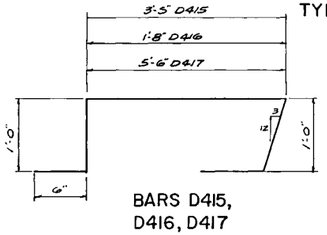
HALF SECTION
AT END DIAPHRAGMS

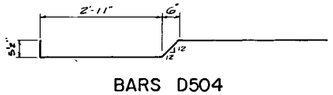


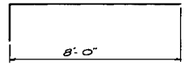












BILL OF REINFORCEMENT - SUPERSTRUCTURE

	BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
	D301	#3	612	30'-3"	STR.	SLAB LONGIT.
	D401	#4	34	29'-4"	STR	SLAB LONGIT.
	D402	#4	480	5'-11"	BENT	DIAPH. STIRRUP
	D403	#4	260	15'-0"	STR.	SLAB LONGIT. @ PIER
	D404	#4	7	21'-6"	STR.	CURB LONGIT.
	D405	#4	7	25'-6"	STR.	CURB LONGIT.
	D406	#4	52	29'-8"	STR.	CURB LONGIT.
	D407	#4	26	28'-5"	STR.	CURB LONGIT.
	D408	#4	13	28'-6"	STR.	CURB LONGIT.
(1)	D409	#4	3	57'-0"	STR.	CURB LONGIT.
	D410	#4	3	28'-9"	STR.	CURB LONGIT.
	D411	#4	1	29'-6"	STR.	CURB LONGIT.
	D412	#4	1	29'-8"	STR.	CURB LONGIT.
	D413	#4	1	30'-4"	STR.	CURB LONGIT.
	D414	#4	8	5'-0"	STR.	CURB ENDS
	D415	#4	10	6'-5"	BENT	CURB STIRRUP
	D416	#4	343	4'-8"	BENT	CURB STIRRUP
	D417	#4	343	8'-6"	BENT	CURB STIRRUP
	D501	#5	34	29'-7"	STR.	SLAB LONGIT.
	D502	#5	675	30'-10"	STR.	SLAB LONGIT.
	D503	#5	108	8'-4"	BENT	SLAB LONGIT. @ ABUT.
	D504	#5	72	8'-6"	BENT	SLAB LONGIT. @ ABUT.
	D601	#6	219	58'-0"	BENT	SLAB TRANSV.
	D602	#6	436	57'-4"	STR.	SLAB TRANSV.
	D603	#6	64	56'-5"	STR.	SLAB TRANSV.
(2)	D604	#6	408	SEE BELOW	STR.	SLAB. TRANSV.
	D605	#6	24	38'-8"	STR.	SLAB TRANSV. @ ABUT.
	D606	#6	48	8'-0"	STR.	DIAPH. END
	D701	#7	180	13'-1"	BENT	DIAPH. EA. GM.
	D702	#7	120	16'-3"	BENT	DIAPH. EA. GM.

(1) CUT 2 FROM 1
(2) LENGTH VARIES - CUT 4 OF EACH
LONGEST = 53'-5"
SHORTEST = 6'-9"

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE

	CONCRETE MIX NO. 3Y43	478 CU YD.
(3)	CONCRETE MIX NO. 3Y46A	91 CU. YD.
(3)	REINFORCEMENT	142350 LB.
	FIXED BEARING ASS'Y (TYPE 1)	4 UNIT
	EXPANSION BEARING ASS'Y (TYPE 1)	12 UNIT
	EXPANSION BEARING ASS'Y (TYPE 2)	20 UNIT
(4)	PROTECTION ANGLE	
(6)(5)	BRIDGE NAME PLATE (DETAIL 2104)	1 UNIT
(6)(4)	PREFORMED JOINT FILLER (SEE LIST-THIS SHEET)	
(7)	FLOOR DRAIN (TYPE 1)	3 UNIT
	PRESTRESSED GIRDERS (TYPE 54-86)	18 GIRDERS
(8)	FLOOR DRAIN (TYPE 2)	3 UNIT

(3) INCLUDES RAILING QUANTITIES
(4) INCLUDED IN STRUCTURAL STEEL (3306)
(5) OLMSTED COUNTY MINNESOTA
BRIDGE 55519
1969
(6) INCLUDED IN PRICE BID FOR OTHER ITEMS
THE VOLUME OF DECK CONCRETE FOR PAYMENT SHALL BE COMPUTED USING AN AVERAGE STOOL HEIGHT OF 1 INCH.
(7) NORTH SIDE GUTTER
(8) SOUTH SIDE GUTTER

LIST OF PREFORMED JOINT FILLER

	POS.	TYPE	SIZE	LOCATION
	2	CORK	1" × 7'-1" × 1'-6"	ABUT. @ CORNER
	2	CORK	1" × 4'-7" × 1'-6"	ABUT. @ CORNER
	2	BIT. FELT	1/2" × 1'-0" × 77'-6"	ABUT. PARAPET
(1)	1	BIT. FELT	1/2" × 2'-6" × 2'-6"	ABUT. PARAPET
(1)	1	BIT. FELT	1/2" × 2'-0" × 2'-0"	ABUT. PARAPET

BIT FELT SHALL COMPLY WITH M.H.D. 3701
CORK SHALL COMPLY WITH M.H.D. 3702. SECURE CORK WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CTRS. INCLUDED IN PRICE BID FOR OTHER ITEMS.
THE LIST OF JOINT FILLER IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. ANY ADDITIONAL JOINT FILLER REQUIRED AS SHOWN ON THE PLANS SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

STATE OF MINNESOTA
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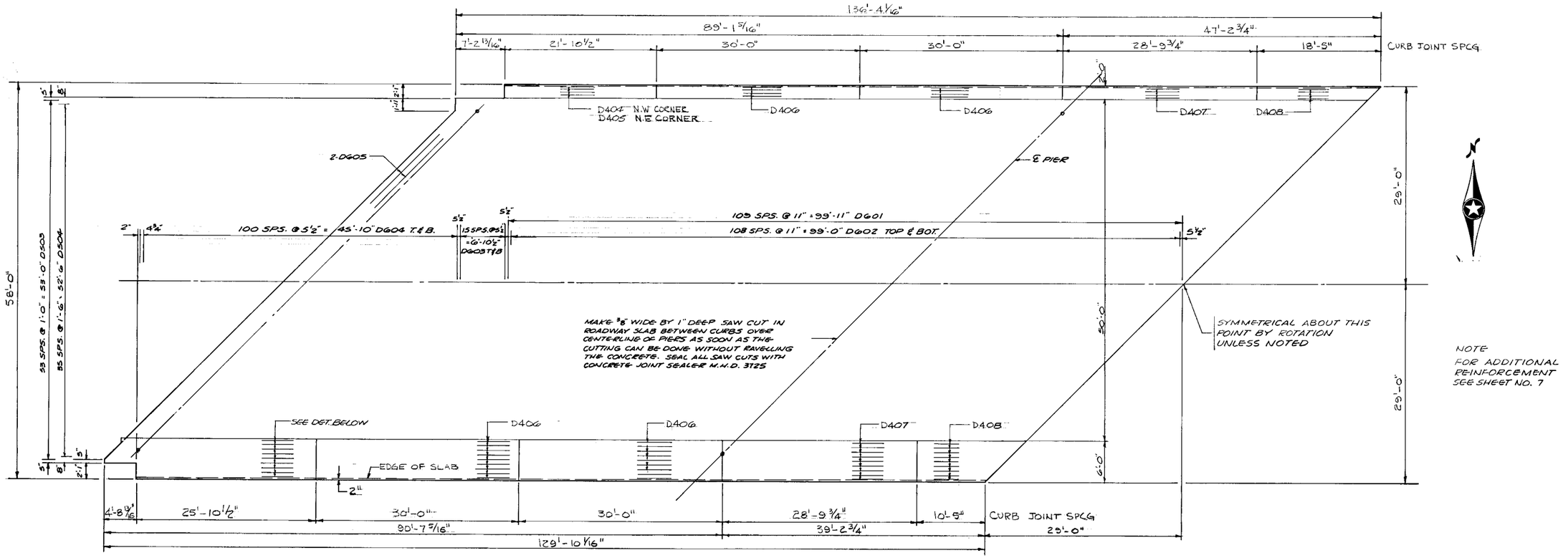
Bridge No. 55519

SUPERSTRUCTURE SECTIONS

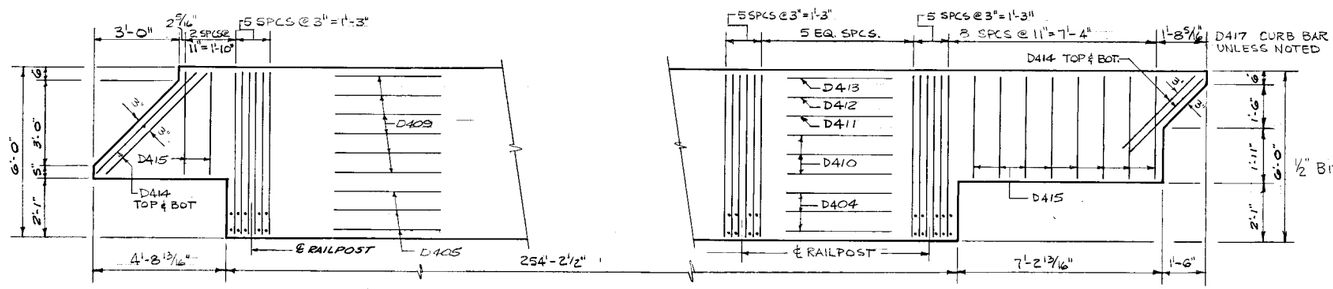
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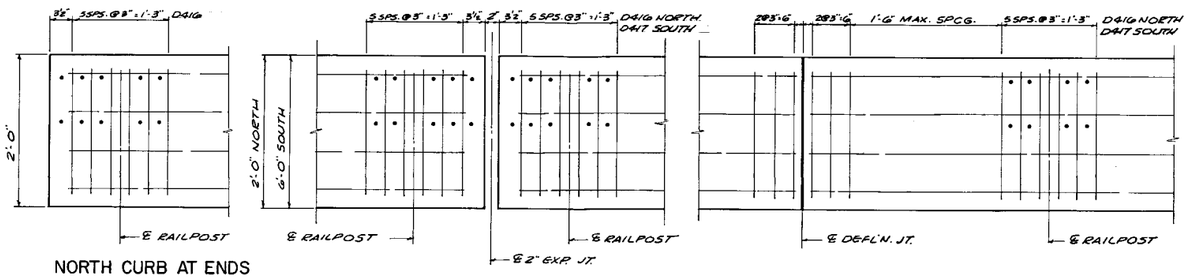
DECK PLAN - WEST HALF

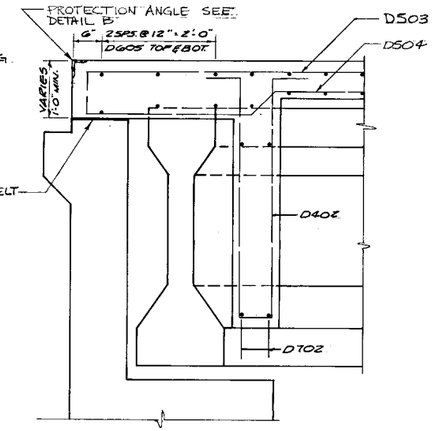


SOUTHWEST CORNER SIDEWALK DETAIL

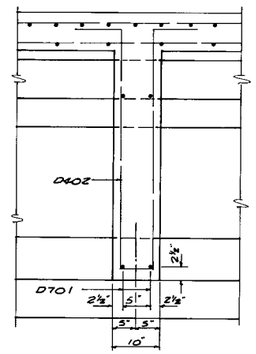
SOUTHEAST CORNER SIDEWALK DETAIL

SEE SHEET 11 FOR RAILPOST BAR SPACING



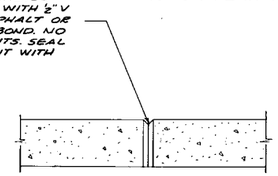


SECTION PERP. TO ABUT.



