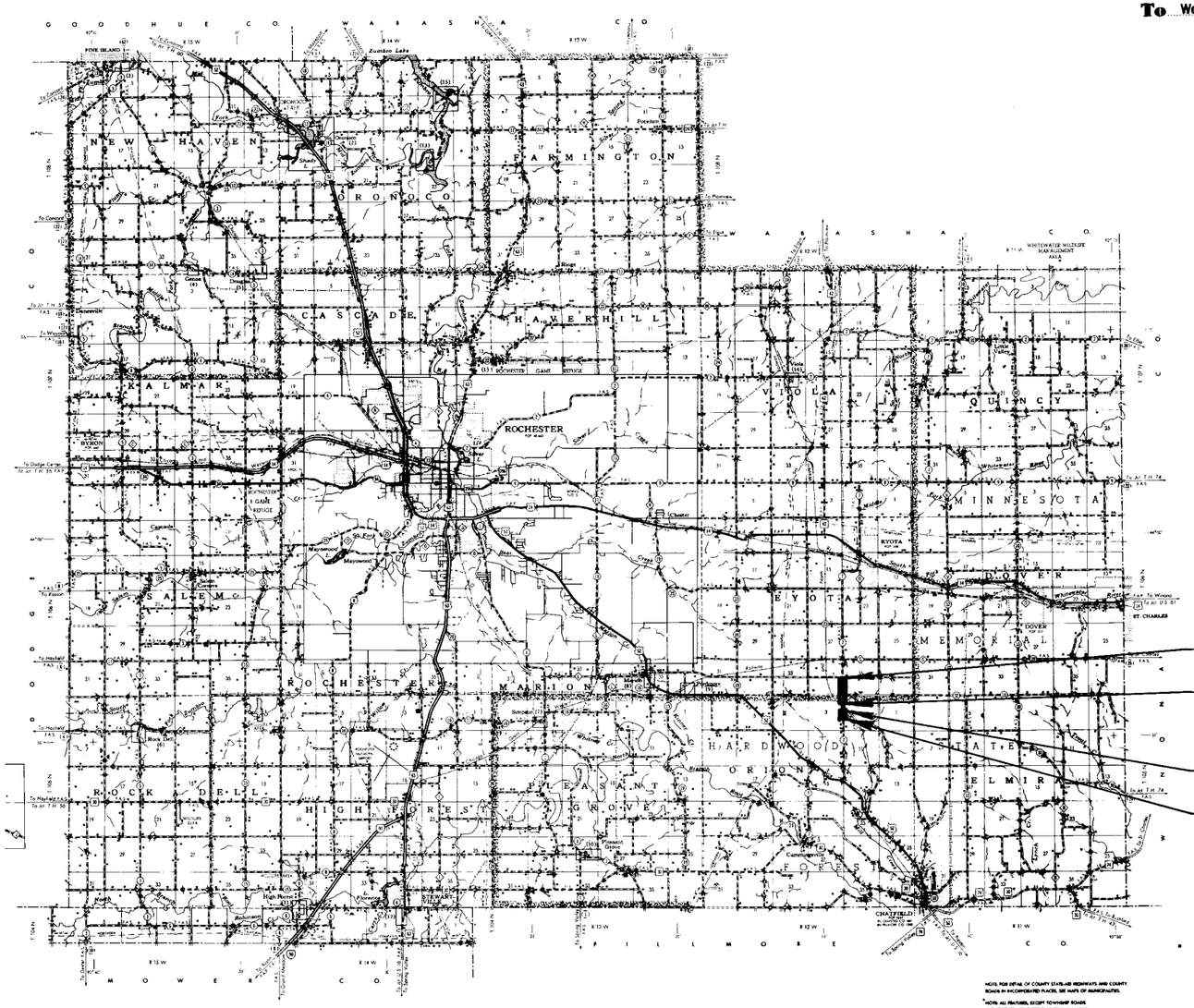
FORM 100-A '65

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 (C-L)
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) 1-S-F
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 (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

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 G—G
WATER MAIN W—W
CONDUIT
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
AERIAL TELEPHONE CABLE T-AE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



NOTE: FOR DETAIL OF COUNTY STATE-AID HIGHWAYS AND COUNTY ROADS IN INCORPORATED PLACES, SEE MAPS OF MUNICIPALITIES.

*NOTE: ALL FEATURES, EXCEPT TOWNSHIP ROADS AND CULTURE, ARE CURRENT AS OF JAN. 1, 1965.

Fed. Proj. No.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading, Crushed Rock Base Inplace and Bridge Number 55516

COUNTY STATE AID HIGHWAY NO. 7

BETWEEN 2956.8' So. N.W. Corner Sec 2 T105N-R12 **AND** West 1/4 Corner Sec 35 T106N-R12W

From 2956.8' So. N.W. Corner Sec 2 T105N-R12W
Give proper reference to Sections, Township and Range

To West 1/4 Corner Sec 35 T106N-R12W

GROSS LENGTH	5593.0 FEET	1.059	MILES
BRIDGES-LENGTH	222.0 FEET	0.042	MILES
EXCEPTIONS-LENGTH	——— FEET	———	MILES
NET LENGTH	5593.0 FEET	1.059	MILES

INDEX OF SHEETS

Sheet No. 1	Title Sheet & Layout Map	
" No. 2	Est. Quantities & Typical Sec.	
" No. 3 To 5	Plan & Profile	
" No. 6 To 12	Cross Sections	
No. 1 To 21	Bridge Plans	

DESIGN SPEED 50 M. P. H.

PROJECTED A. D. T. 777
PROJ. HCADT Less Than 150

7T ULT 9T TON DESIGN

SOIL FACTOR 100

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

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.

E. R. Jacobson COUNTY ENGINEER DATE 3-7-67

Olmsted COUNTY REG. NO. 12107

RECOMMENDED FOR APPROVAL Claude Whitney DISTRICT STATE AID ENGINEER 3/8 19 67

RECOMMENDED FOR APPROVAL C. S. Lovemen BRIDGE DESIGN & PLANNING ENGINEER Jan 22 1968

APPROVED 1-23 1968 A. R. Mason STATE AID ENGINEER

— SPECIFICATIONS —

STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1964 AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED FEBRUARY 1, 1966 SHALL GOVERN.

Minn. Project No. S 6262 (3)

S.A.P. 55-607-03
State Project No. 55-607-02

Olmsted County, Minnesota. County Proj. No. ——— Plan No. ——— Sheet 1 of 12 Sheets

ALBINSON, INC.
MINNEAPOLIS, MINN. 55415

MICROFILMED

FORM 129c - No. 2 Rev. '

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	MINN.					

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	SAP 55-607-03	RURAL
2101.501	Clearing	Acre	0.49		
2101.502	Clearing	Tree	47		
2101.506	Grubbing	Acre	0.49		
2101.507	Grubbing	Tree	41		
2104.501	Remove Portable Culvert	Lin. Ft.	282		
2105.501	Class "A" Excavation	Cu. Yd.	36167		
2105.502	Class "B" Excavation	Cu. Yd.	1218		
2105.504	Class "SG" Excavation	Cu. Yd.	3230		
2130.501	Water	M. Gal's	78		
2210.527	Cr. Rock Base Inplace	Cu. Yd.	310		
2501.511	F & I 18" CMP Culv.	Lin. Ft.		112	
2501.511	F & I 24" CMP Culv.	Lin. Ft.	42		
2501.521	F & I 24" RCP Culv. Cl. II	Lin. Ft.	32		
(1) 2501.531	Inst. 18" C.M. Culv.	Lin. Ft.	209		
(2) 2501.531	Inst. 24" C.M. Culv.	Lin. Ft.	14		
(3) 2501.536	Inst. 24" R.C. Culv.	Lin. Ft.	24		
2515.531	F & I Metal Apron for 18"CMP	Apron		10	

Item No. 2210.527 includes 70 Cu. Yd. for approaches, 15 Cu. Yds. for T.W.P. Roads and 976 Cu. Yds. for Shouldering between Sta. 137+00 and Sta. 157 + 93.0.

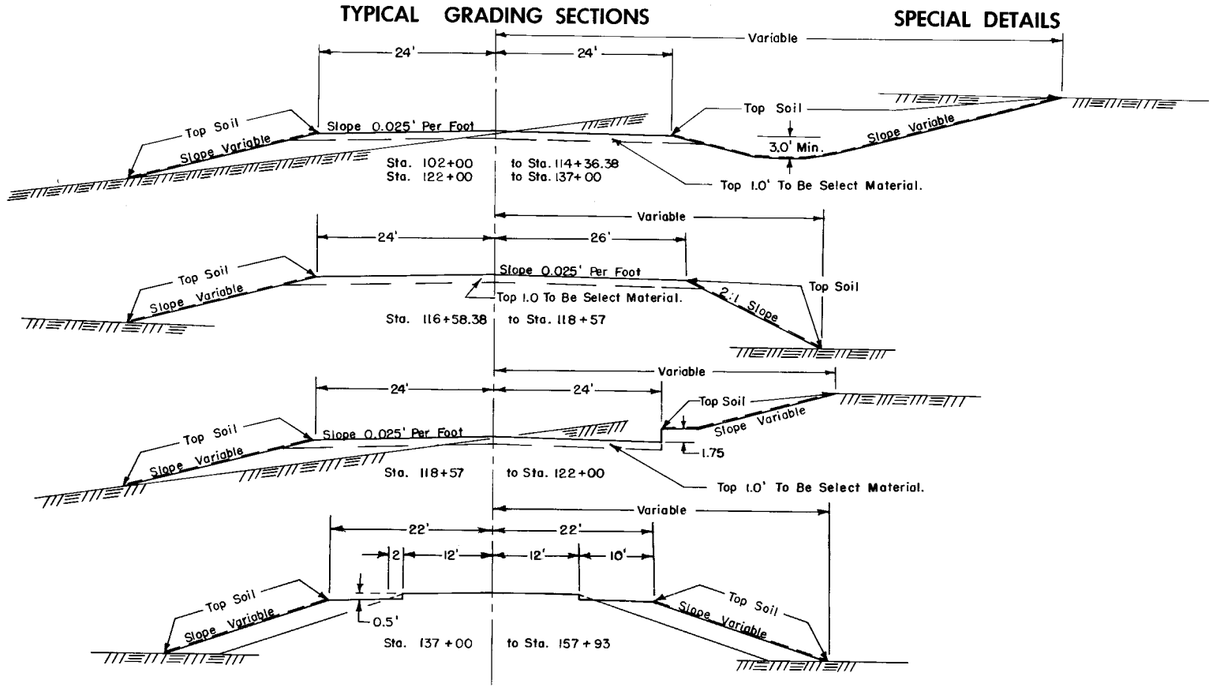
(1) Includes 10 Aprons (25 Lin.Ft)
(2) Includes 4 Aprons (14 Lin.Ft)
(3) Includes 4 Aprons (24 Lin.Ft)

STANDARD DETAIL PLATES

Standard Detail Plates issued October 1, 19 and submitted for approval by the Division Engineer of the Public Roads Administration October 15, 19 shall govern

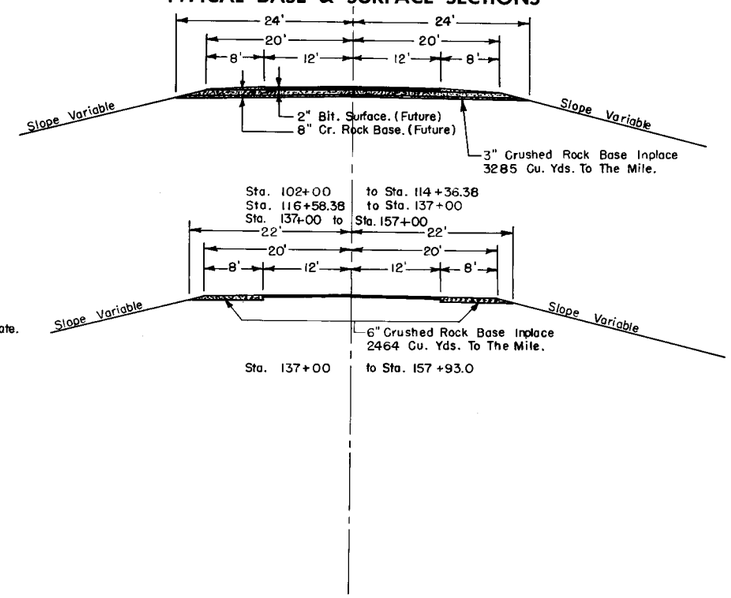
PLATE NO.	STANDARD DETAIL PLATES
3123 E	Metal Apron for C.M. Pipes.
3000E	Reinforced Concrete Pipe.
9000A	Approaches and Entrances.
8000C	Standard Barricades
8008C	Contractors Sign

TYPICAL GRADING SECTIONS



SPECIAL DETAILS

TYPICAL BASE & SURFACE SECTIONS



Note : Material from the upper 1.0' of the natural topsoil shall not be used in the upper 1.0' of the roadway. Part of this material shall be uniformly spread on slopes and ditch bottoms to a depth of 3". No payment in addition to the contract price for Class "A" excavation will be made for spreading the topsoil as above provided, nor will any undercutting made in excavation prior to placing the topsoil be measured for payment.

Note : Corrugated metal and Sectional Concrete pipe culvert excavation will be considered incidental, and will be under unit price for "Furnish and Install Culvert Pipe".

Note : Subgrade Treatment:
Excavate 1.0' below profile grade for compaction, as shown on the plan and profile sheets. Excavation has been computed and is listed as "SG" excavation. Backfill with select material from R.O.W. Tapers shall be 50:1 in all cases.

Note : Place Sectional Concrete Pipe on Class "C" Bedding.

Note : All dimensions and slopes shown on typical sections are approximate.

H.A. ROGERS CO.
MPLS. MINN.

Olmsted County, Minn. Proj. No. SAP 55-607-03 SP 55-607-02 Minn.Proj. S6262(3) Sheet No. 2 of 12 Sheets

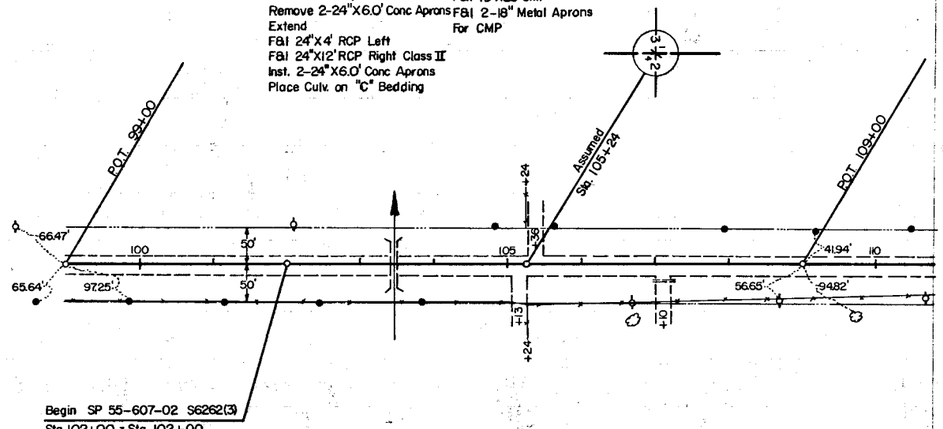
FED ROAD DIST NO	STATE	FEDERAL PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS

PLAN

NOTE BOOK NO.

103+45 ℄ Culv
Inpl 24"X56' SCP
2-24" Conc Aprons
Remove 2-24"X6.0' Conc Aprons
Extend
F&I 24"X4' RCP Left
F&I 24"X12' RCP Right Class II
Inst. 2-24"X6.0' Conc Aprons
Place Culv. on "C" Bedding

105+36 FE Lt
No Culv Inpl
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP



Begin SP 55-607-02 S6262(3)
Sta. 102+00 = Sta. 102+00
FAP S6262 (I) Graded 1956

105+13 FE Rt
No Culv Inpl
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

107+10 FE Rt
Inpl 18"X28' CMP
Remove 18"X28' CMP
Install 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

Cl. I Gr. I

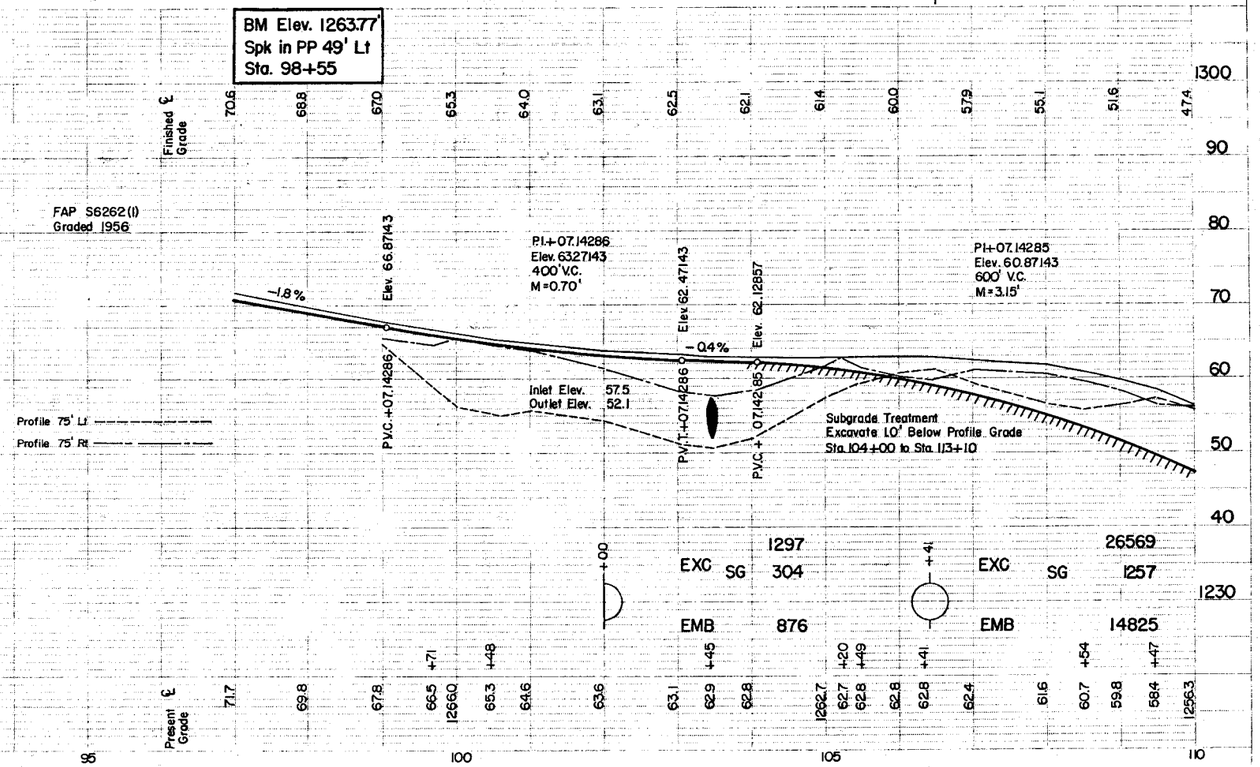
PROFILE

NOTE BOOK NO.

BM Elev. 1263.77'
Spk in PP 49' Lt
Sta. 98+55

FAP S6262 (I)
Graded 1956

Profile 75' Lt
Profile 75' Rt



ENGINEER'S PAY & PROFILE SHEET

SAP 55-607-03
State Proj. No. SP 55-607-02 S6262(3) Sheet No. 3 of 12 Sheets

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

114+00 FE Lt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

121+77 Driveway Lt
Inpl 18"X 30' CMP
2-18" Metal Aprons
Remove 18"X 35' CMP
No Culv. Req'd

130+76 ℄ Culv
Inpl 24"X 63' CMP
2-24" Metal Aprons
Remove 2-24"X 3.5' Metal Aprons
Extend
F&I 24"X 4' Left & 24"X 12' Right CMP
Inst. 2-24"X 3.5' Metal Aprons

131+54 FE Lt
No Culv Inpl
No Culv. Req'd

126+08 FE Rt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

131+54 Twp Rd Rt
No Culv Inpl
No Culv. Req'd

T109N R12W Sec 32

PLAN

Western
385' Span
50'
50'
North
Ho.
R.O.T. 124+00
Pl. 131+55.80
Steel Rod Inplace
Gq
62.41'
70.84'
54.09'
109.13'
64.87'
P/C
Twp Rd
grd
90' Span
Chicago

PROFILE

Cl. 21 Gr. 16 — Cl. 0.37 Acre Gr. 0.37 Acre — Cl. 25 Gr. 24 — Cl. 0.12 Acre Gr. 0.12 Acre

BM Elev. 1252.90'
Spk in PP 42' Rt
Sta. 110+70

BM Elev. 1246.32'
Spk in PP NE of intersection

Finished ℄ Grades
Present ℄ Grades
Profile 75' Lt
Profile 75' Rt

Pl.+50.4087 Lt.
Elev. 35.88120
360' V.C.
M=1.6515

Pl.+50
Elev. 30.3
380' V.C.
M= 2.34175

-4.6% Elev.
PV.C.+70.4087
PVT+30.4087
Elev. 34.2072
-0.93%
+36.38 Begin Bridge 55516
+68.38 End Bridge 55516
PVC+60
Elev. 32.072
+5.5%
+57
Elev. 37.9
Elev. 38.3
+4.0%
P.V.T. +40
P.V.C. +50
Elev. 48.8
Pl.+00
Elev. 48.3
500' V.C.
M=2.375
P.V.T.+50
+0.2%
Inlet Elev. 44.3
Outlet Elev. 40.3

Subgrade Treatment
Excavate 1.0' Below Profile Grade
Sta. 119+00 to Sta. 129+67

Note: 4332 Cu.Yds. Class A Excavation from Sta. 106+41 to Sta. 118+57 to be used for Shouldering from Sta. 137+00 to Sta. 157+93 CSAH 7.

SPECIAL DITCH RIGHT
13.5 16.4 21.9 27.4 32.9
+47

Note: 1492 Cu.Yds. Class A Excavation from Sta. 118+57 to Sta. 137+00 to be used for Shouldering from Sta. 137+00 to Sta. 157+93 CSAH 7

EXC	Class A	8301
	Class B	1218
	Class SG	1669
EMB		5914

SINGLE PLAN & PROFILE - CUTTER
CHARLES R. PERRY COMPANY, INC.
SAINTE GENEVIEVE, MISSOURI

SAP 55-607-03
State Proj. No. SP 55-607-02 S6262(3) Sheet No. 4 of 12 Sheets

F.E. 137+16, Lt.
Inpl. 18"X30' CMP
2-18" Metal Aprons
Remove 18" X 35' CM Culv
Inst. 18" X 35' CM Culv.

End Grading Begin Shoulder Widening
Sta. 137+00

P.I. 131+56.8
ΔRt. 0°-41'

132+84 ℄
Inpl. 24"X50' CMP
2-24" Metal Aprons
Remove 2-24"X35' Metal Aprons
Extend
F&I 24"X12' Left & 24"X14' Right CMP
Inst. 2-24"X 35' Metal Aprons

F.E. 137+16 Rt.
Inpl. 18"X 30' CMP
2-18" Metal Aprons
Remove 18" X 35' CM Culv.
Inst. 18" X 35' CM Culv.

139+42℄
Inpl. 24"X38' SCP
2-24" Conc. Aprons
Remove 2-24"X6' Conc Aprons
Extend
F&I 24"X8' Left & 24"X8' RCP Class II
Inst. 2-24"X6' Conc Aprons

F.E. 151+96 Lt.
No Culv. Inpl.
No Change

F.E. 154+15 Lt.
Inpl. 18"X30' CMP
2-18" Metal Aprons
Remove 18" X 35' CM Culv.
Inst. 18" X 35' CM Culv.

P.O.T. 154+00

F.E. 154+30 Rt.
Inpl. 18"X30' CMP
2-18" Metal Aprons
Remove 18" X 35' CM Culv.
Inst. 18" X 35' CM Culv.

