MN. PROJ. NO.

MINNESOTA DEPARTMENT OF TRANSPORTATION
OLMSTED COUNTY
CONSTRUCTION PLAN FOR BRIDGE NO. 55559

LOCATED 0.5 MI. NORTH OF THE JCT. WITH CSAH 9 ON NB. CSAH 22 OVER SILVER CREEK (Geographical Description)

SEC. 31 TWP. 107N R 13W (Legal Description)

STATE PROJ. NO.

GROSS LENGTH	FEET	MILES
BRIDGES–LENGTH	FEET	MILES
EXCEPTIONS–LENGTH	FEET	MILES
NET. LENGTH	FEET	MILES

STATE AID PROJ. NO. 55–622–23

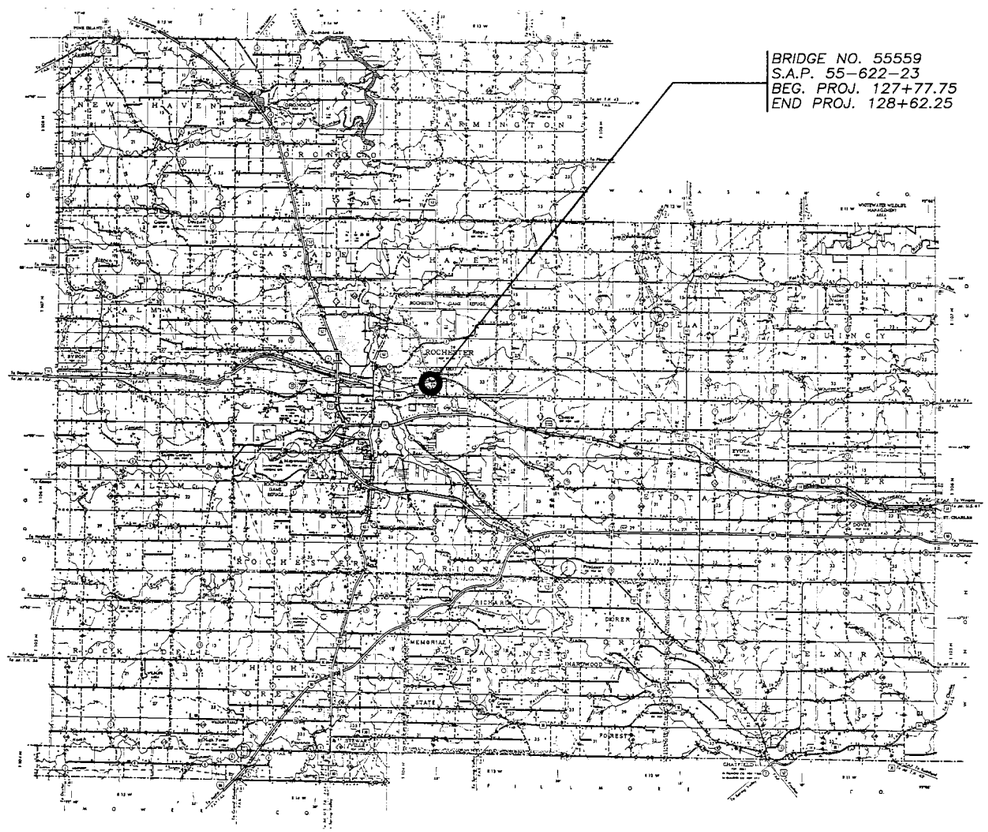
GROSS LENGTH 141.50	FEET	0.027 MILES
BRIDGES–LENGTH 84.50	FEET	0.016 MILES
EXCEPTIONS–LENGTH	FEET	MILES
NET. LENGTH 144.50	FEET	0.027 MILES

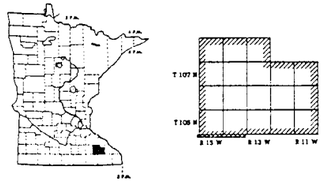
GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMMENDED BY THE MAY 2, 1994 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

LIST OF SHEETS

NO.	TITLE
1	TITLE SHEET
2	GENERAL PLAN & ELEVATION
3	BRIDGE LAYOUT
4&5	ABUTMENT DETAILS
6	PIER DETAILS
7&8	SUPERSTRUCTURE DETAILS
9	CONCRETE RAIL DETAILS TYPE J
10	APPROACH PANEL DETAIL
11	DETAILS
12	BRIDGE SURVEY
13	BRIDGE SURVEY PLAN & PROFILE





DESIGN DESIGNATION

$\leq N18_{20}$
R VALUE
ADT (Current Year 1995) 6280
PROJ. ADT (2015) 10677
PROJ. HCADT
SOIL FACTOR
TON DESIGN

Design Speed 55 MPH
Based on 550' Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at:

STA.	TO STA.	MPH
STA.	TO STA.	MPH
STA.	TO STA.	MPH

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 3-27-95 REG. NO. 27666 ENGR. Dale Drake

Recommended for Approval Michael Shaker 3-28 19 95
COUNTY ENGINEER

Recommended for Approval W.G. Simmett 3/29 19 95
DISTRICT STATE AID ENGINEER

Recommended for Approval 4 19 95
STATE AID PLANS & SPECS ENGINEER

Recommended for Approval Donald J. Flemming 3-31 19 95
STATE BRIDGE ENGINEER

Approved 4/7 19 95 Julie Skallman
for STATE AID ENGINEER

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
SLOPE EASEMENT
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
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F - FRAME C - CONCRETE
S - STONE T - TILE
B - BRICK ST - STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITIES SYMBOLS

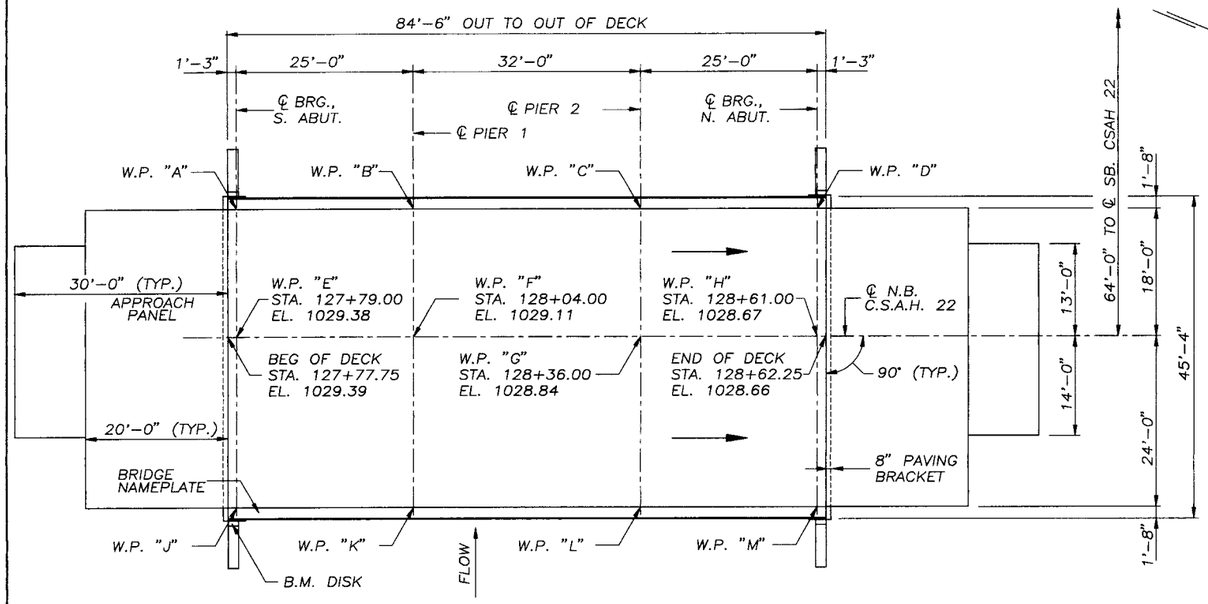
POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE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

ERICKSON ENGINEERING
Consulting Engineers

STATE AID PROJ. NO. 55–622–23

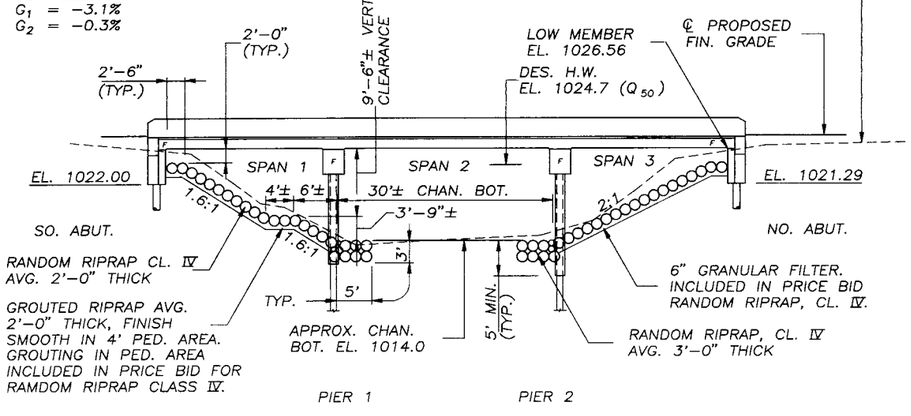
STATE PROJ. NO.

SHEET NO. 1 OF 13 SHEETS

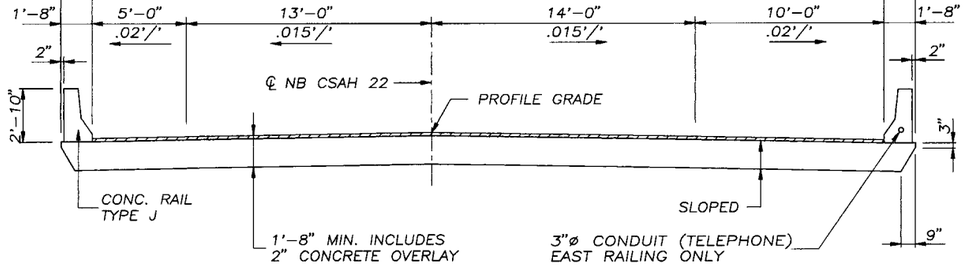


PLAN
SCALE: 3/32"=1'-0"

VERTICAL CURVE DATA:
L = 400'
M = 1.40'
P.I. STA. 127+00.00
EL. 1029.10
G_1 = −3.1%
G_2 = −0.3%



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



TRANSVERSE SECTION THRU DECK
SCALE: 1/4"=1'-0"

B.M. ELEV. 1029.13 (M.S.L. 1929 Adj.)

LOCATION:
BRASS DISK S.E. CORNER WINGWALL BRIDGE 55548, S.B. C.S.A.H. 22

CONSTRUCTION NOTES

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE MAY 2, 1994 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE. BARS MARKED WITH THE SUFFIX E SHALL BE EPOXY COATED.

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

NOTE:
ABUTMENT PILES ARE TO BE HP10X42 STEEL H-PILES.
PIER PILES ARE TO BE HP10X57 STEEL H-PILES ENCASED IN STEEL PILE SHELLS, 16"ø.

DESIGN DATA

1992 & INTERIM A.A.S.H.T.O. DESIGN SPECIFICATIONS
LOAD FACTOR DESIGN METHOD ~ HS25 LOADING
INCLUDES 17 PSF DEAD LOAD ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.

MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE:
f'c = 4000 PSI n = 8
fy = 60000 PSI REINFORCEMENT
STRUCTURAL STEEL:
fy = 36000 PSI SPEC. 3306

DECK AREA = 3831 SQ. FT.
A.D.T. = 10677 (2015)
OPERATING RATING = HS 56

LIST OF SHEETS

NO.	TITLE
1	TITLE SHEET
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3	BRIDGE LAYOUT
4	ABUTMENT DETAILS
5	ABUTMENT REINFORCEMENT
6	PIER DETAILS
7&8	SUPERSTRUCTURE DETAILS
9	CONCRETE RAIL (TYPE J)
10	APPROACH PANEL DETAIL
11	DETAILS
12	BRIDGE SURVEY
13	BRIDGE SURVEY ~ PLAN & PROFILE

SCHEDULE OF QUANTITIES FOR THE ENTIRE BRIDGE

ITEM NO.	2021.501	2401.501	2401.512	2401.513	2401.541	2404.501	2452.510	2452.511	2452.520	2452.510	2452.511	2452.520	2511.501	0452.604	0452.602
ITEM	MOBILIZATION	STRUCTURE CONCRETE (3Y43)	BRIDGE SLAB CONCRETE (3Y36)	TYPE J RAILING CONCRETE (3Y46A)	REIN-FORCEMENT BARS (EPOXY COATED)	CONCRETE OVERLAY TYPE 3U17A	STEEL H-PILING DRIVEN 10X42	STEEL H-PILING DELIVERED 10X42	STEEL H-TEST 50' PILES, DELIVERED 10X42	STEEL H-PILING DRIVEN 10X57	STEEL H-PILING DELIVERED 10X57	STEEL H-TEST 50' PILES, DELIVERED 10X57	RANDOM RIPRAP, CLASS IV	STEEL PILE SHELLS, 16"ø	PILE TIP PROTECTION 10"
QUANTITY	1	94 (P)	3831 (P)	169 (P)	49,430 (P)	3549 (P)	320	320	2	400	400	2	400	180	22
UNIT	LUMP SUM	CU. YD.	SQ. FT.	LIN. FT.	POUND	SQ. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	CU. YD.	LIN. FT.	EACH

ITEM NO.	0401.601	0401.601	0301.601	2545.509
ITEM	STRUCTURE EXCAVATION	SLOPE PREPARATION	BRIDGE APPROACH PANEL	CONDUIT SYSTEM (TELEPHONE)
QUANTITY	1	1	2	1
UNIT	LUMP SUM	LUMP SUM	EACH	LUMP SUM

APPROVED:
Michael J. Sheehan
COUNTY ENGINEER
OLMSTED COUNTY

DATE: 3-28-95

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.