LONG. SECT. AT INTERIOR DIAPH.

FINISH TOP OF ALL CURB, SIDEWALK, AND MEDIAN JOINTS WITH SMALL RADIUS EDGER AND VERTICAL EDGES WITH 1/2" V STRIPS. PAINT JOINT WITH ASPHALT OR APPROVED EQUAL TO BREAK BOND. NO REINFORCEMENT THRU JOINTS. SEAL TOP AND FRONT FACE OF JOINT WITH JOINT SEALER M.H.D. 3725.



CONSTRUCTION JOINT IN CURB

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55519

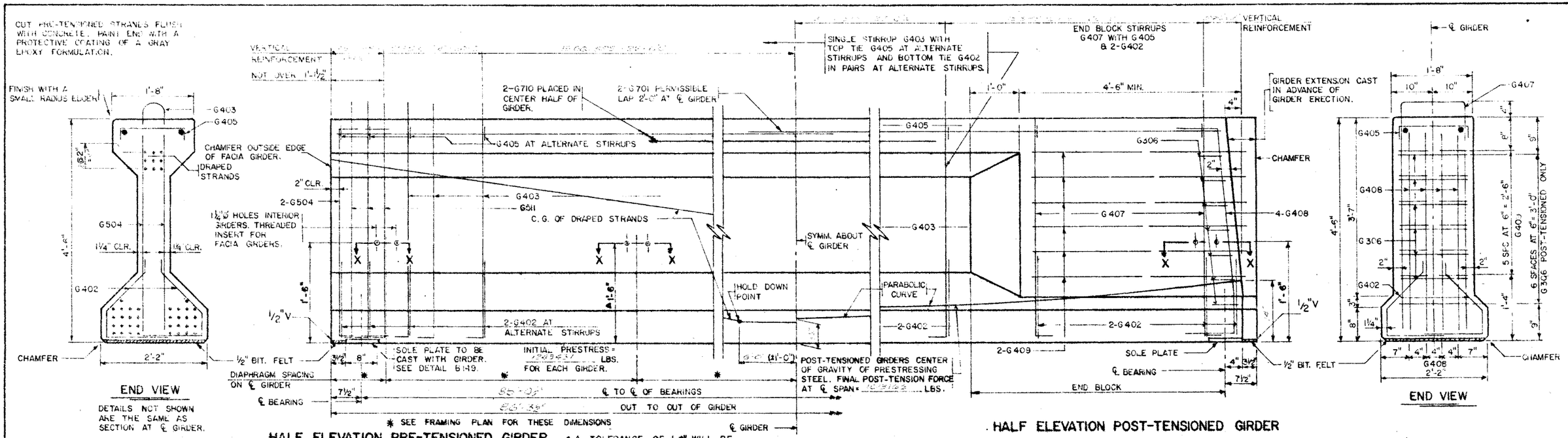
SUPERSTRUCTURE DETAILS

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CHK.	CHK.	

Sheet No. 8 of 18 Sheets

CUT PRE-TENSIONED STRANDS FLUSH WITH CONCRETE. PAINT END WITH A PROTECTIVE COATING OF A GRAY EPOXY FORMULATION.



END VIEW

DETAILS NOT SHOWN ARE THE SAME AS SECTION AT ℄ GIRDER.

HALF ELEVATION PRE-TENSIONED GIRDER

APPROX. WT. ___ TONS

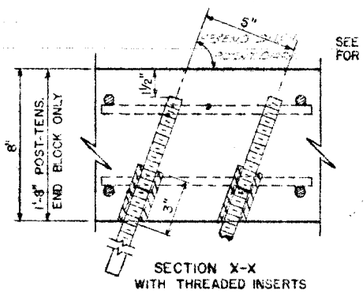
✱ SEE FRAMING PLAN FOR THESE DIMENSIONS

✱ A TOLERANCE OF ± 6" WILL BE PERMITTED IN THIS DIMENSION.

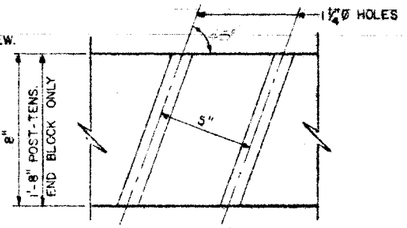
END VIEW

HALF ELEVATION POST-TENSIONED GIRDER

DETAILS AND DIMENSIONS NOT SHOWN ARE THE SAME AS FOR PRE-TENSIONED GIRDERS.

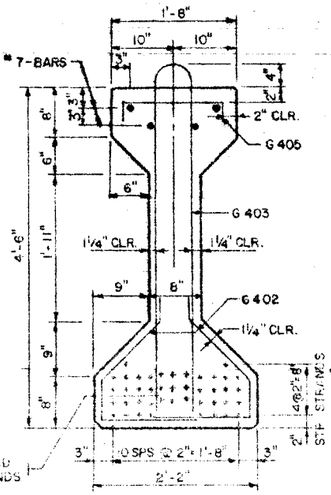


SECTION X-X
WITH THREADED INSERTS

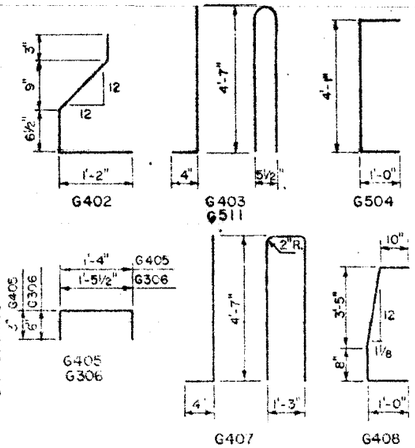


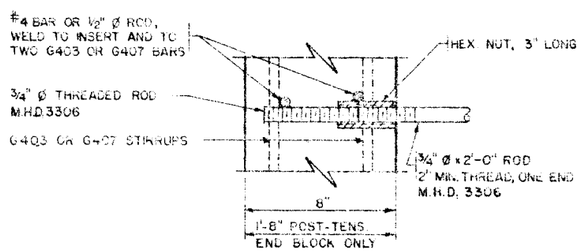
SECTION X-X
WITHOUT THREADED INSERTS

INTERMEDIATE STIRRUPS MAY BE SHIFTED THE MINIMUM DISTANCE REQUIRED TO CLEAR HOLES OR INSERTS FOR INTERMEDIATE DIAPHRAGMS.

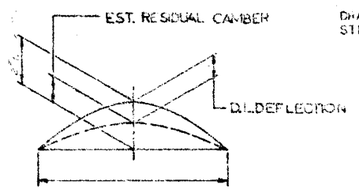


SECTION AT ℄ GIRDER
(STRANDS FOR PRE-TENSIONED SHOWN)



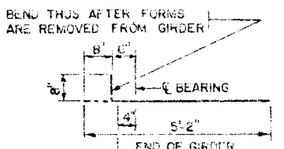


SECTION THRU THREADED INSERTS AND RODS IN FACIA GIRDERS AND IN INTERMEDIATE GIRDERS AT STAGGERED DIAPHRAGMS
(NO PAINT)



CAMBER DIAGRAM

DEFLECTIONS SHOWN ARE FOR WEIGHT OF SLAB, CURB, RAILING, AND DIAPHRAGMS ONLY. THE ENGINEER WILL TAKE ELEVATIONS AT TOP OF GIRDERS AFTER ERECTION AND WILL ALLOW FOR DEFLECTIONS SHOWN TO ENABLE THE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.



G409

Y DISTANCES (IN INCHES)			
	NO.	℄ SPAN	END
STRAIGHT STRANDS			
DRAPED STRANDS			D
TOTAL STRANDS			

Y = DISTANCE OF CENTER OF GRAVITY OF PRE-TENSIONED STRANDS FROM BOTTOM OF GIRDER. ALL STRANDS SPACED AT 2" CENTERS BOTH DIRECTIONS

ALL STRANDS ½" Ø _____ KIP

D A TOLERANCE OF ± 2" WILL BE PERMITTED IN THIS DIMENSION.

GENERAL NOTES

SEE FRAMING PLAN FOR GIRDER ENDS MARKED "X"

TOPS OF GIRDERS SHALL BE ROUGH FLOATED & BROOMED TRANSVERSELY FOR BOND.

PROVIDE HANDLING HOOKS OR DEVICES AS REQUIRED BY CONTRACTOR. HOOKS OR DEVICES PROVIDED WILL BE SUBJECT TO APPROVAL OF ENGINEER AND SHALL BE INSTALLED WITHIN 4'-0" OF THE END OF GIRDER.

A MODIFIED STRAND PATTERN WHICH DOES NOT CHANGE CENTER OF GRAVITY OF STRANDS MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

EACH GIRDER SHALL BE MARKED, SHOWING BRIDGE NUMBER, CASTING DATE, AND INDIVIDUAL IDENTIFICATION LETTERS AND NUMBERS. MARKINGS SHALL BE MADE ON THE FACE OF THE GIRDER, NEAR THE END, SO LOCATED THAT THEY WILL BE EXPOSED AFTER THE END DIAPHRAGMS HAVE BEEN CAST. FACIA GIRDERS SHALL BE MARKED ON AN INSIDE FACE. ALL MARKINGS SHALL BE STENCILLED, AND BE CLEARLY LEGIBLE. FOR LOCATION OF GIRDERS, SEE FRAMING PLAN.

ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE GIRDERS. SEE M.H.D. 2405.

MINIMUM CONCRETE STRENGTHS - P.S.I.		
	PRE-TENSIONED	POST-TENSIONED
	①②③④ f'c	①②③④ f'c
COMPUTED MIN. CONC. STRENGTH		
REQUIRED MIN. CONC. STRENGTH		

① MINIMUM CONCRETE STRENGTH AT TIME OF PRESTRESS TRANSFER.

② MINIMUM CONCRETE STRENGTH WHEN CURING CAN BE DISCONTINUED AND GIRDER TRANSPORTED AND INSTALLED.

③ REQUIRED MINIMUM CONCRETE STRENGTH SHALL BE USED. COMPUTED MINIMUM CONCRETE STRENGTH IS FOR INFORMATION ONLY.

④ WHEN THE REQUIRED MINIMUM CONCRETE STRENGTH IS GREATER THAN 5000 P.S.I., SEE SPECIAL PROVISIONS.