Twp. Rd. 157+93 Lt.
Inpl. 18"X 36' CMP
2-18" Metal Aprons
Remove 18"X41' CMP
Install 18"X 41' CMP

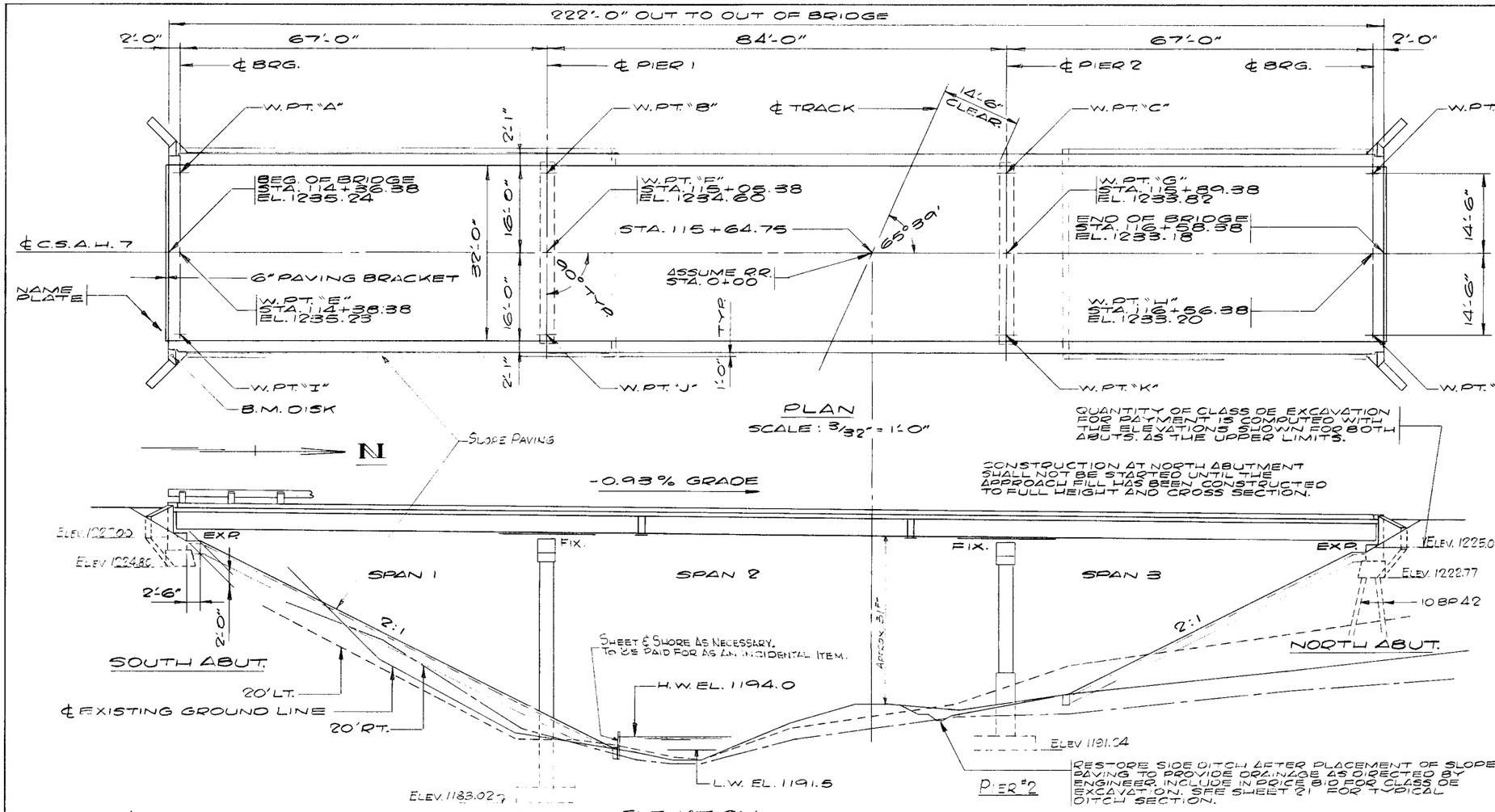
Twp. Rd. 157 + 93 Rt.
No Culv. Inpl.
No Change

End SP 55-607-02 S6262 (3)
Sta. 157+93.0

Finished ℄ Grades
Present ℄ Grades
Subgrade
FAP S6262(1)
Graded 1956
Pl.+62.5
Elev. 50.825
400' V.C.
M=0.40
+0.2%
+1.0%
+1.2%
-0.6%
Inlet Elev. 45.4
Outlet Elev. 41.1
Inlet Elev. 50.7
Outlet Elev. 49.7
Pl.+00
Elev. 56.2
400' V.C.
M=0.1
Pl.+00
Elev. 67.0
600' V.C.
M=1.35
Elev. 50.425
Elev. 52.825
Elev. 54.2
Elev. 58.6
Elev. 63.4
Elev. 65.2
Elev. 62.12941
P.V.C.+62.5
P.V.T.+62.5
P.V.C.+00
P.V.T.+00
P.V.C.+11.76471

PLAN
PROFILE
NOTE: BOOK/ALIGNMENT CHANGE
NO. ____ RET. OF WAY SHEET #

SAP 55-607-03
State Project SP 55-607-02 S6262 (3)

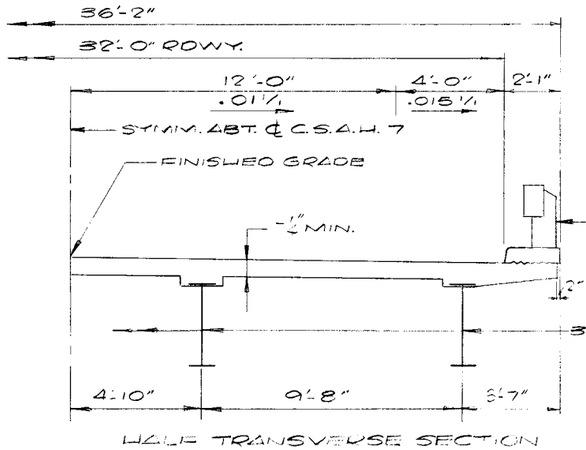


PLAN
SCALE: 3/32" = 1'-0"

QUANTITY OF CLASS DE EXCAVATION FOR PAYMENT IS COMPUTED WITH THE ELEVATIONS SHOWN FOR BOTH ABUTS. AS THE UPPER LIMITS.

CONSTRUCTION AT NORTH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL HAS BEEN CONSTRUCTED TO FULL HEIGHT AND CROSS SECTION.

RESTORE SIDE DITCH AFTER PLACEMENT OF SLOPE PAVING TO PROVIDE DRAINAGE AS DIRECTED BY ENGINEER. INCLUDE IN PRICE BID FOR CLASS DE EXCAVATION. SEE SHEET 21 FOR TYPICAL DITCH SECTION.



WING TRANSVERSE SECTION
SCALE: 3/8" = 1'-0"

PIER #1 ELEVATION

QUANTITY OF EXCAVATION FOR PAYMENT IS COMPUTED WITH THE ELEVS. SHOWN FOR PIERS IN THE TABLE BELOW AS THE UPPER LIMIT.

	PIER 1	PIER 2
CLASS IIIB	1184.66	1192.26
CLASS IIIE	1189.66	—
CLASS DE	1192.66	1198.26

B.M. ELEV. 1199.04
SPK. N PILE 147 RIGHT
STA. 115+75

DESIGN DATA

1965 A.A.S.H.O. DESIGN SPECIFICATIONS
2 LANES H 20 LOADING WITH IMPACT
f_c = 1600 P.S.I. n = 8
f_s = 20000 P.S.I. INTER. GRADE REINF.
f_s = 20000 P.S.I. STRUCTURAL STEEL M.H.D. 3306

CONSTRUCTION NOTES

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JAN. 1, 1964 AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS DATED FEB. 1, 1966 SHALL APPLY.
ALL BAR DIMENSIONS ARE OUT TO OUT.
BAR DETAILS SHALL CONFORM TO A.C.I. 315 LATEST EDITION. RECOMMENDED BAR BEND DIAMETERS ARE REQUIRED.
FOR CONCRETE JOINT SEALER, SEE SPECIAL PROVISIONS.
CURBS SHALL NOT BE PLACED UNTIL ENTIRE ROADWAY SLAB HAS BEEN PLACED.

LIST OF SHEETS

NO.	TITLE
1	GENERAL PLAN AND ELEVATION
2	BRIDGE LAYOUT
3	ABUTMENT DETAILS
4	ABUTMENT REINFORCEMENT
5	PIER NO. 1 DETAILS
6	PIER NO. 2 DETAILS
7	SUPERSTRUCTURE DETAILS
8	SUPERSTRUCTURE DETAILS
9	FRAMING PLAN
10	STRUCTURAL STEEL DETAILS
11	ONE-LINE CONCRETE RAILING
12-19	DETAILS
20	BRIDGE SURVEY
21	BRIDGE SURVEY - PLAN AND PROFILE

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	ITEM	QUANT.	UNIT
0441.501	CONCRETE MIX NO. 3Y43	518	CU. YD.
0441.551	CONCRETE MIX NO. 2Y32	55	CU. YD.
0231.551	STRUCTURE EXCAVATION (CLASS DE)	147	CU. YD.
0231.501	STRUCTURE EXCAVATION (CLASS AE)	48	CU. YD.
0401.533	REINFORCEMENT BARS DELIVERED	76240	POUND
0401.540	REINFORCEMENT BARS PLACED	96240	POUND
2400.530	FURNISHING STRUCTURAL STEEL (3306)	157960	POUND
2400.535	ERECTING STRUCTURAL METAL	157960	POUND
0476.501	PAINTING METAL STRUCTURE	1	STRUCT.
0430.534	EXPANSION BEARING ASSEMBLIES (TYPE 1)	8	UNIT
0430.535	FIXED BEARING ASSEMBLIES (TYPE 2)	8	UNIT
0431.549	FLOOR DRAINS (TYPE 1)	12	UNIT
2450.701	STEEL PILING DELIVERED	7850	POUND
2450.510	STEEL PILING DRIVEN	170	LIN. FT.
2450.502	STEEL TEST PILING (PLACE 40 FT LONG)	2	PILE
0231.501	STRUCTURE EXCAVATION (CLASS AA)	10	CU. YD.
0430.507	STANDARD NAME PLATES	1	UNIT
2574.601	SLOPE PAVING	151	SQ. YD.
2021.503	FIELD LABORATORY, TYPE A	1	EACH
0440.501	REMOVE OLD BRIDGE	1	BRIDGE
0571.501	PLANTING WOODY	23	

1) SEE SPECIAL PROVISION

APPROVED
8/22/67
DATE
COUNTY ENGR.
OLMSTED CO.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION & THAT I AM A DULY REGISTERED PROFESSIONAL ENG'R. UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE ____ REG. NO. ____

PLANS PREPARED BY
ROBERTS ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE.
ST. LOUIS PARK, MINNESOTA

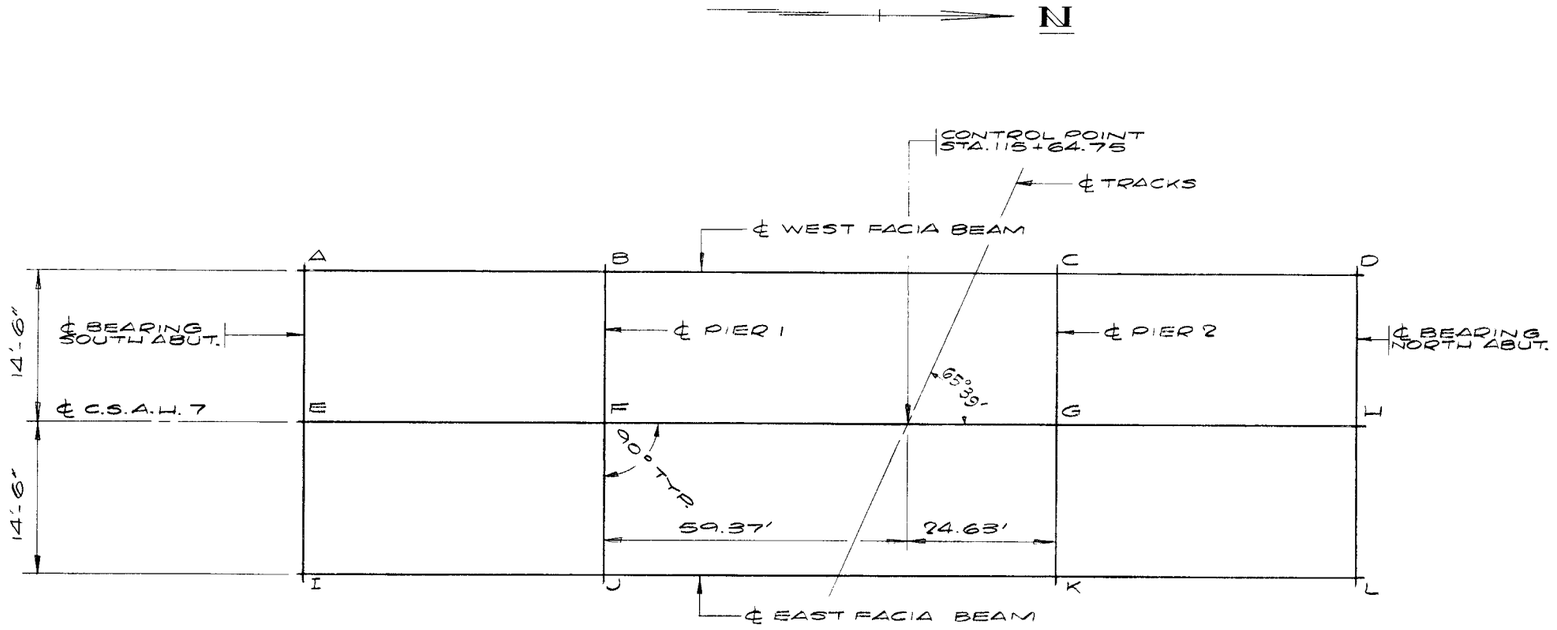
C.S.A.H. NO. 7 OLMSTED COUNTY
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55516

4.0 MILES S.W. OF EYOTA ON C.S.A.H. NO. 7 OVER CHICAGO AND NORTH-WESTERN RAILWAY CO. TRACKS
69'-84'-69' CONT. STEEL BEAM SPANS
32 FT. ROWY. & 1'-4" CURBS
GENERAL PLAN & ELEVATION
SEC. 2 & 3 T 105 N R 12 W
ORION TWP. - OLMSTED COUNTY
DATE: JAN. 11, 19__

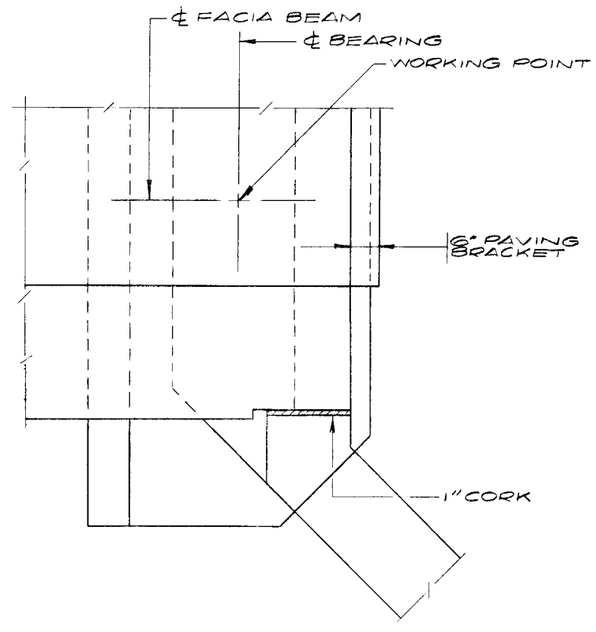
BRIDGE DESIGN & PLANNING ENGR.

MICRO-FILMED



LAYOUT SHOWING WORKING POINTS

(NO SCALE)



TYPICAL CORNER DETAIL

DIMENSIONS BETWEEN WORKING POINTS														ELEVATIONS		
POINT	STATION	A	B	C	D	E	F	G	H	I	J	K	L	TOP OF SLAB	SLAB TO BR. SEAT	BRIDGE SEAT
A	114+38.38													1235.07	4.27'	1230.80
B	115+05.38	67.00'												1234.44	4.42'	1230.02
C	115+89.38		84.00'											1233.66	4.42'	1229.24
D	116+56.38			67.00'										1233.04	4.27'	1228.77
E	114+38.38	14.50'														
F	115+05.38	68.55'	14.50'			67.00'										
G	115+89.38	151.70'	85.24'	14.50'			84.00'									
H	116+56.38		151.70'	68.55'	14.50'			67.00'								
I	114+38.38			153.76'		14.50'								1235.07	4.27'	1230.80
J	115+05.38	73.01'		88.80'	153.76'	68.55'	14.50'			67.00'				1234.44	4.42'	1230.02
K	115+89.38	153.76'	88.80'		73.01'	151.70'	85.24'	14.50'			84.00			1233.66	4.42'	1229.24
L	116+56.38		153.76'	73.01'			151.70'	68.55'	14.50'			67.00'		1233.04	4.27'	1228.77

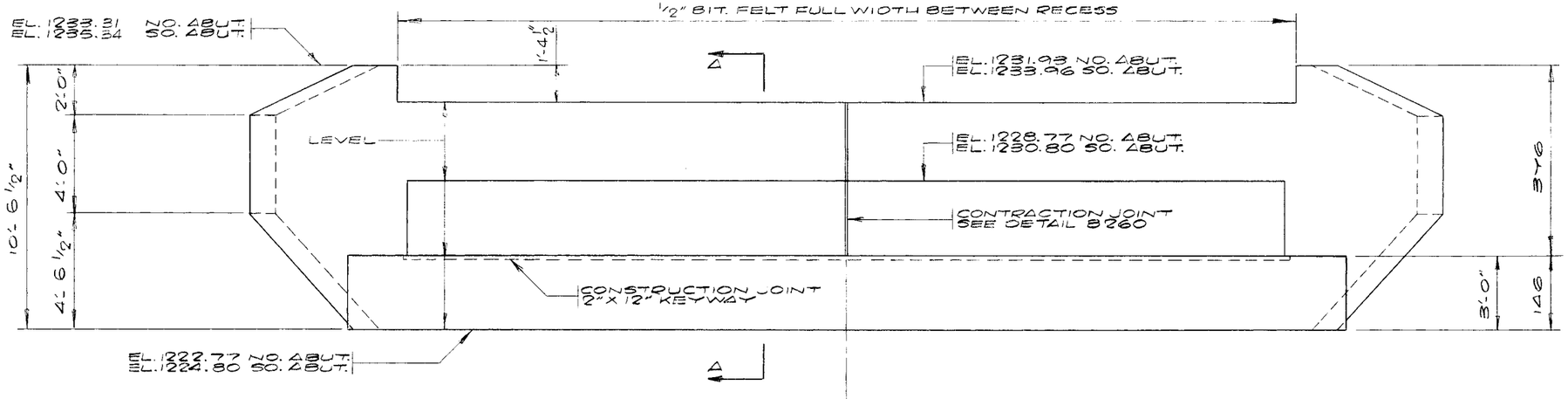
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55516

BRIDGE LAYOUT

APPROVED:

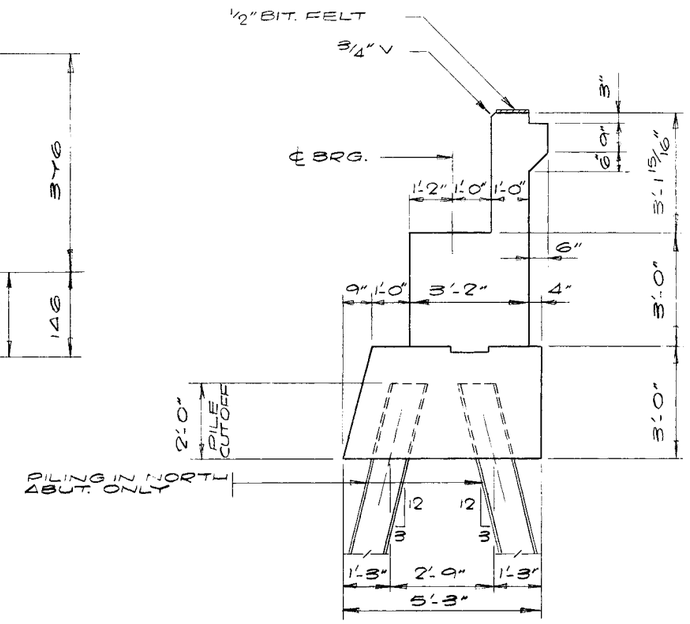
55516 GRC MS



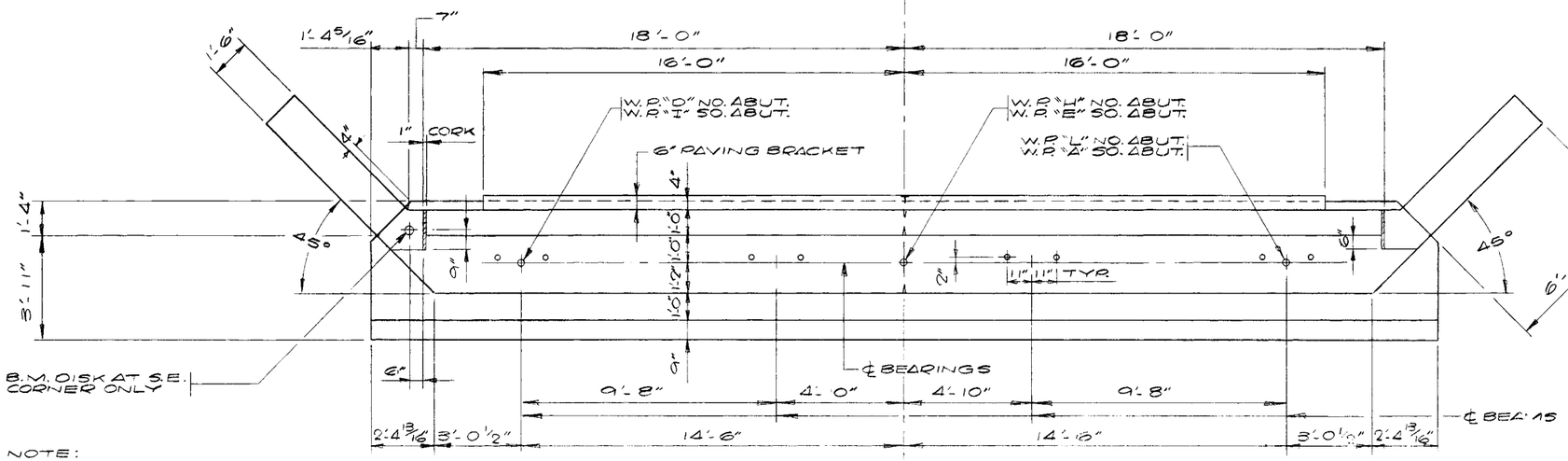
ELEVATION

SCALE: 3/8" = 1'-0"

NOTE:
SOUTH ABUT. FOOTING MAY BE SUBJECT TO CHANGE IN ELEV. SEE SPECIAL PROVISIONS.

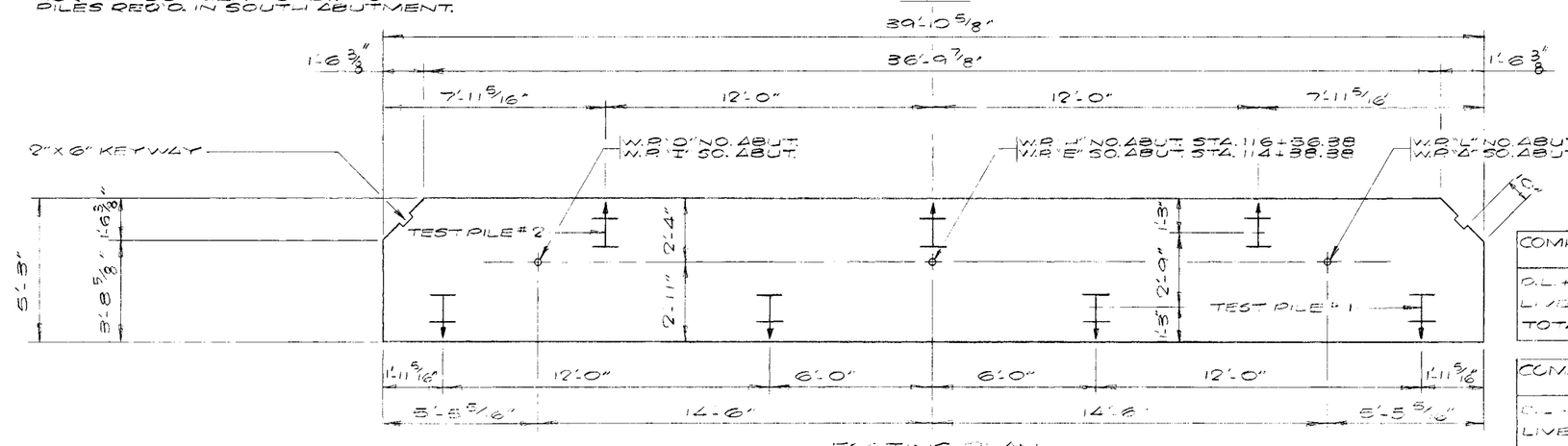


SECTION A-A



PLAN

NOTE:
PILE SPACING SHOWN IS FOR NORTH ABUTMENT ONLY. NO PILES REQ'D. IN SOUTH ABUTMENT.



ROUTING PLAN

SUMMARY OF QUAN. FOR 2 ABUTMENTS		
CONCRETE, MIX NO. 146	43	CU.YD.
CONCRETE, MIX NO. 3Y6	46	CU.YD.
REINFORCEMENT BARS	5370	LB.
CLASS DE EXCAVATION	60	CU.YD.
① STEEL PILING DELIVERED	7350	LB
STEEL TEST PILES IN PLACE, 40 FT. LG.	2	PILE
EXP. BEARING ASSEMBLIES (TYPE 1)	8	UNIT
② B.M. DISK - SEE STD. PLATE NO. 9300	ONE	

① DOES NOT INCLUDE TEST PILES.

② COUNTY WILL FURNISH DISK. PAYMENT FOR PLACING DISK TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STD. PLATE NO. 9301 FOR PLACING.