Dale Drews
REG. NO. 20666

DATE: 3-27-95

PLANS PREPARED BY:
ERICKSON ENGINEERING
3340 REPUBLIC AVENUE
ST.LOUIS PARK, MN 55426

NB CSAH 22 OLMSTED COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

LOCATED 0.5 MILES NORTH OF JUNCTION CSAH 9 ON NB CSAH 22 OVER SILVER CREEK.

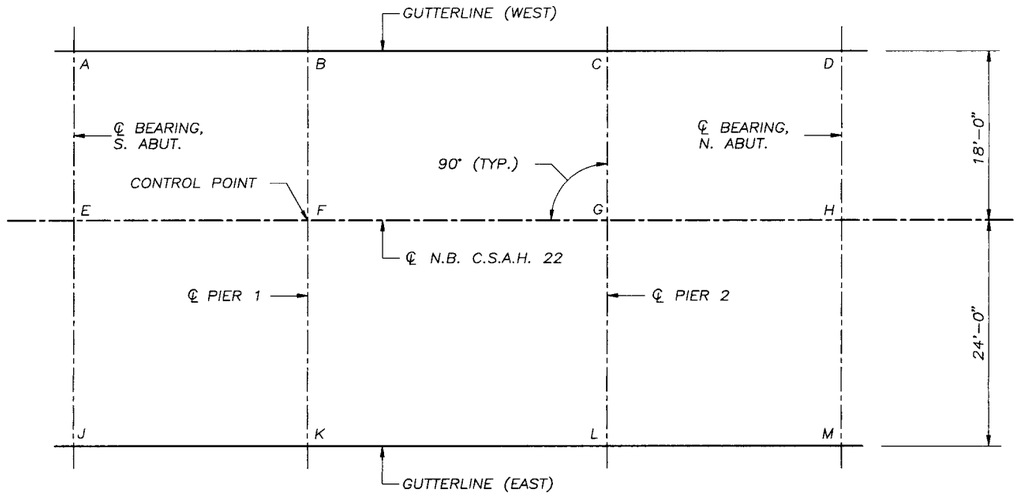
25'-32'-25' CONTINUOUS CONCRETE SLAB SPANS ~ 42 FT. ROADWAY
SPAN IDENT NO. 209

GENERAL PLAN & ELEVATION

SEC. 31 TWP. 107N R 13W

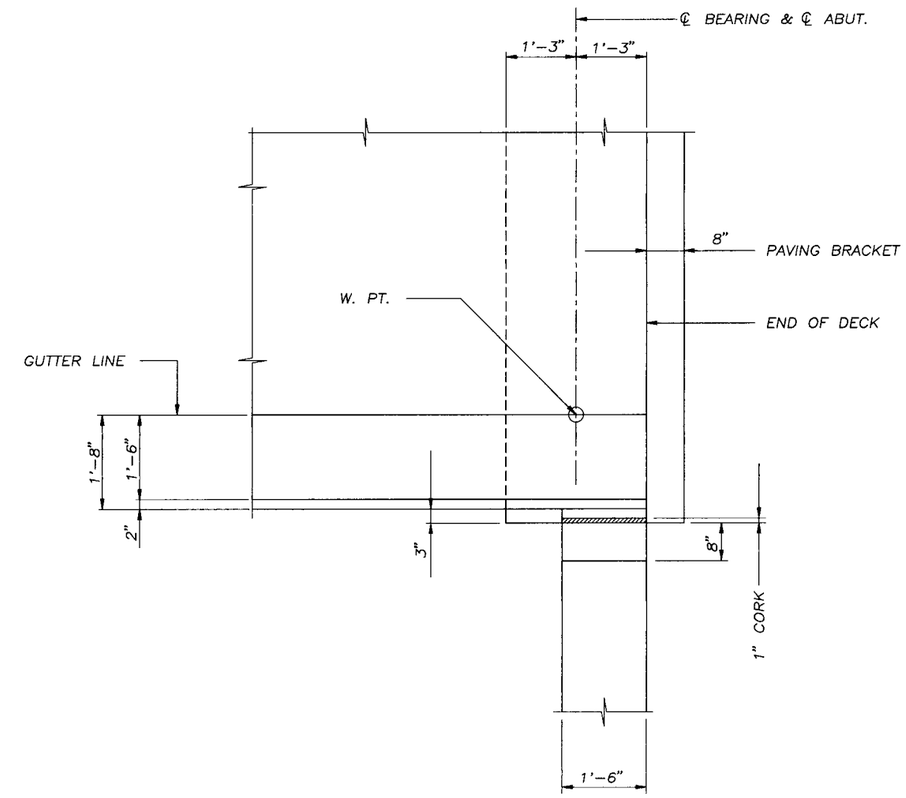
CITY: ROCHESTER
COUNTY: OLMSTED

APPROVED: Donald J. Flemming
3-31-95 STATE BRIDGE ENGINEER



LAYOUT SHOWING WORKING POINTS

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



TYPICAL CORNER DETAILS

SCALE: 3/4"=1'-0"

DIMENSIONS BETWEEN WORKING POINTS														ELEVATIONS			
POINT	STATION	A	B	C	D	E	F	G	H	J	K	L	M	TOP OF SLAB	SLAB TO BRIDGE SEAT	BRIDGE SEAT	POINT
A	127+79.00		25.00			18.00	30.81	59.77			48.88	70.80		1029.08	1.92	1027.16	A
B	128+04.00			32.00		30.81	18.00	36.72	59.77	48.88		52.80	70.80	1028.81	1.81	1027.00	B
C	128+36.00				25.00	59.77	36.72	18.00	30.81	70.80	52.80		48.88	1028.54	1.81	1026.73	C
D	128+61.00						59.77	30.81	18.00		70.80	48.88		1028.37	1.92	1026.45	D
E	127+79.00						25.00			24.00	34.66	61.85		1029.38	1.92	1027.46	E
F	128+04.00							32.00		34.66	24.00	40.00	61.85	1029.11	1.81	1027.30	F
G	128+36.00								25.00	61.85	40.00	24.00	34.66	1028.84	1.81	1027.03	G
H	128+61.00										61.85	34.66	24.00	1028.67	1.92	1026.75	H
J	127+79.00										25.00			1028.96	1.92	1027.04	J
K	128+04.00											32.00		1028.69	1.81	1026.88	K
L	128+36.00												25.00	1028.42	1.81	1026.61	L
M	128+61.00													1028.25	1.92	1026.33	M

Dale Drave 3-27-95

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

BRIDGE LAYOUT

APPROVED: 3-31-95

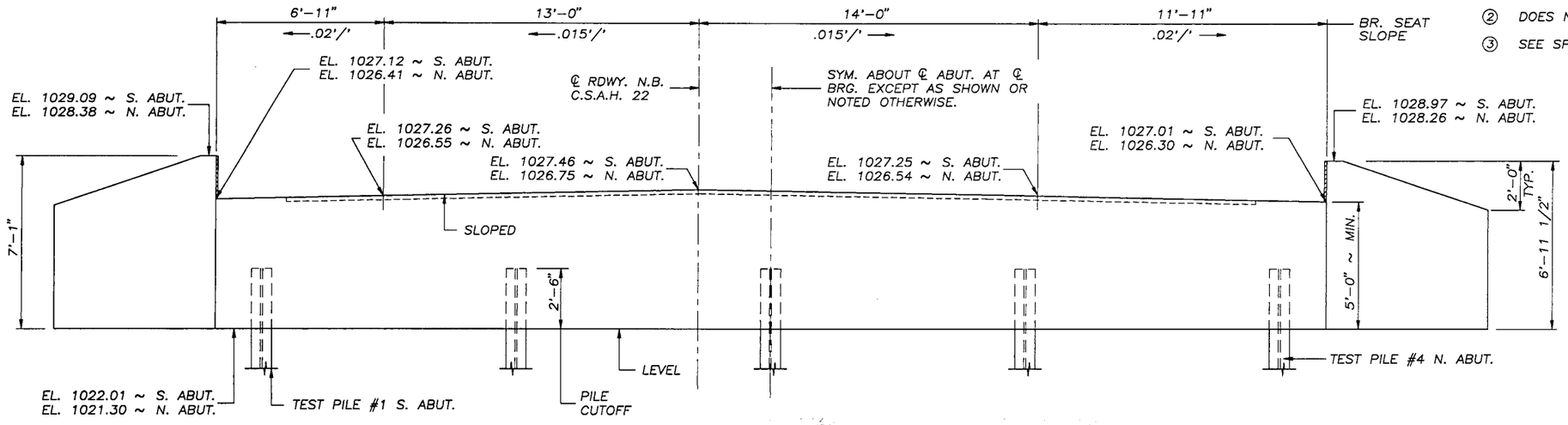
S.A.P. 55-622-23	55559	DM
SHEET 3 OF 13 SHEETS		DAD

SUMMARY OF QUANTITIES ~ 2 ABUTMENTS		
STRUCTURE CONCRETE (3Y43)	57	CU. YD.
REINFORCEMENT BARS (EPOXY COATED)	5810	POUND
③ STRUCTURE EXCAVATION	1	LUMP SUM
① B.M. DISK (STANDARD PLATE NO. 9300)	1	EACH
② STEEL H-PILING DELIVERED, 10X42	320	LIN. FT.
② STEEL H-PILING DRIVEN, 10X42	320	LIN. FT.
STEEL H-TEST PILE, 50' LG., 10X42	2	EACH
PILE TIP PROTECTION, 10"	10	EACH

① COUNTY WILL FURNISH DISK. PAYMENT FOR PLACING IS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

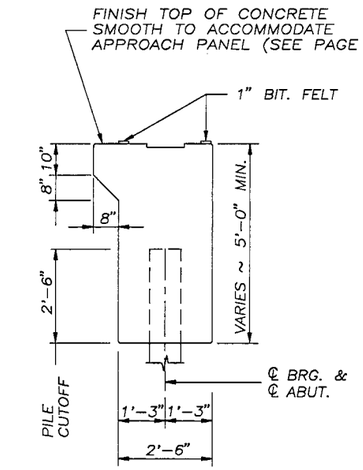
② DOES NOT INCLUDE TEST PILES.

③ SEE SPECIAL PROVISIONS.



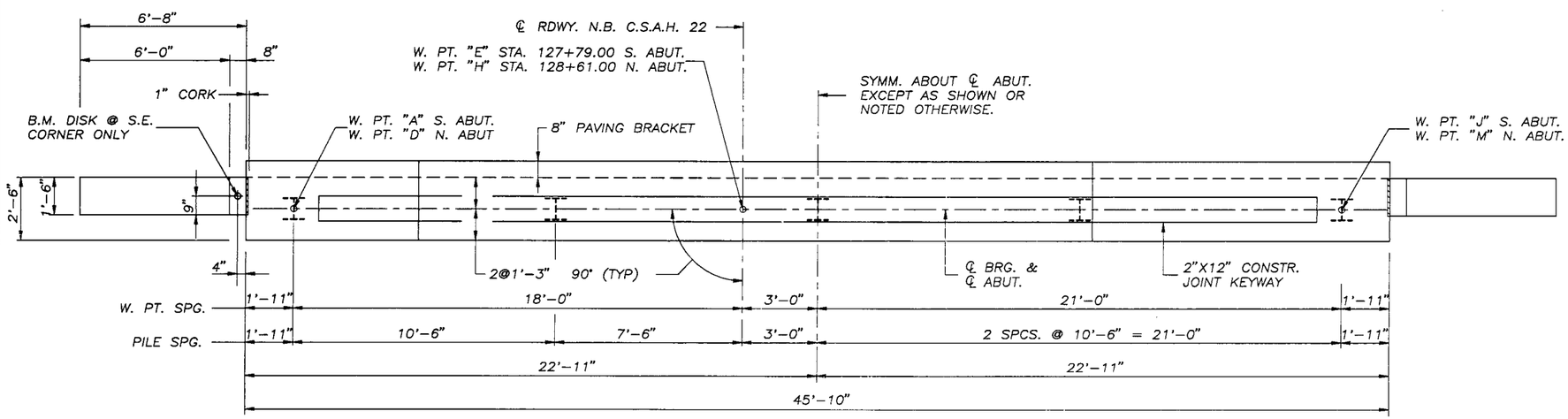
ELEVATION (N. ABUT. SHOWN)

SOUTH ABUT. IS MIRROR IMAGE
SCALE: 3/8"=1'-0"



SECTION THRU ABUTMENT

SCALE: 1/2"=1'-0"



PLAN

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

COMPUTED PILE LOADS ~ TONS PER PILE AT ABUTMENTS	
DEAD LOAD	31.5
LIVE LOAD	14.6
TOTAL	46.1

PILE NOTES:

8 – STEEL H-PILES, 40' EST. LGTH.
2 – STEEL H-TEST PILE, 50' LONG
10 – STEEL H-PILES REQ'D FOR 2 ABUTS.