DRAWN 7-1-68 — 2566 2-19-68
REVISED: 10-25-68 3-10-67
2-17-69 G402 ℄
5-26-69 8-1-67
6-16-69 8-18-67

1968 SPECIFICATIONS

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. [illegible]

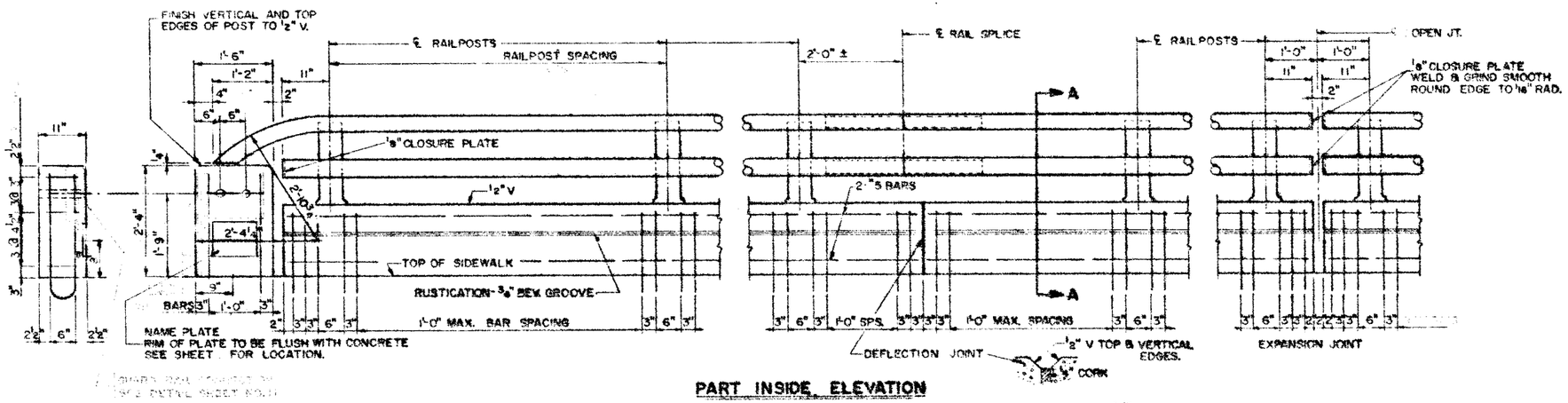
54" PRESTRESSED CONCRETE GIRDER TYPE (54 [illegible])

APPROVED:

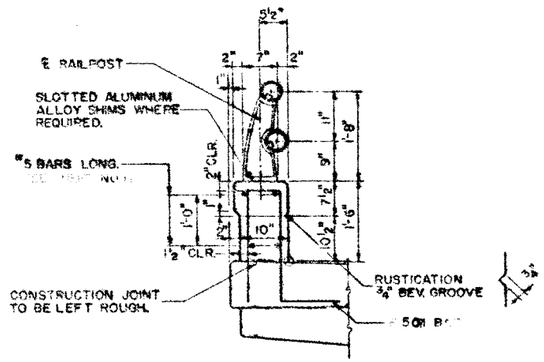
GIRDERS ℄ [illegible]

SHEET [illegible] OF [illegible] SHEETS

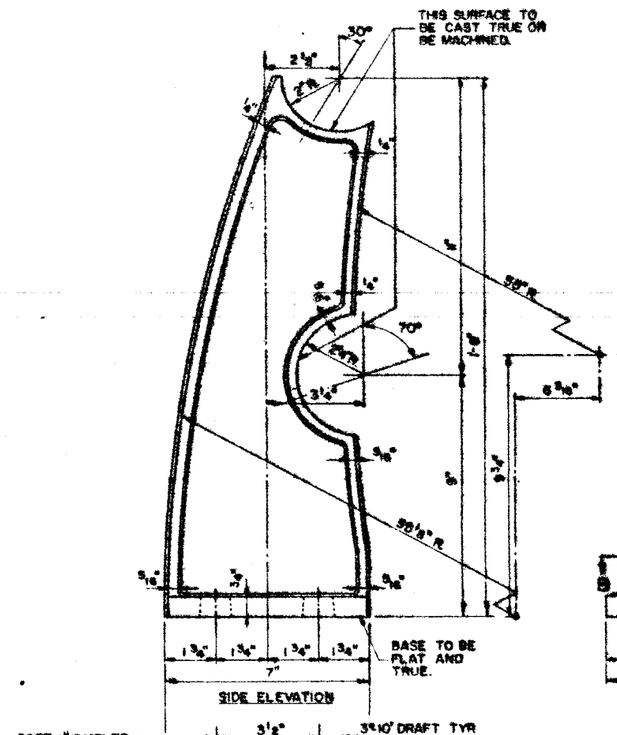
Fed. Proj. No.

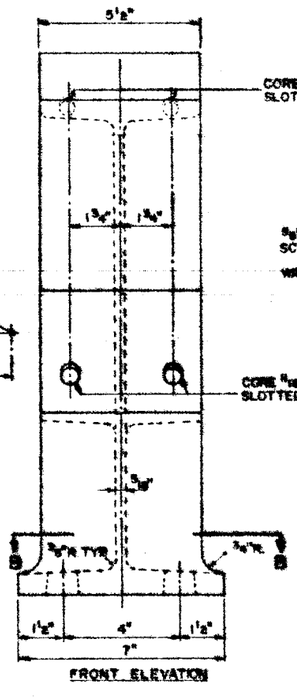


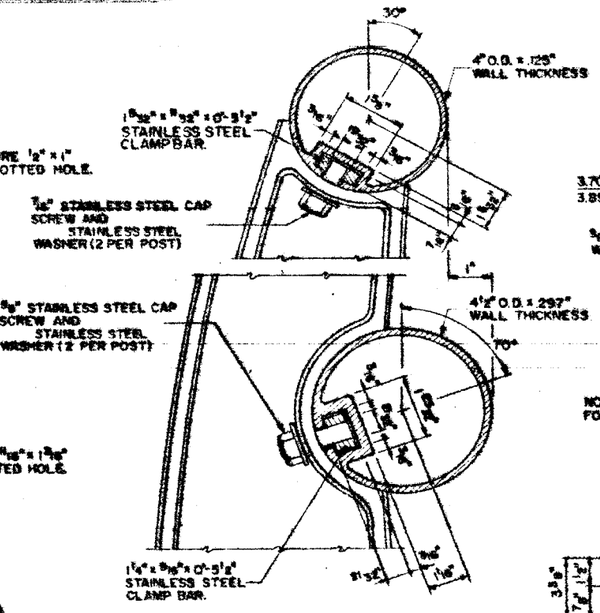
PART INSIDE ELEVATION



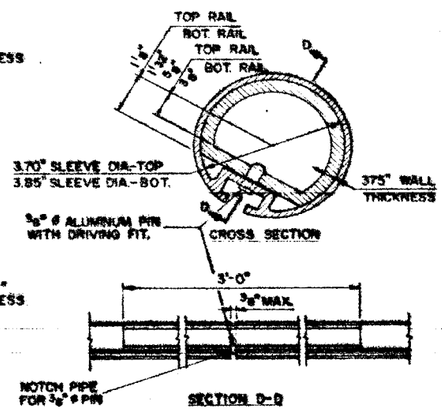
SECTION A-A



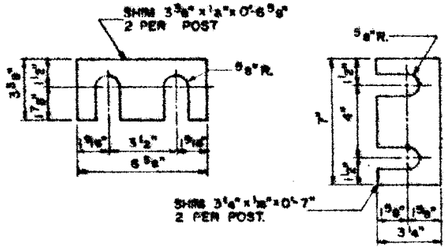




DETAIL OF RAIL ATTACHMENT TO POST



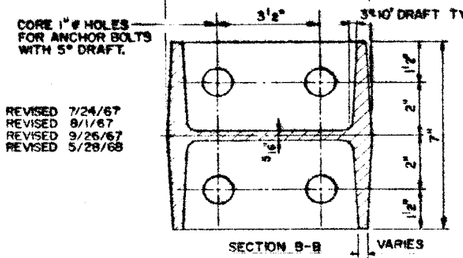
SPLICE DETAIL



SHIM PLATE DETAILS

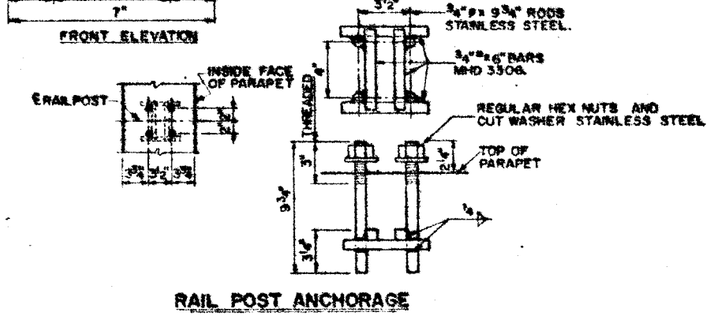
NOTES

FOR MATERIALS AND WORKMANSHIP SEE SPECIAL PROVISIONS.
RAILPOST SPACING IS MEASURED HORIZONTALLY ALONG TOP OF PARAPET.
RAILPOSTS AND ANCHORAGES ARE NORMAL TO GRADE.
ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.
ALUMINUM SHIMS SHALL BE USED UNDER POSTS WHERE NECESSARY FOR ALIGNMENT.
ALL SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE SHALL BE GIVEN A HEAVY COATING OF AN APPROVED ALUMINUM IMPREGNATED CAULKING COMPOUND TO PROVIDE COMPLETE INSULATION BETWEEN ALUMINUM AND CONCRETE. SYNTHETIC RUBBER GASKETS MAY BE USED AS AN ALTERNATE.
RAILING TUBES SHALL BE FABRICATED IN TWO OR THREE PANEL LENGTHS.
FLAME CUTTING OF MATERIALS IS PROHIBITED.
RAIL POSTS SHALL BE SAND BLASTED OR POLISHED AND BURNISHED TO PROVIDE A SMOOTH UNIFORM SURFACE.
PRICE BID FOR ORNAMENTAL RAILING INCLUDES THE POST ANCHORAGE AND ALL MATERIAL ABOVE TOP OF RAIL BASE.
CONCRETE IN RAIL BASE AND CONCRETE END POSTS SHALL BE MIX NO. 3Y35.
ALL MATERIAL IN CONCRETE RAIL BASE AND CONCRETE END POSTS, EXCEPT RAILPOST ANCHORAGES, IS INCLUDED IN SUPERSTRUCTURE QUANTITIES.
LENGTH OF RAILING FOR PAYMENT IS MEASURED BETWEEN FACES OF CONCRETE END POSTS.
SEE SHEET 30 11. FOR RAILPOST SPACING, JOINTS IN RAIL BASE, AND REINFORCEMENT DETAILS.
THE FRONT DOWN SECTION OF RAIL AT ALL FOUR CORNERS MAY BE FABRICATED FROM AN ALUMINUM PIPE SECTION 4" O.D., .226" THICKNESS SPLICED BY BUTT WELDING TO THE PLANNED SECTION. THIS SPLICE SHOULD BE PLACED 2" FROM THE EDGE OF POST AND POLISHED TO A UNIFORM FINISH. THE PIPE SHALL BE 6061-T6 EITHER EXTRUDED OR DRAWN. THIS ALTERNATE METHOD OF FURNISHING THE FRONT SECTION OF RAIL IS UNDERSTOOD TO BE WITHOUT ANY ADDITIONAL COST TO THE COUNTY OVER AND ABOVE THE PRICE THIS ITEM IS BEING BID.