PILE NOTES - NORTH ABUTMENT ONLY

2 STEEL TEST PILES 40 FT. LG.
6 STEEL PILES EST. LENGTH 35 FT.
7 STEEL PILES REQ'D. FOR NORTH ABUTMENT
ALL PILES TO BE 10 BEVEL.
ESTIMATED DIFFERENCE IN ELEVATION LESS THAN LENGTH GIVEN.

PILING MARKED THUS H→ TO BE BATTERED 3" PER FT. IN DIRECTION SHOWN.
PILE SPACING SHOWN IS AT BOTTOM OF FOOTING. FOR SPLICE DETAIL SEE DETAIL B'221.

COMPUTED PILE LOADS - TONS / PILE NORTH ABUTMENT	
D.L. + EARTH PRESSURE	34.1
LIVE LOAD	4.7
TOTAL	38.8 TONS

COMPUTED SOIL PRESSURE - K/SQ. FT. SOUTH ABUTMENT	
D.L. + EARTH PRESSURE	2.9
LIVE LOAD	0.38
TOTAL	3.09 K/SQ. FT.

STATE OF MINNESOTA
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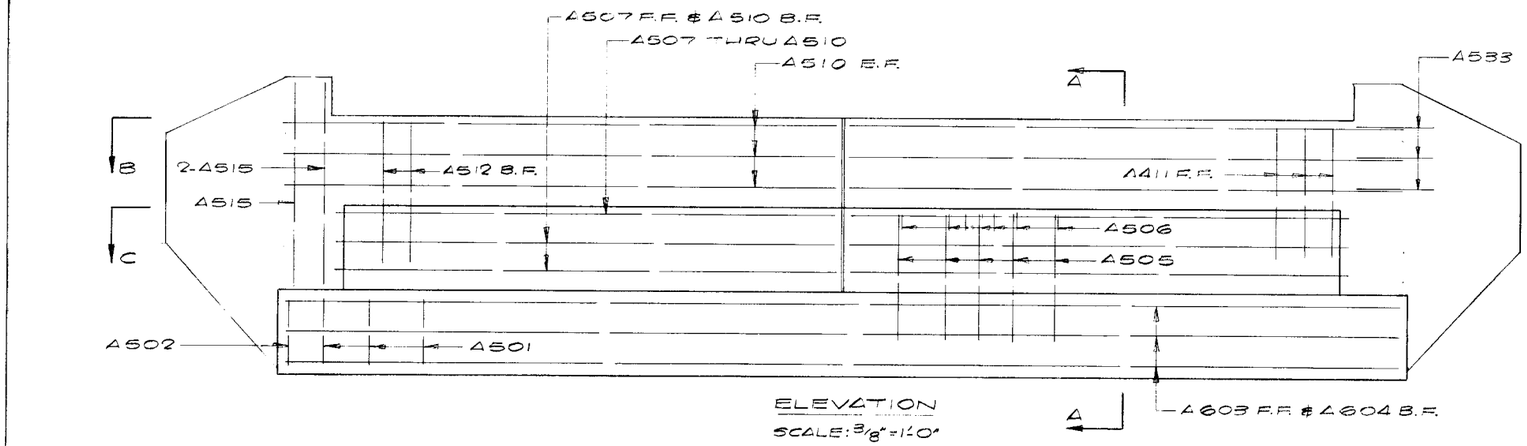
BRIDGE NO. 5506

ABUTMENT DETAILS

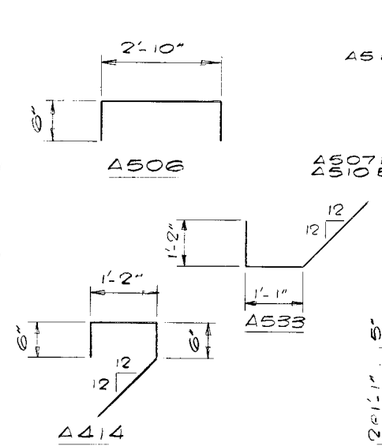
WHEEL REQUIREMENTS

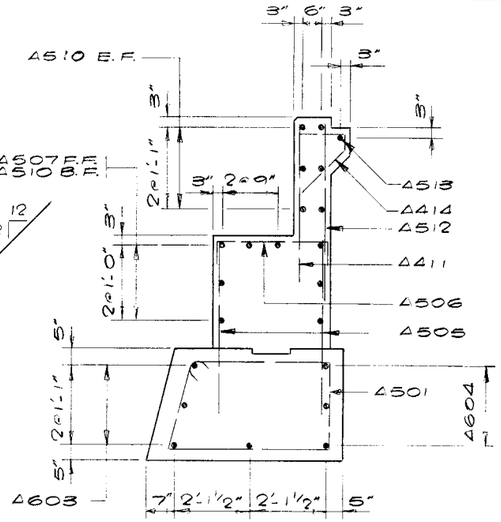
SHEET 2 OF 21 SHEETS

DESIGNED | DRAWN | CHECKED

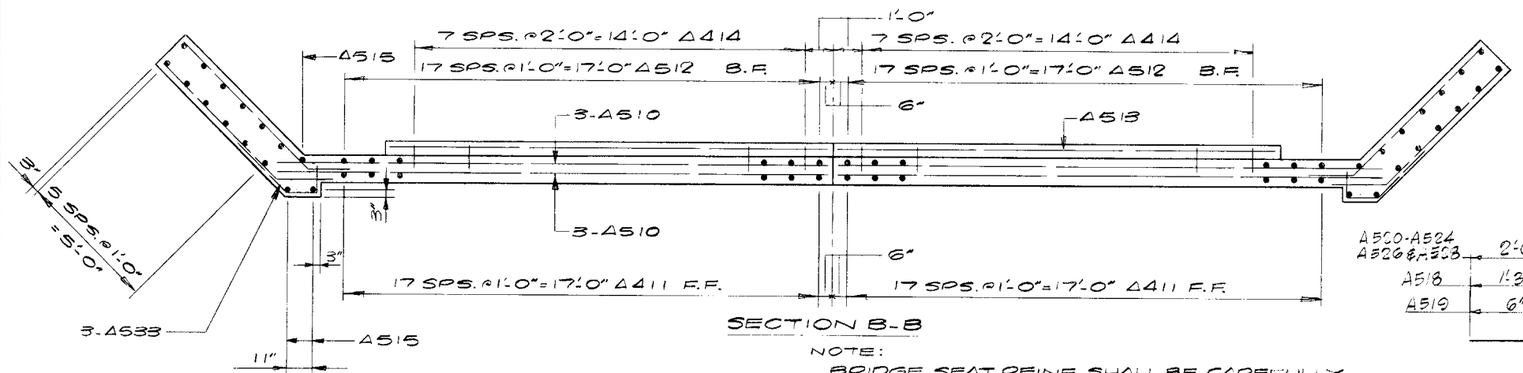


ELEVATION
SCALE: 3/8" = 1'-0"

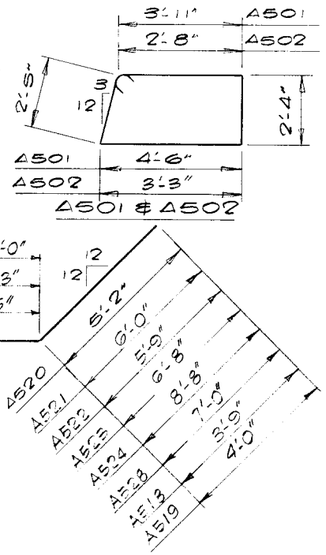




SECTION A-A

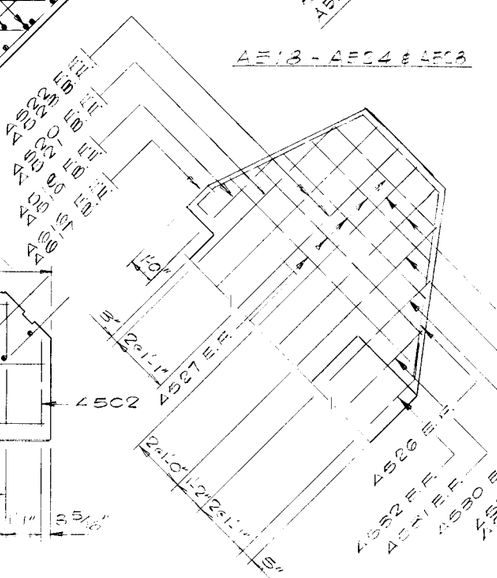


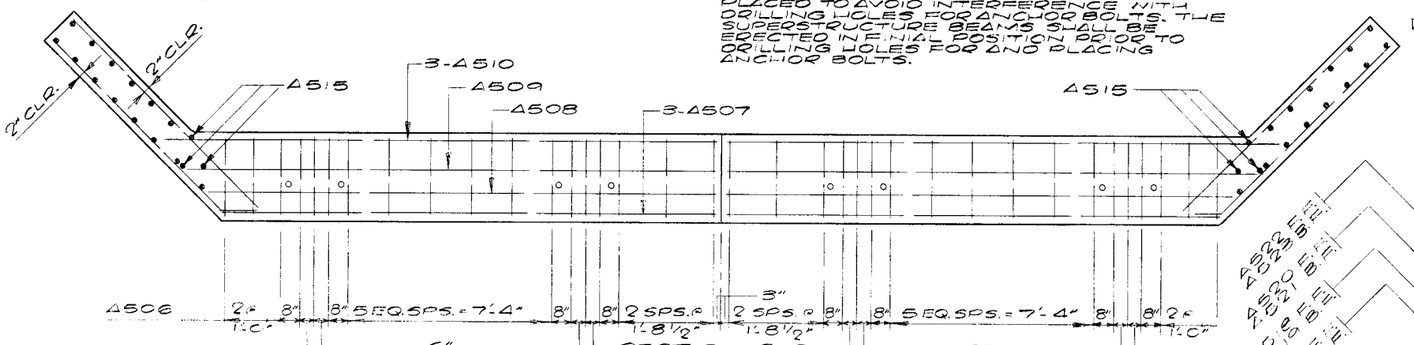
SECTION B-B



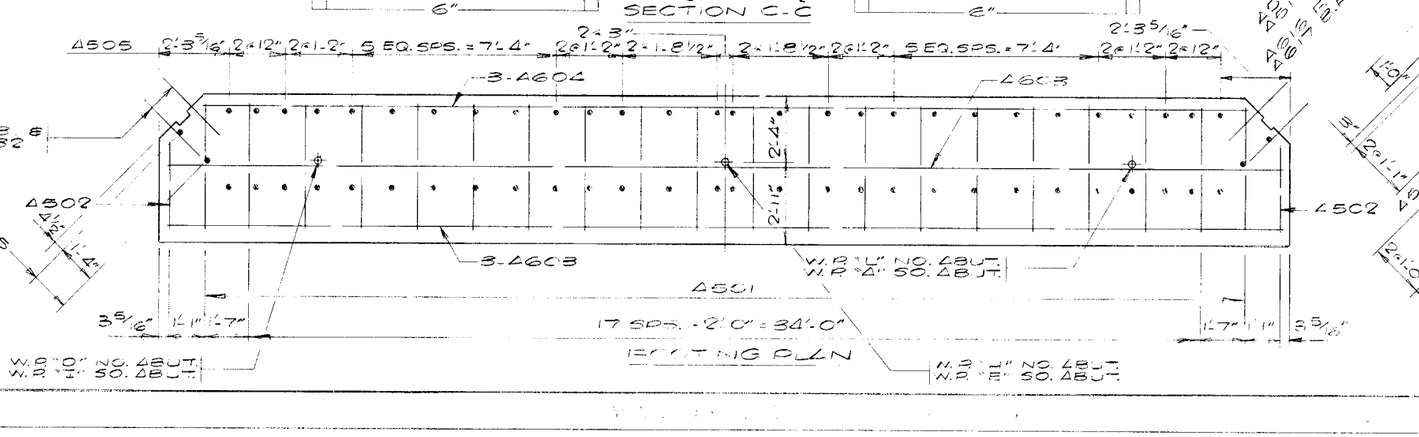
A501 & A502

A518 - A524 & A528





SECTION C-C



NOTE:
BRIDGE SEAT REINF. SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING ANCHOR BOLTS.

BILL OF REINF. FOR 2 ABUTMENTS

BAR	SZ.	NO.	LENGTH	SHAPE	LOCATION
A501	5	40	14'-2"	BENT	FOOTING TIES
A502	5	4	11'-8"	"	" "
A603	6	8	39'-6"	STR.	" LONG.
A604	6	6	36'-8"	"	" "
A505	5	120	4'-6"	"	BR. SEAT
A506	5	72	3'-10"	BENT	" "
A507	5	12	17'-6"	STR.	" " & PAR. WALL
A508	5	4	18'-2"	"	" " "
A509	5	4	18'-11"	"	" " "
A510	5	36	20'-1"	"	" " "
A411	4	72	4'-6"	"	PAR. WALL - FRONT
A512	5	72	5'-0"	"	" " BACK
A513	5	4	15'-8"	"	PLAYING BRACKET
A414	4	32	3'-8"	BENT	" "
A515	5	12	7'-4"	STR.	P.P. WALL - CORNERS
A616	6	4	11'-3"	"	WING WALL
A617	6	4	10'-6"	"	" "
A518	5	4	5'-0"	"	" "
A519	"	4	4'-6"	"	" "
A520	"	4	7'-2"	BENT	" "
A521	"	4	8'-0"	"	" "
A522	"	8	7'-9"	"	" "
A523	"	8	8'-8"	"	" "
A524	"	8	10'-8"	"	" "
A525	"	8	3'-9"	STR.	" "
A526	"	8	7'-8"	"	" "
A527	"	20	14'-4"	STR.	" "
A528	"	4	9'-0"	"	" "
A529	"	4	7'-7"	STR.	" "
A530	"	8	4'-6"	"	" "
A532	"	8	3'-8"	"	" "
A532	"	8	3'-6"	"	" "
A533	"	12	4'-8"	BENT	PAR. WALL - CORNERS

① BEND IN FIELD

② CUT 2 FROM 1

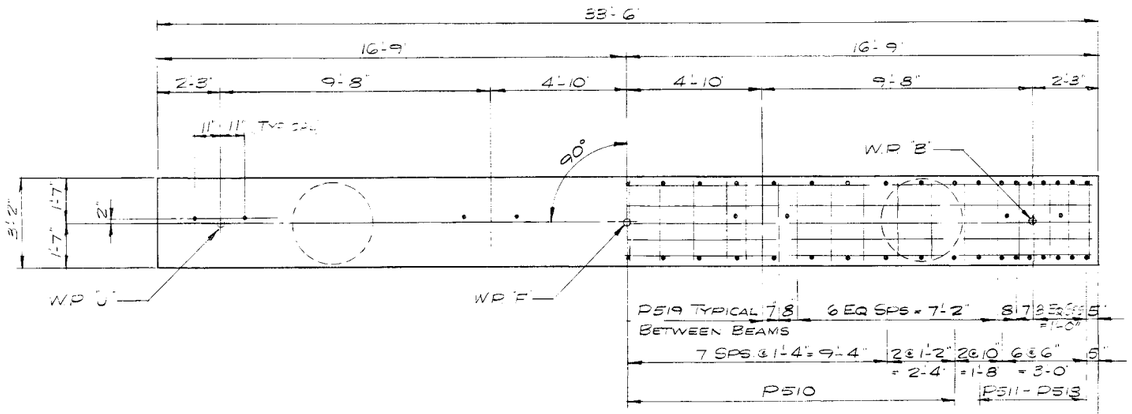
SOUTH ABUT. FOOTING REINF. NOT TO BE ORDERED UNTIL FOOTING ELEVS. HAVE BEEN DETERMINED IN THE FIELD.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

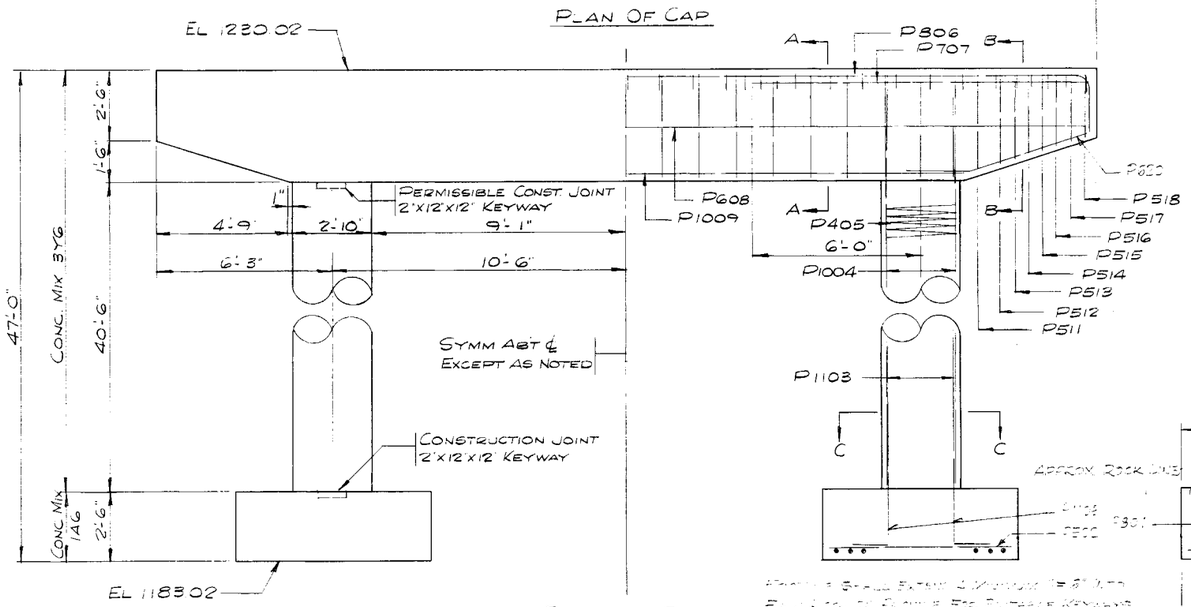
BRIDGE NO. 5556

ABUTMENT REINFORCEMENT

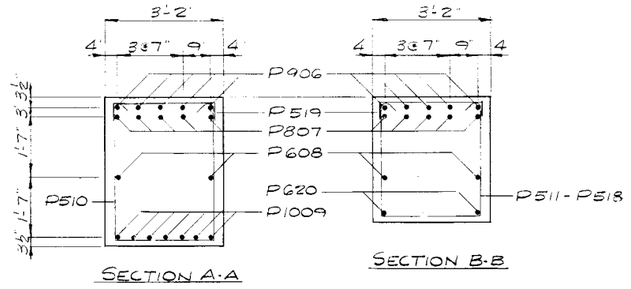
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PLAN OF CAP



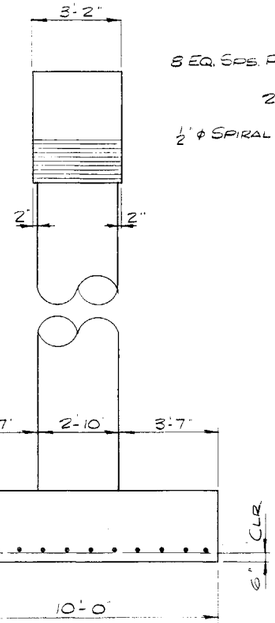
ELEVATION - PIER 1
LOOKING SOUTH
SCALE 3/16" = 1'-0"



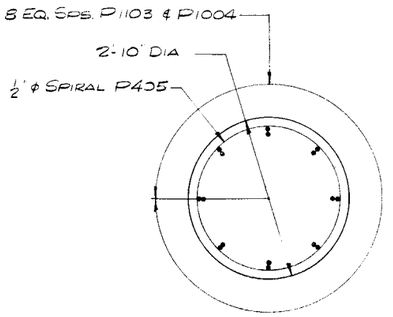
SECTION A-A

SECTION B-B

NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING ANCHOR BOLTS.

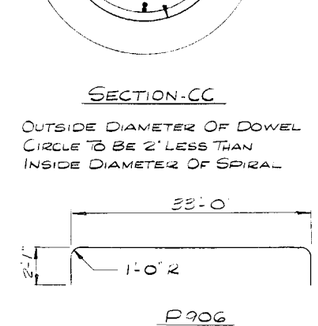


END VIEW

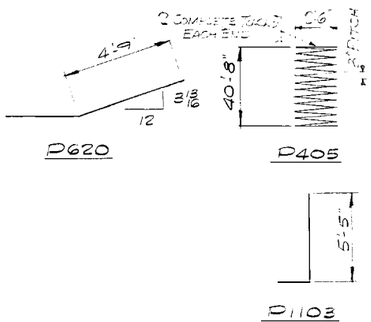


SECTION-CC

OUTSIDE DIAMETER OF DOWEL CIRCLE TO BE 2" LESS THAN INSIDE DIAMETER OF SPIRAL



P906



P620

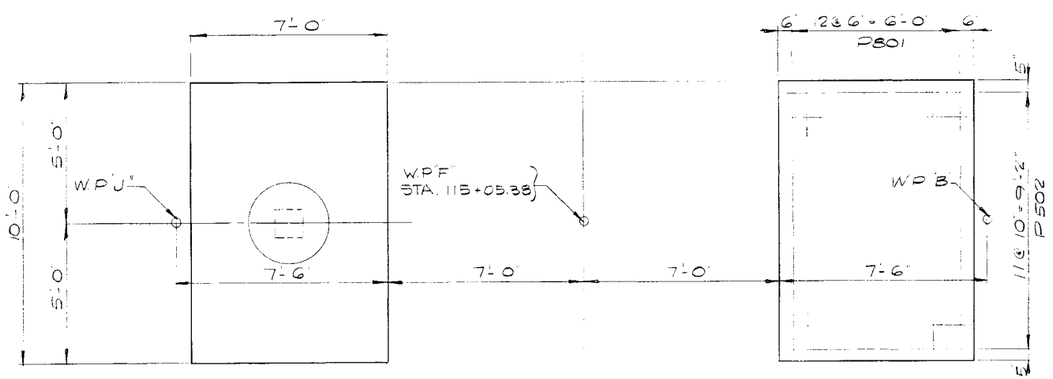
BILL OF REINFORCEMENT FOR PIER 1

BAR	SZ	NO	LENGTH	SHAPE	LOCATION
P801	8	26	9'-7"	STR.	FOOTING - LONGTL
P502	5	24	6'-7"	"	" - TRANSV
P1103	11	16	6-11"	BENT	" - DOWELS
P1004	10	16	44-2	STR.	COLUMN - VERT
P405	½"ϕ	2		BENT	SPIRAL (SEE TABLE)
P906	9	5	36'-4"	"	CAP - LONGTL
P807	8	5	12'-0"	STR	" - "
P608	6	2	33'-0"	"	" - "
P1009	10	7	24'4	"	" "
P510	5	19	11'-0"	BENT	" TIES
P511	5	2	10'-10"	"	" "
P512	5	2	10'-2"	"	" "
P513	5	2	9'-10"	"	" "
P514	5	2	9'-6"	"	" "
P515	5	2	9'-2"	"	" "
P516	5	2	8'-10"	"	" "
P517	5	2	8'-6"	"	" "
P518	5	2	8'-4"	"	" "
P519	5	37	3'-10"	"	" "
P620	6	4	7'-0"	"	"

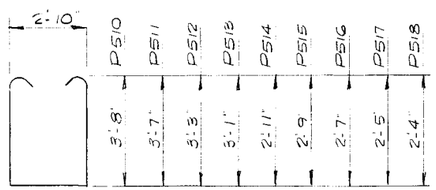
1) COLUMN REINFORCEMENT MAY BE SPLICED AT CONSTRUCTION JOINTS. PLACING SEQUENCE SHALL HAVE BEEN DETERMINED IN THE FIELD.

SPIRAL DATA

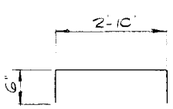
OUTSIDE DIAMETER	2'-6"
HEIGHT	40'-8
PITCH	3"
PLAIN ϕ SPIRAL ROD SIZE	½"ϕ
EST WEIGHT EACH	926



FOOTING PLAN



P510 - P518



P519

TOTAL SOIL PRESSURE REDUCED PER A.A.S.H.T.O. 1.4.1.

