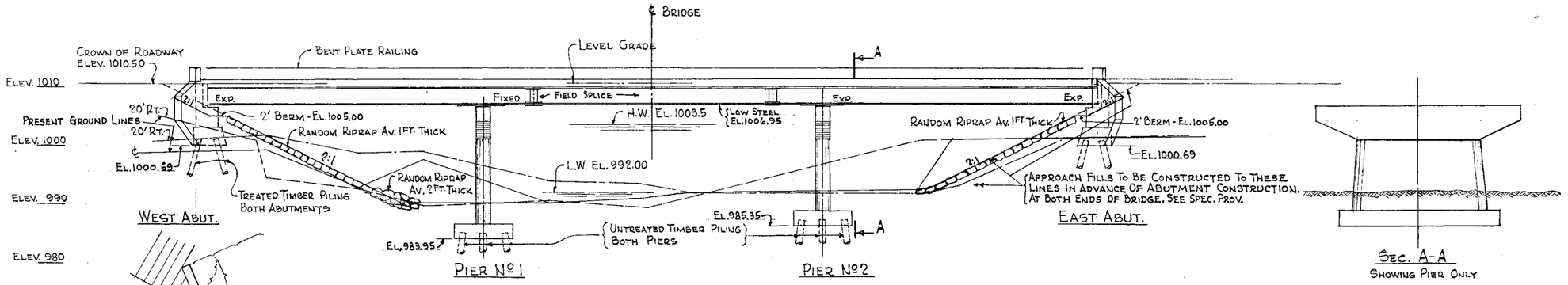
DESIGN DATA

1961 A.A.S.H.O. DESIGN SPECIFICATIONS
2 LANES H20-LIVE LOAD WITH IMPACT
f_s REINFORCING STEEL 20,000 P.S.I.
f_c 1600 P.S.I. $n = 8$
f_s STRUCT. STEEL M.H.D. 3306 - 20,000 P.S.I.

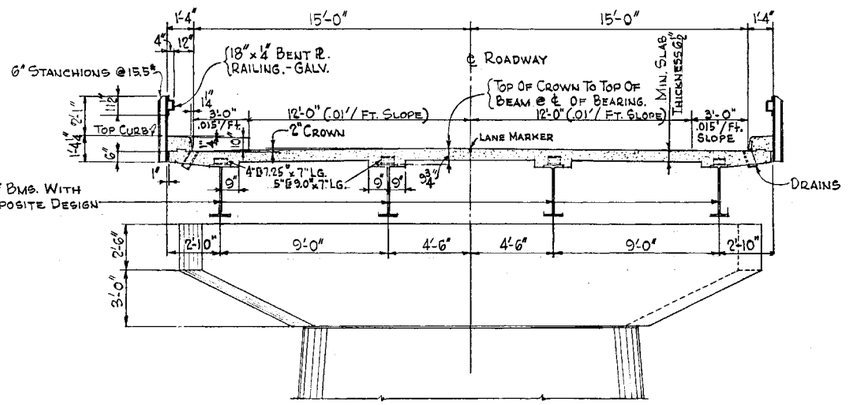
LIST OF SHEETS

1	GENERAL PLAN & ELEVATION
2	DETAILS OF ABUTMENTS
3	ABUTMENTS-REINFORCEMENT
4	DETAILS OF PIERS
5	SLAB REINF. PLAN & SECTIONS
6	FRAMING PLAN & RAILING DETAILS
7	STRUCTURAL DETAILS & EXPAN. DEVICE.
8	STANDARD DETAILS - BEARING ASSEMBLIES
9	STANDARD DETAILS - BRG. ASSEMBLIES & BOX DRAINS
10	STANDARD DETAILS - NAME PLATES.
11	BRIDGE SURVEY.



GENERAL ELEVATION
LOOKING DOWNSTREAM

SEC. A-A
SHOWING PIER ONLY



4 LINES 33" WF BMS. WITH COV. PLS. COMPOSITE DESIGN FOR LIVELOAD

TYPICAL SECTION
SCALE 1/4" = 1'-0"
(LOOKING WEST)

NOTE:
LIMITS OF RIPRAP SHOWN ARE APPROXIMATE ONLY. EXACT LIMITS TO BE DETERMINED BY ENGINEER IN FIELD. CONTRACTOR SHALL CONSTRUCT BERMS, DRESS SLOPES AND PLACE RIPRAP.

GENERAL PLAN
SCALE 1" = 10'

NOTE: SLAB POURING SEQUENCES SHALL BE AS SHOWN THUS ①,② IN PLAN AND THE CURB SHALL NOT BE PLACED UNTIL AFTER ENTIRE ROADWAY SLAB HAS BEEN PLACED.

B.M. ELEV. 1002.08
SPIKE IN P.P.
33' LT. STA. 171+62.00

SCHEDULE OF QUANTITIES FOR ENTIRE STRUCTURE

	ITEM Nº	ITEM	UNIT	QUANTITY
	2401.521	CLASS DE EXCAVATION	CU.YD.	170
	2401.522	CLASS WE EXCAVATION	CU.YD.	180
	2401.501	CONCRETE MIX Nº 1AG	CU.YD.	96
	2401.501	CONCRETE MIX Nº 3YG	CU.YD.	271
	2401.501	CONCRETE MIX Nº 3YG60	CU.YD.	15
*	401.641	FURNISHING REINFORCEMENT BARS	POUNDS	65450
*	401.741	PLACING REINFORCEMENT BARS	POUNDS	65450
*	402.621	FURNISHING STRUCTURAL STEEL (3306-61)	POUNDS	90320
*	402.621	FURNISHING STRUCTURAL STEEL (3319-59)	POUNDS	3750
*	402.621	FURNISHING STRUCTURAL STEEL (3305-59)	POUNDS	26130
*	402.799	ERECTING STRUCTURAL METALS	POUNDS	120200
	2476.501	PAINTING METAL STRUCTURES	STRUCTURE	ONE
	2402.577	STANDARD NAME PLATES	UNIT	ONE
	2452.501	UNTREATED TIMBER PILING DELIVERED	LIN.FT.	1370
	2452.502	UNTREATED TIMBER PILING DRIVEN	LIN.FT.	1302
	2452.503	TREATED TIMBER PILING DELIVERED	LIN.FT.	1100
	2452.504	TREATED TIMBER PILING DRIVEN	LIN.FT.	1060
	2452.516	UNTREATED TIMBER TEST PILES IN PLACE, 40 FT. LONG	PILE	2
	2452.516	UNTREATED TIMBER TEST PILES IN PLACE, 50 FT. LONG	PILE	2
	2452.517	TREATED TIMBER TEST PILES IN PLACE, 65 FT. LONG	PILE	4
	2402.593	BEARING ASSEMBLIES, FIXED, (TYPE I)	UNIT	4
	2402.594	BEARING ASSEMBLIES, EXPANSION, (TYPE I)	UNIT	4
	2402.594	BEARING ASSEMBLIES, EXPANSION, (TYPE II)	UNIT	4
	2402.594	BEARING ASSEMBLIES, EXPANSION, (TYPE III)	UNIT	2
	2402.594	BEARING ASSEMBLIES, EXPANSION, (TYPE IV)	UNIT	2
	2402.546	FLOOR DRAINS, (TYPE I)	UNIT	18
	2511.501	RANDOM RIPRAP CLASS A	CU.YD.	215
+	2442.501	REMOVE OLD BRIDGE	BRIDGE	ONE

* SEE SPECIAL PROVISIONS
+ ABT. 55' LT. OF STA. 170+75

CONSTRUCTION NOTES

THE MINNESOTA DEPARTMENT OF HIGHWAYS "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED MAY 1, 1959 AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON MARCH 26, 1959 SHALL GOVERN. ASPHALT FOR PAINTED JOINTS TO BREAK BOND SHALL BE AS PER M.H.D. 3166 OR APPROVED EQUAL. ALL KEYWAY SIZES ARE NOMINAL.

PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PK. MINN.

C.S.A.H. Nº 14
BRIDGE Nº 55506
GENERAL PLAN & ELEVATION
56.75'-66.5'-56.75' CONT. BM. SPAN - 30' RDWY. - 30° SK.
OVER S. BRANCH ZUMBRO R. 2.1 MI. WEST OF DOUGLAS
SEC. 34 TWP 108 N R 15 W
NEW HAVEN TWP. OLMSTED COUNTY

APPROVED
DATE 4-17-62 — OLMSTED COUNTY ENG'R.

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
DATE 4-23-62 REG. Nº 7154

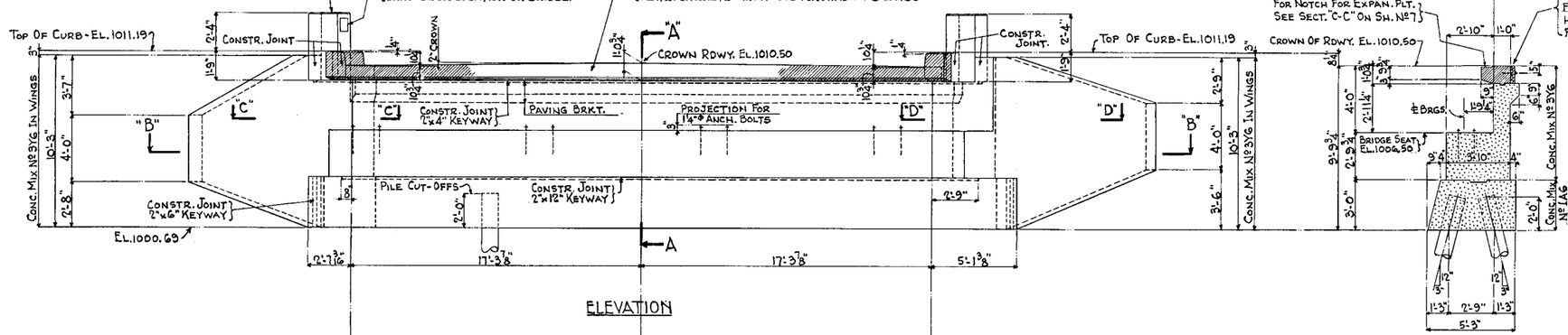
APPROVED
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAY
DATE 9-20-62 — BRIDGE ENGINEER

55506 J.M.G. R.A.

Vertical Edges Of Concrete End Posts To Be Finished To A ½" Bevel Using Finished Wood Strips In Forms. Posts To Be Vertical. Concrete Mix To Be 3Y60. ⅛" Crown On Top Of Posts For Drainage. See Detail Of End Post On Sh. №6

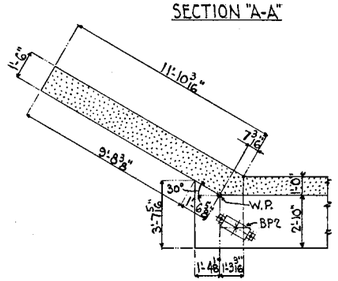
County Name Plate - East Abut. See Sh. № 1 For Location On Bridge.

Concrete Shown Cross-Hatched To Be Placed After Expansion Device Is In Place And Floor Slab Completed. Provide Notch For Expansion Plate. Concrete Mix № 3Y6 For Roadway & Curbs

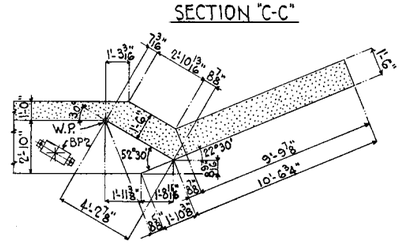


ELEVATION

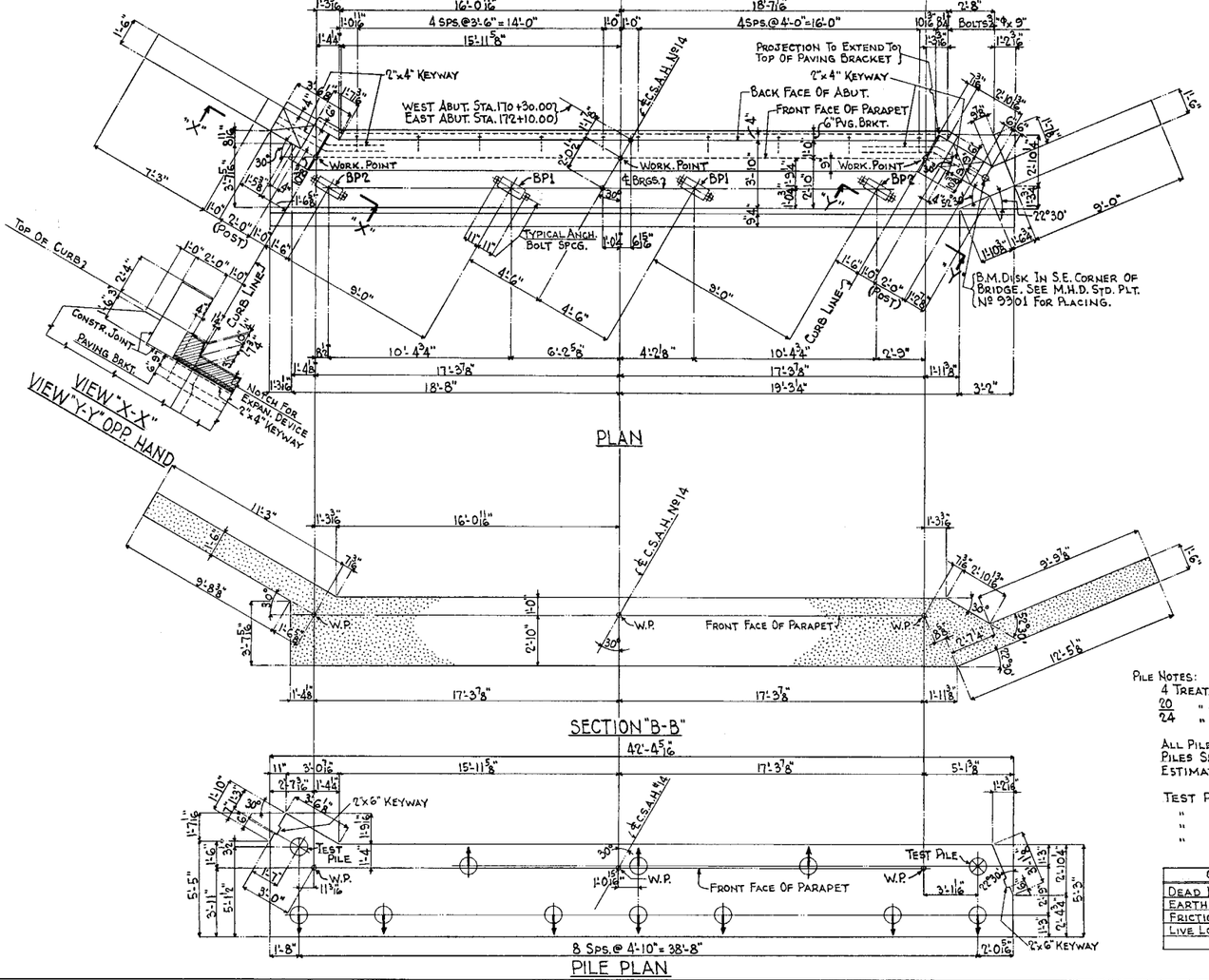
SECTION "A-A"