ALL PILES ARE TO BE STEEL HP 10X42.

SEE DETAIL B202 FOR SPLICES.

ALL PILES TO HAVE PILE TIP PROTECTION, SEE SPECIAL PROVISIONS.

SEE SURVEY SHEET FOR TEST PILE LOCATIONS.

Dan Drow
3-27-95

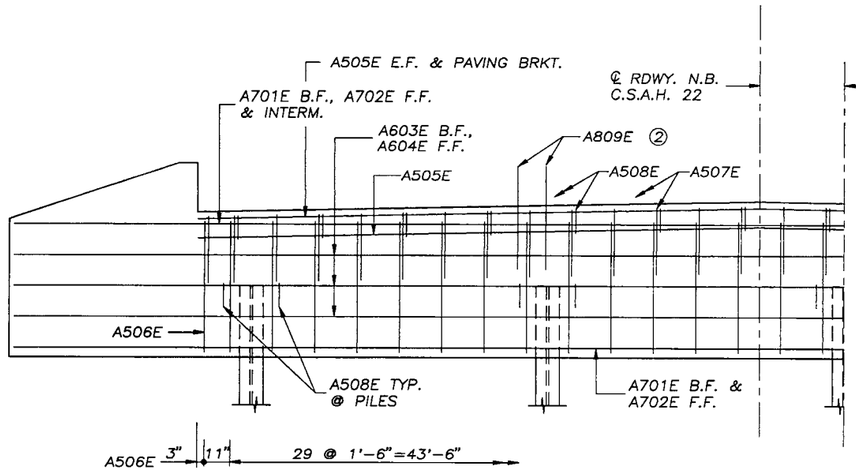
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

ABUTMENT DETAILS

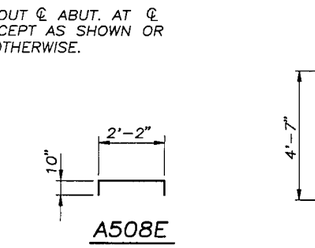
APPROVED: 3-31-95

S.A.P. 55-622-23	55559	DDP
SHEET 4 OF 13 SHEETS		DAD

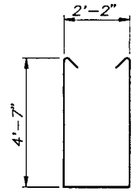


HALF ELEVATION (N. ABUT. SHOWN)

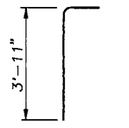
SOUTH ABUT. IS MIRROR IMAGE
SCALE: 3/8"=1'-0"



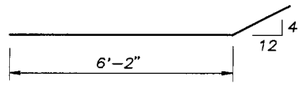
A508E



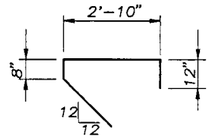
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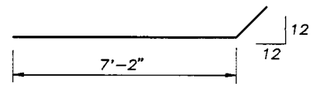
A809E



A513E



A507E

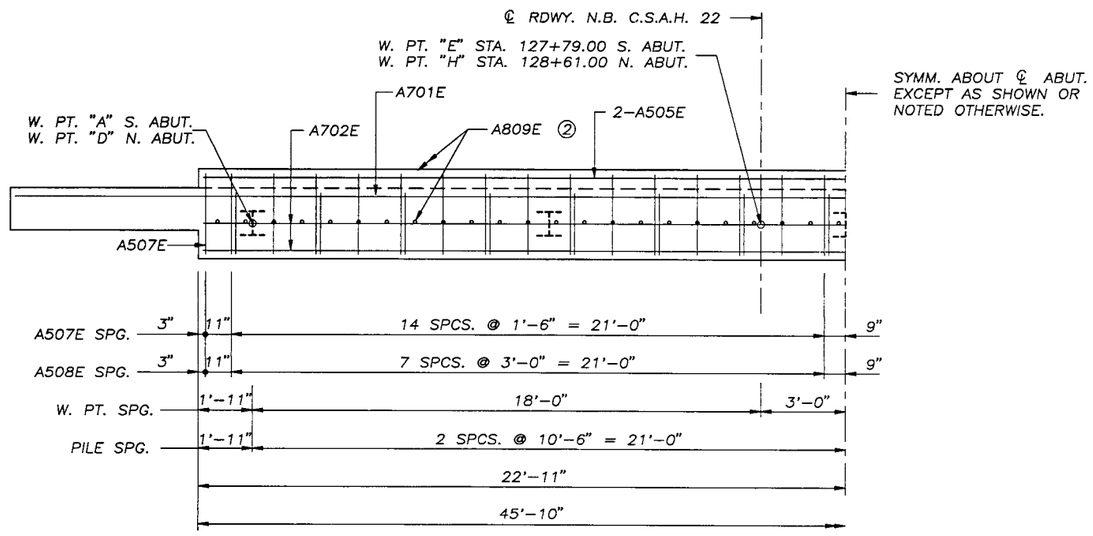


A616E

BILL OF REINFORCEMENT ~ 2 ABUTMENTS				
BAR	NO.	LENGTH	SHAPE	LOCATION
A701E	4	58'-10"	STRT.	CAP ~ HORIZONTAL
A702E	6	45'-6"	"	" "
A603E	6	58'-10"	"	" "
A604E	6	45'-6"	"	" "
A505E	8	45'-6"	"	" "
A506E	64	12'-3"	BENT	" ~ STIRRUP
A507E	64	6'-6"	"	" ~ TIE
A508E	52	3'-10"	"	" ~ TIE @ PILES
A809E	90	5'-3"	"	" " @ SLAB
A510E	8	6'-7"	STRT.	WINGWALL ~ VERTICAL
① A511E	12	11'-0"	"	" "
① A612E	12	11'-0"	"	" "
A513E	8	6'-8"	BENT	" ~ HORIZONTAL
A514E	8	3'-3"	STRT.	" "
A615E	8	8'-3"	"	" "
A616E	12	8'-7"	BENT	" "

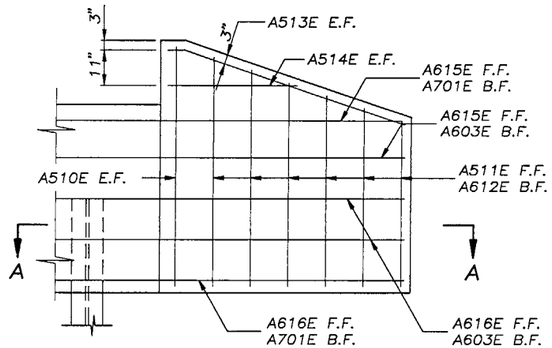
① CUT 2 FROM 1.

NOTE:
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE



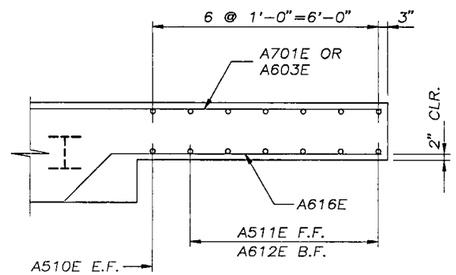
HALF PLAN

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



WINGWALL ELEVATION

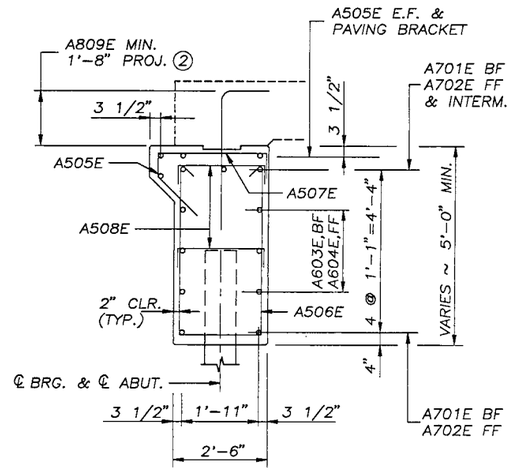
SCALE: 1/2"=1'-0"



SECTION A-A

SCALE: 1/2"=1'-0"

② PLACE A809E W/S509E SEE SHEET 7.



SECTION THRU ABUTMENT

SCALE: 1/2"=1'-0"

Dale D. Drave
3-27-95

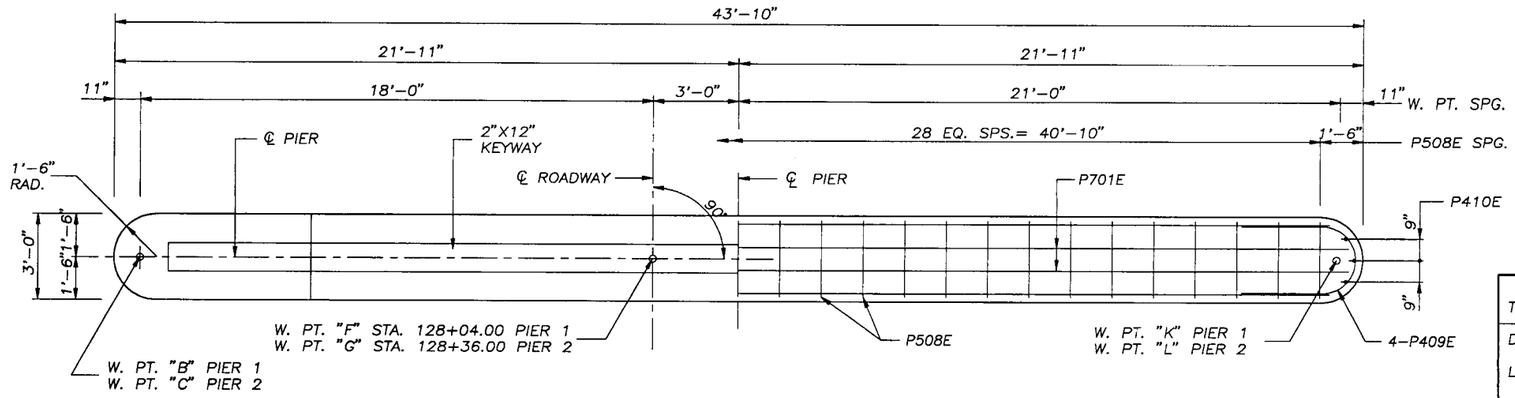
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

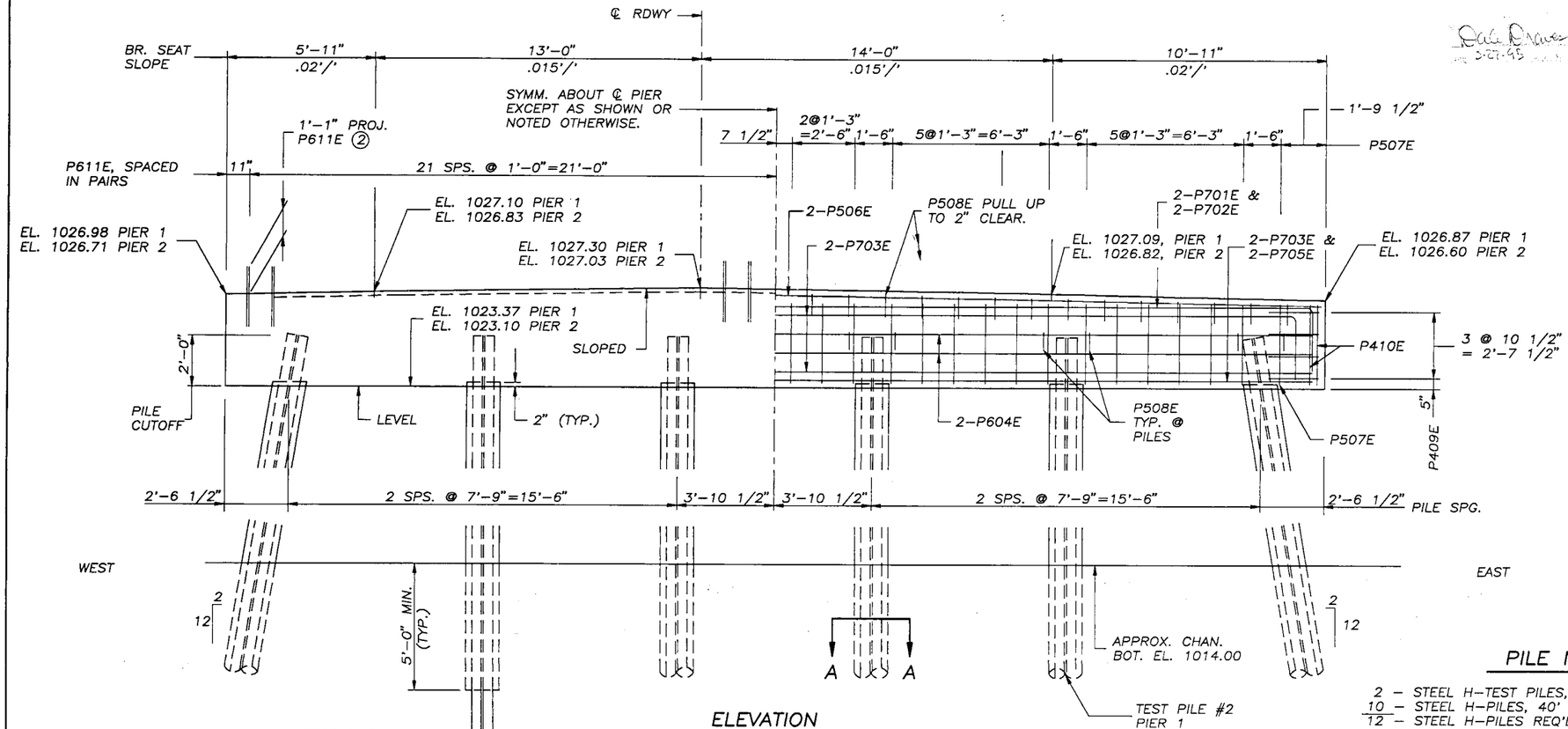
ABUTMENT DETAILS

APPROVED: 3-31-95

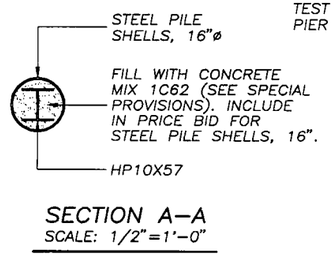
S.A.P. 55-622-23	55559	DDP
SHEET 5 OF 13 SHEETS		DAD