REVISED 7/24/67
REVISED 8/1/67
REVISED 9/26/67
REVISED 5/28/68

RAIL POST DETAILS



RAIL POST ANCHORAGE

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 6350

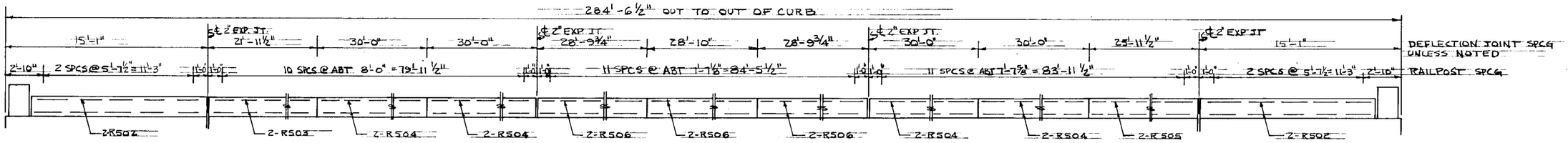
ORNAMENTAL METAL RAILING
2 LINE ALUMINUM (TYPE W)

APPROVED: [illegible]

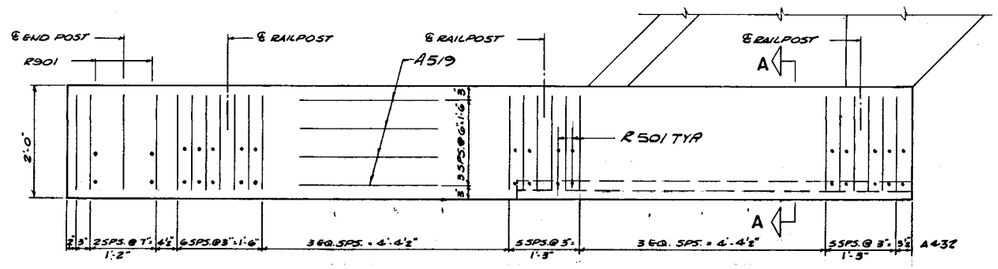
DES.	DR.	6350
CHK.	CHK.	

State Proj. No.

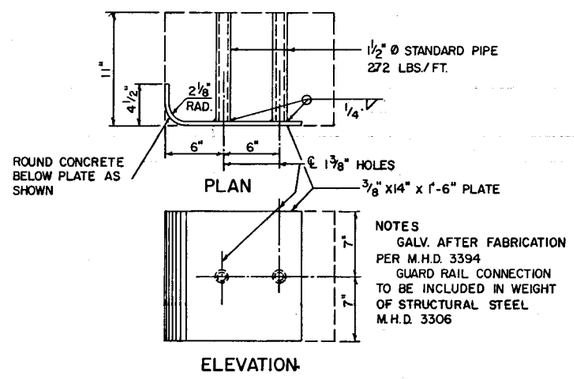
Sheet No. [illegible] of [illegible] Sheets



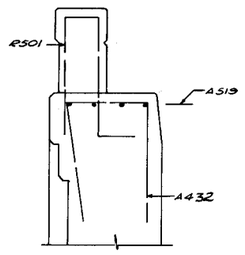
INSIDE RAILING ELEVATION



PLAN VIEW AT TOP OF ABUTMENT WINGWALL
SOUTHWEST CORNER SHOWN - OTHERS SIMILAR

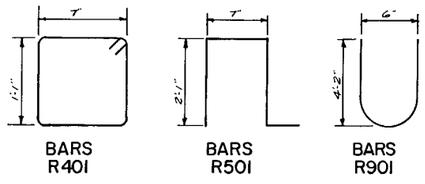


GUARD RAIL CONNECTION DETAIL



SECTION A-A

TABLE OF REINFORCEMENT FOR PARAPET					
MARK	SIZE	NO.	LENGTH	SHAPE	LOCATION
R401	#4	28	4'-2"	BENT	END POST TIES
R501	#5	790	5'-9"	BENT	PARAPET VERT.
R502	#5	16	12'-9"	STR.	PARAPET LONGIT.
R503	#5	8	21'-6"	STR.	PARAPET LONGIT.
R504	#5	32	29'-8"	STR.	PARAPET LONGIT.
R505	#5	8	25'-6"	STR.	PARAPET LONGIT.
R506	#5	24	28'-5"	STR.	PARAPET LONGIT.
R901	#9	8	8'-8"	BENT	END POST VERT.



BARS R401 BARS R501 BARS R901

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

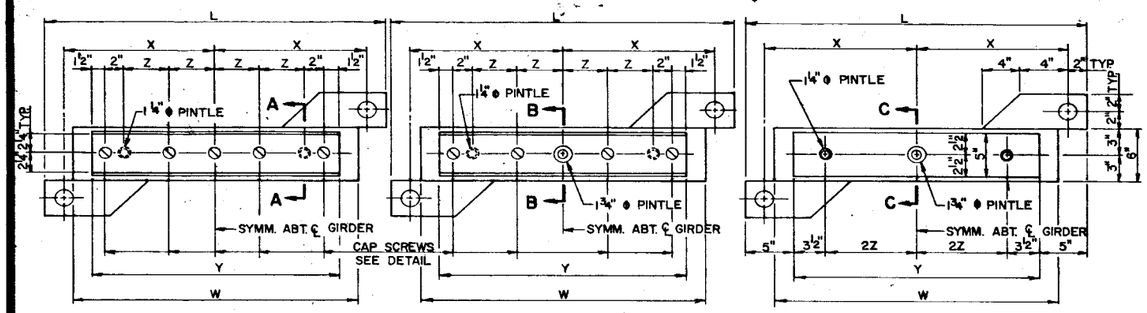
Bridge No. 55519

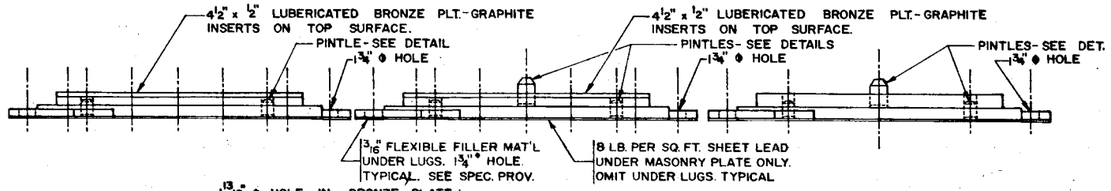
RAILING AND ABUTMENT DETAILS

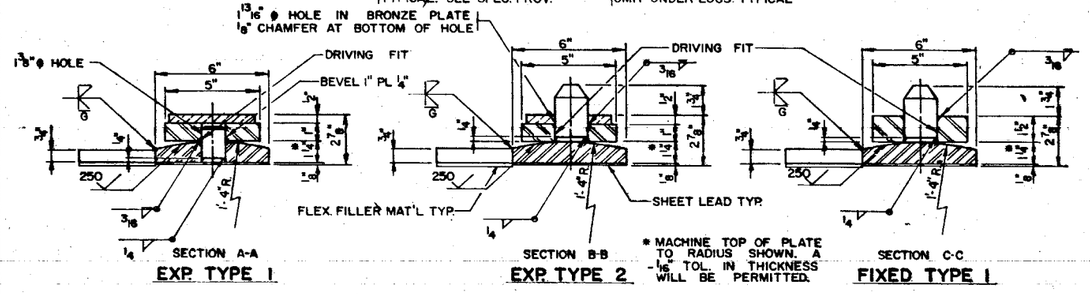
APPROVED: 1-3-69

DES. L.S.B.	DR. L.S.B. & D.T.	55519
CHK.	CHK.	

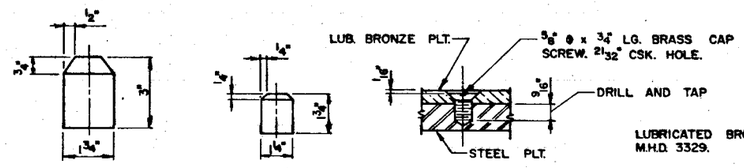
Sheet No. 11 of 18 Sheets

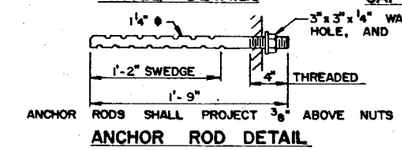






* MACHINE TOP OF PLATE TO RADIUS SHOWN. A -1/16" TOL. IN THICKNESS WILL BE PERMITTED.





BEARING ASSEMBLY SCHEDULE						
WIDTH OF BOTTOM FLANGE OF GIRDER	L	W	X	Y	Z	MAX. REACTION (KIPS)
1'-4"	2'-2"	1'-8"	0'-11"	1'-4"	2¼"	120
1'-6"	2'-4"	1'-10"	1'-0"	1'-6"	2⅝"	132
1'-10"	2'-8"	2'-2"	1'-2"	1'-10"	3¾"	156
2'-2"	3'-0"	2'-6"	1'-4"	2'-2"	4¾"	180

1964 AND 1968 SPEC.

NOTES

LUBRICATED BRONZE PLATE SHALL COMPLY WITH M.H.D. 3329.

ALL PLATES, EXCEPT LUBRICATED BRONZE, SHALL COMPLY WITH M.H.D. 3306.
PINTLES SHALL COMPLY WITH M.H.D. 3314, TYPE II.

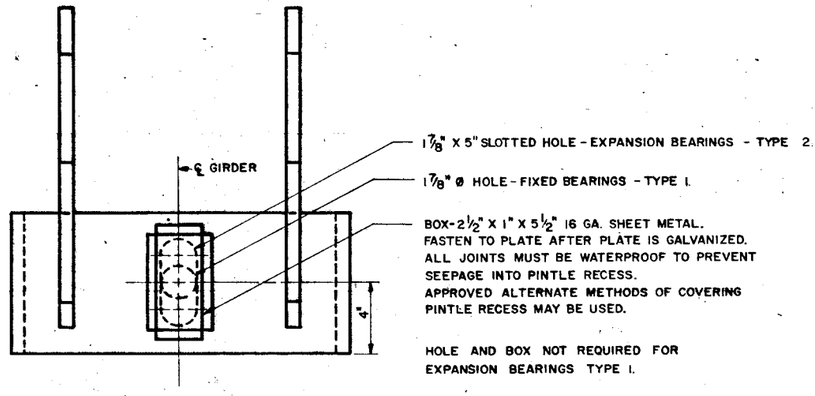
STEEL PLATES AND PINTLES SHALL BE GALVANIZED PER M.H.D. 3394. NO PAINT.
ANCHOR RODS SHALL BE GALVANIZED PER M.H.D. 3392 NO PAINT.