COMPUTED SOIL PRESSURE K/SQ FT.	
DEAD LOAD	8.7
LIVE LOAD	1.2
OVERTURNING	2.4
TOTAL K/SQ FT = 12.9 / 1.25	= 10.3

SUMMARY OF QUANTITIES FOR PIER 1 & 2

CONCRETE, MIX NO. 1A6	13.0 CU YD.	5.5 CU YD
CONCRETE, MIX NO. 3Y6	24.5 CU YD	42.3 CU YD
REINFORCEMENT BARS	8490 LB.	9330 LB.
FIXED BEARING ASSEMBLIES (TYPE 2)	— UNIT	— UNIT
CLASS WE EXCAVATION	42 CU YD	7 CU YD
CLASS WR EXCAVATION	9 CU YD	5 CU YD
CLASS DE EXCAVATION	29 CU YD	53 CU YD

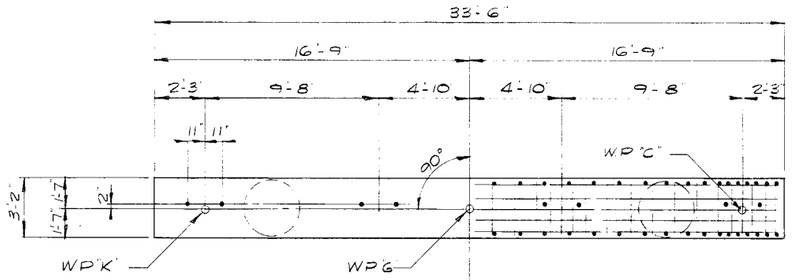
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55516

PIER NO. 1 DETAILS

APPROVED 1-22-69

SHEET 5 OF 21 SHEETS | 55516 | W.N.'S J.V.S



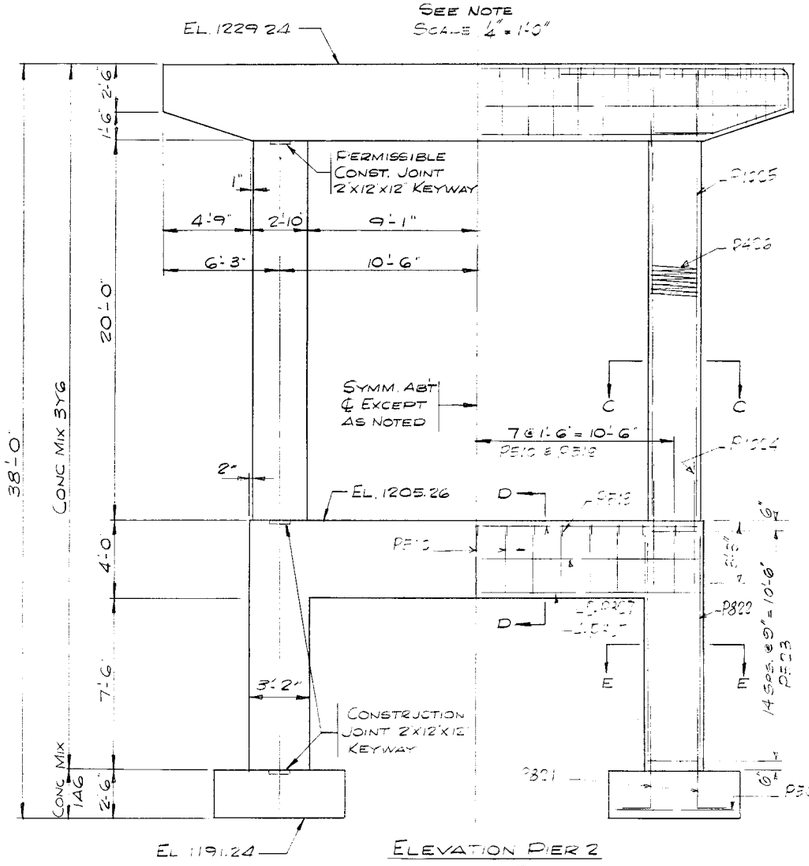
PLAN OF CAP

SEE NOTE

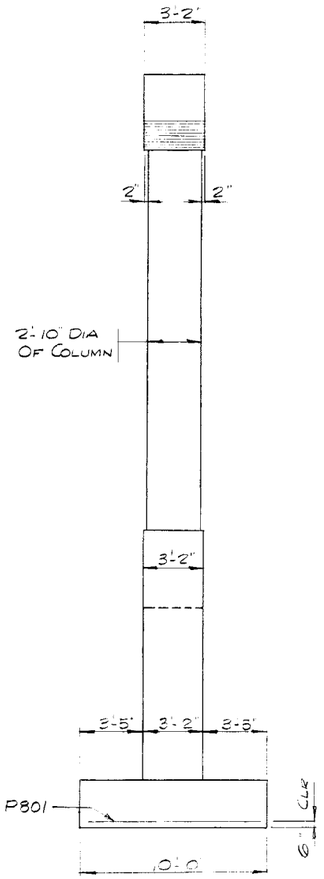
SCALE 1" = 1'-0"

NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING ANCHOR BOLTS

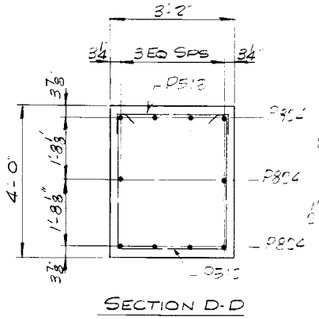
NOTE
CAP FOR PIER 2 SAME AS AT PIER 1
FOR BAR LOCATION & SPACING - SEE
PLAN OF CAP & DETAILS ON SHEET 5



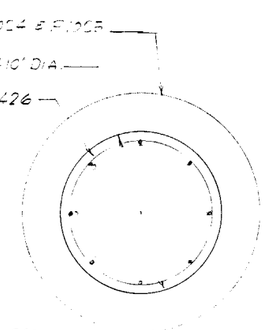
ELEVATION PIER 2
LOOKING SOUTH

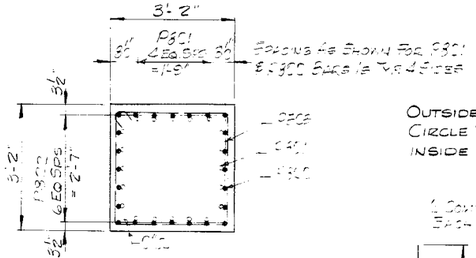


END VIEW



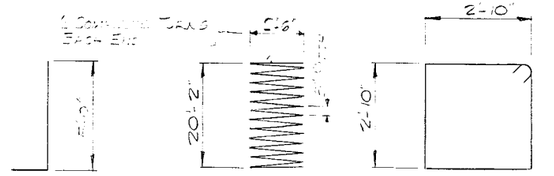
SECTION D-D





SECTION E-E

SECTION GG
OUTSIDE DIAMETER OF DOWEL CIRCLE TO BE 2" LESS THAN INSIDE DIAMETER OF SPIRAL



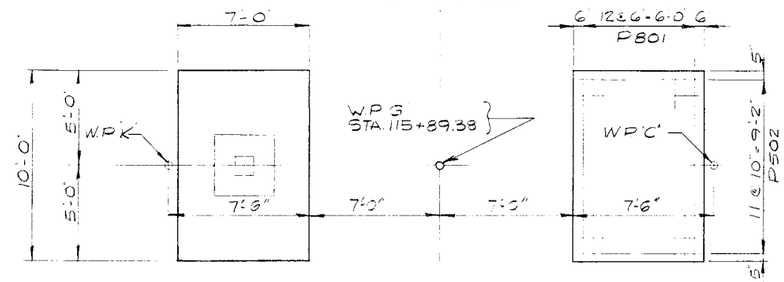
P821 P426 P826

BILL OF REINFORCEMENT FOR PIER 2					
BAR	SZ	NO.	LENGTH	SHAPE	LOCATION
P801	8	26	9'-7"	BENT	FOOTING - LONG'L
P502	5	24	6'-7"	"	" - TRANSV
P821	8	40	6'-6"	"	" - DOWELS
P823	8	48	11'-3"	STR	COLUMN - LOWER - VERT
P523	5	50	10'-4"	BENT	" " - TIES
P906	9	5	36'-4"	"	CAP - LONG'L
P807	8	5	12'-0"	STR	" "
P608	6	2	35'-0"	"	" "
P1009	10	7	24'-4"	"	" "
P510	5	34	11'-0"	BENT	" & STRUT TIES
P511	5	2	10'-10"	"	" "
P512	5	2	10'-2"	"	" "
P513	5	2	9'-10"	"	" "
P514	5	2	9'-6"	"	" "
P515	5	2	9'-2"	"	" "
P516	5	2	8'-10"	"	" "
P517	5	2	8'-6"	"	" "
P518	5	2	8'-4"	"	" "
P519	5	52	3'-10"	"	" " & STRUT "
P620	6	4	7'-0"	"	" "
P1024	10	16	6'-3"	STR	COLUMN - UPPER - DOWELS
P1025	10	16	22'-6"	"	" " " VERT
P426	4	0		BENT	SPIRAL (SEE TABLE)
P827	8	10	23'-9"	STR	STRUT - LONG'L

① COLUMN REINFORCEMENT NOT TO BE INSTALLED UNTIL FOOTING ELEVATIONS HAVE BEEN VERIFIED IN THE FIELD

SPIRAL DATA	
OUTSIDE DIAMETER	5'-6"
HEIGHT	20'-2"
PITCH	3"
PLAIN ℄ SPIRAL ROD SIZE	5/8
EST. WEIGHT	4350

NOTE
SUMMARY OF QUANTITIES FOR PIER 2 LISTED ON SHEET #5



FOOTING PLAN

FOOTING SHALL EXTEND A MINIMUM OF 6" INTO FIRM SOIL TO PROVIDE FOR SUITABLE KEYWAYS AS DIRECTED BY THE ENGINEER.
FOOTING MAY BE SUBJECT TO CHANGE IN ELEVATION. SEE SPECIAL PROVISIONS.

* NOTE
FOR P801, P802, P806, & P813 THRU P620 BAR DETAILS - SEE SHEET #5

TOTAL SOIL PRESSURE REDUCED PER A.A.S.H.T.O. 1.41.

COMPUTED SOIL PRESSURE	K/SQ FT
DEAD LOAD	5.9
LIVE LOAD	1.2
OVERTURNING	3.5
TOTAL K/SQ FT	= 10.6 / 1.25 = 8.5

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO 55516

PIER NO 2 DETAILS

APPROVED [illegible]

222'-0" OUT TO OUT OF CURB

69'-0" | 84'-0" | 69'-0"

2@17'-3½" | 2@17'-2½" | 24'-8" | 2@17'-4" | 24'-8" | 2@17'-2½" | 2@17'-3½"

2'-6" | 3@9'-11" | 4'-8" | 3@9'-11" | 4'-8" | 2@10'-0" | 4'-8" | 3@10'-0" | 4'-8" | 2@10'-0" | 4'-8" | 3@9'-11" | 4'-8" | 3@9'-11" | 2'-6"

CURB JOINT SPACING
RAIL POST SPACING

SEE DETAIL

1-0411
3-0412
4-0412
4-0413

SEE DETAIL BELOW

℄ RAIL POST
9" 9"
℄ EQ. SPS. 0509-TYP BETWEEN RAIL POSTS

3" 3" 0509-TYP

PROVIDE ONE EXTRA 0509 WHERE JT. OCCURS IN THE MIDDLE OF RAILING PANEL

2'-1"

18'-1"

8½" 8" 11" @12" 0406
8½" 9 SPS. @ 8" = 6'-0" 0406
8½" 0406

18'-0" | 30'-0" | 10'-0" | 20'-0" | FLOOR DRAINS

W.P. "A" | W.P. "B" | W.P. "C" | W.P. "D"

6" PAVING BRACKET

℄ BRG. | ℄ PIER 1 | ℄ PIER 2 | ℄ BRG.

NOTE: FOR 0605 BARS OVER PIERS SEE DETAIL THIS SHEET

12'-0" | 20'-0" | 18'-0" | FLOOR DRAINS

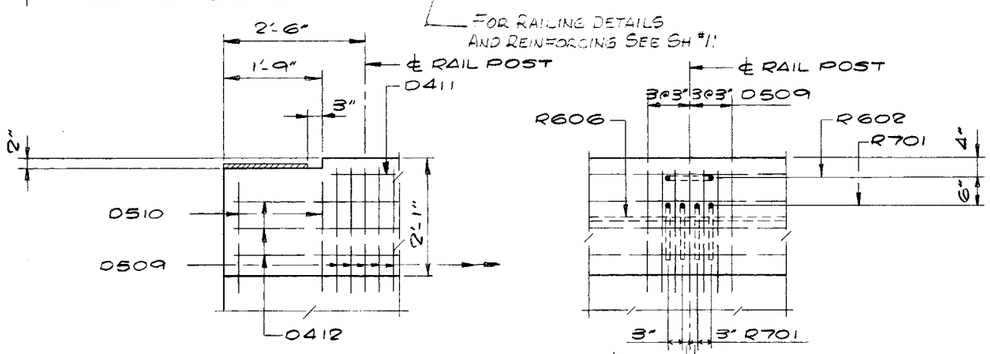
W.P. "E" | W.P. "F" | W.P. "G" | W.P. "H"

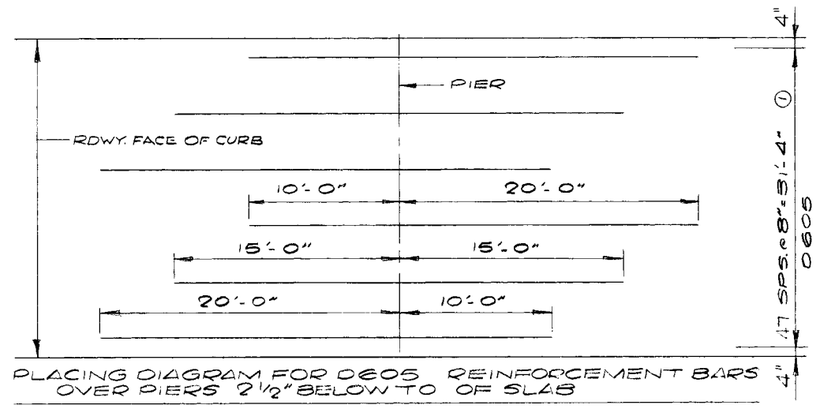
0406 BOTTOM & 0608 TOP TYP. BETWEEN BEAMS

SYMM. ABT. ℄ C.S.A.H. 7

HALF PLAN
SCALE: ⅛" = 1'-0"

FOR RAILING DETAILS AND REINFORCING SEE SH #1

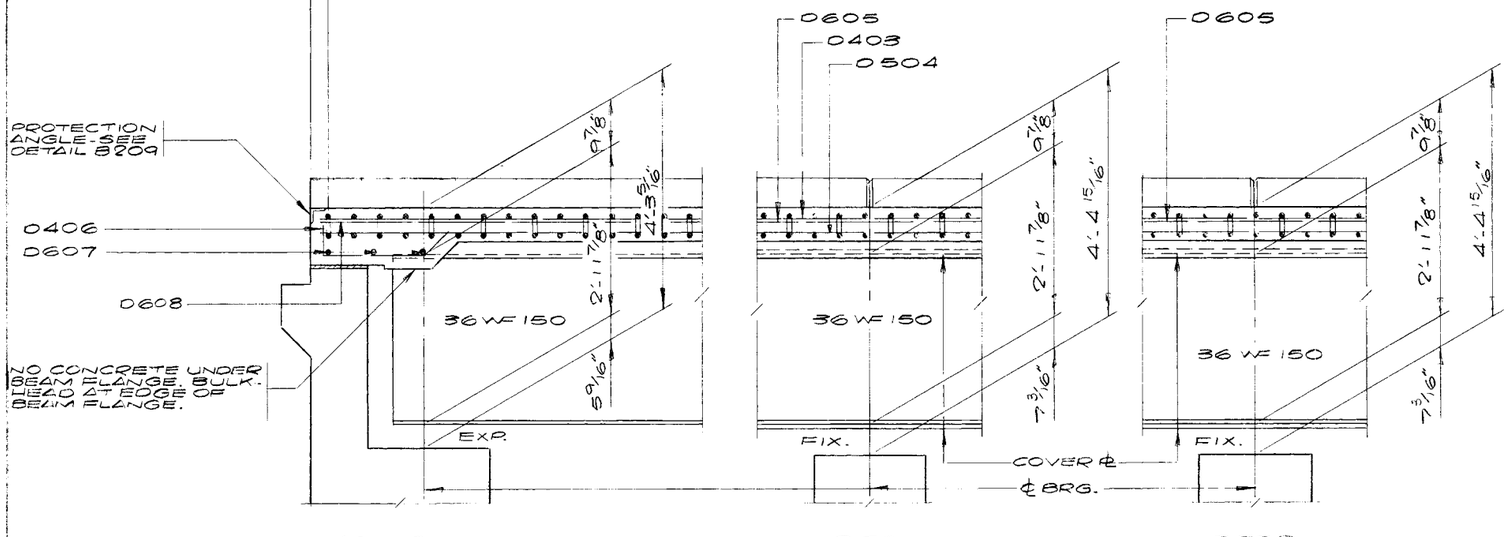




PLACING DIAGRAM FOR 0605 REINFORCEMENT BARS OVER PIERS 2½" BELOW TOP OF SLAB

① SPACING MAY VARY TO MISS LONGITUDINAL REINFORCEMENT

6½" | 482 SPS. @ 5½" = 220'-11" 0601 TOP & BOTTOM ALTERNATE WITH 0602



ABUTS. | PIER 1 | PIER 2

LONGITUDINAL SECTION AT ℄ FACE BEAM
SCALE: 3/4" = 1'-0"

CURB JOINT

SEAL TOP & FRONT FACE OF JOINTS ON CURBS WITH CONCRETE JOINT SEALER. PAINT END PLACED FIRST WITH ASPHALT. NO STEEL THRU JOINT.

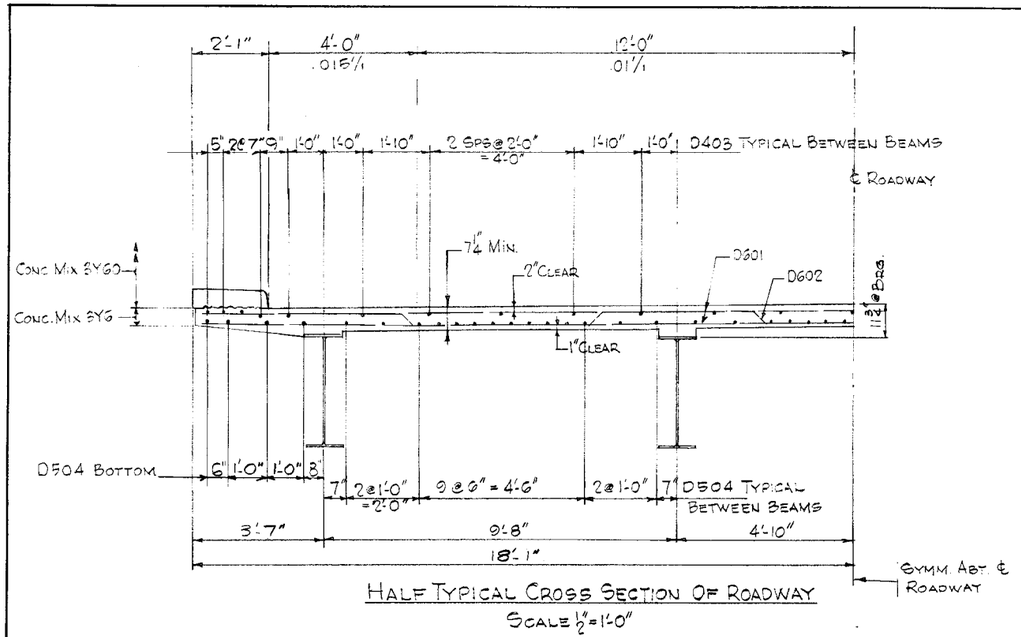
FINISH TOP OF CURBS WITH SMALL RADIUS EDGER & VERTICAL EDGES WITH ½" V STRIPS.

STATE OF MINNESOTA
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BRIDGE NO. 55516

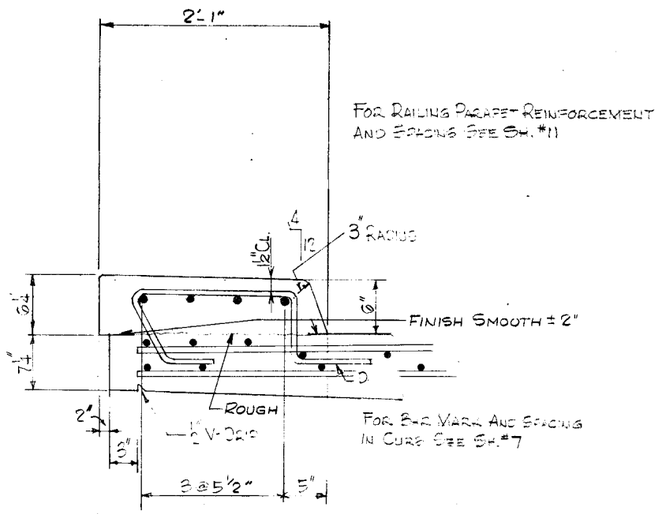
SUPERSTRUCTURE DETAILS

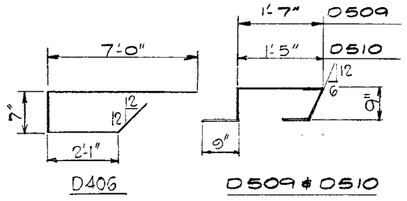
APPROVED:



HALF TYPICAL CROSS SECTION OF ROADWAY

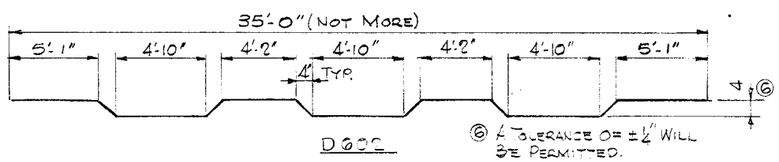
SCALE ½"=1'-0"





D406

D509 & D510



D606

⑥ A TOLERANCE OF ± ½" WILL BE PERMITTED.

BILL OF REINFORCEMENT FOR SUPERSTRUCTURE

	BAR	SIZE	NO	LENGTH	SHAPE	LOCATION
	D601	6	484	35'-4"	—	SLAB - TRANSV.
	D602	6	241	35'-10"	~~~	" - "
①	D603	4	175	32'-9"	—	" - LONG'L.
②	D504	5	300	38'-3"	—	" - "
	D605	6	96	30'-0"	—	" - OVER PIER
	D606	4	72	10'-5"	⌐	" - END
	D607	6	6	35'-0"	—	" - "
	D608	6	72	9'-0"	—	" - "
	D509	5	588	4'-4"	⌐	CURB - TIES
	D510	5	8	4'-2"	⌐	" - "
	D611	4	4	15'-0"	—	" - LONG.
	D612	4	76	16'-11"	—	" "
	D613	4	16	24'-4"	—	" "

① 7 LINES OF BARS 1'-8" MIN. LAP
② 6 LINES OF BARS 1'-7" MIN. LAP

SUMMARY OF QUANTITIES FOR SUPERSTR.