SECTION "C-C"



SECTION "D-D"



PLAN

VIEW "X-X"

VIEW "Y-Y" OPP HAND

SECTION "B-B"

PILE PLAN

Pile Notes:
4 Treated Timber Test Piles Req'd 65 Ft. Long.
20 " " Piles Req'd. Est. Length 55 Ft.
24 " " " " For 2 Abutments.

All Piles To Be Driven To A Minimum Bearing Value Of 24 Tons Per Pile.
Piles Shown Thus ① To Be Battered 3":12" In Direction Indicated By Arrow.
Estimated Penetration 2 Ft. Less Than Length Given.

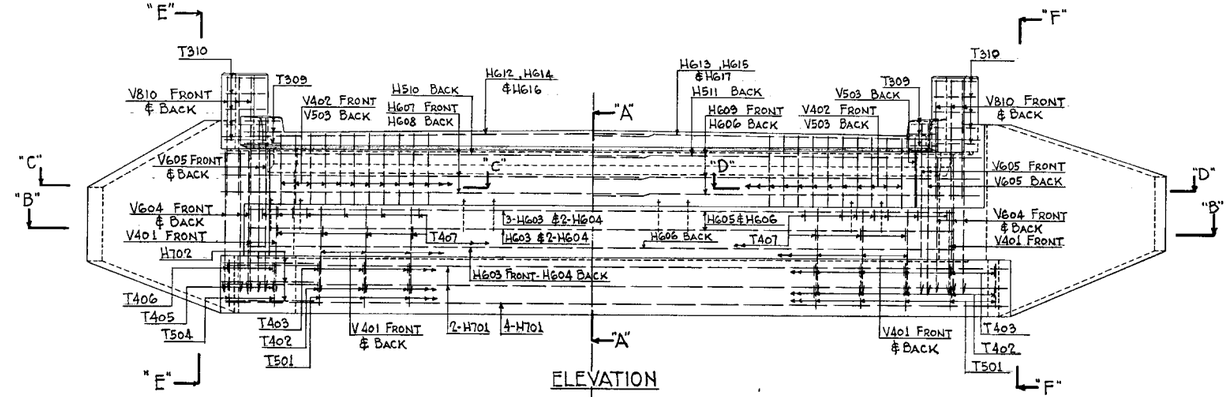
Test Pile № 1 North End - West Abut.
" " № 2 South " - " "
" " № 3 North " - East "
" " № 4 South " - " "

Computed Pile Loads	Tons/Pile
Dead Load	8.4
Earth Overturning	8.7
Friction Overturning	1.4
Live Load	4.1
Total	22.6

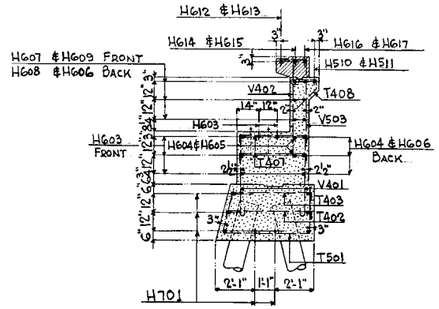
Plans Prepared By
Robert E. Erickson Engineering Co.
3340 Republic Ave. St. Louis Park, Minn.

C.S.A.H. № 14
Bridge № 55506
Details Of Abutments

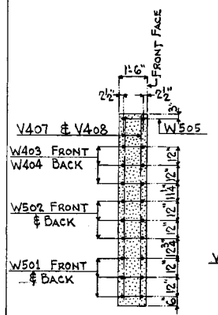
Approved 9-20-67



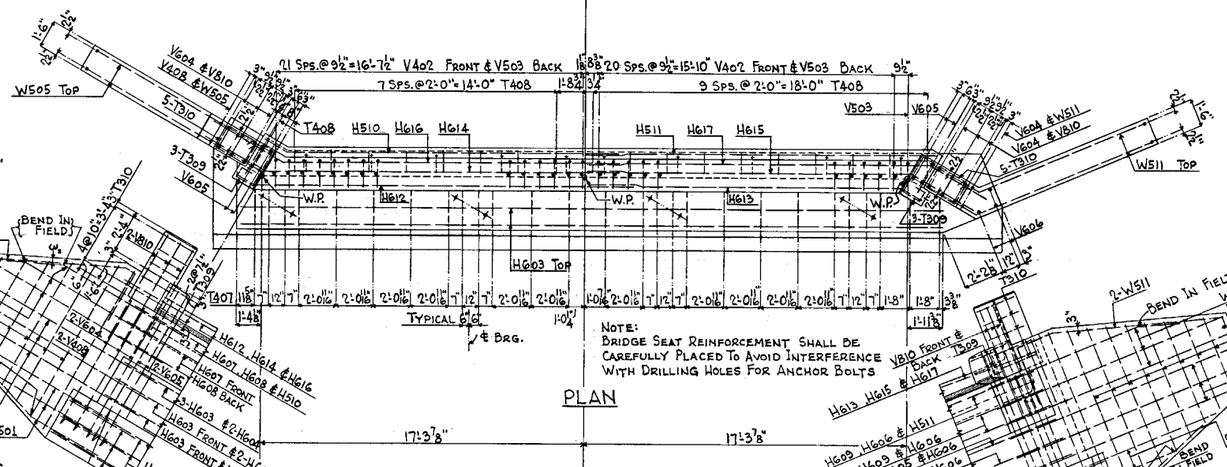
ELEVATION



SECTION "A-A"

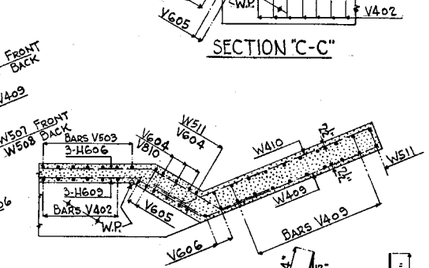


SECTION "E-E"

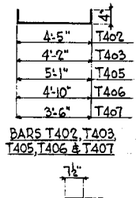


PLAN

NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS



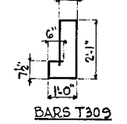
SECTION "C-C"



BARS T402, T403 T405, T406 & T407

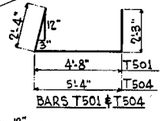
BILL OF REINFORCEMENT BARS FOR TWO ABUTMENTS					
BAR	NO.	SIZE	LENGTH	SHAPE	LOCATION
H701	16	7	42'-0"	STR.	FOOTING - LONGIT.
H702	6	7	10'-3"	BENT	" - CORNER - HORIZ.
H603	10	6	37'-9"	STR.	BRIDGE SEAT - HORIZ.
H604	10	6	20'-5"	"	" " "
H605	4	6	22'-10"	BENT	" " "
H606	12	6	24'-10"	"	" " "
H607	6	6	19'-3"	STR.	PARAPET - HORIZ.
H608	6	6	21'-0"	BENT	" "
H609	6	6	21'-0"	"	" "
H510	2	5	19'-0"	"	PVG. BRKT. "
H511	2	5	18'-10"	STR.	" " "
H612	2	6	20'-9"	BENT	ROADWAY SLAB - HORIZ.
H613	2	6	18'-3"	"	" " "
H614	2	6	22'-5"	"	" " "
H615	2	6	20'-10"	"	" " "
H616	2	6	22'-1"	"	" " "
H617	2	6	21'-3	"	" " "
W501	12	5	9'-0"	STR.	8'-3" WING - HORIZ.
W502	12	5	13'-5"	"	" " - "
W403	6	4	12'-7"	BENT	" " - "
W404	6	4	14'-8"	"	" " - "
W505	4	5	15'-9"	BEND IN FIELD	" " - TOP
W506	12	5	7'-9"	STR.	9'-0" " - HORIZ.
W507	6	5	14'-10"	BENT	" " - "
W508	6	5	17'-0"	BENT	" " - "
W409	6	4	12'-7"	"	" " - "
W410	6	4	12'-10"	"	" " - "
W511	4	5	17'-0"	BEND IN FIELD	" " - TOP
V401	62	4	4'-9"	L-HOOK	BRIDGE SEAT - VERTICAL
V402	86	4	5'-3"	STR.	PARAPET - VERTICAL
V503	88	5	6'-11"	BENT	" "
V604	28	6	8'-0"	L-HOOK	WINGS @ RAILPOSTS - VERTICAL
V605	14	6	9'-9"	"	" @ CURBS - VERTICAL
V606	6	6	9'-6"	"	9'-0" WING @ CORNER - VERTICAL
* V407	12	4	14'-7	STR.	8'-3" " - VERTICAL
V408	4	4	9'-11"	"	" " - "
* V409	16	4	14'-4"	"	9'-0" " - "
V810	24	8	6'-6"	"	RAILPOSTS - "
T501	32	5	9'-3"	BENT	FOOTING - TIES
T402	32	4	5'-1"	"	" - "
T403	32	4	4'-10"	"	" - "
T504	4	5	9'-11"	"	" - "
T405	4	4	5'-9"	"	" - "
T406	4	4	5'-6"	"	" - "
T407	84	4	4'-2"	"	BRIDGE SEAT - TIES
T408	38	4	3'-6	"	PAVING BRACKET - TIES
T309	12	3	6'-5	"	CURBS - TIES - HORIZ.
T310	20	3	6'-8"	"	RAILPOSTS - TIES

* CUT TWO BARS FROM ONE IN THE FIELD.

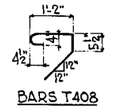


BARS T309

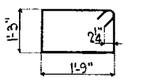
SECTION "D-D"



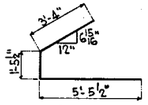
BARS T501 & T504



BARS T408

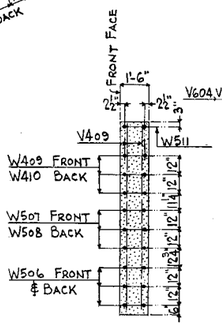


BARS T310

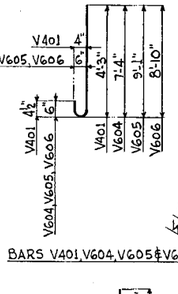


BARS H702

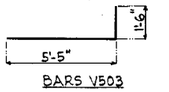
BARS H605 & H606



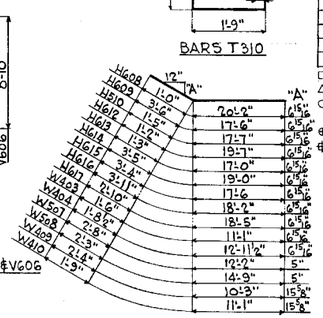
SECTION "F-F"



BARS V401, V604, V605 & V606



BARS V503

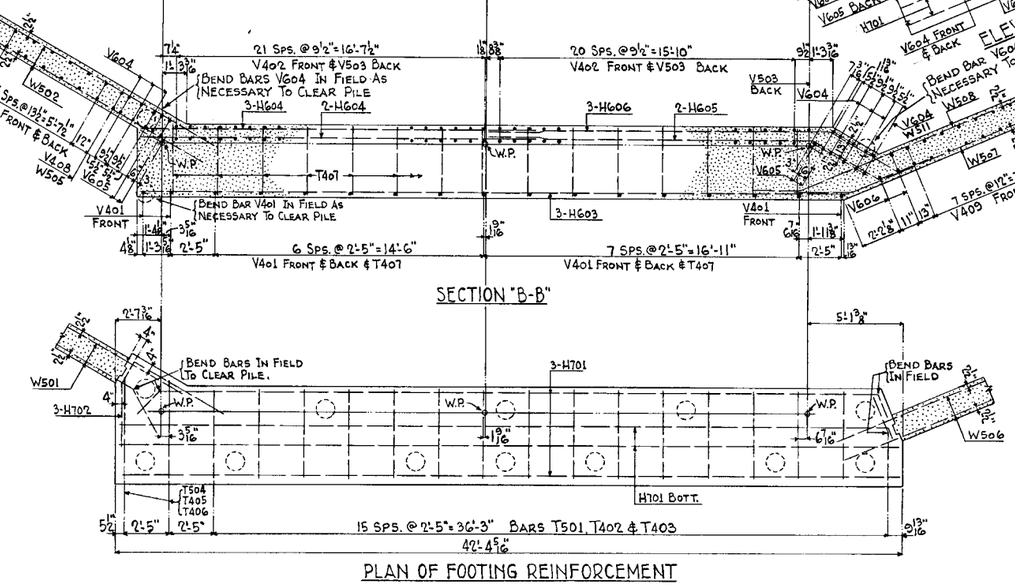


BARS H608, H609 & H510 H612 TO H617 INCL. W403, W404, W507, W508, W409 & W410

NOTE: ALL BAR DIMENSIONS ARE OUT TO OUT OF BAR.