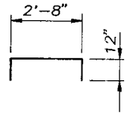
PLAN
SCALE: 3/8"=1'-0"



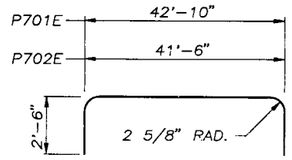
ELEVATION
SCALE: 3/8" = 1'-0"



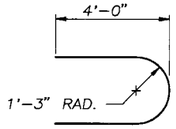
SECTION A-A
SCALE: 1/2"=1'-0"



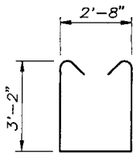
P508E



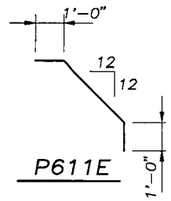
P701E & P702E



P409E



P507E



P611E

BILL OF REINFORCEMENT ~ 2 PIERS

BAR	NO.	LENGTH	SHAPE	LOCATION
P701E	4	47'-8"	BENT	CAP ~ LONGITUDINAL
P702E	4	46'-4"	"	" "
P703E	12	41'-0"	STRT.	" "
P604E	8	41'-0"	"	" "
P705E	4	42'-4"	"	" "
P506E	4	41'-6"	"	" "
P507E	64	9'-11"	BENT	" ~ STIRRUP
P508E	82	4'-8"	"	" ~ TIE
P409E	16	9'-6"	"	" ~ TIE @ ENDS
P410E	12	3'-2"	STRT.	" ~ VERTICAL @ ENDS
P611E	172	5'-4"	BENT	" ~ DOWEL

COMPUTED PILE LOADS TONS PER PILE ~ PIERS

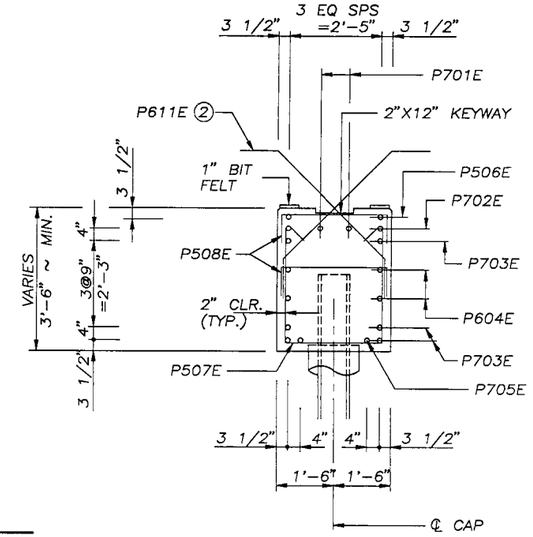
DEAD LOAD	40.3
LIVE LOAD	17.1
TOTAL	57.4

SUMMARY OF QUANTITIES ~ 2 PIERS

STRUCTURE CONCRETE (3Y43)	37	CU. YD.
REINFORCEMENT BARS (EPOXY COATED)	5350	POUND
(1) STEEL H-PILING DELIVERED, 10X57	400	LIN. FT.
(1) STEEL H-PILING DRIVEN, 10X57	400	LIN. FT.
STEEL H-TEST PILES 50' LONG, 10X57	2	EACH
STEEL PILE SHELLS, 16"ø	180	LIN. FT.
PILE TIP PROTECTION, 10"	12	EACH

(1) DOES NOT INCLUDE TEST PILES.

(2) PLACE 611E PARALLEL TO ℄ OF ROAD.



SECTION THRU CAP
SCALE: 1/2"=1'-0"

PILE NOTES

2 - STEEL H-TEST PILES, 50' LONG
10 - STEEL H-PILES, 40' EST. LGTH.
12 - STEEL H-PILES REQ'D FOR 2 PIERS

12 - STEEL PILE SHELLS (16"ø) 15' LONG.

ALL PILES ARE TO BE HP 10X57 STEEL H-PILES ENCASED IN 16"ø STEEL PILE SHELLS AS SHOWN.
PILE SPACING SHOWN IS AT BOTTOM OF CAP.
END PILES ARE TO BE BATTERED 2" PER FOOT IN DIRECTION SHOWN.
SEE DETAIL B202 FOR SPLICES.
STEEL PILE SHELLS ARE TO BE PAINTED PER SPEC. 2452.3.
ALL PILES TO HAVE PILE TIP PROTECTION, SEE SPECIAL PROVISIONS.
ALL PIER PILES TO BE DRIVEN TO ELEVATION 997.0 OR BELOW. IF MINIMUM ELEVATION CANNOT BE ACHEIVED, CONTRACTOR SHALL CONTACT THE ENGINEER.
SEE SURVEY SHEET FOR TEST PILE LOCATIONS.

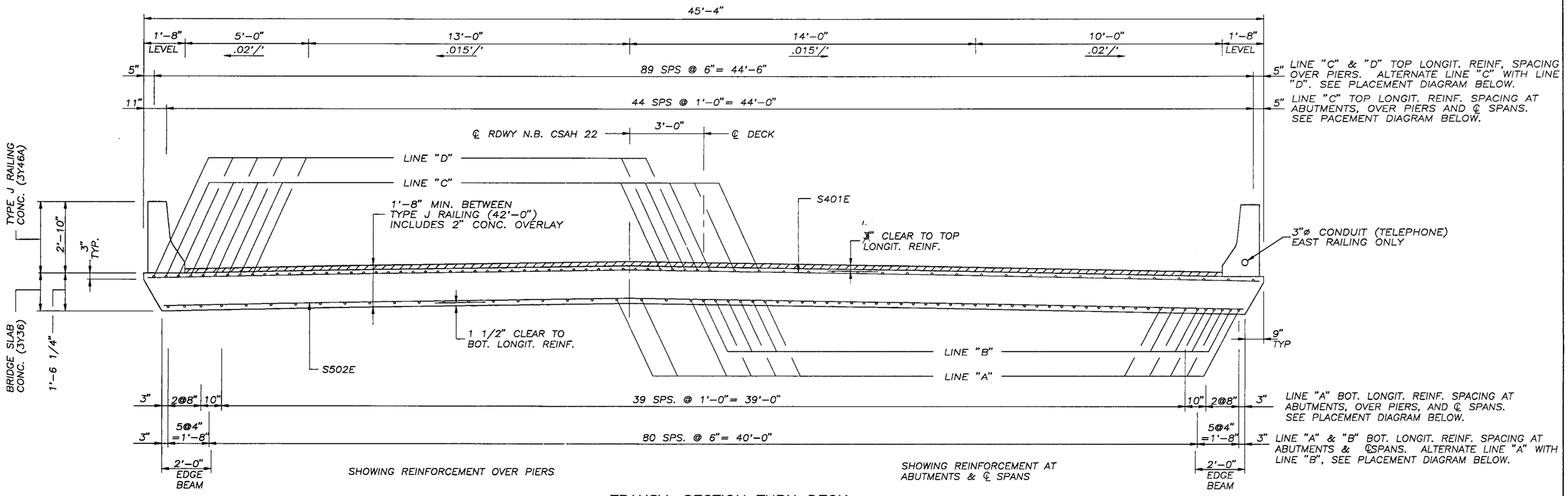
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

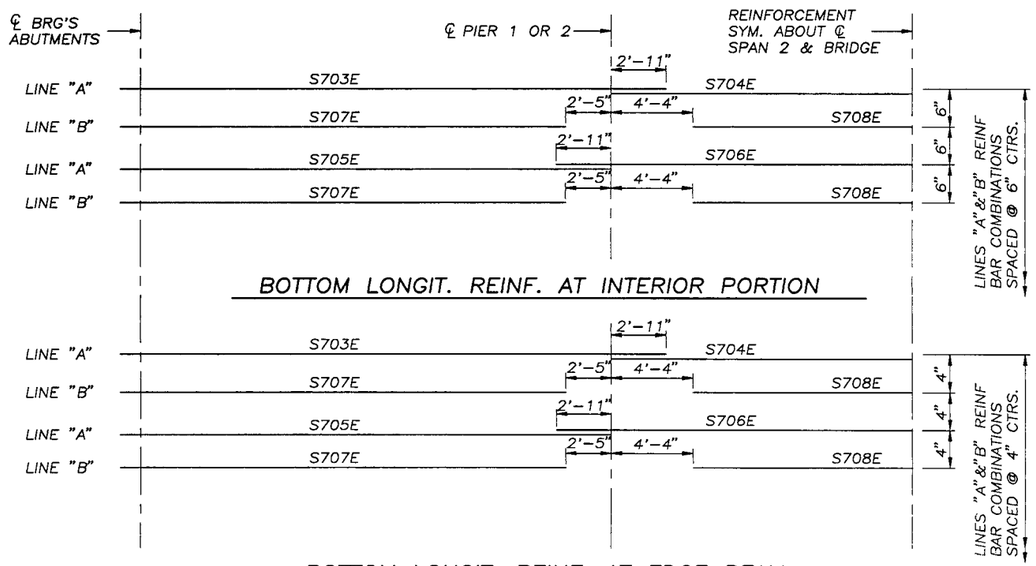
PIER DETAILS

APPROVED: 3-31-95

S.A.P. 55-622-23	55559	DDP
SHEET 6 OF 13 SHEETS		DAD



TRANSV. SECTION THRU DECK
SCALE: 1/2"=1'-0"



BOTTOM LONGIT. REINF. AT INTERIOR PORTION

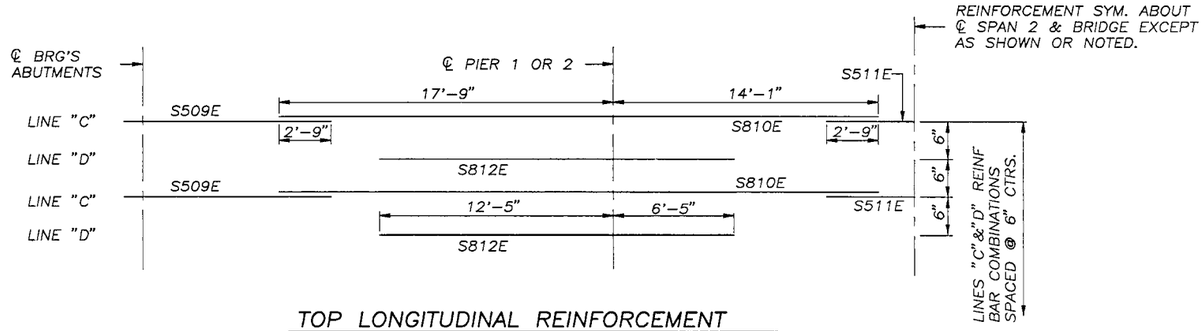
BOTTOM LONGIT. REINF. AT EDGE BEAM

LINE "A" REINF. AT EDGE BEAM & INTERIOR PORTION CONSISTS OF: S703E & S704E ALTERNATING WITH S705E & S706E.

LINE "B" REINF. AT EDGE BEAM & INTERIOR PORTION CONSISTS OF: S707E & S708E.

LINE "C" REINF. CONSISTS OF S509E, S810E & S511E..