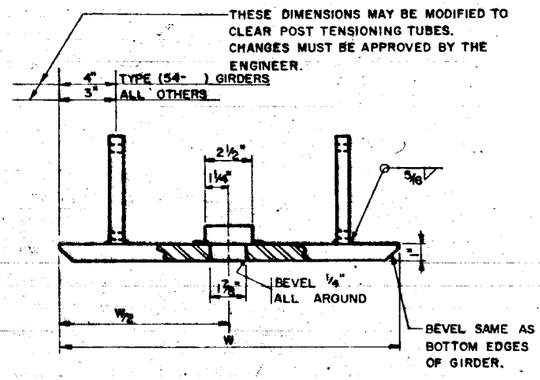
PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL ON THIS DETAIL.

POSITION OF ANCHOR ROD LUGS SHOWN IS FOR LEFT SKEWS; FOR RIGHT SKEWS LUGS ARE TO BE REVERSED.

SCALE WEIGHTS SHALL BE FURNISHED IN ACCORDANCE WITH THE REQUIREMENTS OF M.H.D. 2471.3MI AND SHALL BE LISTED ON THE SHIPPING STATEMENTS FOR THE INDIVIDUAL ITEMS.

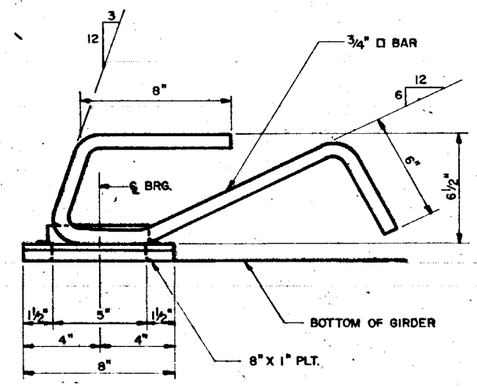
APPROVED _____ 1968	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
BRIDGE ENGINEER	BEARING ASSEMBLY WITH LUGS FOR PRESTRESSED CONCRETE GIRDERS		B147





END VIEW

AREA AT HOLE SHOWN AS A SECTION.
DIMENSION "W" TO BE THE WIDTH AT BOTTOM FLANGE OF THE GIRDER.



SIDE ELEVATION
SHOWING PLACEMENT IN GIRDER

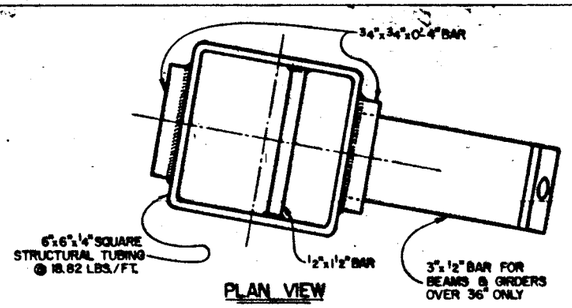
NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER M.H.D. 3306.
SOLE PLATE TO BE HOT DIPPED GALVANIZED AS PER M.H.D. 3394 AFTER FABRICATION.
PAYMENT FOR SOLE PLATES TO BE INCLUDED IN PRICE BID FOR PRESTRESSED CONCRETE GIRDERS.

1964 AND 1968 SPECIF.

APPROVED 12/28 1959	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
C. C. Ka Bonde BRIDGE ENGINEER	SOLE PLATE FOR PRESTRESSED CONCRETE GIRDERS	6-13-60A 11-2-62-B 8-20-64 8-9-65 11-15-65 2-8-68	B149

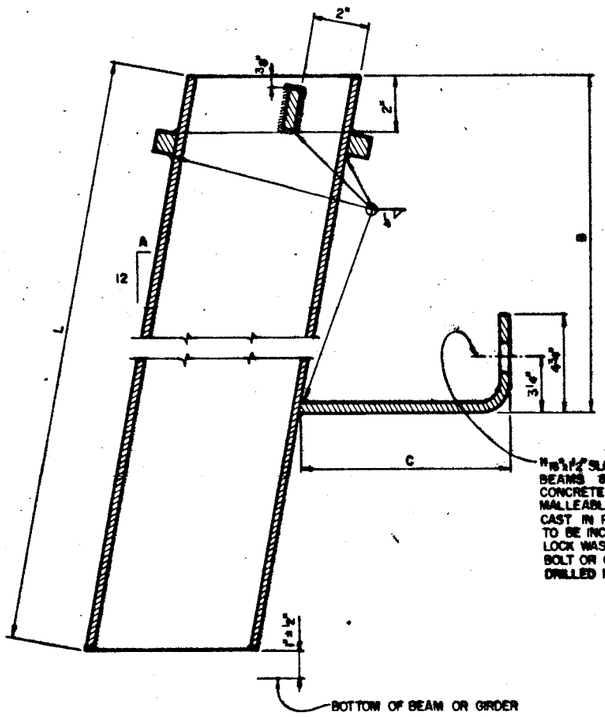
STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS
Bridge No. 55513
DETAILS
APPROVED _____
55513
Sheet No. ___ of ___ Sheets



PLAN VIEW

DIMENSIONS				
	L	A	B	C
28" P.C.G.	2'-11"	0	0	0
36" P.C.G.	3'-7"	0	0	0
40" P.C.G.	3'-11"	3/4"	2 7/8"	6 1/4"
45" P.C.G.	4'-4"	1 1/4"	3 3/8"	8"
54" P.C.G.				
63" P.C.G.				
WELDED BM.				

DIMENSIONS ARE BASED ON ℄ OF GIRDER 1'-0" INSIDE GUTTER LINE AND A DISTANCE OF 8" FROM TOP OF GIRDER TO TOP OF SLAB AT GUTTER. REVISE AS NECESSARY TO CONFORM TO PLAN DETAILS.

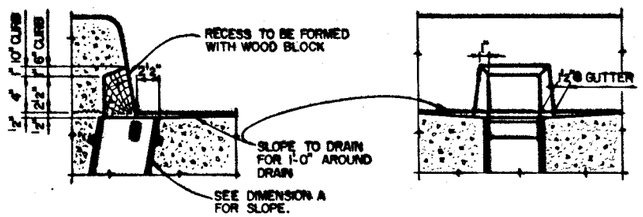


11/16"x1/2" SLOTTED HOLES FOR 3/4" BOLTS FOR STEEL BEAMS & 3/4" CAP SCREW FOR PRESTRESSED CONCRETE GIRDERS. AN APPROVED STEEL OR MALLEABLE IRON CONCRETE INSERT SHALL BE CAST IN PRESTRESSED CONCRETE GIRDERS. INSERTS TO BE INCLUDED IN PRICE BID FOR GIRDERS. LOCK WASHER & 3 CUT WASHER FILLS FOR EACH BOLT OR CAP SCREW. HOLES IN BEAMS TO BE DRILLED IN SHOP

BOTTOM OF BEAM OR GIRDER

NOTE
MATERIAL M.H.D. 3308
GALVANIZE BOLTS, INSERTS, & WASHERS PER M.H.D. 3392.
GALVANIZE OTHER MATERIALS PER M.H.D. 3394 AFTER FABRICATION

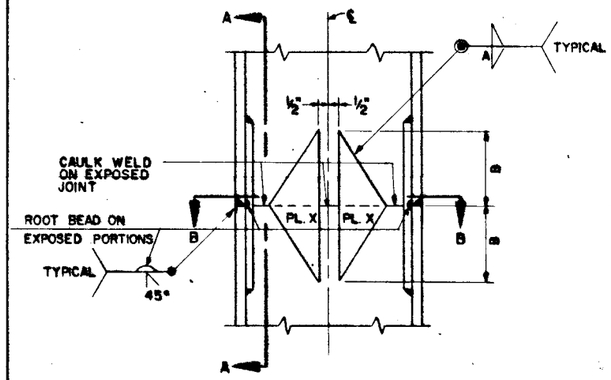
SECTION THRU DRAIN

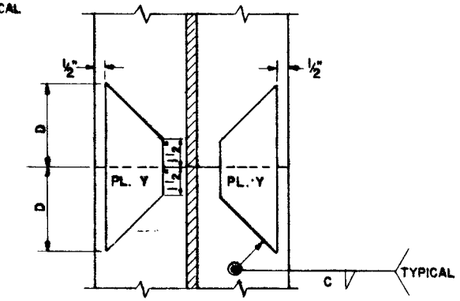


PLACEMENT DIAGRAM

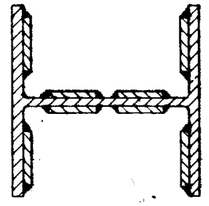
TYPE B 182
1964 & 1968 SPEC.

APPROVED 3-27-1967	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A.L. Henderson BRIDGE ENGINEER	STEEL FLOOR DRAINS FOR BRIDGES	2-19-68	B10



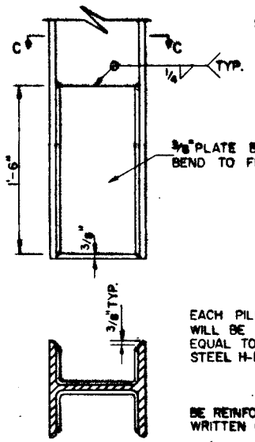


SECTION A-A



SECTION B-B

PILE SECTION	PLATE X SIZE	A	B	PLATE Y SIZE	C	D
10BP42	2 1/2 x 3/8	1/4	4	3 x 3/8	5/16	4
10BP57	2 1/2 x 1/2	5/16	4	3 x 1/2	5/16	5
12BP53	3 1/2 x 3/8	1/4	5	4 x 3/8	5/16	5
12BP74	3 1/2 x 1/2	5/16	6	4 x 1/2	5/16	6
14BP73	4 1/2 x 3/8	1/4	7	5 x 3/8	5/16	6
14BP89	4 1/2 x 7/16	5/16	7	5 x 1/2	5/16	7
14BP102	4 1/2 x 1/2	5/16	7	5 x 9/16	3/8	7
14BP117	4 1/2 x 9/16	3/8	7	5 x 5/8	3/8	8



SECTION C-C

EACH PILE TIP REINFORCEMENT WILL BE PAID FOR IN AMOUNT EQUAL TO 5 LINEAR FEET OF STEEL H-PILING DELIVERED.