SUMMARY OF QUANTITIES FOR TWO ABUTMENTS		
CONCRETE MIX Nº 1A6	46	CU.YDS.
CONCRETE MIX Nº 3Y6	63	CU.YDS.
CONCRETE MIX Nº 3Y60	2	CU.YDS.
CLASS DE EXCAVATION	170	CU.YDS.
REINFORCEMENT BARS	8360	LBS.
STRUCTURAL STEEL (M.H.D. 3305)	30	LBS.
□ 20 BOLTS ¾"Φ x 9" LG. SQ. HD. & NUT & CUT WASHER EACH		
△ ONE COUNTY NAME PLATE DETAIL PLATE Nº 2101		
○ ONE BENCH MARK DISK PER M.H.D. STD. PLT. Nº 9300		
⊕ 4 BEARING ASSEMBLIES, EXPANSION TYPE I - BP1		
⊕ 4 BEARING ASSEMBLIES, EXPANSION TYPE II - BP2		
TREATED TIMBER TEST PILES IN PLACE 65 FT. LONG	4	PILES
TREATED TIMBER PILING (EXCLUSIVE OF TEST PILES)	1100	LIN. FT.
⊕ 4 PCS. 3"x14"x18'-0" PLANKS		

□ INCLUDED IN WEIGHT OF STRUCTURAL STEEL, M.H.D. 3305.
△ BRIDGE Nº 55506 - DATED 1963 - OLMSTED COUNTY.
○ STATE WILL FURNISH DISK. PAYMENT FOR PLACING DISK TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.
⊕ FOR DETAILS SEE SH. Nº 8.
⊕ INCLUDED IN PRICE BID FOR OTHER ITEMS.



SECTION "B-B"

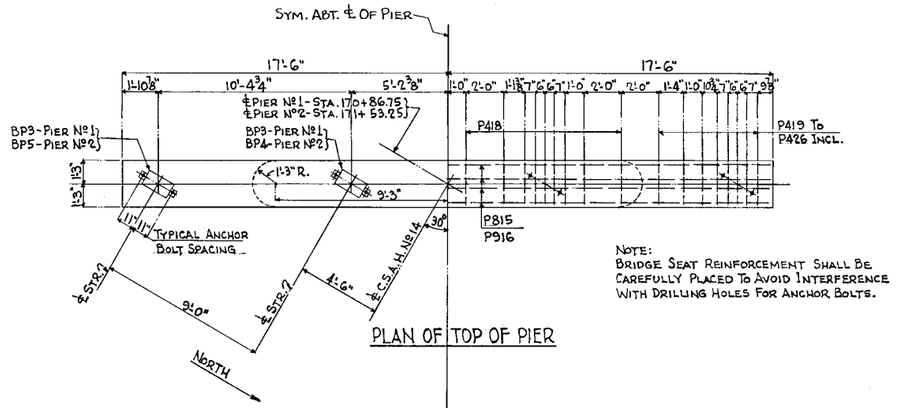
PLAN OF FOOTING REINFORCEMENT

PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. Nº 14
BRIDGE Nº 55506
ABUTMENTS - REINFORCEMENT

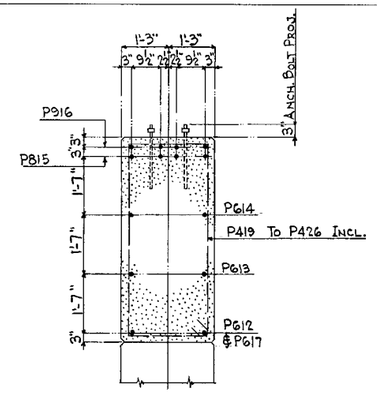
APPROVED 5-20-63

55506 GFW R.A.



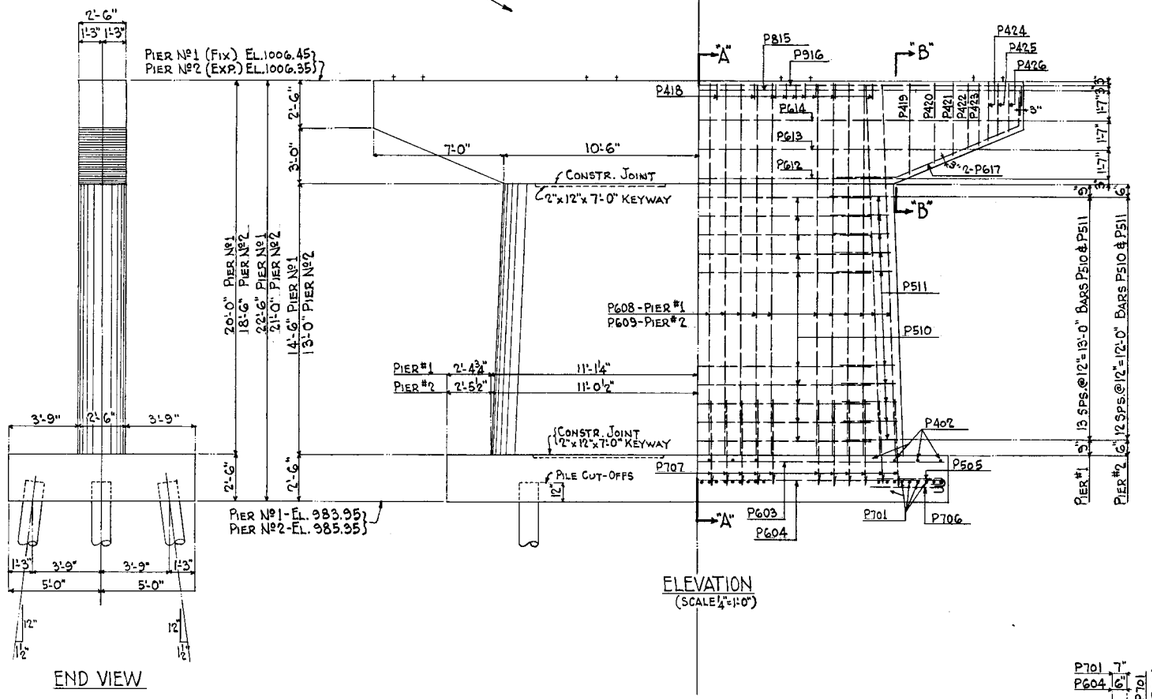
PLAN OF TOP OF PIER

NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS.



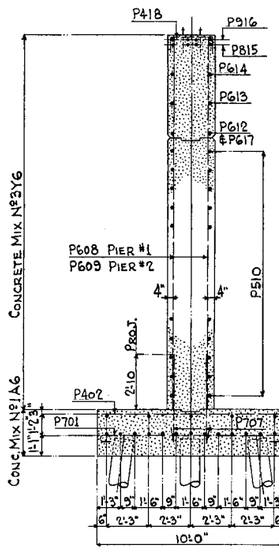
SECTION "B-B"

BILL OF REINFORCEMENT BARS FOR TWO PIERS					
BAR	NO.	SIZE	LENGTH	SHAPE	LOCATION
P701	128	7	11'-2"	2-HOOKS	FOOTING - TRANSV. - BOTT.
P402	44	4	9'-6"	STRT.	" " TOP
P603	10	6	26'-6"	"	" LONGIT. "
P604	10	6	27'-10"	2-HOOKS	" " BOTT.
P505	32	5	4'-7"	1-HOOK	" " " ENDS
P706	24	7	8'-3"	"	" CORNERS " DIAG.
P707	104	7	5'-4"	"	" DOWELS
P608	52	6	19'-10"	STRT.	PIER SHAFT - VERT. - PIER #1
P609	52	6	18'-4"	"	" " " " " #2
P510	54	5	18'-6"	"	" " HORIZ.
P511	54	5	7'-7"	BENT	" " " ENDS
P612	4	6	21'-0"	STRT.	" CAP "
P613	4	6	28'-9"	"	" " "
P614	4	6	34'-9"	"	" " "
P815	8	8	38'-8"	BENT	" " " TOP
P916	8	9	38'-8"	"	" " " "
P617	8	6	11'-5"	"	" " ENDS - BOTT.
P418	36	4	3'-2"	"	" " TIES
P419	4	4	14'-10"	"	" " STIRRUPS
P420	4	4	13'-8"	"	" " "
P421	4	4	12'-10"	"	" " "
P422	4	4	12'-0"	"	" " "
P423	4	4	11'-6"	"	" " "
P424	4	4	11'-1"	"	" " "
P425	4	4	10'-8"	"	" " "
P426	4	4	10'-2"	"	" " "

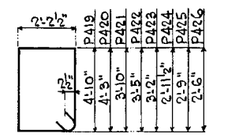


END VIEW

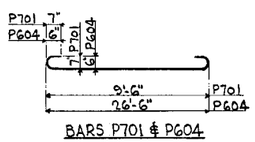
ELEVATION
(SCALE ¼"=1'-0")



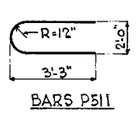
SECTION "A-A"



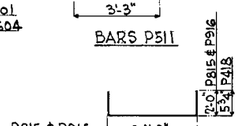
BARS P419 TO P426 INCL.



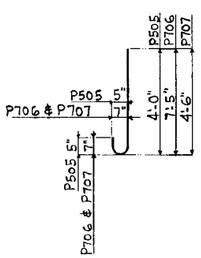
BARS P701 & P604



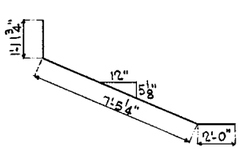
BARS P511



BARS P815, P916 & P418



BARS P505, P706 & P707



BARS P617

SUMMARY OF QUANTITIES FOR TWO PIERS		
CONCRETE MIX №1 A6	50	CU. YDS.
CONCRETE MIX №3 Y6	85	CU. YDS.
REINFORCEMENT BARS	13020	LBS.
CLASS 'WE' EXCAVATION	180	CU. YDS.
UNTREATED TIMBER TEST PILES IN PLACE 40 FT. LONG	2	PILES
UNTREATED TIMBER TEST PILES IN PLACE 50 FT. LONG	2	PILES
△ UNTREATED TIMBER PILING DELIVERED	1370	LIN. FT.
⊕ 4 BEARING ASSEMBLIES, FIXED TYPE I - BP3		
⊕ 2 BEARING ASSEMBLIES, EXPANSION TYPE III - BP4		
⊕ 2 BEARING ASSEMBLIES, EXPANSION TYPE IV - BP5		

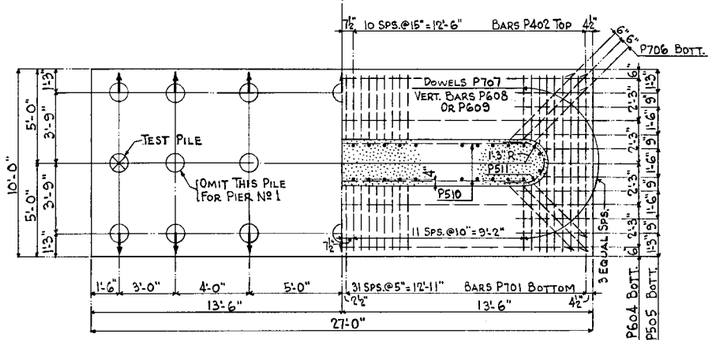
△ EXCLUSIVE OF TEST PILES
⊕ FOR DETAILS SEE SH. №8 & 9

PILE NOTES:
2 UNTREATED TIMBER TEST PILES 40 FT. LONG - PIER №1
2 " " " 50 FT. " " №2
16 " " PILES - EST. LENGTH 35 FT. " №1
18 " " " 45 FT. " №2
36 " " REQ'D FOR 2 PIERS.

ALL PILES TO BE DRIVEN TO MINIMUM BEARING VALUE OF 24 TONS PER PILE.
PILES SHOWN THUS ⊕ TO BE BATTERED 1½": 12" IN DIRECTION INDICATED BY ARROW.
ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.