③	CONCRETE MIX 3Y6	197	CU.YD.
	CONCRETE MIX 3Y60	35	CU.YD.
④	REINFORCEMENT BARS	73050	LBS.
	STRUCTURAL STEEL (3303)	157950	LBS.
⑤	COUNTY NAME PLATE DETAIL NO. C101	ONE	
	FLOOR DRAINS	14	UNITS
⑥	PROTECTION ANGLE		

④ REINFORCING FOR RAILING PARAPET FENCE SH. 11 INCLUDED.
③ THE VOLUME OF DECK CONC. FOR PAYMENT SHALL BE COMPUTED USING AN AVERAGE STOOL HEIGHT OF 1 3/4".
⑤ BRIDGE NO. 55516 DATED: 1968 PROJ. NO. S 6262-3
⑥ INCLUDED IN STRUCTURAL STEEL 3303

PREFORMED CORK PER A.A.S.H.O. M153 (TYPE 1)
4 PCS - 1'-6" x 1" x 1'-4½" ABUT. RECESS FOR SUPERSTRUCTURE
24 PCS - 1'-0" x ¼ x 1'-0" RAILING PARAPET

LIST OF PREFORMED BITUMINOUS JOINT FILLER
2 PCS. 1'-0" x ½" x 36'-0" ABUT. PARAPET WALL

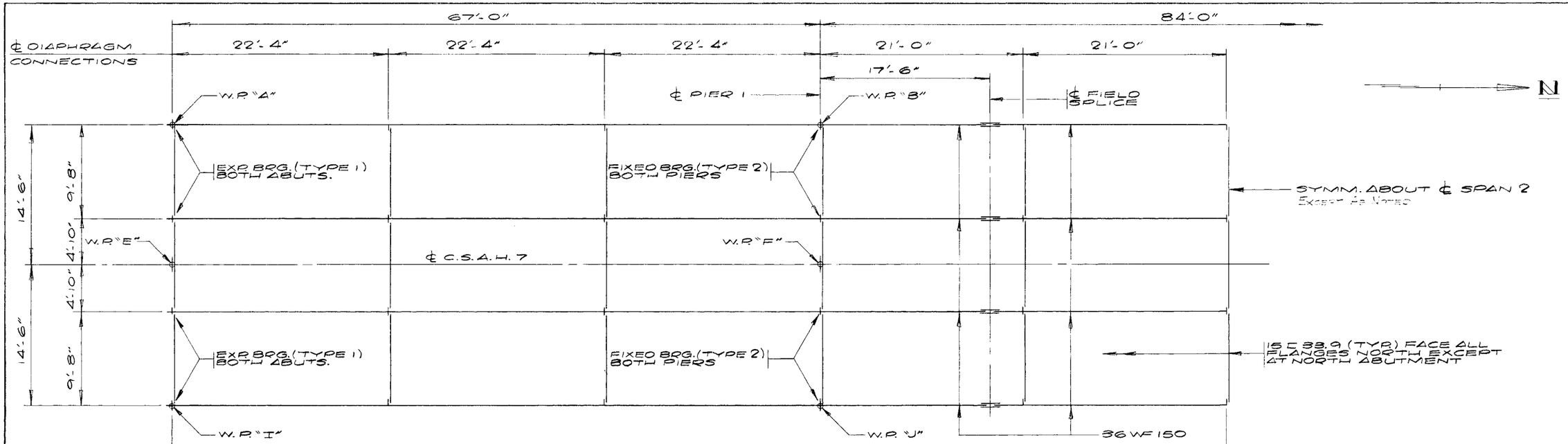
CORK SHALL COMPLY WITH A.A.S.H.O. SPEC. M153 TYPE I
BIT. FELT SHALL COMPLY WITH M-14-67(1). SECURE CORK JOINT FILLER WITH 20 LB. 11GA. COPPER NAILS AT ABT. 18" CRS. NAILS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. TRIM JOINT FILLER AS REQ'D. IN THE FIELD TO FACE OF CONC. OR TO THE DEPTH OF VEE WHERE CORNERS HAVE BEEN VEED. THE JOINT FILLER DATA ARE FOR THE CONTRACTORS CONVENIENCE ONLY. ANY ADDITIONAL JOINT FILLER REQUIRED AS SHOWN ON THE PLANS, SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

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BRIDGE NO. 55516

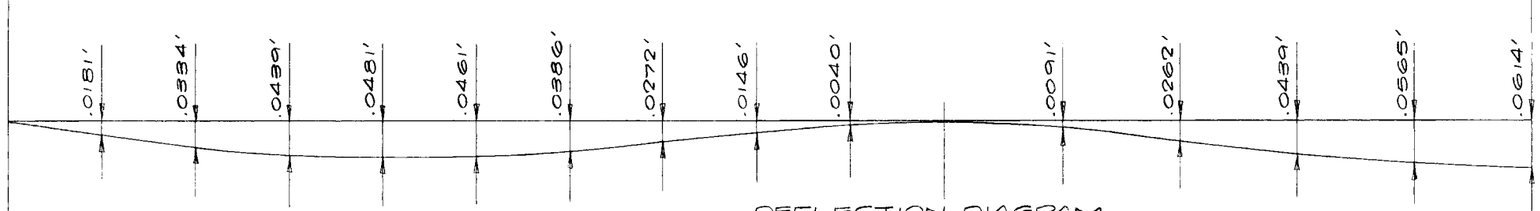
SUPERSTRUCTURE DETAILS

APPROVED: 1-22-68



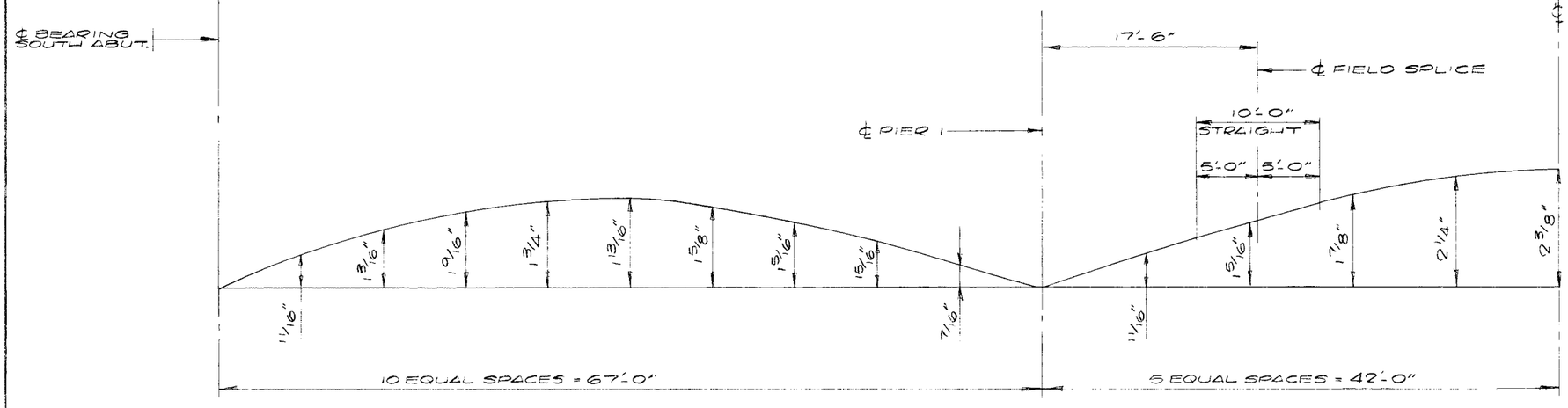
HALF FRAMING PLAN

SCALE: 3/16" = 1'-0"



DEFLECTION DIAGRAM

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



CAMBER DIAGRAM

NOTE:
CAMBER DIAGRAM SHOWN IS FOR BEAM CAMBER IN THRUST LINE DEAD LOAD DEFLECTION. DEAD LOAD DEFLECTIONS DUE TO WEIGHT OF STEEL ARE 10% OF DEFLECTIONS SHOWN ON DEFLECTION DIAGRAM FOR WEIGHT OF CONCRETE ONLY.

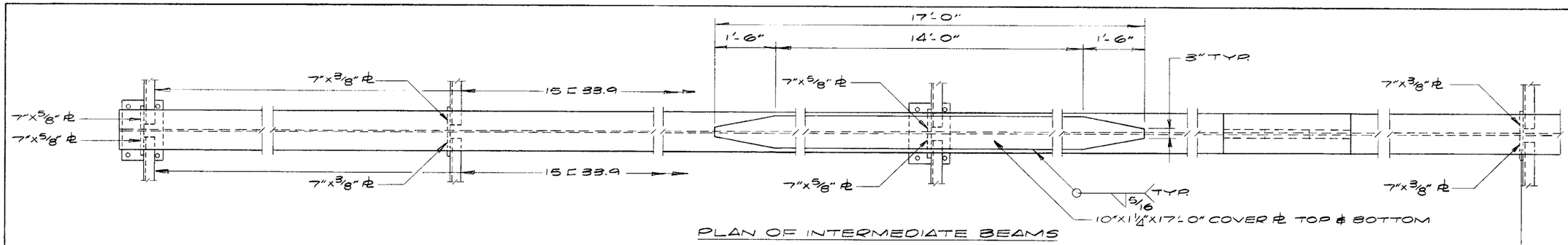
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 5556

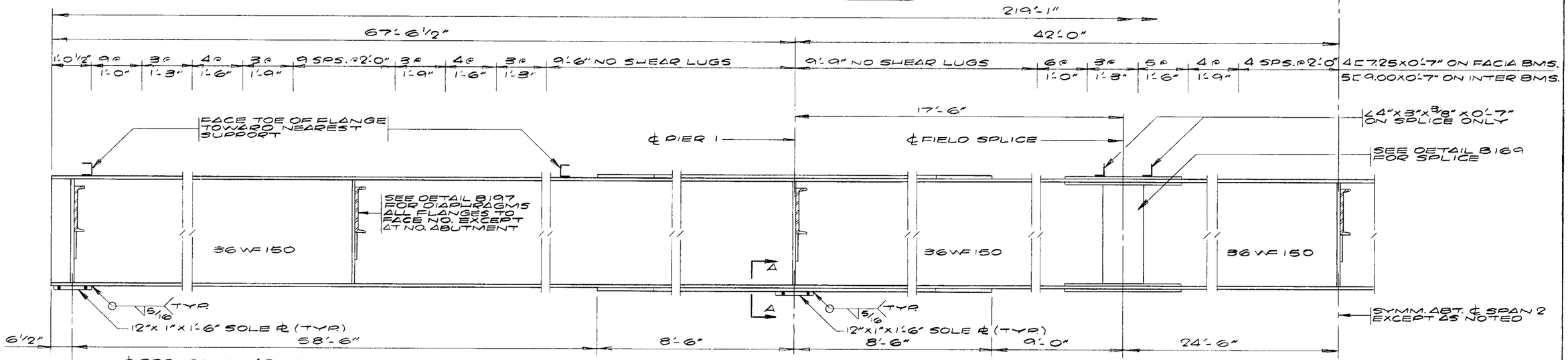
FRAMING PLAN

APPROVED: 1-28-65

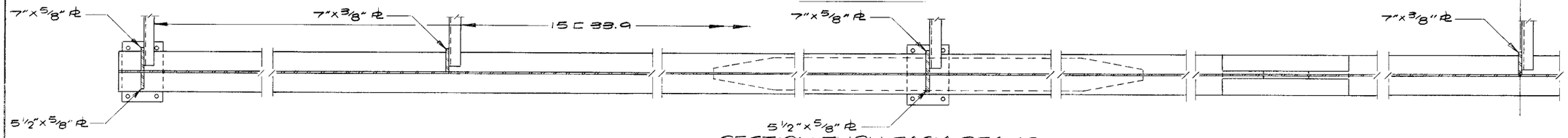
SHEET 9 OF 21 SHEETS | 5556



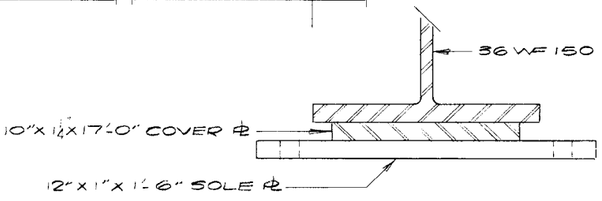
PLAN OF INTERMEDIATE BEAMS



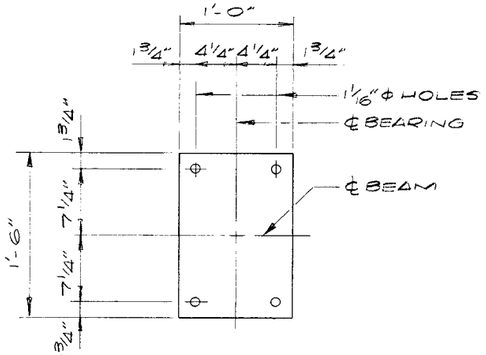
ELEVATION



SECTION THRU FACIA BEAMS

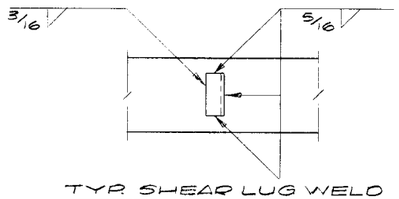


SECTION A-A



1" SOLE PLATE DETAIL

16 REQ'D.



TYP. SHEAR LUG WELD

STRUCTURAL STEEL NOTES

ALL STEEL FOR STRUCTURAL ITEMS SHALL CONFORM TO M.H.D. 3306 (STRUCTURAL STEEL) UNLESS OTHERWISE NOTED.

ALL FIELD CONNECTIONS SHALL BE MADE USING 7/8" DIVETS OR 7/8" HIGH STRENGTH BOLTS, EXCEPT AS NOTED. RIVETS SHALL CONFORM TO M.H.D. 3916 TYPE I. HIGH STRENGTH BOLTS SHALL CONFORM TO M.H.D. 3391-B, STYLE II. 15/16" ℄ HOLES EXCEPT AS NOTED.

SPECIAL REAMING PER M.H.D. 2471, 3E1b WILL BE REQUIRED FOR BEAM SPLICES. HOLES SHALL BE SUBPUNCHED OR DRILLED 11/16" ℄ AND REAMED TO 15/16" ℄ IN ASSEMBLED POSITION. THE SECTION TO BE ASSEMBLED FOR REAMING SHALL BE FROM ABUTMENT TO ABUTMENT. ALL OTHER HOLES MAY BE FULL PUNCHED PER M.H.D. 2471, 3E1a.

START COVER PLATE WELDS AT CENTER OF PLATE AND PROCEED SIMULTANEOUSLY ON BOTH SIDES OF PLATES TOWARD EITHER END. DO NOT TACK WELD. USE "C" CLAMPS AND RELEASE CLAMPS AS WELDING PROCEEDS, TO RELIEVE STRESS.

PAINT ALL STRUCTURAL STEEL EXCEPT GALVANIZED MATERIAL AS FOLLOWS:

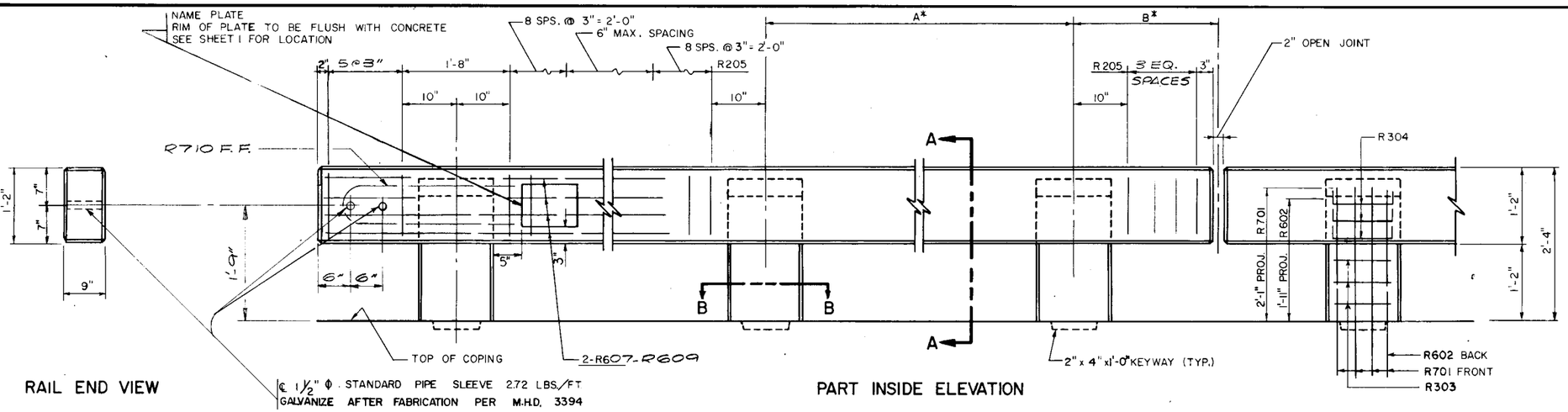
SHOP COAT, RED LEAD	M.H.D. 3506
FIRST FIELD COAT, ALUMINUM	M.H.D. 3527
SECOND FIELD COAT, ALUMINUM	M.H.D. 3528

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BRIDGE NO. 55516

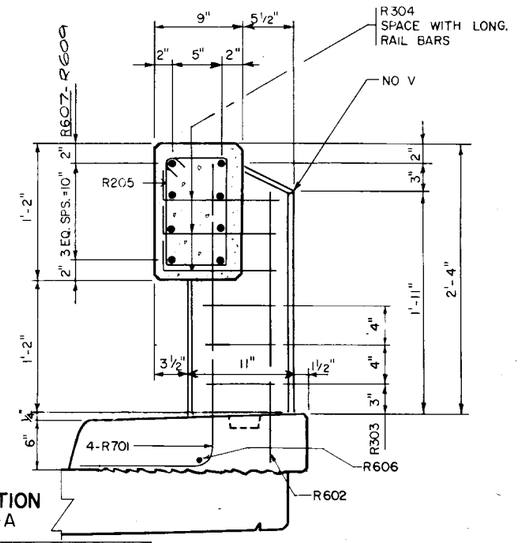
STRUCTURAL STEEL DETAILS

APPROVED: 1-22-68

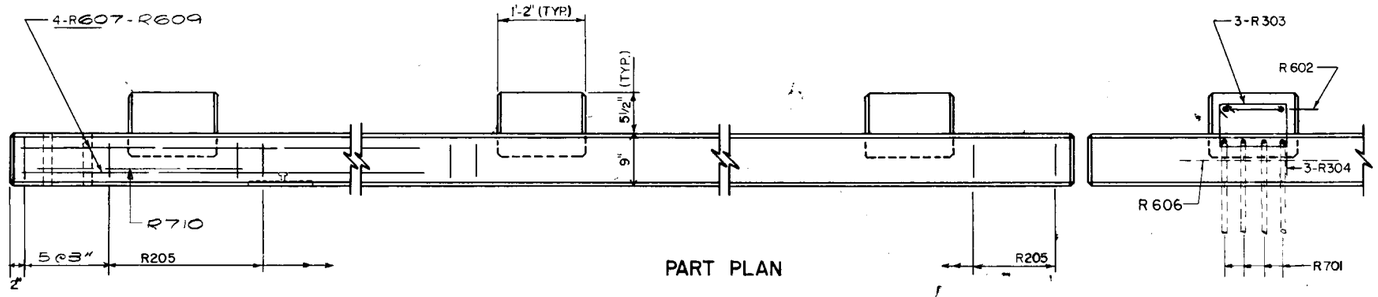


RAIL END VIEW

PART INSIDE ELEVATION

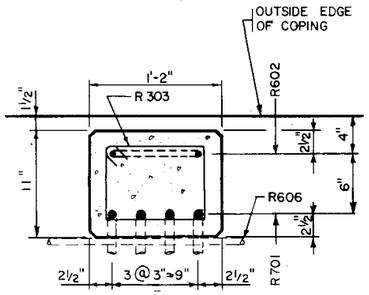


SECTION A-A

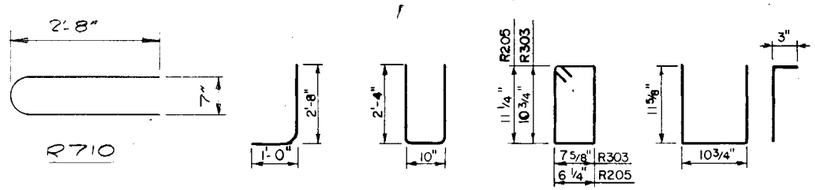


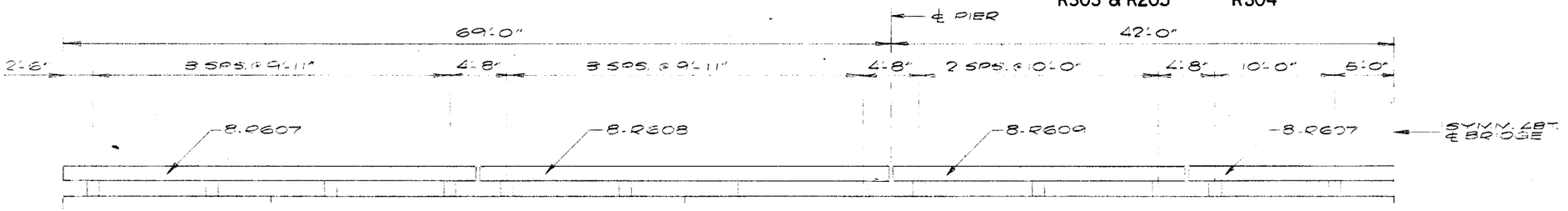
PART PLAN

BILL OF REINFORCEMENT FOR RAILING				
+MARK	NO.	LENGTH	SHAPE	LOCATION
R701	208	3'-8"	BENT	POST
R602	52	5'-6"	"	POST
R303	156	3'-9"	"	POST
R304	156	3'-4"	"	POST
R205	1108	3'-6"	"	RAIL
R606	52	3'-6"	STR.	CURB
R607	48	34'-2"	"	RAIL
R608	32	33'-11"	"	"
R609	32	24'-2"	"	"
R710	4	5'-8"	BENT	"



SECTION B-B





HALF INSIDE ELEVATION OF RAILING

NOTES:

RAIL POSTS AND RAILING TO BE CONCRETE MIX NO. 3Y60.

ALL RAIL POSTS NORMAL TO GRADE.

FINISH ALL EDGES OF RAILING AND RAIL POSTS TO A ½" V EXCEPT WHERE OTHERWISE NOTED.

RAILING QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
RECOMMENDED BAR BEND DIAMETERS ARE REQUIRED.
ALL BAR DIMENSIONS ARE OUT TO OUT
ALL BAR DETAILS SHALL CONFORM TO ACI 315. (LATEST EDITION)

*DIMENSION "A" NOT OVER 10'-0"

*DIMENSION "B" NOT OVER 2'-6"

+FIRST NUMBER IN BAR MARK INDICATES SIZE OF BAR.

SPECIAL CARE SHALL BE EXERCISED IN FINISHING THE SURFACE OF THE CONCRETE SLAB IN THE AREA OF THE POSTS SO THAT THE VERTICAL REINFORCEMENT FOR THE POSTS CAN BE CAREFULLY PLACED WITH RESPECT TO DEPTH OF ANCHORAGE.

DRAWN 7-22-63
REVISED 8-6-63
REVISED 8-13-63
REVISED 8-27-63
REVISED 8-14-64
REVISED 9-9-64
REVISED 2-26-65
REVISED 8-10-66
REVISED 9-26-66
REVISED 6-25-67
REVISED 7-20-67

STATE OF MINNESOTA
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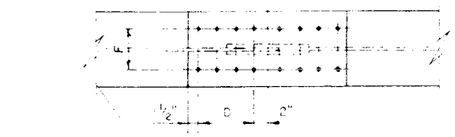
BRIDGE NO. 55816

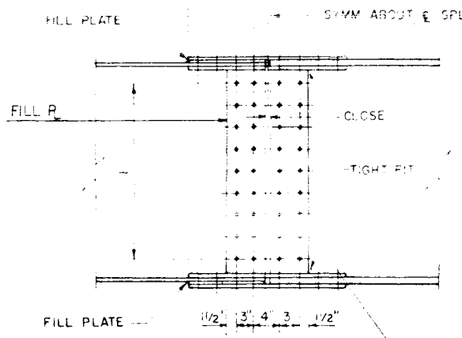
CONCRETE RAILING FOR 6" BRUSH CURB

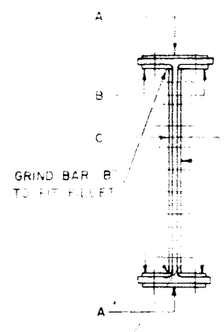
APPROVED: [illegible]

SHEET 11 OF 21 SHEETS | 55816

NOTES
SPLICE DESIGN IS FOR STRUCTURAL STEEL M.H.D. 3306
SPLICE DEVELOPS 100% OF NET SECTION
USE $\frac{7}{8}$" RIVETS PER M.H.D. 3316, TYPE I, OR $\frac{7}{8}$" HIGH STRENGTH BOLTS PER M.H.D. 24713 E.11c, M.H.C. 3391B STYLE II, AND SPECIAL PROVISIONS.
IF RIVETS ARE USED, FILL PLATES THICKER THAN $\frac{1}{4}$" SHALL BE DEVELOPED WITH ADDITIONAL RIVETS.
WHEN BEAMS ARE OF UNEQUAL WEIGHT, USE DESIGN FOR LIGHTER BEAM.