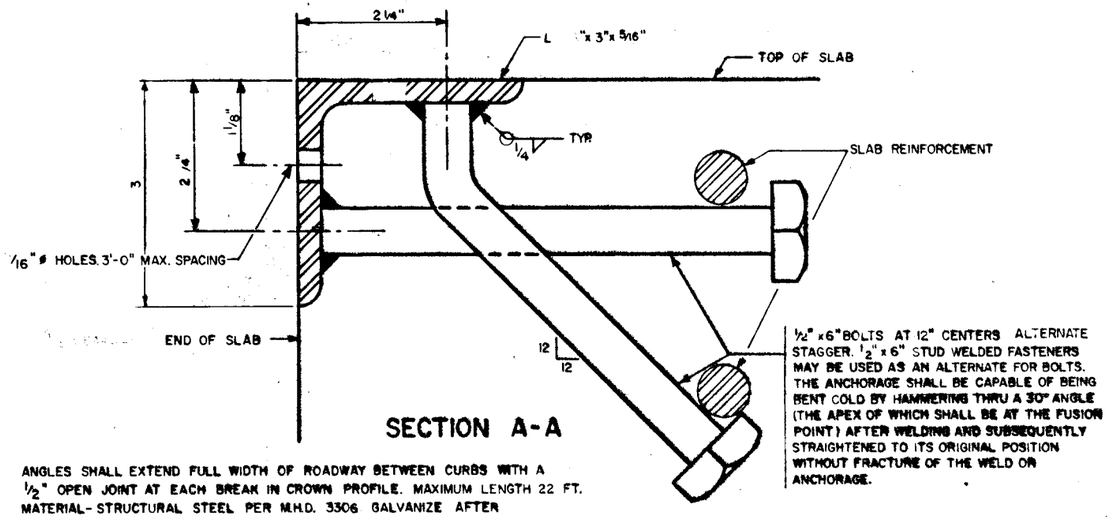
NO PILE TIPS SHALL BE REINFORCED EXCEPT BY WRITTEN ORDER OF THE ENGINEER

DETAIL OF PILE TIP REINFORCEMENT

NOTES:
PILE ENDS AT SPLICE TO BE SQUARE.
WELDING SEQUENCE:
A. PILES SPLICED ON SKIDS BEFORE DRIVING.
1. BUTT WELD FLANGES.
2. WELD WEB SPLICE PLATES.
3. WELD FLANGE SPLICE PLATES.
4. MAKE CAULK WELDS & ROOT BEADS.
B. PILES SPLICED IN LEADS.
1. WELD SPLICE PLATES TO EXTENSION BEFORE ASSEMBLY.
2. CLAMP SECTIONS TOGETHER AND HOLD RIGID. BUTT WELD FLANGES.
3. WELD SPLICE PLATES TO DRIVEN SECTION.
4. MAKE CAULK WELDS & ROOT BEADS.
WELDING ELECTRODES M.H.D. 3339.
WITH D.C. REVERSE POLARITY (ELECTRODE POSITIVE) ONLY, USE A.S.T.M. CLASSIFICATION E 6010.
WITH D.C. REVERSE POLARITY OR A.C. USE A.S.T.M. CLASSIFICATION E 6011.
WHERE MOISTURE CONTROL IS PROPERLY ENFORCED A. S. T. M. CLASSIFICATION E 6016 OR E 7016 MAY BE USED.
RECOMMENDED MOISTURE CONTENT, PER CENT OF COATING:
E 6010 3.0 TO 5.0% D.C.R. ONLY
E 6011 2.0 TO 4.0% A.C. OR D.C.R.
E 6016 LESS THAN 0.4% A.C. OR D.C.R.
E 7016 LESS THAN 0.4% A.C. OR D.C.R.
ALL WELDING PER M.H.D. 2471.3J
STEEL PLATES PER M.H.D. 3306
1968 SPECS.

APPROVED 12-19-1958	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A.C. LaCourse BRIDGE ENGINEER	SPLICES FOR STEEL H BEARING PILES & PILE TIP REINFORCEMENT 10" TO 14"	6-2-59 7-31-62 12-2-63 11-15-65 2-19-68	B 221

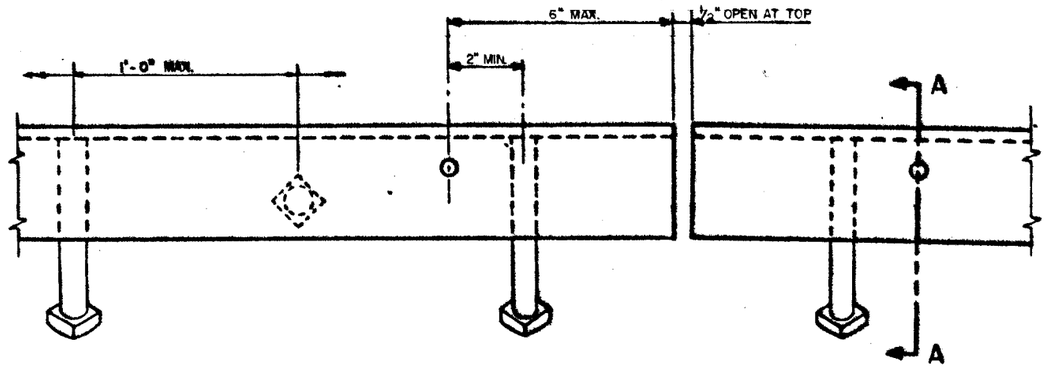
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Bridge No. [redacted]
DETAILS
APPROVED [redacted]
[redacted]
Sheet No. [redacted] of [redacted] Sheets



SECTION A-A

½" x 6" BOLTS AT 12" CENTERS ALTERNATE STAGGER. ½" x 6" STUD WELDED FASTENERS MAY BE USED AS AN ALTERNATE FOR BOLTS. THE ANCHORAGE SHALL BE CAPABLE OF BEING BENT COLD BY HAMMERING THRU A 30° ANGLE (THE APEX OF WHICH SHALL BE AT THE FUSION POINT) AFTER WELDING AND SUBSEQUENTLY STRAIGHTENED TO ITS ORIGINAL POSITION WITHOUT FRACTURE OF THE WELD OR ANCHORAGE.

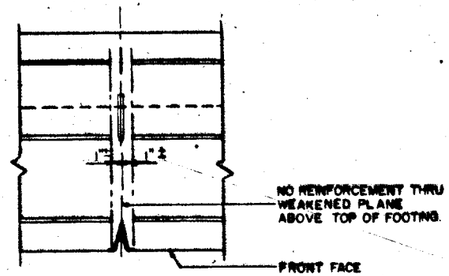
ANGLES SHALL EXTEND FULL WIDTH OF ROADWAY BETWEEN CURBS WITH A ½" OPEN JOINT AT EACH BREAK IN CROWN PROFILE. MAXIMUM LENGTH 22 FT.
MATERIAL- STRUCTURAL STEEL PER M.H.D. 3306 GALVANIZE AFTER FABRICATION PER M.H.D. 3394.
SET ANGLE TO PROPER GRADE AND CROWN.



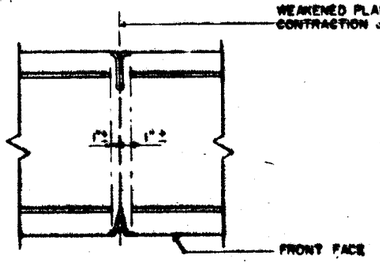
ELEVATION

1968 SPECS.

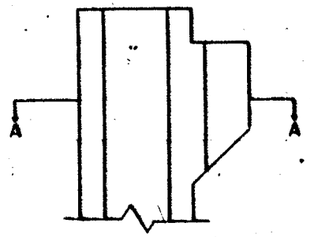
APPROVED 9-24 1963	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 3/8/65 11/15/65 12/2/65 2/19/68 9/15/68	DETAIL NO.
A. E. LaBonte BRIDGE ENGINEER	PROTECTION ANGLE FOR END OF SLAB		B209



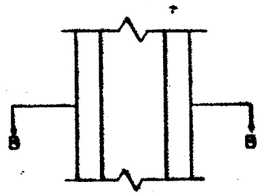
SECTION A-A



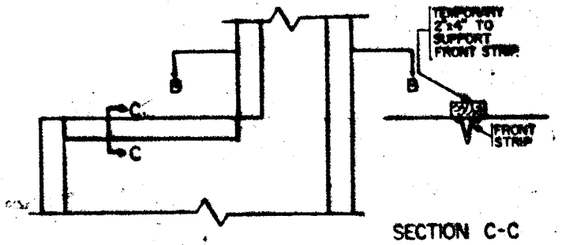
SECTION B-B



SECTION THRU PAVING BRACKET



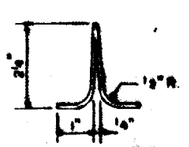
SECTION THRU WALL



SECTION C-C

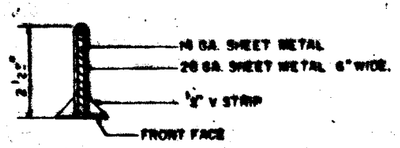


BACK STRIP
6" WIDE



FRONT STRIP
6" WIDE

SECTION THRU BRIDGE SEAT ON PARAPET ABUTMENT



ALTERNATE FRONT STRIP

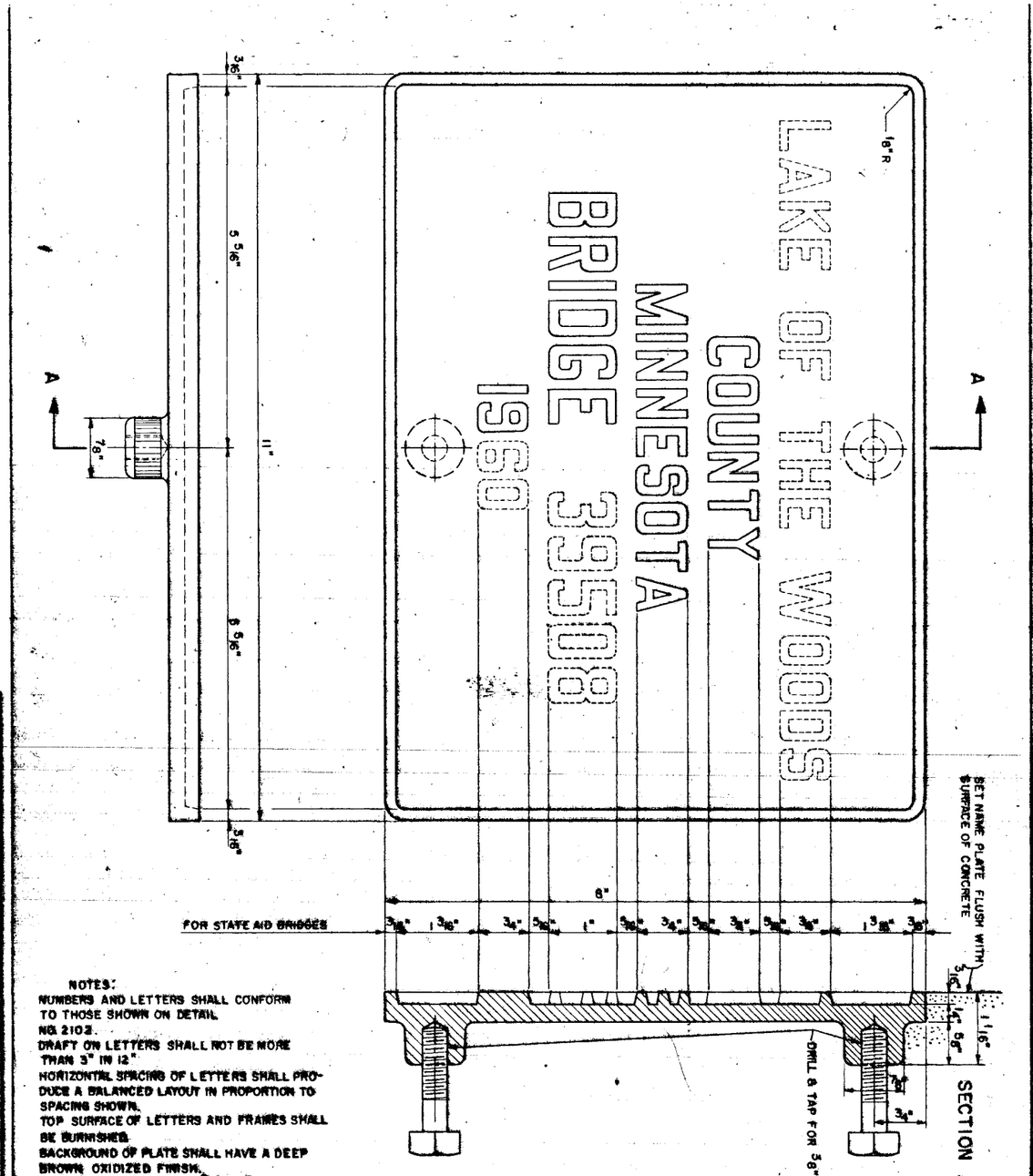
NOTES:
METAL STRIP TO BE 20 GA. GALVANIZED SHEET METAL.
FASTEN TO FORMS WITH ⅝" ROOFING NAILS ABOUT 6" CENTERS.
FRONT STRIP TO BE REMOVED WITH FORMS.
BACK STRIP REMAINS IN PLACE.
ALL METAL IN FRONT FACE TO BE OILED FOR EASY REMOVAL.
COST OF FORMING JOINT TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