TEST PILE №5 NORTH END - PIER №1
" " №6 SOUTH " - " "
" " №7 NORTH " - " №2
" " №8 SOUTH " - " "

COMPUTED PILE LOADS	TONS PER PILE	
	PIER #1	PIER #2
DEAD LOAD	16.8	14.9
LIVE LOAD	4.0	3.6
OVERTURNING	3.2	5.5
TOTAL	24.0	24.0



HALF PILE PLAN HALF REINF. PLAN

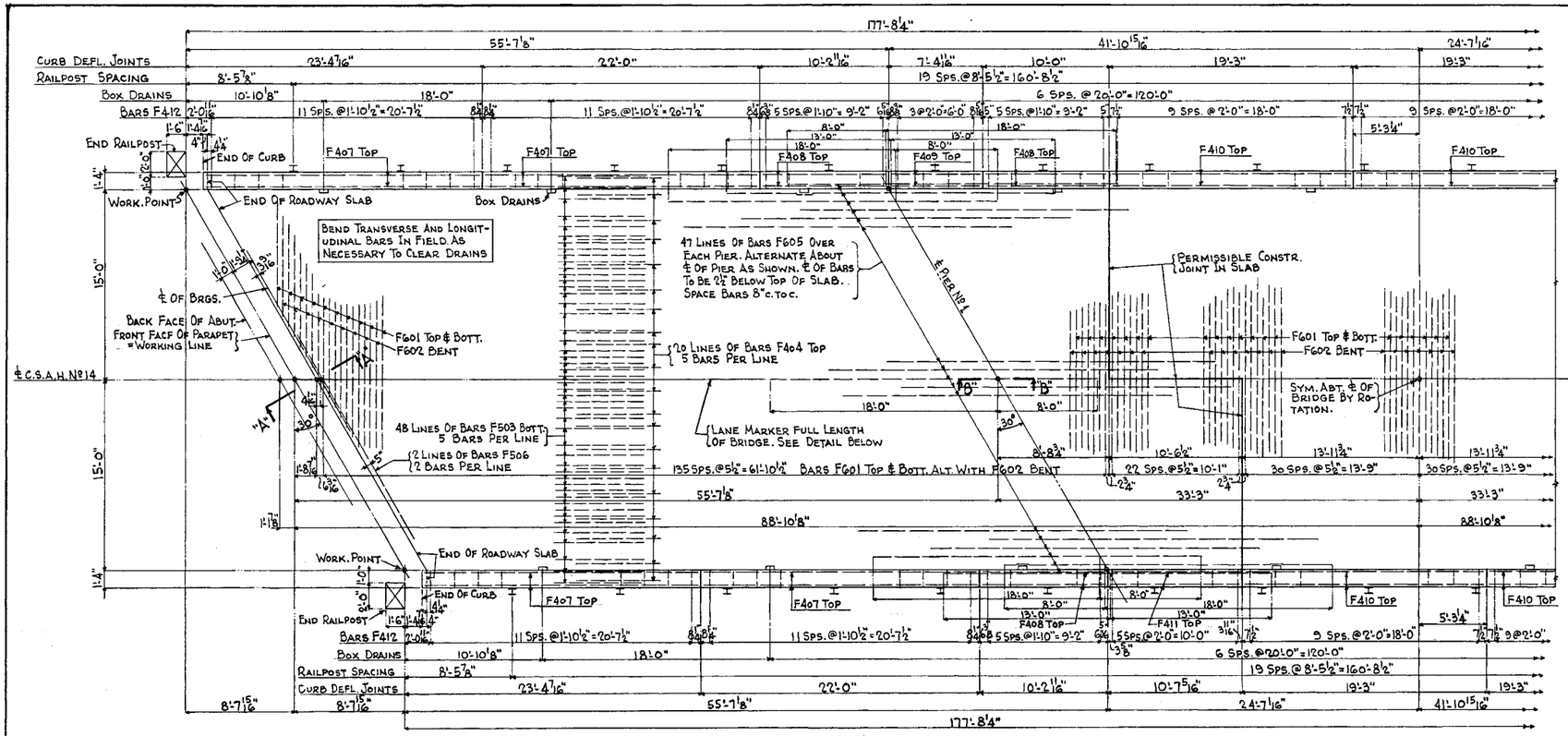
PLAN OF FOOTING

NOTE:
ALL BAR DIMENSIONS ARE OUT TO OUT OF BAR.

PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. №14
BRIDGE №55506
DETAILS OF PIERS

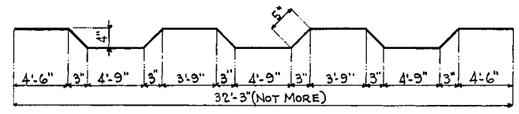
APPROVED 9-20-62



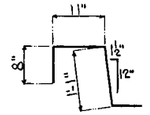
HALF PLAN OF SLAB
(SCALE 3/16"=1'-0")

BILL OF REINFORCEMENT BARS FOR SUPERSTRUCTURE					
BAR	NO.	SIZE	LENGTH	SHAPE	LOCATION
△ F601	380	6	32'-3"	STRT.	ROWY. SLAB - TRANSV.
△ F602	191	6	33'-3"	BENT	" " - "
* F503	240	5	36'-1"	STRT.	" " - LONGIT.
‡ F404	100	4	35'-10"	"	" " - "
F605	94	6	26'-0"	"	" " - " OVER PIERS
* F506	8	5	18'-3	"	ROWY. SLAB - TRANSV. AT SKEWED ENDS
F407	16	4	21'-9	"	CURBS - LONGIT.
F408	12	4	9'-9"	"	" "
F409	4	4	7'-0"	"	" "
F410	8	4	19'-0"	"	" "
F411	4	4	10'-4	"	" "
F412	192	4	3'-3"	BENT	" - TIES

△ A CERTAIN NUMBER OF BARS FG01 & FG02 TO BE CUT TWO FROM EACH IN FIELD TO FIT SKEWED ENDS OF ROADWAY SLAB.
* BARS MARKED THUS TO BE LAPPED 1'-7" AT SPLICES.
‡ BARS MARKED THUS TO BE LAPPED 1'-3" AT SPLICES.

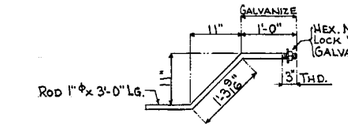


BARS F602

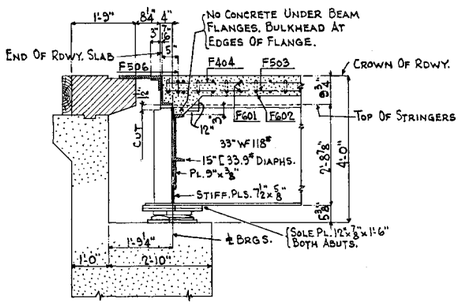


BARS F412

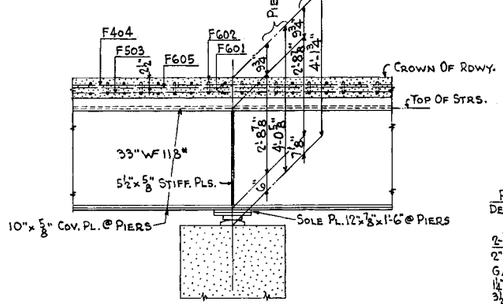
NOTE:
ALL BAR DIMENSIONS ARE OUT TO OUT OF BAR.



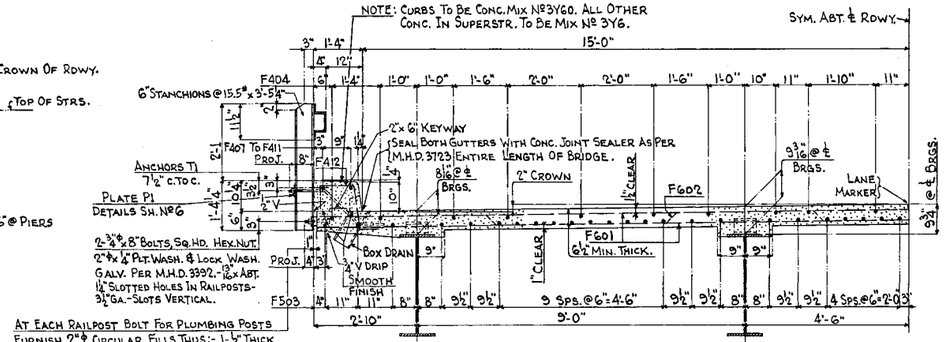
RAILPOST ANCHORS-T1
80 REQ'D - 2 @ EACH POST.
INCLUDED IN WT. OF M.H.D. 3305 STRUCT. STEEL
GALV. AS SHOWN PER M.H.D. 3392



SECTION "A-A"
(SCALE ½"=1'-0")



SECTION "B-B"
(SCALE ½"=1'-0")

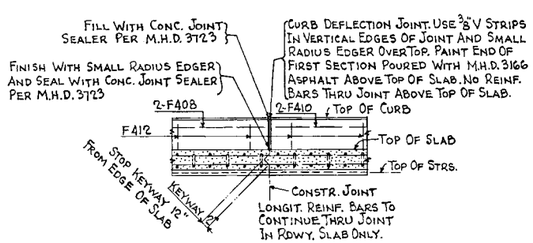


HALF TYPICAL CROSS-SECTION OF ROADWAY
(SCALE ½"=1'-0")

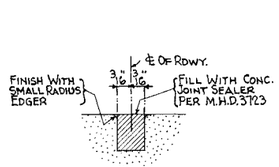
AT EACH RAILPOST BOLT FOR PLUMBING POSTS FURNISH 2" ϕ CIRCULAR FILLS THUS:- 1-½" THICK, 1-⅜ THICK, 1-¼ THICK, 1-⅛ THICK & 1-⅛ THICK. FILLS TO BE MEASURED & PAID FOR AS M.H.D. 3305 STRUCT. STEEL. GALV.

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE		
CONCRETE MIX Nº 3Y6	123	CU. YDS.
CONCRETE MIX Nº 3Y60	13	CU. YDS.
REINFORCEMENT BARS	44070	LBS.
STRUCTURAL STEEL (M.H.D. 3306-61)	30320	LBS.
STRUCTURAL STEEL (M.H.D. 3305-59)	26100	LBS.
STRUCTURAL STEEL (M.H.D. 3319-59)	3750	LBS.
□ RAILING AND STANCHION RAILPOSTS - DETAILS SH. Nº6		
□ 40 RAILPOST PLATES P1 - DETAILS SH. Nº6		
□ 4 RAIL CONNECTOR ANGLES P2 - DETAILS SH. Nº6		
□ 4 RAIL CONNECTOR PLATES P3 - DETAILS SH. Nº6		
□ 80 RAILPOST ANCHORS T1 - DETAILS THIS SHEET		
□ 8 BOLTS ¾" ϕ x 8" LG. - SQ. HD. HEX. NUT, BEVEL WASH. & LOCK WASH. - GALV.		
□ 80 BOLTS ¾" ϕ x 8" LG. - SQ. HD. HEX. NUT, 2" ϕ x ¼" PLT. WASH. & LOCK WASH. - GALV.		
FLOOR DRAINS TYPE I - DETAILS SH. Nº 9	18	UNITS

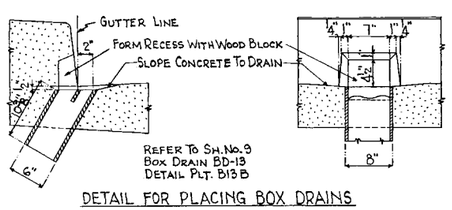
□ INCLUDE IN WEIGHT OF M.H.D. 3305 STRUCT. STEEL.



DETAIL OF SLAB CONSTR. JOINT & CURB DEFL. JOINTS

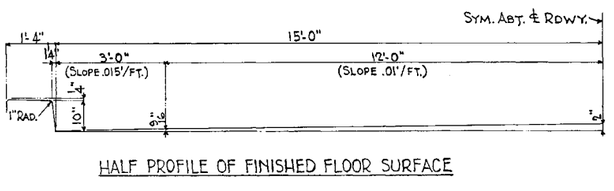


DETAIL OF LANE MARKER



REFER TO SH. No. 9 BOX DRAIN BD-13 DETAIL PLT. B13B

DETAIL FOR PLACING BOX DRAINS



HALF PROFILE OF FINISHED FLOOR SURFACE

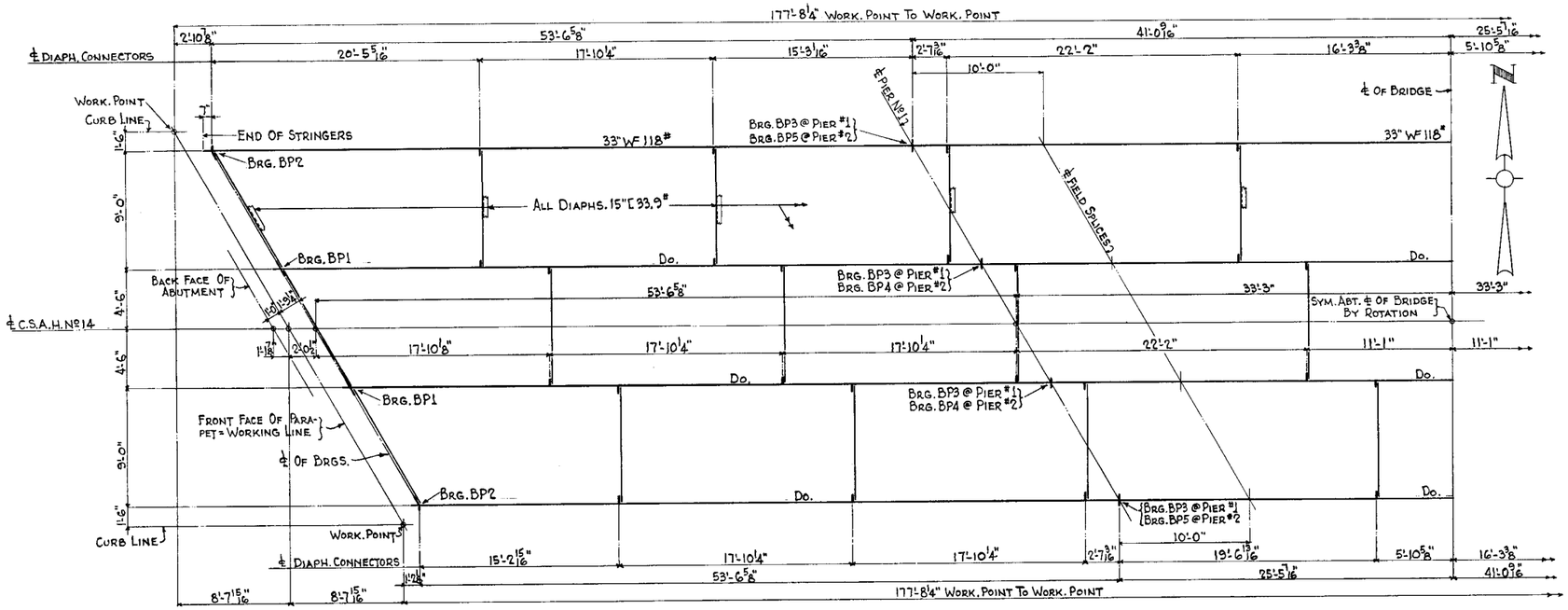
PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. Nº 14
BRIDGE Nº 55506
SLAB REINF. PLAN & SECTIONS