SIZE	A	B	C	D	E	F	FLANGE FILL PL	WEB FILL PL
21 WF 55	8 x 5/16	3 3/4 x 5/16	13 x 5/16	2 SPS @ 3"	5 SPS @ 3"	5"		
21 WF 62	8 x 3/8	3 3/4 x 7/16	13 x 5/16	2 SPS @ 3"	5 SPS @ 3"	5"		
21 WF 68	8 x 3/8	3 3/4 x 7/16	13 x 5/16	2 SPS @ 3"	5 SPS @ 3"	5"		
21 WF 73	8 x 7/16	3 3/4 x 9/16	13 x 5/16	2 SPS @ 3"	5 SPS @ 3"	5"		
21 WF 82	9 x 7/16	4 x 9/16	13 x 5/16	3 SPS @ 3"	5 SPS @ 3"	5"		
21 WF 96	9 x 9/16	4 x 5/8	13 x 5/16	3 SPS @ 3"	5 SPS @ 3"	5"		
24 WF 68	9 x 5/16	4 x 3/4	13 x 5/16	2 SPS @ 3"	5 SPS @ 3 5/8	5"		
24 WF 76	9 x 3/8	4 x	13 x 5/16	2 SPS @ 3"	5 SPS @ 3 5/8	5"		
24 WF 94	9 x	4 x	13 x 5/16	3 SPS @ 3"	5 SPS @ 3 5/8	5"		
24 WF 94	9 x 1/2	4 x	13 x 5/16	3 SPS @ 3"	5 SPS @ 3 5/8	5"		
24 WF 100	12 x 7/16	5 1/2 x 1/2	13 x 5/16	4 SPS @ 3"	5 SPS @ 3 5/8	6 1/2"		
24 WF 110	12 x 1/2	5 1/2 x 7/16	13 x 5/16	5 SPS @ 3"	5 SPS @ 3 5/8	6 1/2"		
24 WF 120	12 x 9/16	5 1/2 x 3/8	13 x 5/16	5 SPS @ 3"	5 SPS @ 3 5/8	6 1/2"		
27 WF 84	10 x 3/8	4 1/2 x 7/16	13 x 5/16	3 SPS @ 3"	6 SPS @ 3 1/2"	5 1/2"		
27 WF 94	10 x 7/16	4 1/2 x 9/16	13 x 5/16	3 SPS @ 3"	6 SPS @ 3 1/2"	5 1/2"		
27 WF 102	10 x 1/2	4 1/2 x 5/8	13 x 5/16	4 SPS @ 3"	6 SPS @ 3 1/2"	5 1/2"		
27 WF 114	10 x 9/16	4 1/2 x 11/16	13 x 5/16	4 SPS @ 3"	6 SPS @ 3 1/2"	5 1/2"		
30 WF 99	10 x 7/16	4 1/2 x 1/2	13 x 5/16	3 SPS @ 3"	6 SPS @ 4"	5 1/2"		
30 WF 108	10 x 7/16	4 1/2 x 5/8	13 x 5/16	4 SPS @ 3"	6 SPS @ 4"	5 1/2"		
30 WF 116	10 x 1/2	4 1/2 x 11/16	13 x 5/16	4 SPS @ 3"	6 SPS @ 4"	5 1/2"		
30 WF 124	10 x 9/16	4 1/2 x 3/4	13 x 5/16	5 SPS @ 3"	6 SPS @ 4"	5 1/2"		
30 WF 132	10 x 5/8	4 1/2 x 3/16	13 x 5/16	5 SPS @ 3"	6 SPS @ 4"	5 1/2"		
33 WF 118	11 x 7/16	5 x 9/16	13 x 5/16	4 SPS @ 3"	8 SPS @ 3 3/8"	6 1/2"		
33 WF 130	11 x 9/16	5 x 5/8	13 x 5/16	5 SPS @ 3"	8 SPS @ 3 3/8"	6 1/2"		
33 WF 141	11 x 9/16	5 x 3/4	13 x 5/16	5 SPS @ 3"	8 SPS @ 3 3/8"	6 1/2"		
33 WF 152	11 x 5/8	5 x 7/8	13 x 3/8	6 SPS @ 3"	8 SPS @ 3 3/8"	6 1/2"		
36 WF 135	12 x 7/16	5 1/2 x 9/16	13 x 5/16	4 SPS @ 3"	9 SPS @ 3 1/4"	6 1/2"		
36 WF 150	12 x 9/16	5 1/2 x 5/8	13 x 3/8	5 SPS @ 3"	9 SPS @ 3 1/4"	6 1/2"		
36 WF 160	12 x 5/8	5 1/2 x 11/16	13 x 3/8	6 SPS @ 3"	9 SPS @ 3 1/4"	6 1/2"		
36 WF 170	12 x 5/8	5 1/2 x 3/4	13 x 3/8	6 SPS @ 3"	9 SPS @ 3 1/4"	6 1/2"		
36 WF 182	12 x 11/16	5 1/2 x 13/16	13 x 3/8	7 SPS @ 3"	10 SPS @ 2 15/16"	6 1/2"		
36 WF 194	12 x 3/4	5 1/2 x 15/16	13 x 3/8	8 SPS @ 3"	10 SPS @ 2 15/16"	6 1/2"		

LAM

APPROVED 4-2- 1964
A E De Bonte
BRIDGE ENGINEER

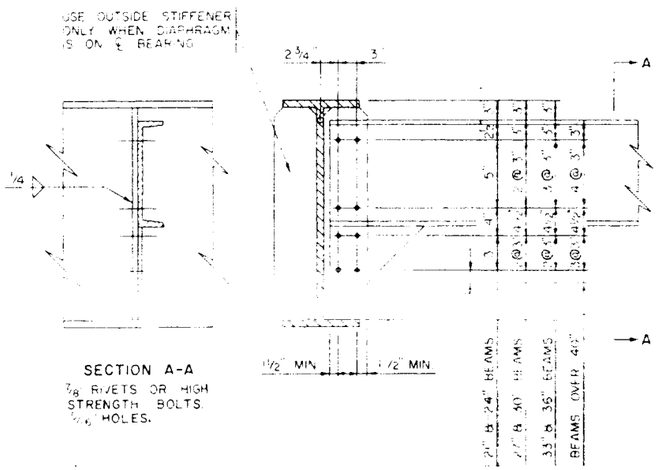
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BEAM SPLICES

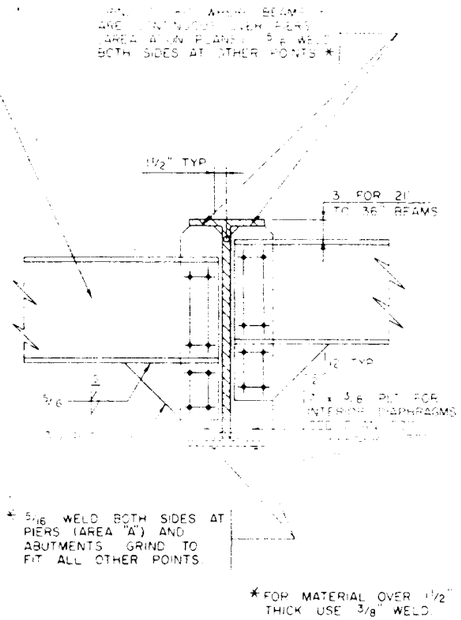
REVISIONS
4-2-64
10-2-64
8-16-66

DETAIL NO
B 169

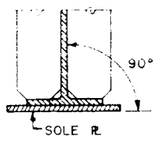




FACIA BEAM



INTERMEDIATE BEAM



TYPICAL DETAIL AT BEARINGS

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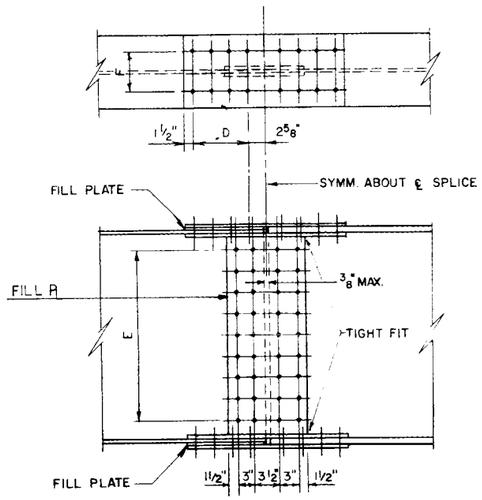
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BEAM DIAPHRAGMS

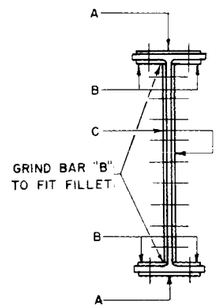
REVISIONS
7-12-63
10-4-64
10-23-64

DETAIL NO
B 196

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. #7 OLMSTED CO.
Bridge No.
55516
DETAILS
APPROVED 12-22-66
55516
Sheet No. 12 of 21 Sheets



NOTES:
SPLICE DESIGN IS FOR STRUCTURAL STEEL M.H.D. 3306.
SPLICE DEVELOPS 100% OF NET SECTION.
USE ⅞" RIVETS PER M.H.D. 3316, TYPE I OR ⅞" HIGH STRENGTH BOLTS PER M.H.D. 3391B OR PIN BOLTS M.H.D.3391G.
IF RIVETS ARE USED, FILL PLATES THICKER THAN ¼" SHALL BE DEVELOPED WITH ADDITIONAL RIVETS.
WHEN BEAMS ARE OF UNEQUAL WEIGHT, USE DESIGN FOR LIGHTER BEAM.



SIZE	A	B	C	D	E	F	FLANGE FILL PL	WEB FILL PL
21 WF 55	8 X 7/16	3¾ X 7/16	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"		
21 WF 62	8 X 7/16	3¾ X 7/16	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"		
21 WF 68	8 X 7/16	3¾ X 9/16	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"		
21 WF 73	8 X 7/16	3¾ X 9/16	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"		
21 WF 82	9 X 7/16	4 X 9/16	12½X 5/16	3 SPS. @ 3"	5 SPS. @ 3"	5"		
21 WF 96	9 X 9/16	4 X 5/8	12½X 5/16	3 SPS. @ 3"	5 SPS. @ 3"	5"		
24WF 68	9 X 7/16	4 X 7/16	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3 5/8"	5"		
24WF 76	9 X 7/16	4 X ½	12½X 5/16	2 SPS. @ 3"	5 SPS. @ 3 5/8"	5"		
24WF 84	9 X 7/16	4 X ½	12½X 5/16	3 SPS. @ 3"	5 SPS. @ 3 5/8"	5"		
24WF 94	9 X ½	4 X 9/16	12½X 5/16	3 SPS. @ 3"	5 SPS. @ 3 5/8"	5"		
24WF 100	12X 7/16	5½ X ½	12½X 5/16	4 SPS. @ 3"	5 SPS. @ 3 5/8"	6½"		
24WF 110	12X ½	5½ X 9/16	12½X 5/16	5 SPS. @ 3"	5 SPS. @ 3 5/8"	6½"		
24WF 120	12X 9/16	5½ X 5/8	12½X 5/16	5 SPS. @ 3"	5 SPS. @ 3 5/8"	6½"		
27WF 84	10X 7/16	4½ X 7/16	12½X 5/16	3 SPS. @ 3"	6 SPS @ 3½"	5½"		
27WF 94	10X 7/16	4½ X 9/16	12½X 5/16	3 SPS. @ 3"	6 SPS @ 3½"	5½"		
27 WF 102	10X ½	4½ X 5/8	12½X 5/16	4 SPS. @ 3"	6 SPS @ 3½"	5½"		
27WF 114	10X 9/16	4½ X 11/16	12½X 5/16	4 SPS. @ 3"	6 SPS @ 3½"	5½"		
30WF 99	10X 7/16	4½ X ½	12½X 5/16	3 SPS. @ 3"	6 SPS. @ 4"	5½"		
30WF 108	10X 7/16	4½ X 5/8	12½X 5/16	4 SPS. @ 3"	6 SPS. @ 4"	5½"		
30 WF 116	10X ½	4½ X 11/16	12½X 5/16	4 SPS. @ 3"	6 SPS. @ 4"	5½"		
30WF 124	10X 9/16	4½ X ¾	12½X 5/16	5 SPS. @ 3"	6 SPS. @ 4"	5½"		
30WF 132	10X 5/8	4½ X 13/16	12½X 5/16	5 SPS. @ 3"	6 SPS @ 4"	5½"		
33WF 118	11X 7/16	5 X 9/16	12½X 5/16	4 SPS. @ 3"	8 SPS. @ 3 3/8"	6½"		
33WF 130	11X 9/16	5 X 5/8	12½X 5/16	5 SPS. @ 3"	8 SPS @ 3 3/8"	6½"		
33WF 141	11X 9/16	5 X ¾	12½X 5/16	5 SPS. @ 3"	8 SPS @ 3 3/8"	6½"		
33WF 152	11X 5/8	5 X 7/8	12½X 3/8	6 SPS. @ 3"	8 SPS @ 3 3/8"	6½"		
36WF 135	12X 7/16	5½ X 9/16	12½X 5/16	4 SPS. @ 3"	9 SPS. @ 3¼"	6½"		
36WF 150	12X 9/16	5½ X 5/8	12½X 3/8	5 SPS. @ 3"	9 SPS @ 3¼"	6½"		
36WF 160	12X 5/8	5½ X 11/16	12½X 3/8	6 SPS. @ 3"	9 SPS. @ 3¼"	6½"		
36 WF 170	12X 5/8	5½ X ¾	12½X 3/8	6 SPS. @ 3"	9 SPS @ 3¼"	6½"		
36WF 182	12X 11/16	5½ X 13/16	12½X 3/8	7 SPS. @ 3"	10 SPS. @ 2 15/16"	6½"		
36WF 194	12X ¾	5½ X 15/16	12½X 3/8	8 SPS. @ 3"	10 SPS. @ 2 15/16"	6½"		

LAM

APPROVED 4-2 1964

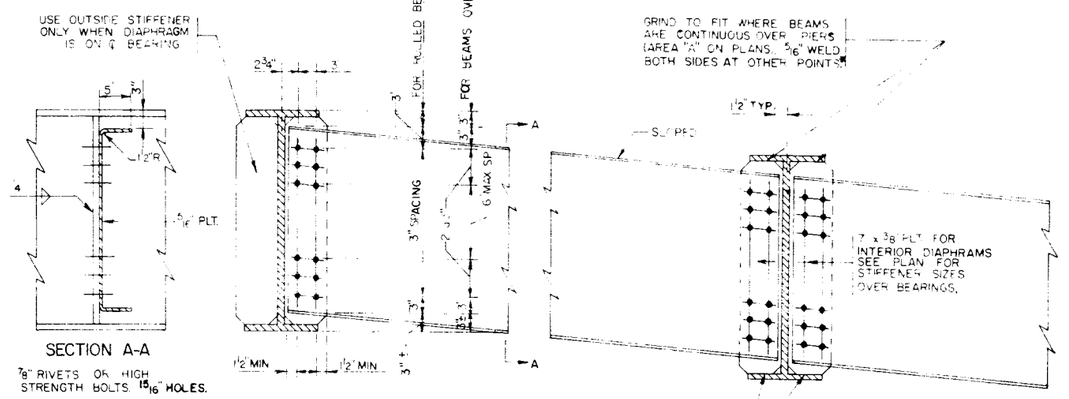
A.E. DeBonte
BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

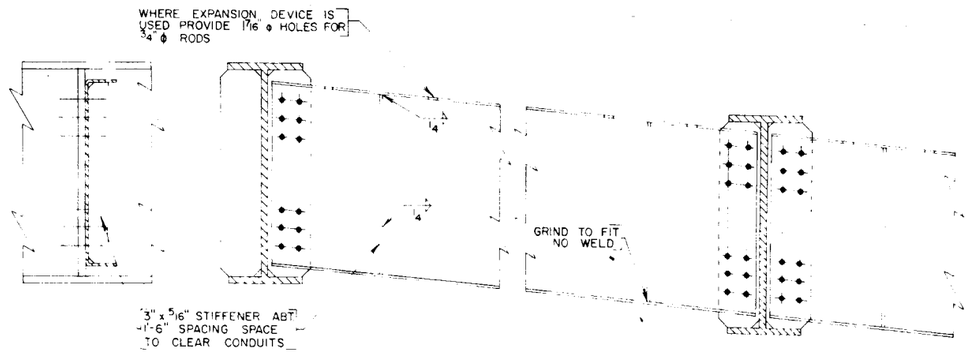
BEAM SPLICES

REVISIONS
4-2-64
10-2-64
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11-24-67
12-14-67

DETAIL NO.
B 169



INTERMEDIATE AND PIER DIAPHRAGMS



DIAPHRAGMS AT ABUTMENT

SEE DETAIL ABOVE FOR DETAILS NOT GIVEN

APPROVED 1967

BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BEAM DIAPHRAGMS

REVISIONS
12-21-67

DETAIL NO.
B 198

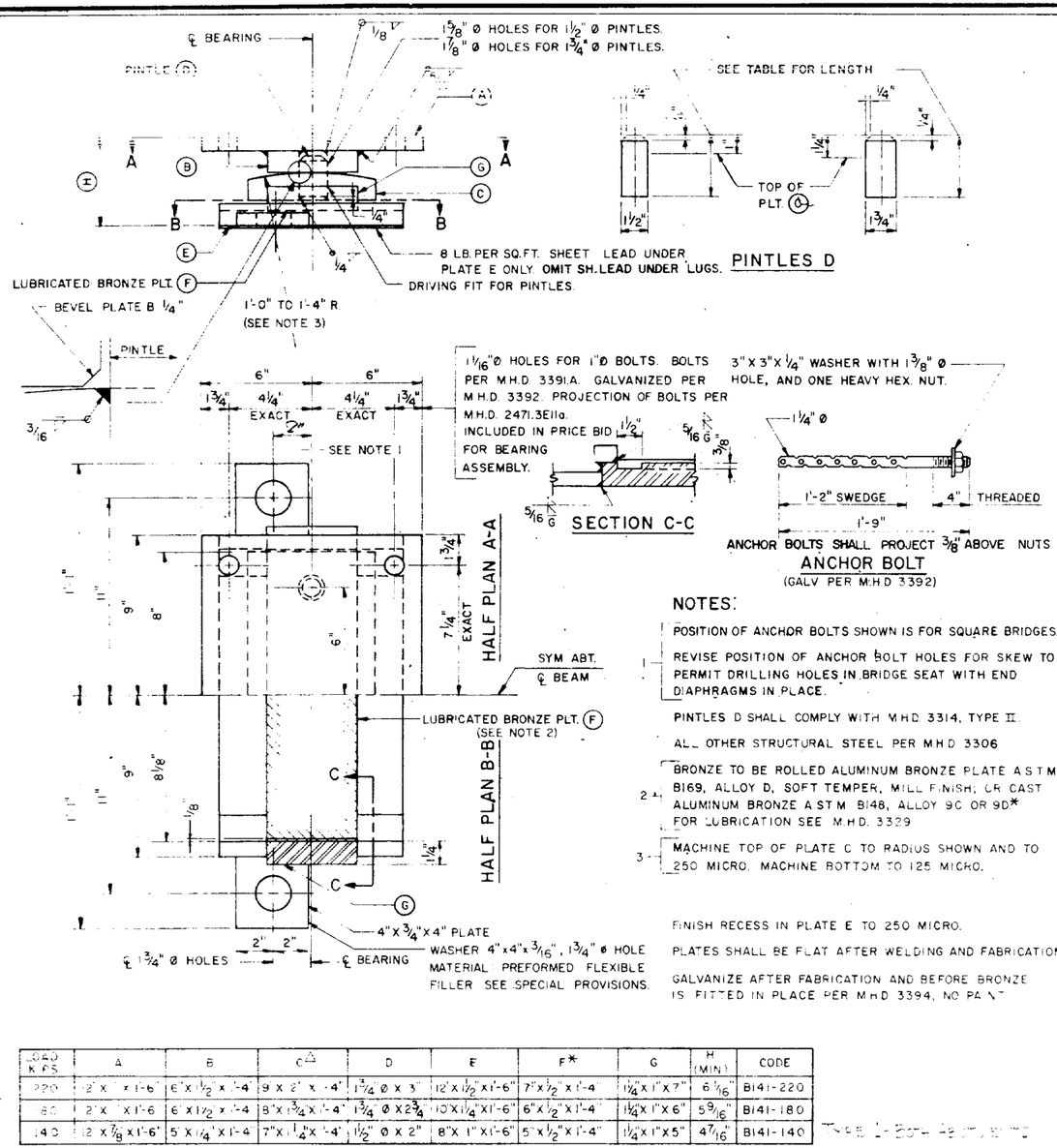
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No.

DETAILS

APPROVED

Sheet No. of Sheets



PINTLES D

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. 3306.
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.
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 (MIN.)	CODE
220	12" X 1" X 1'-6"	6" X 1½" X 1'-4"	9" X 2" X 1'-4"	1¾" Ø X 3"	12" X 1½" X 1'-6"	7" X ½" X 1'-4"	1¼" X 1" X 7"	6 1/16"	B141-220
180	12" X 1" X 1'-6"	6" X 1½" X 1'-4"	8" X 1¾" X 1'-4"	1¾" Ø X 2¾"	10" X 1¼" X 1'-6"	6" X ½" X 1'-4"	1¼" X 1" X 6"	5 9/16"	B141-180
140	12" X ⅞" X 1'-6"	5" X ¼" X 1'-4"	7" X 1¼" X 1'-4"	1½" Ø X 2"	8" X 1" X 1'-6"	5" X ½" X 1'-4"	1¼" X 1" X 5"	4 7/16"	B141-140

TYPE 1 - BOLT AS PER M.H.D. 3391

* 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.

△ FINISHED THICKNESS OF PLATE C MAY BE 1/16" LESS THAN THICKNESS SHOWN

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 17 1960

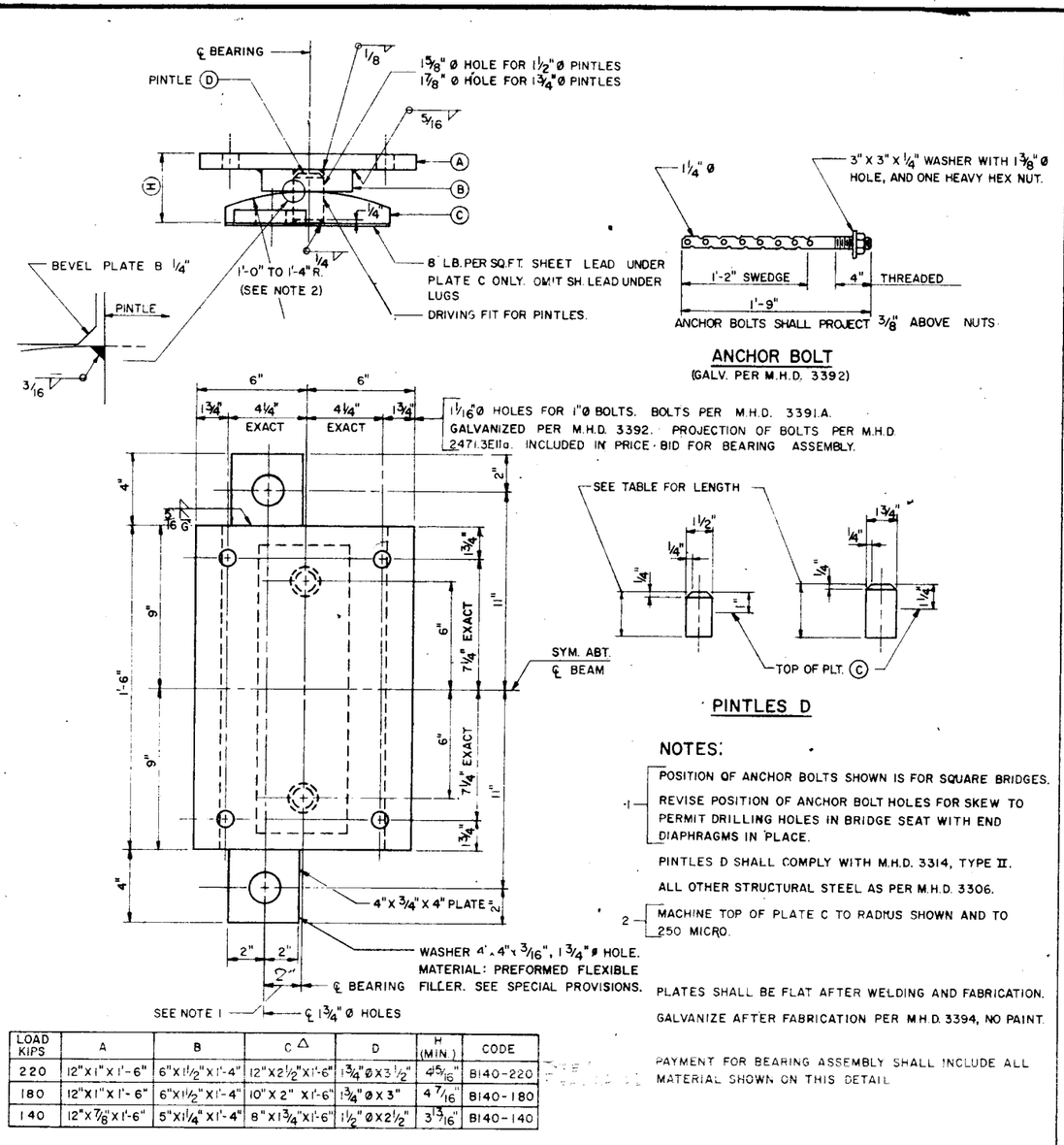
A. C. La Bonte
BRIDGE ENGINEER

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
5/22/63
8/28/63
6/15/64
4/28/65
11/15/65

DETAIL NO. B141



PINTLES D

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 AS PER M.H.D. 3306.
4. MACHINE TOP OF PLATE C TO RADIUS SHOWN AND TO 250 MICRO.
5. PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.
6. GALVANIZE AFTER FABRICATION PER M.H.D. 3394, NO PAINT.
7. PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

LOAD KIPS	A	B	C △	D	H (MIN.)	CODE
220	12"X1"X1'-6"	6"X1½"X1'-4"	12"X2½"X1'-6"	1¾"Ø X 3½"	4 5/16"	B140-220
180	12"X1"X1'-6"	6"X1½"X1'-4"	10"X 2" X1'-6"	1¾"Ø X 3"	4 7/16"	B140-180
140	12"X⅞"X1'-6"	5"X1¼"X1'-4"	8"X1¾"X1'-6"	1½"Ø X 2½"	3 13/16"	B140-140

TYPE 2 - BOLT AS PER M.H.D. 3391

△ FINISHED THICKNESS OF PLATE C MAY BE 1/16" LESS THAN THICKNESS SHOWN

APPROVED MAY 17 1960

A. C. La Bonte
BRIDGE ENGINEER

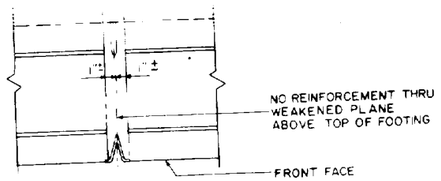
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

FIXED BEARING ASSEMBLY FOR BEAMS WITH 11½" OR 12" FLANGE

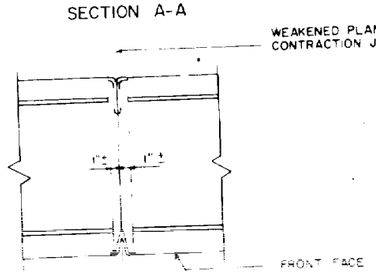
REVISIONS
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9/26/61-B
5/22/63
8/28/63
6/15/64
4/28/65
11/15/65

DETAIL NO. B140

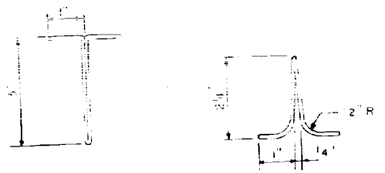
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. # 7 OLMSTED CO.
Bridge No. 55516
DETAILS
APPROVED 4-28-65
55516
Sheet No. 14 of 21 Sheets

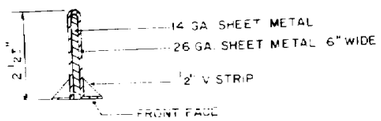


SECTION A-A



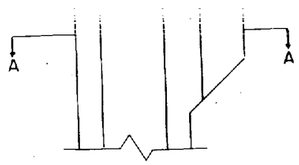
SECTION B-B



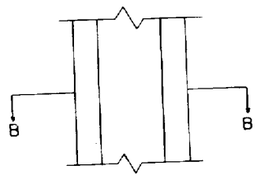


ALTERNATE FRONT STRIP

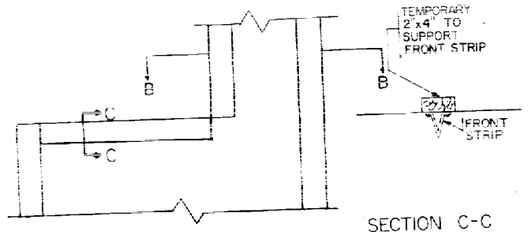
NOTES
METAL STRIP TO BE 26 GA GALVANIZED SHEET METAL M.H.D 3338
FASTEN TO FORMS WITH 7/8" ROOFING NAILS ABOUT 6" CENTERS.
FRONT STRIP TO BE REMOVED WITH FORMS. BACK STRIP REMAINS IN PLACE.
ALL METAL IN FRONT FACE TO BE OILED FOR EASY REMOVAL.
COST OF FORMING JOINT TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.