NOTE:
THE METHODS AND MATERIALS INDICATED HEREON SHALL BE CONSIDERED AS SUGGESTED ONLY. VARIATIONS WILL BE PERMITTED, SUBJECT TO APPROVAL BY THE ENGINEER, BUT MUST PROVIDE DUMMY JOINTS OF A DEPTH NOT LESS THAN THE DEPTH SHOWN, AND A WIDTH AT THE FRONT FACE OF THE ABUTMENT OF NOT GREATER THAN ⅝". THE SEPARATION OF THE HORIZONTAL REINFORCEMENT BARS SHALL BE NOT LESS THAN 1½" NOR MORE THAN 3", CENTERED AS SHOWN, REGARDLESS OF THE PROCEDURE USED FOR FORMING THE DUMMY JOINT.
IF A SUITABLE PLASTIC OR OTHER DURABLE MATERIAL, SATISFACTORY TO THE ENGINEER, IS USED FOR THE FRONT STRIP, THE MATERIAL MAY BE LEFT IN PLACE.
STRIPS TO BE REMOVED SHALL BE OILED OR GREASED AS NECESSARY TO PERMIT REMOVAL WITHOUT SPALLING THE CONCRETE.

1964 & 1968 SPECS.

APPROVED SEPT. 9 1963	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 8-26-64 S-1-65 2-19-68	DETAIL NO.
BRIDGE ENGINEER	CONTRACTION JOINT		B260

STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS
Bridge No.
DETAILS
APPROVED
Sheet No. of Sheets



NOTES:
NUMBERS AND LETTERS SHALL CONFORM TO THOSE SHOWN ON DETAIL NO. 2102.
DRAFT ON LETTERS SHALL NOT BE MORE THAN 3" IN 12"
HORIZONTAL SPACING OF LETTERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
TOP SURFACE OF LETTERS AND FRAMES SHALL BE BURNISHED.
BACKGROUND OF PLATE SHALL HAVE A DEEP BROWN OXIDIZED FINISH.
FURNISH 2 STEEL BOLTS 5/8"Ø x 3" LONG WITH EACH PLATE.
PLATES ORDERED IN PAIRS SHALL BE CAST FROM THE SAME HEAT.

NUMBERS AND LETTERS SHOWN DOTTED ARE TO BE OBTAINED FROM BRIDGE PLANS.

SPECIFICATION REFERENCE 2471.3 M, 3327 (BRONZE CASTINGS) 1964 & 1965 SPECS.

APPROVED _____ 1959 BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS BRIDGE NAME PLATE FOR COUNTY BRIDGES	REVISIONS 2-10-66	DETAIL NO. 2104

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Bridge No. 55519
DETAILS
APPROVED
55519
Sheet No. of Sheets

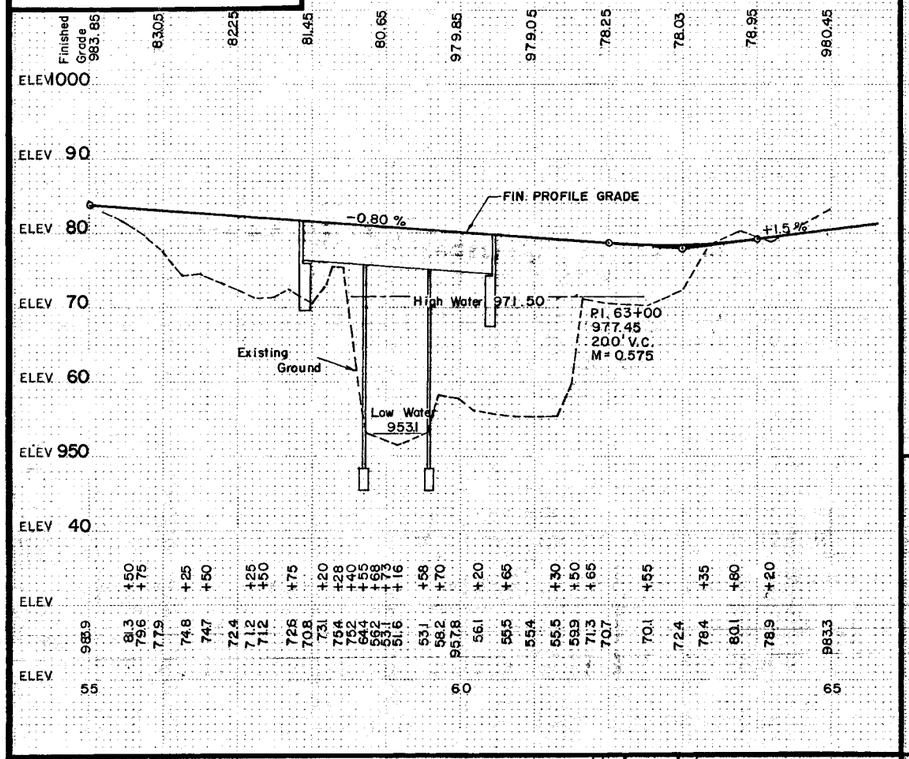
ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890!

1964 & 1965 SPEC.

APPROVED: 7/2 1964 [illegible]	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS LETTERS FOR BRIDGE NAME PLATES	REVISIONS	DETAIL NO. 2102

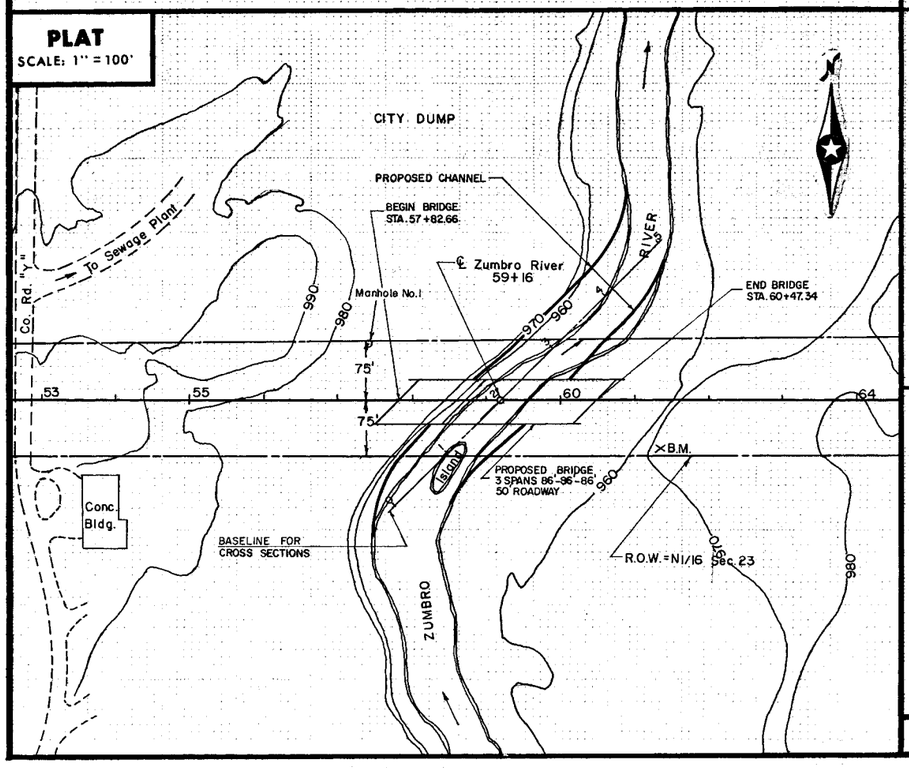
CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VER. 1" = 10'



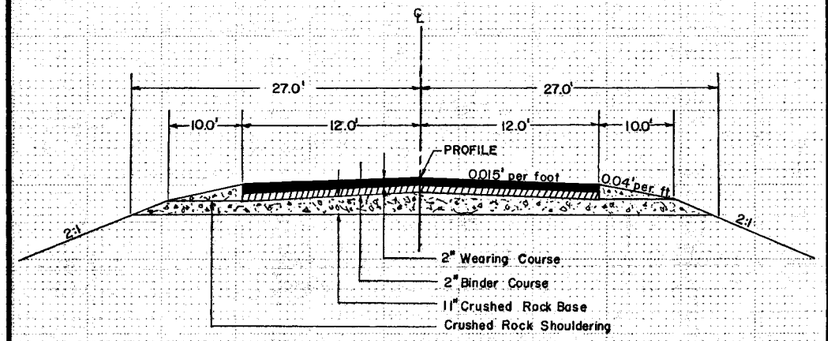
PLAT

SCALE: 1" = 100'

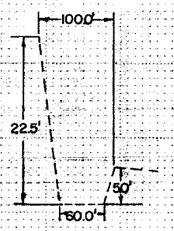


TYPICAL SECTIONS & PERTINENT DATA

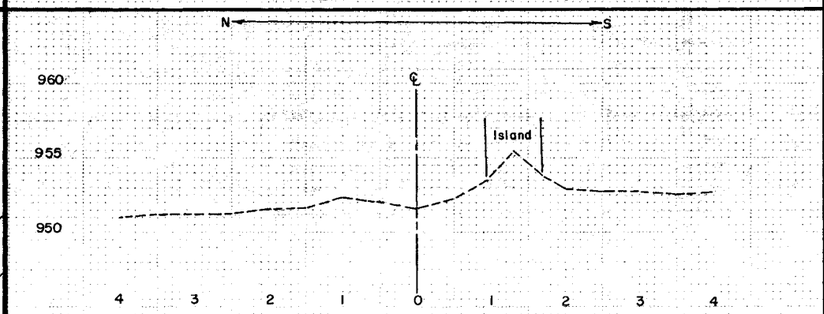
SCALES AS SHOWN



TYPICAL STREET SECTION



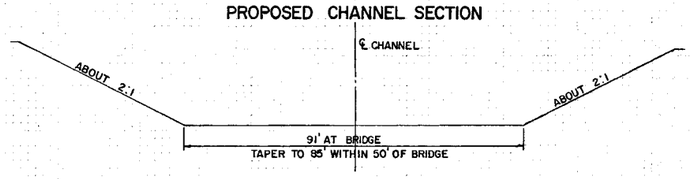
EXISTING CHANNEL SECTION



RIVER BOTTOM PROFILE

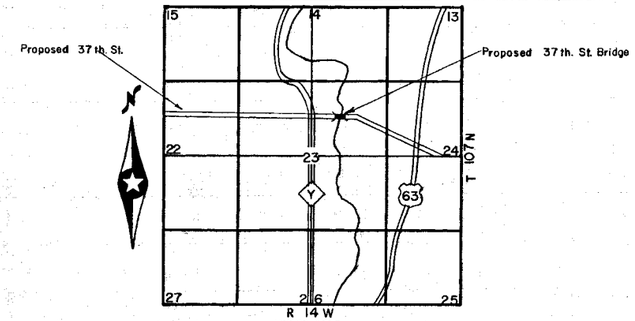
B.M. Elev. 972.70
Spike in 24" Elm 61+43 70' Rt.