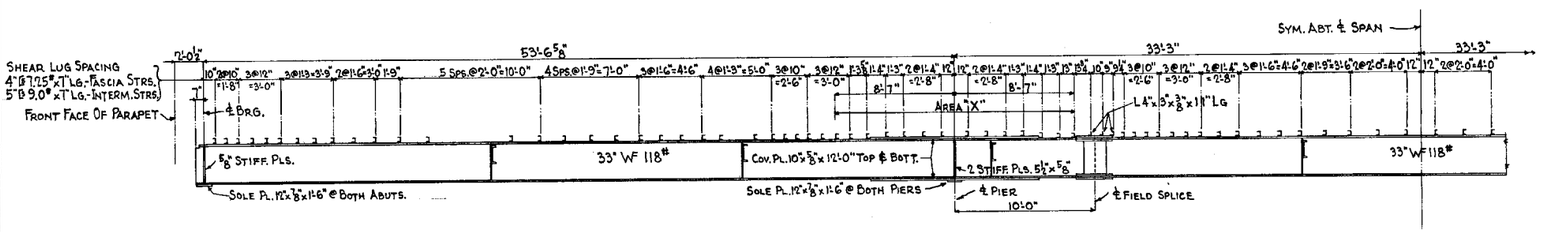
APPROVED 9-30-62

55506 GFW RA

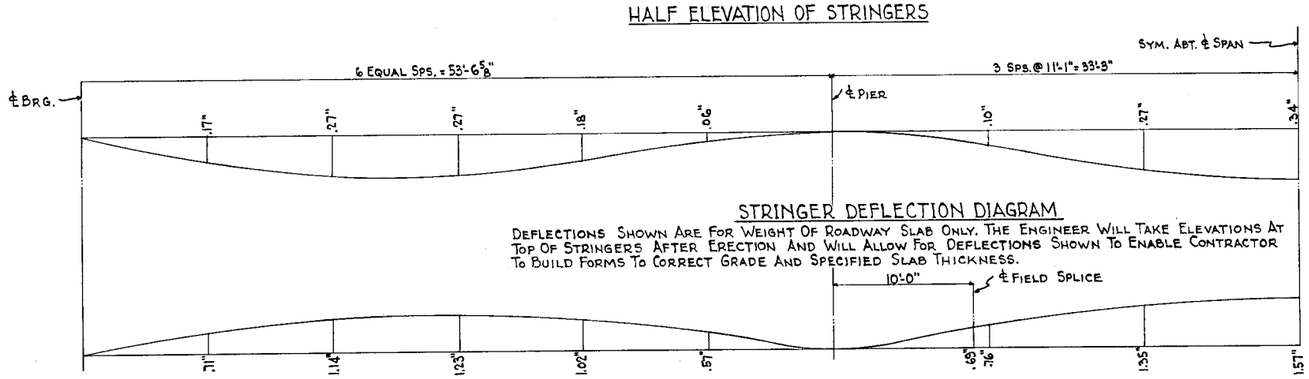
LOCATION AND DESCRIPTION OF BEARINGS							
TYPE	BRG. MARK	LOCATION	Nº UNITS	DESCRIPTION	DTL. PLT.	LOAD	HEIGHT
Exp. I	BP1	Both Abuts.	4	Exp. With Guide Bars	B141A	140K	4½"
Exp II	BP2	" "	4	" Without Guide Bars	B142A	140K	4½"
Fix I	BP3	Pier Nº 1	4	Fixed	B140A	180K	4½"
Exp. III	BP4	" " 2	2	Exp. With Guide Bars	B141A	180K	5⅝"
Exp. IV	BP5	" " 2	2	" Without " "	B142A	180K	5⅝"



HALF STEEL FRAMING PLAN
(SCALE 3⁄16"=1'-0")



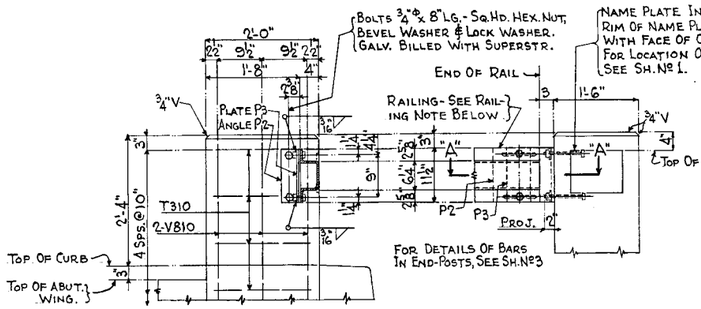
HALF ELEVATION OF STRINGERS

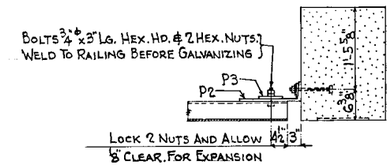


STRINGER DEFLECTION DIAGRAM

Deflections Shown Are For Weight Of Roadway Slab Only. The Engineer Will Take Elevations At Top Of Stringers After Erection And Will Allow For Deflections Shown To Enable Contractor To Build Forms To Correct Grade And Specified Slab Thickness.

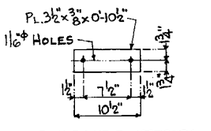
FABRICATION CAMBER DIAGRAM



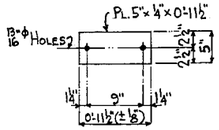


SECTION "A-A"

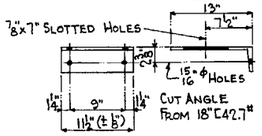
DETAILS OF END RAILPOST



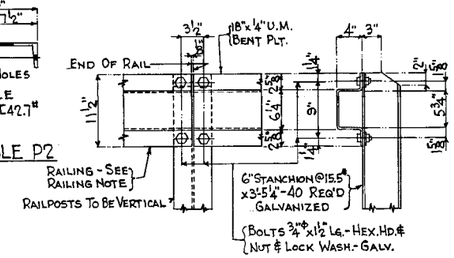
RAILPOST PLATES P1
40 REQ'D THUS (GALVANIZED)



RAIL CONNECTOR PLATE P3
4 REQ'D THUS (GALVANIZED)

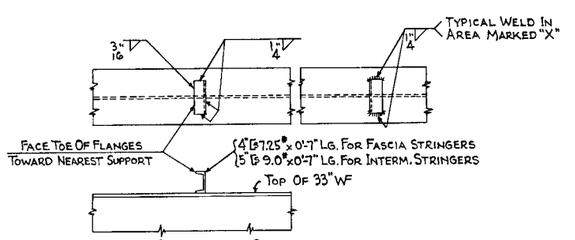


RAIL CONNECTOR ANGLE P2
4 REQ'D THUS (GALVANIZED)



DETAIL OF RAILING CONNECTION TO STEEL INTERMEDIATE POSTS

Railing Note: Railing To Be 18" x ¼" U.M. Plate Bent To Dimensions Shown With ½" Inside Radius Bends.
Railing To Be Continuous For A Minimum Of Two Panels And A Maximum Of Three Panels.
Leave ⅛" Clear Opening At Joints Between Ends Of Rails.
The Fabricator Will Be Permitted To Splice Continuous Bent Plate Railings At The ℄ Of Railposts Using A Butt Weld Ground Smooth.
Galvanize Structural Steel Items As Per M.H.D. 3394 Unless Otherwise Noted.
Galvanize Anchors Tl, Bolts, Nuts And Washers As Per M.H.D. 3392.
All Railings, Posts, Bolts And Fittings To Be Measured And Paid For As M.H.D. 3305 Structural Steel.



DETAIL OF SHEAR LUGS

Notes:-
For Structural Steel Construction Notes See Sh. Nº 7.
For Summary Of Quantities For Superstructure See Sh. Nº 5.

Plans Prepared By
Robert E. Erickson Engineering Co.
3340 Republic Ave. St. Louis Park, Minn.

C.S.A.H. Nº 14
Bridge Nº 55506
Framing Plan & Railing Details

Approved 9-20-62

Sheet 6 of 11 Sheets | 55506 | GF RJ

STRINGER DETAILS

Structural Steel Construction Notes:

All 33"WF118# Stringers, Cover Plates At Piers, Stringer Field Splice Material And Field Splice Rivets To Be Structural Steel Per M.H.D. 3306. See Special Provisions.

All Diaphragm Connectors, Web Stiffeners At Abutment And Pier Bearings And All Sole Plates To Be Struct. Steel For Welding Per M.H.D. 3319.

All Other Structural Steel Items To Be Structural Steel Per M.H.D. 3305 Unless Otherwise Noted.

Rivets 7/8"ϕ Holes 15/16"ϕ Unless Otherwise Noted.

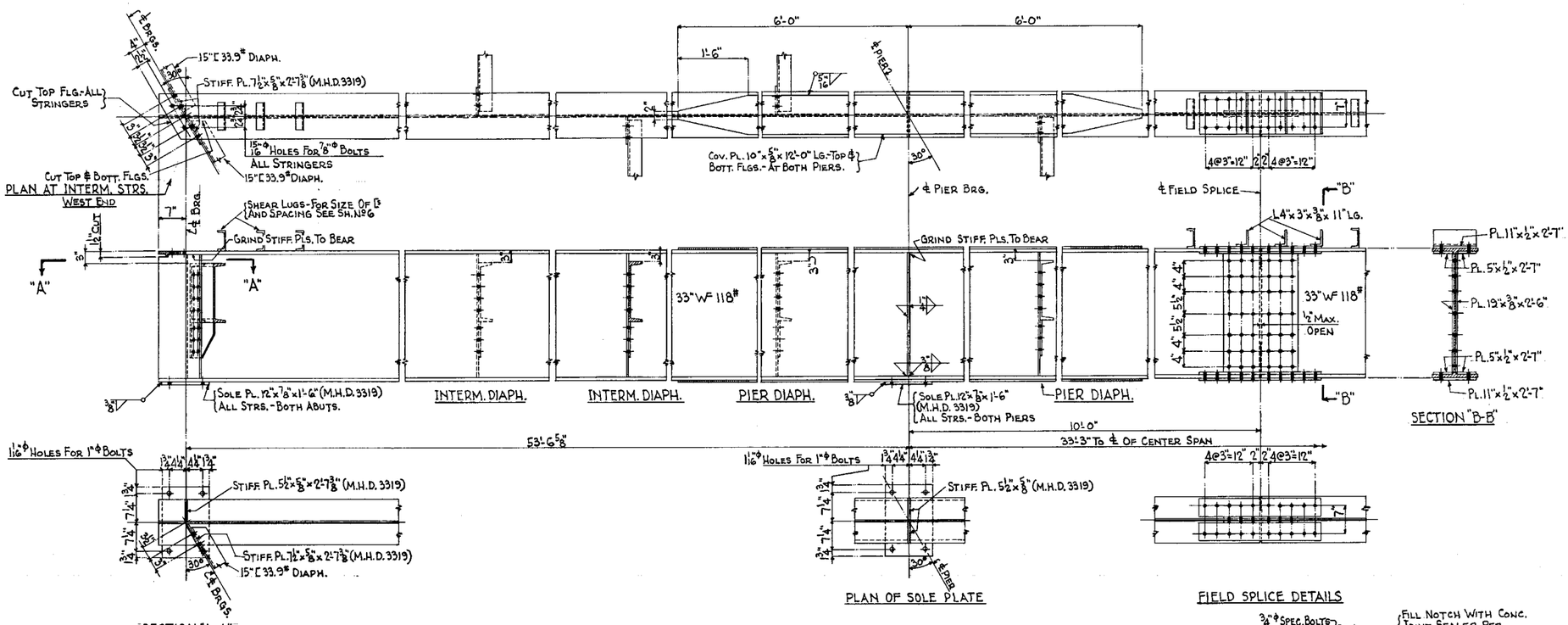
All Field Connections To Be Riveted Unless Otherwise Noted. Bolt Expansion Devices To Top Flange Of Stringers.

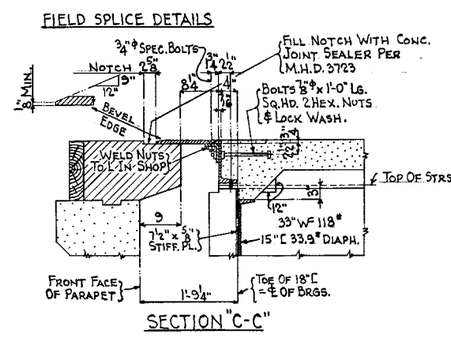
Full Assembly Reaming Will Be Required As Per M.H.D. 2471.3E1d.