LINE "D" REINF. CONSISTS OF 1-S812E OVER EACH PIER



TOP LONGITUDINAL REINFORCEMENT

PLACEMENT DIAGRAM FOR TOP & BOTTOM LONGITUDINAL REINFORCEMENT

Dale Drawe 3-27-95

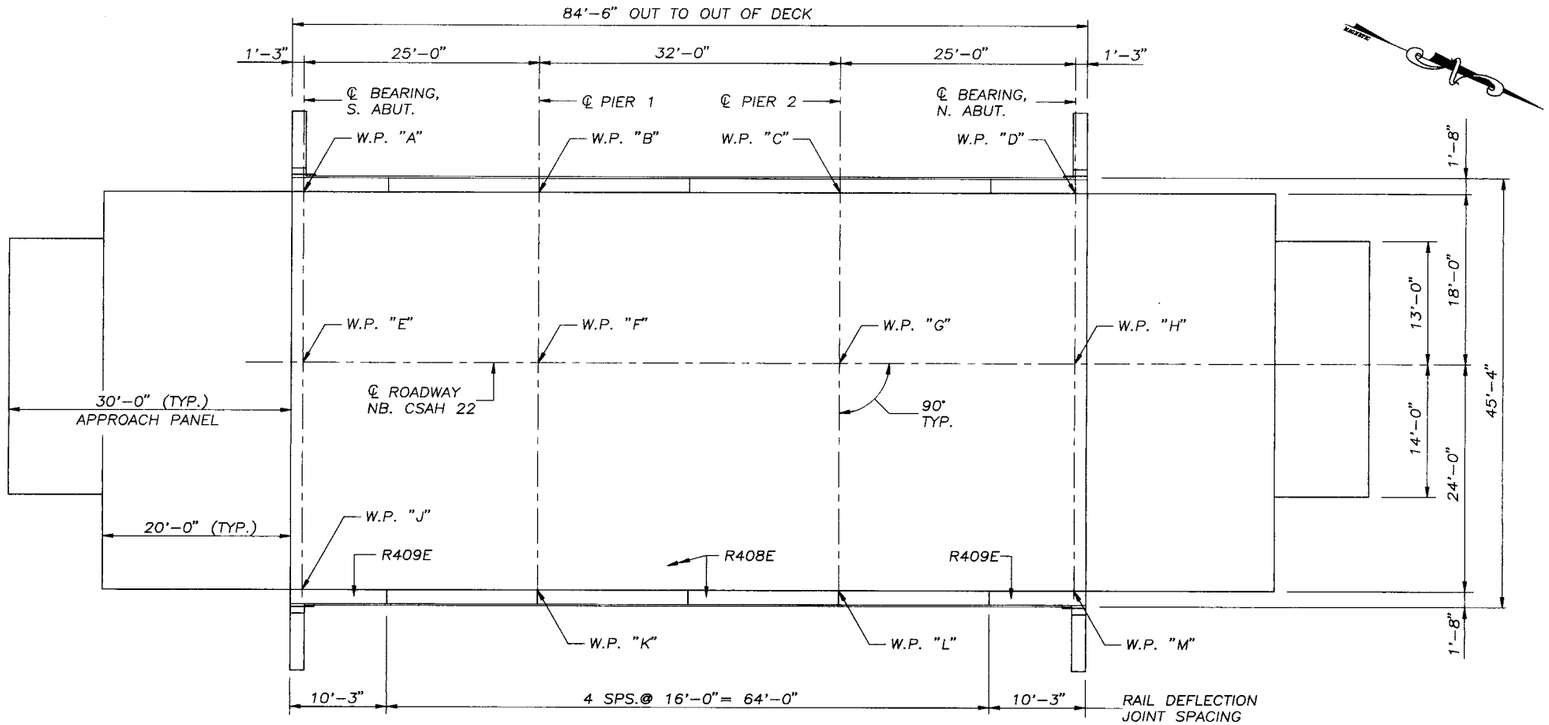
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

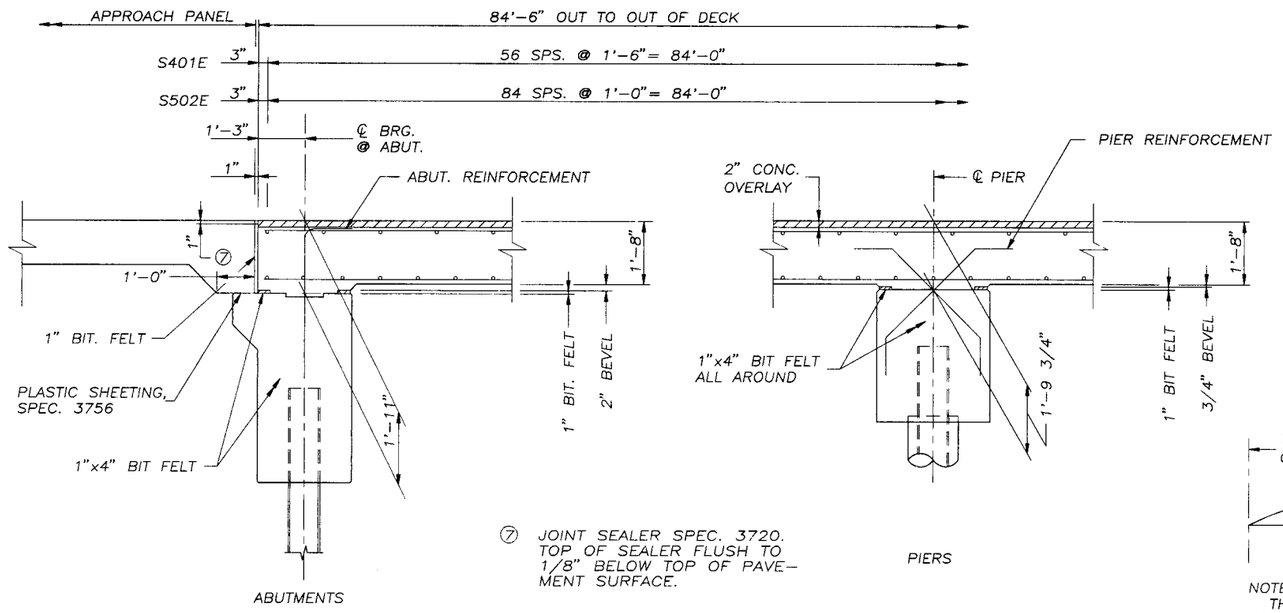
SUPERSTRUCTURE DETAILS

APPROVED 3-31-95

S.A.P. 55-622-23	55559	DDP
SHEET 7 OF 13 SHEETS		DAD

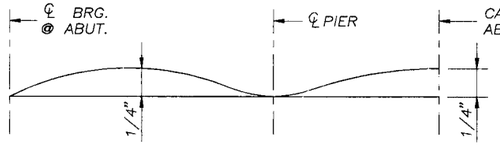


PLAN
SCALE: 1/8"=1'-0"



⑦ JOINT SEALER SPEC. 3720. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.

PART. LONGITUDINAL SECTION



NOTE:
THE ABOVE DIAGRAM SHOWS THE CAMBER REQUIRED FOR THE ANTICIPATED ULTIMATE DEAD LOAD DEFLECTION.

CAMBER DIAGRAM

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S401E	57	45'-0"	STRT.	SLAB ~ TRANSV. TOP
S502E	85	43'-8"	"	" " BOT.
S703E	46	29'-0"	"	" ~ LONGITUDINAL
S704E	23	32'-0"	"	" "
S705E	46	26'-1"	"	" "
S706E	23	37'-10"	"	" "
S707E	90	23'-8"	"	" "
S708E	45	23'-4"	"	" "
S509E	90	11'-1"	"	" "
S810E	90	31'-10"	"	" "
S511E	45	9'-4"	"	" "
S812E	90	18'-10"	"	" "

LIST OF PREFORMED JOINT FILLER

TYPE	LIN. FT.	SIZE	LOCATION
CORK	16'-0"	1"X11"	RAIL DEFLECTION JT.
"	8'-0"	1"X18"	ABUTMENT RECESS
BIT. FELT	176'-0"	1"X4"	PIER
"	184'-0"	1"X4"	ABUTMENT

SUMMARY OF QUANTITIES ~ SUPERSTRUCTURE

②	BRIDGE SLAB CONCRETE (3Y36)	3831	SQ. FT.
③	TYPE J RAILING CONCRETE (3Y46A)	169	LIN. FT.
	REINFORCEMENT BARS (EPOXY COATED)	38270	POUND
	CONCRETE OVERLAY, TYPE 3U17A	3549	SQ. FT.
⑤	COUNTY NAME PLATE (DETAIL B103)	1	
⑤ ④	PREFORMED JOINT FILLER (SEE LIST.)		
⑥ ④	CONDUIT SYSTEM, TELEPHONE	1	L. SUM

① INCLUDES RAIL QUANTITIES.

② APPROXIMATE VOLUME = 216 CU. YDS.

③ APPROXIMATE VOLUME = 19 CU. YDS.

④ SEE SPECIAL PROVISIONS.

⑤ INCLUDED IN PRICE BID FOR OTHER ITEMS.

⑥ INCLUDES 86 L.F. 3"ø R.S. CONDUIT AND 2– END CAPS (LAST 3" OF CONDUIT SHALL BE THREADED). ALL MATERIALS ARE TO BE F&I BY THE BRIDGE CONTRACTOR.

Dale Drawe
3-27-95

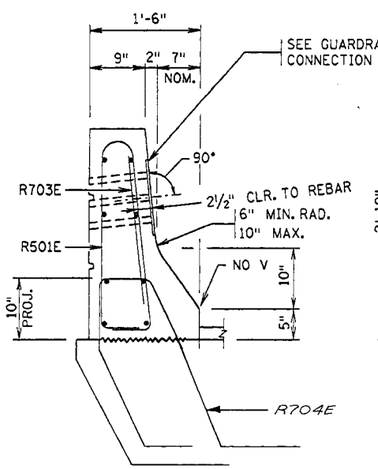
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55559

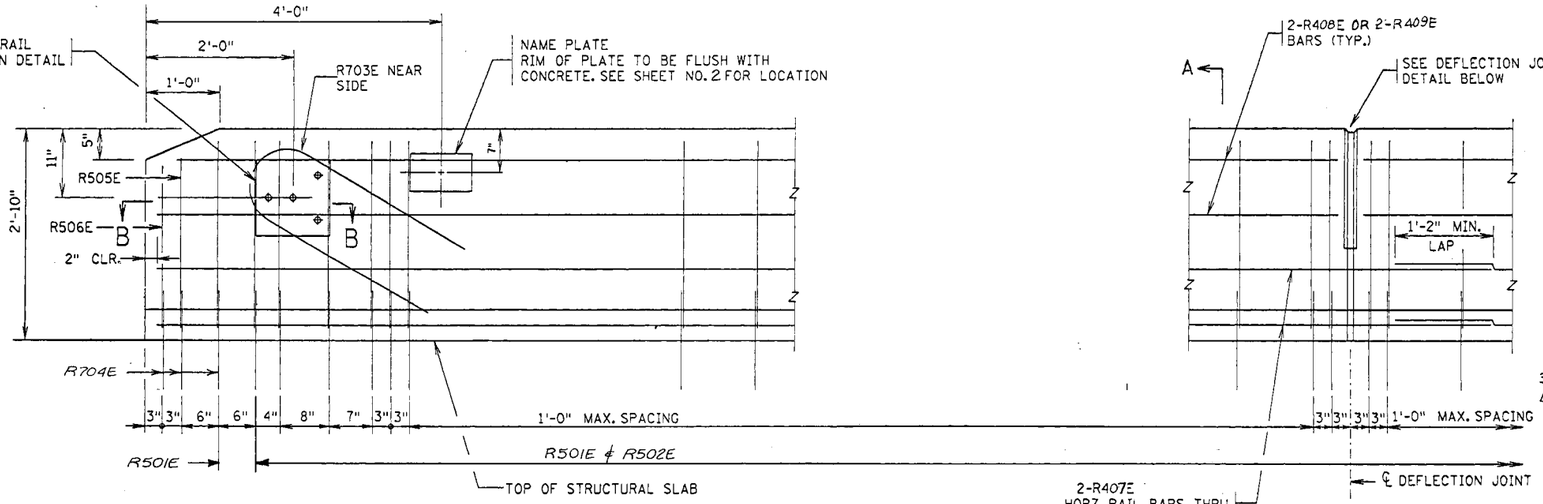
SUPERSTRUCTURE DETAILS

APPROVED: 3-31-95

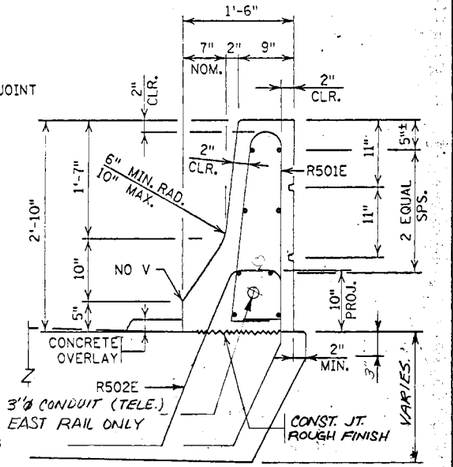
S.A.P. 55-622-23	55559	DDP
SHEET 8 OF 13 SHEETS		DAD



END VIEW



INSIDE ELEVATION OF RAILING

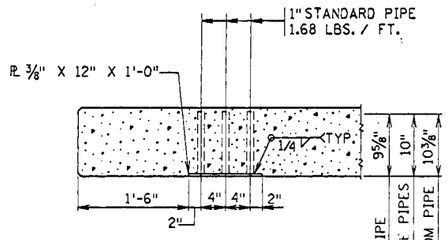


SECTION A-A

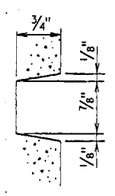
DEFLECTION JOINT

BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	204	6'-7"	BENT	RAIL VERT.
R502E	200	7'-2"	BENT	RAIL VERT.
R703E	4	6'-7"	BENT	RAIL VERT.
R704E	12	7'-2"	BENT	RAIL VERT.
R505E	4	6'-2"	BENT	RAIL VERT.
R506E	4	5'-11"	BENT	RAIL VERT.
R407E	24	28'-10"	STR'T.	RAIL HORZ.
R408E	32	15'-7"	STR'T.	RAIL HORZ.
R409E	16	9'-10"	STR'T.	RAIL HORZ.
~~R410E~~			~~STR'T.~~	~~RAIL HORZ.~~

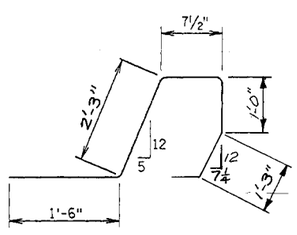
(1) 3 LINES W/ MIN. 1'-2" LAP.