SECTION THRU PAVING BRACKET



SECTION THRU WALL

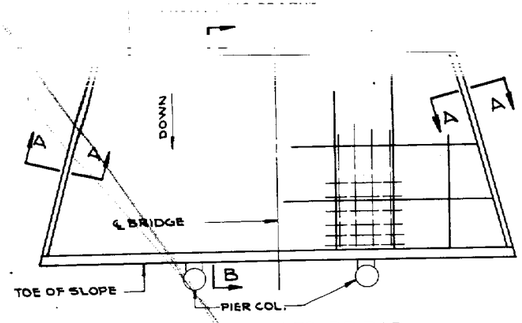


SECTION C-C

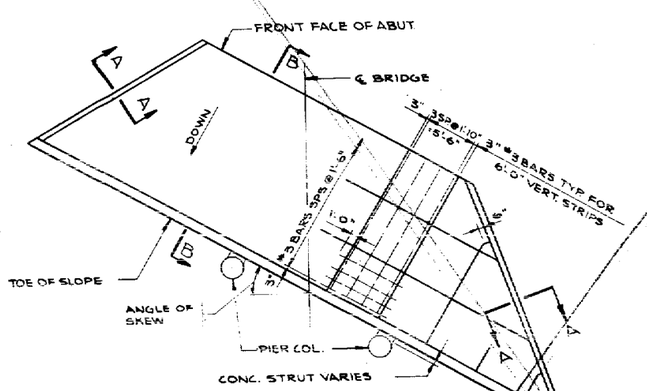
SECTION THRU BRIDGE SEAT ON PARAPET ABUTMENT

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 5/16". 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.

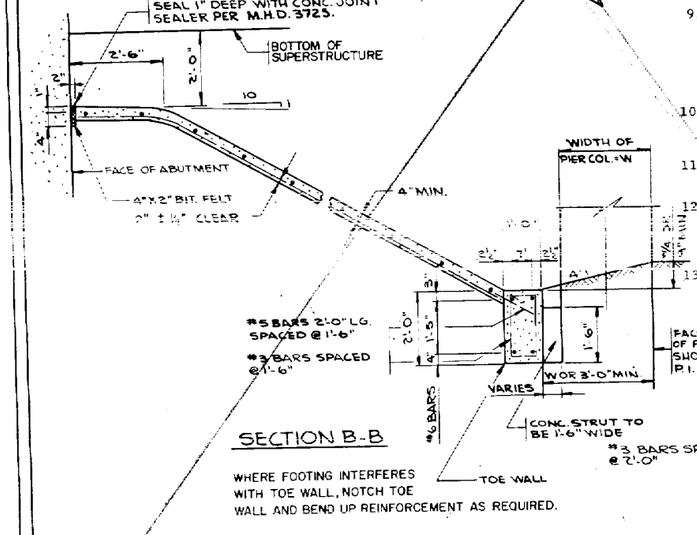
APPROVED SEPT. 5, 1963	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 8-26-64 9-1-65	DETAIL NO B260
BRIDGE ENGINEER	CONTRACTION JOINT		



LAYOUT FOR SQUARE BRIDGE



LAYOUT FOR SKEWED BRIDGE



SECTION B-B

WHERE FOOTING INTERFERES WITH TOE WALL, NOTCH TOE WALL AND BEND UP REINFORCEMENT AS REQUIRED.

SECTION A-A

SLOPE PAVING - CLASS B

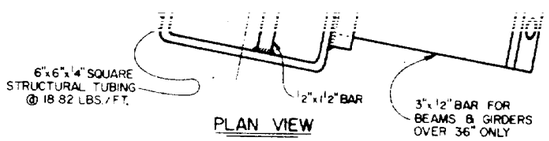
Construction Notes

The slope paving shall be constructed of cast-in-place concrete, in accordance with the applicable portions of Spec. 2401, and the following:

1. The concrete shall be mix no. 4 (strength 2) or structural mix provided in Spec. 2461. The concrete slump may be adjusted, subject to approval by the Engineer, to meet the requirements of the work.
2. Metal reinforcement shall conform to Spec. 3301. Lap for splices of splices.
3. The slopes shall conform to the section shown on the General Plan and Elevation sheet in these Plans, except as otherwise provided for below:
   In the event the Engineer determines that a deficiency in material exists on the approach embankments constructed by others, he may order that the dimensions shown for the berm (see upper left of Section B-B) be revised to the extent necessary to construct the slope without hauling additional material. Such revision should, however, be limited to a decrease of not more than three inches, as applied to the height and/or width of the berm.
   In the event additional fill is required in order to conform to the slope lines staked by the Engineer, on approach embankments completed by others, the cost of furnishing, hauling, placing and compacting additional material ordered by the Engineer will be paid for as Extra Work.
   In the event the Engineer determines that an excess of material is present on approach embankments completed by others, he may order that the width of the berm be increased to the extent necessary to utilize such material, but not by more than 1'-6".
   Excess material, beyond that which is required to dress the slope to true lines and to the grades staked by the Engineer, shall be used as directed by the Engineer for purposes such as widening the shoulders adjacent to the sidewalls, flaring out these shoulders, and shaping up adjacent side slopes.
   The disposal of excess material, except material deposited by the Contractor during excavation for substructure units or related work, which can not be incorporated into the slopes as hereinbefore defined, and which the Engineer directs to be hauled from the site, will be paid for as Extra Work.
   Any revision in berm grades and dimensions should be applied uniformly for the full length of the berm.
   Compaction will be required.
4. Toe and side walls shall be in place before casting remainder of slope paving.
5. Slope paving shall, in general, be poured in equal alternate vertical strips with a maximum width of 6 ft. The strips shall be cut into sections by grooves spaced at equal distances not exceeding 6 ft. and shall be at right angles to the strips. Other patterns for strips and grooves will be considered if requested by the contractor.
6. The forms shall be set to accurate grade and alignment, and shall be rigidly supported. Deviations of greater than 1/4" from a ten-foot straight edge shall be corrected.
7. Care shall be taken in placement of concrete so as not to disturb the grade on which it is placed, or to contaminate the concrete.
8. Sufficient hand spading and/or tamping shall be done to secure a dense paving relatively free of voids and honeycomb.
9. The top surface shall be struck off immediately after placing the concrete. When the concrete has set sufficiently to hold its shape, it shall be struck off again, after which it shall be given a final finish by hand floating with a cork or wooden float. The finished appearance shall be reasonably smooth and uniform. The finished concrete shall not vary more than 3/8" from a ten-foot straight edge.
10. All edges shall be finished with an edger unless otherwise noted. Grooves shall be cut using a sidewalk grooving tool. The trails left by the flanges of these tools shall be removed by floating.
11. The concrete shall be cured for at least 72 hours after casting by any of the methods outlined in MHD 2401.3G2, except Earth Cover.
12. Method of Measurement.
    Slope paving will be measured by area of the top surface bounded by the outside edges of the two side walls and the front face of the abutment, unless otherwise shown and noted in the plans.
13. Basis of Payment.
    Payment for furnishing and placing the slope paving will be made at Item No. 514.601 at the Contract price per square yard, which price shall be compensation in full for all costs of labor, equipment and materials required for the work. See Special Provisions.

APPROVED 9-12-1961	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 1/11/62 12/20/62 7/18/63 11/7/63 12/4/63 2-11-66	DETAIL NO B253
A. E. LaBerte BRIDGE ENGINEER	SLOPE PAVING UNDER BRIDGE CLASS B (CAST-IN-PLACE CONCRETE SLAB-FLARED SIDES)		

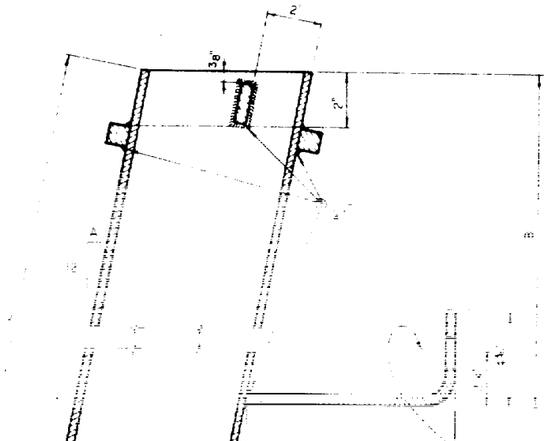
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. #7 OLMSTED Co.
Bridge No. 55516
DETAILS
APPROVED [illegible]
55516
Sheet No. 15 of 21 Sheets



PLAN VIEW

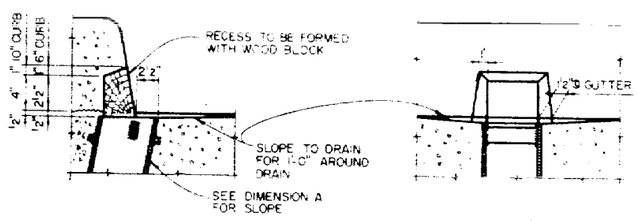
36" MIN.	3'-1"	1'-8"	3'-8"	4'-2"
WF BEAMS				
WELDED BM.				

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.



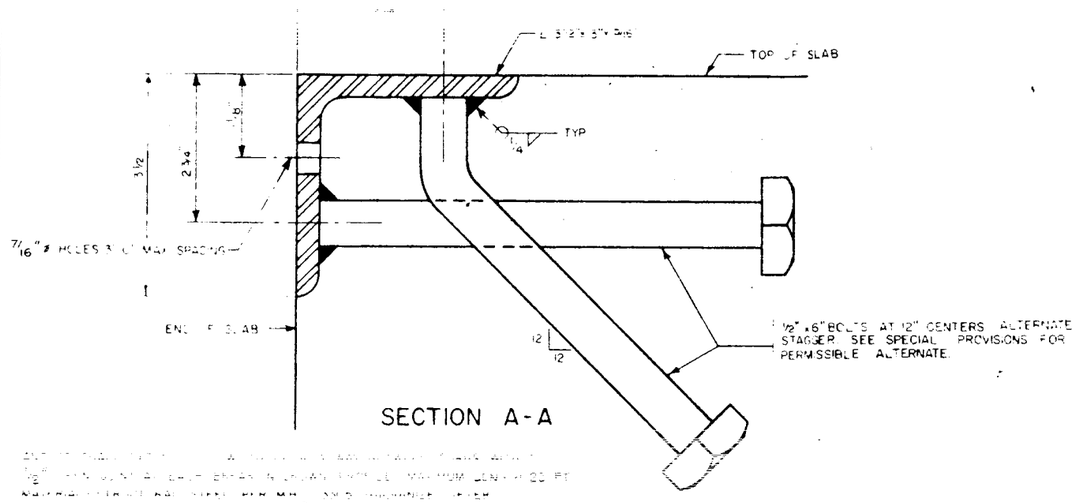
NOTE
MATERIAL M.H.D. 3306
GALVANIZE BOLTS, INSERTS, & WASHERS PER M.H.D. 3392
GALVANIZE OTHER MATERIALS PER M.H.D. 3394 AFTER FABRICATION

SECTION THRU DRAIN



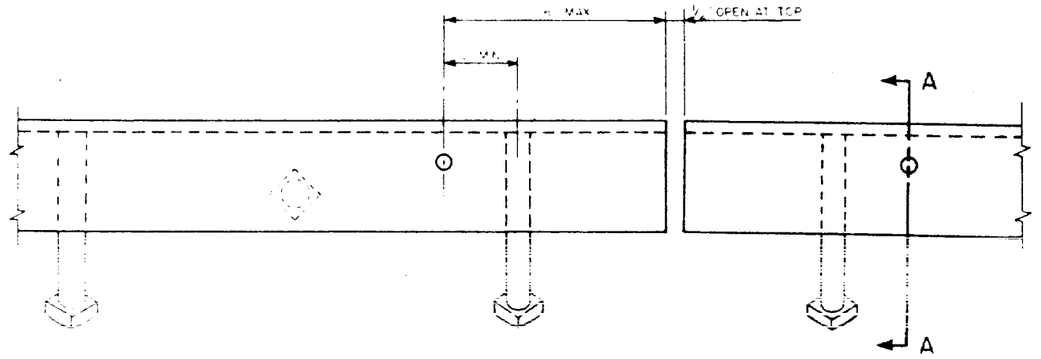
PLACEMENT DIAGRAM

TYPE_____



SECTION A-A

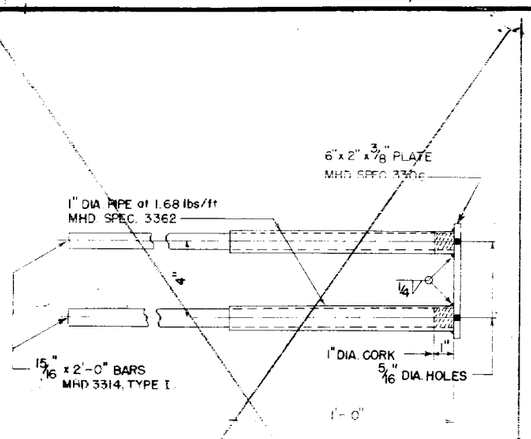
ALL STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS OTHERWISE NOTED.
½" DIA. STUD SHEAR CONNECTORS SHALL BE 5" MINIMUM LENGTH AFTER FABRICATION.
FABRICATION PER MNDOT 3306.
CONFORM TO MNDOT 2471 FOR ERECTION. ERECTION SHALL BE PER AISC STRUCTURAL STEEL 9TH ED.



ELEVATION

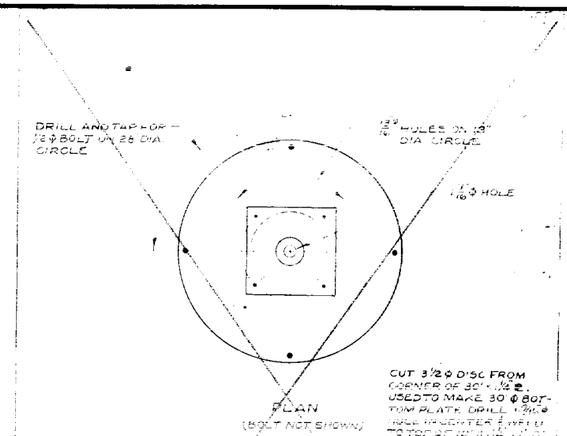
APPROVED 3-27-67 1967 A. C. Anderson BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS STEEL FLOOR DRAINS FOR BRIDGES	REVISIONS	DETAIL NO B10
APPROVED _____ 1967 _____ BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS PROTECTION ANGLE FOR END OF SLAB	REVISIONS 3-8-65	DETAIL NO B209

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. #7 OLMSTED CO.
Bridge No. 55516
DETAILS
APPROVED _____
55516
Sheet No. 10 of 21 Sheets



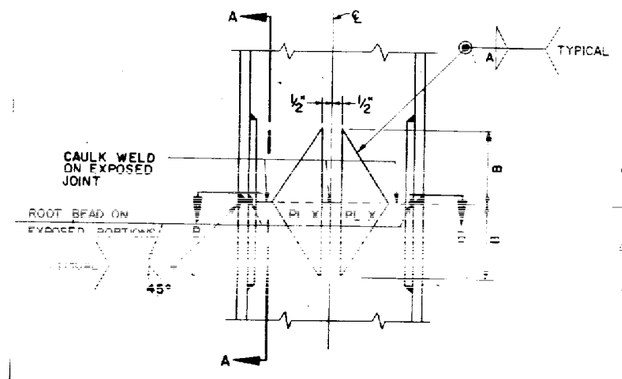
NOTE:
OPEN END OF PIPE MUST BE DE-BURRED AFTER CUTTING AND BEFORE GALVANIZING.
BARS TO BE SAWED TO LENGTH.
GALVANIZE AS PER M.H.D. 3394 AFTER FABRICATION.

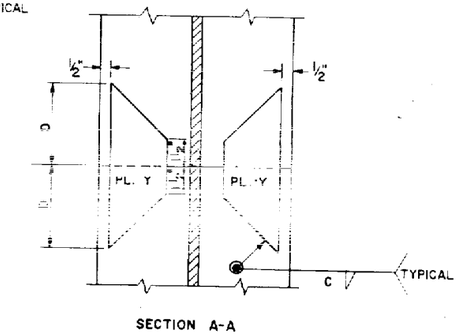
APPROVED 8-15-1957	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 4/10/59-A 10/27/64 11/15/65	DETAIL NO.
A. C. La Bonte BRIDGE ENGINEER	SHEAR DOWEL ASSEMBLY		B 100



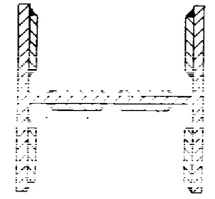
NOTE:
PAINT ONE SHOP COAT RED LEAD AS PER M.H.D. 3506
MATERIAL: STRUCTURAL STEEL
(DEVICE FURNISHED BY STATE)

APPROVED: 7-9-58	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A. C. La Bonte BRIDGE ENGINEER	SOIL BEARING LOAD TESTING DEVICE		B226



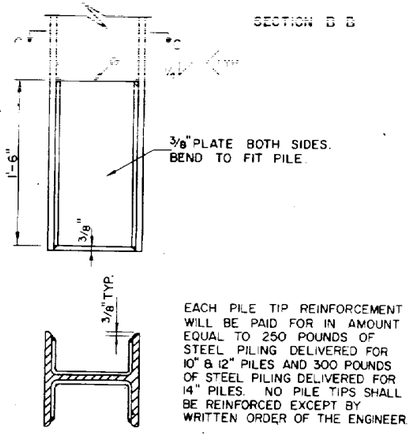


SECTION A-A



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	4
12BP53	3 1/2 x 3/8	1/4	5	3 1/2 x 3/8	5/16	5
12BP74	3 1/2 x 1/2	5/16	5	3 1/2 x 1/2	5/16	5
14BP73	4 x 3/8	1/4	7	4 x 3/8	5/16	7
14BP89	4 1/2 x 7/16	5/16	7	3 1/2 x 7/16	5/16	7
14BP102	4 1/2 x 1/2	5/16	7	4 x 1/2	5/16	7
14BP117	4 1/2 x 9/16	3/8	7	4 x 9/16	5/16	7



SECTION C-C

EACH PILE TIP REINFORCEMENT WILL BE PAID FOR IN AMOUNT EQUAL TO 250 POUNDS OF STEEL PILING DELIVERED FOR 10" & 12" PILES AND 300 POUNDS OF STEEL PILING DELIVERED FOR 14" PILES. NO PILE TIPS SHALL BE REINFORCED EXCEPT BY WRITTEN ORDER OF THE ENGINEER.

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.

APPROVED 12-12-1962	STATE OF MINNESOTA	REVISIONS	DETAIL NO.
A. C. La Bonte BRIDGE ENGINEER	8 PILE TIP REINFORCEMENT 10" TO 14"	12-2-63 11-15-65	B 221

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. #7 OLMSTED Co.
Bridge No.

A. C. La Bonte BRIDGE ENGINEER	SPLICES FOR CAST IN PLACE CONCRETE PILES	10/27/64 9/14/65	B220

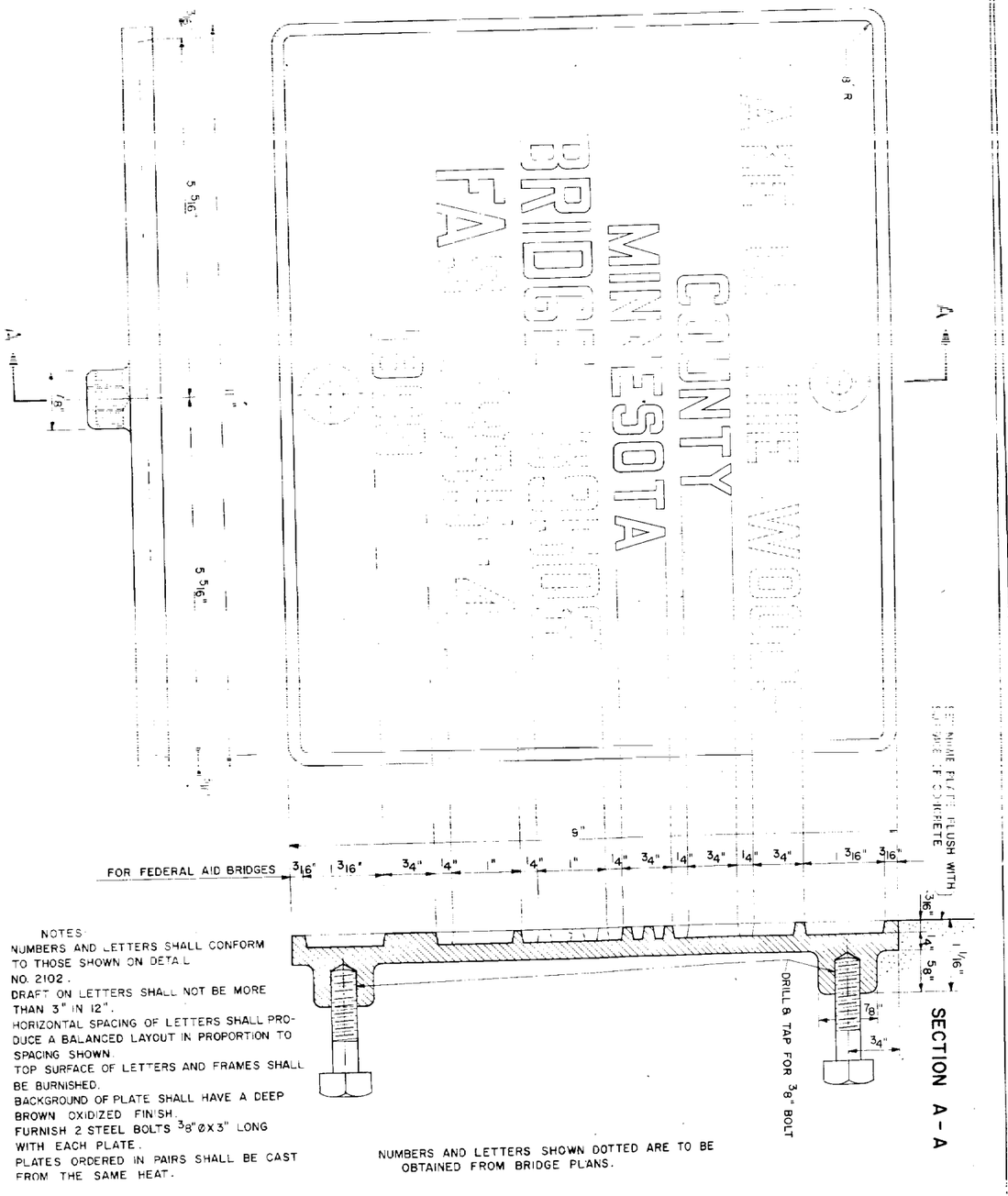
ABCDEFGHIJKLMN

OPQRSTUVWXYZ

1234567890

NOTE:
ALL DIMENSIONS FOR LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN ABOVE FOR 1½" HIGH LETTERS AND NUMBERS THE THICKNESS OF THE LETTERS AND NUMBERS SHALL BE 3/16".