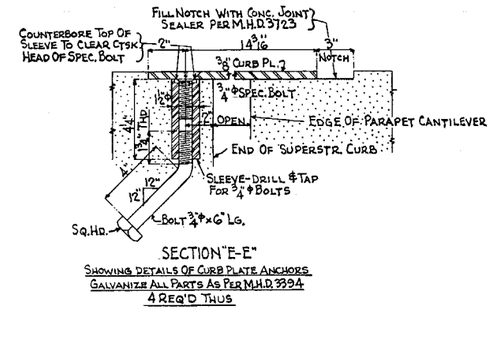
Paint All Structural Steel Except Galvanized Materials As Follows:-

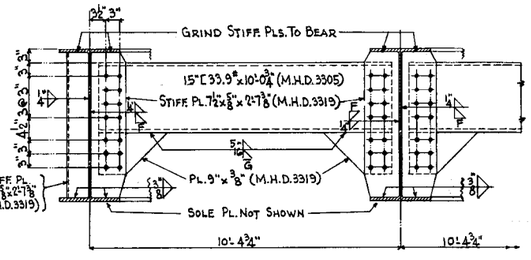
Shop Coat, Red Lead	M.H.D. 3506
First Field Coat, Aluminum	M.H.D. 3527
Second Field Coat, Aluminum	M.H.D. 3528

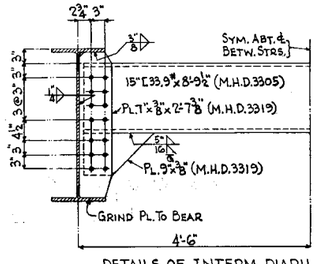
Start Cover Plate Welds At Center Of Plate And Proceed Simultaneously On Both Sides Of Plate Toward Either End. Do Not Tack Weld. Use C Clamps And Release Clamps As Welding Proceeds To Relieve Stress.

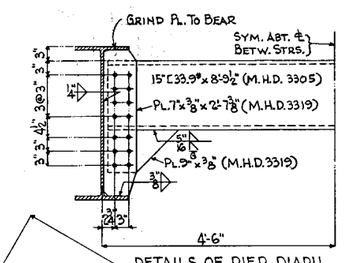






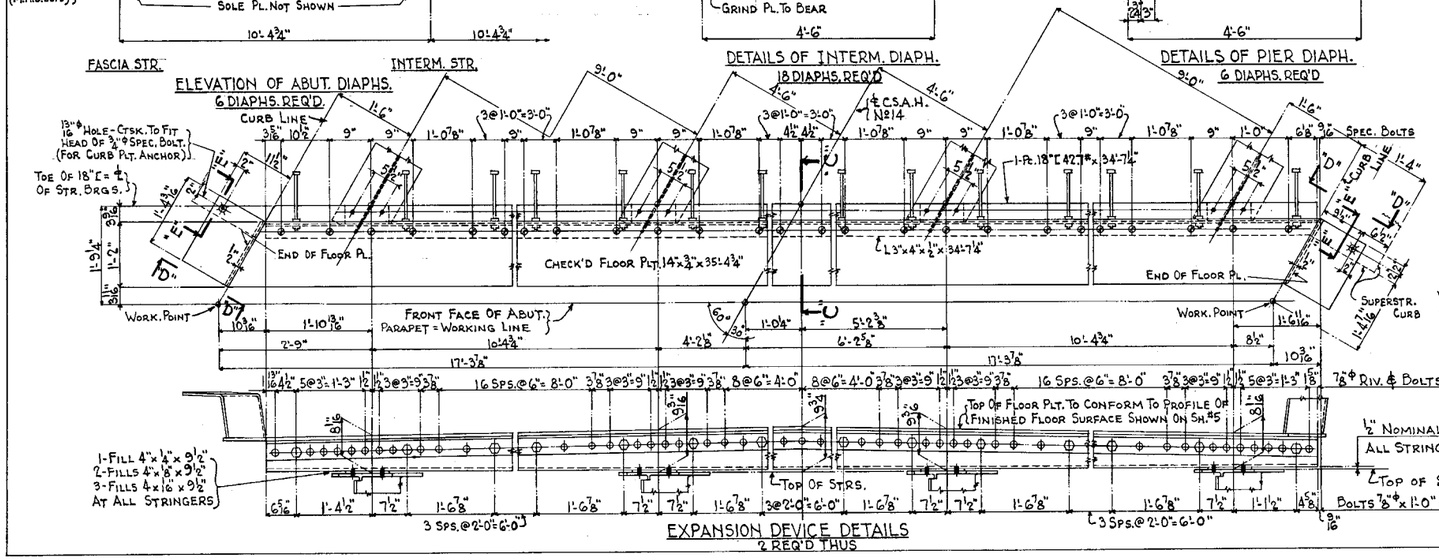




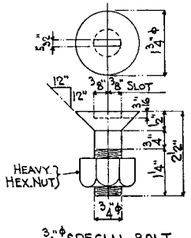


DETAILS OF INTERM. DIAPH. 18 DIAPHS. REQ'D

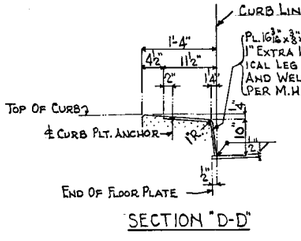
DETAILS OF PIER DIAPH. 6 DIAPHS. REQ'D



EXPANSION DEVICE DETAILS
2 REQ'D THUS



¾"ϕ SPECIAL BOLT
WELD HEX. NUT TO EXPANSION DEVICE ANGLE IN SHOP. SEE SECT "C-C"
BOLTS SHALL BE GALV. PER M.H.D. 3392.
74 BOLTS REQ'D THUS



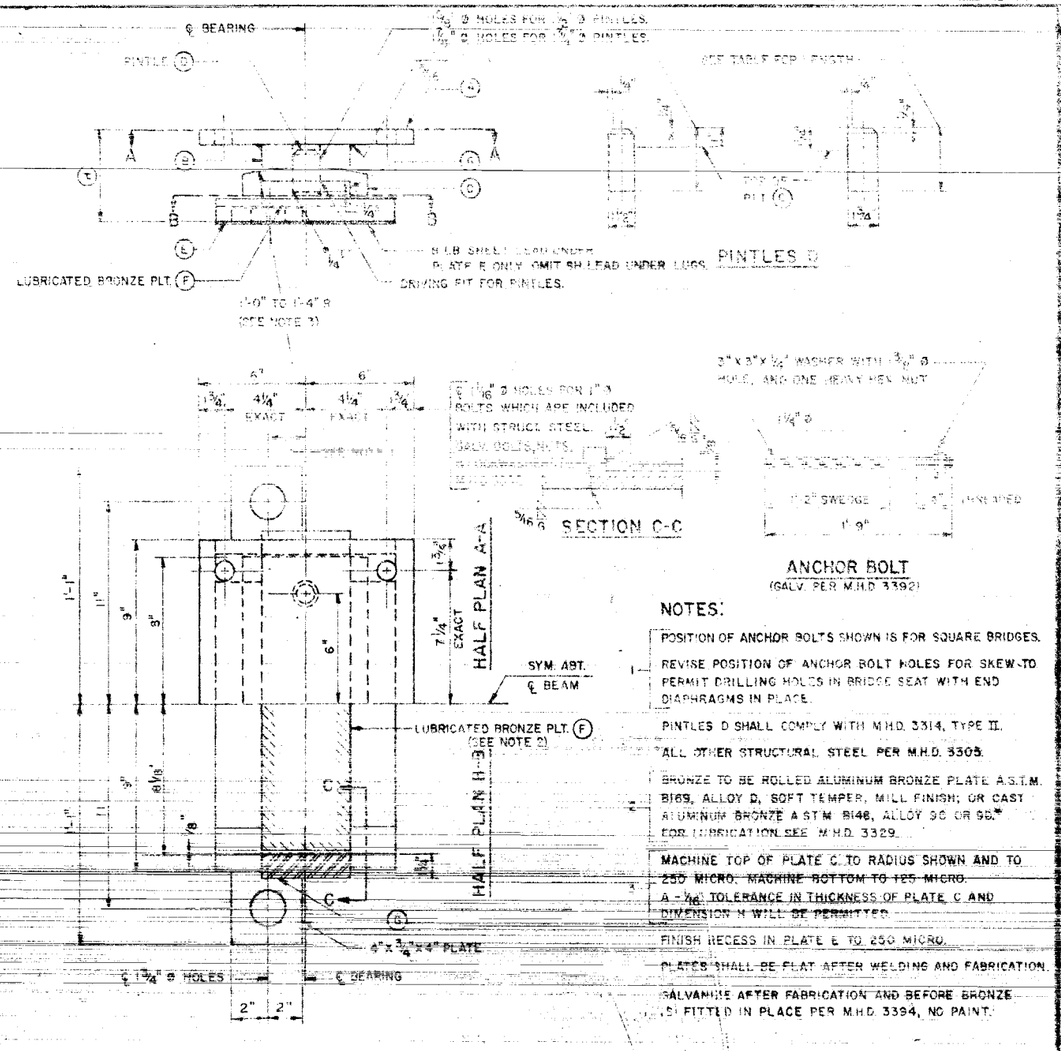
Expan. Device Notes:
Roadway Floor Plates Shall Be Similar To Inland Steel Co. Large Pattern, U.S. Steel Section S-300 Or Allen Wood Co. Super Diamond. Expansion Device To Be Galvanized As Per M.H.D. 3394. Any Galvanizing Damaged During Fabrication Shall Be Spot Galvanized. Material To Be Structural Steel As Per M.H.D. 3305.

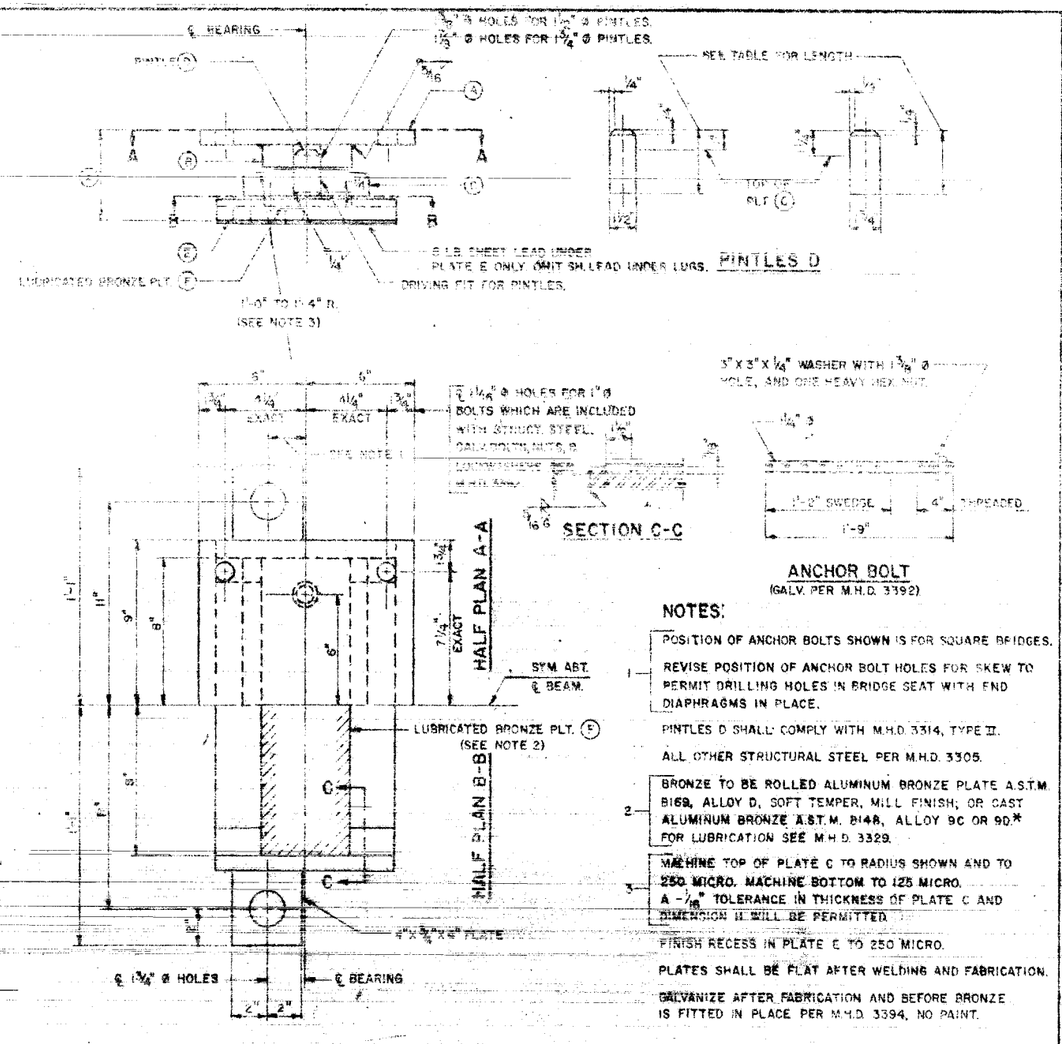
For Summary Of Quantities For Superstructure See Sh. Nº 5.

Plans Prepared By:
Robert E. Erickson Engineering Co.
3340 Republic Ave. St. Louis Park, Minn.