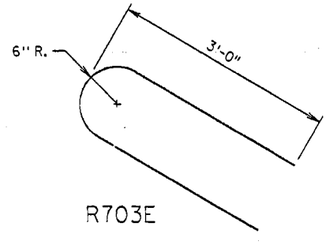
SECTION B-B
(REINFORCEMENT NOT SHOWN)



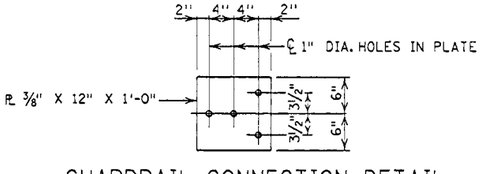
RAIL RUSTICATION



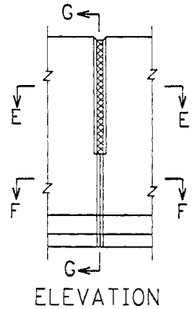
R502E & R704E



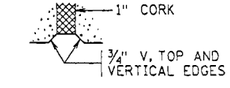
R703E



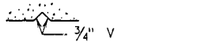
GUARDRAIL CONNECTION DETAIL
GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 20 LBS.



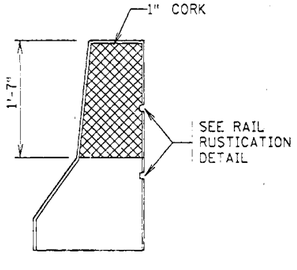
ELEVATION



SECTION E-E

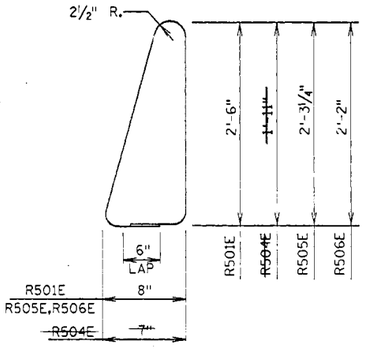


SECTION F-F



SECTION G-G

DEFLECTION JOINT



R501E, R504E, R505E & R506E

GENERAL NOTES:

CONCRETE RAILING = 440 LBS./FT. (.109 CU. YDS./FT.)

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.

FINISH ALL EDGES OF RAIL WITH ½" VEE, EXCEPT WHERE OTHERWISE NOTED.

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20'-0".

Dale Drew
3-27-95

APPROVED: 8/31/91

FIG. 5-397.117

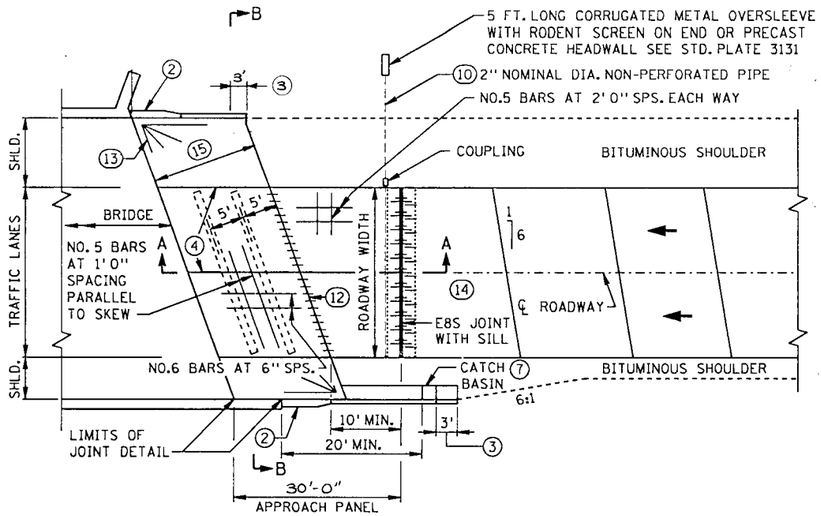
S.A.P. 55-622-23

TITLE: CONCRETE RAILING (TYPE J) WITH INTEGRAL END POST

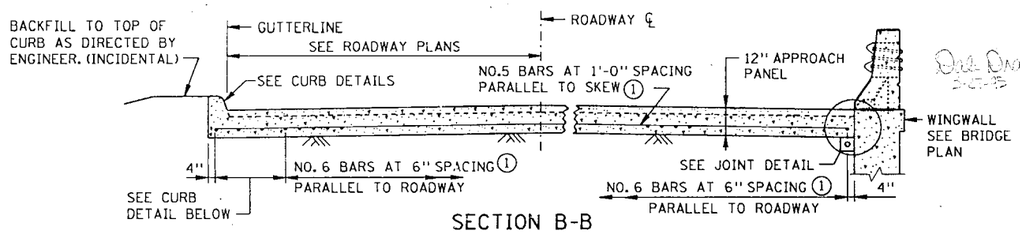
DES: | DR: | CHK: | CHK: | APPROVED: 3-31-95

Sheet No. 9 of 13 Sheets

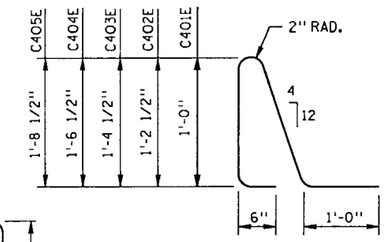
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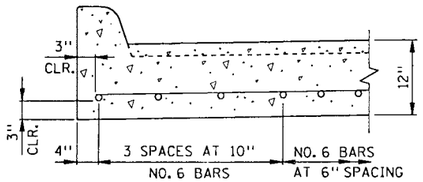
DIVIDED ROADWAY PLAN
PARALLEL & NONPARALLEL WINGWALLS



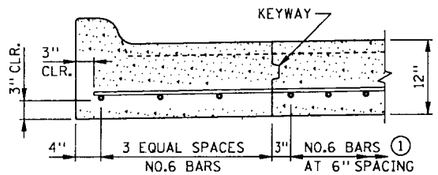
SECTION B-B
(SEE ROADWAY PLAN VIEW)



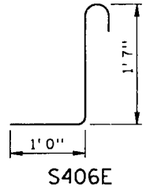
C401E- C405E (1)



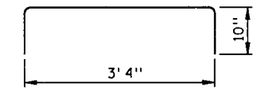
CURB DETAIL
(B4 INTEGRANT CURB)



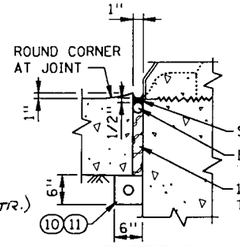
CURB DETAIL
(B424 MODIFIED CURB AND GUTTER)



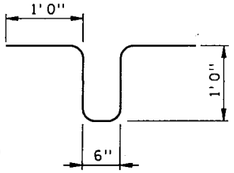
S406E



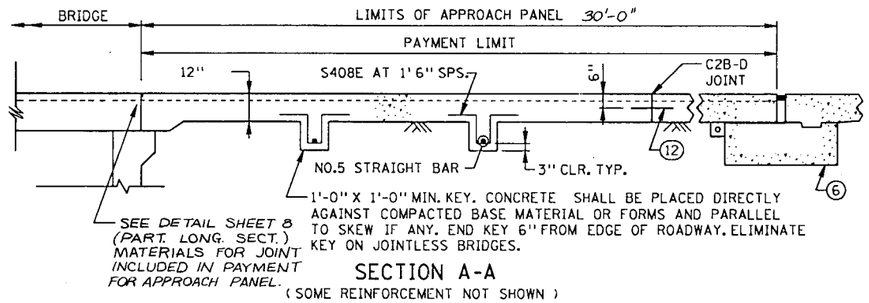
S407E



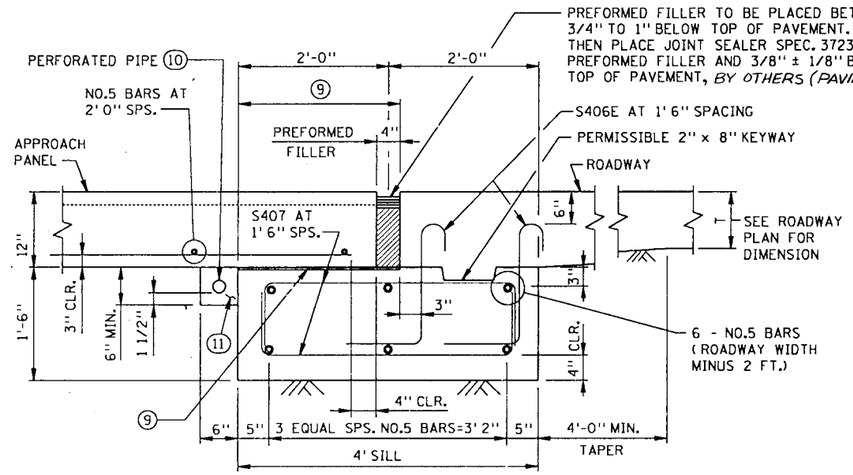
JOINT DETAIL
(AT PARALLEL WINGWALLS)



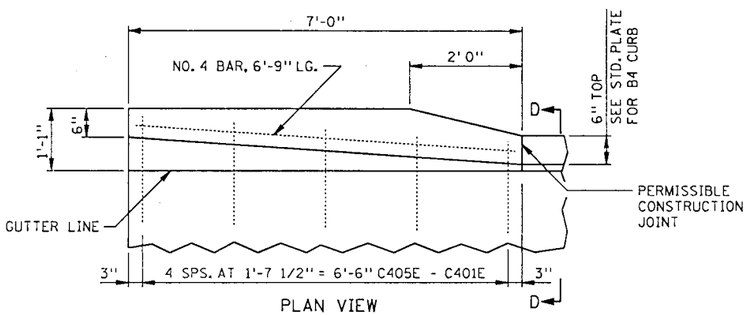
S408E



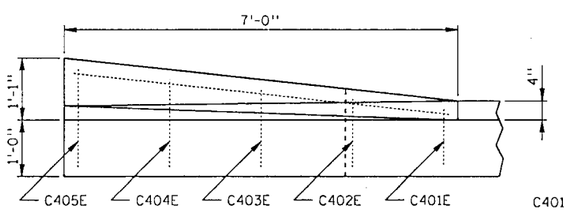
SECTION A-A
(SOME REINFORCEMENT NOT SHOWN)



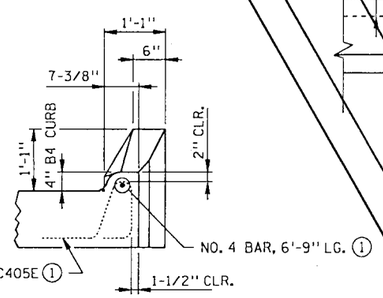
E8S JOINT DETAIL (6)



PLAN VIEW

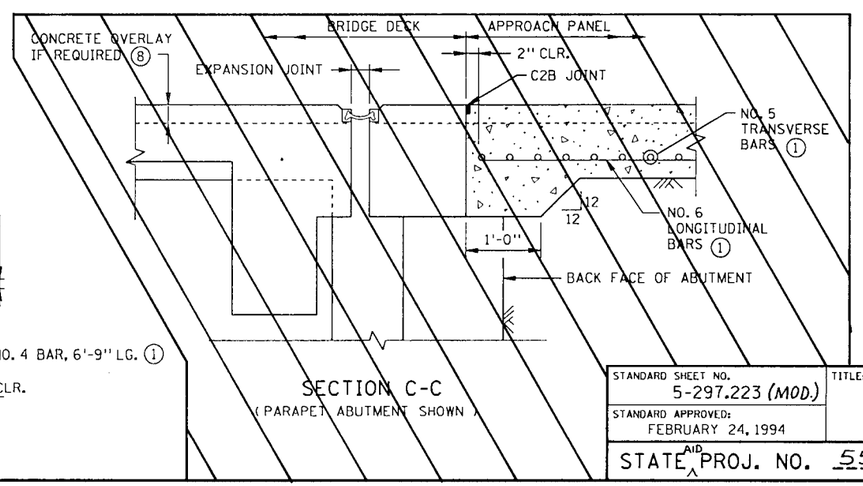


INSIDE ELEVATION



SECTION D-D

CURB TRANSITION DETAILS



SECTION C-C
(PARAPET ABUTMENT SHOWN)