APPROVED 7/3 1959 A. C. LaBonte BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS LETTERS FOR BRIDGE NAME PLATES	REVISIONS	DETAIL NO. 2102



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 3/8"ØX3" 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.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
C.S.A.H. Number Co.
Bridge No.
55516
SPECIAL

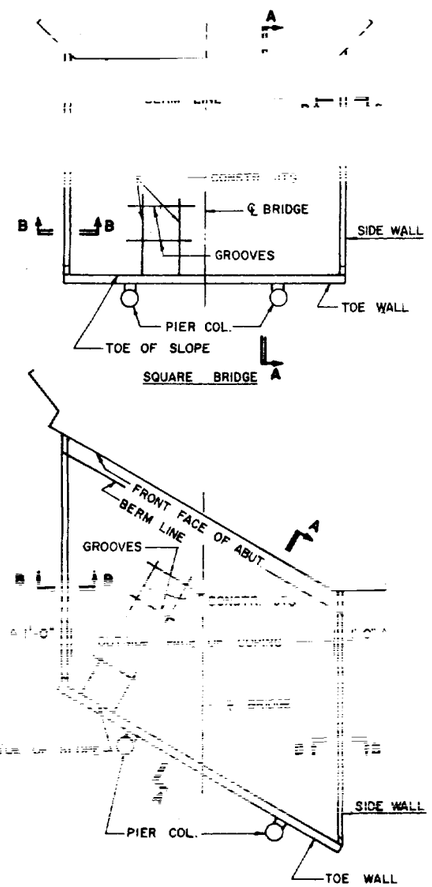
APPROVED JULY 3 1959
A. C. LaBonte
BRIDGE ENGINEER

DEPARTMENT OF HIGHWAYS

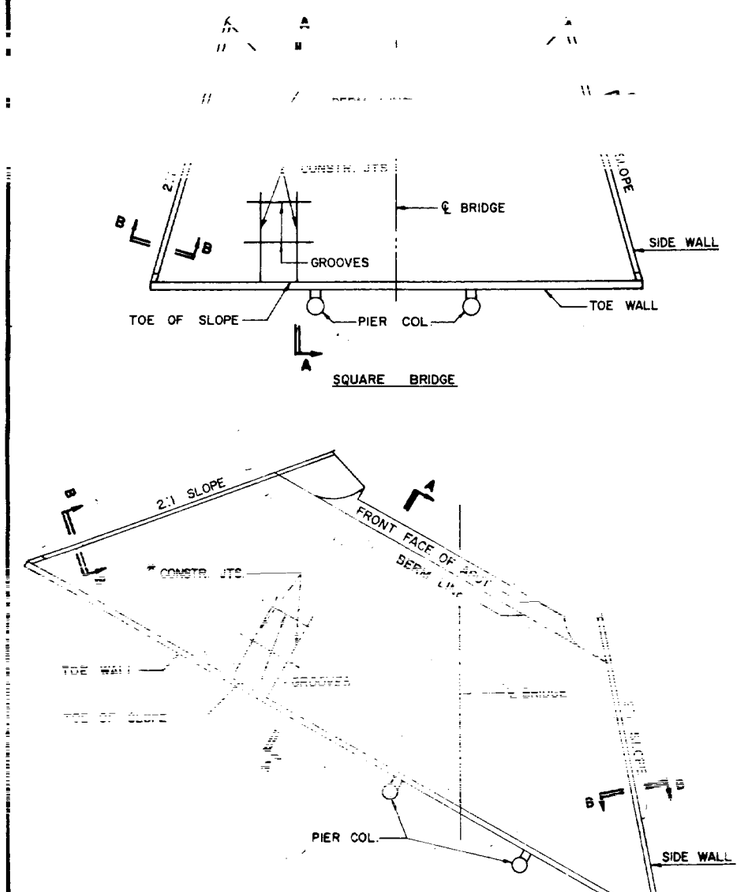
BRIDGE NAME PLATE
FOR COUNTY BRIDGES

2102

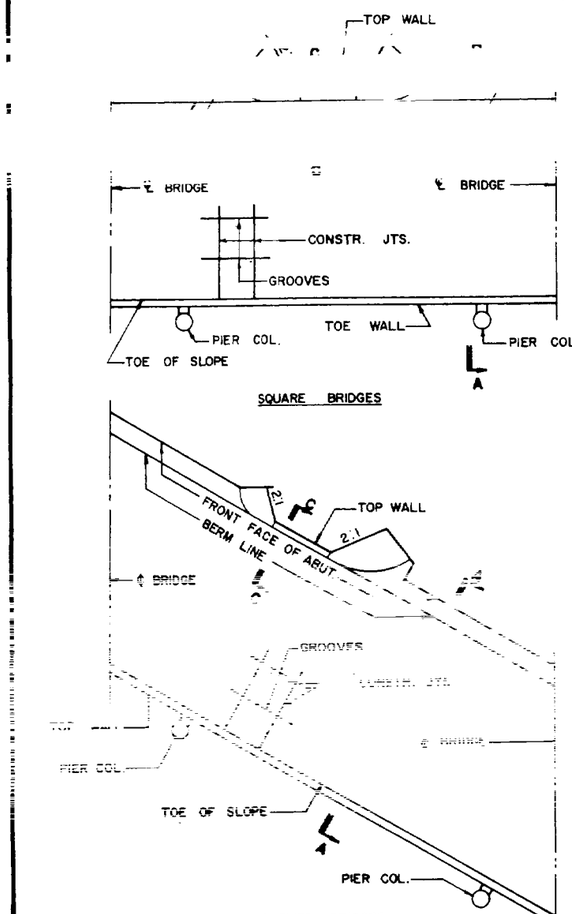
Sheets



LAYOUTS FOR SLOPES 2:1 OR FLATTER



LAYOUTS FOR SLOPES STEEPER THAN 2:1



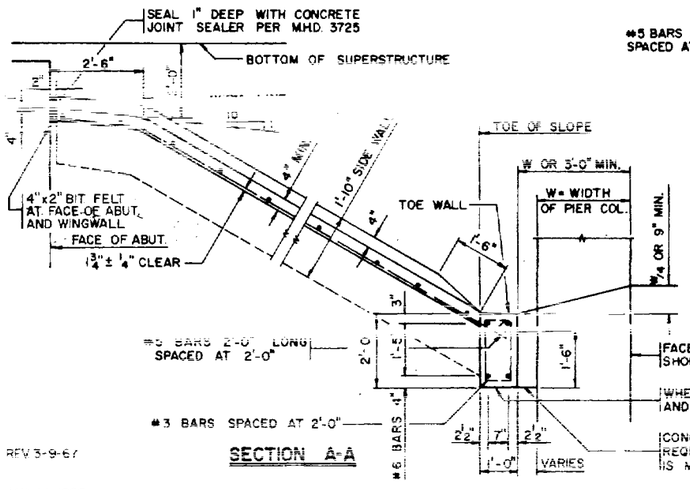
LAYOUTS BETWEEN BRIDGES FOR SLOPES STEEPER THAN 2:1

CONSTRUCTION NOTES

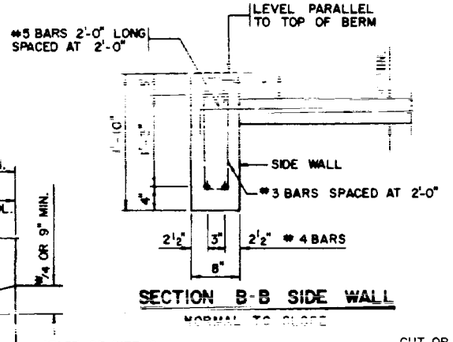
The slope paving shall be constructed of cast-in-place concrete, in accordance with the applicable sections of MHD 2401, and the following:

1. The concrete shall be any mix of Type B, Grade A or stronger as provided in
2. Metal reinforcement shall conform to MHD 3301. Lap 20 diame
3. [illegible] the approach embankments constructed by others, he may order that the dimensions shown for the berm (see upper left of Section A-A) be revised to the extent necessary to construct the slope without hauling additional material. Such revision should, however, be limited to a decrease of not more than three inches, as applied to the height and/or width of the berm.
   In the event additional fill is required in order to conform to the slope lines staked by the Engineer, on approach embankments completed by others, the cost of furnishing, hauling, placing and compacting additional material ordered by the Engineer will be paid for as Extra Work.
   In the event the Engineer determines that an excess of material is present on approach embankments completed by others, he may order that the width of the berm be increased to the extent necessary to utilize such material, but not by more than 1'-6".
   Excess material, beyond that which is required to dress the slope to true lines and to the grades staked by the Engineer, shall be used as directed by the Engineer for purposes such as widening the shoulders adjacent to the sidewalls, flaring out these shoulders, and shaping up adjacent side slopes. The disposal of excess material, except material deposited by the Contractor during excavation for substructure units or related work, which can not be incorporated into the slopes as hereinbefore defined, and which the Engineer directs to be hauled from the site, will be paid for as Extra Work.
   Any revision in berm grades and dimensions should be applied uniformly for the full length of the berm. Coordination will be required.
4. [illegible] shall be in place before casting remainder of slope paving.
5. Slope paving shall, in general, be placed in equal alternate vertical strips with a maximum width of 6 ft. The strips shall be cut into sections by grooves [illegible] not exceeding 6 ft. and shall be at right angles to the center. Under pavement, the strips and grooves will be considered as directed by the Contractor. Subgrade shall be moist when concrete is placed.
6. The forms shall be set to accurate grade and alignment, and shall be rigidly supported. Deviations of greater than 1/4" from a ten-foot straight edge shall be corrected.
7. Care shall be taken in placement of concrete so as not to disturb the grade on which it is placed, or to contaminate the concrete.
8. Sufficient hand spading and/or tamping shall be done to secure a dense paving relatively free of voids and honeycomb.
9. The top surface shall be struck off immediately after placing the concrete. When the concrete has set sufficiently to hold its shape, it shall be struck off again, after which it shall be given a final finish by hand floating with a cork or wooden float. The finished appearance shall be reasonably smooth and uniform. The finished concrete shall not vary more than 3/8" from a ten-foot straight edge.
10. All edges shall be finished with an edger unless otherwise noted. Grooves shall be cut using a sidewalk grooving tool. The trails left by the flanges of these tools shall be removed by floating.
11. The concrete shall be cured for at least 72 hours after casting by any of the methods outlined in MHD 2401.3G2, except Earth Cover.
12. Reinforcement shall be supported on concrete bricks or mortar blocks, or other support satisfactory to the Engineer.
13. [illegible] Where piers extend thru slope paving, provide 1/2" dia. felt around piers and seal 1" deep with concrete joint sealer MHD 3725.
15. Method of Measurement and Basis of Payment. See Special Provisions.

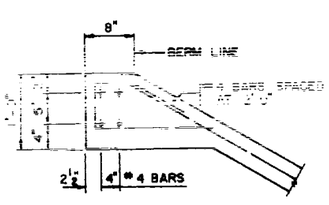
* VERTICAL CONSTRUCTION JOINTS MAY BE CONSTRUCTED PARALLEL TO ℄ OF BRIDGE FOR SKEWS TO 10° ONLY.
△ 1'-0" FOR TANGENT BRIDGE SUPERSTRUCTURES. VARIES 1'-0" MINIMUM FOR CURVED BRIDGE SUPERSTRUCTURES.



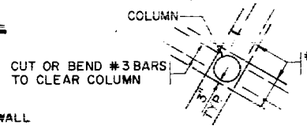
SECTION A-A



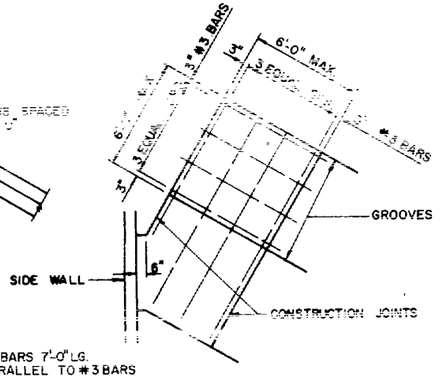
SECTION B-B SIDE WALL
NORMAL TO SLOPE



SECTION C-C TOP WALL



DETAIL WHERE PIER COLUMN EXTENDS THRU SLOPE PAVING



PAVING DETAIL

RFV 3-9-67

MAY 24, 1966

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55518

CLASS B SLOPE PAVING UNDER BRIDGES

APPROVED: [illegible]

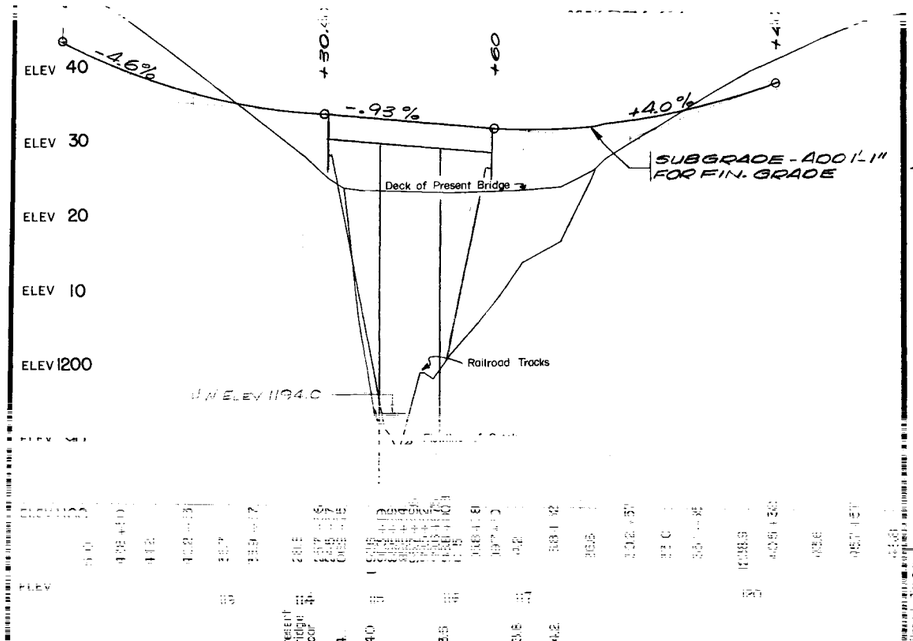
DES.	DR.	55518
CHK.	CHK.	

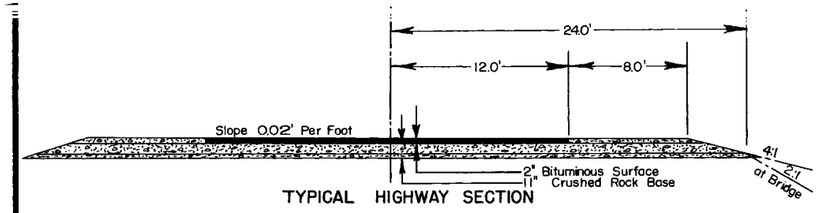
State Proj. No.

Sheet No. 19 **of** 21 **Sheets**

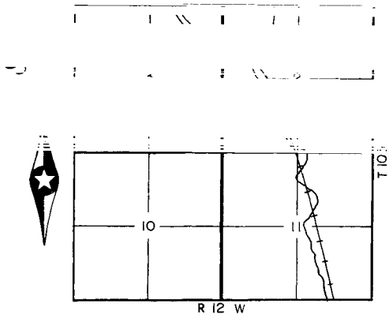
TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN





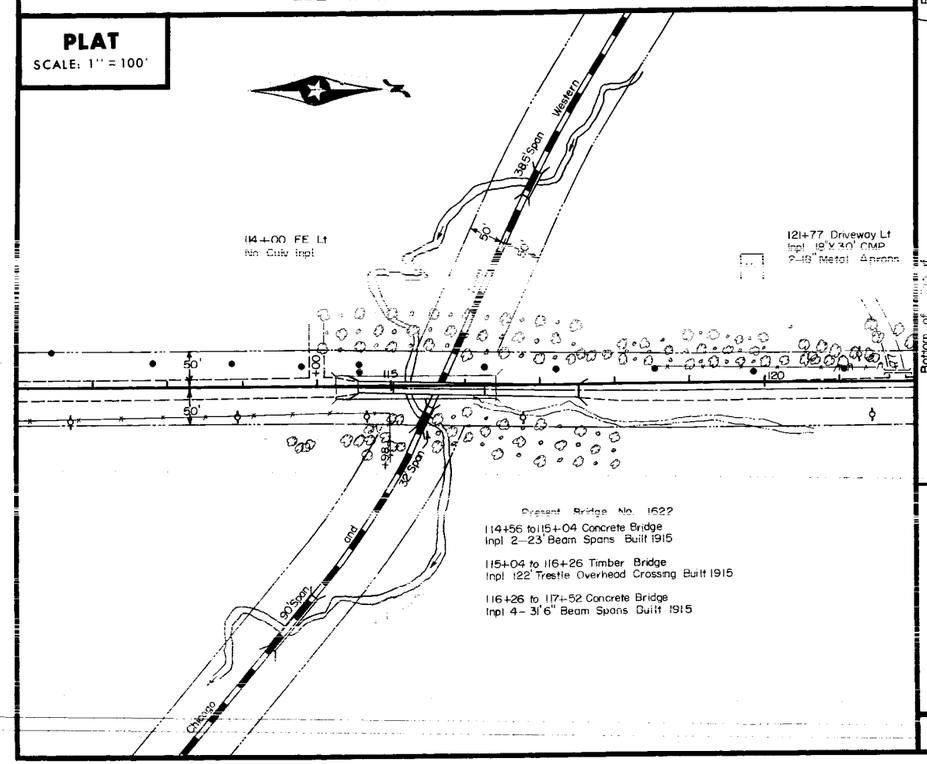
TYPICAL HIGHWAY SECTION

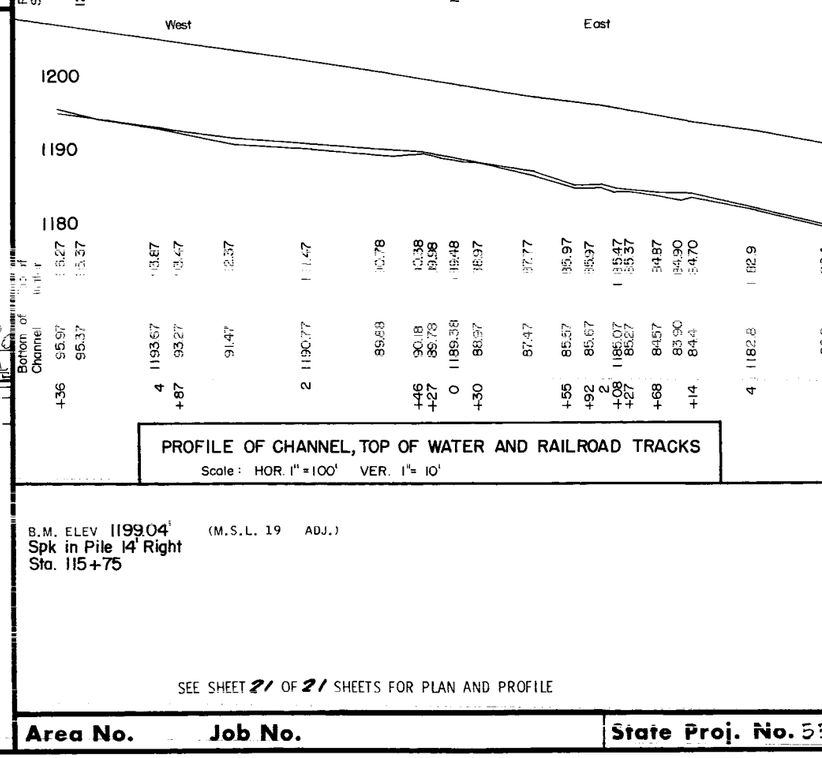


INDEX MAP
(FOUR SECTIONS)

PLAT

SCALE: 1" = 100'





PROFILE OF CHANNEL, TOP OF WATER AND RAILROAD TRACKS

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

B.M. ELEV 1199.04 (M.S.L. 19 ADJ.)
Spk in Pile 14' Right
Sta. 115+75

SEE SHEET 21 OF 21 SHEETS FOR PLAN AND PROFILE

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. 222'-0" CONT. BEAM SPAN
   b. Width of roadway on bridge. 32'-0"
   c. Number and width of sidewalks, if any. NONE
   d. Locate center of bridge at station
   e. If a skew bridge is recommended, the angle of skew should be
   f. Is piling required?
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, existing bridges, logging, etc.
3. Changes in height or length from that of old bridge, and reasons why
4. Other bridges in vicinity.
   Give name of stream (particularly structures which carry high water) whether [illegible]
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
8. Must contractor provide for traffic during construction of proposed bridge? No
   If so, by what means?

   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

HYDRAULIC ENGINEERS RECOMMENDATION

HIGH AND LOW WATER ELEVATIONS

Data obtained from reflects high water elevation in the area of this construction to be 1194.0 and the lowest water elevation to be 1191.5. 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.

SIDING POINT

Proposed Bridge is 4.0 miles SW of
Eyota 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 4.0 MILES SW OF
Eyota (TOWN OR CITY) ON C.S.A.H. 7 (■ C.S.A.H. ▬ NUMBER)
SEC 28 3 TWP. 105N R. 12W
TOWNSHIP Orion COUNTY Olmsted
SURVEY MADE DURING MONTH OF June 19 66
SURVEY MADE BY Duane Goodman
BRIDGE NO. 55516

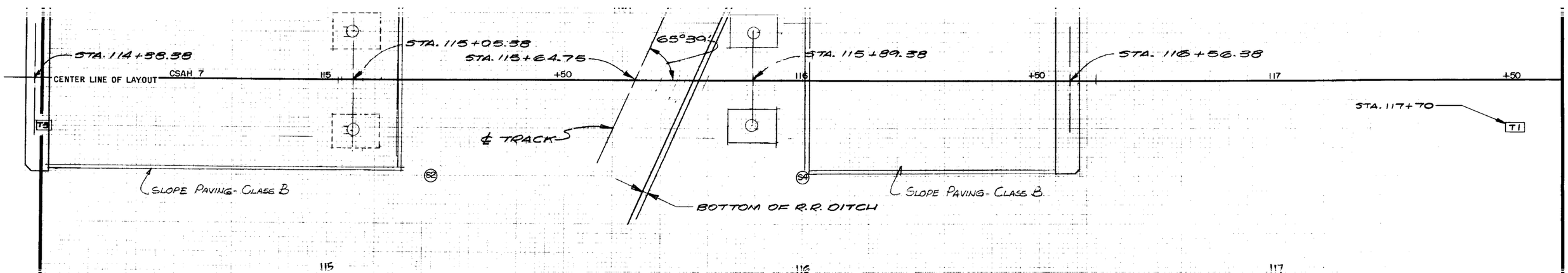
Fed. Proj. No. S62-62(3)

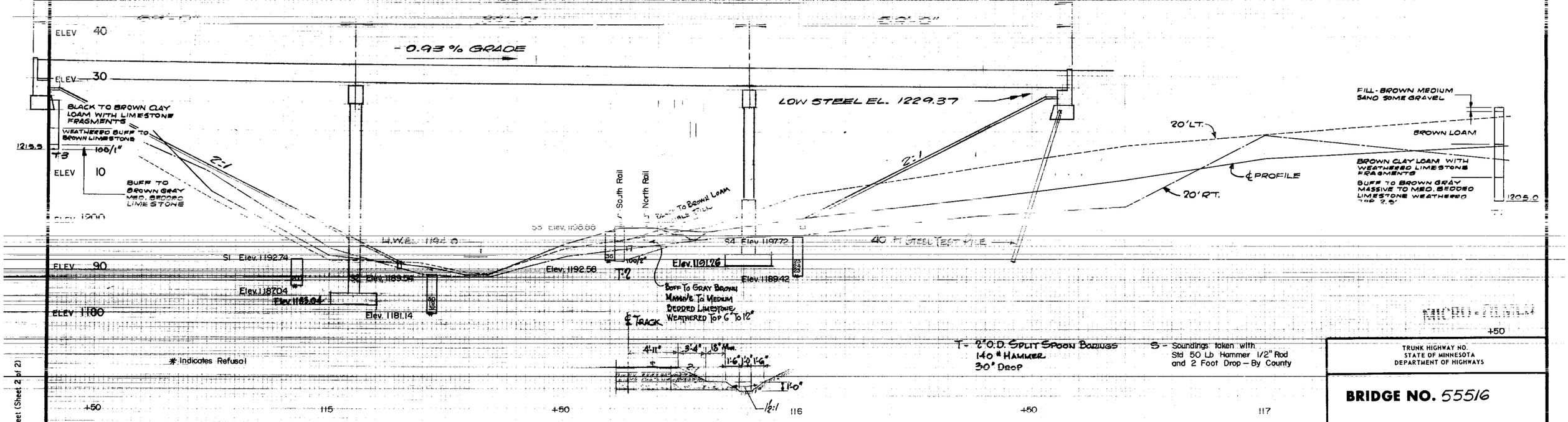
Area No. Job No. State Proj. No. 55-607-02 (C.S.A.H. #7) Sheet No. 20 of 21 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

Fed. Proj. No. S 62-62(3)

SCALE: 1" = 10'





TYPICAL DITCH SECTION

T - 2" O.D. Split Spoon Borings
140 # Hammer
30" Drop

S - Soundings taken with Std 50 Lb Hammer 1/2" Rod and 2 Foot Drop — By County

B.M. ELEV 1199.04' (M.S.L. 19 ADJ.)
Spk in Pile 14' Right
Sta. 115+75

BORINGS SHOWN [T] TAKEN WITH
STD. 140 LB. HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55516

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO 20 FOR ADDITIONAL INFORMATION

Bridge Survey Sheet (Sheet 2 of 2)

State Proj. No. 55-607-02 (C.S.A.H. 7)

Sheet No. 21 **of** 21 **Sheets**