PROPOSED CHANNEL SECTION



SEE SHEET 17 OF 18 SHEETS FOR PLAN AND PROFILE

Fed. Proj. No.



INDEX MAP
(FOUR SECTIONS)

FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   a. Net span length and type of bridge: 265 ft 3span prestressed concrete girders
   b. Width of roadway on bridge: 50' curb to curb
   c. Number and width of sidewalks, if any: One 5' wide sidewalk on southside
   d. Locate center of bridge at station 59+15.00
   e. If a skew bridge is recommended, the angle of skew should be: 45° Right
   f. Is piling required? YES
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
   Island approx 65' right of intersection of river and roadway.
3. Changes: In height or length from that of old bridge, and reasons why: Not applicable
4. Other bridges in vicinity:
   a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age
   Upstream 6000'± inplace 228' Beam Span
   b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
   c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be
5. If structure is over a drainage ditch, is ditch gradient liable to be altered?
6. Navigation clearances required, if any
7. Information and evidence in regard to high water stages was obtained as follows: Gage station at Sewage Plant, Spring 1951
8. Must contractor provide for traffic during construction of proposed bridge? No
   If so, by what means?

HYDRAULIC ENGINEERS RECOMMENDATION

Drainage Area = 295 Square Miles Design Discharge = 18000 c.f.s. From Gaging Station Near Bridge Site
Design Highwater Elev. = 970.80 Mean Velocity = 7.66 f.p.s. Minimum Waterway Area Below Elev. 970.80 = 2350 Square Feet

HIGH AND LOW WATER ELEVATIONS

Data obtained from Gage station at Sewage Plant reflects highest water elevation in the area of this construction to be 971.5 and the lowest water elevation to be 953.1. The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is 1.25 miles North of * Rochester which is the nearest Railroad shipping point.
*(Give name of town, station or siding)

6-12-68 Date — County Engineer

Date — District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED 1.25 MILES North OF Rochester (TOWN OR CITY) ON Co. Rd. "I" (T.H., C.S.A.H. OR C.A.R. NUMBER)
SEC. 23 TWP. 107 R. 14
TOWNSHIP Cascade COUNTY Olmsted
SURVEY MADE DURING MONTH OF May 19 68
SURVEY MADE BY G.W. Kiefer
BRIDGE NO. 55519

Area No. | Job No. | S.A.P. 55-622-01 | Sheet No. 16 of 18 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

Fed. Proj. No.

SCALE: 1" = 10'

TEST PILE NO. 2

TEST PILE NO. 4

TEST PILE NO. 6

TEST PILE NO. 8

F L O W

ZUMBRO RIVER

CENTER LINE OF LAYOUT

58

59

60

B-1
STA. 57+50

B-2
STA. 57+25

B-3
STA. 61+00

107.5

TEST PILE NO. 1

TEST PILE NO. 3

TEST PILE NO. 5

TEST PILE NO. 7

℄
RIVER B
37 ft. St. 59+16

1000

ELEV 90

ELEV 80

PROPOSED B GRADE -0.80%

ELEV. 971.2
STA. 57+50

ELEV. 971.2
STA. 57+25

B-2

B-1

FILL
BLACK TO DARK BROWN LOAMS, BRICK, CONCRETE, METALS, LIMESTONE FRAGMENTS ETC.

FILL BLACK TO DARK BROWN LOAMS, BRICK, CONCRETE, METALS, LIMESTONE FRAGMENTS ETC.

LIMESTONE FRAGMENTS

BORING STOPPED ON OBSTRUCTION

2:1 SLOPE TO B STREAM

2:1 SLOPE TO E STREAM

CHANNEL CLEANOUT ELEV. 951.6

ELEV 70

ELEV 60

ELEV 950

ELEV 40

ELEV 30

ELEV 20

ELEV 10

ELEV 900

15

9

9

7

13

26

90

100/3"

REDISH BROWN LOAMY SAND FEW CINDERS, CLEAN FILL

DARK GRAY LOAMY SAND WET SOIL CONTAINING ROCK FRAGMENTS

BROWN MEDIUM TO COARSE SAND & GRAVEL WITH LARGE BOULDERS & GRAVELS AT BASE OF FORMATION

WEATHERED BEDROCK SOILS MIXED WITH TRANSPORTED SOILS

BEDROCK IS A SANDSTONE BROWN TO BUFF WHITE

58

59

60

Profile 75' Left
Centerline
Profile 75' Right

45' TEST PILES

25' TEST PILES

30' TEST PILES

55' TEST PILES

ELEV. 964.0
STA. 61+00

93

8

13

13

16

21

24

30

31

100/6"

100/6"

BLACK SILTY LOAM

BROWN FINE TO MEDIUM WELL GRADED SAND, LITTLE GRAVEL WET SOIL

BROWN FINE WELL GRADED SAND WET SOIL

BROWN VERY FINE SAND SLIGHT SILT CONTENT

BROWN MEDIUM SAND

WEATHERED BEDROCK SOILS MIXED WITH TRANSPORTED SOILS BEDROCK IS A SANDSTONE

BORINGS SHOWN B- TAKEN WITH
STD. 140 LB. HAMMER
30" DROP
2" O.D. SAMPLER

ELEV

B.M. ELEV. 972.70 (M.S.L. 19 ADJ.)
SPIKE IN 24" ELM. 61+43 70' RIGHT

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Highway Department accepts no responsibility for said use.

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55519

BRIDGE SURVEY

PLAN AND PROFILE

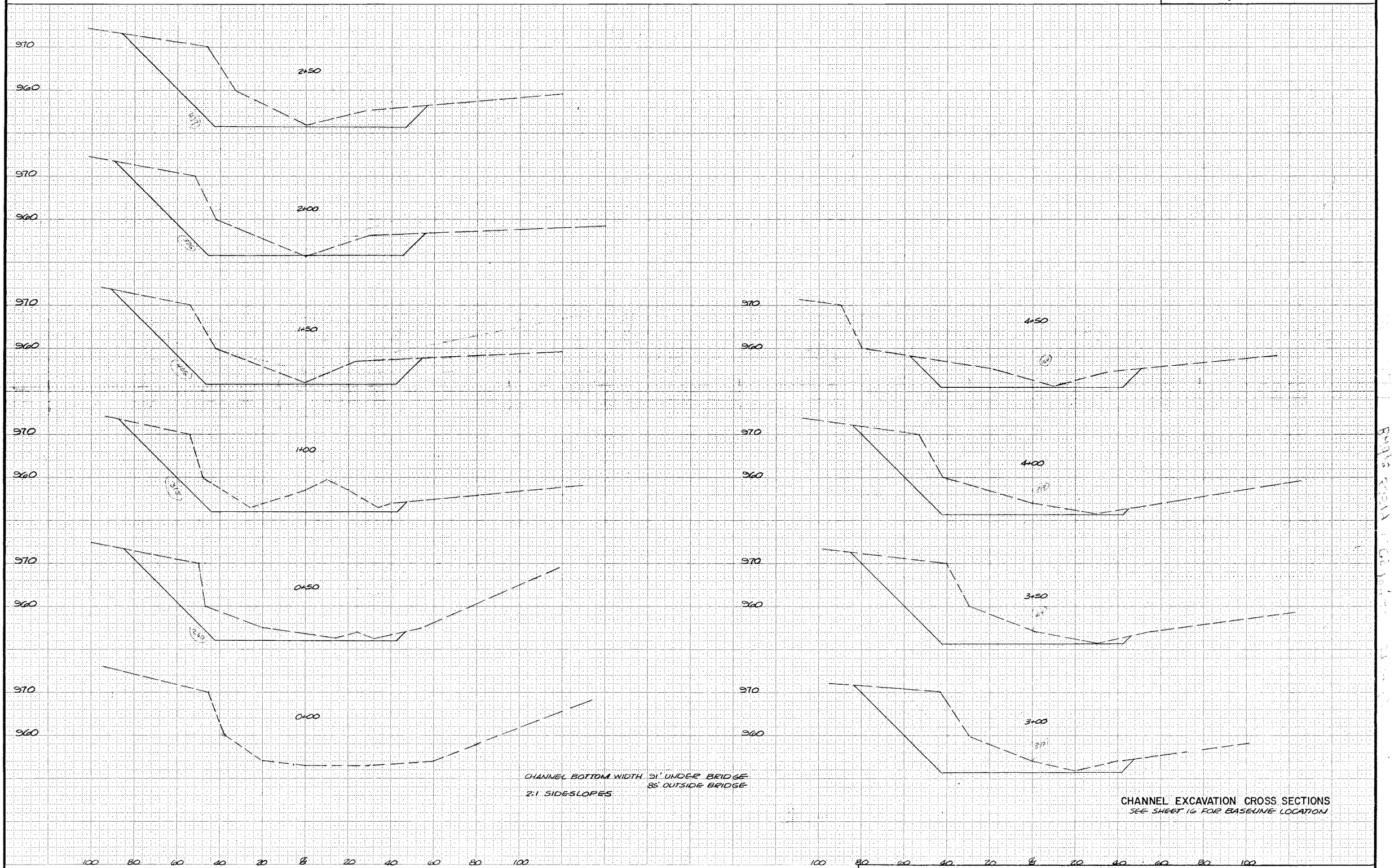
SEE SHEET NO. 16 OF 18 FOR ADDITIONAL INFORMATION

S.A.P. 55-622-01

Sheet No. 17 of 18 Sheets

Bridge Survey Sheet (Sheet 2 of 2)

Fed. Proj. No.



CHANNEL BOTTOM WIDTH 31' UNDER BRIDGE
85' OUTSIDE BRIDGE
2:1 SIDESLOPES

CHANNEL EXCAVATION CROSS SECTIONS
SEE SHEET 16 FOR BASELINE LOCATION

FULL CURVE SECTION-DOTTED
ALIGNMENT, MONUMENTS PLATS 3

BRIDGE NO. 55519

Sheet No. 18 of 18 Sheets