C.S.A.H. Nº 14
Bridge Nº 55506
Structural Details & Expan. Device

Approved _____





NOTES:

1. POSITION OF ANCHOR BOLTS SHOWN IS FOR SQUARE BRIDGES. REVISE POSITION OF ANCHOR BOLT HOLES FOR SKEW TO PERMIT DRILLING HOLES IN BRIDGE SEAT WITH END DIAPHRAGMS IN PLACE.
2. PINTLES D SHALL COMPLY WITH M.H.D. 3314, TYPE II.
3. ALL OTHER STRUCTURAL STEEL PER M.H.D. 3305.
4. BRONZE TO BE ROLLED ALUMINUM BRONZE PLATE A.S.T.M. B169, ALLOY D, SOFT TEMPER, MILL FINISH; OR CAST ALUMINUM BRONZE A.S.T.M. B148, ALLOY 9C OR 9D.* FOR LUBRICATION SEE M.H.D. 3329.
5. MACHINE TOP OF PLATE C TO RADIUS SHOWN AND TO 250 MICRO. MACHINE BOTTOM TO 125 MICRO. A -1/16" TOLERANCE IN THICKNESS OF PLATE C AND DIMENSION H WILL BE PERMITTED.
6. FINISH RECESS IN PLATE E TO 250 MICRO.
7. PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.
8. GALVANIZE AFTER FABRICATION AND BEFORE BRONZE IS FITTED IN PLACE PER M.H.D. 3394, NO PAINT.

LOAD KIPS	A	B	C	D	E	F*	G	H	CODE
220	12"X1"X1'-6"	6"X1½"X1'-4"	9"X 2" X1'-4"	1¾"Ø X 3"	12"X½"X1'-6"	7"X½"X1'-4"	1¼"X1"X6"	5⅜"	B141-220
180	12"X1"X1'-6"	6"X1½"X1'-4"	8"X1¾"X1'-4"	1¾"Ø X2¾"	10"X1¼"X1'-6"	6"X½"X1'-4"	1¼"X1"X6"	5⅜"	B141-180
140	12"X⅞"X1'-6"	5"X1¼"X1'-4"	7"X1¼"X1'-4"	1½" Ø X 2"	8"X1"X1'-6"	5"X½"X1'-4"	1"X1"X6"	4½"	B141-140

* CAST BRONZE SHALL HAVE MACHINE-FINISHED EDGES TO WIDTH AND LENGTH SHOWN.
BOTTOM SURFACE TO BE MACHINED TO 250 MICRO AND TOP SURFACE TO 125 MICRO.
WIDTH AND LENGTH OF CAST OR WROUGHT BRONZE SHALL BE HELD TO +0.000 AND -0.050 INCH TOLERANCE.

BRONZE BEARING PLATES SHALL BE BOXED FOR SHIPMENT PER M.H.D. 2471.3K.

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

APPROVED MAY 13 1960

BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

EXPANSION BEARING ASSEMBLY FOR BEAMS
WITH 11½" OR 12" FLANGE WITH GUIDE BARS

REVISIONS
5/11/60-A
9/26/61-B

DETAIL NO.
B141C

NOTES:

1. POSITION OF ANCHOR BOLTS SHOWN IS FOR SQUARE BRIDGES. REVISE POSITION OF ANCHOR BOLT HOLES FOR SKEW TO PERMIT DRILLING HOLES IN BRIDGE SEAT WITH END DIAPHRAGMS IN PLACE.
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6. FINISH RECESS IN PLATE E TO 250 MICRO.
7. PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.
8. GALVANIZE AFTER FABRICATION AND BEFORE BRONZE IS FITTED IN PLACE PER M.H.D. 3394, NO PAINT.

LOAD KIPS	A	B	C	D	E	F*	H	CODE
220	12"X1"X1'-6"	6"X1½"X1'-4"	9"X 2" X1'-4"	1¾"Ø X 3"	12"X1½"X1'-6"	7"X½"X1'-4"	6⅛"	B142-220
180	12"X1"X1'-6"	6"X1½"X1'-4"	8"X1¾"X1'-4"	1¾"Ø X2¾"	10"X1⅛"X1'-6"	6"X½"X1'-4"	5⅜"	B142-180
140	12"X⅞"X1'-6"	5"X1¼"X1'-4"	7"X1¼"X1'-4"	1½" Ø X 2"	8"X1"X1'-6"	5"X½"X1'-4"	4½"	B142-140

* CAST BRONZE SHALL HAVE MACHINE-FINISHED EDGES TO WIDTH AND LENGTH SHOWN.
BOTTOM SURFACE TO BE MACHINED TO 250 MICRO AND TOP SURFACE TO 125 MICRO.
WIDTH AND LENGTH OF CAST OR WROUGHT BRONZE SHALL BE HELD TO +0.000 AND -0.050 INCH TOLERANCE.

BRONZE BEARING PLATES SHALL BE BOXED FOR SHIPMENT PER M.H.D. 2471.3K.

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

APPROVED MAY 13 1960

BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

EXPANSION BEARING ASSEMBLY FOR BEAMS
WITH 11½" OR 12" FLANGE WITHOUT GUIDE BARS

REVISIONS
5/11/60-A
9/26/61-B

DETAIL NO.
B142B

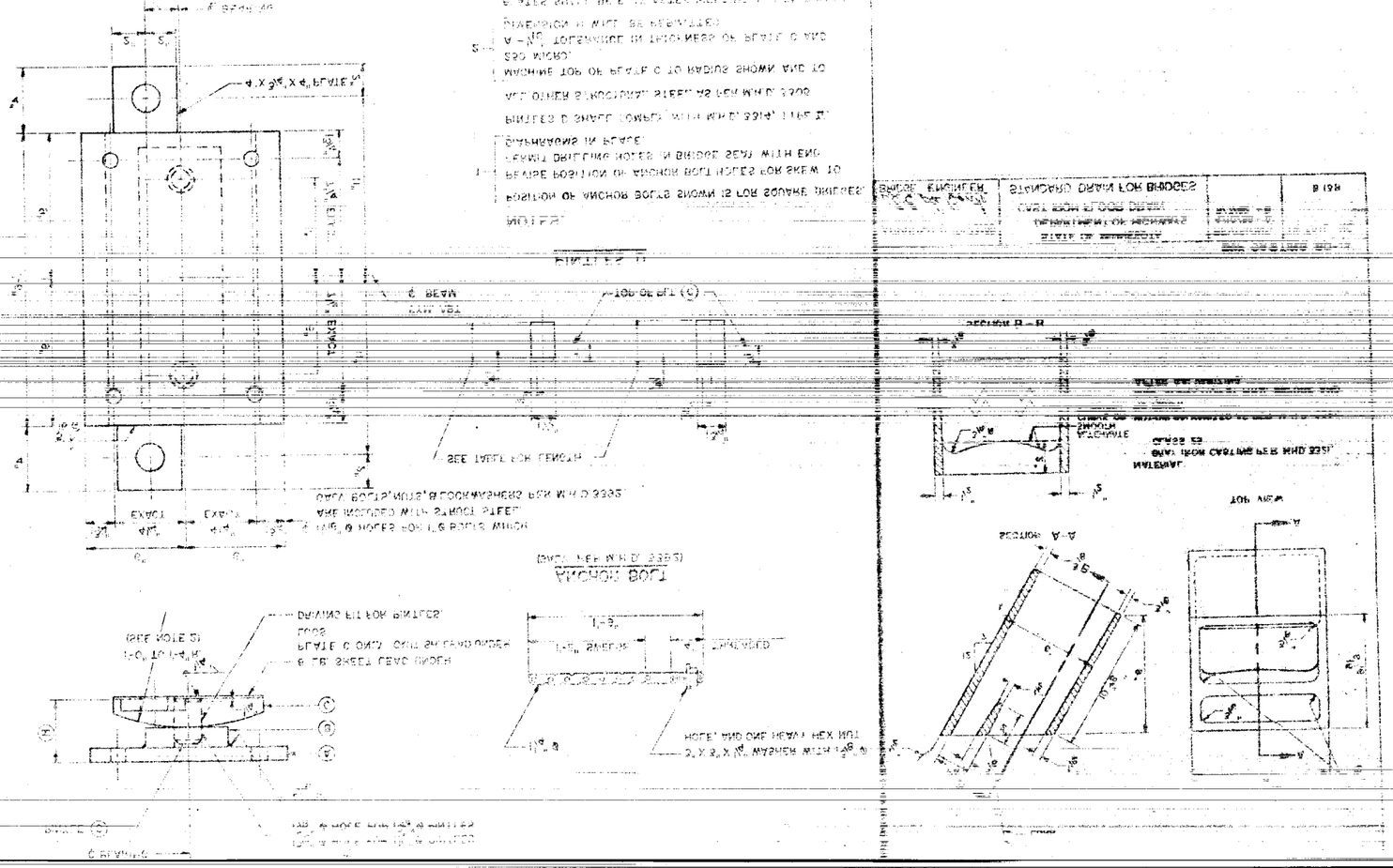
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO [illegible]