NOTES:

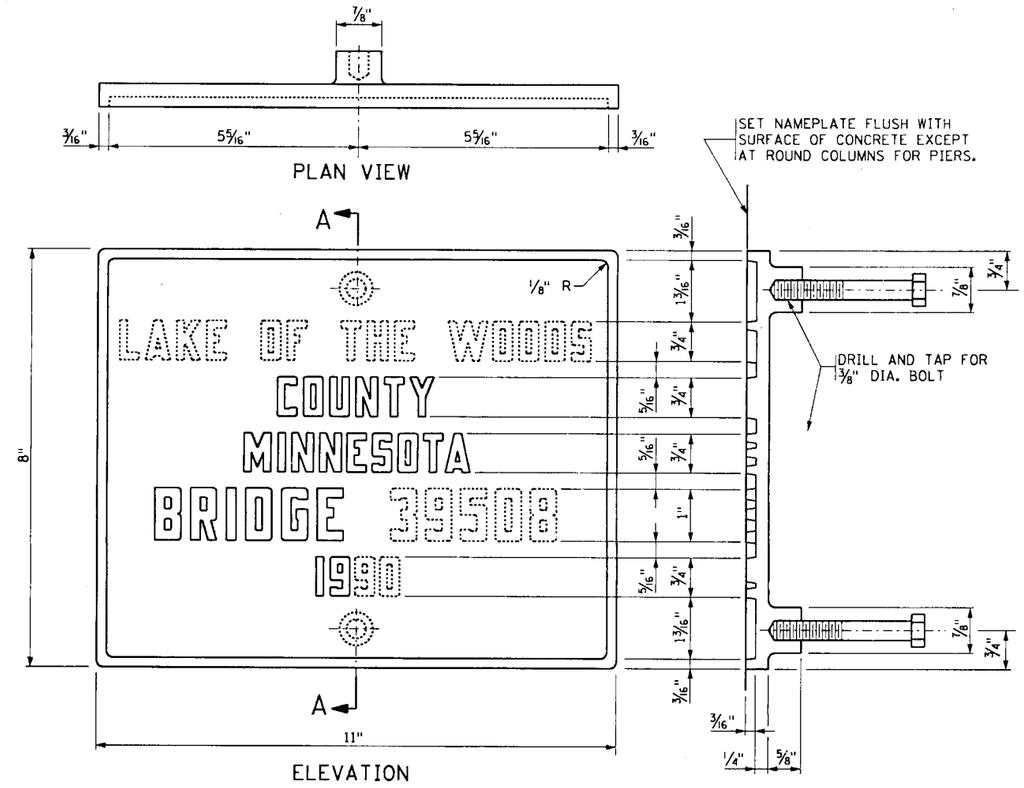
1. ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
2. TRANSITION FACE OF 4" CURB INTO PROFILE OF BRIDGE RAILING. SEE CURB TRANSITION DETAILS.
3. TRANSITION APPROACH PANEL CURB HEIGHT 4" TO 0" WHERE THERE IS NO ROADWAY CURB.
4. L2KT OR L1T LONGITUDINAL JOINTS AS REQUIRED SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.
5. ~~EDGE OF PANEL PERPENDICULAR TO GUTTER FOR SKEWS OVER 45°.~~
6. 1'6" X 4' CONCRETE SILL UNDER TRAFFIC LANES ONLY WHEN MAINLINE ROADWAY PAVEMENT IS CONCRETE. CONCRETE SILL AND CURBING IF REQUIRED IS INCLUDED IN APPROACH PANEL PAY ITEM.
7. ~~LOCATION MAY BE ON OR OFF THE APPROACH PANEL AS DETERMINED BY THE DESIGNER. SEE ROAD DESIGN MANUAL CHAPTER 7 FOR CATCH BASIN INFORMATION.~~
8. ~~APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY, THAT MAY BE REQUIRED. CHECK BRIDGE PLANS FOR OVERLAYS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.~~
9. 1/8" THICK PLASTIC SHEETING SPEC. 3756 TO BREAK BOND. COVER AREA SHOWN IN DETAIL.
10. 2" NOMINAL DIA. THERMOPLASTIC PIPE, AS PER ASTM 1785, 1120, OR 2120, SCHEDULE 80. SLOPE PIPE TO DITCH ON LOW SIDE. FURNISHING AND INSTALLING DRAIN SYSTEM SHALL BE INCIDENTAL, WITH NO DIRECT PAYMENT. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8" PER FT. MINIMUM SLOPE.
11. BACKFILL WITH FINE AGGREGATE, SPEC. 3149, MODIFIED TO 0-3% PASSING A NO. 200 SIEVE.
12. CONTRACTION JOINT C2B-D WITH 1-1/2" DIA. X 1'6" LG. EPOXY COATED DOWEL BARS AT 1'0" SPACING PARALLEL TO ℄ OF ROADWAY. CAGES NOT REQUIRED.
13. FAN 4 - NO.5 BARS 8 FEET LONG AS SHOWN FOR SKEWS OVER 45°.
14. ~~SEE STANDARD PLAN SHEET _____ FOR BRIDGE APPROACH TRANSITION INFORMATION.~~
15. 20 FEET TO 40°, 15 FEET OVER 40°.

3-31-95

BRIDGE NO. 55559

STANDARD SHEET NO. 5-297.223 (MOD.)	TITLE: BRIDGE APPROACH PANEL WITH OR WITHOUT CONCRETE OVERLAY CONCRETE ROADWAY
STANDARD APPROVED: FEBRUARY 24, 1994	
STATE AID PROJ. NO. 55-622-23	SHEET NO. 10 OF 13 SHEETS

SERVER CA6451:/USR/STANDARDS FILE NAME S223894.SPN



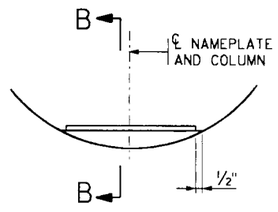
THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

COUNTY OLMSTED
BRIDGE 55559
YEAR 1995

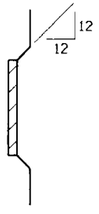




LETTERS AND NUMBERS FOR NAMEPLATE



NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)



SECTION B-B

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".

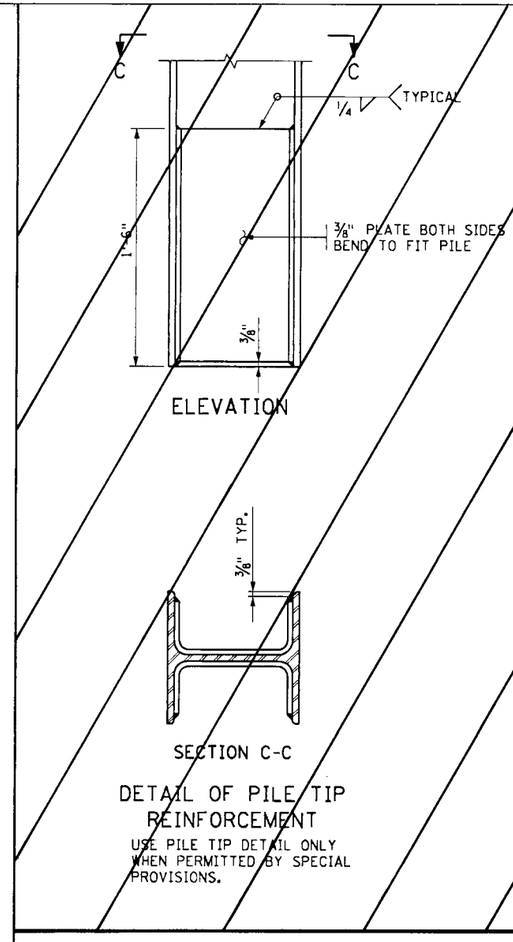
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

TOP SURFACE OF LETTERS, NUMBERS AND FRAME SHALL BE BURNISHED.

FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.

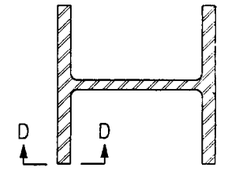
ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: SEPT. 8, 1992	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	DATE:	DETAIL NO.
OFFICE of BRIDGES and STRUCTURES	BRIDGE NAMEPLATE COUNTY BRIDGES	DR:	B103
		CHK:	

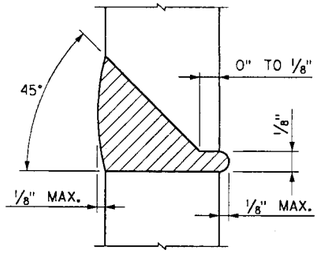


DETAIL OF PILE TIP REINFORCEMENT

USE PILE TIP DETAIL ONLY WHEN PERMITTED BY SPECIAL PROVISIONS.



SECTION AT JOINT



SECTION D-D

100% BUTT WELDED PILE SPLICE

NOTES:

A.W.S. TYPE E7016 OR E7018 (LOW-HYDROGEN) ELECTRODES SHALL BE USED FOR 100% BUTT WELDED SPLICES.

LOW-HYDROGEN ELECTRODES SHALL BE SUPPLIED IN HERMETICALLY (AIR-TIGHT) SEALED CONTAINERS.

LOW-HYDROGEN ELECTRODES SHALL BE STORED IN HOLDING OVENS AT A TEMPERATURE OF NOT LESS THAN 250°F.

LOW-HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS, IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

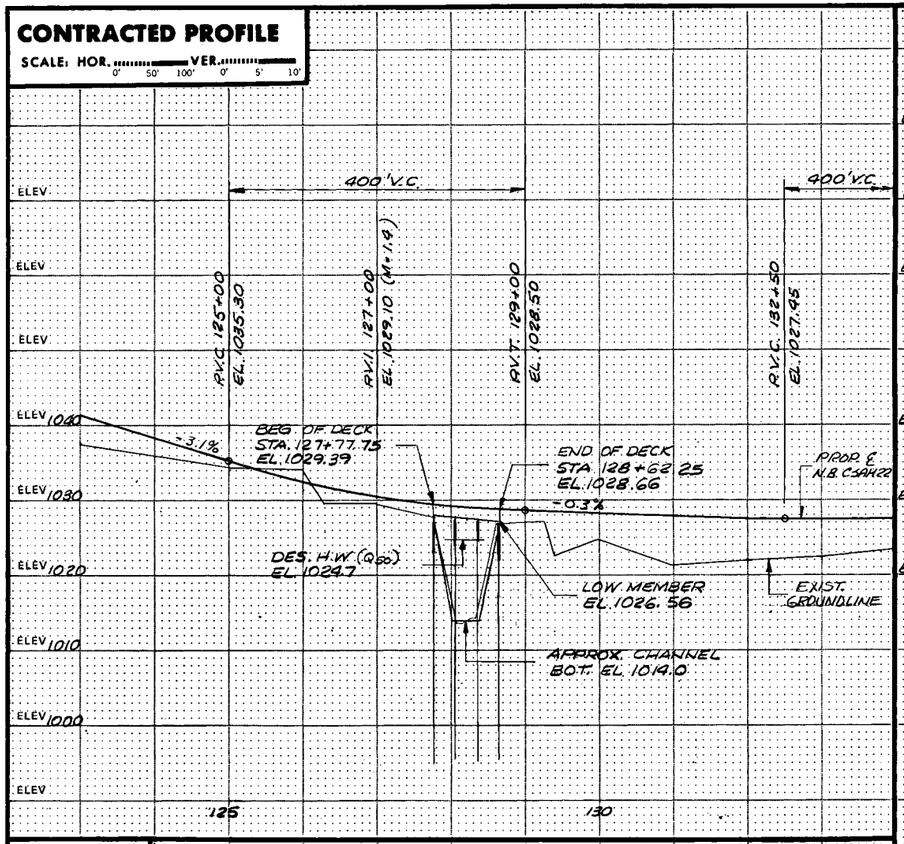
WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0°F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32°F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70°F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

APPROVED: AUGUST 4, 1992	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	DATE:	DETAIL NO.
OFFICE of BRIDGES and STRUCTURES	PILE SPLICE AND TIP REINFORCEMENT STEEL H BEARING PILES 10" TO 14"	DR:	B202
		CHK:	

TITLE:	DRWN.: CAD	APPROVED:	BRIDGE NO.
MISC. BRIDGE DETAILS	CHK.: DAD	3-31-95	55559
	S.A.P. 55-622-23		
	SHEET 11 OF 13 SHEETS		

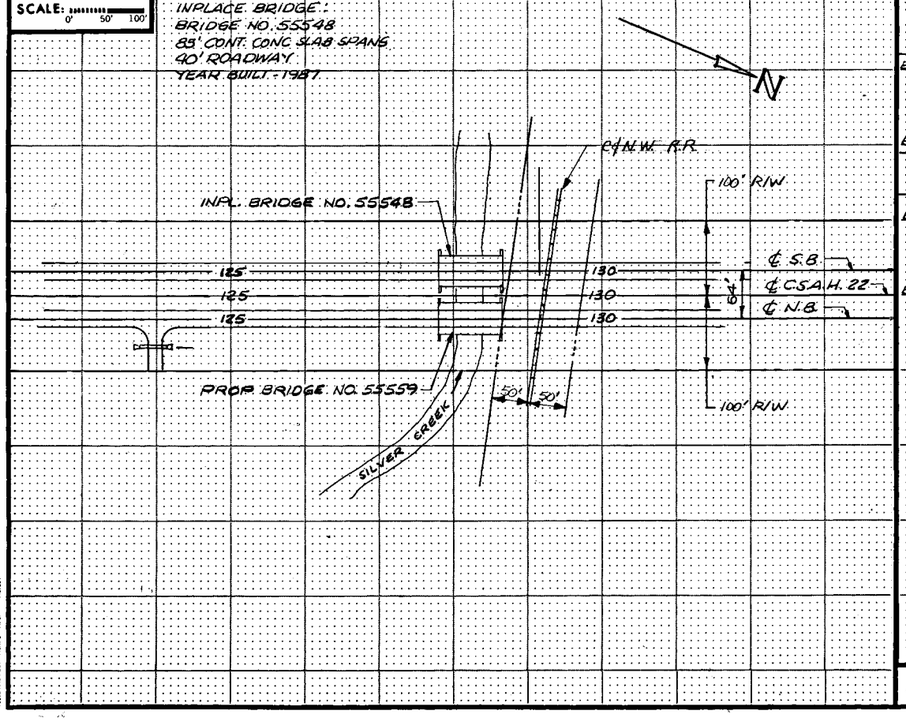
CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VER. 0' 5' 10'



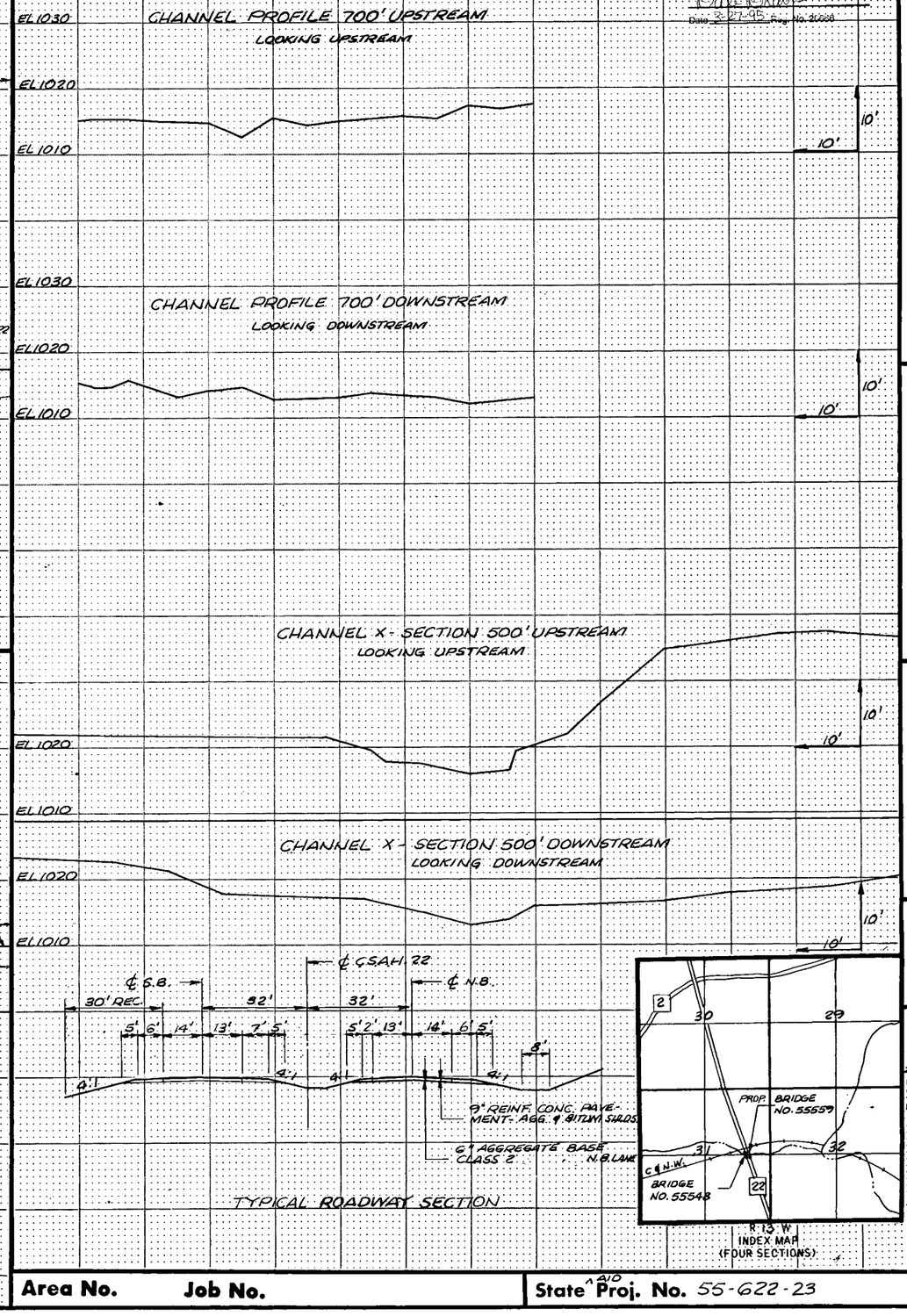
PLAT

SCALE: 0' 50' 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



I hereby certify that this plan, specification or report 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 3-27-95 Reg. No. 20866

Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from.....

4. Other data: Approx. velocity of water at time of survey.....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 6-23-94

Stream or ditch designation ....SILVER CREEK.....

Drainage area ....17.3 SQ. MI.....

Max. flood on record. 6580 cfs Design flood (...50... yr. freq.) 9750 ...C.F.S.

Max. observed highwater elevation UNKN. Design highwater elevation..1024.7...

Design mean velocity through structure ....8.9.... F.P.S.

Low superstructure at or above elevation ....1027.2 (AVG.)....

Flowline elevation ..1014.0.... Skew angle....NONE....

Waterway area req'd. below elevation 1024.7 536 Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 5340 C.F.S. at stage 1025.8 and mean velocity of 9.7 F.P.S. with 0.5 Ft. swellhead.

The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

EST. PIER SCOUR ELEV. = 1007.0

~~FOUNDATION~~ ENGINEERS RECOMMENDATION

DATE .....

25' 32' 25' CONT. CONC. SLAB SPANS
42' ROADWAY

Bridge survey sheets made from: COUNTY SURVEY

Bench mark elevation 1029.13 (M.S.L. 1929 Adj.)

Location: BRASS DISK S.E. CORNER WINGWALL BRIDGE 55548, S.B. C.S.A.H. 22

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 0.5 ON C.S.A.H. 22 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 0.5 MILES N.W. OF T INTERSECTION C.S.A.H. 9 & C.S.A.H. 22

SEC. 31 TWP 107 N R 13 W

TOWNSHIP ROCHESTER COUNTY OLMSTED

BRIDGE NO. 55559

3-31-95

Area No. Job No.

State Aid Proj. No. 55-622-23

Sheet No. 12 of 13 Sheets

Fed. Proj. No.

I hereby certify that this plan, specification, or report 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 3-27-95 Reg. No. 20668

100' R/W

℄ C.S.A.H. 22

ST-2

℄ C.S.A.H. 22 N.B.

100' R/W

SEE BRIDGE SURVEY SHT.

ALL RIPRAP TO MATCH LIMITS OF IN-PLACE BRIDGE NO. 55548

STA. 129+11.57

℄ BRG. SO. ABUT. STA. 127+79.00

TEST PILE #1

18'-0"

℄ PIER 1 STA. 128+04.00

TEST PILE #3

8'-7½"

℄ PIER 2 STA. 128+36.00

℄ BRG. NO. ABUT STA 128+61.00

ST-1

N

82° 20'

1.6:1

1.6:1

LEVEL

TEST PILE #2

14'-7½"

2:1

5'-0"

24'-0"

TEST PILE #4

LIMITS OF RANDOM RIPRAP, CL. IV AVG. 3'-0" THICK – BOTH ABUTS

LIMITS OF RANDOM RIPRAP, CL. IV AVG. 2'-0" THICK – SO. ABUT.

LIMITS OF GROUTED RIPRAP, CL. IV AVG 2'-0" THICK – SO. ABUT.

LIMITS OF RANDOM RIPRAP, CL. IV AVG 2'-0" THICK – NO. ABUT

LIMITS OF RANDOM RIPRAP AS SHOWN ARE APPROX. ONLY. EXACT LIMITS ARE TO BE DETERMINED BY THE ENGINEER IN FIELD.

C & N.W. RAILROAD

69'

93'

400' V.C. – SEE BRIDGE SURVEY SHT.

APPROACH GRADING UNDER SEPARATE CONTRACT

① INCLUDED IN PRICE BID FOR RANDOM RIPRAP, CL III; APPROX QUANTITY FOR GRANULAR FILTER ~100 CU. YDS.

℄ BRG SOUTH ABUT. — 25'-0" — ℄ PIER 1 — 32'-0" — ℄ PIER 2 — 25'-0" — ℄ BRG NORTH ABUT.

℣.P.I. STA. 129+00

EL. 1040

EL. 1030

EL. 1020

EL. 1010

1000

BEG. OF DECK STA. 127+77.75 EL. 1029.39

END OF DECK STA. 128+62.25 EL. 1028.66

DES. H.W. (Q_{50}) EL. 1024.7

LOW MEMBER EL. 1026.56

-0.3%-

2'-0" SLOPE

1.6:1

4'-0" SKI PATH

1.6:1

2.6" (TYP)

5'-0" MIN

3'-0" TYP

5'-0" TYP

2:1

6" GRANULAR FILTER ①

APPROX CHANNEL BOT EL 1014.0

BRIDE CONTRACTOR SHALL EXCAVATE AND FILL TO THESE LINES FOR APPROX 40' RT (S. ABUT), 80' RT (N. ABUT), & MATCH UP TO INPLACE CHANNEL ON THE LEFT OF ℄ ROADWAY (N.B.) BETWEEN NEW ABUTMENTS THEN TAPER AT A 2:1 SLOPE TO NATURAL CHANNEL SLOPES. INCLUDED IN PRICE BID FOR SLOPE PREPARATION.

50 FT. STEEL H-TEST PILES (HP10X42)

50 FT " " (HP10X57)

ALL PIER PILES SHALL BE DRIVEN TO MIN. EL. AS PER NOTE SHEET 6.

Average P.I.e Pent. 1003.7

Average P.I.e Pent. 1000.2

Average P.I.e Pent. 1000.3

Average P.I.e Pent. 1001.4

FILL: POORLY G.S.F TO M. GRAINED, DWN, MOIST, W/ BRICK DEBRIS.	16
POORLY GRADED S W/ SI., dk DWN, MOIST, M. DENSE. (TOPSOIL)	29
SI. S., VERY F. GRAINED, dk. BWN. MOIST, M DENSE	12
POORLY GRADED S., F TO M GRAINED, LT. BWN. WATERBRG, LOOSE. (ALLUVIUM)	15
POORLY GRADED S., F TO M GRAINED, YELLOW, WATERBRG, VERY DENSE. (WX. SANDSTONE)	14
POORLY GRADED S, F TO M GRAINED, YELLOW, WATERBRG; DENSE. (WX. LIMESTONE)	5
	100
	34
	100/4

SI, dk. BWN. FROZEN TO 1.0', MOIST, M.	8
POORLY GRADED S, F TO M. GRAINED, DWN, MOIST, M. DENSE. W/LIMESTONE DEBRIS.	12
POORLY GRADED S W/ G, F TO M GRAINED, DWN., WATERBEARING, M. DENSE.	17
POORLY GRADED S, F TO M GRAINED, YELLOWISH-WHITE, WATERBRG. LOOSE TO M. DENSE (WX. SANDSTONE)	20
	19
	8
	21
	23
(WX LIMESTONE) POSSIBLE VOID AT CONTACT OF SANDSTONE & LIMESTONE SURFACE FROM 30.5' TO 34.0	16
	100/6

ST-1

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

127+00 — 127+50 — 128+00 — 128+50 — 129+00 — 129+50 — 130+00

BRIDGE SURVEY PLAN AND PLOT	DES:	DR:	APPROVED: 3-31-95
	CHK:	CHK:	
State Aid Proj. No. 55-622-23	Sheet No. 13 of 13, Sheets		Bridge No. 55559