BEARING DETAILS

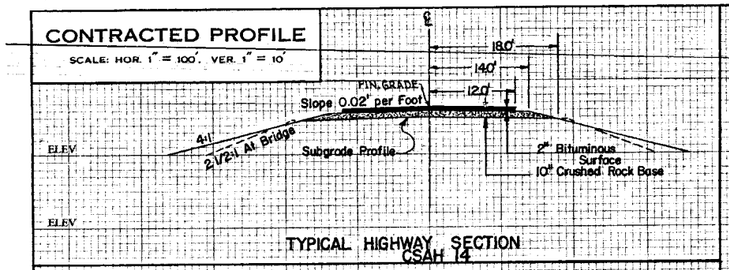
APPROVED

SHEET [illegible] OF [illegible] SHEETS

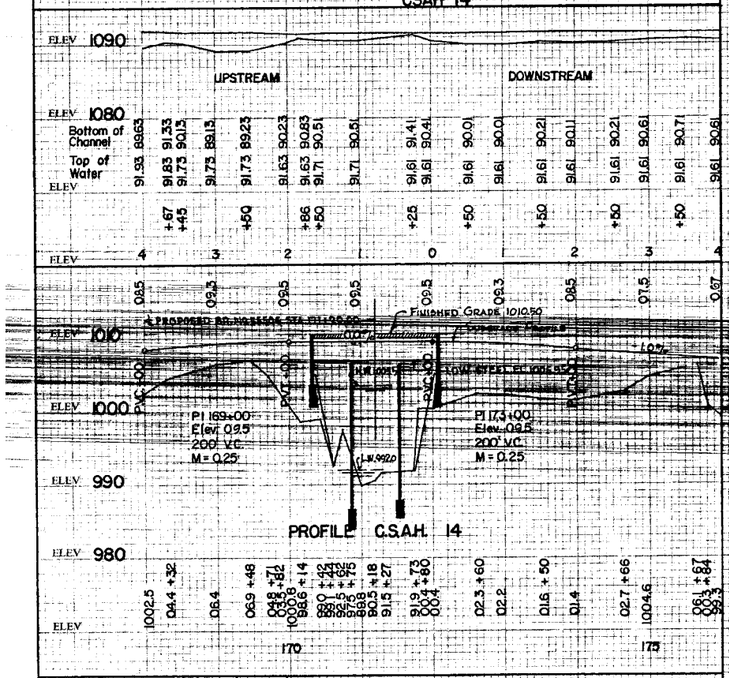


CONTRACTED PROFILE

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

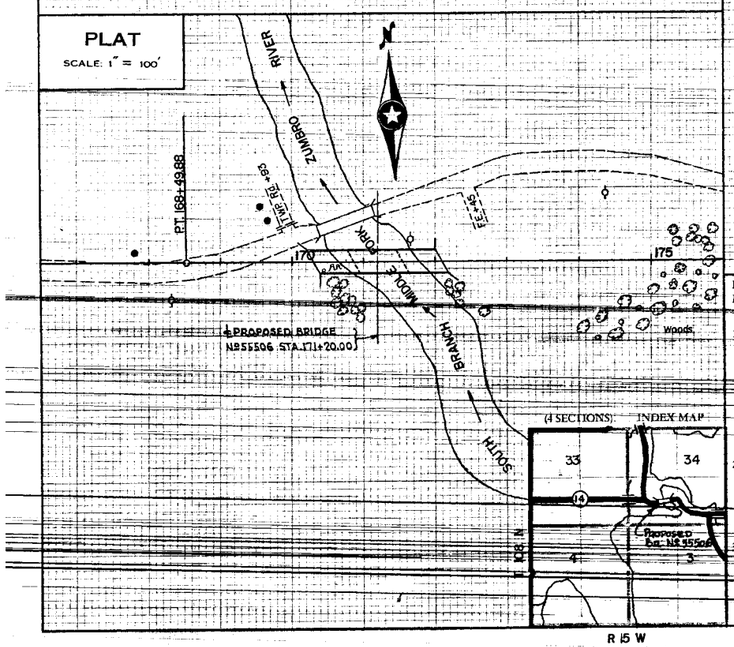


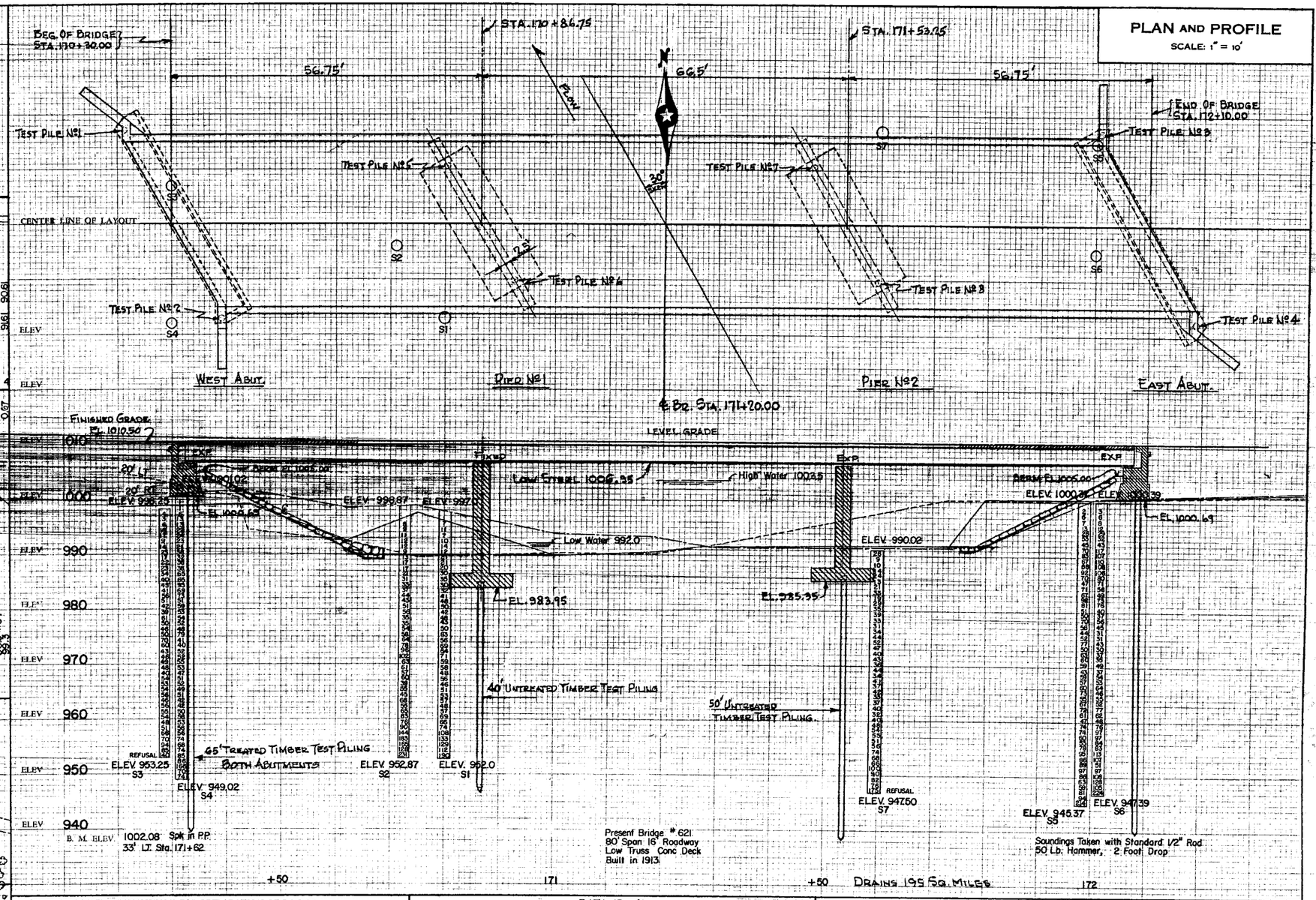
TYPICAL HIGHWAY SECTION
CSAH 14



PLAT

SCALE: 1" = 100'





PLAN AND PROFILE

SCALE: 1" = 10'

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 56.75'-66.5'-56.75' Cont Beam Spans
   - b. Width of roadway on bridge 30'
   - c. Number and width of sidewalks, if any none
   - d. Locate center of bridge at station 171+20.00
   - e. If a skew bridge is recommended, the angle of skew should be 30°
   - f. Is piling required? yes
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc. occasional high waters carry a considerable amount of drift wood. Channel upstream changes frequently because of jamming of this drift wood.
3. Changes: In height or length from that of old bridge, and reasons why present bridge inadequate as to length and height. Water overflows roadway approximately 600' east of present bridge site several times a year.

DATA (Contd.)

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. 2 miles upstream 84'X18' light truss inadequate drains 12 square miles less area. 2 1/4 miles downstream 80'X16' light truss inadequate.
   - 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. Sharp curvatures of the stream running thru wooded area impedes flow of water at proposed bridge site.
5. If structure is over a drainage ditch, is ditch gradient liable to be altered? Does not apply
6. Navigation clearances required, if any no
7. Information and evidence in regard to high water stages was obtained as follows: actual elevation
8. Must contractor provide for traffic during construction of proposed bridge? yes
   If so, by what means? present bridge

HIGH AND LOW WATER ELEVATIONS

Data obtained from observation reflects highest water elevation in the area of this construction to be 1003.5 and the lowest water elevation to be 992.0. 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 2.1 miles West of * Douglas which is the nearest Railroad shipping point.

*(Give name of town, station or siding)

Date — Project or County Engineer

Date — District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED 2.1 MILES West OF Douglas (TOWN OR CITY) ON CSAH # 14 (T.H., S.A.R. OR C.A.R. NUMBER)

SEC. 34 TWP. 108N R. 15W

TOWNSHIP New Haven COUNTY Olmsted

SURVEY MADE DURING MONTH OF August 1961

SURVEY MADE BY

BRIDGE NO. 55506

State Proj. No.

Sheet No. 11 of 11 Sheets

Form 413 Rev. 1959

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT ROAD R/W LINE
LIMITED ACCESS
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
STEAM RAILROAD
ELECTRIC RAILROAD
RAILROAD RIGHT-OF-WAY LINE
CREEK
RAPIDS OR WATERFALL
DRY RUN
DRAINAGE DITCH
HIGH TENSION LINE
POWER POLE LINE
TELEPHONE OR TELEGRAPH LINE
TELEPHONE CONDUIT
GUARD RAIL
WIRE FENCE
RAILROAD SNOW FENCE
BOARD OR HIGHWAY SNOW FENCE
STONE WALL OR FENCE
GAS MAIN
WATER PIPE
SEWER PIPE
DRAIN TILE
GRAVEL PIT
SAND PIT
CLAY PIT
ROCK QUARRY
SPRINGS
MARSH

TIMBER
BRUSH
ORCHARD
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
CATCH BASIN
MANHOLE
DROP INLET
FIRE HYDRANT
ARC LAMP
OTHER LAMPS (State Kind)
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
CATTLE GUARD
OVERHEAD (Highway Over)
UNDERPASS (Highway Under)
ABUTMENT, WALL & PIER
BRIDGE
CULVERT
BUILDING (One Story Frame)
C-CONCRETE S-STONE T-TILE B-BRICK ST-STUCCO
HEDGE
IRON PIPE
STONE MONUMENT
WOOD STAKE OR HUB
MEANDER CORNER

T.108N. R.14W. / 35 36 / 2 1 / T.107N. R.14W.

CENTER SECTION 35 T.108N. R.14W.

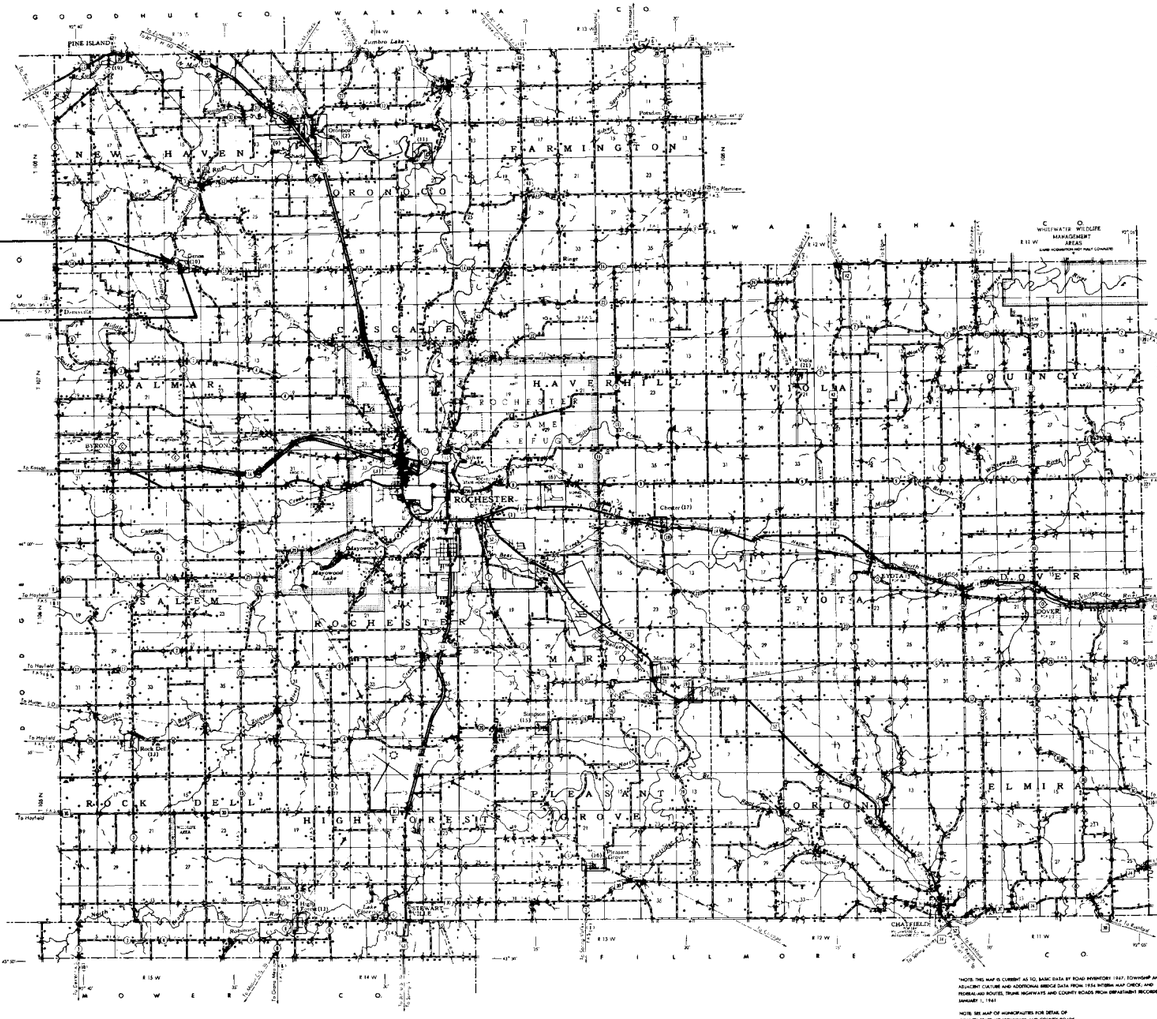
12 / 1 / 13

NOTE: SECTION NUMBERS READ FROM THE SOUTH

BEG. OF BRIDGE STA. 170+30.00

BRIDGE NO. 55506

END OF BRIDGE STA. 172+10.00



NOTE: THIS MAP IS CURRENT AS TO BASIC DATA OF ROAD JURISDICTION 1961, TOWNSHIP AND ADJACENT CULTURE AND ADDITIONAL BRIDGE DATA FROM 1956 INTERIM MAP CHECK, AND FEDERAL AID ROUTES, TRUNK HIGHWAYS AND COUNTY ROADS FROM DEPARTMENT RECORDS AS OF JANUARY 1, 1961

NOTE: SEE MAP OF MUNICIPALITIES FOR DETAIL OF COUNTY STATE AID HIGHWAYS AND COUNTY ROADS

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR BRIDGE NO. 55506

County State Aid Highway No. 14

BETWEEN DANESVILLE AND GENOA

From A POINT 1910 FT. EAST AND 1265 FT. NORTH OF S.W. CORNER SEC. 34, T108N, R15W. To A POINT 2090 FT. EAST AND 1265 FT. NORTH OF S.W. CORNER SEC. 34, T108N, R15W.

Give proper reference to Sections, Township and Range

GROSS LENGTH ____ FEET ____ MILES
BRIDGES LENGTH 180 FEET .034 MILES
EXCEPTIONS LENGTH ____ FEET ____ MILES
NET LENGTH 180 FEET .034 MILES

SCALES
PLAN, 1 Inch=200 Feet
PROFILE, Horz. 1 Inch=200 Feet. Vert. 1 Inch=20 Feet
WORKING PLANS: Horz. 1 Inch=100 Feet; Vert. 1 Inch=10 Feet; Cross-Section 1 Inch= Feet

LAYOUT
Scale, 1 Inch= Feet

INDEX OF SHEETS

Sheet No. Title Sheet & Layout Map
" No. 1. General Plan & Elevation
" No. 2. Details Of Abutments
" No. 3. Abutments - Reinforcement
" No. 4. Details Of Piers
" No. 5. Slab Reinf. Plan & Sections
" No. 6. Framing Plan & Railing Details
" No. 7. Structural Details & Exp. Device
" No. 8. Standard Details - Bearing Assemb's.
" No. 9. Standard Details - Brg. Assemblies & Box Drains.
" No. 10. Standard Details - Name Plates
" No. 11. Bridge Survey

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

PLANS & R/W. APPROVED: J. G. Sullivan, COUNTY ENGINEER, DATE 7-6-62
Olmsted COUNTY, REG. NO. 327
RECOMMENDED FOR APPROVAL ____ DISTRICT ENGINEER, 7/13/62
RECOMMENDED FOR APPROVAL A. P. Gilbert, BRIDGE ENGINEER, 9/29/62
APPROVED ____ 19__, STATE AID ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED

—SPECIFICATIONS—

THE "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED MAY 1, 1959, AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON MARCH 26, 1959, SHALL GOVERN.

MICRO-FILMED

State Aid Project No. 55-614-04(C.S.A.H.14)

OLMSTED County, Minnesota

55506

H. A. ROGERS CO. Minneapolis